SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (SPPC PLAN) & POLLUTION INCIDENT PREVENTION PLAN (PIPP)

Wayne State University
Detroit, Michigan

Initially Prepared by:

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Revised and Recertified October 2016 by:

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Revision A June 6, 2003
Revised December 12, 2005
Revised June 20, 2006
Revised March 26, 2007
Revised February 1, 2010
Revised March 5, 2012
Revised June, 1, 2014
Revised: October 7, 2016

SPCC PLAN
MANAGEMENT APPROVAL AND CERTIFICATION PAGE

For

Wayne State University
Detroit, Michigan

Original Date of Plan: June 6, 2003 No. of Previous Versions: 7

Date of Last Technical Amendment/P.E. Certification: October 7, 2016

Designated Person Accountable for Spill Prevention:

Name: Richard Harrison Title: Emergency Coordinator

MANAGEMENT APPROVAL

Wayne State University (WSU) is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the highest standards for spill prevention control and countermeasures through regular review, updating, and implementation of this Spill Prevention, Control, and Countermeasure Plan (SPCCP) and Pollution Incident Prevention Plan (PIPP) for the facility in Detroit, Michigan.

Signature _____ Date _____

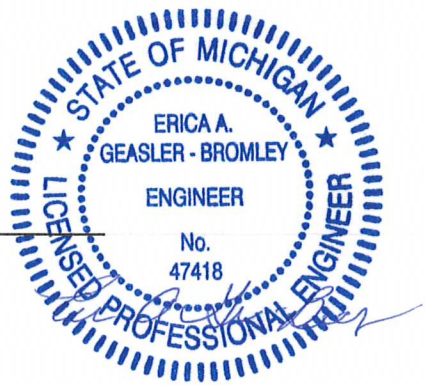
Name _____ Title _____

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I am familiar with the requirements of 40 CFR Part 112; that I or my agent has visited and examined the facility; that this SPCC Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR Part 112; that procedures for required inspections and testing have been established; and that this SPCCP/PIPP is adequate for the facility.

Erica Geasler-Bromley
Printed Name of Registered Professional Engineer

Erica A. Geasler-Bromley
Signature of Registered Professional Engineer



Amec Foster Wheeler Environment & Infrastructure, Inc.
Company

Michigan

10/7/16

SPCC PLAN
COMPLIANCE REVIEW AND EVALUATION PAGE

Scheduled SPCC Plan Review and Evaluation

In accordance with 40 CFR §112.5(b), a review and evaluation of this SPCCP/PIPP is conducted at least once every five years. As a result of this review and evaluation, WSU will amend this SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a discharge from the facility, and (2) such technology has been field-proven at the time of review.

Statement Regarding Plan Amendments Following Scheduled Reviews

The individual(s) named in the following Plan Review Log attest by their signature(s) to the following statement regarding amendments to this SPCC Plan as a result of scheduled plan reviews and evaluations:

> I completed review and evaluation of the SPCC Plan for site on the date indicated and, as indicated in the Plan Review Log below, the Plan will/will not be amended as a result of the evaluation.
>
> Amendments to this SPCC Plan are documented in the SPCC Plan Amendment Log (page iii).

Plan Review Log

	Review Dates	Plan will/will not be amended* (circle one)	Signature	Name
1.		will / will not		
2.		will / will not		
3.		will / will not		
4.		will / will not		
5.		will / will not		

*Technical amendments to the SPCC Plan must be certified by a Registered Professional Engineer (P.E.) per 40 CFR §112.3 (d) [P.E. certification is only required for technical amendments to the Plan, as described in Section 1.3].

SPCC PLAN AMENDMENT LOG

Amendment No.	Date	Revision Description	Revised By	Technical Amendment Requiring P.E. Certification? (yes/no)*
0	6/6/03	Initial Certification	Lawrence M. Hands, PE	Yes
1	12/12/05	Add new emergency generator tanks	Lawrence M. Hands, PE	Yes
2	6/20/06	Add new emergency generator tanks	Lawrence M. Hands, PE	Yes
3	3/26/07	Add new emergency generator tanks	Lawrence M. Hands, PE	Yes
4	2/1/10	Update Contacts	Lawrence M. Hands, PE	Yes
5	3/5/12	Revise petroleum storage	Erica Geasler-Bromley, PE	Yes
6	6/1/14	Update petroleum storage	Erica Geasler-Bromley, PE	Yes
7	10/7/16	Update petroleum storage	Erica Geasler-Bromley, PE	Yes

*Technical amendments to the SPCC Plan must be certified by a Registered Professional Engineer (P.E.) per 40 CFR §112.3 (d) [P.E. certification is only required for technical amendments to the Plan, as described in Section 1.3].

SPCCP/PIPP
WAYNE STATE UNIVERSITY
DETROIT, MICHIGAN
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1.0 BASIC PLAN ELEMENTS

1.1 GENERAL INFORMATION

Wayne State University (WSU) is an "onshore" facility with oil storage. Its main campus is located in Detroit, Michigan. Figure 1 shows the location and layout of WSU. The WSU Office of Environmental Health & Safety address is:

Wayne State University
Office of Environmental Health & Safety
5425 Woodward, Suite 300
Detroit, Michigan 48202

40 CFR Part 112 requires that facilities subject to federal oil pollution prevention regulations develop and maintain a SPCC Plan. Federal oil pollution prevention regulations apply to facilities that have bulk oil storage or oil-filled electrical or operating equipment that exceeds one or both of the following thresholds:

- Aboveground storage or oil-filled equipment aggregate capacity: 1,320 gallons
- Underground storage aggregate capacity: 42,000 gallons

The SPCC rule stipulates that only oil storage containers with capacities equal to or greater than 55 gallons are included in the aggregate capacity determination. Aboveground oil containers with capacities less than 55 gallons are not counted toward a facility's aggregate capacity total, and are not subject to the requirements of 40 CFR Part 112. The SPCC rule also contains requirements for oil-filled equipment with an oil storage capacity equal to or greater than 55 gallons. The SPCC rule provides an exemption for underground storage tanks (USTs) that are subject to all of the technical requirements of 40 CFR Part 280, or a state program approved under 40 CFR Part 281. USTs that meet one of these criteria do not count toward the underground storage capacity threshold.

The facility is subject to the requirements of applicable sections of 40 CFR Part 112, including the requirement to prepare and implement a SPCC Plan, because it has an aggregate aboveground oil storage capacity greater than 1,320 gallons. In addition, the facility is subject to the Michigan Pollution Incident Prevention Plan (PIPP) regulations. The PIPP regulations are found in R 324.2001 to R 324.2009 of the Michigan Administrative Code (MAC). These regulations outline additional countermeasures to

be employed by facilities which meet requirements for storage of petroleum materials or other polluting materials. The facility is subject to the Michigan PIPP regulations as the facility has an aggregate aboveground oil storage capacity greater than 1,320 gallons.

This plan details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a spill event or discharge of oil or other materials to the environment. WSU developed this plan to meet the requirements of the Oil Spill Prevention, Control, and Countermeasures regulations, commonly referred to as the SPCC regulations (40 CFR 112) and Michigan's PIPP regulations (R 324.2001 to R 324.2009 MAC).

1.2 History of Spills and Releases

No spills or releases have occurred at WSU in the past 5 years.

1.3 Management Approval

As shown in the Management Approval Certification, management extends full approval of the SPCC at a level with authority to commit the necessary resources toward spill prevention.

1.4 Designation of Responsibility

All personnel at WSU involved with the oil and chemical processes are to assist in the prevention of oil or chemical releases to the environment and assist in the goal of spill prevention at the university.

The Emergency Coordinator is responsible for providing information for oil and polluting materials spill prevention, control and countermeasures at WSU operations at the Detroit campus. However, WSU has established a chain of command to ensure compliance with the various components of this SPCC/PIPP Plan. The following personnel descriptions at the WSU- Detroit campus are responsible for implementing the SPCC/PIPP Plan. *For continuity and efficiency, the titles and responsibilities of this SPCC plan are related to the command structure of the WSU Contingency Plan.*

1.4.1 SPCC Coordinator

The Emergency Coordinator is the individual who is directly responsible for ensuring the implementation of the SPCC/PIPP Plan. The Emergency Coordinator's responsibilities include:

- Ensure that operating procedures related to the SPCC/PIPP plan are followed.
- Ensure that required records are maintained for a minimum of 3 years.
- Review facility and SPCC/PIPP plan at least once every 5 years to determine if modifications are required to achieve compliance with requirements.
- Review any proposed changes related to oil storage, handling or transfer facilities for new construction, maintenance, or remodeling to determine if amendment to the SPCC/PIPP Plan is required.
- Initiate facility modifications to achieve compliance with the SPCC/PIPP by submitting projects as soon as possible but no later than 6 months after the change in design, construction, operations or maintenance occurred.
- Ensure training is conducted as required by the plan and the applicable regulations. Identify the number of types of personnel needing training, and coordinate necessary training with the Environmental Health & Safety (EHS) Department Program Coordinator/Department managers. New employees should be trained within 6 months from the date of employments.
- Update of the SPCC/PIPP Plan to assure that it is current and responsive to the activities and operations performed at the plant:
- Maintain records of spill history.
- Coordinate with University Police, Facilities Planning & Management (FP&M), Environmental Health & Safety, and other appropriate departments to ensure all SPCC/PIPP Plan requirements are met.

1.4.2 Emergency Spill Response Team

The Emergency Coordinator and other individuals assisting with emergency spill response activities are listed below and constitute the Emergency Spill Response Team.

Role	Name – Title	Phone – Office	Phone – Cell/Pager	Phone – Home
Primary Emergency Coordinator	Walter Pociask Associate EHS Director	(313) 993-7655	Cell: (734) 576-1412	(734) 676 4808
Alternate	Richard Harrison Compliance Officer	(313) 577-1200	(313) 510-5916	(313) 510-5916
Alternate	Rob Moon Director EHS	(313) 577-1200	(313) 586-6508	(313) 585-6508
Facilities Operations & Maintenance Trades	David Kuffner Director	(313) 577-0311		
Facilities Planning & Management	Richard Massa Associate Director	(313) 577-4311		
Facilities Planning & Management	Debra Brazen Director, Estimating and Planning	(313) 577-7658		
WSU Dept. of Public Safety		(313) 577-2222		

The spill response team members will handle spill response emergencies during their shift and coordinate with the Emergency Coordinator. Duties of the Emergency Spill Response Team include:

- Visually inspect vehicles that are delivering fuels or other materials to the appropriate tanks for leaks and any obvious mechanical deficiencies that could cause a spill event or accident: (this shall be done by Facilities Operations personnel within Facilities Planning & Management [FP&M]).
- Perform required SPCC/PIPP inspections.
- Initiate corrective actions for deficiencies found during inspections.

1.4.3 WSU Emergency Coordinator

The Building Engineer is the decision-maker for the initial response. For small spills of oil and other non-hazardous materials; the WSU Emergency Coordinator will, in most cases, be a member of Facilities Operations under FP&M, who has maintenance responsibilities for that area of campus.

For other spills, the WSU Emergency Coordinator shall be the first available individual on the list in Section 1.4.2.

1.5 GENERAL SPILL RESPONSE PROCEDURES

1.5.1 Immediate goal/Tactical Planning (e.g. protection of workers and public)

Above every other consideration, use common sense in dealing with spills, especially when considering any action that conceivably could cause or contribute to the emergency. In all cases, the highest priority must be given to the protection of all workers.

1.5.2 Discovery

A spill includes visual discharges that result in a loss of material from a container, including but not limited to seams, gaskets, piping, pumps, valves, rivets and bolts.

In the event of a spill, discoverer notifies the FP&M Service Center (313) 577-4315 from 7am-5pm. At other times, the WSU Dept. of Public Safety will be notified at (313) 577-2222, then the WSU Dept. Public Safety. will notify the appropriate engineering supervisor (see engineer's contact list in Attachment G). **In the event of an emergency, the WSU Dept. of Public Safety should be contacted prior to contacting 911 or the Michigan State Police due to WSU DPS's close proximity and quick response time.**

The discoverer should relay the following information below:

- The material spilled or released;
- The location of the spilled material;
- An estimate of the quantity released and the rate at which it is being released;
- The direction in which the spill or vapor release is heading;
- Person(s) injured and the seriousness of the injury;
- Whether or not a fire or explosion is involved or imminent; and
- If a fire or explosion is involved, the area and materials involved and the intensity of the fire or explosion.

For an oil spill, discoverer starts mitigation under FP&M office direction.

1.5.3 Initial Notifications

When the FP&M Service Center representative is notified of a spill, he/she shall notify the Emergency Coordinator - Walter Pociask (313) 577-1200) or Alternate Environmental Health and Safety: (313) 577-1200.

Immediate notification of EH&S is not required only if a spill is so small that the Facilities Operations personnel on duty is qualified to be the WSU Emergency Coordinator.

The Facilities Operation representative is qualified to be the WSU Emergency Coordinator and direct the spill response action for spills meeting all of the following criteria:

- An outside spill response contractor is not needed to mitigate the spill
- No hazardous materials are involved, and
- No discharge of material into sewer or receiving stream.

The Facilities Operations (or other FP&M) representative shall inform the Emergency Coordinator of the spill and the mitigation performed by the next business day for those events not subject to immediate notification.

1.5.4 Establish Response Management System

1.5.4.1 Decision Making

The WSU Emergency Coordinator is the decision maker for any initial response activity and shall consult closely with administration personnel and operations personnel as appropriate. The WSU Emergency Coordinator may surrender command to an external emergency response organization at his discretion.

The Emergency Coordinator is responsible for all incidents reporting to agencies.

1.5.4.2 Clean-up Supervision

The Facilities Operations representative on duty as directed by the WSU Emergency Coordinator shall be responsible for carrying out the spill response as appropriate to the situation and scope of the spill.

1.5.5 Preliminary Assessment Procedure

Follow these actions during a spill response:

Action	Chain of Command
Activate communication or alarm systems.	FP&M Office, University Police
Characterize the release as to source, amount and extent of impact.	WSU Emergency Coordinator, EH&S

Action	Chain of Command
Assess hazards to health and environment to the extent practical.	WSU Emergency Coordinator, EH&S
Determine if evacuation is necessary. (See Emergency Action Procedure)	WSU Emergency Coordinator, EH&S,
Determine if help is necessary and notify police, fire, and/or contractors per Section 1.7.	WSU Emergency Coordinator, Highest ranking WSU official on site, EH&S
Perform appropriate spill response as indicated in Section 1.5.6.	FP&M Office, Emergency Coordinator.
Perform appropriate spill reporting to Agencies as indicated in Section 1.8.	Emergency Coordinator
Provide for proper disposal of waste and contaminated materials.	FP&M Office, Emergency Coordinator
Prepare spill report, evaluate root causes.	Emergency Coordinator

1.5.6 Countermeasures

For all releases of material, follow the actions outlined in section 1.5.5 above. Figure 1 depicts petroleum storage locations discussed in the following sections. Specific spill countermeasures are outlined below:

1.5.6.3 Engineering Emergency Generator Diesel Fuel Tank

Two generators are located at the Engineering Building. One 750-gallon diesel fuel tank is located at the base of the generator located adjacent to the east side of the Engineering Building, north of Warren Avenue. A second generator with an associated 1,100-gallon AST is located adjacent to the 750-gallon AST and generator. Storm water catch basins are located within 25 feet north of the generators. Place absorbent booms along the base of the generator and place a "spill stopper" cover over the storm drain to reduce the risk of a release to the storm sewer.

Contain the material and place into an appropriate container for reuse or proper disposal (for all cases below).

1.5.6.4 Engineering Electrical Transformers

Two large pad-mounted electrical transformers are located in the courtyard between the Engineering Building and the Bio Science Building. The transformers each contain approximately 200 gallons of oil. A release of transformer oil by overfill, puncture, or electrical damage should be contained by absorbent booms. Prevent oil from migrating to soil or storm drains. Furthermore, routine inspection and maintenance of the transformer should be employed to prevent potential material release.

1.5.6.5 Mott Emergency Generator Diesel Fuel Tank

A 1,000-gallon diesel fuel tank is located at the base of the emergency generator located outside of this building (see Figure). Although this is a double-walled tank, any release by overfill or puncture should be contained by absorbent booms. Prevent oil from migrating to groundwater/storm sewer. Storm drains are at the CVS parking lot and along the alley, both to the northwest and to the southeast.

1.5.6.6 Lande Emergency Generator Diesel Fuel Tank

There is an emergency generator within a cinderblock walled enclosure (no roof) with a 1,200-gallon double-walled storage tank on its base. Although this is a double-walled tank, any release by overfills or puncture should be contained by absorbent booms. Release would spill inside concrete floor of walled area- large spill could migrate through wall opening. Prevent oil from migrating to soil.

1.5.6.7 Chemistry Emergency Generator Diesel Fuel Tanks

There are two CAT emergency generators within a cinderblock walled enclosure (no roof) each equipped with a 1,200-gallon double-walled storage tank on its base. Although this is a double-walled tank, any release by overfill or puncture should be contained by absorbent booms. Release would spill inside concrete floor of walled area - large spill could migrate through wall openings.

A spill could migrate through wall opening on west side to a storm drain ~30 feet to west.

1.5.6.8 Biological Sciences Emergency Generator Diesel Fuel Tank

There is a CAT emergency generator within a cinderblock walled enclosure (no roof) with a 1,200-gallon double-walled storage tank on its base. Although this is a double-walled tank, any release by overfill or puncture should be contained by absorbent booms. Release would spill inside concrete floor of walled area and pond - a spill could migrate through wall opening at west side to a storm drain ~10 feet to north.

1.5.6.9 Atchison Hall (South Hall) Emergency Generator Diesel Fuel Tank

There is an emergency generator with a 1,000-gallon diesel fuel storage tank located in a room at the north side of the building. The room has a bermed doorway such that any spill would be contained within the room for cleanup.

1.5.6.10 Faculty Administration Building (FAB) Emergency Generator Diesel Fuel Tank

A 200-gallon fuel oil tank is located at the base of the emergency generator outside of this building. Although this is a double-walled tank, any release by overfill or puncture should be contained by absorbent booms. Prevent oil from migrating to soil (generator is on grass). The nearest storm sewer is approximately 40 feet to north.

1.5.6.11 FAB Electrical Transformer

A large pad-mounted electrical transformer is located adjacent to the FAB emergency generator. Based on its observed size, the transformer is assumed to contain up to approximately 100-200 gallons of oil. A release of transformer oil by overfill, puncture, or electrical damage should be contained by absorbent booms. Prevent oil from migrating to soil (transformer is surrounded by unpaved ground surface). The nearest storm sewer is approximately 40 feet to north. Furthermore, routine inspection and maintenance of the transformer should be employed to prevent potential material release.

1.5.6.12 Scott Hall Emergency Generator Diesel Fuel Tanks

There are two CAT emergency generators, each equipped with a 1,200-gallon double-walled storage tank on its base. Although these are double-walled tanks, any release by overfill or puncture should be contained by absorbent booms. Release would spill onto concrete pad and onto flat gravel and grass area that surrounds generators.

1.5.6.13 Computing Center Diesel Tanks

There are four emergency generators at the Computing Center. Two generators are fired by natural gas and two are fired diesel fuel. Three diesel aboveground storage tanks (AST) are located in the west parking lot of the Computing Center. The generator is equipped with one double-walled 8,000-gallon AST accompanied by two 50-gallon double-walled day tanks. In the event of a release from overfill or puncture, contain with absorbent booms. If the spill were to reach the sewage drain to the southwest, cover the drain with a catch basin mat or filter. In the event of a large scale release, it is possible that the oil flow would extend past the parking lot area.

1.5.6.14 University Towers

There is one emergency generator equipped with one 55-gallon diesel AST within a fenced area near University Towers. In the event of a release from overfill or puncture,

contain with absorbent booms along the perimeter of the fence. If the spill were to reach the sewage drain to the northeast, cover the drain with a catch basin mat or filter.

1.5.6.15 5454 Cass Towable Emergency Generator

There is one double-walled 60-gallon diesel AST located inside an emergency mobile trailer generator unit. It is regularly stored at 5454 Cass, but can be relocated for use as necessary. In the event of a release from overfill or puncture, contain with absorbent booms along the interior perimeter of the trailer. A spill would likely be contained within the trailer and acts as secondary containment. If a large spill were to leave the trailer contain the spill with sorbent booms and pads to contain the area and keep the spill away from sewage drains.

1.5.6.16 110 East Warren Emergency Generator

The generators located at 110 East Warren are currently fueled by natural gas.

1.5.6.17 Wayne State Police Department Emergency Generator

The generator located along the south side of the WSUPD building is fired by natural gas.

1.5.6.18 Elliman

There is one emergency generator on site with a 100-gallon diesel day tank/fuel port (AST) associated with a 3,500-gallon AST located along the southwest side of the Elliman building. In the event of a spill, contain with absorbent booms and pads around the day tank and turn off piping that controls flow between the tanks. Flow would be to soil surrounding the tanks or south towards storm water catch basins.

1.5.6.19 5435 Woodward Day Tank

There is one 55-gallon (assumed quantity) diesel day tank (AST) associated with a 1,000-gallon underground storage tank (UST) located between 5435 and the Mortuary Science Building. In the event of a spill, contain with absorbent booms and pads around the day tank and turn off piping that controls flow of diesel fuel from the UST to the day Tank. The generator and 55-gallon day tank are located inside the building; therefore, a spill not contained by the building itself it unlikely.

1.5.6.20 Multidisciplinary Biomedical Research Building (MBRB) Diesel Tanks

One 10,000-gallon diesel UST and two 600-gallon diesel ASTs inside generator housing are located at the facility. In the event of a spill, contain with absorbent booms and pads around the 600-gallon ASTs and turn off piping that controls the flow of diesel fuel between the ASTs and the UST. In the event of a large scale release, make sure to contain the spill so it does not reach unpaved surfaces or sewer grates. Immediately contact the Office of EH&S to call a Hazardous Spill Clean-up Contractor.

1.5.6.21 77 W. Canfield

The generator located at 77 W. Canfield, is a natural gas generator to support the WDET Transmitter located at 105 W. Canfield and does not support the building at 77 W. Canfield.

1.5.6.22 Life Science Building

There is one emergency generator with a 1,000-gallon AST located along the south side of the building between Science Hall and the Life Science Building. In the event of a spill, contain with absorbent booms. Flow would be to east towards storm water catch basins in the alley near the loading docks.

1.5.6.23 Physics Building

There is one emergency generator with a 1,100-gallon AST belly tank and 100-gallon day tank/fuel port located along the east side of the Physics Building. In the event of a spill, contain with absorbent booms. Flow would likely be contained within the generator enclosure. If a release breached the enclosure, flow would be to surrounding soil. Storm water catch basins are located to the north in the loading dock area adjacent to the AST and south towards the street near the day tank fuel port.

1.5.6.24 Applebaum

There is one emergency generator with a 4,000-gallon diesel AST and a 100-gallon day tank/fuel port located along the west side of the building in a fenced and diked area. In the event of a spill, contain with absorbent booms. Flow would be to the sump and would be contained within the berm. Storm water catch basins are located northwest of the generators near the street.

1.5.6.25 Food Oil (Grease) Storage

There are 13 aboveground foodservice grease oil traps located on property owned by WSU. The grease oil trap bins are constructed of steel and consist of two construction types that contain either 300-gallons or 150-gallons of used foodservice oil (grease). The tanks are single-walled. Management of the tanks is overseen by the Food Services division of WSU. The division subcontracts management to Aeromark. The grease is picked up for recovery by an approved vendor. See Table 4 for additional details.

1.5.6.26 Other Materials

In the event of a release, assess the materials spilled for hazards and responded to accordingly (see SDS for material released). In many cases, the material should be contained with absorbent booms and/or pads. Immediately contact the Office of EH&S to call a Hazardous Spill Clean-up Contractor, as deemed necessary by the Office of EH&S. The Office of EH&S, Health Physics Department [(313) 577-1200] will deal with releases of radioactive materials.

1.6 PROCEDURES FOR OIL TRANSFER OPERATIONS

Several emergency generator tanks are equipped with low level sensing devices that send an electronic signal to the fueling vendor indicating the tank requires fueling. In some cases, the fueling vendor will respond by delivering fuel independent of other contact by WSU. In these cases, the fueling vendor will have a key to the secured generator compound to access the generator tank's fill port.

Whenever possible, WSU personnel shall verify that proper procedures are being followed by tank truck operators during fuel loading and unloading operations.

The following procedures are recommended at each location where fuel is being loaded or unloaded to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines:

- Ensure spill kit is available.
- Cover sewer drain with spill stopper (required at emergency generators at the chemistry and biological science buildings).
- Ensure catchment is in place.
- No smoking.

- Secure vehicle with parking brake and block wheels.
- Stay in attendance during loading or unloading.
- Close and secure all valves after loading or unloading.
- Inspect all valves for leaks.
- Disconnect all flexible or fixed transfer lines prior to departure.
- Inspect lowermost part of tanker truck for leaks prior to departure.

1.7 SPILL RESPONSE EQUIPMENT

Spill response equipment is located in the areas specified in the WSU Emergency Contingency Plan in Appendix A (page 8). The spill response equipment should be easily visible, accessible, and checked regularly for inventory.

Spill/Emergency Equipment is located in:

- The Office of Environmental Health & Safety, 5425 Woodward Ave. (Page 8 of WSU Emergency Contingency Plan in Appendix A)
- 6000 Cass Ave
- 1011 E. Ferry
- Other University Buildings with laboratories (fire extinguishers located throughout)

Emergency generators shall have spill kits inside walled enclosures. Inventory shall include at a minimum:

- Storm drain covers
- Absorbent material/pads and booms
- Rubber gloves
- Protective goggles
- "Speedy dry"
- Temporary storage containers

1.8 EMERGENCY CONTACTS AND PHONE NUMBERS

In the event of an emergency or major spill on campus, use the following phone numbers to contact the appropriate authorities, as necessary. Personnel should contact WSU Public Safety first at (313) 577-2222.

Emergency Services

Service Center M-F 7am-5 pm	(313) 577-4315
Public Safety (After hours listed above – non-emergency)	(313) 577-2224
WSU Public Safety / University Police	(313) 577-2222
Detroit Police & Fire Department	911 or (313) 596-1300
Rescue	911
MDEQ (Detroit Field office)	(313) 456-4700
Michigan Pollution Emergency Alerting System	(800) 292-4706

Hazardous Spill Cleanup Contractor

Marine Pollution Control	(313) 849-2333 (24 hrs)
Veolia	(734) 632-8459 (24 hrs)
US Ecology	(313) 571-7141 (24 hrs)
EQ Detroit	(313) 923-0080

Utilities

DTE Energy, Electric	(800) 477-4747
DTE Energy, Gas	(800) 942-5571
Detroit Water Dept. Emergency	(313) 267-9000
Detroit Public Lighting	(see table following)

Sewer

Detroit Water & Sewerage Dept.	(313) 267-9000

WSU Internal Contacts

WSU Environmental Health & Safety	(313) 577-1200

Note: Effective July 1, 2014 DTE assumed electrical utility service for those buildings which were previously serviced by Detroit Public Lighting (PLD).

1.9 NOTIFICATION REQUIREMENTS

1.9.1 Notification Requirements

WSU must submit the SPCC Plan with any amendments to the U.S. EPA whenever:

- A discharge of more than 1,000 gallons (approximately 24 barrels) of oil in a single spill event occurs; or
- A discharge of more than 42 gallons of oil in two reportable spill events within any 12- month period.

Within 60 days of the occurrence of either of these two conditions, WSU must submit to the U.S. EPA Regional Administrator:

- The name of the facility;

- Name of person submitting the report;
- Name of the owner or operator of the facility;
- Location of the facility;
- Date of initial facility operation;
- Maximum storage or handling capacity of the facility and current normal daily throughput;
- Description of the facility, including maps, flow diagrams, and topographical maps;
- The cause of such spill, including a failure analysis of the system or subsystem in which the failure occurred;
- The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements;
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and
- Such other information as the U.S. EPA Regional Administrator may require.

Send a complete copy of all information to the Michigan Department of Environmental Quality (MDEQ) that was provided to the U.S. EPA. Appendix A includes a spill report form.

1.9.2 State Notifications

Call the Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 as soon as practicable after detection of a release in excess of a threshold reporting quantity (TRQ) during any 24-hour period. For diesel oil, the TRQ is 50 pounds if released to the surface of the ground, or any amount if it causes an impact on the receiving water body. Personnel should use the density listed on the SDS to calculate the exact volume of release when determining if the release was in excess of TRQ. For other materials, a list of TRQ's is presented in the Appendix F.

Follow the verbal notification by a written report outlining the cause of the release, discovery of the release, and the response measures taken or a schedule for completion of measures to be taken, or both, to prevent recurrence of similar releases.

1.9.3 Internal Notifications

The Emergency Coordinator shall prepare an internal spill report for spills that approach but do not exceed the thresholds established for EPA or State notification. Typically,

spills greater than one gallon of oil, or any spill that has the potential to enter the storm water system, shall be subject to this internal notification.

1.10 INSPECTIONS AND RECORDS

The Emergency Coordinator shall ensure that inspections are conducted on a minimum of once per month. The Emergency Coordinator shall ensure that appropriate records of inspections are maintained. Inspections include visual inspection of all tanks, valves, piping, pumps, appurtenances, container supports and secondary containment structures. An inspection form is provided in Appendix B. Completed inspection reports shall be signed and dated. The reports shall be kept on file for a period of three years.

In addition, for any bulk storage tank, another inspection technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing shall be performed on a regular schedule, and whenever repairs are made. The frequency WSU must determine, in accordance with industry standards, the appropriate qualifications for personnel performing the tests and inspections, the frequency and type of testing and inspections which take into account container size, configuration and design (such as containers that are: shop built, skid-mounted, elevated, equipped with a liner, double walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. WSU must keep comparison records and must also inspect the container's supports and foundations. In addition, WSU must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulations of oil. These records shall be kept in the office of the Emergency Coordinator (and maintained on the server) for the life of the vessel or 10 years, whichever is less so that comparison of tests across time is possible.

For all of the existing above-ground tanks associated with emergency generators, as long as the tanks are well-designed, factory fabricated containers that are not in contact with the soil, the visual inspections will provide equivalent environmental protection as described in 40 CFR Part 112.7(a)(2) for periodic integrity testing as specified in 40 CFR Part 112.8(c)(6).

1.11 TRAINING AND SPILL PREVENTION MEETINGS

1.11.1 Employee Spill Prevention Training and Briefing

All WSU personnel involved with the operation of oil storage and handling facilities shall be briefed initially upon employment and annually on spill prevention and related topics. Attendees include the Emergency Coordinator, Department Managers, Emergency Spill Response Team Representatives, Facilities Operations and employees most involved or interested in spill prevention. The briefings will highlight and describe known spill events or failures, malfunction components, and recently developed precautionary measures. The briefings may be combined with other environmental training offered at WSU.

Training shall include:

- Operation and maintenance of equipment to prevent discharges;
- Discharge procedure protocols;
- Applicable pollution control laws, rules, and regulations;
- General facility operations;
- Contents of this SPCC plan;
- Any recent incidents / procedures that require attention to prevent spills;
- Suggestions from employees for spill prevention programs / changes;
- Identification of potential oil spill sources;
- Establishment of spill reporting procedures and visual inspection programs;
- Coordination of all departments in carrying out spill prevention and control programs;
- Designation of responsibilities for spill clean-up;
- Designation of responsibilities for notification of authorities;
- Establishment of training and education programs for WSU personnel;
- Review of new construction and process changes at the plant relative to spill prevention and control;
- Review of past incidents or spills and countermeasure plans; and
- Make recommendations for revising the spill plans as deemed necessary.

Training records (attendance sheets with date, attendees, and topics covered) shall be maintained by the Facilities Planning & Management Department office and a copy in the OEHS training records.

1.12 SECURITY

The outside emergency generators tank areas include appropriate lighting. The generator fences and cabinets housing the fuel tanks are locked with padlocks by Facilities Operations personnel. WSU Public Safety / University Police provide routine campus surveillance.

1.13 BRITTLE FRACTURE PREVENTION

There are no field-constructed tanks at WSU subject to brittle fracture prevention.

2.0 WSU CAMPUS – SPECIFIC EVALUATIONS

This section provides additional detail for the operations within the WSU campus that have the potential for oil and/or potentially polluting materials spill. Specific tanks are listed in Tables 1 and 2, which follow. These tank locations are shown on Figure 1.

The Safety Data Sheets (SDS) for each chemical are found in the SDS files. The SDS sheets provide information on chemical properties for assistance in spill response. The spill response procedures for specific materials are also found in the following section describing the main storage areas.

2.1 UNDERGROUND STORAGE TANKS

There are underground storage tanks for diesel fuel storage associated with emergency generators located at MBRB at 6187 Woodward Avenue and 5435 Woodward Avenue. These USTs are exempt from the oil pollution prevention regulations outlined under 40 CFR 112; however, they are listed in Table 3 and locations are shown on Figure 1.

Table 1

Aboveground Oil Storage

Location	Size, gal	Material Stored	Tank Construction	Secondary Containment	General Information	Spill Prediction	Transfer
Engineering generator	750	Diesel fuel	Steel	Yes- double-walled tank	East side of Engineering Building	Release could migrate *over* parking lot to storm drain approximately 25 feet north	Product delivered to tank via fuel delivery truck hoses
Engineering Transformers	~200 (x2)	Transformer oil	Steel	Unknown	Located in courtyard between Engineering and Bio Science Buildings	Release could migrate over parking lot to storm drain	Not applicable
C.S.Mott generator	1000	Diesel fuel	Steel	Yes-Double walled tank	North side of Mott Building	Release would spill onto gravel beneath tank and possibly to adjacent brick/blacktop of alleyway. A storm drain is in the alley approximately 70 feet to the northwest in CVS parking lot	Product delivered to tank via fuel delivery truck hoses
Lande generator	1,200	Diesel fuel	steel	Yes- double walled tank	East side of Lande Building	Release would spill inside concrete floor of walled area – a large spill could migrate through wall opening onto bare ground	Product delivered to tank via fuel delivery truck hoses
Chemistry generators (two identical adjacent units)	1,200 ea.	Diesel fuel	Steel	Yes- double walled tank	North side of Chemistry Building within brick walled enclosure	Release would spill inside concrete floor of walled area — a large spill could migrate through the wall opening on west side-to storm drain -30 feet to west.	Product delivered to tank via fuel delivery truck hoses
Biological Sciences generators	1,200	Diesel fuel	Steel	Yes- double walled tank	Northwest side of Biological Sciences Building within brick walled enclosure	Release would spill inside concrete floor of walled area – a large spill could migrate through wall opening at west side to storm drain -10 feet to north	Product delivered to tank via fuel delivery truck hoses
South Hall (Atchison Hall) generator	1,000	Diesel fuel	Steel	Yes- indoors in bermed room	Northwest side of South Hall near electrical room	Release would spill inside generator room and be contained (doorway bermed to prevent release outside)	Product delivered to tank via fuel delivery truck hoses
FAB generator	200	Diesel fuel	Steel	Yes-double walled tank	Located on slab on lawn at northwest side of building	Release could migrate *over* lawn lot to storm drain	Product delivered to tank via fuel delivery truck hoses

Location	Size, gal	Material Stored	Tank Construction	Secondary Containment	General Information	Spill Prediction	Transfer
Scott Hall generators (two identical adjacent units)	1,200 ea.	Diesel fuel	Steel	Yes - double walled tank	Located on concrete slab on gravel and grass	Release would spill onto concrete pad and into flat gravel and grass area	Product delivered to tank via fuel delivery truck hoses
Elliman	3,500	Diesel fuel	Steel	Yes - double walled tank	Associated with newly installed generator	Release would likely be contained within enclosure; if break occurs flow would leave concrete pad to surrounding soil	Product delivered to tank via fuel delivery truck hoses

Identification	Size, gal	Material	Tank Construction	Secondary Containment	General Information	Spill Prediction	Transfer
FAB Electrical Transformer	~100-200 (assumed)	Transformer oil	Steel	No – release to be contained with absorbent booms	Located on concrete slab on grass	Release would spill onto concrete pad and grass area	No transfer of fluids anticipated
Computing Center AST	8000	Diesel	Steel and Gravel Concrete	Double-walled	Located on concrete slab in fenced in area outdoors	Release would spill onto asphalt and run SW towards sewage gate	Product delivered to tank via fuel delivery truck hoses
Computing Center Day Tanks (2)	50 ea.	Diesel	Steel	Double-walled	Located on concrete slab in fenced in area outdoors	Release would spill onto asphalt and run SW towards sewage gate	Product delivered to tank via fuel delivery truck hoses
University Towers	55	Diesel	Steel	Double-walled	Located south of University Towers in a fenced zone	Release would spill onto grass underneath transmitter	Product delivered to tank via fuel delivery truck hoses
5454 Cass Portable Generator	60	Diesel	Steel	Double-walled	Located inside a towable trailer with emergency generator	Release would be contained within trailer or vary by towable location	Product delivered to tank via fuel delivery truck hoses
5435 Woodward Day Tank	55	Diesel	Steel	Building	Day Tank is located inside the building and connected to the Mortuary Sciences UST	Release would be contained within building (Generator Room)	Day Tank is fueled by UST
MBRB ASTs (2)	600 ea.	Diesel	Steel	Double-walled	Day tanks located SW side of building in locked gated area. Located inside generator housing	Flow would go to sump or in event of fueling release, SW to storm water drains in alley. Electronic monitoring present	Product delivered to tank via fuel delivery truck hoses

Location	Size, gal	Material Stored	Tank Construction	Secondary Containment	General Information	Spill Prediction	Transfer
Elliman Emergency generator	3,500	Diesel	Steel	Double-walled	Located on NW side of building. Belly Tank under generator	To surrounding soil	Filled by tanker truck
Elliman Day Tank/ Fuel Port	~100	Diesel	Steel	Unknown	Fuel port with day tank for refueling 1,000-gallon AST	Day Tank flow to surrounding soil. Storm water catch basin located south of day tank	Product delivered to tank via fuel delivery truck hoses
Engineering Building	1,100	Diesel	Steel	Double-walled	Located on NE side of engineering Building. Belly Tank under generator	Flow to catch basins to the NE within 25 feet of generators. Electronic monitoring present	Filled by tanker truck
Physics Building Generator	1,100	Diesel	Steel	Double-walled	1,100-gallon AST belly tank under generator	Spill would be contained within generator enclosure. Electronic monitoring present.	Product delivered to tank to day tank via fuel delivery truck hoses
Physics Building Day Tank/ Fuel Port	~100	Diesel	Steel	Unknown	Fuel port with day tank for refueling 2,000-gallon AST	Day tank is inside generator enclosure. Spill at fuel port could contact ground surface. Storm water catch basin located south of day tank. Electronic monitoring present.	Product delivered to tank via fuel delivery truck hoses
Life Science/ Science Hall Generator	1,000	Diesel	Steel	Double-walled	Located between Life Science Gall and Science Hall in locked area. Belly Tank under generator	Flow would be east to storm water catch basins in the alley. Electronic monitoring present	Product delivered to tank via fuel delivery truck hoses in the alley
Applebaum	4,000	Diesel	Steel	Double-walled	Located W of building in locked fenced area. Belly Tank under generator	Flow would be contained within berm around tank and generator. One storm water drain is located NW of tank and grating for underground HVAC exhaust in located east of AST. Electronic monitoring present	Product delivered to tank via fuel delivery truck hoses to day tank/ fuel port

Location	Size, gal	Material Stored	Tank Construction	Secondary Containment	General Information	Spill Prediction	Transfer
Applebaum Day Tank/ Fuel Port	~100	Diesel	Steel	Unknown	Fuel port with day tank for refueling associated AST	Day Tank flow to surrounding soil. Storm water catch basin located to NW. Electronic monitoring present	Product delivered to tank via fuel delivery truck hoses
Oil filled transformer located at Ghafari Hall	Unknown	Transformer Oil	Steel	Unknown	Oil filled electrical transformer	Flow to grass surrounding vegetation	N/A
Student Center diesel emergency generator	1,100	Diesel	Steel	Double-walled	Belly Tank under generator. Located SW side of building near loading dock area	Electronic monitoring present. Flow to surrounding areas.	tank via fuel delivery truck hoses

Table 2

Underground Storage Tanks

(Exempt from 40 CFR 112)

Identification	Size, gal	Material	Material of Construction	Secondary Containment	General Information	Spill Prediction	Transfer·
5435 Woodward	1,000	Diesel	Unknown	Unknown		To surrounding soil	Filled by tanker truck
MBRB (I-Bio)	10,000	Diesel	Fiberglass	Double-walled	Also known as iBio	To surrounding soil	Filled by tanker truck

Table 3

Food Oil (Grease) Storage

Identification	Size, gal	Material	Material of Construction	Secondary Containment	General Information	Spill Prediction	Transfer·
Tony V's Tavern	~300	Grease	Steel	None	Grease trap for restaurant	Flow south to catch basins located in parking lot and alleyway SW of bins	Food Industry personnel fill and grease is recovered by vendor
Tony V's Tavern	~150	Grease	Steel	None	Grease trap for restaurant	Flow south to catch basins located in parking lot and alleyway SW of bins	Food Industry personnel fill and grease is recovered by vendor
Studio One's Parking Structure	~300	Grease	Steel	None	Grease trap for restaurant	Flow to surrounding gravel and soil	Food Industry personnel fill and grease is recovered by vendor
Ghafari Hall	~300	Grease	Steel	None	Grease trap for restaurant	Flow to SE in parking lo	Food Industry personnel fill and grease is recovered by vendor
Atchinson Hall	~300	Grease	Steel	None	Grease trap for restaurant	Flow to surrounding soil and vegetation and south to storm water catch basins	Food Industry personnel fill and grease is recovered by vendor
Student Center Building	~300 (2)	Grease	Steel	None	Grease trap for restaurant	Flow south to storm water catch basins	Food Industry personnel fill and grease is recovered by vendor
Park at Warren and Cass	~300 (2)	Grease	Steel	None	Grease trap for restaurant	Flow gravel and vegetation near bins	Food Industry personnel fill and grease is recovered by vendor
5057 Woodward	~300	Grease	Steel	None	Grease trap for restaurant	Flow to west storm water catch basins in alley approximately 5 feet from bin	Food Industry personnel fill and grease is recovered by vendor
Scott Hall	~300 (2)	Grease	Steel	None	Grease trap for restaurant	Flow to storm water catch basins east and west of bins towards loading	Food Industry personnel fill and grease is recovered by vendor

Identification	Size, gal	Material	Material of Construction	Secondary Containment	General Information	Spill Prediction	Transfer·
						dock	
Mid-City Grill	~300	Grease	Steel	None	Grease trap for restaurant	Flow to storm water catch basins located south and north. Bins surrounded by gravel	Food Industry personnel fill and grease is recovered by vendor

3.0 PLAN REVIEW AND AMENDMENT PROCEDURES

3.1 GENERAL INFORMATION

This SPCC/PIPP Plan is required to be modified periodically for the following reasons:

- When deemed necessary by the United States Environmental Protection Agency ("USEPA") after the U.S. EPA has reviewed the plan, most likely following submittal of the plan to EPA due to a spill event;
- Whenever there is a change in facility design, construction, operations, or maintenance that materially affects the potential for an oil spill; or
- If the required 5-year review of the plan indicates more effective control and prevention technology will significantly reduce the likelihood of a spill event (if such technology has been field proven).

All SPCC/PIPP Plan technical amendments, except those proposed by the U.S. EPA Regional Administrator, must be certified by a Registered Professional Engineer. The Emergency Coordinator will keep a copy of all amendments to this plan and will note such amendments in the Amendments and Revisions page at the front of this plan. Copies of all amendments will also be distributed to all facility operators provided with a copy of this plan.

3.2 REVISION NOTIFICATION REQUIREMENTS

Whenever the SPCC/PIPP plan is revised, the Emergency Coordinator shall notify the MDEQ and certify the status of WSU's compliance with the plan. In addition, the Emergency Coordinator shall notify the local emergency planning committee (LEPC) and the local health department that the plan has been revised. The SPCC/PIPP plan shall be available for inspection upon request by these agencies.

3.3 REGULATION CROSS MATRIX

EPA's Oil Pollution Prevention Regulations (40 CFR 112)

SPCC Requirement	Section where found
112.20 Declaration of potential to cause or not cause substantial harm	5.3
112.1 General applicability	1.1
112.3 Preparation requirements for SPCC	1.1
112.4a Spill History.	1.2
112.7 Strong spill contingency plan and written commitment of manpower, equipment, and materials.	Entire plan
112.7a Conformance with requirements	1.1
112.7b Prediction of direction, rate of flow, due to major failure	2
112.7c Appropriate containment	2
112.7d Reasons for nonconformance	Not applicable
112.7e Inspection and records per written procedures	1.10
112.7f Training	1.11
112.7g Security	1.12
112.7h Tank car and tank truck loading/unloading racks	1.7
112.7i Brittle fracture prevention	1.13
112.7j State requirements	1.1
112.8a General Requirements	
112.8b(1) Procedure to drain diked areas	Not applicable
112.8b(2) Valves from diked areas	Not applicable
112.8b(3) Facility drainage	2
112.8c(1) Bulk storage tank design	2.1 thru 2.4
112.8c(2) Secondary containment	2.1 thru 2.4
112.8c(3) Drainage from secondary containment	Not applicable
112.8c(4) Completely buried tanks	2.7
112.8c(5) Partially buried tanks	Not applicable
112.8c(6) Testing	1.10
112.8c(7) Internal heating coils	Not applicable
112.8c{8) Good Engineering Practices	2.1 thru 2.4
112.8c(9) ·Inspections to discover upsets	1.10
112.8c{10) Promptly correct discharges	1.5
112.8c(11) Mobile and portable containers	2.3
112.8d(1) Buried oil piping	Not applicable
112.8d(2) Cap or blank-flange terminal connections	Not applicable
112.8d(3) Properly design pipe supports	Not applicable
112.8d(4) Regular inspections of valves, piping, etc.	1.10
112.8d(5) Warn vehicles	Not applicable

Michigan Pollution Incident Prevention Plan Regulations (Part 5, R 324.2001-2009)

PIPP Requirement	Section where addressed
324.2004 Surveillance	1.10 & 1.12
324.2005 Secondary containment	2
324.2006 Pollution incident prevention plan	Entire plan
1a General facility information	1.1
1b Procedures for emergency_ notification	1.9.2
1c Spill control and cleanup procedures	1.5
1d Material inventory	2
1e Site plan	Figure 1
1f Outdoor secondary containment structures	2
1g Other controls	2
1h Facility security	1.12
2 Notification	1.9
3 Re-notifications	Not applicable
4 Update frequency	3
5 DEQ required modification	3.2
324.2007 Pollution incident report	1.9.2

4.0 CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA (40 CFR 112.20(E)

Facility Name: **Wayne State University**

Facility Address: **Detroit, Michigan**

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 or equal to 1 million gallons and is the facility located a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response plans: Fish and Wildlife and Sensitive Environments" (See Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.

   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 a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

   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 (Attachment C-II, 40 CFR 112.20e)

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

Signature: _____

Date: _____

Name: _____

Title: Emergency Coordinator

FIGURES

SYMBOL KEY

- Grease Oil Storage
- Generator with Aboveground Storage Tank
- Portable Generator
- Generator with Underground Storage Tank
- Pad Mounted Electrical Transformer
- Spill Response Equipment

MBRB
Wayne State Police Department
Computing Center
6000 Cass
6454 Cass
5435 Woodward
Mortuary Science
5425 Woodward
University Services Bldg
Detroit Historical Museum
Faculty/Administration Building
Education
Student Center
The Tower
Chatsworth Apts.
DeRoy Apts.
Merrick St
Undergraduate Library
Yousif B. Ghafari Residence Hall
Leon H. Atchison Residence Hall
Engineering
Biological Sciences
Life Science
Science and Engineering Library
Science Hall
Chemistry Building
State Hall
Putnam St
Mott Center
Detroit VA Medical Center
Parking Structure 4
Elliman
Lande
Scott Hall
Amsterdam St
Burroughs St
2nd Ave
3rd St
Antoine St
Holden St
John C Lodge Fwy
Palmer W
40th St
I-94
Medbury Ave
E Edsel Ford Fwy
Hendrie St
Service Dr
Woodward Ave
E Palmer Ave
W Palmer Ave
E Ferry Ave
W Ferry Ave
E Kirby St
W Kirby St
Farnsworth St
Frederick Douglass Ave
D Ann St
Lenar St
Barbara St
Ladarrel St
Beaubien St
Brush St
E Warren Ave
Theodore St
Thead St
E Hancock St
W Hancock St
E Forest Ave
John St
Anthony Wayne Dr
Mack Ave
Saint Antoine St
E Canfield St
Hastings St
I-75
E Forest Ave

Amec Foster Wheeler **Environment & Infrastructure** 46850 Magellan Drive, Suite 190 Novi, Michigan 48377	amec foster wheeler	N	WAYNE STATE UNIVERSITY	**Wayne State University** **Detroit, Michigan**	**FIGURE 1a** **Oil Storage and** **Spill Response Equipment Map** **Wayne State University - Main Campus**
0 250 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 Feet				9/2/2016 Drawn: JBO	REV: SAST PROJ: 15881X6	File Name: Emerg_Gen_Spill_Resp_Equip_map - 2016 - Main Aerial data source: ESRI ArcGIS World Imagery; obtained throughESRI online services, Feb-2014

Path: P:\Municipal\Wayne State\15881 Wayne State (was 3578)\15881.5\SPCC - March 2012\Report\Final SPCCP\Graphics\Wayne_St_Univ_Final_GIS_Files\MXD\Emerg_Gen_Spill_Resp_Equip_map - 2016 - Main.mxd

SYMBOL KEY

- Grease Oil Storage
- Generator with Aboveground Storage Tank
- Portable Generator
- Generator with Underground Storage Tank
- Pad Mounted Electrical Transformer
- Spill Response Equipment

Amec Foster Wheeler **Environment & Infrastructure** 46850 Magellan Drive, Suite 190 Novi, Michigan 48377	amec foster wheeler	N	**Wayne State University** **Detroit, Michigan**	**FIGURE 1b** **Oil Storage and** **Spill Response Equipment Map** **Wayne State University - Medical Campus**

0 250 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 Feet

9/2/2016	REV: SAST	File Name: Emerg_Gen_Spill_Resp_Equip_map - 2016 - Med
Drawn: JBO	PROJ: 15881X6	Aerial data source: ESRI ArcGIS World Imagery; obtained throughESRI online services, Feb-2014

Path: P:\Municipal\Wayne State\15881 Wayne State (was 3578)\15881.5\SPCC - March 2012\Report\Final SPCCP\Graphics\Wayne_St_Univ_Final_GIS_Files\MXD\Emerg_Gen_Spill_Resp_Equip_map - 2016 - Med.mxd

APPENDIX A

WSU EMERGENCY CONTINGENCY PLAN

WAYNE STATE UNIVERSITY

EMERGENCY CONTINGENCY PLAN

Office of Environmental Health & Safety
5425 Woodward Avenue, Suite 300
Detroit Michigan 48202
(313) 577-1200 Phone
(313) 993-4079 Fax
www.oehs.wayne.edu

REVISED: October 5, 2016

PURPOSE

The purpose of this plan is to minimize hazards to university students, staff, the public, and the environment, from fires, explosions or any unplanned sudden release of hazardous materials or hazardous waste to air, soil or water. The plan is to be consulted primarily by the Emergency Coordinators; however, all personnel involved in the management of hazardous materials and wastes at Wayne State University shall be familiar with the contents of this plan. In addition, the plan shall be circulated to appropriate emergency response units that might be involved with the emergencies described herein.

For the purpose of this plan, an emergency is defined as a fire, explosion, or release of hazardous material/waste which could threaten human health or the environment. The provisions of this plan must be carried out immediately whenever an emergency situation occurs.

DIALING INSTRUCTIONS FOR UNIVERSITY TELEPHONES

Reminder: To ensure your Wayne State phone calls and voicemails get through during the VoIP upgrade, you need to dial full phone numbers, for example: 9-1-313-577-1234. Once everyone has been transitioned to VoIP, five-digit dialing will again be available.

To call within the University, dial the last five digits of the telephone number desired. For example, dial 7-1234 for (57)7-1234 or dial 3-1234 for (99)3-1234.

To dial the University Medical Center from a 577–or-993 campus number, dial 132, then the 5-digit extension. If the extension is not known, dial (132)0. For example, if the number is 745-1234, dial (132)5-1234 from a campus phone.

To dial in the Detroit local calling area, dial 9, then the 7-digit telephone number.

To dial in area code 313, but beyond the local-calling area, dial 9, then 1, and the 7-digit telephone number.

When using a cellular phone to dial 911, your call will be routed to the Michigan State Police, then directed to the closest Police Department.

To call from an emergency blue light phone, dial the last five digits of the telephone number desired. For example, dial 7-1234 for (57)7-1234 or dial 3-1234 for (99)3-1234.

GENERAL OPERATING PROCEDURES IN THE EVENT OF AN EMERGENCY

A. Notify the **University Police Department 577-2222** that an emergency situation exists and give them all-important information and evacuate all personnel in the building, if necessary.

B. Contact the emergency coordinators to assess the situation. Consult the spill control and countermeasures plan (pages 12-13). **If radioactive materials may be involved, contact a representative of the Health Physics – Radiation Safety 577-1200.**

C. Depending on the severity of the emergency, assistance would be requested from the following parties in order of importance:

1. University Police Department	**577-2222**
2. Environmental Health and Safety	**577-1200**
3. Health Physics – Radiation Safety	**577-1200**
4. National Response Center	**1-800-424-8802**

D. After the emergency is over, restore facilities and safety equipment to pre-emergency status before resuming operations.

EMERGENCY PHONE NUMBERS

The following individuals are thoroughly familiar with this contingency plan and with the operations and activities of hazardous materials and waste storage areas to act as an emergency coordinator in the event of an emergency. (Listed in order of priority) DO NOT LEAVE VOICEMAIL MESSAGE, TALK TO A PERSON ON THE LIST.

Primary Emergency Coordinators

Walter J. Pociask, Office of Environmental Health & Safety
Associate Director
21833 Knudsen Drive
Grosse Ile, MI 48138

Direct Office Phone	(313) 993-7655
Office Phone	(313) 577-1200
Cellular Phone	(734) 576-1421
Home Phone	(734) 676-4808

Secondary Emergency Coordinators

Richard Harrison, Office of Environmental Health and Safety
Compliance Officer
5187 West Outer Drive
Detroit, MI 48235

Direct Office Phone	(313) 993-7678
Office Phone	(313) 577-1200
Cellular Phone	(313) 510-5916
Home	(313) 736-3420

Nawana Lawson, Office of Environmental Health and Safety
Hazardous Materials Specialist
22043 Hallcroft Lane
Southfield, MI 48034

Direct Office Phone	(313) 993-7676
Office Phone	(313) 577-1200
Cellular Phone	(313)529-6265
Home Phone	(248) 809-3293

Rob Moon, Office of Environmental Health and Safety
Associate Director
489 W. Sonoma Ave.
Hazel Park, MI 48030

Direct Office Phone	(313) 993-7679
Office Phone	(313) 577-1200
Cellular Phone	(313) 585-6508
Home Phone	(313) 585-6508

Health Physics – Radiation Control

Maha Srinivasan, Office of Environmental Health and Safety
Health Physicist, Radiation Safety Officer
1398 Falcon Drive
Troy, MI 48098
Direct Office Phone (313) 577-0019
Office Phone (313) 577-1200
Cellular Phone (313) 673-1896
Home Phone (248) 879-1123

Wendy Barrows, Office of Environmental Health and Safety
Health Physics Specialist
454 Beldale Drive
Troy, MI 48085
Direct Office Phone (313) 577-9505
Office Phone (313) 577-1200
Cellular Phone (248) 930-8292
Home Phone (248) 740-4000

Other Emergency Numbers

University Police Department (Fire & Medical)	(313) 577-2222
University Health Center (Medical)	(313) 745-4522
Environmental Health and Safety (WSU)	(313) 577-1200
Chemistry Dept. Representative	(313) 577-2696
Health Physics – Radiation Control	(313) 577-1200
Department of Environmental Quality (DEQ)	
Warren Office	(586) 753-3700
Lansing Office	(517) 284-6651
Pollution Emergency Alerting System (PEAS)	1-800-292-4706 (Michigan Only)
National Response Center	1-800-424-8802
Marine Pollution Control (Spill Response)	(313) 849-2333
Nuclear Regulatory Commission (NRC)	1- 800-522-3025
AirGas – Jill Rumph	(248) 546-3836

LOCATION AND DESCRIPTION OF EMERGENCY EQUIPMENT

Office of Environmental Health and Safety
5425 Woodward Avenue, Room 411
Detroit, MI 48202
577-1200

This room is kept locked at all times, only authorized personnel can enter. There is generally someone in the office weekdays 8:30 am to 5:00 pm. An answering machine is on at all other times to record messages.

Personal Protection Equipment

3-Powered air purifying respirators with high efficiency particulate filters
5-MSA SCBA with a 30 minute (rated) air supply
4-Tyvek Paper Suits
4-Kappler CPF 3 Suits
1-Box Disposable Latex Gloves
4- Pairs Silver Shields Gloves
4-Pairs Leather Work Gloves
2-Face Shields
2-Chemical Aprons
3-Hardhats

Spill Response Equipment

2-Mercury Spill Kits
1-Wet/Dry Vacuum
1-Box of Diking Material
8-50lb bags oil dry
4-Rolls Absorbent Padding
2-Boxes Chemical Spill Pillows
3-Gallons Clorox Bleach
3-Chemical Classifiers
2-Boxes pH paper
4-Caustic Spill Kits
4-Acid Spill Kits

Emergency Response Equipment

1-Broom
1-Mop
2-Mop Heads
1-Non-Sparking Shovel
2-Floor Squeegees
2-Dust Pans
1-Roll CAUTION Tape
2-Decon Buckets with Scrubbers
1-Gas Detection Kit
3-First Aid Kits

In addition, the Compliance Officer, the Environmental Health Manager, the Environmental Health Specialist, the Haz-Mat Manager, Haz-Mat Specialist, Haz-Mat Technician and Director have Survivair full face and half mask respirators with air purifying cartridges for non-IDLH conditions.

Other University Buildings

All other university buildings containing laboratories using hazardous chemicals have automatic sprinkler systems installed. They may be completely throughout buildings or in specific areas. A combination of Class A (water), ABC (dry chemical) and BC (carbon Dioxide) fire extinguishers are located in hallways outside the labs and any combination of Class ABC, BC and D fire extinguishers can be found inside the labs.

Fire alarm pull stations are located in conspicuous locations in the hallways on all floors. Fire alarm systems within university buildings are connected via a proprietary supervising station – fire alarms and fire troubles report to Wayne State University Police Department (57)7-2222

Some examples for the four classes of fires are:

Class A Fires – ordinary combustible materials (i.e., paper, wood, cloth)
Class B Fires – flammable liquids/chemicals/gases and oils
Class C Fires – energized electrical equipment
Class D Fires – combustible metals such as magnesium, sodium, and potassium

Description of Emergency Equipment

The Office of Environmental Health and Safety maintains emergency equipment for the purpose of responding to hazardous material incidents such as spills. The equipment is primarily stored at Wayne State University's Office of Environmental Health and Safety at 5425 Woodward Avenue in Room 411. Brief descriptions of some of the emergency equipment are given to describe their capabilities and how they may be useful during chemical incidents.

1. **Personal Protective Equipment** consists of equipment such as chemical resistant coveralls and gloves, respirators, self-contained breathing apparatus and eye and face protection devices.

   A. Tyvek coveralls provide a barrier to many dry particulates, including asbestos and other hazardous dusts. Tyvek resists abrasions, punctures and tears.

   B. Kappler coveralls provide a barrier to many dry particulates as well as chemical liquids. Kappler forms a more effective barrier against a broader range of chemicals than Tyvek.

   C. Chemical resistant gloves such as nitrile gloves offer protection against most common solvents, oils and acids.

   D. Leather gloves provide protection against abrasions, punctures and cuts.

   E. Rubber apron provides protection against various solvents, oils, greases and light acids.

   F. Chemical resistant goggles and face shield provide eye and face protection whenever a splash hazard may be present. Goggles and face shield are resistant to mild acids, caustics, aromatics, hydrocarbons and methylene chloride.

   G. Air purifying respirators will provide respiratory protection against acid gases, organic vapors and airborne particulates.

   H. Self-contained breathing apparatus (SCBA) is the highest level of respiratory protection. If properly worn it will protect workers from atmospheres identified as Immediately Dangerous to Life or Health (IDLH).

2. **Miscellaneous Equipment**

   A. pH paper (range 1-14) may be utilized to check whether a spilled liquid is acidic, neutral or basic.

   B. Chlorox can be diluted 1:10 with water and used as a disinfectant in cleaning up bloodborne pathogen spills.

   C. Emergency Cleanup System acid spill kit, sodium bicarbonate, spill pillows and spill absorbent pads can be utilized to clean up acid spills.

   D. Emergency Cleanup System caustic spill kit, soda ash, spill pillows and spill absorbent pads can be utilized to clean up caustic spills.

   E. Emergency Cleanup System solvent spill kit, spill pillows and spill absorbent pads can be utilized to clean up solvent spills.

   F. Combustible gas meter (MSA) can be utilized to monitor for lower explosive atmospheric conditions. This condition may be present if a combustible or flammable material has been released.

ARRANGEMENTS WITH LOCAL AUTHORITIES

The University Police Department, City of Detroit Fire Department, University Health Center personnel and Marine Pollution Control all have a role in the Wayne State Contingency Plan. Our arrangement with them includes but not limited to the following:

- University Police Department - provide assistance in evacuation, crowd control, search and rescue, first aid, and other related police activities.
- City of Detroit Fire Department - provide assistance in evacuation, search and rescue, first aid, fire response, hazardous waste emergencies and other related fire response activities.
- University Health Center – provide medical evaluation and treatment.
- Marine Pollution Control - provide assistance in spill response other related activities.

The University Police Department, City of Detroit Fire Marshal, University Health Center personnel and Office of Risk Management Fire Safety Inspector shall review this plan. The Office of Environment Health and Safety shall meet with appropriate representatives of these departments as needed to familiarize them with the layout of the large quantity generators, properties and associated hazards of the hazardous wastes; places where facility personnel would normally be working, types of hazardous materials located in building and access to all storage sites.

In the event that the above departments require additional assistance from other local and state emergency authorities, they will request such assistance as needed in consultation with the emergency coordinators.

Contingency Plan Mailing List

Michigan Department of Environmental Quality
Attn: James Day
Southeast Michigan District Office
27700 Donald Court
Warren, MI 48092-2793
(586) 753-3700
Wayne State University, Police Department
Attn: Anthony Holt - Chief of Police
Police Department
6050 Cass Avenue
Detroit, MI 48202
(313) 577-2062

Detroit Fire Department
Attn: Shawn Battle (Chief of Fire Prevention) / Gregory T. Turner (Fire Marshal)
Detroit Public Safety Headquarters
1301 Third St
Suite 705A
Detroit, MI 48226
(313) 596-2900

University Health Center
Attn:
University Health Center
4201 St Antoine St
Detroit, MI 48201

Wayne State University, Risk Management
Attn: William Kemp - Associate Director
State Certified Fire Inspector
Risk Management
5700 Cass, Suite 4622
Detroit, Michigan 48202
(313) 577-3313

Marine Pollution Control
Attn:
8631 W Jefferson Ave
Detroit, MI 48209
(313) 849-2333

SPILL PREVENTION, CONTROL AND COUNTERMEASURES PLAN

The following plan is a guideline for spill control, evacuation, notification of proper authorities and general emergency procedures in the event of a chemical incident at the large quantity generators site, chemical storage areas or laboratories maintained by Wayne State University. Because all emergency situations are different it is important to first protect human life and health.

Spill Control

1. **Non-ignitable, low toxicity liquids or solids and not generally dangerous gases** may be handled by first setting up restricted access to the spill area for small spills or evacuating the room/area in the case of large spills. The Office of Environmental Health and Safety should be called to initiate spill response/clean-up procedures. Chemical aprons, impermeable clothing, multiple cartridge respirators and/or self contained breathing apparatus should be worn consistent with the associated hazard. It is the emergency coordinator's responsibility to determine the level of safety equipment required. A minimum of two (2) trained clean-up personnel should always respond to any chemical spill. Further back-up personnel should then be called as required. Inert adsorbents or neutralizing materials may be used to prevent spreading of liquids. The absorbed liquids can then be carefully swept up and placed into plastic pails with covers.

2. **Ignitable liquids or solids, highly toxic materials, materials generating dangerous gases and/or reactive materials** may be handled by first evacuating the room/area in the case of any size spill and if there may be any potential hazard to other areas and people in the building, then the entire building or an extended area of evacuation should be initiated. Campus Safety should first be called, then the Office of Environmental Health and Safety. If the spill or hazard is sufficiently small, trained campus personnel can initiate the spill clean-up. This decision is to be made by the emergency coordinator. If the hazard is determined too great for university personnel to safely handle clean-up procedures, outside agencies/contractors should be called depending on the type of emergency. University spill response personnel are equipped to handle low risk chemical emergencies. Any level "A" protection clean-ups or level "B" protection clean-ups requiring extensive clean-up time (greater than 30 minutes) should be handled by properly equipped clean-up personnel. WSU does not have sufficient emergency equipment to safely respond to a clean-up in an immediately dangerous to life and health alarm. Small spills of these types of materials can be handled by at least two (2) university response personnel. Proper safety and clean-up equipment should be used as required by the type of hazard involved.

Chemical Spill Countermeasures

A. Site personnel (responding to spills)
   1. Attend to any persons injured or may have been exposed to any hazardous material, without placing yourself in danger.
   2. Call University Police Department 577-2222 and notify persons in the immediate area of the hazard and evacuate the area if necessary.
   3. Assess the situation (from a safe distance) as to:
      a. type of spill
      b. size of spill
      c. type of hazard
         - radioactive
         - flammable
         - reactive
         - corrosive
         - toxic
   4. Call the Office of Environmental Health and Safety 577-1200 for assistance. For radioactive spills call Health Physics 577-1200.
   5. DO NOT attempt clean-up of any hazardous materials without first calling these emergency numbers. Assistance and/or spill response equipment will be provided by the Office of Environmental Health & Safety.

B. On-Scene Coordinator (responding to spill)
   1. Assess the situation from a safe distance.
   2. Attend to any injured persons.
   3. Determine what chemicals are involved.
   4. Determine the hazard of the chemicals.
   5. Determine the extent of the hazard.
      - Notify the appropriate agencies.
   6. Set-up restricted area and evacuate the area.
   7. Stabilize the situation if possible.
      - Shut off gas, electric or chemical feed lines.
      - Remove hazardous materials from area, if it can be done safely.
   8. Determine the level of protection required for personnel entering the restricted area.
   9. Enter spill area, if appropriate, to further assess the situation and rescue victims using the proper level of personnel protection as required by the hazard.
   10. Initiate and direct clean-up of the area.
   11. If any residue needs to be processed or treated, do it away from the spill area.
   12. Dispose of all contaminated materials.
   13. Perform follow-up analysis of the area.
   14. Restore area to its original condition.

Evacuation Plan

A. Outline for Emergency Evacuation Procedures
B. Emergency Building Evacuation Procedures
C. Outline of Remaining in Building Procedures
D. Evacuation Procedures for Disabled Persons
E. Floor plans, showing evacuation routes

A. Outline for Emergency Evacuation Procedures (Fire, Gas Leak, Hazardous Materials, Fire Alarm)

I. Evacuate building immediately

- **A.** Identify problem
  1. Notice hazardous condition
- **B.** Ensure personal safety
  1. Move away from hazardous area
  2. Take valuables from the immediate work area only
- **C.** Evacuation procedures
  1. Alert other occupants
     a. Fire alarm
     b. Voice
  2. Evacuate to outside of building
     a. Keep clear of driveway
     b. Keep clear of entrances
     c. Do not use elevator
  3. Contain Hazard
     a. Close doors on the way out of the building
  4. Headcount taken
     a. Rosters of each department
     b. Rosters of training sessions in the building
- **D.** Notify University Police Department
  1. Blue Light telephone
  2. External or cellular telephone
- **E.** Incident ends
  1. University Police gives directions
  2. Notify occupants when it is safe to return

B. Emergency Building Evacuation Procedures (Fire, Gas Leak, Hazardous Materials, Fire Alarm)

Identify the problem by observing the hazardous condition. Instantly, take steps to ensure personal safety by moving away from the hazardous area. Take valuables from the immediate work areas only. Alert other occupants in the building by pulling the fire alarm and telling others of the situation. Evacuate to the outside of the building, keeping clear of driveways and entrances. **Do not use the elevator during an evacuation!** The last person to leave each area should close the doors on the way out to contain the hazard.

C. Outline for Remaining in Building Emergency Procedures (Tornado or Earthquake)

I. Stay in Building

A. Identify problem
   1. Monitor radio reports
   2. Notify building occupants of potential hazard
   3. Stay alert for visible warning

B. Ensure personal safety if event occurs
   1. Stay away from doors and windows
   2. Do not use elevator
   3. Go to interior room, bathroom or closet
   4. If there is no time:
      a. Get under desk
      b. Protect your head

C. Notify University Police Department
   1. Use radio
   2. Telephone or Blue Light telephone

D. Incident ends
   1. University Police gives directions

II. Remaining in Building Procedures (Tornado or Earthquake)

Identify the problem by observing visible warning signs and monitoring radio reports. Take steps to ensure personal safety. Once reports are received that imminent hazardous conditions exist, notify other building occupants.

Once notified, move to the lower areas of buildings, interior areas such as bathrooms or closets. **Do not use elevators and stay away from windows and doors**. If there is no time to move to interior areas, seek cover under desks; protect head.

D. Evacuation Procedures for Disabled Persons

I. Brief Summary of Policy

University Policy is that, upon request, faculty, staff, and students are encouraged to assist in the evacuation of any disabled person on campus in the event of an emergency, unless this action places the faculty/staff/student in personal danger. [Actions such as going back into a building once you have already exited, entering burning or smoky rooms, or passing through burning or smoky areas constitutes personal danger.] Once outside the building, faculty, staff, and students are further required to notify emergency personnel of any person known to be remaining in the building.

University Police Department can be reached by calling 577-2222 or by using an emergency bluelight telephone.

It is extremely important for all persons involved to remain calm during any emergency. University Police and Fire Department personnel will arrive within minutes to help complete the evacuation of the facility.

II. Evacuation Procedures

In the event of an emergency in any University facility that requires immediate evacuation, the evacuation of ALL occupants of that facility is of primary importance. In any emergency, life safety comes first. Often times in an emergency, evacuation may be difficult; to a disabled person, evacuation may be almost impossible without assistance. Therefore, Wayne State University has adopted the following evacuation procedures for the disabled on campus:

A. Evacuation With Assistance

Upon notification of any emergency that requires immediate evacuation, ALL occupants of the building must begin evacuating the facility. Any disabled person in that facility should make an immediate request for assistance from occupants of the building. This request may be made verbally or by any other method that the disabled person may need to use.

If the disabled person cannot locate any other occupant for assistance, then he/she will then follow the procedures outlined in Section B.

The person receiving the request should then offer assistance any follow the instructions of the disable person to the extent possible. In general, the following guidelines may be used:

1. BLIND, BUT MOBILE, PERSONS should first be moved out of the rush of traffic. Then, they should be assisted to the nearest exit.
2. DEAF, BUT MOBILE, PERSONS may be unaware of the need to evacuate. They should be calmly advised of the need to evacuate and then guided to the nearest exit.
3. TEMPORARILY IMMOBILIZED PERSONS (including those people wearing casts and/or using canes or crutches) should be given assistance as needed based on their ability to maneuver to an exit or to a Area of Refuge.
4. PERMANENTLY IMMOBILIZED PERSONS (those individuals who have either limited or no use of their legs and must rely on crutches, wheelchairs, or walkers for transport in buildings) should be assisted as follows:
   a. As soon as an emergency is known, one person should remain with and assist the disabled individual.
   b. The disabled individual should be quickly moved to an exit if one is located on that floor of the building. If an exit to the outside is not located on that floor, then the disabled individual should be moved to an established Area of Refuge. Maps designating these established areas will be posted near each exit on every floor of the building. Generally, both individuals should remain inside the building until they have been given the okay to leave, or until emergency response personnel arrive and assist them in exiting the facility.

B. Evacuation Without Assistance

Note: Disabled persons who may be occupying a facility during hours that are not considered to be normal working hours (generally, between 5:00 p.m. and 8:00 a.m. on Mondays through Fridays and at any time on weekends) are encouraged to call the University Police Department to let them know that they are in the building.

If the disabled person cannot locate any other occupant for assistance, then he/she will then follow the following procedures:

1. If the disabled person is in close proximity to an exit that opens immediately to the outside, then, at his/her discretion, that individual may attempt to exit on his/her own.
2. Otherwise, the disabled person should move to an Area of Refuge. Generally, the individual should remain inside the building until he/she has been given the okay to leave, or until emergency response personnel arrive and assist him/her in exiting the facility.
3. If the disabled person is not able to move to an Area of Refuge, the person should, if possible, open the bottom of an exterior window, or break a windowpane, and wait by the window for rescue. Any additional signaling from the window will further assist to notify emergency response personnel of the exact location of the disabled person. Generally, the individual should remain in this area until he/she has been given the okay to leave, or until emergency response personnel arrive and assist him/her in exiting the facility.

III. Rescue Priorities

As stated in Section II, the evacuation of ALL occupants of a facility is of primary importance in any emergency. Since life safety comes first, the rescue of disabled persons will be a top priority of the emergency response personnel.

IV. Implementation of Evaluation Procedures

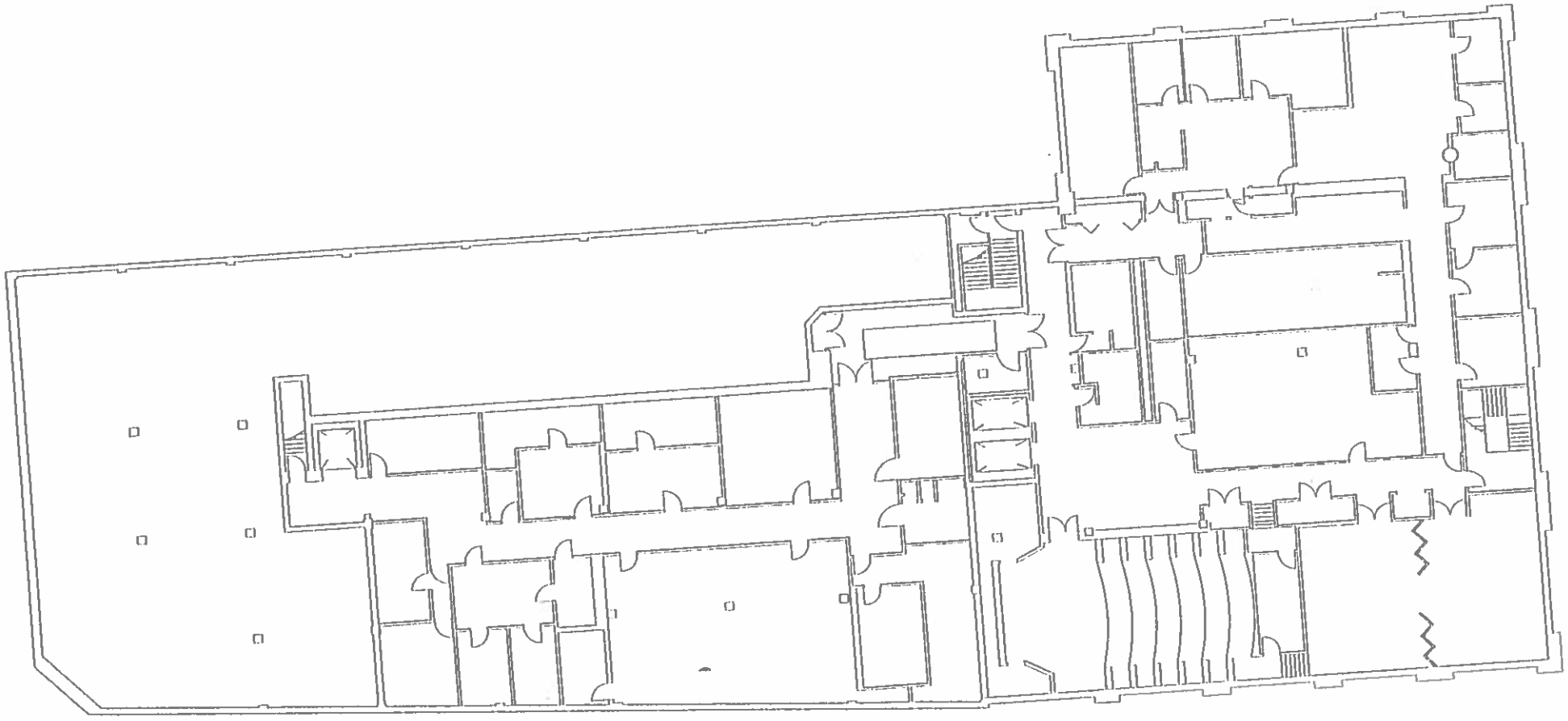
These evacuation procedures have been established in order to provide the optimum level of safety for disabled persons in an emergency situation. Based on these procedures, the University Office of Risk Management Fire Safety Inspector, with the assistance of the Building Coordinators, will designate and establish Areas of Refuge in each facility. Facility Planning & Management will provide the maps and sinage for each building. Finally, the Building Coordinators and the Office of Risk Management Fire Safety Inspector will be responsible for reviewing the evacuation plans and then ensuring that each person in the facility is reasonably aware of the evacuation procedures and the obligation to assist those who may require help. Prior to the beginning of each semester, each department will review the name and location of each person employed by them who is disabled or who may require assistance. This information will be conveyed to the Building Coordinators.

V. Comments/Concerns

Wayne State University always welcomes any comments or concerns that may arise from any policies and procedures that have been put into effect. Any questions or comments concerning this particular policy should be referred to the Office of Risk Management Fire Safety Inspector at 577-3110.

E. Floor Plans

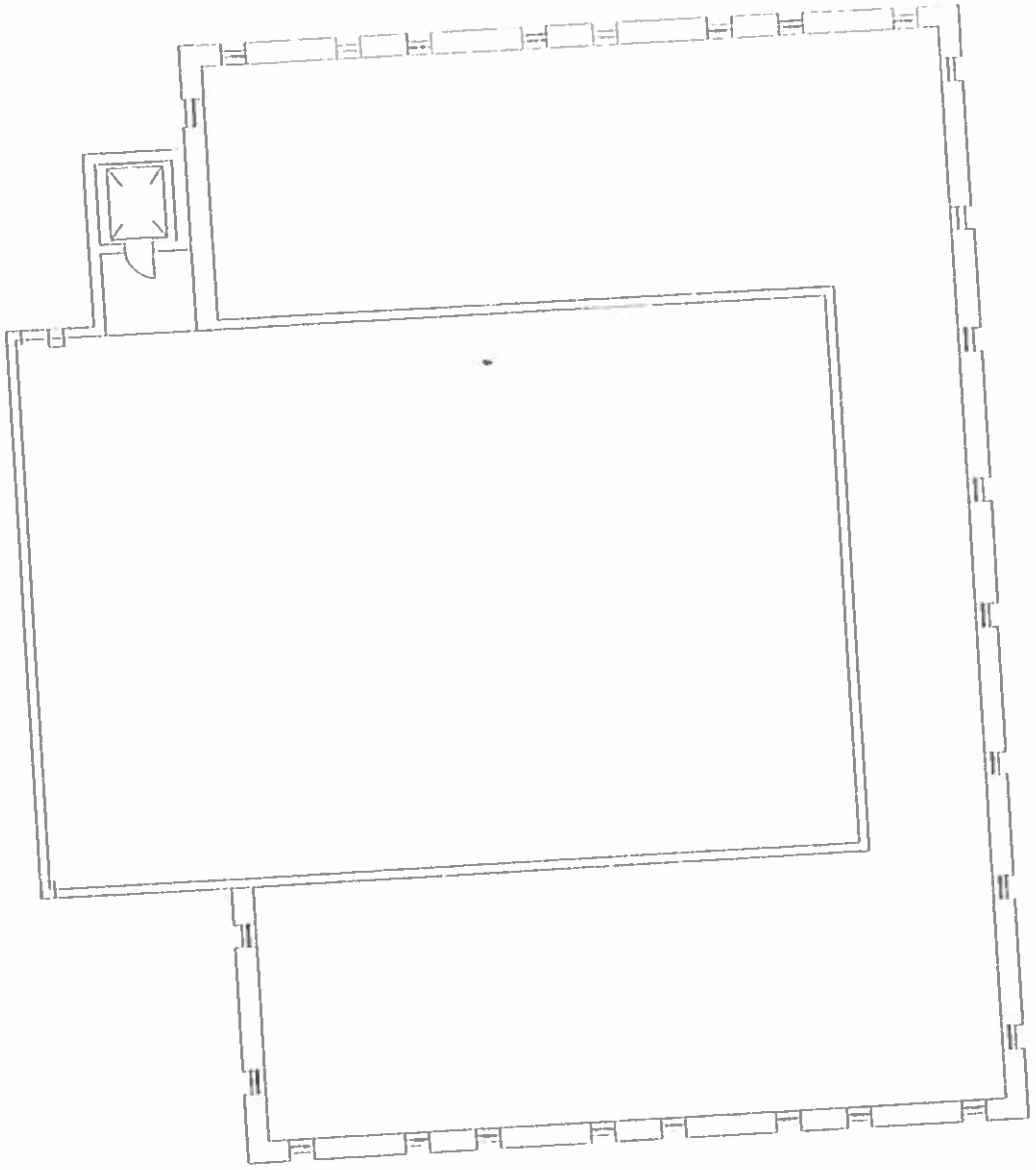
Evacuation Routes for Karmanos Cancer Institute
110 East Warren
Basement
Mezzanine Floor
1st Floor
2nd Floor
3rd Floor
4th Floor
5th Floor
6th Floor



110 WARREN EAST

BUILDING #637

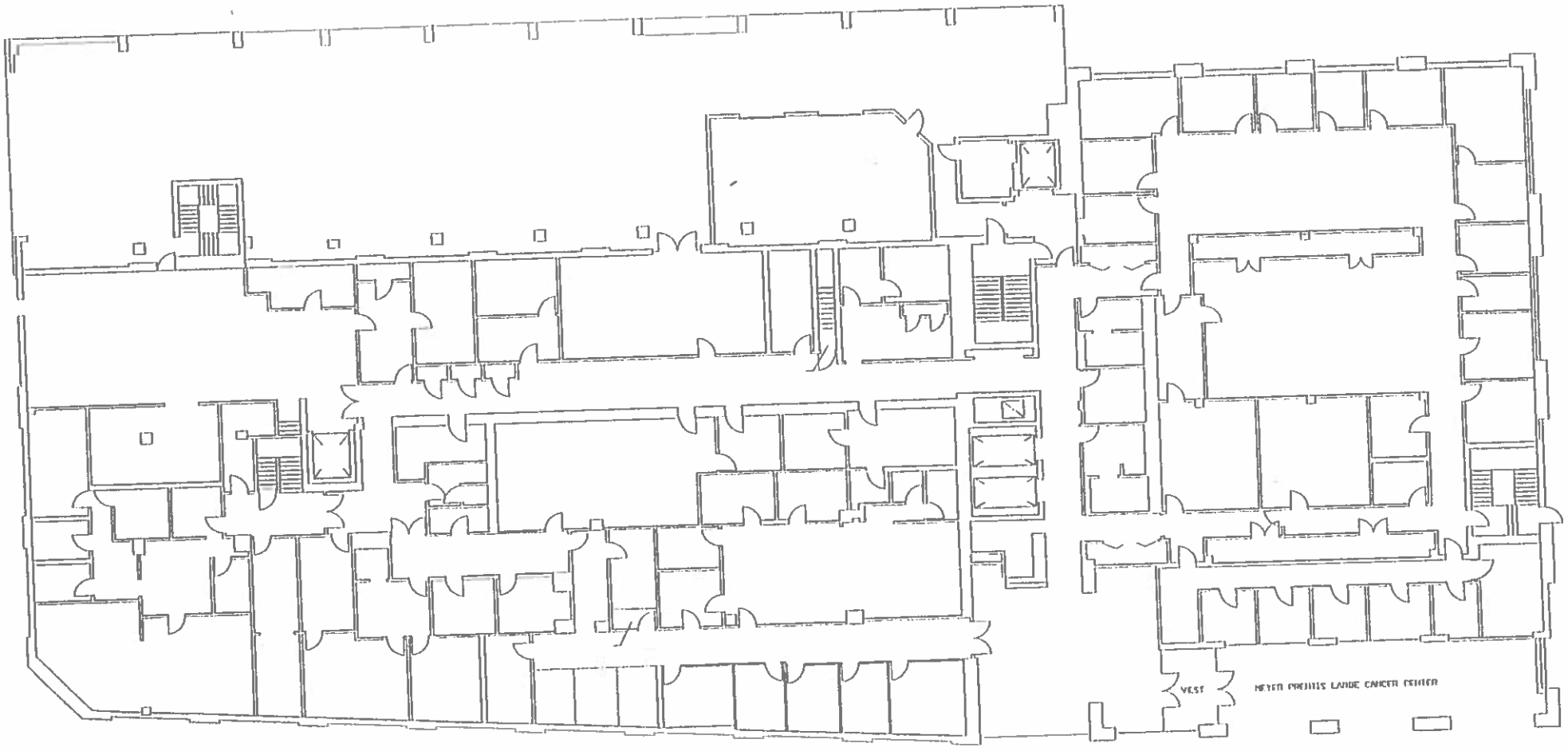
BASEMENT FLOOR



110 WARREN EAST

BUILDING #637

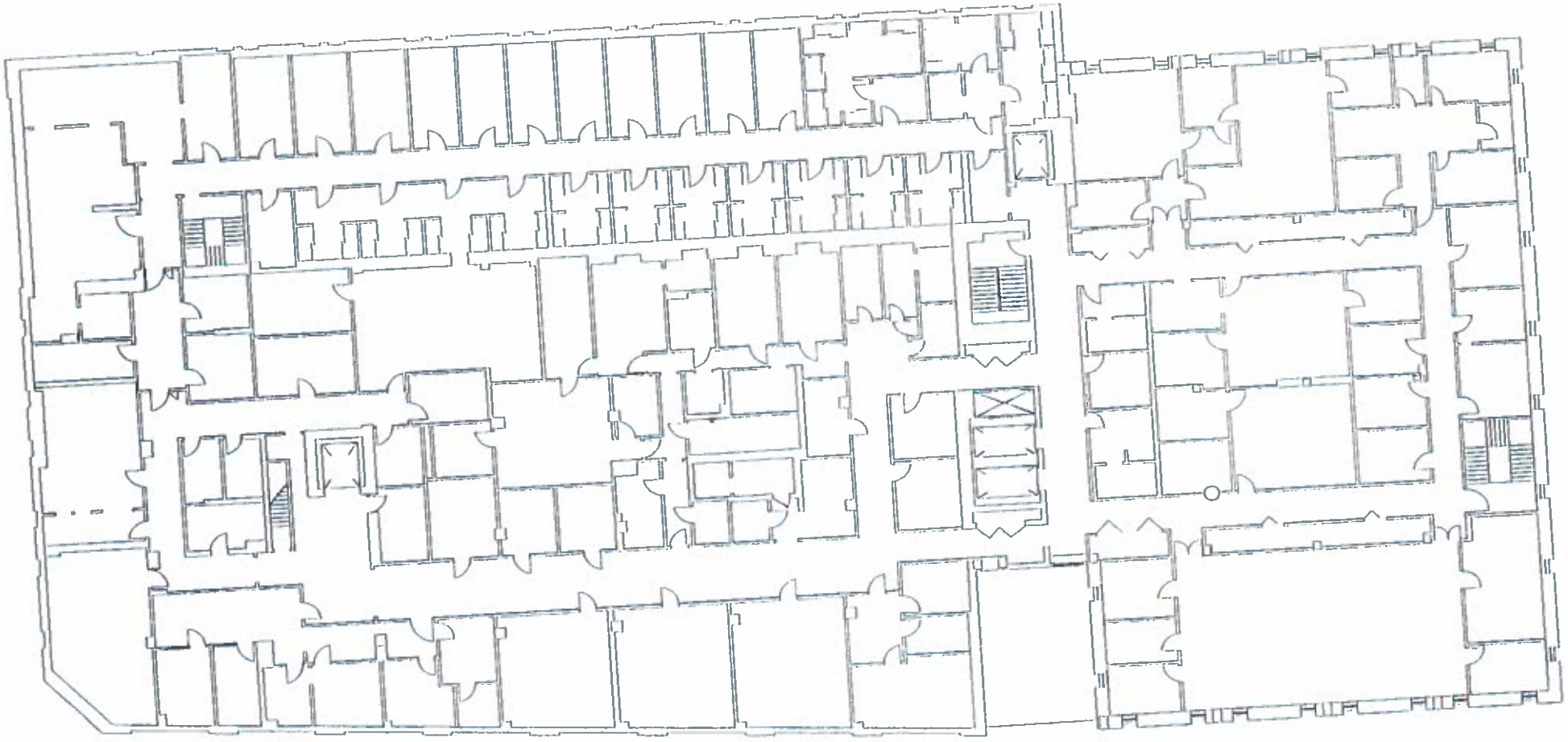
MEZZANINE FLOOR



110 WARREN EAST

BUILDING #637

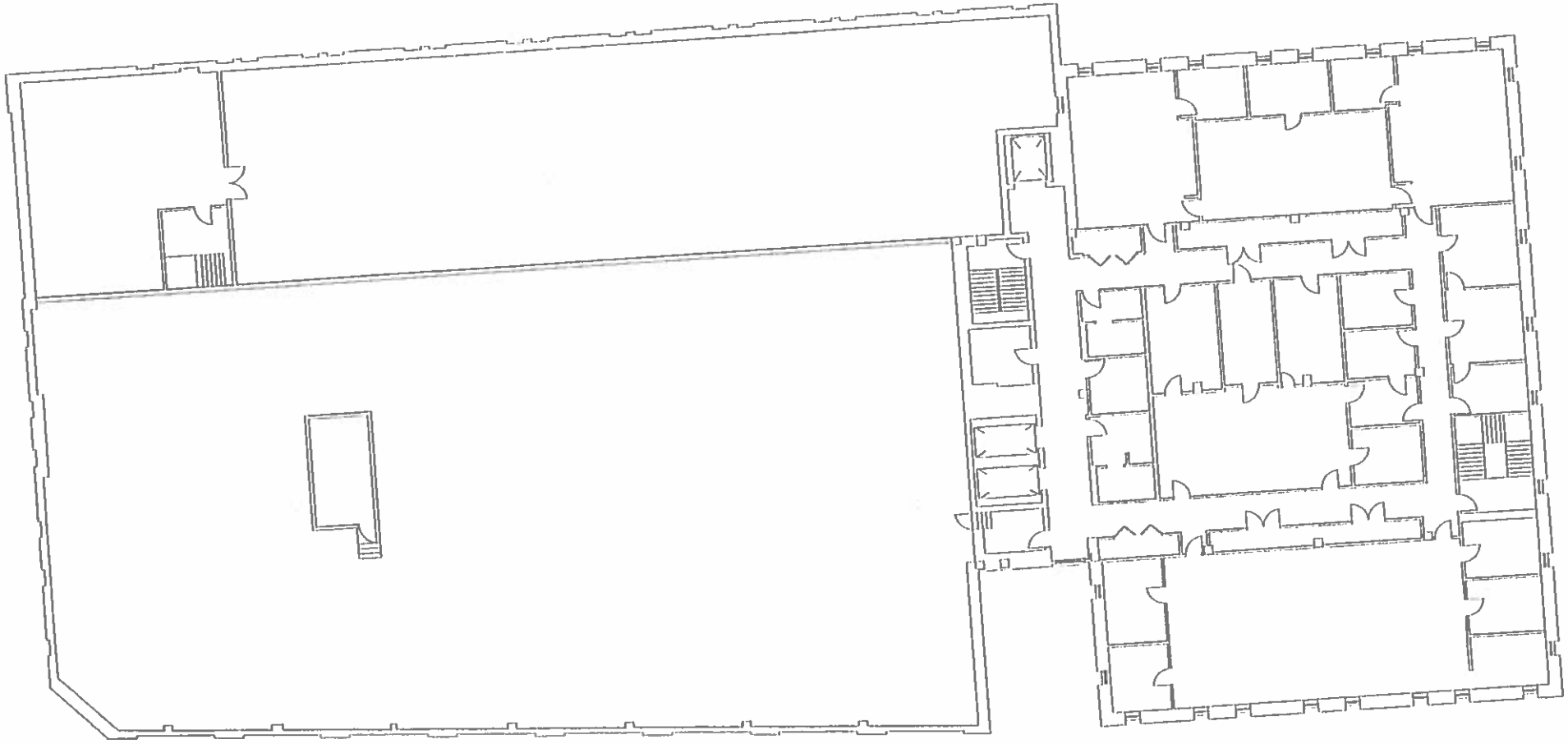
FIRST FLOOR



110 WARREN EAST

BUILDING #637

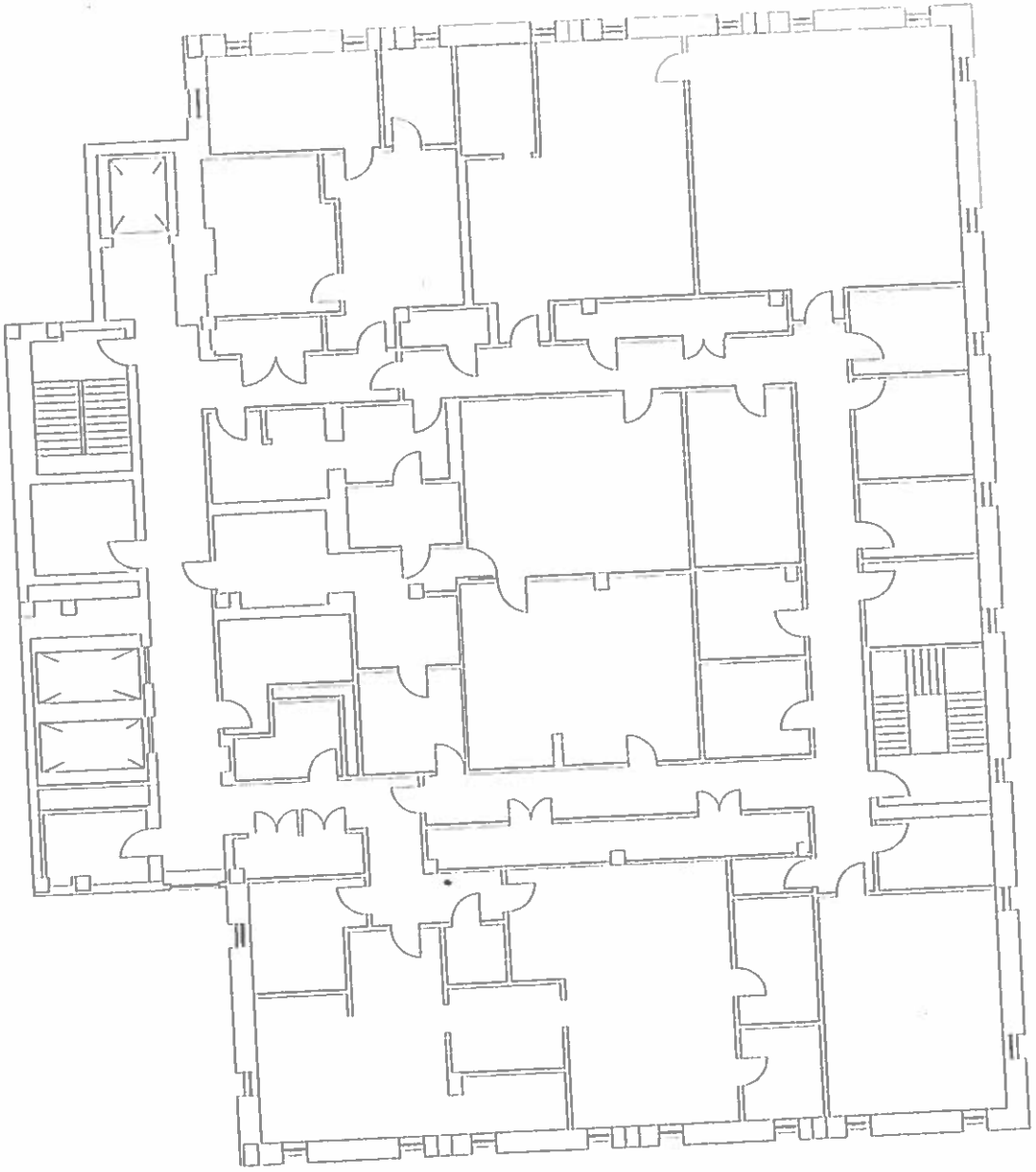
SECOND FLOOR



110 WARREN EAST

BUILDING #637

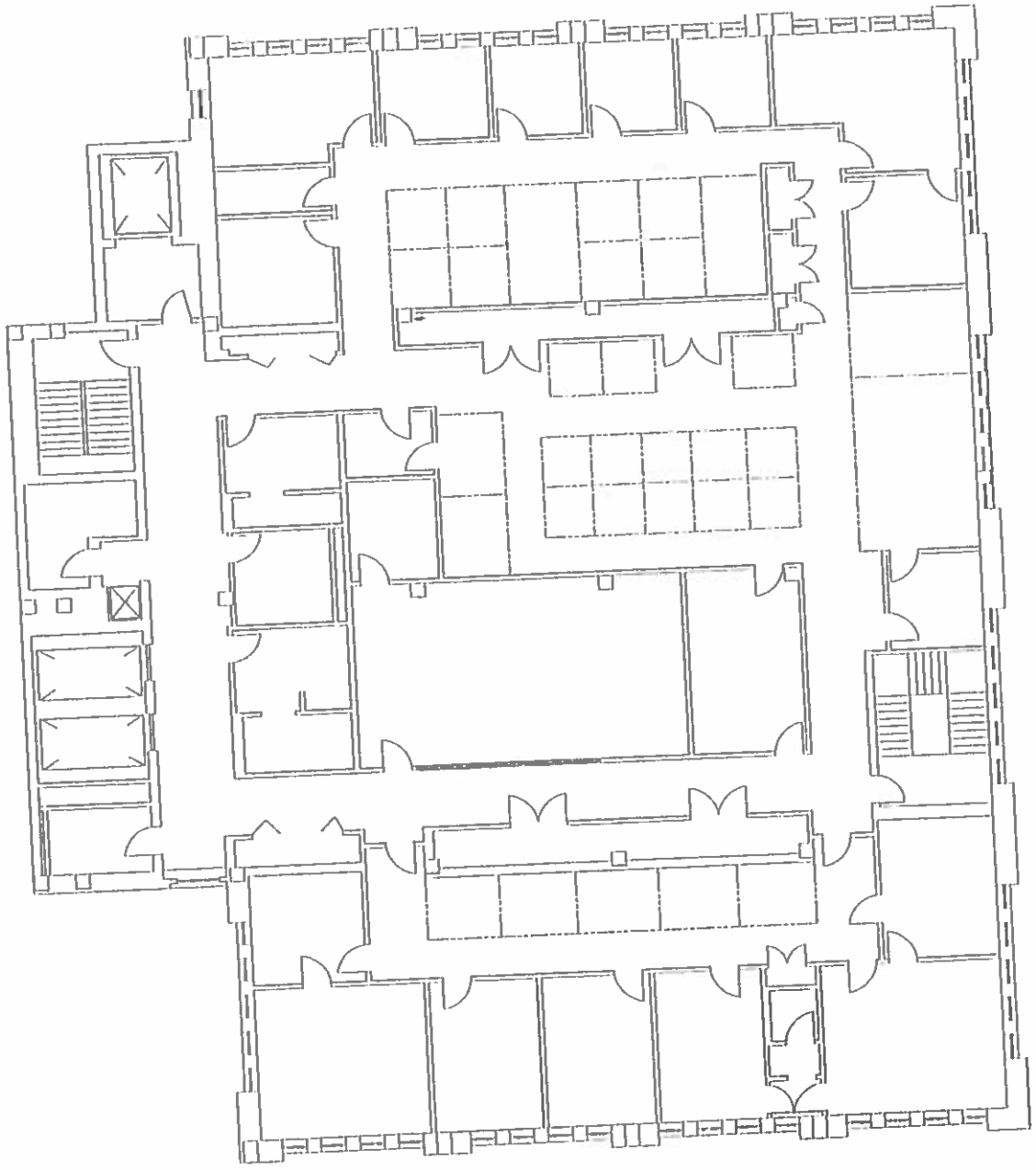
THIRD FLOOR



110 WARREN EAST

BUILDING #637

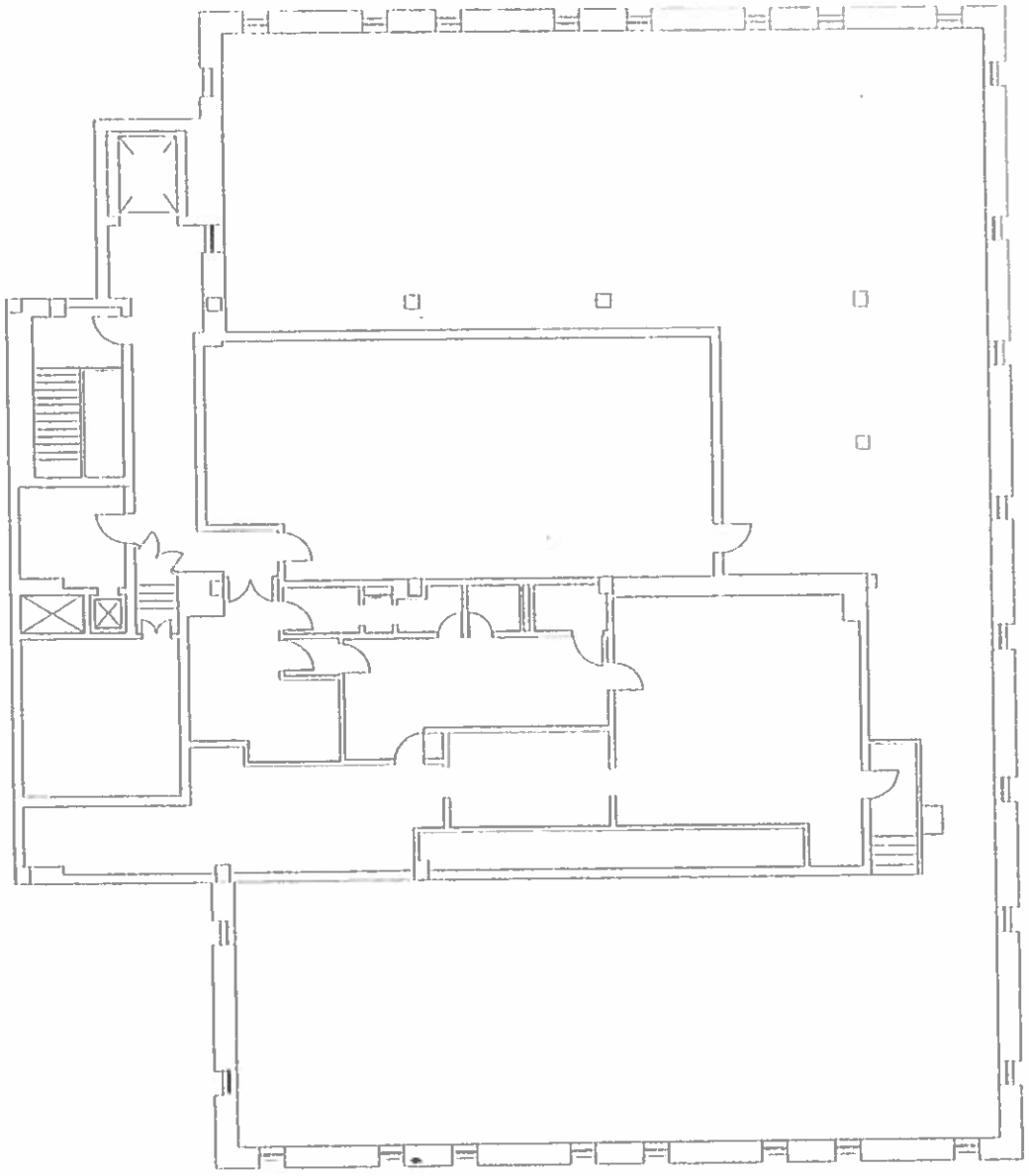
FOURTH FLOOR



110 WARREN EAST

BUILDING #637

FIFTH FLOOR



110 WARREN EAST

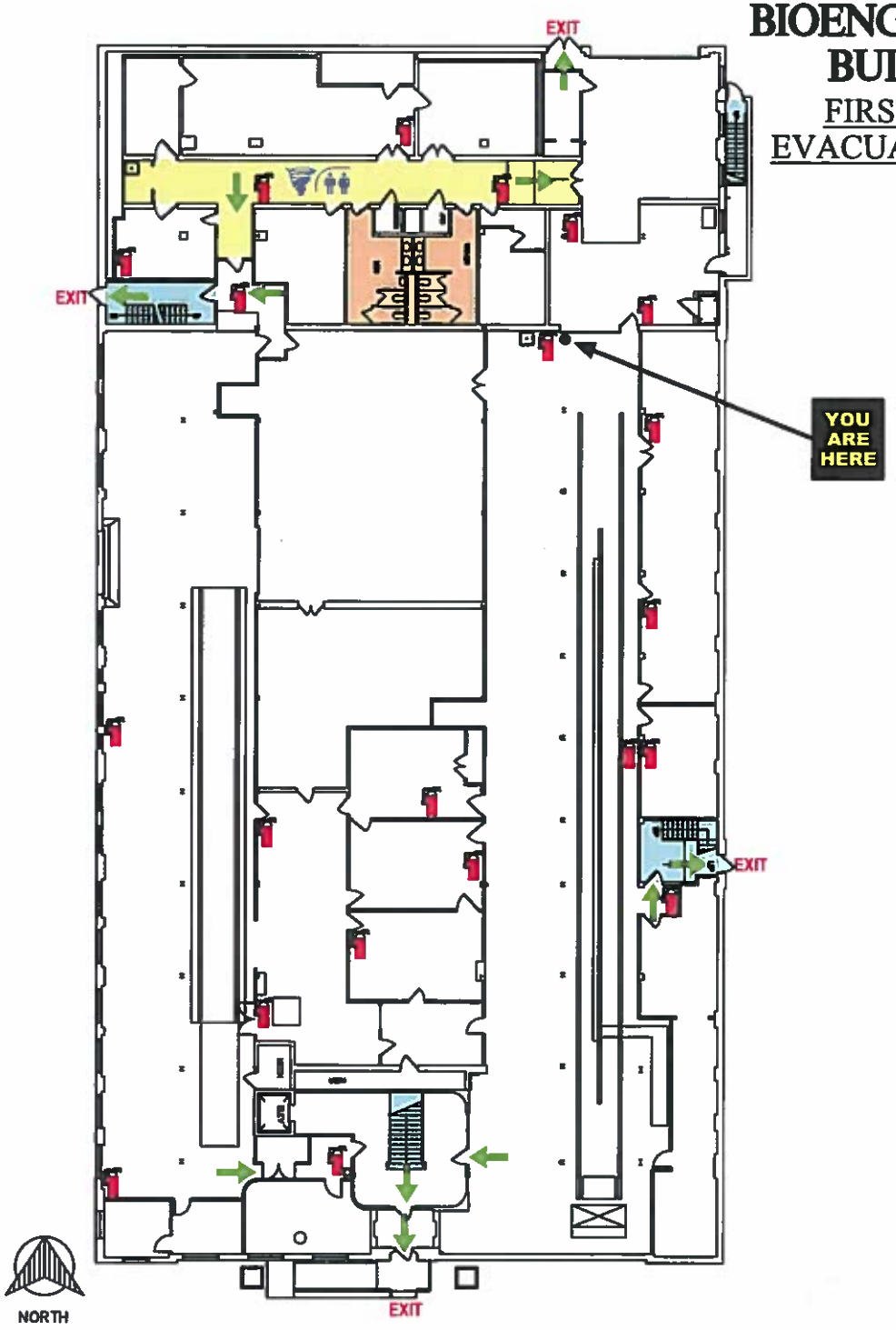
BUILDING #637

SIXTH FLOOR

Evacuation Routes for Bioengineering Building
818 West Hancock
1st Floor
2nd Floor

BIOENGINEERING BUILDING

FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

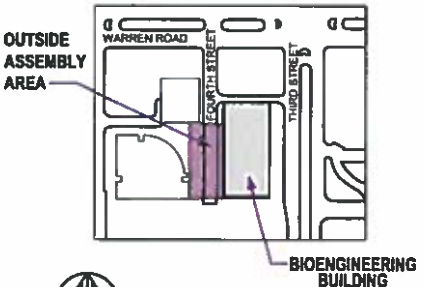
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

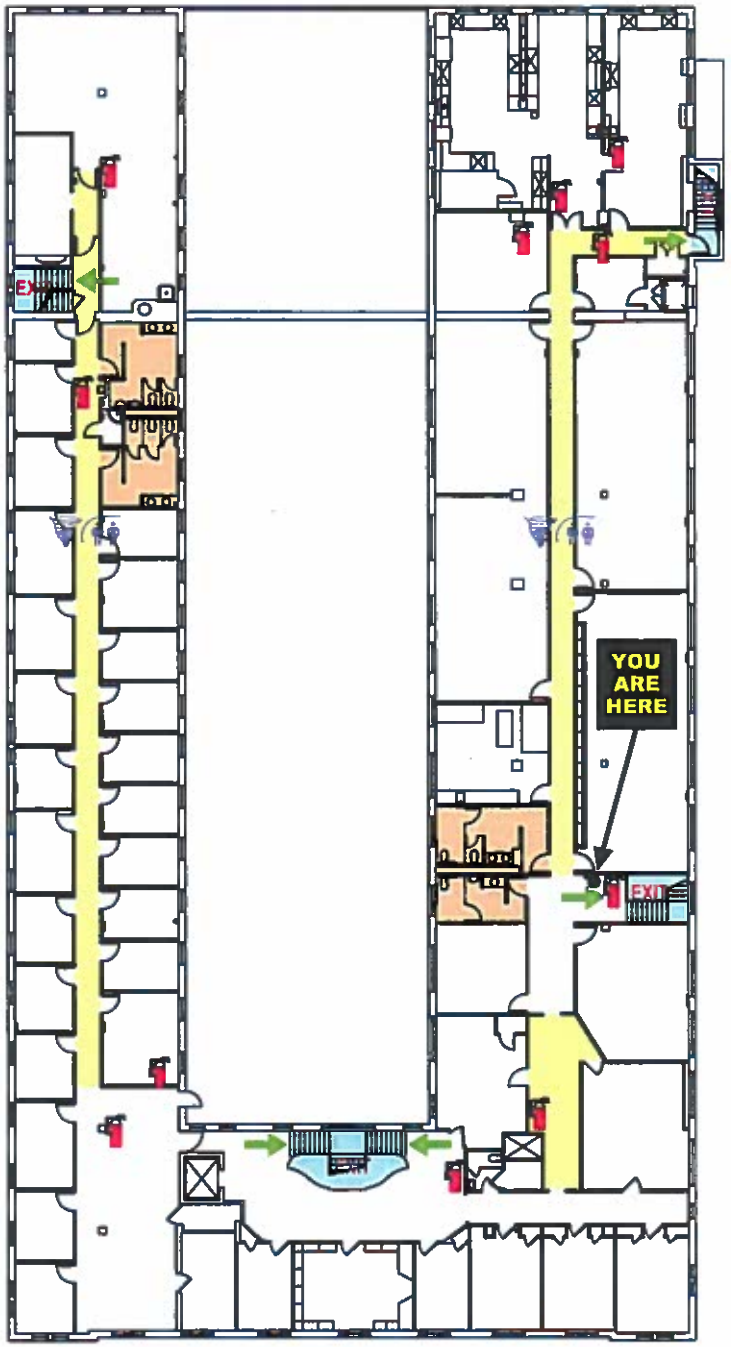
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

BIOENGINEERING BUILDING

SECOND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
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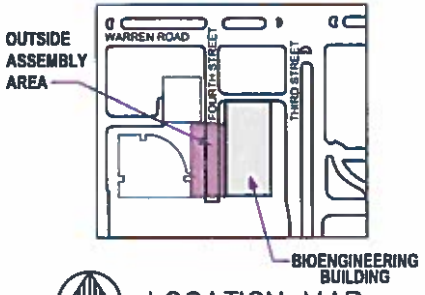


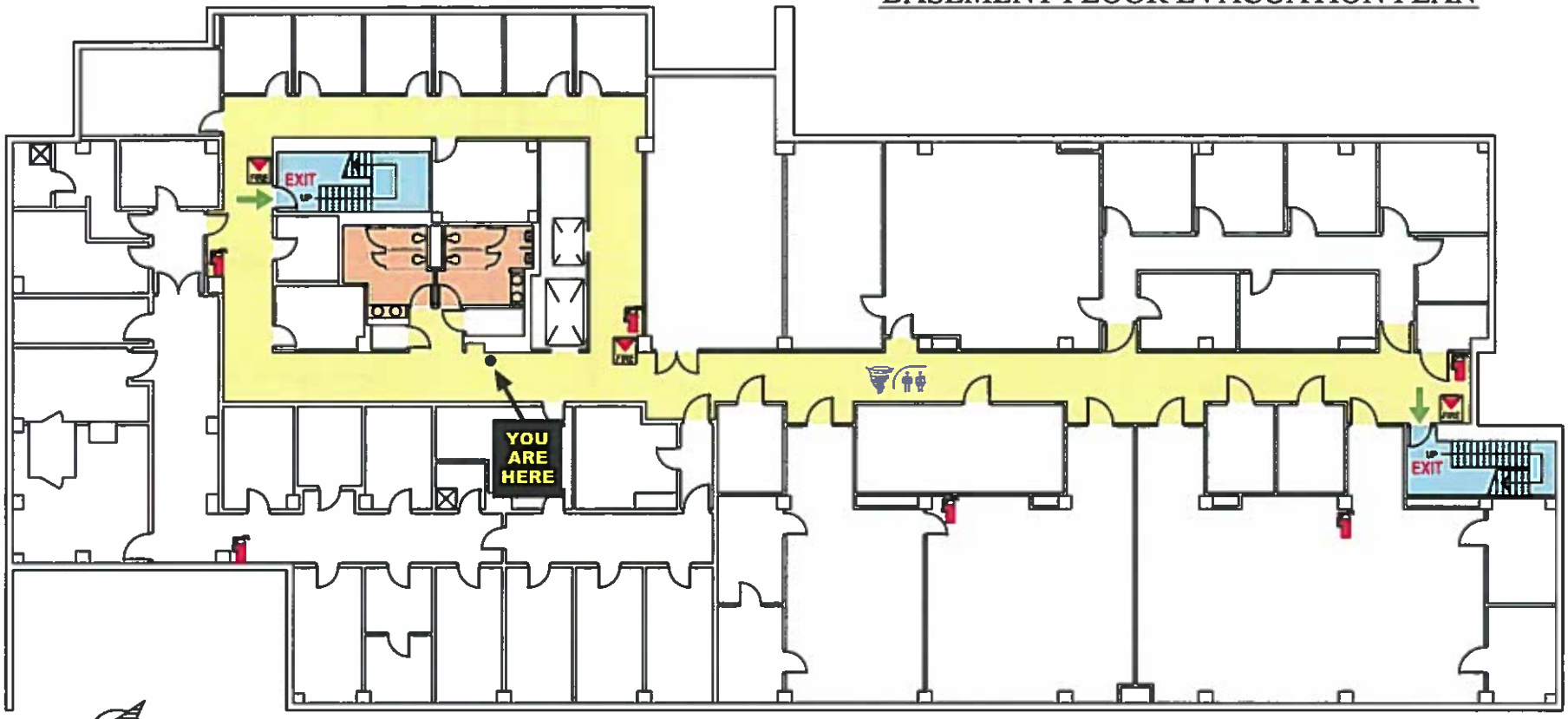
NORTH

LOCATION MAP

Evacuation Routes for Biological Sciences Building
5047 Gullen Mall
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor
5th Floor
6th Floor

BIOLOGICAL SCIENCE BUILDING

BASEMENT FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

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  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

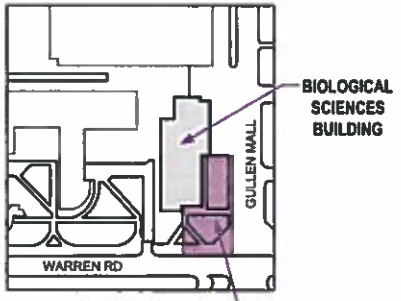
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

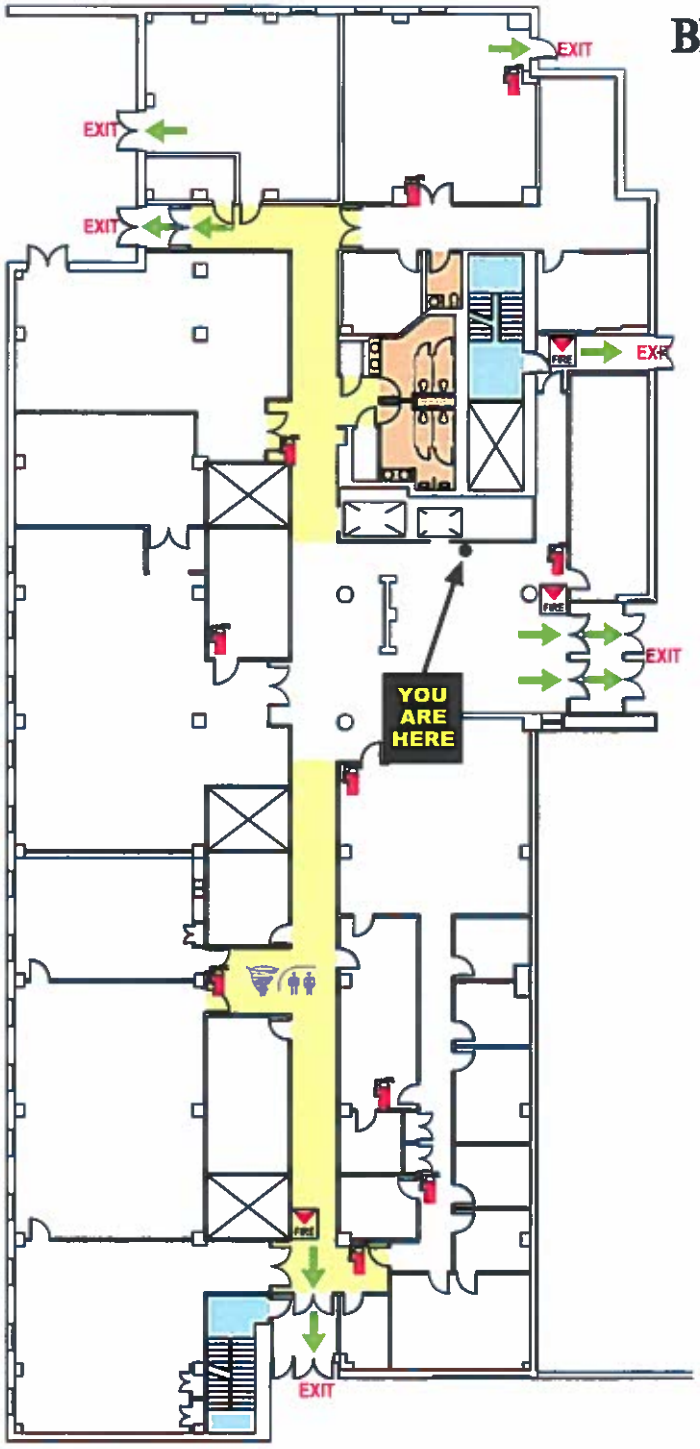
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

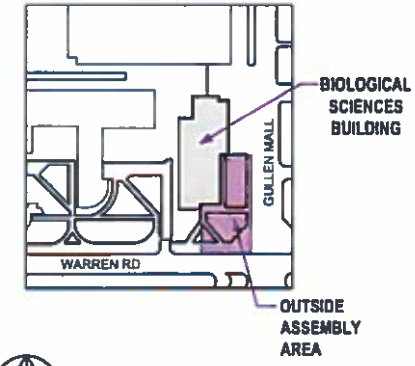
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

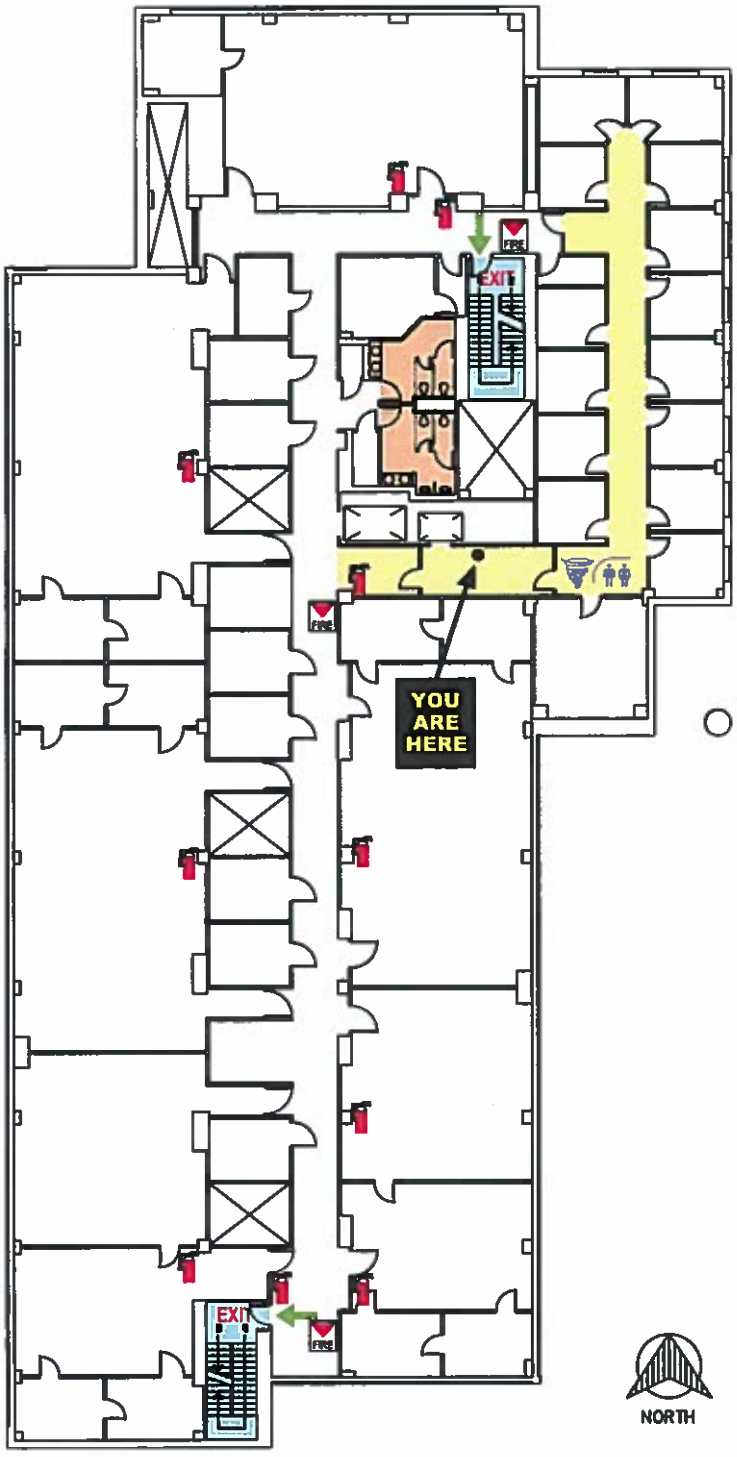


NORTH

LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

SECOND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

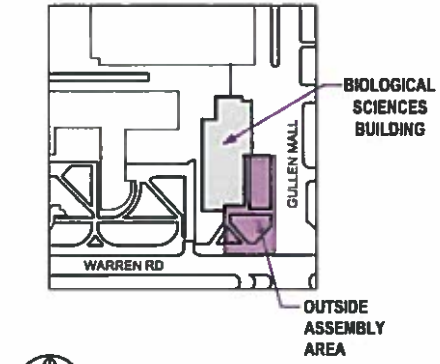
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

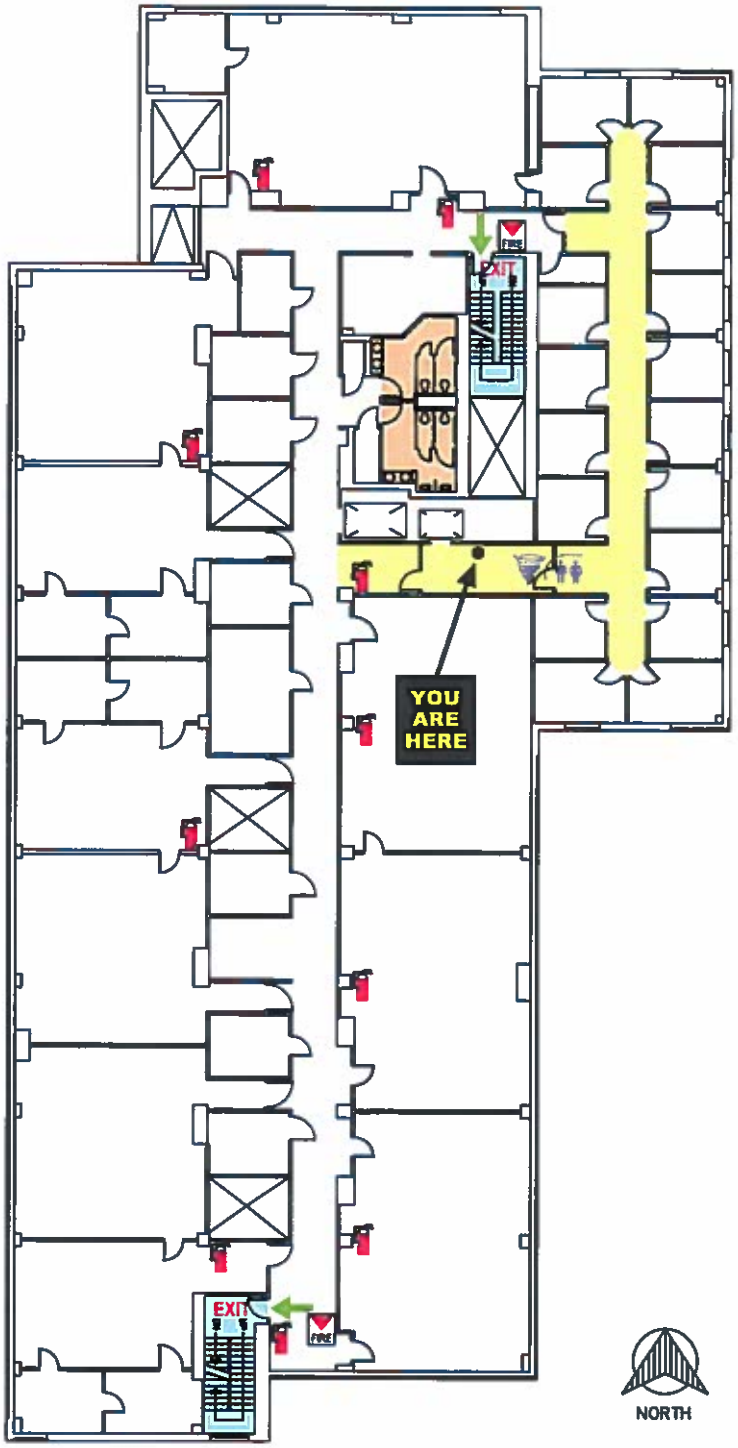
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

THIRD FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT — EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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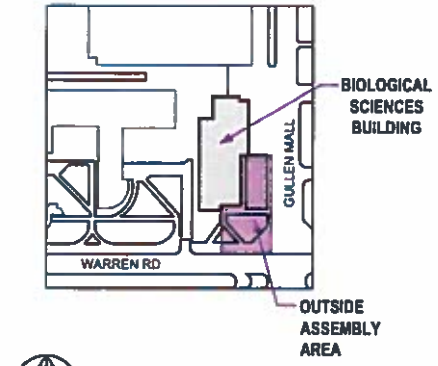
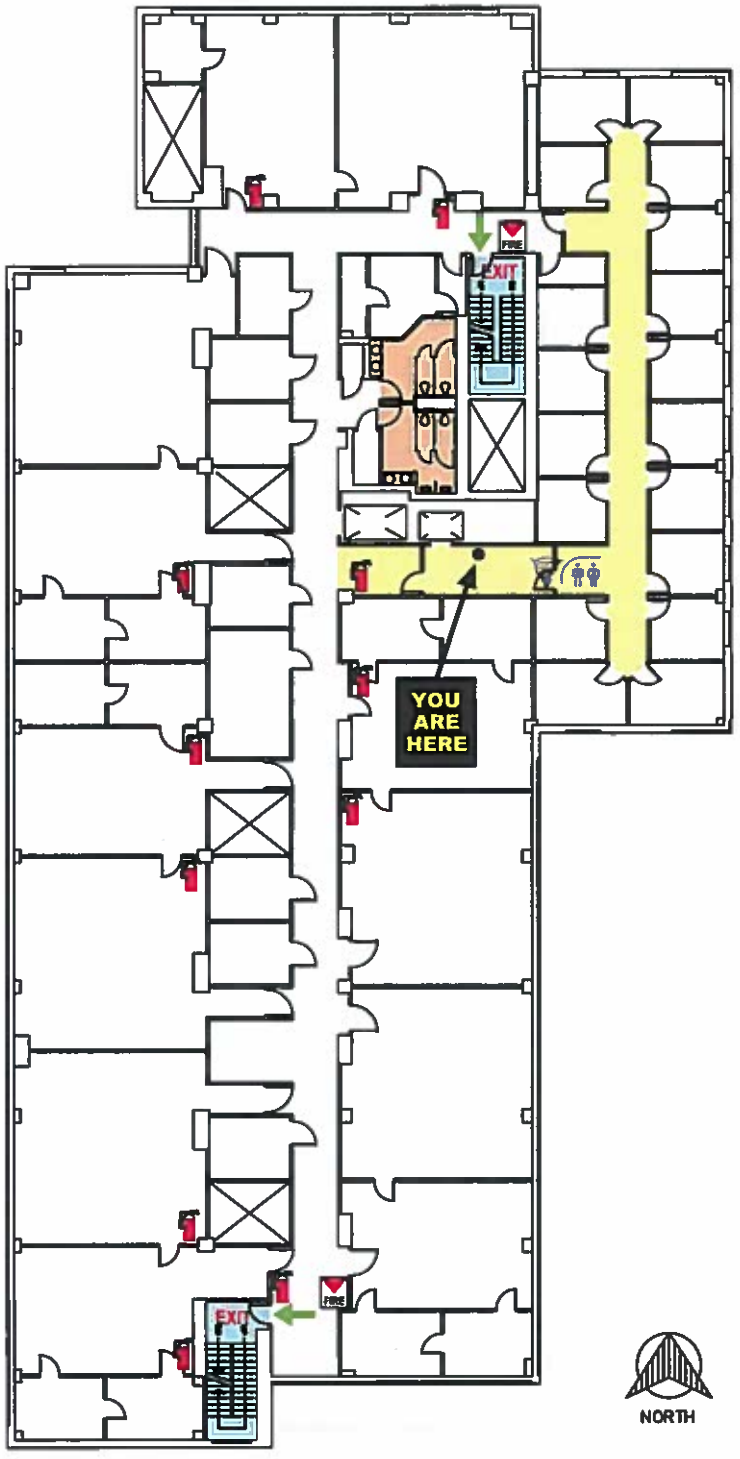
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

FOURTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
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- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
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EMERGENCY GUIDELINES

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B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

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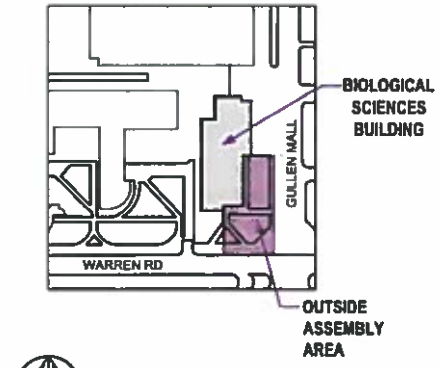
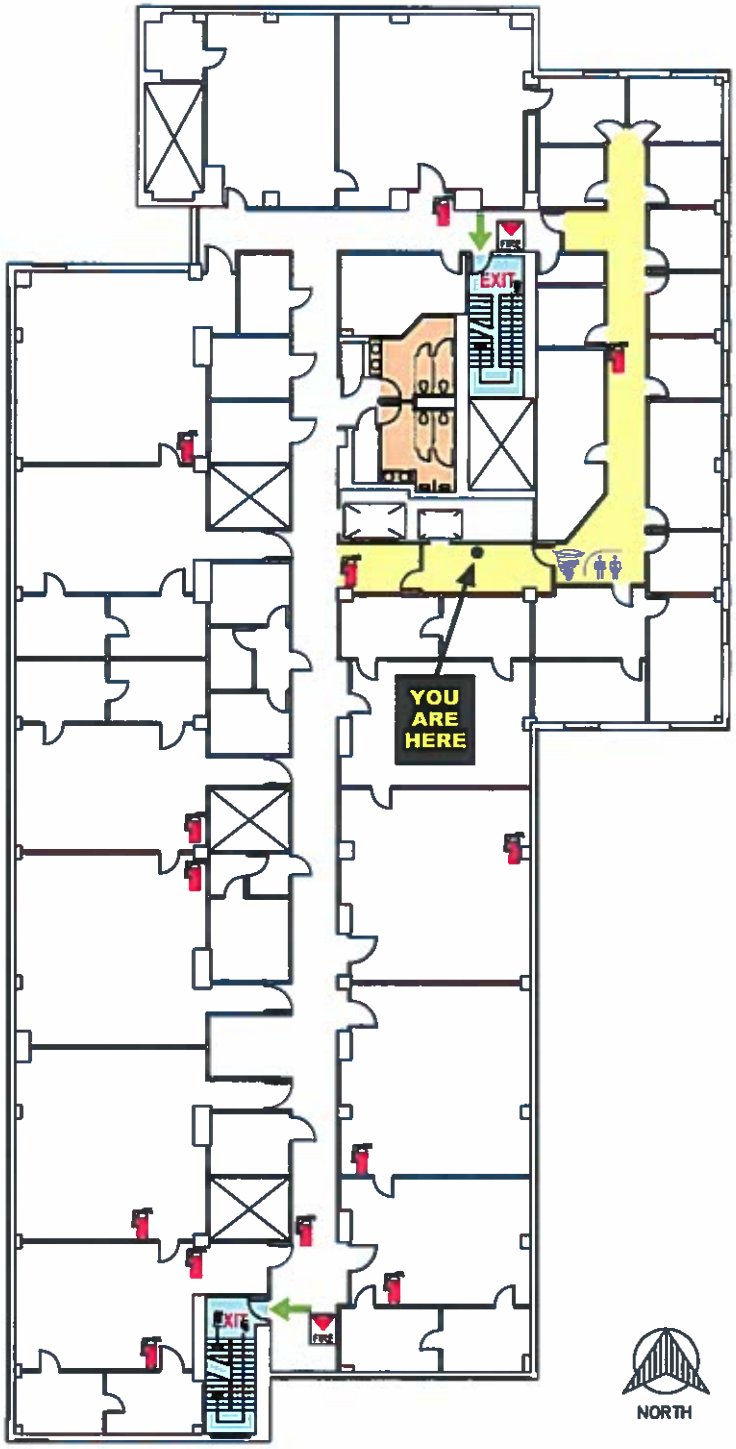


LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

FIFTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
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- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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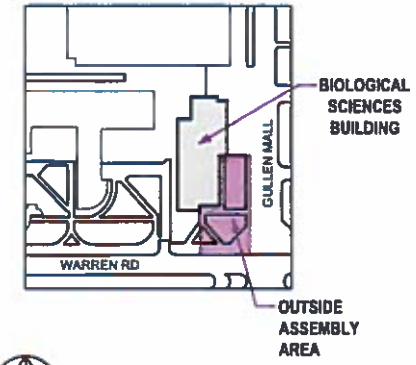
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

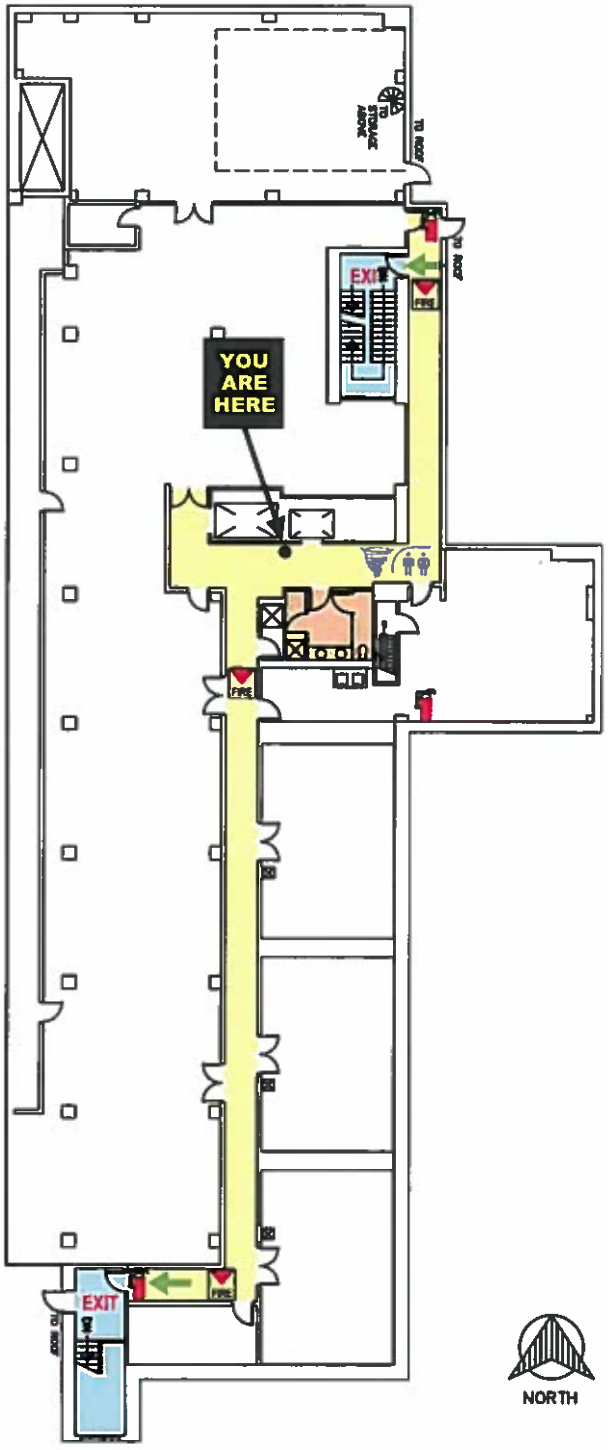


NORTH

LOCATION MAP

BIOLOGICAL SCIENCE BUILDING

SIXTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

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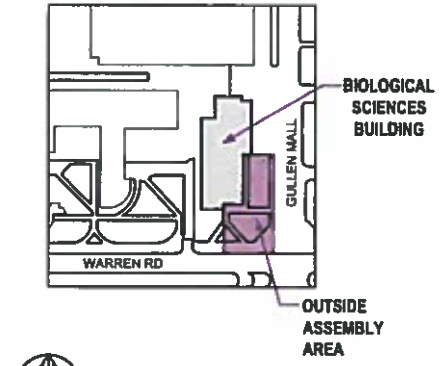


LOCATION MAP

Evacuation Routes for Chemistry Building

5101 Cass

Basement

1st Floor

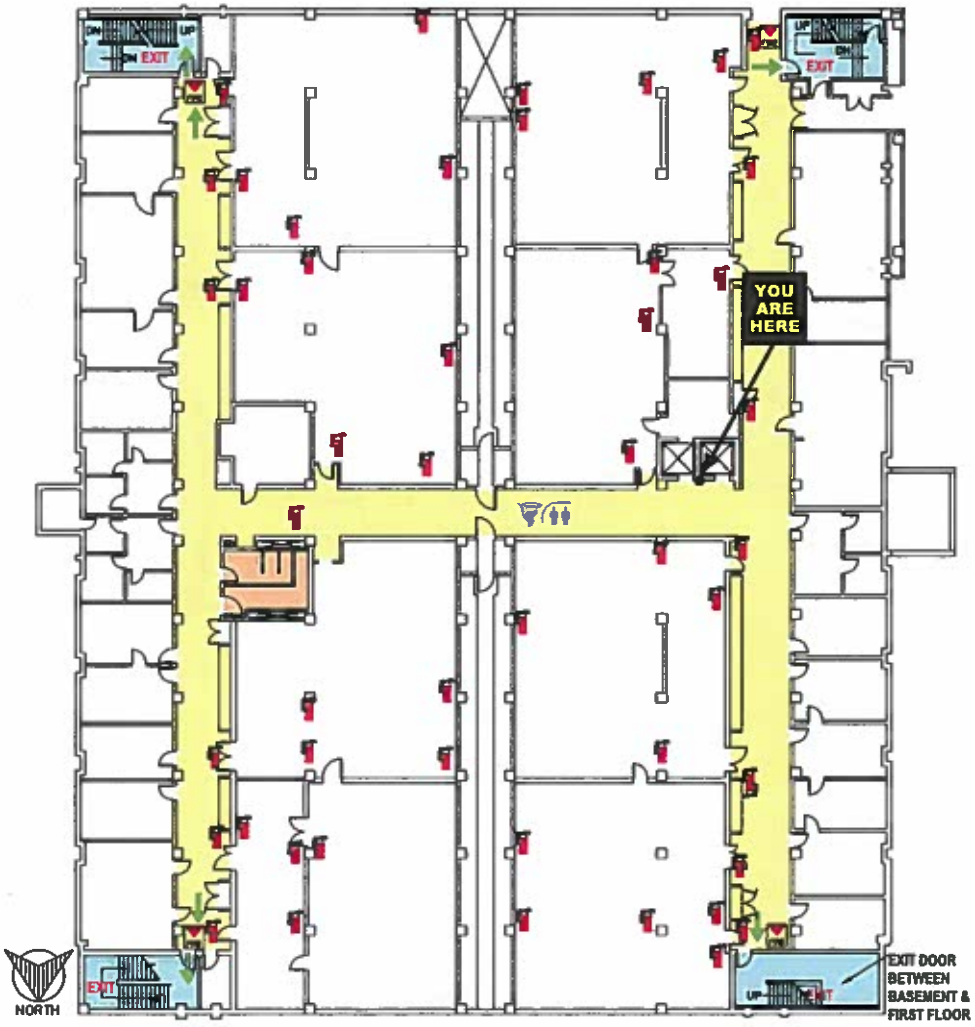
2nd Floor

3rd Floor

4th Floor

CHEMISTRY BUILDING

BASEMENT EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

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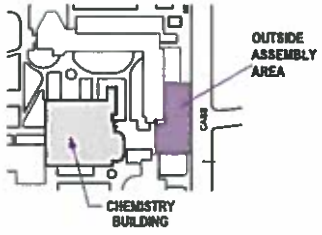
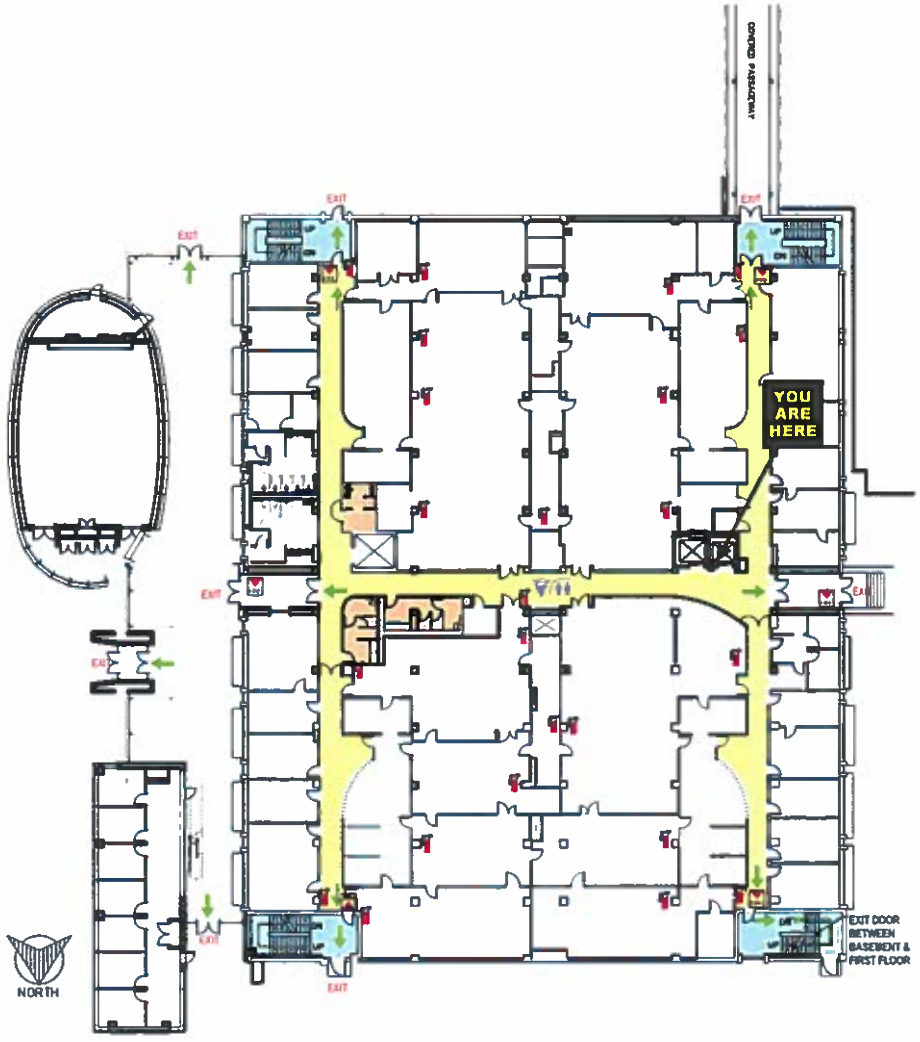


NORTH

LOCATION MAP

CHEMISTRY BUILDING

FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

CALL THE ADA COORDINATOR HOTLINE
313-577-9973 TO REPORT BARRIERS
AND ACCESSIBILITY ISSUES

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

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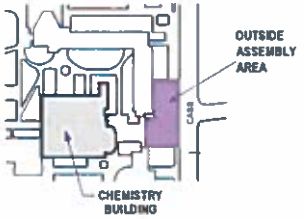
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA , RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

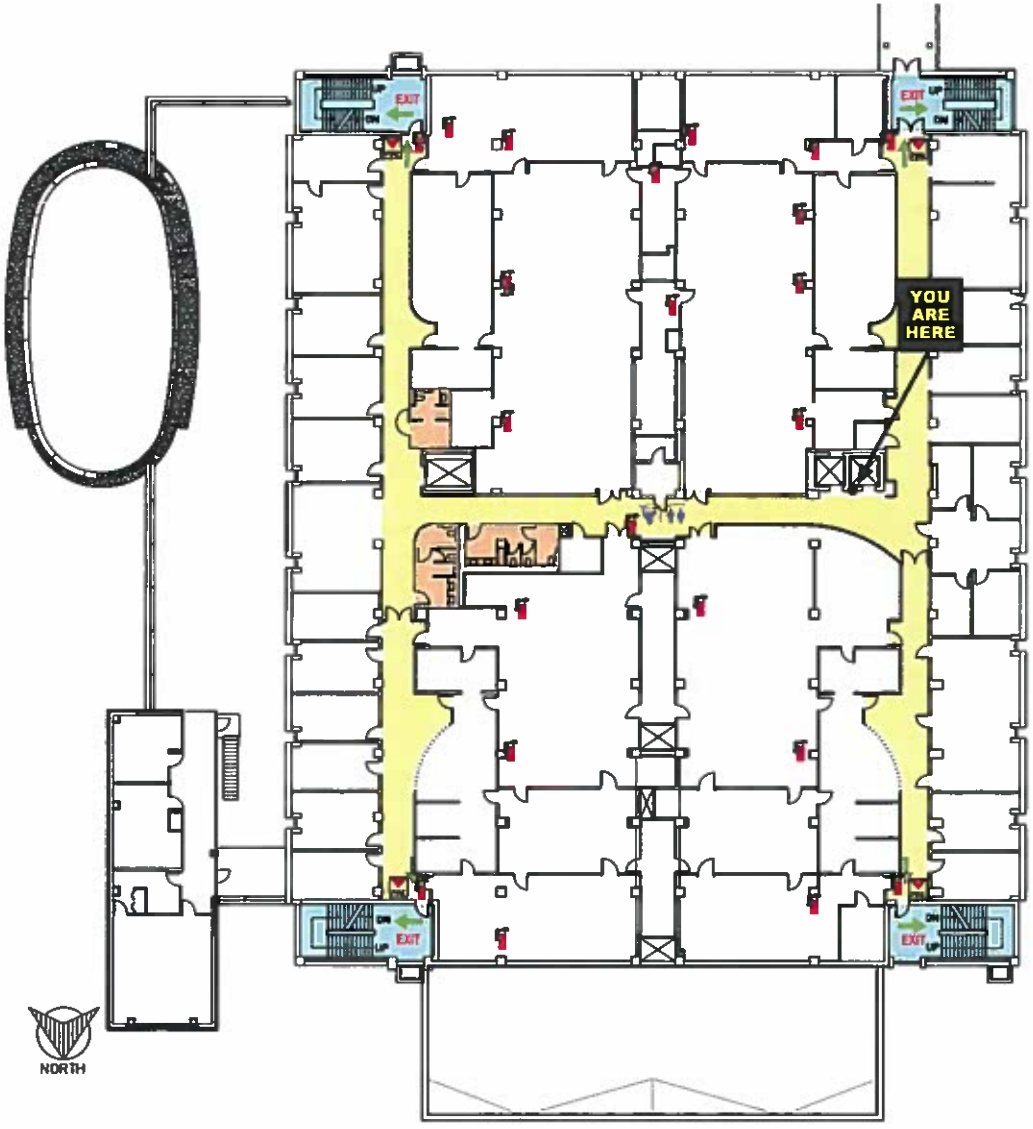


NORTH

LOCATION MAP

CHEMISTRY BUILDING

SECOND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

CALL THE ADA COORDINATOR HOTLINE
313-577-9973 TO REPORT BARRIERS AND ACCESSIBILITY ISSUES

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER

EMERGENCY GUIDELINES

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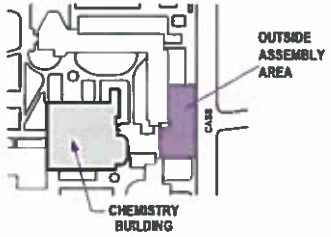
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

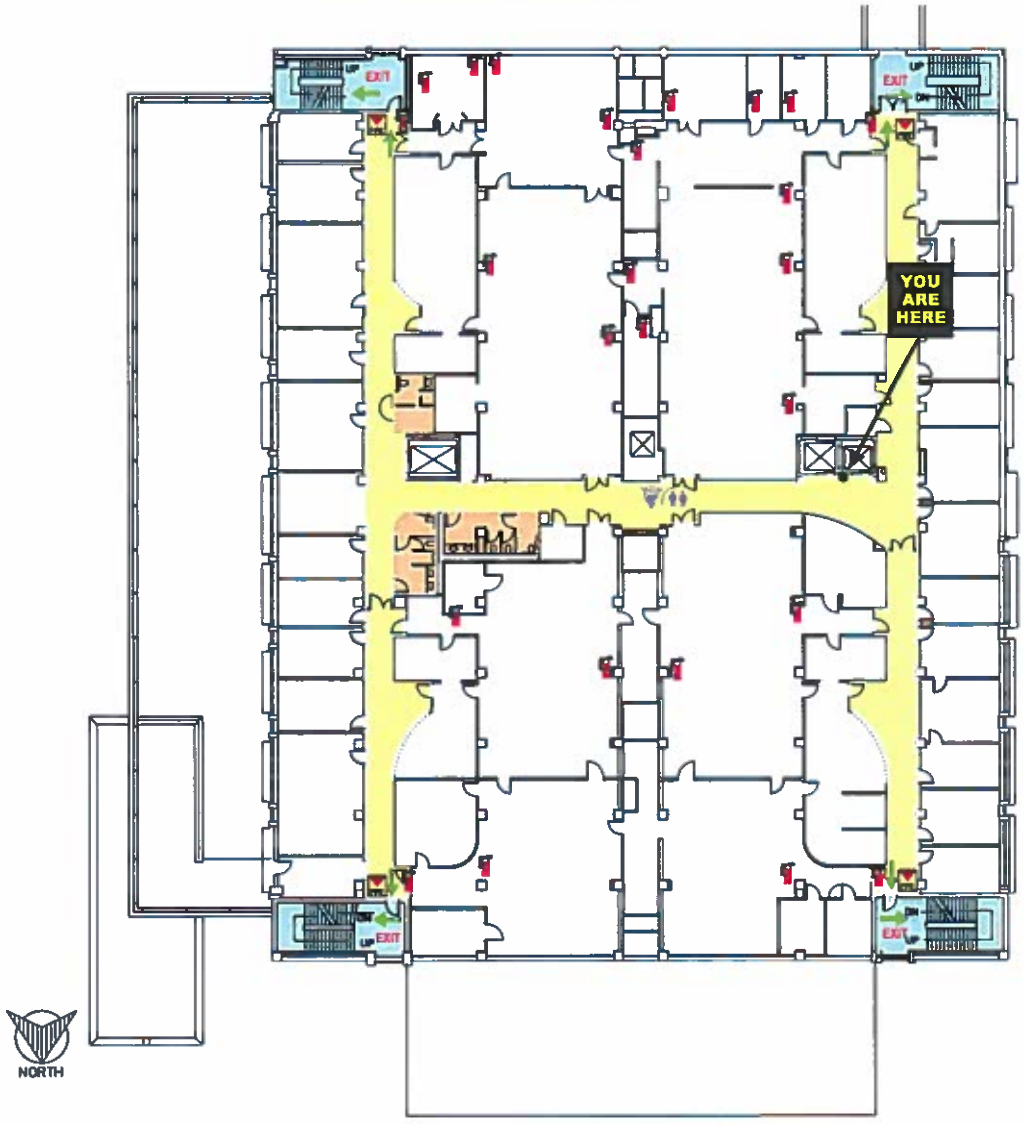


NORTH

LOCATION MAP

CHEMISTRY BUILDING

THIRD FLOOR EVACUATION PLAN



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- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

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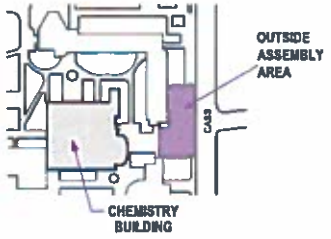
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

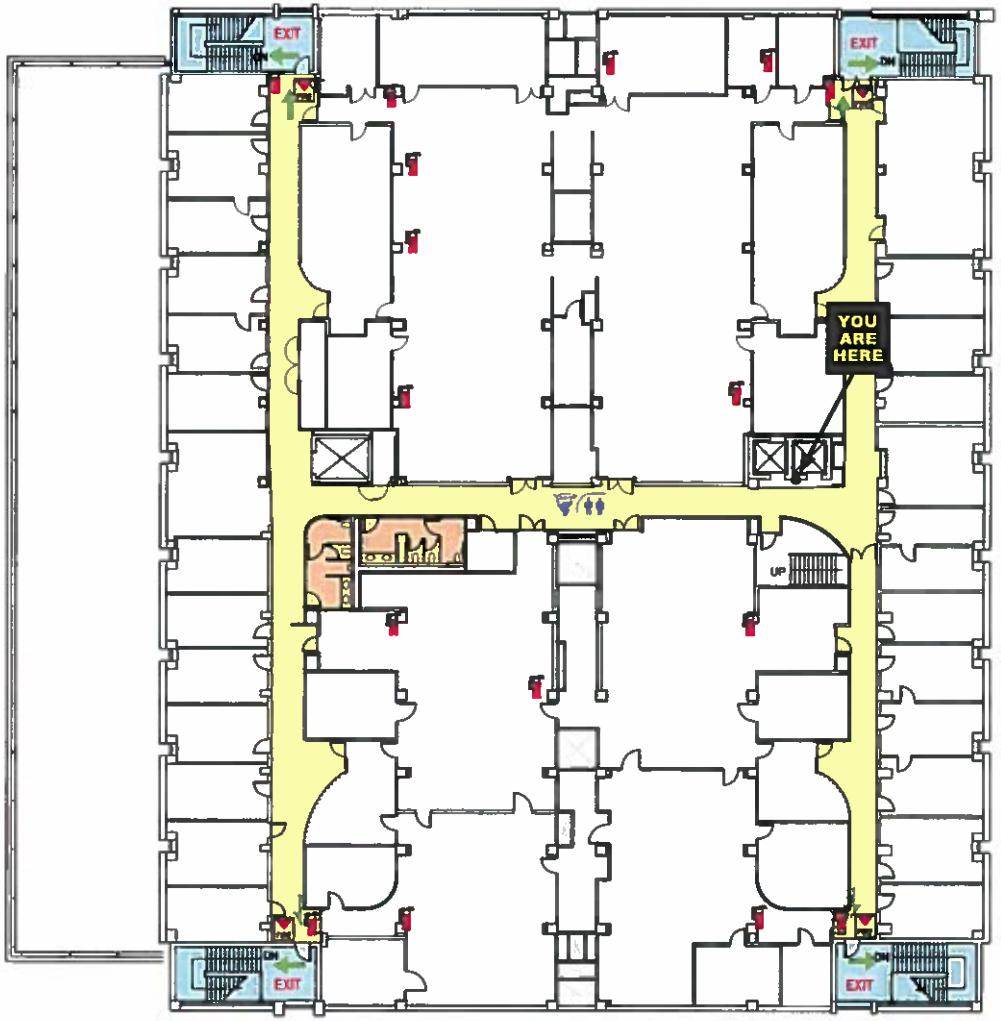


NORTH

LOCATION MAP

CHEMISTRY BUILDING

FOURTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

CALL THE ADA COORDINATOR HOTLINE
313-577-9973 TO REPORT BARRIERS
AND ACCESSIBILITY ISSUES

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER

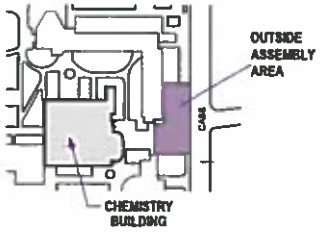
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

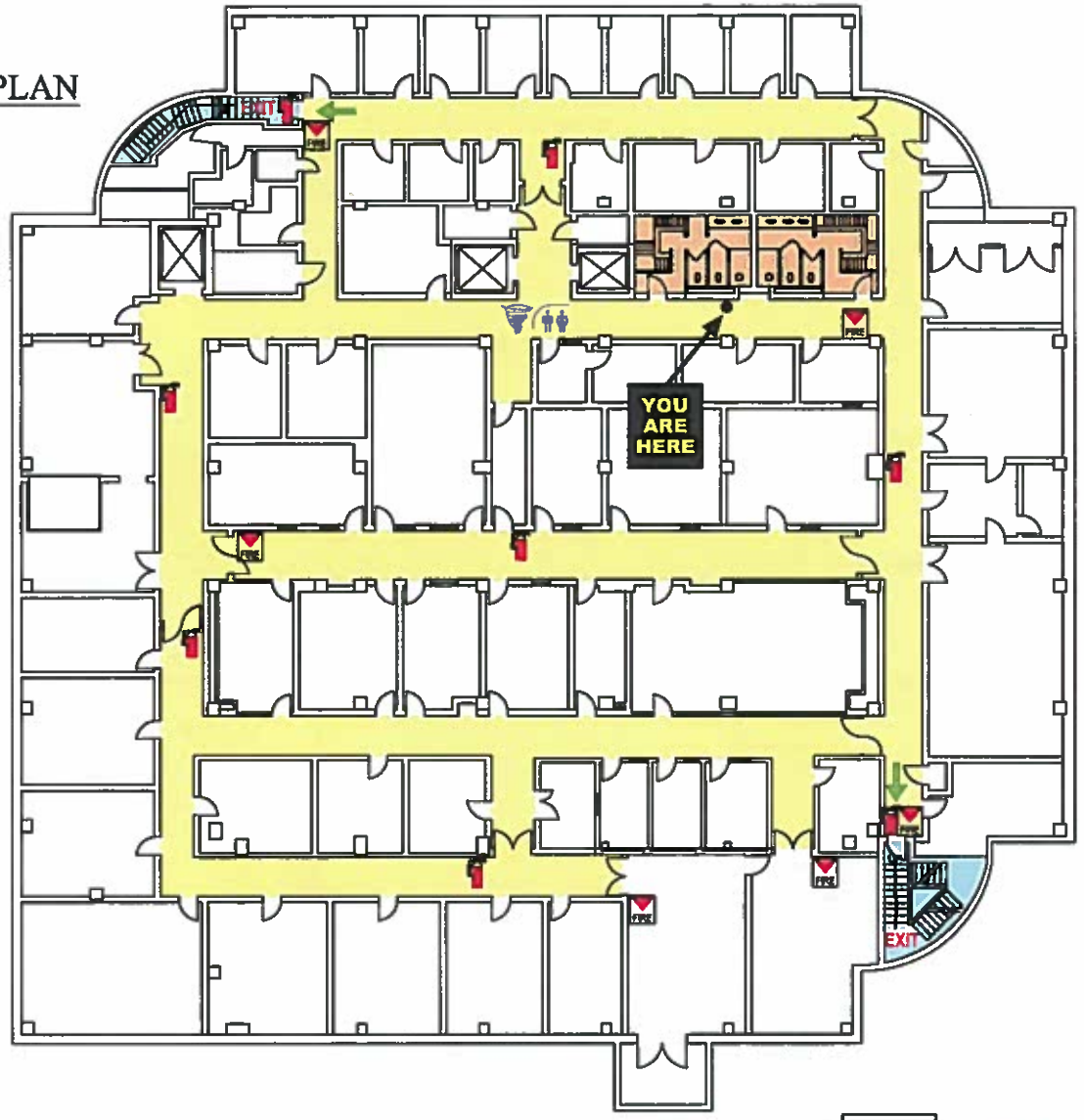
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA (RESTROOM) OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



NORTH LOCATION MAP

Evacuation Routes for Elliman Building
421 East Canfield
Basement
1st Floor
2nd Floor
3rd Floor

ELLIMAN BUILDING
BASEMENT FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
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- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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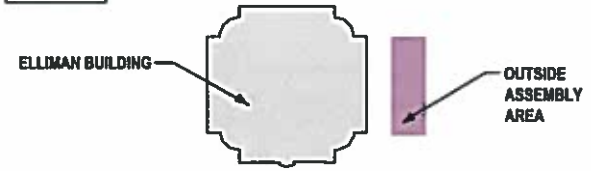

NORTH

LOCATION MAP

ELLIMAN BUILDING
FIRST FLOOR EVACUATION PLAN

NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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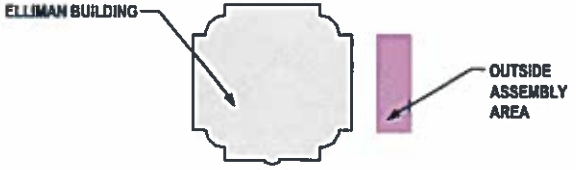
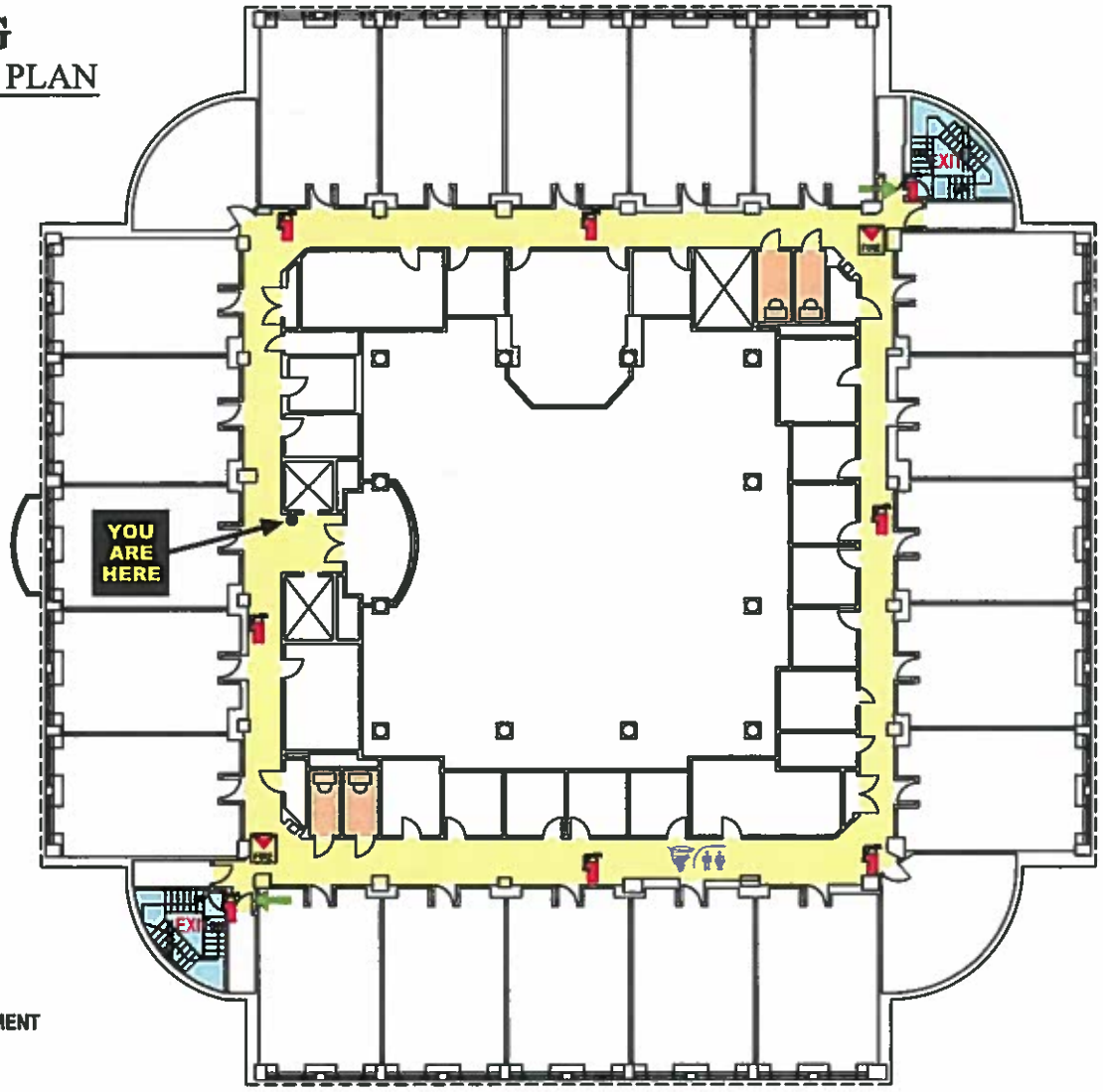


NORTH

LOCATION MAP

ELLIMAN BUILDING
SECOND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
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- FIRE EXTINGUISHER
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EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

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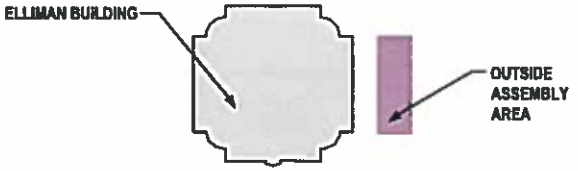
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

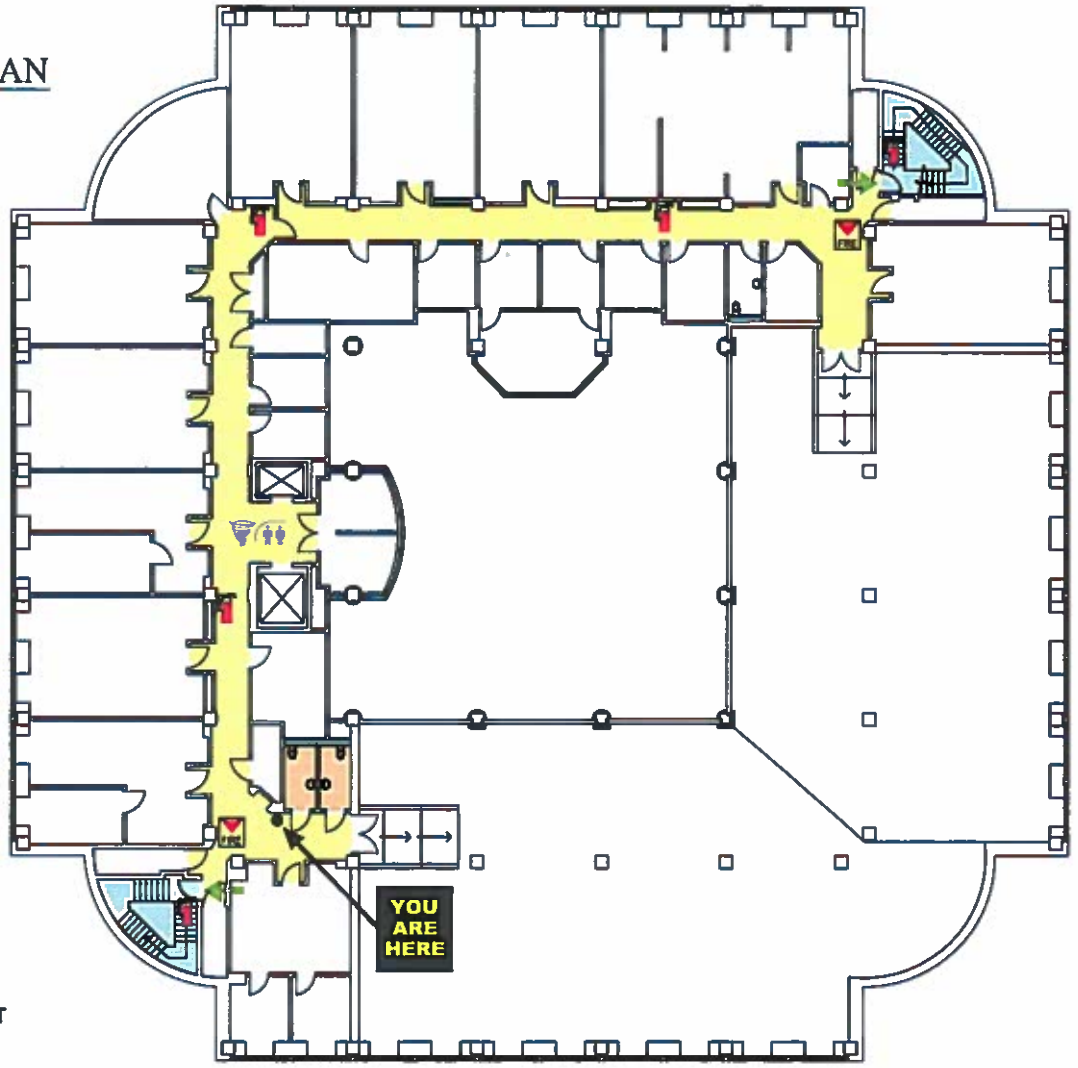
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



NORTH

LOCATION MAP

ELLIMAN BUILDING
THIRD FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

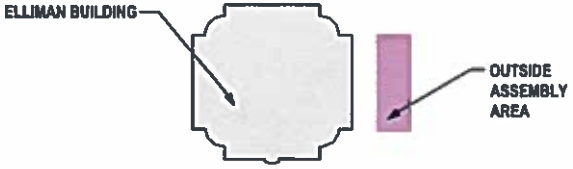
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



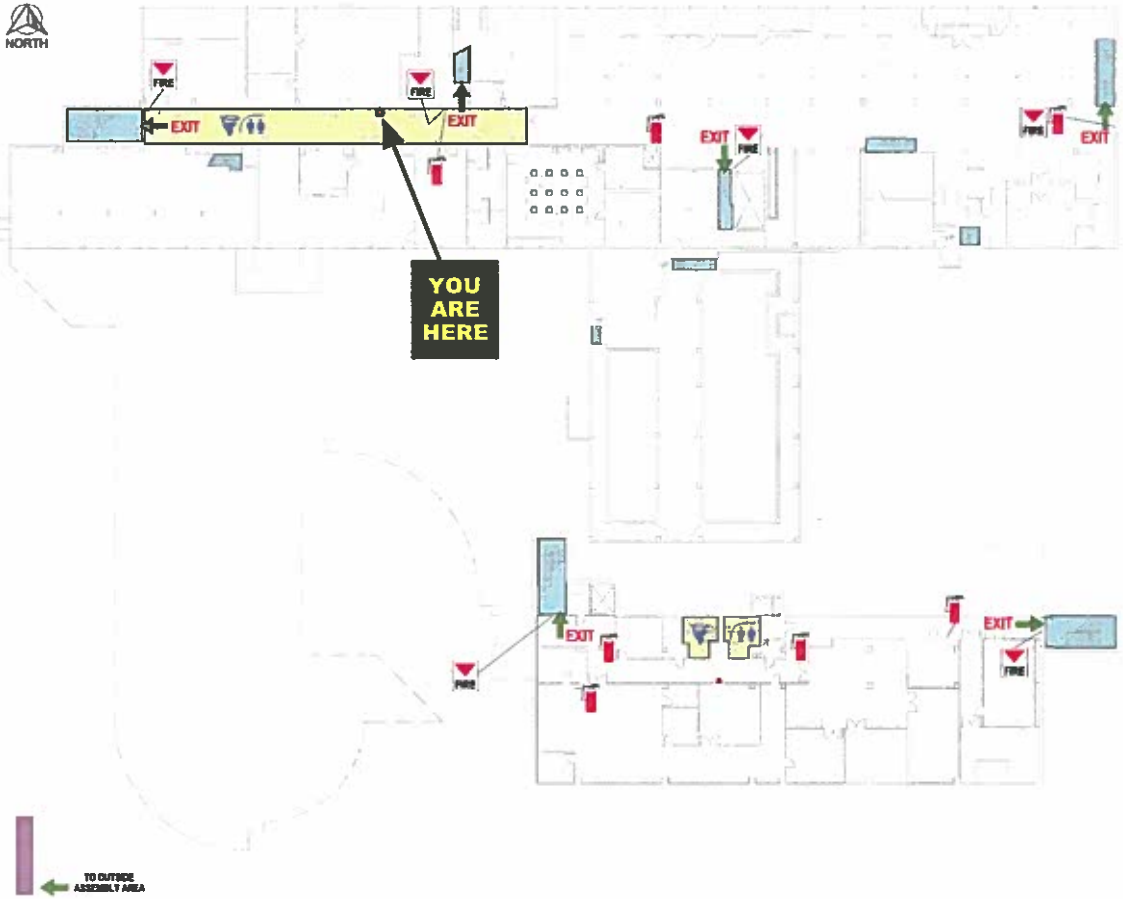
NORTH

LOCATION MAP

Evacuation Routes for Engineering Building
5050 Anthony Wayne
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor

ENGINEERING BUILDING

BASEMENT FLOOR EVACUATION PLAN



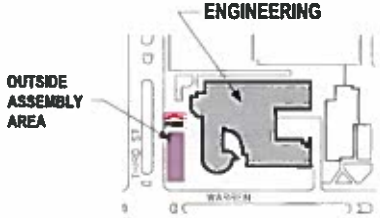
WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE - WSU CAMPUS BLUE LIGHT

EMERGENCY GUIDELINES

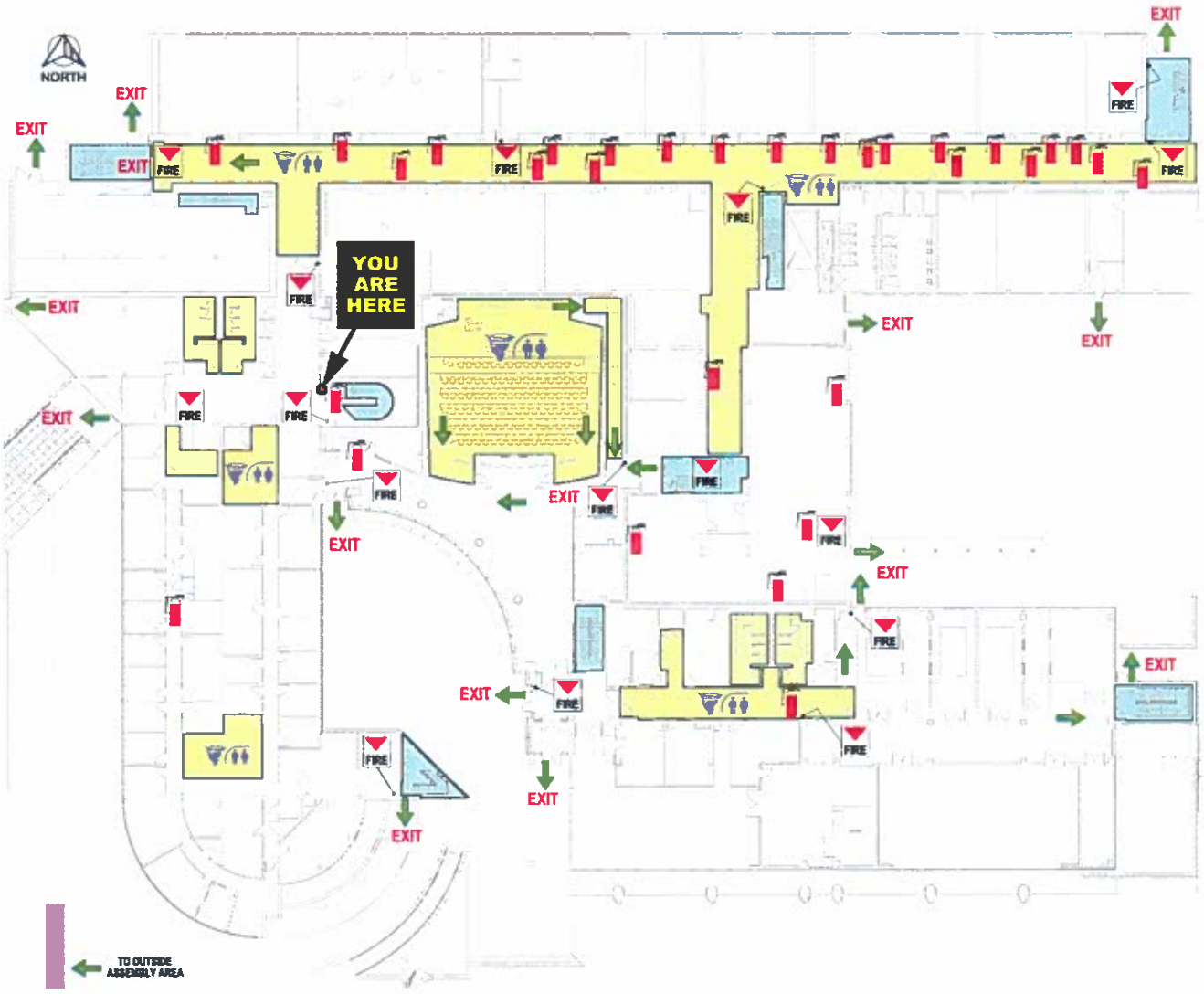
A. FAMILIARIZE YOURSELF WITH ALL EXIT LOCATIONS.
B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO [redacted]
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA , OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



NORTH LOCATION MAP

ENGINEERING BUILDING

FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY

POLICE DEPARTMENT

EMERGENCY PHONE NUMBER

313-577-2222

KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
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- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE - WSU CAMPUS BLUE LIGHT

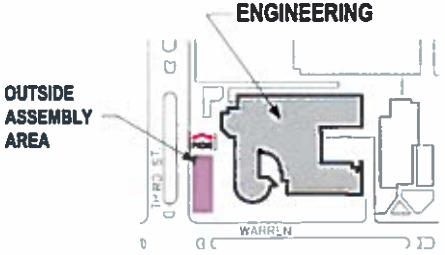
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA.

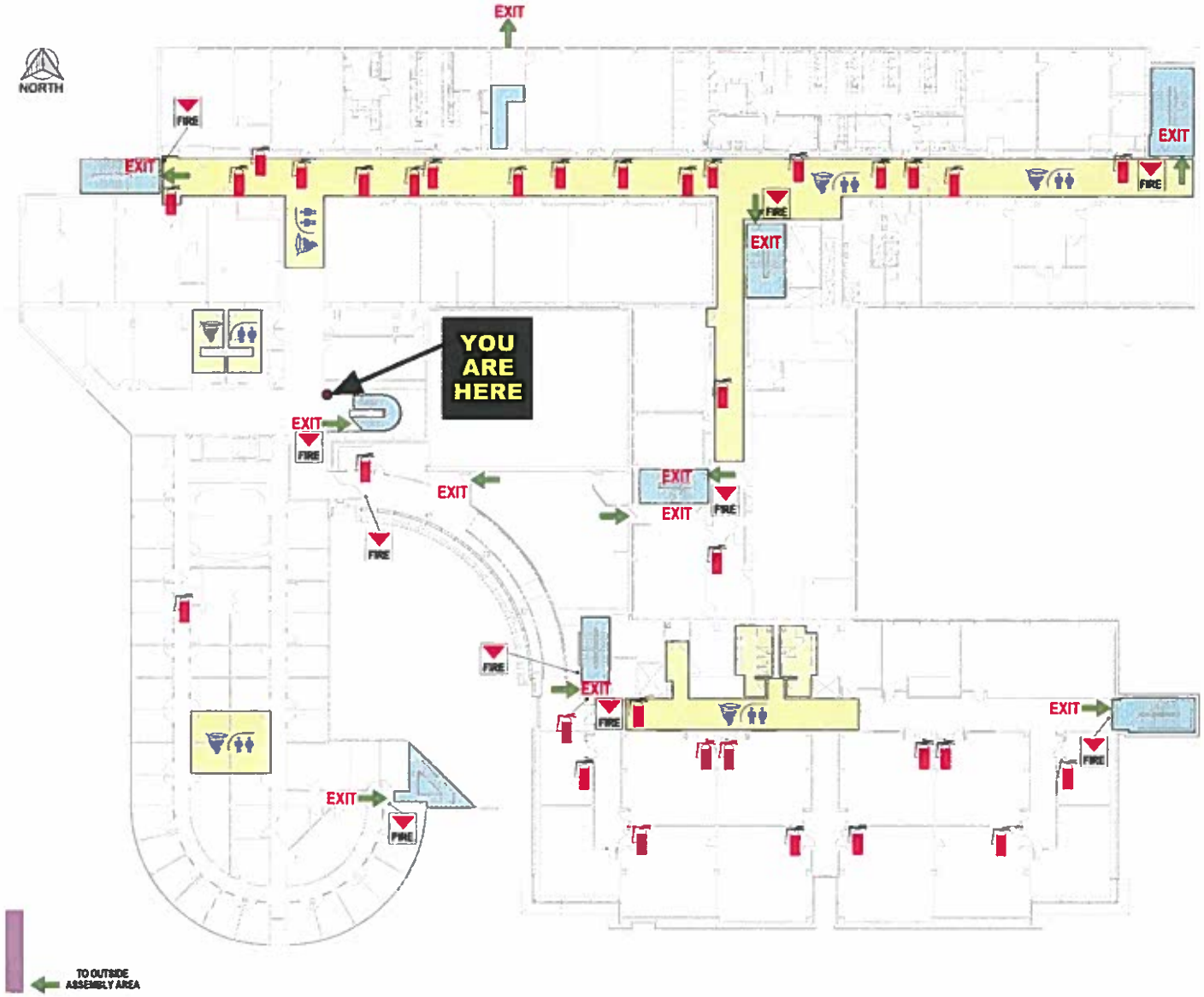
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



ENGINEERING BUILDING

SECOND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

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- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE - WSU CAMPUS BLUE LIGHT

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA.

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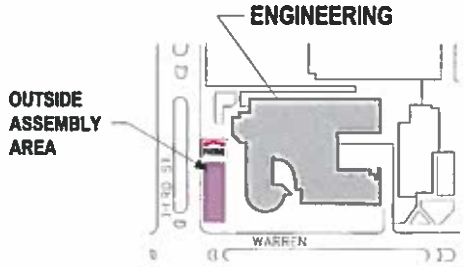
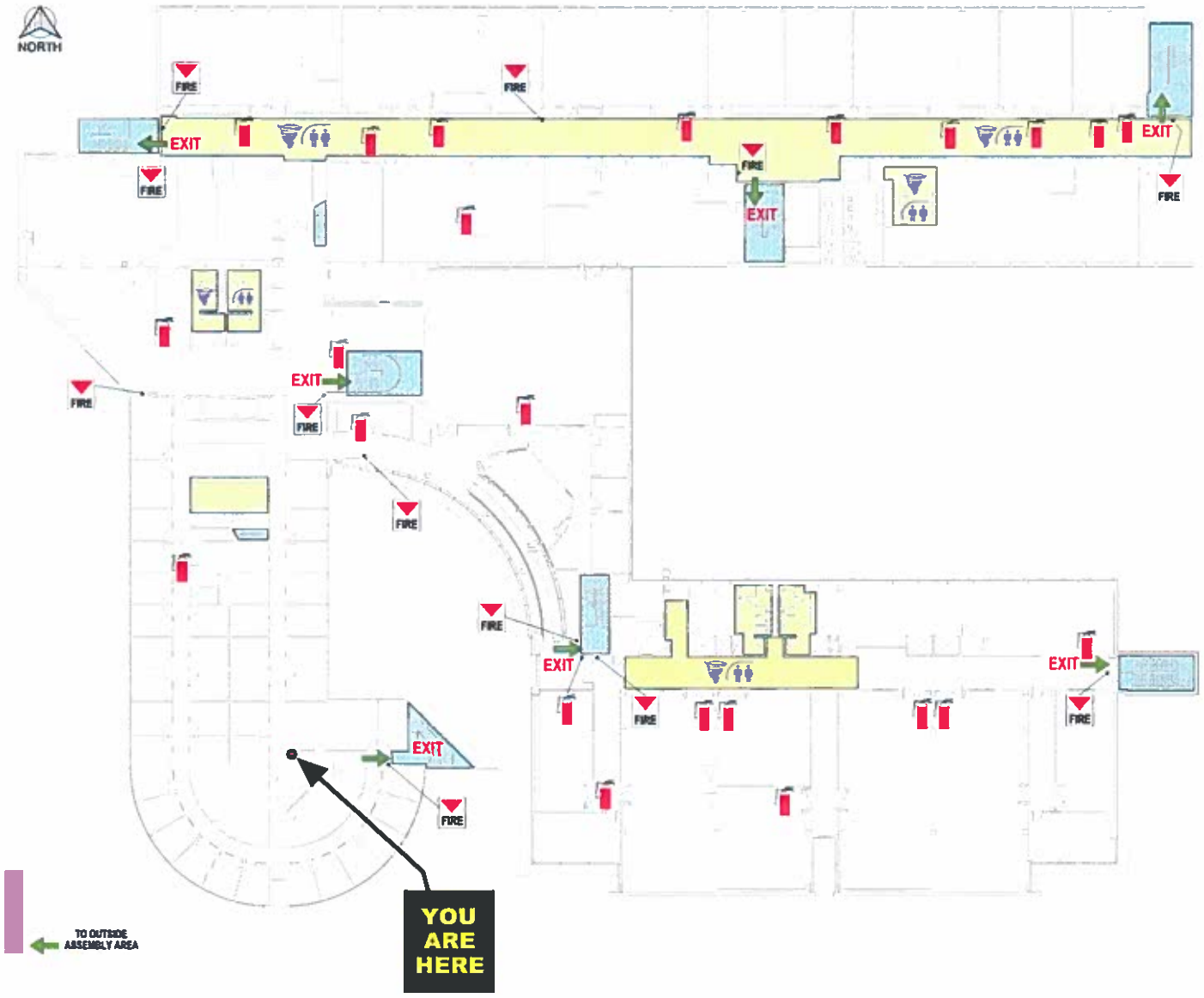


ENGINEERING BUILDING
THIRD FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

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- TORNADO SHELTER AREA
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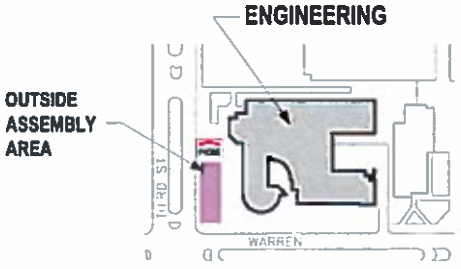
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE - WSU CAMPUS BLUE LIGHT

EMERGENCY GUIDELINES

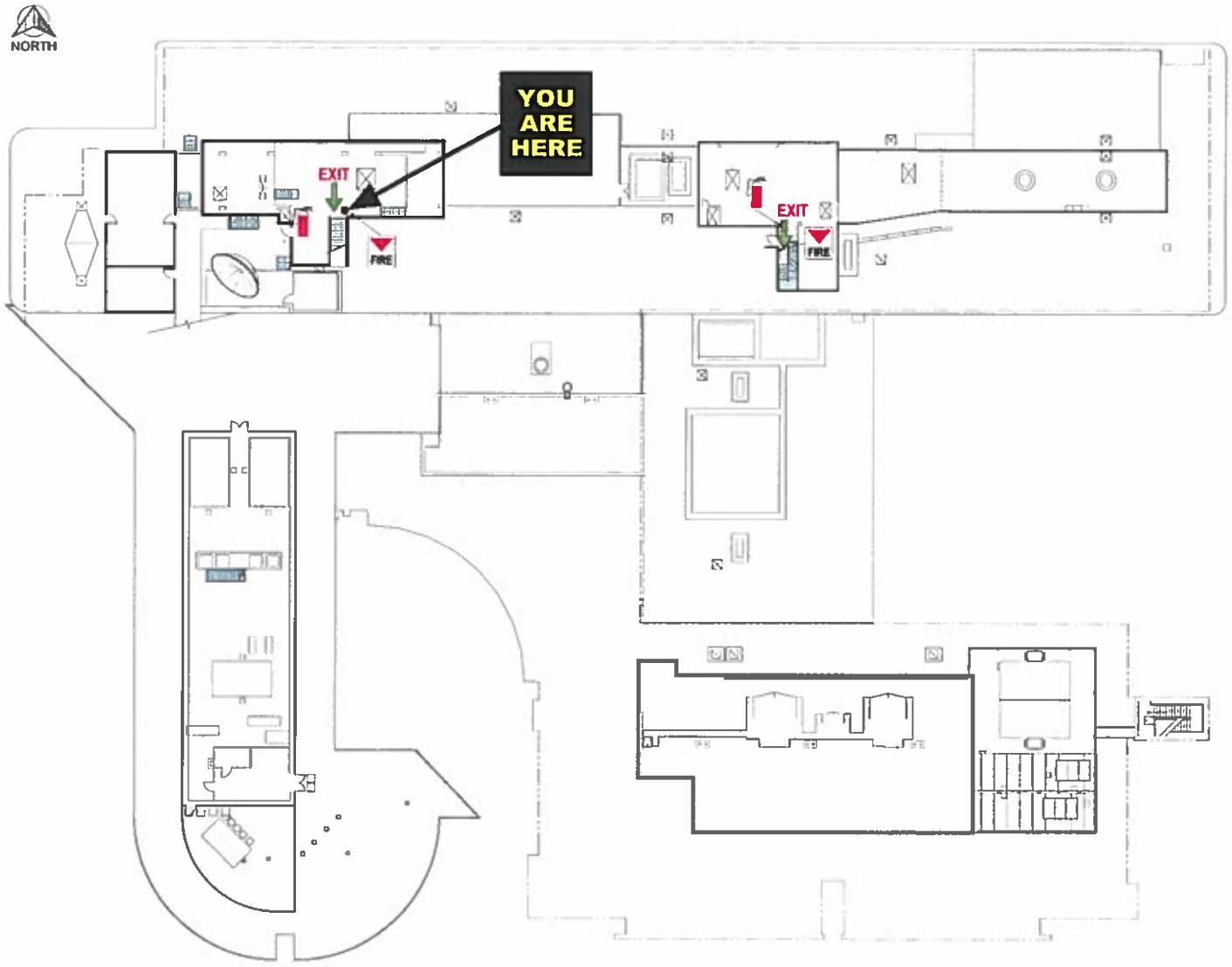
A. FAMILIARIZE YOURSELF WITH ALL EXIT LOCATIONS.
B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA.
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



ENGINEERING BUILDING

PENTHOUSE FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222



KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE - WSU CAMPUS BLUE LIGHT

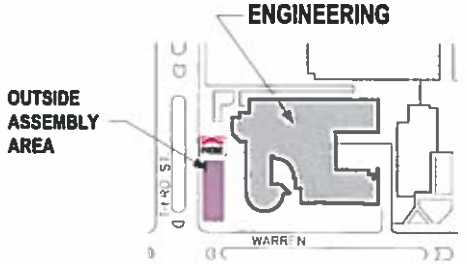
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

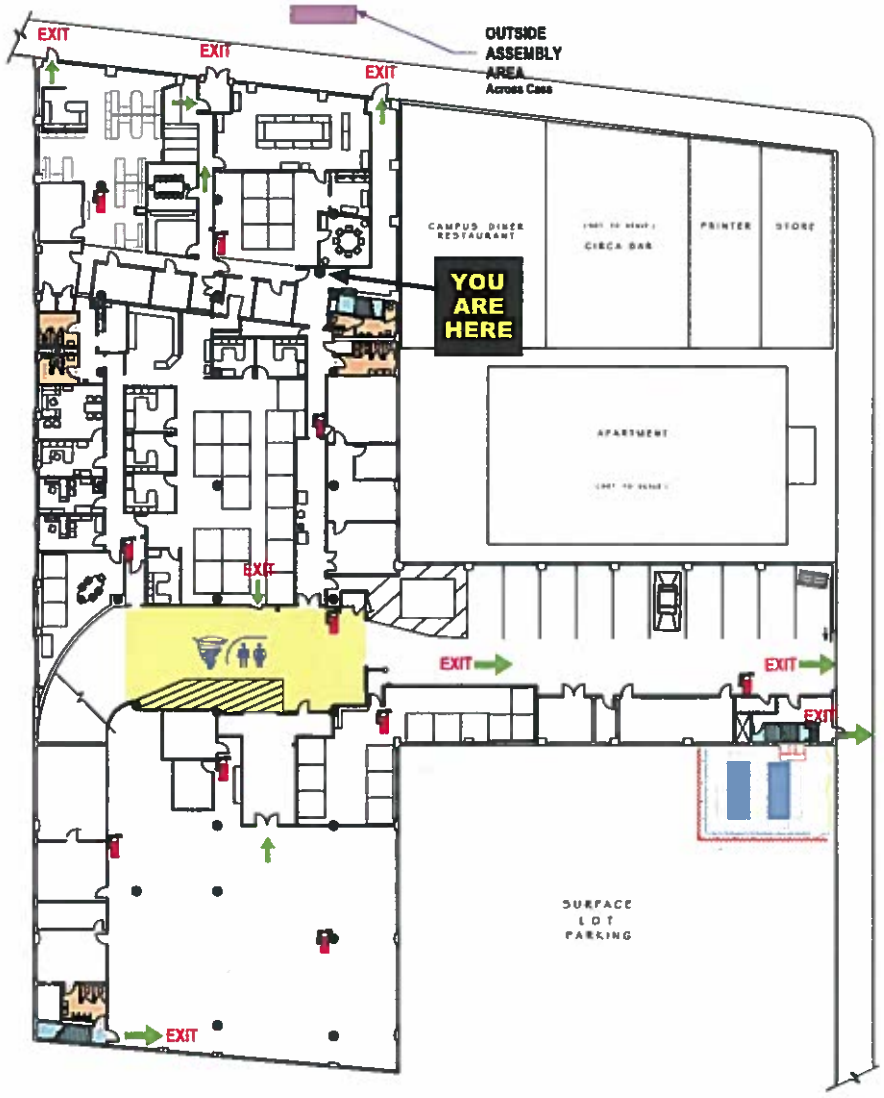


Evacuation Routes for Facilities Planning & Management
5454 Cass
1st Floor
2nd Floor
3rd Floor

FACILITIES PLANNING & MANAGEMENT

FIRST FLOOR EVACUATION PLAN

NORTH



WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

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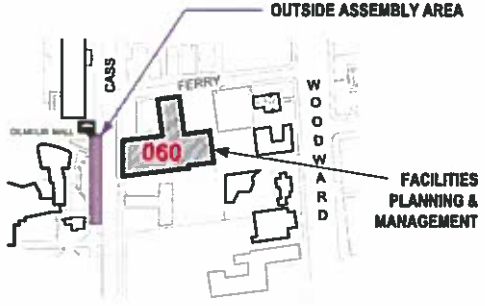
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

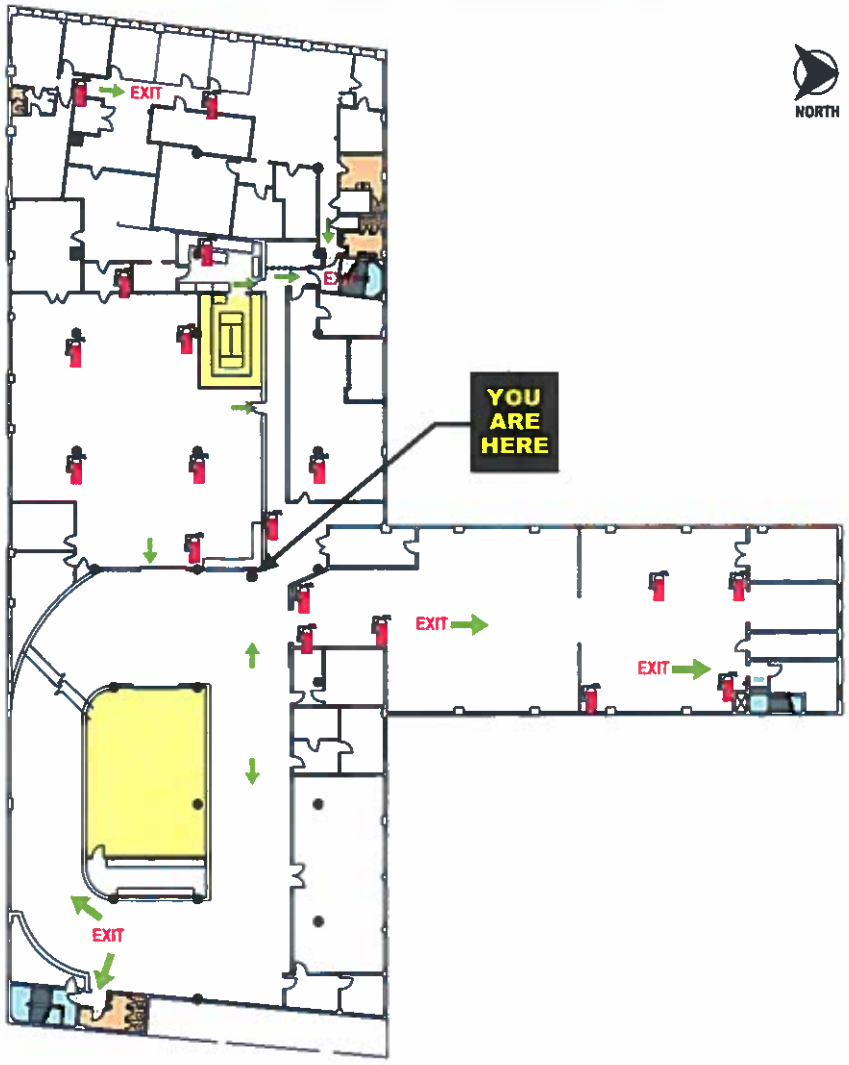
C. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR RESTROOM AS NECESSARY, OR INSTRUCTED TO DO SO BY YOUR MANAGEMENT.



NORTH LOCATION MAP

FACILITIES PLANNING & MANAGEMENT

SECOND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

- TO STAIRWELL EXIT, EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
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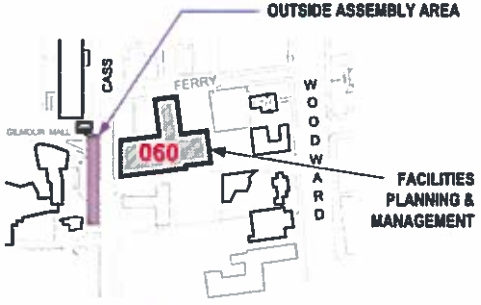
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR RESTROOM AS NECESSARY, OR INSTRUCTED TO DO SO BY YOUR MANAGEMENT.



LOCATION MAP

FACILITIES PLANNING & MANAGEMENT

THIRD FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

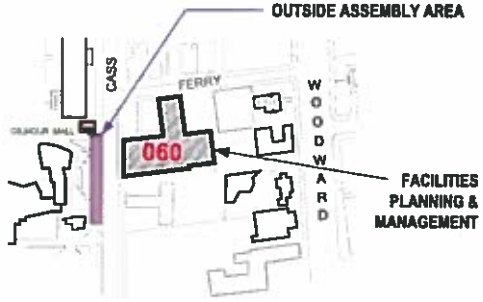
- TO STAIRWELL EXIT, EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL EXIT LOCATIONS.

B. EVACUATE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR RESTROOM AS NECESSARY, OR INSTRUCTED TO DO SO BY YOUR MANAGEMENT.

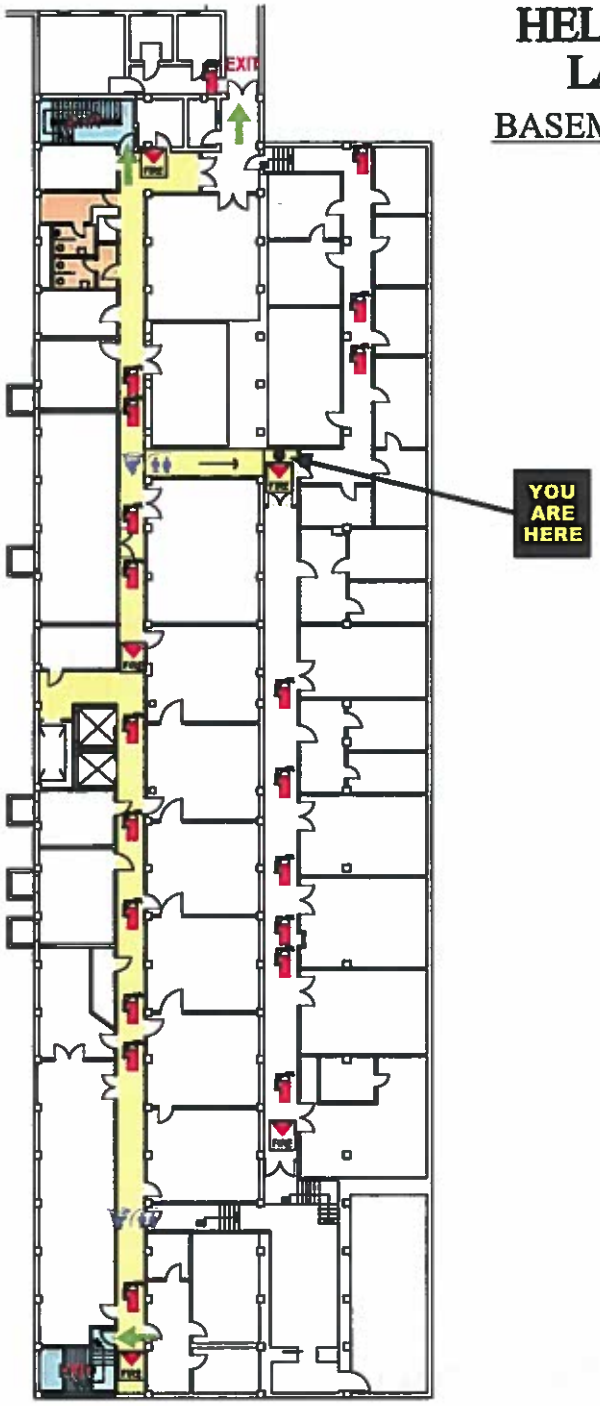


LOCATION MAP

Evacuation Routes for Helen Vera Prentis Lande
550 East Canfield
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor

HELEN VERA PRENTIS LANDE BUILDING

BASEMENT EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

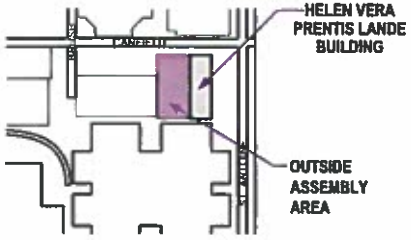
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

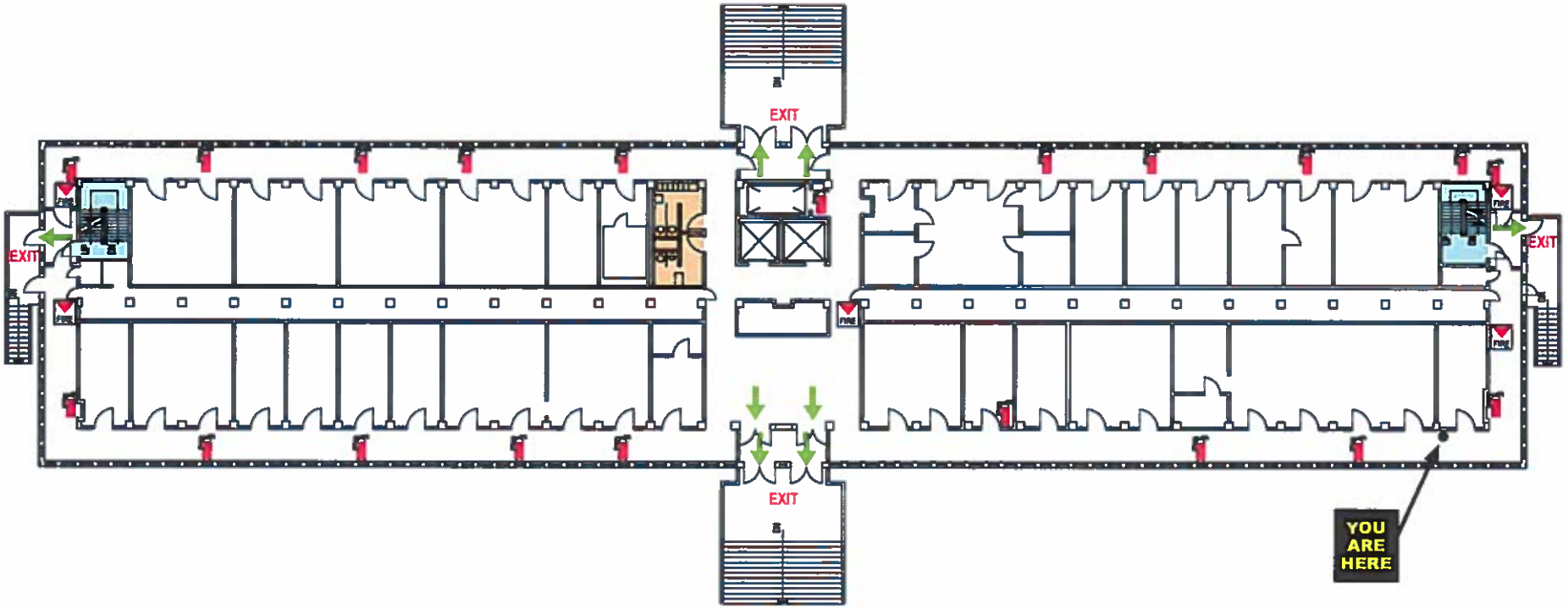


NORTH

LOCATION MAP

HELEN VERA PRENTIS LANDE BUILDING

FIRST FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

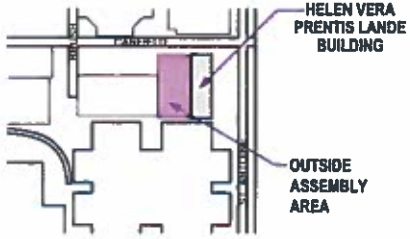
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

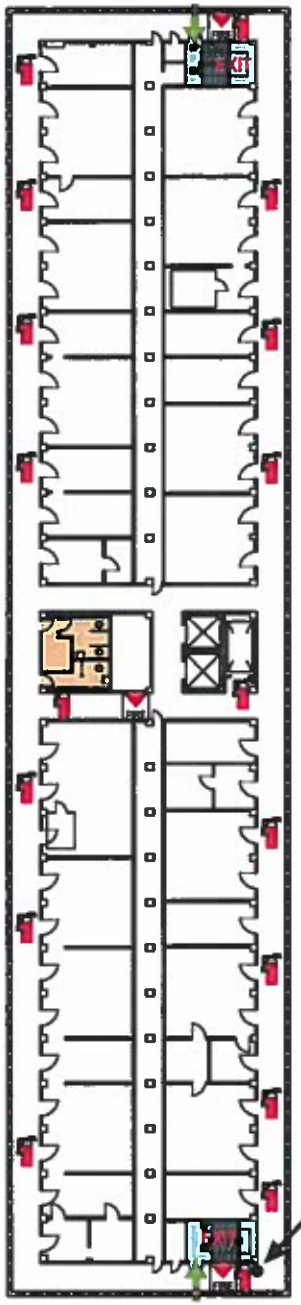


NORTH

LOCATION MAP

HELEN VERA PRENTIS LANDE BUILDING

SECOND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
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- FIRE EXTINGUISHER
- CAMPUS PHONE

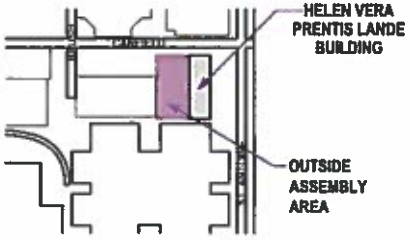
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

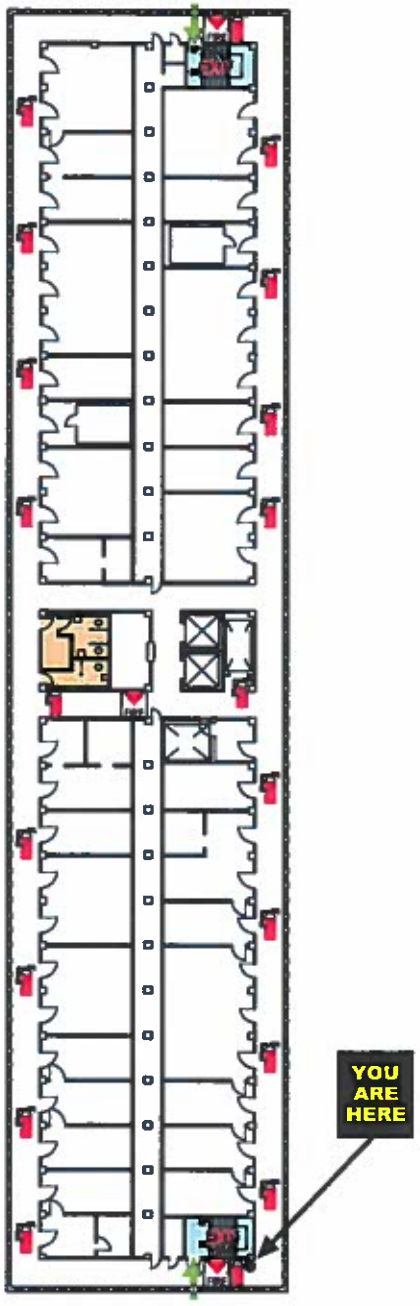


NORTH

LOCATION MAP

HELEN VERA PRENTIS LANDE BUILDING

THIRD FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

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- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

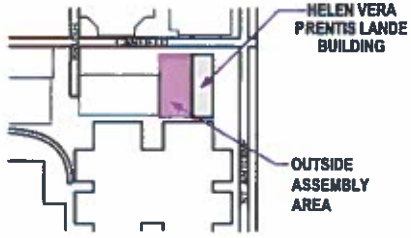
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

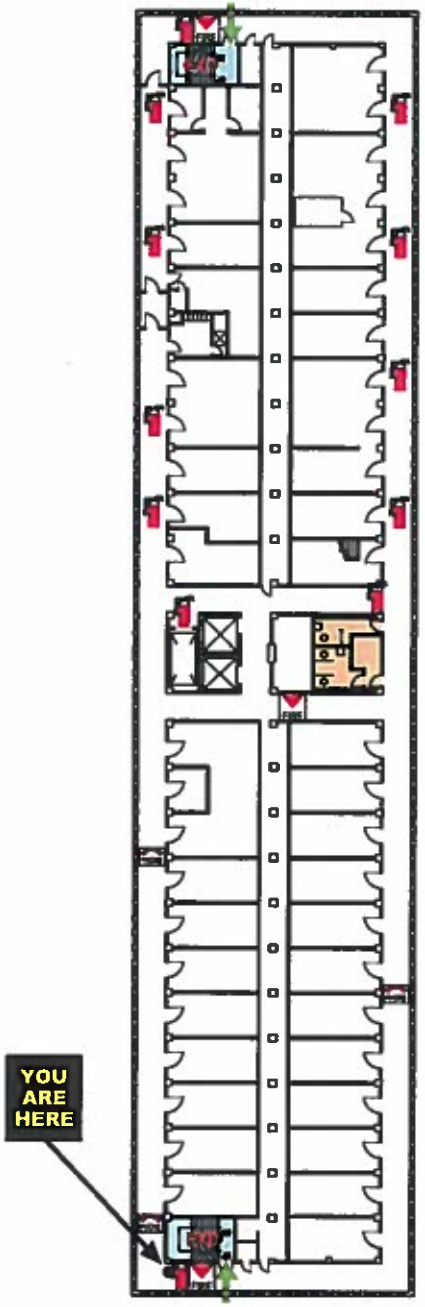


NORTH

LOCATION MAP

HELEN VERA PRENTIS LANDE BUILDING

FOURTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

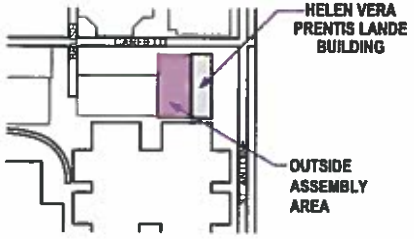
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

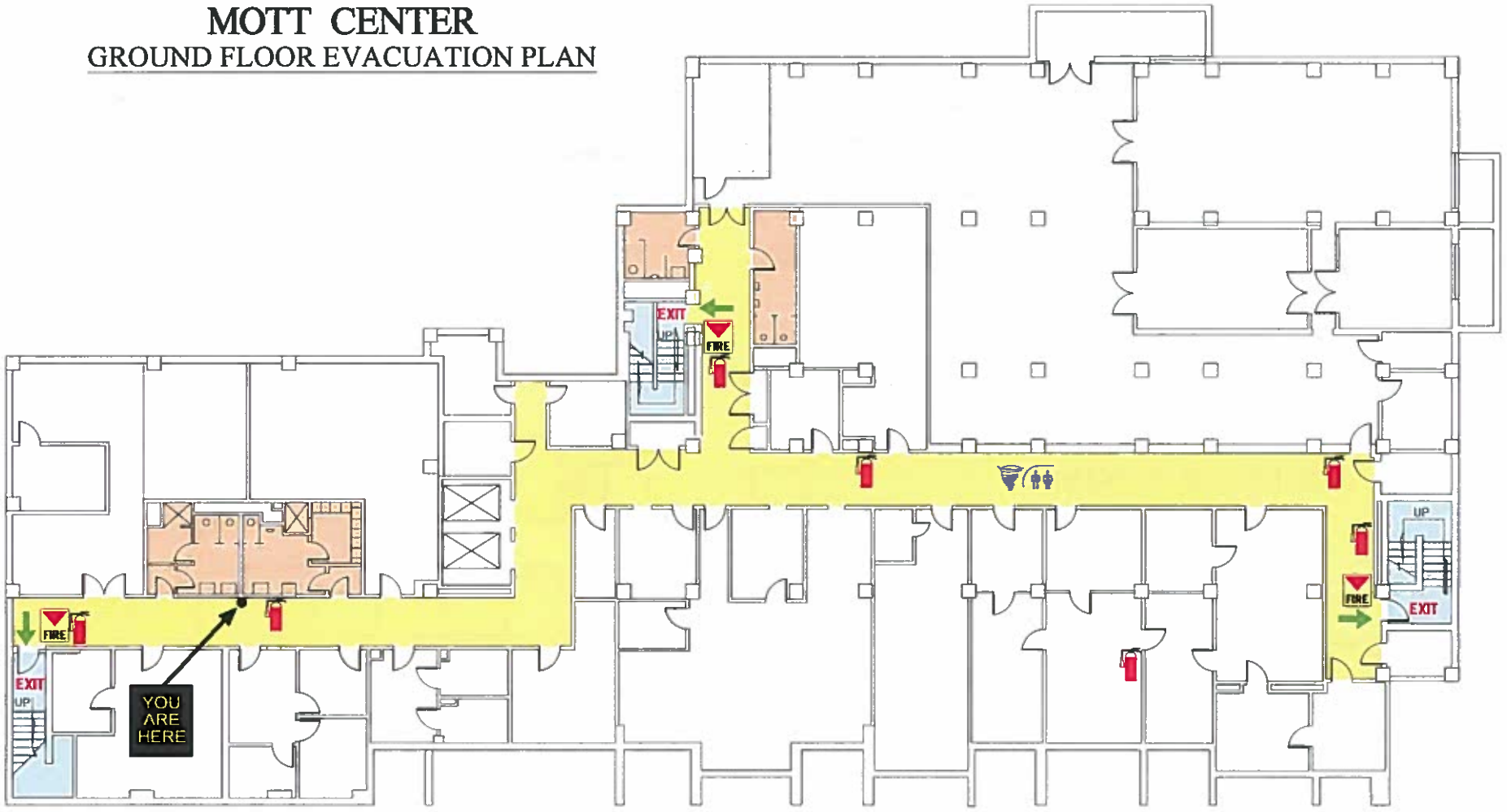


NORTH

LOCATION MAP

Evacuation Routes for C. S. Mott Center for Human Growth and Development
275 E. Hancock
Ground Floor
1st Floor
2nd Floor
3rd Floor

MOTT CENTER
GROUND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

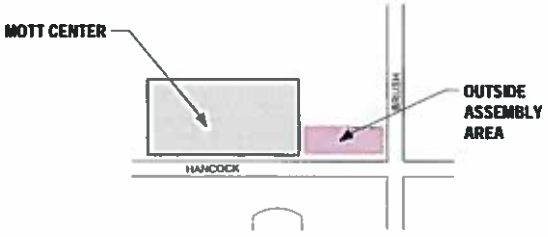
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

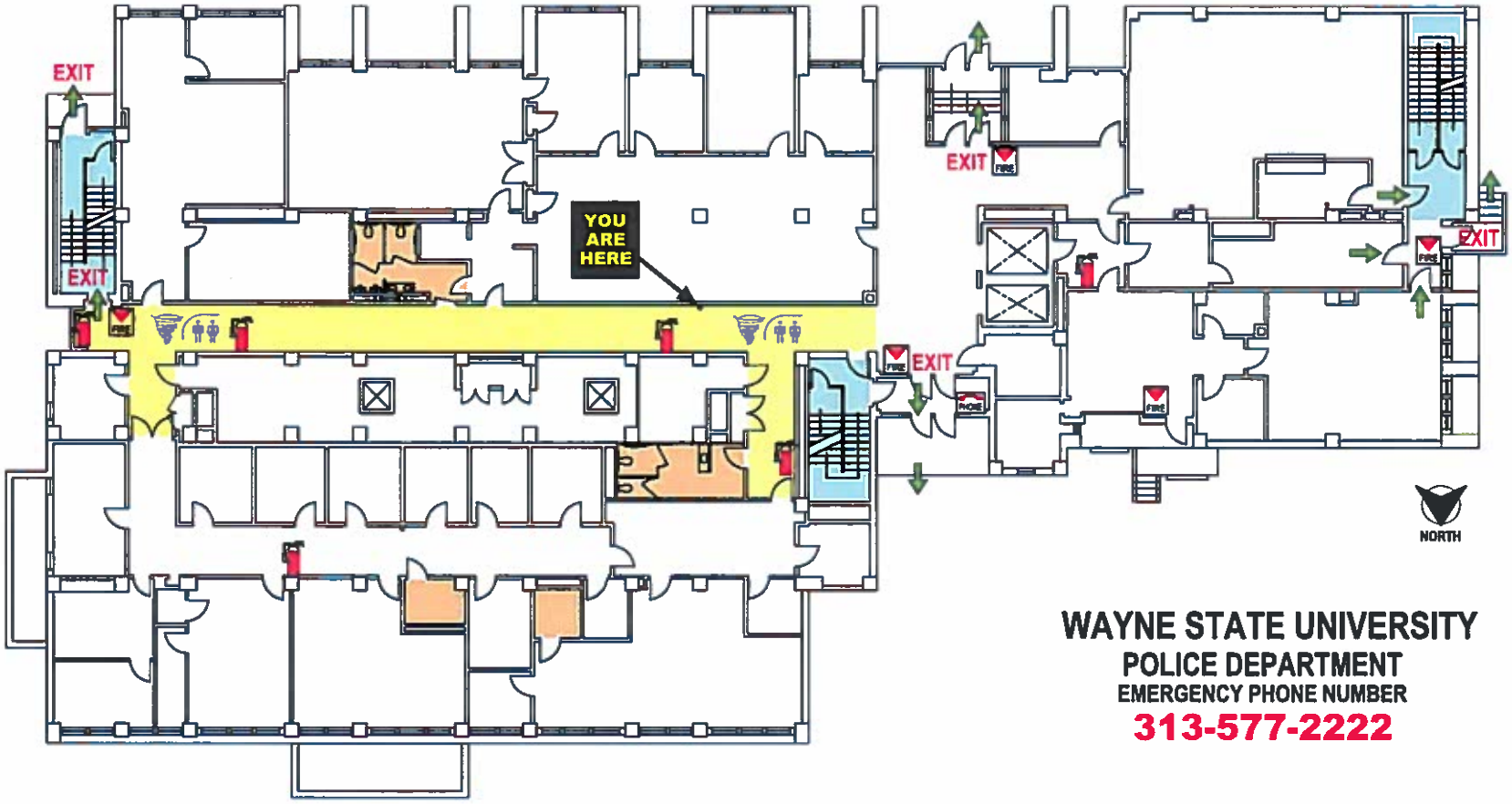
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA , RESTROOM OR GROUND FLOOR AS NECESSARY



NORTH

LOCATION MAP

MOTT CENTER
FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY
POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
313-577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE

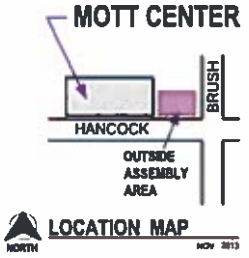
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL EXIT LOCATIONS.

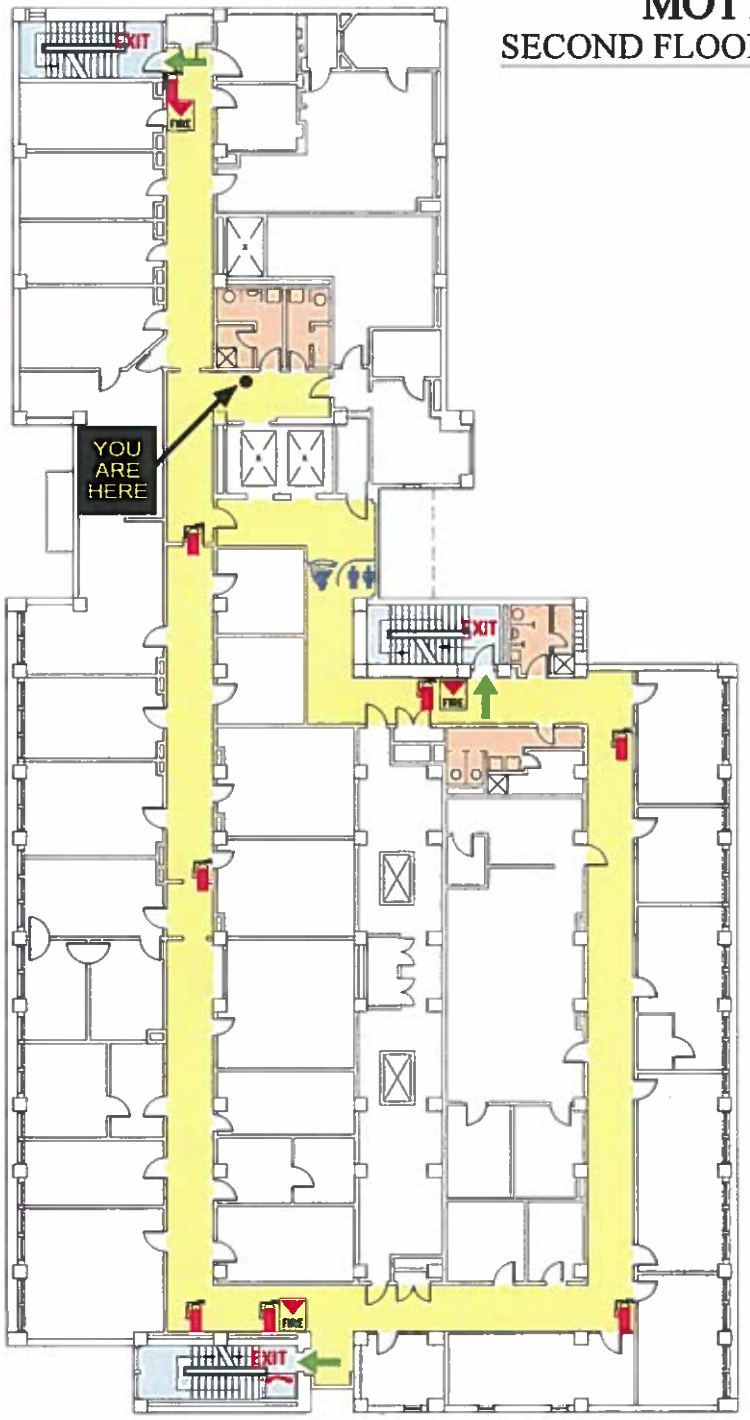
B. EVACUATE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND THEN PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA OR RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



MOTT CENTER
SECOND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

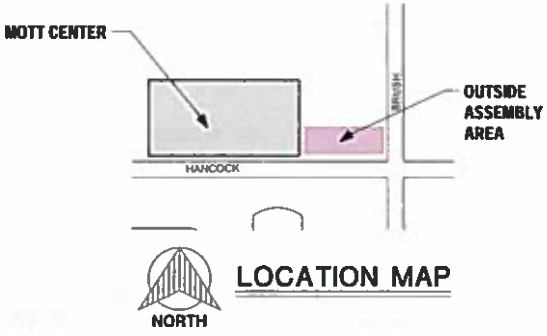
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

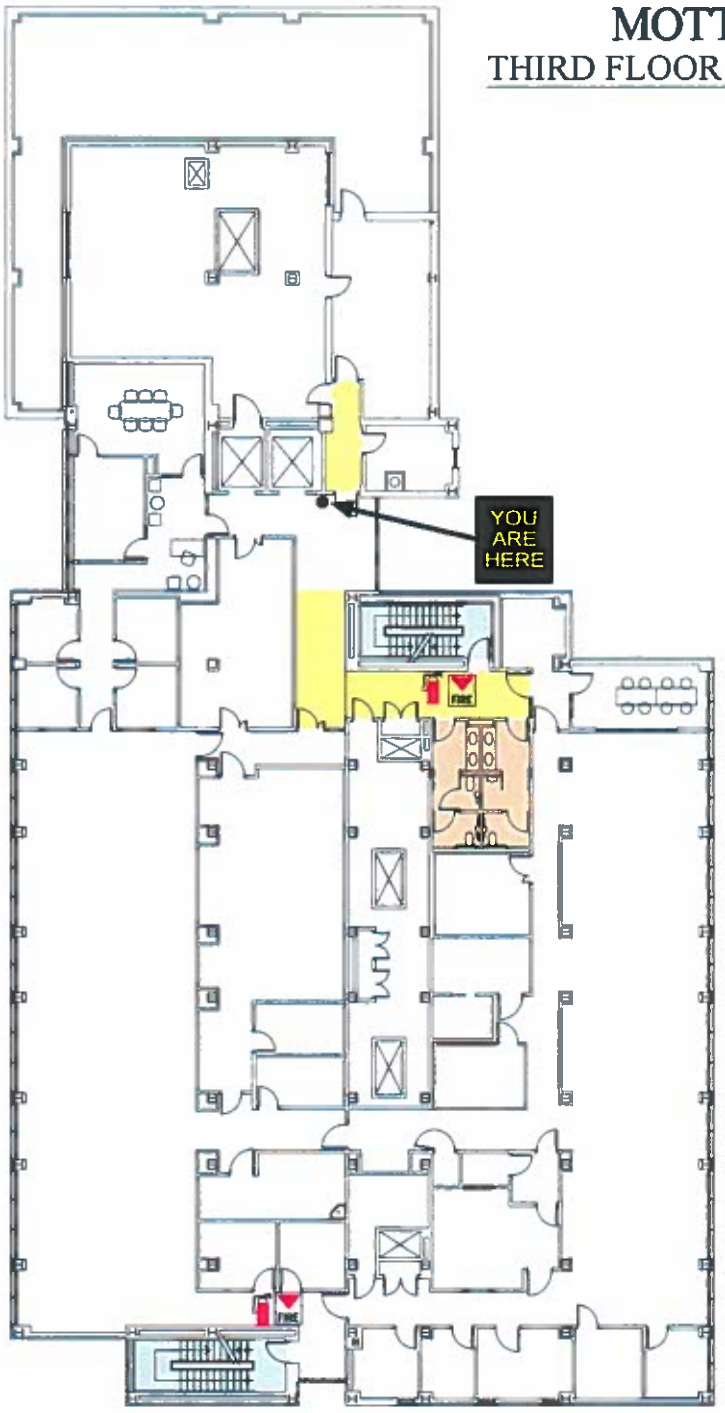
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR GROUND FLOOR AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

MOTT CENTER
THIRD FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

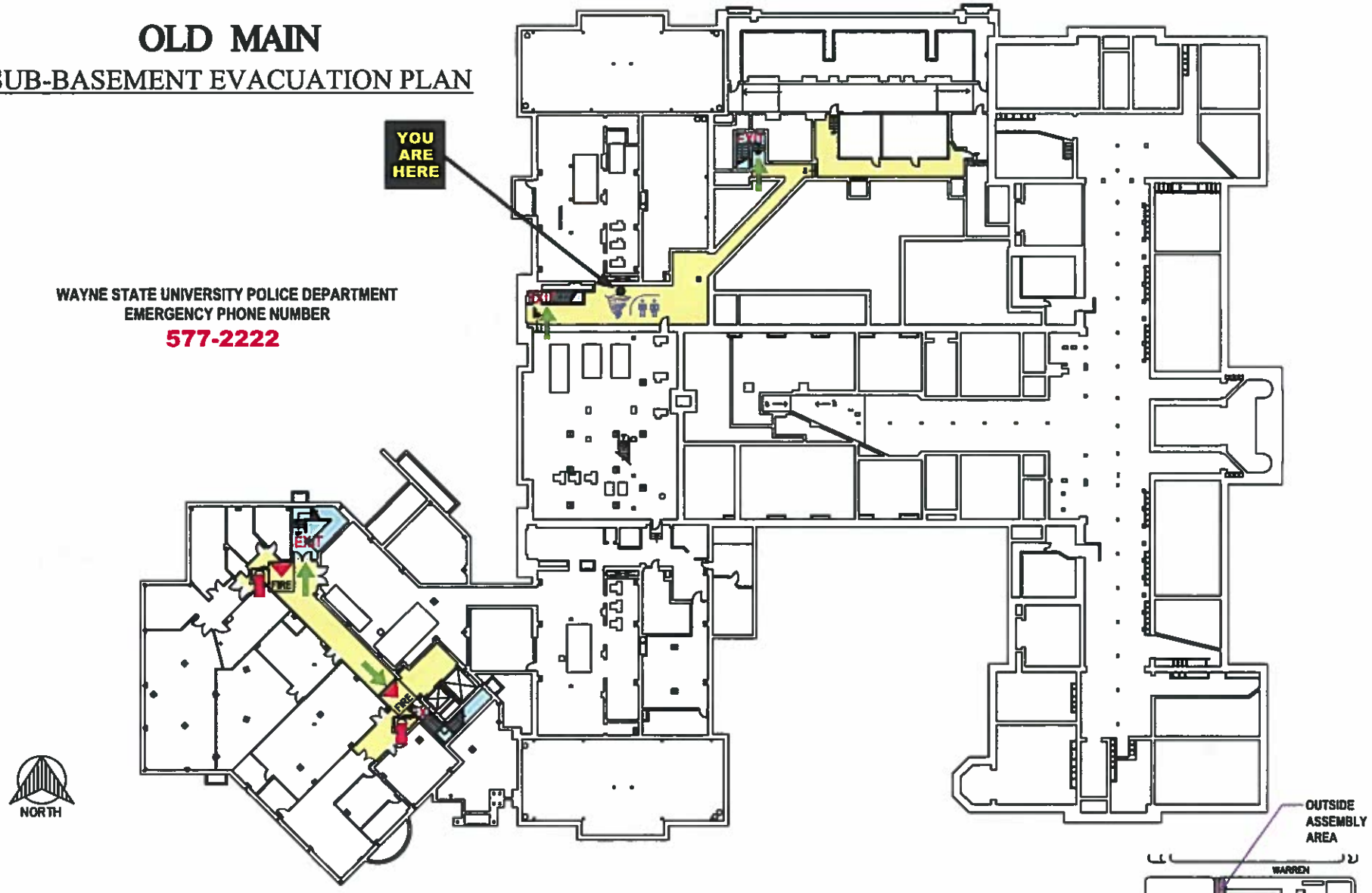
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR GROUND FLOOR AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

LOCATION MAP

Evacuation Routes for Old Main
4841 Cass
Sub-Basement
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor

OLD MAIN

SUB-BASEMENT EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

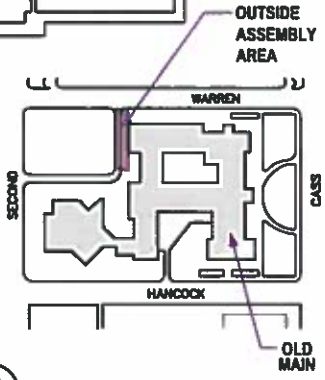
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

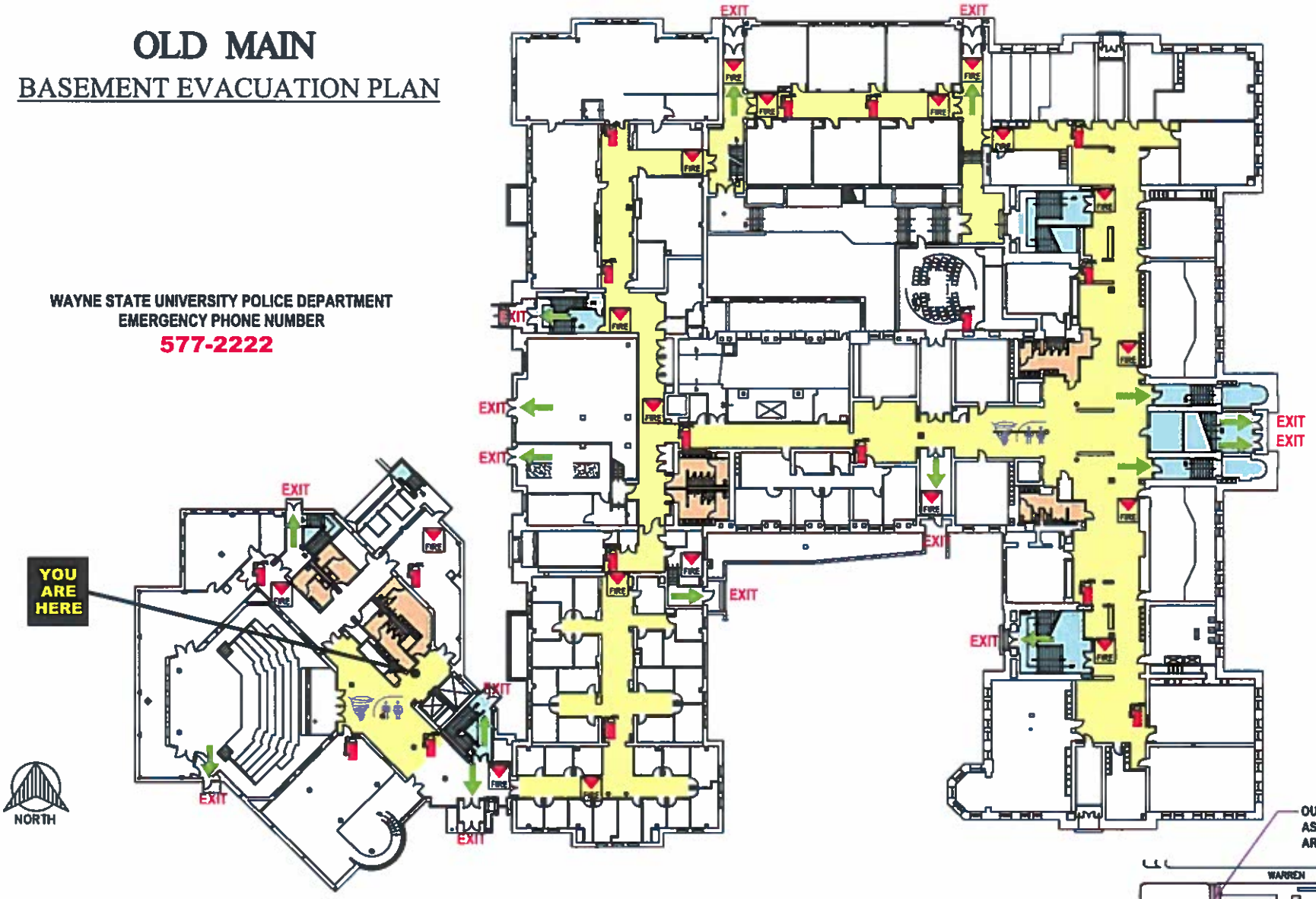


LOCATION MAP

OLD MAIN

BASEMENT EVACUATION PLAN

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222



KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

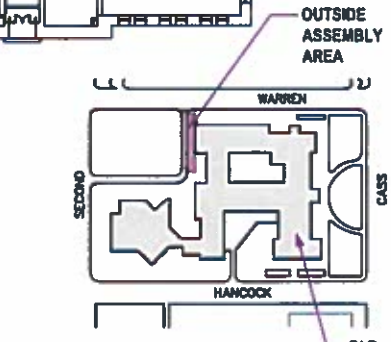
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

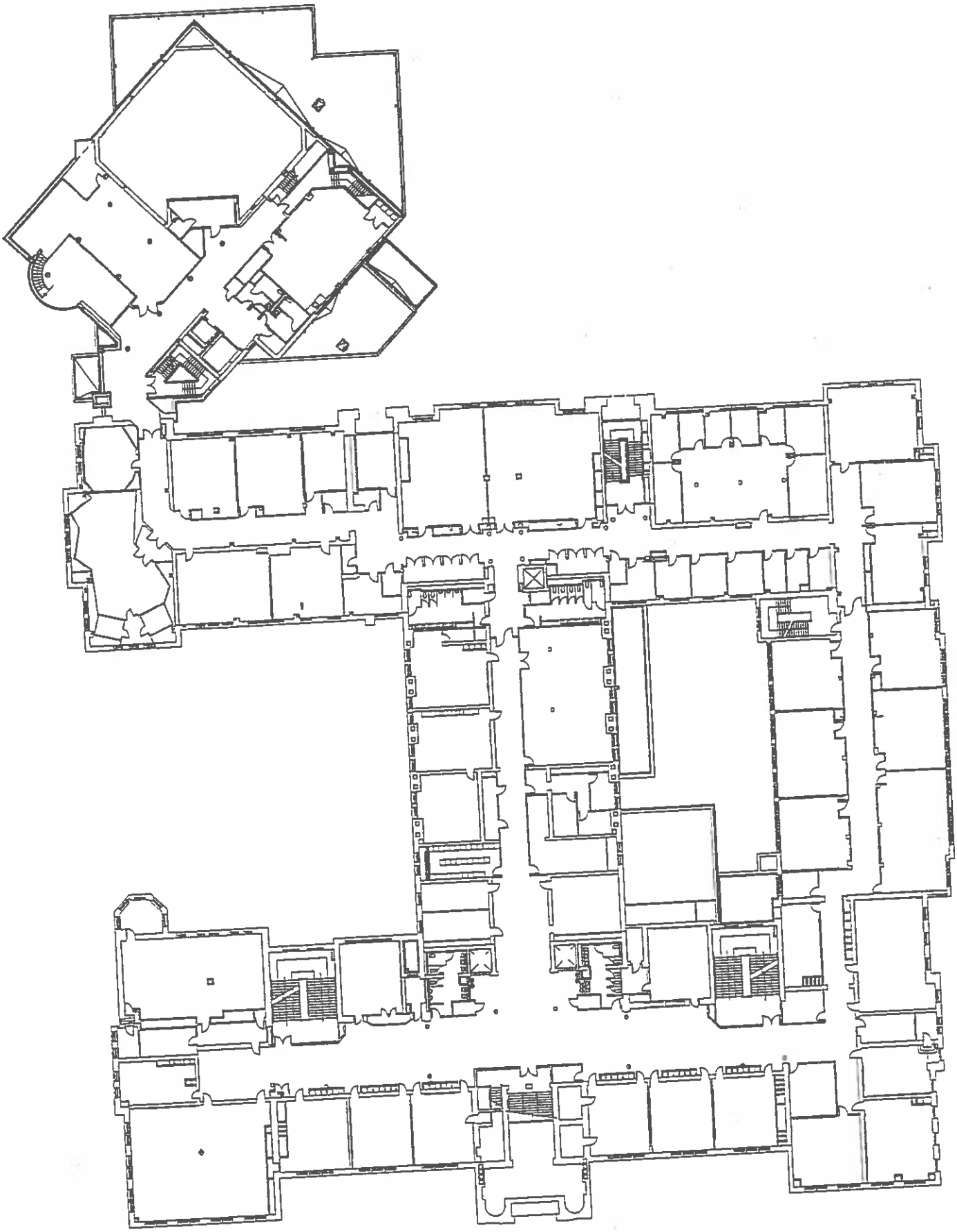
B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP



OLD MAIN

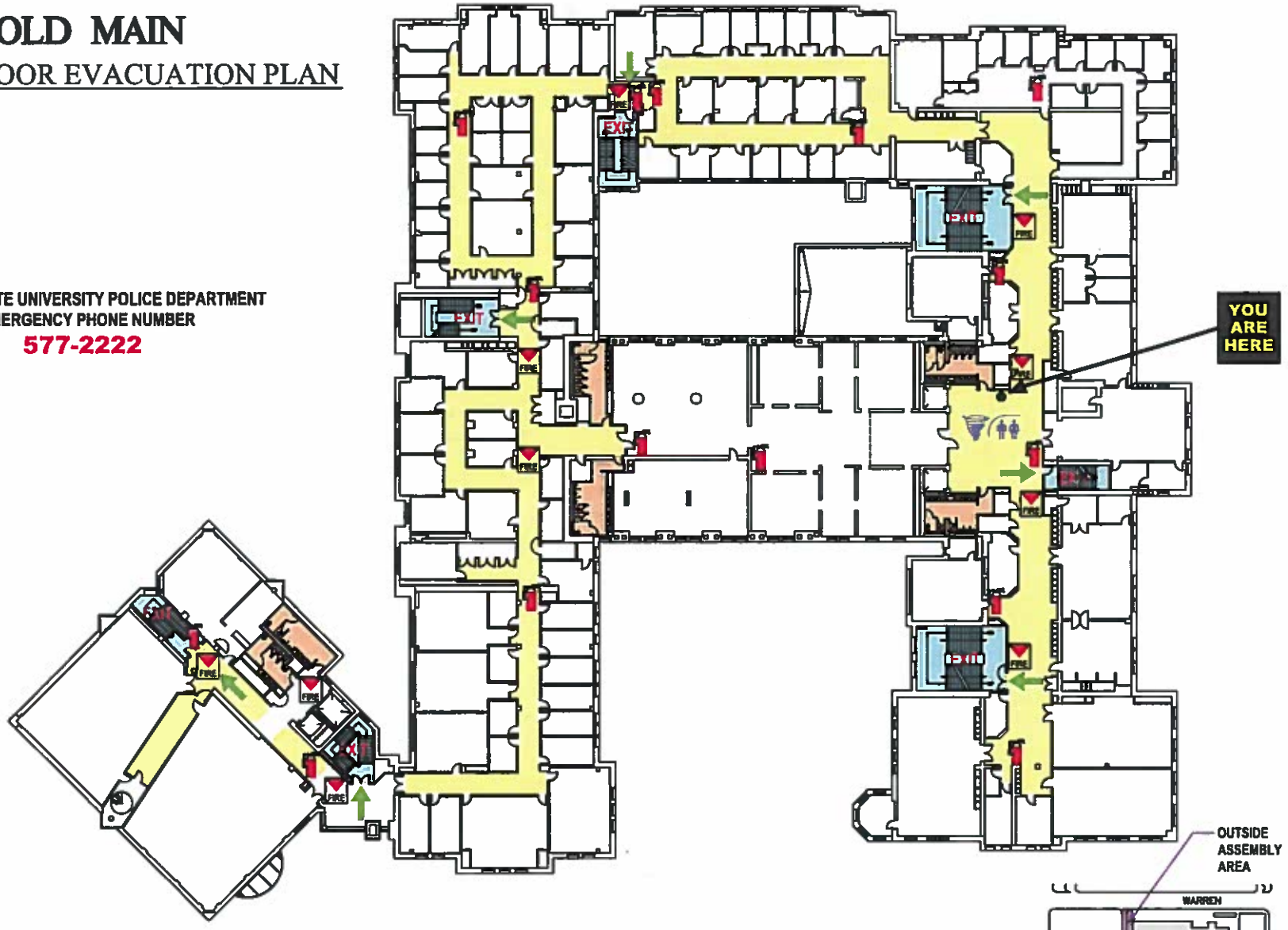
BUILDING # 001

FIRST FLOOR

OLD MAIN

SECOND FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222



KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

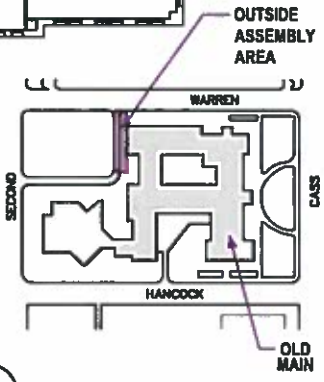
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

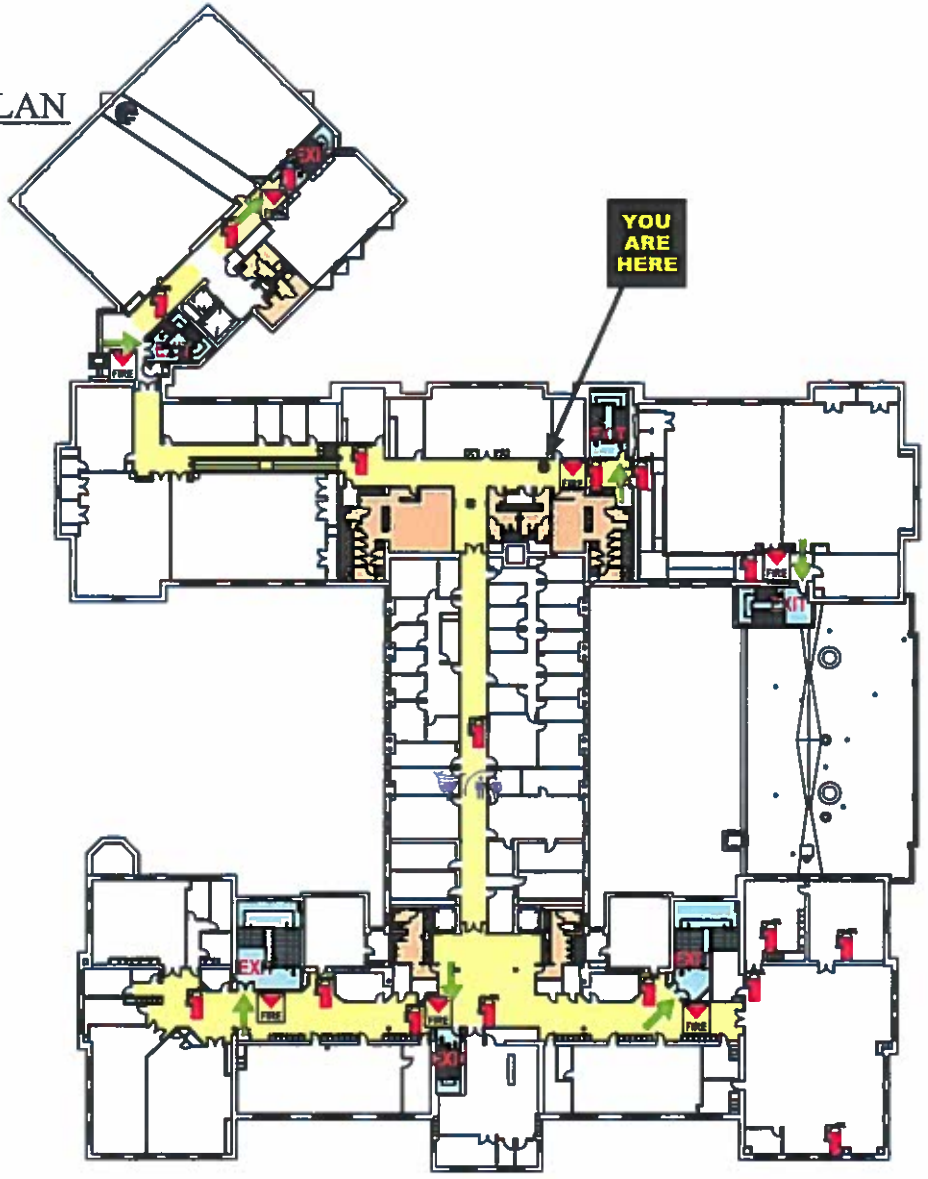
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

OLD MAIN

THIRD FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

NORTH

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

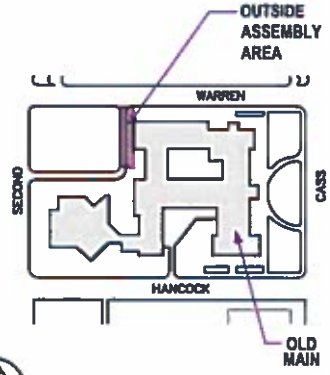
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

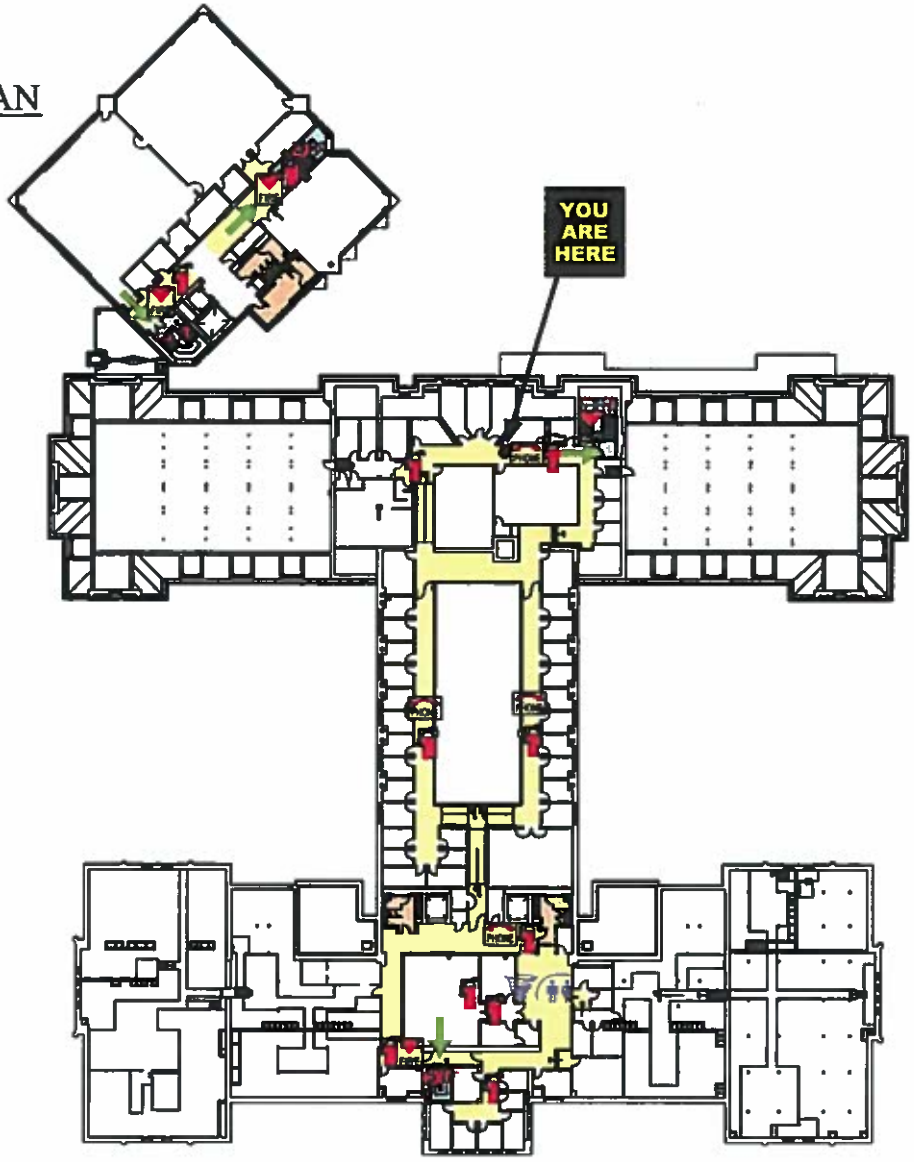


NORTH

LOCATION MAP

OLD MAIN

FOURTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

NORTH

KEY

- TO STAIRWELL EXIT / EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

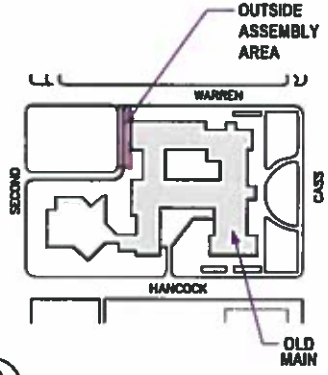
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



NORTH

LOCATION MAP

Evacuation Routes for Eugene Applebaum College of Pharmacy and Health Sciences Building

259 Mack

Basement

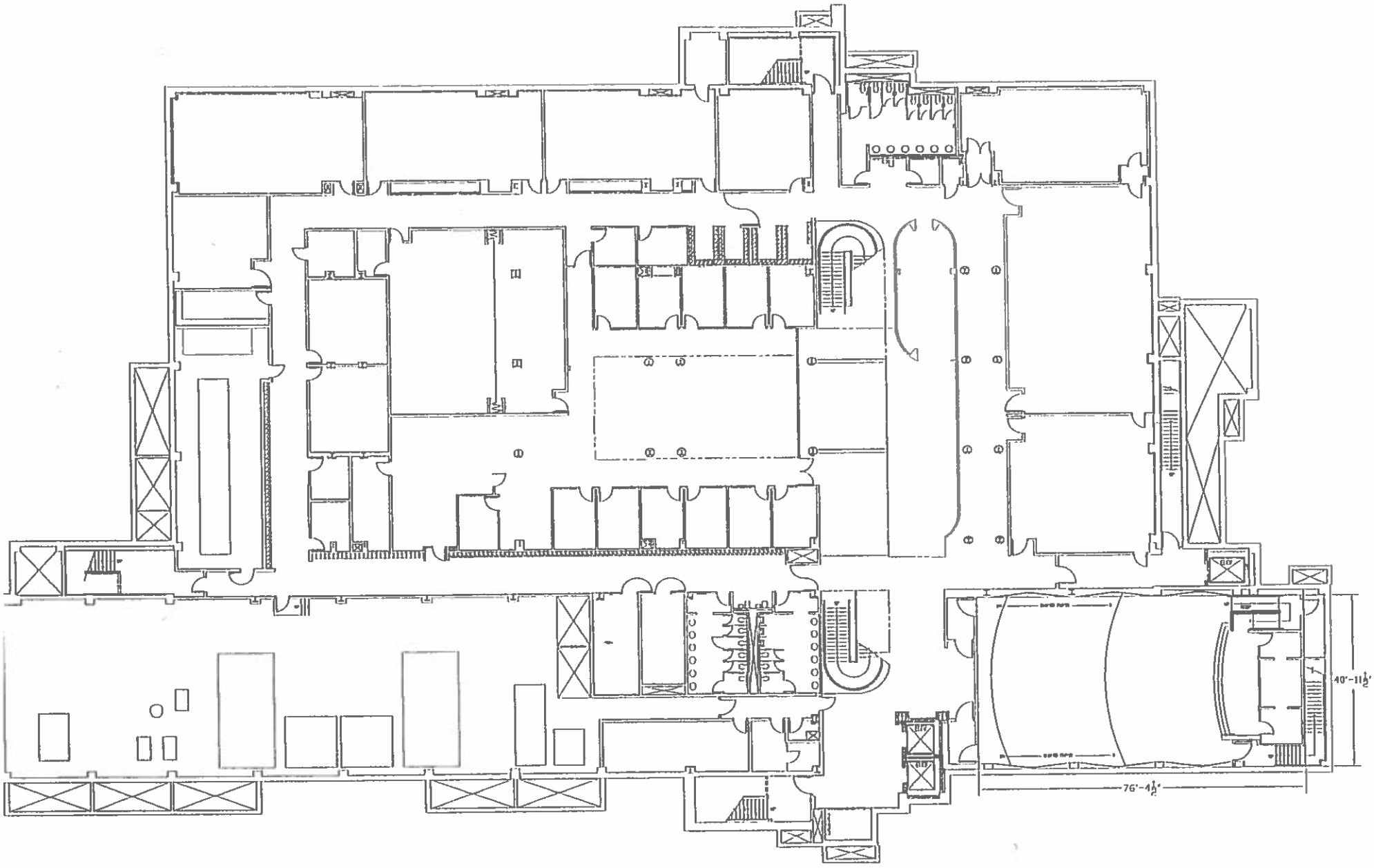
1st Floor

2nd Floor

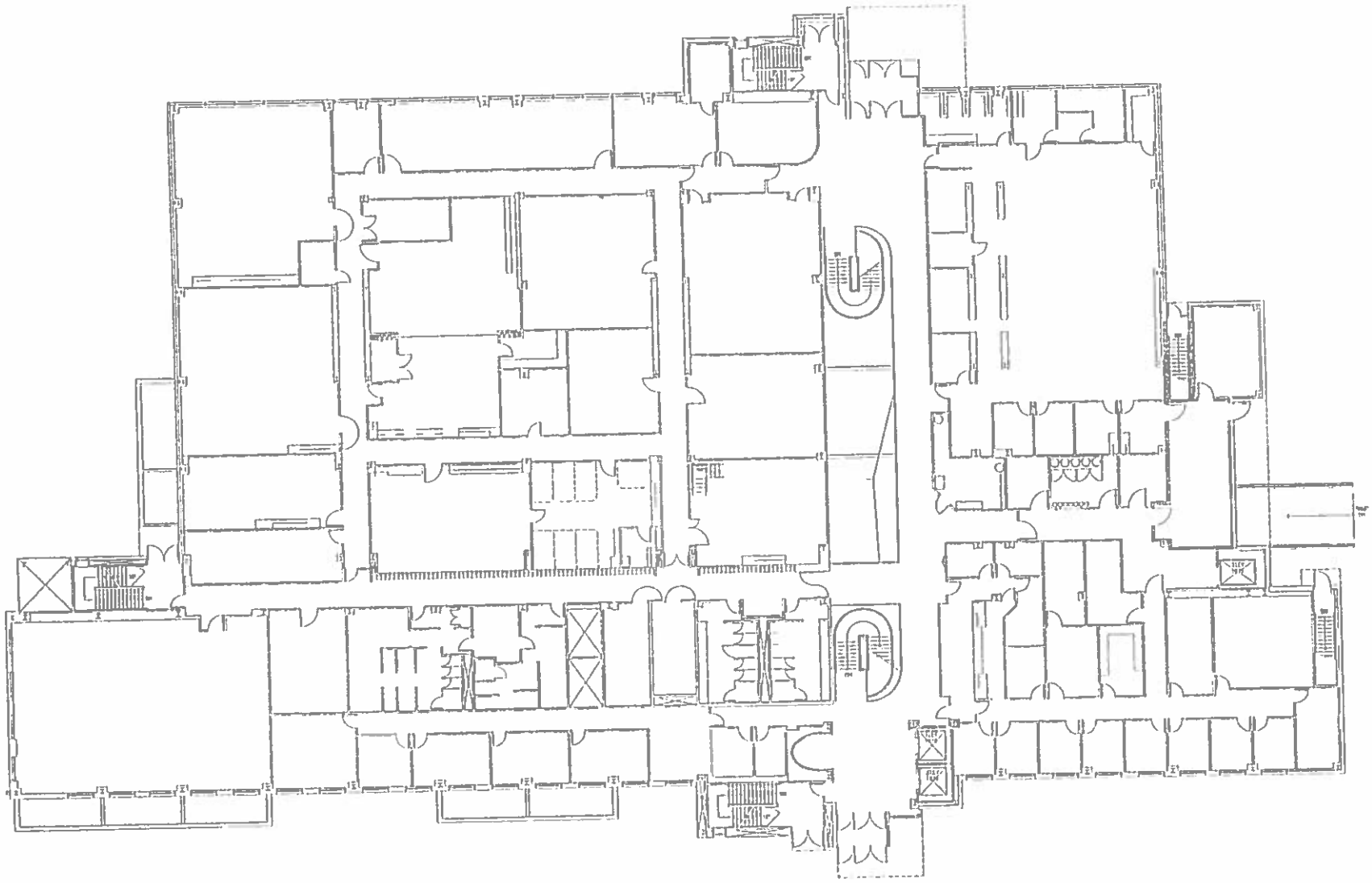
3rd Floor

4th Floor

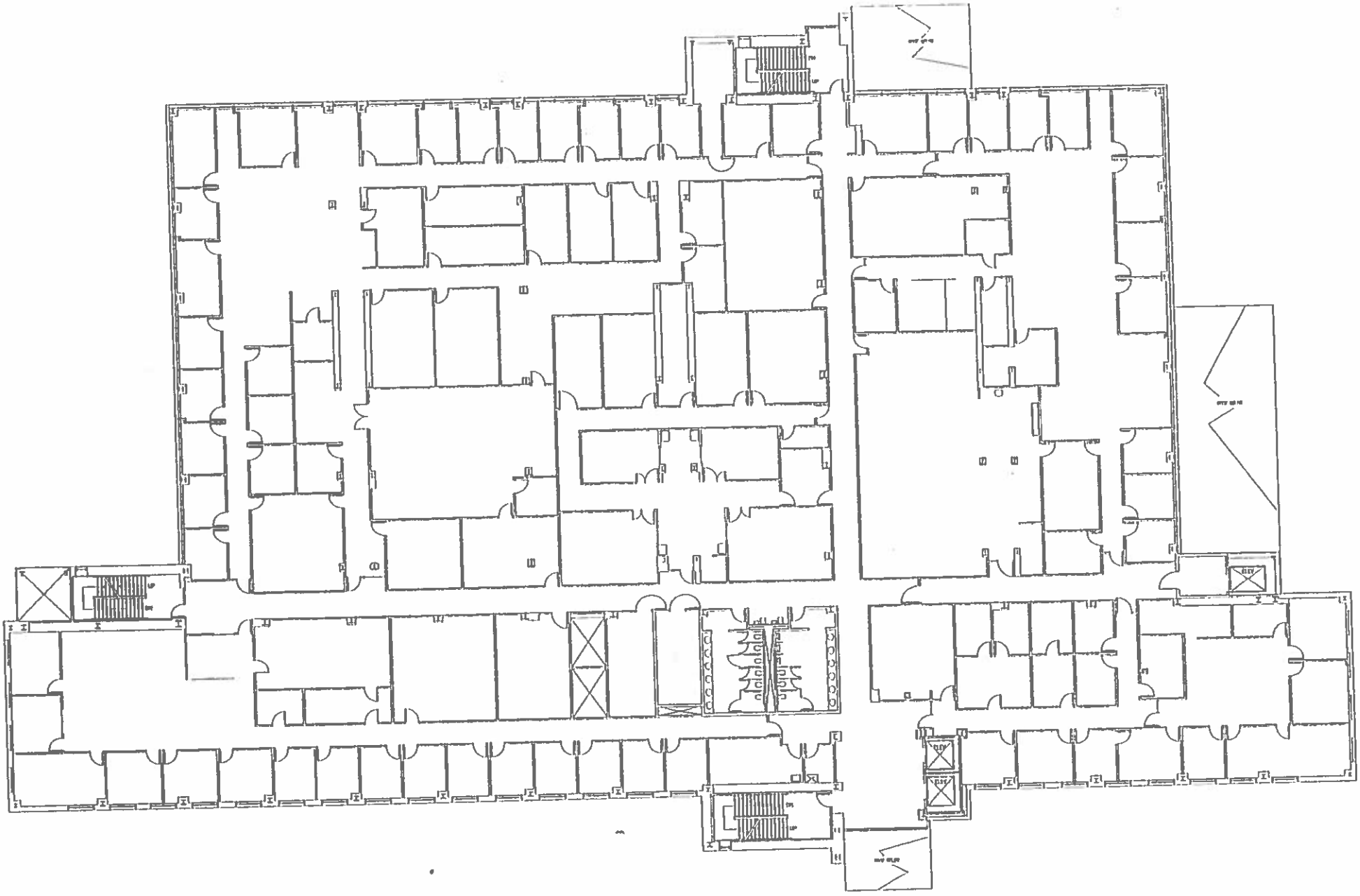
5th Floor



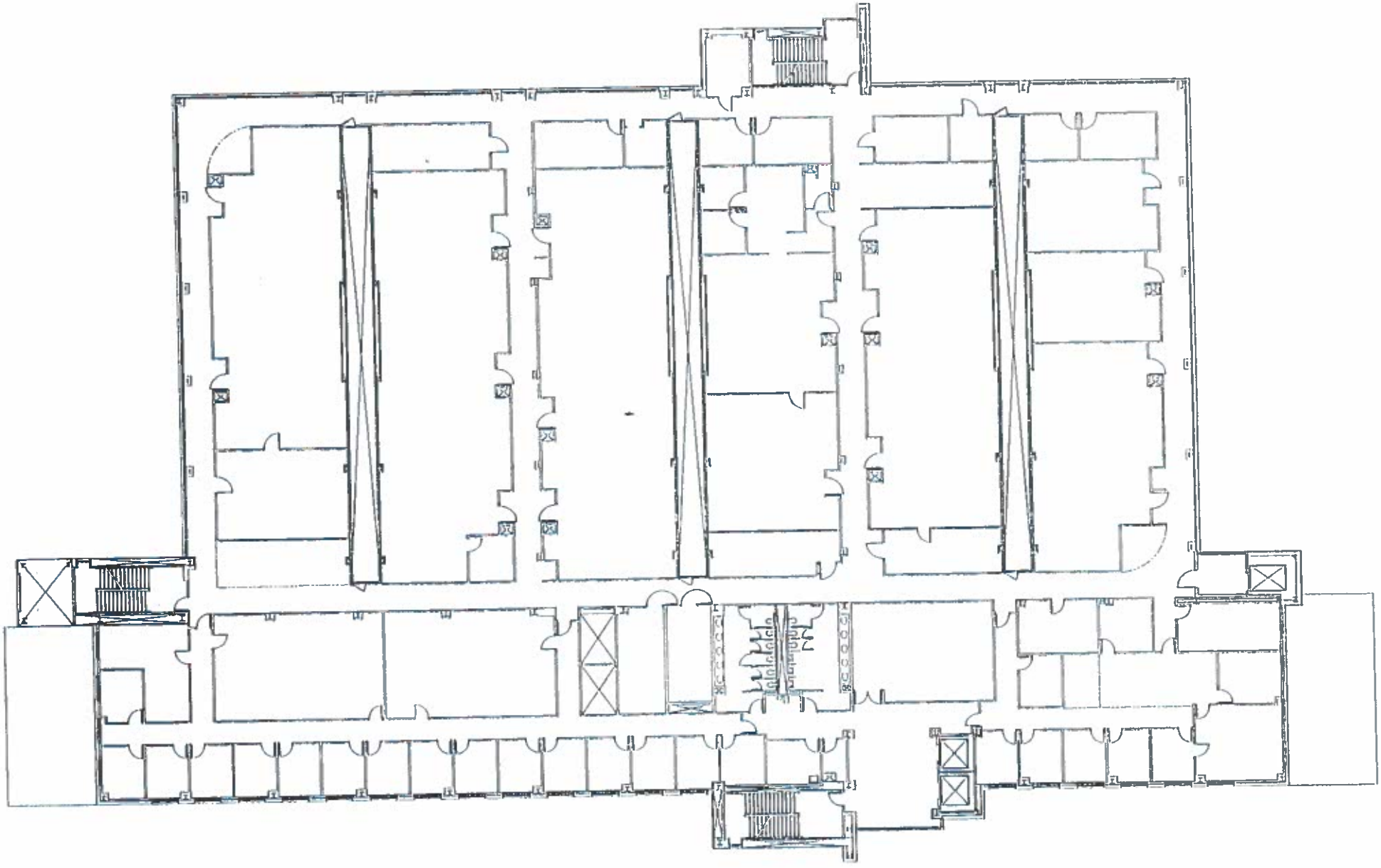
PHARMACY & HEALTH SCIENCES
BUILDING 1603
BASEMENT FLOOR



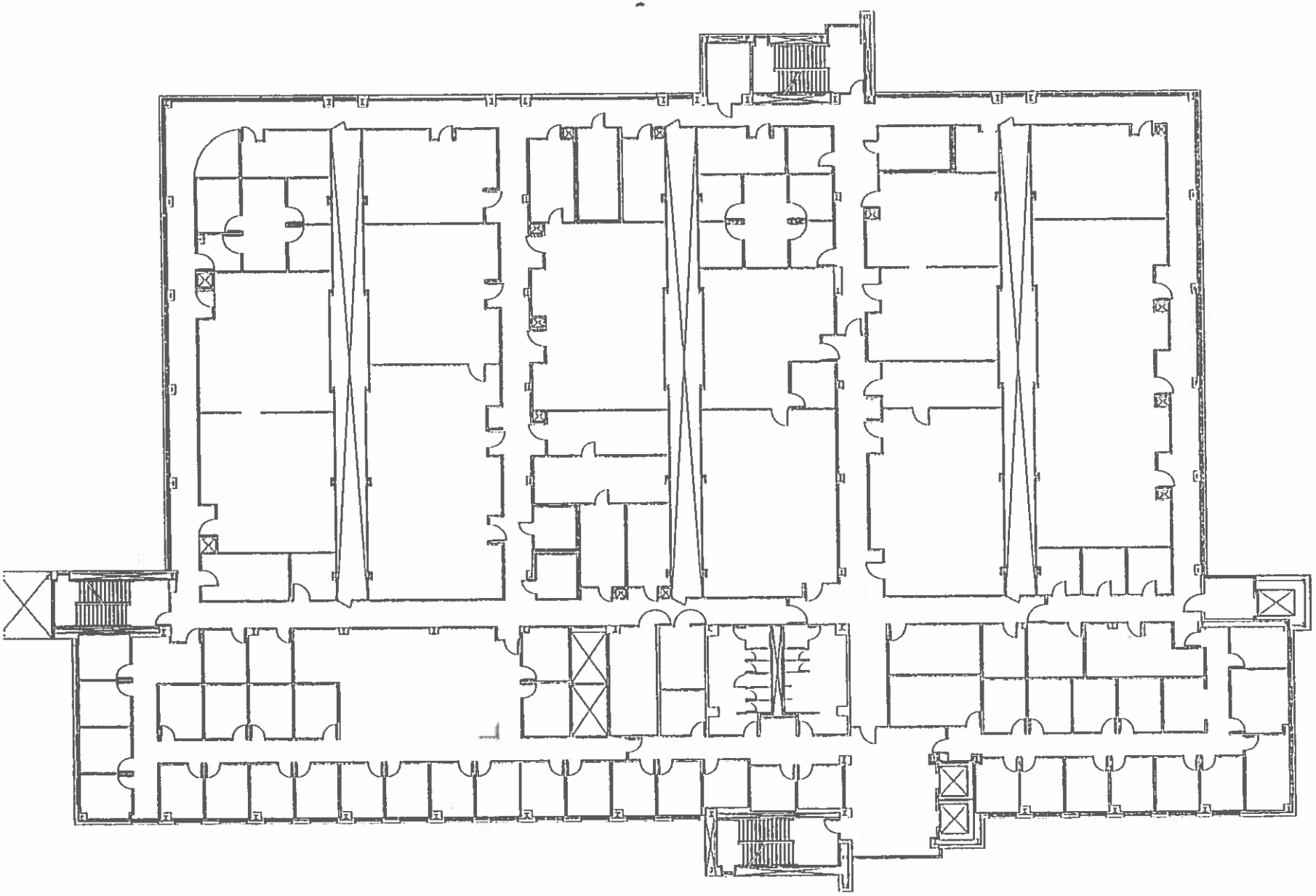
PHARMACY & HEALTH SCIENCES
BUILDING #603
FIRST FLOOR



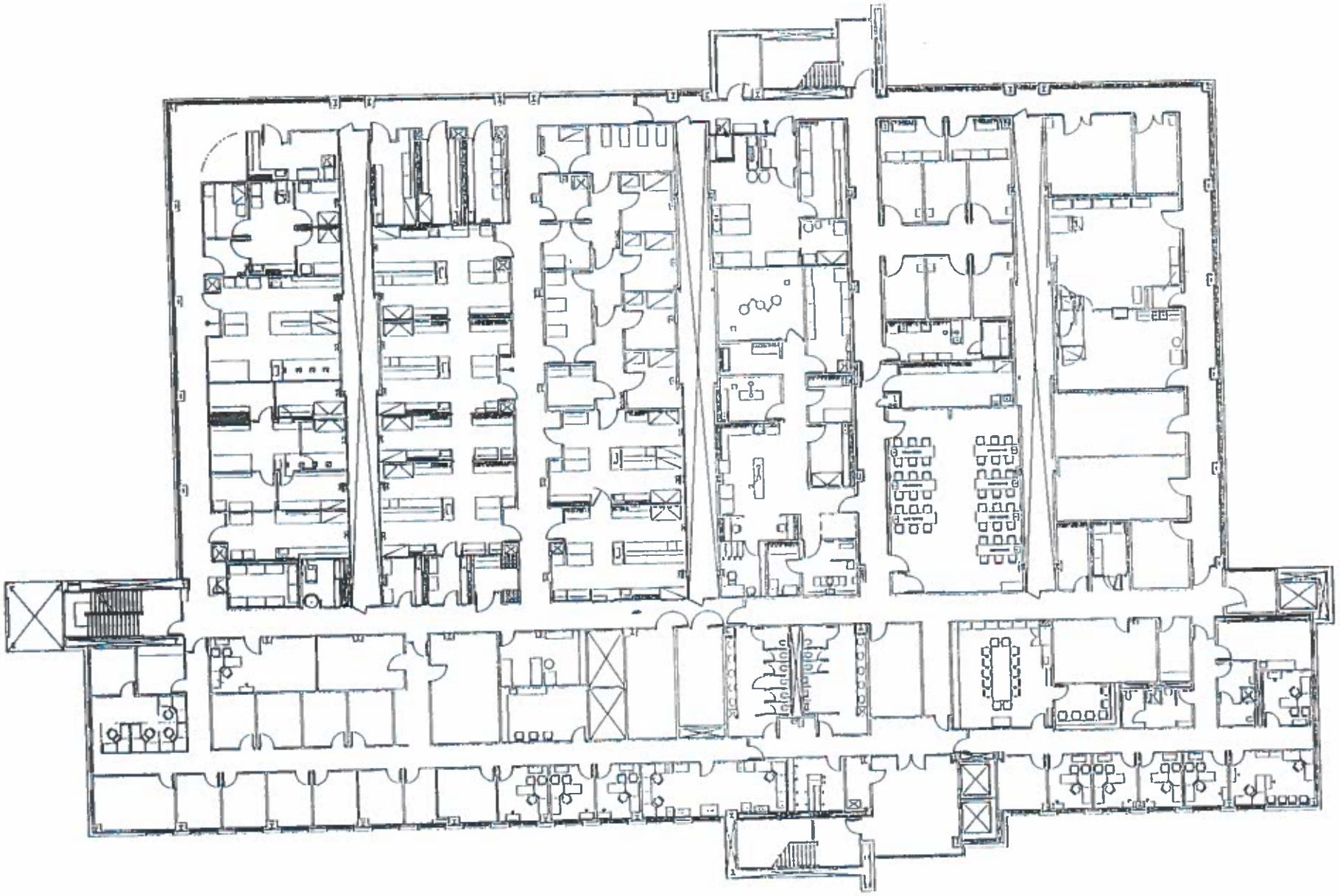
PHARMACY & HEALTH SCIENCES
BUILDING #603
SECOND FLOOR



PHARMACY & HEALTH SCIENCES
BUILDING #603
THIRD FLOOR

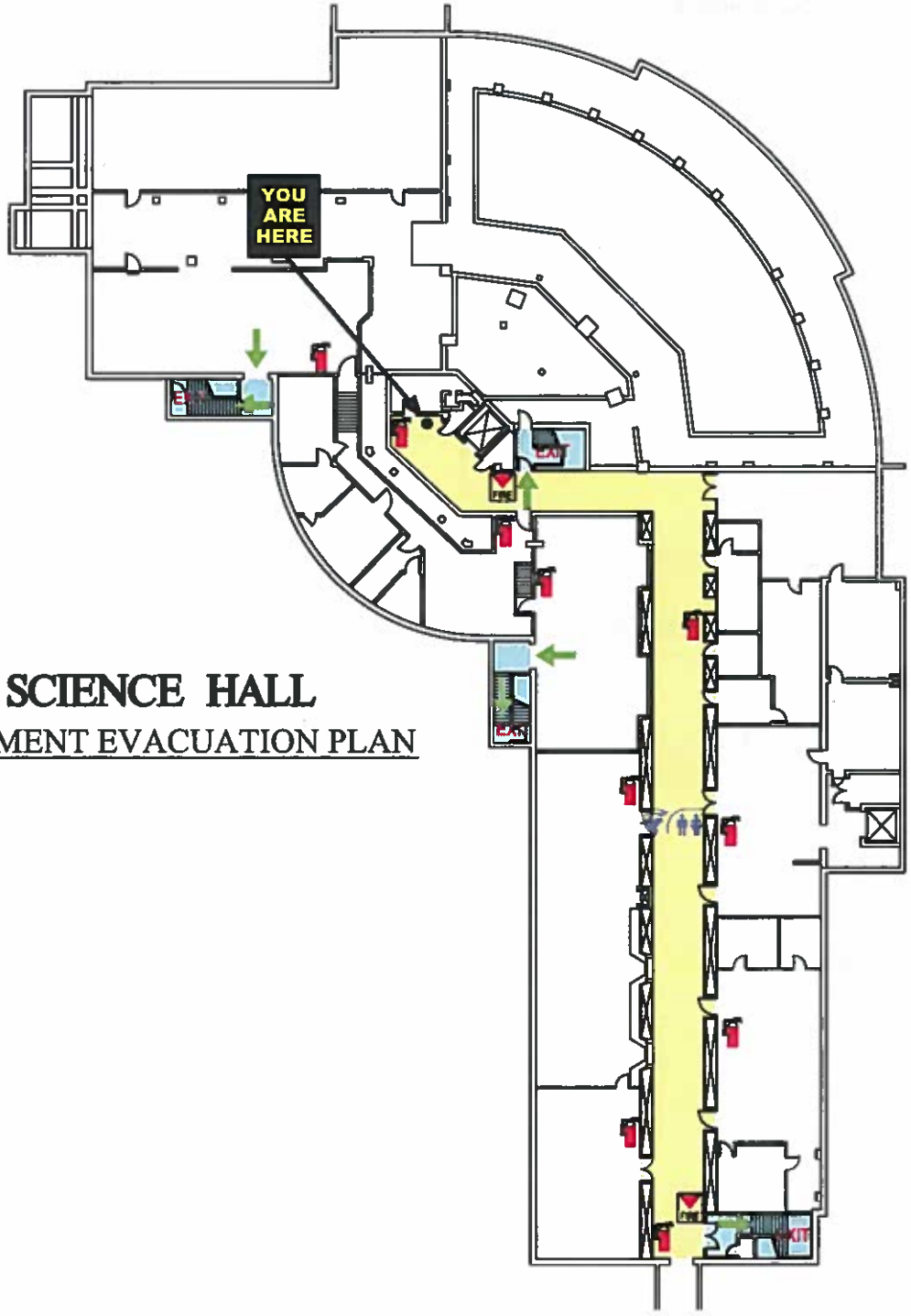


PHARMACY & HEALTH SCIENCES
BUILDING #603
FOURTH FLOOR



PHARMACY & HEALTH SCIENCES
BUILDING #603
FIFTH FLOOR

Evacuation Routes for Science Hall
5045 Cass
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor



SCIENCE HALL

BASEMENT EVACUATION PLAN

NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

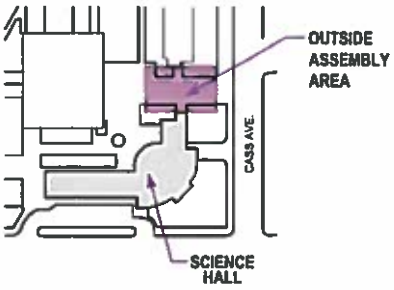
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, OR RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

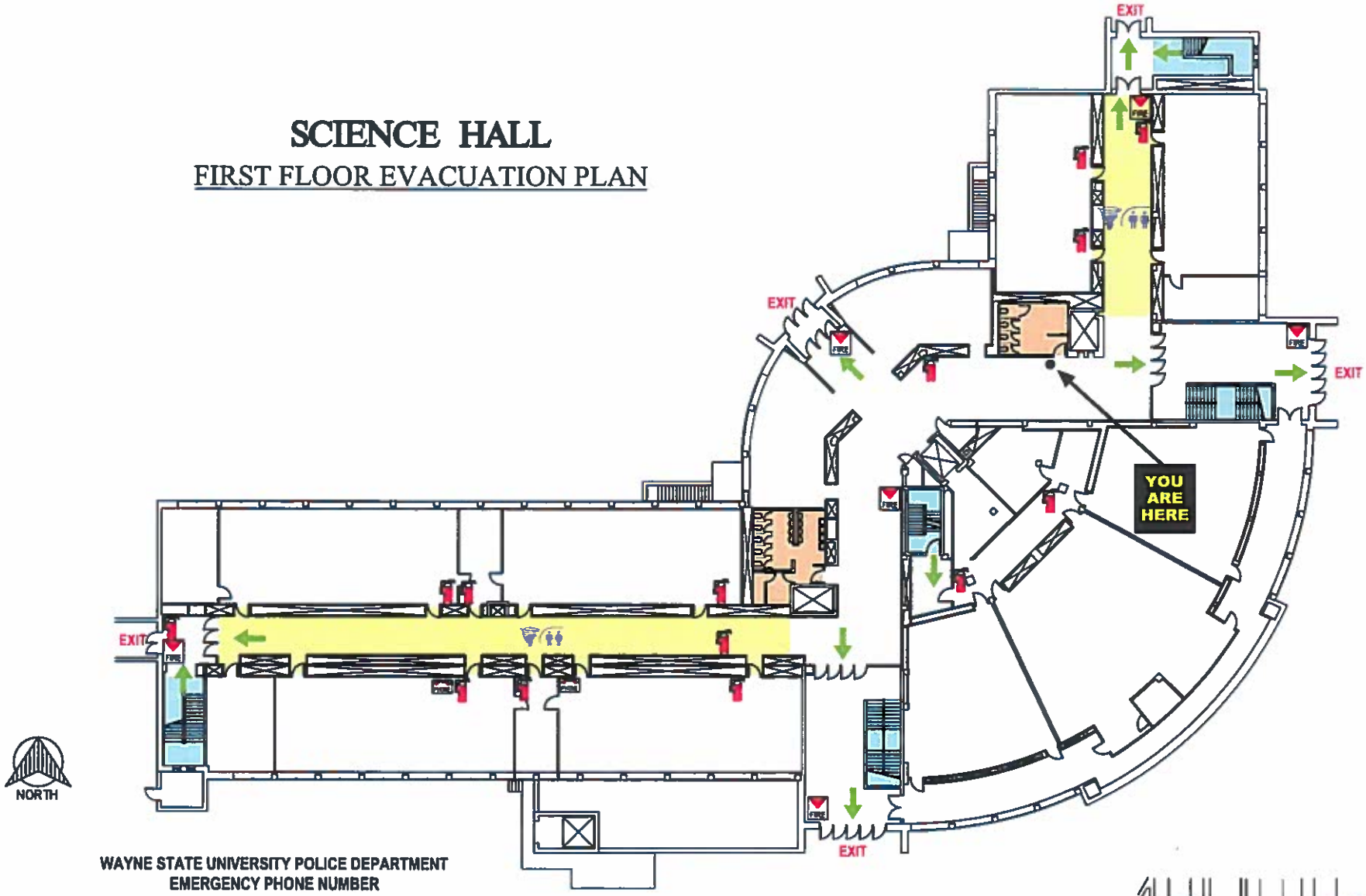


NORTH

LOCATION MAP

SCIENCE HALL

FIRST FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

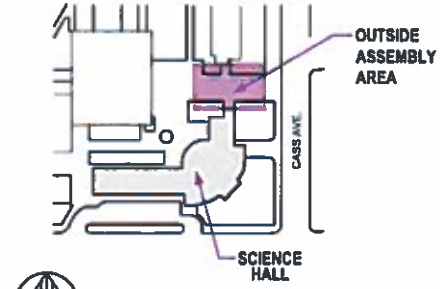
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

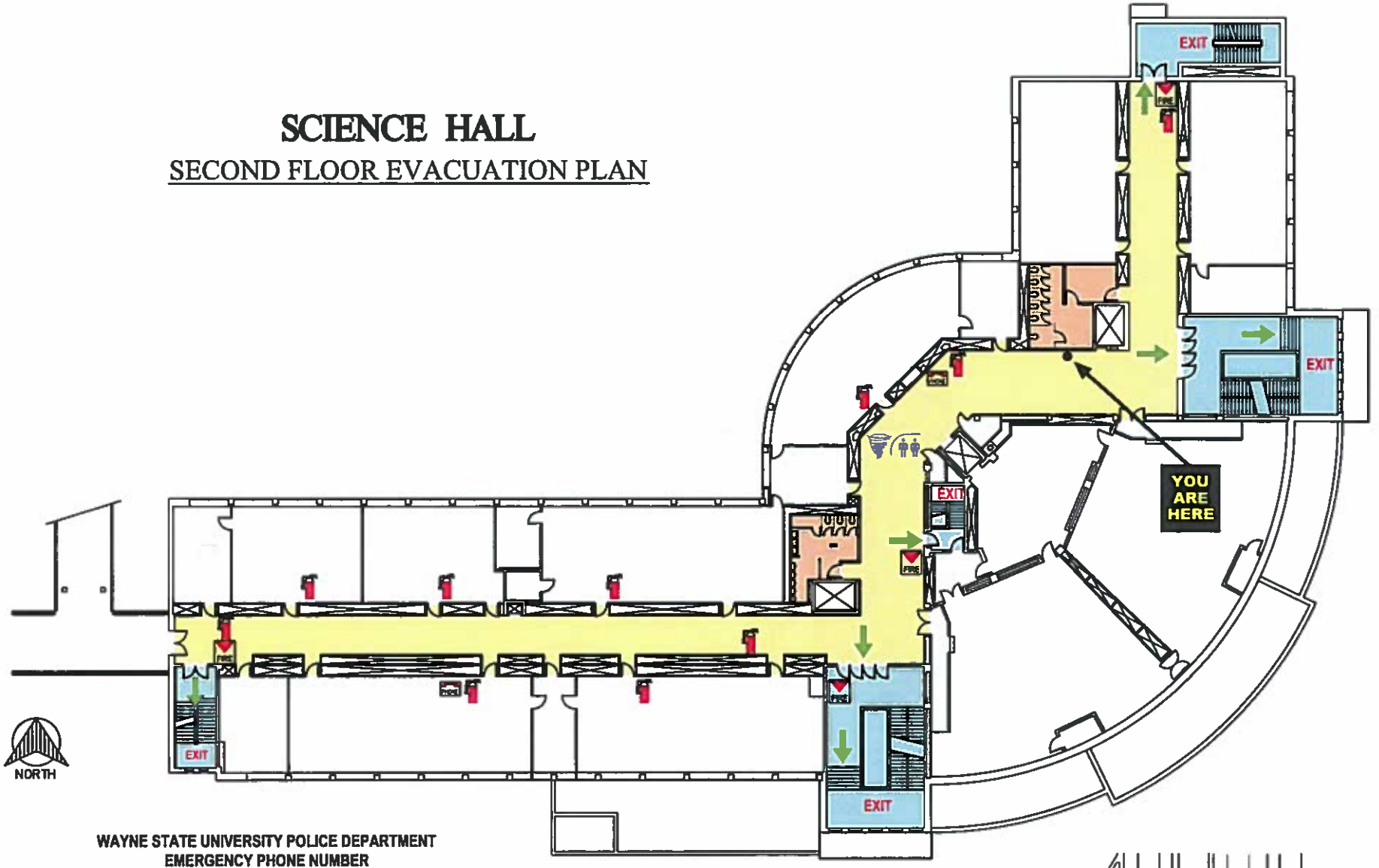
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

SCIENCE HALL

SECOND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

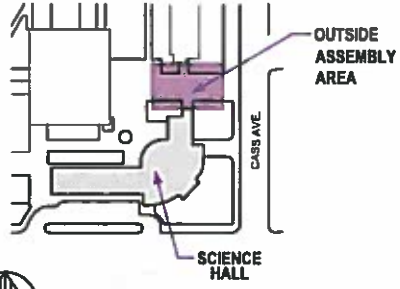
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

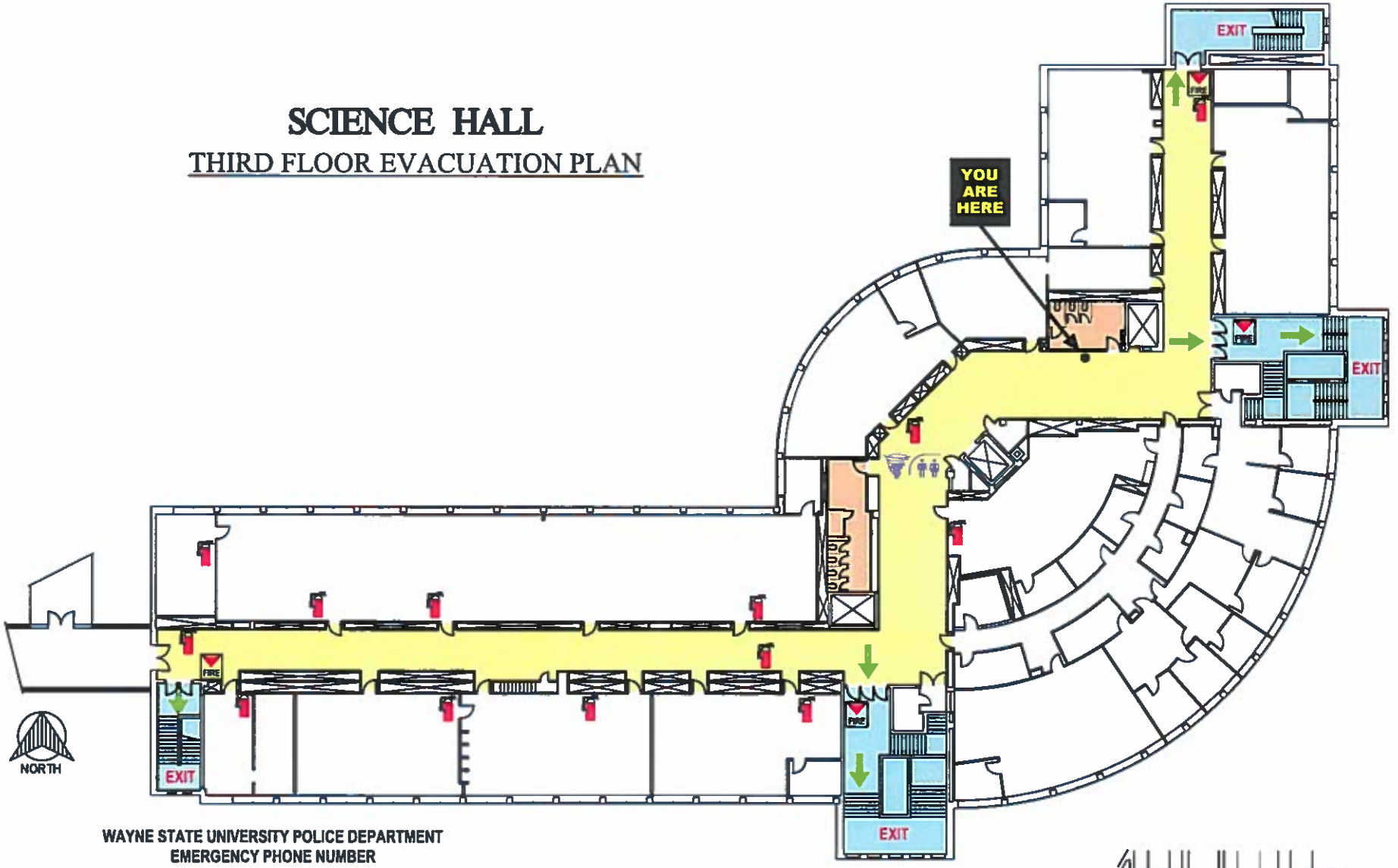
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

SCIENCE HALL

THIRD FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

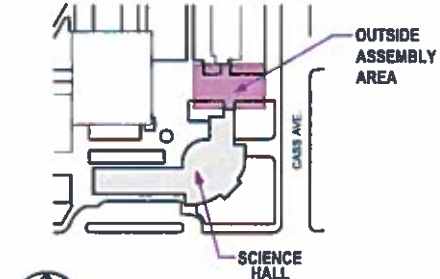
EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

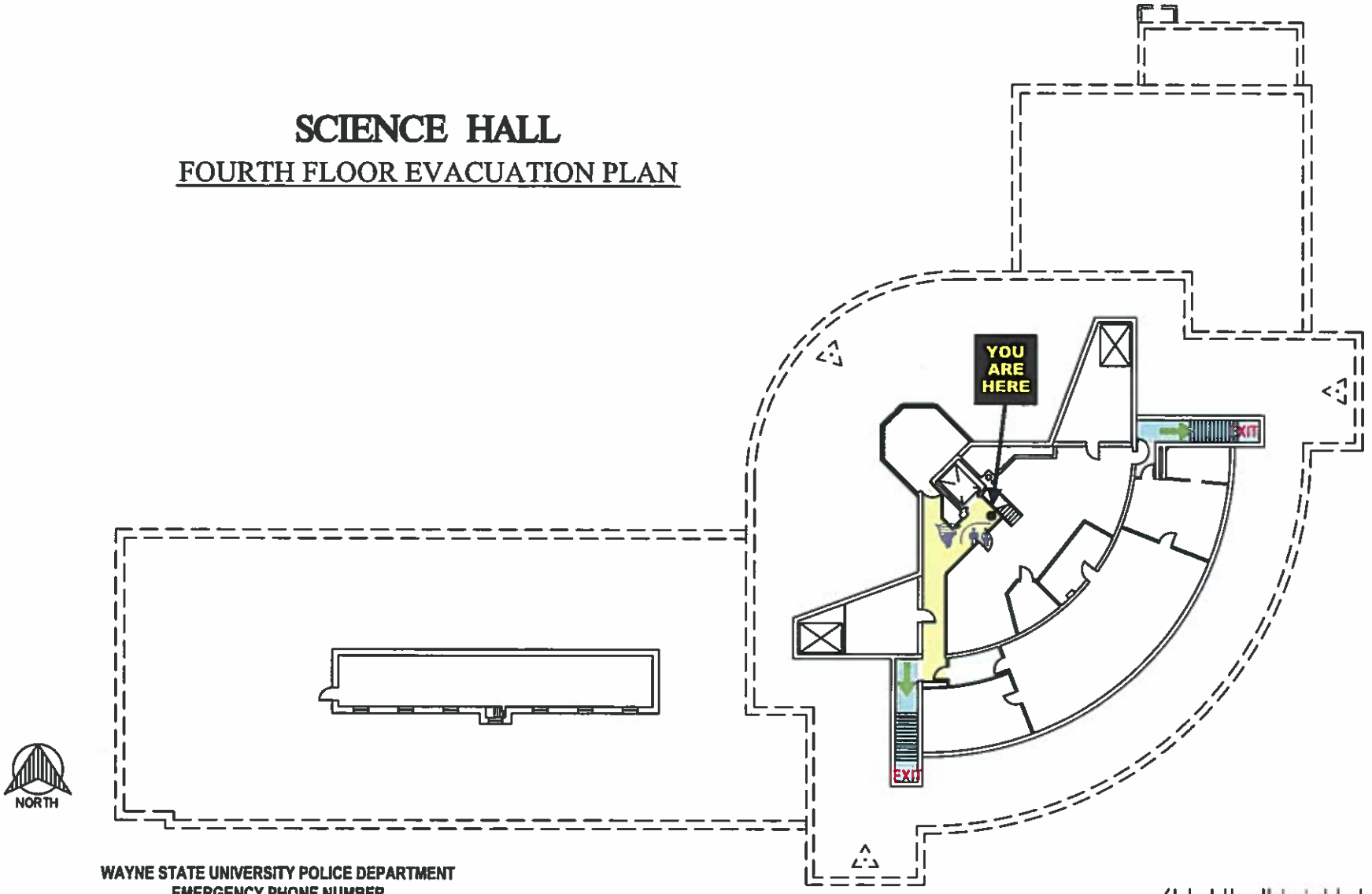
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.



LOCATION MAP

SCIENCE HALL

FOURTH FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO THE OUTSIDE ASSEMBLY AREA.

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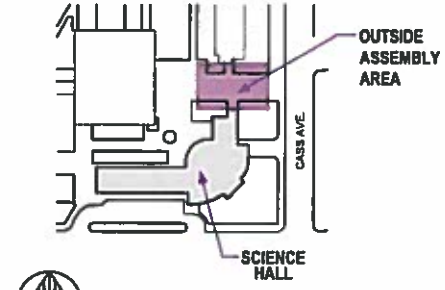
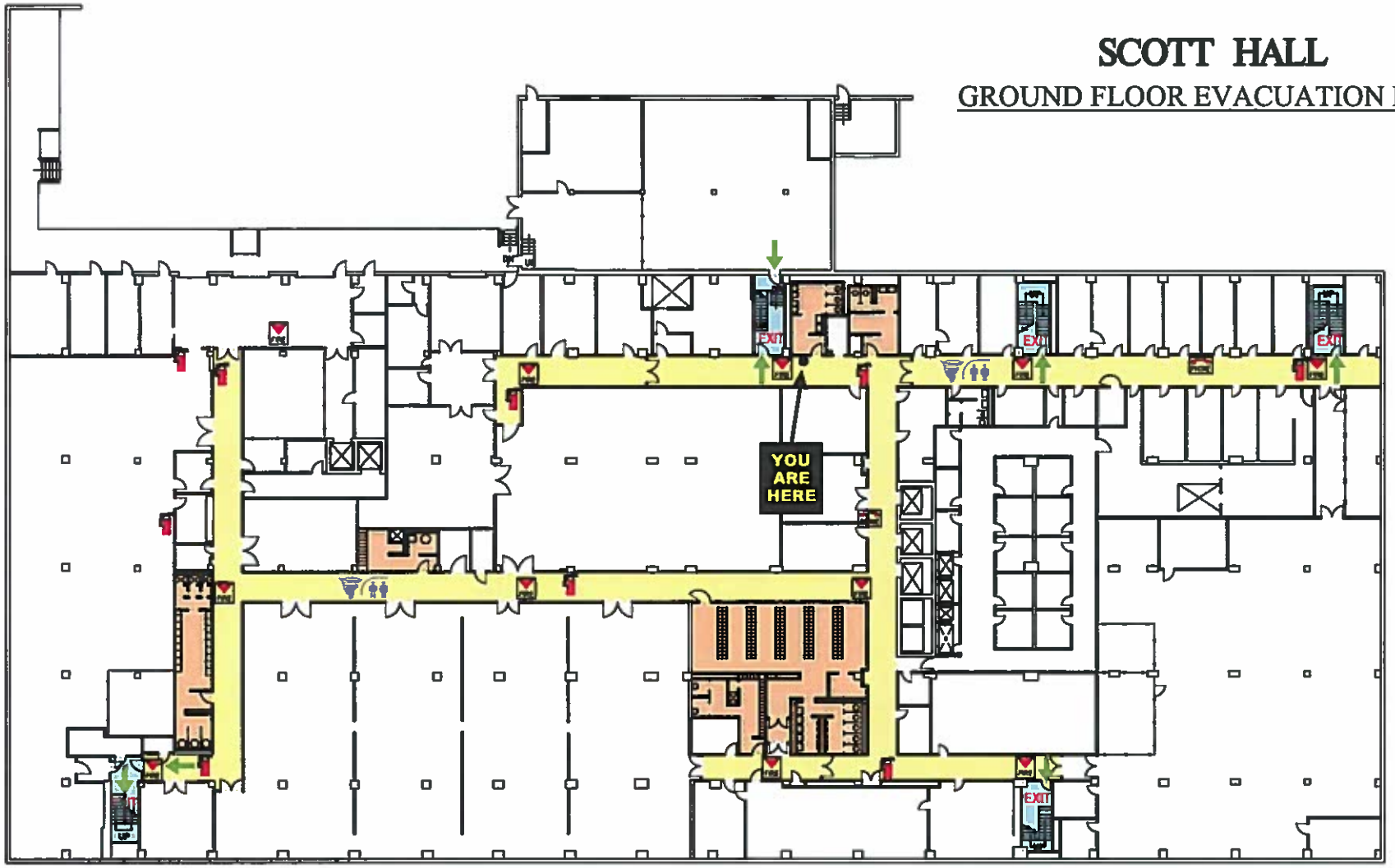


LOCATION MAP

Evacuation Routes for Gordon H. Scott Hall of Basic Medical Science
540 E. Canfield
Ground Floor
1st Floor
2nd Floor
3rd Floor
4th Floor
5th Floor
6th Floor
7th Floor
8th Floor
9th Floor

SCOTT HALL

GROUND FLOOR EVACUATION PLAN



WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
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- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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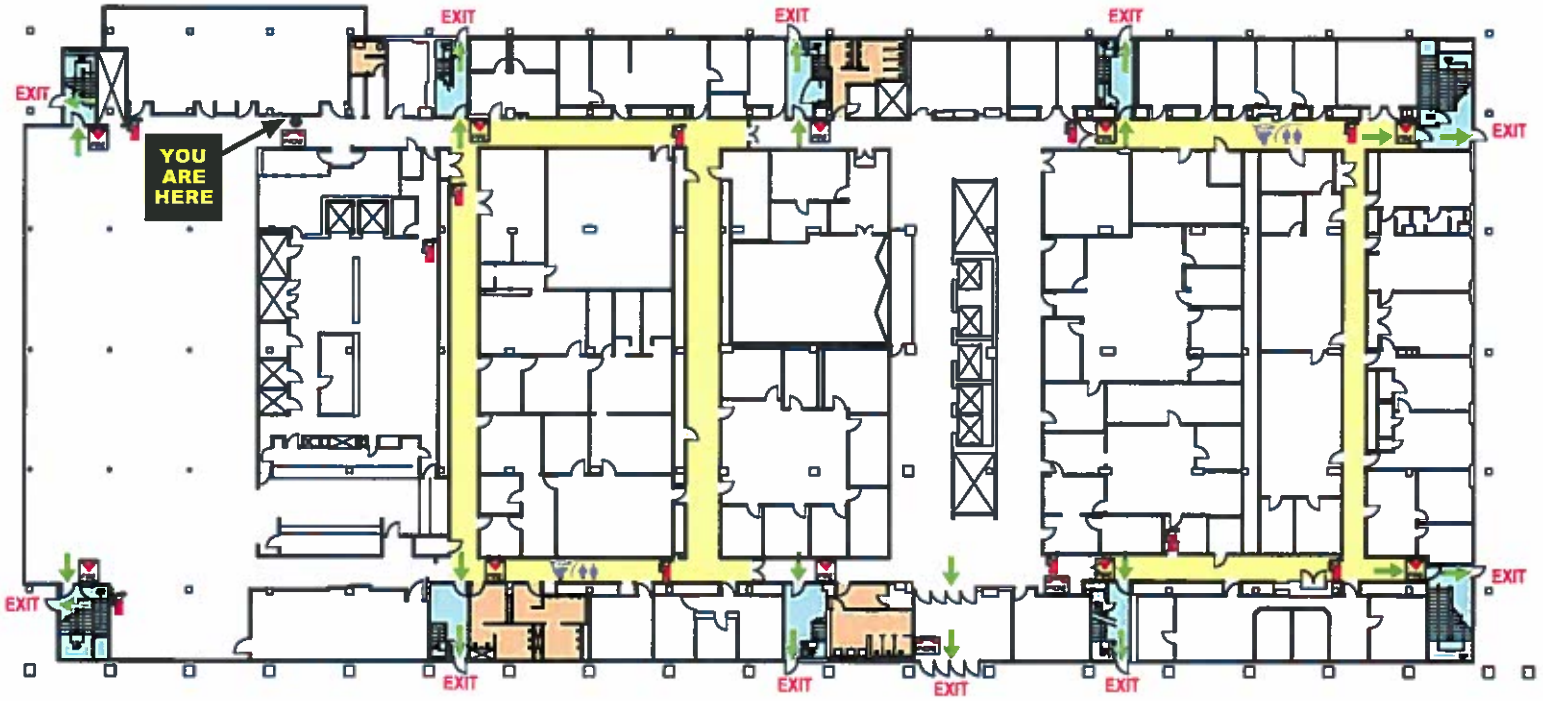
LOCATION MAP

SCOTT HALL

FIRST FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL LOCATIONS. → EXIT

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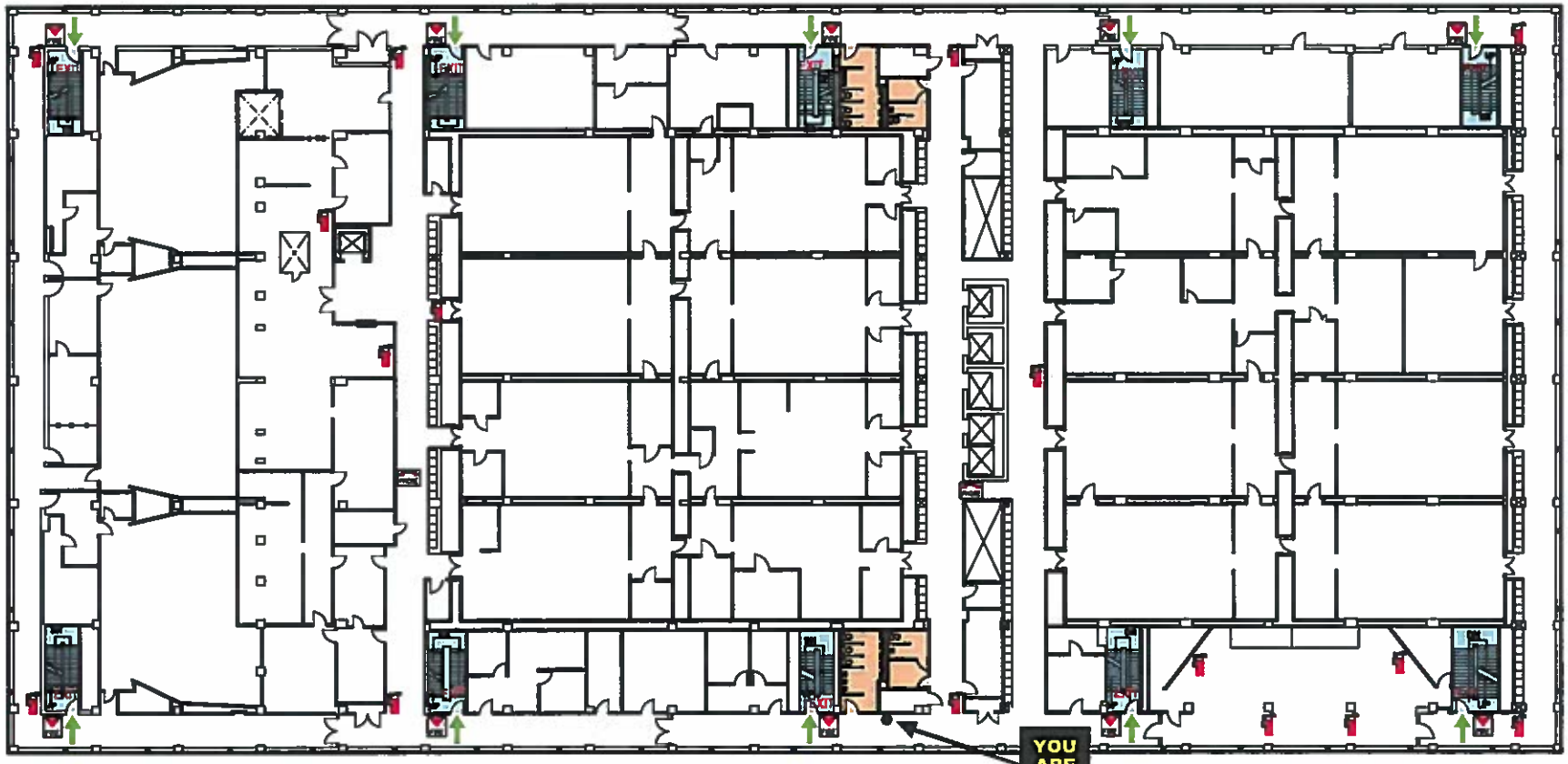
NORTH

LOCATION MAP

SCOTT HALL

SECOND FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
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- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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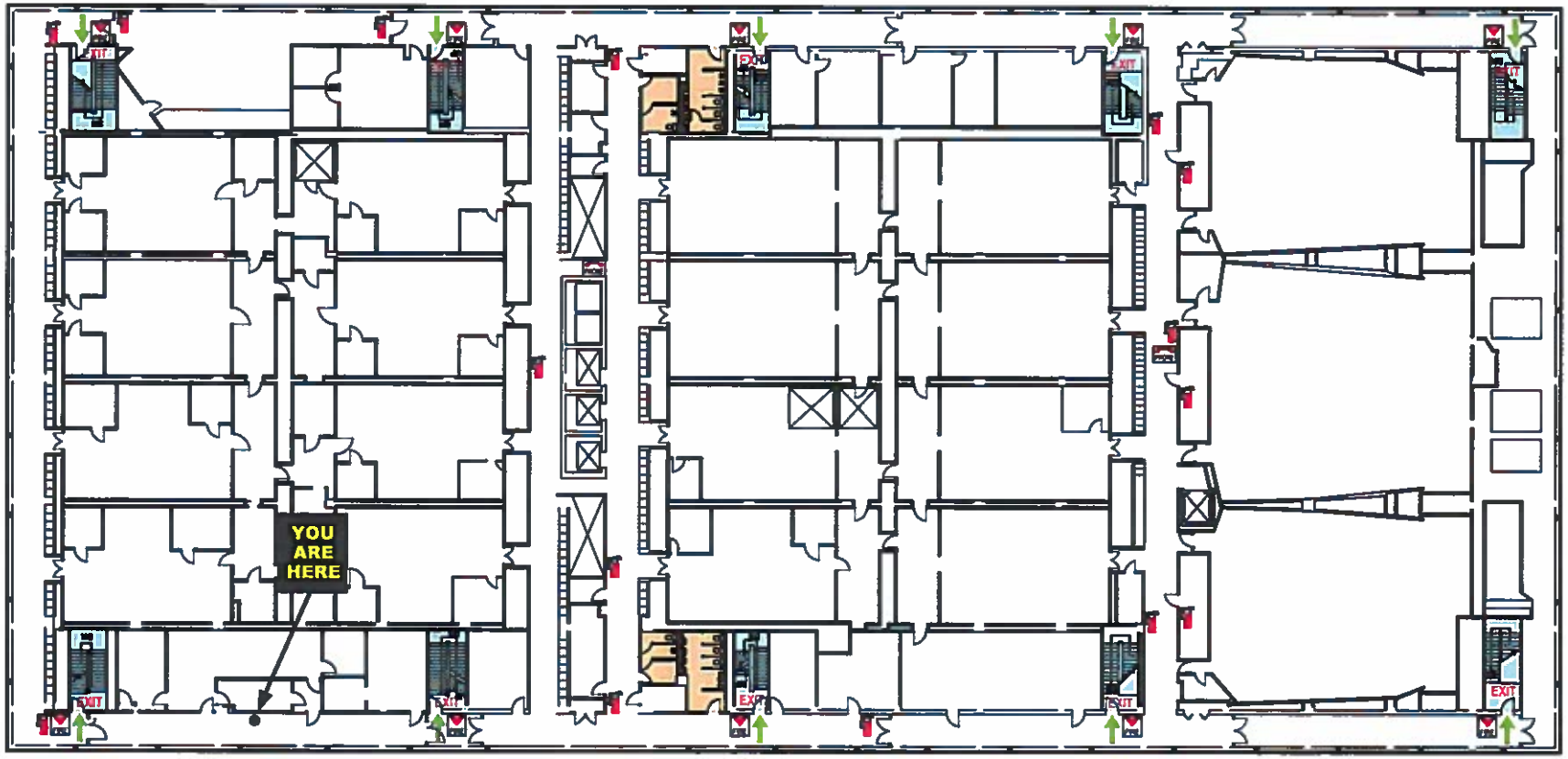
NORTH

LOCATION MAP

SCOTT HALL

THIRD FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

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  EXIT AT FIRST FLOOR
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- FIRE EXTINGUISHER
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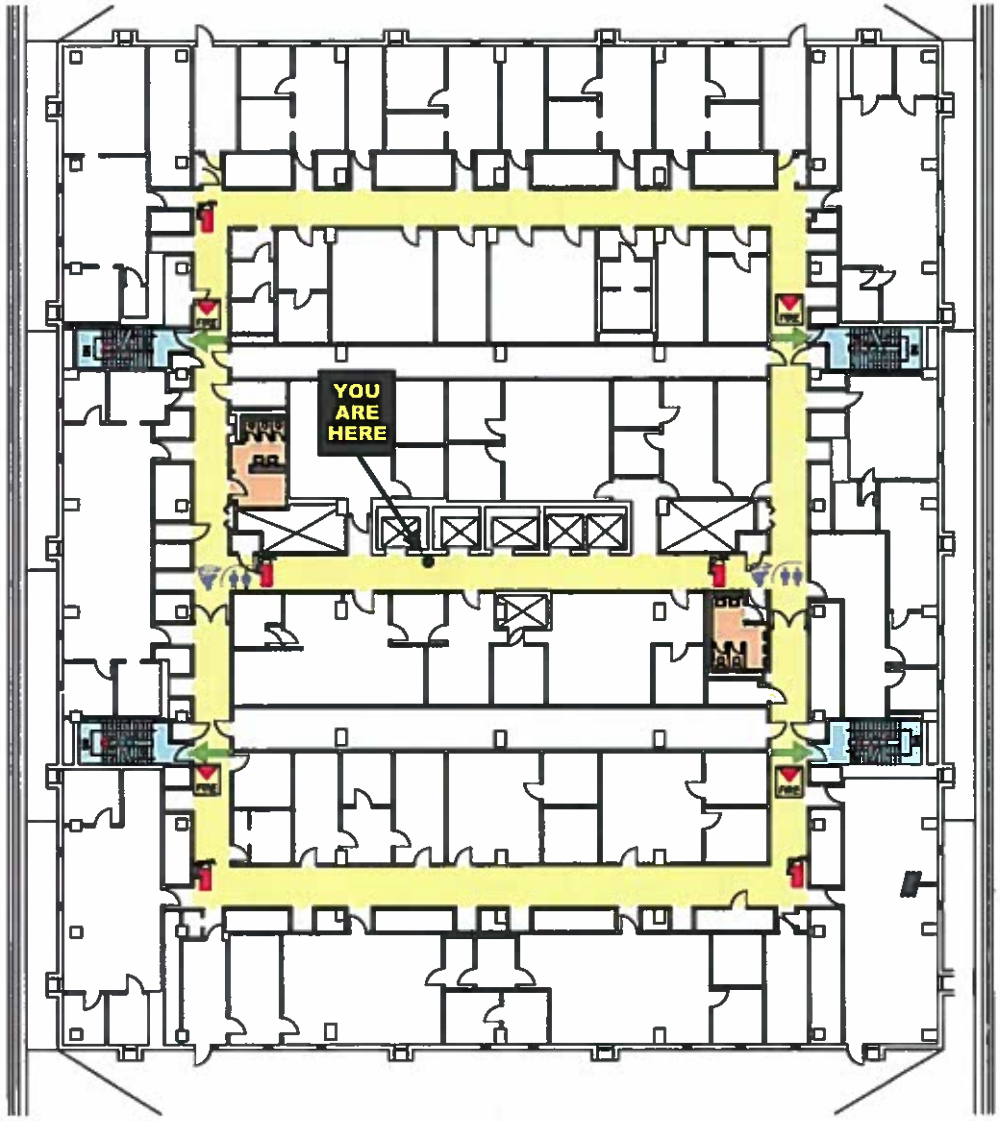
NORTH

LOCATION MAP

SCOTT HALL

FOURTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
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- STAIRWELL- AREA OF REFUGE
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- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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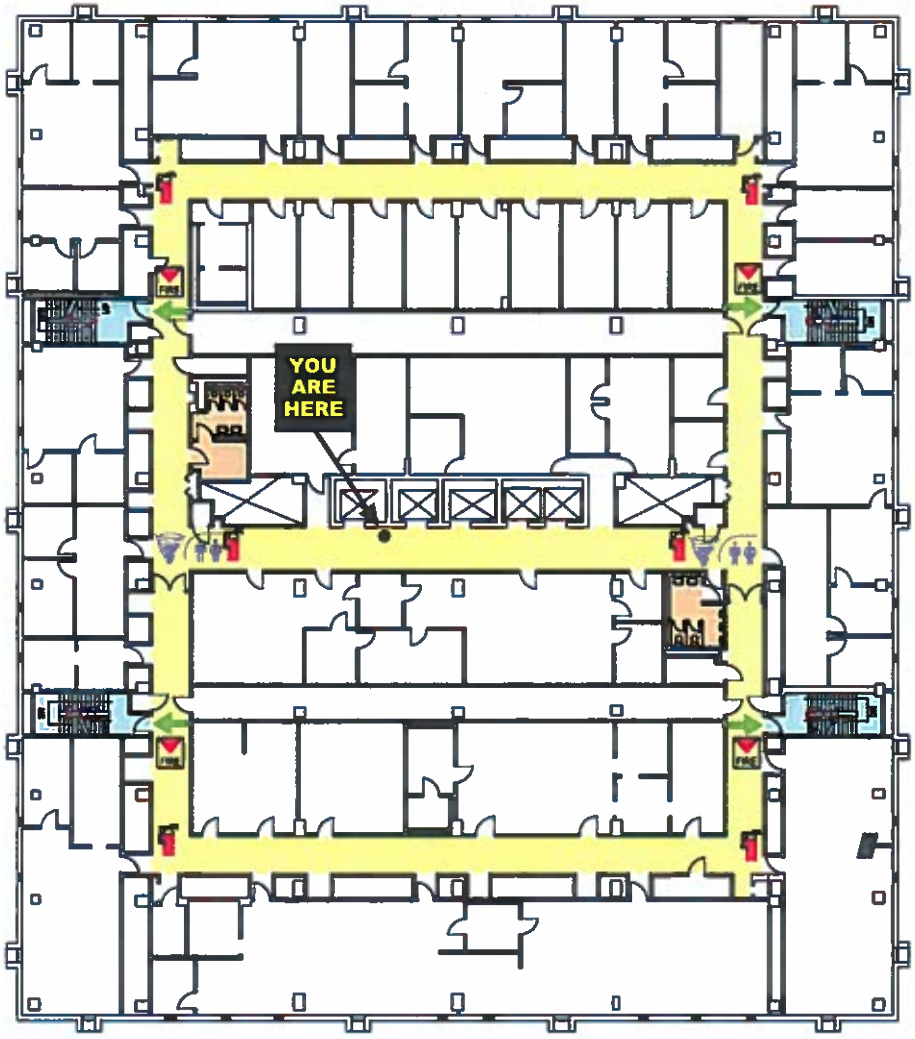
NORTH

LOCATION MAP

SCOTT HALL

FIFTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
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- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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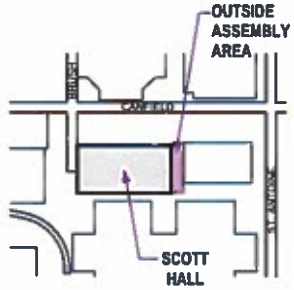
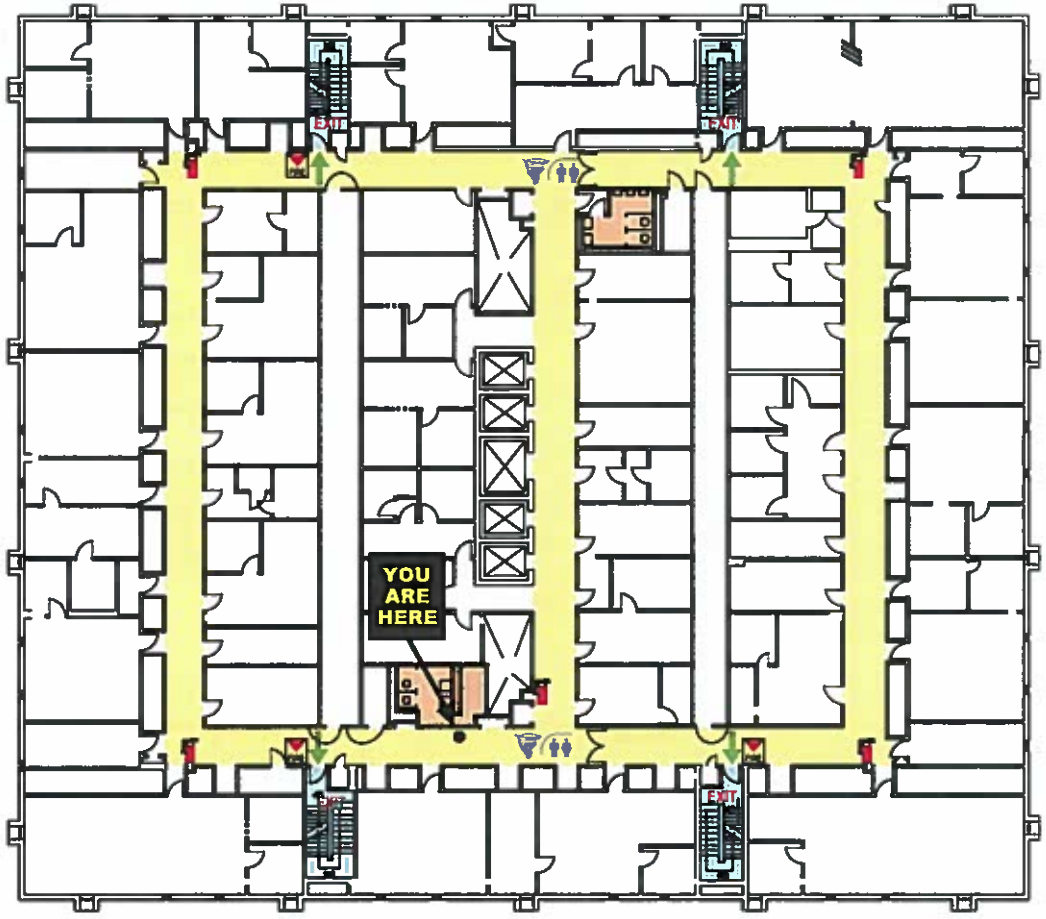


NORTH

LOCATION MAP

SCOTT HALL

SIXTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

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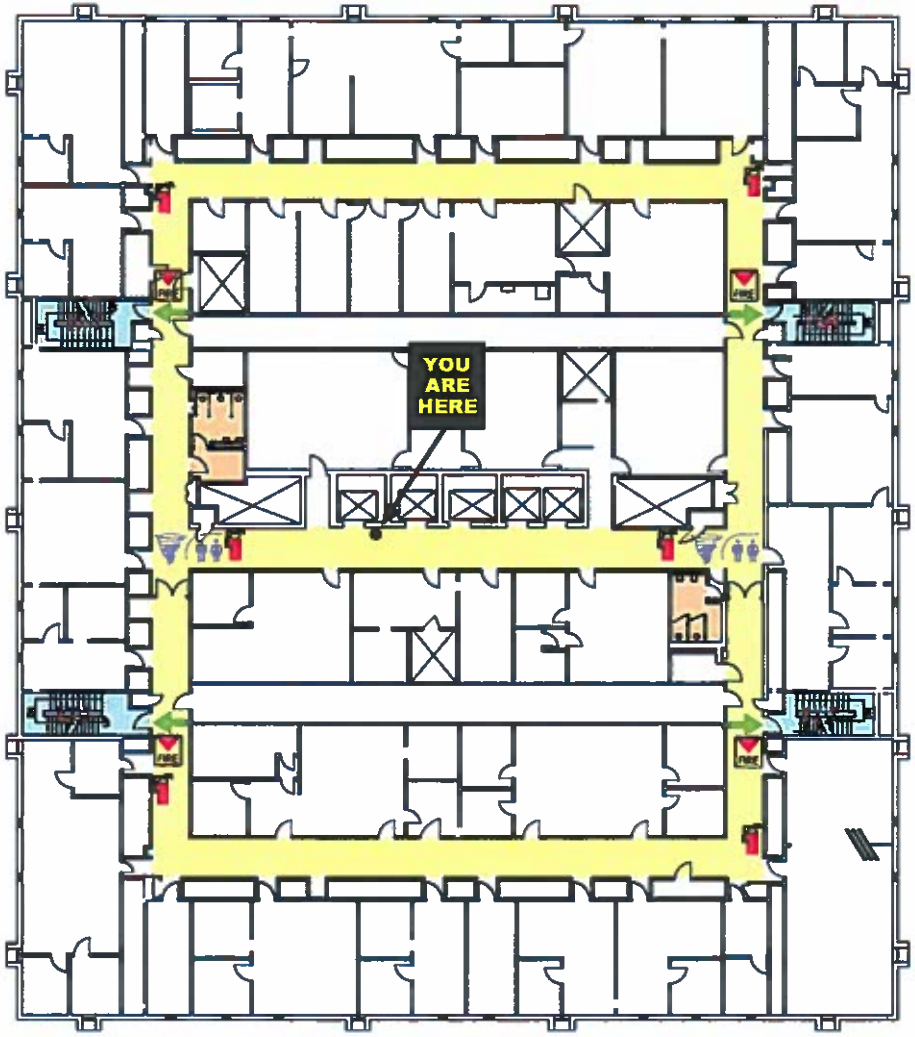
NORTH

LOCATION MAP

SCOTT HALL

SEVENTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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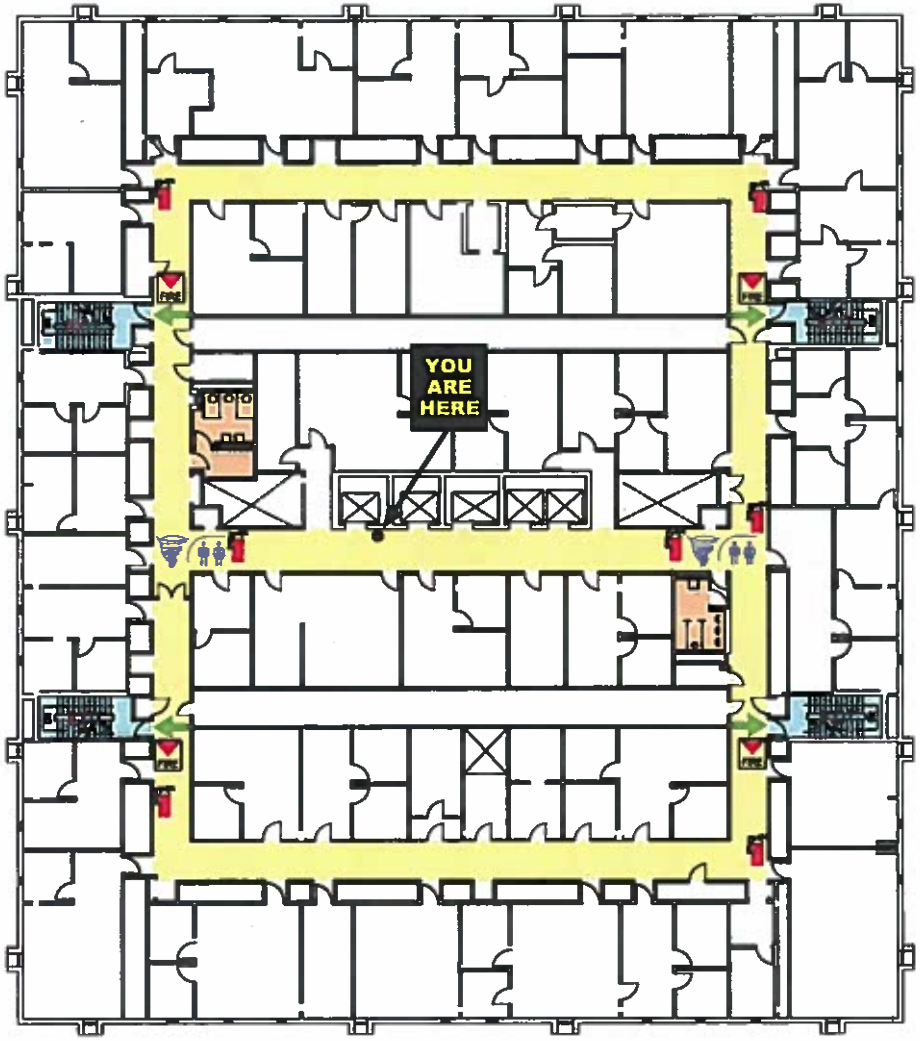
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA, RESTROOM OR BASEMENT AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

NORTH

LOCATION MAP

SCOTT HALL

EIGHTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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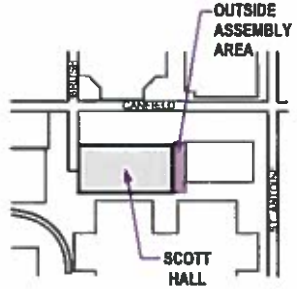
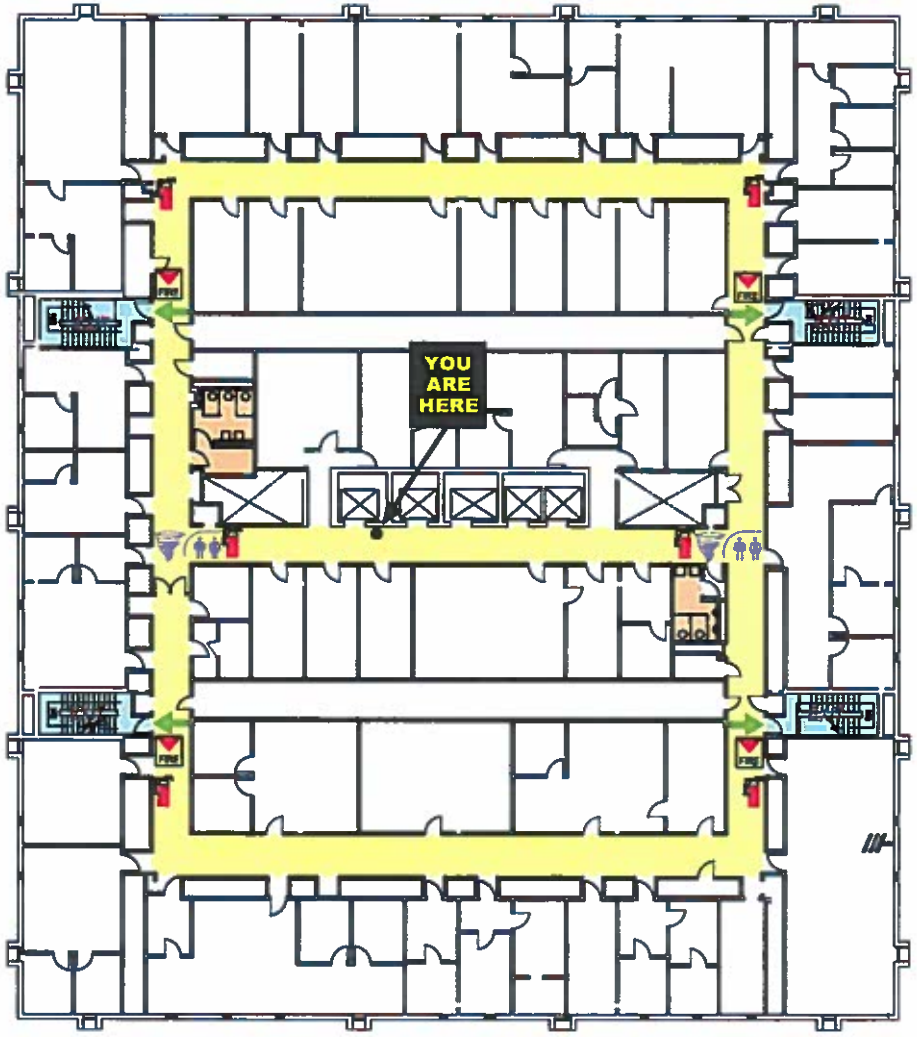


NORTH

LOCATION MAP

SCOTT HALL

NINTH FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO STAIRWELL EXIT
  EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

EMERGENCY GUIDELINES

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NORTH

LOCATION MAP

Evacuation Routes for Integrative Biosciences Center
6135 Woodward Avenue
Basement
1st Floor
2nd Floor
3rd Floor

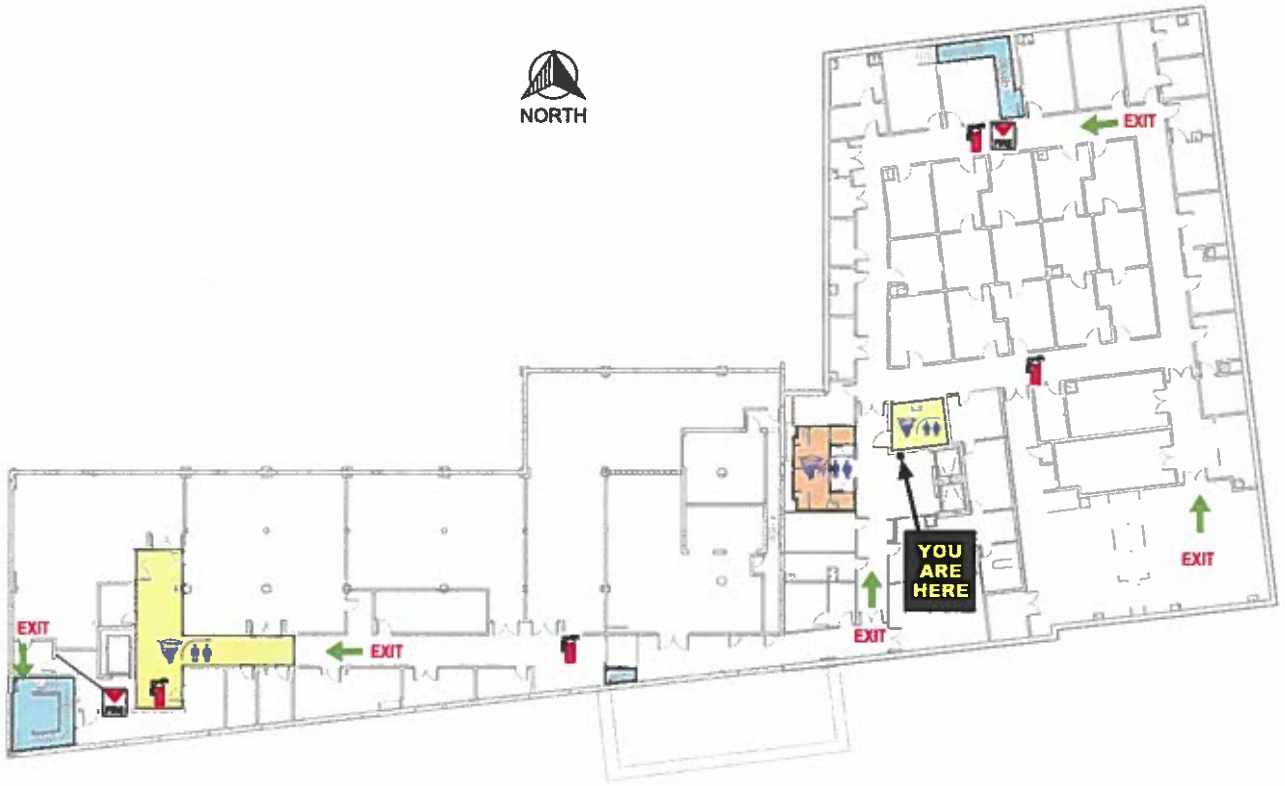
IBio RESEARCH BUILDING

BASEMENT FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT

EMERGENCY PHONE NUMBER
313-577-2222

WSU PD DISPATCH NON-EMERGENCY
313-577-6057



KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- EMERGENCY PHONE WSU CAMPUS BLUE LIGHT
- AUTOMATED EXTERNAL DEFIBRILLATOR UNIT (AED UNIT)
  Located on First Floor - Room 1209

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.

B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA.

C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS

D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA , OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

IBio RESEARCH BUILDING

FIRST FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT

EMERGENCY PHONE NUMBER
313-577-2222
WSU PD DISPATCH NON-EMERGENCY
313-577-6057

KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE WSU CAMPUS BLUE LIGHT
- AED — AUTOMATED EXTERNAL DEFIBRILLATOR UNIT (AED UNIT)
  Located on First Floor - Room 1209

EMERGENCY GUIDELINES

A. FAMILIARIZE YOURSELF WITH ALL → EXIT LOCATIONS.
B. EVACUATE THE BUILDING WHEN THE FIRE ALARM IS ACTIVATED AND PROCEED TO OUTSIDE ASSEMBLY AREA.
C. IN CASE OF FIRE, DO NOT USE THE ELEVATORS
D. IN THE EVENT OF SEVERE WEATHER WARNING, PROCEED TO A DESIGNATED TORNADO SHELTER AREA , OR TO NEAREST RESTROOM AS NECESSARY OR INSTRUCTED TO DO SO BY MANAGEMENT.

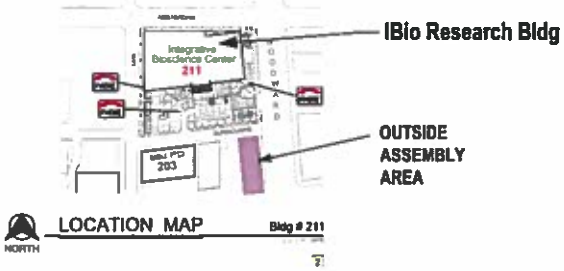
IBio RESEARCH BUILDING

SECOND FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT

EMERGENCY PHONE NUMBER
313-577-2222

WSU PD DISPATCH NON-EMERGENCY
313-577-6057



KEY

- TO STAIRWELL EXIT, THEN EXIT AT FIRST FLOOR
- TORNADO SHELTER AREA
- STAIRWELL - AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
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- FIRE EXTINGUISHER
- PHONE — EMERGENCY PHONE WSU CAMPUS BLUE LIGHT
- AED — AUTOMATED EXTERNAL DEFIBRILLATOR UNIT (AED UNIT)
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EMERGENCY GUIDELINES

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IBio RESEARCH BUILDING

THIRD FLOOR EVACUATION PLAN

WAYNE STATE UNIVERSITY
POLICE DEPARTMENT

EMERGENCY PHONE NUMBER
313-577-2222

WSU PD DISPATCH NON-EMERGENCY
313-577-6057

NORTH

KEY

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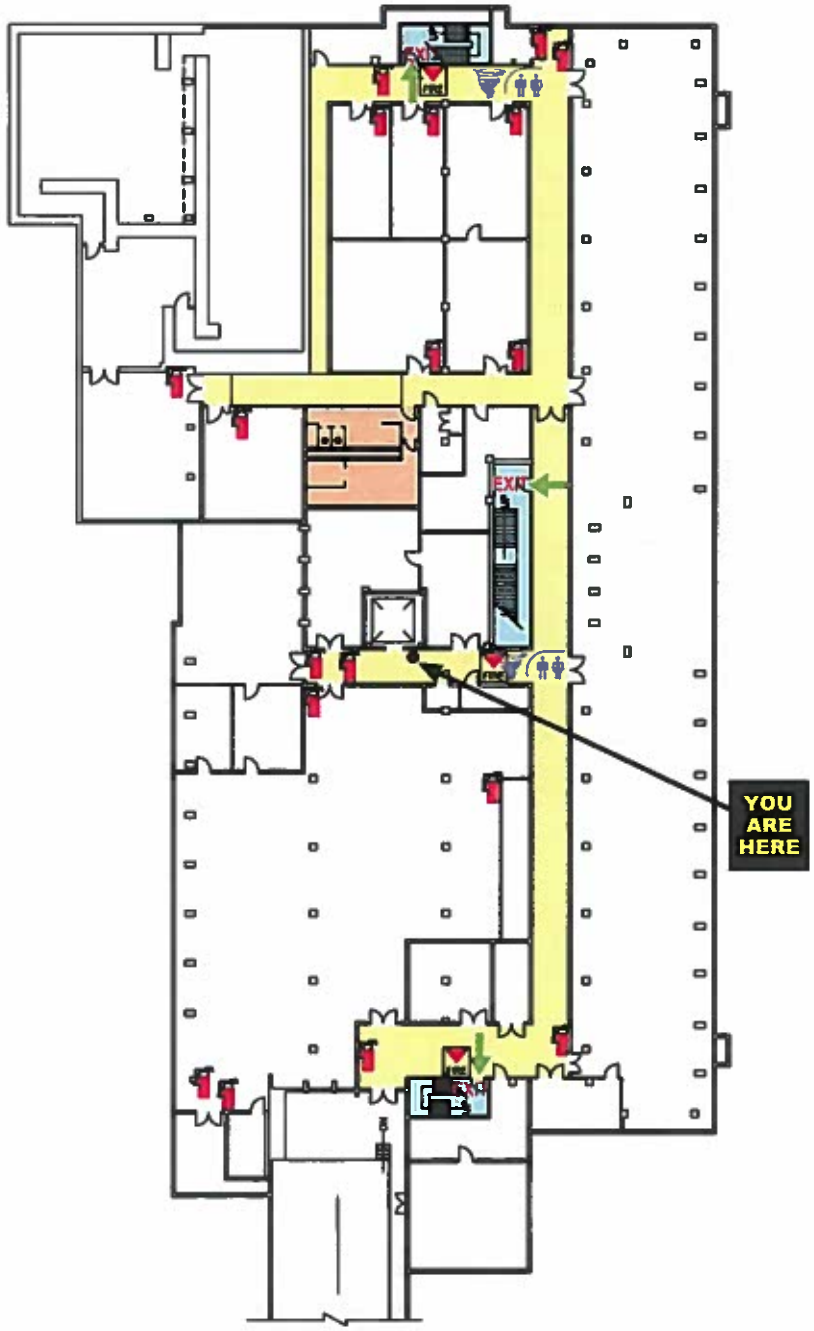
Evacuation Routes for Physics Building
666 West Hancock
Basement
1st Floor
2nd Floor
3rd Floor

PHYSICS BUILDING

BASEMENT EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

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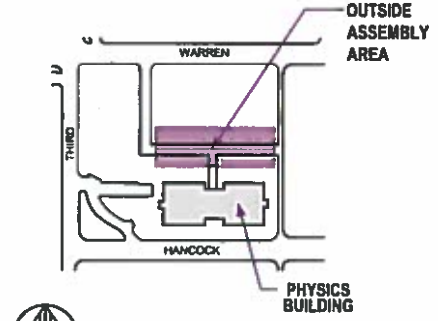
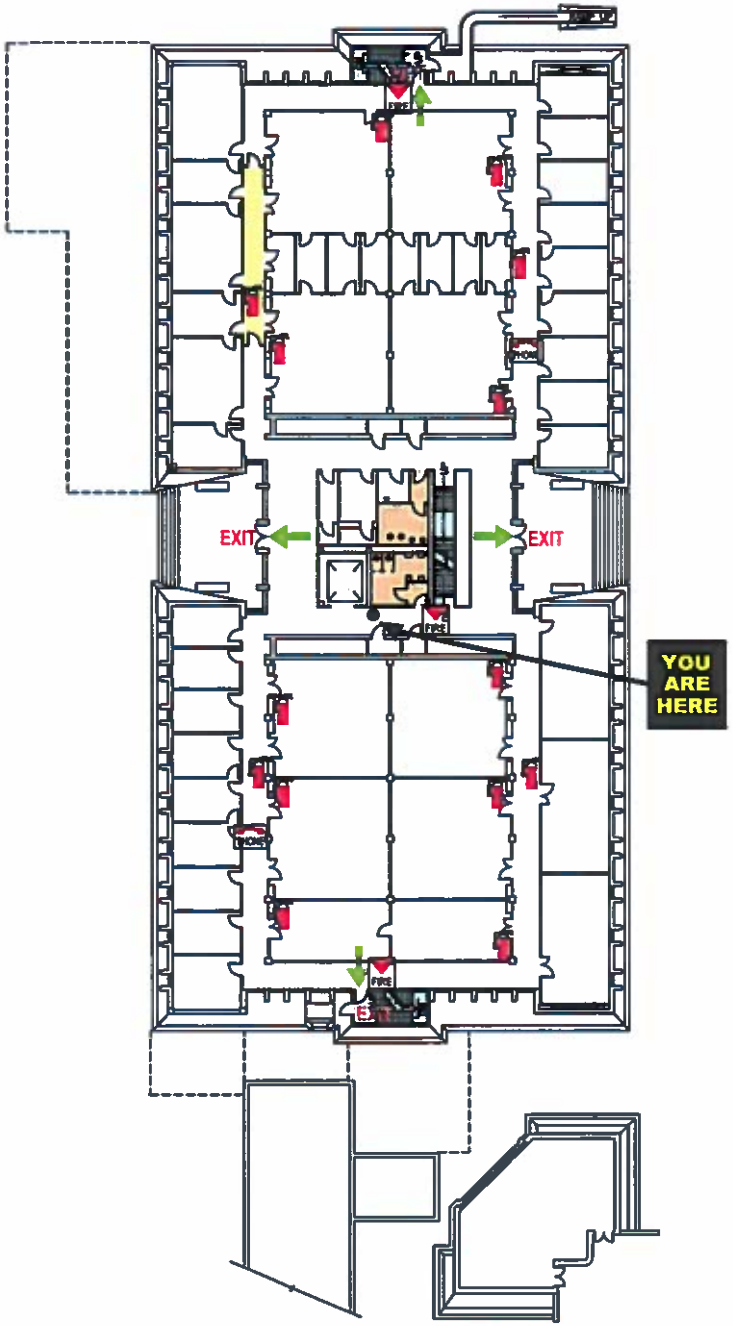


NORTH

LOCATION MAP

PHYSICS BUILDING

FIRST FLOOR EVACUATION PLAN



NORTH

WAYNE STATE UNIVERSITY POLICE DEPARTMENT
EMERGENCY PHONE NUMBER
577-2222

KEY

- TO OUTSIDE EXIT
- TORNADO SHELTER AREA
- STAIRWELL- AREA OF REFUGE
- OUTSIDE ASSEMBLY AREA
- REST ROOMS
- FIRE ALARM PULL BOX
- FIRE EXTINGUISHER
- CAMPUS PHONE

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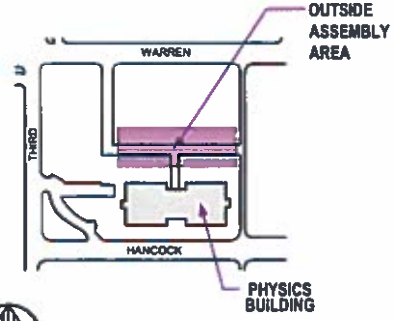

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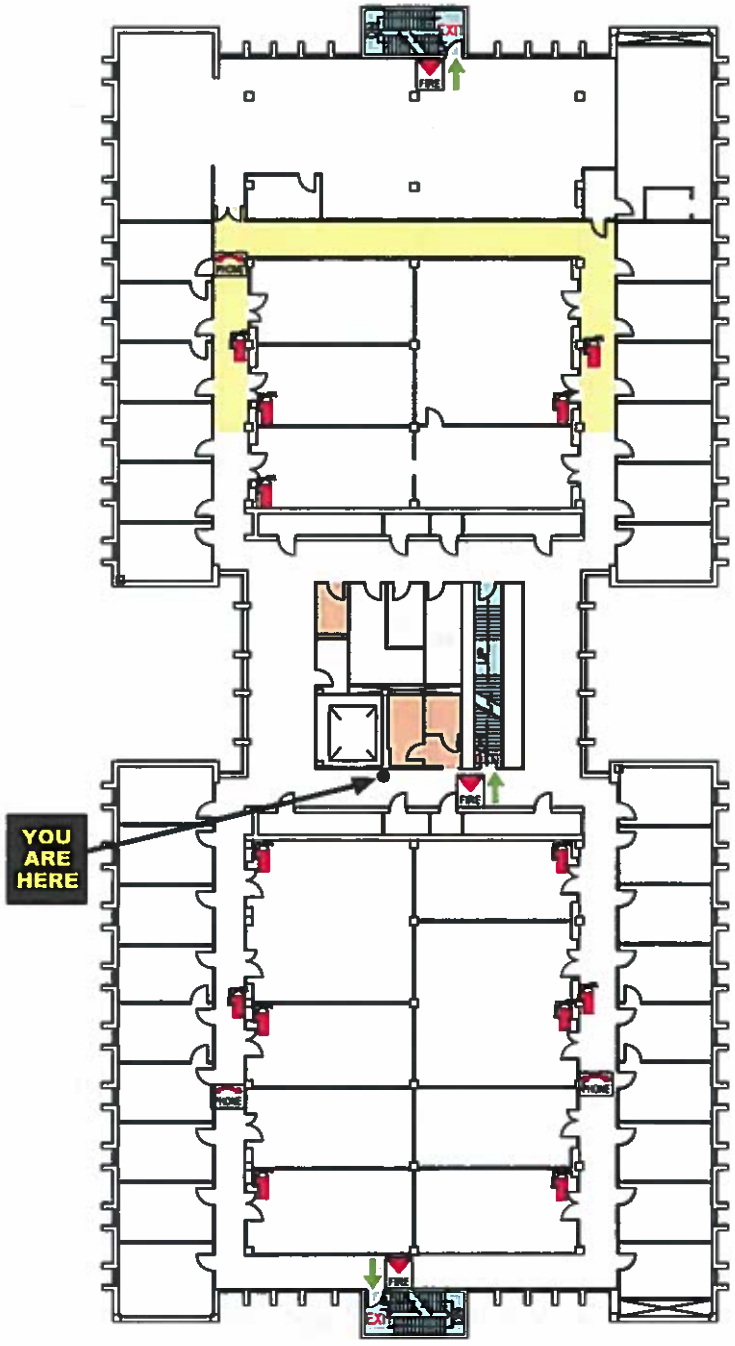
LOCATION MAP

PHYSICS BUILDING

SECOND FLOOR EVACUATION PLAN



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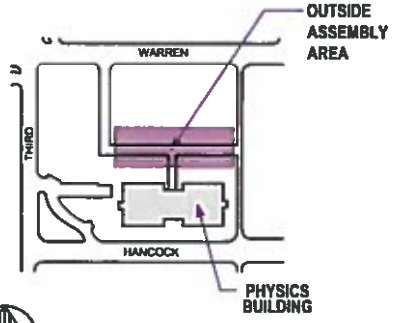
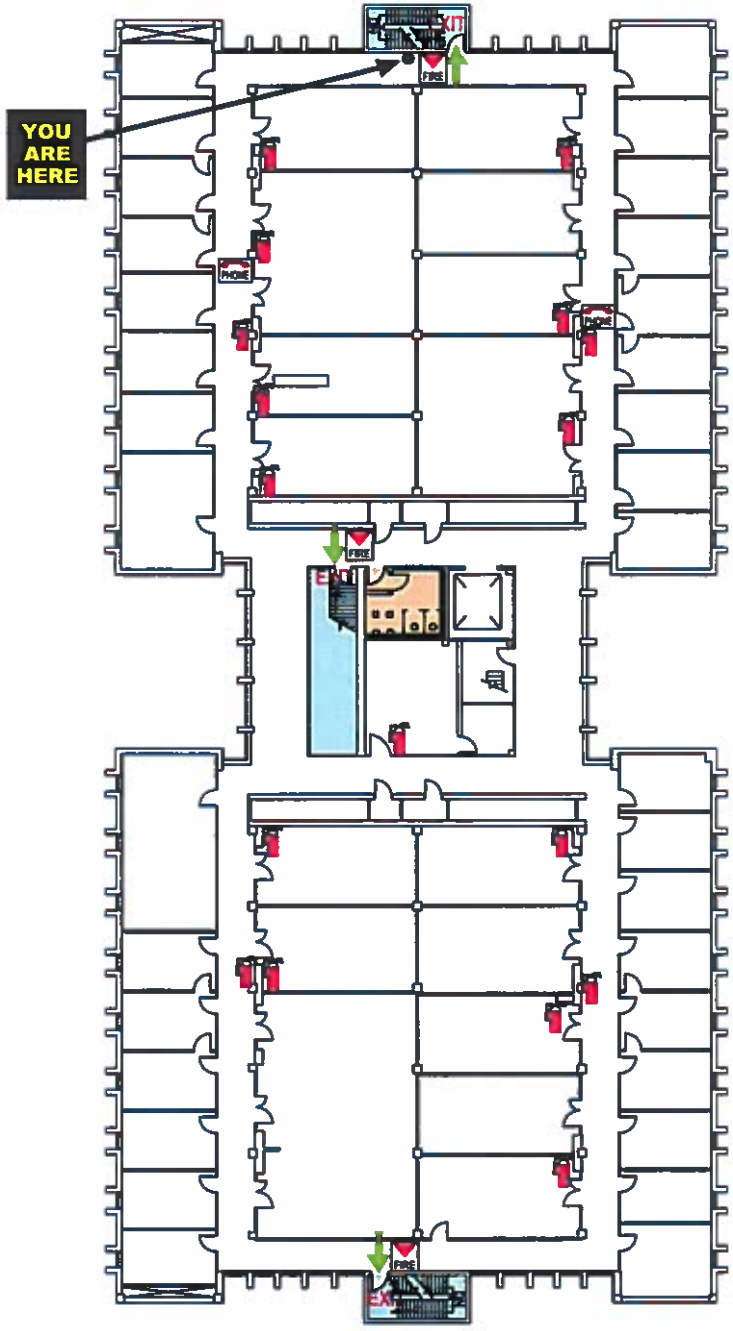


NORTH

LOCATION MAP

PHYSICS BUILDING

THIRD FLOOR EVACUATION PLAN



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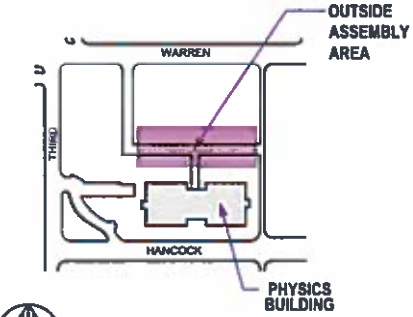


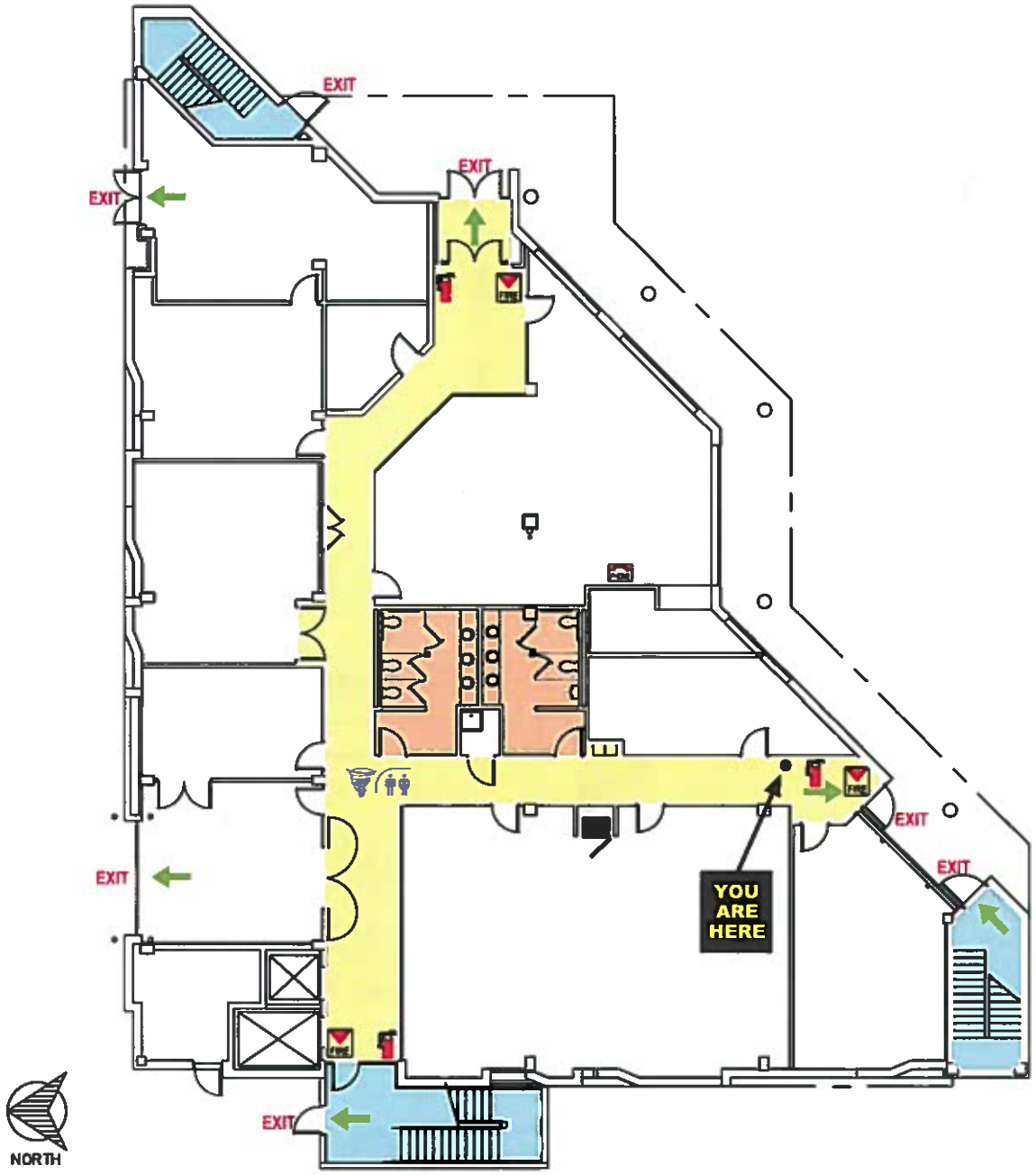
NORTH

LOCATION MAP

Evacuation Routes for Mortuary Science Building
5439 Woodward Avenue
1st Floor
2nd Floor
3rd Floor
4th Floor

MORTUARY SCIENCE

FIRST FLOOR EVACUATION PLAN



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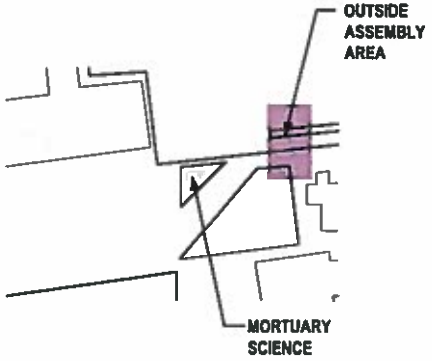
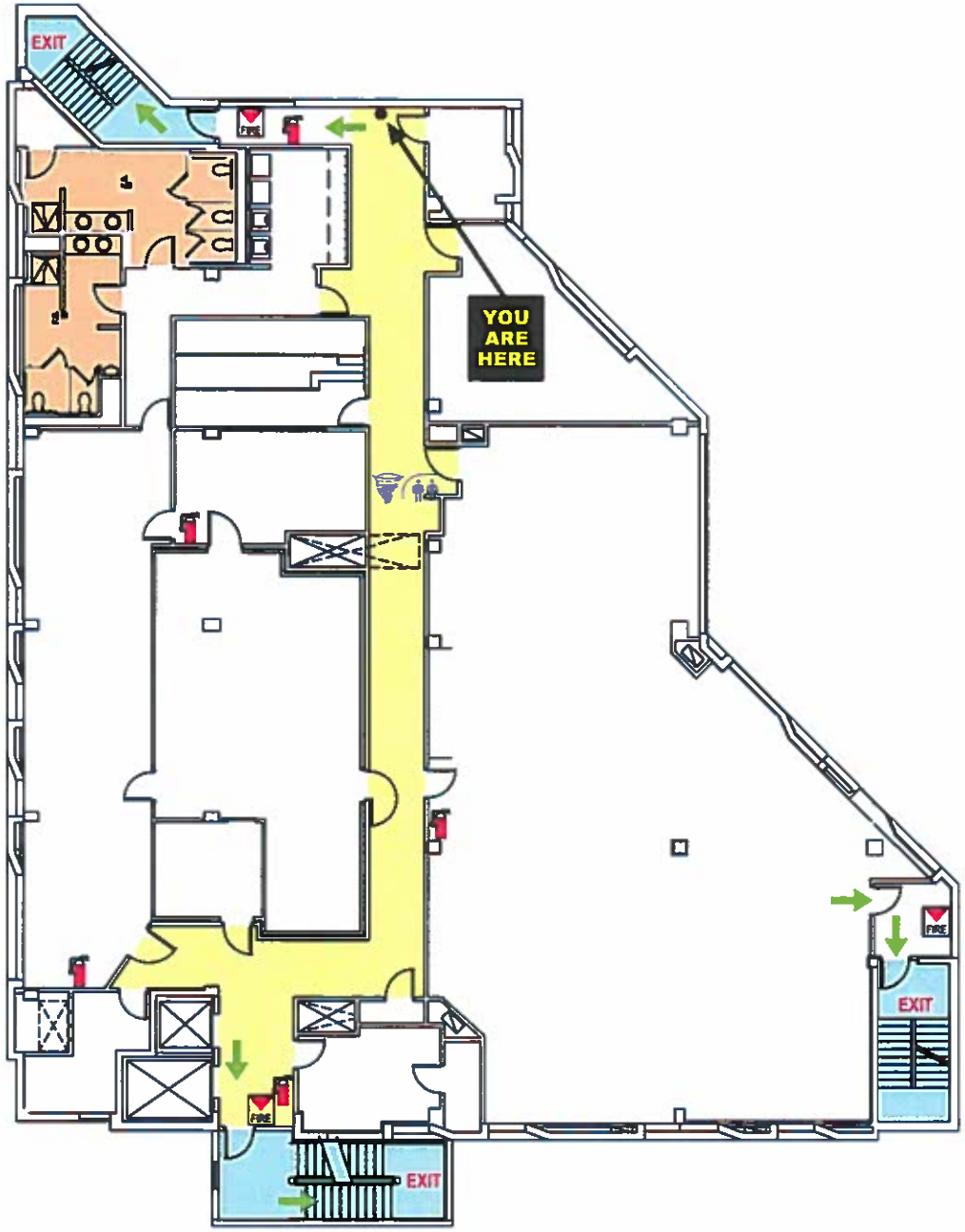


NORTH

LOCATION MAP

MORTUARY SCIENCE

SECOND FLOOR EVACUATION PLAN



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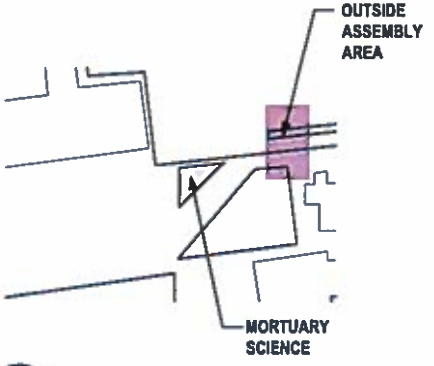
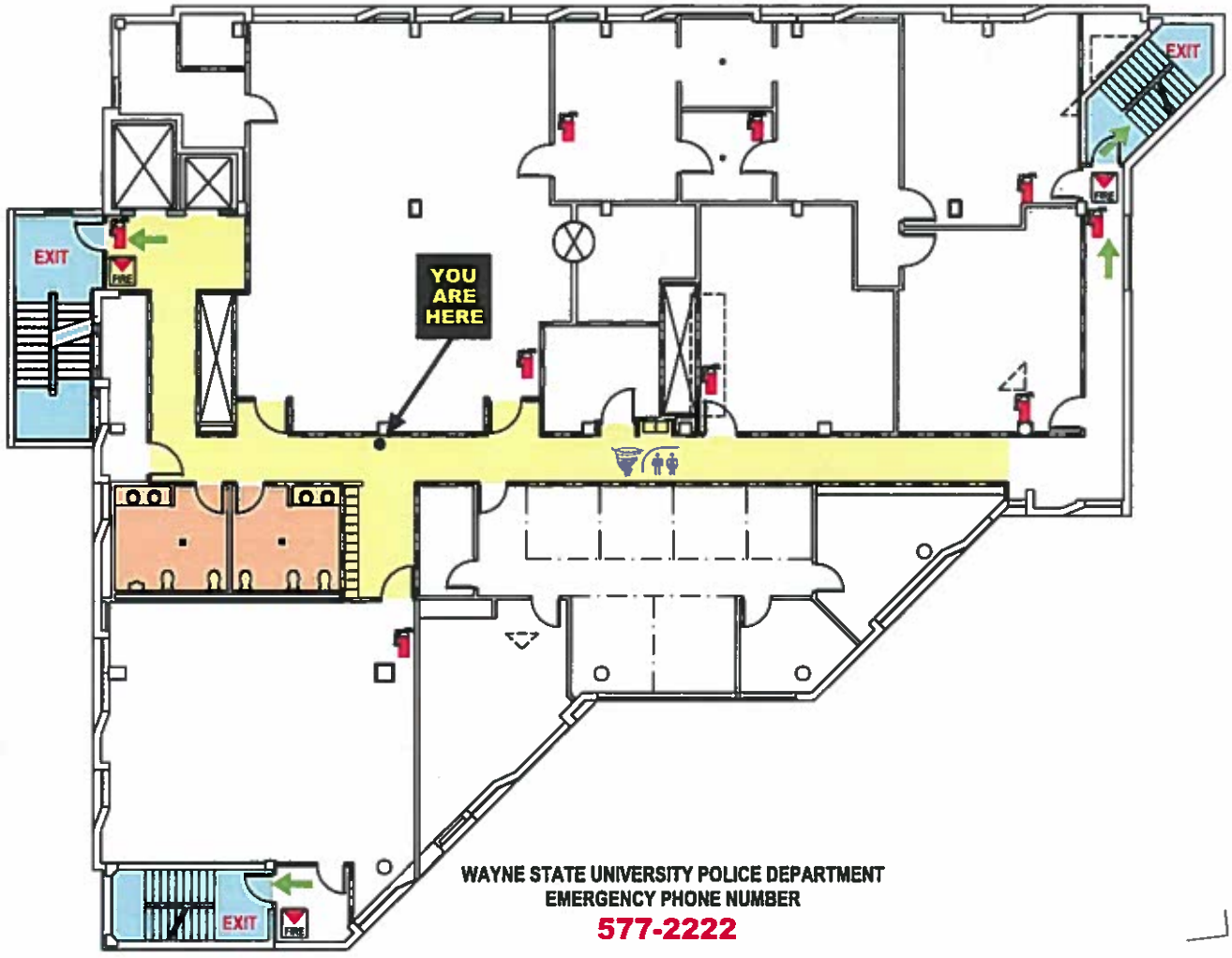


NORTH

LOCATION MAP

MORTUARY SCIENCE

THIRD FLOOR EVACUATION PLAN



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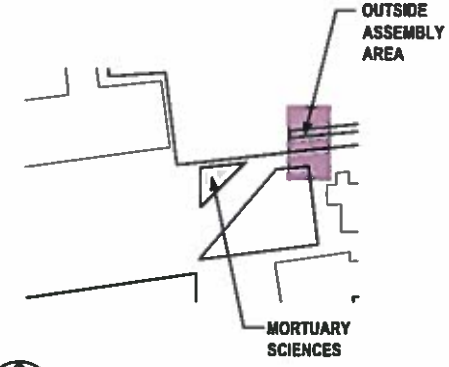
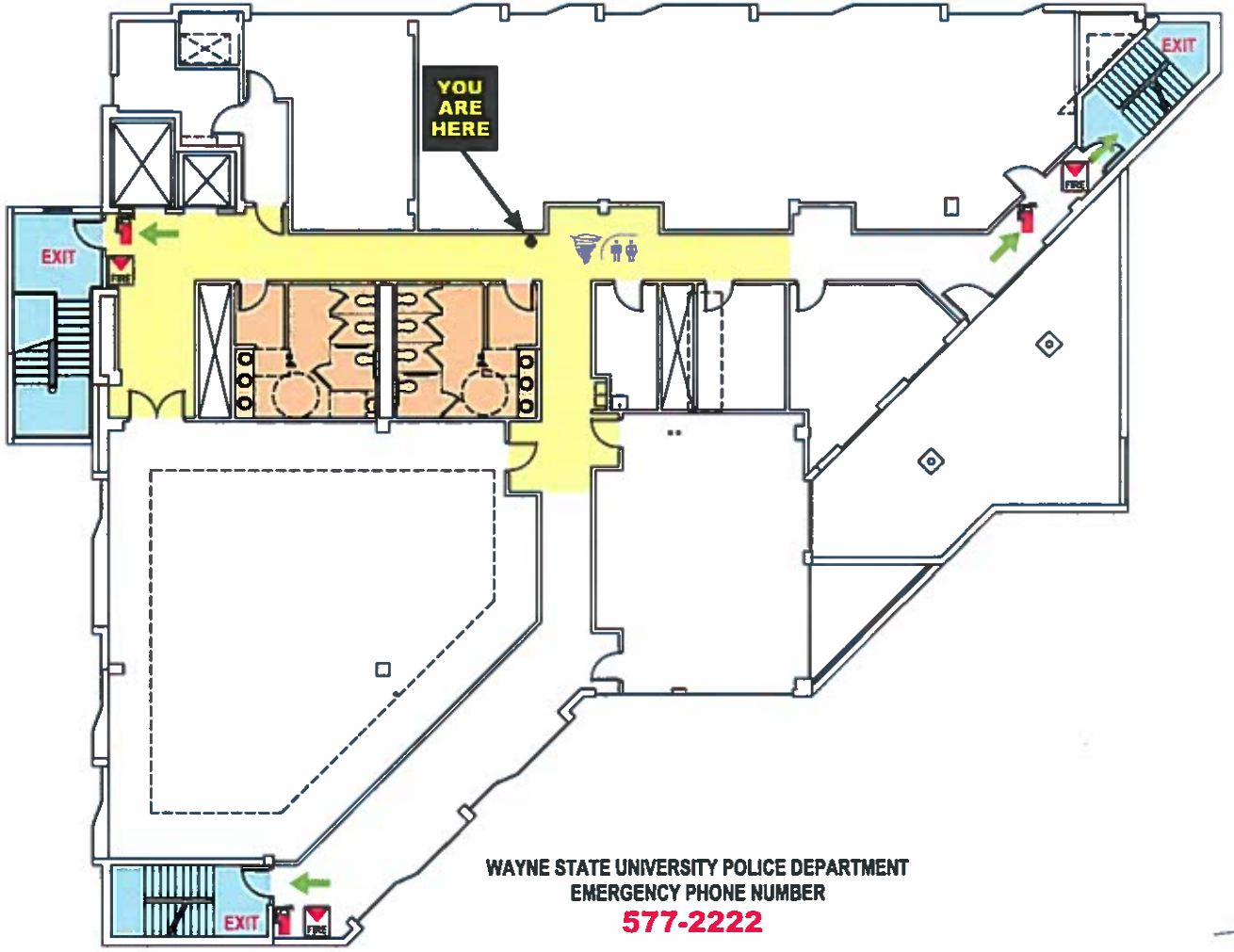


NORTH

LOCATION MAP

MORTUARY SCIENCE

FOURTH FLOOR EVACUATION PLAN



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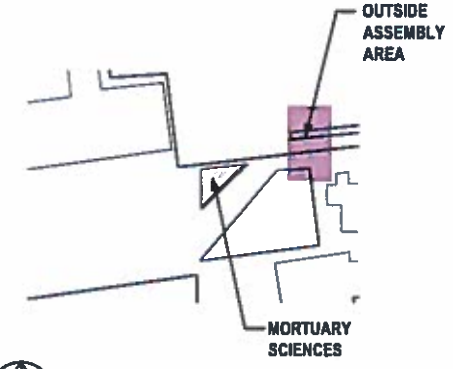
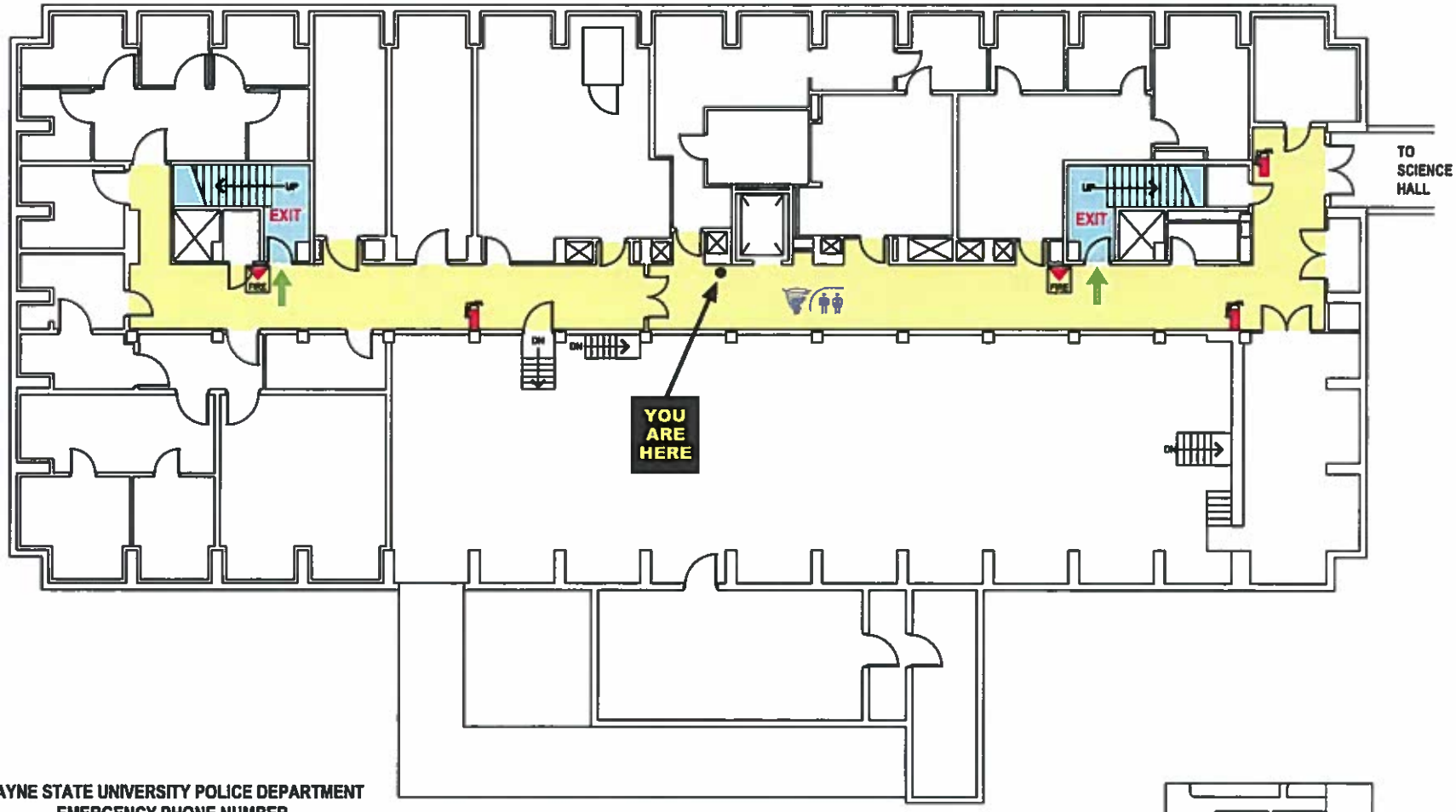


LOCATION MAP

Evacuation Routes for Life Science Building
5000 Gullen Mall
Basement
1st Floor
2nd Floor
3rd Floor
4th Floor

LIFE SCIENCES BUILDING

BASEMENT EVACUATION PLAN



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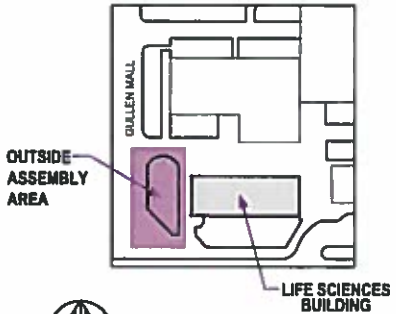
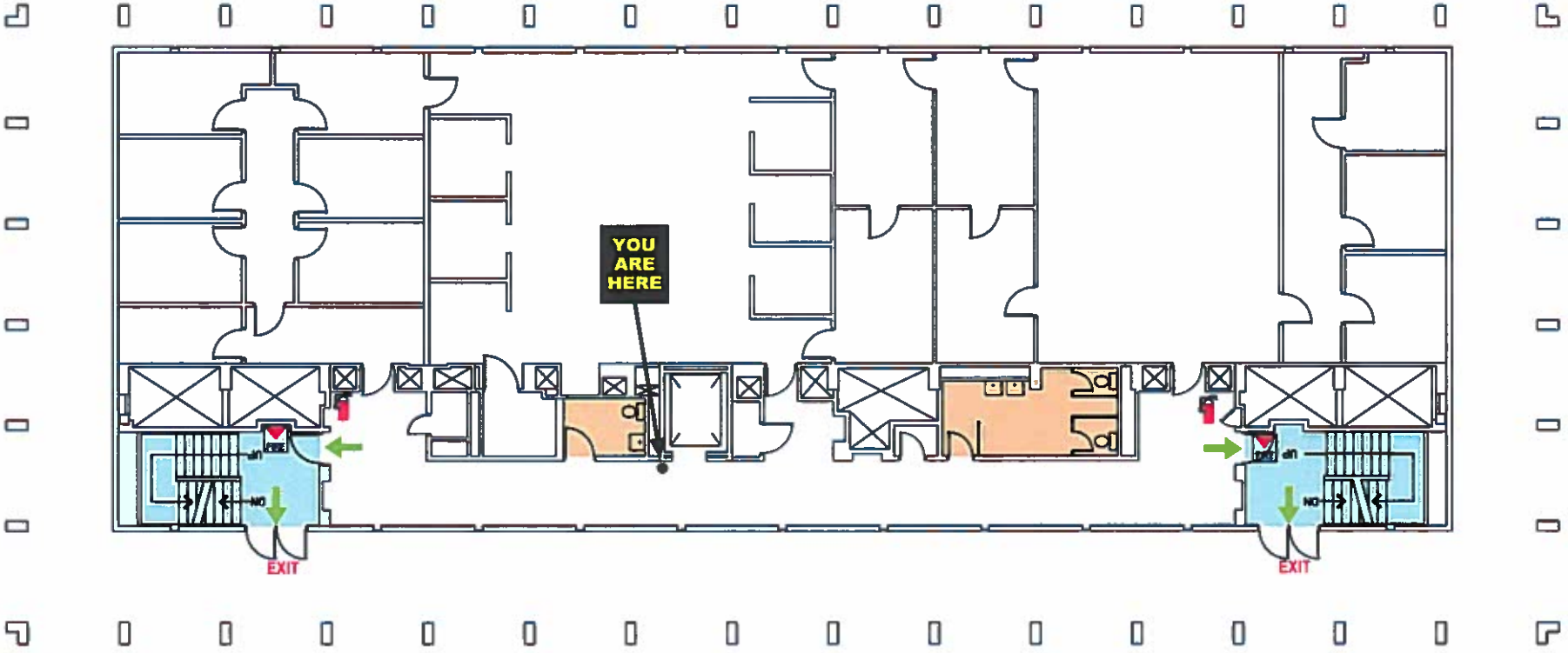


LOCATION MAP

LIFE SCIENCES BUILDING

FIRST FLOOR EVACUATION PLAN



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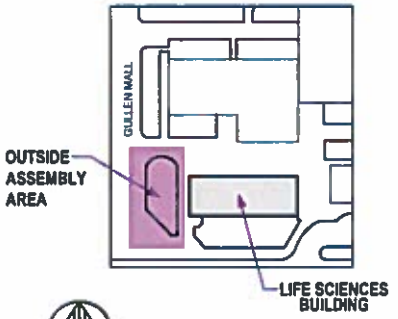
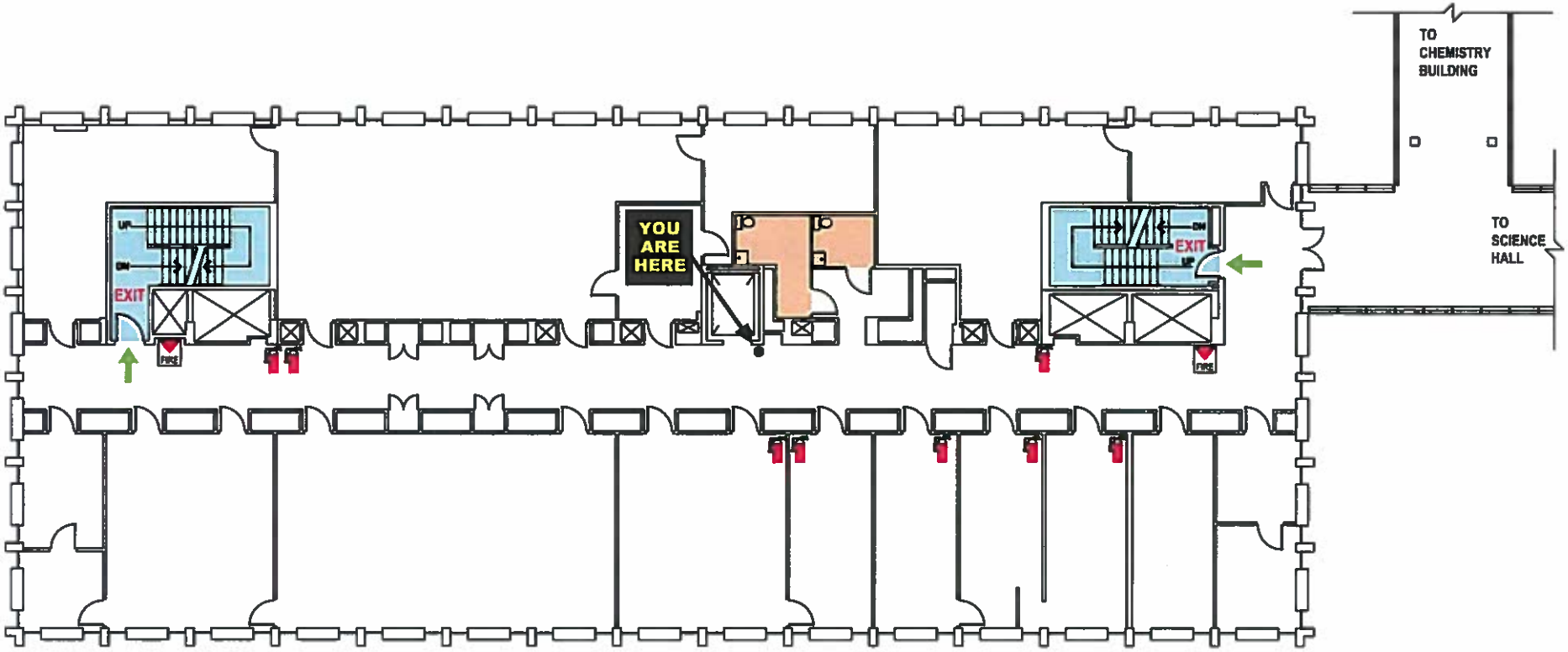


NORTH

LOCATION MAP

LIFE SCIENCES BUILDING

SECOND FLOOR EVACUATION PLAN



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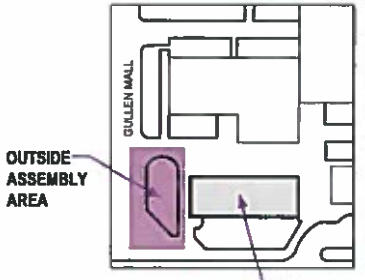
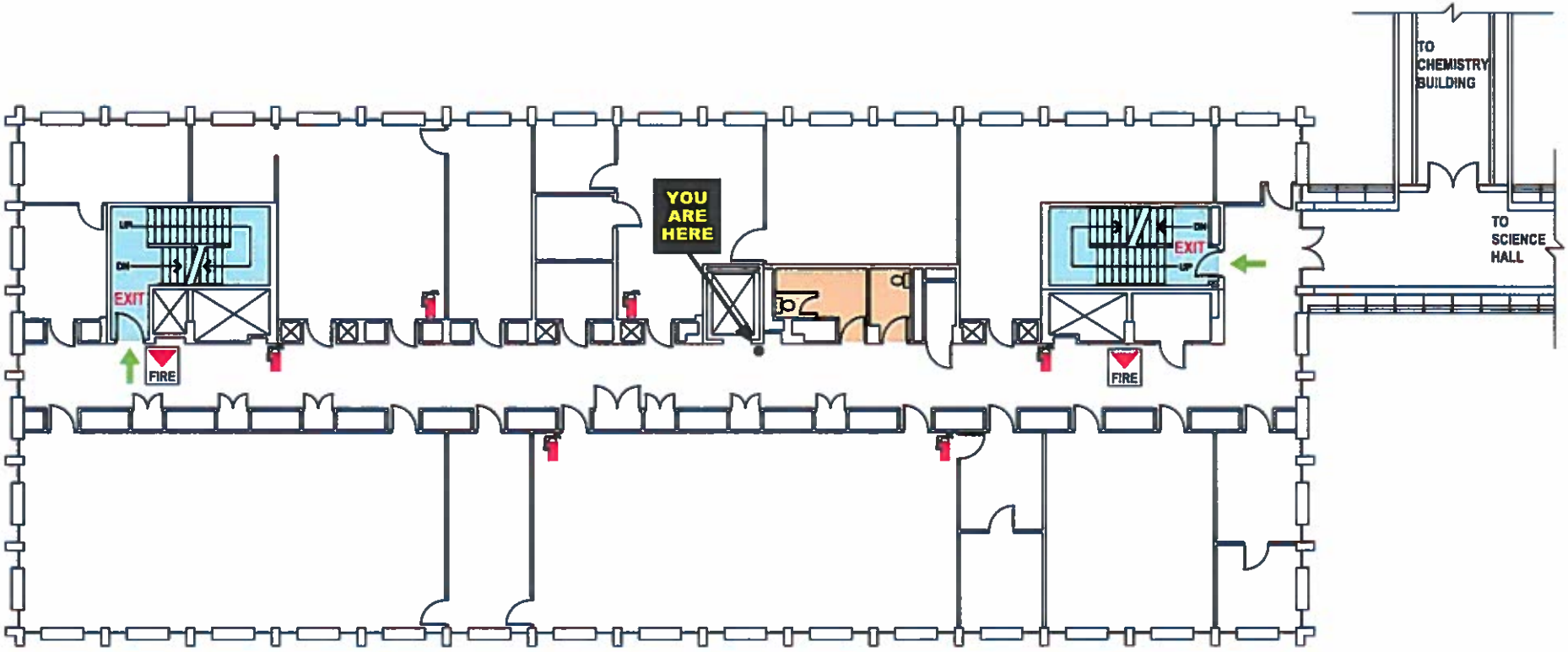


NORTH

LOCATION MAP

LIFE SCIENCES BUILDING

THIRD FLOOR EVACUATION PLAN



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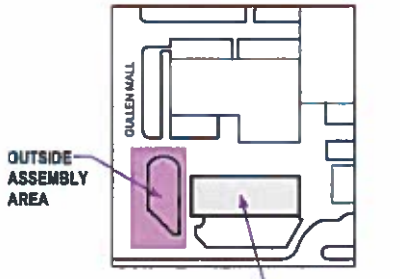
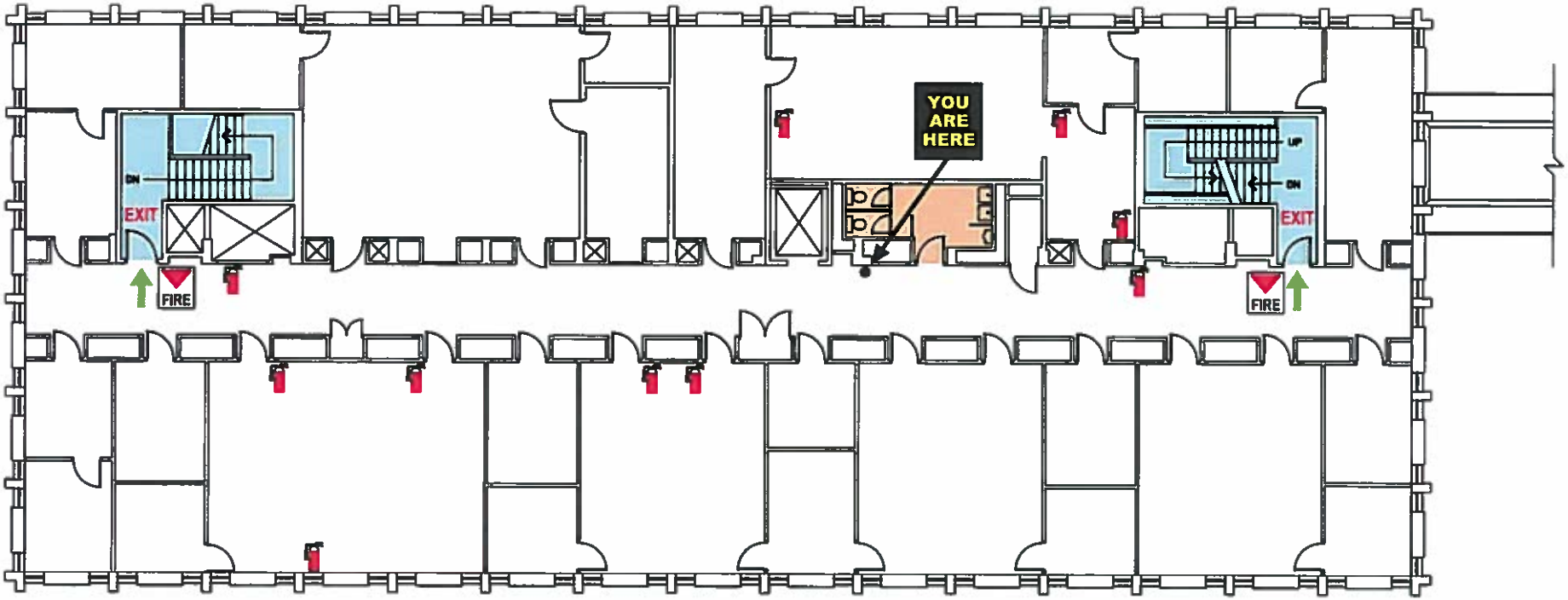


NORTH

LOCATION MAP

LIFE SCIENCES BUILDING

FOURTH FLOOR EVACUATION PLAN



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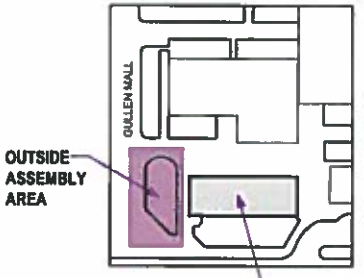


NORTH

LOCATION MAP

Alarm Systems

Fire alarms in university buildings are received at University Police Department. If building occupants see/identify a fire in their presence, pull the nearest fire alarm pull station and call 577-2222. The chemical storage room (#00027 Science Hall), has an alarm direct to University Police Department.

Advisement

One emergency coordinator should always be present to advise assisting agencies/personnel of the character, amounts, source and extent of hazardous materials to local authorities and the National Response Center in the event of life threatening situations at any university facility.

Spill Response Personnel

University Police Department will notify members of the spill response team (see list) and any other appropriate agency.

Emergency Coordinator

In the event of an emergency, the emergency coordinator must immediately evacuate the hazardous area and notify appropriate local or state agencies for designated response assistance.

Whenever there is a release, fire or explosion of hazardous waste/materials, the emergency coordinator must immediately identify the character, exact source, amount and extent of any released materials. This may be done by observation or review of facility records and, if necessary, by chemical analysis.

Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from a release, fire or explosion. This assessment must consider both direct and indirect effects of the release, fire or explosion (e.g. the effects of any toxic, irritant or asphyxiating gases that are generated or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and greatly induced explosions).

If the emergency coordinator determines that the release, fire or explosion could threaten human health or the environment outside of the facility, the findings must be reported as follows:

1. If the assessment indicates that evacuation of local areas may be advisable, immediately notify appropriate local authorities and help the appropriate officials decide the extent of the evacuation.
2. Immediately notify the National Response Center (1-800-424-8802) and report:
    a. Name and telephone number of the reporter
    b. Name and address of the facility
    c. Time and type of incident (e.g., release, fire, etc.)
    d. Name and quantity of material(s) involved, to the extent known
    e. The extent of injuries, if any
    f. The possible hazards to human health or the environment outside of the facility

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, re-occur or spread to other hazardous materials/waste at the facility. These measures include, where applicable, stopping processes and operations, collecting and containing released materials/waste, and removing or isolating containers.

Immediately after an emergency, the emergency coordinator must provide treatment, storage, or disposal of recovered waste, contaminated soil or surface water or any other material that results from a release, fire or explosion at the facility.

The emergency coordinator must ensure that in the affected area(s) of a facility no waste materials which may be incompatible with the released material is treated, stored or disposed of

until clean-up procedures are completed; and all emergency equipment listed in this plan is cleaned and fit for its intended use before operations are resumed.

APPENDIX B

SPILL REPORT FORM

Spill Report – Use Additional Sheets as Necessary

1	Location of spill or release (spill)	
2	Location of the nearest water course or sewer	
3	Chemical name or identity of the released substance	
4	Estimated quantity of the released substance	
5	Estimate quantity of substance released to sewer	
6	Date and time the spill was detected	
7	Who discovered spill	
8	Duration of the spill	
9	Description of the cause of the spill	
10	Containment and cleanup action taken	
11	A brief assessment of the environmental impact	
12	Was the substance released an extremely hazardous substance under SARA	
13	Medium or media into which the release occurred	
14	Any known or anticipated acute or chronic health risks	
15	Precautions to take when responding to release	
16	Name and telephone number of contact person	
17	A description of the actions taken to respond to and contain the release	
18	Where appropriate, advice regarding medical treatment	
19	What process improvements are recommended	

Prepared by: _____

Date: _____

APPENDIX C

MONTHLY INSPECTIONS FORM

Wayne State University
MONTHLY SPCC INSPECTION CHECKLIST

Material	Container	Any sign of cracks, potential leakage, seepage, or problem with container or supports?	Any sign of piping, pump, or seal leaks?	Any sign of problem with integrity of containment structures?	Comments
Diesel Fuel	Generator Tank: Engineering				
Transformer Oil	Engineering Bldg Oil filled transformers				
Diesel Fuel	Generator Tank: Mott				
Diesel Fuel	Generator Tank: Lande				
Diesel Fuel	Generator Tanks: Chemistry				
Diesel Fuel	Generator Tank: Biological Sciences				
Diesel Fuel	Generator Tank: South Hall				
Diesel Fuel	Generator Tank: FAB				
Diesel Fuel	Generator Tanks: Scott Hall				
Diesel Fuel	Generator Tanks: Computing Center				
Diesel Fuel	Generator Tank: University Towers				
Diesel Fuel	Portable Generator: 5454 Cass				
Diesel Fuel	Generator Tanks: MBRB				
Diesel Fuel	Generator Tanks: Elliman				

Wayne State University
MONTHLY SPCC INSPECTION CHECKLIST

Material	Container	Any sign of cracks, potential leakage, seepage, or problem with container or supports?	Any sign of piping, pump, or seal leaks?	Any sign of problem with integrity of containment structures?	Comments
Diesel Fuel	Generator Tank: 5435 Woodward				
Transformer Oil	Transformer adjacent to FAB Generator				
Diesel Fuel	Generator Tank: Engineering Building				
Diesel Fuel	Generator Tank: Physics Building				
Diesel Fuel	Generator Tank: Life Sciences Building				
Diesel Fuel	Generator Tank: Applebaum				
Diesel Fuel	Generator Tank: Student Center Building				
Grease	Grease Bin: Tony V's Tavern				
Grease	Grease Bin: Studio One's Parking Structure				
Grease	Grease Bin: Ghafari Hall				
Grease	Grease Bin: Atchinson Hall				
Grease	Grease Bin: Student Center Building				

Wayne State University
MONTHLY SPCC INSPECTION CHECKLIST

Material	Container	Any sign of cracks, potential leakage, seepage, or problem with container or supports?	Any sign of piping, pump, or seal leaks?	Any sign of problem with integrity of containment structures?	Comments
Grease	Two Grease Bins: Park at Warren & Cass				
Grease	Grease Bin: 5057 Woodward				
Transformer Oil	Ghafari Hall				

Spill Response Equipment	
Are storm drain covers available and in good condition?	
Are temporary storage containers available?	
Are there sufficient supplies of absorbent materials, pads, and booms?	
Are there sufficient supplies of rubber gloves and protective goggles?	

Signature: _____

Name: _____

Date: _____

APPENDIX D

SPCC Regulations
(40 CFR 112)

engine on a public vessel) and any discharges of such oil accumulated in the bilges of a vessel discharged in compliance with MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A;

(b) Other discharges of oil permitted under MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A; and

(c) Any discharge of oil explicitly permitted by the Administrator in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

[61 FR 7421, Feb. 28, 1996]

§ 110.6 Notice.

Any person in charge of a vessel or of an onshore or offshore facility shall, as soon as he or she has knowledge of any discharge of oil from such vessel or facility in violation of section 311(b)(3) of the Act, immediately notify the National Response Center (NRC) (800–424–8802; in the Washington, DC metropolitan area, 202–426–2675). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR part 153, subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300, subpart E.

(Approved by the Office of Management and Budget under control number 2050–0046)

[52 FR 10719, Apr. 2, 1987. Redesignated and amended at 61 FR 7421, Feb. 28, 1996; 61 FR 14032, Mar. 29, 1996]

PART 112—OIL POLLUTION PREVENTION

Subpart A—Applicability, Definitions, and General Requirements For All Facilities and All Types of Oils

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, Including Oils from Seeds, Nuts, Fruits and Kernels

Subpart D—Response Requirements

AUTHORITY: 33 U.S.C. 1251 *et seq.*; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp., p. 351.

SOURCE: 38 FR 34165, Dec. 11, 1973, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 112 appear at 65 FR 40798, June 30, 2000.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

SOURCE: 67 FR 47140, July 17, 2002, unless otherwise noted.

§ 112.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in § 112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise "permanently closed" as defined in § 112.2;

(4) Any "bunkered tank" or "partially buried tank" as defined in § 112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of

this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of man-made features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 U.S. gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter, or the capacity of any underground oil storage tanks deferred under 40 CFR part 280 that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission and subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. The completely buried storage capacity of a facility also excludes the capacity of a container that is "permanently closed," as defined in § 112.2 and the capacity of intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 U.S. gallons or less of oil. For the purposes of this exemption, only containers with a capacity of 55 U.S. gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes:

(A) The capacity of a container that is "permanently closed" as defined in § 112.2;

(B) The capacity of a "motive power container" as defined in § 112.2;

(C) The capacity of hot-mix asphalt or any hot-mix asphalt container;

(D) The capacity of a container for heating oil used solely at a single-family residence;

(E) The capacity of pesticide application equipment and related mix containers.

(F) The capacity of any milk and milk product container and associated piping and appurtenances.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, or any underground oil storage tanks including below-grade vaulted tanks, deferred under 40 CFR part 280, as originally promulgated, that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission, provided

that such a tank is subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. Such emergency generator tanks must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(7) Any "motive power container," as defined in §112.2. The transfer of fuel or other oil into a motive power container at an otherwise regulated facility is not eligible for this exemption.

(8) Hot-mix asphalt, or any hot-mix asphalt container.

(9) Any container for heating oil used solely at a single-family residence.

(10) Any pesticide application equipment or related mix containers.

(11) Intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195, except that such a line's location must be identified and marked as "exempt" on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(12) Any milk and milk product container and associated piping and appurtenances.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not

later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77290, Dec. 26, 2006; 73 FR 74300, Dec. 5, 2008; 74 FR 58809, Nov. 13, 2009; 76 FR 21660, Apr. 18, 2011]

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in appendix E to this part (as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and

equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities. Only this definition governs whether a facility is subject to this part.

Farm means a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Loading/unloading rack means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is

located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in §112.20 or in a specific plan approved by the Regional Administrator.

Mobile refueler means a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.

Motive power container means any onboard bulk storage container used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment. An onboard bulk storage container which is used to store or transfer oil for further distribution is not a motive power container. The definition of motive power container does not include oil drilling or workover equipment, including rigs.

Navigable waters of the United States means "navigable waters" as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92–500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container, and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (*e.g.*, those for pumps, compressors and other rotating equipment, including pumpjack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

(1) All liquid and sludge has been removed from each container and connecting line; and

(2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Produced water container means a storage container at an oil production facility used to store the produced water after initial oil/water separation, and prior to reinjection, beneficial reuse, discharge, or transfer for disposal.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa

lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in appendix D to this part.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77290, Dec. 26, 2006; 73 FR 71943, Nov. 26, 2008; 73 FR 74300, Dec. 5, 2008]

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator or an onshore or offshore facility subject to this section must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan (hereafter "SPCC Plan" or "Plan"),'' in accordance with § 112.7 and any other applicable section of this part.

(a)(1) Except as otherwise provided in this section, if your facility, or mobile or portable facility, was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2011. If such a facility becomes operational after August 16, 2002, through November 10, 2011, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan on or before November 10, 2011. If such a facility (excluding oil production facilities) becomes operational after November 10, 2011, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(2) If your drilling, production or workover facility, including a mobile or portable facility, is offshore or has an offshore component; or your onshore facility is required to have and submit a Facility Response Plan pursuant to 40 CFR 112.20(a), and was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2010. If such a facility becomes operational after August 16, 2002, through November 10, 2010, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan on or before November 10, 2010. If such a facility (excluding oil production facilities) becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(b) If your oil production facility as described in paragraph (a)(1) of this section becomes operational after November 10, 2011, or as described in paragraph (a)(2) of this section becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan within six months after you begin operations.

(c) [Reserved]

(d) Except as provided in § 112.6, a licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part ;

(ii) That he or his agent has visited and examined the facility;

(iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;

(iv) That procedures for required inspections and testing have been established; and

(v) That the Plan is adequate for the facility.

(vi) That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;

(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and

(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

(g) *Qualified Facilities.* The owner or operator of a qualified facility as defined in this subparagraph may self-certify his facility's Plan, as provided in §112.6. A qualified facility is one that meets the following Tier I or Tier II qualified facility criteria:

(1) A Tier I qualified facility meets the qualification criteria in paragraph (g)(2) of this section and has no individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.

(2) A Tier II qualified facility is one that has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than discharges as described in §112.1(b) that are the result of natural disasters, acts

of war, or terrorism), and has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

[67 FR 47140, July 17, 2002, as amended at 68 FR 1351, Jan. 9, 2003; 68 FR 18894, Apr. 17, 2003; 69 FR 48798, Aug. 11, 2004; 71 FR 8466, Feb. 17, 2006; 71 FR 77290, Dec. 26, 2006; 72 FR 27447, May 16, 2007; 73 FR 74301, Dec. 5, 2008, 74 FR 29141, June 19, 2009; 74 FR 58809, Nov. 13, 2009; 75 FR 63102, Oct. 14, 2010; 76 FR 21660, Apr. 18, 2011]

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

(4) Maximum storage or handling capacity of the facility and normal daily throughput;

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;

(7) The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under § 112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known, in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, 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). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."

(c) Except as provided in § 112.6, have a Professional Engineer certify any technical amendments to your Plan in accordance with § 112.3(d).

[67 FR 47140, July 17, 2002, as amended at 71 FR 77291, Dec. 26, 2006; 73 FR 74301, Dec. 5, 2008; 74 FR 58809, Nov. 13, 2009]

§ 112.6 Qualified Facilities Plan Requirements.

Qualified facilities meeting the Tier I applicability criteria in § 112.3(g)(1) are subject to the requirements in paragraph (a) of this section. Qualified facilities meeting the Tier II applicability criteria in § 112.3(g)(2) are subject to the requirements in paragraph (b) of this section.

(a) *Tier I Qualified Facilities*—(1) *Preparation and Self-Certification of the Plan.* If you are an owner or operator of a facility that meets the Tier I qualified facility criteria in § 112.3(g)(1), you must either: comply with the requirements of paragraph (a)(3) of this section; or prepare and implement a Plan meeting requirements of paragraph (b) of this section; or prepare and implement a Plan meeting the general Plan requirements in § 112.7 and applicable

requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d). If you do not follow the Appendix G template, you must prepare an equivalent Plan that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. To complete the template in Appendix G, you must certify that:

(i) You are familiar with the applicable requirements of 40 CFR part 112;

(ii) You have visited and examined the facility;

(iii) You prepared the Plan in accordance with accepted and sound industry practices and standards;

(iv) You have established procedures for required inspections and testing in accordance with industry inspection and testing standards or recommended practices;

(v) You will fully implement the Plan;

(vi) The facility meets the qualification criteria in §112.3(g)(1);

(vii) The Plan does not deviate from any requirement of this part as allowed by §112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping; and

(viii) The Plan and individual(s) responsible for implementing this Plan have the approval of management, and the facility owner or operator has committed the necessary resources to fully implement this Plan.

(2) *Technical Amendments.* You must certify any technical amendments to your Plan in accordance with paragraph (a)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b). If the facility change results in the facility no longer meeting the Tier I qualifying criteria in §112.3(g)(1) because an individual oil storage container capacity exceeds 5,000 U.S. gallons or the facility capacity exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity, within six months following preparation of the amendment, you must either:

(i) Prepare and implement a Plan in accordance with §112.6(b) if you meet the Tier II qualified facility criteria in §112.3(g)(2); or

(ii) Prepare and implement a Plan in accordance with the general Plan requirements in §112.7, and applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d).

(3) *Plan Template and Applicable Requirements.* Prepare and implement an SPCC Plan that meets the following requirements under §112.7 and in subparts B and C of this part: introductory paragraph of §§112.7, 112.7(a)(3)(i), 112.7(a)(3)(iv), 112.7(a)(3)(vi), 112.7(a)(4), 112.7(a)(5), 112.7(c), 112.7(e), 112.7(f), 112.7(g), 112.7(k), 112.8(b)(1), 112.8(b)(2), 112.8(c)(1), 112.8(c)(3), 112.8(c)(4), 112.8(c)(5), 112.8(c)(6), 112.8(c)(10), 112.8(d)(4), 112.9(b), 112.9(c)(1), 112.9(c)(2), 112.9(c)(3), 112.9(c)(4), 112.9(c)(5), 112.9(d)(1), 112.9(d)(3), 112.9(d)(4), 112.10(b), 112.10(c), 112.10(d), 112.12(b)(1), 112.12(b)(2), 112.12(c)(1), 112.12(c)(3), 112.12(c)(4), 112.12(c)(5), 112.12(c)(6), 112.12(c)(10), and 112.12(d)(4). The template in Appendix G to this part has been developed to meet the requirements of 40 CFR part 112 and, when completed and signed by the owner or operator, may be used as the SPCC Plan. Additionally, you must meet the following requirements:

(i) *Failure analysis, in lieu of the requirements in §112.7(b).* Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of discharge), include in your Plan a prediction of the direction and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(ii) *Bulk storage container secondary containment, in lieu of the requirements in §§112.8(c)(2) and (c)(11) and 112.12(c)(2) and (c)(11).* Construct all bulk storage container installations (except mobile refuelers and other nontransportation-related tank trucks), including mobile or portable oil storage containers, so that you provide a

secondary means of containment for the entire capacity of the largest single container plus additional capacity to contain precipitation. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a catchment basin or holding pond. Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b).

(iii) *Overfill prevention, in lieu of the requirements in §§112.8(c)(8) and 112.12(c)(8).* Ensure that each container is provided with a system or documented procedure to prevent overfills of the container, describe the system or procedure in the SPCC Plan and regularly test to ensure proper operation or efficacy.

(b) *Tier II Qualified Facilities*—(1) *Preparation and Self-Certification of Plan.* If you are the owner or operator of a facility that meets the Tier II qualified facility criteria in §112.3(g)(2), you may choose to self-certify your Plan. You must certify in the Plan that:

(i) You are familiar with the requirements of this part;

(ii) You have visited and examined the facility;

(iii) The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of this part;

(iv) Procedures for required inspections and testing have been established;

(v) You will fully implement the Plan;

(vi) The facility meets the qualification criteria set forth under §112.3(g)(2);

(vii) The Plan does not deviate from any requirement of this part as allowed by §112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping, except as provided in paragraph (b)(3) of this section; and

(viii) The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

(2) *Technical Amendments.* If you self-certify your Plan pursuant to paragraph (b)(1) of this section, you must certify any technical amendments to your Plan in accordance with paragraph (b)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b), except:

(i) If a Professional Engineer certified a portion of your Plan in accordance with paragraph (b)(4) of this section, and the technical amendment affects this portion of the Plan, you must have the amended provisions of your Plan certified by a Professional Engineer in accordance with paragraph (b)(4)(ii) of this section.

(ii) If the change is such that the facility no longer meets the Tier II qualifying criteria in §112.3(g)(2) because it exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity you must, within six months following the change, prepare and implement a Plan in accordance with the general Plan requirements in §112.7 and the applicable requirements in subparts B and C of this part, including having the Plan certified by a Professional Engineer as required under §112.3(d).

(3) *Applicable Requirements.* Except as provided in this paragraph, your self-certified SPCC Plan must comply with §112.7 and the applicable requirements in subparts B and C of this part:

(i) *Environmental Equivalence.* Your Plan may not include alternate methods which provide environmental equivalence pursuant to §112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(ii) *Impracticability.* Your Plan may not include any determinations that secondary containment is impracticable and provisions in lieu of secondary containment pursuant to §112.7(d), unless each such determination and alternate measure has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(iii) *Produced Water Containers.* Your Plan may not include any alternative

procedures for skimming produced water containers in lieu of sized secondary containment pursuant to §112.9(c)(6), unless they have been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(4) *Professional Engineer Certification of Portions of a Qualified Facility's Self-Certified Plan.*

(i) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify alternative measures allowed under §112.7(a)(2) or (d), that are included in the facility's Plan. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer. For each alternative measure allowed under §112.7(a)(2), the Plan must be accompanied by a written statement by a Professional Engineer that states the reason for nonconformance and describes the alternative method and how it provides equivalent environmental protection in accordance with §112.7(a)(2). For each determination of impracticability of secondary containment pursuant to §112.7(d), the Plan must clearly explain why secondary containment measures are not practicable at this facility and provide the alternative measures required in §112.7(d) in lieu of secondary containment. By certifying each measure allowed under §112.7(a)(2) and (d), the Professional Engineer attests:

(A) That he is familiar with the requirements of this part;

(B) That he or his agent has visited and examined the facility; and

(C) That the alternative method of environmental equivalence in accordance with §112.7(a)(2) or the determination of impracticability and alternative measures in accordance with §112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part.

(ii) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify measures as described in §112.9(c)(6) for produced water containers and any associated piping. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer, in accordance with §112.3(d)(1)(vi).

(iii) The review and certification by the Professional Engineer under this paragraph is limited to the alternative method which achieves equivalent environmental protection pursuant to §112.7(a)(2); to the impracticability determination and measures in lieu of secondary containment pursuant to §112.7(d); or the measures pursuant to §112.9(c)(6) for produced water containers and any associated piping and appurtenances downstream from the container.

[73 FR 74302, Dec. 5, 2008, as amended at 74 FR 58810, Nov. 13, 2009]

§112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:

(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.

(2) Comply with all applicable requirements listed in this part. Except as provided in §112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11),

112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in §112.4(d) and (e).

(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under §112.1(d)(11). You must also address in your Plan:

(i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

(4) Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

(5) Unless you have submitted a response plan under §112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil

which could be discharged from the facility as a result of each type of major equipment failure.

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in §112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;

(ii) Curbing or drip pans;

(iii) Sumps and collection systems;

(iv) Culverting, gutters, or other drainage systems;

(v) Weirs, booms, or other barriers;

(vi) Spill diversion ponds;

(vii) Retention ponds; or

(viii) Sorbent materials.

(2) For offshore facilities:

(i) Curbing or drip pans; or

(ii) Sumps and collection systems.

(d) Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

(e) *Inspections, tests, and records.* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(f) *Personnel, training, and discharge prevention procedures.* (1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

(g) *Security (excluding oil production facilities).* Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves;

prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).*

(1) Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks or vehicle brake interlock system in the area adjacent to a loading/unloading rack, to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

(k) *Qualified Oil-filled Operational Equipment.* The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this subsection may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) *Qualification Criteria—Reportable Discharge History:* The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) *Alternative Requirements to General Secondary Containment.* If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

(ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77292, Dec. 26, 2006; 73 FR 74303, Dec. 5, 2008; 74 FR 58810, Nov. 13, 2009]

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

SOURCE: 67 FR 47146, July 17, 2002, unless otherwise noted.

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise

satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

[67 FR 47146, July 17, 2002, as amended at 71 FR 77293, Dec. 26, 2006; 73 FR 74304, Dec. 5, 2008]

§ 112.9 Spill Prevention, Control, and Countermeasure Plan Requirements for onshore oil production facilities (excluding drilling and workover facilities).

If you are the owner or operator of an onshore oil production facility (excluding a drilling or workover facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.* (1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Except as described in paragraph (c)(5) of this section for flow-through process vessels and paragraph (c)(6) of this section for produced water containers and any associated piping and appurtenances downstream from the container, construct all tank battery, separation, and treating facility installations, so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Except as described in paragraph (c)(5) of this section for flow-through process vessels and paragraph (c)(6) of this section for produced water containers and any associated piping and appurtenances downstream from the container, periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overfill if

a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(5) *Flow-through process vessels.* The owner or operator of a facility with flow-through process vessels may choose to implement the alternate requirements as described below in lieu of sized secondary containment required in paragraphs (c)(2) and (c)(3) of this section.

(i) Periodically and on a regular schedule visually inspect and/or test flow-through process vessels and associated components (such as dump valves) for leaks, corrosion, or other conditions that could lead to a discharge as described in §112.1(b).

(ii) Take corrective action or make repairs to flow-through process vessels and any associated components as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge.

(iii) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with flow-through process vessels.

(iv) If your facility discharges more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or discharges more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period, from flow-through process vessels (excluding discharges that are the result of natural disasters, acts of war, or terrorism) then you must, within six months from the time the facility becomes subject to this paragraph, ensure that all flow-through process vessels subject to this subpart comply with §112.9(c)(2) and (c)(3).

(6) *Produced water containers.* For each produced water container, comply with §112.9(c)(1) and (c)(4); and §112.9(c)(2) and (c)(3), or comply with the provisions of the following paragraphs (c)(6)(i) through (v):

(i) Implement, on a regular schedule, a procedure for each produced water container that is designed to separate the free-phase oil that accumulates on the surface of the produced water. Include in the Plan a description of the procedures, frequency, amount of free-phase oil expected to be maintained inside the container, and a Professional Engineer certification in accordance with §112.3(d)(1)(vi). Maintain records of such events in accordance with §112.7(e). Records kept under usual and customary business practices will suffice for purposes of this paragraph. If this procedure is not implemented as described in the Plan or no records are maintained, then you must comply with §112.9(c)(2) and (c)(3).

(ii) On a regular schedule, visually inspect and/or test the produced water container and associated piping for leaks, corrosion, or other conditions that could lead to a discharge as described in §112.1(b) in accordance with good engineering practice.

(iii) Take corrective action or make repairs to the produced water container and any associated piping as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge.

(iv) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with the produced water container.

(v) If your facility discharges more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or discharges more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period from a produced water container subject to this subpart (excluding discharges that are the result of natural disasters, acts of war, or terrorism) then you must, within six months from the time the facility becomes subject to this paragraph, ensure that all produced water containers subject to this subpart comply with §112.9(c)(2) and (c)(3).

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all

aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) For flowlines and intra-facility gathering lines that are not provided with secondary containment in accordance with §112.7(c), unless you have submitted a response plan under §112.20, provide in your Plan the following:

(i) An oil spill contingency plan following the provisions of part 109 of this chapter.

(ii) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that might be harmful.

(4) Prepare and implement a written program of flowline/intra-facility gathering line maintenance. The maintenance program must address your procedures to:

(i) Ensure that flowlines and intra-facility gathering lines and associated valves and equipment are compatible with the type of production fluids, their potential corrosivity, volume, and pressure, and other conditions expected in the operational environment.

(ii) Visually inspect and/or test flowlines and intra-facility gathering lines and associated appurtenances on a periodic and regular schedule for leaks, oil discharges, corrosion, or other conditions that could lead to a discharge as described in §112.1(b). For flowlines and intra-facility gathering lines that are not provided with secondary containment in accordance with §112.7(c), the frequency and type of testing must allow for the implementation of a contingency plan as described under part 109 of this chapter.

(iii) Take corrective action or make repairs to any flowlines and intra-facility gathering lines and associated appurtenances as indicated by regularly scheduled visual inspections, tests, or evidence of a discharge.

(iv) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances.

[73 FR, 74304, Dec. 5, 2008, as amended at 74 FR 58810, Nov. 13, 2009]

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in §112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks,

and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.

SOURCE: 67 FR 57149, July 17, 2002, unless otherwise noted.

§ 112.12 Spill Prevention, Control, and Countermeasure Plan requirements.

If you are the owner or operator of an onshore facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) *Bulk storage container inspections.*

(i) Except for containers that meet the criteria provided in paragraph (c)(6)(ii) of this section, test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: Visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(ii) For bulk storage containers that are subject to 21 CFR part 110, are elevated, constructed of austenitic stainless steel, have no external insulation, and are shop-fabricated, conduct formal visual inspection on a regular schedule. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. You must determine and document in the Plan the appropriate qualifications for personnel performing tests and inspections. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph (c)(6).

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You

must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

[67 FR 57149, July 17, 2002, as amended at 71 FR 77293, Dec. 26, 2006; 73 FR 74305, Dec. 5, 2008]

§§ 112.13–112.15 [Reserved]

Subpart D—Response Requirements

§ 112.20 Facility response plans.

(a) The owner or operator of any non-transportation-related onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines shall prepare and submit a facility response plan to the Regional Administrator, according to the following provisions:

(1) For the owner or operator of a facility in operation on or before February 18, 1993 who is required to prepare and submit a response plan under 33 U.S.C. 1321(j)(5), the Oil Pollution Act of 1990 (Pub. L. 101–380, 33 U.S.C. 2701 *et seq.*) requires the submission of a response plan that satisfies the requirements of 33 U.S.C. 1321(j)(5) no later than February 18, 1993.

(i) The owner or operator of an existing facility that was in operation on or before February 18, 1993 who submitted a response plan by February 18, 1993 shall revise the response plan to satisfy the requirements of this section and resubmit the response plan or updated portions of the response plan to the Regional Administrator by February 18, 1995.

(ii) The owner or operator of an existing facility in operation on or before February 18, 1993 who failed to submit a response plan by February 18, 1993 shall prepare and submit a response plan that satisfies the requirements of this section to the Regional Administrator before August 30, 1994.

(2) The owner or operator of a facility in operation on or after August 30, 1994 that satisfies the criteria in paragraph (f)(1) of this section or that is notified by the Regional Administrator pursuant to paragraph (b) of this section shall prepare and submit a facility response plan that satisfies the requirements of this section to the Regional Administrator.

(i) For a facility that commenced operations after February 18, 1993 but prior to August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1)

of this section, the owner or operator shall submit the response plan or updated portions of the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator prior to August 30, 1994.

(ii) For a newly constructed facility that commences operation after August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator prior to the start of operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iii) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of a planned change in design, construction, operation, or maintenance that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator before the portion of the facility undergoing change commences operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iv) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of an unplanned event or change in facility characteristics that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator within six months of the unplanned event or change.

(3) In the event the owner or operator of a facility that is required to prepare and submit a response plan uses an alternative formula that is comparable to one contained in appendix C to this part to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the response plan cover sheet contained in appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula.

(4) *Preparation and submission of response plans—Animal fat and vegetable oil facilities.* The owner or operator of any non-transportation-related facility that handles, stores, or transports animal fats and vegetable oils must prepare and submit a facility response plan as follows:

(i) *Facilities with approved plans.* The owner or operator of a facility with a facility response plan that has been approved under paragraph (c) of this section by July 31, 2000 need not prepare or submit a revised plan except as otherwise required by paragraphs (b), (c), or (d) of this section.

(ii) *Facilities with plans that have been submitted to the Regional Administrator.* Except for facilities with approved plans as provided in paragraph (a)(4)(i) of this section, the owner or operator of a facility that has submitted a response plan to the Regional Administrator prior to July 31, 2000 must review the plan to determine if it meets or exceeds the applicable provisions of this part. An owner or operator need not prepare or submit a new plan if the existing plan meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must prepare and submit a new plan by September 28, 2000.

(iii) *Newly regulated facilities.* The owner or operator of a newly constructed facility that commences operation after July 31, 2000 must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(ii) of this section. The plan must meet or exceed the applicable provisions of this part. The owner or operator of an existing facility that must prepare and submit a plan after July 31, 2000 as a result of a planned or

unplanned change in facility characteristics that causes the facility to become regulated under paragraph (f)(1) of this section, must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(iii) or (iv) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(iv) *Facilities amending existing plans.* The owner or operator of a facility submitting an amended plan in accordance with paragraph (d) of this section after July 31, 2000, including plans that had been previously approved, must also review the plan to determine if it meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must revise and resubmit revised portions of an amended plan to the Regional Administrator in accordance with paragraph (d) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(b)(1) The Regional Administrator may at any time require the owner or operator of any non-transportation-related onshore facility to prepare and submit a facility response plan under this section after considering the factors in paragraph (f)(2) of this section. If such a determination is made, the Regional Administrator shall notify the facility owner or operator in writing and shall provide a basis for the determination. If the Regional Administrator notifies the owner or operator in writing of the requirement to prepare and submit a response plan under this section, the owner or operator of the facility shall submit the response plan to the Regional Administrator within six months of receipt of such written notification.

(2) The Regional Administrator shall review plans submitted by such facilities to determine whether the facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(c) The Regional Administrator shall determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, based on the factors in paragraph (f)(3) of this section. If such a determination is made, the Regional Administrator shall notify the owner or operator of the facility in writing and:

(1) Promptly review the facility response plan;

(2) Require amendments to any response plan that does not meet the requirements of this section;

(3) Approve any response plan that meets the requirements of this section; and

(4) Review each response plan periodically thereafter on a schedule established by the Regional Administrator provided that the period between plan reviews does not exceed five years.

(d)(1) The owner or operator of a facility for which a response plan is required under this part shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst case discharge, including:

(i) A change in the facility's configuration that materially alters the information included in the response plan;

(ii) A change in the type of oil handled, stored, or transferred that materially alters the required response resources;

(iii) A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of this section;

(iv) A material change in the facility's spill prevention and response equipment or emergency response procedures; and

(v) Any other changes that materially affect the implementation of the response plan.

(2) Except as provided in paragraph (d)(1) of this section, amendments to personnel and telephone number lists included in the response plan and a change in the oil spill removal organization(s) that does not result in a material change in support capabilities do not require approval by the Regional

Administrator. Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur.

(3) The owner or operator of a facility that submits changes to a response plan as provided in paragraph (d)(1) or (d)(2) of this section shall provide the EPA-issued facility identification number (where one has been assigned) with the changes.

(4) The Regional Administrator shall review for approval changes to a response plan submitted pursuant to paragraph (d)(1) of this section for a facility determined pursuant to paragraph (f)(3) of this section to have the potential to cause significant and substantial harm to the environment.

(e) If the owner or operator of a facility determines pursuant to paragraph (a)(2) of this section that the facility could not, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the owner or operator shall complete and maintain at the facility the certification form contained in appendix C to this part and, in the event an alternative formula that is comparable to one contained in appendix C to this part is used to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

(f)(1) A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (a)(2) of this section, if it meets any of the following criteria applied in accordance with the flowchart contained in attachment C-I to appendix C to this part:

(i) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or

(ii) The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:

(A) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation;

(B) The facility is located at a distance (as calculated using the appropriate formula in appendix C to this part or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III of the "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan prepared pursuant to section 311(j)(4) of the Clean Water Act;

(C) The facility is located at a distance (as calculated using the appropriate formula in appendix C to this part or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake; or

(D) The facility has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years.

(2)(i) To determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (b) of this section, the Regional Administrator shall consider the following:

(A) Type of transfer operation;

(B) Oil storage capacity;

(C) Lack of secondary containment;

(D) Proximity to fish and wildlife and sensitive environments and other areas determined by the Regional Administrator to possess ecological value;

(E) Proximity to drinking water intakes;

(F) Spill history; and

(G) Other site-specific characteristics and environmental factors that the Regional Administrator determines to be

relevant to protecting the environment from harm by discharges of oil into or on navigable waters or adjoining shorelines.

(ii) Any person, including a member of the public or any representative from a Federal, State, or local agency who believes that a facility subject to this section could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines may petition the Regional Administrator to determine whether the facility meets the criteria in paragraph (f)(2)(i) of this section. Such petition shall include a discussion of how the factors in paragraph (f)(2)(i) of this section apply to the facility in question. The RA shall consider such petitions and respond in an appropriate amount of time.

(3) To determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the Regional Administrator may consider the factors in paragraph (f)(2) of this section as well as the following:

(i) Frequency of past discharges;

(ii) Proximity to navigable waters;

(iii) Age of oil storage tanks; and

(iv) Other facility-specific and Region-specific information, including local impacts on public health.

(g)(1) All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act. The facility response plan should be coordinated with the local emergency response plan developed by the local emergency planning committee under section 303 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.). Upon request, the owner or operator should provide a copy of the facility response plan to the local emergency planning committee or State emergency response commission.

(2) The owner or operator shall review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan and applicable Area Contingency Plan annually and, if necessary, revise the facility response plan to ensure consistency with these plans.

(3) The owner or operator shall review and update the facility response plan periodically to reflect changes at the facility.

(h) A response plan shall follow the format of the model facility-specific response plan included in appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in appendix F to this part:

(1) *Emergency response action plan.* The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:

(i) The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;

(ii) The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;

(iii) A description of information to pass to response personnel in the event of a reportable discharge;

(iv) A description of the facility's response equipment and its location;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;

(vi) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(vii) A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and

(viii) A diagram of the facility.

(2) *Facility information.* The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.

(3) *Information about emergency response.* The response plan shall include:

(i) The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow Appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of Appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);

(ii) Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;

(iii) The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;

(iv) A description of information to pass to response personnel in the event of a reportable discharge;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;

(vi) A description of the facility's response equipment, the location of the equipment, and equipment testing;

(vii) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(viii) A diagram of evacuation routes; and

(ix) A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:

(A) Activate internal alarms and hazard communication systems to notify all facility personnel;

(B) Notify all response personnel, as needed;

(C) Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

(D) Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;

(E) Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;

(F) Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);

(G) Assess and implement prompt removal actions to contain and remove the substance released;

(H) Coordinate rescue and response actions as previously arranged with all response personnel;

(I) Use authority to immediately access company funding to initiate cleanup activities; and

(J) Direct cleanup activities until properly relieved of this responsibility.

(4) *Hazard evaluation.* The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(5) *Response planning levels.* The response plan shall include discussion of specific planning scenarios for:

(i) A worst case discharge, as calculated using the appropriate worksheet in appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;

(ii) A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and

(iii) A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.

(6) *Discharge detection systems.* The response plan shall describe the procedures and equipment used to detect discharges.

(7) *Plan implementation.* The response plan shall describe:

(i) Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;

(ii) A description of the equipment to be used for each scenario;

(iii) Plans to dispose of contaminated cleanup materials; and

(iv) Measures to provide adequate containment and drainage of discharged oil.

(8) *Self-inspection, drills/exercises, and response training.* The response plan shall include:

(i) A checklist and record of inspections for tanks, secondary containment, and response equipment;

(ii) A description of the drill/exercise program to be carried out under the response plan as described in § 112.21;

(iii) A description of the training program to be carried out under the response plan as described in § 112.21; and

(iv) Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.

(9) *Diagrams.* The response plan shall include site plan and drainage plan diagrams.

(10) *Security systems.* The response plan shall include a description of facility security systems.

(11) *Response plan cover sheet.* The response plan shall include a completed response plan cover sheet provided in section 2.0 of appendix F to this part.

(i)(1) In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to

the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(2) In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(3) After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.

[59 FR 34098, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 66 FR 34560, June 29, 2001; 67 FR 47151, July 17, 2002]

§ 112.21 Facility response training and drills/exercises.

(a) The owner or operator of any facility required to prepare a facility response plan under § 112.20 shall develop and implement a facility response training program and a drill/exercise program that satisfy the requirements of this section. The owner or operator shall describe the programs in the response plan as provided in § 112.20(h)(8).

(b) The facility owner or operator shall develop a facility response training program to train those personnel involved in oil spill response activities. It is recommended that the training program be based on the USCG's Training Elements for Oil Spill Response, as applicable to facility operations. An alternative program can also be acceptable subject to approval by the Regional Administrator.

(1) The owner or operator shall be responsible for the proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations.

(2) Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel.

(3) Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup.

(c) The facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. A program that follows the National Preparedness for Response Exercise Program (PREP) (see appendix E to this part, section 13, for availability) will be deemed satisfactory for purposes of this section. An alternative program can also be acceptable subject to approval by the Regional Administrator.

[59 FR 34101, July 1, 1994, as amended at 65 FR 40798, June 30, 2000]

APPENDIX A TO PART 112—MEMORANDUM OF UNDERSTANDING BETWEEN THE SECRETARY OF TRANSPORTATION AND THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

SECTION II—DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) *Non-transportation-related onshore and offshore facilities* means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment, piping from wellheads to oil separators, oil separators, and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural or public facilities which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) *Transportation-related onshore and offshore facilities* means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a non-transportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within

the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

APPENDIX B TO PART 112—MEMORANDUM OF UNDERSTANDING AMONG THE SECRETARY OF THE INTERIOR, SECRETARY OF TRANSPORTATION, AND ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

PURPOSE

This Memorandum of Understanding (MOU) establishes the jurisdictional responsibilities for offshore facilities, including pipelines, pursuant to section 311 (j)(1)(c), (j)(5), and (j)(6)(A) of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (Public Law 101–380). The Secretary of the Department of the Interior (DOI), Secretary of the Department of Transportation (DOT), and Administrator of the Environmental Protection Agency (EPA) agree to the division of responsibilities set forth below for spill prevention and control, response planning, and equipment inspection activities pursuant to those provisions.

BACKGROUND

Executive Order (E.O.) 12777 (56 FR 54757) delegates to DOI, DOT, and EPA various responsibilities identified in section 311(j) of the CWA. Sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 assigned to DOI spill prevention and control, contingency planning, and equipment inspection activities associated with offshore facilities. Section 311(a)(11) defines the term "offshore facility" to include facilities of any kind located in, on, or under navigable waters of the United States. By using this definition, the traditional DOI role of regulating facilities on the Outer Continental Shelf is expanded by E.O. 12777 to include inland lakes, rivers, streams, and any other inland waters.

RESPONSIBILITIES

Pursuant to section 2(i) of E.O. 12777, DOI redelegates, and EPA and DOT agree to assume, the functions vested in DOI by sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 as set forth below. For purposes of this MOU, the term "coast line" shall be defined as in the Submerged Lands Act (43 U.S.C. 1301(c)) to mean "the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters."

1. To EPA, DOI redelegates responsibility for non-transportation-related offshore facilities located landward of the coast line.

2. To DOT, DOI redelegates responsibility for transportation-related facilities, including pipelines, located landward of the coast line. The DOT retains jurisdiction for deepwater ports and their associated seaward pipelines, as delegated by E.O. 12777.

3. The DOI retains jurisdiction over facilities, including pipelines, located seaward of the coast line, except for deepwater ports and associated seaward pipelines delegated by E.O. 12777 to DOT.

EFFECTIVE DATE

This MOU is effective on the date of the final execution by the indicated signatories.

LIMITATIONS

1. The DOI, DOT, and EPA may agree in writing to exceptions to this MOU on a facility-specific basis. Affected parties will receive notification of the exceptions.

2. Nothing in this MOU is intended to replace, supersede, or modify any existing agreements between or among DOI, DOT, or EPA.

MODIFICATION AND TERMINATION

Any party to this agreement may propose modifications by submitting them in writing to the heads of the other agency/department. No modification may be adopted except with the consent of all parties. All parties shall indicate their consent to or disagreement with any proposed modification within 60 days of receipt. Upon the request of any party, representatives of all parties shall meet for the purpose of considering exceptions or modifications to this agreement. This MOU may be terminated only with the mutual consent of all parties.

Dated: November 8, 1993.
Bruce Babbitt,
Secretary of the Interior.
Dated: December 14, 1993.
Federico Peña,
Secretary of Transportation.
Dated: February 3, 1994.
Carol M. Browner,
Administrator, Environmental Protection Agency.

[59 FR 34102, July 1, 1994]

APPENDIX C TO PART 112—SUBSTANTIAL HARM CRITERIA

1.0 INTRODUCTION

The flowchart provided in Attachment C–I to this appendix shows the decision tree with the criteria to identify whether a facility "could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines." In addition, the Regional Administrator has the discretion to identify facilities that must prepare and submit facility-specific response plans to EPA.

1.1 Definitions

1.1.1 *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

1.1.2 Higher Volume Port Areas include

(1) Boston, MA;

(2) New York, NY;

(3) Delaware Bay and River to Philadelphia, PA;

(4) St. Croix, VI;

(5) Pascagoula, MS;

(6) Mississippi River from Southwest Pass, LA to Baton Rouge, LA;

(7) Louisiana Offshore Oil Port (LOOP), LA;

(8) Lake Charles, LA;

(9) Sabine-Neches River, TX;

(10) Galveston Bay and Houston Ship Channel, TX;

(11) Corpus Christi, TX;

(12) Los Angeles/Long Beach Harbor, CA;

(13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA;

(14) Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound, WA;

(15) Prince William Sound, AK; and

(16) Others as specified by the Regional Administrator for any EPA Region.

1.1.3 *Inland Area* means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80.740–80.850). The inland area does not include the Great Lakes.

1.1.4 *Rivers and Canals* means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less.

2.0 DESCRIPTION OF SCREENING CRITERIA FOR THE SUBSTANTIAL HARM FLOWCHART

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility-specific response plan to EPA in accordance with Appendix F to this part. A description of the screening criteria for the substantial harm flowchart is provided below:

2.1 *Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil.* A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water. These facilities are located adjacent to navigable water.

2.2 *Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems.

2.3 *Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112.2) to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil discharge could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.4 *Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c).

The distance at which an oil discharge from an SPCC-regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.5 *Facilities That Have Experienced Reportable Oil Discharges in an Amount Greater Than or Equal to 10,000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility's oil spill history within the past 5 years shall be considered in the evaluation for substantial harm. Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the past 5 years must submit a response plan to EPA.

3.0 Certification for Facilities That Do Not Pose Substantial Harm

If the facility does not meet the substantial harm criteria listed in Attachment C–I to this appendix, the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C–II to this appendix. In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

4.0 References

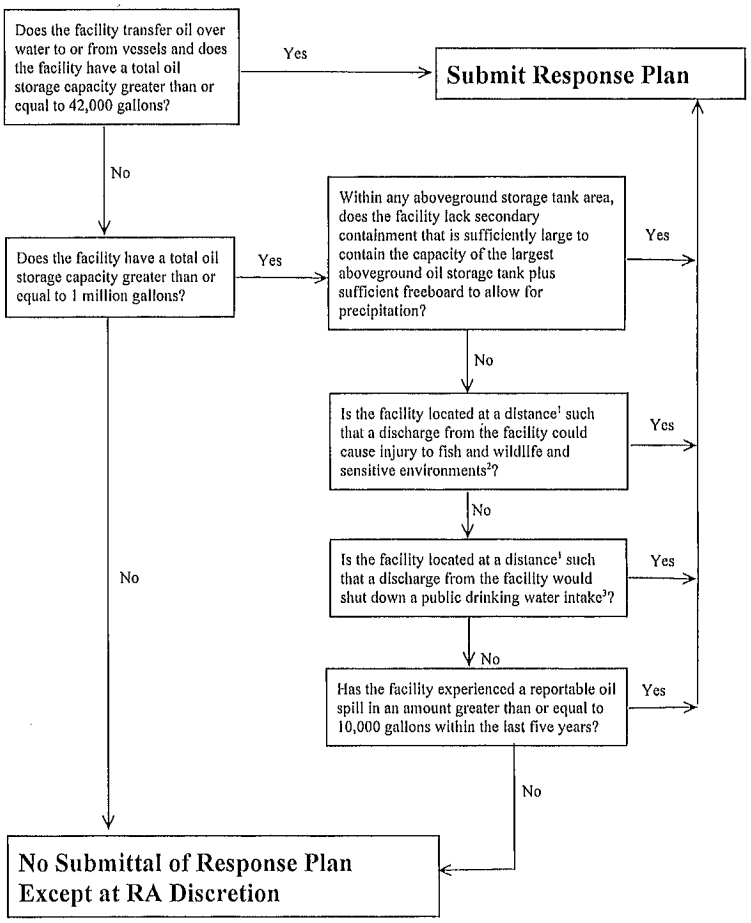
Chow, V.T. 1959. Open Channel Hydraulics. McGraw Hill.

USCG IFR (58 FR 7353, February 5, 1993). This document is available through EPA's rulemaking docket as noted in Appendix E to this part, section 13.

ATTACHMENTS TO APPENDIX C

Attachment C-I

Flowchart of Criteria for Substantial Harm



[1] Calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula.

[2] For further description of fish and wildlife and sensitive environments, see Appendices I,II, and III to DOC/NOAA's "Guidance for Facility and vessel response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.

[3] Public drinking water intakes are analogous to public water systems as described at CFR 143.2(c).

ATTACHMENT C-II—CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: _____
Facility Address: _____

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 _____

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 oil storage tank area?

Yes _____ No _____

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C–III to this appendix or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

Yes _____ No _____

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 in Attachment C-III to this appendix or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?

Yes _____ No _____

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 discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No _____

Certification

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

_____
Signature

_____
Name (please type or print)

_____
Title

_____
Date

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

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

ATTACHMENT C-III—CALCULATION OF THE PLANNING DISTANCE

1.0 Introduction

1.1 The facility owner or operator must evaluate whether the facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments or disrupt operations at a public drinking water intake. To quantify that distance, EPA considered oil transport mechanisms over land and on still, tidal influence, and moving navigable waters. EPA has determined that the primary concern for calculation of a planning distance is the transport of oil in navigable waters during adverse weather conditions. Therefore, two formulas have been developed to determine distances for planning purposes from the point of discharge at the facility to the potential site of impact on moving and still waters, respectively. The formula for oil transport on moving navigable water is based on the velocity of the water body and the time interval for arrival of response resources. The still water formula accounts for the spread of discharged oil over the surface of the water. The method to determine oil transport on tidal influence areas is based on the type of oil discharged and the distance down current during ebb tide and up current during flood tide to the point of maximum tidal influence.

1.2 EPA's formulas were designed to be simple to use. However, facility owners or operators may calculate planning distances using more sophisticated formulas, which take into account broader scientific or engineering principles, or local conditions. Such comparable formulas may result in different planning distances than EPA's formulas. In the event that an alternative formula that is comparable to one contained in this appendix is used to evaluate the criterion in 40 CFR 112.20(f)(1)(ii)(B) or (f)(1)(ii)(C), the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula and shall notify the Regional Administrator in

writing that an alternative formula was used.[1]

1.3 A regulated facility may meet the criteria for the potential to cause substantial harm to the environment without having to perform a planning distance calculation. For facilities that meet the substantial harm criteria because of inadequate secondary containment or oil spill history, as listed in the flowchart in Attachment C–I to this appendix, calculation of the planning distance is unnecessary. For facilities that do not meet the substantial harm criteria for secondary containment or oil spill history as listed in the flowchart, calculation of a planning distance for proximity to fish and wildlife and sensitive environments and public drinking water intakes is required, unless it is clear without performing the calculation (e.g., the facility is located in a wetland) that these areas would be impacted.

1.4 A facility owner or operator who must perform a planning distance calculation on navigable water is only required to do so for the type of navigable water conditions (i.e., moving water, still water, or tidal- influenced water) applicable to the facility. If a facility owner or operator determines that more than one type of navigable water condition applies, then the facility owner or operator is required to perform a planning distance calculation for each navigable water type to determine the greatest single distance that oil may be transported. As a result, the final planning distance for oil transport on water shall be the greatest individual distance rather than a summation of each calculated planning distance.

1.5 The planning distance formula for transport on moving waterways contains three variables: the velocity of the navigable water (v), the response time interval (t), and a conversion factor (c). The velocity, v, is determined by using the Chezy-Manning equation, which, in this case, models the flood flow rate of water in open channels. The Chezy-Manning equation contains three variables which must be determined by facility owners or operators. Manning's Roughness Coefficient (for flood flow rates), n, can be determined from Table 1 of this attachment. The hydraulic radius, r, can be estimated using the average mid-channel depth from charts provided by the sources listed in Table 2 of this attachment. The average slope of the river, s, can be determined using topographic maps that can be ordered from the U.S. Geological Survey, as listed in Table 2 of this attachment.

1.6 Table 3 of this attachment contains specified time intervals for estimating the arrival of response resources at the scene of a discharge. Assuming no prior planning, response resources should be able to arrive at the discharge site within 12 hours of the discovery of any oil discharge in Higher Volume Port Areas and within 24 hours in Great Lakes and all other river, canal, inland, and nearshore areas. The specified time intervals in Table 3 of Appendix C are to be used only to aid in the identification of whether a facility could cause substantial harm to the environment. Once it is determined that a plan must be developed for the facility, the owner or operator shall reference Appendix E to this part to determine appropriate resource levels and response times. The specified time intervals of this appendix include a 3-hour time period for deployment of boom and other response equipment. The Regional Administrator may identify additional areas as appropriate.

2.0 Oil Transport on Moving Navigable Waters

2.1 The facility owner or operator must use the following formula or a comparable formula as described in §112.20(a)(3) to calculate the planning distance for oil transport on moving navigable water:

d=v×t×c; where

d: the distance downstream from a facility within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down in the event of an oil discharge (in miles);

v: the velocity of the river/navigable water of concern (in ft/sec) as determined by Chezy-Manning's equation (see below and Tables 1 and 2 of this attachment);

t: the time interval specified in Table 3 based upon the type of water body and location (in hours); and

c: constant conversion factor 0.68 sec/mile/hr/ft (3600 sec/hr ÷ 5280 ft/mile).

2.2 Chezy-Manning's equation is used to determine velocity:

$v=1.5/n \times r^{2/3} \times s^{1/2}$; where

v=the velocity of the river of concern (in ft/sec);

n=Manning's Roughness Coefficient from Table 1 of this attachment;

r=the hydraulic radius; the hydraulic radius can be approximated for parabolic channels by multiplying the average mid-channel depth of the river (in feet) by 0.667

[1] For persistent oils or non-persistent oils, a worst case trajectory model (i.e., an alternative formula) may be substituted for the distance formulas described in still, moving, and tidal waters, subject to Regional Administrator's review of the model. An example of an alternative formula that is comparable to the one contained in this appendix would be a worst case trajectory calculation based on credible adverse winds, currents, and/or river stages, over a range of seasons, weather conditions, and river stages. Based on historical information or a spill trajectory model, the Agency may require that additional fish and wildlife and sensitive environments or public drinking water intakes also be protected.

(sources for obtaining the mid-channel depth are listed in Table 2 of this attachment); and

s=the average slope of the river (unitless) obtained from U.S. Geological Survey topographic maps at the address listed in Table 2 of this attachment.

TABLE 1—MANNING'S ROUGHNESS COEFFICIENT FOR NATURAL STREAMS

[NOTE: Coefficients are presented for high flow rates at or near flood stage.]

Stream description	Roughness coefficient (n)
Minor Streams (Top Width <100 ft.)	
Clean:	
Straight	0.03
Winding	0.04
Sluggish (Weedy, deep pools):	
No trees or brush	0.06
Trees and/or brush	0.10
Major Streams (Top Width >100 ft.)	
Regular section:	
(No boulders/brush)	0.035
Irregular section:	
(Brush)	0.05

TABLE 2—SOURCES OF R AND S FOR THE CHEZY-MANNING EQUATION

All of the charts and related publications for navigational waters may be ordered from:
Distribution Branch
(N/CG33)
National Ocean Service
Riverdale, Maryland 20737–1199
Phone: (301) 436–6990
There will be a charge for materials ordered and a VISA or Mastercard will be accepted.
The mid-channel depth to be used in the calculation of the hydraulic radius (r) can be obtained directly from the following sources:
Charts of Canadian Coastal and Great Lakes Waters:
Canadian Hydrographic Service
Department of Fisheries and Oceans Institute
P.O. Box 8080
1675 Russell Road
Ottawa, Ontario KIG 3H6
Canada
Phone: (613) 998–4931
Charts and Maps of Lower Mississippi River (Gulf of Mexico to Ohio River and St. Francis, White, Big Sunflower, Atchafalaya, and other rivers):
U.S. Army Corps of Engineers
Vicksburg District
P.O. Box 60
Vicksburg, Mississippi 39180
Phone: (601) 634–5000
Charts of Upper Mississippi River and Illinois Waterway to Lake Michigan:
U.S. Army Corps of Engineers
Rock Island District
P.O. Box 2004
Rock Island, Illinois 61204
Phone: (309) 794–5552
Charts of Missouri River:
U.S. Army Corps of Engineers
Omaha District
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102
Phone: (402) 221–3900
Charts of Ohio River:
U.S. Army Corps of Engineers
Ohio River Division
P.O. Box 1159
Cincinnati, Ohio 45201
Phone: (513) 684–3002
Charts of Tennessee Valley Authority Reservoirs, Tennessee River and Tributaries:
Tennessee Valley Authority
Maps and Engineering Section
416 Union Avenue
Knoxville, Tennessee 37902
Phone: (615) 632–2921
Charts of Black Warrior River, Alabama River, Tombigbee River, Apalachicola River and Pearl River:
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, Alabama 36628–0001
Phone: (205) 690–2511
The average slope of the river (s) may be obtained from topographic maps:
U.S. Geological Survey
Map Distribution
Federal Center
Bldg. 41
Box 25286
Denver, Colorado 80225
Additional information can be obtained from the following sources:

1. The State's Department of Natural Resources (DNR) or the State's Aids to Navigation office;
2. A knowledgeable local marina operator; or
3. A knowledgeable local water authority (e.g., State water commission)

2.3 The average slope of the river (s) can be determined from the topographic maps using the following steps:

(1) Locate the facility on the map.

(2) Find the Normal Pool Elevation at the point of discharge from the facility into the water (A).

(3) Find the Normal Pool Elevation of the public drinking water intake or fish and wildlife and sensitive environment located downstream (B) (Note: The owner or operator should use a minimum of 20 miles downstream as a cutoff to obtain the average slope if the location of a specific public drinking water intake or fish and wildlife and sensitive environment is unknown).

(4) If the Normal Pool Elevation is not available, the elevation contours can be used to find the slope. Determine elevation of the water at the point of discharge from the facility (A). Determine the elevation of the

water at the appropriate distance downstream (B). The formula presented below can be used to calculate the slope.

(5) Determine the distance (in miles) between the facility and the public drinking water intake or fish and wildlife and sensitive environments (C).

(6) Use the following formula to find the slope, which will be a unitless value: Average Slope=[(A−B) (ft)/C (miles)] × [1 mile/5280 feet]

2.4 If it is not feasible to determine the slope and mid-channel depth by the Chezy-Manning equation, then the river velocity can be approximated on- site. A specific length, such as 100 feet, can be marked off along the shoreline. A float can be dropped into the stream above the mark, and the time required for the float to travel the distance can be used to determine the velocity in feet per second. However, this method will not yield an average velocity for the length of the stream, but a velocity only for the specific location of measurement. In addition, the flow rate will vary depending on weather conditions such as wind and rainfall. It is recommended that facility owners or operators repeat the measurement under a variety of conditions to obtain the most accurate estimate of the surface water velocity under adverse weather conditions.

2.5 The planning distance calculations for moving and still navigable waters are based on worst case discharges of persistent oils. Persistent oils are of concern because they can remain in the water for significant periods of time and can potentially exist in large quantities downstream. Owners or operators of facilities that store persistent as well as non-persistent oils may use a comparable formula. The volume of oil discharged is not included as part of the planning distance calculation for moving navigable waters. Facilities that will meet this substantial harm criterion are those with facility capacities greater than or equal to 1 million gallons. It is assumed that these facilities are capable of having an oil discharge of sufficient quantity to cause injury to fish and wildlife and sensitive environments or shut down a public drinking water intake. While owners or operators of transfer facilities that store greater than or equal to 42,000 gallons are not required to use a planning distance formula for purposes of the substantial harm criteria, they should use a planning distance calculation in the development of facility-specific response plans.

TABLE 3—SPECIFIED TIME INTERVALS

Operating areas	Substantial harm planning time (hrs)
Higher volume port area.	12 hour arrival+3 hour deployment=15 hours.
Great Lakes ...	24 hour arrival+3 hour deployment=27 hours.
All other rivers and canals, inland, and nearshore areas.	24 hour arrival+3 hour deployment=27 hours.

2.6 *Example of the Planning Distance Calculation for Oil Transport on Moving Navigable Waters.* The following example provides a sample calculation using the planning distance formula for a facility discharging oil into the Monongahela River:

(1) Solve for v by evaluating n, r, and s for the Chezy-Manning equation:

Find the roughness coefficient, n, on Table 1 of this attachment for a regular section of a major stream with a top width greater than 100 feet. The top width of the river can be found from the topographic map.

n=0.035.

Find slope, s, where A=727 feet, B=710 feet, and C=25 miles.

Solving:

$s=[(727\ ft-1710\ ft)/25\ miles]\times[1\ mile/5280\ feet]=1.3\times10^{-4}$

The average mid-channel depth is found by averaging the mid-channel depth for each mile along the length of the river between the facility and the public drinking water intake or the fish or wildlife or sensitive environment (or 20 miles downstream if applicable). This value is multiplied by 0.667 to obtain the hydraulic radius. The mid-channel depth is found by obtaining values for r and s from the sources shown in Table 2 for the Monongahela River.

Solving:

$r=0.667\times20\ feet=13.33\ feet$

Solve for v using:

$v=1.5/n\times r^{2/3}\times s^{1/2}$;

$v=[1.5/0.035]\times(13.33)^{2/3}\times(1.3\times10^{-4})^{1/2}$

$v=2.73$ feet/second

(2) Find t from Table 3 of this attachment. The Monongahela River's resource response time is 27 hours.

(3) Solve for planning distance, d:

$d=v\times t\times c$

$d=(2.73\ ft/sec)\times(27\ hours)\times(0.68\ sec/mile/hr/ft)$

d=50 miles

Therefore, 50 miles downstream is the appropriate planning distance for this facility.

3.0 Oil Transport on Still Water

3.1 For bodies of water including lakes or ponds that do not have a measurable velocity, the spreading of the oil over the surface must be considered. Owners or operators of facilities located next to still water bodies may use a comparable means of calculating

the planning distance. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable calculation must be attached to the response plan cover sheet.

3.2 *Example of the Planning Distance Calculation for Oil Transport on Still Water.* To assist those facilities which could potentially discharge into a still body of water, the following analysis was performed to provide an example of the type of formula that may be used to calculate the planning distance. For this example, a worst case discharge of 2,000,000 gallons is used.

(1) The surface area in square feet covered by an oil discharge on still water, A1, can be determined by the following formula,[2] where V is the volume of the discharge in gallons and C is a constant conversion factor:

$A_1=10^5\times V^{3/4}\times C$

$C=0.1643$

$A_1=10^5\times(2{,}000{,}000 \text{ gallons})^{3/4}\times(0.1643)$

$A_1=8.74\times10^8 \text{ ft}^2$

(2) The spreading formula is based on the theoretical condition that the oil will spread uniformly in all directions forming a circle. In reality, the outfall of the discharge will direct the oil to the surface of the water where it intersects the shoreline. Although the oil will not spread uniformly in all directions, it is assumed that the discharge will spread from the shoreline into a semi-circle (this assumption does not account for winds or wave action).

(3) The area of a circle=† r^2

(4) To account for the assumption that oil will spread in a semi-circular shape, the area of a circle is divided by 2 and is designated as A_2.

$A_2=(\dagger r^2)/2$

Solving for the radius, r, using the relationship $A_1=A_2$: $8.74\times10^8 \text{ ft}^2=(\dagger^2)/2$

Therefore, r=23,586 ft

r=23,586 ft÷5,280 ft/mile=4.5 miles

Assuming a 20 knot wind under storm conditions:

1 knot=1.15 miles/hour

20 knots×1.15 miles/hour/knot=23 miles/hr

Assuming that the oil slick moves at 3 percent of the wind's speed:[3]

23 miles/hour×0.03=0.69 miles/hour

(5) To estimate the distance that the oil will travel, use the times required for response resources to arrive at different geographic locations as shown in Table 3 of this attachment.

For example:

For Higher Volume Port Areas: 15 hrs×0.69 miles/hr=10.4 miles

For Great Lakes and all other areas: 27 hrs×0.69 miles/hr=18.6 miles

(6) The total distance that the oil will travel from the point of discharge, including the distance due to spreading, is calculated as follows:

Higher Volume Port Areas: d=10.4+4.5 miles or approximately 15 miles

Great Lakes and all other areas: d=18.6+4.5 miles or approximately 23 miles

4.0 Oil Transport on Tidal-Influence Areas

4.1 The planning distance method for tidal influence navigable water is based on worst case discharges of persistent and non-persistent oils. Persistent oils are of primary concern because they can potentially cause harm over a greater distance. For persistent oils discharged into tidal waters, the planning distance is 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.

4.2 For non-persistent oils discharged into tidal waters, the planning distance is 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.

4.3 *Example of Determining the Planning Distance for Two Types of Navigable Water Conditions.* Below is an example of how to determine the proper planning distance when a facility could impact two types of navigable water conditions: moving water and tidal water.

(1) Facility X stores persistent oil and is located downstream from locks along a slow moving river which is affected by tides. The river velocity, v, is determined to be 0.5 feet/second from the Chezy-Manning equation used to calculate oil transport on moving navigable waters. The specified time interval, t, obtained from Table 3 of this attachment for river areas is 27 hours. Therefore, solving for the planning distance, d:

$d=v\times t\times c$

$d=(0.5 \text{ ft/sec})\times(27 \text{ hours})\times(0.68 \text{ secmile/hrft})$

$d=9.18$ miles.

(2) However, the planning distance for maximum tidal influence down current during ebb tide is 15 miles, which is greater than the calculated 9.18 miles. Therefore, 15 miles downstream is the appropriate planning distance for this facility.

5.0 Oil Transport Over Land

5.1 Facility owners or operators must evaluate the potential for oil to be transported over land to navigable waters of the United States. The owner or operator must evaluate the likelihood that portions of a worst case discharge would reach navigable

[2] Huang, J.C. and Monastero, F.C., 1982. *Review of the State-of-the-Art of Oil Pollution Models.* Final report submitted to the American Petroleum Institute by Raytheon Ocean Systems, Co., East Providence, Rhode Island.

[3] *Oil Spill Prevention & Control.* National Spill Control School, Corpus Christi State University, Thirteenth Edition, May 1990.

waters via open channel flow or from sheet flow across the land, or be prevented from reaching navigable waters when trapped in natural or man-made depressions excluding secondary containment structures.

5.2 As discharged oil travels over land, it may enter a storm drain or open concrete channel intended for drainage. It is assumed that once oil reaches such an inlet, it will flow into the receiving navigable water. During a storm event, it is highly probable that the oil will either flow into the drainage structures or follow the natural contours of the land and flow into the navigable water. Expected minimum and maximum velocities are provided as examples of open concrete channel and pipe flow. The ranges listed below reflect minimum and maximum velocities used as design criteria.[4] The calculation below demonstrates that the time required for oil to travel through a storm drain or open concrete channel to navigable water is negligible and can be considered instantaneous. The velocities are:

For open concrete channels:
maximum velocity=25 feet per second
minimum velocity=3 feet per second
For storm drains:
maximum velocity=25 feet per second
minimum velocity=2 feet per second

5.3 Assuming a length of 0.5 mile from the point of discharge through an open concrete channel or concrete storm drain to a navigable water, the travel times (distance/velocity) are:

1.8 minutes at a velocity of 25 feet per second
14.7 minutes at a velocity of 3 feet per second
22.0 minutes for at a velocity of 2 feet per second

5.4 The distances that shall be considered to determine the planning distance are illustrated in Figure C-I of this attachment. The relevant distances can be described as follows:

D1=Distance from the nearest opportunity for discharge, X_1, to a storm drain or an open concrete channel leading to navigable water.

D2=Distance through the storm drain or open concrete channel to navigable water.

D3=Distance downstream from the outfall within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down as determined by the planning distance formula.

D4=Distance from the nearest opportunity for discharge, X_2, to fish and wildlife and sensitive environments not bordering navigable water.

5.5 A facility owner or operator whose nearest opportunity for discharge is located within 0.5 mile of a navigable water must complete the planning distance calculation (D3) for the type of navigable water near the facility or use a comparable formula.

5.6 A facility that is located at a distance greater than 0.5 mile from a navigable water must also calculate a planning distance (D3) if it is in close proximity (i.e., D1 is less than 0.5 mile and other factors are conducive to oil travel over land) to storm drains that flow to navigable waters. Factors to be considered in assessing oil transport over land to storm drains shall include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity. Storm drains or concrete drainage channels that are located in close proximity to the facility can provide a direct pathway to navigable waters, regardless of the length of the drainage pipe. If D1 is less than or equal to 0.5 mile, a discharge from the facility could pose substantial harm because the time to travel the distance from the storm drain to the navigable water (D2) is virtually instantaneous.

5.7 A facility's proximity to fish and wildlife and sensitive environments not bordering a navigable water, as depicted as D4 in Figure C–I of this attachment, must also be considered, regardless of the distance from the facility to navigable waters. Factors to be considered in assessing oil transport over land to fish and wildlife and sensitive environments should include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity.

5.8 If a facility is not found to pose substantial harm to fish and wildlife and sensitive environments not bordering navigable waters via oil transport on land, then supporting documentation should be maintained at the facility. However, such documentation should be submitted with the response plan if a facility is found to pose substantial harm.

[4] The design velocities were obtained from Howard County, Maryland Department of Public Works' Storm Drainage Design Manual.

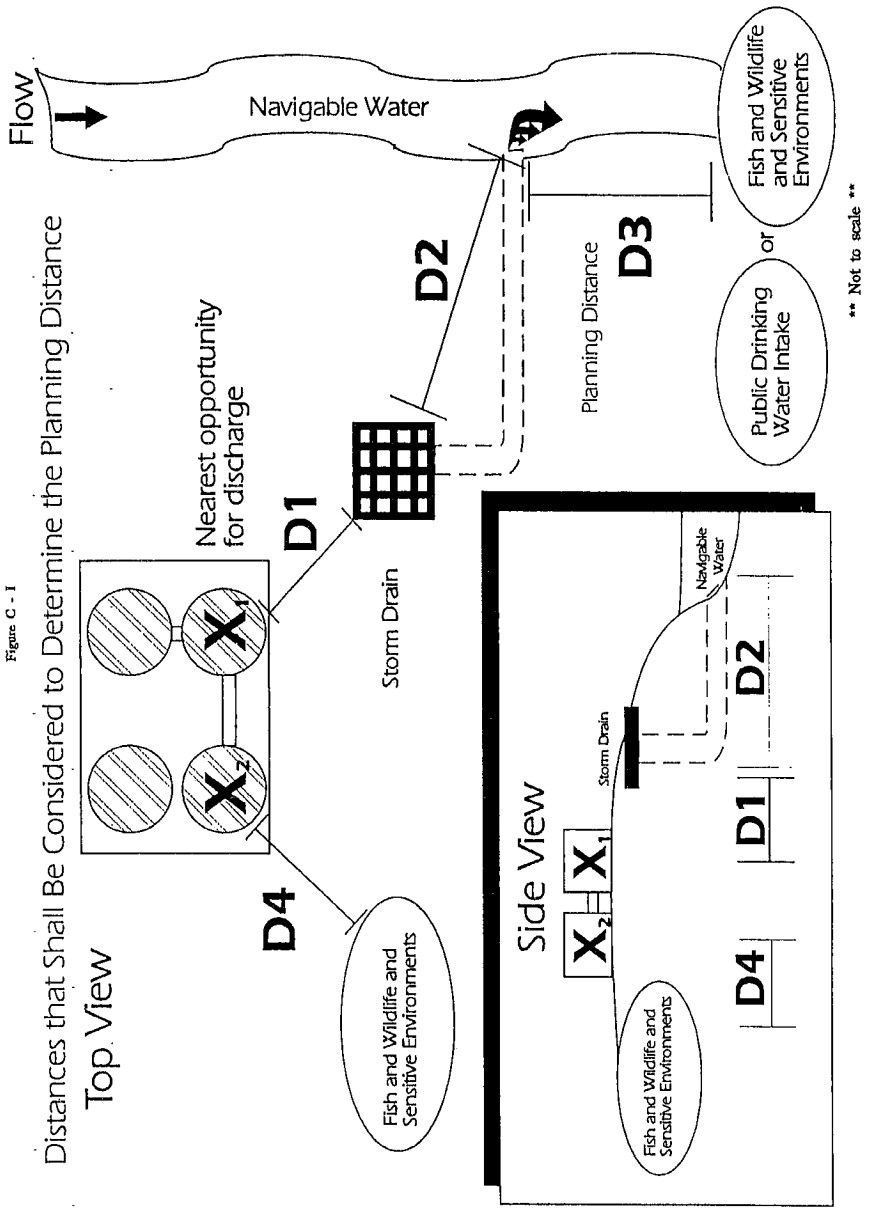


Figure C - 1

[59 FR 34102, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 67 FR 47152, July 17, 2002]

APPENDIX D TO PART 112—DETERMINATION OF A WORST CASE DISCHARGE PLANNING VOLUME

1.0 Instructions

1.1 An owner or operator is required to complete this worksheet if the facility meets the criteria, as presented in Appendix C to this part, or it is determined by the RA that the facility could cause substantial harm to the environment. The calculation of a worst case discharge planning volume is used for emergency planning purposes, and is required in 40 CFR 112.20 for facility owners or operators who must prepare a response plan. When planning for the amount of resources and equipment necessary to respond to the worst case discharge planning volume, adverse weather conditions must be taken into consideration. An owner or operator is required to determine the facility's worst case discharge planning volume from either part A of this appendix for an onshore storage facility, or part B of this appendix for an onshore production facility. The worksheet considers the provision of adequate secondary containment at a facility.

1.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In a worst case discharge scenario, a single failure could cause the discharge of the contents of more than one tank. The owner or operator must provide evidence in the response plan that tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge planning volume would be based on the capacity of the largest oil storage tank within a common secondary containment area or the largest oil storage tank within a single secondary containment area, whichever is greater. For permanently manifolded tanks that function as one oil storage unit, the worst case discharge planning volume would be based on the combined oil storage capacity of all manifolded tanks or the capacity of the largest single oil storage tank within a secondary containment area, whichever is greater. For purposes of this rule, permanently manifolded tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.3 For production facilities, the presence of exploratory wells, production wells, and oil storage tanks must be considered in the calculation. Part B of this appendix takes these additional factors into consideration and provides steps for their inclusion in the total worst case discharge planning volume. Onshore oil production facilities may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator. Although a potential worst case discharge planning volume is calculated within each section of the worksheet, the final worst case amount depends on the risk parameter that results in the greatest volume.

1.4 Marine transportation-related transfer facilities that contain fixed aboveground onshore structures used for bulk oil storage are jointly regulated by EPA and the U.S. Coast Guard (USCG), and are termed "complexes." Because the USCG also requires response plans from transportation-related facilities to address a worst case discharge of oil, a separate calculation for the worst case discharge planning volume for USCG-related facilities is included in the USCG IFR (see Appendix E to this part, section 13, for availability). All complexes that are jointly regulated by EPA and the USCG must compare both calculations for worst case discharge planning volume derived by using the EPA and USCG methodologies and plan for whichever volume is greater.

PART A: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE STORAGE FACILITIES[1]

Part A of this worksheet is to be completed by the owner or operator of an SPCC-regulated facility (excluding oil production facilities) if the facility meets the criteria as presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm to the environment. If you are the owner or operator of a production facility, please proceed to part B of this worksheet.

A.1 SINGLE-TANK FACILITIES

For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the oil storage tank. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the oil storage tank, multiply the capacity of the tank by 0.8.

(1) FINAL WORST CASE VOLUME: _____ GAL

(2) Do not proceed further.

[1] "Storage facilities" represent all facilities subject to this part, excluding oil production facilities.

A.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?[2]

_____ (Y/N)

A.2.1 If the answer is yes, the final worst case discharge planning volume equals the *total aboveground oil storage capacity at the facility.*

(1) FINAL WORST CASE VOLUME: _____ GAL

(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER "0" (zero).

_____ GAL

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.2.

FINAL WORST CASE VOLUME:[3] _____ GAL

PART B: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE PRODUCTION FACILITIES

Part B of this worksheet is to be completed by the owner or operator of an SPCC-regulated oil production facility if the facility meets the criteria presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm. A production facility consists of all wells (producing and exploratory) and related equipment in a single geographical oil or gas field operated by a single operator.

B.1 SINGLE-TANK FACILITIES

B.1.1 For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the aboveground oil storage tank plus the production volume of the well with the highest output at the facility. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the storage tank, multiply the capacity of the tank by 0.8.

B.1.2 For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

B.1.3 If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

B.1.4 Attachment D–1 to this appendix provides methods for calculating the production volume for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME: _____ GAL

(2) Do not proceed further.

B.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?

_____ (Y/N)

B.2.1 If the answer is yes, the final worst case volume equals the total aboveground oil storage capacity without adequate secondary containment plus the production volume of the well with the highest output at the facility.

(1) For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

(2) If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

(3) Attachment D–1 to this appendix provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(A) FINAL WORST CASE VOLUME: _____ GAL

(B) Do not proceed further.

[2] Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

[3] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

B.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER "0" (zero).

_____ GAL

B.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, plus the production volume of the well with the highest output, PLUS THE VOLUME FROM QUESTION B.2.2. Attachment D–1 provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME:[4]

_____ GAL

(2) Do not proceed further.

ATTACHMENTS TO APPENDIX D

ATTACHMENT D–I—METHODS TO CALCULATE PRODUCTION VOLUMES FOR PRODUCTION FACILITIES WITH EXPLORATORY WELLS OR PRODUCTION WELLS PRODUCING UNDER PRESSURE

1.0 Introduction

The owner or operator of a production facility with exploratory wells or production wells producing under pressure shall compare the well rate of the highest output well (rate of well), in barrels per day, to the ability of response equipment and personnel to recover the volume of oil that could be discharged (rate of recovery), in barrels per day. The result of this comparison will determine the method used to calculate the production volume for the production facility. This production volume is to be used to calculate the worst case discharge planning volume in part B of this appendix.

2.0 Description of Methods

2.1 Method A

If the well rate would overwhelm the response efforts (i.e., rate of well/rate of recovery ≥1), then the production volume would be the 30-day forecasted well rate for a well 10,000 feet deep or less, or the 45-day forecasted well rate for a well deeper than 10,000 feet.

(1) For wells 10,000 feet deep or less:

Production volume=30 days × rate of well.

(2) For wells deeper than 10,000 feet:

Production volume=45 days × rate of well.

2.2 Method B

2.2.1 If the rate of recovery would be greater than the well rate (i.e., rate of well/rate of recovery <1), then the production volume would equal the sum of two terms:

Production volume=discharge volume$_1$ + discharge volume$_2$

2.2.2 The first term represents the volume of the oil discharged from the well between the time of the blowout and the time the response resources are on scene and recovering oil (discharge volume$_1$).

Discharge volume$_1$=(days unattended+days to respond) × (rate of well)

2.2.3 The second term represents the volume of oil discharged from the well after the response resources begin operating until the discharge is stopped, adjusted for the recovery rate of the response resources (discharge volume$_2$).

(1) For wells 10,000 feet deep or less:

Discharge volume$_2$=[30 days−(days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

(2) For wells deeper than 10,000 feet:

Discharge volume$_2$=[45 days−(days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

3.0 Example

3.1 A facility consists of two production wells producing under pressure, which are both less than 10,000 feet deep. The well rate of well A is 5 barrels per day, and the well rate of well B is 10 barrels per day. The facility is unattended for a maximum of 7 days. The facility operator estimates that it will take 2 days to have response equipment and personnel on scene and responding to a blowout, and that the projected rate of recovery will be 20 barrels per day.

(1) First, the facility operator determines that the highest output well is well B. The facility operator calculates the ratio of the rate of well to the rate of recovery:

10 barrels per day/20 barrels per day=0.5 Because the ratio is less than one, the facility operator will use Method B to calculate the production volume.

(2) The first term of the equation is:

Discharge volume$_1$=(7 days + 2 days) × (10 barrels per day)=90 barrels

(3) The second term of the equation is:

Discharge volume$_2$=[30 days—(7 days + 2 days)] × (10 barrels per day) × (0.5)=105 barrels

(4) Therefore, the production volume is:

Production volume=90 barrels + 105 barrels=195 barrels

[4] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

3.2 If the recovery rate was 5 barrels per day, the ratio of rate of well to rate of recovery would be 2, so the facility operator would use Method A. The production volume would have been:

30 days × 10 barrels per day=300 barrels

[59 FR 34110, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40800, June 30, 2000; 67 FR 47152, July 17, 2002]

APPENDIX E TO PART 112—DETERMINATION AND EVALUATION OF REQUIRED RESPONSE RESOURCES FOR FACILITY RESPONSE PLANS

1.0 Purpose and Definitions

1.1 The purpose of this appendix is to describe the procedures to identify response resources to meet the requirements of §112.20. To identify response resources to meet the facility response plan requirements of 40 CFR 112.20(h), owners or operators shall follow this appendix or, where not appropriate, shall clearly demonstrate in the response plan why use of this appendix is not appropriate at the facility and make comparable arrangements for response resources.

1.2 Definitions.

1.2.1 *Animal fat* means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin. Animal fats are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.2 *Nearshore* is an operating area defined as extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending 12 miles from the line of demarcation (COLREG lines) defined in 49 CFR 80.740 and 80.850.

1.2.3 *Non-persistent oils* or *Group 1 oils* include:

(1) A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

(A) At least 50 percent of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and

(B) At least 95 percent of which by volume, distill at a temperature of 370 degrees C (700 degrees F); and

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity less than 0.8.

1.2.4 *Non-petroleum oil* means oil of any kind that is not petroleum-based, including but not limited to: fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

1.2.5 *Ocean* means the nearshore area.

1.2.6 *Operating area* means Rivers and Canals, Inland, Nearshore, and Great Lakes geographic location(s) in which a facility is handling, storing, or transporting oil.

1.2.7 *Operating environment* means Rivers and Canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.

1.2.8 *Persistent oils* include:

(1) A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. Persistent oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity of 0.8 or greater. These oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity equal to or greater than 0.8 and less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

1.2.9 *Vegetable oil* means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels. Vegetable oils are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.10 Other definitions are included in §112.2, section 1.1 of Appendix C, and section 3.0 of Appendix F.

2.0 Equipment Operability and Readiness

2.1 All equipment identified in a response plan must be designed to operate in the conditions expected in the facility's geographic area (i.e., operating environment). These conditions vary widely based on location and season. Therefore, it is difficult to identify a single stockpile of response equipment that will function effectively in each geographic location (i.e., operating area).

2.2 Facilities handling, storing, or transporting oil in more than one operating environment as indicated in Table 1 of this appendix must identify equipment capable of successfully functioning in each operating environment.

2.3 When identifying equipment for the response plan (based on the use of this appendix), a facility owner or operator must consider the inherent limitations of the operability of equipment components and response systems. The criteria in Table 1 of this appendix shall be used to evaluate the operability in a given environment. These criteria reflect the general conditions in certain operating environments.

2.3.1 The Regional Administrator may require documentation that the boom identified in a facility response plan meets the criteria in Table 1 of this appendix. Absent acceptable documentation, the Regional Administrator may require that the boom be tested to demonstrate that it meets the criteria in Table 1 of this appendix. Testing must be in accordance with ASTM F 715, ASTM F 989, or other tests approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

2.4 Table 1 of this appendix lists criteria for oil recovery devices and boom. All other equipment necessary to sustain or support response operations in an operating environment must be designed to function in the same conditions. For example, boats that deploy or support skimmers or boom must be capable of being safely operated in the significant wave heights listed for the applicable operating environment.

2.5 A facility owner or operator shall refer to the applicable Area Contingency Plan (ACP), where available, to determine if ice, debris, and weather-related visibility are significant factors to evaluate the operability of equipment. The ACP may also identify the average temperature ranges expected in the facility's operating area. All equipment identified in a response plan must be designed to operate within those conditions or ranges.

2.6 This appendix provides information on response resource mobilization and response times. The distance of the facility from the storage location of the response resources must be used to determine whether the resources can arrive on-scene within the stated time. A facility owner or operator shall include the time for notification, mobilization, and travel of resources identified to meet the medium and Tier 1 worst case discharge requirements identified in sections 4.3 and 9.3 of this appendix (for medium discharges) and section 5.3 of this appendix (for worst case discharges). The facility owner or operator must plan for notification and mobilization of Tier 2 and 3 response resources as necessary to meet the requirements for arrival on-scene in accordance with section 5.3 of this appendix. An on-water speed of 5 knots and a land speed of 35 miles per hour is assumed, unless the facility owner or operator can demonstrate otherwise.

2.7 In identifying equipment, the facility owner or operator shall list the storage location, quantity, and manufacturer's make and model. For oil recovery devices, the effective daily recovery capacity, as determined using section 6 of this appendix, must be included. For boom, the overall boom height (draft and freeboard) shall be included. A facility owner or operator is responsible for ensuring that the identified boom has compatible connectors.

3.0 Determining Response Resources Required for Small Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

3.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

3.2 Complexes that are regulated by EPA and the United States Coast Guard (USCG) must also consider planning quantities for the transportation-related transfer portion of the facility.

3.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's "small discharge" is termed "the average most probable discharge." A USCG rule found at 33 CFR 154.1020 defines "the average most probable discharge" as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of complexes that handle, store, or transport petroleum oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

3.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a small discharge. There is no USCG planning level that directly corresponds to EPA's "small discharge." However, the USCG (at 33 CFR 154.545) has requirements to identify equipment to contain oil resulting from an operational discharge.

3.3 The response resources shall, as appropriate, include:

3.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

3.3.2 Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a small discharge or greater which is available at the

facility within 2 hours of the detection of an oil discharge; and

3.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

4.0 Determining Response Resources Required for Medium Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

4.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of oil for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

4.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility.

4.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's "medium discharge" is termed "the maximum most probable discharge." The USCG rule found at 33 CFR part 154 defines "the maximum most probable discharge" as a discharge of 1,200 barrels (50,400 gallons) or 10 percent of the worst case discharge, whichever is less. Owners or operators of complexes that handle, store, or transport petroleum oils must compare calculated discharge volumes for a medium discharge and a maximum most probable discharge, and plan for whichever quantity is greater.

4.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's "medium discharge."

4.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

4.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 4.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

4.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

4.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

4.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area: The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

5.0 Determining Response Resources Required for the Worst Case Discharge to the Maximum Extent Practicable

5.1 A facility owner or operator shall identify and ensure the availability of, by

contract or other approved means as described in §112.2, sufficient response resources to respond to the worst case discharge of oil to the maximum extent practicable. Sections 7 and 10 of this appendix describe the method to determine the necessary response resources. Worksheets are provided as Attachments E–1 and E–2 at the end of this appendix to simplify the procedures involved in calculating the planning volume for response resources for the worst case discharge.

5.2 Complexes that are regulated by EPA and the USCG must also consider planning for the worst case discharge at the transportation-related portion of the facility. The USCG requires that transportation-related facility owners or operators use a different calculation for the worst case discharge in the revisions to 33 CFR part 154. Owners or operators of complex facilities that are regulated by EPA and the USCG must compare both calculations of worst case discharge derived by EPA and the USCG and plan for whichever volume is greater.

5.3 Oil discharge response resources identified in the response plan and available, by contract or other approved means as described in §112.2, to meet the applicable worst case discharge planning volume must be located such that they are capable of arriving at the scene of a discharge within the times specified for the applicable response tier listed as follows

	Tier 1 (in hours)	Tier 2 (in hours)	Tier 3 (in hours)
Higher volume port areas	6	30	54
Great Lakes	12	36	60
All other river and canal, inland, and nearshore areas	12	36	60

The three levels of response tiers apply to the amount of time in which facility owners or operators must plan for response resources to arrive at the scene of a discharge to respond to the worst case discharge planning volume. For example, at a worst case discharge in an inland area, the first tier of response resources (*i.e.*, that amount of on-water and shoreline cleanup capacity necessary to respond to the fraction of the worst case discharge as indicated through the series of steps described in sections 7.2 and 7.3 or sections 10.2 and 10.3 of this appendix) would arrive at the scene of the discharge within 12 hours; the second tier of response resources would arrive within 36 hours; and the third tier of response resources would arrive within 60 hours.

5.4 The effective daily recovery capacity for oil recovery devices identified in the response plan must be determined using the criteria in section 6 of this appendix. A facility owner or operator shall identify the storage locations of all response resources used for each tier. The owner or operator of a facility whose required daily recovery capacity exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment, their location, and the arrangements made to obtain this equipment during a response. The owner or operator of a facility whose calculated planning volume exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment equal to twice the cap listed in Tier 3 or the amount necessary to reach the calculated planning volume, whichever is lower. The resources identified above the cap shall be capable of arriving on-scene not later than the Tier 3 response times in section 5.3 of this appendix. No contract is required. While general listings of available response equipment may be used to identify additional sources (i.e., "public" resources vs. "private" resources), the response plan shall identify the specific sources, locations, and quantities of equipment that a facility owner or operator has considered in his or her planning. When listing USCG-classified oil spill removal organization(s) that have sufficient removal capacity to recover the volume above the response capacity cap for the specific facility, as specified in Table 5 of this appendix, it is not necessary to list specific quantities of equipment.

5.5 A facility owner or operator shall identify the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

5.6 When selecting response resources necessary to meet the response plan requirements, the facility owner or operator shall, as appropriate, ensure that a portion of those resources is capable of being used in close-to-shore response activities in shallow water. For any EPA-regulated facility that is required to plan for response in shallow water, at least 20 percent of the on-water response equipment identified for the applicable operating area shall, as appropriate, be capable of operating in water of 6 feet or less depth.

5.7 In addition to oil spill recovery devices, a facility owner or operator shall identify sufficient quantities of boom that are available, by contract or other approved means as described in §112.2, to arrive on-

scene within the specified response times for oil containment and collection. The specific quantity of boom required for collection and containment will depend on the facility-specific information and response strategies employed. A facility owner or operator shall, as appropriate, also identify sufficient quantities of oil containment boom to protect fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability), and the applicable ACP. Refer to this guidance document for the number of days and geographic areas (*i.e.*, operating environments) specified in Table 2 and Table 6 of this appendix.

5.8 A facility owner or operator shall also identify, by contract or other approved means as described in §112.2, the availability of an oil spill removal organization(s) (as described in §112.2) capable of responding to a shoreline cleanup operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline. The volume of oil that shall, as appropriate, be planned for is calculated through the application of factors contained in Tables 2, 3, 6, and 7 of this appendix. The volume calculated from these tables is intended to assist the facility owner or operator to identify an oil spill removal organization with sufficient resources and expertise.

6.0 Determining Effective Daily Recovery Capacity for Oil Recovery Devices

6.1 Oil recovery devices identified by a facility owner or operator must be identified by the manufacturer, model, and effective daily recovery capacity. These capacities must be used to determine whether there is sufficient capacity to meet the applicable planning criteria for a small discharge, a medium discharge, and a worst case discharge to the maximum extent practicable.

6.2 To determine the effective daily recovery capacity of oil recovery devices, the formula listed in section 6.2.1 of this appendix shall be used. This formula considers potential limitations due to available daylight, weather, sea state, and percentage of emulsified oil in the recovered material. The RA may assign a lower efficiency factor to equipment listed in a response plan if it is determined that such a reduction is warranted.

6.2.1 The following formula shall be used to calculate the effective daily recovery capacity:

$R = T \times 24 \text{ hours} \times E$

where:

R—Effective daily recovery capacity;

T—Throughput rate in barrels per hour (nameplate capacity); and

E—20 percent efficiency factor (or lower factor as determined by the Regional Administrator).

6.2.2 For those devices in which the pump limits the throughput of liquid, throughput rate shall be calculated using the pump capacity.

6.2.3 For belt or moptype devices, the throughput rate shall be calculated using the speed of the belt or mop through the device, assumed thickness of oil adhering to or collected by the device, and surface area of the belt or mop. For purposes of this calculation, the assumed thickness of oil will be ¼ inch.

6.2.4 Facility owners or operators that include oil recovery devices whose throughput is not measurable using a pump capacity or belt/mop speed may provide information to support an alternative method of calculation. This information must be submitted following the procedures in section 6.3.2 of this appendix.

6.3 As an alternative to section 6.2 of this appendix, a facility owner or operator may submit adequate evidence that a different effective daily recovery capacity should be applied for a specific oil recovery device. Adequate evidence is actual verified performance data in discharge conditions or tests using American Society of Testing and Materials (ASTM) Standard F 631–99, F 808–83 (1999), or an equivalent test approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

6.3.1 The following formula must be used to calculate the effective daily recovery capacity under this alternative:

$R = D \times U$

where:

R—Effective daily recovery capacity;

D—Average Oil Recovery Rate in barrels per hour (Item 26 in F 808–83; Item 13.2.16 in F 631–99; or actual performance data); and

U—Hours per day that equipment can operate under discharge conditions. Ten hours per day must be used unless a facility owner or operator can demonstrate that the recovery operation can be sustained for longer periods.

6.3.2 A facility owner or operator submitting a response plan shall provide data that supports the effective daily recovery capacities for the oil recovery devices listed. The following is an example of these calculations:

(1) A weir skimmer identified in a response plan has a manufacturer's rated throughput at the pump of 267 gallons per minute (gpm).

267 gpm=381 barrels per hour (bph)

R=381 bph×24 hr/day×0.2=1,829 barrels per day

(2) After testing using ASTM procedures, the skimmer's oil recovery rate is determined to be 220 gpm. The facility owner or operator identifies sufficient resources available to support operations for 12 hours per day.

220 gpm=314 bph
R=314 bph×12 hr/day=3,768 barrels per day

(3) The facility owner or operator will be able to use the higher capacity if sufficient temporary oil storage capacity is available. Determination of alternative efficiency factors under section 6.2 of this appendix or the acceptability of an alternative effective daily recovery capacity under section 6.3 of this appendix will be made by the Regional Administrator as deemed appropriate.

7.0 Calculating Planning Volumes for a Worst Case Discharge—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

7.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to evaporative and natural dissipation, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline. The procedures for non-petroleum oils other than animal fats and vegetable oils are discussed in section 7.7 of this appendix.

7.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

7.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, 4, 5) or non-persistent (Group 1)]; and the facility's specific operating area. See sections 1.2.3 and 1.2.8 of this appendix for the definitions of non-persistent and persistent oils, respectively. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 2 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 2 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

7.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 3 of this appendix. Facilities that handle, store, or transport oil from different petroleum groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

7.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of an oil discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

7.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 2 of this appendix. The facility owner or operator shall identify and ensure the availability, by contract or other approved means as described in §112.2, of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1993 must make arrangements to identify and ensure the availability, by contract or other approved means as described in §112.2, for additional capacity to be under contract by 1998 or 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's total oil storage capacity.

7.3 The procedures discussed in sections 7.3.1–7.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Group 1 through Group 4 oils).

7.3.1 The following must be determined: the worst case discharge volume of oil for

the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, or 4) or non-persistent (Group 1)]; and the geographic area(s) in which the facility operates (*i.e.*, operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 2 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

7.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 7.2.2 of this appendix.

7.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

7.4 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 1 through Group 4 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for Group 1 through Group 4 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.5 The following is an example of the procedure described above in sections 7.2 and 7.3 of this appendix: A facility with a 270,000 barrel (11.3 million gallons) capacity for #6 oil (specific gravity 0.96) is located in a higher volume port area. The facility is on a peninsula and has docks on both the ocean and bay sides. The facility has four aboveground oil storage tanks with a combined total capacity of 80,000 barrels (3.36 million gallons) and no secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (90,000 barrels or 3.78 million gallons) has its own secondary containment. Two 50,000 barrel (2.1 million gallon) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 100,000 barrels (4.2 million gallons) plus sufficient freeboard.

7.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground oil storage tanks without secondary containment (80,000 barrels) plus the capacity of the largest aboveground oil storage tank inside secondary containment. The resulting worst case discharge volume is 170,000 barrels or 7.14 million gallons.

7.5.2 Because the requirements for Tiers 1, 2, and 3 for inland and nearshore exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response to 10,000 barrels per day (bpd) for Tier 1, 20,000 bpd for Tier 2, and 40,000 bpd for Tier 3. Resources for the remaining 7,850 bpd for Tier 1, 9,750 bpd for Tier 2, and 7,600 bpd for Tier 3 shall be identified but need not be contracted for in advance. The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in their response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments," (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking water intakes that may be impacted in the event of a worst case discharge.

7.6 The procedures discussed in sections 7.6.1–7.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group 5 oils.

7.6.1 The owner or operator of a facility that handles, stores, or transports Group 5 oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in §112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored,, or transported.

7.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group 5 oils under section 7.6.1 of this appendix shall be capable of being deployed (on site) within 24 hours of discovery of a discharge to the area where the facility is operating.

7.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 5 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group 5 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.7 *Non-petroleum oils other than animal fats and vegetable oils.* The procedures described in sections 7.7.1 through 7.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

7.7.1 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must provide information in his or her plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

7.7.2 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the conditions expected in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

7.7.3 The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in §112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of non-petroleum oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

7.7.4 Response resources identified in a response plan according to section 7.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

7.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for fires of these oils. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

8.0 Determining Response Resources Required for Small Discharges—Animal Fats and Vegetable Oils

8.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge of animal fats or vegetable oils. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

8.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the marine transportation-related portion of the facility.

8.2.1 The USCG planning level that corresponds to EPA's "small discharge" is termed "the average most probable discharge." A USCG rule found at 33 CFR 154.1020 defines "the average most probable discharge" as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of

complexes that handle, store, or transport animal fats and vegetable oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

8.3 The response resources shall, as appropriate, include:

8.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

8.3.2 Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a small discharge or greater which is available at the facility within 2 hours of the detection of a discharge; and

8.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

9.0 Determining Response Resources Required for Medium Discharges—Animal Fats and Vegetable Oils

9.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetable oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

9.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility. Owners or operators of complexes that handle, store, or transport animal fats or vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's "medium discharge." Although the USCG does not have planning requirements for medium discharges, they do have requirements (at 33 CFR 154.545) to identify equipment to contain oil resulting from an operational discharge.

9.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

9.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 9.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

9.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713–22, March 29, 1994) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

9.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

9.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area:

The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

10.0 Calculating Planning Volumes for a Worst Case Discharge—Animal Fats and Vegetable Oils.

10.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to physical, chemical, and biological processes, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline or on sediments. The response planning procedures for animal fats and vegetable oils are discussed in section 10.7 of this appendix. You may use alternate response planning procedures for animal fats and vegetable oils if those procedures result in environmental protection equivalent to that provided by the procedures in section 10.7 of this appendix.

10.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

10.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A, B, C); and the facility's specific operating area. See sections 1.2.1 and 1.2.9 of this appendix for the definitions of animal fats and vegetable oils and groups thereof. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 6 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 6 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

10.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 7 of this appendix. Facilities that handle, store, or transport oil from different groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

10.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of a discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

10.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 6 of this appendix. The facility owner or operator shall identify and ensure, by contract or other approved means as described in §112.2, the availability of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1998 must make arrangements to identify and ensure, by contract or other approved means as described in §112.2, the availability of additional capacity to be under contract by 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's oil storage capacity.

10.3 The procedures discussed in sections 10.3.1 through 10.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Groups A and B oils).

10.3.1 The following must be determined: the worst case discharge volume of oil for the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A or B); and the geographic area(s) in which the facility operates (i.e., operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 6 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

10.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 10.2.2 of this appendix.

10.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

10.4 A response plan must identify response resources with fire fighting capability appropriate for the risk of fire and explosion at the facility from the discharge or threat of discharge of oil. The owner or operator of a facility that handles, stores, or transports Group A or B oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual to work with the fire department for Group A or B oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.5 The following is an example of the procedure described in sections 10.2 and 10.3 of this appendix. A facility with a 37.04 million gallon (881,904 barrel) capacity of several types of vegetable oils is located in the Inland Operating Area. The vegetable oil with the highest specific gravity stored at the facility is soybean oil (specific gravity 0.922, Group B vegetable oil). The facility has ten aboveground oil storage tanks with a combined total capacity of 18 million gallons (428,571 barrels) and without secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (3 million gallons or 71,428 barrels) has its own secondary containment. Two 2.1 million gallon (50,000 barrel) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 4.2 million gallons (100,000 barrels) plus sufficient freeboard.

10.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground vegetable oil storage tanks without secondary containment (18.0 million gallons) plus the capacity of the largest aboveground storage tank inside secondary containment (3.0 million gallons). The resulting worst case discharge is 21 million gallons or 500,000 barrels.

10.5.2 With a specific worst case discharge identified, the planning volume for on-water recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil
Operating Area: Inland
Planned percent recovered floating vegetable oil (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 20%
Emulsion factor (from Table 7): 2.0
Planning volumes for on-water recovery: 21,000,000 gallons × 0.2 × 2.0 = 8,400,000 gallons or 200,000 barrels.
Determine required resources for on-water recovery for each of the three tiers using mobilization factors (from Table 4, column Inland/Nearshore/Great Lakes)

Inland Operating Area	Tier 1	Tier 2	Tier 3
Mobilization factor by which you multiply planning volume	.15	.25	.40
Estimated Daily Recovery Capacity (bbls)	30,000	50,000	80,000

10.5.3 Because the requirements for On-Water Recovery Resources for Tiers 1, 2, and 3 for Inland Operating Area exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response of 12,500 barrels per day (bpd) for Tier 1, 25,000 bpd for Tier 2, and 50,000 bpd for Tier 3. Resources for the remaining 17,500 bpd for Tier 1, 25,000 bpd for Tier 2, and 30,000 bpd for Tier 3 shall be identified but need not be contracted for in advance.

10.5.4 With the specific worst case discharge identified, the planning volume of onshore recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil
Operating Area: Inland
Planned percent recovered floating vegetable oil from onshore (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 65%
Emulsion factor (from Table 7): 2.0
Planning volumes for shoreline recovery: 21,000,000 gallons × 0.65 × 2.0 = 27,300,000 gallons or 650,000 barrels

10.5.5 The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in the response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments," (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking

water intakes that may be adversely affected in the event of a worst case discharge.

10.6 The procedures discussed in sections 10.6.1 through 10.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group C oils.

10.6.1 The owner or operator of a facility that handles, stores, or transports Group C oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in §112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored, or transported.

10.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group C oils under section 10.6.1 of this appendix shall be capable of being deployed on scene within 24 hours of discovery of a discharge.

10.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group C oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group C oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.7 The procedures described in sections 10.7.1 through 10.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

10.7.1 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must provide information in the response plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge of animal fats and vegetable oils to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

10.7.2 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

10.7.3. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in §112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of animal fat or vegetable oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

10.7.4 Response resources identified in a response plan according to section 10.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

10.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for animal fat and vegetable oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge.

The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

11.0 Determining the Availability of Alternative Response Methods

11.1 For chemical agents to be identified in a response plan, they must be on the NCP Product Schedule that is maintained by EPA. (Some States have a list of approved dispersants for use within State waters. Not all of these State-approved dispersants are listed on the NCP Product Schedule.)

11.2 Identification of chemical agents in the plan does not imply that their use will be authorized. Actual authorization will be governed by the provisions of the NCP and the applicable ACP.

12.0 Additional Equipment Necessary to Sustain Response Operations

12.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetables oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

12.2 A facility owner or operator shall evaluate the availability of adequate temporary storage capacity to sustain the effective daily recovery capacities from equipment identified in the plan. Because of the inefficiencies of oil spill recovery devices, response plans must identify daily storage capacity equivalent to twice the effective daily recovery capacity required on-scene. This temporary storage capacity may be reduced if a facility owner or operator can demonstrate by waste stream analysis that the efficiencies of the oil recovery devices, ability to decant waste, or the availability of alternative temporary storage or disposal locations will reduce the overall volume of oily material storage.

12.3 A facility owner or operator shall ensure that response planning includes the capability to arrange for disposal of recovered oil products. Specific disposal procedures will be addressed in the applicable ACP.

13.0 References and Availability

13.1 All materials listed in this section are part of EPA's rulemaking docket and are located in the Superfund Docket, 1235 Jefferson Davis Highway, Crystal Gateway 1, Arlington, Virginia 22202, Suite 105 (Docket Numbers SPCC–2P, SPCC–3P, and SPCC–9P). The docket is available for inspection between 9 a.m. and 4 p.m., Monday through Friday, excluding Federal holidays.

Appointments to review the docket can be made by calling 703–603–9232. Docket hours are subject to change. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services.

13.2 The docket will mail copies of materials to requestors who are outside the Washington, DC metropolitan area. Materials may be available from other sources, as noted in this section. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services. The RCRA/Superfund Hotline at 800–424–9346 may also provide additional information on where to obtain documents. To contact the RCRA/Superfund Hotline in the Washington, DC metropolitan area, dial 703–412–9810. The Telecommunications Device for the Deaf (TDD) Hotline number is 800–553–7672, or, in the Washington, DC metropolitan area, 703–412–3323.

13.3 Documents

(1) National Preparedness for Response Exercise Program (PREP). The PREP draft guidelines are available from United States Coast Guard Headquarters (G-MEP-4), 2100 Second Street, SW., Washington, DC 20593. (See 58 FR 53990–91, October 19, 1993, Notice of Availability of PREP Guidelines).

(2) "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments (published in the FEDERAL REGISTER by DOC/NOAA at 59 FR 14713–22, March 29, 1994.). The guidance is available in the Superfund Docket (see sections 13.1 and 13.2 of this appendix).

(3) ASTM Standards. ASTM F 715, ASTM F 989, ASTM F 631–99, ASTM F 808–83 (1999). The ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(4) Response Plans for Marine Transportation-Related Facilities, Interim Final Rule. Published by USCG, DOT at 58 FR 7330–76, February 5, 1993.

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA

Oil Recovery Devices		
Operating environment	Significant wave height[1]	Sea state
Rivers and Canals	≤ 1 foot	1
Inland	≤ 3 feet	2

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA—Continued

Oil Recovery Devices		
Operating environment	Significant wave height [1]	Sea state
Great Lakes	≤ 4 feet	2–3
Ocean	≤ 6 feet	3–4

Boom				
Boom property	Use			
	Rivers and canals	Inland	Great Lakes	Ocean
Significant Wave Height [1]	≤ 1	≤ 3	≤ 4	≤ 6
Sea State	1	2	2–3	3–4
Boom height—inches (draft plus freeboard)	6–18	18–42	18–42	≥42
Reserve Buoyancy to Weight Ratio	2:1	2:1	2:1	3:1 to 4:1
Total Tensile Strength—pounds	4,500	15,000–20,000.	15,000–20,000.	≥20,000
Skirt Fabric Tensile Strength—pounds	200	300	300	500
Skirt Fabric Tear Strength—pounds	100	100	100	125

[1] Oil recovery devices and boom *shall* be at least capable of operating in wave heights up to and including the values listed in Table 1 for each operating environment.

TABLE 2 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR PETROLEUM OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore
1—Non-persistent oils	80	10	10	80	20	10
2—Light crudes	40	15	45	50	50	30
3—Medium crudes and fuels	20	15	65	30	50	50
4—Heavy crudes and fuels	5	20	75	10	50	70

[1] The response resource considerations for non-petroleum oils other than animal fats and vegetable oils are outlined in section 7.7 of this appendix.

NOTE: Group 5 oils are defined in section 1.2.8 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.

TABLE 3 TO APPENDIX E—EMULSIFICATION FACTORS FOR PETROLEUM OIL GROUPS [1]

Non-Persistent Oil:	
Group 1	1.0
Persistent Oil:	
Group 2	1.8
Group 3	2.0
Group 4	1.4
Group 5 oils are defined in section 1.2.7 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.	

[1] See sections 1.2.2 and 1.2.7 of this appendix for group designations for non-persistent and persistent oils, respectively.

TABLE 4 TO APPENDIX E—ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

Operating area	Tier 1	Tier 2	Tier 3
Rivers and Canals	0.30	0.40	0.60
Inland/Nearshore Great Lakes	0.15	0.25	0.40

Note: These mobilization factors are for total resources mobilized, not incremental response resources.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA

	Tier 1	Tier 2	Tier 3
February 18, 1993:			
All except Rivers & Canals, Great Lakes	10K bbls/day	20K bbls/day	40K bbls/day.
Great Lakes	5K bbls/day	10K bbls/day	20K bbls/day.
Rivers & Canals	1.5K bbls/day	3.0K bbls/day	6.0K bbls/day.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA—Continued

	Tier 1	Tier 2	Tier 3
February 18, 1998:			
All except Rivers & Canals, Great Lakes	12.5K bbls/day	25K bbls/day	50K bbls/day.
Great Lakes	6.35K bbls/day	12.3K bbls/day	25K bbls/day.
Rivers & Canals	1.875K bbls/day	3.75K bbls/day	7.5K bbls/day.
February 18, 2003:			
All except Rivers & Canals, Great Lakes	TBD	TBD	TBD.
Great Lakes	TBD	TBD	TBD.
Rivers & Canals	TBD	TBD	TBD.

Note: The caps show cumulative overall effective daily recovery capacity, not incremental increases.
TBD=To Be Determined.

TABLE 6 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR ANIMAL FATS AND VEGETABLE OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore
Group A	40	15	45	50	20	30
Group B	20	15	65	30	20	50

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

TABLE 7 TO APPENDIX E—EMULSIFICATION FACTORS FOR ANIMAL FATS AND VEGETABLE OILS

Oil Group [1]:	
Group A	1.0
Group B	2.0

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

ATTACHMENTS TO APPENDIX E

Attachment E-1 --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) _____ (A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . _____

Step (C) Operating Area (choose one) . . . . ☐ Near shore/Inland Great Lakes ☐ or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
_____ (D1)	_____ (D2)	_____ (D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step(A)}}{100}$ _____ (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . . _____ (E2)

Step (F) Emulsification Factor
(Table 3 of this appendix) . . . . . _____ (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
_____ (G1)	_____ (G2)	_____ (G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) . . . . . [ ]

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-1 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) 170,000 (A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . 4

Step (C) Operating Area (choose one) . . [X] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
10	50	70
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ 85,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ 119,000 (E2)

Step (F) Emulsification Factor (Table 3 of this appendix) . . . . . 1.4 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
17,850	29,750	47,600
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 166,600

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
10,000	20,000	40,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
7,850	9,750	7,600
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) _____ (A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . _____

Step (C) Operating Area (choose one) . . . . ☐ Near shore/Inland Great Lakes ☐ or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
_____	_____	_____
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ _____ (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . _____ (E2)

Step (F) Emulsification Factor
(Table 7 of this appendix) . . . . . _____ (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
_____	_____	_____
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) . . . . [ ]

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) . . . . . 500,000 (A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . . . . . B

Step (C) Operating Area (choose one) [X] Near shore/Inl and Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
30 (D1)	20 (D2)	50 (D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ 100,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ 250,000 (E2)

Step (F) Emulsification Factor (Table 7 of this appendix) . . . . . 2.0 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15 (G1)	0.25 (G2)	0.40 (G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils (continued)

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
30,000	50,000	80,000
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 500,000

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
12,500	25,000	50,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
17,500	25,000	30,000
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

[59 FR 34111, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40806, 40807, June 30, 2000; 65 FR 47325, Aug. 2, 2000; 66 FR 34560, June 29, 2001]

APPENDIX F TO PART 112—FACILITY-SPECIFIC RESPONSE PLAN

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1.0 Model Facility-Specific Response Plan

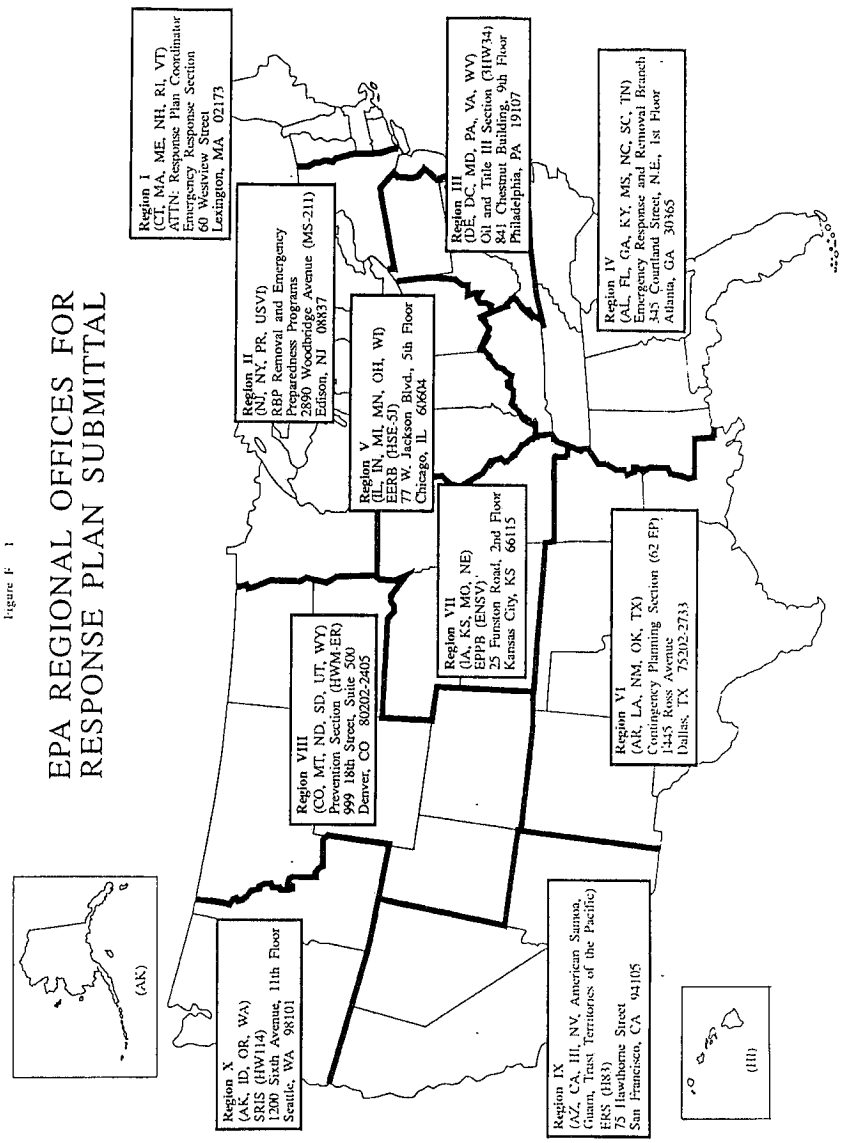
(A) Owners or operators of facilities regulated under this part which pose a threat of substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines are required to prepare and submit facility-specific response plans to EPA in accordance with the provisions in this appendix. This appendix further describes the required elements in §112.20(h).

(B) Response plans must be sent to the appropriate EPA Regional office. Figure F–1 of this Appendix lists each EPA Regional office and the address where owners or operators must submit their response plans. Those facilities deemed by the Regional Administrator (RA) to pose a threat of significant and substantial harm to the environment will have their plans reviewed and approved by EPA. In certain cases, information required in the model response plan is similar to information currently maintained in the facility's Spill Prevention, Control, and Countermeasures (SPCC) Plan as required by 40 CFR 112.3. In these cases, owners or operators may reproduce the information and include a photocopy in the response plan.

(C) A complex may develop a single response plan with a set of core elements for all regulating agencies and separate sections for the non-transportation-related and transportation-related components, as described in §112.20(h). Owners or operators of large facilities that handle, store, or transport oil at more than one geographically distinct location (e.g., oil storage areas at opposite ends of a single, continuous parcel of property) shall, as appropriate, develop separate sections of the response plan for each storage area.

Figure F-1

EPA REGIONAL OFFICES FOR RESPONSE PLAN SUBMITTAL



1.1 Emergency Response Action Plan

Several sections of the response plan shall be co-located for easy access by response personnel during an actual emergency or oil discharge. This collection of sections shall be called the Emergency Response Action Plan. The Agency intends that the Action Plan contain only as much information as is necessary to combat the discharge and be arranged so response actions are not delayed. The Action Plan may be arranged in a number of ways. For example, the sections of the Emergency Response Action Plan may be photocopies or condensed versions of the

forms included in the associated sections of the response plan. Each Emergency Response Action Plan section may be tabbed for quick reference. The Action Plan shall be maintained in the front of the same binder that contains the complete response plan or it shall be contained in a separate binder. In the latter case, both binders shall be kept together so that the entire plan can be accessed by the qualified individual and appropriate spill response personnel. The Emergency Response Action Plan shall be made up of the following sections:

1. Qualified Individual Information (Section 1.2) partial
2. Emergency Notification Phone List (Section 1.3.1) partial
3. Spill Response Notification Form (Section 1.3.1) partial
4. Response Equipment List and Location (Section 1.3.2) complete
5. Response Equipment Testing and Deployment (Section 1.3.3) complete
6. Facility Response Team (Section 1.3.4) partial
7. Evacuation Plan (Section 1.3.5) condensed
8. Immediate Actions (Section 1.7.1) complete
9. Facility Diagram (Section 1.9) complete

1.2 Facility Information

The facility information form is designed to provide an overview of the site and a description of past activities at the facility. Much of the information required by this section may be obtained from the facility's existing SPCC Plan.

1.2.1 *Facility name and location:* Enter facility name and street address. Enter the address of corporate headquarters only if corporate headquarters are physically located at the facility. Include city, county, state, zip code, and phone number.

1.2.2 *Latitude and Longitude:* Enter the latitude and longitude of the facility. Include degrees, minutes, and seconds of the main entrance of the facility.

1.2.3 *Wellhead Protection Area:* Indicate if the facility is located in or drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986 (SDWA).[1] The response plan requirements in the Wellhead Protection Program are outlined by the State or Territory in which the facility resides.

1.2.4 *Owner/operator:* Write the name of the company or person operating the facility and the name of the person or company that owns the facility, if the two are different. List the address of the owner, if the two are different.

1.2.5 *Qualified Individual:* Write the name of the qualified individual for the entire facility. If more than one person is listed, each individual indicated in this section shall have full authority to implement the facility response plan. For each individual, list: name, position, home and work addresses (street addresses, not P.O. boxes), emergency phone number, and specific response training experience.

1.2.6 *Date of Oil Storage Start-up:* Enter the year which the present facility first started storing oil.

1.2.7 *Current Operation:* Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.

1.2.8 *Dates and Type of Substantial Expansion:* Include information on expansions that have occurred at the facility. Examples of such expansions include, but are not limited to: Throughput expansion, addition of a product line, change of a product line, and installation of additional oil storage capacity. The data provided shall include all facility historical information and detail the expansion of the facility. An example of substantial expansion is any material alteration of the facility which causes the owner or operator of the facility to re-evaluate and increase the response equipment necessary to adequately respond to a worst case discharge from the facility.

Date of Last Update: _____

FACILITY INFORMATION FORM

Facility Name: _____
Location (Street Address): _____
City: _____ State: _____ Zip: _____
County: _____ Phone Number: ( ) _____
Latitude: _____ Degrees _____ Minutes _____ Seconds
Longitude: _____ Degrees _____ Minutes _____ Seconds
Wellhead Protection Area: _____
Owner: _____
Owner Location (Street Address): _____
(if different from Facility Address)
City: _____ State: _____ Zip: _____
County: _____ Phone Number: ( ) _____
Operator (if not Owner): _____
Qualified Individual(s): (attach additional sheets if more than one)
Name: _____
Position: _____
Work Address: _____
Home Address: _____
Emergency Phone Number: ( ) _____

[1] A wellhead protection area is defined as the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. For further information regarding State and territory protection programs, facility owners or operators may contact the SDWA Hotline at 1-800-426-4791.

Date of Oil Storage Start-up: _____
Current Operations: _____

_____

_____

Date(s) and Type(s) of Substantial Expansion(s): _____

_____

(Attach additional sheets if necessary)

1.3 Emergency Response Information

(A) The information provided in this section shall describe what will be needed in an actual emergency involving the discharge of oil or a combination of hazardous substances and oil discharge. The Emergency Response Information section of the plan must include the following components:

(1) The information provided in the Emergency Notification Phone List in section 1.3.1 identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency. This section shall include all the appropriate phone numbers for the facility. These numbers must be verified each time the plan is updated. The contact list must be accessible to all facility employees to ensure that, in case of a discharge, any employee on site could immediately notify the appropriate parties.

(2) The Spill Response Notification Form in section 1.3.1 creates a checklist of information that shall be provided to the National Response Center (NRC) and other response personnel. All information on this checklist must be known at the time of notification, or be in the process of being collected. This notification form is based on a similar form used by the NRC. Note: Do not delay spill notification to collect the information on the list.

(3) Section 1.3.2 provides a description of the facility's list of emergency response equipment and location of the response equipment. When appropriate, the amount of oil that emergency response equipment can handle and any limitations (e.g., launching sites) must be described.

(4) Section 1.3.3 provides information regarding response equipment tests and deployment drills. Response equipment deployment exercises shall be conducted to ensure that response equipment is operational and the personnel who would operate the equipment in a spill response are capable of deploying and operating it. Only a representative sample of each type of response equipment needs to be deployed and operated, as long as the remainder is properly maintained. If appropriate, testing of response equipment may be conducted while it is being deployed. Facilities without facility-owned response equipment must ensure that the oil spill removal organization that is identified in the response plan to provide this response equipment certifies that the deployment exercises have been met. Refer to the National Preparedness for Response Exercise Program (PREP) Guidelines (see Appendix E to this part, section 13, for availability), which satisfy Oil Pollution Act (OPA) response exercise requirements.

(5) Section 1.3.4 lists the facility response personnel, including those employed by the facility and those under contract to the facility for response activities, the amount of time needed for personnel to respond, their responsibility in the case of an emergency, and their level of response training. Three different forms are included in this section. The Emergency Response Personnel List shall be composed of all personnel employed by the facility whose duties involve responding to emergencies, including oil discharges, even when they are not physically present at the site. An example of this type of person would be the Building Engineer-in-Charge or Plant Fire Chief. The second form is a list of the Emergency Response Contractors (both primary and secondary) retained by the facility. Any changes in contractor status must be reflected in updates to the response plan. Evidence of contracts with response contractors shall be included in this section so that the availability of resources can be verified. The last form is the Facility Response Team List, which shall be composed of both emergency response personnel (referenced by job title/position) and emergency response contractors, included in one of the two lists described above, that will respond immediately upon discovery of an oil discharge or other emergency (i.e., the first people to respond). These are to be persons normally on the facility premises or primary response contractors. Examples of these personnel would be the Facility Hazardous Materials (HAZMAT) Spill Team 1, Facility Fire Engine Company 1, Production Supervisor, or Transfer Supervisor. Company personnel must be able to respond immediately and adequately if contractor support is not available.

(6) Section 1.3.5 lists factors that must, as appropriate, be considered when preparing an evacuation plan.

(7) Section 1.3.6 references the responsibilities of the qualified individual for the facility in the event of an emergency.

(B) The information provided in the emergency response section will aid in the assessment of the facility's ability to respond to a worst case discharge and will identify additional assistance that may be needed. In addition, the facility owner or operator may want to produce a wallet-size card containing a checklist of the immediate response and notification steps to be taken in the event of an oil discharge.

1.3.1 Notification

Date of Last Update: _____

EMERGENCY NOTIFICATION PHONE LIST WHOM TO NOTIFY

Reporter's Name: _____
Date: _____
Facility Name: _____
Owner Name: _____
Facility Identification Number: _____
Date and Time of Each NRC Notification: _____

Organization	Phone No.
1. National Response Center (NRC):	1–800–424–8802
2. Qualified Individual:	
Evening Phone:	
3. Company Response Team:	
Evening Phone:	
4. Federal On-Scene Coordinator (OSC) and/or Regional Response Center (RRC):	
Evening Phone(s):	
Pager Number(s):	
5. Local Response Team (Fire Dept./Co-operatives):	
6. Fire Marshall:	
Evening Phone:	
7. State Emergency Response Commission (SERC):	
Evening Phone:	
8. State Police:	
9. Local Emergency Planning Committee (LEPC):	
10. Local Water Supply System:	
Evening Phone:	
11. Weather Report:	
12. Local Television/Radio Station for Evacuation Notification:	
13. Hospitals:	

SPILL RESPONSE NOTIFICATION FORM

Reporter's Last Name: _____
First: _____
M.I.: _____
Position: _____
Phone Numbers:
Day ( ) –
Evening ( ) –
Company: _____
Organization Type: _____
Address: _____
_____
City: _____
State: _____
Zip: _____
Were Materials Discharged? _____ (Y/N) Confidential? _____ (Y/N)
Meeting Federal Obligations to Report? _____ (Y/N) Date Called: _____
Calling for Responsible Party? _____ (Y/N) Time Called: _____

Incident Description

Source and/or Cause of Incident: _____
_____
_____
_____
_____
Date of Incident: _____
Time of Incident: _____ AM/PM
Incident Address/Location: _____
_____
Nearest City: _____ State: _____ County: _____ Zip: _____
Distance from City: _____ Units of Measure: _____ Direction from City: _____
Section: _____ Township: _____ Range: _____ Borough: _____
Container Type: _____ Tank Oil Storage Capacity: _____ Units of Measure: _____
Facility Oil Storage Capacity: _____ Units of Measure: _____
Facility Latitude: _____ Degrees _____ Minutes _____ Seconds
Facility Longitude: _____ Degrees _____ Minutes _____ Seconds

Material

CHRIS Code	Discharged quantity	Unit of measure	Material Discharged in water	Quantity	Unit of measure

Response Action

Actions Taken to Correct, Control or Mitigate Incident:

_____

_____

_____

_____

Impact

Number of Injuries: _____ Number of Deaths: _____

Were there Evacuations? _____ (Y/N) Number Evacuated: _____

Was there any Damage? _____ (Y/N)

Damage in Dollars (approximate): _____

Medium Affected: _____

Description: _____

More Information about Medium: _____

_____

_____

Additional Information

Any information about the incident not recorded elsewhere in the report:

_____

_____

_____

Caller Notifications

EPA? _____ (Y/N) USCG? _____ (Y/N) State? _____ (Y/N)

Other? _____ (Y/N) Describe: _____

1.3.2 Response Equipment List

Date of Last Update:_____

FACILITY RESPONSE EQUIPMENT LIST

1. Skimmers/Pumps—Operational Status: __

Type, Model, and Year: _____

_____

Type Model Year

Number: _____

Capacity: _____ gal./min.

Daily Effective Recovery Rate: _____

Storage Location(s): _____

Date Fuel Last Changed: _____

2. Boom—Operational Status: _____

Type, Model, and Year: _____

Type Model Year

Number: _____

Size (length): _____ ft.

Containment Area: _____ sq. ft.

Storage Location: _____

3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)

Type	Amount	Date purchased	Treatment capacity	Storage location

Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable?_____ (Y/N).

Name and State of On-Scene Coordinator (OSC) authorizing use: _____ .

Date Authorized: _____ .

4. Dispersant Dispensing Equipment—Operational Status: _____ .

Type and year	Capacity	Storage location	Response time (minutes)

5. Sorbents—Operational Status: _____

Type and Year Purchased: _____

Amount: _____

Absorption Capacity (gal.): _____

Storage Location(s): _____

6. Hand Tools—Operational Status: _____

Type and year	Quantity	Storage location

Type and year	Quantity	Storage location

7. Communication Equipment (include operating frequency and channel and/or cellular phone numbers)—Operational Status: _____

Type and year	Quantity	Storage location/ number

8. Fire Fighting and Personnel Protective Equipment—Operational Status: _____

Type and year	Quantity	Storage location

9. Other (e.g., Heavy Equipment, Boats and Motors)—Operational Status: _____

Type and year	Quantity	Storage location

1.3.3 Response Equipment Testing/Deployment

Date of Last Update:_____

Response Equipment Testing and Deployment Drill Log

Last Inspection or Response Equipment Test Date: _____
Inspection Frequency: _____
Last Deployment Drill Date: _____
Deployment Frequency: _____
Oil Spill Removal Organization Certification (if applicable): _____

1.3.4 Personnel

Date of Last Update:_____

EMERGENCY RESPONSE PERSONNEL

Company Personnel

Name	Phone[1]	Response time	Responsibility during response action	Response training type/date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

[1] Phone number to be used when person is not on-site.

EMERGENCY RESPONSE CONTRACTORS

Date of Last Update: _____

Contractor	Phone	Response time	Contract responsibility[1]
1.			

EMERGENCY RESPONSE CONTRACTORS—Continued

Date of Last Update: _____

Contractor	Phone	Response time	Contract responsibility [1]
2.			
3.			
4.			

[1] Include evidence of contracts/agreements with response contractors to ensure the availability of personnel and response equipment.

FACILITY RESPONSE TEAM

Date of Last Update:_____

Team member	Response time (minutes)	Phone or pager number (day/evening)
Qualified Individual:		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/

NOTE: If the facility uses contracted help in an emergency response situation, the owner or operator must provide the contractors' names and review the contractors' capacities to provide adequate personnel and response equipment.

1.3.5 Evacuation Plans

1.3.5.1 Based on the analysis of the facility, as discussed elsewhere in the plan, a facility-wide evacuation plan shall be developed. In addition, plans to evacuate parts of the facility that are at a high risk of exposure in the event of a discharge or other release must be developed. Evacuation routes must be shown on a diagram of the facility (see section 1.9 of this appendix). When developing evacuation plans, consideration must be given to the following factors, as appropriate:

(1) Location of stored materials;
(2) Hazard imposed by discharged material;
(3) Discharge flow direction;
(4) Prevailing wind direction and speed;
(5) Water currents, tides, or wave conditions (if applicable);
(6) Arrival route of emergency response personnel and response equipment;
(7) Evacuation routes;
(8) Alternative routes of evacuation;
(9) Transportation of injured personnel to nearest emergency medical facility;
(10) Location of alarm/notification systems;
(11) The need for a centralized check-in area for evacuation validation (roll call);
(12) Selection of a mitigation command center; and
(13) Location of shelter at the facility as an alternative to evacuation.

1.3.5.2 One resource that may be helpful to owners or operators in preparing this section of the response plan is The *Handbook of Chemical Hazard Analysis Procedures* by the Federal Emergency Management Agency (FEMA), Department of Transportation (DOT), and EPA. *The Handbook of Chemical Hazard Analysis Procedures* is available from: FEMA , Publication Office, 500 C. Street, S.W., Washington, DC 20472, (202) 646-3484.

1.3.5.3 As specified in §112.20(h)(1)(vi), the facility owner or operator must reference existing community evacuation plans, as appropriate.

1.3.6 Qualified Individual's Duties

The duties of the designated qualified individual are specified in §112.20(h)(3)(ix). The qualified individual's duties must be described and be consistent with the minimum requirements in §112.20(h)(3)(ix). In addition, the qualified individual must be identified with the Facility Information in section 1.2 of the response plan.

1.4 Hazard Evaluation

This section requires the facility owner or operator to examine the facility's operations closely and to predict where discharges could occur. Hazard evaluation is a widely used industry practice that allows facility owners or operators to develop a complete understanding of potential hazards and the response actions necessary to address these hazards. *The Handbook of Chemical Hazard Analysis Procedures*, prepared by the EPA, DOT, and the FEMA and the *Hazardous Materials Emergency Planning Guide* (NRT–1), prepared by the National Response Team are good references for conducting a hazard analysis. Hazard identification and evaluation will assist facility owners or operators in planning for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future. The evaluation also may help the operator identify and correct potential sources of discharges. In addition, special hazards to workers and emergency response personnel's health and safety shall be evaluated, as well as the facility's oil spill history.

1.4.1 Hazard Identification

The Tank and Surface Impoundment (SI) forms, or their equivalent, that are part of this section must be completed according to the directions below. ("Surface Impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well or a seepage facility.) Similar worksheets, or their equivalent, must be developed for any other type of storage containers.

(1) List each tank at the facility with a separate and distinct identifier. Begin aboveground tank identifiers with an "A" and belowground tank identifiers with a "B", or submit multiple sheets with the aboveground tanks and belowground tanks on separate sheets.

(2) Use gallons for the maximum capacity of a tank; and use square feet for the area.

(3) Using the appropriate identifiers and the following instructions, fill in the appropriate forms:

(a) Tank or SI number—Using the aforementioned identifiers (A or B) or multiple reporting sheets, identify each tank or SI at the facility that stores oil or hazardous materials.

(b) Substance Stored—For each tank or SI identified, record the material that is stored therein. If the tank or SI is used to store more than one material, list all of the stored materials.

(c) Quantity Stored—For each material stored in each tank or SI, report the average volume of material stored on any given day.

(d) Tank Type or Surface Area/Year—For each tank, report the type of tank (e.g., floating top), and the year the tank was originally installed. If the tank has been refabricated, the year that the latest refabrication was completed must be recorded in parentheses next to the year installed. For

each SI, record the surface area of the impoundment and the year it went into service.

(e) Maximum Capacity—Record the operational maximum capacity for each tank and SI. If the maximum capacity varies with the season, record the upper and lower limits.

(f) Failure/Cause—Record the cause and date of any tank or SI failure which has resulted in a loss of tank or SI contents.

(4) Using the numbers from the tank and SI forms, label a schematic drawing of the facility. This drawing shall be identical to any schematic drawings included in the SPCC Plan.

(5) Using knowledge of the facility and its operations, describe the following in writing:

(a) The loading and unloading of transportation vehicles that risk the discharge of oil or release of hazardous substances during transport processes. These operations may include loading and unloading of trucks, railroad cars, or vessels. Estimate the volume of material involved in transfer operations, if the exact volume cannot be determined.

(b) Day-to-day operations that may present a risk of discharging oil or releasing a hazardous substance. These activities include scheduled venting, piping repair or replacement, valve maintenance, transfer of tank contents from one tank to another, etc. (not including transportation-related activities). Estimate the volume of material involved in these operations, if the exact volume cannot be determined.

(c) The secondary containment volume associated with each tank and/or transfer point at the facility. The numbering scheme developed on the tables, or an equivalent system, must be used to identify each containment area. Capacities must be listed for each individual unit (tanks, slumps, drainage traps, and ponds), as well as the facility total.

(d) Normal daily throughput for the facility and any effect on potential discharge volumes that a negative or positive change in that throughput may cause.

HAZARD IDENTIFICATION TANKS [1]

Date of Last Update: _____

Tank No.	Substance Stored (Oil and Hazardous Substance)	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause

[1] Tank = any container that stores oil.
Attach as many sheets as necessary.

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SIS)

Date of Last Update: _____

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

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SIs)—Continued

Date of Last Update: _____

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

Attach as many sheets as necessary.

1.4.2 Vulnerability Analysis

The vulnerability analysis shall address the potential effects (i.e., to human health, property, or the environment) of an oil discharge. Attachment C–III to Appendix C to this part provides a method that owners or operators shall use to determine appropriate distances from the facility to fish and wildlife and sensitive environments. Owners or operators can use a comparable formula that is considered acceptable by the RA. If a comparable formula is used, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet. This analysis must be prepared for each facility and, as appropriate, must discuss the vulnerability of:

(1) Water intakes (drinking, cooling, or other);
(2) Schools;
(3) Medical facilities;
(4) Residential areas;
(5) Businesses;
(6) Wetlands or other sensitive environments;[2]
(7) Fish and wildlife;
(8) Lakes and streams;
(9) Endangered flora and fauna;
(10) Recreational areas;
(11) Transportation routes (air, land, and water);
(12) Utilities; and
(13) Other areas of economic importance (e.g., beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats.

1.4.3 Analysis of the Potential for an Oil Discharge

Each owner or operator shall analyze the probability of a discharge occurring at the facility. This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. This analysis will provide information for developing discharge scenarios for a worst case discharge and small and medium discharges and aid in the development of techniques to reduce the size and frequency of discharges. The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

1.4.4 Facility Reportable Oil Spill History

Briefly describe the facility's reportable oil spill[3] history for the entire life of the facility to the extent that such information is reasonably identifiable, including:

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

[2] Refer to the DOC/NOAA "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (See appendix E to this part, section 13, for availability).

[3] As described in 40 CFR part 110, reportable oil spills are those that: (a) violate applicable water quality standards, or (b) cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The information solicited in this section may be similar to requirements in 40 CFR 112.4(a). Any duplicate information required by §112.4(a) may be photocopied and inserted.

1.5 Discharge Scenarios

In this section, the owner or operator is required to provide a description of the facility's worst case discharge, as well as a small and medium discharge, as appropriate. A multi-level planning approach has been chosen because the response actions to a discharge (*i.e.*, necessary response equipment, products, and personnel) are dependent on the magnitude of the discharge. Planning for lesser discharges is necessary because the nature of the response may be qualitatively different depending on the quantity of the discharge. The facility owner or operator shall discuss the potential direction of the discharge pathway.

1.5.1 Small and Medium Discharges

1.5.1.1 To address multi-level planning requirements, the owner or operator must consider types of facility-specific discharge scenarios that may contribute to a small or medium discharge. The scenarios shall account for all the operations that take place at the facility, including but not limited to:

(1) Loading and unloading of surface transportation;
(2) Facility maintenance;
(3) Facility piping;
(4) Pumping stations and sumps;
(5) Oil storage tanks;
(6) Vehicle refueling; and
(7) Age and condition of facility and components.

1.5.1.2 The scenarios shall also consider factors that affect the response efforts required by the facility. These include but are not limited to:

(1) Size of the discharge;
(2) Proximity to downgradient wells, waterways, and drinking water intakes;
(3) Proximity to fish and wildlife and sensitive environments;
(4) Likelihood that the discharge will travel offsite (*i.e.*, topography, drainage);
(5) Location of the material discharged (*i.e.*, on a concrete pad or directly on the soil);
(6) Material discharged;
(7) Weather or aquatic conditions (*i.e.*, river flow);
(8) Available remediation equipment;
(9) Probability of a chain reaction of failures; and
(10) Direction of discharge pathway.

1.5.2 Worst Case Discharge

1.5.2.1 In this section, the owner or operator must identify the worst case discharge volume at the facility. Worksheets for production and non-production facility owners or operators to use when calculating worst case discharge are presented in Appendix D to this part. When planning for the worst case discharge response, all of the aforementioned factors listed in the small and medium discharge section of the response plan shall be addressed.

1.5.2.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In this section of the response plan, owners or operators must provide evidence that oil storage tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge volume shall be based on the combined oil storage capacity of all manifold tanks or the oil storage capacity of the largest single oil storage tank within the secondary containment area, whichever is greater. For permanently manifolded oil storage tanks that function as one storage unit, the worst case discharge shall be based on the combined oil storage capacity of all manifolded tanks or the oil storage capacity of the largest single tank within a secondary containment area, whichever is greater. For purposes of the worst case discharge calculation, permanently manifolded oil storage tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.6 Discharge Detection Systems

In this section, the facility owner or operator shall provide a detailed description of the procedures and equipment used to detect discharges. A section on discharge detection by personnel and a discussion of automated discharge detection, if applicable, shall be included for both regular operations and after hours operations. In addition, the facility owner or operator shall discuss how the reliability of any automated system will be checked and how frequently the system will be inspected.

1.6.1 Discharge Detection by Personnel

In this section, facility owners or operators shall describe the procedures and personnel that will detect any discharge of oil or release of a hazardous substance. A thorough discussion of facility inspections must be included. In addition, a description of initial response actions shall be addressed. This section shall reference section 1.3.1 of the response plan for emergency response information.

1.6.2 Automated Discharge Detection

In this section, facility owners or operators must describe any automated discharge detection equipment that the facility has in place. This section shall include a discussion of overfill alarms, secondary containment sensors, etc. A discussion of the plans to verify an automated alarm and the actions to be taken once verified must also be included.

1.7 Plan Implementation

In this section, facility owners or operators must explain in detail how to implement the facility's emergency response plan by describing response actions to be carried out under the plan to ensure the safety of the facility and to mitigate or prevent discharges described in section 1.5 of the response plan. This section shall include the identification of response resources for small, medium, and worst case discharges; disposal plans; and containment and drainage planning. A list of those personnel who would be involved in the cleanup shall be identified. Procedures that the facility will use, where appropriate or necessary, to update their plan after an oil discharge event and the time frame to update the plan must be described.

1.7.1 Response Resources for Small, Medium, and Worst Case Discharages

1.7.1.1 Once the discharge scenarios have been identified in section 1.5 of the response plan, the facility owner or operator shall identify and describe implementation of the response actions. The facility owner or operator shall demonstrate accessibility to the proper response personnel and equipment to effectively respond to all of the identified discharge scenarios. The determination and demonstration of adequate response capability are presented in Appendix E to this part. In addition, steps to expedite the cleanup of oil discharges must be discussed. At a minimum, the following items must be addressed:

(1) Emergency plans for spill response;

(2) Additional response training;

(3) Additional contracted help;

(4) Access to additional response equipment/experts; and

(5) Ability to implement the plan including response training and practice drills.

1.7.1.2A recommended form detailing immediate actions follows.

OIL SPILL RESPONSE—IMMEDIATE ACTIONS

1. Stop the product flow	Act quickly to secure pumps, close valves, etc.
2. Warn personnel	Enforce safety and security measures.
3. Shut off ignition sources.	Motors, electrical circuits, open flames, etc.
4. Initiate containment	Around the tank and/or in the water with oil boom.
5. Notify NRC	1–800–424–8802
6. Notify OSC	
7. Notify, as appropriate	

Source: FOSS, Oil Spill Response—Emergency Procedures, Revised December 3, 1992.

1.7.2 Disposal Plans

1.7.2.1 Facility owners or operators must describe how and where the facility intends to recover, reuse, decontaminate, or dispose of materials after a discharge has taken place. The appropriate permits required to transport or dispose of recovered materials according to local, State, and Federal requirements must be addressed. Materials that must be accounted for in the disposal plan, as appropriate, include:

(1) Recovered product;

(2) Contaminated soil;

(3) Contaminated equipment and materials, including drums, tank parts, valves, and shovels;

(4) Personnel protective equipment;

(5) Decontamination solutions;

(6) Adsorbents; and

(7) Spent chemicals.

1.7.2.2 These plans must be prepared in accordance with Federal (e.g., the Resource Conservation and Recovery Act [RCRA]), State, and local regulations, where applicable. A copy of the disposal plans from the facility's SPCC Plan may be inserted with this section, including any diagrams in those plans.

Material	Disposal facility	Location	RCRA permit/manifest
1.			
2.			
3.			
4.			

1.7.3 Containment and Drainage Planning

A proper plan to contain and control a discharge through drainage may limit the threat of harm to human health and the environment. This section shall describe how to contain and control a discharge through drainage, including:

(1) The available volume of containment (use the information presented in section 1.4.1 of the response plan);
(2) The route of drainage from oil storage and transfer areas;
(3) The construction materials used in drainage troughs;
(4) The type and number of valves and separators used in the drainage system;
(5) Sump pump capacities;
(6) The containment capacity of weirs and booms that might be used and their location (see section 1.3.2 of this appendix); and
(7) Other cleanup materials.

In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

NOTE: The general permit for stormwater drainage may contain additional requirements.

1.8 Self-Inspection, Drills/Exercises, and Response Training

The owner or operator must develop programs for facility response training and for drills/exercises according to the requirements of 40 CFR 112.21. Logs must be kept for facility drills/exercises, personnel response training, and spill prevention meetings. Much of the recordkeeping information required by this section is also contained in the SPCC Plan required by 40 CFR 112.3. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.1 Facility Self-Inspection

Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Duplicate information from the SPCC Plan may be photocopied and inserted in this section. The inspection checklist consists of the following items:

TANK INSPECTION CHECKLIST

1. Check tanks for leaks, specifically looking for:
   A. drip marks;
   B. discoloration of tanks;
   C. puddles containing spilled or leaked material;
   D. corrosion;
   E. cracks; and
   F. localized dead vegetation.
2. Check foundation for:
   A. cracks;
   B. discoloration;
   C. puddles containing spilled or leaked material;
   D. settling;
   E. gaps between tank and foundation; and
   F. damage caused by vegetation roots.
3. Check piping for:
   A. droplets of stored material;
   B. discoloration;
   C. corrosion;
   D. bowing of pipe between supports;
   E. evidence of stored material seepage from valves or seals; and
   F. localized dead vegetation.

TANK/SURFACE IMPOUNDMENT INSPECTION LOG

Inspector	Tank or SI#	Date	Comments

TANK/SURFACE IMPOUNDMENT INSPECTION LOG—Continued

Inspector	Tank or SI#	Date	Comments

1.8.1.2 Response Equipment Inspection

Using the Emergency Response Equipment List provided in section 1.3.2 of the response plan, describe each type of response equipment, checking for the following:

Response Equipment Checklist

1. Inventory (item and quantity);
2. Storage location;
3. Accessibility (time to access and respond);
4. Operational status/condition;
5. Actual use/testing (last test date and frequency of testing); and
6. Shelf life (present age, expected replacement date).

Please note any discrepancies between this list and the available response equipment.

RESPONSE EQUIPMENT INSPECTION LOG

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

RESPONSE EQUIPMENT INSPECTION LOG—Continued

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

1.8.1.3 Secondary Containment Inspection

Inspect the secondary containment (as described in sections 1.4.1 and 1.7.2 of the response plan), checking the following:

Secondary Containment Checklist

1. Dike or berm system.
   A. Level of precipitation in dike/available capacity;
   B. Operational status of drainage valves;
   C. Dike or berm permeability;
   D. Debris;
   E. Erosion;
   F. Permeability of the earthen floor of diked area; and
   G. Location/status of pipes, inlets, drainage beneath tanks, etc.
2. Secondary containment
   A. Cracks;
   B. Discoloration;
   C. Presence of spilled or leaked material (standing liquid);
   D. Corrosion; and
   E. Valve conditions.
3. Retention and drainage ponds
   A. Erosion;
   B. Available capacity;
   C. Presence of spilled or leaked material;
   D. Debris; and
   E. Stressed vegetation.

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Similar requirements exist in 40 CFR 112.7(e). Duplicate information from the SPCC Plan may be photocopied and inserted in this section.

1.8.2 Facility Drills/Exercises

(A) CWA section 311(j)(5), as amended by OPA, requires the response plan to contain a description of facility drills/exercises. According to 40 CFR 112.21(c), the facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. Following the PREP guidelines (see Appendix E to this part, section 13, for availability) would satisfy a facility's requirements for drills/exercises under this part. Alternately, under §112.21(c), a facility owner or operator may develop a program that is not based on the PREP guidelines. Such a program is subject to approval by the Regional Administrator based on the description of the program provided in the response plan.

(B) The PREP Guidelines specify that the facility conduct internal and external drills/exercises. The internal exercises include: qualified individual notification drills, spill management team tabletop exercises, equipment deployment exercises, and unannounced exercises. External exercises include Area Exercises. Credit for an Area or Facility-specific Exercise will be given to the facility for an actual response to a discharge in the area if the plan was utilized for response to the discharge and the objectives of the Exercise were met and were properly evaluated, documented, and self-certified.

(C) Section 112.20(h)(8)(ii) requires the facility owner or operator to provide a description of the drill/exercise program to be carried out under the response plan. Qualified Individual Notification Drill and Spill Management Team Tabletop Drill logs shall be provided in sections 1.8.2.1 and 1.8.2.2, respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan. See section 1.3.3 of this appendix for Equipment Deployment Drill Logs.

1.8.2.1 Qualified Individual Notification Drill Logs

Qualified Individual Notification Drill Log

Date: _____
Company: _____
Qualified Individual(s): _____
Emergency Scenario: _____

Evaluation: _____

Changes to be Implemented: _____

Time Table for Implementation: _____

1.8.2.2 Spill Management Team Tabletop Exercise Logs

Spill Management Team Tabletop Exercise Log

Date: _____
Company: _____
Qualified Individual(s): _____
Emergency Scenario: _____

Evaluation: _____

Changes to be Implemented: _____

Time Table for Implementation: _____

1.8.3 Response Training

Section 112.21(a) requires facility owners or operators to develop programs for facility response training. Facility owners or operators are required by §112.20(h)(8)(iii) to provide a description of the response training program to be carried out under the response plan. A facility's training program can be based on the USCG's Training Elements for Oil Spill Response, to the extent applicable to facility operations, or another response training program acceptable to the RA. The training elements are available from the USCG Office of Response (G-MOR) at (202) 267–0518 or fax (202) 267–4085. Personnel response training logs and discharge prevention meeting logs shall be included in sections 1.8.3.1 and 1.8.3.2 of the response plan respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.3.1 Personnel Response Training Logs

PERSONNEL RESPONSE TRAINING LOG

Name	Response training/date and number of hours	Prevention training/date and number of hours

1.8.3.2 Discharge Prevention Meetings Logs

DISCHARGE PREVENTION MEETING LOG

Date: _____
Attendees: _____

Subject/Issue Identified	Required action	Implementation date

1.9 Diagrams

The facility-specific response plan shall include the following diagrams. Additional diagrams that would aid in the development of response plan sections may also be included.

(1) The Site Plan Diagram shall, as appropriate, include and identify:
(A) the entire facility to scale;
(B) above and below ground bulk oil storage tanks;
(C) the contents and capacities of bulk oil storage tanks;
(D) the contents and capacity of drum oil storage areas;
(E) the contents and capacities of surface impoundments;
(F) process buildings;
(G) transfer areas;
(H) secondary containment systems (location and capacity);
(I) structures where hazardous materials are stored or handled, including materials stored and capacity of storage;
(J) location of communication and emergency response equipment;
(K) location of electrical equipment which contains oil; and
(L) for complexes only, the interface(s) (i.e., valve or component) between the portion of the facility regulated by EPA and the portion(s) regulated by other Agencies. In most cases, this interface is defined as the last valve inside secondary containment before piping leaves the secondary containment area to connect to the transportation-related portion of the facility (i.e., the structure used or intended to be used to transfer oil to or from a vessel or pipeline). In the absence of secondary containment, this interface is the valve manifold adjacent to the tank nearest the transfer structure as described above. The interface may be defined differently at a specific facility if agreed to by the RA and the appropriate Federal official.

(2) The Site Drainage Plan Diagram shall, as appropriate, include:
(A) major sanitary and storm sewers, manholes, and drains;
(B) weirs and shut-off valves;
(C) surface water receiving streams;
(D) fire fighting water sources;
(E) other utilities;
(F) response personnel ingress and egress;
(G) response equipment transportation routes; and
(H) direction of discharge flow from discharge points.

(3) The Site Evacuation Plan Diagram shall, as appropriate, include:
(A) site plan diagram with evacuation route(s); and
(B) location of evacuation regrouping areas.

1.10 Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. In this section, a description of the facility security shall be provided and include, as appropriate:

(1) emergency cut-off locations (automatic or manual valves);
(2) enclosures (e.g., fencing, etc.);
(3) guards and their duties, day and night;
(4) lighting;
(5) valve and pump locks; and
(6) pipeline connection caps.

The SPCC Plan contains similar information. Duplicate information may be photocopied and inserted in this section.

2.0 Response Plan Cover Sheet

A three-page form has been developed to be completed and submitted to the RA by owners or operators who are required to prepare and submit a facility-specific response plan. The cover sheet (Attachment F–1) must accompany the response plan to provide the Agency with basic information concerning the facility. This section will describe the Response Plan Cover Sheet and provide instructions for its completion.

2.1 General Information

Owner/Operator of Facility: Enter the name of the owner of the facility (if the owner is the operator). Enter the operator of the facility if otherwise. If the owner/operator of

the facility is a corporation, enter the name of the facility's principal corporate executive. Enter as much of the name as will fit in each section.

(1) *Facility Name:* Enter the proper name of the facility.

(2) *Facility Address:* Enter the street address, city, State, and zip code.

(3) *Facility Phone Number:* Enter the phone number of the facility.

(4) *Latitude and Longitude:* Enter the facility latitude and longitude in degrees, minutes, and seconds.

(5) *Dun and Bradstreet Number:* Enter the facility's Dun and Bradstreet number if available (this information may be obtained from public library resources).

(6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)

(7) *Largest Oil Storage Tank Capacity:* Enter the capacity in GALLONS of the largest aboveground oil storage tank at the facility.

(8) *Maximum Oil Storage Capacity:* Enter the total maximum capacity in GALLONS of all aboveground oil storage tanks at the facility.

(9) *Number of Oil Storage Tanks:* Enter the number of all aboveground oil storage tanks at the facility.

(10) *Worst Case Discharge Amount:* Using information from the worksheets in Appendix D, enter the amount of the worst case discharge in GALLONS.

(11) *Facility Distance to Navigable Waters:* Mark the appropriate line for the nearest distance between an opportunity for discharge (i.e., oil storage tank, piping, or flowline) and a navigable water.

2.2 Applicability of Substantial Harm Criteria

Using the flowchart provided in Attachment C–I to Appendix C to this part, mark the appropriate answer to each question. Explanations of referenced terms can be found in Appendix C to this part. If a comparable formula to the ones described in Attachment C–III to Appendix C to this part is used to calculate the planning distance, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet.

2.3 Certification

Complete this block after all other questions have been answered.

3.0 Acronyms

ACP: Area Contingency Plan
ASTM: American Society of Testing Materials
bbls: Barrels
bpd: Barrels per Day
bph: Barrels per Hour
CHRIS: Chemical Hazards Response Information System
CWA: Clean Water Act
DOI: Department of Interior
DOC: Department of Commerce
DOT: Department of Transportation
EPA: Environmental Protection Agency
FEMA: Federal Emergency Management Agency
FR: Federal Register
gal: Gallons
gpm: Gallons per Minute
HAZMAT: Hazardous Materials
LEPC: Local Emergency Planning Committee
MMS: Minerals Management Service (part of DOI)
NAICS: North American Industrial Classification System
NCP: National Oil and Hazardous Substances Pollution Contingency Plan
NOAA: National Oceanic and Atmospheric Administration (part of DOC)
NRC: National Response Center
NRT: National Response Team
OPA: Oil Pollution Act of 1990
OSC: On-Scene Coordinator
PREP: National Preparedness for Response Exercise Program
RA: Regional Administrator
RCRA: Resource Conservation and Recovery Act
RRC: Regional Response Centers
RRT: Regional Response Team
RSPA: Research and Special Programs Administration
SARA: Superfund Amendments and Reauthorization Act
SERC: State Emergency Response Commission
SDWA: Safe Drinking Water Act of 1986
SI: Surface Impoundment
SPCC: Spill Prevention, Control, and Countermeasures
USCG: United States Coast Guard

4.0 References

CONCAWE. 1982. Methodologies for Hazard Analysis and Risk Assessment in the Petroleum Refining and Storage Industry. Prepared by CONCAWE's Risk Assessment Adhoc Group.

U.S. Department of Housing and Urban Development. 1987. Siting of HUD-Assisted Projects Near Hazardous Facilities: Acceptable Separation Distances from Explosive and Flammable Hazards. Prepared by the Office of Environment and Energy, Environmental Planning Division, Department of Housing and Urban Development. Washington, DC.

U.S. DOT, FEMA and U.S. EPA. Handbook of Chemical Hazard Analysis Procedures.

U.S. DOT, FEMA and U.S. EPA. Technical Guidance for Hazards Analysis: Emergency

Planning for Extremely Hazardous Substances.

The National Response Team. 1987. Hazardous Materials Emergency Planning Guide. Washington, DC.

The National Response Team. 1990. Oil Spill Contingency Planning, National Status: A Report to the President. Washington, DC. U.S. Government Printing Office.

Offshore Inspection and Enforcement Division. 1988. Minerals Management Service, Offshore Inspection Program: National Potential Incident of Noncompliance (PINC) List. Reston, VA.

ATTACHMENTS TO APPENDIX F

Attachment F–1—Response Plan Cover Sheet

This cover sheet will provide EPA with basic information concerning the facility. It must accompany a submitted facility response plan. Explanations and detailed instructions can be found in Appendix F. Please type or write legibly in blue or black ink. Public reporting burden for the collection of this information is estimated to vary from 1 hour to 270 hours per response in the first year, with an average of 5 hours per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate of this information, including suggestions for reducing this burden to: Chief, Information Policy Branch, Mail Code: PM–2822, U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington D.C. 20503.

GENERAL INFORMATION

Owner/Operator of Facility: _____

_____

Facility Name: _____

Facility Address (street address or route):

_____

City, State, and U.S. Zip Code: _____

Facility Phone No.: _____

Latitude (Degrees: North):

_____

degrees, minutes, seconds

Dun & Bradstreet Number:[1] _____

Largest Aboveground Oil Storage Tank Capacity (Gallons): _____

Number of Aboveground Oil Storage Tanks:

Longitude (Degrees: West):

_____

degrees, minutes, seconds _____

North American Industrial Classification System (NAICS) Code:[1] _____

Maximum Oil Storage Capacity (Gallons): __

Worst Case Oil Discharge Amount (Gallons):

_____

Facility Distance to Navigable Water. Mark the appropriate line. _____

0–¼ mile ___ ¼–½ mile ___ ½–1 mile ___ >1 mile ___

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Does the facility transfer oil over-water[2] to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _____

No _____

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

Yes _____

No _____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance[2] (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?[3]

Yes _____

No _____

[1] These numbers may be obtained from public library resources.

[2] Explanations of the above-referenced terms can be found in Appendix C to this part. If a comparable formula to the ones contained in Attachment C–III is used to establish the appropriate distance to fish and wildlife and sensitive environments or public drinking water intakes, documentation of the reliability and analytical soundness of the formula must be attached to this form.

[3] For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable ACP.

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[2] (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?[2]

Yes _____

No _____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill[2] in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____

No _____

CERTIFICATION

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

Signature: _____

Name (Please type or print): _____

Title: _____

Date: _____

[59 FR 34122, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40816, June 30, 2000; 65 FR 43840, July 14, 2000; 66 FR 34561, June 29, 2001; 67 FR 47152, July 17, 2002]

APPENDIX G TO PART 112—TIER I QUALIFIED FACILITY SPCC PLAN

Tier I Qualified Facility SPCC Plan

This template constitutes the SPCC Plan for the facility, when completed and signed by the owner or operator of a facility that meets the applicability criteria in §112.3(g)(1). This template addresses the requirements of 40 CFR part 112. Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or for a facility attended fewer than four hours per day, at the nearest field office. When making operational changes at a facility that are necessary to comply with the rule requirements, the owner/operator should follow state and local requirements (such as for permitting, design and construction) and obtain professional assistance, as appropriate.

Facility Description

Facility Name _____

Facility Address _____

City _____ State _____ ZIP _____

County _____ Tel. Number ( ) -

Owner or operator Name _____

Owner or operator Address _____

City _____ State _____ ZIP _____

County _____ Tel. Number ( ) -

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

I _____, certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
   b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and

c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.

7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include an measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
   a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
   b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
   c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature _____ Title: _____

Name _____ Date: ____/____/20___

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility, if applicable. Implement any SPCC Plan amendment as soon as possible, but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	☐
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. *[§112.6(a)(2)]* [See Technical Amendment Log in Attachment 1.2]	☐

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimate number of containers, types of oil, and anticipated capacities are provided.		☐
Oil Storage Container *(indicate whether aboveground (A) or completely buried (B))*	**Type of Oil**	**Shell Capacity (gallons)**
	Total Aboveground Storage Capacity [c]	_____ gallons
	Total Completely Buried Storage Capacity	_____ gallons
	Facility Total Oil Storage Capacity	_____ gallons

[a] Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment, such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

[b] Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

[c] Counts toward qualified facility applicability threshold.

2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment[a] is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	☐

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge

Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers[b]					
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
Piping, Valves, etc.					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.

[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. *[§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]*	☐
The following is a description of the inspection and/or testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility:	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	☐
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. *[§112.7(e)]* [See Inspection Log and Schedule in Attachment 3.1]	☐
Inspections and tests are signed by the appropriate supervisor or inspector. *[§112.7(e)]*	☐
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. *[§112.7(f)]*	☐
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title:_____	☐
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* [See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]	☐

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.	☐
The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:	

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications
The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines *[§112.7(a)(3)(iv) and 112.7(a)(5)]*:

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	**Telephone Number**
National Response Center (NRC)	1-800-424-8802
Cleanup Contractor(s)	
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention:	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
State Oil Pollution Control Agencies	
Other State, Federal, and Local Agencies	
Local Fire Department	
Local Police Department	
Hospital	
Other Contact References (e.g., downstream water intakes or neighboring facilities)	

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines [See Discharge Notification Form in Attachment 4]: *[§112.7(a)(4)]*	☐
• The exact address or location and phone number of the facility; • Date and time of the discharge; • Type of material discharged; • Estimate of the total quantity discharged; • Estimate of the quantity discharged to navigable waters; • Source of the discharge; • Description of all affected media; • Cause of the discharge; • Any damages or injuries caused by the discharge; • Actions being used to stop, remove, and mitigate the effects of the discharge; • Whether an evacuation may be needed; and • Names of individuals and/or organizations who have also been contacted.	

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

- A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
- Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

You must submit the following information to the RA:

(1) Name of the facility;
(2) Your name;
(3) Location of the facility;
(4) Maximum storage or handling capacity of the facility and normal daily throughput;
(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
(7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

* * * * *

NOTE: Complete one of the following sections (A, B or C)

as appropriate for the facility type.

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators. For example, a facility may not maintain completely buried metallic storage tanks installed after January 10, 1974, and thus would not have to abide by requirements in §§112.8(c)(4) and 112.12(c)(4), listed below. In cases where a provision is not applicable, write "N/A".

Table G-10 General Rule Requirements for Onshore Facilities	
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]*	
• Bypass valve is normally sealed closed	☐
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines	☐
• Bypass valve is opened and resealed under responsible supervision	☐
• Adequate records of drainage are kept [See Dike Drainage Log in Attachment 3.3]	☐
For completely buried metallic tanks installed on or after January 10, 1974 at this facility *[§§112.8(c)(4) and 112.12(c)(4)]*:	
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐
• Regular leak testing is conducted.	☐
For partially buried or bunkered metallic tanks *[§112.8(c)(5) and §112.12(c)(5)]*:	
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. [See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2] *[§112.8(c)(6) and §112.12(c)(6)(i)]*	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(c)(6) and 112.12(c)(6)]*	☐
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. [See Inspection Log and Schedule and Bulk	☐

Table G-10 General Rule Requirements for Onshore Facilities	
Storage Container Inspection Schedule in Attachments 3.1 and 3.2] *[§112.12(c)(6)(ii)]*	
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe:	☐
Liquid level sensing devices are regularly tested to ensure proper operation [See Inspection Log and Schedule in Attachment 3.1]. *[§112.6(a)(3)(iii)]*	☐
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	☐
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(d)(4) and 112.12(d)(4)]*	☐
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(d)(4) and 112.12(d)(4)]*	☐

B. Onshore Oil Production Facilities (excluding drilling and workover facilities) (§112.9(b), (c), and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section. Note that not all provisions may be applicable to all owners/operators. In cases where a provision is not applicable, write "N/A".

Table G-11 General Rule Requirements for Onshore Oil Production Facilities	
At tank batteries, separation and treating areas, drainage is closed and sealed except when draining uncontaminated rainwater. Accumulated oil on the rainwater is returned to storage or disposed of in accordance with legally approved methods. *[§112.9(b)(1)]*	☐
Prior to drainage, diked areas are inspected and *[§112.9(b)(1)]*: • Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters • Bypass valve is opened and resealed under responsible supervision • Adequate records of drainage are kept [See Dike Drainage Log in Attachment 3.3]	☐ ☐ ☐
Field drainage systems and oil traps, sumps, or skimmers are inspected at regularly scheduled intervals for oil, and accumulations of oil are promptly removed [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(b)(2)]*	☐
The containers used at this facility are compatible with materials stored and conditions of storage. *[§112.9(c)(1)]*	☐
All tank battery, separation, and treating facility installations (except for flow-through process vessels) are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond. *[§112.9(c)(2)]*	☐
Except for flow-through process vessels, containers that are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(c)(3)]*	☐
New and old tank batteries at this facility are engineered/updated in accordance with good engineering practices to prevent discharges including at least one of the following: (i) adequate container capacity to prevent overfill if regular pumping/gauging is delayed; (ii) overflow equalizing lines between containers so that a full container can overflow to an adjacent container; (iii) vacuum protection to prevent container collapse; or (iv) high level sensors to generate and transmit an alarm to the computer where the facility is subject to a computer production control system. *[§112.9(c)(4)]*	☐
Flow-through process vessels and associated components are: • Are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond; *[§112.9(c)(2)]* and • That are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(c)(3)]* *Or* • Visually inspected and/or tested periodically and on a regular schedule for leaks, corrosion, or other conditions that could lead to a discharge to navigable waters; and • Corrective action or repairs are applied to flow-through process vessels and any associated components as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge; and • Any accumulations of oil discharges associated with flow-through process vessels are promptly removed; and	☐ ☐ ☐ ☐ ☐

Table G-11 General Rule Requirements for Onshore Oil Production Facilities	
• Flow-through process vessels are provided with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation within six months of a discharge from flow-through process vessels of more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or a discharge more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period. *[§112.9(c)(5)]* *(Leave blank until such time that this provision is applicable.)*	☐
All aboveground valves and piping associated with transfer operations are inspected periodically and upon a regular schedule. The general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items are included in the inspection. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(d)(1)]*	☐
An oil spill contingency plan and written commitment of resources are provided for flowlines and intra-facility gathering lines [See Oil Spill Contingency Plan and Checklist in Attachment 2 and Inspection Log and Schedule in Attachment 3.1] *[§112.9(d)(3)]*	☐
or Appropriate secondary containment and/or diversionary structures or equipment is provided for flowlines and intra-facility gathering lines to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from the pipe, will not escape the containment system before cleanup occurs.	☐
A flowline/intra-facility gathering line maintenance program to prevent discharges from each flowline has been established at this facility. The maintenance program addresses each of the following:	☐
• Flowlines and intra-facility gathering lines and associated valves and equipment are compatible with the type of production fluids, their potential corrosivity, volume, and pressure, and other conditions expected in the operational environment;	☐
• Flowlines, intra-facility gathering lines and associated appurtenances are visually inspected and/or tested on a periodic and regular schedule for leaks, oil discharges, corrosion, or other conditions that could lead to a discharge as described in §112.1(b). The frequency and type of testing allows for the implementation of a contingency plan as described under part 109 of this chapter.	☐
• Corrective action and repairs to any flowlines and intra-facility gathering lines and associated appurtenances as indicated by regularly scheduled visual inspections, tests, or evidence of a discharge.	☐
• Accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances are promptly removed. *[§112.9(d)(4)]*	☐
The following is a description of the flowline/intra-facility gathering line maintenance program implemented at this facility:	

C. Onshore Oil Drilling and Workover Facilities (§112.10(b), (c) and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section.

Table G-12 General Rule Requirements for Onshore Oil Drilling and Workover Facilities	
Mobile drilling or worker equipment is positioned or located to prevent discharge as described in §112.1(b). *[§112.10(b)]*	☐
Catchment basins or diversion structures are provided to intercept and contain discharges of fuel, crude oil, or oily drilling fluids. *[§112.10(c)]*	☐
A blowout prevention (BOP) assembly and well control system was installed before drilling below any casing string or during workover operations. *[§112.10(d)]*	☐
The BOP assembly and well control system is capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well. *[§112.10(d)]*	☐

ATTACHMENT 1 – Five Year Review and Technical Amendment Logs

ATTACHMENT 1.1 – Five Year Review Log

I have completed a review and evaluation of the SPCC Plan for this facility, and will/will not amend this Plan as a result.

Table G-13 Review and Evaluation of SPCC Plan for Facility			
Review Date	Plan Amendment		Name and signature of person authorized to review this Plan
	Will Amend	Will Not Amend	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

ATTACHMENT 1.2 – Technical Amendment Log
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template.

Table G-14 Description and Certification of Technical Amendments		
Review Date	Description of Technical Amendment	Name and signature of person certifying this technical amendment

ATTACHMENT 2 – Oil Spill Contingency Plan and Checklist
An oil spill contingency plan and written commitment of resources is required for:

- Flowlines and intra-facility gathering lines at oil production facilities and
- Qualified oil-filled operational equipment which has no secondary containment.

An oil spill contingency plan meeting the provisions of 40 CFR part 109, as described below, and a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is attached to this Plan.	☐

Complete the checklist below to verify that the necessary operations outlined in 40 CFR part 109 - Criteria for State, Local and Regional Oil Removal Contingency Plans - have been included.

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.	☐
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:	
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.	☐
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.	☐
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).	☐
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.	☐
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:	
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.	☐
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.	☐
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.	☐
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:	
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.	☐
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.	☐

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.	☐
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.	☐
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.	☐
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.	☐

[a] The contingency plan must be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

ATTACHMENT 3 – Inspections, Dike Drainage and Personnel Training Logs

ATTACHMENT 3.1 – Inspection Log and Schedule

Table G-16 Inspection Log and Schedule

This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12.(c)(6), and 112.12(d)(4), as applicable.

Date of Inspection	Container / Piping / Equipment	Describe Scope (or cite Industry Standard)	Observations	Name/ Signature of Inspector	Records maintained separately[a]
					☐
					☐
					☐
					☐
					☐

[a] Indicate in the table above if records of facility inspections are maintained separately at this facility.

ATTACHMENT 3.2 – Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

Table G-17 Bulk Storage Container Inspection Schedule

Container Size and Design Specification	Inspection requirement
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection[a]	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection[a]	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

[a] Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT 3.3 – Dike Drainage Log

Table G-18 Dike Drainage Log

Date	Bypass valve sealed closed	Rainwater inspected to be sure no oil (or sheen) is visible	Open bypass valve and reseal it following drainage	Drainage activity supervised	Observations	Signature of Inspector
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		

ATTACHMENT 3.4 – Oil-handling Personnel Training and Briefing Log

Table G-19 Oil-Handling Personnel Training and Briefing Log		
Date	Description / Scope	Attendees

ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center [also see the notification information provided in Section 7 of the Plan]:

Table G-20 Information provided to the National Response Center in the Event of a Discharge			
Discharge/Discovery Date		Time	
Facility Name			
Facility Location (Address/Lat-Long/Section Township Range)			
Name of reporting individual		Telephone #	
Type of material discharged		Estimated total quantity discharged	Gallons/Barrels
Source of the discharge		Media affected	☐ Soil ☐ Water (specify) _____ ☐ Other (specify) _____
Actions taken			
Damage or injuries	☐ No ☐ Yes (specify)	Evacuation needed?	☐ No ☐ Yes (specify)
Organizations and individuals contacted	☐ National Response Center 800-424-8802 Time _____		
	☐ Cleanup contractor (Specify) Time _____		
	☐ Facility personnel (Specify) Time _____		
	☐ State Agency (Specify) Time _____		
	☐ Other (Specify) Time _____		

[74 FR 58811, Nov. 13, 2009]

PART 113—LIABILITY LIMITS FOR SMALL ONSHORE STORAGE FACILITIES

Subpart A—Oil Storage Facilities

Sec.

AUTHORITY: Sec. 311(f)(2), 86 Stat. 867 (33 U.S.C. 1251 (1972)).

SOURCE: 38 FR 25440, Sept. 13, 1973, unless otherwise noted.

Subpart A—Oil Storage Facilities

§ 113.1 Purpose.

This subpart establishes size classifications and associated liability limits for small onshore oil storage facilities with fixed capacity of 1,000 barrels or less.

§ 113.2 Applicability.

This subpart applies to all onshore oil storage facilities with fixed capacity of 1,000 barrels or less. When a discharge to the waters of the United States occurs from such facilities and when removal of said discharge is performed by the United States Government pursuant to the provisions of subsection 311(c)(1) of the Act, the liability

APPENDIX E

MICHIGAN PIPP REGULATIONS
(MAC R324.2001-324.2009)

DEPARTMENT OF ENVIRONMENTAL QUALITY

WASTE MANAGEMENT DIVISION

WATER RESOURCES PROTECTION

(By authority conferred on the director and the department of environmental quality by sections 3102 and 3106 of 1994 PA 451, MCL 324.3102 and 324.3106, and Executive Reorganization Order No. 1991-22, MCL 299.13)

PART 5. SPILLAGE OF OIL AND POLLUTING MATERIALS

R 324.2001 Definitions; a to o.

Rule 1. As used in this part:

(a) "Act" means 1994 PA 451, MCL 324.101 et seq., and known as the natural resources and environmental protection act.

(b) "Department" means the department of environmental quality.

(c) "Indoors" means within a building or other enclosure which provides protection from the elements, which has doors or other means of entry that can be closed or otherwise protected from unauthorized entry, and which has a floor capable of containing liquid or solid materials.

(d) "Manufactured item" means any solid article, other than a container holding solid or liquid polluting materials, which is formed to specific shape during manufacture, and which does not leach or otherwise release polluting materials to the groundwaters or surface waters of the state under normal conditions of use or storage.

(e) "Oil" means oil of any kind or in any form, including any of the following:

(i) Petroleum.

(ii) Gasoline.

(iii) Fuel oil.

(iv) Grease.

(v) Oily sludges.

(vi) Oil refuse.

(vii) Oil mixed with waste.

(f) "Oil storage facility" means a temporary or permanent land-based industry, plant, establishment, firm, or other facility which receives, processes, manufactures, uses, stores, or ships oil, and at which there is present an amount of oil equal to or more than the threshold management quantity and which is so situated that oil could directly or indirectly reach the surface or groundwaters of this state, including any facility that discharges through a public sewer system. "Oil-storage facility" does not include an oil field petroleum or brine storage facility, a recreational marina, installations of oil-containing electrical equipment, or any transportation-related facility, as defined in 40 C.F.R. part 112.

(g) "On-land facility" means a temporary or permanent land-based industry, plant, establishment, firm, storage site, or other facility, which receives, processes, manufactures, uses, stores or ships polluting materials and at which there is present an amount of any polluting material equal to or more than its threshold management quantity and which is so situated that loss of polluting materials could directly or indirectly reach the surface or groundwaters of this state, including any facility which discharges through a public sewer system. "On-land facility" does not include an oil storage facility, an oil field petroleum or brine storage facility, a recreational marina, installations of oil containing electrical equipment, or a transportation-related facility as defined in 40 C.F.R. part 112.

History: 2001 AACS.

R 324.2002 Definitions; p to u.

Rule 2. As used in this part:

(a) "Polluting material" means all of the following:

(i) Oil.

(ii) Salt.

(iii) Any material specified in table 1 in R 324.2009.

(iv) Any compound or product that contains 1%, or more, by weight, of any material listed in paragraphs (i) through (iii) of this subdivision based on material safety data sheet formulation information for the compounds or products.

(v) "Polluting material" does not include manufactured items.

(b) "Release" is defined in section 20101(1)(bb) of the act. For the purposes of this rule, "release" does not include any of the following:

(i) Spilling, leaking, or discharging less than 1000 gallons of a polluting material into a secondary containment structure that complies with these rules, if recovery of the material spilled, leaked, or discharged is initiated within 24 hours of detection, is completed as soon as practicable, but not more than 72 hours after detection, and if no polluting materials are released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(ii) Spilling, leaking, or discharging less than 55 gallons of oil to the ground surface, if the spill, leak, or discharge is detected and the oil recovered within 24 hours of the spill, leak, or discharge, and if oil is not released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(iii) Spilling, leaking, or discharging less than 55 gallons of oil to the surface waters of this state, if effective recovery measures are implemented in response to the spill, leak, or discharge immediately upon detection.

(iv) Releases of air contaminants as defined in section 5501(a) of the act.

(v) Permitted releases as defined in section 20101(1)(aa) of the act.

(c) "Salt" means sodium chloride, potassium chloride, calcium chloride, and magnesium chloride, and solutions or mixtures of these compounds in solid or liquid form.

(d) "Secondary containment structure" means a unit, other than the primary container in which polluting material is packaged or held, that is designed, constructed, and operated so that the polluting material cannot escape from the unit through public sewers, drains, or otherwise directly or indirectly into any public sewer system or to the surface waters or groundwaters of this state.

(e) "Sewer system" is defined in R 299.2903(8).

(f) "Threshold management quantity" means any of the following:

(i) For salt in solid form used, stored, or otherwise managed at any location at or within an on-land or oil storage facility, 5 tons.

(ii) For salt in liquid form used, stored, or otherwise managed at any location at or within an on-land or oil storage facility, 1000 gallons.

(iii) For oil, 1320 gallons in aboveground tanks or containers if no single tank or container has a capacity of more than of 660 gallons.

(iv) For all other polluting materials at any discrete outdoor use or storage location at an on-land or oil storage facility, 200 kilograms (440 pounds).

(v) For all other polluting materials at any discrete indoor use or storage location at an on-land or oil storage facility, 1000 kilograms (2200 pounds).

(g) "Threshold reporting quantity" means any of the following:

(i) For releases of oil to the surface of the ground, 50 pounds.

(ii) For releases of oil to the waters of the state, any quantity that causes unnatural turbidity, color, visible sheens, oil films, foams, solids, or deposits in the receiving waterbody.

(iii) For release of salt to the surface of the ground, or waters of the state, 50 pounds in solid form, unless the use is authorized by the department for deicing purposes, or 50 gallons in liquid form, unless authorized by the department as a dust suppressant or deicing agent or permitted under part 31 of the act.

(iv) For releases of all other polluting materials, the quantity specified in table 1 in R 324.2009, or any quantity that causes unnatural turbidity, color, visible sheens, oil films, foams, solids, or deposits in the receiving waterbody.

(h) "Use area" means any area within an oil storage facility or on-land facility that is used for handling, treating, or processing polluting materials.

History: 2001 AACS.

R 324.2003 Conditional exemptions.

Rule 3. (1) Except as otherwise provided in these rules, the following facilities are exempt from these rules subject to the following conditions:

(a) Any facility that manages polluting materials in excess of threshold quantities is exempt from these rules if the polluting materials are managed in containers that do not individually exceed 10 gallons or 100 pounds in capacity and that are located

indoors at a facility that is designed, constructed, maintained, and operated to prevent any spilled polluting material from being released directly or indirectly to the surface or groundwaters of the state.

(b) An on-land or oil storage facility which does not manage any other polluting materials in excess of an applicable threshold management quantity and which is otherwise subject to the federal oil pollution prevention requirements of 40 C.F.R. part 110 or 112, (1997), shall comply with these rules by fully complying with the federal requirements and shall also report all releases of oil as required in R 324.2007. The owner or operator of such a facility shall submit a copy of the facility's spill prevention, control, and countermeasure plan in accordance with R 324.2006(2). An oil storage facility that manages both oil and other polluting materials in excess of an applicable threshold management quantity shall comply with these rules for the other polluting materials. Failure to fully comply with the federal oil pollution prevention requirements is a violation of these rules and the federal requirements and is subject to the provisions of part 31 of the act.

(c) An on-land or oil storage facility subject to 1941 PA 207, MCL 29.1, et seq., and known as the fire prevention code, shall comply with these rules by fully complying with the provisions of 1941 PA 207, for any flammable liquids, or combustible liquids, or both, subject to 1941 PA 207. An on-land facility that manages flammable liquids, or combustible liquids, or both, and other polluting materials in excess of an applicable threshold management quantity shall comply with these rules for the other polluting materials.

(d) An on-land or oil storage facility that owns or manages underground storage tanks subject to part 211 or 213 of the act shall comply with these rules by fully complying with the requirements of part 211 or 213 of the act for the underground storage tanks. An on-land or oil storage facility that has underground storage tanks subject to part 211 or 213 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are not subject to part 211 or 213 of the act shall comply with these rules for the other polluting materials.

(e) An on-land or oil storage facility that manages hazardous wastes subject to part 111 of the act shall comply with these rules by fully complying with the requirements of part 111 of the act for those hazardous wastes. An on-land or oil storage facility that manages hazardous wastes subject to part 111 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are not subject to part 111 of the act shall comply with these rules for the other polluting materials.

(f) An on-land or oil storage facility that is subject to part 615 of the act shall comply with these rules by fully complying with the requirements of part 615 of the act. An on-land or oil storage facility subject to part 615 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are not subject to part 615 of the act shall comply with these rules for the other polluting materials.

(2) Notwithstanding any other provision of these rules, if the department determines, on the basis of the physical state, chemical properties, location, manner of management, or proximity to vulnerable natural resources, that a facility that receives, uses, processes, manufactures, stores, or ships polluting materials in amounts less than an applicable threshold management quantity, can, if there is a release, be reasonably expected to cause substantial harm to the surface or groundwaters of the state, then the facility may be required to comply with these rules by a permit or an order issued under part 31 of the act and the rules promulgated under part 31 of the act.

History: 2001 AACS.

R 324.2004 Oil storage and on-land facilities: surveillance.

Rule 4. Oil storage and on-land facilities shall maintain adequate surveillance of all manufacturing processes, treatment systems, storage areas, and other such areas so that any polluting material loss therefrom can be detected in a timely manner and procedures implemented to prevent any polluting materials from reaching the waters of this state.

History: 2001 AACS.

R 324.2005 Secondary containment.

Rule 5. (1) Except as may be authorized under subrule (5) of this rule, not later than 24 months after the effective date of these rules, any on-land facility that has any outdoor storage areas used to store liquid polluting materials in excess of a threshold management quantity shall provide secondary containment structures for those outdoor storage areas as required in subrule (2) of this rule.

(2) Secondary containment structures for liquids shall comply with all of the following provisions:

(a) Be constructed of materials that are compatible with, and impervious to, or otherwise capable of containing, any spilled, leaked, or discharged polluting materials so that the materials can be recovered and so that polluting materials cannot escape directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(b) Provide a capacity that is not less than 10% of the total volume of the tanks or containers within the secondary containment structure or provide a capacity of 100% of the largest single tank or container within the secondary containment structure, whichever is larger.

(c) Allow surveillance of the tanks or containers, the timely detection of any leaks and recovery of any spillage, and the removal and proper disposal of any captured precipitation so that the minimum required capacity is maintained at all times. Captured precipitation may be removed by drainage through normally closed valves if all of the following conditions are met:

(i) The drainage is conducted under the direct supervision of qualified facility personnel.

(ii) The valves are secured closed at all times, except during precipitation removal.

(iii) The drainage is performed in full compliance with all applicable local, state, and federal requirements.

(3) All use areas and indoor storage areas shall be designed, constructed, maintained, and operated to prevent the release of polluting materials through sewers, drains, or otherwise directly or indirectly into any public sewer system or to the surface or groundwaters of this state.

(4) Polluting materials in solid form shall be enclosed, covered, contained, or otherwise protected to prevent run-on and any runoff, seepage, or leakage to any public sewer system or to the surface or groundwaters of the state. Solid polluting materials shall not be stored within 50 feet of a designated wetland or the shore or bank of any lake or stream. Solid polluting material containment structures located within a 100-year floodplain as defined by the federal flood disaster protection act of 1973, 42 U.S.C. 4001 et seq., shall be designed and constructed to remain effective during a 100-year flood.

(5) Alternate secondary containment, control, or treatment systems other than those required in subrule (1) of this rule that provide adequate protection may be used upon written approval of the department. Requests for alternate secondary containment, control, or treatment systems shall be submitted in writing to the chief of the department's waste management division. The chief of the department's waste management division, or his or her authorized delegee, shall either approve, approve with specifc modifications, or disapprove a request for an alternate secondary containment, control, or treatment system not more than 180 days after receipt.

History: 2001 AACS.

R 324.2006 Pollution incident prevention plan.

Rule 6. (1) Except as provided in subrule (3) of this rule, not more than 24 months after the effective date of these rules, the owner or operator of any on-land facility that receives, uses, processes, manufactures, stores, or ships polluting materials in excess of the applicable threshold management quantity shall develop, maintain, and operate in accordance with, a pollution incident prevention plan. At a minimum, the pollution incident prevention plan shall include all of the following information:

(a) All of the following general facility information:

(i) Facility name.

(ii) Mailing address.

(iii) Street address, if other than the mailing address.

(iv) Facility phone number.

(v) 24-hour emergency phone number or numbers.

(vi) Internal emergency notification procedures.

(vii) The name of the designated spill prevention and control coordinator.

(viii) The name of the person or persons responsible for on-site spill prevention and control, if different than the designated spill prevention and control coordinator.

(ix) The name of the facility owner.

(x) A map showing the facility relative to the surrounding area, including thoroughfares.

(b) Procedures for emergency notification of all of the following entities:

(i) The department's pollution emergency alerting system (PEAS).

(ii) National response center.

(iii) Local emergency planning committee.

(iv) Local fire department.

(v) Local law enforcement agency.

(vi) Municipal wastewater treatment plant if the facility is served by a municipal wastewater treatment plant.

(vii) Appropriate spill cleanup contractor, or consulting firm, or both.

(c) All of the following spill control and cleanup procedures:

(i) Inventory and location of spill control and cleanup equipment available on-and off-site.

(ii) Procedures for response and cleanup.

(iii) Procedures for characterization and disposal of recovered materials.

(d) A polluting material inventory, including all of the following information:

(i) Identification of all polluting materials typically on-site in quantities exceeding the threshold management quantity during the preceding 12 months. The materials shall be identified by product name, chemical name, and chemical abstracts service number.

(ii) The location of material safety data sheets for all polluting materials on-site in quantities exceeding the threshold management quantity.

(e) A site plan depicting relevant site structures and all storage and use areas where polluting materials are managed on-site in quantities exceeding the threshold management quantity, including any of the following:

(i) Aboveground and underground tanks.

(ii) Floor drains.

(iii) Loading and unloading areas.

(iv) Sumps.

(v) On-site water supplies.

(f) Outdoor secondary containment structures, including all of the following information:

(i) Location or locations.

(ii) Design and construction data, including dimensions, materials, capacity, and the amount of the polluting materials stored in each area.

(iii) Provisions for the capture and removal of spilled polluting materials.

(iv) Provisions for secondary containment structure physical security, including signage, gates, fences, and barriers.

(v) Precipitation management procedures, including characterization and disposal procedures and copies of any permits authorizing discharge.

(vi) Inspection and maintenance procedures.

(g) Other controls.

(h) Provisions for general facility physical security.

(2) The facility owner or operator shall maintain the plan at the facility available for inspection upon request of the department. Within 30 days after its completion, the facility owner or operator shall notify the department and certify that the facility is in full compliance with these rules and notify the local emergency planning committee and the local health department serving the facility that the pollution incident prevention plan has been completed and is available upon request. Within 30 days after receiving a request for a copy of the plan from the department, the local emergency planning committee or the local health department, the facility owner or operator shall submit a copy of the pollution incident prevention plan to the requesting agency.

(3) A facility that is subject to other local, state, or federal emergency or contingency planning requirements may integrate the pollution incident prevention plan with other plans if the required elements of the pollution incident prevention plan are contained in the integrated plan. Upon preparation of an integrated plan, the facility owner or operator shall submit the updated plan and shall renotify the department and recertify compliance with these rules in accordance with subrule (2) of this rule.

(4) The facility owner or operator shall evaluate the pollution incident prevention plan or integrated plan every 3 years or after any release that requires implementation of the plan, whichever is more frequent. The facility owner or operator shall update the plan when facility personnel, processes, or procedures identified in the plan change or as otherwise necessary to maintain compliance with this rule. Upon preparation of an updated plan, the facility owner or operator shall renotify the department and recertify compliance with these rules in accordance with subrule (2) of this rule.

(5) If the department determines that a pollution incident prevention plan prepared under subrule (1) of this rule or the applicable portions of an integrated plan prepared under subrule (3) of this rule is incomplete or inadequate, then the department may inform the owner or operator of an oil storage or on-land facility, in writing, of the department's findings and recommendations and request modification of the plan. The owner or operator of the oil storage or on-land facility shall modify the plan and resubmit it in accordance with subrule (2) of this rule within 30 days after receipt of the department's request, unless a longer response period is authorized by the department in writing.

History: 2001 AACS.

R 324.2007 Pollution incident report.

Rule 7. (1) As soon as practicable after detection of a release, the owner, operator, or manager of an oil storage facility or an on-land facility that releases or permits to be released any polluting material in excess of a threshold reporting quantity during any 24-hour period shall notify the department by contacting the department's PEAS at 1-800-292-4706.

(2) Within 10 days after the release, the owner or operator shall file a written report with the chief of the department's waste management division outlining the cause of the release, discovery of the release, and the response measures taken or a schedule for completion of measures to be taken, or both, to prevent recurrence of similar releases.

(3) This rule does not supersede, rescind, or otherwise alter any other existing procedure, rule, or statute pertaining to pollution of the waters of this state, nor does it relieve any person from any reporting requirement imposed under federal law or regulation.

History: 2001 AACS.

R 324.2008 Enforcement.

Rule 8. A person who violates any provision of this part is subject to the procedures and penalties prescribed in sections 3112, 3114, 3115, and 3115a of part 31 of the act.

History: 2001 AACS.

R 324.2009 Table 1; polluting materials.

Rule 9. Table 1 reads as follows:

Name	CAS	TRQ
1,1,1,2 Tetrachloroethane	630206	10
1,1,1-Trichloroethane	71556	100
1,1,2,2-Tetrachloroethane	79345	10
1,1,2-Trichloroethane	79005	10
1,1-Dichloroethane	75343	100
1,1-Dichloroethylene	75354	10
1,1-Dichloropropane	78999	100
1,2-Dimethylhydrazine	540738	1
1,1-Dimethylhydrazine	57147	10
1,2,3,4-tetrachlorobenzene	634662	10
1,2,3,5-tetrachlorobenzene	634902	10
1,2,3-trichlorobenzene	87616	10
1,2,4,5-Tetrachlorobenzene	95943	500
1,2,4-Trichlorobenzene	120821	10
1,2:3,4-diepoxybutane	298180	10
1,2-Butylene oxide	106887	10
1,2-Dibromo-3-chloropropane	96128	1
1,2-Dibromoethane	106934	1
1,2-Dichloroethane	107062	10
1,2-Dichloroethylene	156605	100
1,2-Dichloropropane	78875	100
1,2-Diphenylhydrazine	122667	10
1,3,5-Trinitrobenzene	99354	10
1,3-Butadiene	106990	10
1,3-Dichlorobenzene	541731	10
1,3-Dichloropropane	142289	500
1,3-Dichloropropylene	542756	10
1,3-Pentadiene	504609	10

1,4-Dichloro-2-butene	764410	1
1,4-Dichlorobenzene	106467	10
1,4-Dioxane	123911	10
1,4-Naphthoquinone	130154	500
1,5-naphthalenediamine	2243621	10
1-Acetyl-2-thiourea	591082	100
1-amino-2-methylanthraquinone	82280	10
1-chloropropene	590-21-6	10
1H-Azepine-1 carbothioic acid, hexahydro-S-ethyl	2212671	1
2,2,4-Trimethylpentane	540841	100
2,2-Dichloropropionic acid	75990	500
2,2-Dimethyl-1,3-benzodioxol-4-ol	22781233	1
2,3,4,5-tetrachlorophenol	4901513	10
2,3,4,6-Tetrachlorophenol	58902	10
2,3,4-Trichlorophenol	15950660	10
2,3,5,6-tetrachlorophenol	935955	10
2,3,5-Trichlorophenol	933788	10
2,3,6-Trichlorophenol	933755	10
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746016	1
2,3-Dichloropropene	78886	10
2,4,5-T acid	93765	100
2,4,5-T amines	1319728	500
2,4,5-T amines	6369966	500
2,4,5-T amines	2008460	500
2,4,5-T amines	6369977	500
2,4,5-T amines	3813147	500
2,4,5-T esters	25168154	100
2,4,5-T esters	61792072	100
2,4,5-T esters	2545597	100
2,4,5-T esters	93798	100
2,4,5-T esters	1928478	100
2,4,5-T salts	13560991	100
2,4,5-TP esters	32534955	10
2,4,5-Trichlorophenol	95954	10
2,4,5-trichlorotoluene	6639301	10
2,4,5-trimethylaniline	137177	10
2,4,6-Trichlorophenol	88062	10
2,4-D chlorocrotyl ester	2971382	10
2,4-D Esters	1320189	10
2,4-D Esters	94791	10
2,4-D Esters	53467111	10
2,4-D Esters	1928387	10
2,4-D Esters	1928616	10
2,4-D Esters	2971382	10
2,4-D Esters	1929733	10
2,4-D Esters	94111	10
2,4-D Esters	25168267	10
2,4-D Esters	94804	10
2,4-D, salts and esters	94757	10
2,4-diaminoanisole sulfate	39156417	10
2,4-Diaminotoluene	95807	10

2,4-Dichlorophenol	120832	10
2,4-Dimethylphenol	105679	10
2,4-Dinitrophenol	51285	10
2,4-Dinitrotoluene	121142	10
2,4-Dithiobiuret	541537	10
2,5-Dinitrophenol	329715	10
2,6-Dichlorophenol	87650	10
2,6-Dinitrophenol	573568	10
2,6-Dinitrotoluene	606202	10
2-Acetylaminofluorene	53963	1
2-aminoanthraquinone	117793	10
2-Butenal	4170303	10
2-Butenal, (e)-	123739	10
2-Chloroacetophenone	532274	10
2-Chloroethyl vinyl ether	110758	100
2-Chloronaphthalene	91587	500
2-Chlorophenol	95578	10
2-Cyclohexyl-4,6-dinitrophenol	131895	10
2-Ethoxyethanol	110805	100
2-methyl-1-nitroanthraquinone	129157	10
2-Methyllactonitrile	75865	10
2-Methylpyridine	109068	500
2-Nitrophenol	88755	10
2-Nitropropane	79469	10
3-(chloromethyl)pyridine hydrochloride	6959484	10
3,3'-Dichlorobenzidine	91941	1
3,3'-Dimethoxybenzidine	119904	10
3,3'-Dimethylbenzidine	119937	10
3,4,5-Trichlorophenol	609198	10
3,4-Dinitrotoluene	610399	10
3,6-Dichloro-2-methoxybenzoic acid	1918009	100
3-amino-9-ethylcarbazole	132321	10
3-amino-9-ethylcarbazole hydrochloride	57360175	10
3-Chloropropionitrile	542767	100
3-Iodo-2-propynyl butylcarbamate	55406536	1
3-Methylcholanthrene	56495	10
4,4'-diaminodiphenyl ether	101804	10
4,4'-Methylenebis(2-chloroaniline)	101144	10
4,4'-methylenebis(2-methylaniline)	838880	10
4,4'-methylenebis(N,N-dimethyl)benzenamine	101611	10
4,4'-Methylenedianiline	101779	10
4,4'-thiodianiline	139651	10
4,6-Dinitro-o-cresol and salts	534521	10
4-Aminobiphenyl	92671	1
4-Aminopyridine	504245	100
4-Bromophenyl phenyl ether	101553	10
4-chloro-m-phenylenediamine	5131602	10
4-chloro-o-phenylenediamine	95830	10
4-Chloro-o-toluidine, hydrochloride	3165933	10
4-Chlorophenyl phenyl ether	7005723	500
4-Nitrobiphenyl	92933	10

5-(Aminomethyl)-3-isoxazolol	2763964	100
5-chloro-o-toluidine	95794	10
5-nitroacenaphthene	602879	10
5-nitro-o-anisidine	99592	1
5-Nitro-o-toluidine	99558	10
7,12-Dimethylbenz[a]anthracene	57976	1
abietic acid	514103	10
Acenaphthene	83329	10
Acenaphthylene	208968	500
Acetaldehyde	75070	100
Acetaldehyde, trichloro-	75876	500
Acetamide	60355	10
Acetic acid	64197	500
Acetic anhydride	108247	500
Acetone	67641	500
Acetonitrile	75058	500
Acetophenone	98862	500

Acetyl bromide	506967	500
Acetyl chloride	75365	500
Acrolein	107028	1
Acrylamide	79061	500
Acrylic acid	79107	500
Acrylonitrile	107131	10
actinomycin D	50760	10
Adipic acid	124049	500
Aflatoxins	1402682	1
Aldicarb	116063	1
Aldicarb sulfone	1646884	1
Aldrin	309002	1
Allyl alcohol	107186	10
Allyl chloride	107051	100
alpha – Endosulfan	959988	1
alpha-BHC	319846	10
alpha-Hexachlorocyclohexane	319846	10
alpha-Naphthylamine	134327	10
Aluminum phosphide	20859738	10
Aluminum sulfate	10043013	500
Aminoazobenzene	60093	10
Amitrole	61825	10
Ammonia	7664417	10
Ammonium acetate	631618	500
Ammonium benzoate	1863634	500
Ammonium bicarbonate	1066337	500
Ammonium bichromate	7789095	10
Ammonium bifluoride	1341497	10
Ammonium bisulfite	10192300	500
Ammonium carbamate	1111780	500
Ammonium carbonate	506876	500
Ammonium chloride	12125029	500
Ammonium chromate	7788989	10

Ammonium citrate, dibasic	3012655	500
Ammonium fluoborate	13826830	500
Ammonium fluoride	12125018	10
Ammonium hydroxide	1336216	100
Ammonium oxalate	14258492	500
Ammonium oxalate	5972736	500
Ammonium oxalate	6009707	500
Ammonium picrate	131748	10
Ammonium silicofluoride	16919190	100
Ammonium sulfamate	7773060	500
Ammonium sulfide	12135761	10
Ammonium sulfite	10196040	500
Ammonium tartrate	3164292	500
Ammonium tartrate	14307438	500
Ammonium thiocyanate	1762954	500
Ammonium vanadate	7803556	100
Amyl acetate	628637	500
Anilazine	101053	1
Aniline	62533	500
aniline hydrochloride	142041	10
Anthracene	120127	500
Antimony	7440360	500
ANTIMONY COMPOUNDS		1
Antimony pentachloride	7647189	100
Antimony potassium tartrate	28300745	10
Antimony tribromide	7789619	100
Antimony trichloride	10025919	100
Antimony trifluoride	7783564	100
Antimony trioxide	1309644	100
antimycin A	1397940	1
Aramite	140578	1
Aroclor 1016	12674112	1
Aroclor 1221	11104282	1
Aroclor 1232	11141165	1
Aroclor 1242	53469219	1
Aroclor 1248	12672296	1
Aroclor 1254	11097691	1
Aroclor 1260	11096825	1
Arsenic	7440382	1
Arsenic acid	1327522	1
Arsenic acid	7778394	1
ARSENIC COMPOUNDS		1
Arsenic disulfide	1303328	1
Arsenic pentoxide	1303282	1
Arsenic trioxide	1327533	1
Arsenic trisulfide	1303339	1
Arsenous trichloride	7784341	1
Asbestos (friable)	1332214	1
Auramine	492808	10
Azaserine	115026	1
azinphos-ethyl	2642719	1

Aziridine, 2-methyl	75558	1
Azobenzene	103333	1
Barban	101279	1
Barban	101279	10
Barium cyanide	542621	10
Bendiocarb	22781233	10
Bendiocarb phenol	22961826	1
Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-	1582098	10
Benomyl	17804352	1
Benomyl	17804352	10
Benz[a]anthracene	56553	10
Benz[c]acridine	225514	10
Benzal chloride	98873	500
Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-	23950585	500
Benzene	71432	10
Benzene, 2,4-diisocyanato-1-methyl-	584849	10
Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)- alpha.-hydroxy-, ethyl	510156	10
Benzeneethanamine, alpha,alpha-dimethyl-	122098	500
Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)- alpha.-	115322	10
Benzenesulfonyl chloride	98099	10
Benzenethiol	108985	10
Benzidine	92875	1
Benzidine (and salts)		1
Benzo(k)fluoranthene	207089	500
Benzo[a]pyrene	50328	1
Benzo[b]fluoranthene	205992	1
Benzo[ghi]perylene	191242	500
Benzoic acid	65850	500
Benzoic trichloride	98077	10
Benzonitrile	100470	500
Benzoyl chloride	98884	100
Benzyl chloride	100447	10
Beryllium	7440417	10
Beryllium chloride	7787475	1
BERYLLIUM COMPOUNDS		1
Beryllium fluoride	7787497	1
Beryllium nitrate	7787555	1
Beryllium nitrate	13597994	1
beta – Endosulfan	33213659	1
beta-BHC	319857	1
beta-Naphthylamine	91598	10
beta-Propiolactone	57578	10
Biphenyl	92524	10
Bis(2-chloro-1-methylethyl)ether	108601	100
Bis(2-chloroethoxy) methane	111911	100
Bis(2-chloroethyl) ether	111444	10
Bis(2-ethylhexyl)phthalate	117817	10
Bis(chloromethyl) ether	542881	10
Bis(dimethylthiocarbamoyl) sulfide	97745	1

Bromoacetone	598312	100
Bromoform	75252	10
Bromomethane	74839	100
Bromoxynil	1689845	1
Brucine	357573	10
Butyl acetate	123864	500
Butyl benzyl phthalate	85687	10
Butylamine	109739	100
Butylate	2008415	1
butylbutanol nitrosamine	3817116	10
Butylethylcarbamothioic acid S-propyl ester	1114712	1
Butyric acid	107926	500
Cacodylic acid	75605	1
Cadmium	7440439	10
Cadmium acetate	543908	10
Cadmium bromide	7789426	10
Cadmium chloride	10108642	10
CADMIUM COMPOUNDS		1
Calcium arsenate	7778441	1
Calcium arsenite	52740166	1
Calcium carbide	75207	10
Calcium chromate	13765190	10
Calcium cyanamide	156627	100
Calcium cyanide	592018	10
Calcium dodecylbenzenesulfonate	26264062	100
Calcium hypochlorite	7778543	10
Caprolactam	105602	500
Captafol	2425061	1
Captan	133062	10
Carbamic acid, methyl-, O-(((2,4-dimethyl-1,3-dithiolan-2-	26419738	1
Carbamodithioic acid, dibutyl-, sodium salt	136301	1
Carbamodithioic acid, diethyl-, sodium salt	148185	1
Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2-	2303164	10
Carbamothioic acid, dipropyl-, S-(phenylmethyl)	52888809	1
Carbamothioic acid, dipropyl-, S-propyl ester	1929777	1
Carbaryl	63252	10
Carbendazim	10605217	1
Carbofuran	1563662	10
Carbofuran phenol	1563388	1
Carbon disulfide	75150	10
Carbon oxide sulfide (COS)	463581	10
Carbon tetrachloride	56235	10
Carbonic difluoride	353504	100
Carbonochloridic acid, methylester	79221	100
Carbonyl sulfide	463581	10
Carbophenothion	786196	1
Carbosulfan	55285148	1
Catechol	120809	10
Chloramben	133904	10

Chlorambucil	305033	10
Chloramines		1
Chlordane	57749	1
Chlorfenvinphos	470906	10
CHLORINATED BENZENES		1
Chlorinated dibenzofurans		1
Chlorinated dioxins		1
CHLORINATED ETHANES		1
CHLORINATED NAPTHALENE		1
CHLORINATED PHENOLS		1
Chlorine	7782505	10
Chlorine (elemental and hypochlorite salts)		10
Chlornaphazine	494031	10
Chloroacetaldehyde	107200	100
Chloroacetic acid	79118	10
CHLOROALKYL ETHERS		1
Chlorobenzene	108907	10
Chlorodibromomethane	124481	10
Chloroethane	75003	10
Chloroform	67663	10
Chloromethane	74873	10
Chloromethyl methyl ether	107302	10
Chloroprene	126998	10
Chlorosulfonic acid	7790945	100
Chlorpyrifos	2921882	1
Chromic acetate	1066304	100
Chromic acid	7738945	10
Chromic acid	11115745	10
Chromic sulfate	10101538	100
Chromium	7440473	500
CHROMIUM COMPOUNDS		1
Chromous chloride	10049055	100
Chrysene	218019	10
Clonitralid	1420048	10
COBALT COMPOUNDS		1
Cobaltous bromide	7789437	100
Cobaltous formate	544183	100
Cobaltous sulfamate	14017415	100
COKE OVEN EMISSIONS		1
Copper	7440508	500
COPPER COMPOUNDS		1
Copper cyanide	544923	10
Copper, bis(dimethylcarbamodithioato-S,S')-	137291	1
Coumaphos	56724	10
Creosote	8001589	1
Cresol (mixed isomers)	1319773	10
Crotoxyphos	7700176	10
Cumene	98828	500
Cumene hydroperoxide	80159	10
Cupferron	135206	10
Cupric acetate	142712	10

Cupric acetoarsenite (Paris green)	12002038	1
Cupric chloride	7447394	10
Cupric nitrate	3251238	10
Cupric oxalate	5893663	10
Cupric sulfate	7758987	10
Cupric sulfate, ammoniated	10380297	10
Cupric tartrate	815827	10
CYANIDE COMPOUNDS		1
Cyanides (soluble salts and complexes)	57125	10
Cyanogen	460195	10
Cyanogen bromide	506683	100
Cyanogen chloride	506774	10
Cycasin	14901087	10
Cycloate	1134232	1
Cyclohexane	110827	100
Cyclohexanone	108941	500
Cycloheximide	66819	1
Cyclophosphamide	50180	10
Daunomycin	20830813	10
DDD	72548	1
DDE	3547044	500
DDE	72559	1
DDT	50293	1
DDT (p'p', o'p' and technical salts)		1
DDT AND METABOLITES		1
dehydroabietic acid	1740198	10
delta-BHC	319868	1
Demeton	8065483	1
Diaminotoluene	496720	10
Diaminotoluene	823405	10
Diazinon	333415	1
Diazomethane	334883	10
Dibenz[a,h]anthracene	53703	1
Dibenz[a,i]pyrene	189559	10
Dibenzofuran	132649	10
Dichlobenil	1194656	10
Dichlone	117806	1
Dichlorobenzene	25321226	10
DICHLOROBENZIDENE		1
Dichlorobromomethane	75274	500
Dichlorodifluoromethane (CFC-12)	75718	500
Dichloroisopropyl ether	108601	100
Dichlorophenylarsine	696286	1
Dichloropropane	26638197	100
Dichloropropane – Dichloropropene (mixture)	8003198	10
Dichloropropene	26952238	10
Dichlorvos	62737	10
Dichrotophos	141662	1
Dicofol	115322	10
Dieldrin	60571	1
Diepoxybutane	1464535	10

Diethanolamine	111422	10
Diethyl phthalate	84662	100
Diethyl sulfate	64675	10
Diethylamine	109897	10
Diethylarsine	692422	1
Diethyl-p-nitrophenyl phosphate	311455	10
Diethylstilbestrol	56531	1
Dihydrosafrole	94586	10
Diisopropylfluorophosphate	55914	10
Dimethoate	60515	10
dimethyl disulphide	624920	10
Dimethyl phthalate	131113	500
Dimethyl sulfate	77781	10
Dimethylamine	124403	100
Dimethylaminoazobenzene	60117	10
Dimethylcarbamyl chloride	79447	1
Dimethylformamide	68122	10
Dimetilan	644644	1
Dinitrobenzene (mixed isomers)	25154545	10
Dinitrophenol	25550587	10
Dinitrotoluene (mixed isomers)	25321146	10
Dinocap	39300453	1
Di-n-octyl phthalate	117840	500
Dinoseb	88857	100
Dioxathion	78342	1
diphenyl ether	101848	10
DIPHENYLHYDRAZINE		1
Diphosphoramide, octamethyl-	152169	10
Dipropylamine	142847	500
Diquat	85007	100
Diquat	2764729	100
Disulfiram	97778	1
Disulfoton	298044	1
Diuron	330541	10
Dodecylbenzenesulfonic acid	27176870	100
Endosulfan	115297	1
ENDOSULFAN AND METABOLITES		1
Endosulfan sulfate	1031078	1
Endothall	145733	100
Endrin	72208	1
Endrin aldehyde	7421934	1
ENDRIN AND METABOLITES		1
Epichlorohydrin	106898	10
Epinephrine	51434	100
EPN	2104645	1
Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558431	1
Ethanimidothioic acid, N-	16752775	10
Ethanol, 2,2'-oxybis-, dicarbamate	5952261	1
Ethion	563122	10
Ethyl acetate	141786	500

Ethyl acrylate	140885	100
Ethyl cyanide	107120	10
Ethyl dipropylthiocarbamate	759944	1
Ethyl ether	60297	10
Ethyl methacrylate	97632	100
Ethyl methanesulfonate	62500	1
Ethyl Ziram	14324551	1
Ethylbenzene	100414	100
Ethylene glycol	107211	500
Ethylene oxide	75218	10
Ethylene thiourea	96457	10
Ethylenebisdithiocarbamic acid, salts & esters	111546	500
Ethylenediamine	107153	500
Ethylenediamine-tetraacetic acid (EDTA)	60004	500
Ethyleneimine	151564	1
Famphur	52857	100
Fensulfothion	115902	1
Fenthion	55389	1
Ferric ammonium citrate	1185575	100
Ferric ammonium oxalate	2944674	100
Ferric ammonium oxalate	55488874	100
Ferric chloride	7705080	100
Ferric fluoride	7783508	10
Ferric nitrate	10421484	100
Ferric sulfate	10028225	100
Ferrous ammonium sulfate	10045893	100
Ferrous chloride	7758943	10
Ferrous sulfate	7720787	100
Ferrous sulfate	7782630	100
Fine mineral fibers		
Fluchloralin	33245395	1
Fluoranthene	206440	10
Fluorene	86737	500
Fluorine	7782414	10
Fluoroacetamide	640197	10
Formaldehyde	50000	10
Formetanate hydrochloride	23422539	1
Formic acid	64186	500
Formparanate	17702577	1
Fumaric acid	110178	500
Furan	110009	10
Furan, tetrahydro-	109999	100
Furathiazole	531828	1
Furfural	98011	500
Glycidylaldehyde	765344	10
GLYCOL ETHERS		1
Guanidine, N-methyl-N'-nitro-N-nitroso-	70257	10
Guthion	86500	1
HALOETHERS		1
HALOMETHANES		1
Heptachlor	76448	1

HEPTACHLOR AND METABOLITES		1
Heptachlor epoxide	1024573	1
Hexachlorobenzene	118741	10
Hexachlorobutadiene	87683	1
hexachlorocyclohexane (all isomers)	608731	1
Hexachlorocyclopentadiene	77474	10
Hexachloroethane	67721	10
Hexachlorophene	70304	10
Hexachloropropene	1888717	100
Hexaethyl tetraphosphate	757584	10
Hexamethylene-1,6-diisocyanate	822060	10
Hexamethylphosphoramide	680319	1
Hexane	110543	500
Hydrazine	302012	1
Hydrazine, 1,2-diethyl-	1615801	10
Hydrazine, 1,2-dimethyl-	540738	1
Hydrochloric acid	7647010	500
Hydrofluoric acid	7664393	10
Hydrogen cyanide	74908	10
Hydrogen sulfide	7783064	10
Hydroquinone	123319	10
Indeno(1,2,3-cd)pyrene	193395	10
iso-Amyl acetate	123922	500
iso-Butyl acetate	110190	500
Isobutyl alcohol	78831	500
iso-Butylamine	78819	100
iso-Butyric acid	79312	500
Isodrin	465736	1
isonicotinic acid hydrazine	54853	10
Isophorone	78591	500
Isoprene	78795	10
Isopropanolamine dodecylbenzene sulfonate	42504461	100
Isopropylmethylpyrazolyl dimethylcarbamate	119380	1
Isosafrole	120581	10
kanechlor C	59299513	10
Kepone	143500	1
Ketene	463514	1
Lactonitrile	78977	10
Lasiocarpine	303344	10
Lead	7439921	10
Lead acetate	301042	10
Lead arsenate	10102484	1
Lead arsenate	7784409	1
Lead arsenate	7645252	1
Lead chloride	7758954	10
LEAD COMPOUNDS		1
Lead fluoborate	13814965	10
Lead fluoride	7783462	10
Lead iodide	10101630	10
Lead nitrate	10099748	10
Lead phosphate	7446277	10

Lead stearate	56189094	10
Lead stearate	1072351	10
Lead stearate	7428480	10
Lead stearate	52652592	10
Lead subacetate	1335326	10
Lead sulfate	7446142	10
Lead sulfate	15739807	10
Lead sulfide	1314870	10
Lead thiocyanate	592870	10
Leptophos	21609905	1
Lindane	58899	1
Lithium and lithium salts		1
malachite green	569642	1
Malathion	121755	10
Maleic acid	110167	500
Maleic anhydride	108316	500
Maleic hydrazide	123331	500
Malononitrile	109773	100
MANGANESE COMPOUNDS		1
Manganese, bis(dimethylcarbamodithioato-S,S')-	15339363	1
m-Cresol	108394	10
m-Dinitrobenzene	99650	10
Melphalan	148823	1
Mercuric cyanide	592041	1
Mercuric nitrate	10045940	10
Mercuric sulfate	7783359	10
Mercuric thiocyanate	592858	10
Mercurous nitrate	10415755	10
Mercurous nitrate	7782867	10
Mercury	7439976	1
MERCURY COMPOUNDS		1
Mercury fulminate	628864	10
Mestranol	72333	10
Methacrylonitrile	126987	100
Methanol	67561	500
Methapyrilene	91805	500
Methiocarb	2032657	10
Methoxychlor	72435	1
Methyl ethyl ketone (MEK)	78933	500
Methyl ethyl ketone peroxide	1338234	10
Methyl hydrazine	60344	10
Methyl iodide	74884	10
Methyl isobutyl ketone	108101	500
Methyl isocyanate	624839	10
Methyl mercaptan	74931	10
Methyl methacrylate	80626	100
Methyl parathion	298000	10
Methyl tert-butyl ether	1634044	100
Methylene bromide	74953	100
Methylene chloride	75092	100
Methylenebis(phenylisocyanate)	101688	500

Methylthiouracil	56042	10
Metolcarb	1129415	1
Mevinphos	7786347	10
Mexacarbate	315184	100
Mirex	2385855	1
Mitomycin C	50077	10
m-Nitrophenol	554847	10
m-Nitrotoluene	99081	100
Monocrotaline	315220	10
Monocrotophos	6923224	1
Monoethylamine	75047	10
Monomethylamine	74895	10
mustard gas	505602	10
m-Xylene	108383	100
N-(2-hydroxyethyl)ethyleneimine	1072522	10
N,N-Diethylaniline	91667	100
N,N'-diethylthiourea	105555	10
N,N-Dimethylaniline	121697	10
Naled	300765	10
Naphthalene	91203	10
Naphthenic acid	1338245	10
n-Butyl alcohol	71363	500
n-Butyl phthalate	84742	10
neoabietic acid	471772	1
Nickel	7440020	10
Nickel ammonium sulfate	15699180	10
Nickel carbonyl	13463393	10
Nickel chloride	37211055	10
Nickel chloride	7718549	10
NICKEL COMPOUNDS		1
Nickel cyanide	557197	10
Nickel hydroxide	12054487	10
Nickel nitrate	14216752	10
Nickel sulfate	7786814	10
Nicotine and salts	54115	10
Nicotine sulfate	65305	10
Nifurthiazole	3570750	10
Niridazole	61574	10
Nithiazide	139946	10
Nitric acid	7697372	100
Nitric oxide	10102439	10
Nitrobenzene	98953	100
Nitrofen	1836755	10
Nitrogen dioxide	10102440	10
Nitrogen dioxide	10544726	10
nitrogen mustard	51752	10
Nitroglycerin	55630	10
Nitrophenol (mixed isomers)	25154556	10
NITROPHENOLS		1
NITROSAMINES		1
Nitrotoluene	1321126	100

N-methyl formamide	123397	10
N-Nitrosodiethanolamine	1116547	1
N-Nitrosodiethylamine	55185	1
N-Nitrosodimethylamine	62759	10
N-Nitrosodi-n-butylamine	924163	10
N-Nitrosodi-n-propylamine	621647	10
N-Nitrosodiphenylamine	86306	10
N-Nitrosomethylvinylamine	4549400	10
N-Nitrosomorpholine	59892	1
N-nitrosomorpholine	59892	10
N-Nitroso-N-ethylurea	759739	1
N-Nitroso-N-methylurea	684935	1
N-Nitroso-N-methylurethane	615532	1
N-Nitrosopiperidine	100754	10
N-Nitrosopyrrolidine	930552	1
N-nitrososarcosine	13256229	10
n-Propylamine	107108	500
O,O-Diethyl O-pyrazinyl phosphorothioate	297972	10
O,O-Diethyl S-methyl dithiophosphate	3288582	500
o-aminoazotoluene	97563	10
o-Anisidine	90040	10
o-anisidine hydrochloride	134292	10
o-Cresol	95487	10
Octachlorostyrene	29082744	10
o-Dichlorobenzene	95501	10
o-Dinitrobenzene	528290	10
o-Nitrotoluene	88722	100
o-phenylphenol	90437	10
Osmium tetroxide	20816120	100
o-Toluidine	95534	10
o-Toluidine hydrochloride	636215	10
Oxamyl	23135220	1
Oxydemetonmethyl	301122	10
o-Xylene	95476	100
Paraformaldehyde	30525894	100
Paraldehyde	123637	100
Paraquat	1910425	10
Parathion	56382	10
p-Chloroaniline	106478	100
p-Chloro-m-cresol	59507	500
p-chlorophenol	106489	10
p-cresidine	120718	10
p-Cresol	106445	10
p-Dinitrobenzene	100254	10
Pentachlorobenzene	608935	10
Pentachloroethane	76017	10
Pentachloronitrobenzene	82688	10
Pentachlorophenol	87865	10
Pentachlorophenol (and salts)		10
Perchloromethyl mercaptan	594423	10
Phenacetin	62442	10

Phenanthrene	85018	500
phenazopyridine hydrochloride	136403	10
Phenesterin	3546109	10
Phenobarbitol	50066	10
Phenol	108952	100
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114261	10
Phenol, 3-(1-methylethyl)-, methylcarbamate	64006	1
Phenylmercury acetate	62384	10
Phenylthiourea	103855	10
Phenytoin	57410	10
phenytoin sodium	630933	10
Phorate	298022	10
Phosazetim	4104147	1
Phosgene	75445	10
Phosmet	732116	10
Phosphamidon	13171216	1
Phosphine	7803512	10
Phosphoric acid	7664382	500
Phosphorous trichloride	7719122	100
Phosphorus	7723140	1
Phosphoryl chloride	10025873	100
PHTHALATE ESTERS		1
Phthalic anhydride	85449	500
Physostigmine	57476	1
Physostigmine, salicylate (1:1)	57647	1
Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-	120547	1
piperonyl sulfoxide	120627	10
p-Nitroaniline	100016	500
p-Nitrophenol	100027	10
p-nitrosodiphenylamine	156105	10
p-Nitrotoluene	99990	100
Polybrominated biphenyls		1
Polychlorinated biphenyls	1336363	1
POLYCYCLIC ORGANIC MATTER		1
POLYNUCLEAR AROMATIC		1
Potassium arsenate	7784410	1
Potassium arsenite	10124502	1
Potassium bichromate	7778509	10
Potassium chromate	7789006	10
Potassium cyanide	151508	10
Potassium dimethyldithiocarbamate	128030	1
Potassium hydroxide	1310583	100
Potassium N-hydroxymethyl-N-	51026289	1
Potassium N-methyldithiocarbamate	137417	1
Potassium permanganate	7722647	10
Potassium silver cyanide	506616	1
p-Phenylenediamine	106503	500
Promecarb	2631370	1
Propane sultone	1120714	10
Propargite	2312358	10
Propargyl alcohol	107197	100

Propham	122429	1
Propionaldehyde	123386	100
Propionic acid	79094	500
Propionic anhydride	123626	500
Propylene oxide	75569	10
Propylthiouracil	51525	10
p-Toluidine	106490	10
p-Xylene	106423	10
Pyrene	129000	500
Pyrethrins	121299	1
Pyrethrins	121211	1
Pyrethrins	8003347	1
Pyridine	110861	100
Quinoline	91225	500
Quinone	106514	10
Reserpine	50555	500
Resorcinol	108463	500
Rotenone	83794	1
Saccharin and salts	81072	10
Safrole	94597	10
sec-Amyl acetate	626380	500
sec-Butyl acetate	105464	500
sec-Butylamine	513495	100
sec-Butylamine	13952846	100
Selenious acid	7783008	10
Selenious acid, dithallium(1+) salt	12039520	100
Selenium	7782492	10
SELENIUM COMPOUNDS		1
Selenium dioxide	7446084	10
Selenium sulfide	7488564	10
Selenium, tetrakis(dimethyldithiocarbamate)	144343	1
Selenourea	630104	100
Semicarbazide	57567	10
semicarbazide hydrochloride	563417	10
Silver	7440224	100
SILVER COMPOUNDS		1
Silver cyanide	506649	1
Silver nitrate	7761888	1
Silvex (2,4,5-TP)	93721	10
silvex, propylene glycol butyl ether ester	2317240	10
Sodium	7440235	10
Sodium arsenate	7631892	1
Sodium arsenite	7784465	1
Sodium azide (Na(N3))	26628228	100
Sodium bichromate	10588019	10
Sodium bifluoride	1333831	10
Sodium bisulfite	7631905	500
Sodium chromate	7775113	10
Sodium cyanide (Na(CN))	143339	10
Sodium dimethyldithiocarbamate	128041	1
Sodium dodecylbenzenesulfonate	25155300	100

Sodium fluoride	7681494	100
Sodium fluoroacetate	62748	10
sodium fluoroacetate	62748	1
Sodium hydrosulfide	16721805	500
Sodium hydroxide	1310732	100
Sodium hypochlorite	10022705	10
Sodium hypochlorite	7681529	10
Sodium methylate	124414	100
Sodium methyldithiocarbamate	137428	1
Sodium nitrite	7632000	10
Sodium phosphate, dibasic	10039324	500
Sodium phosphate, dibasic	10140655	500
Sodium phosphate, dibasic	7558794	500
Sodium phosphate, tribasic	10361894	500
Sodium phosphate, tribasic	7785844	500
Sodium phosphate, tribasic	7601549	500
Sodium phosphate, tribasic	7758294	500
Sodium phosphate, tribasic	10101890	500
Sodium phosphate, tribasic	10124568	500
Sodium selenite	7782823	10
Sodium selenite	10102188	10
sodium-o-phenylphenol	132274	10
Streptozotocin	18883664	1
Strontium chromate	7789062	10
Strychnine, and salts	57249	10
Strychnine, sulfate	60413	10
Styrene	100425	100
Styrene oxide	96093	10
Sulfallate	95067	1
Sulfallate	95067	10
Sulfur monochloride	12771083	100
Sulfur phosphide	1314803	10
Sulfuric acid	7664939	100
Sulfuric acid (fuming)	8014957	100
Terbufos	13071799	1
tert-Amyl acetate	625161	500
tert-Butyl acetate	540885	500
tert-Butylamine	75649	100
Tetrabutylthiuram disulfide	1634022	1
Tetrachloroethylene	127184	10
Tetrachloroguaiacol	2539175	10
Tetrachlorvinphos	961115	10
Tetraethyl lead	78002	10
Tetraethyl pyrophosphate	107493	10
Tetraethyldithiopyrophosphate	3689245	10
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-	533744	1
Tetranitromethane	509148	10
THALLIUM COMPOUNDS		1
Thallic oxide	1314325	10
Thallium	7440280	100
Thallium chloride TlCl	7791120	10

Thallium sulfate	10031591	10
Thallium(I) acetate	563688	10
Thallium(I) carbonate	6533739	10
Thallium(I) nitrate	10102451	10
Thallium(I) sulfate	7446186	10
Thioacetamide	62555	10
Thiodicarb	59669260	1
Thiofanox	39196184	10
Thiophanate-methyl	23564058	1
Thiosemicarbazide	79196	10
Thiourea	62566	10
Thiourea, (2-chlorophenyl)-	5344821	10
Thiourea, 1-naphthalenyl-	86884	10
Thiram	137268	10
Titanium chloride (TiCl4) (T-4)-	7550450	100
Titanium tetrachloride	7550450	100
Toluene	108883	100
Toluene diisocyanate (unspecified isomer)	26471625	10
Toluene-2,6-diisocyanate	91087	10
Toluenediamine	25376458	10
Toxaphene	8001352	1
Triallate	2303175	1
Triaryl phosphate esters		10
Tributyltin (and salts and esters)		1
Trichlorfon	52686	10
Trichloroethylene	79016	10
Trichlorofluoromethane (CFC-11)	75694	500
Trichlorophenol	25167822	10
Triethanolamine dodecylbenzene sulfonate	27323417	100
Triethylamine	121448	500
Trimethylamine	75503	10
Trimethylphosphate	512561	1
Tris(2,3-dibromopropyl) phosphate	126727	10
Tris(dimethylcarbamodithioato-S,S')iron	14484641	1
Trypan blue	72571	10
Uracil mustard	66751	10
Uranyl acetate	541093	10
Uranyl nitrate	36478769	10
Uranyl nitrate	10102064	10
Urethane	51796	10
Vanadium pentoxide	1314621	100
Vanadyl sulfate	27774136	100
Vinyl acetate	108054	500
Vinyl bromide	593602	10
Vinyl chloride	75014	1
Warfarin sodium	129066	10
Warfarin, & salts, conc.>0.3%	81812	10
Xylene (mixed isomers)	1330207	10
Xylenol	1300716	100
Zinc	7440666	100
Zinc (fume or dust)	7440666	100

Zinc acetate	557346	100
Zinc ammonium chloride	14639986	100
Zinc ammonium chloride	14639975	100
Zinc ammonium chloride	52628258	100
Zinc borate	1332076	100
Zinc bromide	7699458	100
Zinc carbonate	3486359	100
Zinc chloride	7646857	100
ZINC COMPOUNDS		1
Zinc cyanide	557211	10
Zinc fluoride	7783495	100
Zinc formate	557415	100
Zinc hydrosulfite	7779864	100
Zinc nitrate	7779886	100
Zinc phenolsulfonate	127822	500
Zinc phosphide	1314847	10
Zinc phosphide (conc. <= 10%)	1314847	10
Zinc silicofluoride	16871719	500
Zinc sulfate	7733020	100
Ziram	137304	
Zirconium nitrate	13746899	500
Zirconium potassium fluoride	16923958	100
Zirconium sulfate	14644612	500
Zirconium tetrachloride	10026116	500

History: 2001 AACS.

APPENDIX F

TRAINING RECORDS FORM

Spill Plan Training
Topics Covered:

TOPIC	Instructor	Comments
Operation and maintenance of equipment to prevent discharges		
Discharge procedure protocols		
Applicable pollution control laws, rules, and regulations		
General facility operations		
Contents of this SPCC plan		
Any recent incidents / procedures that require attention to prevent spills		
Suggestions from employees for spill prevention programs / changes;		
Identification of potential oil spill sources		
Establishment of spill reporting procedures and visual inspection programs		
Coordination of all departments in carrying out spill prevention and control programs		
Designation of responsibilities for spill clean-up;		
Designation of responsibilities for notification of authorities		
Review of new construction and process changes at the plant relative to spill prevention and control		
Review of past incidents or spills and countermeasure plans		
Make recommendations for revising the spill plans as deemed necessary		

Spill Plan Training Record
Date of Training:_____

Attendance Sheet

Name	Department	Initials

APPENDIX G

Engineers Contact List

ENGINEER'S PAGER LIST

MEDPHARM ZONE

Shift	Name	Cell/Pager	Class		Post
D	REDMOND, Charles	(313) 680-9908	Ass. Dir	N97011	MedPharm
D	McClain, Orlandis	684-0849	1st Eng	N96926	MP-1
D	Belcher, Peter	684-0236	1st Eng	N96851	MP-2
D	Claybrooks, Charlotte	684-3964	1st Eng	N96946	MP-3
D	Townsel Jr, Thomas	684-9623	1st Eng	N95170	MP-4
D	Oman, James - *1st*	fv7670@wayne.edu	2nd Eng	N96930	MP-5
D	Crawley, Anthony	684-0899	1st Eng	N97697	MP-6
D	Harrell, Chalmon	684-6749	2nd Eng	N96948	MP-7
W	Miller Jr., Walter	684-0853	1st Eng	N96997	MP-8 Th&F

NORTH ZONE

Shift	Name	Cell/Pager	Class		Post
D	BOBICK, Mark	(586) 808-5414	Ass. Dir	N97101	North
D	Kortes, Daniel	684-0865	1st Eng	N96883	N-1
D	Smith, Carl	684-4459	1st Eng	N97019	N-2
D	Schweinsberg, Dean	aa2401@wayne.ed	1st Eng	N96932	N-3
D	Cracchiolo, Marc	dz9461@wayne.ed	1st Eng	N97698	N-4
W	Harris, Marvin - *1st*	fq0756@wayne.edu	2nd Eng	N97078	N-5 W&Th

NORTHEAST ZONE

Shift	Name	Cell/Pager	Class		Post
D	BOBICK, Mark	(586) 808-5414	Ass. Dir	N97101	Northeast
D	Deroo, Tim	ac2856@wayne.ed	1st Eng	N96885	NE-1
D	Dennis, Dean	684-0894	1st Eng	N96901	NE-2
D	Keys, Jonathan	684-2276	1st Eng	N94113	NE-3
W	Hall, Allan - *1st*	es3034@wayne.ed	2nd Eng	N94855	NE-4 M&Tu
D	Darga, Jim	fp9085@wayne.edu	1st Eng	N94205	NE-5
D	Nisnevich, Edward	ac7074@wayne.ed	1st Eng	N94110	NE-6

SOUTH ZONE

Shift	Name	Cell/Pager	Class		Post
D	BOBICK, Mark	(586) 808-5414	Ass. Dir	N97101	South
D	McPherson, Robert	au9616@wayne.ed	1st Eng	N96911	S-1
D	Smiley, Darnell - *1st*	fq0016@wayne.edu	2nd Eng	N97046	S-2
D	Covert-Sisung, John	684-1706	1st Eng	N97696	S-3
D	Broadnax, Percy	eq7040@wayne.ed	1st Eng	N96813	S-4
D	Daghigh, Allen	ad5690@wayne.ed	1st Eng	N97076	S-5
W	Ballou, Carl-*Team Ldr*	da5860@wayne.ed	1st Eng	N97081	S-6 W&Th

SOUTHEAST ZONE

Shift	Name	Cell/Pager	Class		Post
D	REDMOND, Charles	(313) 680-9908	Ass. Dir	N97011	Southeast
D	McAlpine, Andrew	684-0940	1st Eng	N96896	SE-1
D	Brandt, Ken	ac6059@wayne.ed	1st Eng	N96953	SE-2
D	Kotal, Allen	684-0897	2nd Eng	N96844	SE-3
D	McCowan, John - *1st*	fy6677@wayne.edu	2nd Eng	N94853	SE-4
D	VACANT		2nd Eng	N96966	SE-5

WEEKEND TEAM LEADERS

D	BALLOU, Carl	da5860@wayne.ed	1st Eng	N97081	W-DAY
A	WOJTOWICZ, Roman	684-0891	1st Eng	N97031	W-AFT
M	GLADNEY, Tim	684-0866	1st Eng	N96853	W-MID

AUXILIARIES *(Reimbursables)*

Shift	Name	Cell/Pager	Class		Post
D	MASSA, Richard	(734) 320-4072	Ass. Dir	N96855	Auxiliary
D	Coplen, Duane	ah6428@wayne.ed	1st Eng	N96882	A-1
D	Ray, Gregory - *1st*	cu9344@wayne.ed	2nd Eng	N97103	A-2
D	Hutting, Joseph	ac7417@wayne.ed	1st Eng	N97097	A-3
D	Smolenyak, Peter	684-0870	3rd Eng	N97043	A-4
W	Adkins, Keith	qe6137@wayne.ed	2nd Eng	N94856	A-5 Th&F
W	Gipson, Prentis	bq7019@wayne.ed	1st Eng	N97001	A-6 M&Tu
A	Taylor, Paul	ep0286@wayne.ed	1st Eng	N97096	A-7
A	Torres, Ruben - *1st*	fy6792@wayne.edu	2nd Eng	N96904	A-8

WEST ZONE

Shift	Name	Cell/Pager	Class		Post
D	MASSA, Richard	(734) 320-4072	Ass. Dir	N96855	West
D	Delgodo, Ricardo	684-9966	1st Eng	N96857	W-1
D	Mitchell, Tom	684-5541	1st Eng	N95025	W-2
D	Van Oppens, Frank - *1st*	fv4020@wayne.edu	2nd Eng	N96858	W-3
D	Williams, Jonathan	684-0896	2nd Eng	N96927	W-4
W	Evans, Erica - *1st*	fz7548@wayne.edu	2nd Eng	N97005	W-5 Tu&W
D	Brooks, Tamika	684-5890	Fire B	N94850	W-6
D	McCall, Ronnie	684-7215	Fire B	N94851	W-7

PREVENTIVE MAINTENANCE

Shift	Name	Cell/Pager	Class		Post
A	DARGIN, Carol	(313) 600-0637	Ass. Dir	N94857	CAMPUS
A	Jachman, David -*BAS Eng*	dr5878@wayne.ed	1st Eng	N95169	PM-1
A	Fitzgerald, Michael	ad3512@wayne.ed	1st Eng	N96995	PM-2
A	Shah, Kumash	684-0891	1st Eng	N97013	PM-3
A	Mims, Morris	684-0892	1st Eng	N96879	PM-4
A	Bowman, Timothy-*1st*	684-0887	2nd Eng	N97080	PM-5
A	Davis, Jeffrey - *1st*	bq2375@wayne.ed	2nd Eng	N96958	PM-6
A	Vaught, Frank-*Team Ldr*	as7584@wayne.ed	1st Eng	N95023	PM-7
W	Pruitt, Darryl	bf1317@wayne.edu	2nd Eng	N96970	PM-8 M&Tu
W	VACANT		2nd Eng	N97031	PM-9 Tu&W
W	VACANT		2nd Eng	N96908	PM-10 W&Th
W	Wojtowicz, Roman -*Team Ldr*	684-0001	1st Eng	N97031	PM-11 Th&F

MIDNIGHT SHIFT

Shift	Name	Cell/Pager	Class		Post
A	DARGIN, Carol	(313) 600-0637	Ass. Dir	N94857	CAMPUS
M	Alfaro, Danielle	e5489@wayne.edu	2nd Eng	N94854	M-1 Th&F
W	Gladney, Tim-*Team Ldr*	684-0866	1st Eng	N96853	M-2 M&Tu
M	Clemons, Robert	684-0949	1st Eng	N95212	M-3
W	Batth, Andy-*Team Ldr*	684-0869	1st Eng	N96867	M-4
W	Owens, Warren- *1st*	684-8295	2nd Eng	N97002	M-5 Tu&W

COMMAND CENTER

	Name	Cell/Pager	Class		Post
D	DARGIN, Carol	(313) 600-0637	Ass. Dir	N94857	CAMPUS
D	Hosking, Richard - *BAS Eng*	684-0342	1st Eng	N95024	C-1
D	Antoszewski, Tony	ac3139@wayne.ed	1st Eng	N94852	C-2
D	Kemp, Maureen	684-1705	1st Eng	N95213	C-3
D	Brombach, Lloyd	684-2760	1st Eng	N96976	C-4
D	Bush, Gordon	684-0872	2nd Eng	N97024	C-5
D	Waller, Aubrey - *1st*	684-0873	2nd Eng	N96880	C-6

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