

# RAIL YARD HAZARDOUS COMMODITY RESPONSE PLAN FORREST COUNTY, MISSISSIPPI

Prepared for the Emergency Management District of Forrest County, Mississippi

June 2013

**FINAL**



**Stantec**

**RAIL YARD HAZARDOUS  
COMMODITY RESPONSE PLAN  
FORREST COUNTY, MISSISSIPPI**

Prepared for The Emergency  
Management District of Forrest County,  
Mississippi



June 3, 2013

# RAIL YARD HAZARDOUS COMMODITY RESPONSE PLAN FORREST COUNTY, MISSISSIPPI

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## **SECTION 1: EMERGENCY RESPONSE ACTION PLAN (ERAP)**

### **1.1 Forrest County Emergency Management Qualified Individual (QI) Information**

Forrest County hazardous materials emergency response plan.

**TABLE 1.1  
 QUALIFIED INDIVIDUAL INFORMATION  
 QUICK REFERENCE TO  
 FORREST COUNTY EMERGENCY MANAGEMENT AGENCY**

Topic	Information	
IDENTIFICATION	NAME	<b>The Emergency Management District</b>
	DIRECTOR	Terry Steed
	OPERATIONS	Kyle Hopkins
LOCATION	MAILING ADDRESS	4080 US Hwy 11, Hattiesburg, MS 39402
	PHYSICAL ADDRESS	4080 US Hwy 11, Hattiesburg, MS 39402
	COUNTY	Forrest
	LATITUDE: North	31° 15' 17.06"
	LONGITUDE: West	89° 20' 21.55"
PHONE NUMBERS	<b>24-HOUR – Hotline</b>	<b>(601) 545-4910</b>
	DAY	(601) 544-5911
	FAX	(601) 545-4516
QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Terry Steed</b>
	POSITION	Director
	WORK ADDRESS	4080 US Hwy 11, Hattiesburg, MS 39402
	WORK PHONE	(601) 544-5911
	CELL PHONE	(601) 408-0746
	HOME ADDRESS	
	HOME PHONE	
TRAINING	ICS 100, 200, 300, 400, 700, and 800B	

**TABLE 1.1 (CONTINUED)  
 QUALIFIED INDIVIDUAL INFORMATION  
 QUICK REFERENCE TO  
 FORREST COUNTY EMERGENCY MANAGEMENT AGENCY**

<b>Topic</b>	<b>Information</b>	
<b>QUALIFIED            INDIVIDUAL /            FACILITY INCIDENT            COMMANDER /            EMERGENCY            RESPONSE            COORDINATOR</b>	NAME	<b>Kyle Hopkins</b>
	POSITION	Operations Officer
	WORK ADDRESS	4080 US Hwy 11, Hattiesburg, MS, 39402
	WORK PHONE	(601) 544-5911
	CELL PHONE	(601) 520-0124
	EMAIL ADDRESS	<a href="mailto:Kyle@ForrestEOC.com">Kyle@ForrestEOC.com</a>
	HOME PHONE	
	TRAINING	ICS 100, 200, 300, 400, 700, and 800B
<b>QUALIFIED            INDIVIDUAL /            FACILITY INCIDENT            COMMANDER /            EMERGENCY            RESPONSE            COORDINATOR</b>	NAME	<b>Jim Hennessey</b>
	POSITION	Communications Officer
	WORK ADDRESS	4080 US Hwy 11, Hattiesburg MS, 39402
	WORK PHONE	(601) 544-5911
	CELL PHONE	(601) 270-0524
	EMAIL ADDRESS	<a href="mailto:Jim@ForrestEOC.com">Jim@ForrestEOC.com</a>
	HOME PHONE	
	TRAINING	ICS 100, 200, 300, 400, 700, and 800B

**TABLE 1.1 (CONTINUED)  
 QUALIFIED INDIVIDUAL INFORMATION  
 QUICK REFERENCE TO  
 FORREST COUNTY EMERGENCY MANAGEMENT AGENCY**

Topic	Information	
QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Debbie Windham</b>
	POSITION	911 Coordinator
	WORK ADDRESS	4080 US Hwy 11, Hattiesburg MS, 39402
	WORK PHONE	(601) 544-5911
	CELL PHONE	(601) 408-0754
	EMAIL ADDRESS	<a href="mailto:Debbie@ForrestEOC.com">Debbie@ForrestEOC.com</a>
	HOME PHONE	
	TRAINING	ICS 100, 200, 300, 400, 700, and 800B
QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Chip Brown</b>
	POSITION	Communications Technician
	WORK ADDRESS	4080 US Hwy 11, Hattiesburg MS, 39402
	WORK PHONE	(601) 544-5911
	CELL PHONE	(601) 270-1200
	EMAIL ADDRESS	<a href="mailto:Chip@ForrestEOC.com">Chip@ForrestEOC.com</a>
	HOME PHONE	
	TRAINING	ICS 100, 200, 300, 400, 700, and 800B

**1.2 Release Response Notification Form**

CHEMTREC 1-800-424-9300

**TABLE 1.2  
RELEASE RESPONSE NOTIFICATION FORM**

<b>Reporter Information</b>	
<b>Reporter's Name</b>	
<b>Reporter's Phone Number</b>	
<b>Reporter's Position</b>	
<b>Facility Name</b>	
<b>Owner's Name</b>	
<b>Facility Identification Number</b>	
<b>Address</b>	City:
	State:
	Zip Code:
<b>Were Materials Released</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Confidential</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Meeting Federal Reporting Requirements</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Calling for Responsible Party</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Date and Time of Each CHEMTREC Call (use 24 hour time)</b>	

**TABLE 1.2 (CONTINUED)  
RELEASE RESPONSE NOTIFICATION FORM**

<b>Incident Description</b>	
<b>Source and/or Cause of Incident</b>	
<b>Date</b>	
<b>Time of Incident</b>	(use 24 hour time)
<b>Incident Address/Location</b>	
<b>Nearest City</b>	
<b>County</b>	
<b>State</b>	
<b>Zip Code</b>	
<b>Distance from City (miles)</b>	
<b>Largest Container on-site</b>	
<b>Total on-site Storage Capacity</b>	
<b>Incident Container Type</b>	
<b>Incident Tank Capacity (include units)</b>	
<b>Total Incident Capacity (include units)</b>	
<b>Facility Latitude</b>	
<b>Facility Longitude</b>	
<b>Weather Conditions</b>	
<b>Material Released</b>  <input type="checkbox"/> YES <input type="checkbox"/> NO	Circle CHRIS Code of Material Released:
	Quantity Released <span style="float: right;">(include units)</span>
	Material Released Into Water <input type="checkbox"/> YES <input type="checkbox"/> NO
	Quantity Released into Water <span style="float: right;">(include units)</span>

**TABLE 1.2 (CONTINUED)**  
**RELEASE RESPONSE NOTIFICATION FORM**

**Response Actions**

<b>Initial Response Actions</b> (Include Activity Name)	
<b>Actions Taken to Control Incident</b> (Include Responders Names)	
<b>Actions Taken to Mitigate Incident</b> (Include Responders Name)	

**TABLE 1.2 (CONTINUED)  
RELEASE RESPONSE NOTIFICATION FORM**

<b>Impact</b>	
<b>Number of injuries</b>	
<b>Number of deaths</b>	
<b>Evacuation(s) Required</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Number Evacuated</b>	
<b>Was There Any Damage</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>Damage in Dollars (estimated)</b>	
<b>Medium Affected</b>	
<b>Description of Affect</b>	
<b>Additional Information about Medium</b>	
<b>Additional Information (any information about the incident not recorded elsewhere in the report)</b>	

**TABLE 1.2 (CONTINUED)  
RELEASE RESPONSE NOTIFICATION FORM**

**Caller Notifications**

<b>Contact</b>	<b>Activity</b>	<b>Yes – date/time/name</b>	<b>No</b>
<b>Command Post:</b>			
<b>QI:</b>			
<b>AQI:</b>			
<b>Spill Response Support:</b>			
<b>EPA:</b>	Region - On-Scene Coordinator		
	U.S. EPA Environmental Response Team		
<b>State Notifications:</b>			

### **1.3 Emergency Response Personnel Roster**

This roster lists typical emergency response personnel based on the size of the release and includes phone numbers, the amount of time needed to respond, and their responsibility during the emergency.

**TABLE 1.3A  
EMERGENCY RESPONSE PERSONNEL FOR SMALL RELEASES (LEVEL I INCIDENT)**

<b>Name</b>	<b>Phone</b>	<b>Response Time</b>	<b>Responsibility During Response Action</b>
Forrest County EMA	(601) 544-5911	15-20 minutes	<ul style="list-style-type: none"> <li>• Agency coordination</li> </ul>
Hattiesburg Fire Dept.	(601) 545-4910	3-7 minutes	<ul style="list-style-type: none"> <li>• Initial size up</li> <li>• Protective measures</li> </ul>
Hattiesburg Police Dept.	(601) 545-4910	3-7 minutes	<ul style="list-style-type: none"> <li>• Traffic control</li> <li>• Perimeter evacuations if needed</li> </ul>
AAA Ambulance	(601) 264-2221	4-12 minutes	<ul style="list-style-type: none"> <li>• Health and safety of responders and the public</li> </ul>

**TABLE 1.3B  
EMERGENCY RESPONSE PERSONNEL FOR LARGE RELEASES (LEVEL II INCIDENT)**

<b>Name</b>	<b>Phone</b>	<b>Response Time</b>	<b>Responsibility During Response Action</b>
Forrest County EMA	(601) 544-5911	15-20 minutes	<ul style="list-style-type: none"> <li>• Agency coordination</li> </ul>
Hattiesburg Fire Dept.	(601) 545-4910	3-7 minutes	<ul style="list-style-type: none"> <li>• Initial size up</li> <li>• Protective measures</li> </ul>
Hattiesburg Police Dept.	(601) 545-4910	3-7 minutes	<ul style="list-style-type: none"> <li>• Traffic control</li> <li>• Perimeter evacuations if needed</li> </ul>
AAA Ambulance	(601) 264-2221	4-12 minutes	<ul style="list-style-type: none"> <li>• Health and safety of responders and the public</li> </ul>
Forrest County Sheriff Dept.	(601) 544-7800	10-15 minutes	<ul style="list-style-type: none"> <li>• Assist with traffic control, perimeter, and evacuations if needed</li> </ul>
Forrest County Volunteer Fire Dept.	(601) 544-7800	20-30 minutes	<ul style="list-style-type: none"> <li>• Assist with traffic control, perimeter, and evacuations if needed</li> </ul>
Petal Police Dept.	(601) 544-5331	5-10 minutes	<ul style="list-style-type: none"> <li>• Assist with traffic control, perimeter, and evacuations if needed</li> </ul>
Petal Fire Dept.	(601) 544-5331	5-10 minutes	<ul style="list-style-type: none"> <li>• Assist with traffic control, perimeter, and evacuations if needed</li> </ul>

## **SECTION 2: FACILITY INFORMATION**

### **2.1 Norfolk Southern**

The facility information form provides an overview of the site location, contact information, authoritative information and operation information.

**TABLE 2.1  
FACILITY AND QUALIFIED INDIVIDUAL INFORMATION  
QUICK REFERENCE TO  
NORFOLK SOUTHERN RAILWAY**

<b>Topic</b>		<b>Information</b>
IDENTIFICATION	NAME	<b>Norfolk Southern Railway</b>
	OWNER	
	OPERATOR	
LOCATION	MAILING ADDRESS	
	PHYSICAL ADDRESS	601 East Front Street Hattiesburg, MS 39401
	COUNTY	Forrest County, Mississippi
	LATITUDE: North	31° 19' 48" N
	LONGITUDE: West	89° 17' 07" W
PHONE NUMBERS	24-HOUR – Control Center	NS Police Communications Center
	24-Hour Phone	1-800-453-2530
	FAX	(404) 733-3900
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Gary Atkins</b>
	POSITION	Trainmaster
	WORK ADDRESS	601 East Front Street Hattiesburg, MS
	WORK PHONE	
	CELL PHONE	(304) 206-6972
	EMAIL ADDRESS	
	TRAINING	DOT Awareness, Function Specific training, HazCom, fire safety training, proper PPE use training, CPR, First Aid and AED training, participates in deployment/tabletop ERP training

**TABLE 2.1(CONTINUED)  
 FACILITY AND QUALIFIED INDIVIDUAL INFORMATION  
 QUICK REFERENCE TO  
 NORFOLK SOUTHERN RAILWAY**

<b>Topic</b>		<b>Information</b>
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Dave Wallace</b>
	POSITION	Engineer Environmental Operations
	WORK ADDRESS	1400 Norfolk Southern Dr. Irondale, Alabama 35210
	WORK PHONE	
	CELL PHONE	(205) 301-0027
	EMAIL ADDRESS	
	TRAINING	40 hr HAZWOPER 8 hr HAZWOPER refresher Incident Command System Respiratory Protection and Fit Testing Hazard Communication training Fire safety training CPR, First Aid and AED training Participates in deployment/tabletop ERP training
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Robert Wood</b>
	POSITION	Hazardous Materials Compliance Officer
	WORK ADDRESS	1200 Peachtree Street NE Atlanta, GA. 30309
	WORK PHONE	
	CELL PHONE	(404) 989-2523
	EMAIL ADDRESS	
	TRAINING	40 hr HAZWOPER 8 hr HAZWOPER refresher Incident Command System Respiratory Protection and Fit Testing Hazard Communication training Fire safety training CPR, First Aid and AED training Participates in deployment/tabletop ERP training

## 2.2 Canadian National

The facility information form provides an overview of the site location, contact information, authoritative information and operation information.

<b>TABLE 2.2 FACILITY AND QUALIFIED INDIVIDUAL INFORMATION QUICK REFERENCE TO CANADIAN NATIONAL RAILWAY</b>		
<b>Topic</b>	<b>Information</b>	
IDENTIFICATION	NAME	<b>Canadian National Railway</b>
	OWNER	
	OPERATOR	
LOCATION	MAILING ADDRESS	
	PHYSICAL ADDRESS	101 Roy Street Hattiesburg, MS 39401
	COUNTY	Forrest County, MS
	LATITUDE: North	31° 18' 41" N
	LONGITUDE: West	89° 16' 56" W
PHONE NUMBERS	24-HOUR – Control Center	CN Police Communication Center
	24-Hour Phone	1-800-465-9239
	FAX	(514) 399-8201
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Chris Lanoue</b>
	POSITION	Dangerous Goods Officer
	WORK ADDRESS	2400 North Riverside Drive Baton Rouge, LA 70802
	WORK PHONE	(225) 382-2203
	CELL PHONE	(225) 229-6811
	EMAIL ADDRESS	<a href="mailto:Chris.lanoue@cn.ca">Chris.lanoue@cn.ca</a>
	TRAINING	HAZMAT Technician (OSHA/NFPA) Tank Car Specialist (OSHA/NFPA) Intermodal Specialist (OSHA/NFPA) Incident Commander (OSHA) Explosives Technician (LA.) RR Wrecking Operations (CN Mechanical/Hulcher) Respiratory Protection Fit Tested (OSHA) HAZCOM/WHMIS (OSHA/COSH) Fall Protection (OSHA/COSH) Instructor Outreach (Table Top/CN911 Car delivery)

**TABLE 2.2(CONTINUED)  
FACILITY AND QUALIFIED INDIVIDUAL INFORMATION  
QUICK REFERENCE TO  
CANADIAN NATIONAL RAILWAY**

<b>Topic</b>		<b>Information</b>
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Greg Henshaw</b>
	POSITION	Dangerous Goods Officer
	WORK ADDRESS	297 Rivergate Road Memphis, TN 38109
	WORK PHONE	(901) 786-5686
	CELL PHONE	(901) 409-6237
	EMAIL ADDRESS	<a href="mailto:greg.henshaw@cn.ca">greg.henshaw@cn.ca</a>
	TRAINING	HAZMAT Technician (OSHA/NFPA) Tank Car Specialist (OSHA/NFPA), Intermodal Specialist (OSHA/NFPA), Incident Commander (OSHA), Explosives Technician (LA.) RR Wrecking Operations (CN Mechanical/Hulcher) Respiratory Protection Fit Tested (OSHA) HAZCOM/WHMIS (OSHA/COSH) Fall Protection (OSHA/COSH) Instructor Outreach (Table Top/CN911 Car delivery)
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Scott McLeod</b>
	POSITION	Senior Dangerous Goods Officer
	WORK ADDRESS	915 Belle Ave Joliet, Illinois
	WORK PHONE	(815) 774-6410
	CELL PHONE	(708) 334-9185
	EMAIL ADDRESS	<a href="mailto:scott.mcleod@cn.ca">scott.mcleod@cn.ca</a>
	TRAINING	HAZMAT Technician (OSHA/NFPA) Tank Car Specialist (OSHA/NFPA) Intermodal Specialist (OSHA/NFPA) Incident Commander (OSHA) Explosives Technician (LA.) RR Wrecking Operations (CN Mechanical/Hulcher) Respiratory Protection Fit Tested (OSHA) HAZCOM/WHMIS (OSHA/COSH) Fall Protection (OSHA/COSH) Instructor Outreach (Table Top/CN911 Car delivery)

## 2.3 Kansas City Southern

The facility information form provides an overview of the site location, contact information, authoritative information and operation information.

**TABLE 2.3**  
**FACILITY AND QUALIFIED INDIVIDUAL INFORMATION**  
**QUICK REFERENCE TO**  
**KANSAS CITY SOUTHERN RAILWAY COMPANY**

Topic	Information	
IDENTIFICATION	NAME	<b>Kansas City Southern Railway Company</b>
	OWNER	
	OPERATOR	
LOCATION	MAILING ADDRESS	
	PHYSICAL ADDRESS	10 Smith Mitchell Road Hattiesburg, MS 39401
	COUNTY	Forrest County, MS
	LATITUDE: North	31° 15' 42" N
	LONGITUDE: West	89° 15' 25" W
PHONE NUMBERS	24-HOUR – Control Center	KCS Critical Information Desk
	24-Hour Phone	1-800-892-6295
	FAX	(816) 983-1908
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Charles Lewis</b>
	POSITION	Senior Train Master
	WORK ADDRESS	2206 A Street Meridian, MS 39301
	WORK PHONE	(601) 933-4760
	CELL PHONE	(601) 616-2971
	EMAIL ADDRESS	<a href="mailto:clewis@kcsouthern.com">clewis@kcsouthern.com</a>
	TRAINING	DOT Awareness, Function Specific training, HazCom, fire safety training, proper PPE use training, CPR, First Aid and AED training, participates in deployment/tabletop ERP training

**TABLE 2.3(CONTINUED)**  
**FACILITY AND QUALIFIED INDIVIDUAL INFORMATION**  
**QUICK REFERENCE TO**  
**KANSAS CITY SOUTHERN RAILWAY COMPANY**

Topic		Information
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Carl Akins</b>
	POSITION	Director Environmental and HazMat
	WORK ADDRESS	P.O. Box 219335 Kansas City MO 64121-9335
	WORK PHONE	(318) 676-6624
	CELL PHONE	(318) 505-7118
	FAX NUMBER	(816) 983-1622
	EMAIL ADDRESS	<a href="mailto:cakins@kcsouthern.com">cakins@kcsouthern.com</a>
TRAINING	40 hr HAZWOPER 8 hr HAZWOPER refresher Incident Command System Respiratory Protection and Fit Testing Hazard Communication training Fire safety training CPR, First Aid and AED training Participates in deployment/tabletop ERP training	
FACILITY QUALIFIED INDIVIDUAL / FACILITY INCIDENT COMMANDER / EMERGENCY RESPONSE COORDINATOR	NAME	<b>Steve McNealy</b>
	POSITION	U.S. DOT Hazmat Compliance and Emergency Response Environmental and Hazmat Safety Department Engineer III
	WORK ADDRESS	P.O. Box 219335 Kansas City MO 64121-9335
	WORK PHONE	(816) 983-1588
	CELL PHONE	(816) 769-8254
		(816) 983-1622
	EMAIL ADDRESS	<a href="mailto:smcnealy@kcsouthern.com">smcnealy@kcsouthern.com</a>
TRAINING	40 hr HAZWOPER 8 hr HAZWOPER refresher Incident Command System Respiratory Protection and Fit Testing Hazard Communication training Fire safety training CPR, First Aid and AED training Participates in deployment/tabletop ERP training	

## **SECTION 3: EMERGENCY RESPONSE INFORMATION**

This section provides emergency response information including notification phone listings, equipment lists, rail yard evacuation procedures and responder staging areas. In the event of an undesired release of a hazardous commodity, a qualified individual from the railroad should provide, at a minimum, the following information regarding the incident upon initial notification: location of emergency, product or material involved, estimated amount of product released or release rate (if safe to do so), and if locomotive or railcar involved, unit or car number and track number (if safe to do so).

### **3.1 Emergency Notification Phone List**

The Emergency Notification Phone List provided below identifies the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency. These numbers must be verified each time the plan is updated. This contact list should be placed in a location that is accessible to all employees to ensure that, in case of a release, personnel on-site can immediately notify the appropriate parties.

**Note:** Notifications should be made by a representative from the affected railroad, who responds to all releases.

<b>TABLE 3.1 EMERGENCY NOTIFICATION PHONE LIST</b>			
<b>Contact Role</b>	<b>Agency</b>	<b>Day Phone</b>	<b>24-Hr Phone</b>
<b>Command Post:</b>	<b>The Emergency Management District</b>	(601) 544-5911	(601) 545-4910
<b>Dispatcher:</b>	<b>Hattiesburg Police Department</b>	(601) 545-4910	
<b>Qualified Individual:</b>	<b>Terry Steed</b> – Forrest Co EMA Director	(601) 544-5911	(601) 408-0746
<b>Alternate Qualified Individual:</b>	<b>Debbie Windham</b> – Deputy Director, 911 Coordinator	(601) 544-5911	(601) 408-0754
<b>Alternate Qualified Individual:</b>	<b>Robert Pickering</b> – Hattiesburg Fire HAZMAT	(601) 545-4650	(601) 270-8728
<b>Alternate Qualified Individual:</b>	<b>Kyle Hopkins</b> – Operations	(601) 544-5911	(601) 520-0124
<b>Alternate Qualified Individual:</b>	_____ - Fire Chief	(____) ____-____	(____) ____-____
<b>Alternate Qualified Individual:</b>	<b>Jim Hennessey</b>	(601) 544-5911	(601) 270-0524
<b>National Response Center (NRC):</b>	Federal On-Scene Coordinator (FOSC) Notification and Initial Report	(202) 267-2675	1-800-424-8802
<b>Other Agencies:</b>	<b>CHEMTREC</b>		1-800-424-9300
<b>Spill Response Support:</b>	<b>USES</b>		1-888-279-9930
<b>EPA:</b>	<b>Region 4 On-Scene Coordinator</b> <i>Note: For emergencies, call NRC first - they will notify EPA FOOSC.</i>	(404) 562-8717	
	<b>Region 4 Environmental Response Team</b>	(404) 562-8705	(404) 562-8700

**TABLE 3.1 (CONTINUED)  
EMERGENCY NOTIFICATION PHONE LIST**

<b>Contact Role</b>	<b>Agency</b>	<b>Day Phone</b>	<b>24-Hr Phone</b>
<b>State Notifications:</b> <i>The responsible party is required to contact the required state and local agencies to provide further information.</i>	<b>MEMA</b>	(601) 933-6362	1-800-222-6362
	<b>MS Highway Patrol</b> Emergency Ops: Major Rusty Barnes	(601) 987-1330	Local 911
	<b>MS State Fire Marshal</b>	1-888-648-0877	
	<b>MDEQ</b>	1-888-786-0661	
	<b>MS National Guard</b> 47 <sup>th</sup> Civil Support Team	(601) 313-6193	(601) 313-6261
	<b>MS Dept. of Homeland Security</b>	(601) 346-1500	
<b>Other Federal Agencies:</b>	<b>U.S. Fish &amp; Wildlife Service</b> SE Region Emergency Consult Coord.	(404) 679-7089	
	<b>USDA NRCS, MS State Office</b>	(601) 965-5035	
<b>Local Emergency Planning Committee (LEPC):</b>	<b>Forrest County Emergency Management</b>	(601) 544-5911	(601) 545-4910
<b>If Utilities were Impacted:</b>	<b>Mississippi Power</b>	(601) 545-4111	1-800-837-9760
	<b>Wilmut Gas</b>	(601) 544-6001	
	<b>AT&amp;T</b>		(866) 801-3600
	<b>Comcast</b>	1-800-266-2278	
<b>If Businesses were Impacted:</b>	<b>Chamber of Commerce</b>	(601) 296-7518	
<b>If Residences were Impacted:</b>	<b>The American Red Cross</b>	(601) 582-8151	
	<b>The Salvation Army</b>	(601) 544-3684	
<b>Weather Report:</b>	<b>National Weather Service</b>	1-800-295-1944	
<b>Emergency Broadcast Radio and Television Stations:</b> <i>Local Television/Radio Stations for Evacuation Notification</i>	<b>Hattiesburg Radio Broadcasting Stations</b>		
	<b>Clear Channel</b>	(601) 296-9800	(601) 544-8744
	<b>Blackney Communications</b>	(601) 649-0095	(601) 649-0075
	<b>Hattiesburg Television Broadcast Stations</b>		
	<b>WDAM</b>	(601) 544-4730	
	<b>WHLT</b>	(601) 545-4460	
<b>Ambulance Service:</b>	<b>AAA Ambulance</b>	(601) 264-2221	Local 911
<b>Hospitals:</b>	<b>Forrest General Hospital</b>	(601) 288-7000	Local 911
	<b>Wesley Medical Center</b>	(601) 268-8000	Local 911
<b>Fire Departments:</b>	<b>Hattiesburg Fire Department</b> Fire Chief: _____	(601) 582-3311	Local 911
	<b>Hattiesburg Fire Department</b> Director of Training: Robert Pickering	(601) 545-4650	Local 911
	<b>Volunteer Fire Department</b>	(601) 544-7800	Local 911
	<b>Petal Fire Department</b> Fire Chief: Joe Hendry	(601) 705-0908	Local 911
<b>Police Department:</b>	<b>Forrest County Sheriff's Department</b>	(601) 544-7800	Local 911
	<b>Hattiesburg Police Department</b>	(601) 545-7900	Local 911
	<b>Petal Police Department</b>	(601) 544-5331	Local 911

## **3.2 Emergency Response Equipment**

The emergency response equipment lists found in the following pages identify and provide a description of the available emergency response equipment and location of the response equipment. USES personnel and/or members of the Hattiesburg HAZMAT Team will provide response to small releases. USES personnel along with the Hattiesburg HAZMAT Team and, if needed, additional contractors may be contacted for large releases.

All equipment should be inspected on a regular basis and maintained in operational status. Each piece of equipment should be inspected after it is used and decontaminated prior to being returned to its designated location. Equipment that is not suitable for re-use should be immediately replaced.

### **3.2.1 Response Equipment Tests and Deployment Drills**

Response equipment deployment exercises may be conducted to ensure that response equipment is operational and the personnel who operate the equipment during a release response are capable of deploying and operating it. Available response equipment is listed in the following pages. Only a representative sample of each type of response equipment should be deployed and operated during a training drill.

**Hattiesburg Fire Department – Fire Training/HAZMAT**  
**53 Academy Drive**  
**Hattiesburg, Mississippi 39401**  
**(601) 545-4650**



**EMERGENCY RESPONSE EQUIPMENT LIST**

The following items are located at the Hattiesburg Fire Department – Fire Training/HAZMAT center and are available for use in emergency response efforts.

- Air monitoring equipment (Including entry team and area monitoring equipment)
- Small hydrocarbon product transfer pump (less than 500 gallons)
- Plug and Patch kits for small releases
- Dome clamps for manhole covers
- Magnetic tank and Railcar patches
- Various damning and diking equipment

Outside of these items listed above, also available are numerous types of PPE for various product releases and other standard HAZMAT equipment.



**UNITED STATES ENVIRONMENTAL SERVICES**

Industrial | Response & Remediation | Maritime

## EMERGENCY RESPONSE EQUIPMENT LIST

***24-Hour Emergency Number: 888-279-9930***

<p><b><u>COMPANY HEADQUARTERS</u></b> <b><i>24-Hour Emergency Numbers: 888-279-9930 (or) 504-279-9930</i></b> 365 Canal Street, Suite 2520 New Orleans, Louisiana 70130 Fax: 504-566-8309</p>	<p><b><u>BEACH, NORTH DAKOTA</u></b> <b><i>24-Hour Emergency Numbers: 701-872-2122</i></b> 16701 I-94 Frontage Road Beach, North Dakota 58621</p>
<p><b><u>BATON ROUGE, LOUISIANA</u></b> <b><i>24-Hour Emergency Numbers: 888-267-4901 (or) 225-673-4200</i></b> 6338 Highway 73 Geismar, Louisiana 70734 Fax: 225-677-9549</p>	<p><b><u>NEW ORLEANS, LOUISIANA</u></b> <b><i>24-Hour Emergency Numbers: 504-279-9934</i></b> 2809 East Judge Perez Drive Meraux, Louisiana 70075 Fax: 504-279-7756</p>
<p><b><u>VENICE, LOUISIANA</u></b> <b><i>24-Hour Emergency Number: 504-534-2744</i></b> 42156 Hwy. 23 South Venice, Louisiana 70091 Fax: 504-534-7042</p>	<p><b><u>SHREVEPORT, LOUISIANA</u></b> <b><i>24-Hour Emergency Number: 318-861-0880</i></b> 9435 St. Vincent Avenue Shreveport, Louisiana 71106 Fax: 318-861-1285</p>
<p><b><u>JACKSON, MISSISSIPPI</u></b> <b><i>24-Hour Emergency Number: 601-372-3232</i></b> 1075 Mendell Davis Drive Jackson, Mississippi 39272 Fax: 601-372-3356</p>	<p><b><u>BILOXI, MISSISSIPPI</u></b> <b><i>24-Hour Emergency Number: 228-396-3866</i></b> 13032 Shriners Boulevard Biloxi, Mississippi 39532 Fax: 228-396-3836</p>
<p><b><u>LITTLE ROCK, ARKANSAS</u></b> <b><i>24-Hour Emergency Number: 501-945-0092</i></b> 261 Newman Drive N Little Rock, Arkansas 72117 Fax: 501-945-0202</p>	<p><b><u>MEMPHIS, TENNESSEE</u></b> <b><i>24-Hour Emergency Numbers: 866-281-3232 (or) 662-280-3232</i></b> 1855 Veterans Drive Southaven, Mississippi 38671 Fax: 662-280-3011</p>
<p><b><u>BIRMINGHAM, ALABAMA</u></b> <b><i>24-Hour Emergency Number: 205-663-8737</i></b> 228 Regency Park Alabaster, Alabama 35007 Fax: 205-663-4404</p>	<p><b><u>MOBILE, ALABAMA</u></b> <b><i>24-Hour Emergency Number: 251-662-3500</i></b> 3750 Halls Mill Road Mobile, Alabama 36693 Fax: 251-662-3400</p>
<p><b><u>LAREDO, TEXAS</u></b> <b><i>24-Hour Emergency Number: 877-398-9911</i></b> 4401 Highway 359, Suite 1 Laredo, Texas 78046 Fax: 956-722-9914</p>	<p><b><u>HOUSTON, TEXAS</u></b> <b><i>24-Hour Emergency Number: 281-867-4100</i></b> 950 Seaco Ave. Deer Park, Texas 77536 Fax: 281-867-4101</p>

**RESPONSE EQUIPMENT (Jackson, Mississippi and Service Locations)**

**Containment Boom Jackson, Mississippi**

Qty. (ft.)	Model	Size	Description
2,000	River	18"	Quick Connect, 100 ft. sections, 22 oz. Fabric
400	Miniboom	10	Quick Connect, 50 ft. sections, 22 oz. Fabric

**Vacuum Trucks & Skimmers (\*Effective Daily Recovery Capacity, Derated to 20% Efficiency per NVIC 7-92), Jackson, MS**

Qty.	Type	EDRC* (Barrels)	Description
1	Vacuum Truck	500	70-Barrel Capacity, Stainless Steel
1	King-Vac	500	70-Barrel Capacity
1	Guzzler	500	60-Barrel Capacity
1	Goo Gobbler	616	24" Aluminum Cylinder Skimmer with Hydraulic Pack
1	Goo Gobbler	616	24" Aluminum Cylinder Skimmer with Pneumatic Pack

**Temporary Storage Capacity, Jackson, Mississippi (Minimum in Inventory)**

Qty.	Type	Capacity	Description
15	Overpack Drums	95 Gal.	Polyethylene
30	Overpack Drums	85 Gal.	Steel
100	Open Top Drums	55 Gal.	Steel
36	Open Top Drums	55 Gal.	Polyethylene
36	Closed Top Drums	55 Gal.	Steel
18	Closed Top Drums	55 Gal.	Polyethylene
4	Storage Tanks	1,100 Gal.	Polyethylene
1	Skid-Mounted Tank	5,000 Gal.	Steel
2	Tote-Container	250 Ga.	Polyethylene

**Vessels and Motors, Jackson, Mississippi**

Qty.	Type	Size, ft.	HP	MPH	Range, Mi.	Lbs.	Crew Size
1	Fast Response Vessel	20	2 - 88	60	150	2,500	6
1	Work Boat	18	90	40	40	1,250	4
1	Work Boat	16	25	25	30	1,000	2
1	Work Boat	14	15	25	30	350	2
3	Work Boat	12				150	2

**Transportation Equipment, Jackson, Mississippi**

Qty.	Description	Qty.	Description
18	Pick-up Trucks	1	36' HazMat Response Trailer/Chemical Transfer Unit with
1	6,000-Gallon Stainless Steel Tanker	1	53' Command/Communications Trailer
2	20' Equipment Trailer	1	53' Bunkhouse Trailer
1	16' Equipment Trailer with sides	1	32' Mobile Command Post with Field Laboratory
1	16' Oil Spill Response Trailer	1	Traffic Control Trailer with Traffic Control Equipment
1	25' Equipment Trailer with hydraulic crane	1	PPE Trailer
3	25' Gooseneck Equipment Trailer	2	25' Equipment Trailer
1	36' Response Trailer	1	18' Equipment Trailer
2	4-WD ATVs	1	8' Equipment Trailer
3	Over the Road Trucks with Roll Off Frames		

**Supplies, Consumable, Jackson, Mississippi (Minimum in Inventory)**

Qty.	Description	Qty.	Description
50	Bales, Sorbent Pads	10	Bags, Vermiculite
25	Bags, 8" Sorbent Boom, 40'	50	Bales, Fiberperl / Cell-u-Sorb
30	Bags, Citric Acid	25	Bags, Hydrated Lime
150	Bags, Oil-Gator	25	Bags, FloorDri
25	Bales, Chemical Pads	10	Micro-Blaze
25	Bags, Ferrous Sulfate		

**Personal Protective Equipment, Jackson, Mississippi**

Qty.	Description	Qty.	Description
12	Level A Suits, DuPont Tychem	200	Pair, Nitrile Gloves
1	Level A Suit Tester	200	Pair, Neoprene Gloves
20	Fully-Encap. Level B suits, CPF 3 & 4	50	Pair, SilverShield Gloves
100	Level B Suits, CPF 3	50	Pair, SilverShield Boot Covers
150	Level B Suits, CPF 2	50	Pair, Rubber Boot Covers
250	NexGen Suits	1,000	Pair, Nitrile Inner Gloves

**RESPONSE EQUIPMENT (Jackson, Mississippi and Service Locations)**

**Breathing Air Trailer, Jackson, Mississippi**

Qty.	Description
12	High Pressure (6,000 psi) Grade-D Breathing Air Cylinders

**Respiratory Protective Equipment, Jackson, Mississippi**

Qty.	Description
1	Breathing Air Trailer (Grade D) consisting of 12 6,000 PSI Cylinders
9	MSA Self-Contained Breathing Apparatus (SCBA), 60 minutes, including 12 NFPA-Compliant SCBAs
7	Hip-Mounted Breathing Air Units
30	Air-Purifying Respirators

**Safety Equipment, Jackson, Mississippi**

Qty.	Description	Qty.	Description
1	Blast Shield with Remotely-Operated Drill Press	400	Chemical-Specific Colorimetric Detector Tubes
2	HazCat Kit	1	Hydrogen Cyanide Detector
1	Portable Weather Station	1	Ammonia Detector
1	Random Aerosol Monitor (RAM)	1	Vented Exhaust Hood, Portable
3	Photoionization Detector (PID)	12	Mustang Flotation Jackets
1	Flame Ionization Detector (FID)	8	Mustang Survival/Flotation Suits
1	Lumex Portable Mercury Vapor Analyzer	1	Passport
4	Colormetric Tube Pumps	2	MSA Watchman
2	Entry Rae 4-Gas Meter	3	Radiological Survey Meter (NORM)
1	Guardian Biological Agent Detector		

**Pumps, Transfer and Miscellaneous Equipment, Jackson, Mississippi**

Qty.	Description	Qty.	Description
1	Stainless Steel Betts Valve	1	3" Stainless Steel Vane Pump
1	Vac-U-Max Stainless Steel Drum Pump	1	LPG / Anhydrous Ammonia Pump
1	Corken Compressor (Chlorine)	1	4,300-Watt Generator
1	Nitrogen Purge System for Chemical Transfers	2	2" Stainless Steel Air Diaphragm Pump, Viton Elastomers
1	3" Flare Stack	1	2" Stainless Steel Air Diaphragm Pump, Teflon Elastomers
320	Feet, 2" Stainless Steel LPG / Anhydrous Ammonia Transfer Hose	3	1" Polypropylene Air Diaphragm Pump, Viton Elastomers
140	Feet, 2" Resistoflex Chemical Hose	2	2" Polypropylene Air Diaphragm Pump, Viton Elastomers
220	Feet, 2" Teflon Chemical Transfer Hose	4	2" Gas Wash Pump
3	Coppus Blower	4	1" Wash Pump
150	Feet, 2" U.H.M.W.P. Chemical Transfer Hose	3	1 1/2" High Pressure Washer Pump
150	Feet, 1" U.H.M.W.P. Chemical Transfer Hose	2	3" Gas Trash Pump
100	Feet, 2" Chemical Transfer Hose with Poly Fittings	4	2" Aluminum Air Diaphragm Pump
200	Feet, 1" Monel Chlorine Transfer Hose	1	60 kw Generator
300	Feet, Hydraulic Hose	1	Carbon Filter Unit 2000lb. Capacity
1	Magnetic Patch	2	Biological Fogging Units
1	Chlorine "C" Kit	1	21.7 hp Hydraulic Power Pack
1	6,600-Watt Generator	6	2" 1000 P.S.I. Stainless Steel Shutdown Valves
30	3/4 " Acme Brass Adapters	1	Remote Emergency Shutdown System (3 shutdown locations)
1	185 CFM Air Compressor	2	2" Sightglass, backflow valves
1	Butterworth	1	High-Pressure Steam Cleaner
1	Explosion-Proof Lighting	1	Portable Light Tower 4000-Watt
1	60 KVA Generator	1	2" Kynar Versamatic Diaphragm Pump
1	Haz-Hammock	2	7,200-Watt Generators
		2	Pressure Washer-Hot Water, trailer-mounted, self-contained

Comprehensive supply of stainless steel and polyethylene fittings, valves, nipples, bushings, reducers and couplings

**Communications and Electronics, Jackson, Mississippi**

Qty.	Type	Frequency	Range, Mi.	Description
12	Motorola Hand-Held	851-866 MHz	5	Intrinsically Safe
25	Cellular Telephone		Nationwide	Hand Held
10	GPS Units			Hand Held
2	Lazar Temperature Guns			
10	Digital Cameras			

**RESPONSE EQUIPMENT (Jackson, Mississippi and Service Locations)**

**Mercury Spill Equipment and Supplies, Jackson, Mississippi**

Qty.	Description	Qty.	Description
3	Mercury Vacuum	25	Pounds, Mercury Granular Absorbent
15	Gallons, Mercon Solution	10	Mercury Indicator Powder

**Heavy Equipment, Jackson, Mississippi**

Qty.	Description
1	4-Wheel Drive Cat Rubber-Tire Backhoe with Extend-a-hoe Attachment
1	Catepillar 320 Track hoe
1	Catepillar D5M Bull Dozer
1	Catepillar Skid Steer (bob cat)
1	Mini Excavator
1	Sheep's foot compactor (60" drum)
1	18 Yard tandem dump truck
1	End-Dump Trailer
1	2,000 gallon water truck
1	Tractor trailer with lo-boy

**Firefighting Equipment and Supplies, Jackson, Mississippi**

Qty.	Description	Qty.	Description
1	Akron 536 Cellar Nozzle	1	Firefighting Trailer with foam capability and 2,500 GPM pump
1	Akron 911 Oscillating Monitor with Nozzle	1	Firefighting Trailer with foam capability and 1,100 GPM pump
1	Akron 3443 Quick-Attack Monitor	1	Firefighting Support Trailer
1	Portable Monitor	18	NFPA-Compliant Firefighting Turnout/Bunker Gear
500	Feet, 3" LDH (Supply Line) Fire Hose	10	DuPont Tychem® CPF Thermo Pro (chemical and fire-resistant, level B suits)
500	Feet, 5" LDH (Supply Line) Fire Hose	8	NFPA-Compliant Self-Contained Breathing Apparatus (SCBA)
200	Gallons, AFFF and High-Expansion Foam	8	Spare Bottles of Air
115	Gallons, X-TRA High Expansion Foam	2	350-lb. Wheeled Purple K Fire Extinguishers
1	K-12 Abrasive Saw	6	20-lb. Cartridge Purple K Fire Extinguishers
1	2,100-Gallon Water Tank, Portable	4	30-lb. Metal X Fire Extinguishers
120	Feet, 6" Suction Hose with Camlock Fittings	1	Tempest PPV Fan, Gasoline
1	1/2" 95 GPM in-line Foam Eductor	1	500 GPM Self Educting Foam Master Stream Nozzle
2	2 1/2" in-line Foam Eductor	1	1000 GPM Self Educting Foam Master Stream Nozzle
2	750 Cu/min 25 GPM Hi-Ex Foam Nozzle w/Eductor	4	1 1/2" Turbojet Nozzle w/ Pistol Grip
1	Smoke Ejector	1	Elkart Chief Nozzle
2	2 1/2" X (2) 1 1/2" Gated Wye	3	Turbojet Fog Nozzle
1	(2)2 1/2" x 5" Storz Outlet Siamese Clappered	1	6" Nercyrt Nozzle
1	Water Thief w/(2) 1 1/2" x (1) 2 1/2"	1	3" Piercing Nozzle
1	LDH Manifold 5" Storz x (4) 2 1/2"	1	Stacked Tips Set for Monitor
1	LDH Manifold 5" Storz x (3) 2 1/2"	1	250 GPM Medium Expansion 2 1/2" Nozzle
2	2 1/2" NH Gated Valve	6	6" x 20" Suction Hose w/ Camlock Fittings
1	2 1/2" Double Female Adapter	1	6" Basket Strainer
1	2 1/2" Double Male Adapter	1	6" Floating Strainer
4	6" Female nh x 5" Storz Adapter	1	2100 Gal. Portable/Folding Water Tank
1	5" Female nh x 5" Storz Adaptor	1	Gasoline PPV Fan
3	4 1/2" Female nh x 5" Storz Adapter	1	Stokes Stretcher w/Floatation Kit
2	2 1/2 nhf x 5" Storz Adapter	1	Long Hand Board (Plastic)
1	Herbert LDH Hose Clamp	1	Sled
1	Eyewash Station	1	Confined Space Rescue Kit
1	First Aid Kit		
1	Fire Boss, twin agent (AFFF Foam and PKP Extinguishing Agents)		
1	Darley Hercules Portable Fire Pump, rated at 575 GPM		
6	Radios		

Comprehensive supply of ladders, tools and accessories, including Akron turbojet nozzles, flathead axes, pike poles, etc.

**RESPONSE EQUIPMENT (Jackson, Mississippi and Service Locations)**

**Traffic Control Equipment, Jackson, Mississippi**

Qty.	Description	Qty.	Description
1	Solar Powered Arrow Board	4	Roadwork Ahead Signs
1	Truck with flashing lights	4	Right/Left Lane Closed One Mile Signs
1	24' Foot Equipment Trailer	4	Right/Left Lane Closed One-Half Mile Signs
2	Stop and Slow Flagger Paddles with 6' Staff	2	Right/Left Lane Closed 1500 Feet Signs
10	Personnel Clip On Flashing Lights	4	Lane Diversion/ Lane Ends Signs
4	Flaggers Flags	2	Reduced Speed Ahead Signs
8	Blinking Lights	2	Speed Limit 60 Signs
12	Flagman's Reflective Vests	2	One Lane Road Ahead Signs
50	Traffic Control Cones	2	Be Prepared to Stop Signs
70	Tires (to keep barrels in place)	2	Flagman Ahead Signs
180	Feet, Traffic Control Interlocking Barricades	2	Shoulder Work Signs
10	Tripod Sign Stands	2	End Road Work Signs
20	H Style Sign Stands	1	Speeding Fines Doubled When Workers Are Present Sign
4	Lighted Hand Wands	4	Blank MPH Signs
60	Traffic Control Barrels	1	Road Closed Authorized Personnel Only Sign
2	Exit Signs	1	Right Shoulder Closed w/Next xx Miles Plaque
2	Yield Signs	1	Right Shoulder Closed w/xx Feet Plaque
2	Road Work One Mile Signs	1	Left Shoulder Closed w/Next xx Miles Plaque
		1	Left Shoulder Closed w/xx Feet Plaque

### **3.3 Rail Yard Evacuation Procedures**

*Assess the Situation:* The Qualified Individual shall assess the situation to the extent that time and safety permits when initiating an evacuation. The following should be taken into account:

- ✓ **Prevailing wind direction and estimated speed** (Windssocks located around the yard may be used to determine wind direction. Adjectives, such as “strong”, “gusty”, “steady” or “calm”, can be used if miles per hour (mph) cannot be determined.)
- ✓ **Hazards imposed by released material** (corrosive, flammable, toxic, etc.)
- ✓ **Release flow direction**
- ✓ **Water currents, tides, or wave conditions** (if applicable)

*Exit Facility by the designated Emergency Route Assignment:* Personnel not involved in emergency response efforts shall leave the facility area. Personnel designated to remain behind shall:

- ✓ **Shelter-In-Place.** Stay inside, shut all doors and windows to the occupied area (seal if necessary), and close off the air conditioning/ventilation (HVAC) system.
- ✓ **Care for essential facility operations.**
- ✓ **Operate firefighting systems.**
- ✓ **Perform emergency response related tasks, if safe to do so.**

*Proceed to designated places of refuge:* See Section 3.4 for Responder Staging Areas.

#### **3.3.1 Rail Yard Specific Evacuations**



[Click here to access the Norfolk Southern Yard Evacuation Plan and Map for the Hattiesburg site.](#)



The Canadian National Yard Evacuation Plan is not a separate document, but is included in the Emergency Action Plan for the Hattiesburg site referred to in Section 7 of this document. [Click here to access the CN Emergency Action Plan.](#)

The Kansas City Southern Yard has no specific local emergency evacuation plan and follows typical KCS HAZMAT instruction for emergencies.

### **3.4 Responder Staging Areas (RSA)**

A responder staging area (RSA) should be used to receive, coordinate, manage, and deploy responders and their accompanying resources. For most small scale releases, one RSA may be sufficient. Larger events and disasters may generate a need for multiple RSAs.

A Staging Area Manager should be assigned to each established RSA. The Staging Area Manager is the principle supervisor of the RSA and will coordinate with the establishing entity for the assignment of staging area staff, equipment, supplies, and services necessary to operate the site.

**Potential RSA locations include:**

- ❖ **Mount Carmel Baptist Church parking lot**, 1101 North Main Street
- ❖ **Hardy Street Baptist Church parking lot**, 1508 Hardy Street
- ❖ \_\_\_\_\_
- ❖ \_\_\_\_\_
- ❖ \_\_\_\_\_

**3.4.1 Strategy for Establishing an RSA Site**

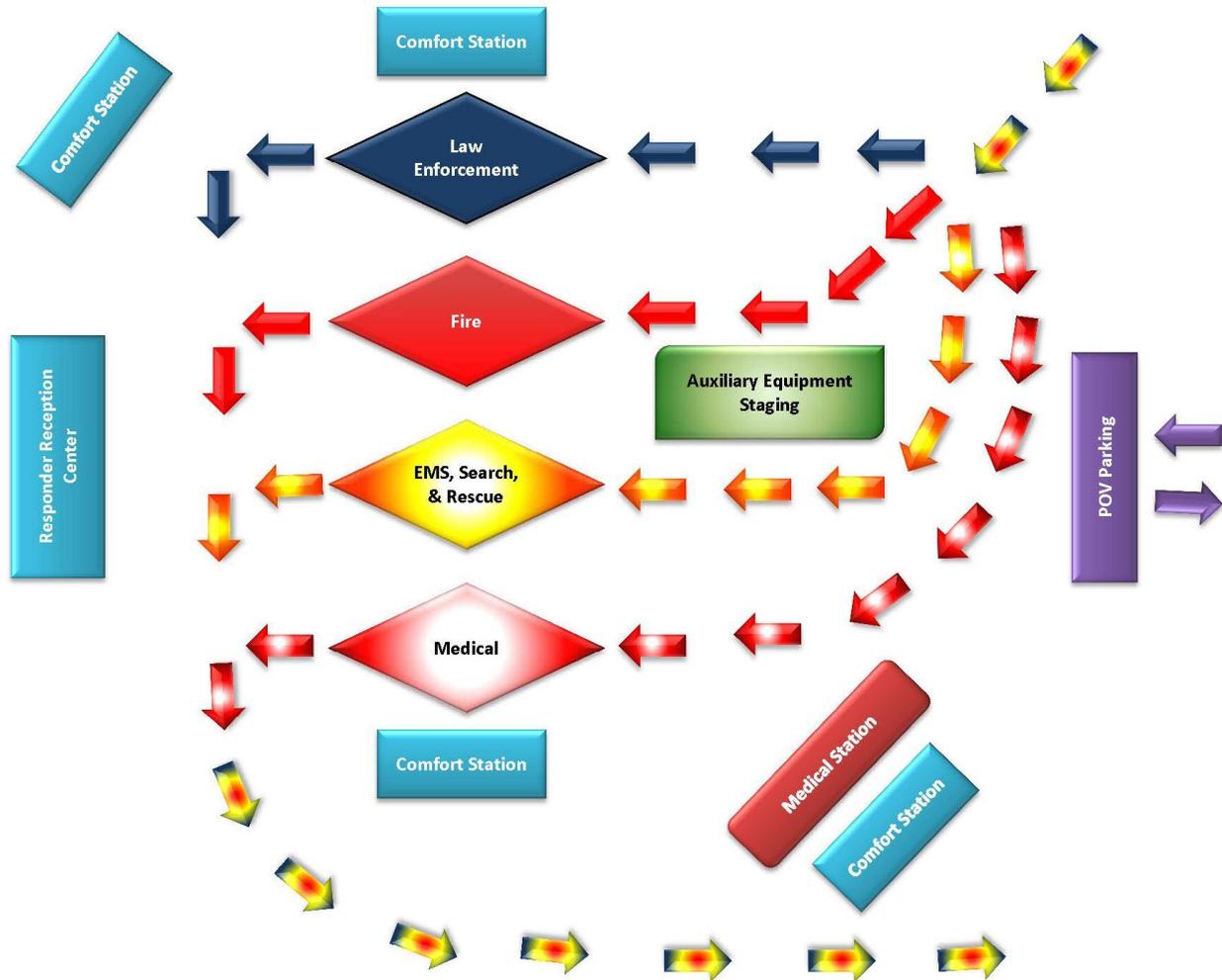
RSAs will be located in the general vicinity of the incident but away from immediate danger/impacted area. Typical locations include city parks, fairgrounds, airports, or large parking areas near major avenues of access to the impacted areas.

RSA site selected should provide:

- Overall site safety and the threat (360° - Over/Under/Through/Around) and security for safe operation of the site.
- A one-way/circular traffic pattern that facilitates receipt, staging and dispatch of multiple vehicles/crews.
- Space for receiving, temporary storage, maintenance, and deployment of responder equipment and material.
- A designated space (sheltered if possible) with personnel and equipment for:
  - Refueling (consider all potential environmental impacts when locating refueling operations);
  - Repair and refurbishment of response equipment; and
  - Coordinating, testing, and maintenance of incoming responder communications systems.
- Medical first aid and temporary shelter for responders and site crew.
- Space for storing and distributing any available supplies (i.e. PPE) for responders.
- Space (or nearby base camp) to provide food, water, shelter, and sanitation facilities for responders and site personnel.
- Ease and safety in accessing anticipated modes of transport (truck, helicopter, boat, etc.).
- Close proximity with easy access to the incident site.
- Plan for the emergency provision of:
  - Electrical power;
  - Telephone/fax and internet services; and
  - Office space.
- Decontamination areas for personnel and equipment, if appropriate.

Figure 3.4.1 provides an example of a rough RSA layout. The actual site layout of each RSA will be determined by each situation, the location, the weather, the terrain, etc.

**Figure 3.4.1 – Example RSA Layout**



## **SECTION 4: HAZARD EVALUATION**

The purpose of this section is to identify potential commodity hazards and the impacts to the surrounding area in the event of a release. The hazards evaluation and identification is intended to assist Forrest County EMA in planning for potential releases, thereby reducing the severity of the impacts to the public and nearby property that may potentially occur.

### **4.1 Norfolk Southern – Dragon Siding**

#### **4.1.1 Hazard Identification**

This section lists the most frequent hazardous commodity that may be present in large quantities at this facility at any given time. The presence of such materials is temporary only and they are stored in Rail Tank Cars that are either moving through this rail yard or are stopped here while being interchanged to another railroad.

- Propane/Liquefied Petroleum Gas (LPG)

##### **4.1.1.1 Storage Tanks**

There are no substantial Aboveground Storage Tanks (AST) located at this rail yard. If such tanks are constructed in the future, this section will be updated to reflect that. This rail yard services nearby propane companies who have substantial AST nearby.

##### **4.1.1.2 Health Hazard**

Specific hazards for the most frequent commodities are listed in Table 4.1.1.2, based on the National Library of Medicine's (NLM) Wireless Information System for Emergency Responders (WISER). ***Click on the Commodity Name to go to Chemical Data Sheet.***

**TABLE 4.1.1.2**  
**SPECIFIC COMMODITY HAZARDS**  
**@ NORFOLK SOUTHERN – DRAGON SIDING**

Material Name	Vapor Density <sup>1</sup>	Flammable Range <sup>2</sup>		Flash Point <sup>3</sup>	Specific Gravity <sup>4</sup>	Toxicity Level <sup>5</sup>
		LEL	UEL			
Propane /LPG	1.56 @ 32°F	2.1%	9.5%	~156°F	0.493 @ 77°F	OSHA PEL-TWA: 1000mg/m3

**Note 1:** Vapors/gases less than 1 will rise in air and be trapped at the top of enclosures. Vapors greater than 1 will sink in air, travel along ground, and settle in low areas.

**Note 2:** LEL (lower explosive limit) is the same as LFL (lower flammable limit). UEL (upper explosive limit) is the same as UFL (upper flammable limit). Variable

**Note 3:** Flash point is the temperature at which enough vapors are present to ignite and flash across the liquids surface when an ignition source is provided.

**Note 4:** Specific gravity is whether a material will float or sink in water. Any number less than one means the product will float on the surface. Any number greater than one will sink beneath the water. A number equal to one will disperse throughout water.

**Note 5:** These are published exposure limits found on Material Safety Data Sheets. **PEL** is OSHA's permissible exposure limit. **TLV** is threshold limit value-time weighted average. **STEL** is time weighted (8-hour) average-short term (15-min.) exposure limit.

**NDA** means no data is available. **NE** means not established.

#### 4.1.1.3 Petroleum, Oil, and Lubricants (POL) Operations and Containment

There are no POL operations at this facility other than the Diesel Fuel that would be in the fuel tanks of the Diesel Locomotives operating at this rail yard or that may be temporarily brought in to refuel a locomotive by a highway tank truck or trailer.

#### 4.1.1.4 Loading/Unloading of Transportation Vehicles

There are no regularly scheduled loading or unloading operations or permanent Loading/Unloading facilities for transportation vehicles at this facility at this time.

#### 4.1.1.5 Day-to-Day Operations

This rail yard operates 24 hours per day, 7 days per week. There may be from 1 to 10 employees and or contractors working in this rail yard at any given time.

#### 4.1.1.6 Secondary Containment

There are no secondary containment facilities or structures at this facility at this time.

## 4.1.2 Vulnerability Analysis



The following information describes the areas, facilities and environmental impacts near this rail yard and the vulnerability to releases of a hazardous commodity staged or passing through this rail yard. *Click on the DATA button above to access the database for this site.*

### 4.1.2.1 Public Water Supply

There are no water wells located within the large release area (0.5 miles) of this site.

### 4.1.2.2 Schools

The 3 schools closest to this rail yard are listed in Table 4.1.2.2, and could be affected in the event of a large release.

<b>TABLE 4.1.2.2 SCHOOLS NEAR NORFOLK SOUTHERN – DRAGON SIDING</b>			
<b>School</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Petal Middle School	2.0 miles	SE	(601) 584-6301
Charles H. Johnson Head Start	1.8 miles	S	(601) 544-4195
Play School Child Care Center	2.0 miles	SE	(601) 544-4018

\*Note: Distance from station is approximate mileage.

### 4.1.2.3 Nursing Homes

There are no nursing homes located within the large release area (0.5 miles) of this site.

### 4.1.2.4 Medical Facilities

There are no major emergency medical facilities located within the large release area (0.5 miles) of this site. Injured personnel should be transported by local ambulance to the closest available medical centers listed in Table 4.1.2.4.

**TABLE 4.1.2.4  
NEARBY EMERGENCY MEDICAL FACILITIES**

Medical Facility	Distance From Rail Yard	Location	Phone
Forrest General Hospital	6.8 miles	6051 Hwy 49	(601) 288-7000
Wesley Medical Center	8.5 miles	5001 Hardy St	(601) 268-8000

\*Note: Distance from station is approximate mileage.

#### 4.1.2.5 Residential Areas

In the event of a large release (0.5 miles) at this facility, approximately 23 residential dwellings could possibly be impacted.

#### 4.1.2.6 Sensitive Environmental Areas

The Leaf River is located 0.5 miles to the west of this facility and in the event of a large release it could possibly be impacted.

#### 4.1.2.7 Recreational Areas

The closest park to this facility is Optimist Park. This park is located approximately 1.4 miles from this facility and is not expected to be impacted in the event of a large release (0.5 miles) at this site.

#### 4.1.2.8 Transportation Routes

Highway 11 and 42 are the major highways located within 0.5 miles of this facility and could possibly be impacted in the event of a large release at this site.

#### 4.1.2.9 Public Utilities

The electric power company for this site is Mississippi Power. Other utilities are provided by Eastabuchie Utility Association, Inc. These companies should be contacted in the event of a release.

#### 4.1.2.10 Businesses

In the event of a large release (0.5 mile) at this facility, approximately 9 businesses could possibly be impacted.

#### 4.1.2.11 Vulnerability to Natural Disasters

Forrest County is ranked 21 out of 82 counties in Mississippi for tornados. A total of 91 historical tornado events have been recorded with a magnitude of 2 or greater. No historical earthquake or volcano events have been recorded.

#### 4.1.2.12 Fire/Explosion

The potential for a quantity of Propane/LPG to be released (as vapor or liquid) during a fire or igniting during a release exists. Propane/LPG is highly flammable and easily ignited. The vapors are heavier than air and may travel long distances to a source of ignition and flash back. Under prolonged exposure to fire or heat the containers may rupture violently.

### **4.1.3 Facility Reportable Incident History**

FRA records show that there has not been an accident/incident at this facility within the last 10 years. If an accident/incident occurs at this facility, this section should be updated accordingly.

In accordance with 40 CFR 300.405 requirements, the following minimum information must be recorded in the future documentation of reportable hazardous releases:

- Location of release;
- Type(s) of material(s) released;
- An estimate of the quantity of material(s) released;
- Possible source of release; and
- Date and Time of release.

## **4.2 Norfolk Southern**

### **4.2.1 Hazard Identification**

This section provides a list of the eight most frequent hazardous commodities that may be present in large quantities at this facility at any given time. The presence of such materials is temporary only and they are stored in Rail Tank Cars that are either moving through this rail yard or are stopped here while being interchanged to another railroad.

- Acrylic Acid, Stabilized
- Chlorine
- Ethylene Oxide
- Propane/Liquefied Petroleum Gas (LPG)
- Methanol
- Phosphoric Acid
- Sodium Hydroxide Solution
- Sulfuric Acid

#### **4.2.1.1 Storage Tanks**

There are no substantial Aboveground Storage Tanks (AST) located at this facility. If such tanks are constructed in the future, this section will be updated to reflect that.

#### 4.2.1.2 Health Hazard

Specific hazards for the eight most frequent commodities are listed in Table 4.2.1.2, based on the National Library of Medicine's (NLM) Wireless Information System for Emergency Responders (WISER). **Click on the Commodity Name to go to Chemical Data Sheet.**

TABLE 4.2.1.2 SPECIFIC COMMODITY HAZARDS @ NORFOLK SOUTHERN						
Material Name	Vapor Density <sup>1</sup>	Flammable Range <sup>2</sup>		Flash Point <sup>3</sup>	Specific Gravity <sup>4</sup>	Toxicity Level <sup>5</sup>
		LEL	UEL			
Acrylic Acid, Stabilized	2.5	2.4%	8.02%	121°	1.0511 @ 68°F	NIOSH REL-TWA: 10 ppm
Chlorine	2.48				2.98 g/L	OSHA PEL-C: 1 ppm
Ethylene Oxide	1.49	3%	100%	NA (GAS) -20°F (Liquid)	0.882 @ 50°F	OSHA PEL-TWA: 1 ppm
Propane/LPG	1.56 @ 32°F	2.1%	9.5%	~156°F	0.493 @ 77°F	OSHA PEL-TWA: 1000 mg/m <sup>3</sup>
Methanol	1.11	6%	36.5%	52°F	0.792 @ 68.0°F	
Phosphoric Acid					miscible	OSHA PEL-TWA: 1 mg/m <sup>3</sup>
Sodium Hydroxide Solution					2.13 @ 77°F solid	OSHA PEL-TWA: 2 mg/m <sup>3</sup>
Sulfuric Acid					1.84	OSHA PEL-TWA: 1 mg/m <sup>3</sup>

**Note 1:** Vapors/gases less than 1 will rise in air and be trapped at the top of enclosures. Vapors greater than 1 will sink in air, travel along ground, and settle in low areas.

**Note 2:** LEL (lower explosive limit) is the same as LFL (lower flammable limit). UEL (upper explosive limit) is the same as UFL (upper flammable limit). Variable

**Note 3:** Flash point is the temperature at which enough vapors are present to ignite and flash across the liquids surface when an ignition source is provided.

**Note 4:** Specific gravity is whether a material will float or sink in water. Any number less than one means the product will float on the surface. Any number greater than one will sink beneath the water. A number equal to one will disperse throughout water.

**Note 5:** These are published exposure limits found on Material Safety Data Sheets. **PEL** is OSHA's permissible exposure limit. **TLV** is threshold limit value-time weighted average. **STEL** is time weighted (8-hour) average-short term (15-min.) exposure limit.

**NDA** means no data is available. **NE** means not established.

#### 4.2.1.3 Petroleum, Oil, and Lubricants (POL) Operations and Containment

There are no POL operations at this facility other than the Diesel Fuel that would be in the fuel tanks of the Diesel Locomotives operating at this rail yard or that may be temporarily brought in to refuel a locomotive by a highway tank truck or trailer.

#### 4.2.1.4 Loading/Unloading of Transportation Vehicles

There are no regularly scheduled loading or unloading operations or permanent Loading/Unloading facilities for transportation vehicles at this facility at this time.

#### 4.2.1.5 Day-to-Day Operations

This rail yard operates 24 hours per day, 7 days per week. There may be from 1 to 10 employees and or contractors working in this rail yard at any given time.

#### 4.2.1.6 Secondary Containment

There are no secondary containment facilities or structures at this facility at this time.

### **4.2.2 Vulnerability Analysis**



DATA

Out of the eight most frequent hazardous commodities staged or passing through this site, Chlorine has the largest protective action distance (in the event of a large release), with a downwind protection area of 1.9 miles. The following information describes the areas, facilities and environmental impacts near this rail yard and the vulnerability to the release of Chlorine. ***Click on the DATA button above to access the database for this site.***

#### 4.2.2.1 Public Water Supply

There are 4 public water wells at approximately 1.1 miles south of this site. There is 1 water well at 1.5 miles east of the site, and 1 water well northeast at approximately 1.7 miles away. These water wells could be impacted in a large release. The water wells are shown in Figure 9.3.4.

The 400 acre South Lagoon Wastewater Treatment Plant is located approximately 1 mile southeast of the rail yard and could possibly be impacted in the event of a large release at this site.

#### 4.2.2.2 Schools

The 5 schools closest to this rail yard are listed in Table 4.2.2.2, and they could be affected in the event of a large release. In the event of a large release at this facility, 68 school buildings could possibly be impacted.

**TABLE 4.2.2.2  
SCHOOLS NEAR NORFOLK SOUTHERN**

<b>School</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Mississippi State University - Extension	0.46 miles	SW	(601) 545-6083
Sacred Heart Elementary School	0.50 miles	SW	(601) 583-8683
Sacred Heart High School	0.70 miles	SW	(601) 583-8683
Howard Christian Children Center	0.70 miles	SW	(601) 582-7796
Hawkins Elementary School	0.70 miles	W	(601) 583-4311

\*Note: Distance from station is approximate mileage.

4.2.2.3 Nursing Homes

The 4 nursing homes closest to this rail yard are listed in Table 4.2.2.3, and they may be affected in the event of a large release.

**TABLE 4.2.2.3  
NURSING HOMES NEAR NORFOLK SOUTHERN**

<b>Facility</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Bay Street Nursing Home	0.70 miles	SW	(601) 544-4230
Bedford Care Center of Petal	1.10 miles	E	(601) 544-7441
Caritas Manor	1.20 miles	E	(601) 545-7744
Hartford Place	1.00 miles	SW	(601) 545-8333

\*Note: Distance from station is approximate mileage.

4.2.2.4 Medical Facilities

There are no major emergency medical facilities located within the large release area. Injured personnel should be transported by local ambulance to the closest available medical centers listed in Table 4.2.2.4.

**TABLE 4.2.2.4  
NEARBY EMERGENCY MEDICAL FACILITIES**

Medical Facility	Distance From Rail Yard	Location	Phone
Forrest General Hospital	3.1 miles	6051 Hwy 49	(601) 288-7000
Wesley Medical Center	5.2 miles	5001 Hardy St	(601) 268-8000

\*Note: Distance from station is approximate mileage.

4.2.2.5 Residential Areas

There are approximately 7,077 residential dwellings located within the downwind protection area and could possibly be impacted in the event of a large release.

4.2.2.6 Sensitive Environmental Areas

The Leaf River is located 0.7 miles to the East of this facility and in the event of a large release it could possibly be impacted. Gordon’s creek is located approximately 800 feet from this site and could be impacted with a large release.

4.2.2.7 Recreational Areas

There are approximately 7 parks located within the large release area of this facility. In the event of a large release, these parks could possibly be impacted.

4.2.2.8 Transportation Routes

Highway 11 is the only major highway located within the large release downwind protection area.

4.2.2.9 Public Utilities

The electric power company for this site is Mississippi Power. The water and sewer for this area is served by the City of Hattiesburg. These companies should be contacted in the event of a release.

4.2.2.10 Businesses

There are approximately 1,699 commercial buildings located within the downwind protection area and could possibly be impacted in the event of a large release.

#### 4.2.2.11 Vulnerability to Natural Disasters

Forrest County is ranked 21 out of 82 counties in Mississippi for tornados. A total of 91 historical tornado events have been recorded with a magnitude of 2 or greater. No historical earthquake or volcano events have been recorded.

#### 4.2.2.12 Fire/Explosion

*Acrylic Acid, Stabilized:* Acrylic Acid, Stabilized is a flammable/combustible material. May be ignited by heat, sparks, or flames and vapors may form explosive mixtures with air. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

*Chlorine:* Chlorine reacts explosively with or supports the burning of numerous common materials. It may also ignite other combustible materials (wood, paper, oil, etc.) and mixture with fuels may cause an explosion. Container may explode when exposed to heat of fire. Vapors are much heavier than air and tend to settle in low areas.

*Ethylene Oxide:* Ethylene Oxide is extremely flammable and may react with itself without warning with explosive violence. Container may explode when exposed to fire. Gas is heavier than air and will collect and stay in low areas. Gas may travel long distances to ignition sources and flashback.

*Propane/LPG:* Propane/LPG is extremely flammable. Propane/LPG can be easily ignited by heat, sparks, or flames and will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and may travel along the ground to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated.

*Methanol:* Methanol is highly flammable and burns with an invisible flame. Vapors are heavier than air and will collect in low areas. Vapors may travel long distances to ignition sources and flashback. Containers may BLEVE when exposed to fire.

*Phosphoric Acid:* Phosphoric acid is non-combustible and does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

*Sodium Hydroxide Solution:* Sodium Hydroxide Solution itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes and containers may explode when heated.

*Sulfuric Acid:* Sulfuric Acid does not ignite readily but will react with water releasing corrosive and/or toxic gases and runoff which may accumulate in confined areas. Sulfuric Acid may ignite combustibles (wood, paper, oil, clothing, etc.) and contact with metals may evolve flammable hydrogen gas. Containers may BLEVE when exposed to fire and may explode when heated or if contaminated with water.

### **4.2.3 Facility Reportable Incident History**

FRA records show that there has not been an accident/incident at this facility within the last 10 years. If an accident/incident occurs at this facility, this section should be updated accordingly.

In accordance with 40 CFR 300.405 requirements, the following minimum information must be recorded in the future documentation of reportable hazardous releases:

- Location of release;
- Type(s) of material(s) released;
- An estimate of the quantity of material(s) released;
- Possible source of release; and
- Date and Time of release.

## **4.3 Canadian National**

### **4.3.1 Hazard Identification**

This section provides a list of the eight most frequent hazardous commodities that may be present in large quantities at this facility at any given time. The presence of such materials is temporary only and they are stored in Rail Tank Cars that are either moving through this rail yard or are stopped here while being interchanged to another railroad.

- Ammonia, Anhydrous
- Ammonium Nitrate
- Chlorine
- Combustible Liquid, N.O.S.
- Flammable Liquid, N.O.S.
- Propane/Liquefied Petroleum Gas (LPG)
- Sodium Hydroxide Solution
- Sulfur, Molten

#### **4.3.1.1 Storage Tanks**

There are no substantial Aboveground Storage Tanks (AST) located at this facility. If such tanks are constructed in the future, this section will be updated to reflect that.

#### 4.3.1.2 Health Hazard

Specific hazards for the eight most frequent commodities are listed below in Table 4.3.1.2, based on the National Library of Medicine's (NLM) Wireless Information System for Emergency Responders (WISER). **Click on the Commodity Name to go to Chemical Data Sheet.**

<b>TABLE 4.3.1.2                      SPECIFIC COMMODITY HAZARDS                      @ CANADIAN NATIONAL</b>						
Material Name	Vapor Density <sup>1</sup>	Flammable Range <sup>2</sup>		Flash Point <sup>3</sup>	Specific Gravity <sup>4</sup>	Toxicity Level <sup>5</sup>
		LEL	UEL			
Ammonia, Anhydrous	0.59	16%	25%			OSHA PEL-TWA: 50 ppm
Ammonium Nitrate					1.72 @ 77°F	
Chlorine	2.48				2.98 g/L	OSHA PEL-C: 1 ppm
Combustible Liquid N.O.S.						
Flammable Liquid N.O.S.						
Propane/LPG	1.56 @ 32°F	2.1%	9.5%	~156°F	0.493 @ 77°	OSHA PEL-1000 ppm
Sodium Hydroxide Solution					2.13 @ 77°	OSHA PEL-TWA: 2 mg/m <sup>3</sup>
Sulfur, Molten	0.00005lb /cu ft @ 90°F			405°F	1.80 kg/l @ 77°F	

**Note 1:** Vapors/gases less than 1 will rise in air and be trapped at the top of enclosures. Vapors greater than 1 will sink in air, travel along ground, and settle in low areas.

**Note 2:** LEL (lower explosive limit) is the same as LFL (lower flammable limit). UEL (upper explosive limit) is the same as UFL (upper flammable limit). Variable

**Note 3:** Flash point is the temperature at which enough vapors are present to ignite and flash across the liquids surface when an ignition source is provided.

**Note 4:** Specific gravity is whether a material will float or sink in water. Any number less than one means the product will float on the surface. Any number greater than one will sink beneath the water. A number equal to one will disperse throughout water.

**Note 5:** These are published exposure limits found on Material Safety Data Sheets. **PEL** is OSHA's permissible exposure limit. **TLV** is threshold limit value-time weighted average. **STEL** is time weighted (8-hour) average-short term (15-min.) exposure limit.

**NDA** means no data is available. **NE** means not established.

#### 4.3.1.3 Petroleum, Oil, and Lubricants (POL) Operations and Containment

There are no POL operations at this facility other than the Diesel Fuel that would be in the fuel tanks of the Diesel Locomotives operating at this rail yard or that may be temporarily brought in to refuel a locomotive by a highway tank truck or trailer.

#### 4.3.1.4 Loading/Unloading of Transportation Vehicles

There are no regularly scheduled loading or unloading operations or permanent Loading/Unloading facilities for transportation vehicles at this facility at this time.

#### 4.3.1.5 Day-to-Day Operations

This rail yard operates 24 hours per day, 7 days per week. There may be from 1 to 10 employees and or contractors working in this rail yard at any given time.

#### 4.3.1.6 Secondary Containment

There are no secondary containment facilities or structures at this facility at this time.

### 4.3.2 Vulnerability Analysis



Out of the eight most frequent hazardous commodities staged or passing through this site, Chlorine has the largest protective action distance (in the event of a large release), with a downwind protection area of 1.9 miles. The following information describes the areas, facilities and environmental impacts near this rail yard and the vulnerability to the release of Chlorine. ***Click on the DATA button above to access the database for this site.***

#### 4.3.2.1 Public Water Supply

There are 4 public water wells within 0.5 miles to the north of this site. There is 1 water well within 1 mile southwest of this site. These wells could be impacted in the case of a large release. The water wells are shown in Figure 9.3.4.

The 400 acre South Lagoon Wastewater Treatment Plant is located within 1 mile east of the rail yard and could possibly be impacted in the event of a large release at this site.

#### 4.3.2.2 Schools

The 4 schools closest to this rail yard are listed in Table 4.3.2.2, and they could be affected in the event of a large release. In the event of a large release, 69 school buildings could possibly be impacted.

**TABLE 4.3.2.2  
SCHOOLS NEAR CANADIAN NATIONAL**

<b>School</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Wayside Child Daycare	0.5 miles	NW	(601) 544-0370
William Carey College	1.0 mile	SW	1-800-962-5991
Myers Child Care	0.8 miles	NW	(601) 583-4300
Rowan Elementary School	1.0 miles	W	(601) 583-0960

\*Note: Distance from station is approximate mileage.

#### 4.3.2.3 Nursing Homes

The two nursing homes closest to this rail yard are listed in Table 4.3.2.3, and they may be affected in the event of a large release.

**TABLE 4.3.2.3  
NURSING HOMES NEAR CANADIAN NATIONAL**

<b>Facility</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Bay Street Nursing Home	0.80 miles	N	(601) 544-4230
Hartford Place	0.80 miles	NW	(601) 545-8333

\*Note: Distance from station is approximate mileage.

#### 4.3.2.4 Medical Facilities

There are no major emergency medical facilities located within the large release area. Injured personnel would be transported by local ambulance to the closest available medical centers listed in Table 4.3.2.4.

**TABLE 4.3.2.4  
NEARBY EMERGENCY MEDICAL FACILITIES**

Medical Facility	Distance From Rail Yard	Location	Phone
Forrest General Hospital	3.4 miles	6051 Hwy 49	(601) 288-7000
Wesley Medical Center	6.2 miles	5001 Hardy St	(601) 268-8000

\*Note: Distance from station is approximate mileage.

#### 4.3.2.5 Residential Areas

There are approximately 5,318 residential dwellings located within the downwind protection area and could possibly be impacted in the event of a large release.

#### 4.3.2.6 Sensitive Environmental Areas

The Leaf River is located 1.0 miles to the East of this facility. In the event of a large release of Chlorine, which has a downwind protection area of 1.9 miles, this river could possibly be impacted depending on wind conditions.

#### 4.3.2.7 Recreational Areas

Chain Park is located approximately 0.5 miles northeast of this site and Pineview Park is located approximately 1.8 miles from this site. In the event of a large release these parks could possibly be impacted depending on wind conditions.

#### 4.3.2.8 Transportation Routes

US Highway 49 and US Highway 11 are major highways located within the large release downwind protection area and could be impacted depending on wind conditions.

#### 4.3.2.9 Public Utilities

The electric power company for this site is Mississippi Power. The water and sewer for this area is served by the City of Hattiesburg. These companies should be contacted in the event of a release.

#### 4.3.2.10 Businesses

There are approximately 1,369 commercial buildings located within the downwind protection area and could possibly be impacted in the event of a large release.

#### 4.3.2.11 Vulnerability to Natural Disasters

Forrest County is ranked 21 out of 82 counties in Mississippi for tornados. A total of 91 historical tornado events have been recorded with a magnitude of 2 or greater. No historical earthquake or volcano events have been recorded.

#### 4.3.2.12 Fire/Explosion

*Ammonia, Anhydrous:* Ammonia, Anhydrous is a non-flammable gas and must be preheated before ignition can occur. Fire hazard increases in the presence of oil or other combustible materials. Prolonged exposure of containers to fire or heat may cause violent rupturing.

*Ammonium Nitrate:* Ammonium Nitrate will not burn under typical fire conditions but may accelerate burning when involved in a fire. It is capable of detonation or explosive decomposition or explosive reaction but requires a strong initiating source or must be heated under confinement before initiation. Containers may explode when heated. Runoff may create fire or explosion hazard.

*Chlorine:* Chlorine reacts explosively with or supports the burning of numerous common materials. It may also ignite other combustible materials (wood, paper, oil, etc.) and mixture with fuels may cause an explosion. Container may explode when exposed to heat of fire. Vapors are much heavier than air and tend to settle in low areas.

*Combustible Liquid, N.O.S.:* Combustible Liquid, N.O.S. is highly flammable and is easily ignited by heat, sparks, or flames. Vapors may form explosive mixtures with air and may travel to source of ignition and flashback. Containers may explode when heated.

*Flammable Liquid, N.O.S.:* Flammable Liquid, N.O.S. is highly flammable and is easily ignited by heat, sparks, or flames. Vapors may form explosive mixtures with air and may travel to source of ignition and flashback. Containers may explode when heated.

*Propane/LPG:* Propane/LPG is extremely flammable. Propane/LPG can be easily ignited by heat, sparks, or flames and will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and may travel along the ground to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated.

*Sodium Hydroxide Solution:* Sodium Hydroxide Solution itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes and containers may explode when heated.

*Sulfur, Molten:* Sulfur, Molten is a flammable solid but must be preheated before ignition can occur. It burns with a pale blue flame that may be difficult to see in daylight.

### **4.3.3 Facility Reportable Incident History**

FRA records show that there has not been an accident/incident at this facility within the last 10 years. If an accident/incident occurs at this facility, this section should be updated accordingly.

In accordance with 40 CFR 300.405 requirements, the following minimum information must be recorded in the future documentation of reportable hazardous releases:

- Location of release;
- Type(s) of material(s) released;
- An estimate of the quantity of material(s) released;
- Possible source of release; and
- Date and Time of release.

## **4.4 Kansas City Southern**

### **4.4.1 Hazard Identification**

This section provides a list of the two most frequent hazardous commodities that may be present in large quantities at this facility at any given time. The presence of such materials is temporary only and they are stored in Rail Tank Cars that are either moving through this rail yard or are stopped here while being interchanged to another railroad.

- Chlorine
- Sodium Hydroxide Solution

#### **4.4.1.1 Storage Tanks**

There are no substantial Aboveground Storage Tanks (AST) located at this facility. If such tanks are constructed in the future, this section will be updated to reflect that.

#### 4.4.1.2 Health Hazard

Specific hazards for the two most frequent commodities are listed in Table 4.4.1.2, based on the National Library of Medicine's (NLM) Wireless Information System for Emergency Responders (WISER). **Click on the Commodity Name to go to Chemical Data Sheet.**

Material Name	Vapor Density <sup>1</sup>	Flammable Range <sup>2</sup>		Flash Point <sup>3</sup>	Specific Gravity <sup>4</sup>	Toxicity Level <sup>5</sup>
		LEL	UEL			
Chlorine	2.48				2.98 g/L	OSHA PEL-C: 1 ppm
Sodium Hydroxide Solution					2.13 @ 77°	OSHA PEL- TWA: 2 mg/m <sup>3</sup>

**Note 1:** Vapors/gases less than 1 will rise in air and be trapped at the top of enclosures. Vapors greater than 1 will sink in air, travel along ground, and settle in low areas.

**Note 2:** LEL (lower explosive limit) is the same as LFL (lower flammable limit). UEL (upper explosive limit) is the same as UFL (upper flammable limit). Variable

**Note 3:** Flash point is the temperature at which enough vapors are present to ignite and flash across the liquids surface when an ignition source is provided.

**Note 4:** Specific gravity is whether a material will float or sink in water. Any number less than one means the product will float on the surface. Any number greater than one will sink beneath the water. A number equal to one will disperse throughout water.

**Note 5:** These are published exposure limits found on Material Safety Data Sheets. **PEL** is OSHA's permissible exposure limit. **TLV** is threshold limit value-time weighted average. **STEL** is time weighted (8-hour) average-short term (15-min.) exposure limit.

**NDA** means no data is available. **NE** means not established.

#### 4.4.1.3 Petroleum, Oil, and Lubricants (POL) Operations and Containment

There are no POL operations at this facility other than the Diesel Fuel that would be in the fuel tanks of the Diesel Locomotives operating at this rail yard or that may be temporarily brought in to refuel a locomotive by a highway tank truck or trailer.

#### 4.4.1.4 Loading/Unloading of Transportation Vehicles

There are no regularly scheduled loading or unloading operations or permanent Loading/Unloading facilities for transportation vehicles at this facility at this time.

#### 4.4.1.5 Day-to-Day Operations

This rail yard operates 24 hours per day, 7 days per week and is typically unmanned.

#### 4.4.1.6 Secondary Containment

There are no secondary containment facilities or structures at this facility at this time.

### **4.4.2 Vulnerability Analysis**

**DATA**

Out of the two most frequent hazardous commodities staged or passing through this site, Chlorine has the largest protective action distance (in the event of a large release), with a downwind protection area of 1.9 miles. The following information describes the areas, facilities and environmental impacts near this rail yard and the vulnerability to the release of Chlorine. ***Click on the DATA button above to access the database for this site.***

#### 4.4.2.1 Public Water Supply

There are no public water wells located within the large release downwind protection area for Chlorine of 1.9 miles of this site. The water wells are shown in Figure 9.3.4.

#### 4.4.2.2 Schools

The 3 schools closest to this rail yard are listed in Table 4.4.2.2, and they could be affected in the event of a large release. In the event of a large release at this facility, 3 schools could possibly be impacted.

**TABLE 4.4.2.2  
SCHOOLS NEAR KANSAS CITY SOUTHERN**

<b>School</b>	<b>Distance / Location From Rail Yard</b>		<b>Phone</b>
Earl Travillion Attendance Center	1.0 miles	N	(601) 584-9303
Lowery A. Woodall Center	1.5 miles	W	(601) 554-5551
Guiding Light Learning Center	1.5 miles	NW	(601) 544-9222

\*Note: Distance from station is approximate mileage.

#### 4.3.2.3 Nursing Homes

There are no nursing homes located within the large release downwind protection area for Chlorine of 1.9 miles at this site.

#### 4.4.2.4 Medical Facilities

There are no major emergency medical facilities located within the large release area. Injured personnel would be transported by local ambulance to the closest available medical centers listed in Table 4.4.2.4.

**TABLE 4.4.2.4  
NEARBY EMERGENCY MEDICAL FACILITIES**

<b>Medical Facility</b>	<b>Distance From Rail Yard</b>	<b>Location</b>	<b>Phone</b>
Forrest General Hospital	6.2 miles	6051 Hwy 49	(601) 288-7000
Wesley Medical Center	9.2 miles	5001 Hardy St	(601) 268-8000

\*Note: Distance from station is approximate mileage.

#### 4.4.2.5 Residential Areas

There are approximately 594 residential dwellings located within the downwind protection area and could possibly be impacted in the event of a large release.

#### 4.4.2.6 Sensitive Environmental Areas

The Leaf River is located 1.6 miles to the East of this facility. In the event of a large release of Chlorine, which has a downwind protection area of 1.9 miles, this river could possibly be impacted, depending on wind conditions.

#### 4.4.2.7 Recreational Areas

The closest park to this facility is Larry Doleac Youth Baseball Complex. This park is located approximately 4.7 miles from this facility and therefore should not be impacted in the event of a large release of Chlorine with a downwind protection area of 1.9 miles.

#### 4.4.2.8 Transportation Routes

U.S. Highway 49 and 98 are major highways located within the 1.9 mile downwind protection area for Chlorine and could possibly be impacted in the event of a large release. The Bobby Chain Airport is also located in the 1.9 mile downwind protection area.

#### 4.4.2.9 Public Utilities

The electric power company for this site is Mississippi Power. The water and sewer for this area is served by the City of Hattiesburg. These companies should be contacted in the event of a release.

#### 4.4.2.10 Businesses

There are approximately 124 commercial buildings located within the downwind protection area and could possibly be impacted in the event of a large release.

#### 4.4.2.11 Vulnerability to Natural Disasters

Forrest County is ranked 21 out of 82 counties in Mississippi for tornados. A total of 91 historical tornado events have been recorded with a magnitude of 2 or greater. No historical earthquake or volcano events have been recorded.

#### 4.4.2.12 Fire/Explosion

*Chlorine:* Chlorine reacts explosively with or supports the burning of numerous common materials. It may also ignite other combustible materials (wood, paper, oil, etc.) and mixture with fuels may cause an explosion. Container may explode when exposed to heat of fire. Vapors are much heavier than air and tend to settle in low areas.

*Sodium Hydroxide Solution:* Sodium Hydroxide Solution itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes and containers may explode when heated.

### **4.4.3 Facility Reportable Incident History**

FRA records show that there has not been an accident/incident at this facility within the last 10 years. If an accident/incident occurs at this facility, this section should be updated accordingly.

In accordance with 40 CFR 300.405 requirements, the following minimum information must be recorded in the future documentation of reportable hazardous releases:

- Location of release;
- Type(s) of material(s) released;
- An estimate of the quantity of material(s) released;
- Possible source of release; and
- Date and Time of release.



# **4.5 CHEMICAL DATA SHEETS**

## **SECTION 4: HAZARD EVALUATION**



# ACRYLIC ACID

(INHIBITED)

UN 2218

Shipping Name: Acrylic acid, inhibited

Other Names: Acroleic acid  
Ethylene carboxylic acid  
GAA  
Glacial acrylic acid

Propene acid  
Propenoic acid  
2-Propenoic acid  
Vinyl formic acid



**WARNING!** • MAY REACT WITH ITSELF BLOCKING RELIEF VALVES LEADING TO TANK EXPLOSION!

### Hazards:

- Vapors or liquid can cause burns to eyes, nose, skin and lungs
- Fire fighting gear (including SCBA) does not provide adequate protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel
- May react with itself without warning with explosive violence
- Vapors may travel long distances to ignition sources and flash back

### Awareness and Operational Level Training

#### Response:

- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

### Description:

- Shipped as a colorless liquid
- Sharp rancid odor
- Initially sinks in water and is soluble in water
- Very flammable
- Freezes at 56° F

### Operational Level Training Response:

#### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release
- Use large amounts of water to disperse vapors - contain runoff
- Consider the application of alcohol resistant (AFFF) foam to spilled liquid to control vapors

#### FIRE:

- Specially trained personnel operating from a safe distance can fight fires using alcohol resistant (AFFF) foam or dry chemical if available in sufficient amounts or use fog streams to extinguish burning liquid or dilute to a nonflammable mixture. Keep exposures cool to protect against re-ignition. Do not direct straight streams into the liquid.
- Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

### First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 79-10-7

# Acrylic Acid

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- Flammable/combustible material.
- May be ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

### HEALTH

- May cause toxic effects if inhaled or ingested/swallowed.
- Contact with substance may cause severe burns to skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Acrylic Acid

## EMERGENCY RESPONSE

### FIRE

- **Some of these materials may react violently with water.**

#### Small Fire

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

#### Large Fire

- Water spray, fog or alcohol-resistant foam.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.
- Do not get water inside containers.

#### Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine).
- Use clean non-sparking tools to collect absorbed material.

#### Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

# Ammonium Nitrate

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

### HEALTH

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

## PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

#### Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

#### Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.**

# Ammonium Nitrate

## EMERGENCY RESPONSE

### FIRE

#### Small Fire

- Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon® may provide limited control.

#### Large Fire

- Flood fire area with water from a distance.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Move containers from fire area if you can do it without risk.

#### Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Do not get water inside containers.

#### Small Dry Spill

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

#### Small Liquid Spill

- Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

#### Large Spill

- Dike far ahead of liquid spill for later disposal.
- **Following product recovery, flush area with water.**

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# AMMONIA (ANHYDROUS)

UN 1005

Shipping Name: Ammonia, anhydrous  
Other Names: AM-FOL  
Ammonia, anhydrous  
Anhydrous ammonia

Refrigerant R717  
Nitro-Sil



- WARNING!**
- **POISON! BREATHING THE VAPORS OR SKIN CONTACT CAN KILL YOU!**
  - Fire fighting gear including SCBA does not provide adequate protection. If exposure to the chemical occurs, remove and isolate gear immediately and thoroughly decontaminate personnel.
  - **DO NOT ADD WATER TO LIQUID AMMONIA! WILL INCREASE EVAPORATION!**

### Hazards:

- Contact with liquid may cause frostbite
- Severely irritating to skin, eyes, nose, throat and lungs, may cause burns
- May burn or explode in closed spaces (e.g., tanks, sewers, buildings)
- Produces a toxic, visible or invisible gas cloud which may hug the ground when cool
- Containers may BLEVE or explode when exposed to fire
- Corrosive to metals

### Awareness and Operational Level Training Response:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Evacuate or shelter in place the immediate area and downwind for a large release
- For containers exposed to fire evacuate the area in all directions because of the risk of BLEVE or explosion
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

### Description:

- May be shipped or stored as a compressed gas or cryogenic liquid
- Strong, pungent odor
- Soluble in water
- Flammable
- Gas is lighter than air but may hug the ground when cool

### Operational Level Training Response:

#### RELEASE, NO FIRE:

- Stop the release if you can do it safely from a distance
- DO NOT PUT WATER ON LIQUID AMMONIA
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release
- Use large amounts of water well away from the release to disperse vapors - contain runoff
- Ventilate confined area if it can be done without placing personnel at risk

#### FIRE:

- Material does not easily burn; fight surrounding fire with an agent appropriate for the burning material
- If material is not leaking, cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

### First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Frostbite - warm injured area in very warm water
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 7664-41-7

# Ammonia, Anhydrous

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
- Vapors are extremely irritating and corrosive.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

### FIRE OR EXPLOSION

- Some may burn but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

# Ammonia, Anhydrous

## EMERGENCY RESPONSE

### FIRE

#### Small Fire

- Dry chemical or CO<sub>2</sub>.

#### Large Fire

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Do not get water inside containers.
- Damaged cylinders should be handled only by specialists.

#### Fire involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Isolate area until gas has dispersed.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- **In case of contact with Hydrogen fluoride, anhydrous (UN1052)**, flush skin and eyes with water for 5 minutes; then, for skin exposures rub on a calcium/gel combination; for eyes flush with a water/calcium solution for 15 minutes.
- Keep victim warm and quiet.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# CHLORINE

UN 1017

Shipping Name: Chlorine

Other Names: Liquid chlorine



- WARNING!**
- **POISON! BREATHING THE GAS CAN KILL YOU!**
  - Firefighting gear (including SCBA) provides **NO** protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel
  - **STRONG OXIDIZER! WILL INCREASE THE INTENSITY OF A FIRE! MAY CAUSE FIRE UPON CONTACT WITH COMBUSTIBLES!**

<b>Hazards:</b> <ul style="list-style-type: none"><li>● Severely irritating to skin, eyes, nose and lungs; skin and eye contact causes severe burns and blindness</li><li>● Gas is heavier than air and will collect and stay in low areas</li><li>● Container may explode when exposed to fire</li><li>● Reacts with water to form toxic hypochlorous acid</li><li>● Contact with liquid may cause frostbite</li><li>● Corrosive to some rubbers and plastics</li></ul>	<b>Description:</b> <ul style="list-style-type: none"><li>● Greenish-yellow gas</li><li>● Shipped as a pressurized liquefied gas</li><li>● Pungent bleach-like odor</li><li>● Reacts with water to form toxic hypochlorous acid and is slightly soluble in water</li><li>● Nonflammable but may cause combustibles to ignite</li><li>● Gas is heavier than air and will collect and stay in low areas</li></ul>
<b>Awareness and Operational Level Training Response:</b> <ul style="list-style-type: none"><li>● <b>Do not put yourself in danger by entering a contaminated area to rescue a victim</b></li><li>● Stay upwind and uphill</li><li>● Determine the extent of the problem</li><li>● <b>BACK OFF!</b> - Isolate a wide area around the release or fire, deny entry and call for expert help</li><li>● For container exposed to fire, evacuate the area in all directions because of the risk of explosion</li><li>● Evacuate or shelter in place the immediate area and downwind for a large release</li><li>● Notify local health and fire officials and pollution control agencies</li><li>● If contaminated runoff enters waterways, notify downstream users of potentially contaminated water</li></ul>	<b>Operational Level Training Response:</b> <p><b>RELEASE, NO FIRE:</b></p> <ul style="list-style-type: none"><li>● Stop the release if it can be done safely from a distance</li><li>● Use large amounts of water well away from the release to disperse gas - contain runoff</li><li>● Ventilate confined area if it can be done without placing personnel at risk</li><li>● If in a building, evacuate building and confine vapors by closing doors and shutting down HVAC systems</li></ul> <p><b>FIRE:</b></p> <ul style="list-style-type: none"><li>● Material does not burn; fight surrounding fire with an agent appropriate for the burning material</li><li>● If material is not leaking, cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely</li><li>● If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location</li></ul>

### First Aid:

- **Do not put yourself in danger by entering a contaminated area to rescue a victim**
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
- Seek medical attention
- Frostbite - warm injured area in very warm water
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 7782-50-5

# Chlorine

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Fire will produce irritating, corrosive and/or toxic gases.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Runoff from fire control may cause pollution.

### FIRE OR EXPLOSION

- Substance does not burn but will support combustion.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react violently with air, moist air and/or water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

- **Spill**
  - See Table 1 - Initial Isolation and Protective Action Distances.
- **Fire**
  - If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Chlorine

## EMERGENCY RESPONSE

### FIRE

#### Small Fire

**CAUTION:** These materials do not burn but will support combustion. Some will react violently with water.

- Contain fire and let burn. If fire must be fought, water spray or fog is recommended.
- **Water only; no dry chemical, CO<sub>2</sub> or Halon®.**
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

#### Fire involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

# Combustible Liquid, N.O.S.

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.
- For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147.
- **If molten aluminum is involved, refer to GUIDE 169.**

### HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

## PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### EVACUATION

#### Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Combustible Liquid, N.O.S.

## EMERGENCY RESPONSE

### FIRE

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**CAUTION:** For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

#### Small Fire

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

#### Large Fire

- Water spray, fog or regular foam.
- **Do not use straight streams.**
- Move containers from fire area if you can do it without risk.

#### Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

#### Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# ETHYLENE OXIDE

UN 1040

Other Names: Dihydrooxirene      Ethyloxide  
Dimethylene oxide      Oxane  
1,2-Epoxyethane      Oxidoethane  
Epoxyethane      Oxirane  
Ethenoxide      Oxyacetylopropane



**WARNING!** ● EXTREMELY FLAMMABLE!  
● MAY REACT WITH ITSELF WITHOUT WARNING WITH EXPLOSIVE VIOLENCE!

## Hazards:

- Very irritating to skin, eyes, nose and lungs; prolonged contact with skin can cause burns
- Fire fighting gear (including SCBA) does not provide adequate protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel
- Container may explode when exposed to fire
- Gas is heavier than air and will collect and stay in low areas
- Gas may travel long distances to ignition sources and flashback
- Gas in confined areas (e.g., tanks, sewers, buildings) may explode when exposed to fire
- Contact with liquid may cause frostbite

## Awareness and Operational Level Training

### Response:

- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Remove all ignition sources
- For container exposed to fire evacuate the area in all directions because of the risk of explosion
- Evacuate the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

## Description:

- Colorless gas
- Sweet ether-like odor
- Soluble in water
- Extremely flammable
- Gas is heavier than air and will collect and stay in low areas
- Shipped and stored as a liquefied gas
- Becomes a liquid below 51° F

## Operational Level Training Response:

### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Use large amounts of water well away from the material to disperse gas - contain runoff
- Ventilate confined area if it can be done without placing personnel at risk

### FIRE:

- Do not extinguish the fire unless the flow of the gas can be stopped and any remaining gas is out of the line. Specially trained personnel may use fog lines to cool exposures and let the fire burn itself out
- Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cylinders are exposed to excessive heat from fire or flame contact, withdraw immediately to a secure location

## First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Frostbite - warm injured area in very warm water
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 75-21-8

# Ethylene Oxide

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

### FIRE OR EXPLOSION

- Flammable; may be ignited by heat, sparks or flames.
- May form explosive mixtures with air.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.
- Runoff may create fire or explosion hazard.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY"

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

# Ethylene Oxide

## EMERGENCY RESPONSE

### FIRE

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

#### Small Fire

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

#### Large Fire

- Water spray, fog or alcohol-resistant foam.
- **FOR CHLOROSILANES, DO NOT USE WATER;** use AFFF alcohol-resistant medium expansion foam.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

#### Fire involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- **FOR CHLOROSILANES,** use AFFF alcohol-resistant medium expansion foam to reduce vapors.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## Flammable Liquid, N.O.S.

## POTENTIAL HAZARDS

## FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.
- For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147.
- **If molten aluminum is involved, refer to GUIDE 169.**

## HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

## PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

## PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

## EVACUATION

## Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

## Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Flammable Liquid, N.O.S.

## EMERGENCY RESPONSE

### FIRE

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**CAUTION:** For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

#### Small Fire

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

#### Large Fire

- Water spray, fog or regular foam.
- **Do not use straight streams.**
- Move containers from fire area if you can do it without risk.

#### Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

#### Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# METHANOL

UN 1230

Shipping Name: Methyl alcohol  
Other Names: Carbinol  
Methyl hydroxide  
Methylol  
Wood alcohol



## Hazards:

- Highly flammable, burns with invisible flame
- Containers may BLEVE when exposed to fire
- Vapors are heavier than air and will collect and stay in low areas
- Vapors may travel long distances to ignition sources and flashback
- Vapors in confined areas (e.g., tanks, sewers, buildings) may explode when exposed to fire
- Irritating to skin and eyes

## Description:

- Colorless liquid
- Sweet alcohol odor
- Soluble in water
- Highly flammable
- Vapors are heavier than air and will collect and stay in low areas
- Produces large amounts of vapor

## Awareness and Operational Level Training

### Response:

- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Remove all ignition sources
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE
- Evacuate the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

### Operational Level Training Response:

#### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release
- Use large amounts of water to disperse vapors - contain runoff
- Consider the application of alcohol resistant (AFFF) foam to spilled liquid to control vapors
- Ventilate confined area if it can be done without placing personnel at risk

#### FIRE:

- Specially trained personnel operating from a safe distance can fight fires using alcohol resistant (AFFF) foam or dry chemical if available in sufficient amounts. Under favorable conditions, experienced crews can use coordinated fog streams to sweep the flames off the surface of the burning liquid. Keep exposures cool to protect against re-ignition. Do not direct straight streams into the liquid.
- Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

### First Aid:

- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 67-56-1

# Methanol

## POTENTIAL HAZARDS

### FIRE OR EXPLOSION

- Flammable/combustible material.
- May be ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

### HEALTH

- May cause toxic effects if inhaled or ingested/swallowed.
- Contact with substance may cause severe burns to skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Methanol

## EMERGENCY RESPONSE

### FIRE

- **Some of these materials may react violently with water.**

#### Small Fire

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

#### Large Fire

- Water spray, fog or alcohol-resistant foam.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.
- Do not get water inside containers.

#### Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine).
- Use clean non-sparking tools to collect absorbed material.

#### Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

# Phosphoric Acid

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

### FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.**

# Phosphoric Acid

## EMERGENCY RESPONSE

### FIRE

#### Small Fire

- Dry chemical, CO<sub>2</sub> or water spray.

#### Large Fire

- Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.

#### Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# PROPANE

UN 1978

Shipping Name: Propane or Propane mixture

Other Names: Dimethylmethane



## WARNING! • EXTREMELY FLAMMABLE!

### Hazards:

- Container may explode or BLEVE when exposed to fire
- Gas is heavier than air and will collect and stay in low areas
- Gas may travel long distances to ignition sources and flashback
- Gas in confined areas (e.g., tanks, sewers, buildings) may explode when exposed to fire
- Exposure to the liquid may cause frostbite

### Awareness and Operational Level Training

#### Response:

- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Remove all ignition sources
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE or explosion
- Evacuate the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies

### Description:

- Colorless gas
- Faint petroleum-like odor
- Shipped and stored as a liquefied gas under its own pressure
- Liquid floats on the surface of water and boils; is insoluble in water
- Extremely flammable
- Gas is heavier than air and will collect and stay in low areas

### Operational Level Training Response:

#### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Use large amounts of water to disperse gas - contain runoff
- Ventilate confined area if it can be done without placing personnel at risk

#### FIRE:

- Do not extinguish the fire unless the flow of the gas can be stopped and any remaining gas is out of the line. Specially trained personnel may use fog lines to cool exposures and let the fire burn itself out
- Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

### First Aid:

- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Frostbite - warm injured area in very warm water
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 74-98-6

## Propane/LPG

## POTENTIAL HAZARDS

## FIRE OR EXPLOSION

• **EXTREMELY FLAMMABLE.**

- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Vapors from liquefied gas are initially heavier than air and spread along ground.

**CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)**

- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

## HEALTH

- Vapors may cause dizziness or asphyxiation without warning.
- Some may be irritating if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

## PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.**
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.

## PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

## EVACUATION

**Large Spill**

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

## Propane/LPG

## EMERGENCY RESPONSE

**FIRE**

- DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

**CAUTION:** Hydrogen (UN1049), Deuterium (UN1957) and Hydrogen, refrigerated liquid (UN1966) burn with an invisible flame. Hydrogen and Methane mixture, compressed (UN2034) may burn with an invisible flame.

**Small Fire**

- Dry chemical or CO<sub>2</sub>.

**Large Fire**

- Water spray or fog.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

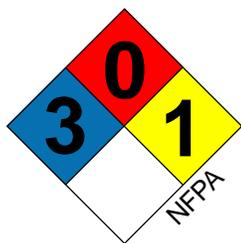
**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- Prevent spreading of vapors through sewers, ventilation systems and confined areas.
- Isolate area until gas has dispersed.

**CAUTION:** When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

**FIRST AID**

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# SODIUM HYDROXIDE



UN 1823 (Dry solid)

UN 1824 (Solution)

Shipping Name: UN 1823 Sodium hydroxide, solid

UN 1824 Sodium hydroxide, solution

Other Names: Caustic soda

Soda lye

Caustic soda, solution

Sodium hydrate

Lye

White caustic

**WARNING!** • **CORROSIVE! SKIN AND EYE CONTACT WILL CAUSE BURNS AND BLINDNESS!**  
• Firefighting gear (including SCBA) does not provide adequate protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel

<b>Hazards:</b> <ul style="list-style-type: none"><li>• Reacts with water or moisture to produce large amounts of heat and may splatter</li><li>• Reacts with some metals to produce highly flammable hydrogen gas</li></ul>	<b>Description:</b> <ul style="list-style-type: none"><li>• White solid or clear to milky solution in water</li><li>• No odor</li><li>• Soluble in water producing large amounts of heat</li><li>• Nonflammable</li></ul>
<b>Awareness and Operational Level Training Response:</b> <ul style="list-style-type: none"><li>• Stay upwind and uphill</li><li>• Determine the extent of the problem</li><li>• Isolate the area of release or fire and deny entry</li><li>• Notify local health and fire officials and pollution control agencies</li><li>• If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water</li></ul>	<b>Operational Level Training Response:</b> <p>RELEASE, NO FIRE:</p> <ul style="list-style-type: none"><li>• Cover solid material to protect from wind, rain or spray</li><li>• Stop the release of liquid material if it can be done safely from a distance</li><li>• Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release</li></ul> <p>FIRE:</p> <ul style="list-style-type: none"><li>• Material does not burn; fight surrounding fire with an agent appropriate for the burning material</li><li>• Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely</li><li>• If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location</li></ul>

### First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 60 minutes and seek medical evaluation
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 1310-73-2

# Sodium Hydroxide

## POTENTIAL HAZARDS

### HEALTH

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

### FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.**

# Sodium Hydroxide

## EMERGENCY RESPONSE

### FIRE

#### Small Fire

- Dry chemical, CO<sub>2</sub> or water spray.

#### Large Fire

- Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.

#### Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

### SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.



# SULFURIC ACID

UN 1830 (More than 51%)

Shipping Name: Sulfuric acid

Other Names: Hydrogen sulfate  
Oil of Vitrol



- WARNING!**
- **POISON! BREATHING THE VAPORS OR SWALLOWING THE MATERIAL CAN KILL YOU! SKIN AND EYE CONTACT CAUSES SEVERE BURNS AND BLINDNESS!**
  - Firefighting gear (including SCBA) does not provide adequate protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel
  - **REACTS VIOLENTLY WITH WATER!**

## Hazards:

- Vapors are heavier than air and will collect and stay in low areas
- Container may BLEVE when exposed to fire
- Contact with most metals produces flammable and potentially explosive hydrogen gas
- Decomposition products upon heating include toxic sulfur oxides
- Reacts violently with many organic materials including wood and paper

## Awareness and Operational Level Training Response:

- **Do not put yourself in danger by entering a contaminated area to rescue a victim**
- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE
- Evacuate or shelter in place the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

## Description:

- Colorless to dark brown thick liquid
- No odor unless heated, then has a choking odor
- Reacts violently with water producing sulfuric acid and is soluble in water
- Nonflammable
- Vapors are heavier than air and will collect and stay in low areas
- Freezes at 50° F

## Operational Level Training Response:

### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release
- Use large amounts of water well away from the material to disperse vapors - contain runoff
- Ventilate confined area if it can be done without placing personnel at risk

### FIRE:

- Material does not burn; fight surrounding fire with an agent appropriate for the burning material; if possible, do not allow water to come in contact with the material. If material is involved in a fire, use dry chemical to extinguish; if water must be used, use it in flooding quantities
- If material is not leaking, cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (unvented container distorts, bulges or shows any other signs of expanding), withdraw immediately to a secure location

## First Aid:

- **Do not put yourself in danger by entering a contaminated area to rescue a victim**
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 60 minutes and seek medical attention
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 7664-93-9

# Sulfuric Acid

## POTENTIAL HAZARDS

### HEALTH

- CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Reaction with water may generate much heat that will increase the concentration of fumes in the air.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause pollution.

### FIRE OR EXPLOSION

- **EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE**, some of these materials may burn, but none ignite readily.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff.
- Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.
- Substance may be transported in a molten form.

### PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.**
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

### EVACUATION

#### Spill

- See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

#### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

# Sulfuric Acid

## EMERGENCY RESPONSE

### FIRE

- When material is not involved in fire, do not use water on material itself.

#### Small Fire

- Dry chemical or CO<sub>2</sub>.
- Move containers from fire area if you can do it without risk.

#### Large Fire

- Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only.

#### Fire involving Tanks or Car/Trailer Loads

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.

#### Small Spill

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## **SECTION 5: RELEASE SCENARIOS**

Release scenarios have been developed for the areas identified as having a potential for experiencing a small or large release. The First Isolate In All Directions distances and the Downwind Protection Distances have been identified using the 2012 Emergency Response Guidebook (ERG). These distances are based on a Large Release during the day and are designed to identify the primary area of impact.

The 2012 Emergency Response Guidebook (ERG) Initial Isolation and Protective Action Distances suggest distances useful to protect people from vapors resulting from releases involving dangerous goods that are considered toxic by inhalation (TIH).

The Initial Isolation Zone defines an area SURROUNDING the incident in which persons may be exposed to dangerous (upwind) and life threatening (downwind) concentrations of material. The Protective Action Zone defines an area DOWNWIND from the incident in which persons may become incapacitated and unable to take protective action and/or incur serious or irreversible health effects. The 2012 ERG Table 1 (Green Section) provides specific guidance for small and large releases occurring day or night.

Adjusting distances for a specific incident involves many interdependent variables and should be made only by personnel technically qualified to make such adjustments. For this reason, no precise guidance can be provided in this document to aid in adjusting the table distances; however, general guidance follows.

Initial isolation and protective action distances in the 2012 ERG are derived from historical data on transportation incidents and the use of statistical models. For worst-case scenarios involving the instantaneous release of the entire contents of a package (e.g., as a result of terrorism, sabotage or catastrophic accident) the distances may increase substantially. For such events, doubling of the initial isolation and protective action distances is appropriate in absence of other information.

If more than one tank car containing TIH materials involved in the incident is leaking, LARGE RELEASE distances may need to be increased.

For materials with protective action distances, the actual distance can be larger in certain atmospheric conditions. If the dangerous goods vapor plume is channeled in a valley or between many tall buildings, distances may be larger than shown in the 2012 ERG Table 1 (Green Section) due to less mixing of the plume with the atmosphere. Daytime releases in regions with known strong inversions or snow cover, or occurring near sunset, may require an increase of the protective action distance because airborne contaminants mix and disperse more slowly and may travel much farther downwind. In such cases, the nighttime protective action distance may be more appropriate. In addition, protective action distances may be larger for liquid releases when either the material or outdoor temperature exceeds 30°C (86°F).

Not all materials listed in this plan have both Initial Isolation and Downwind Protection distances. TIH substances will have both but non TIH substances will only have Initial Isolation

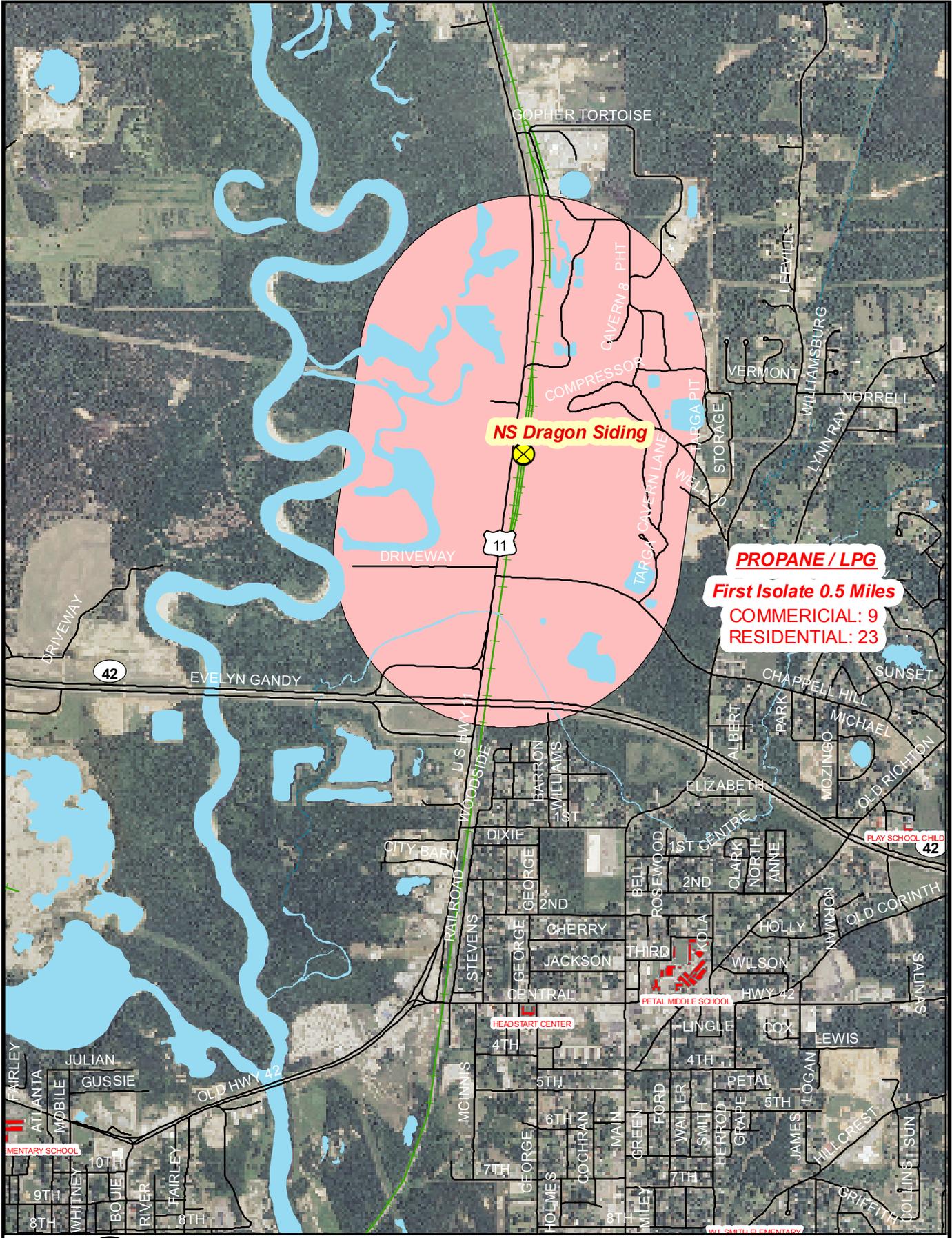
distances. The colored highlighted areas in the following figures are the overall area that may be partially or wholly impacted. During an actual response, the Forrest County EMA personnel will identify which portion of the colored highlighted area of the affected rail yard would actually be protected or isolated. It is likely that the entire area would NOT be protected or isolated. The areas identified are larger than the 2012 ERG recommends based on the fact that the rail yards cover a large geographical area and the release could come from anywhere on that property.

### **5.1 Norfolk Southern – Dragon Siding**

Release scenarios have been developed for the areas identified as having a potential for experiencing a small or large release. The release scenarios are oriented towards typical operations and the release risk potential created by such.

The specific release scenarios for the most frequent hazardous commodity that may be present at this facility is listed in the table below and illustrated in the following figures.

<b>TABLE 5.1 COMMODITY RELEASE SCENARIOS</b>			
<b>Commodity</b>	<b>Protection Action</b>	<b>Distance</b>	<b>Figure No.</b>
Propane/LPG	First Isolate	0.5 miles	5.1



**PROPANE / LPG**  
**First Isolate 0.5 Miles**  
**COMMERCIAL: 9**  
**RESIDENTIAL: 23**



**NS DRAGON SIDING  
 PROPANE / LPG  
 FIRST ISOLATE 0.5 MILES**

Figure 5.1

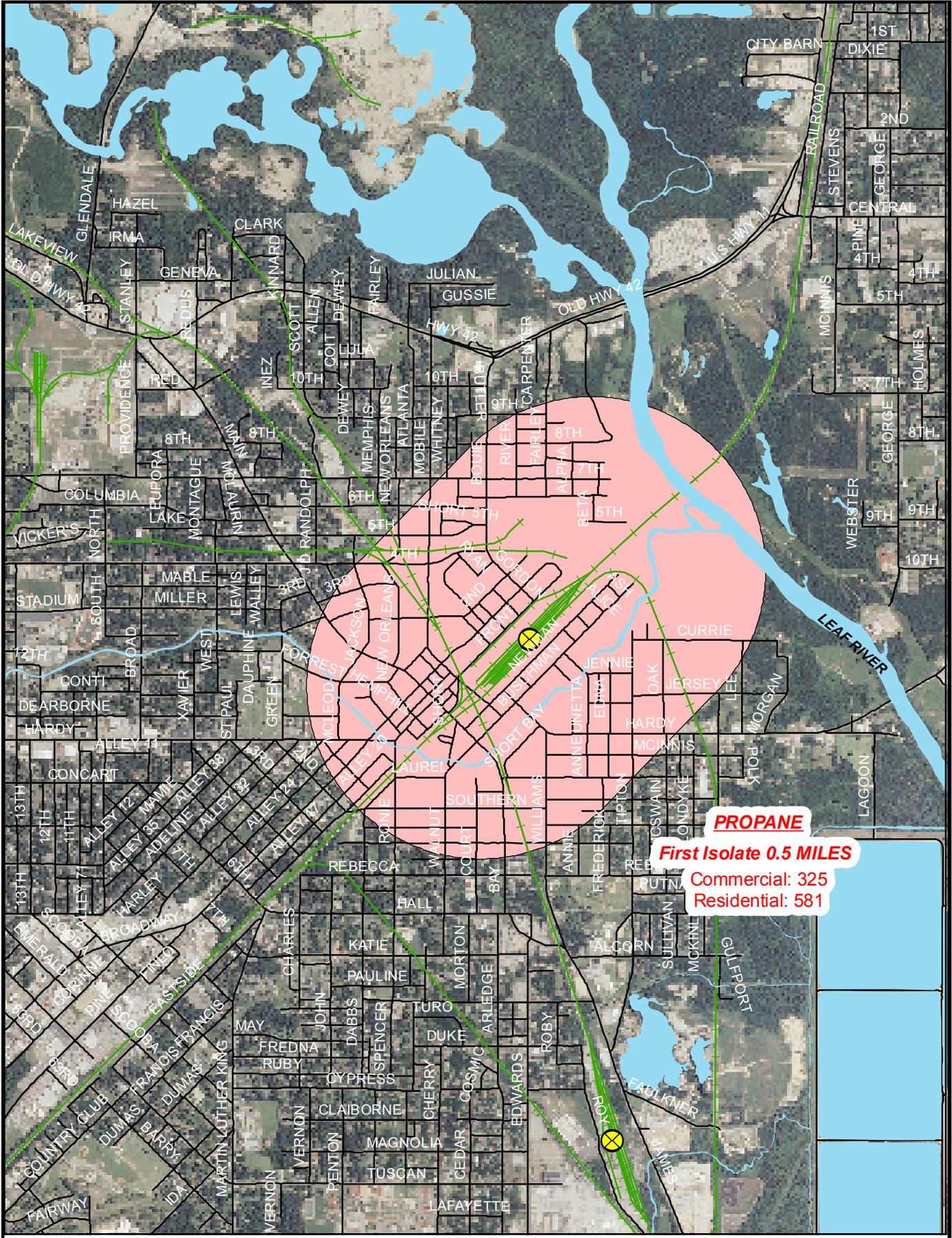
## **5.2 Norfolk Southern**

Release scenarios have been developed for the areas identified as having a potential for experiencing a small or large release. The release scenarios are oriented towards typical operations and the release risk potential created by such.

Specific release scenarios for the most frequent hazardous commodities that may be present at this facility are listed in the table below and illustrated in the following figures.

**TABLE 5.2  
COMMODITY RELEASE SCENARIOS**

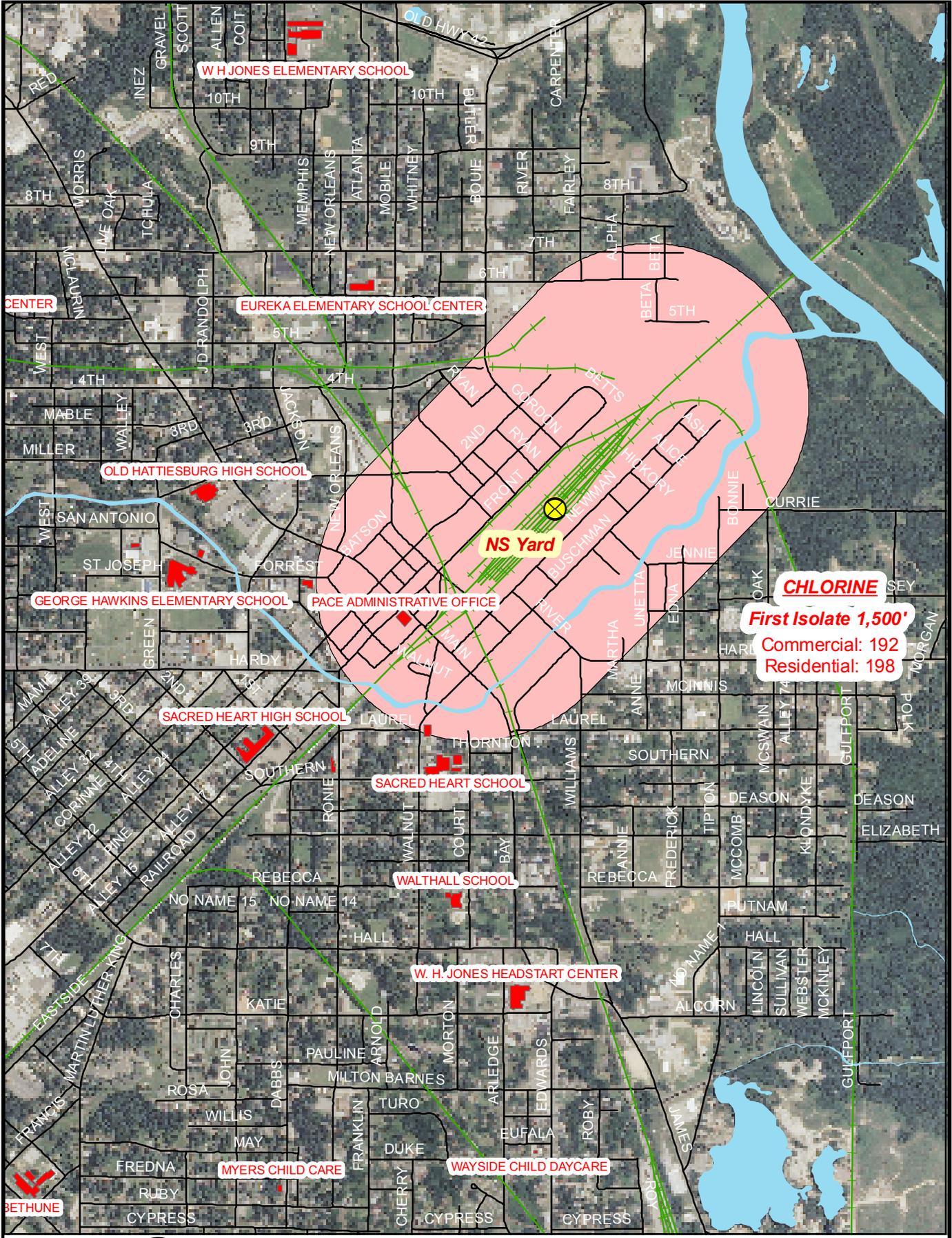
<b>Commodity</b>	<b>Protection Action</b>	<b>Distance</b>	<b>Figure No.</b>
Propane/LPG	First Isolate	0.5 miles	5.2
Chlorine	First Isolate	1500 ft	5.3
Chlorine	Down-Wind Protect	1.9 miles	5.4
Ethylene Oxide	First Isolate	500 ft	5.5
Ethylene Oxide	Down-Wind Protect	0.5 miles	5.6
Sodium Hydroxide, Solution	First Isolate	150 ft	5.7
Acrylic Acid, Stabilized	First Isolate	150 ft	5.8
Phosphoric Acid	First Isolate	150 ft	5.9
Sulfuric Acid	First Isolate	150 ft	5.10
Methanol	First Isolate	150 ft	5.11



0 0.125 0.25 0.5 Miles

**NS  
 PROpane  
 FIRST ISOLATE 0.5 MILES**

Figure 5.2



**W H JONES ELEMENTARY SCHOOL**

**EUREKA ELEMENTARY SCHOOL CENTER**

**OLD HATTIESBURG HIGH SCHOOL**

**GEORGE HAWKINS ELEMENTARY SCHOOL**

**PAGE ADMINISTRATIVE OFFICE**

**NS Yard**

**CHLORINE**

**First Isolate 1,500'**  
**Commercial: 192**  
**Residential: 198**

**SACRED HEART HIGH SCHOOL**

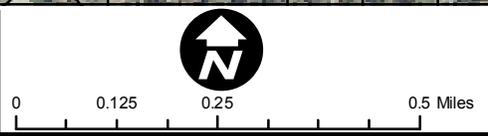
**SACRED HEART SCHOOL**

**WALTHALL SCHOOL**

**W. H. JONES HEADSTART CENTER**

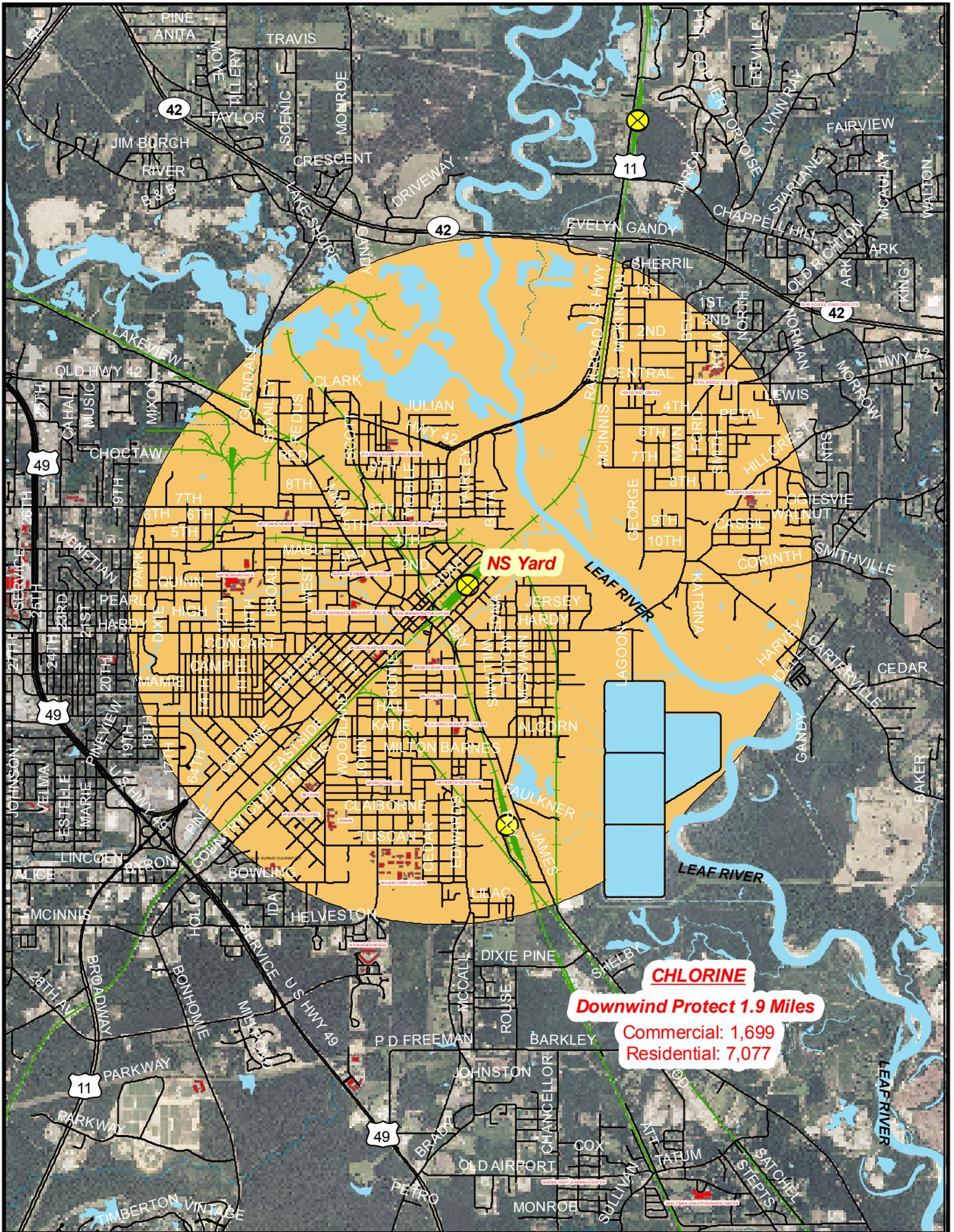
**MYERS CHILD CARE**

**WAYSIDE CHILD DAYCARE**



**NS  
 CHLORINE  
 FIRST ISOLATE 1,500'**

Figure 5.3



0 0.25 0.5 1 Miles

**NS  
 CHLORINE  
 DOWNWIND PROTECT 1.9 MILES**

Figure 5.4



0 0.125 0.25 0.5 Miles

**NS  
ETHYLENE OXIDE  
FIRST ISOLATE 500'**

Figure 5.5





ER

**EUREKA ELEMENTARY SCHOOL CENTER**

**OLD HATTIESBURG HIGH SCHOOL**

**NS Yard**

**SODIUM HYDROXIDE**

**First Isolate 150'  
Evacuate as Necessary**

**GEORGE HAWKINS ELEMENTARY SCHOOL**

**PACE ADMINISTRATIVE OFFICE**

**SACRED HEART HIGH SCHOOL**

**SACRED HEART SCHOOL**

**WALTHALL SCHOOL**

**W. H. JONES HEADSTART CENTER**



0 0.1 0.2 0.4 Miles

**NS  
SODIUM HYDROXIDE  
FIRST ISOLATE 150'**

Figure 5.7



**NS**  
**ACRYLIC ACID, STABILIZED**  
**FIRST ISOLATE 150'**

0 0.1 0.2 0.4 Miles

Figure 5.8



**EUREKA ELEMENTARY SCHOOL CENTER**

**OLD HATTIESBURG HIGH SCHOOL**

**NS Yard**

**PHOSPHORIC ACID**

*First Isolate 150'*

*Evacuate as Necessary*

**GEORGE HAWKINS ELEMENTARY SCHOOL**

**PACE ADMINISTRATIVE OFFICE**

**SACRED HEART HIGH SCHOOL**

**SACRED HEART SCHOOL**

**WALTHALL SCHOOL**

**W. H. JONES HEADSTART CENTER**



0 0.1 0.2 0.4 Miles

**NS  
PHOSPHORIC ACID  
FIRST ISOLATE 150'**

Figure 5.9



ER

**EUREKA ELEMENTARY SCHOOL CENTER**

**OLD HATTIESBURG HIGH SCHOOL**

**NS Yard**

**SULFURIC ACID**

**First Isolate 150'**

**Evacuate as Necessary**

**GEORGE HAWKINS ELEMENTARY SCHOOL**

**PACE ADMINISTRATIVE OFFICE**

**SACRED HEART HIGH SCHOOL**

**SACRED HEART SCHOOL**

**WALTHALL SCHOOL**

**W. H. JONES HEADSTART CENTER**



0 0.1 0.2 0.4 Miles

**NS  
SULFURIC ACID  
FIRST ISOLATE 150'**

Figure 5.10



0 0.1 0.2 0.4 Miles

**NS  
 METHANOL  
 FIRST ISOLATE 150'**

Figure 5.11

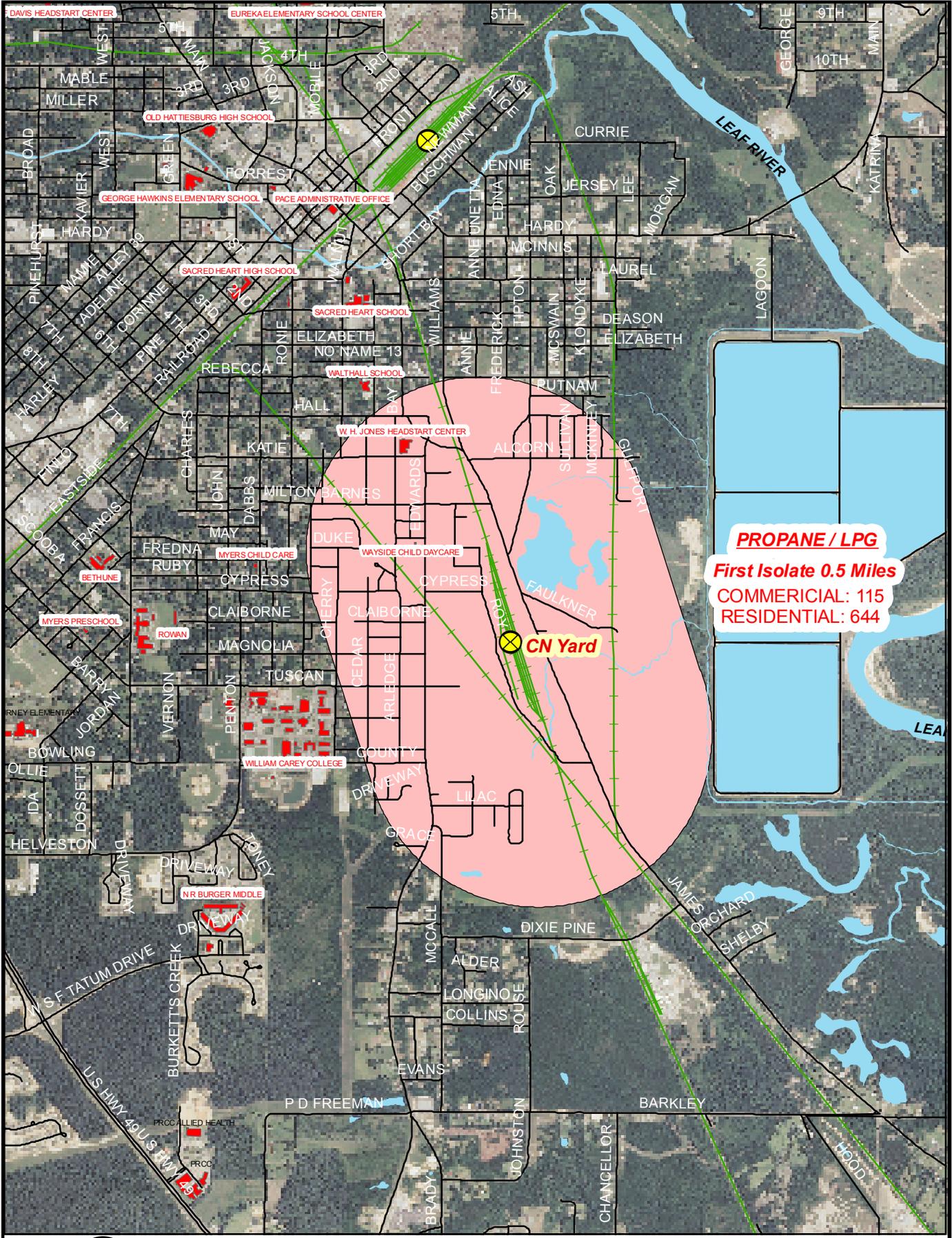
### **5.3 Canadian National**

Release scenarios have been developed for the areas identified as having a potential for experiencing a small or large release. The release scenarios are oriented towards typical operations and the release risk potential created by such.

Specific release scenarios for the most frequent hazardous commodities that may be present at this facility are listed in the table below and illustrated in the following figures.

**TABLE 5.3  
COMMODITY RELEASE SCENARIOS**

<b>Commodity</b>	<b>Protection Action</b>	<b>Distance</b>	<b>Figure No.</b>
Propane/LPG	First Isolate	0.5 miles	5.12
Chlorine	First Isolate	1500 ft	5.13
Chlorine	Down-Wind Protect	1.9 miles	5.14
Ammonia, Anhydrous	First Isolate	500 ft	5.15
Ammonia, Anhydrous	Down-Wind Protect	0.5 miles	5.16
Ammonium Nitrate	First Isolate	150 ft	5.17
Sulfur, Molten	First Isolate	330 ft	5.18
Sodium Hydroxide, Solution	First Isolate	150 ft	5.19
Combustible Liquid, N.O.S.	First Isolate	1,000 ft	5.20
Flammable Liquid, N.O.S.	First Isolate	1,000 ft	5.21



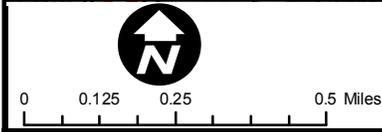
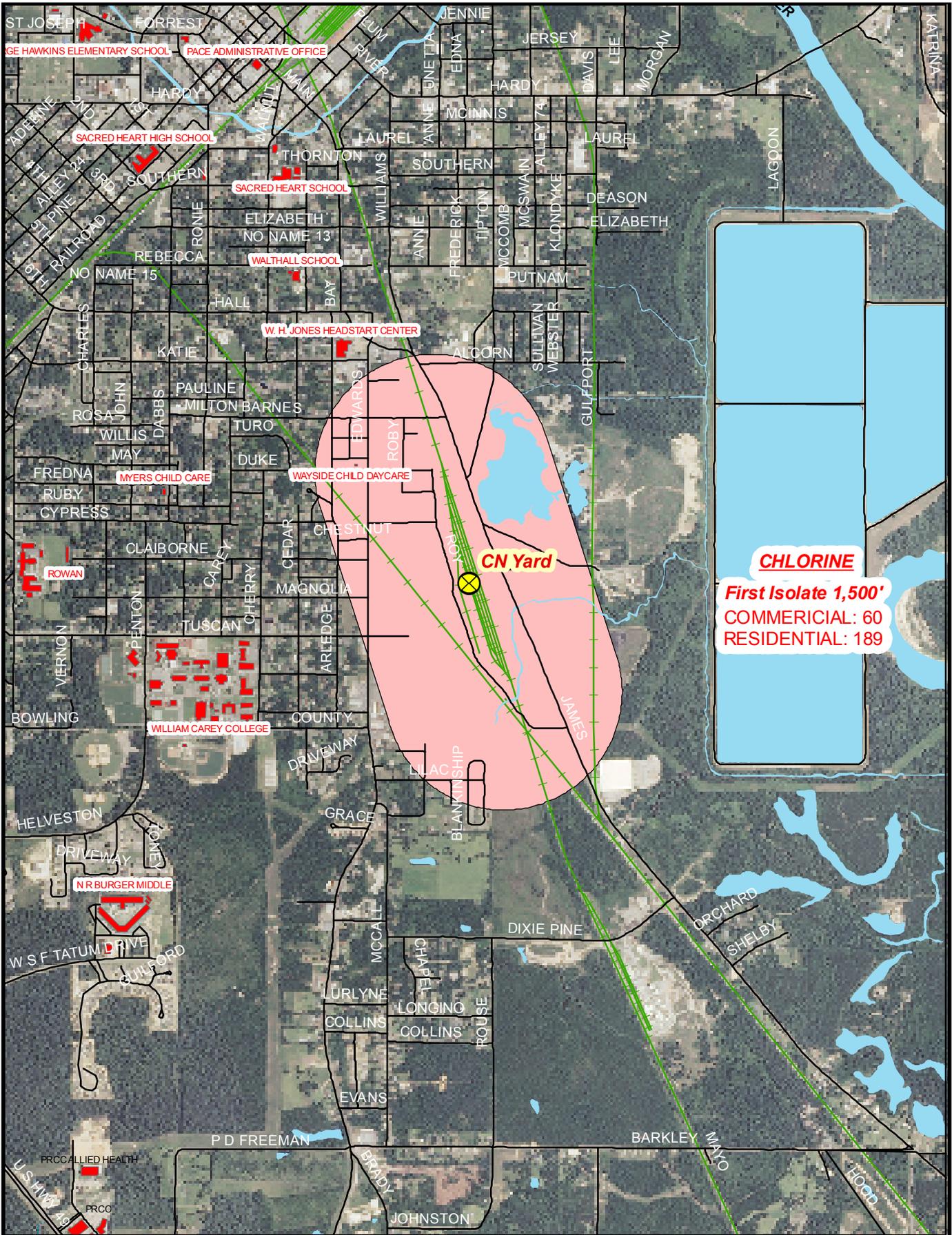
**PROPANE / LPG**  
**First Isolate 0.5 Miles**  
**COMMERCIAL: 115**  
**RESIDENTIAL: 644**



0 0.125 0.25 0.5 Miles

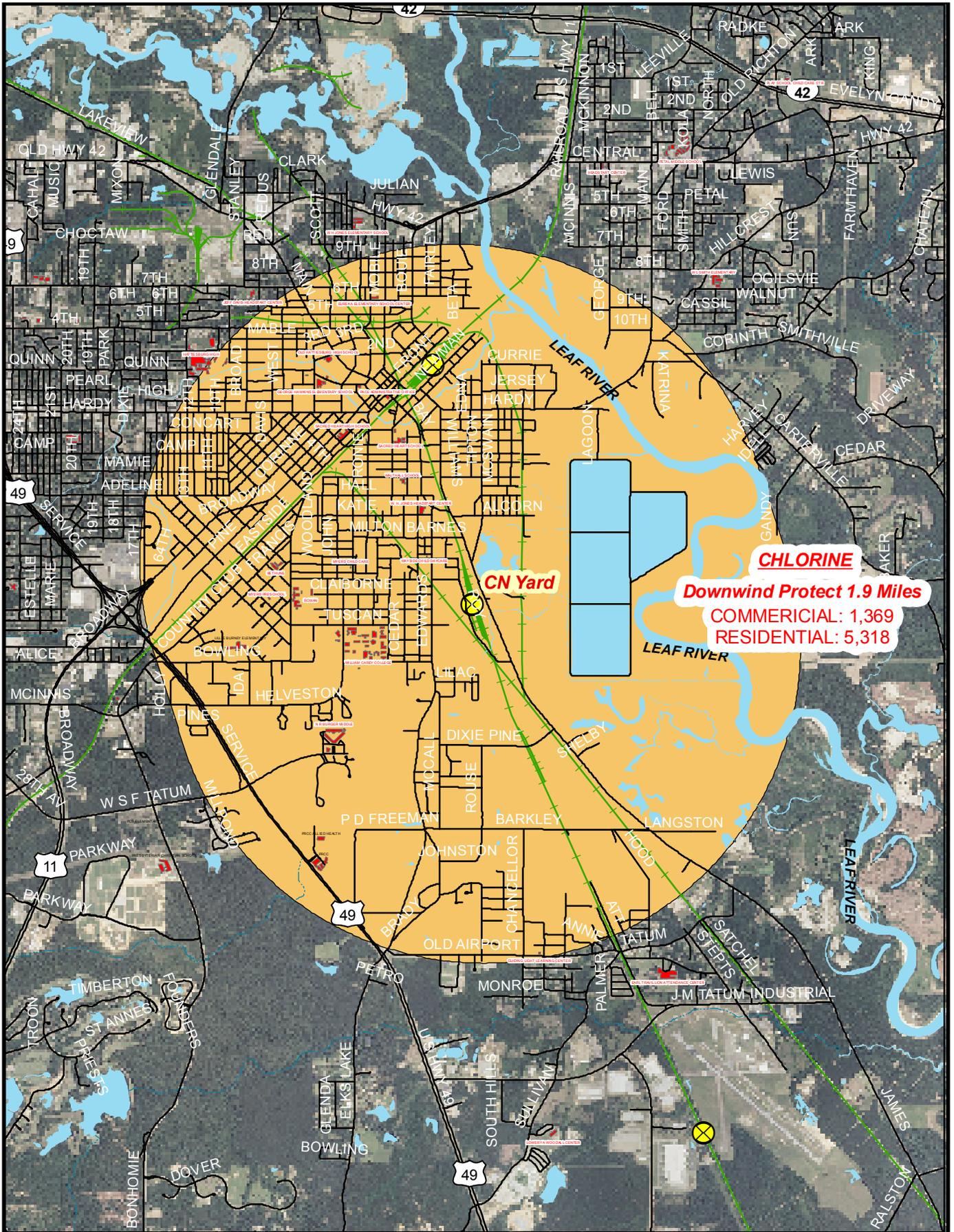
**CN YARD**  
**PROPANE / LPG**  
**FIRST ISOLATE 0.5 MILES**

Figure 5.12



**CN YARD  
 CHLORINE  
 FIRST ISOLATE 1,500'**

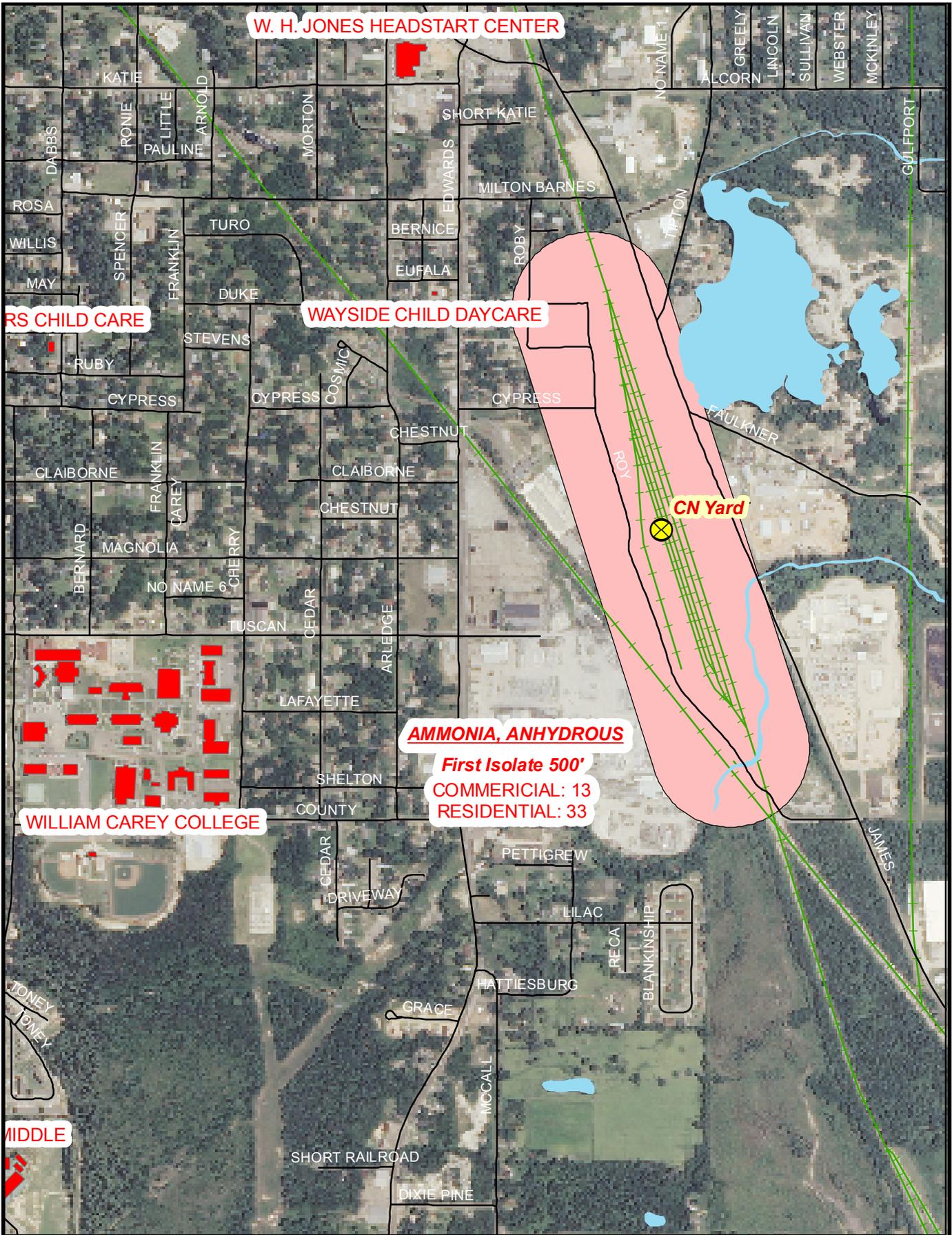
Figure 5.13



0 0.25 0.5 1 Miles

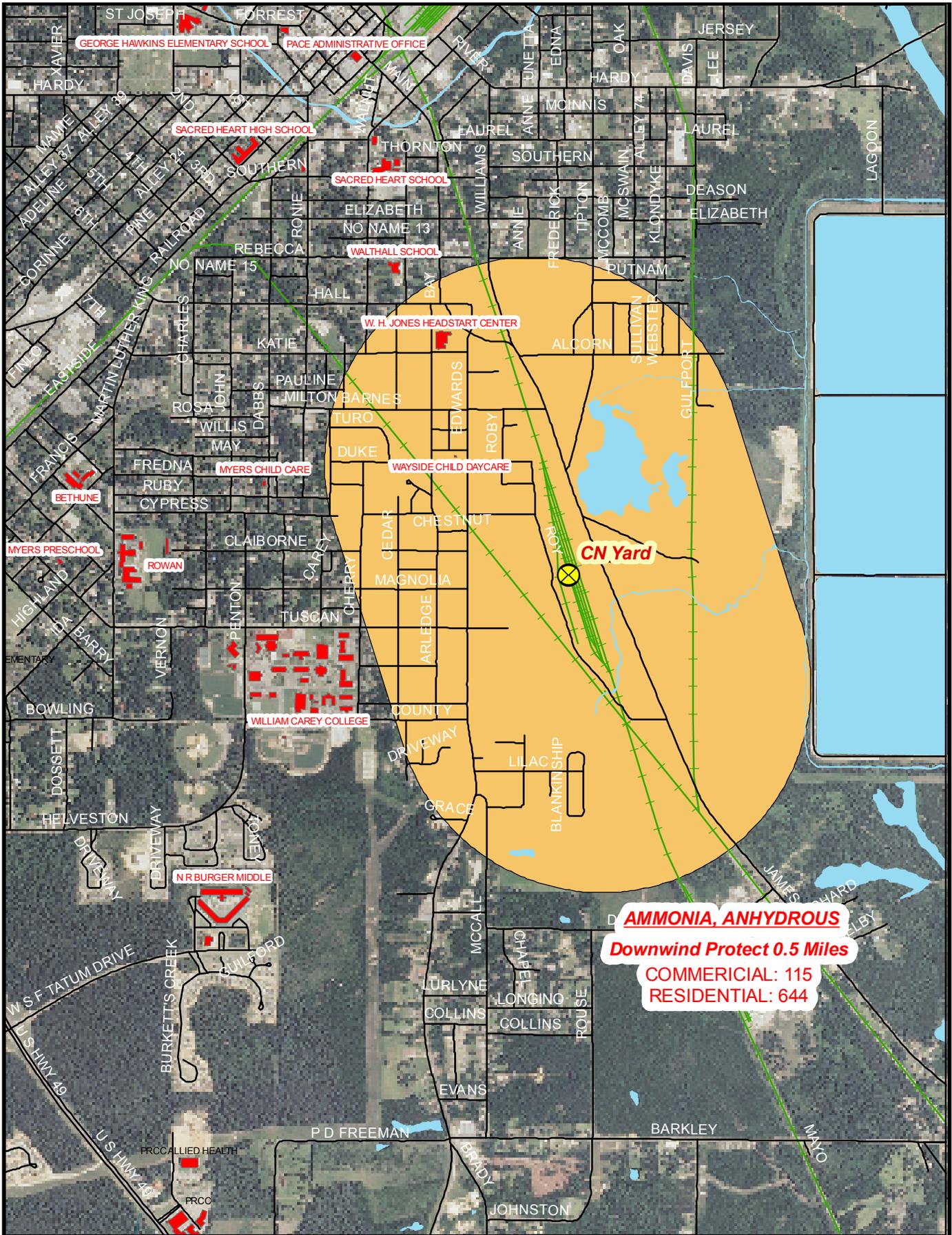
**CN YARD  
 CHLORINE  
 DOWNWIND PROTECT 1.9 MILES**

Figure 5.14



**CN YARD  
 AMMONIA, ANHYDROUS  
 FIRST ISOLATE 500'**

Figure 5.15



**AMMONIA, ANHYDROUS**  
**Downwind Protect 0.5 Miles**  
**COMMERCIAL: 115**  
**RESIDENTIAL: 644**

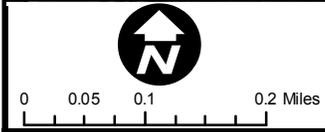
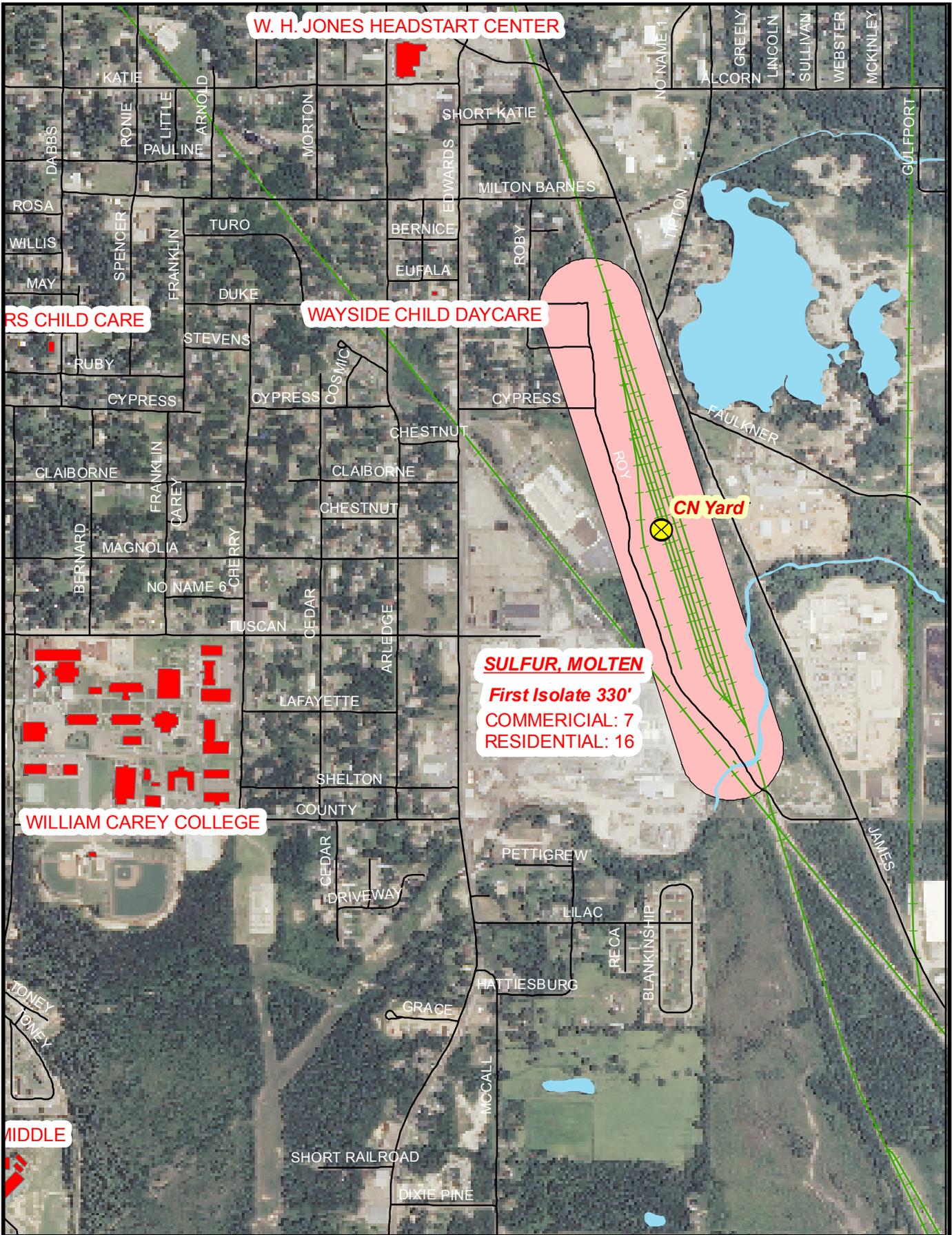


0 0.1 0.2 0.4 Miles

**CN YARD**  
**AMMONIA, ANHYDROUS**  
**DOWNWIND PROTECT 0.5 MILES**

Figure 5.16



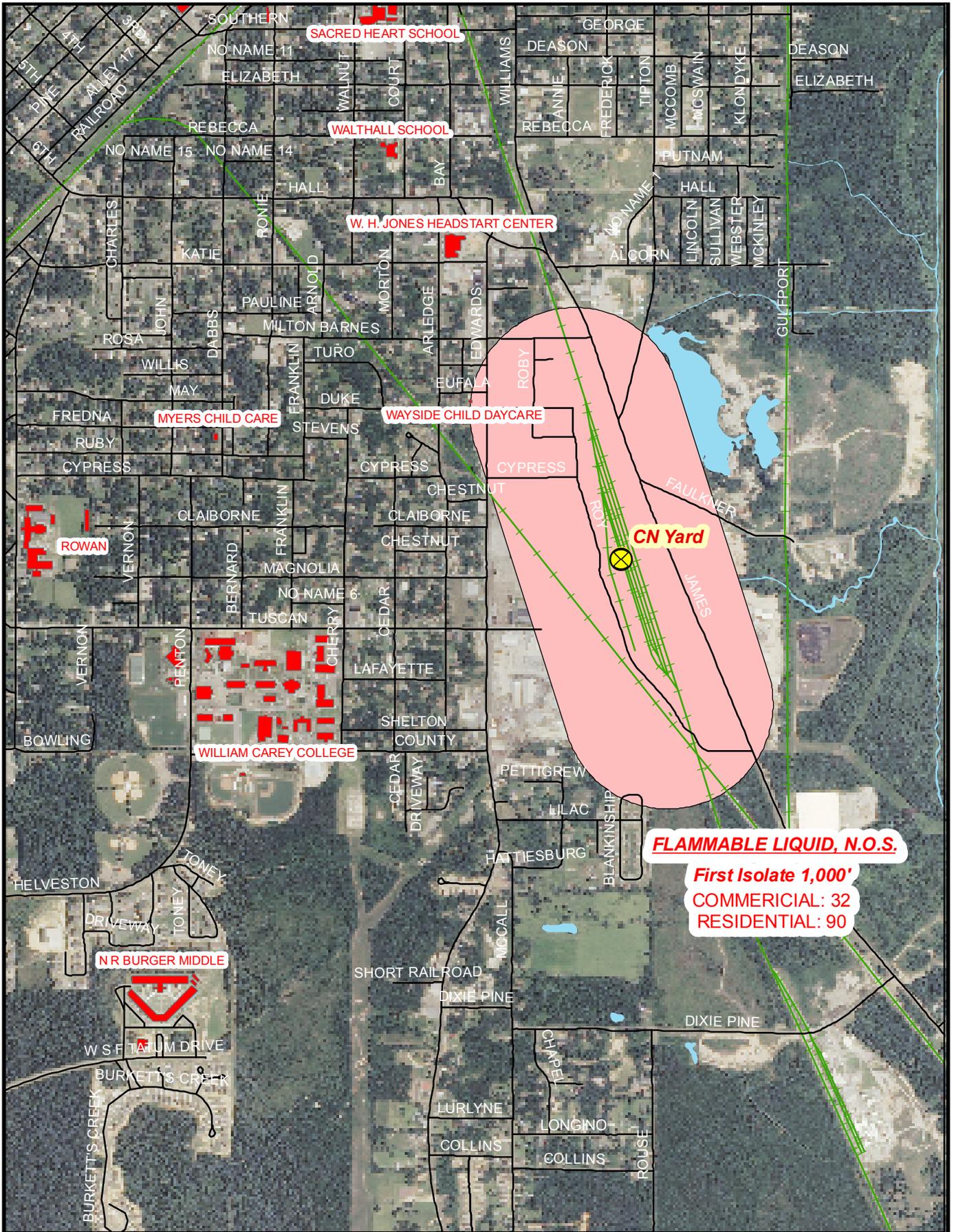


**CN YARD**  
**SULFUR, MOLTEN**  
**FIRST ISOLATE 330'**

Figure 5.18







SACRED HEART SCHOOL

WALTHAM SCHOOL

W. H. JONES HEADSTART CENTER

MYERS CHILD CARE

WAYSIDE CHILD DAYCARE

ROWAN

CN Yard

WILLIAM CAREY COLLEGE

**FLAMMABLE LIQUID, N.O.S.**

**First Isolate 1,000'**

**COMMERCIAL: 32**

**RESIDENTIAL: 90**

N R BURGER MIDDLE

**CN YARD  
FLAMMABLE LIQUID, N.O.S.  
FIRST ISOLATE 1,000'**

Figure 5.21

## **5.4 Kansas City Southern**

Release scenarios have been developed for the areas identified as having a potential for experiencing a small or large release. The release scenarios are oriented towards typical operations and the release risk potential created by such.

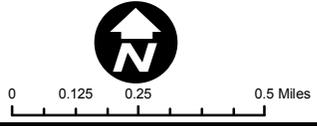
Specific release scenarios for the most frequent hazardous commodities that may be present at this facility are listed in the table below and illustrated in the following figures.

**TABLE 5.4  
COMMODITY RELEASE SCENARIOS**

<b>Commodity</b>	<b>Protection Action</b>	<b>Distance</b>	<b>Figure No.</b>
Chlorine	First Isolate	1500 ft	5.22
Chlorine	Down-Wind Protect	1.9 miles	5.23
Sodium Hydroxide, Solution	First Isolate	150 ft	5.24

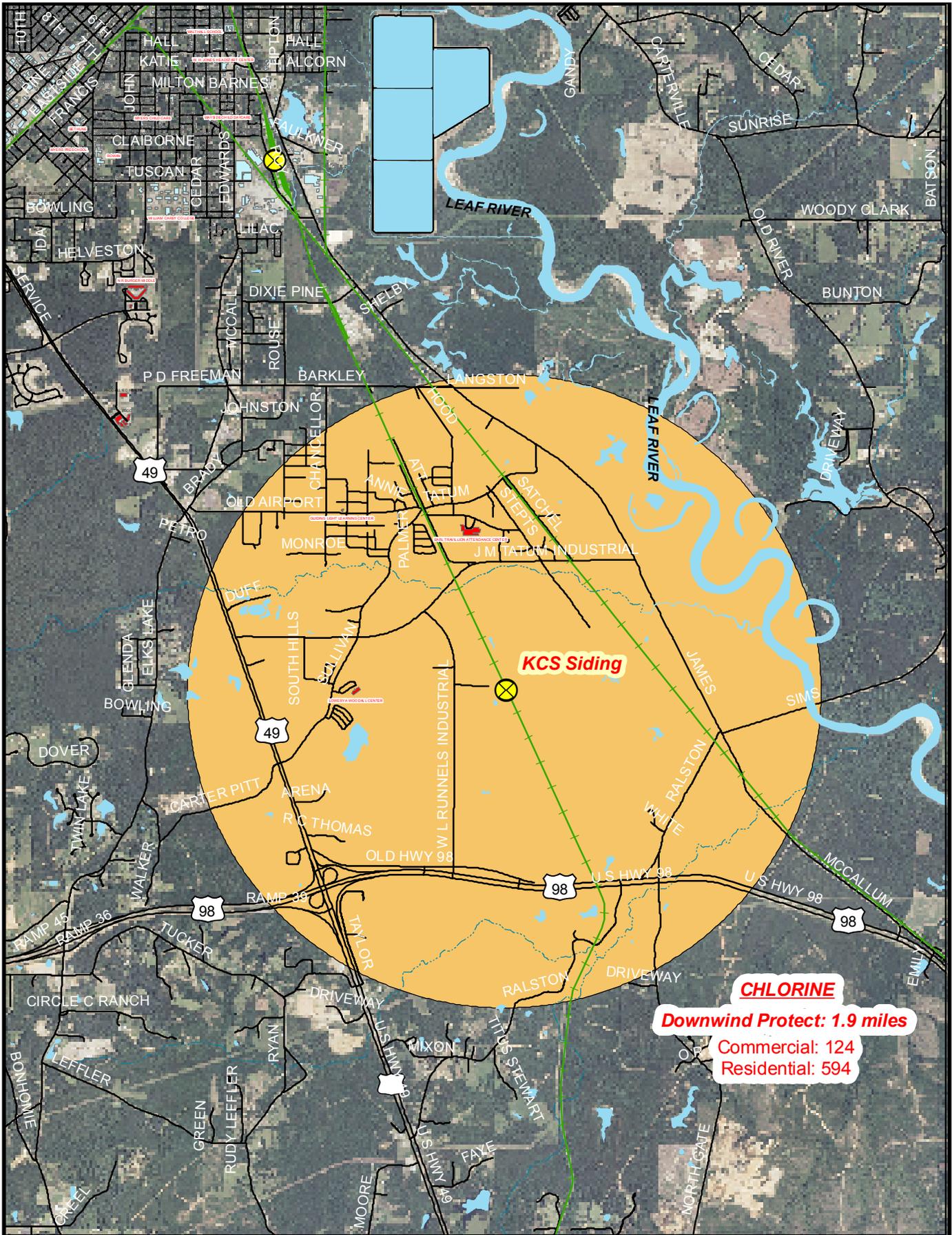


**CHLORINE**  
**First Isolate: 1,500'**  
 Commercial: 6  
 Residential: 0



**KCS  
 CHLORINE  
 FIRST ISOLATE 1,500'**

Figure 5.22



0 0.25 0.5 1 Miles

**KCS  
CHLORINE  
DOWNWIND PROTECT 1.9 MILES**

Figure 5.23



## **SECTION 6: RELEASE DETECTION SYSTEMS**

This section provides a detailed description of the procedures and equipment used to detect releases. Release detection by personnel is included for regular operations and after-hours operations.

### **6.1 Norfolk Southern – Dragon Siding**

#### **6.1.1 Release Detection by Personnel**

The railroad personnel at this rail yard do not have the capability, outside of visual inspection, for detecting the release of any Hazardous Commodity transported through or staged here temporarily.

#### **6.1.2 Automated Release Detection Available**

This rail yard is not equipped with any equipment capable of automatically detecting the release of any Hazardous Commodity transported through or staged here temporarily.

#### **6.1.3 Monitoring**

In the event of a release of a Hazardous Commodity or Toxic Inhalation Substance (TIH), the owner of this rail yard will contact Forrest County EMA such that a pre-designated contractor to begin evaluating the release impact area and onsite detection of the actual concentrations near the source and in the surrounding community. It may take some time for the Contractor to respond to the site but they may be able to provide release estimates based on remote plume dispersion modeling.

## **6.2 Norfolk Southern**

### **6.2.1 Release Detection by Personnel**

The railroad personnel at this rail yard do not have the capability, outside of visual inspection, for detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.2.2 Automated Release Detection Available**

This rail yard is not equipped with any equipment capable of automatically detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.2.3 Monitoring**

In the event of a release of a Hazardous Commodity or Toxic Inhalation Substance (TIH), the owner of this rail yard will contact Forrest County EMA such that a pre-designated contractor to begin evaluating the release impact area and onsite detection of the actual concentrations near the source and in the surrounding community. It may take some time for the Contractor to respond to the site but they may be able to provide release estimates based on remote plume dispersion modeling.

## **6.3 Canadian National**

### **6.3.1 Release Detection by Personnel**

The railroad personnel at this rail yard do not have the capability, outside of visual inspection, for detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.3.2 Automated Release Detection Available**

This rail yard is not equipped with any equipment capable of automatically detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.3.3 Monitoring**

In the event of a release of a Hazardous Commodity or Toxic Inhalation Substance (TIH), the owner of this rail yard will contact Forrest County EMA such that a pre-designated contractor to begin evaluating the release impact area and onsite detection of the actual concentrations near the source and in the surrounding community. It may take some time for the Contractor to respond to the site but they may be able to provide release estimates based on remote plume dispersion modeling.

## **6.4 Kansas City Southern**

### **6.4.1 Release Detection by Personnel**

The railroad personnel at this rail yard do not have the capability, outside of visual inspection, for detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.4.2 Automated Release Detection Available**

This rail yard is not equipped with any equipment capable of automatically detecting the release of any Hazardous Commodity transported through or staged here temporarily.

### **6.4.3 Monitoring**

In the event of a release of a Hazardous Commodity or Toxic Inhalation Substance (TIH), the owner of this rail yard will contact Forrest County EMA such that a pre-designated contractor to begin evaluating the release impact area and onsite detection of the actual concentrations near the source and in the surrounding community. It may take some time for the Contractor to respond to the site but they may be able to provide release estimates based on remote plume dispersion modeling.

## **SECTION 7: PLAN IMPLEMENTATION**

### **7.1 General Response Operations**

The purpose of this section is to describe response actions to be taken to ensure the safety of the First Responders and to protect against releases described in Section 5.0 - "Release Scenarios". Once a release is reported/detected the following steps as referenced in the 2012 Emergency Response Guide Book should be taken:

#### **RESIST RUSHING IN!**

#### **APPROACH CAUTIOUSLY FROM UPWIND, UPHILL OR UPSTREAM:**

- Stay clear of *Vapor, Fumes, Smoke and Spills*
- Keep vehicle at a safe distance from the scene

#### **SECURE THE SCENE:**

- Isolate the area and protect yourself and others

#### **IDENTIFY THE HAZARDS USING ANY OF THE FOLLOWING:**

- Placards
- Container labels
- Shipping documents
- Rail Car and Road Trailer Identification Chart
- Material Safety Data Sheets (MSDS)
- Knowledge of persons on scene
- Consult applicable guide page

#### **ASSESS THE SITUATION:**

- Is there a fire, a spill or a leak?
- What are the weather conditions?
- What is the terrain like?
- Who/what is at risk: people, property or the environment?
- What actions should be taken – evacuation, shelter in-place or dike?
- What resources (human and equipment) are required?
- What can be done immediately?

#### **OBTAIN HELP:**

- Advise your headquarters to notify responsible agencies and call for assistance from qualified personnel

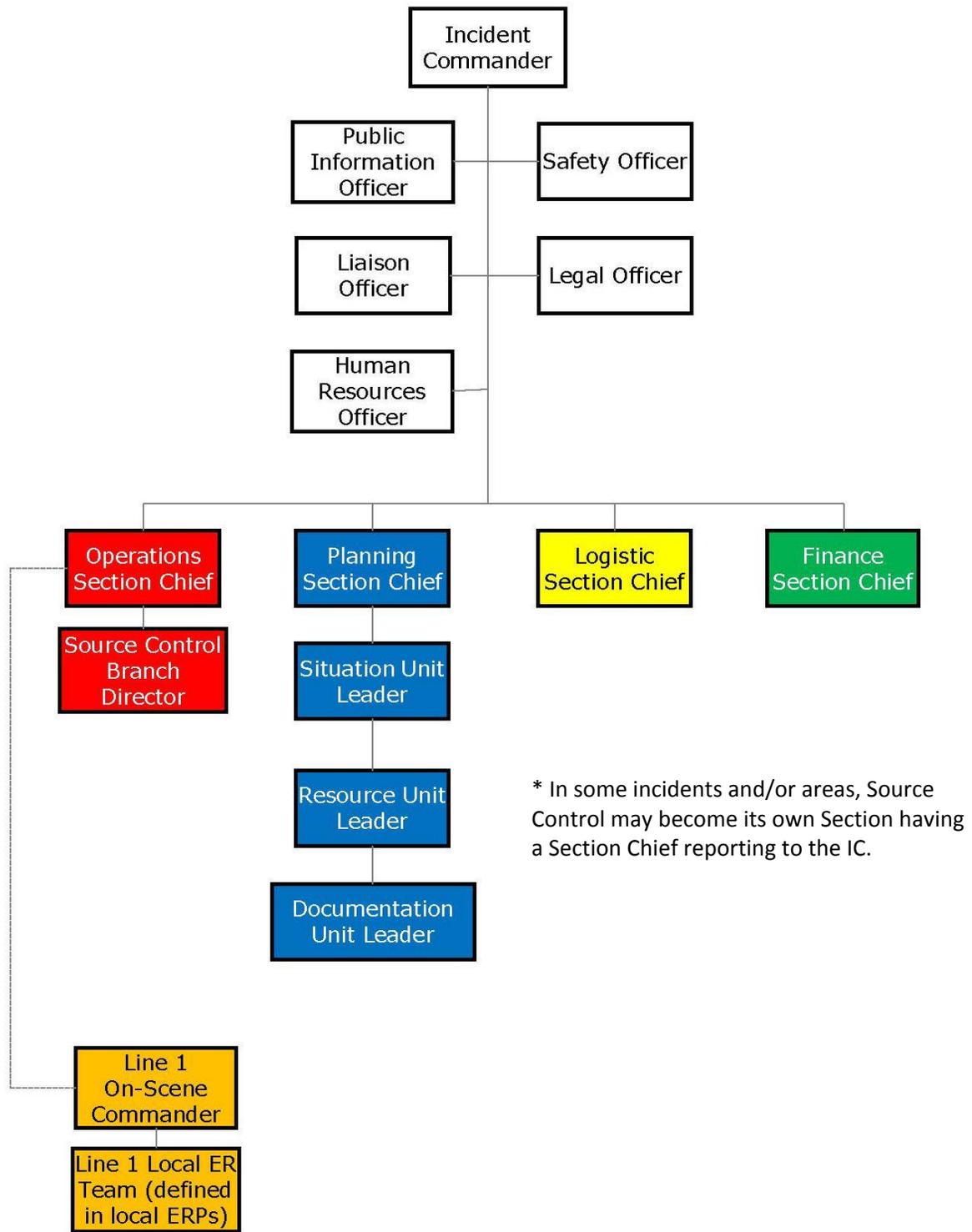
#### **RESPOND:**

- Enter only when wearing appropriate protective gear
- Rescue attempts and protecting property must be weighed against you becoming part of the problem
- Establish a command post and lines of communication
- Continually reassess the situation and modify response accordingly
- Consider safety of people in the immediate area first, including your own safety

**ABOVE ALL:** Do not assume that gases or vapors are harmless because of lack of a smell—odorless gases or vapors may be harmful. Use **CAUTION** when handling empty containers because they may still present hazards until they are cleaned and purged of all residues.

The Forrest County response team structure is patterned after the NIMS Incident Command System. As defined, this system is highly flexible, capable of being adapted to the complexity or simplicity of the response action. The Forrest County EMA will determine the IC and is responsible for implementing the ICS system and expanding or contracting it as they deem appropriate.

The following chart is a guide for the development of an ICS structure.



**Figure 7.1 – ICS Structure**

The ICS is developed from the top down and is headed by the Incident Commander (IC). There are nine functional positions which report to the IC. Until the IC assigns individuals to each of these positions, the IC has functional responsibility for all unassigned positions. The IC can request the Forrest County Emergency Management Support Staff to fill any of the ICS positions as needed.

**All ICS personnel have the following Common Responsibilities:**

- Receive assignment, notification, reporting location, reporting time, and travel instructions from supervisor,
- Upon arrival at the incident, check in at the designated check-in location, generally at the Incident Command Post,
- Participate in incident planning meetings,
- Use clear text and ICS terminology in all radio transmissions,
- Identify the incident by name in all radio communications,
- Receive briefing from immediate supervisor,
- Acquire work assignments and materials,
- Organize, assign and brief subordinates,
- Determine resource needs,
- Develop and implement accountability, safety, and security for personnel and resources,
- Complete forms and paperwork required of the position, including lists of supplies to be replenished,
- Ensure continuity by using in/out briefings,
- Respond to demobilize orders, and
- Brief subordinates regarding demobilization orders.

The span of control is determined by the number of people reporting to one person. ICS disciplines each member to:

- Limit the span of control to a manageable number of individuals,
- Train and prepare for exceptions, and
- Assign an area of functional responsibility to another person as needed to maintain control.

Modular development enables on-scene ICS members to make decisions about expanding the ICS based on the specific requirements of the incident. Staffing of the structure can consist of one to hundreds of individuals depending upon the magnitude of the incident and the resources required to manage it.

Common Terminology ICS is a widely accepted and used emergency response process. During an emergency, response personnel may include company personnel from other locations, contractors, and governmental agencies. Forrest County EMA requires the use of ICS terminology to help maintain consistency of communication. An ICS team is disbanded by the IC once the incident is resolved.

## **Unified Command**

A unified command will be established during an incident anytime agency representatives are present. When governmental agencies have jurisdiction in managing an incident, a unified command may be established as follows:

- The Forrest County EMA Incident Commander, and
- One designated individual from each jurisdictional response agency.

An integrated command occurs when personnel from the responsible party and participating agencies staff one or more ICS sections below the Incident Commander. This is not a subset of unified command or decision by consensus, but rather one chief per section with assigned roles within that section.

After each hazardous commodity release event where the Facility Response Plan (FRP) is implemented, a post-incident analysis will be conducted to evaluate the FRP's effectiveness and identify plan, resource, and response deficiencies. Forrest County EMA will conduct the post-incident analysis.

All plan, resource, and training deficiencies identified shall be reported to the Forrest County EMA management team and at least one team member from an independent consulting firm, along with a corrective action plan for resolving the identified problems. The owner should monitor corrective action plan progress until final resolution. Forrest County EMA is responsible for correcting FRP deficiencies within 30 days of the corrective action plan publication date.

### **7.1.1 Incident Command Plan**

The FIELD SUPERVISOR on call is the QUALIFIED INDIVIDUAL or Incident Commander. The Incident Commander oversees the entire operation. The IC sets objectives and priorities and has responsibility for the entire operation. All operational groups within the ICS report to the IC/QI. The IC/QI or designee coordinates with Federal OSC and others. All other ICS functions, as appropriate to the response, report directly to the IC/QI.

#### ***Incident Commander***

The Incident Commander is responsible for:

- Implementing overall management of the incident to protect personnel, the public, and the environment,
- Assessing the situation and/or obtaining briefing from the prior Incident Commander,
- Determine incident objectives and strategies,
- Establish priorities,
- Establish incident command post,
- Establish the appropriate organization,
- Approve and authorize implementation of an Incident Action Plan,
- Ensure adequate safety measures are in place,
- Ensuring that responders are qualified to perform the tasks assigned,

- Coordinate activity of all command and general staff,
- Activating Local Response Team and when required, the Railroad Support Staff,
- Coordinate with key stakeholders and officials through the Liaison Officer,
- Approve requests for additional resources or for the release of resources,
- Keep agencies informed about incident,
- Coordinate incident investigation responsibilities,
- Order demobilization of incident resources when appropriate, and
- Report directly to the Forrest County EMA.

### ***Safety Officer***

The Safety Officer is responsible for monitoring and assessing hazardous and unsafe situations and developing measures to assure personnel safety. The Safety Officer will correct unsafe acts or conditions through the regular line of authority, although the Safety Officer may exercise emergency authority to prevent or stop unsafe acts when immediate action is required. The Safety Officer maintains awareness of active and developing situations, ensures the Site Safety and Health Plan is prepared and implemented, and includes safety messages in each Incident Action Plan. Only one Safety Officer will be assigned for each incident. The Safety Officer may have assistants, as necessary. In addition to the common duties described above, the Safety Officer duties include:

- Monitor and assess hazardous and unsafe conditions,
- Develop and implement measures that assure personnel safety,
- Coordinate the preparation of the site safety plan,
- Make recommendations for personal protective equipment, control zones and decontamination area,
- Exercise authority to stop or prevent unsafe acts,
- Investigate accidents that occur in the incident area,
- Ensure preparation of the Site Safety and Health Plan, and
- Assign assistants and manage the incident safety organization.

### ***Information Officer***

The Information Officer is responsible for organizing and managing all public affairs activities associated with emergency response operations. In addition to the common duties described above, the Information Officer duties include:

- Organize and manage all media-related activities,
- Serve as principal advisor to Incident Commander on all matters relating to external communications and interactions with the media,
- Advise Incident Commander on public affairs impacts of an incident and emergency response operations,
- Prepare “If Asked” statements,
- Identify “public” audiences and their concerns,
- Develop proactive methods for addressing “public” concerns,
- Press releases and press briefings,
- Press conferences and town hall meetings,

- One-on-one interviews,
- Tours,
- Obtain necessary approvals from Incident Commander prior to the release of information to the public,
- Provide Planning Section Chief or Situation Unit with information on scheduled press briefings and conferences for posting in Information Center,
- Work with government agency Public Affairs personnel to coordinate statements to the public,
- Establish a Joint Information Center (JIC), if appropriate,
- Prepare Incident Commander for interactions with media, and
- Monitor press reports.

### ***Liaison Officer***

The Liaison Officer is responsible for interfacing with and reporting to the appropriate regulatory agencies, stakeholders affected by the incident after conferring with the Incident Commander or his designee. The Liaison Officer is also responsible for assisting and cooperating with outside non-response regulatory agencies such as Red Cross, water departments, environmental agencies, etc., to disseminate or receive needed information. The Liaison Officer provides notification and updates internally as well as seeking legal advice in support of response activities. Any press interviews or press releases will be coordinated through the Liaison Officer. Only one Liaison Officer will be assigned for each incident. In addition to the common duties described above, the Liaison Officer duties include:

- Ensure incident funding is available (Forrest County EMA management has stated its commitment to provide funding for all incidents through completion)
- Seek appropriate legal counsel
- Act as the point of contact for the incident
- Report incident and provide updates as needed to appropriate regulatory agencies
- Authorize release of information to the news media or other interested parties
- Arrange field tours and briefings as may be necessary
- Maintain current information summaries of the incident
- Update management as to the status of the incident.

### ***Operations Section Chief***

The Operations Section Chief is responsible for managing all operations directly applicable to incident response and clean-up. The Operations Section Chief activates and supervises elements in accordance with the Incident Action Plan and directs its execution; activates and executes the Site Safety and Health Plan; directs the preparation of unit operational plans as needed; requests or releases resources; makes expedient changes to the Incident Action Plan as necessary; and reports such to the Incident Commander. The Operations Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises the personnel required to accomplish Operation Section tasks. In addition to the common duties described above, the Operations Section Chief duties include:

- Develop operation portion of Incident Action Plan (IAP)
- Brief and assign operations personnel

- Supervise execution of the IAP
- Request resources needed to implement IAP
- Release unneeded resources
- Ensure safe operations
- Make changes as needed to the Plan
- Report information about changes to the IAP, special activities, events and occurrences to Incident Commander as well as the Planning Section Chief and Liaison Officer

### ***Planning Section Chief***

The Planning Section Chief is responsible for collecting, evaluating, disseminating, and using information about the incident to: (1) understand the current situation (2) predict probable course of incident events, and (3) prepare alternative strategies for the incident. The Planning Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises the personnel required to accomplish Planning Section tasks. In addition to the common duties described above, the Planning Section Chief duties include:

- Collect, evaluate, disseminate, and use information related to the development of the incident
- Assist in creation of the Incident Action Plan
- Maintain the status of resources available to handle the incident
- Obtain information needed to resolve the situation
- Prepare alternative response strategies to handle the situation
- Determine the need for specialized resources to support the incident
- Assign technical specialists as needed
- Advise Incident Commander and Section Chiefs of significant changes in incident status

### ***Logistics Section Chief***

The Logistics Section Chief is responsible for providing facilities, services and material in support of the incident response. The Logistics Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises the personnel required to accomplish Logistics Section tasks. In addition to the common duties described above, the Logistics Section Chief duties include:

- Identify service and support requirements for planning and expected operations
- Coordinate and process requests for additional resources
- Advise on current service and support capabilities
- Estimate future service and support requirements
- Provide input into demobilization plans
- Ensure general welfare and safety of Logistics Personnel

### ***Finance/Administration Section***

The Finance/Administration Section is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section. Within Forrest County EMA separate individuals manage these responsibilities. In addition to the common duties described above, the Finance/Administration Section duties include:

- Determine resource needs

- Ensure that financial authorities are identified
- Maintain contact with administration headquarters on finance matters
- Establish lines of credit at local banks
- Keep records of time sheets for contract as well as company personnel
- Track costs and resources
- Ensure that all obligation documents initiated at the incident are properly prepared and completed
- Ensure all insurance claims documents initiated at the incident are properly prepared and completed

### **Roles and Responsibilities of the FORREST COUNTY EMA Support Staff**

The purpose of the Forrest County EMA is to manage off-site issues associated with emergencies whenever there is a Forrest County EMA incident or event for which the IC requests their assistance. The Forrest County EMA will activate any of the support staff as requested by the IC and as dictated by the complexity of the event. One person may occupy more than one of the Support Staff positions.

#### **7.1.2 General Response Objectives**

The following are typical response objectives and can be used for hazardous commodity releases:

- Ensure the safety of citizens and response personnel.
- Manage a coordinated response effort.
- Maximize protection of environmentally sensitive areas including wildlife and historic properties.
- If possible to do so safely, control the source of the release.
- If possible to do so safely, contain and recover released material.
- Recover and rehabilitate injured wildlife.
- Remove released material from impacted areas.
- Minimize economic impact.
- Keep stakeholders informed of response activities.
- Keep the public informed of response activities.

The first priority in any hazardous release is always the protection of human life and health. This priority remains paramount throughout all phases of the response effort. Maximum human protection from a hazardous release at Forrest County EMA is achieved by timely evacuation (if required), effective containment to areas away from inhabited residences and workplaces, and prompt cleanup.

The next priority is to protect natural resources and minimize ecological impacts. At the Forrest County EMA, the primary effort is to contain the hazardous release and prevent its escape into the nearby waterways.

The third priority is to minimize economic and public impact. Actions taken to achieve the first two priorities above, will also achieve this goal. The most effective immediate action to

minimize public impact is by keeping the hazardous release material from reaching beyond the site boundaries and to contain it if it does.

### **7.1.3 General Railroad Emergency Release Response Actions**



[Click here to access the Norfolk Southern Yard Emergency Response Plan for the Hattiesburg site.](#)



[Click here to access the CN Emergency Action Plan for the Hattiesburg site.](#)

The KCS site does not consist of a staffed fixed facility operation and is only main line train operation. Therefore, there is no specific local emergency plan for this site and train crews are to operate under the KCS hazmat instruction to guide them through hazmat emergencies.

## **7.2 Response Resources for Level I and Level II Incidents**

This section identifies the necessary response actions that should be taken to respond safely and effectively to a Level I (small release) or Level II (large release) Incident. Persons discovering the release are responsible for providing initial actions without undue risk of injury. **All releases should be immediately reported to the Forrest County EMA 24-Hour Hotline at (601) 545-4910 or 911** which can dispatch the Fire Department and/or HAZMAT Response Team. Personnel from Forrest County EMA should perform initial response actions, including application of available release response equipment.

All members of the HAZMAT Response Team are sufficiently trained to utilize their response equipment, including the execution of drills and exercises (see Section 8, *Self-Inspection, Drills/Exercise, and Response Training*).

**TABLE 7.2  
FORREST CO EMA LEVELS OF RESPONSE**

<b>Level</b>	<b>Description</b>	<b>Response Organizations</b>
I	An incident that can be controlled, cleaned-up, and disposed of by local emergency response organizations. The incident is confined to a small area. Only evacuation of the immediate area is required.	<ul style="list-style-type: none"> <li>• Forrest County EMA</li> <li>• Hattiesburg Fire Department</li> <li>• Hattiesburg Police Department</li> </ul>
II	An incident beyond the using organization's capabilities to respond involving a greater hazard or larger area which could be a potential threat to life or property and may require a limited evacuation of the surrounding area.	<ul style="list-style-type: none"> <li>• Forrest County EMA</li> <li>• Hattiesburg Fire Department</li> <li>• Hattiesburg Police Department</li> <li>• County Mutual Aid Departments</li> <li>• State and Federal Departments</li> </ul>

### 7.2.1 Level I

The following actions should be conducted in the event of a Level I (small release) Incident to confine and contain the release to the smallest area possible, if these control functions can be accomplished safely.

- Notification of the Forrest County EMA 24-Hour Hotline (601) 545-4910.
- Wear the appropriate protective equipment.
- Block all storm drains and sanitary drains to prevent release to surface waters or soil.
- Prevent further leakage by repositioning the container, if exposure to personnel or the environment will not result.
- Control the release by trenching or encircling the area with a dike of sand, absorbent material, or, as a last resort, soil or rags.
- Contain the area and release material. If the release is liquid, use an absorbent material. If the release is a dry material, use polyethylene or plastic tarpaulin and secure. **Note:** Use absorbent materials sparingly as they may require disposal as hazardous waste.
- Recover the contaminated material: For liquid releases, work the absorbent into the release using a broom or other tool. Collect and place the contaminated material into properly labeled leak proof containers. For dry materials, roll up the tarp while carefully sweeping up the released materials. Ensure the appropriate respiration equipment is used. Collect the materials and place them in heavy-duty plastic bags. Properly secure and label the bags and set aside for disposal.

### 7.2.2 Level II

Initial on-scene command decision, based upon size-up or initial release reported to Forrest County EMA, will determine activation of Level II. A representative from Forrest County EMA will contact the Hattiesburg Fire Department, the Corporate Release Response team, and emergency contractors as needed (listed in Table 3.1) to respond and provide emergency response and clean-up resources.

Response to a Level II Incident (large release) would require assistance from multiple contractor response units, and potentially, local or contacted mutual aid organizations. Contacting 911 with a description and details of the release will allow the emergency operator to contact all necessary County personnel to assist with emergency response.

A Level II Incident could consist of a catastrophic tank release and/or failure of the secondary containment. In the event of a Level II Incident, Forrest County EMA and contractors will respond with the necessary equipment to assess, contain, and control the impact of such releases.

United States Environmental Services (USES) is under agreement with the rail yards to respond to a release, should Forrest County EMA request their assistance. They can be on site in 1 hour with manpower and equipment. **USES's 24-Hour Emergency Number is 1-888-279-9930.** All other contractors and all equipment can be anywhere within the Forrest County EMA operating area within 12 hours and can be accessed for release response as needed.

Response efforts would include:

- Notification of the Forrest County EMA 24-Hour Hotline (601) 545-4910.
- Initiation of the Incident Command System (ICS) to allow the site to work with federal, state, and local response agencies that use the ICS, and allow for the integration of contractor resources.
- Activation by the initial IC of the FCFRP, necessary contractors, and mutual aid organizations.
- Immediate notification of appropriate state and federal response agencies.
- Mitigation of potential fire hazards, utilizing mutual aid organizations, and contractors.
- Notification of the Forrest County EMA.
- Coordination of all recovery and decontamination activities.
- Provision of adequate disposal containers for release residue and contaminated soils.
- Implementation of monitoring program to detect additional releases or contamination.
- Scheduling for maintenance, repair, and restocking of equipment used during the response.
- Submittal of appropriate state, federal, and military reports.

Response equipment listed in Section 3.2 is located at the USES Jackson Office and can be readily accessed for all sizes of hazardous releases for initial response. Section 3.1 of this plan lists emergency response personnel that can be contacted to respond. Sufficient numbers of personnel are available with required training to operate the required response equipment.

### **7.2.3 Plan Implementation and Response Training**

The actions described in this plan and the required training necessary to carry out the response actions should be implemented as specified in Section 8 of this plan.

## **SECTION 8: Self Inspection, Drills/Exercises, and Response Training**

### **8.1 Self-Inspection**

Emergency Response self-inspection requires two steps: (1) a checklist of items to inspect; and (2) a method of recording the actual inspection and its findings. The date of each inspection must be noted. These records should be maintained for 5 years.

#### **8.1.1 Periodic Inspection Protocol**

In addition to informal visual assessments performed prior to each use, response personnel will formally inspect vehicles and related equipment. The form depicted on the following page outlines the key items and parameters to be checked.

#### **8.1.2 Response Equipment Inspection**

Release response equipment and materials maintained by Forrest County agencies and USES are maintained at appropriate levels for response, and replenished, as necessary. All equipment is inspected prior to use.

See following pages for typical forms content. Alternatively, one complete inventory checklist depicting equipment, materials, and condition may be used instead of individual forms.

**TABLE 8.1.2A  
RESPONSE EQUIPMENT INSPECTION CHECKLIST AND LOG**

**Inventory Item: Vehicles/Heavy Equipment**

Quantity on-Hand:	
Short-fall from Plan Quantity:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Storage Location:	
Accessibility: [Time to Access and Respond]	
Operational Status:	<input type="checkbox"/> Operational <input type="checkbox"/> Non-Operational
Condition:	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
Use Status:	Date of Last Use: Date of Last Test: Test Frequency:
Required Inspection Frequency:	
Shelf Life:	Present age: Expected Replacement Date: Date Oil Last Changed:
Comments:	
Inspector:	Name:
	Rank/Rate/Code

**TABLE 8.1.2B  
RESPONSE EQUIPMENT INSPECTION CHECKLIST AND LOG**

**Inventory Item: Communications Equipment**

Quantity on-Hand:	
Short-fall from Plan Quantity:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Storage Location:	
Accessibility: [Time to Access and Respond]	
Operational Status:	<input type="checkbox"/> Operational <input type="checkbox"/> Non-Operational
Condition:	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor
Use Status:	Date of Last Use:  Date of Last Test:  Test Frequency:
Required Inspection Frequency:	
Shelf Life:	Present age:  Expected Replacement Date:
Comments:	
Inspector:	Name:
	Rank/Rate/Code
Signature:	Date of Inspection:

## **8.2 Forrest Co EMA Drills/Exercises**

Forrest County EMA participates in their own yearly drills with the employees of their agency and supporting agencies and organizations.

See following page for form.

**TABLE 8.2  
FORREST CO EMA DRILLS/EXERCISES**

<b>Date</b>	
<b>Company</b>	
<b>Emergency Scenario</b>	
<b>Evaluation</b>	
<b>Changes to be Implemented</b>	
<b>Time Table of Implements</b>	

## **8.3 Response Training**

Personnel employed at facilities that transfer or store products classified as hazardous substances (HS) by the Occupational Safety and Health Administration (OSHA), must comply with HAZWOPER regulations.

Workers with limited response roles should be trained to protect their health and to perform their normal duties in a safe manner. They must also be trained to conduct the proper notifications to the NRC and to immediately intervene to mitigate a release once it has occurred.

### **8.3.1 Personnel Training**

The supervisor should ensure that site release clean up team personnel are all properly trained. At a minimum, personnel should be trained to the hazardous material technician level found in 29 CFR 1910.120 (q) (iii). This level of training would also allow them to meet the criteria for post-emergency response operations as outlined in 29 CFR 1910.120(q)(11) for post-emergency recovery operations on facility property. All release clean up personnel should receive an initial training session and annual refresher training. New employees should not participate in emergency response activities until they have been properly trained. At least quarterly, the supervisor should conduct safety sessions that cover the hazard and response elements of the facility response plan.

The supervisor may use a contracted training organization to meet these requirements. If used, the supervisor will ensure that the contracted training organization's instructors are qualified to conduct the training according to 29 CFR 1910.120(q) (7). As part of the training, the contracted training organization should:

- Include a written examination at the end of their training session to demonstrate that the students have the knowledge requirements necessary to perform their roles during an hazardous release.
- Conduct an exercise to evaluate the proficiency of County personnel to implement their portion of the response plan.



**TABLE 8.3.1.1  
FACILITY RESPONSE PERSONNEL TRAINING REQUIREMENTS**

Type Of Responder	Applicable Personnel	Minimum Training Required
INCIDENT COMMANDER/ QUALIFIED INDIVIDUAL	IC and designated assistants	24-HR COURSE (includes material of "First Responder Operations Level" course) <b>AND</b> EMPLOYER-CERTIFIED COMPETENCY IN KEY KNOWLEDGE AND SKILLS
FIRST RESPONDER OPERATIONS LEVEL  (DEFENSIVE-RESPONSE-ONLY PERSONNEL; responders only qualified for containment and control)	Immediate Response Team members	8-HR COURSE <b>OR</b> EMPLOYER-CERTIFIED COMPETENCY IN KEY SUBJECTS (see 29 CFR 1910.120(q)(6)(ii))
FIRST RESPONDER AWARENESS LEVEL  (DISCOVERY-AND-REPORTING-ONLY PERSONNEL; anyone likely to discover a release and trained to report releases, but who takes no further action)	Building Emergency Coordinators and other personnel who routinely work with hazardous substances	BASIC TRAINING OR EXPERIENCE IN HAZARDOUS SUBSTANCES (to understand hazardous substance hazards, risks, possible damage; be able to report any releases appropriately; see 29 CFR 1910.120(q)(6)(i))
HAZARDOUS MATERIALS TECHNICIAN  (OFFENSIVE RESPONSE PERSONNEL; responders qualified to stop release at its source by plugging, patching)	Immediate Response Team members and Emergency Response/Cleanup Team members	24-HR COURSE (includes material of "First Responder Operations Level" course) <b>AND</b> EMPLOYER-CERTIFIED COMPETENCY IN KEY SUBJECTS (see 29 CFR 1910.120(q)(6)(iii))
HAZARDOUS MATERIALS SPECIALIST  (SENIOR OFFENSIVE RESPONSE PERSONNEL; responders qualified to do the work of the "Hazardous Materials Technician", but on a more specialized level, and to act as liaison with authorities)	Senior Immediate Response Team members	24-HR COURSE (same as "Hazardous Materials Technician" course) <b>AND</b> EMPLOYER-CERTIFIED COMPETENCY IN KEY SUBJECTS THAT EXTEND BEYOND TECHNICIAN LEVEL (see 29 CFR 1910.120(q)(6)(iv))
SPECIALIST EMPLOYEES  (HS-TRAINED SPECIALISTS IN SPECIFIC SUBSTANCES; employees who regularly work with SPECIFIC hazardous substances and who may provide advice or assistance during response)	As required for specific areas of the Activity	ANNUAL TRAINING <b>OR</b> ANNUAL DEMONSTRATION OF COMPETENCY (see 29 CFR 1910.120(q)(5))

OSHA establishes training by type of responder, not by course, e.g., Hazardous Materials Technicians and Specialists would take the same 24-hr course, but the Specialist must have more in-depth knowledge (presumably gained by experience or other training).

All personnel (except skilled support and specialist employees) must have ANNUAL refresher training or demonstration of competency (no minimum number of hours are stated) and a minimum for 40 hours of HAZWOPER training.

## **SECTION 9: Diagrams/Figures**

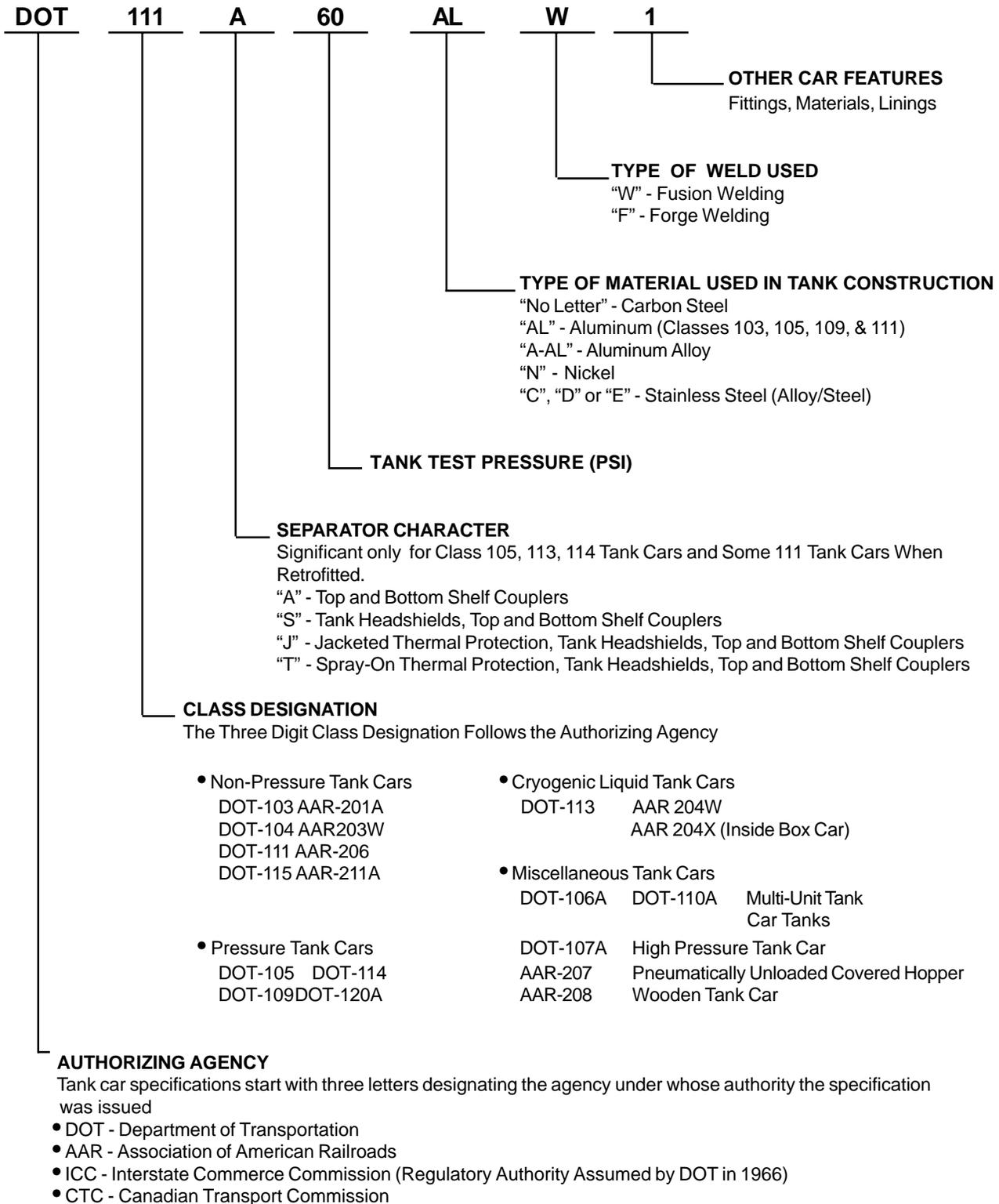
This section provides various diagrams and/or figures to aid in emergency response efforts, including rail car silhouettes, site and rail car photos, and other miscellaneous maps.



# **9.1 RAIL CAR SILHOUETTES**

SECTION 9: DIAGRAMS/FIGURES

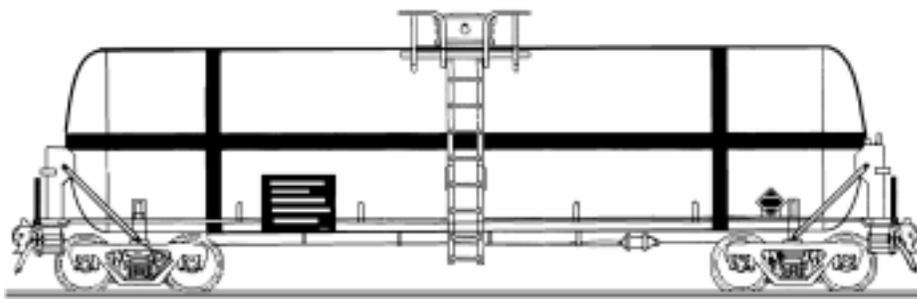
# Railroad Tank Car Marking System



# Pressure Cars

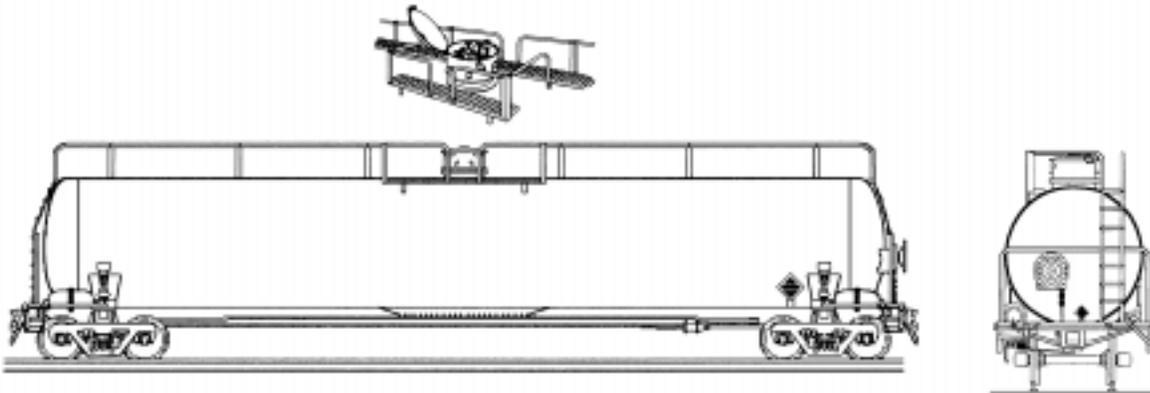
Pressure cars are used to transport hazardous materials under pressure or hazardous materials which the DOT or the shipper feel require the additional protection of a stronger car. The most common types of pressurized cars used in rail transportation are the DOT 105, 112 and 114. **Drawings of 105's and 112's can be found in this Appendix.** The DOT 114 is the same as the DOT 112 except that the 112 has bottom outlets and washouts. DOT Car Types 107 And 109 are also pressurized cars. DOT Types 106 and 110 pressurized, multi-unit tank cars are one-ton cylinders which can also be transported by highway. As a general rule, safety valves are set at a pressure to match vapor pressure of product at 105° F.

TANK DESCRIPTION	TYPICAL COMMODITIES TRANSPORTED (typical commodities only listed, there may be others)
<b>A-3 — Class 105</b>	
<b>DOT 105J100W</b> Thermal Protection. Head Protection. Safety Valves (75 psi).	Ethylene Oxide Liquefied Petroleum Gas Liquefied Hydrocarbon Gas
<b>DOT 105J200W</b> Thermal Protection. Head Protection. Safety Valve (150 psi).	Sulfur Dioxide Vinyl Chloride Liquefied Petroleum Gas
<b>DOT 105J300W</b> Thermal Protection. Head Protection. Safety Valve (225 psi).	Anhydrous Hydrofluoric Acid Anhydrous Ammonia Metallic Sodium Chlorine Liquefied Petroleum Gas Liquefied Hydrocarbon Gas Motor Fuel Anti-Knock Compound Vinyl Chloride
<b>DOT 105J400W</b> Thermal Protection. Head Protection. Safety Valve (300 psi).	Liquefied Petroleum Gas Liquefied Hydrocarbon Gas
<b>DOT 105A500W - Hydrogen Cyanide (Hydrocyanic Acid), HCN</b>	



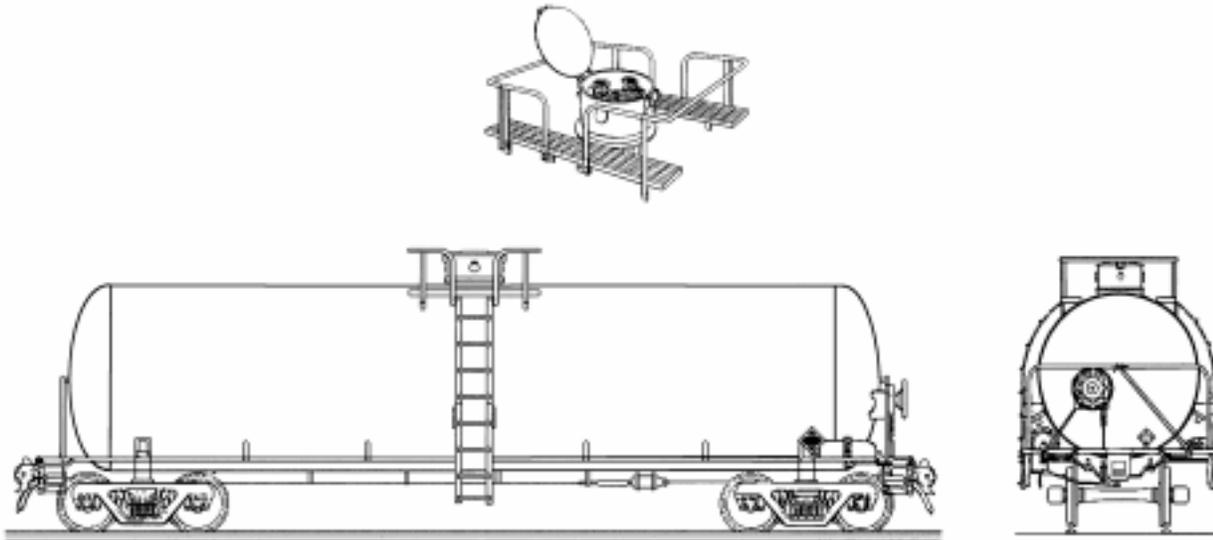
**B-END**

Hydrogen Cyanide is shipped in specially built cars. Pictured is a 105A500W 20,500-gallon capacity. Other cars used are the 105A600W and the 105J600W. For safety purposes, the cars may be stenciled as 300W, but have the higher-pressure safety valves. These cars have a 1-1/8" thick inner shell, 4" of cork insulation and a 1/4" outer shell. **Some HCN cars will be painted white with the red bands or "candy stripes."**

**TANK DESCRIPTION****TYPICAL COMMODITIES TRANSPORTED**  
(typical commodities only listed, there may be others)**DOT 105A500W Insulated — Carbon Dioxide Service**

20,000 GALLON CAPACITY - INSULATED  
DOT 105A500W  
FOR CARBON DIOXIDE SERVICE  
(PRE 1983)

B-END

**DOT 105A500W Insulated — Chlorine Service**

90 TON CAPACITY - INSULATED  
DOT 105A500W  
FOR CHLORINE SERVICE  
(POST 1982)

B-END

Insulated.

Safety Valve (375 psi) (350 psi on Carbon Dioxide Cars)

Chlorine

Carbon Dioxide

Anhydrous Hydrofluoric Acid

**DOT 105J500W**

Thermal Protection.

Head Protection

Safety Valve (375 psi)

Liquefied Petroleum Gas

Liquefied Hydrocarbon Gas

**DOT 105A600W**

Insulated.

Safety Valve (450 psi) (400 psi on Carbon Dioxide Cars).

Carbon Dioxide

**DOT 105J600W**

Thermal Protection.

Head Protection.

Safety Valve (450 psi)

Liquefied Petroleum Gas

Liquefied Hydrocarbon Gas

**DOT 105A100ALW**

Insulated.

Safety Valve (75 psi).

Fertilizer Ammoniating Solution

(Ammonium Nitrate Solution)

TANK DESCRIPTION	TYPICAL COMMODITIES TRANSPORTED (typical commodities only listed, there may be others)
<b>DOT 105A200ALW</b> Insulated. Safety Valve (150 psi).	Fertilizer Ammoniating Solution (Ammonium Nitrate Solution)
<b>DOT 105A300ALW</b> Insulated. Safety Valve (225 psi).	Fertilizer Ammoniating Solution (Ammonium Nitrate Solution)
<b>A-4 — Class 106A (Similar to 110A Tanks)</b>	
<b>DOT 106A500X</b> Multiple Unit with Removable Steel Uninsulated Tanks. Each Tank equipped with Loading and Discharge Valve & Safety Valve or Vent Set for Pressure not Exceeding 375 psi. Popular Name is “Ton Container”.	Chlorine Anhydrous Ammonia Sulfur Dioxide Butadiene Refrigerant or Dispersant Gases
<b>DOT 106A800X</b> Multiple Unit with Removable Steel, Uninsulated Tanks Mounted on Underframe. Popular name is “Ton Container”. Each Tank equipped with Loading and Discharge Valves & Safety Vent Set for Pressure not Exceeding 600 psi.	Nitrosyl Chloride
<b>A-5 — Class DOT 107A</b>	
<b>DOT 107A*****</b> Multiple Unit Uninsulated High Pressure Seamless Forged & Drawn Steel Tanks. About 30 Permanently Mounted on Underframe	Helium Hydrogen Oxygen
<b>A-6 — Class DOT 109A</b>	
<b>DOT 109A300W</b> Non-Insulated or Insulated. Safety Valve (225 psi).	Nitrogen Fertilizer Solution (Ammonium Nitrate Solution) or 115° F [non-insulated])
<b>DOT 109A100ALW</b> Non-Insulated or Insulated. .Safety Valve (75 psi).	Nitrogen Fertilizer Solution (Ammonium Nitrate Solution)
<b>DOT 109A200ALW</b> Non-Insulated or Insulated Safety Valve (150 psi).	Nitrogen Fertilizer Solution (Ammonium Nitrate Solution)
<b>DOT 109A300ALW</b> Non-Insulated or Insulated. Safety Valve (225 psi).	Nitrogen Fertilizer Solution Ammonium Nitrate Solution)
<b>A-7 — Class DOT110A (Similar to 106A Tanks)</b>	
<b>DOT 110A500W</b> Multiple Unit with Removable Steel Tanks Mounted on Underframe. Popular name is “Ton Container”. Each Tank equipped with Loading & Discharge Valves & Safety Valve or Vent Not Exceeding 375 psi	Sulfur Dioxide Refrigerants
<b>DOT 110A800W</b> Multiple Unit with Removable Steel Tanks Mounted on Underframe. Popular name is “Ton Container”. Each Tank equipped with Loading & Discharge Valves & Safety Valve or Vent Not Exceeding 600 psi	Monobromotrifluoromethane
<b>A-9 — Class DOT 111A 112A, 112S, 112J, 112T</b>	
<b>DOT 112A200W</b> Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint). Safety Valve (150 psi).	Ethyl Chloride
<b>DOT 112A340W</b> Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint). Safety Valve (225 psi); Alternate setting 280.5 psi for Certain Commodities	
<b>DOT 112S340W</b> Same as DOT 112A340W Except Equipped with Head Protection	Anhydrous Ammonia
<b>DOT 112J340W</b> Same as DOT 112A340W Except Equipped with Head Protection and a Thermal Protection Enclosed in a Metal Jacket. No Reflective Paint Required	Liquefied Petroleum Gas

**TANK DESCRIPTION****TYPICAL COMMODITIES TRANSPORTED**  
(typical commodities only listed, there may be others)**DOT 112T340W**

Same as DOT 112A340W Except Equipped with Head Protection and a Non-Jacket Thermal Protection System. No Reflective Paint Required.

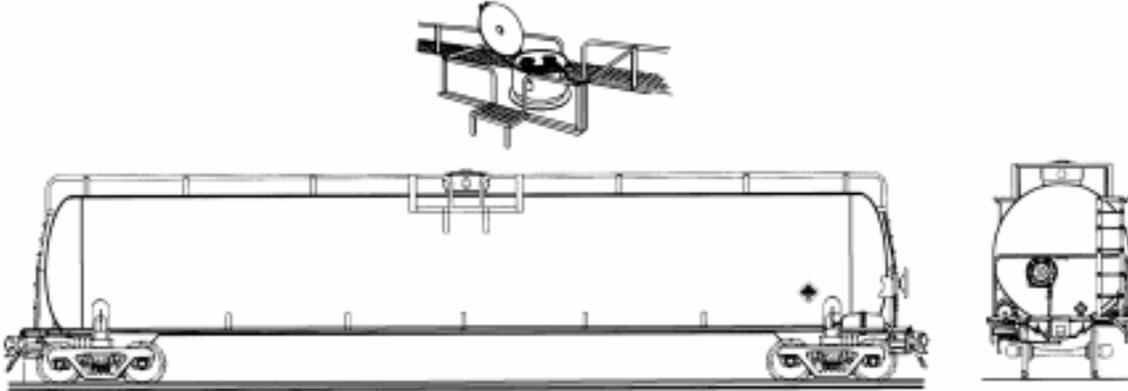
**DOT 112A400W**

Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint). Safety Valve (300 psi). Alternate setting 330 psi for Certain Commodities

**DOT 112S440W**

Same as DOT 112T400W Except Equipped with Head Protection.

Anhydrous Ammonia

**DOT 112J400W**

33,500 GALLON CAPACITY - NON INSULATED  
DOT 112J400W  
FOR PROPYLENE, LIQUEFIED PETROLEUM GAS  
AND ANHYDROUS AMMONIA SERVICE

Same as DOT 112T400W Except Equipped with Head Protection and a Thermal Protection System. Enclosed in a Metal Jacket. No Reflective Paint Required.

Liquefied Petroleum Gas  
(V.P.) Not Exceeding 300 psi @ 115° F)  
Vinyl Chloride

**DOT 112T400W**

Same as DOT 112T400W Except Equipped with Head Protection and a Non-Jacket Thermal Protection System. No Reflective Paint Required.

**DOT 112A500W**

Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint). Safety Valve (375 psi).

**DOT 112S500W**

Same as DOT 112A500W Except Equipped with Head Protection.

Anhydrous Ammonia

**DOT 112J500W**

Same as DOT 112A500W Except Equipped with Head Protection and a Thermal Protection System. Enclosed in A Metal Jacket No Reflective Paint Required.

Liquefied Petroleum Gas  
Vinyl Chloride

**DOT 112T500W**

Same as DOT 112A500W Except Equipped with Head Protection and a Non-Jacketed Thermal Protection System. No Reflective Paint Required.

**A-10 — Class 113 (Similar to AAR204W)****DOT 113A60W**

Insulated.  
Safety Valve (30 psi) (On Tank).  
Safety Vent (60 psi) (On Tank).  
Safety Vent (16 psi) (On Outer Shell).

Hydrogen

**DOT 113A175W (Obsolete for New Construction, 10-1-84)**

Insulated.  
Gauging Device.  
Safety Valve (115 psi) (On Tank).  
Safety Vent (175 psi) (On Tank).  
Safety Vent (16 psi) (On Outer Shell).

<b>TANK DESCRIPTION</b>	<b>TYPICAL COMMODITIES TRANSPORTED (typical commodities only listed, there may be others)</b>
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**A-11 — Class 114A, 114S, 114J and 114T**

**DOT 114A340W**

Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint).  
 Manway and Cover May Not be Located at Top of Tank.  
 Safety Valve (225 psi). Alternate Setting 280.5 psi for Certain Commodities.  
 Bottom Outlet or Washout Optional.

**DOT 114S340W**

Same as DOT 114A340W Except Equipped with Head Protection.	Anhydrous Ammonia
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**DOT 114J340W**

Same as DOT 114A340W Except Equipped with Head Protection and a Thermal Protection System. Enclosed in a Metal Jacket. No Reflective Paint Required.	Liquefied Petroleum Gas
--	-------------------------

**DOT 114T340W**

Same as DOT 114A340W Except Equipped with Head Protection and a Non-Jacketed Thermal Protection System. No Reflective Paint Required.

**DOT 114A400W**

Non-Insulated (Upper 2/3 of Tank Must be painted with Light-Reflective Paint).  
 Manway and Cover May Not be Located at Top of Tank.  
 Valve and Fittings on Top of Tank.  
 Safety Valve (300 psi). Alternate Setting 330 psi for Certain Commodities.

**DOT 114S400W**

Same as DOT 114A400W Except Equipped with Head Protection.	Anhydrous Ammonia
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**DOT 114J00W**

Same as DOT 114A400W Except Equipped with Head Protection and a Thermal Protection System Enclosed in a Metal Jacket. No Reflective Paint Required.	Liquefied Petroleum Gas
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**DOT 114T400W**

Same as DOT 114A400W Except Equipped with Head Protection and a Non-Jacketed Thermal Protection System. No Reflective Paint Required.

**AAR TANK CARS: AAR tank cars are for non-regulated commodity services. Most AAR tank cars have DOT counter parts.**

**B-1 — Class AAR 203**

**AAR 203W (Obsolete for New Construction)**

Non-Insulated or Insulated. Safety Valve (35 <sup>+</sup> psi) or Safety Vent (45 psi). These Cars Conform, with Certain Exceptions, to Class DOT 103W.	Vegetable Oils Fish Oils Wine Clay Latex
---	--

**B-2 — Class AAR 204 (Similar to DOT 113A)**

**AAR 204W**

Insulated. Safety Valve (38 psi) (On Tank). Safety Vent (45 psi) (On Tank). Safety Vent (17 psi) (On Outer Shell)	Liquid Argon Liquid Nitrogen Liquid Oxygen
--	--

**B-3 — Class AAR 206 (Similar to DOT 115A)**

**AAR 206W**

Tank Cars are Insulated Non-Pressure having an Inner Container. These cars conform, with Certain Exceptions, to Class DOT 115A.

**AAR207A\*\*AW— AAR207A\*\*ALW**

Non Insulated or Insulated. Special Granular Non-Regulatory Commodities. Designed for 15 PSIG Minimum Internal Pressure.	Cement Granular Commodities
--	--------------------------------

**ICC TANK CARS**

Beginning in 1968, the currently effective ICC tank car classes were redesigned DOT. However, the marking on existing cars of the affected classes is optional and the majority are still marked ICE. (Tank cars of classes no longer effective for new construction, such as riveted and forge welded, remain with ICC markings. For characteristics and typical commodities, see the corresponding DOT classes)

**THE PRECEDING MATERIAL WAS MEANT TO PROVIDE A GENERAL DESCRIPTION ONLY, NOT COMPLETE SPECIFICATIONS.**

\* Cars built prior to January 1, 1959, may be equipped with (2) 25 psi safety valves.

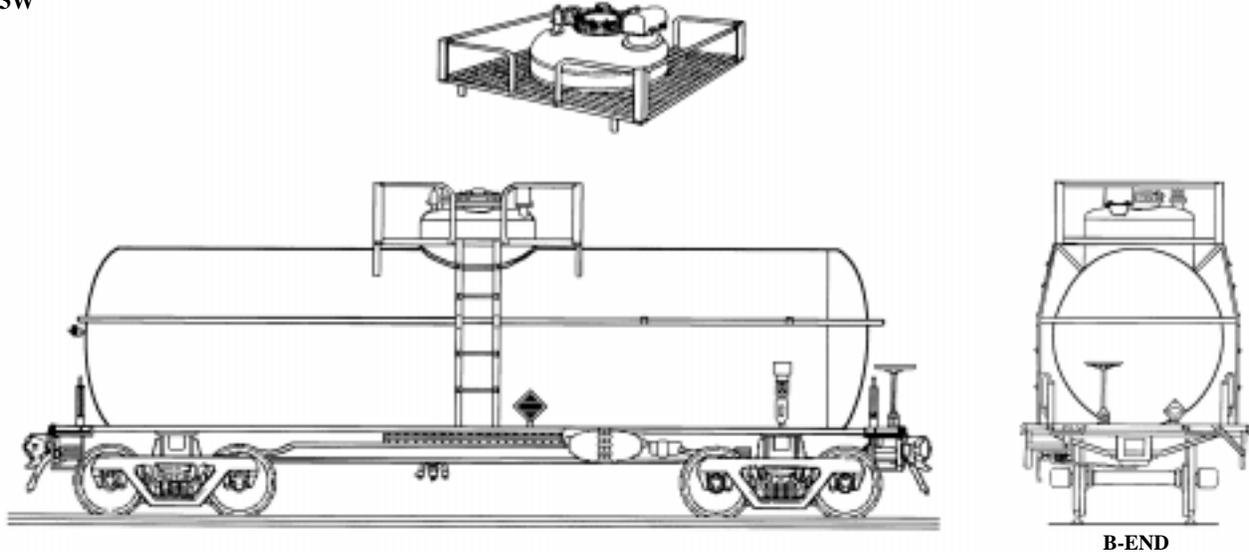
# Non-Pressure Cars

DOT Car Types 103, 104, 111, 115 And AAR Car Types 204, 206 And 211 Are Non-Pressure Cars. These Cars Are Used To Transport Commodities Such As Corn Syrup, Edible Oils And Other General Commodities As Well As A Variety Of Hazardous Materials. **The Most Commonly Used Non Pressure Cars Are Types 103 And 111. Drawings Of Several (Not All) Of These Two Types Are Found In This Appendix.**

<b>TANK DESCRIPTION</b>	<b>TYPICAL COMMODITIES TRANSPORTED</b> (typical commodities only listed, there may be others)
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**A-1 — Class 103**

**DOT 103W**



**10,000 GALLON CAPACITY - INSULATED  
FOR GENERAL SERVICE COMMODITIES**

Non-Insulated or Insulated.  
General Service.  
Safety valves (35\* psi) or Safety Vent (60 psi)

Phosphorus, Benzene, Gasoline, Vegetable Oil, Caustic Soda,  
Fuel Oil, Alcohol

**DOT 103AW**

Non-Insulated or Insulated.  
Acid Service.  
Safety valves (35\* psi) or Safety Vent (60 psi).

Sulfuric Acid  
Oleum  
Aqueous Hydrofluoric Acid 60% to 80%  
Titanium Tetrachloride

**DOT 103ANW**

Non-Insulated or Insulated.  
Safety Valve (35\* psi) or Safety Vent (60 psi).

Phosphorous Oxychloride  
Phosphorus Trichloride  
Benzyl Chloride  
Chloroacetyl Chloride

**DOT 103ALW**

Non-Insulated or Insulated.  
Safety Valves (35\* psi) or Safety Vent (60 psi).

Acetic Acid, Acetic Anhydride,  
Acrylonitrile, Ethylene Glycol,  
Glycerine, Butraldehyde,  
Hydrogen Peroxide (Under 52% by weight), Fatty Acids

**DOT 103A-ALW**

Non-Insulated or Insulated.  
Safety Valves (35\* psi) or Safety Vent (60 psi).

Hydrogen Peroxide  
Hydrazine  
Nitric Acid (80% or more)

**DOT 103BW**

Non-Insulated or Insulated.  
Rubber Lined Tank.  
Safety Vent (60 psi).

Hydrochloric Acid not over 38% by weight  
Zinc Chloride  
Phosphoric Acid  
Ferric Chloride  
Aluminum Sulfate

\* Cars built prior to January 1, 1959, may be equipped with (2) 25 psi safety valves.

\*\* Cars built prior to January 1, 1959, may be equipped with 45 psi safety valve.

TANK DESCRIPTION	TYPICAL COMMODITIES TRANSPORTED (typical commodities only listed, there may be others)
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<b>DOT 103CW</b> Non-Insulated or Insulated. Safety Valve (35 ** psi)	Nitric Acid Hydrazine Chlorosulfonic Acid Formic Acid
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<b>DOT 103DW</b> Non-Insulated Or Insulated. Safety Valve (35+psi).Or Safety Vent (60 psi)	Acetic Acid, Whiskey Ethyl Alcohol, Caramel Fruit Juices, Vegetable Juices
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<b>DOT 103EW</b> Non-Insulated or Insulated. Safety Valve (35* psi) or Safety Vent (60 psi).	Phosphoric Acid Chlorosulfonic Acid Diisooctyl Acid Phosphate
--	---

**A-2 — Class 104**

<b>DOT 104W</b> Insulated. Safety Valves (35* psi) or Safety Vent (60 psi)	Ethyl Ether Casinghead Gasoline Refined Vegetable Oils
--	--

**A-8 — Class DOT111A**

<b>DOT 111A60W1 (DOT 111A60F1) *</b> Non-Insulated or Insulated. Safety Valve (35 psi) or Safety Vent (60 psi).	Benzene Gasoline Alcohol Caustic Soda Fuel Oil
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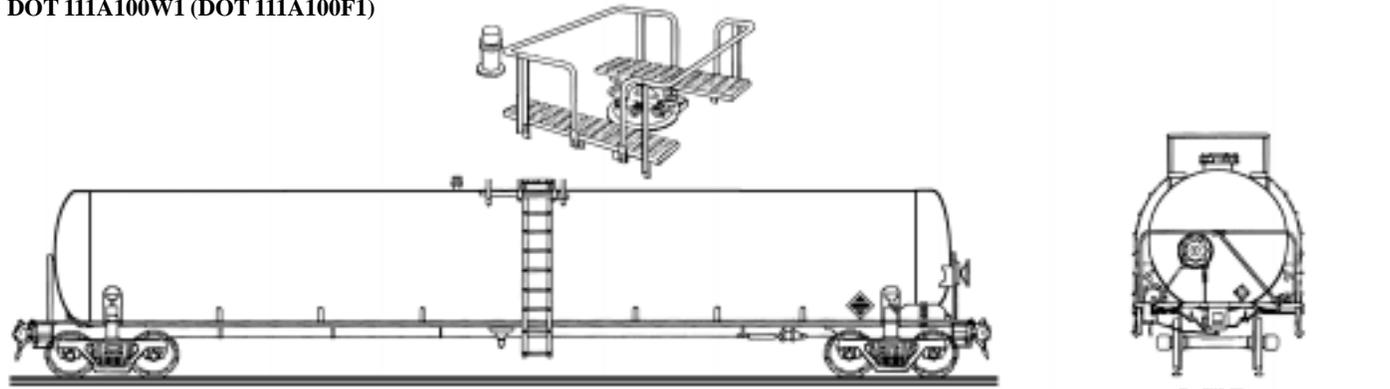
<b>DOT 111A60W2</b> Non-Insulated or Insulated. Safety Valve (35 psi) (Required on Certain Commodities) or Safety Vent (60 psi).	Aqueous Hydrofluoric Acid, 60% to 80% Mixed Acid Sulfuric Acid Titanium Tetrachloride
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<b>DOT 111A60W5</b> Non-Insulated or Insulated. Rubber Lined Tank. Safety Vent (60 psi).	Hydrochloric Acid not over 38% by weight Phosphoric Acid Aluminum Sulfate
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<b>DOT 111A60W7</b> Non-Insulated or Insulated. Safety Valve (35 psi) or Safety Vent (60 psi)	Oleum
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<b>DOT 111A60ALW1</b> Non-Insulated or Insulated. Safety Valve (35 psi) or Safety Vent (60 psi)	Acetic Acid, Acetic Anhydride, Acrylonitrile, Fatty Acids Ethylene Glycol, Glycerine, Butraldehyde, Hydrogen Peroxide (under 52% by Weight)
---	---

**DOT 111A100W1 (DOT 111A100F1)**



**26,000 GALLON CAPACITY - NON INSULATED**  
**DOT - 111A100W1**  
**FOR GENERAL SERVICE COMMODITIES**  
**.2181"/FT TOP & BOTTOM SLOPE**

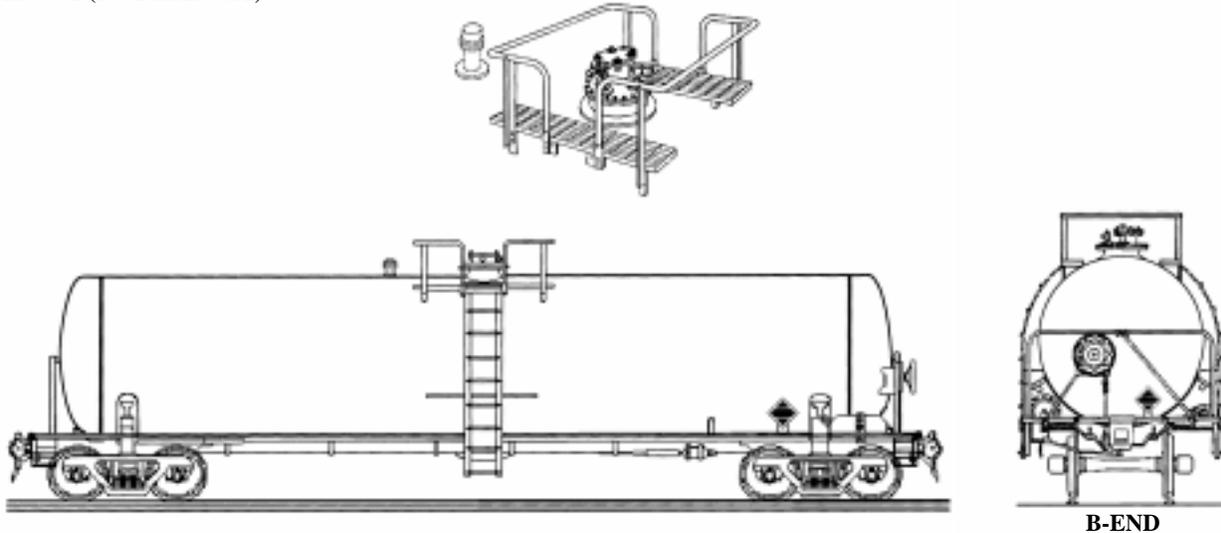
Non-Insulated or Insulated. Safety Valve (75 psi) or Safety Vent (100 psi)	Kerosene, Gasoline, Fuel Oil, Vegetable Oils, Phosphorus
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\* Cars built prior to January 1, 1959, may be equipped with (2) 25 psi safety valves.  
 \*\* Cars built prior to January 1, 1959, may be equipped with 45 psi safety valve.

**TANK DESCRIPTION**

**TYPICAL COMMODITIES TRANSPORTED**  
(typical commodities only listed, there may be others)

DOT 111A100W2 (DOT 11A100F2)\*



13,600 GALLON CAPACITY - NON INSULATED  
DOT - 111A100W2  
FOR SULFURIC ACID SERVICE  
(POST 1982)

Safety Valve (75 psi) or Safety Vent (100 psi)  
Non-Insulated or Insulated.  
Safety Valve (75 psi) (Required on Certain  
Commodities) or Safety Vent (100 psi)

Vegetable Oils, Phosphorus, Aqueous Hydrofluoric  
Acid (60% to 80%), Mixed Acid, Sulfuric Acid

**DOT 111A100W3**

Insulated.  
Safety Valve (75 psi) or Safety Vent (100 psi)

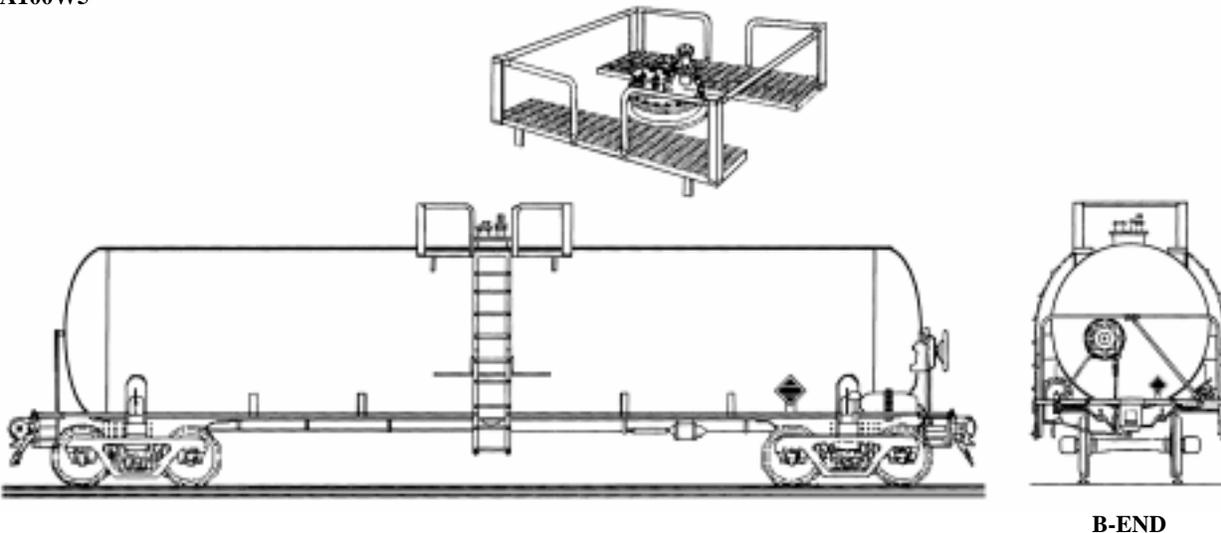
Casinghead Gasoline, Ethyl Ether

**DOT 111A100W4**

Insulated.  
Safety valve (75 psi).

Aqua Ammonia Solution containing Anhydrous Ammonia

**DOT 111A100W5**



20,000 GALLON CAPACITY - NON INSULATED  
DOT - 111A100W5  
FOR HYDROCHLORIC ACID SERVICE  
(PRE 1983)

Non-Insulated or Insulated.  
Rubber-Lined Tank.  
Safety Vent (100 psi).

Hydrochloric Acid not over 38% by weight,  
Phosphoric Acid, Aluminum Sulfate

TANK DESCRIPTION	TYPICAL COMMODITIES TRANSPORTED (typical commodities only listed, there may be others)
<b>DOT 111A100W6</b> Non-Insulated or Insulated. Safety valve (75 psi) or Safety Vent (100 psi).	Acetic Acid, Caprolactam, Hydrazine, Fruit Juices, Vegetable Juices, Whiskey
<b>A-12— DOT115A (Similar to AAR206W)</b>	
<b>DOT 115A60W1</b> Insulated (Tank-Within-A-Tank) Safety Valve (35 psi) or Safety Vent (45 psi).	Latex, Methyl Methacrylate (Proposed)
<b>DOT 115A60W6</b> Insulated (Tank-Within-A-Tank). Safety Valve (35 psi) or Safety Vent (45 psi).	Caramel Coloring, Corn Syrup
<b>DOT 115A60ALW</b> Insulated (Tank-Within-A-Tank). Safety Valve (35 psi) or Safety Vent (45 psi).	
<b>AAR TANK CARS: AAR tank cars are for non-regulated commodity services. Most AAR tank cars have DOT counter parts.</b>	
<b>B-1 — Class AAR 203</b>	
<b>B-2 — Class AAR 204 (Similar to DOT 113A)</b>	
<b>AAR 204W</b> Insulated. Safety Valve (38 psi) (On Tank). Safety Vent (45 psi) (On Tank). Safety Vent (17 psi) (On Outer Shell)	Liquid Argon, Liquid Nitrogen, Liquid Oxygen
<b>B-3 — Class AAR 206 (Similar to DOT 115A)</b>	
<b>AAR 206W</b> Tank Cars are Insulated Non-Pressure having an Inner Container. These cars conform, with Certain Exceptions, to Class DOT 115A.	
<b>AAR207A**AW— AAR207A**ALW</b> Non Insulated or Insulated. Special Granular Non-Regulatory Commodities. Designed for 15 PSIG Minimum Internal Pressure.	Cement Granular Commodities
<b>B-5 — Class AAR 208</b>	
<b>AAR208</b> Non-Pressure Cars having Wood Staved Metal Hooped Tanks for the Transportation of Certain Food Stuffs or Other Acidic Products. Safety Relief Devices are Not Required	Vinegar Pickle Liquor
<b>B-6 — Class AAR 221A</b>	
<b>AAR 211A60W1— AAR211A100W1</b> Non-Insulated or Insulated.	Corn Syrup, Molten Sulfur, Edible & Inedible Oils Latex, Wine, Glycerol
<b>AAR 211A60W2— AAR 211A100W2</b> Non-Insulated or Insulated.	Phosphoric Acid, Liquid Alum
<b>AAR 211A100W6</b> Non-Insulated or Insulated.	Caprolactam
<b>AAR 211A60W7</b> Non-Insulated or Insulated.	Lactic Acid
<b>AR 211A60ALW1— AAR 211A100ALW1</b> Non-Insulated or Insulated.	Glycerine, Glycol, Nitrogen Fertilizer Solution
<b>ICC TANK CARS</b> Beginning in 1968, the currently effective ICC tank car classes were redesigned DOT. However, the marking on existing cars of the affected classes is optional and the majority are still marked ICE. (Tank cars of classes no longer effective for new construction, such as riveted and forge welded, remain with ICC markings. For characteristics and typical commodities, see the corresponding DOT classes)	

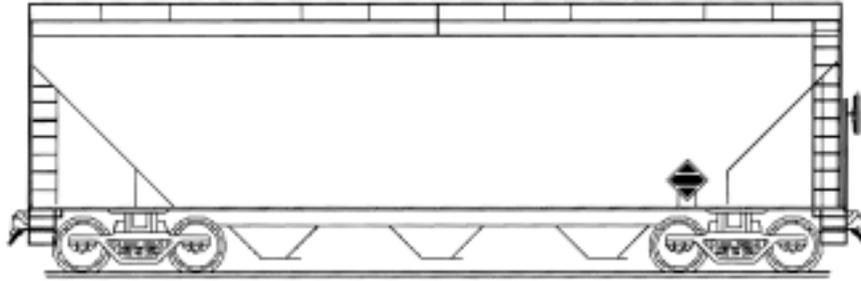
**THE PRECEDING MATERIAL WAS MEANT TO PROVIDE A GENERAL DESCRIPTION ONLY, NOT COMPLETE SPECIFICATIONS.**



## Other Rail Cars

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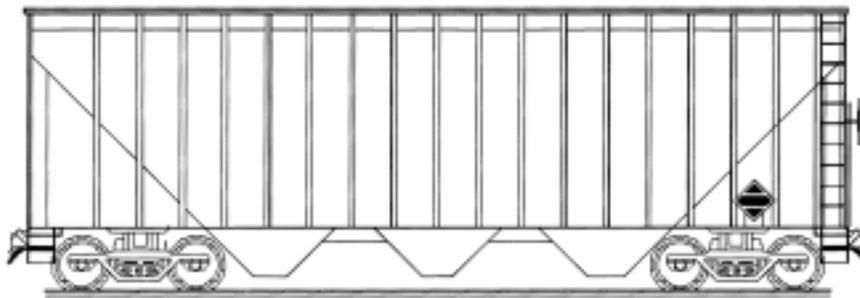
### COVERED HOPPER



COVERED HOPPER  
CARRIES CALCIUM CARBIDE, CEMENT, GRAIN

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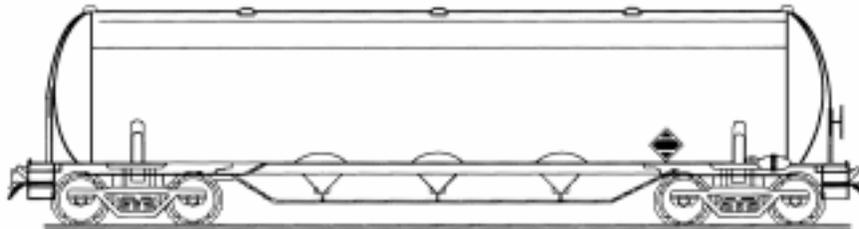
### OPEN TOP HOPPER



OPEN TOP HOPPER  
CARRIES COAL, ROCK, SAND

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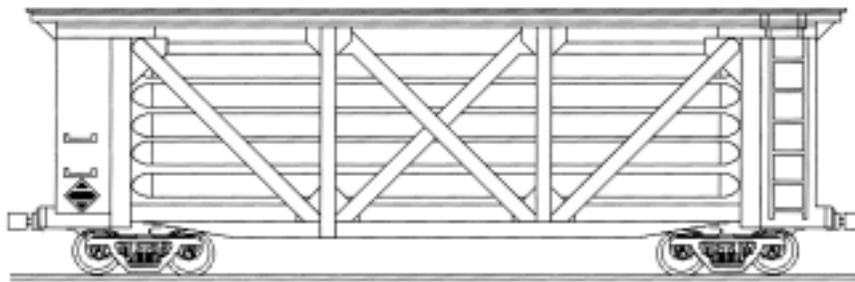
### PNEUMATIC HOPPER



PNEUMATIC HOPPER  
CARRIES PLASTIC PELLETS, FLOUR, OTHER FINE-POWDERED MATERIALS

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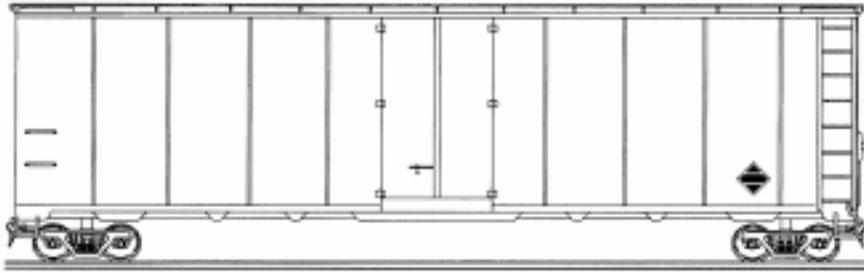
### TUBE CAR



TUBE CAR  
CARRIES HELIUM, HYDROGEN, METHANE, OXYGEN, OTHER GASES

---

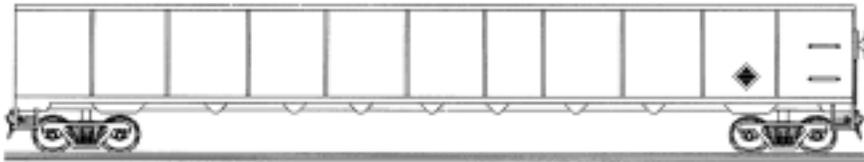
**BOX CAR**



BOX CAR  
CARRIES ALL TYPES OF MATERIAL AND FINISHED GOODS

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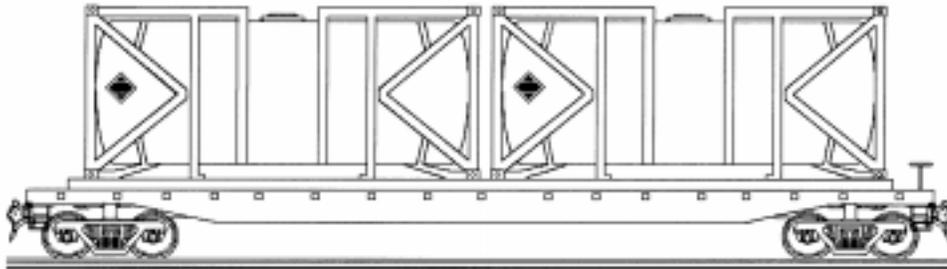
**GONDOLA**



GONDOLA  
CARRIES SAND, ROLLED STEEL AND OTHER PRODUCTS AND MATERIALS  
THAT DO NOT REQUIRE PROTECTION FROM THE WEATHER

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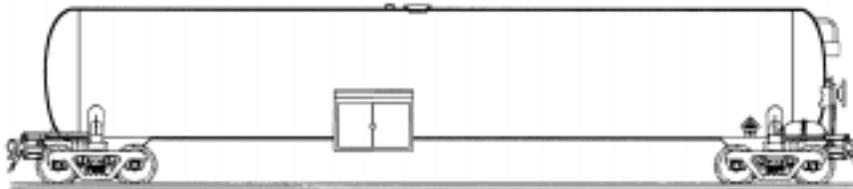
**FLAT BED CAR WITH INTERMODAL TANKS**



FLAT BED CAR WITH INTERMODAL TANKS  
CARRIES VARIOUS PRODUCTS IN CONTAINERS, I.E., ONE-TON CHLORINE CYLINDERS,  
INTERMODAL CONTAINERS (SHOWN), LARGE VEHICLES, OTHER COMMODITIES  
THAT DO NOT REQUIRE PROTECTION FROM THE WEATHER

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**CRYOGENIC CAR**



CRYOGENIC CAR  
CARRIES LIQUID OXYGEN, LIQUID NITROGEN, LIQUID CARBON DIOXIDE, LIQUID HYDROGEN,  
OTHER GASES THAT HAVE BEEN LIQUEFIED BY LOWERING THEIR TEMPERATURE



## **9.2 SITE AND RAIL CAR PHOTOS**

SECTION 9: DIAGRAMS/FIGURES

## **9.2 Site and Rail Car Photos**

### **9.2.1 Norfolk Southern – Dragon Siding**



**NS – Dragon Siding Entrance**



**NS – Dragon Siding Yard**

**9.2.2 Norfolk Southern**



**NS Yard Office**

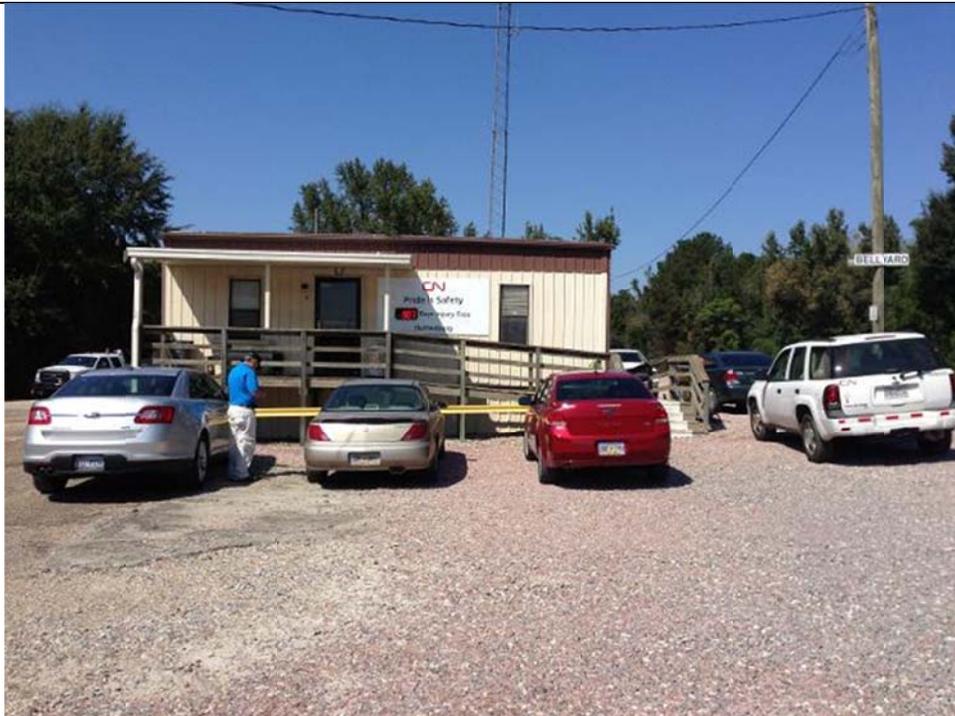


**NS South Entrance**



**NS North Entrance**

**9.2.3 Canadian National**



**CN Office**



**CN Center Yard**

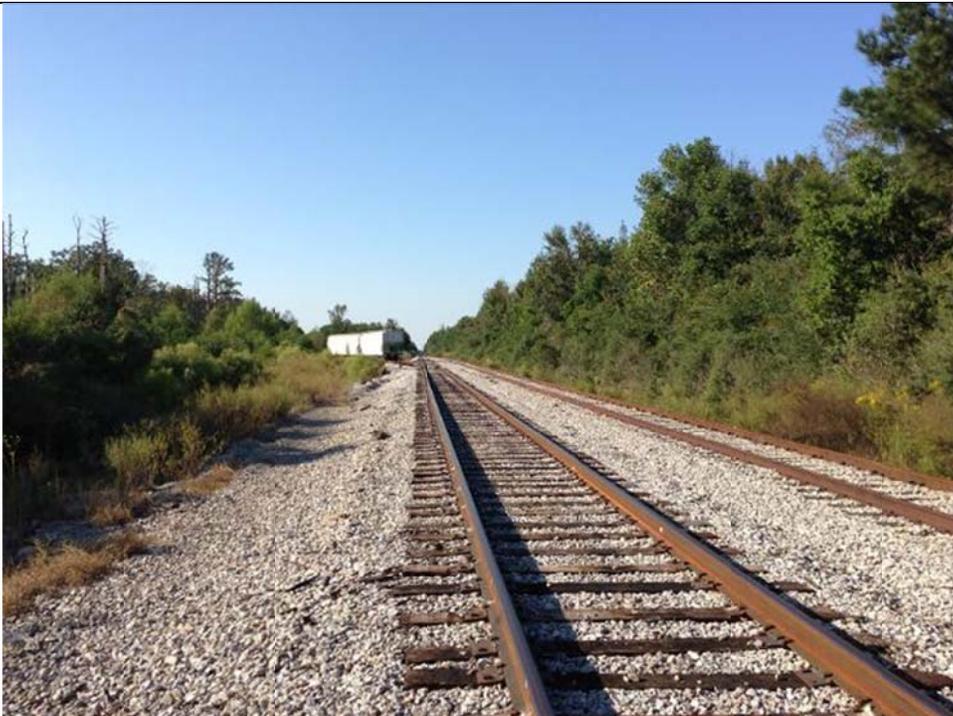


**CN North Entrance**



**CN South Entrance**

**9.2.4 Kansas City Southern**

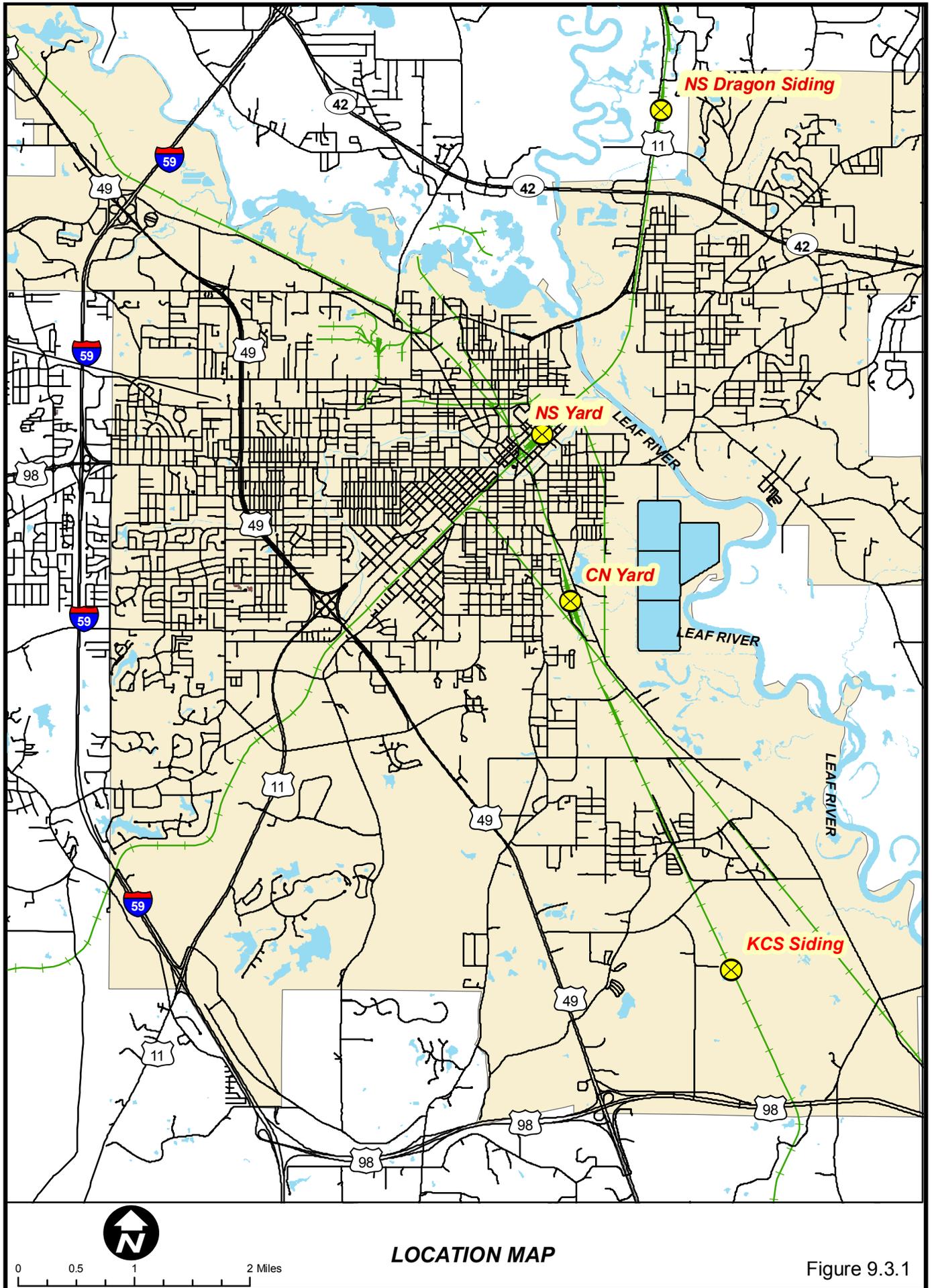


**KCS Siding**



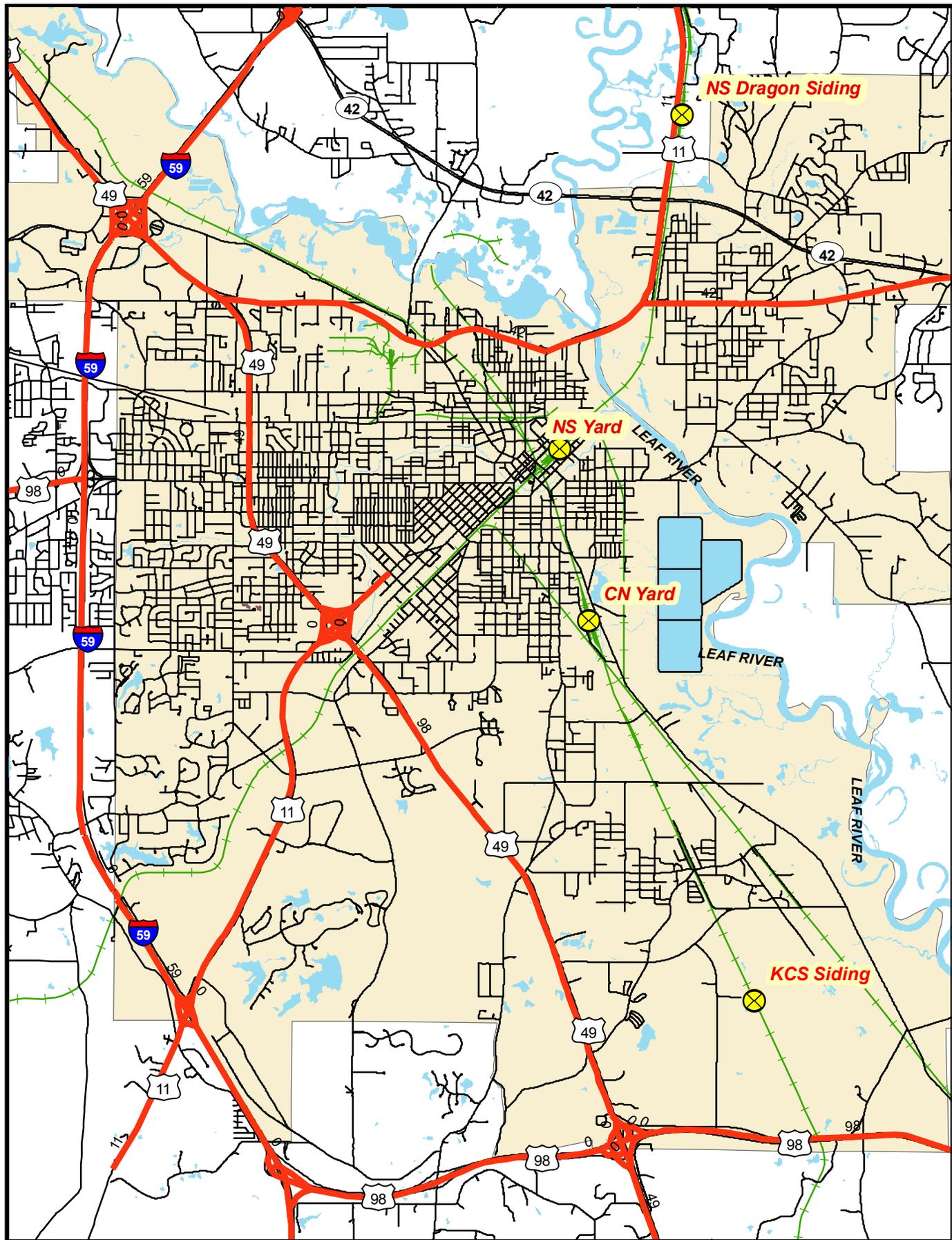
## **9.3 MISCELLANEOUS MAPS**

SECTION 9: DIAGRAMS/FIGURES



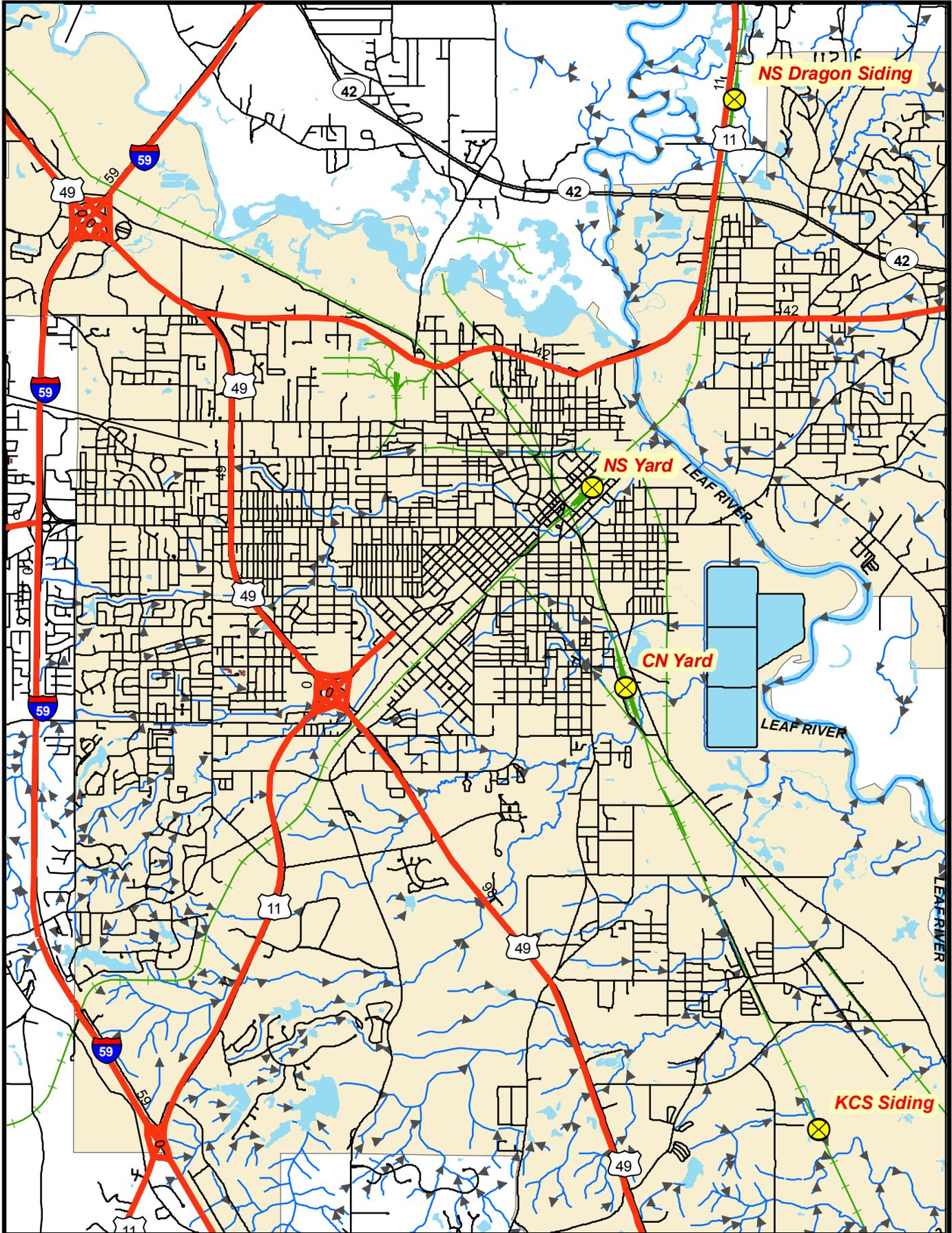
**LOCATION MAP**

Figure 9.3.1



**ARTERIAL EVACUATION ROUTES**

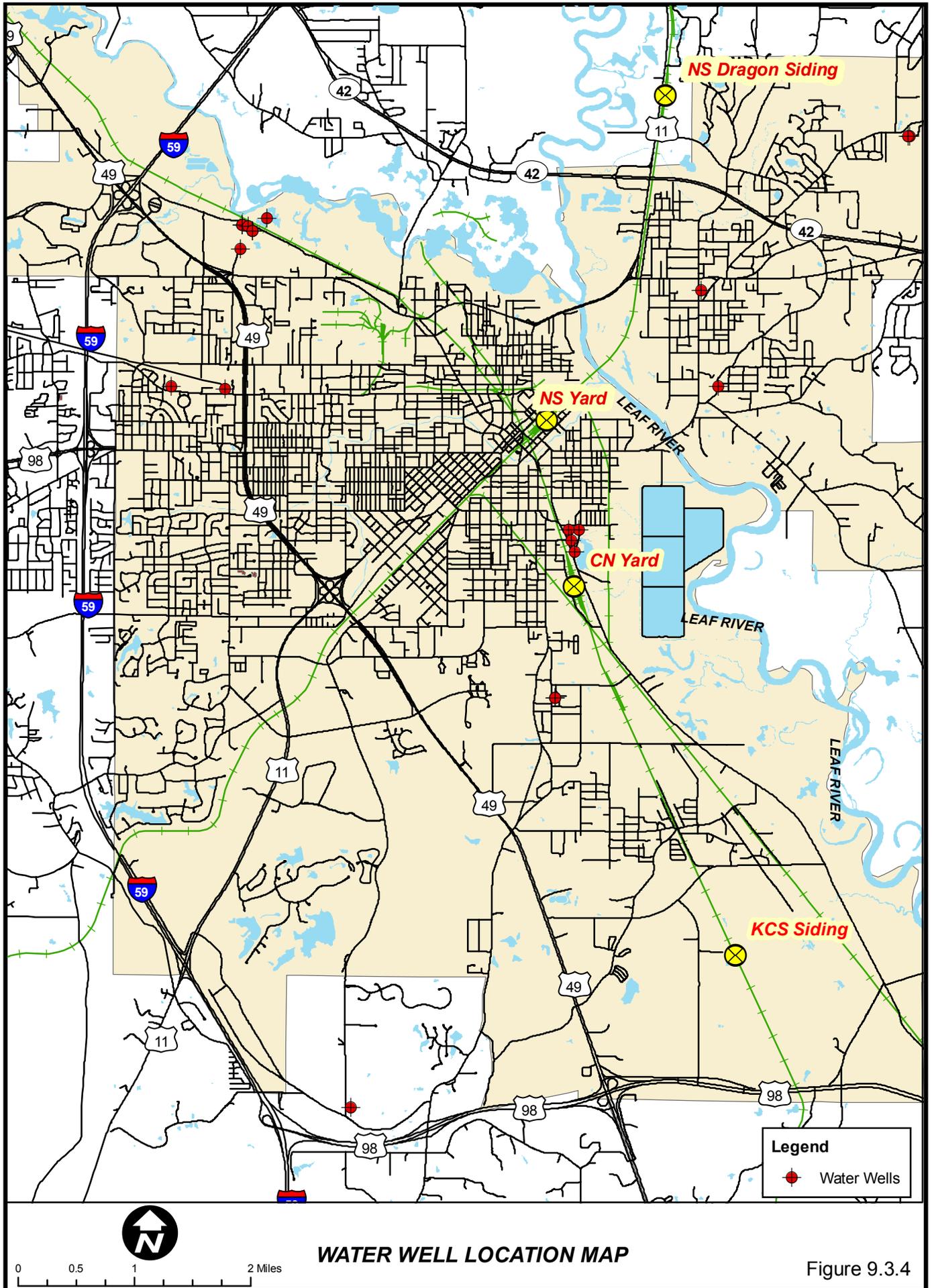
Figure 9.3.2



**DRAINAGE MAP**

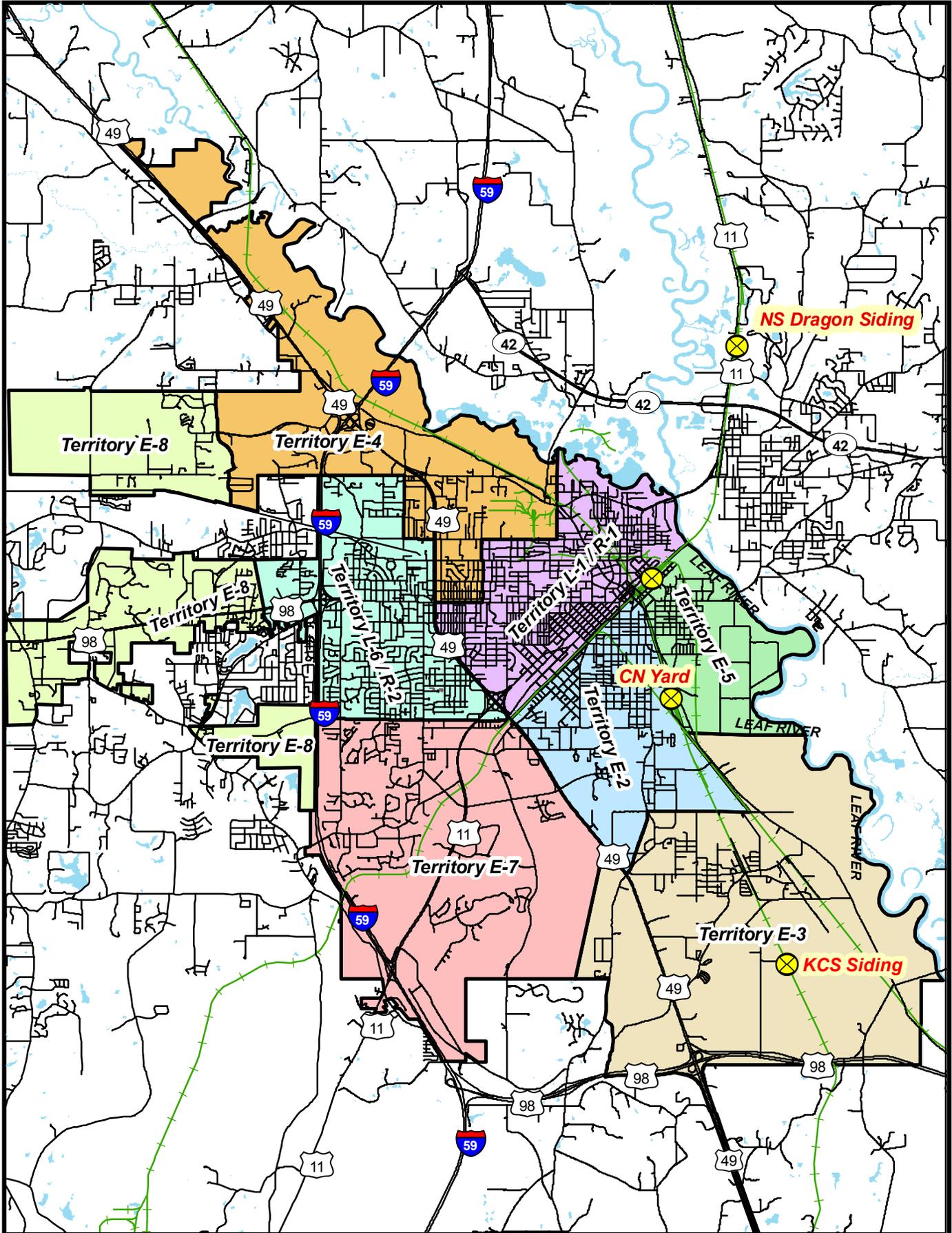
0 0.5 1 2 Miles

Figure 9.3.3



**WATER WELL LOCATION MAP**

Figure 9.3.4



0 0.5 1 2 Miles

**FIRST RESPONDERS TERRITORIES**

Figure 9.3.5

## **SECTION 10: SECURITY**

### **10.1 Norfolk Southern – Dragon Siding**

According to 40 CFR 112.7(e) (9), facilities are required to maintain a certain level of security, as appropriate. Security involves the deterrence of unauthorized entry of personnel, animals, or vehicles into potential hazardous release areas where such entry could result in the damage or misuse of equipment containing hazardous materials.

The site is typically manned 24/7. The check-in location would be the administration office at the rail yard. The facility usually has at least one railroad employee and may have additional contract employees on site.

Access can be obtained by Highway 11 from the North or South. The site is visible from Highway 11. This site is located just outside Petal city limits, and has no perimeter fencing.

***In the event of an emergency, contact NS Police Communications Center at 1-800-453-2530.***

## **10.2 Norfolk Southern**

According to 40 CFR 112.7(e) (9), facilities are required to maintain a certain level of security, as appropriate. Security involves the deterrence of unauthorized entry of personnel, animals, or vehicles into potential hazardous release areas where such entry could result in the damage or misuse of equipment containing hazardous materials.

The site is typically manned 24/7. The check-in location would be the administration office at the rail yard. The facility usually has at least one railroad employee and may have additional contract employees on site.

Access can be obtained from Newman St at the Hattiesburg Train Depot, Agnes St., and E Front St. At dusk, security lights are on. Security lights are located throughout the facility and are adequate to assist in the discovery of hazardous releases and to discourage potential vandals from entering the site. The facility is inside Hattiesburg city limits, and has no perimeter fencing.

***In the event of an emergency, contact NS Police Communications Center at 1-800-453-2530.***

### **10.3 Canadian National**

According to 40 CFR 112.7(e) (9), facilities are required to maintain a certain level of security, as appropriate. Security involves the deterrence of unauthorized entry of personnel, animals, or vehicles into potential hazardous release areas where such entry could result in the damage or misuse of equipment containing hazardous materials.

The site is typically manned 24/7. The check-in location would be the administration office at the rail yard. The facility usually has at least one railroad employee and may have additional contract employees on site.

Access can be obtained from Roy St on the west side of the site, Cypress Ave from the north and Railroad St from the south side. At dusk, security lights are on. Security lights are located throughout the facility and are adequate to assist in the discovery of hazardous releases and to discourage potential vandals from entering the site. The facility is inside Hattiesburg city limits.

***In the event of an emergency, contact the CN Police Communications Center at 1-800-465-9239.***

## **10.4 Kansas City Southern**

According to 40 CFR 112.7(e) (9), facilities are required to maintain a certain level of security, as appropriate. Security involves the deterrence of unauthorized entry of personnel, animals, or vehicles into potential hazardous release areas where such entry could result in the damage or misuse of equipment containing hazardous materials.

The site is typically unmanned 24/7. The check-in location would be the administration office at the rail yard. The facility usually has at least one railroad employee and may have additional contract employees on site.

Access can be obtained from WL Runnels Dr through a commercial driveway on the west side of the site. The facility is inside Hattiesburg city limits.

***In the event of an emergency, contact the KCS Critical Information Desk at 1-800-892-6295.***

## **SECTION 11: PLAN REVIEW, UPDATE, and RECORD OF CHANGES**

### **11.1 Plan Reviews**

In accordance with 40 CFR 112.20(g) (3), facility response plans must be reviewed and updated periodically to reflect changes at the facility. The review shall incorporate any changes in the listing of economically important or environmentally sensitive areas identified in the Forrest Area Contingency Plan (FCACP) in affect six months prior to plan review. In addition, relevant portions of the National Oil and Hazardous Substance Pollution Contingency Plan and any applicable Area Contingency Plan shall be reviewed annually to ensure the consistency between these plans and this FRP.

- After the review, if changes are needed, a plan amendment must be submitted to the FCEMA for review or approval as described below.
- If no changes are needed, this should be appropriately noted in the Record of Changes section in each plan copy.
- Any required changes must be entered in the plan and noted on the record of changes page. While no deadline for plan amendment is given in the regulation, it is recommended that amendments be completed three months prior to submitting the plan for review to ensure their appropriateness.

### **11.2 Plan Amendments**

In accordance with 40 CFR 112.20(d)(1), the FRP shall be revised and the revised portions shall be resubmitted to the EPA Regional Administrator within 60 days of any facility change that may materially effect the response to a large release, including:

- A change in the facility's configuration that significantly affects the information included in the response plan;
- A change in the type of hazardous commodity (persistent or non-persistent) handled, stored, or transported that affects the required response resources;
- A material change in the capabilities of the contractors that provide equipment and personnel to respond to releases of hazardous commodities described in Section 4 of this FRP;
- A material change in the county's release prevention and response equipment or emergency response procedures;
- Any other changes that significantly affect the implementation of the plan.

In addition, it is recommended that the FRP be amended if procedural or control system failure resulting in releases indicates deficiencies in the existing FRP.

**NOTE:** Except as provided above, changes in personnel, phone numbers, or contractors that do not result in material changes to the support capabilities do not require approval by the FCEMA



## **SECTION 12: NATURAL RESOURCE DAMAGE ASSESSMENT** **(NRDA)**

Under all circumstances, NRDA's must be separated from the actual response. Personnel involved in an NRDA need to coordinate with the responders for logistical purposes, but the response role and the assessment role must remain two different procedures.

Due to this constraint, NRDA's are not appropriate for inclusion into the FRP.

## **SECTION 13: ACRONYMS**

ACGIH	American Conference of Governmental Industrial Hygienists
AC	Area Committee
ACP	Area Contingency Plan
AGE	Aerospace Ground Equipment
ANSI	American National Standards Institute
API	American Petroleum Institute
AQI	Alternate Qualified Individual
ASME	American Society of Mechanical Engineers
AST	Aboveground Storage Tank
ATG	Automatic Tank Gauge
ASTM	American Society for Testing and Materials
ATG	All Talk Group
ATSDR	Agency for Toxic Substances and Disease Registry
CAA	Clean Air Act
CASS	Consolidated Aircraft Supply System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	CERCLA Information System
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CHP	Central Heat Plant
COE	Corps of Engineers (U.S. Army)
COTP	Captain of the Port
CWA	Clean Water Act
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOJ	U.S. Department of Justice
DOL	U.S. Department of Labor
DON	U.S. Department of the Navy
DOS	U.S. Department of State
DOT	U.S. Department of Transportation
DRAT	District Response Advisory Team
DRF	Disaster Response Force
EDRC	Effective Daily Recovery Rate
EHM	Extremely Hazardous Material
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERAP	Emergency Response Action Plan (of FRP)
ERT	Environmental Response Team
ESA	Endangered Species Act
FEMA	U.S. Federal Emergency Management Agency
FEX	Facility Equipment Exercise

FFA	Federal Facility Agreement
FIC	Facility Incident Commander
FOSC	Federal On-Scene Coordinator
FR	Federal Register
FRERP	Federal Radiological Emergency Response Plan
FRP	Facility Response Plan
FSC	Finance/Administration Section Chief
FY	Fiscal year
GPM	Gallons Per Minute
GPU	Ground Power Unit
GSA	General Services Administration
HAZMAT	Hazardous Material
HAZWOPER	Hazardous Waste Operations and Emergency Response
HHS	U.S. Department of Health and Human Services
HM	Hazardous Material
HS	Hazardous Substance
HW	Hazardous Waste
HWMP	Hazardous Waste Management Plan
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IDLH	Immediately Dangerous to Life and Health
IFO	Intermediate Fuel Oil
IO	Information Officer
IOSC	Incident On-Scene Coordinator
IRP	Installation Restoration Program
LEPC	Local Emergency Planning Committee
LFM	Liquid Fuels Maintenance
MG	Million Gallons
MMS	Mineral Management Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPH	Miles Per Hour
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
MTR	Marine Transportation Related
NAICS	North American Industrial Classification System (code)
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFPA	National Fire Protection Association
NIIMS	National Interagency Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center (USCG)
NRCS	Natural Resources Conservation Services (USDA)
NRDA	Natural Resource Damage Assessment

NRDAR	Natural Resource Damage Assessment and Restoration
NRS	National Response System
NRT	National Response Team
NSF	USCG National Strike Force
NSFCC	USCG National Strike Force Coordination Center (Elizabeth City, NC)
NWS	U.S. National Weather Service
OSC	On-Scene Coordinator
OSCDR	On-Scene Commander
OSHA	Occupational Safety and Health Administration
PA	Pollution Abatement (funds)
PEL	Permissible Exposure Limit
POC	Point of contact
POL	Petroleum, Oil, and Lubricant
PPE	Personal protective equipment
PREP	Preparedness-for-Response Exercise Program (USCG)
PSI	Pounds Per Square Inch
QI	Qualified Individual
QIN	Qualified Individual Notification Exercise
RA	Regional Administrator (EPA)
RAR	Resources at risk
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
RIC	Regional Incident Commander
RP	Responsible Party
RQ	Reportable Quantity (of hazardous substances)
RQ/RIC	Regional Qualified Individual/Regional Incident Commander
RRC	Regional Response Center
RRT	Regional Response Team
RRSACP	Red River Sub Area Contingency Plan
RSA	Responder Staging Area
RT	Response Technologies
SARA	Superfund Amendments and Reauthorization Act of 1986
SCAT	Shoreline Cleanup and Assessment Team
SDWA	Safe Drinking Water Act of 1986
SFO	Senior Fire Official
SI	Surface Impoundment
SMT	Spill Management Team
SONS	Spill of National Significance
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention, Control, and Countermeasures (plan)
SSC	Scientific Support Coordinator (NOAA)
STEL	Short Term Exposure Limit
SWDA	Solid Waste Disposal Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TTX	Tabletop Exercise

UC	Unified Command
UIC	Uniform Identification Code
UL	Underwriters Laboratory
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USNPS	U.S. National Park Service
UTP	Underground Terminal Piping
UST	Underground Storage Tank
WMA	Wildlife Management Area

## **SECTION 14: REFERENCES**

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29 CFR 1910.120 HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE U.S. DEPARTMENT OF LABOR. Federal Register of 06 March 1898, as amended. The OSHA requirement defining training required for workers at the site of a spill.

33 CFR 154. RESPONSE PLANS. U.S. DEPARTMENT OF TRANSPORTATION (COAST GUARD). Federal Register of 29 February 1996, as amended. The Coast Guard regulation on facility response plans for marine transportation-related facilities.

40 CFR 112. OIL POLLUTION PREVENTION. U.S. ENVIRONMENTAL PROTECTION AGENCY. Federal Register of 1 January 2002, as amended. The EPA regulation on facility response plans for non-transportation-related facilities.

40 CFR 300. NATIONAL OIL AND HAZARDOUS SUBSTANCE POLLUTION CONTINGENCY PLAN. U.S. Environmental Protection Agency. Federal Register of 15 September 1994, as amended.

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MEMORANDUM OF UNDERSTANDING BETWEEN THE SECRETARY OF TRANSPORTATION AND THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY. Signed 24 November 1971. Published in the Federal Register on 36 FR 24080. This agreement established what kinds of facilities were transportation-related (DOT regulated) and what kinds were non-transportation-related (EPA regulated). For OPA90 purposes, its main significance is that it set the jurisdictional boundaries between a marine transportation-related facility (USCG regulated) and an associated oil storage facility (EPA regulated). The boundary is the valve furthest from the tank(s) but still inside secondary containment if such containment exists, and the valve or manifold nearest the tank(s) otherwise.

PREPAREDNESS-FOR-RESPONSE EXERCISE PROGRAM (PREP) GUIDELINES. U.S. COAST GUARD. AUGUST 1994. This publication provides guidelines for the PREP program that will be written into the final OPA 90 regulations. Any facility intending to follow PREP in lieu of individual regulation exercise requirements must use this document to understand commitments resulting from its use. This publication is available on line at: <http://www.uscg.mil/hq/G-m/nmc/response/index.htm>

U.S. COAST GUARD INCIDENT MANAGEMENT HANDBOOK. U.S. Coast Guard Publication COMDTPUB P3120.17). 11 April 2002. This publication is available on line at: <http://www.uscg.mil/hq/nsfcc/nsfweb/NSF/onlinedoc.html>