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Ms. Shanna Schmitt and  
Ms. Stacey Hendry-Van Patten  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

ENVIRONMENT

Subject:

Technical Memorandum  
Environmental Contingency Plan – *Underground Storage Tank Removal*  
Ford Twin Cities Assembly Plant, St. Paul, Minnesota  
MPCA VIC Project Number VP23530  
MPCA PBP Project Number PB3682

Date:  
April 9, 2013

Dear Ms. Schmitt and Ms. Hendry-Van Patten:

Contact:  
Angharad Pagnon

This letter report provides the Environmental Contingency Plan that will be utilized by ARCADIS, on behalf of Ford Motor Company (Ford), during the course of the Underground Storage Tank (UST) Removal at the Twin Cities Assembly Plant (TCAP) in St. Paul, Minnesota (Figure 1). The USTs are scheduled to be removed by a state licensed UST removal contractor in April and May 2013 as part of the on-going demolition activities being completed at TCAP.

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As discussed during a telephone conversation between Charles Pinter of Ford and Shanna Schmitt and Amy Hadiaris of the Minnesota Pollution Control Agency (MPCA), due to the current schedule needs ARCADIS will provide two Environmental Contingency Plans in association with this Site. The first plan, which addressed the Propane Tank Removal, was submitted on November 16, 2012. The second plan is provided subsequently in this letter report to address the UST removal across the remainder of the site.

Our ref:  
DE000373.0001

### Site Location

The TCAP is located at 966 South Mississippi River Boulevard in St. Paul, Ramsey County, Minnesota at the approximate easting coordinate 484562.5 meters (m) and northing coordinate 4973822.5 m. The TCAP is located in a mixed industrial-, commercial-, and residential-use area on the eastern shore of the Mississippi River, along the east side of South Mississippi River Boulevard, south of Ford Parkway, and west of South Cleveland Avenue, in St. Paul, Minnesota (Figure 1).

## Underground Storage Tank Location and History

Four USTs are currently on-site located within two above grade concrete containments, covered with an earthen embankment. An additional eleven USTs were historically utilized at the site for operations in the main assembly building. Due to the lack of documentation pertaining to the closure and removal of these former USTs, it is unknown whether these tanks are still present on site.

### *Waste Solvent Tanks*

Two 10,000-gallon waste solvent USTs (Feature No. 35 from the ARCADIS 2007 Phase I Environmental Site Assessment) are located south of the Paint Building and west of the hazardous material storage building in a basin/bunker (Figure 2) which is raised approximately 3 to 4 feet above ground surface. The USTs were utilized for the storing of used purge solvent and cleaning solvent generated from the painting process at TCAP. The USTs are of steel construction with cathodic protection; the transfer piping to the USTs is of steel construction and double walled. A portion of the transfer piping under the ground surface is located within a concrete utility trench extending to the Paint Building.

Historically, three USTs utilized for storage of paints, resin, and new solvents were located in this area (Feature No. 36 from the ARCADIS 2007 Phase I Environmental Site Assessment). A release was reported from these USTs in 1989 and remedial activities, including remediation of 790 cubic yards of soil, were completed as part of the Petroleum Remediation Program (PRP) investigation. The USTs were subsequently removed in 1992 and annual monitoring of a sump located within the vicinity has continued annually, as required, since 1993.

### *Gasoline Tanks*

Two 20,000-gallon unleaded gasoline USTs (Feature No. 24 from the ARCADIS 2007 Phase I Environmental Site Assessment) are located west of the warehouse within a concrete containment (Figure 3). The estimated depth to the base of the USTs is approximately 10 to 12 feet bgs. The USTs were used in conjunction with the fluid fill operations on the assembly line. The USTs are of STI-P3<sup>®</sup> construction with cathodic protection. A review of available documentation indicated that there were no reported releases from the USTs.

### *Unconfirmed Tanks*

Historically, two 20,000-gallon gasoline USTs were located east of the former oil house and four 6,000-gallon gasoline were located north of the former oil house (Figure 4). The former gasoline USTs may have been utilized for fluid fill operations within the main assembly building. Within the vicinity of the latter, four USTs containing Sunoco spirits (2) and Pyroxlín thinner (2) were present and utilized in conjunction with the former paint operations that occurred within the main assembly building. Furthermore, one 27,000-gallon fuel oil UST (Feature No. 152) was located east of the central engineering office. The UST may have been utilized to provide fuel as a heating source in the main assembly building. Documentation pertaining to the removal and subsequent closure of these former USTs has not been found in files maintained at the TCAP or the MPCA; therefore, the USTs may still be in place at the TCAP.

### **Underground Storage Tank Removal**

Removal of the two 10,000-gallon waste solvent USTs and two 20,000-gallon unleaded gasoline USTs and potential removal of 11 former USTs will be completed by a MPCA certified contractor. Removal and confirmation sampling activities will be completed in accordance with the MPCA Guidance Documents 3-01 *Excavation of Petroleum Contaminated Soil and Tank Removal Sampling* and 4-04 *Soil Sample Collection and Analysis Procedures*. The work is anticipated to be completed during the 2<sup>nd</sup> quarter of 2013 and will be overseen by ARCADIS personnel.

### *Environmental Monitoring Plan*

An ARCADIS representative will be present during the soil excavation and tank removal activities to monitor and inspect the tanks and soil as they are exposed and/or removed. The USTs will be visually inspected for deterioration and structural abnormalities. The soil will be screened with a photoionization detector (PID) (11.7 eV lamp) and visually inspected for indication of impact to determine the presence and extent of potential impacts associated with the USTs. Furthermore, the field screening will be utilized to determine whether any excavated soil should be segregated or made available for re-use on-site.

Field screening will be conducted at the frequency recommended in MPCA Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil and Tank Removal Sampling*. Monitoring will be conducted for every 10 cubic yards of the excavated soil, with the implementation of more frequent screening if a change in stratigraphy

and other areas of transition are observed. Once the USTs are removed, exposed soil along the sidewalls will be screened at least once for every 25 lineal feet of excavation sidewall at 4 foot intervals from below the ground surface (i.e. 0 to 4, 4 to 8, etc.). Exposed soil along the bottom will be screened once for every 100 square feet of bottom area. Screening of the soil with the PID will be conducted in accordance with MPCA Petroleum Remediation Program Guidance Document 4-04 *Soil Sample Collection and Analysis Procedures*.

#### *Screening Criteria*

Excavated soil will be characterized consistent with the procedures in MPCA Petroleum Remediation Program Guidance Documents 3-01 *Excavation of Petroleum Contaminated Soil and Tank Removal Sampling* and 5-03 *Petroleum Brownfields Program Response Action Plans*:

- PID readings below 10 ppm will be replaced within the excavated area
- PID readings above 10 ppm and below 200 ppm will be segregated for on-site use
- PID readings above 200 ppm will be segregated for sampling and staging in preparation for off-site disposal at an MPCA approved facility.

Similarly, if the exposed soil is characterized by soil screening results as containing:

- PID readings above 10 ppm and below 100 ppm from 0 to 4 ft bgs, confirmation soil samples will be collected for characterization and development of a path forward.
- PID readings above 200 ppm, confirmation soil samples will be collected for characterization and development of a path forward.

Soil screening samples will be logged according to MPCA Petroleum Remediation Program Guidance Document 3-01 *Excavation of Petroleum Contaminated Soil and Tank Removal Sampling*. Furthermore, the areal location of each sample will be recorded using a handheld GPS.

#### *Sampling Protocol*

ARCADIS will collect samples for laboratory analysis as defined in Table 1. The configuration of *Unconfirmed Tanks*, noted previously, is unknown and sampling locations will be confirmed after verification of their presence during the demolition

process. Sampling will be completed in agreement with MPCA Guidance Document 3-01 and 4-04 and may include:

- Diesel Range Organics (Wisconsin Modified Method);
- Gasoline Range Organics (Wisconsin Modified Method);
- Lead (USEPA Method 6010)
- Polycyclic Aromatic Hydrocarbons (PAHs) (USEPA Method 8270C),
- Resource Conservation and Recovery Act (RCRA) Metals (USEPA Method 6010).
- Semi-Volatile organic compounds (SVOCs) (USEPA Method 8270),
- TCLP Lead (USEPA Method 1311)
- VOCs (United States Environmental Protection Agency [USEPA] Method 8260),

## Contingency Plan

### *Sidewall and Excavation Base*

If screening criteria limits are exceeded or unexpected conditions occur during soil excavation or removal of any UST, further removal activities will be suspended and the area will be isolated until conditions can be fully characterized and appropriate safety precautions put in place. Furthermore, the following personnel will be notified:

- MPCA Petroleum Brownfields (PB) Program staff: 651.296.6300
- MPCA Voluntary Investigation and Cleanup (VIC) Program staff: 651.296.6300
- State Duty Office: 651.649.5451

Following notification, all soil will remain in place until a Limited Site Investigation is completed and approval received from MPCA VIC and PB program staff.

### *Excavated Soil*

If screening criteria are exceeded for excavated soil, waste characterization samples will be collected from the removed soil. The number of samples will be dependent on the excavated soil volume and will be determined in accordance with MPCA Petroleum Remediation Program Guidance Document 4-04 *Soil Sample Collection and Analysis Procedures*:

<b>Cubic yards of soil</b>	<b>Number of grab samples</b>
Less than 50	1
51-500	2
501-1000	3
1001-2000	4
2001-4000	5
Each additional 2,000	One additional sample

Sampling parameters will be based on the use of the UST similar to sidewall and excavation base criteria. Furthermore, confirmation samples will be collected from the remaining exposed soil along the sidewalls and floor as would be required as part of the Limited Site Investigation.

*Unidentified Waste*

If unidentified wastes are encountered during the UST removal (i.e. solid waste, asbestos, etc.), work in the area will be suspended and the area will be secured until the wastes can be characterized and appropriate safety measures are in place. Notification will be given to the MPCA and Staff Duty Officer as noted above. A removal plan will be developed for MPCA approval, prior to initiating further activities.

*Additional Underground Storage Tanks*

If additional USTs are discovered during the course of demolition activities, the screening criteria noted above will be implemented. Confirmation samples for USTs less than 10,000-gallon will be collected from directly below the center of each tank, when multiple USTs are located within one basin. If the tanks are observed to be in individual basins or of a capacity equal to or greater than 10,000-gallon, two confirmation samples will be collected from directly below each end of the tank. Analytical parameters for confirmation sampling will be based on content of the UST (Table 1). If the content of the UST is unknown, samples will be collected for laboratory analysis of VOCs, SVOCs, DRO, and GRO.

*On-Site Staging and Off-Site Disposal*

Any soil requiring on-site staging for off-site disposal or re-use will be relocated to the designated staging area between the warehouse and main assembly building located on the main plant parcel. The stockpile will be placed on 6-mil reinforced plastic

overlaying the concrete surface and covered with securely anchored 10-mil reinforced plastic. Excavated soil that is segregated for off-site disposal will be disposed of at a Ford approved and MPCA permitted off-site facility.

**Conclusion**

We appreciate your assistance with this project. If you have questions or need additional information, please call Angharad Pagnon of ARCADIS at your convenience.

Sincerely,

ARCADIS U.S., Inc.



Angharad Pagnon  
Staff Environmental Specialist



Ryan Oesterreich  
Staff Engineer, PE, PG

Copies:

Mr. Charles Pinter, Ford Motor Company, Dearborn, Michigan  
Mr. John Meyers, Ford Twin Cities Assembly Plant, St. Paul, Minnesota

**Table 1. Underground Storage Tank Sampling Plan  
Twin Cities Assembly Plant, Saint Paul, Minnesota**

Storage Tank	Capacity	Sample Location <sup>1</sup>	Analytical Parameters <sup>2</sup>
<i>Presence Known</i>			
Waste Solvent (Feature No. 35)	Two 10,000-Gallon	Below each end of each tank	<u>Required:</u> VOCs, SVOCs, RCRA Metals  <u>Additional:</u> TCLP Lead
Unleaded Gasoline (Feature No.24)	Two 10,000-Gallon	Below each end of each tank	<u>Required:</u> GRO, benzene, ethylbenzene, toluene, total xylenes  <u>Additional:</u> VOCs
<i>Verification Required</i>			
Gasoline (Feature No. 138)	Two 20,000-Gallon	Below each end of each tank	<u>Required:</u> GRO, benzene, ethylbenzene, toluene, total xylenes
Gasoline (Feature No. 16)	Four 6,000-Gallon	Below center of each tank/below each end of each tank	<u>Additional:</u> VOCs
Sunoco Spirits (Feature No. 16)	Two 6,000-Gallon	Below center of each tank/below each end of each tank	<u>Required:</u> GRO, VOCs, PAHs, RCRA Metals
Pyroxlin Thinner (Feature No. 16)	Two 6,000-Gallon	Below center of each tank/below each end of each tank	<u>Additional:</u> TCLP Lead (if Lead results are above 700 mg/kg)
Fuel Oil (Feature No. 152)	One 27,000-Gallon	Below each end of tank	<u>Required:</u> DRO, benzene, ethylbenzene, toluene, total xylenes  <u>Additional:</u> VOCs, PAHs

**Notes:**

Feature No. as specified in 2007 Phase I Environmental Site Assessment

DRO - Diesel Range Organics

SVOCs - Semi-Volatile Organic Compounds

GRO - Gasoline Range Organics

TCLP - Toxicity Characteristic Leaching Procedure

PAHs - Polycyclic Aromatic Hydrocarbons

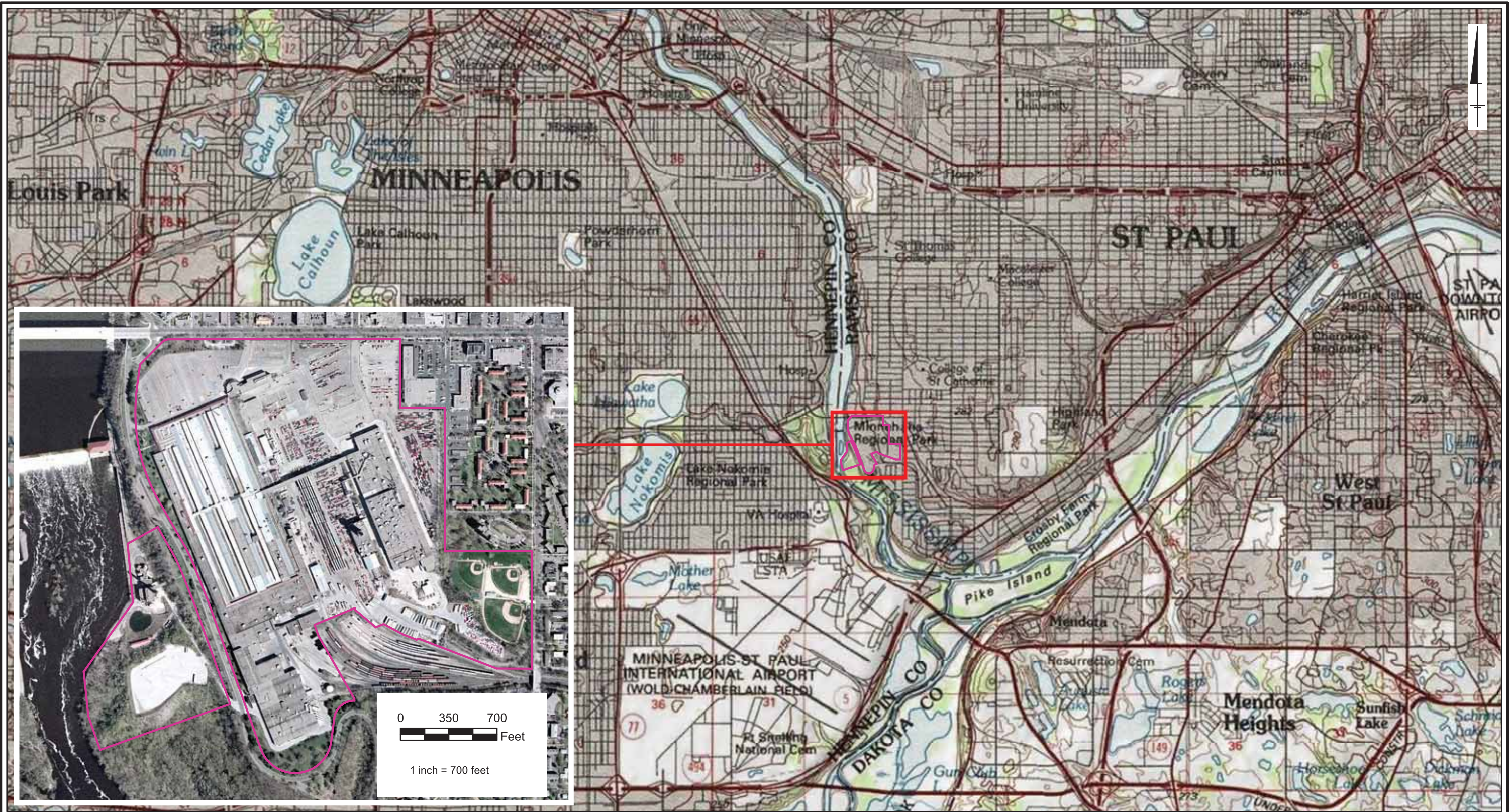
VOCs- Volatile Organic Compounds

RCRA - Resource Conservation and Recovery Act

1 - Minimum sample locations are specified and will be subject to change based on whether tanks are located in basins with or without other USTs, respectively. Need for additional sampling locations will be determined by visual inspection and soil screening results.

2 - Analytical parameters required per MPCA Guidance Document 4-04 and identified constituents of concerns as determined for identified features within the 2008 Phase II - Exterior Investigation Work Plan. Additional sampling parameters have been identified for analysis if visual inspection and soil screening results demonstrate evidence of contamination.





CITY: Minneapolis, MN DB: MCGress PM: BZinda  
 PROJECT: MIN006593  
 GIS/PROJECTS/Ford Ranger/ArchMap/2012/2012-03/1/Fig1\_Site\_Location\_Topo.mxd

**LEGEND:**

— Ford Property Boundary

**NOTES:**

Imagery Source: United States Geological Survey  
 High Resolution Orthoimagery for the Minneapolis-St. Paul,  
 Minnesota Urban Area

Topographic Map Source:  
 © 2007 National Geographic Society



1 inch = 1 miles

	Twin Cities Assembly Plant Ford Motor Company St. Paul, Minnesota
<b>Site Location / Property Layout</b>	
	<b>FIGURE</b> <span style="font-size: 24px; font-weight: bold;">1</span>



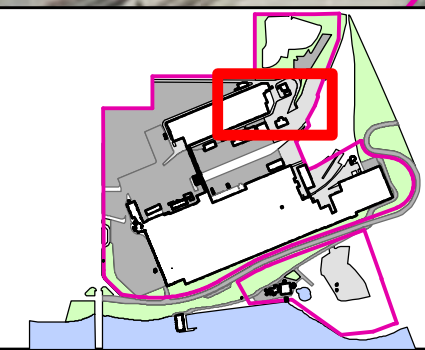
**LEGEND:**


Feature

Ford Property Boundary

0 75 150  
 Feet  
 1 inch = 75 feet

**NOTES:**  
 Aerial Image Source: USGS High Resolution Orthoimagery, Minneapolis-St. Paul, Minnesota, Spring 2012

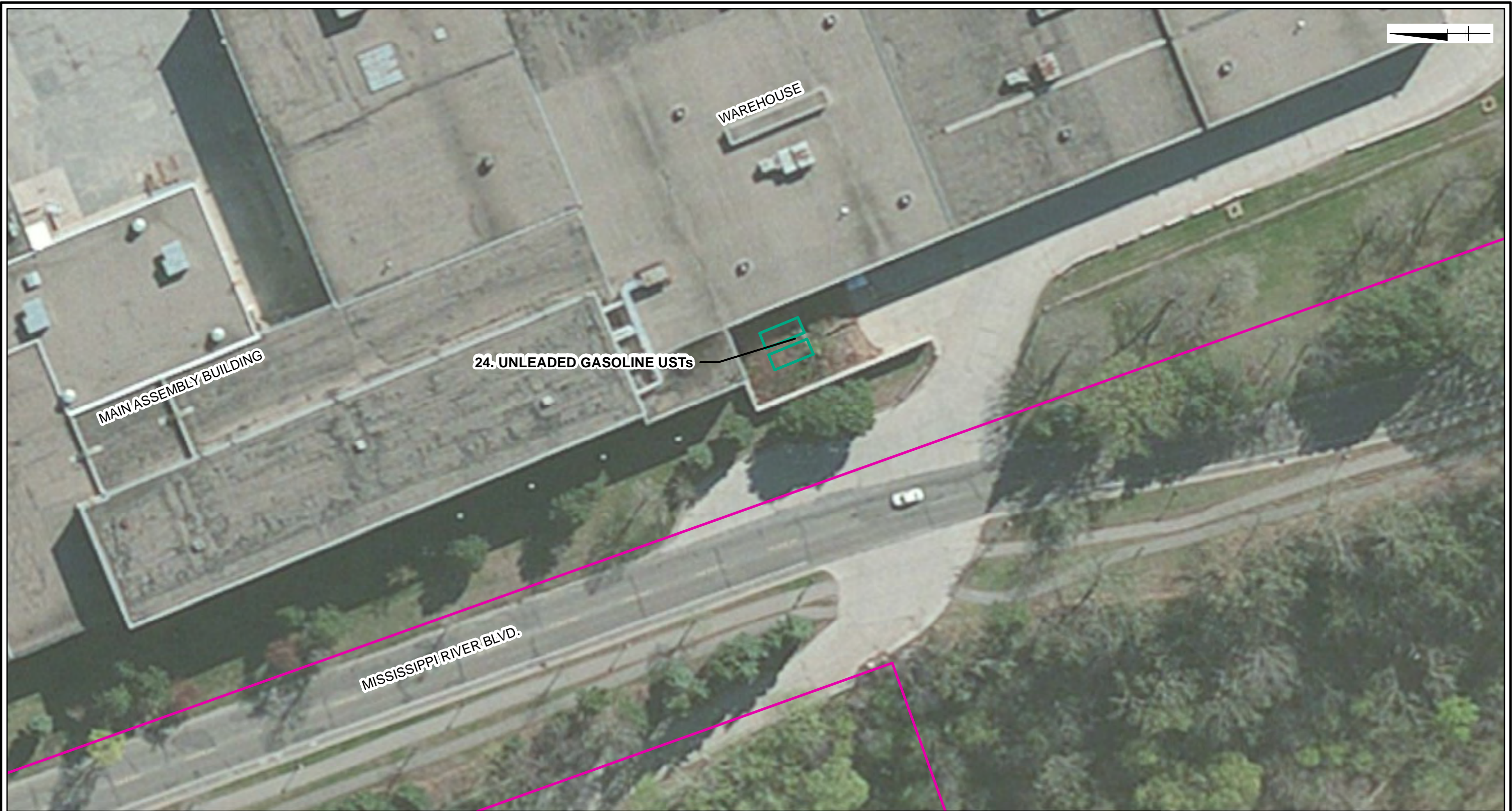


 Twin Cities Assembly Plant  
 Ford Motor Company  
 St. Paul, Minnesota

**Waste Solvent USTs Location**



CITY: MPLS DIV/GROUP: IM/DV DB: MG LD: AP  
 DE000440.0003.00RPT  
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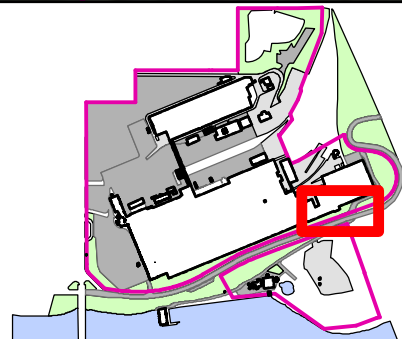



**LEGEND:**

- Feature
- Ford Property Boundary

0 50 100  
 Feet  
 1 inch = 50 feet

**NOTES:**  
 Aerial Image Source: USGS High Resolution Orthoimagery, Minneapolis-St. Paul, Minnesota, Spring 2012



 Twin Cities Assembly Plant  
 Ford Motor Company  
 St. Paul, Minnesota

**Unleaded Gasoline USTs Location**





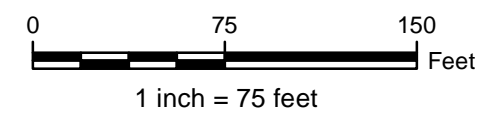
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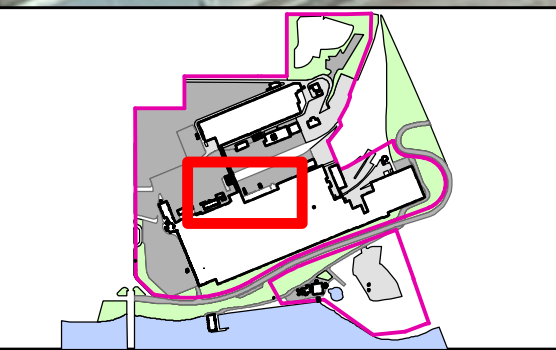


**LEGEND:**

-  Feature
-  Ford Property Boundary



**NOTES:**  
Aerial Image Source: USGS High Resolution Orthoimagery, Minneapolis-St. Paul, Minnesota, Spring 2012



	Twin Cities Assembly Plant Ford Motor Company St. Paul, Minnesota
<b>Unconfirmed USTs Location</b>	
	<b>FIGURE 4</b>