



User's Guide

Prepared by
Michigan Department of Technology, Management and Budget
Center for Shared Solutions
and the Michigan Department of Environmental Quality

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INTRODUCTION

The Michigan Environmental Mapper (Mapper) provides an online interactive map for the following sites:

- Sites of contamination regulated under [Part 201](#)
- Leaking underground storage tank sites (both active and closed) regulated under [Part 213](#)
- Underground storage tank facilities (both open and closed) regulated under [Part 211](#)
- Land Use Restrictions

Below is the web address for the application:

<http://www.mcgi.state.mi.us/environmentalmapper/>

CONTACT INFORMATION

For questions and/or comments, please contact:

Nick Ekel Jr.,
Remediation Division
Michigan Department of Environmental Quality
P.O. Box 30426, Lansing, MI 48909-7926
Phone: 517-284-5090.
Email: ekeln@michigan.gov

SYSTEM REQUIREMENTS

The Mapper has been optimized for Internet Explorer Version 6.0 and higher the web browsers Mozilla Firefox, Google Chrome, and Safari also work on the Mapper but we cannot guarantee full functionality. The Mapper uses “pop-ups”, so make sure that they are **enabled** in the web browser

PROGRAM DEFINITIONS

Active Underground Storage Tank Facilities are those regulated under [Part 211](#) where there is at least one tank at the facility that is not closed in place or removed. There may be closed tanks or active non-regulated tanks (such as heating oil tanks) present at the facility.

Closed Underground Storage Tank Facilities are those where all tanks that are regulated under [Part 211](#) are closed. There may be non-regulated active tanks at the facility, such as heating oil tanks, or tanks that are smaller than the regulatory cutoff.

Open Leaking Underground Storage Tank Site is a location where a release has occurred from an underground storage tank system regulated under [Part 213](#), and where corrective actions have not been completed to meet the appropriate land use criteria. An OPEN LUST site may have more than one confirmed release.

Closed Leaking Underground Storage Tank Site means a location where a release has occurred from an underground storage tank system, and where corrective actions have been completed to meet the appropriate land use criteria. The MDEQ may or may not have reviewed and concurred with the conclusion that the corrective action meets criteria.

Part 201: A Part 201 Listed site is a location that has been evaluated and scored by the MDEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the MDEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to MDEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

A deleted site has been removed from the Part 201 List because information known to the MDEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion.

A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

The list DOES NOT include the sites of contamination regulated under Part 213, Leaking Underground Storage Tanks, of Act 451.

Land Use Restriction is a recorded environmental resource restriction that has been used to aide in the closure of a site of contamination. The locations identified in this web application are only the restrictions that have been sent to the Department of Environmental Quality in Lansing, Michigan. The user should contact the County Register of Deeds Office to obtain a complete listing.

DISCLAIMER.

The information is based in part on forms provided to the Michigan Department of Environmental Quality (MDEQ) by the owner and/or his/her consultant. The information may not be reflective of actual site and tank data due to various reasons, such as the owner's failure to report changes, an error in reporting ownership changes, and data entry errors. The locations on the maps have been identified by address matching and the use of global positioning system (GPS) instruments. There are a few sites for which the latitude and longitude information is missing and so the sites will not appear in the "Michigan Environmental Mapper." For the complete list of sites, known to the MDEQ, see the following links:

- [Part 211 and Part 213 sites/facilities](#)
- [Part 201 sites](#)

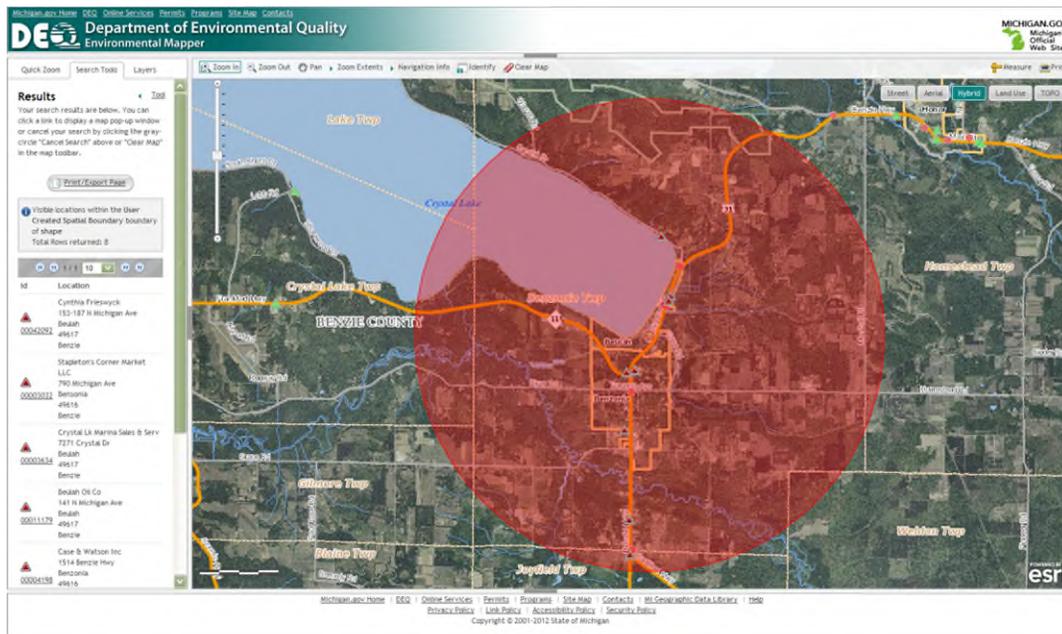
The MDEQ does not make any representations regarding the accuracy of the information nor does it accept any responsibility for errors or omissions contained therein.

SECTION 1: BASIC OUTLINE & PREVIEW DIAGRAM

The Michigan Environmental Mapper (Mapper) is an online application that has a variety of interactive features. Typical usage of Mapper will follow the following six steps:

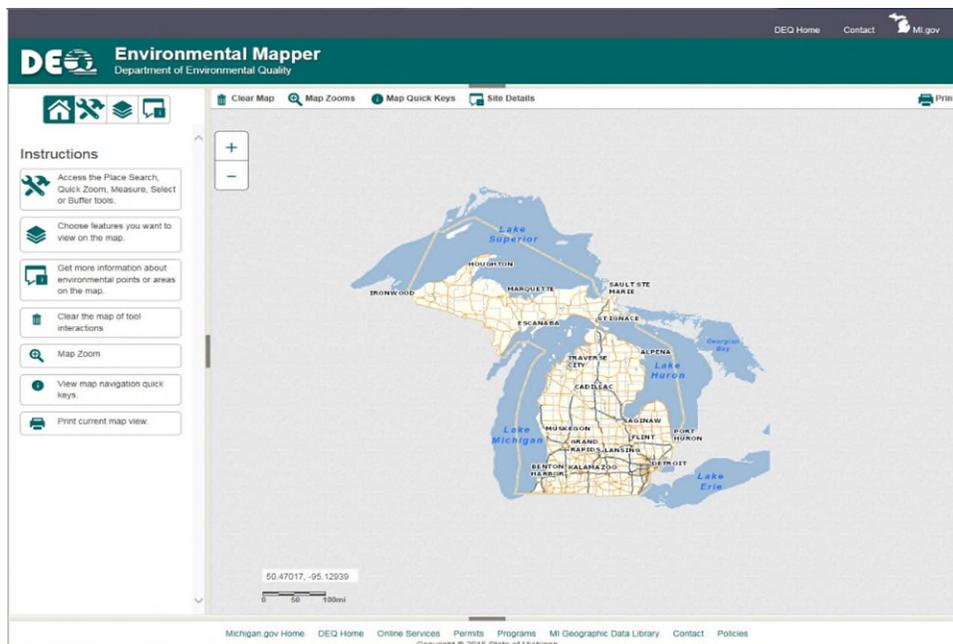
1. Use search submenus or zoom tools to locate area of interest
2. Select map layer(s) to view (Part 201 sites of contamination, leaking underground storage tanks, underground storage tanks and Land Use Restrictions).
3. Modify background map with buttons if desired
4. Choose a tool to highlight items of interest
5. Select highlighted sites for additional details
6. Use links and tabs to export or print information

Most of these steps can be initiated from the Mapper's Main Page. The following shows a hybrid map highlighting ten Part 213 sites (both Open and Closed) within a user specified 3-mile point buffer placed in Beulah, Benzie County.



SECTION 2: MAIN PAGE HIGHLIGHTS

After entering the web address, the main page will be displayed.

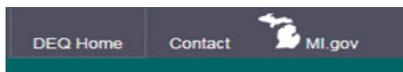


The main page has three primary areas of interest.

- **Links** (bottom and top)
- **Map View** (center area)
- **Side Menu** (left area).

2.1 Links

2.1.1 Header Links. The header links provide access to: DEQ home page, Contacts and MI.gov,.

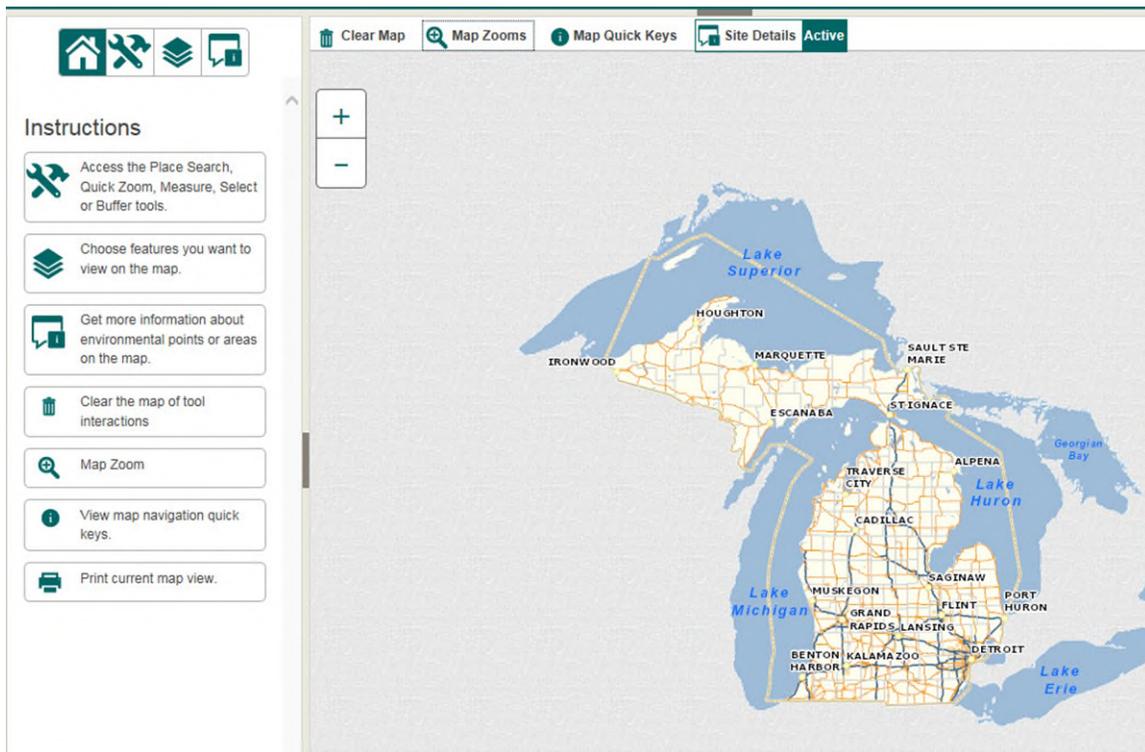


2.1.2 Footer Links. Along the footer banner, there are links found on the header banner along with additional useful links.



SECTION 3: MAP VIEW

The Map View has 4 clickable buttons across the top of the map: Clear Map, Map Zooms, Map Quick Keys and Site Details. Also, on the left side bar are the Instruction Buttons.

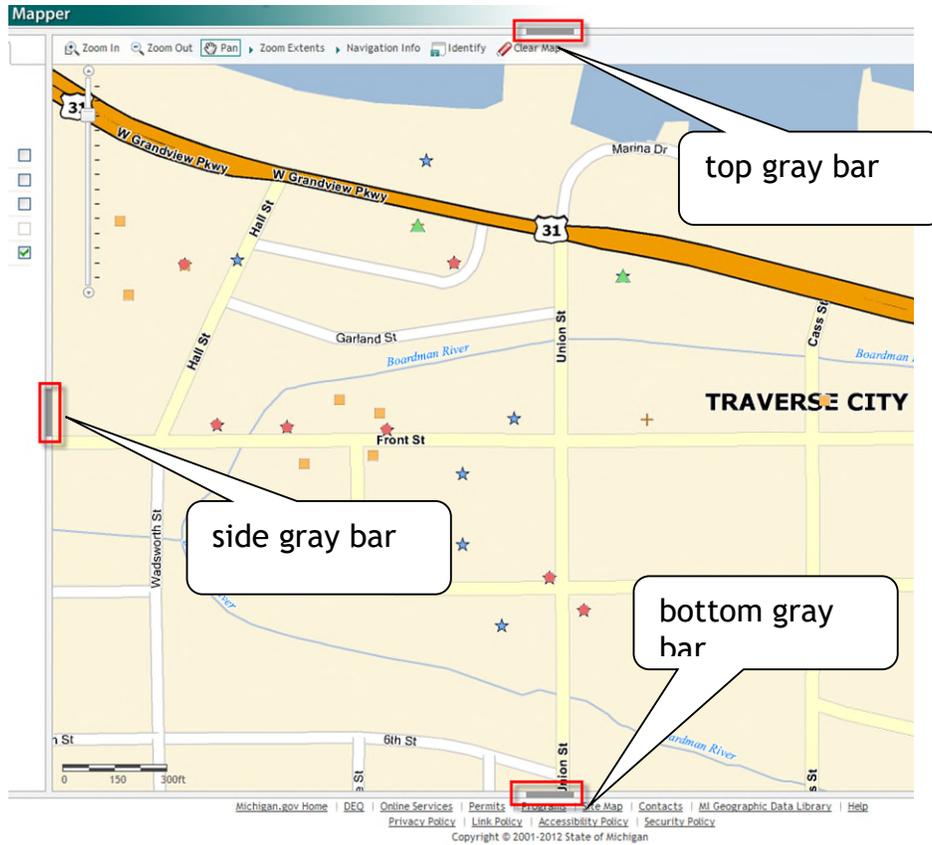


3.1 Viewable Layers: Click the Layer button  Then click on the different layers; **Aerial, Hybrid, Land Use** or **TOPO** to change the look of the map. The selected image layer will turn green.

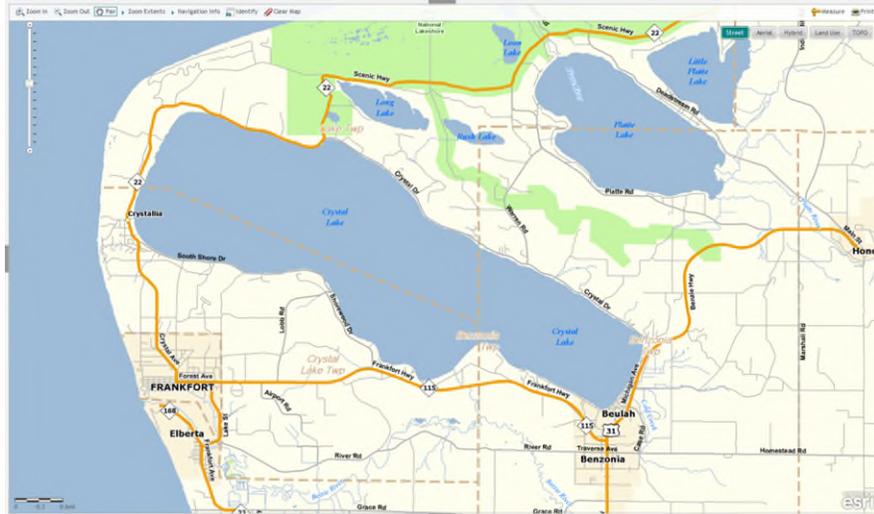


When you select **Aerial**, an Aerial Imagery Information Disclaimer box opens. Close Box. The Disclaimer Box will only open once per session.

3.2 Larger Map View: Users can expand the map view to nearly full screen by **clicking** and moving the small dark gray bars at the top, bottom and left side of the Map View. Click on them again to return to the original view.



The following is an example with the Map View zoomed in to Crystal Lake, with the side menu, header and footer closed.



3.2 Map Functions: To make the map tools/buttons active, click once with the mouse. Click again to make it inactive or click on a different selection. An active tool will be outlined in black.



3.2.1 Zoom In: Click the plus sign and draw a box to show the zoom extent, and the map will zoom to that area.

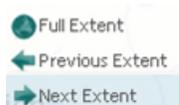


3.2.2 Zoom Out: Click the minus sign and draw a box and the map will zoom out to a larger area.

3.2.3 Pan: Click on the map and drag the mouse to pan around the map.



3.2.4 Zoom Extents: Click on the arrow to expand this tool.



Full Extent: Click and the map zoom out to display the entire state.

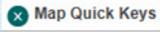
Previous Extent: Click and the map reverts to the previous map view (location and zoom level).

Next Extent: Click and the map returns to the most recent map.

Click on the green x in front of Map Zooms  to close the dropdown list.

3.2.5 Navigation Info:  Click on the arrow to open the dropdown of navigation options. These will explain other ways to pan, scroll, zoom out, zoom in, and re-center.

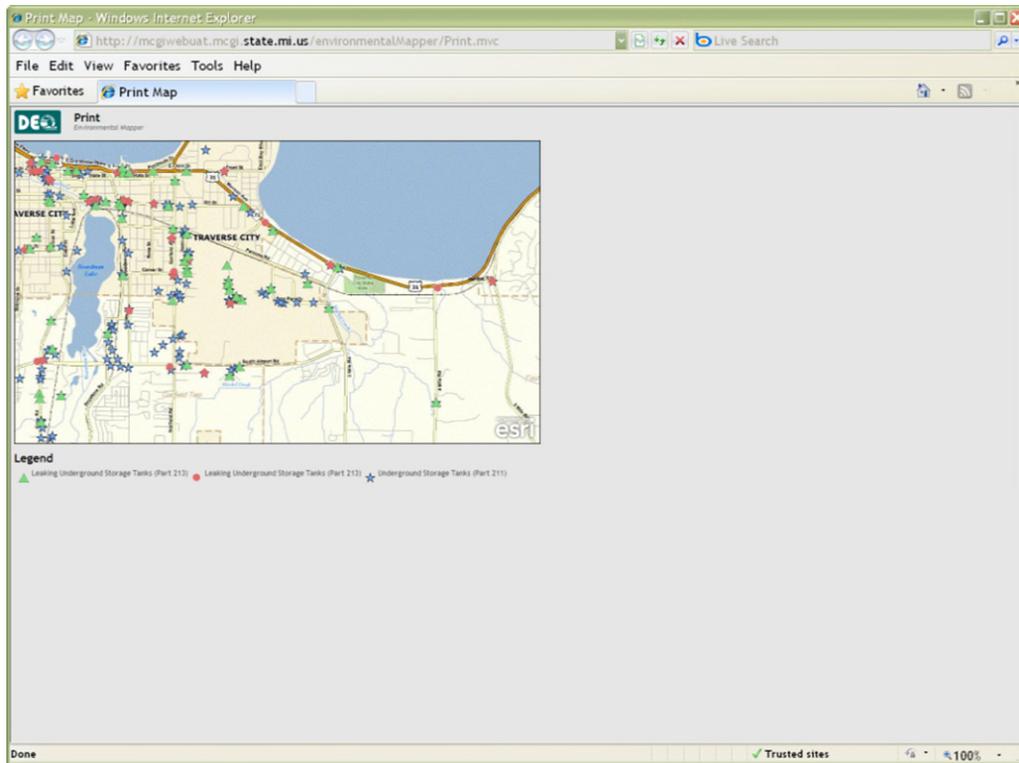
- Drag the mouse to pan
- Mouse Scroll Forward to zoom in
- Mouse Scroll Backward to zoom out
-  + Drag the mouse to zoom in
-  +  + Drag the mouse to zoom out
-  + Click to recenter
- Double Click to Center and Zoom in
- Use arrow keys to pan
- Use  key to zoom in a level
- Use  key to zoom out a level

Click on the green x in front of Navigation Info  to close the dropdown list.

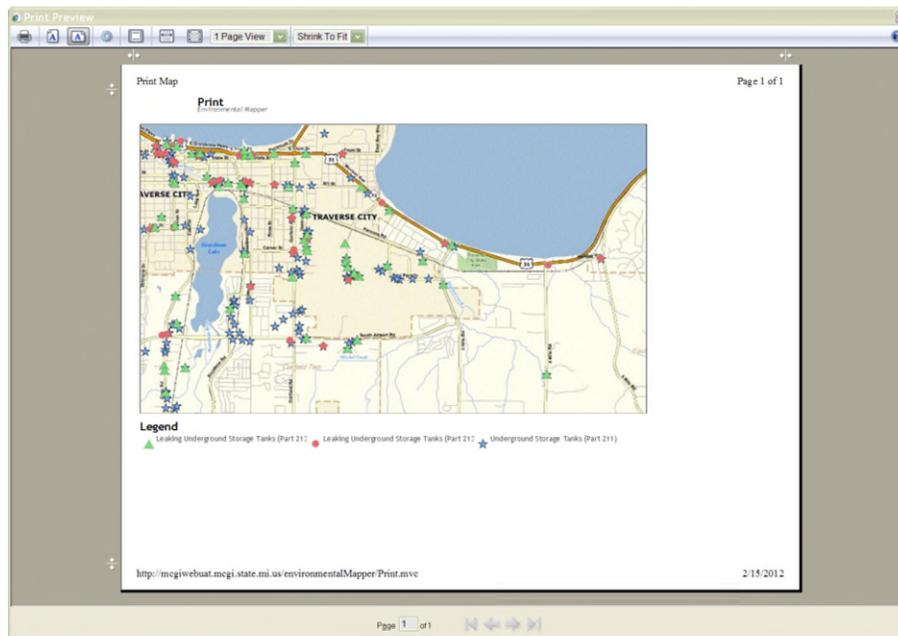
3.2.6 Site Details:  Clicking on this icon will allow you to click on any of the Environmental Management layers visible on the map. A pop-up window will open with the Identify results for that layer. Close the window by clicking on the gray x in the upper right corner.

3.2.7 Clear Map:  Click to clear any tool feature or selection on the map.

3.3 Print:  Click to open a new Print Map window in your Viewer. The map seen in your Map View will be visible with the Legend of visible layers.

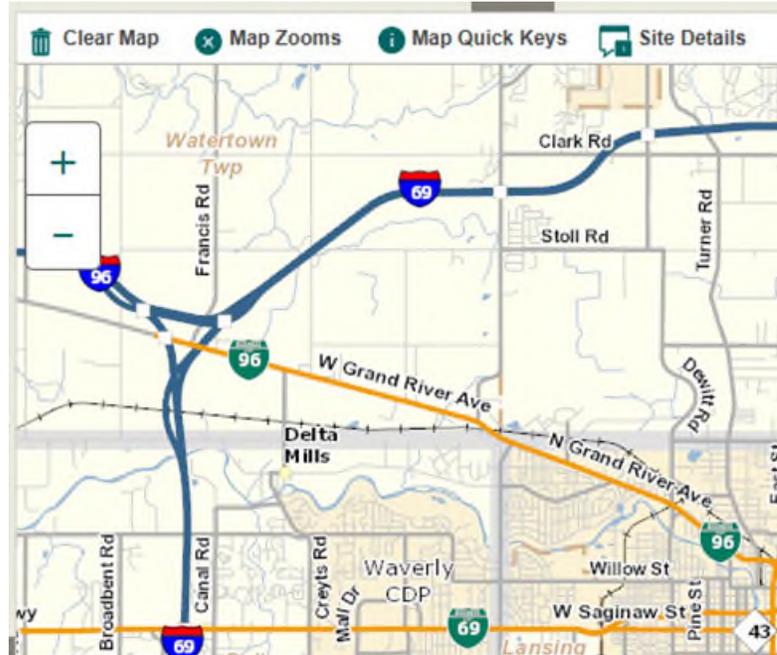


Select the Print Preview button in the Viewer to show how the map will look when printed. You can choose portrait or landscape. Print Map.



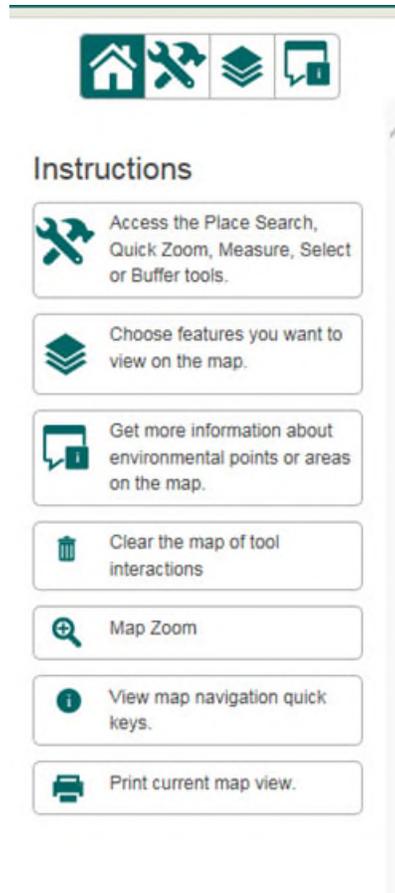


3.4 Zoom: In the upper left corner of the map view, there is a zoom. Click on the plus to zoom in and on the minus to zoom out.



SECTION 4: SIDE MENU

The left side of the main page is occupied by the “Side Menu”. From this menu, you can select from four buttons: **Home**, **Tools**, **Layers** and **Site Details**.



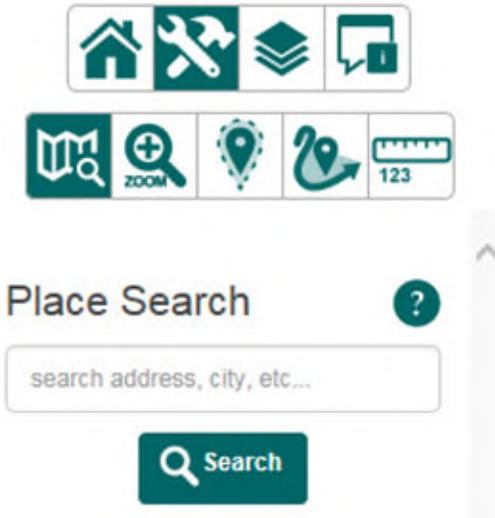
These will allow you to customize your map and the information you choose to see on it. Make your selection by clicking on the tabs and expanding your choices.

4.0 Tools:  Access the Place Search, Quick Zoom, Measure, Select or Buffer tools. or  Click on either icon and it will take you to the

tool selection menu    
    

4.1.1 Place Search:  This selection allows you the opportunity to search by a street address, city or other known place. After you key in your selection, click Search

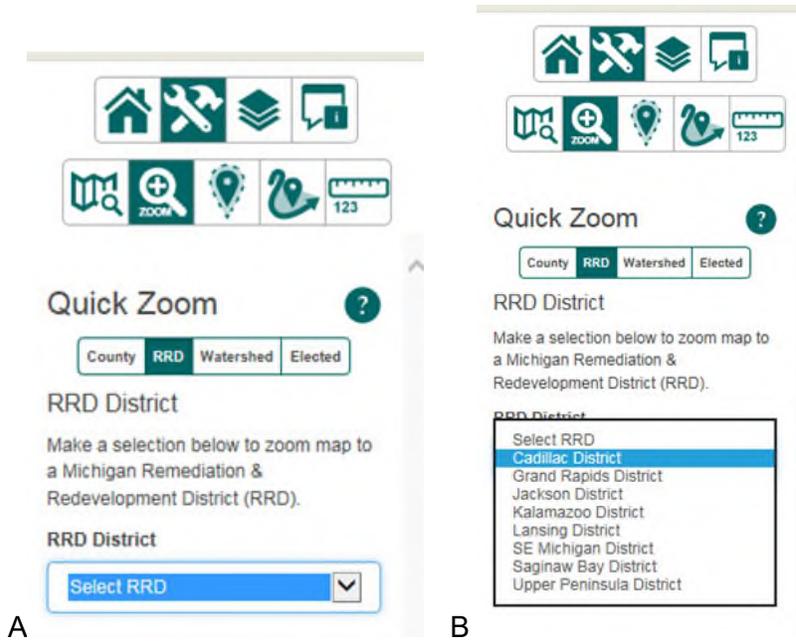
Place and the map will zoom to that location. A blue pin will designate the location..



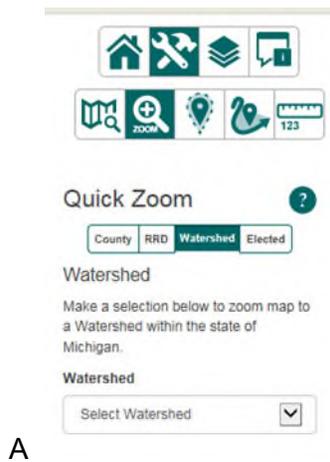
4.1.2 County: This selection allows you to search by a county and you also have an option to select by township/range within that county. After you select a county from the dropdown list, the map will zoom to that county. You can then select a town/range from a dropdown list and the map will zoom to that location.



4.1.3 RRD District: This selection allows you to quick zoom to a Michigan Remediation & Redevelopment Division District (A). You will make your selection from a dropdown list (B). After you select a district, the map will zoom to the district boundaries.



4.1.4 Watershed: This selection allows you to quick zoom to a watershed within the state (A). When you select a watershed from the dropdown list (B), the map will zoom to that location.





Quick Zoom ?

County RRD **Watershed** Elected

Watershed

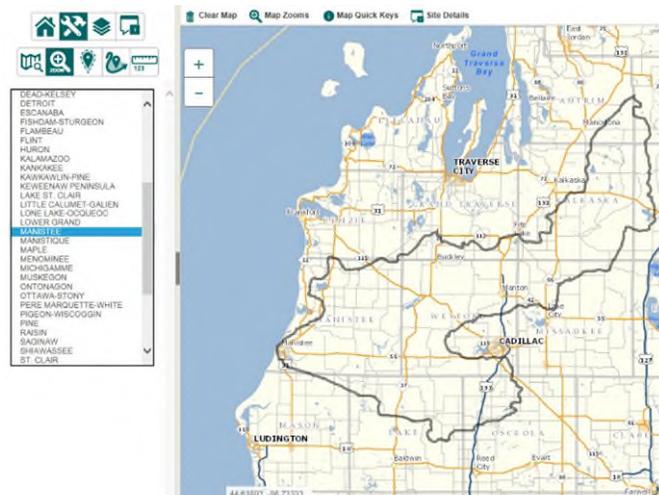
Make a selection below to zoom map to a Watershed within the state of Michigan.

Watershed

- Select Watershed

 - AU GRES-RIFLE
 - AU SABLE
 - BAD-MONTREAL
 - BETSY-PLATTE
 - BETSY-CHOCOLAY
 - BIRCH-WILLOW
 - BLACK
 - BLACK-MACATAWA
 - BLACK-PRESQUE ISLE
 - BOARDMAN-CHARLEVOIX
 - BREVOORT-MILLECOQUINS
 - BRULE
 - CARP-PINE
 - CASS
 - CEDAR-FORD
 - CHEBOYGAN
 - CLINTON
 - DEAD-KELSEY
 - DETROIT
 - ESCANABA
 - FISHDAM-STURGEON
 - FLAMBEAU
 - FLINT
 - HURON
 - KALAMAZOO
 - KANKAKEE
 - KAWKAWLIN-PINE
 - KEWEENAW PENINSULA
 - LAKE ST. CLAIR

B



4.1.5 Elected: This selection allows you to choose a Michigan House or Senate District (A). The default is the House (green). When you select Senate, the color changes to green. You can make your selection from a dropdown list in either the House or Senate (B). The map will zoom to your selection.

Quick Zoom ?

County RRD Watershed **Elected**

Elected

Select House or Senate, and then make a selection below to zoom map that Legislative district.

House District

Select House District

Senate District

Select Senate District

A

Quick Zoom ?

County RRD Watershed **Elected**

Elected

Select House or Senate, and then make a selection below to zoom map that Legislative district.

House District

- Select House District

 - 001 | Bob Genetski
 - 002 | Greg MacMaster
 - 003 | Mile Calton
 - 004 | Charles Brunner
 - 005 | Joel Johnson
 - 006 | Sharon Tyler
 - 007 | Al Pscholka
 - 008 | Kate Segal
 - 009 | Ben Giardon
 - 010 | Paul Opsommer
 - 011 | Peter Pettalia
 - 012 | Deb Shaughnessy
 - 013 | Frank Foster
 - 014 | Woodrow Stanley
 - 015 | Richard E. Hammel
 - 016 | Jim Ananich
 - 017 | Charles Smiley
 - 018 | Paul Scott
 - 019 | Wayne Schmidt
 - 020 | Kenneth Kurtz
 - 021 | Barb Byrum
 - 022 | Joan Bauer
 - 023 | Mark Meadows
 - 024 | Rick Outman
 - 025 | Matt Huuki
 - 026 | Kevin Cotter
 - 027 | Earl Poleski
 - 028 | Sean McCann
 - 029 | James "Joey" Palazzo

B

Quick Zoom ?

County RRD Watershed **Elected**

Elected

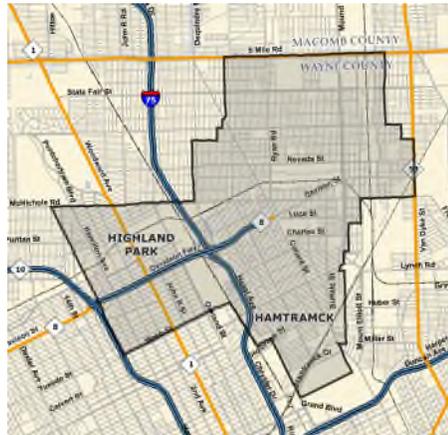
Select House or Senate, and then make a selection below to zoom map that Legislative district.

House District

Select House District

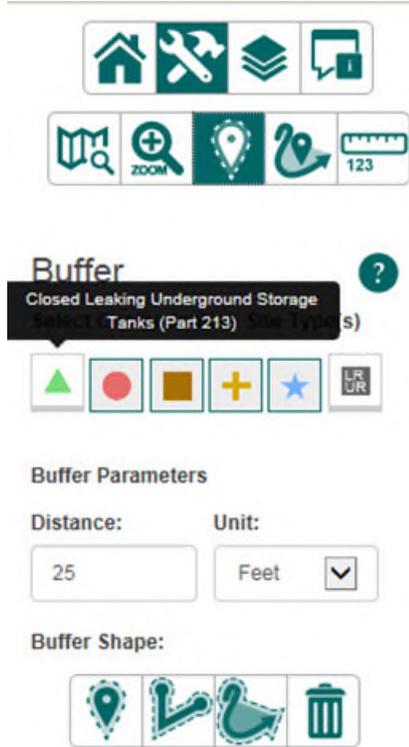
Senate District

Select Senate District

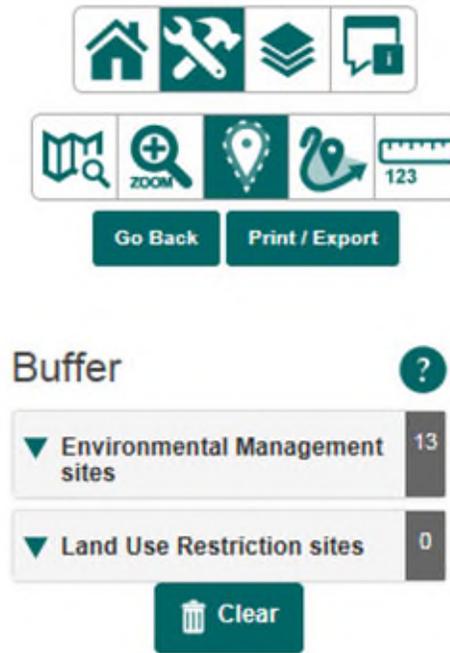


4.2 Buffer Tools:  This button allows you to search for one or more Contamination site types by using a buffer tool to generate your results. A) If you hover over the different site types with your mouse it will tell you what the type, for example if you hover over the green triangle it will tell you it is a Closed Leaking Underground Storage Tank(Part 213). The icons are toggle switches. Click once to turn on the green triangle and click again to turn them off in the map. B) Once Buffer is created the Go Back and Print/Export buttons activate.

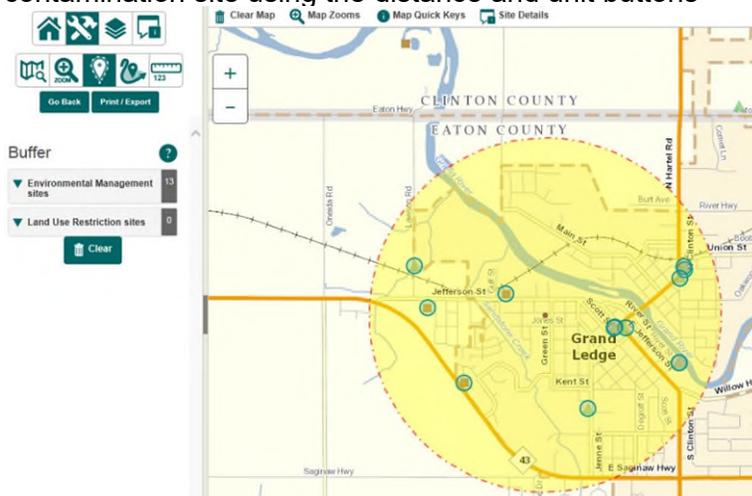
A)



B)



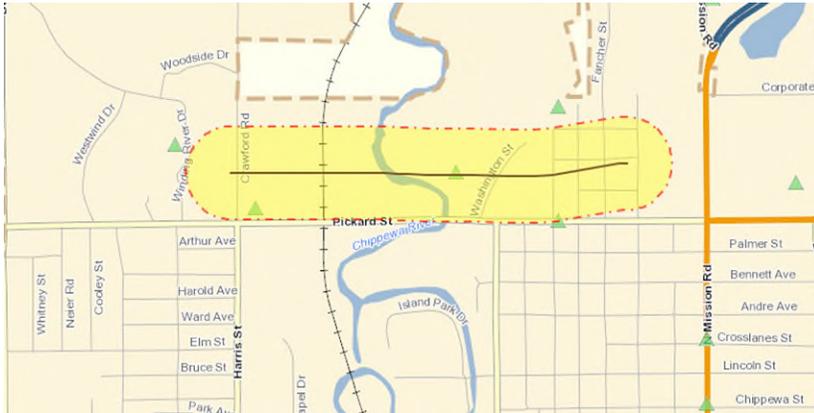
You can use the Buffer Point if you need a buffer that is a specific distance around a contamination site using the distance and unit buttons



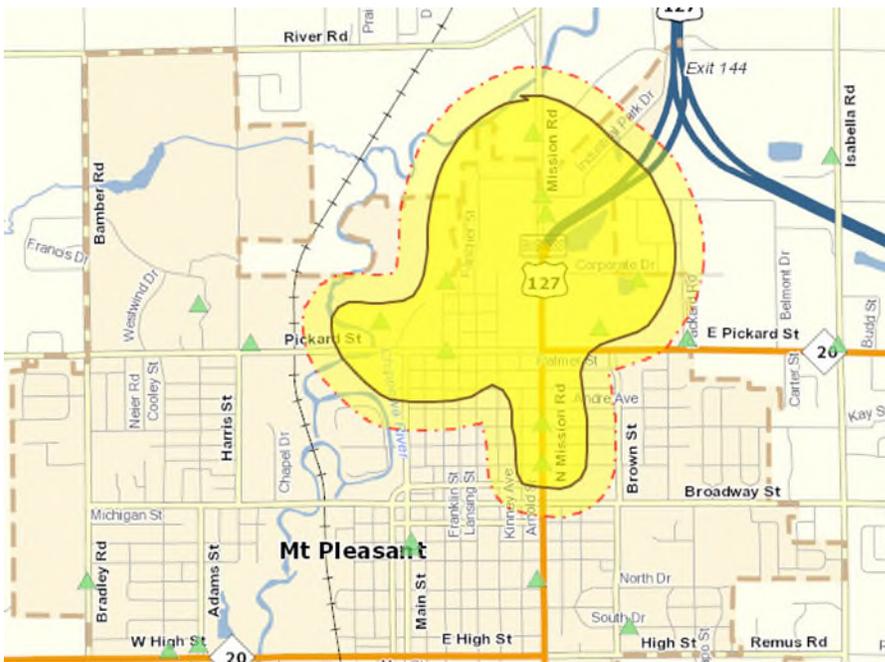


Buffer Polyline to draw a line around a contamination site.

The following is a 500 ft. Buffer Line through Mt. Pleasant.

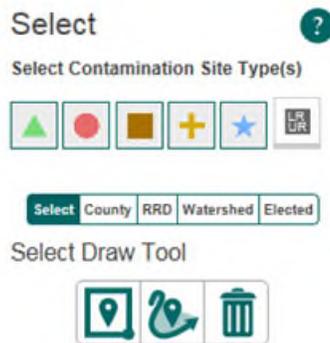


Buffer Polygon to draw a freehand polygon around a contamination site.

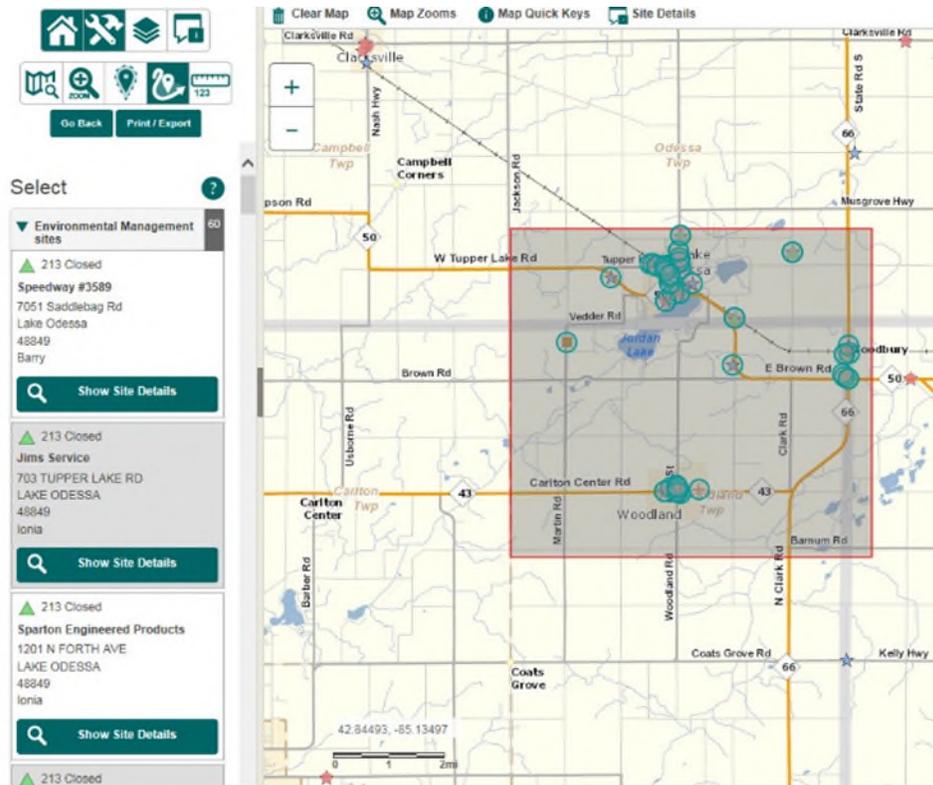


Clear the map of any buffers.

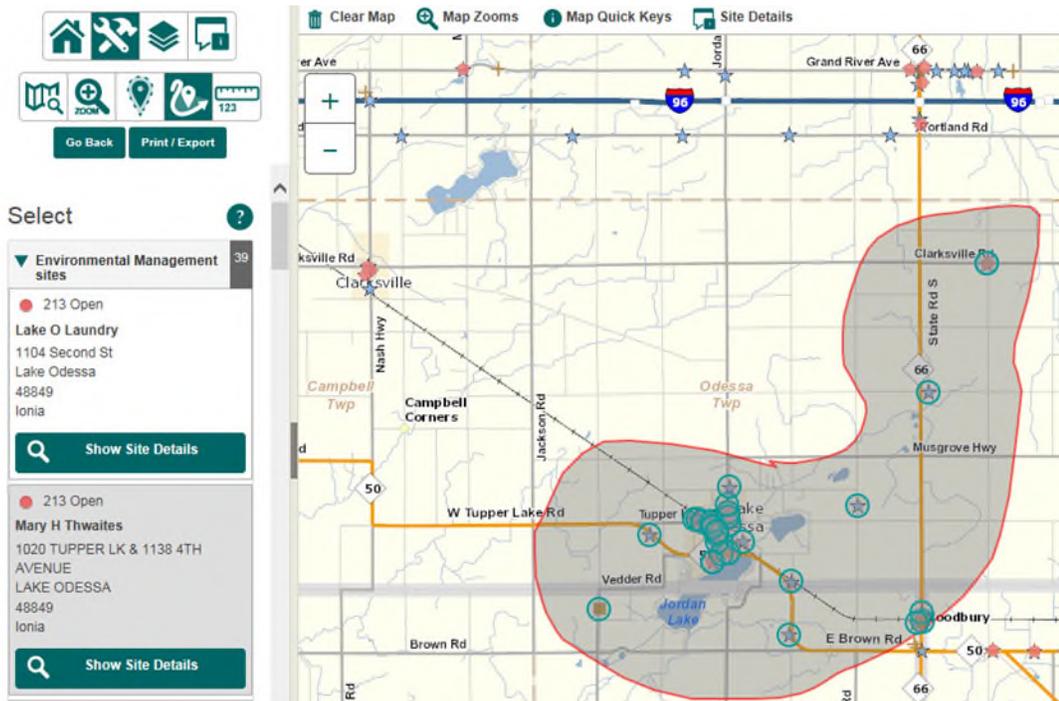
4.2.2 Select Tools:  This Tool Type allows you to search for one or more Contamination Site Types and/or underground storage tank facilities and/or Land Use Restriction. You can select by clicking on the **COUNTY, RRD, WATERSHED or ELECTED BUTTONS**, or make your selection by using the Select Draw Tool a bounding box or geometric shape or Legislative District.



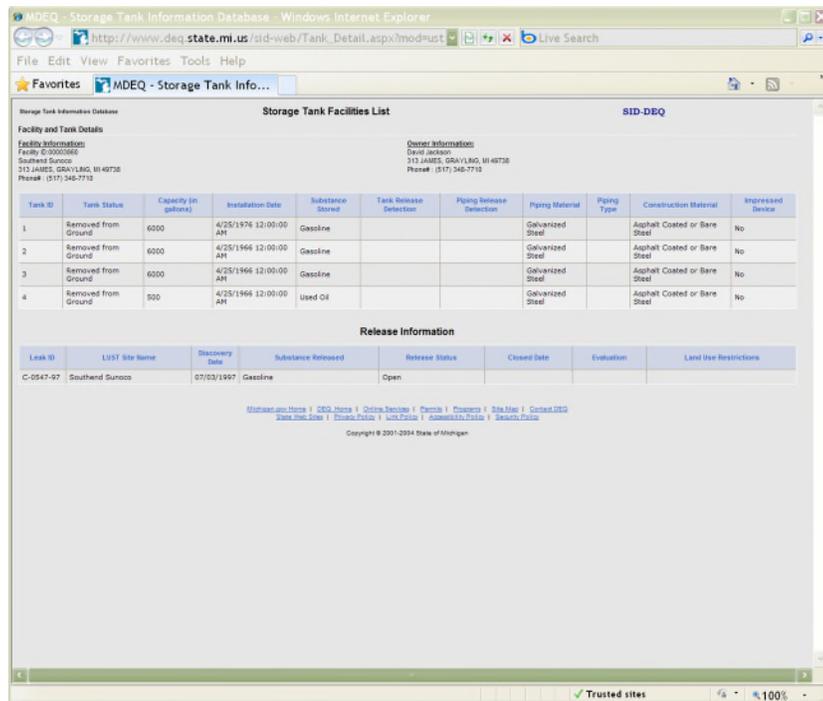
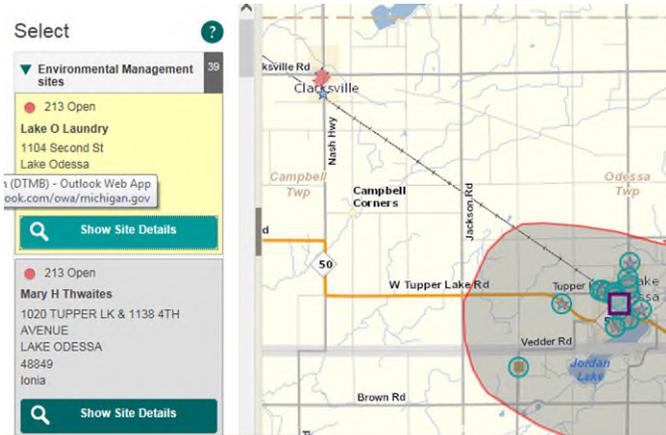
The Select Extent Tool allows user to draw a box to highlight the contamination sites. The box will be gray, with a red line around it. The Contamination Sites will be highlighted by greenish circles, and the corresponding information will be shown in the left side bar.



Freehand Polygon Tool allows user to draw a shape to highlight the contamination sites



Click on an Environment Management site on the left side bar and the box will turn yellow and the corresponding site will have a purple square around it. Click on the green Show site details and a new window opens with more information on that location.



Close Information Box

You have the option to print or export the page of Contamination Site Results, from the Side Menu.



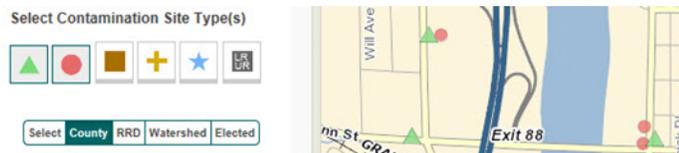
Click on the Print/Export button . A new page opens with the results . Right click in the window and select Print in this new Viewer window.

Click on Export to Excel  to save the results to an Excel file.

Close Search Results Window.

4.2.3 Choose Contamination Site Type(s) to Select:

Hovering over any Contamination Site Type symbol will highlight the name.



Turn on one or more of the Contamination Site Types by clicking on the symbol. The symbol will turn to a gray background and the symbol will be visible on the map.

Choose Contamination Site by County:

You can either select by County or select by Town, Range and Section.



Select ?

Select Contamination Site Type(s)



Select **County** RRD Watershed Elected

County

Enter the information requested below to locate a county within the state of Michigan. Township and city/village is optional.

County

Select

Town

Select a Town

Range

Select a Range

Section

Select a Section

4.2.4 Select by RD District: This Tool Type allows you to search for one or more Contamination Site Types and then make your selection by RD District (A). You will select the RD District from a dropdown list (B).
Choose Contamination Site Type(s) to Select:

Hovering over any Contamination Site Type symbol will highlight the name.



Select **County** RRD Watershed Elected



Turn on one or more of the Contamination Site Types by clicking on the symbol. The symbol will turn from gray to a color and the symbol will be visible on the map

Select ?

Select Contamination Site Type(s)

Select County **RRD** Watershed Elected

RRD District

Make a selection below to zoom map to a Michigan Remediation & Redevelopment District (RRD).

RRD District

Select RRD

Select ?

Select Contamination Site Type(s)

Select County **RRD** Watershed Elected

RRD District

Make a selection below to zoom map to a Michigan Remediation & Redevelopment District (RRD).

RRD District

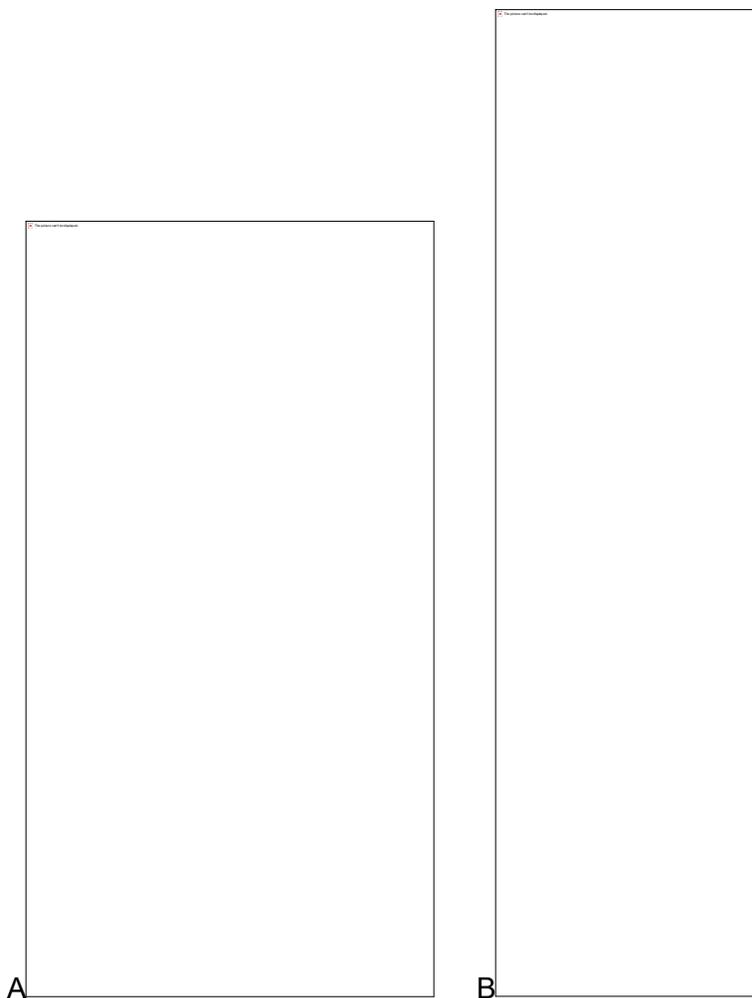
Select RRD
Cadillac District
Gaylord District
Grand Rapids District
Jackson District
Kalamazoo District
Lansing District
SE Michigan District
Saginaw Bay District
Upper Peninsula District

After you select an RD District from the dropdown list, click on Search RD District . The map will zoom to that location.

The following is a search for Former Part 201 sites (orange square) in the Cadillac RD District.



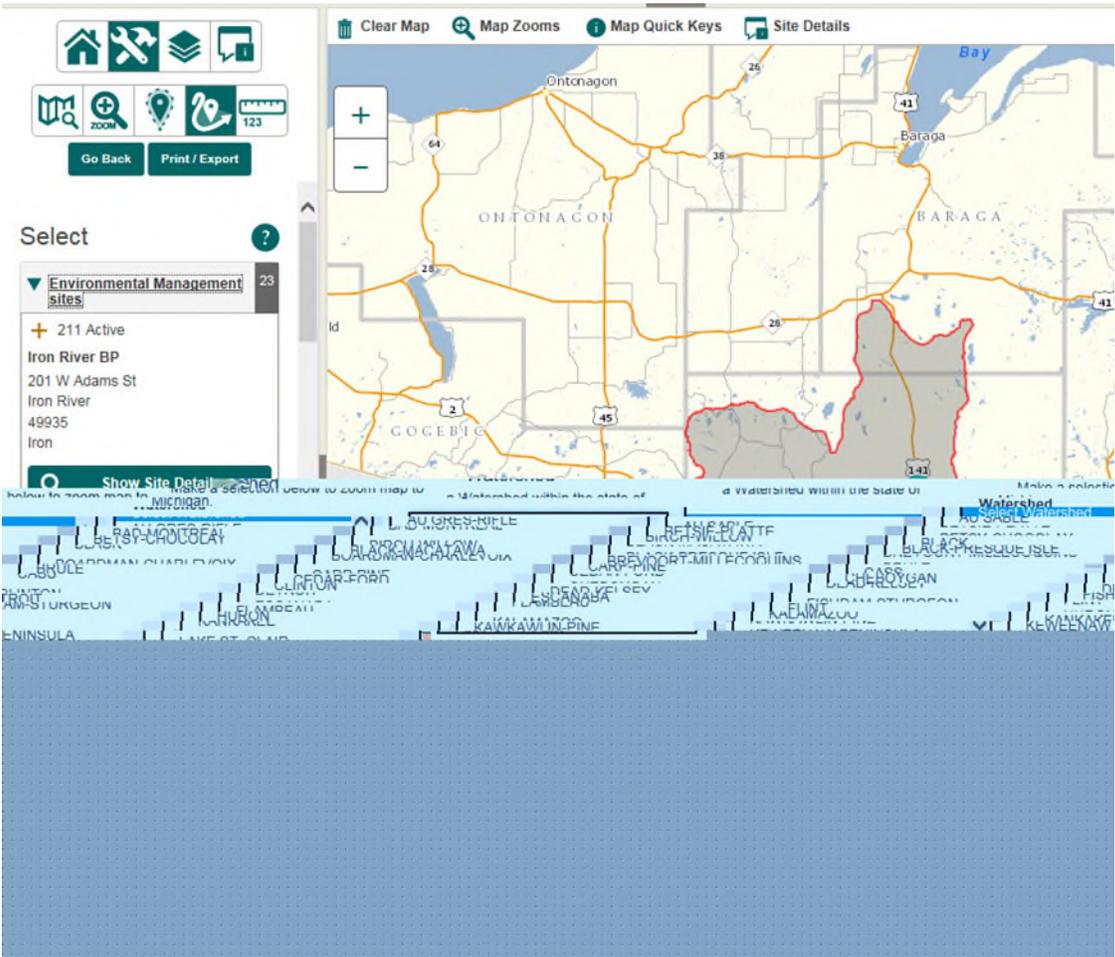
4.2.5 Select by Watershed: This Tool Type allows you to search for one or more Contamination Site Types and within a Michigan Watershed (A). You will select the Watershed from a dropdown list (B).



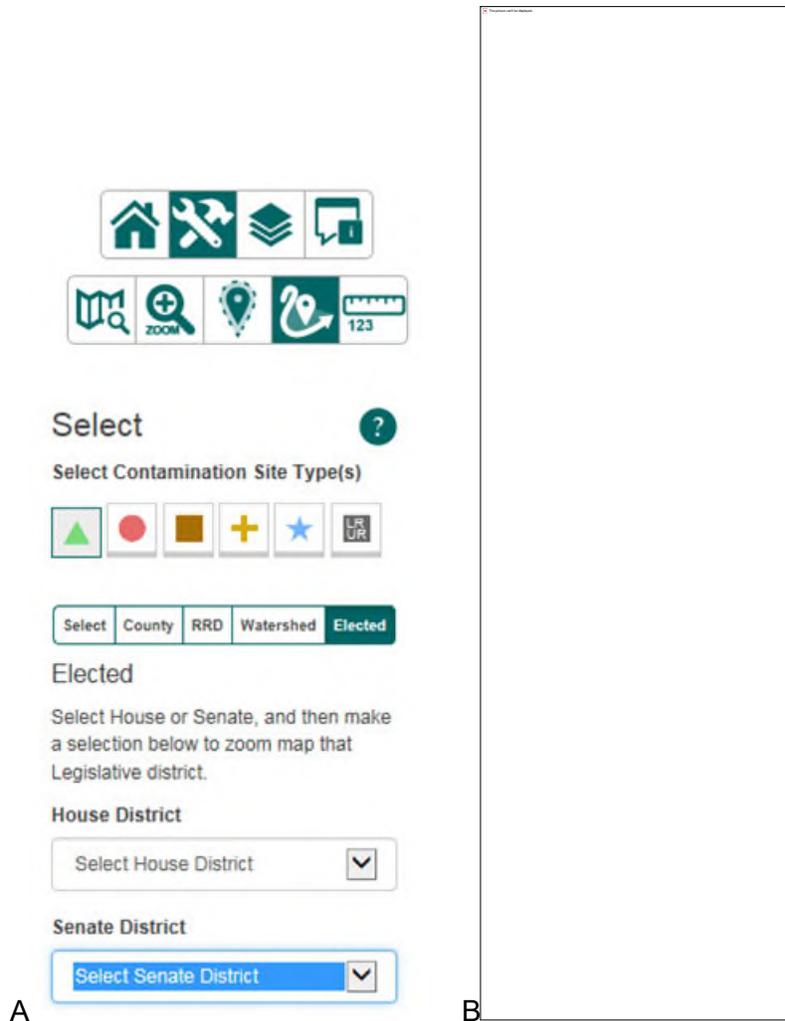
Select a contamination site(s) and then select a Watershed.

The map will zoom to that location.

The following is a search for Active Underground Storage Tanks (brown plus symbol) in the Brule Watershed.

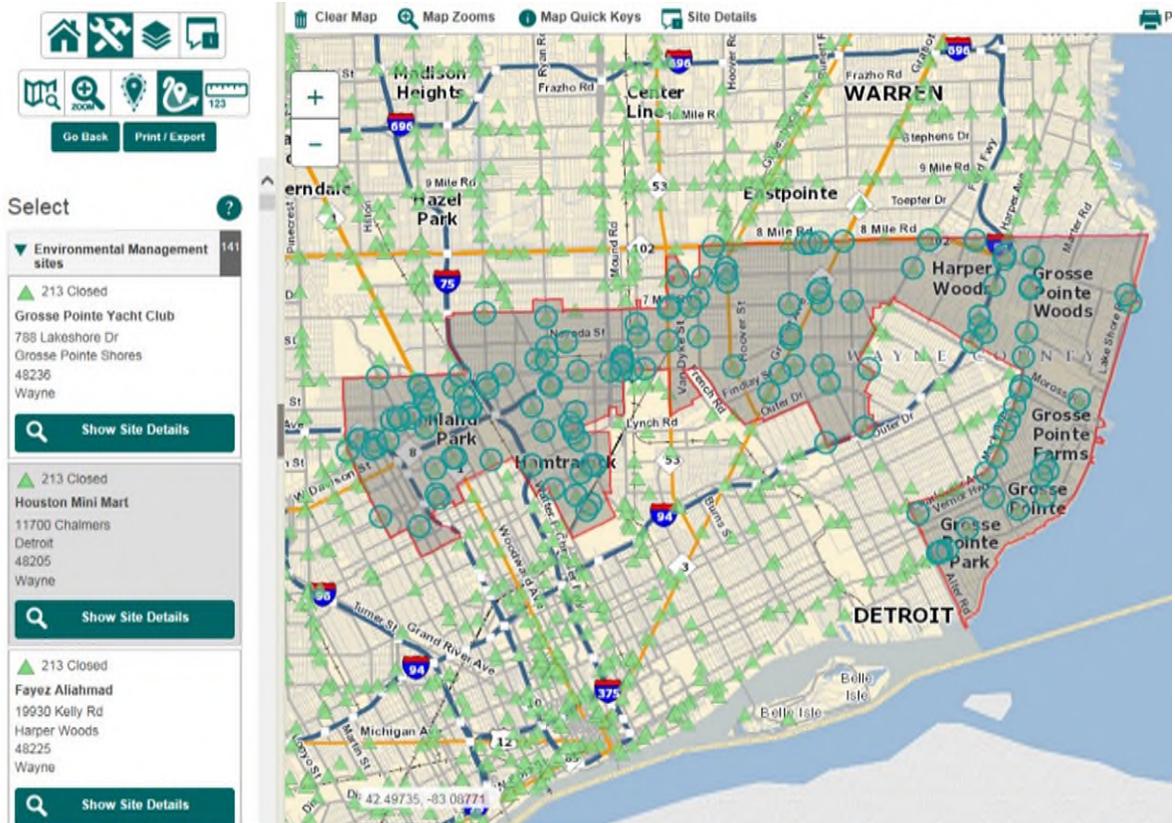


4.2.6 Select by Legislative District: This Tool Type allows you to search for one or more Contamination Site Types within a Michigan Legislative District (A). You will select the Legislative District, either House or Senate, from a dropdown list (B).

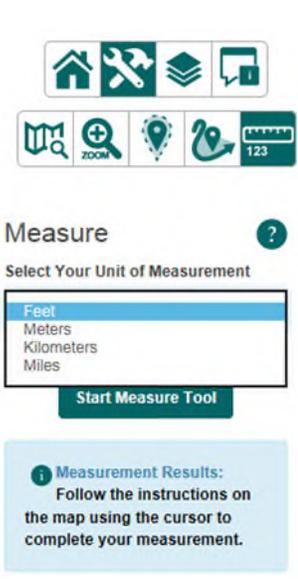
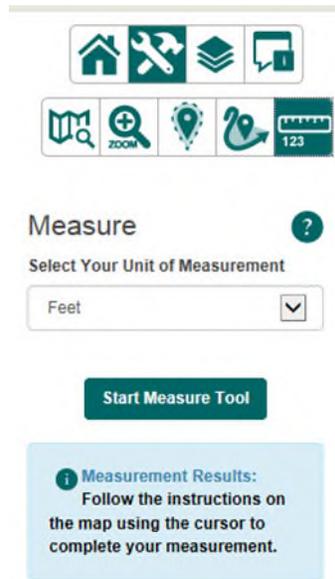


Select a contamination site(s) and then select a House or Senate Legislative District.

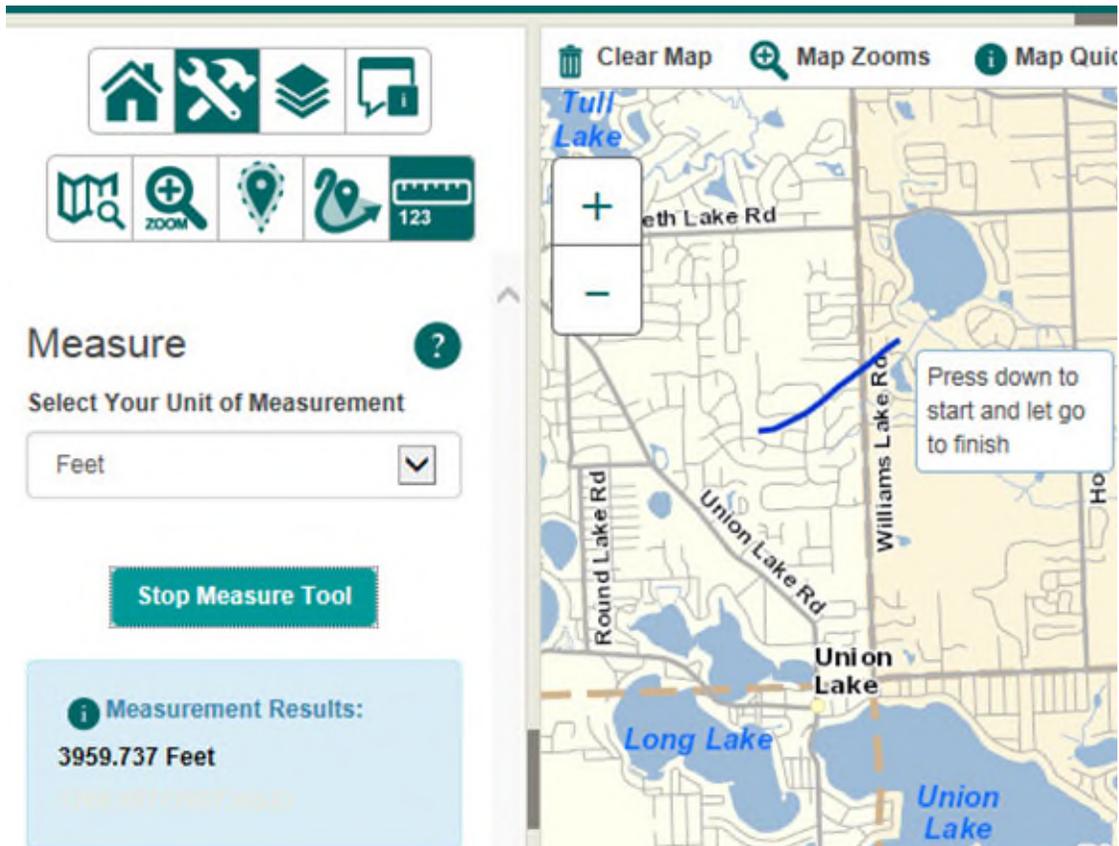
The following is a search for Closed Leaking Underground Storage Tanks (green triangle) in the Senate District of Bert Johnson (Wayne County).



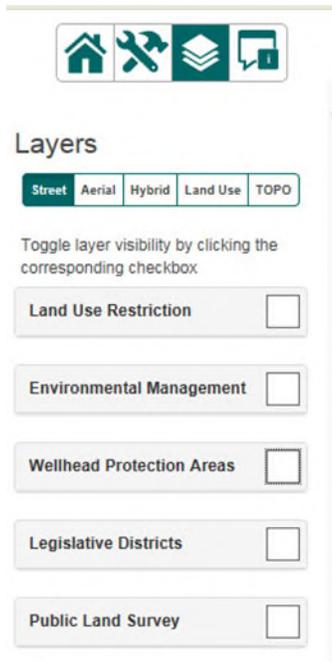
4.2.7 Measure:  Click on the icon to start using the measure tool. The following will appear: Select the Unit of Measurement and click the Start Measure Tool Button and follow the instructions on the map.



Press the Stop Measure Tool Button to stop measuring.



4.3 Layers:  This tab allows you to turn on/off different layers on your map. Toggle the layer visibility by clicking the corresponding checkbox. The default view has the Environmental Management layer checked turned on and Street as the default.



The symbols, points and polygons will only be displayed on the map after a certain zoom in scale is reached. They will not be visible at the full state view.

4.3.1 Land Use Restriction Layer. Click on the checkbox for the **Land Use Restriction** layer. A list of restrictions opens.



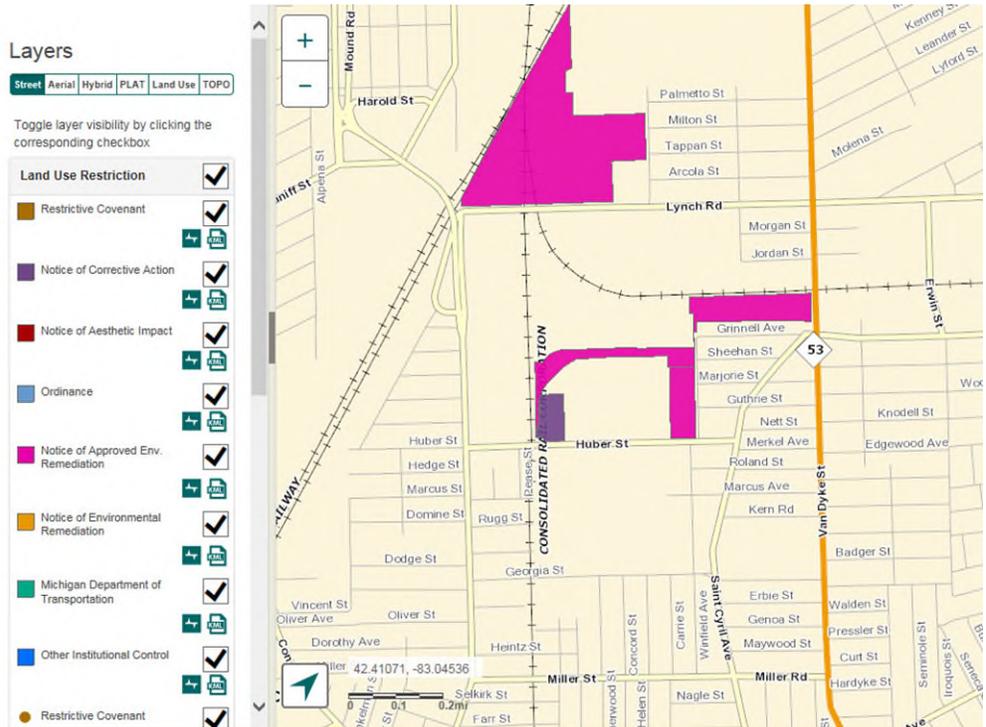
Layers

Street Aerial Hybrid Land Use TOPO

Toggle layer visibility by clicking the corresponding checkbox

Land Use Restriction		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Restrictive Covenant	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Corrective Action	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Aesthetic Impact	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Ordinance	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Approved Env. Remediation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Environmental Remediation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Michigan Department of Transportation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Other Institutional Control	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Restrictive Covenant	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Corrective Action	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Ordinance	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Notice of Approved Env. Remediation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Michigan Department of Transportation	<input checked="" type="checkbox"/>

The following example has several Land Use Restrictions shown in the city of Detroit.

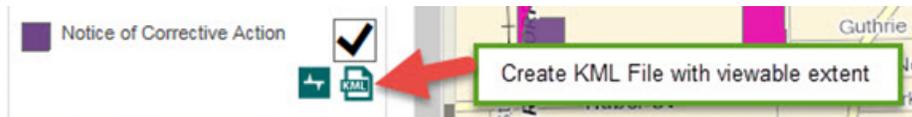


To the right of each Land Use Restriction, there are 2 icons,  and .

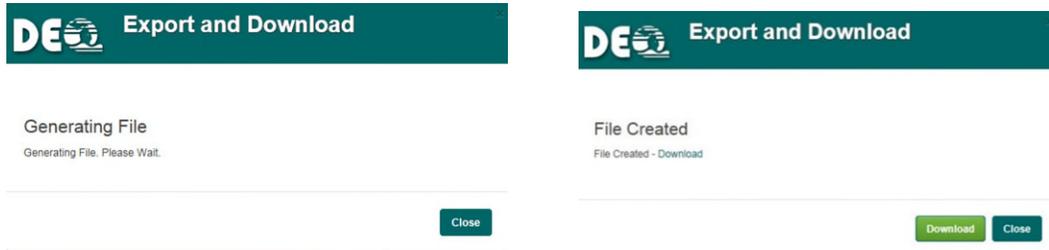
Hover over the  icon and a box opens explaining what it does. This one creates a shape file for this Restriction type, in this view only.



Hover over the  icon and a box opens explaining what it does. This one creates a KML file for this Restriction type, in this view only.

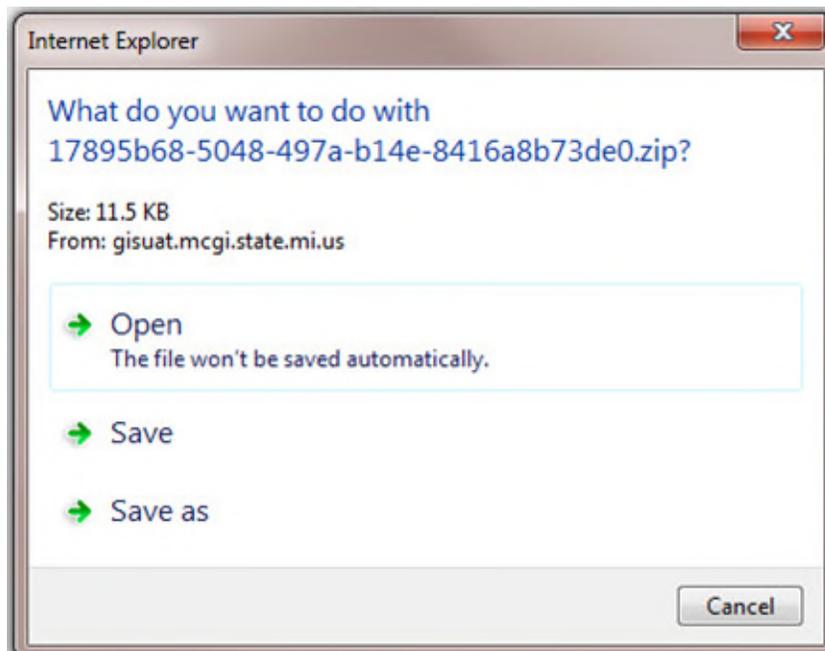


Click the  or  icon for one of the Land Use Restriction types visible in your map and a box opens stating the File has been created and is ready for download.



Click the close button to close and not download the file.

Click  and you will be asked to Open, Save or Cancel the file.



4.3.2 Environmental Management Layer. This is the default layer. A green information circle  is visible for some of the layers.



Layers

Street Aerial Hybrid PLAT Land Use TOPC

Toggle layer visibility by clicking the corresponding checkbox

Land Use Restriction

Environmental Management

 Leaking Underground Storage Tanks (Part 213 Closed)



 Leaking Underground Storage Tanks (Part 213 Open)



 Sites of Environmental Contamination (Part 201)



 Underground Storage Tanks (Part 211 Active)



 Underground Storage Tanks (Part 211 Closed)



Remediation & Redevelopment District

 Cadillac District

 Gaylord District

 Grand Rapids District

 Jackson District

Click on one of these green info circles to see more information about that **Environmental Management** layer.

Layers

Street Aerial Hybrid PLAT Land Use TOPO

Toggle layer visibility by clicking the corresponding checkbox

Land Use Restriction

Environmental Management



Leaking Underground Storage Tanks (Part 213 Closed)



Leaking Underground Storage Tanks (Part 213 Open)



Additional Information

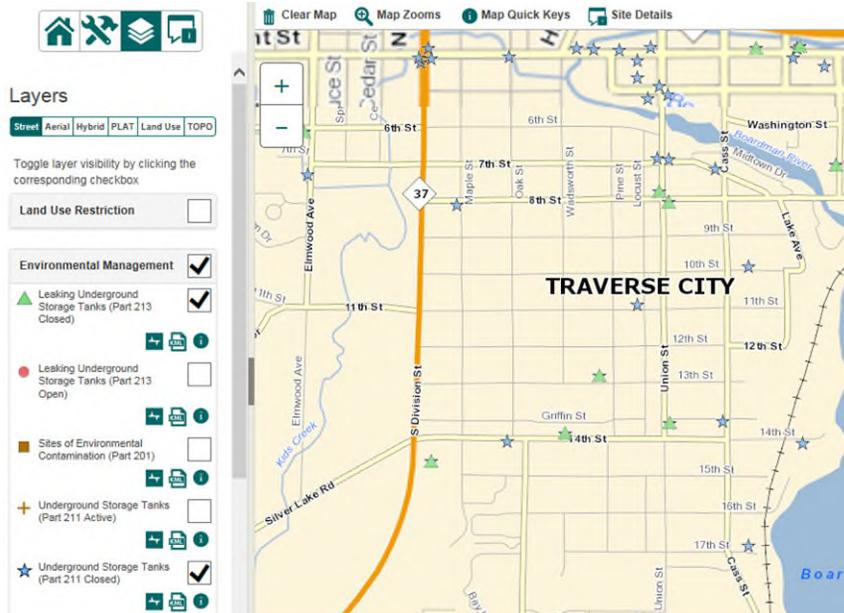


Open Leaking Underground Storage Tank Site is a location where a release has occurred from an underground storage tank system regulated under Part 213, and where corrective actions have not been completed to meet the appropriate land use criteria. An OPEN LUST site may have more than one confirmed release.

Remediation &

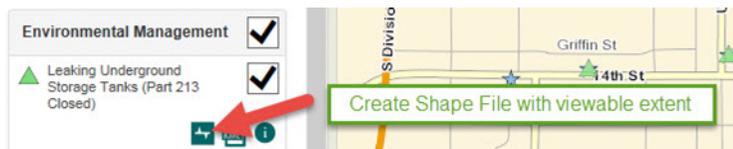
Click on the gray x in the upper right to close this window.

The following has the Part 213 - Closed and Part 211 - Closed Tanks layers turned on in Traverse City.



To the right of each Environmental Management type, there are 3 icons, , , and .

Hover over the  icon and a box opens explaining what it does. This one creates a shape file for this Environment Management type, in this view only.



Hover over the  icon and a box opens explaining what it does. This one creates a KML file for this Environmental Management type, in this view only.

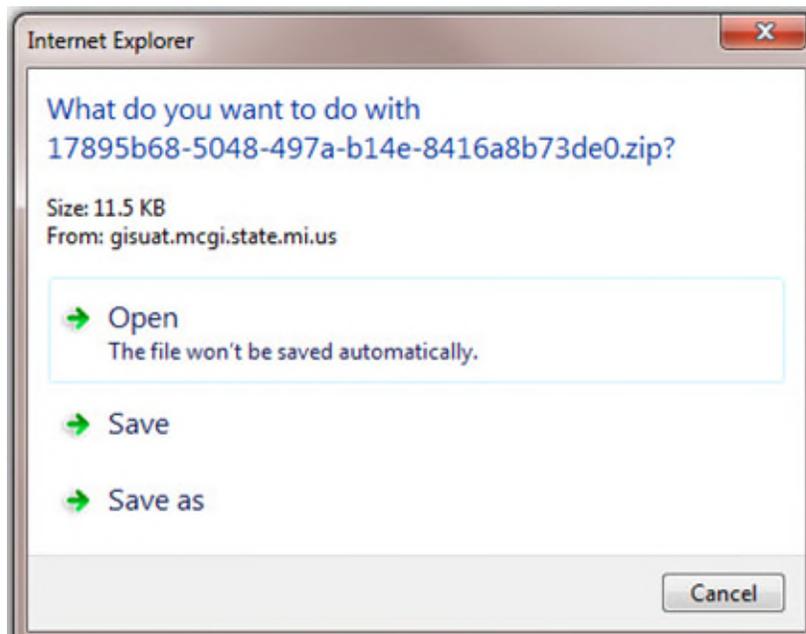


Click the  or  icon for one of the Environmental Management types visible in your map. A box opens stating the File has been created and is ready for download.



Click the close button to close and not download the file.

Click **Download** and you will be asked to Open, Save or Cancel the file.



4.3.3 Wellhead Protection Areas Layer. At a certain scale, the PLSS Township/Range numbers and boundaries will show up on the map.



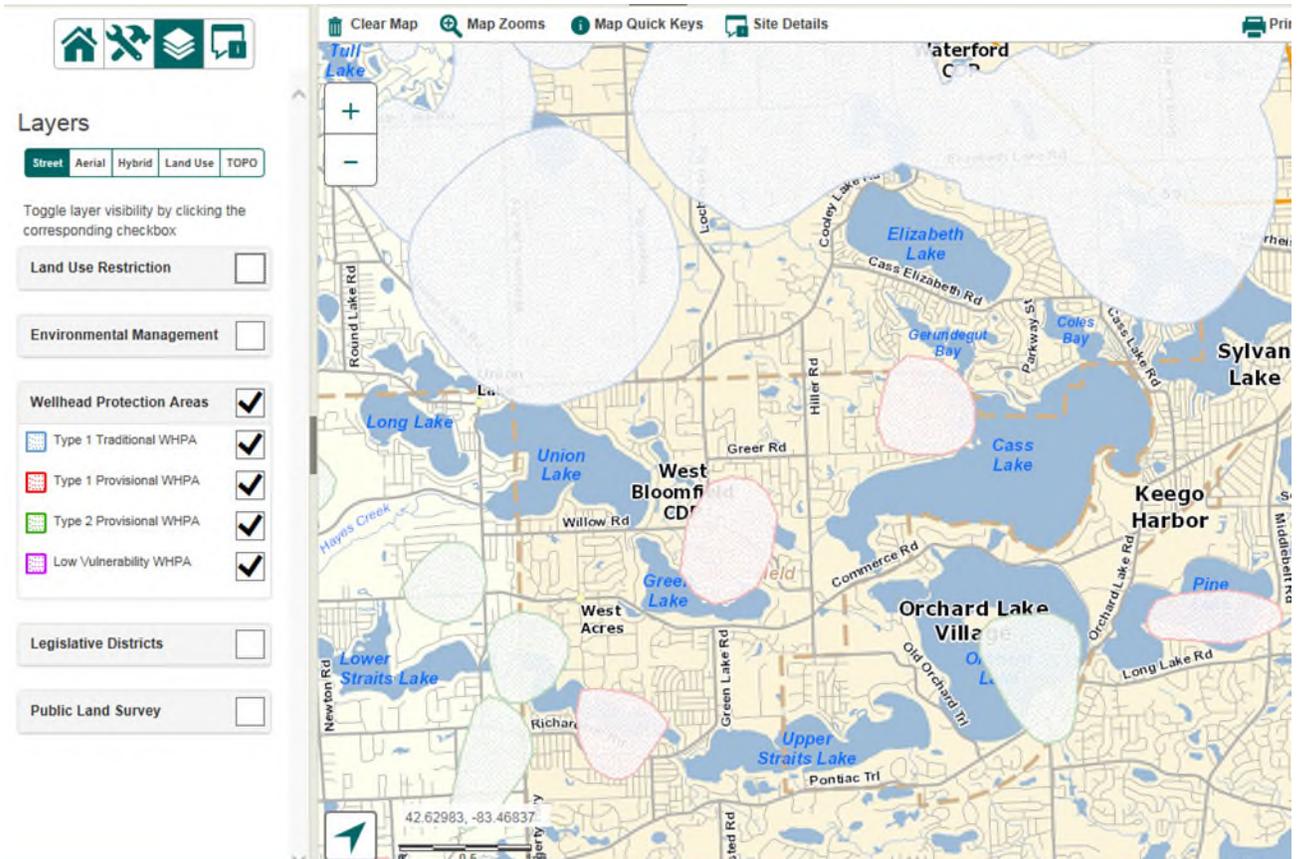
Layers

Street Aerial Hybrid Land Use TOPO

Toggle layer visibility by clicking the corresponding checkbox

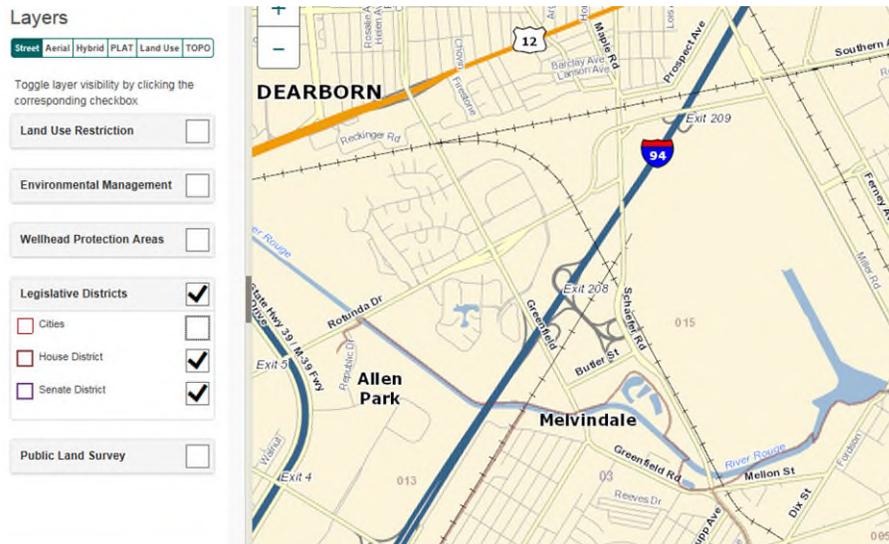
Land Use Restriction	<input type="checkbox"/>
Environmental Management	<input type="checkbox"/>
Wellhead Protection Areas	<input checked="" type="checkbox"/>
 Type 1 Traditional WHPA	<input checked="" type="checkbox"/>
 Type 1 Provisional WHPA	<input checked="" type="checkbox"/>
 Type 2 Provisional WHPA	<input checked="" type="checkbox"/>
 Low Vulnerability WHPA	<input checked="" type="checkbox"/>

The following map shows different Wellhead Protection Area Types in Oakland County.



4.3.4 Legislative District Layer. Click on the **Legislative District** layer and the Congressional and House District boundaries and district number are visible, along with the city boundaries. You cannot do the search for sites of contamination or underground storage tanks for the Congressional district boundaries.

The following example shows the Congressional and House Districts in the Dearborn area. City layer is turned off.



4.3.5 Public Land Survey Layer. At a certain scale, the PLSS Township/Range numbers and boundaries will show up on the map.



The following is an example showing T02N, R12W in Allegan County.



