

Montana Structure Management System (SMS)

Public Users Training Tutorial



Topics Covered

- General concepts
- System access
- Inventory module



General Concepts

- Objective:

- To equip users with skills necessary to find specific bridges and view bridge inspection and inventory information.

- System

- Web based
- Internet explorer 11
- Install Microsoft Silverlight version 5.1.4



System Access

- <https://app.mdt.mt.gov/sms/>
- Your initial access to the Structure Management System is a two-step process. To begin, you must have an ePass Montana account to use the Structure Management System.
- If you don't have an ePass account, click "Login to SMS Using ePass" and click Login. Next, click "Create an ePass account", and enter all the required fields.
- If you have an ePass account, click on "Login To SMS Using ePass". If you are not a State of Montana employee, click "ePass Montana Login" or if you are a State of Montana employee, click "State Employee Login" and enter your Username and Password.



System Access

- Once you have logged into ePass, you will see the screen below.

MDTA Structure Management System

Please supply the necessary information to request access:

Open Information

Fields marked with an asterisk (*) are required.

Open Firstname: [text box] Connect SMS (Public Access)

Open Lastname: [text box] Logout

epass username: [text box]

Email: [text box]

User Information

Email: [text box] Request access (send email)

Organization: [text box]

Phone: [text box]

Comments: [text box]

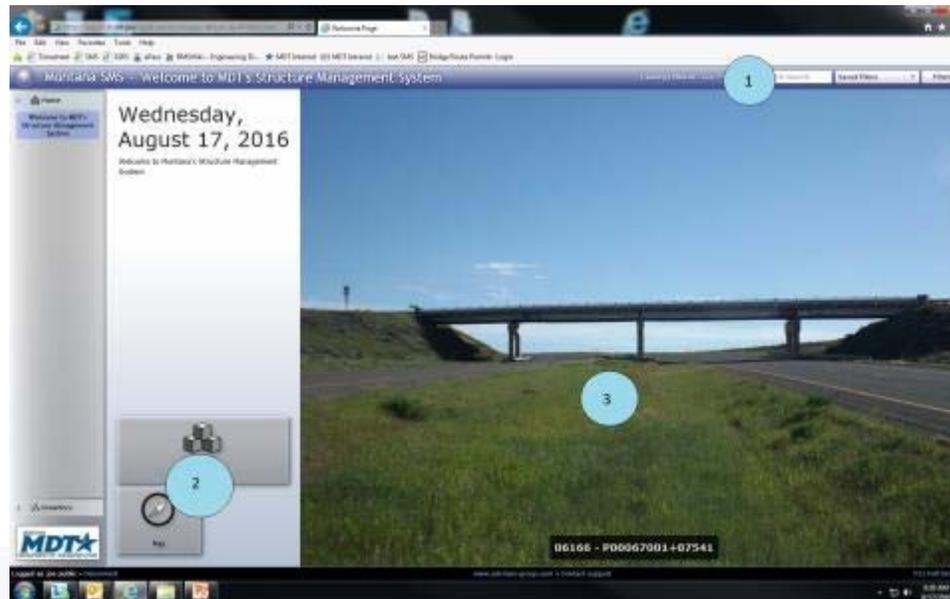
New Online Services Privacy & Security Accessibility Montana Department of Transportation Contact Us

- Click on [Connect SMS \(Public Access\)](#)
- This will take you directly into SMS. If you get an error, or Internet Explorer crashes, make sure you have the latest version of Microsoft Silverlight on your computer.



System Access – Home Screen

- To navigate around the system, take note of the following;
 - There are 3 main elements in all screens;
 - ① quick search and customized filter: allows you to search for structures
 - ② navigation interface: allows you to access different modules
 - ③ main working interface: this is where interaction with the system mainly occurs



Inventory Module

- The inventory module includes functions to view the structure inventory. This includes a list view of all structures, a map view of all structures, filtering capability for finding structures with specific attributes, and access to inspection resources such as the MDT Bridge Inspection and Load Rating Manual.
- Inventory Menu:



Inventory Module - Assets

- This is a list view of structures along with access to detailed information on selected structures.
- Click on the Inventory box, or choose Assets from the Inventory drop-down menu on the left:



- A window will come up asking if you want to display mixed content. Click Yes. If you do not see this window, and SMS seems to freeze up, make sure this window isn't hiding under your main window.



Inventory Module - Assets

- This is what the Assets page looks like:

Selected asset : 07019 • Feature Intersected: OTTER CREEK • Facility Carried | Displaying 1-50 of 1144 items | Page 1 of 23 | Page size 50

Picture	NBI Bridge ID	MDT Structure ID	Type	Feature Intersected	Facility Carried by Structure	Route Number
	07019	07019	Bridge	OTTER CREEK	COUNTY RD 011	011
	100090354+03151	01645	Bridge	INT SPRINGDALE	1 90	49142
	100090354+03152	01646	Bridge	INT SPRINGDALE	1 90	49142

Hide | Show list

Location | Attributes | Components | Repairs | Inspections | Photos

CriticalFindingsReport | Print

★

Type Bridge

NBI Bridge ID



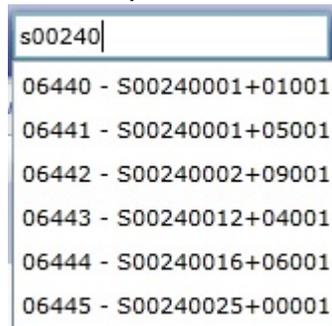
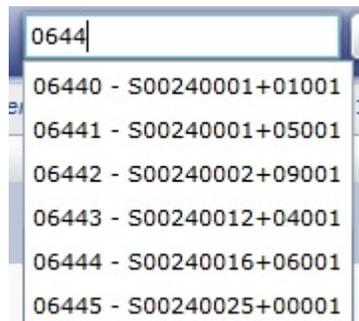
Inventory Module – Assets: How to Search for Structures

- Quick search: allows the user to locate a single structure.

- Step 1: click on the quick search box



- Step 2: start typing the MDT Structure ID or the NBI Structure ID for the desired structure
- Step 3: As you enter characters, the predictive drop down box of matching assets populates. The drop down list will appear after a minimum of three characters have been entered.
- Step 4: select the desired structure from the predictive drop down by highlighting this and clicking on it



Predictive drop down

- Step 5: the structure information opens
- **Note:** Once a filter has been selected, it will remain in effect throughout all interfaces until it is removed (remove it by clicking Clear Filters)



Inventory Module – Assets: How to Search for Structures

- Custom filter:



- This allows the user to locate any number of particular assets using any combination of its
 - Generalities – general information common for all assets such as MDT Structure ID, NBI Structure ID, and General Structure Comments
 - Attributes – inventory-related information such as owner,
- **Searching using asset generalities**
- Step 1: enter part or all of the MDT Structure ID, NBI Bridge ID, or General Bridge Comments in the “Filter on generalities” section
- Step 2: Click apply and the filter shows your results in the list view



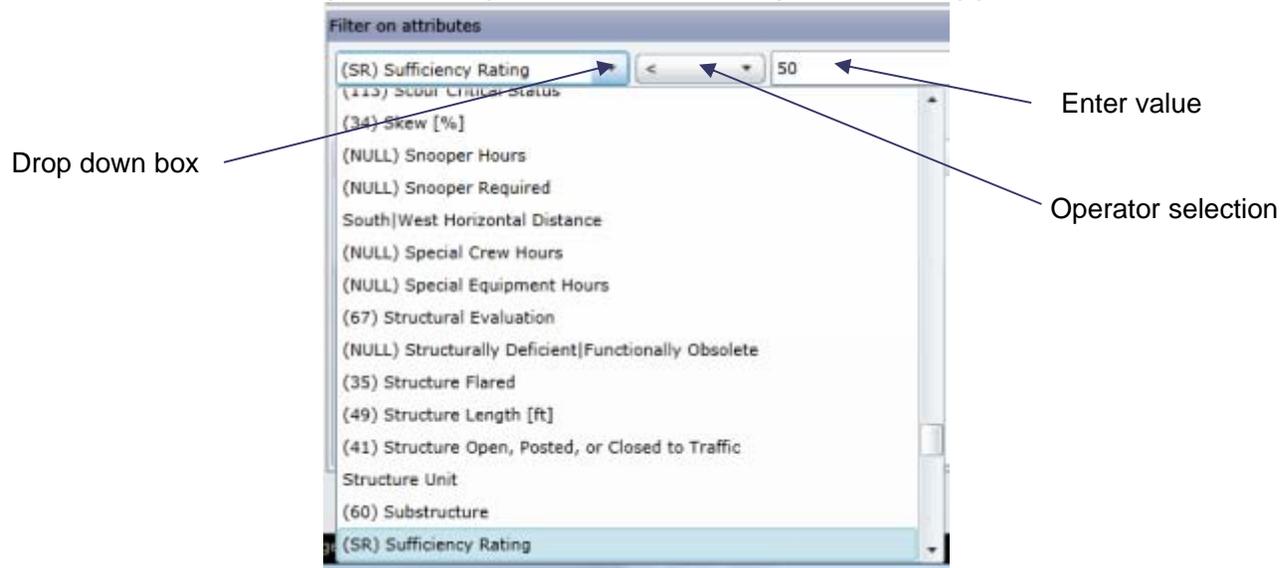
Inventory Module – Assets: How to Search for Structures

- **Custom Filter:**



- **Searching using asset attributes**

- Step 1: Use the drop down box and select the desired attribute to search with, for example posted speed limit and a relevant option for operators or list of options will appear



Drop down box

Enter value

Operator selection

- Step 2: select the relevant operator, for example =, > or if its just text based select from the drop down a list of options for the attribute chosen.



Inventory Module – Assets: How to Search for Structures

- **Custom Filter:** 
- **Searching using asset attributes**
- Step 3: Click Add Filter Attribute (Note: if you click on Select Values and choose your value from a box, you don't need to click Add Filter Attribute)
- Step 4: If you desire to have another attribute included, follow steps 1 to 3 to add more constraints on your filter.
- Step 5: Once you are ready, select apply and the results will be shown in the list view of the asset



Filter on attributes Asset Component

And (22) Owner Select values .

Delete selected Clear all Owner

Logic	Operator	Value
▲ Sufficiency Rating - Asset		
	<	50
▲ (And) Owner - Asset		
	=	01 • 01 State Highway Agency

Component types Select

Apply Cancel

- **Note:** To clear the filter or make a different selection, you can click "Clear all". If you don't want the filter anymore, click cancel to go back to your previous screen



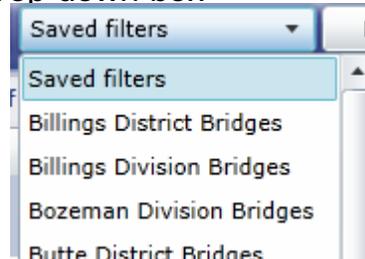
Inventory Module – Assets: How to Search for Structures

- Saved filter:



- This allows the user to locate any number of particular assets using a publicly saved filter

- Step 1: Select the Saved filters drop down box



- Step 2: Select the desired filter from the list in the dropdown box. After a selection is made, the results of the saved filter appears.

Picture	NBI Bridge ID	MDT Structure ID	Type	Feature Intersected	Facility Carried by Structure	Route Number
	07019	07019	Bridge	OTTER CREEK	COUNTY RD 011	011
	I00090354+03151	01645	Bridge	INT SPRINGDALE	I 90	49142
	I00090354+03152	01646	Bridge	INT SPRINGDALE	I 90	49142
	I00090355+01001	01647	Bridge	STOCKPASS	I-90	00090

- **Note:** only the administrator can pre-define and save filters



Inventory Module – Assets: How to View Structures

- The Assets page is set up in two parts. The list of structures is on the top, and details of the structure selected in the list appear in the bottom.
- At the top of the bottom section of the page are tabs you can click to view different information about the selected structure.

The screenshot displays the Scanprint IMS - Assets interface. At the top, there is a navigation menu with options like Home, Inventory, Assets, Map, Photos, and Inspection Resources. The main content area shows a table of structures with columns for Picture, NBI Bridge ID, MDT Structure ID, Type, Feature Intersected, Facility Carried by Structure, and Route Number. Below the table, there are tabs for Location, Attributes, Components, Repairs, Inspections, and Photos. The bottom section shows a detailed view of a selected bridge structure, including a photo of the bridge, a map showing its location, and a metadata box with the Type (Bridge) and NBI Bridge ID (100015000+05202).

Picture	NBI Bridge ID	MDT Structure ID	Type	Feature Intersected	Facility Carried by Structure	Route Number
	100015000+05201	01001	Bridge	INT MONIDA S 509	I 15	00509
	100015000+05202	01002	Bridge	INT MONIDA S 509	I 15	00509
	100015001+05691	01003	Bridge	SEP UNION PACIFIC RR	I 15	00015

List view of structures

Tabs

Structure details



Inventory Module – Assets: How to View Structures

- Note that the bottom half of the screen can be enlarged by hovering over the line circled below, then clicking and dragging up. It can be made smaller by clicking and dragging down.

The screenshot displays the Scanprint IMS - Assets interface. The top navigation bar includes a search bar, 'Saved filters', and 'Filters'. The left sidebar contains navigation options: Home, Inventory, Assets (selected), Map, Photos, Inspection Resources, Management, and Analysis. The main content area features a table of assets with columns for Picture, NBI Bridge ID, MDT Structure ID, Type, Feature Intersected, Facility Carried by Structure, and Route Number. A red circle highlights a horizontal line below the table, which is used to expand the view. Below the table, there are tabs for Location, Attributes, Components, Repairs, Inspections, and Photos. The bottom section shows a photo of a bridge and a map view of the location. The MDT logo is visible in the bottom left corner.

Picture	NBI Bridge ID	MDT Structure ID	Type	Feature Intersected	Facility Carried by Structure	Route Number
	100015000+05201	01001	Bridge	INT MONIDA S 509	I 15	00509
	100015000+05202	01002	Bridge	INT MONIDA S 509	I 15	00509
	100015001+05691	01003	Bridge	SEP UNION PACIFIC RR	I 15	00015

Inventory Module – Assets: How to View Structures

Location Tab

- The Location tab typically has an identifying photo of the structure selected, some identifying information, and the structure location, both shown on a map and in the Latitude and Longitude fields.
- A user can zoom in and out in the map, pan, and switch from Road, Aerial, Bird's Eye, and Streetside views.

The screenshot displays a software interface for viewing a bridge asset. At the top, there is a navigation menu with tabs: Location, Attributes, Components, Repairs, Inspections, and Photos. The 'Location' tab is active. On the right side of the menu, there are buttons for 'CriticalFindingsReport' and 'Print'. Below the menu, on the left, is a star icon and a photo of a bridge. To the right of the photo is a metadata form with the following fields:

Type	Bridge
NBI Bridge ID	I00015003+02112
MDT Structure ID	01006
Archived	<input type="checkbox"/>
Latitude	44.57245
Longitude	-112.36941

On the right side of the interface is a map view showing the bridge's location. The map includes a navigation toolbar with a compass, a zoom slider, and a '2500 Feet' scale bar. The map shows a road labeled 'Snowline Stock Ln' and 'Old Highway 91' running parallel to Interstate 15 (I-15). The bridge is highlighted in purple on the map. The map view also includes a view selector with options: Road, Aerial, Bird's eye, Streetside, Labels, and OpenStreetMap.

Inventory Module – Assets: How to View Structures

Attributes Tab

- The Attributes Tab contains general information about the structure along with some inspection-specific information.
- A user can scroll through the attributes, collapse and expand chapters, and use the *Filter* box to search for specific attributes.

Filter box

Chapter Header
Use triangles to expand or collapse chapter

Attribute	Value - V
A- Location Data	
Current value	
Agency structure name	none
(1) State Code (Help)	030 • Montana
(NULL) On Off System	1 • On System
(NULL) MDT Inspection District	02 • BUTTE
(2) MDT Maintenance Division	21 • BUTTE
(3) County Code	001
(4) Place Code	00000 • Rural Area
(6A) Feature Intersected	SEP COUNTY ROAD



Inventory Module – Assets: How to View Structures

Components Tab

- The Components tab allows the user to view all inspection elements attached to the bridge and the details of each element.

The screenshot displays the 'Components' tab in a software interface. The left pane shows a tree view of components, with three elements highlighted by blue arrows and labels: 'Inactive Element', 'Selected Element', and 'Active Element'. The right pane shows the 'Properties' and 'Attributes' for the selected element. The 'Properties' section includes fields for 'Type', 'NBI Bridge ID', 'Number', 'Position', and 'Parent'. The 'Attributes' section includes a 'Filter' field and a table of attributes.

Attribute	Value - V
(SCALE) Units	Depth • inches
(Num) Quantity	113
(EnvTyps) Environment Conditions	2 • Low
(StUnit) Structure Unit Type	1A

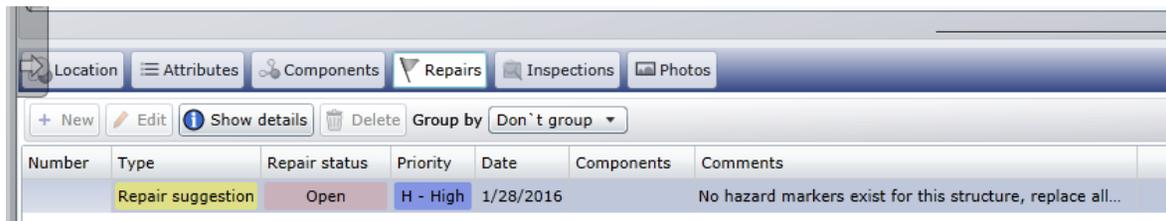
Properties of selected element



Inventory Module – Assets: How to View Structures

Repairs Tab

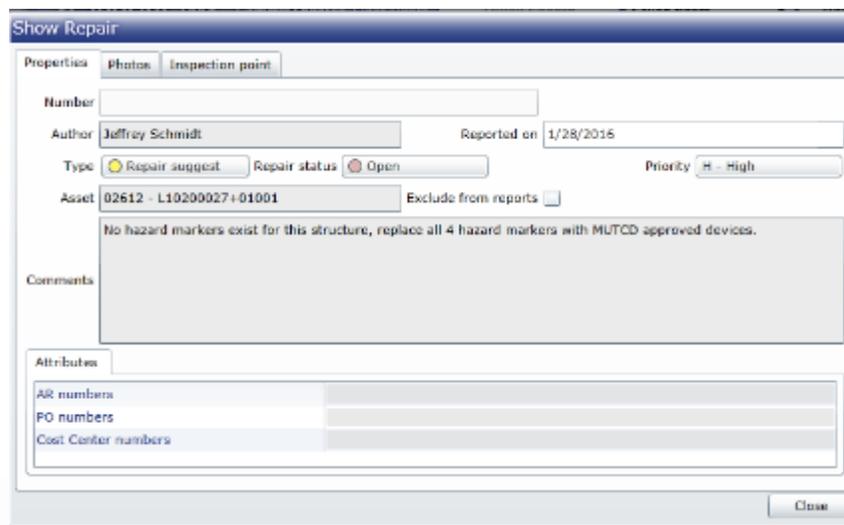
- Allows the user to view recommended and completed repairs on the selected structure.



The screenshot shows a software interface with a top navigation bar containing tabs for Location, Attributes, Components, Repairs, Inspections, and Photos. Below the navigation bar is a toolbar with buttons for + New, Edit, Show details, and Delete, along with a Group by dropdown menu set to 'Don't group'. The main area displays a table with the following data:

Number	Type	Repair status	Priority	Date	Components	Comments
	Repair suggestion	Open	H - High	1/28/2016		No hazard markers exist for this structure, replace all...

- To see more information about the repair, click on [Show details](#)



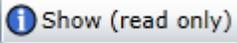
The 'Show Repair' dialog box displays the following information:

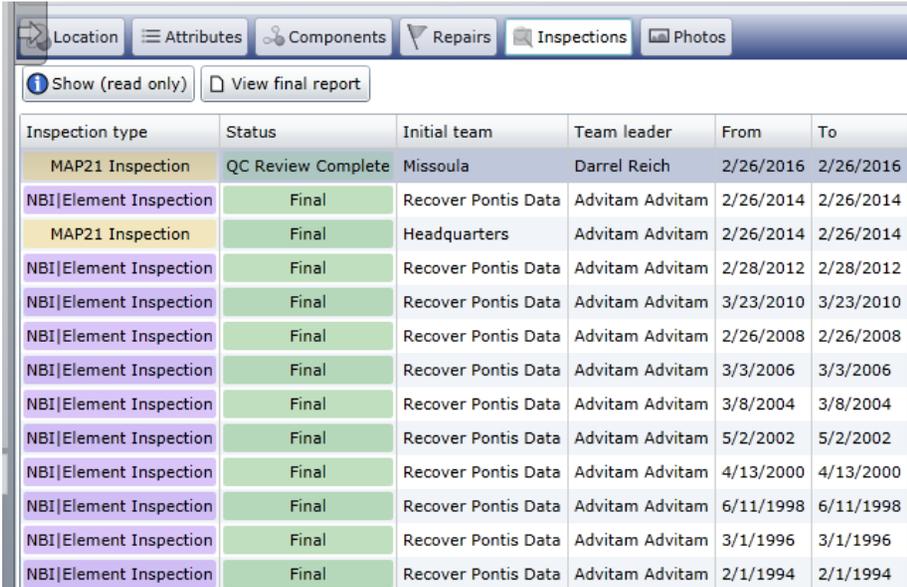
- Properties:** Number (empty), Author: Jeffrey Schmidt, Reported on: 1/28/2016, Type: Repair suggest, Repair status: Open, Priority: H - High, Asset: 02612 - L10200027+01001, Exclude from reports:
- Comments:** No hazard markers exist for this structure, replace all 4 hazard markers with MUTCD approved devices.
- Attributes:** AR numbers, PO numbers, Cost Center numbers (all empty)

A 'Close' button is located at the bottom right of the dialog box.

Inventory Module – Assets: How to View Structures

● Inspections Tab – How to View Inspections

- The Inspections tab allows the user to view all inspections for the selected structure.
- The inspections list shows the inspection type, status (final, on-going, scheduled, etc), the team the inspection is assigned to, the inspection Team Leader, and the dates the inspection was or will be conducted.
- To view the inspection report for any bridge with a Final status, click on 
- To view more details, highlight the desired inspection, and click on 



The screenshot shows the 'Inspections' tab in a software interface. At the top, there are navigation buttons for 'Location', 'Attributes', 'Components', 'Repairs', 'Inspections', and 'Photos'. Below these are two buttons: 'Show (read only)' and 'View final report'. The main area contains a table with the following columns: 'Inspection type', 'Status', 'Initial team', 'Team leader', 'From', and 'To'. The table lists 14 inspection records, with the first row highlighted in yellow.

Inspection type	Status	Initial team	Team leader	From	To
MAP21 Inspection	QC Review Complete	Missoula	Darrel Reich	2/26/2016	2/26/2016
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	2/26/2014	2/26/2014
MAP21 Inspection	Final	Headquarters	Advitam Advitam	2/26/2014	2/26/2014
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	2/28/2012	2/28/2012
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	3/23/2010	3/23/2010
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	2/26/2008	2/26/2008
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	3/3/2006	3/3/2006
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	3/8/2004	3/8/2004
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	5/2/2002	5/2/2002
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	4/13/2000	4/13/2000
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	6/11/1998	6/11/1998
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	3/1/1996	3/1/1996
NBI Element Inspection	Final	Recover Pontis Data	Advitam Advitam	2/1/1994	2/1/1994



Inventory Module – Assets: How to View Structures

● Inspections Tab – How to View Inspections

- Below is a view of the Inspection window. Use the tabs to navigate through the inspection.

03332 - L24667000 - 01001 - MAP21 Inspection - Final [Show details](#)

Info Inspection Repairs Photos Element level data

Properties [Reports](#)

Type: MAP21 Inspection
Status: Final
Team: Headquarters
Team leader: AdviTam Advitam
From: 10/14/2015
To: 10/14/2015
Reviewed by:

Comments: AutomatedAdvitam@rupMap21

Inspection activities

User	Begin	End	Activity	Comments
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Inspection weather

Begin	End	Weather	Temperature	Comments
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[Close](#)

Inventory Module – Assets: How to View Structures

Photos Tab – viewing bridge-specific photos

- The Photos tab contains all photos attached directly to the bridge. These photos are NOT inspection-specific. They are typically identification photos to help inspectors ensure they are at the correct bridge.
- A user can:
 - enlarge a photo by clicking on the small box in the upper right-hand corner
 - minimize the enlarged photo by clicking anywhere on the photo
 - Click on Show Details to see any comments on the photo
 - Download the photo to view in another tab for zooming in and out



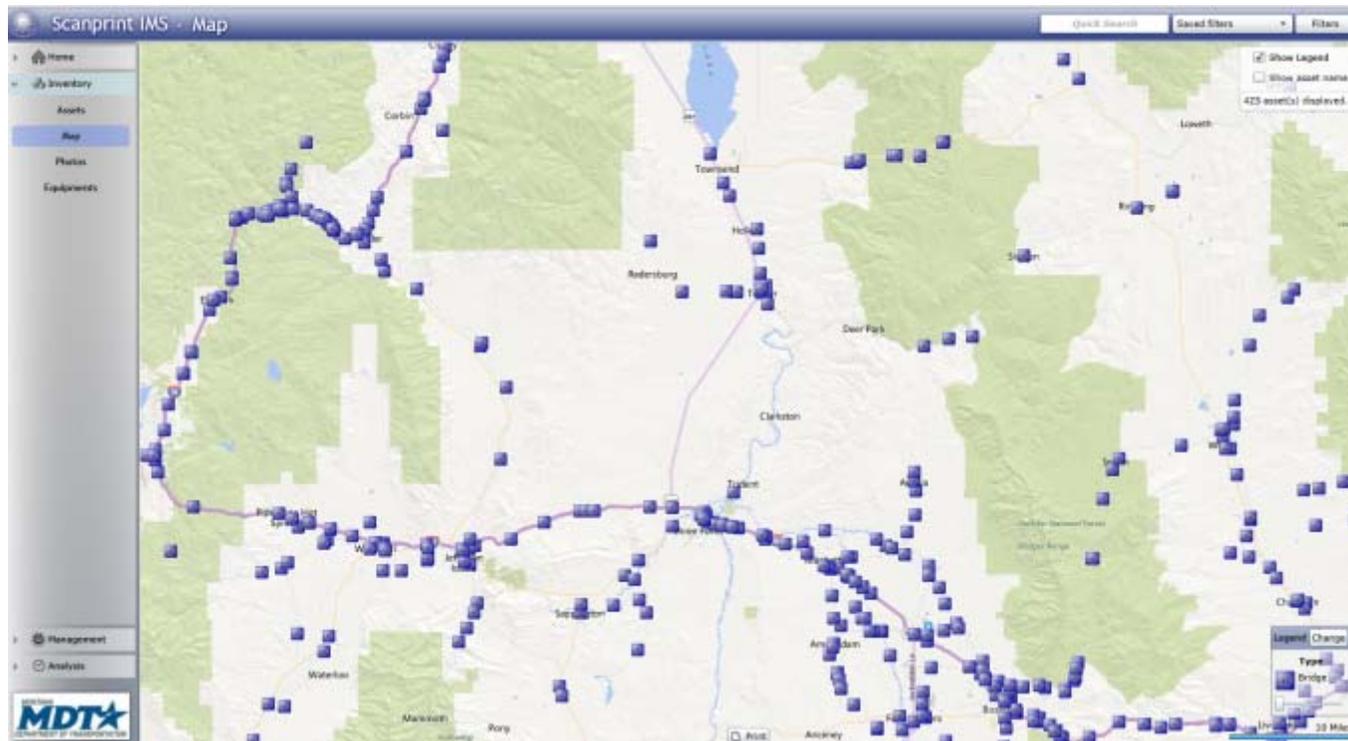
Enlarges
Photo



Photo
Details

Inventory Module – Map

- The map displays all bridges selected in the current filter. If the bridges don't show up when Map is selected from the Inventory menu, the user needs to zoom in.



Support

- For any requests/concerns, please contact MDT at mdtbridgesmssupport@mt.gov

Thank you !

