Highway Structures Information System (HSI)

Quick Start Guide

HSI has been upgraded to be compatible with multiple mobile platforms. Doing so has changed the look from previous versions, so we created this guide to help you minimize the learning curve.

Action Bar
Use this dropdown to run reports, search the database, or go to a custom view.

Download to File
Select from list and click arrow button to download structure list. For this example, 27,724 records are included.

Add View
Use this button to add a report, a search, or a individually selected group of structures to a view.

Collection
Use this button to add structures to a collection and export files.

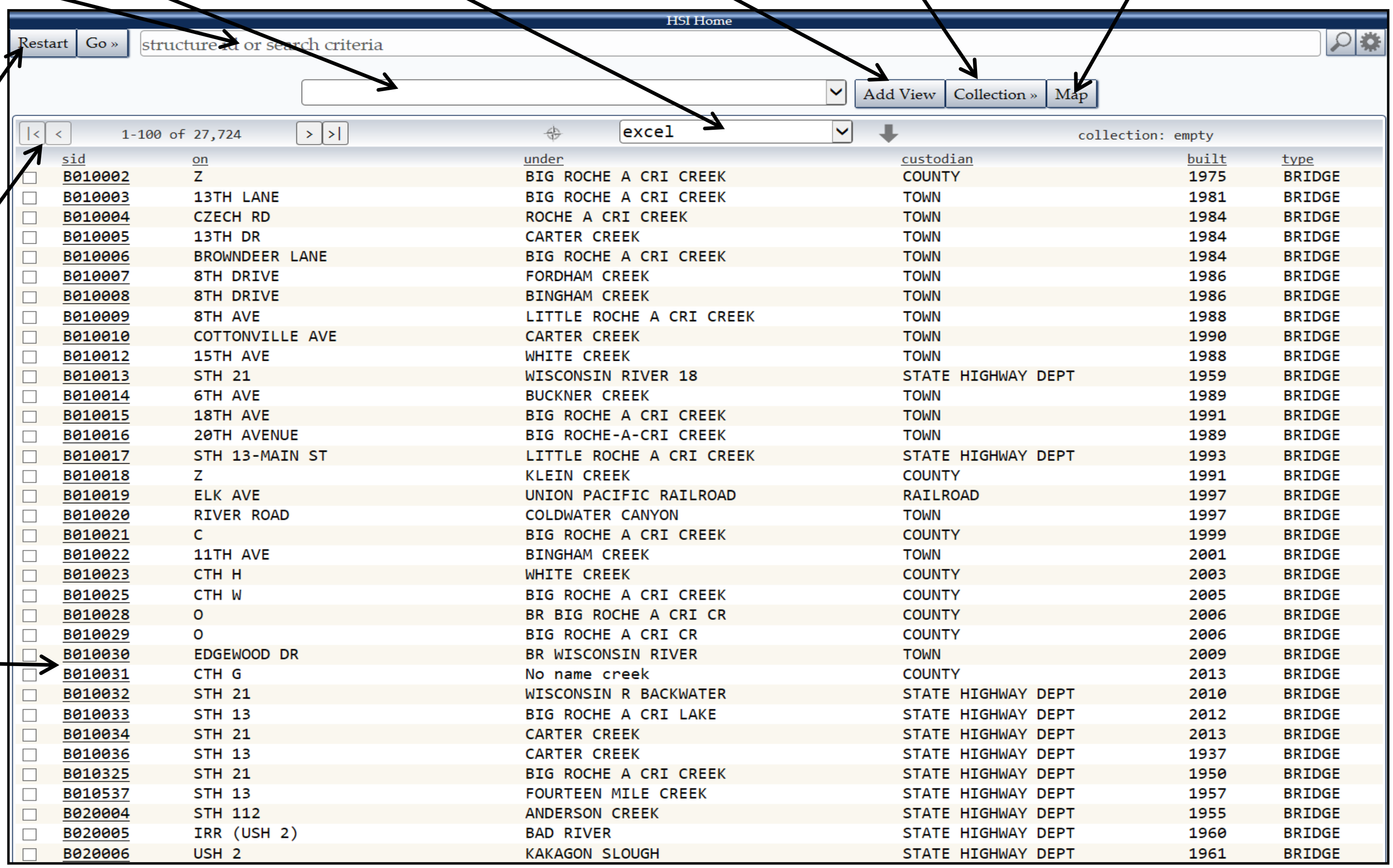
Map
Use this button to see the collection as a map.

Command Line
Use this line to type in a structure id, or to perform a query of data.

Menu Bar
Use the Restart button to return to this screen. Use the Go button to access user preferences, tools, and help screens.

Navigation
Use the arrow keys to navigate forward and backward through the structure list. The display indicates that 100 of the 27,724 are being displayed.

Structure List
Click on any structure id to see more information. This action will take you to the structure page; that page is detailed on the back of this document.



sid	on	under	custodian	built	type
B010002	Z	BIG ROCHE A CRI CREEK	COUNTY	1975	BRIDGE
B010003	13TH LANE	BIG ROCHE A CRI CREEK	TOWN	1981	BRIDGE
B010004	CZECH RD	ROCHE A CRI CREEK	TOWN	1984	BRIDGE
B010005	13TH DR	CARTER CREEK	TOWN	1984	BRIDGE
B010006	BROWNDEER LANE	BIG ROCHE A CRI CREEK	TOWN	1984	BRIDGE
B010007	8TH DRIVE	FORDHAM CREEK	TOWN	1986	BRIDGE
B010008	8TH DRIVE	BINGHAM CREEK	TOWN	1986	BRIDGE
B010009	8TH AVE	LITTLE ROCHE A CRI CREEK	TOWN	1988	BRIDGE
B010010	COTTONVILLE AVE	CARTER CREEK	TOWN	1990	BRIDGE
B010012	15TH AVE	WHITE CREEK	TOWN	1988	BRIDGE
B010013	STH 21	WISCONSIN RIVER 18	STATE HIGHWAY DEPT	1959	BRIDGE
B010014	6TH AVE	BUCKNER CREEK	TOWN	1989	BRIDGE
B010015	18TH AVE	BIG ROCHE A CRI CREEK	TOWN	1991	BRIDGE
B010016	20TH AVENUE	BIG ROCHE-A-CRI CREEK	TOWN	1989	BRIDGE
B010017	STH 13-MAIN ST	LITTLE ROCHE A CRI CREEK	STATE HIGHWAY DEPT	1993	BRIDGE
B010018	Z	KLEIN CREEK	COUNTY	1991	BRIDGE
B010019	ELK AVE	UNION PACIFIC RAILROAD	RAILROAD	1997	BRIDGE
B010020	RIVER ROAD	COLDWATER CANYON	TOWN	1997	BRIDGE
B010021	C	BIG ROCHE A CRI CREEK	COUNTY	1999	BRIDGE
B010022	11TH AVE	BINGHAM CREEK	TOWN	2001	BRIDGE
B010023	CTH H	WHITE CREEK	COUNTY	2003	BRIDGE
B010025	CTH W	BIG ROCHE A CRI CREEK	COUNTY	2005	BRIDGE
B010028	O	BR BIG ROCHE A CRI CR	COUNTY	2006	BRIDGE
B010029	O	BIG ROCHE A CRI CR	COUNTY	2006	BRIDGE
B010030	EDGEWOOD DR	BR WISCONSIN RIVER	TOWN	2009	BRIDGE
B010031	CTH G	No name creek	COUNTY	2013	BRIDGE
B010032	STH 21	WISCONSIN R BACKWATER	STATE HIGHWAY DEPT	2010	BRIDGE
B010033	STH 13	BIG ROCHE A CRI LAKE	STATE HIGHWAY DEPT	2012	BRIDGE
B010034	STH 21	CARTER CREEK	STATE HIGHWAY DEPT	2013	BRIDGE
B010036	STH 13	CARTER CREEK	STATE HIGHWAY DEPT	1937	BRIDGE
B010325	STH 21	BIG ROCHE A CRI CREEK	STATE HIGHWAY DEPT	1950	BRIDGE
B010537	STH 13	FOURTEEN MILE CREEK	STATE HIGHWAY DEPT	1957	BRIDGE
B020004	STH 112	ANDERSON CREEK	STATE HIGHWAY DEPT	1955	BRIDGE
B020005	IRR (USH 2)	BAD RIVER	STATE HIGHWAY DEPT	1960	BRIDGE
B020006	USH 2	KAKAGON SLOUGH	STATE HIGHWAY DEPT	1961	BRIDGE

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When you first click on a structure, you'll see three primary tabs - General Inventory, Structure Inventory, and Inspection. Clicking on any of these tabs brings up a wealth of information.

General Inventory

This button contains general information that is common to all structure types (bridges, signs, retaining walls, etc.). Clicking on it brings up the sub-buttons shown.

Sub Buttons

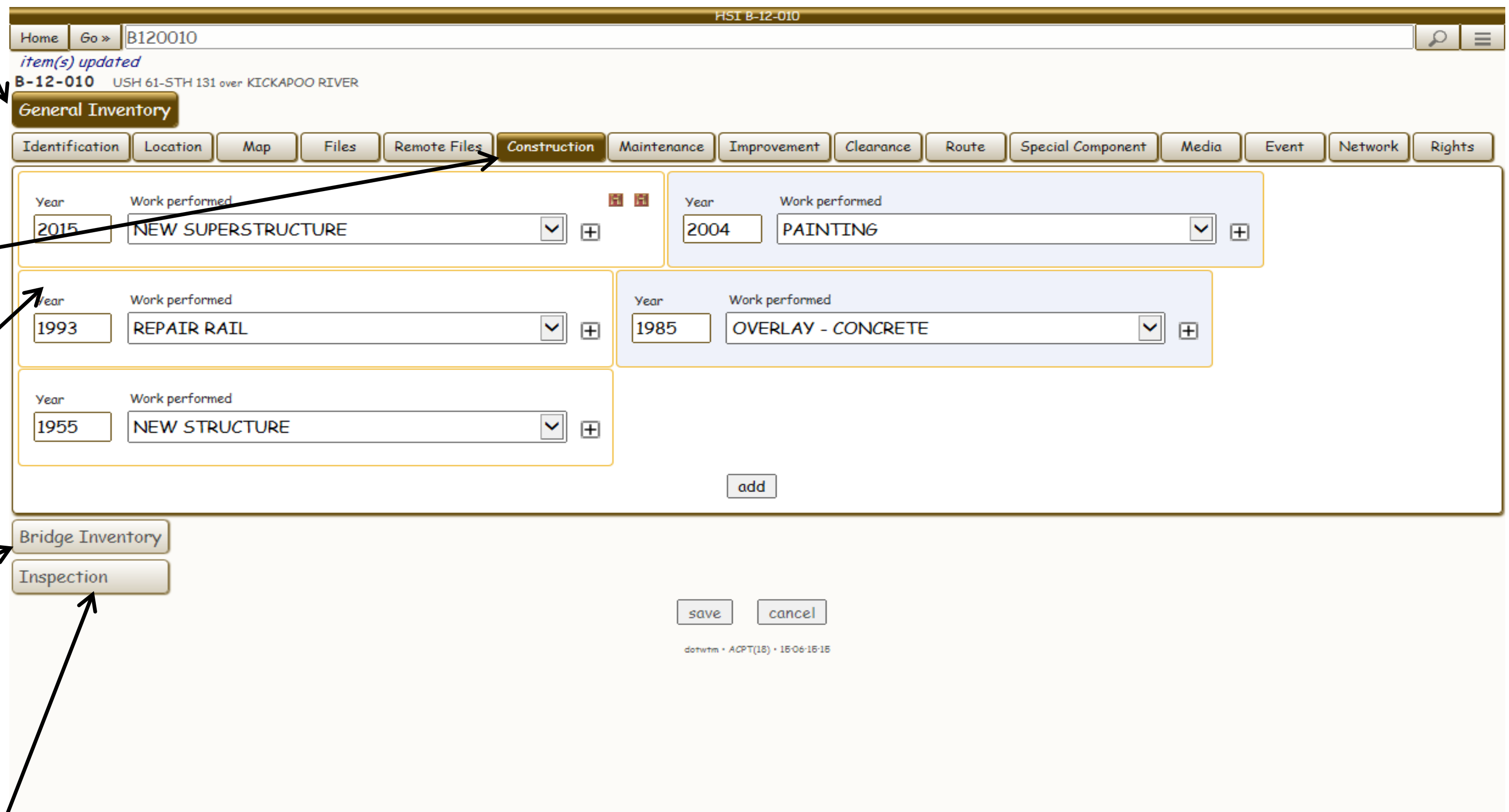
Each main button has specific sub-buttons associated with it. By clicking on the sub-button, the user brings up that specific information. The file folders of B-12-10 are shown in the example.

Specific Inventory

This button contains inventory items that are specifc to the structure type. This can be span configuration types, traffic patterns and volumes, hydraulic information, etc.

Inspection

This button keeps all inspection related information for the structure. This includes the history as well as specific information related to the inspection.



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To create inspections, you have several powerful options to choose from as an inspector. The below gives a brief look at many of these options.

Inspector Information

Use this area to enter the Inspector and the Agency that performed the Inspection, as well as the date.

Inspection Types

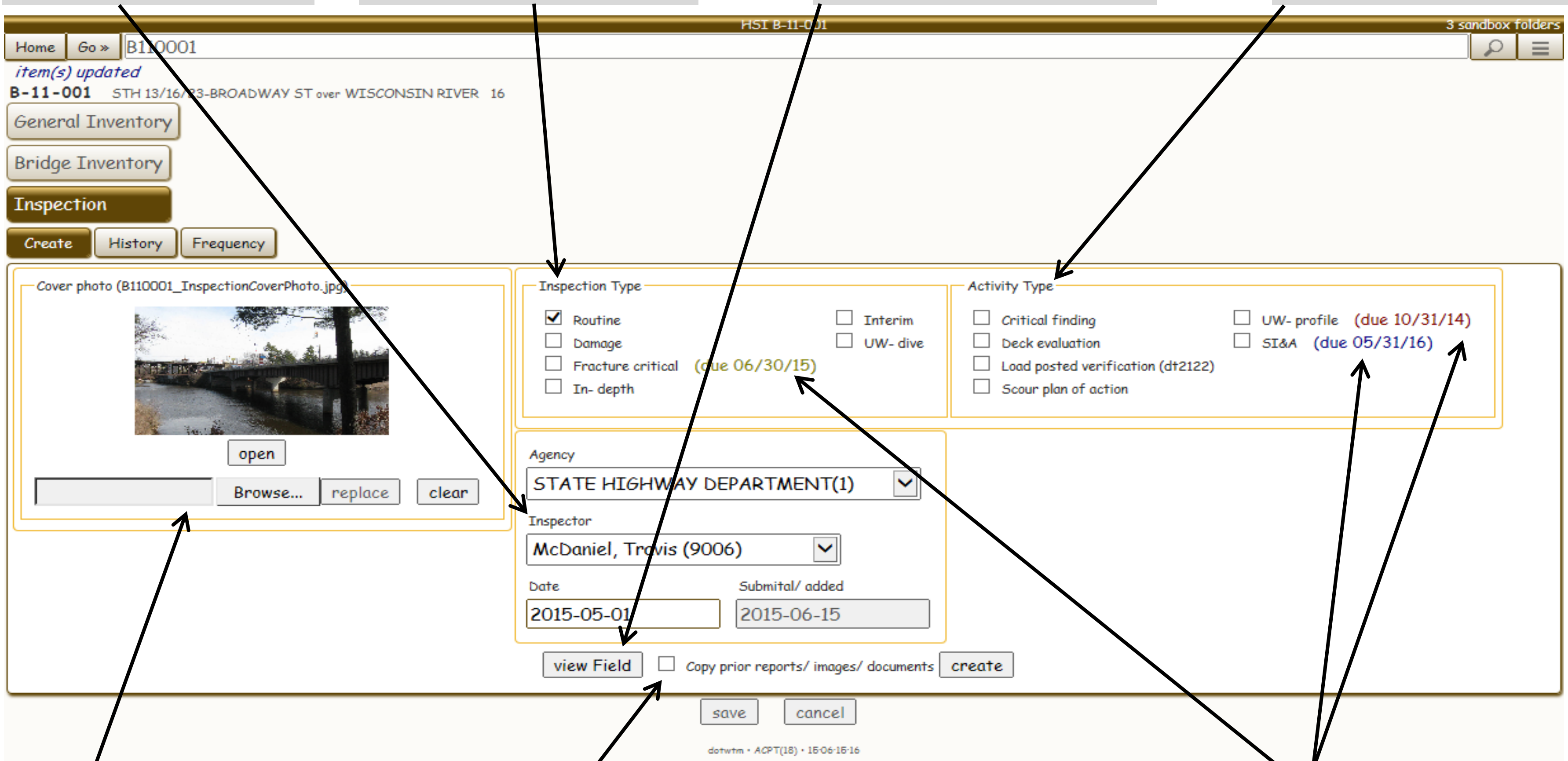
The user can select multiple inspection types to enter from this list. Simply check the box(s) that apply.

View Field

Clicking this button with inspections/activities selected will create a pdf for field inspections that can be printed.

Activity Types

The user can select multiple types to enter from this list. Check all the box(s) that apply.



Cover Photo

Use this space to upload or replace the cover photo for the structure.

Copy Prior

By clicking this button, any documents or images uploaded in the previous inspection will be carried forward into this new inspection.

Due Dates

HSI tells the user what inspection/activities are due, and color codes them in one of three ways: Blue indicates it's due in the next year, Yellow indicates it's due in the next 3 months, and red incidates it's past-due.

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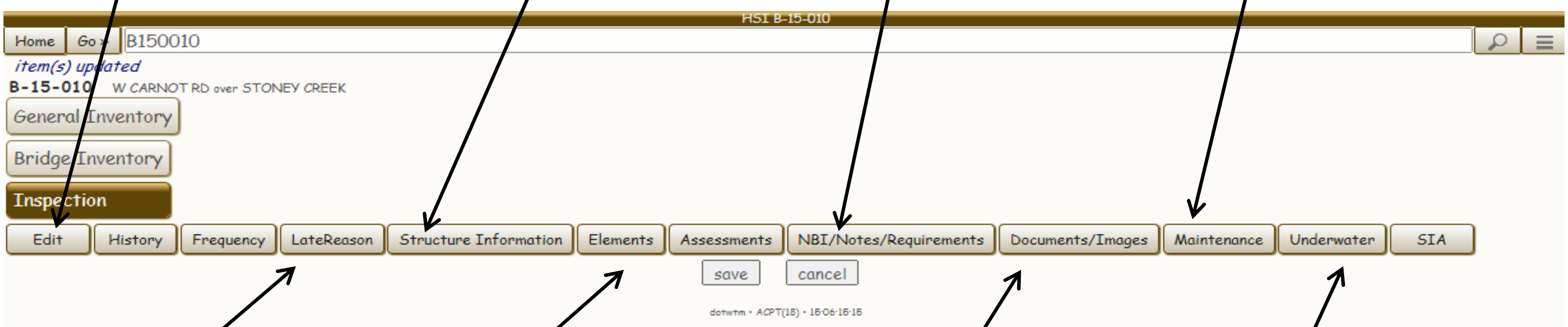
When you're on inspection tab, you'll see up to 13 tabs. These are dynamically added depending on your selections for inspection type and activity.

Create/Edit
Use this tab to enter inspection types and to complete the inspection

Structure Information
This button contains vertical clearances, expansion joint measurements, rating information, etc.

NBI/Notes
Use this button to change NBI values and to enter general notes.

Maintenance
Use this tab to request and schedule maintenance and to update maintenance request status.



LateReason
This tab appears if a portion of your inspection is late. You must enter a reason and comment to enter the inspection.

Elements
This tab contains all inspection elements, protective systems, and defects. Old elements from CoRE inspection are in the tab to the left, and are for information only.

Documents/Images
Use this tab to upload photos and documents. You must select the appropriate insp/activity from the dropdown prior to uploading.

Underwater
This tab appears if you select Dive. Fill out all pertinent information for your inspection.

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General things you might be looking to do:

To...	Click...	And then do this...
Login to the system	http://trust.dot.state.wi.us/hsi/HSIController	When prompted, enter your WAMS login and password.
Update your email address and organization	**Go**, and then **Tools.**	Then click **Preferences** and select **General**. Type in your current email on the line provided and your organization. Click **Home** to return to the main screen.
Update your mailing address	**Go**, and then **Tools.**	Then click **Peferences** and select **Inspector**. Fill our the information required and click **Save** when finished. Click **Home** to return.
Navigate the structure list	On the arrow keys provided on the HSI Home page	On the main screen, you will see a listing of numbers depicting how many structures are available in your view (1-500 of 26,925 for example). Click the arrow keys, as needed, to navigate through the list.
Change the columns of data displayed.	On the **options** button located to the left of the navigation keys, then select **Column Set**.	Select either a default column set, or a custom column set specific to the user. Note this only works on every query type except Reports. Reports will display the columns that are hard coded into the SQL to run them.
Add a custom Column Set (PM's only).	On **Action Bar**, then click **Assist-Full.**	Click **Add** button next to column set label. Enter name of column set to be developed and click on screen. Select columns from the dropdowns and hit add until your custom list is developed. Then click **Save**.
Run a report	On **Action Bar**, then select **Report**.	You will be see a listing of folders containing groups of reports. Click on the report group to open the list of reports available to you. It's possible that there are sub-folders to the report, if so click on the appropriate folder. Then click on the report to run it. User prompts for report specific information will appear below. Select appropriate items and click **run**.
Download a report to excel	Run a report as described above.	At the top of the report data you will see a dropdown with "Excel" and a down arrow. Click the down arrow (↓) to load into Excel.
Set a report to a custom view	Run a report as described above.	At the top of the report data, click the **Add View** button. This will open a dialog box where you can enter the name of the View. Click **Ok** and the view will be saved.
Change a view on the main page	On **Action Bar**.	Select the view you would like to use on the mainpage.
Set a new view as your default	**Go**, and then **Tools.**	Then click **Preferences** and select **Home Page**. On the Custom View dropdown, click the View you want as default. Then click **Set Default**. This will be the structure list that appears when you login to the system.
Use the search assist	On **Action Bar**, then click **Assist-Full.**	This will give you a list of items to develop your search criteria. Select all that apply and click **Search** to run. To save the results as a view, click the **Add View** button when the data refreshes.
Add structures to a collection	Click the box next to the structure(s) to add.	This automatically adds structures to the collection. To add the entire page, click **Collection** and click **Add - All Rows**. Note that collections are limited to 100 structures max.
Print out a collection of inspections	Add structures to a collection as shown above.	Click **Collection** and then select **Print.** Then click **Field Inspections**. You'll be taken to the Structure Collection tab. Select your inspection/activity type(s) in the dropdown. Make sure the displayed Email is correct and click **Export _Structures.** You will receive the PDF in an email if file is under the firewall limit (10Mb). If over that limit, HSI will place PDF in your Sandbox folder.
Look at files (plans, ratings, etc.)	On the bridge id that you want to view.	Click on the **General Inventory** tab, and then click **Files**. That will link you to a folder structure where files can be accessed.
Map structures	On the **Map** button	To enter the structure screen for a mapped item, click on the marker.

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General things you might be looking to do:

To...	Click...	And then do this...
Set a general subscription	**Go**, then **Tools**, then **System**, then **Subscriptions**	Highlight the item you wish to subscribe to, and click **Subscribe**. Fill out prompted data and click **Save.**
Set a subscription for a specific report	As directed above to run the report, then click **Go**, then **Tools**, then **System**, then **Subscriptions**	Select **RunReport** from the list and click **Subscribe**. Select frequency from dropdown that you wish to receive the report and the respective frequency value and click **Save**. For instance if you want the report to run the 1st day of each month, select Day of Month and enter 1 for Frequency Value.
Retrieve Files from the **SANDBOX**.	**Go**, then **Tools**, then **System**, then **Sandbox**	Folders will be labled by date and time. For instance, Batch_06_15_1550 is a folder that was created on June 15 at 3:50pm. There are two basic lables, "Batch" and "MailSendFailed". The difference is this: Batch is the folder structure for files you intended to be sent to the Sandbox folder from the start; MailSendFailed houses files that failed to email due to a firewall restriction that prohibited the file from being sent. To open/save the file, click on the folder and then open the PDF. Then either print or save the file to a directory of your choosing.

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Bridge Inspection and Investigation Quick Reference:

To...	Click...	And then do this...
Enter an inspection.	On the Bridge ID on the main page. Then click on the **Inspection** tab, located in the structure view.	Click on the **Create** tab, then select the inspection type(s) that were done during the field visit. Also select special activities that were done (SIA, Deck Evaluation, Underwater Profile, etc.). Make sure your agency and inspector are correct. Finally, enter the date of inspection and click **Create** button. Note that you cannot change these selections once they are made, so make sure to select carefully before continuing.
Enter a Underwater Dive Inspection	On the **Inspection tab**, click the **Create tab**. Then check the box for **UW-Dive.** Then click the **Create** button.	The general inspection tabs will appear, along with a specific tab dedicated to underwater inspections. Click on the **Underwater** tab. In it will be data for the dive log, as well as individual substructure dive information that is dynamic and will expand to accomodate the number of piers shown in the inventory information for the bridge.
Enter a Critical Finding.	On the **Inspection tab**, click the **Create tab**. Then check the box for **Critical Finding** under Activities, and check the box for interim inspection**.** Then click the **Create** button.	Enter data as necessary and you are required to upload the Critical Findings form (PDF).
Enter a Deck Evaluation	On the **Inspection tab**, click the **Create tab**. Then check the box for **Deck Evaluation** under Activities and check the box for interim inspection**.** Then click the **Create** button.	This activity is for deck evaluations such as Infrared Thermography, Ground Penetrating Radar, Chloride Ion tests, etc. It is required that documentation (PDF) be uploaded when selecting this activity.
Enter a Underwater Profile Activity	On the **Inspection tab**, click the **Create tab**. Then check the box for **UW-Profile** and check the box for interim inspection**.** Then click the **Create** button.	Click **Documents/Images tab** and upload the pertinent PDF and/or Excel files by selecting **UW-Profile** in the Category dropdown list. You are required to upload a document when you check this type of inspection.
Enter a Fracture Critical Inspection	On the **Inspection tab**, click the **Create tab**. Then check the box for **Fracture Critical.** Then click the **Create** button.	Enter data as necessary and upload forms specific to FC inspections. Click **Documents/Images tab** and upload the pertinent PDF and/or Excel files by selecting **Fracture Critical** in the Category dropdown list. The structure is required to have a FCM diagram on file; if it does not, you will not be able to complete your inspection until that document is uploaded.
Enter or Update a Scour Plan of Action	On the **Inspection tab**, click the **Create tab**. Then check the box for **Scour Plan of Action and check the box for interim inspection.** Then click the **Create** button.	Click **Documents/Images tab** and upload the pertinent PDF and/or Excel files by selecting **Scour POA** in the Category dropdown list. You are required to upload a document when you check this type of inspection. You can download the old document (if available), modify it, and upload it again. PDF is preferred for printing purposes.
Enter Multiple Inspections / Activities at same time.	On the **Inspection tab**, click the **Create tab**. Then check the box(s) for the inspections that were completed during the inspection conducted by the same team leader**.** Then click the **Create** button.	Enter all pertinent information in the dynamic tabs provided for the inspection options you have chosen. Note that each of the above inspection/activity entries can be done at the same time; it is preferred that you enter everything at once.

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Bridge Inspection and Investigation Quick Reference:

To...	Click...	And then do this...
Enter a load posting verification form.	On the **Inspection tab**, click the **Create tab**. Then check the activity box called **DT2122 Load Posting Verification Form.** Then click the **Create** button.	By selecting the checkbox for load posting verification, the inspector is certifiying that all signs have been viewed and photographed as necessary and that pertinent controling items (section loss, overburden, etc.) have been inspected to determine if additional analysis is required. If signs have changed, or are incorrect, a new Load Posting Verification Form will need to be loaded. Click **Documents/Images tab** and upload the pertinent PDF and/or Excel files by selecting **Posted** in the Category dropdown list.
Add a element to an inspection	On the **Inspection Tab**, then click on the **Element Tab**.	Scroll down to dropdown for Main Element. Select element from dropdown list and click **Add.** Enter appropriate quantities in the condition states and then click the summation button just to the left of those values to update the total quantity. Total quanity must be updated before the inspection will "complete".
Add a defect to an element	On the element button that you want the defect associated with, and select **Add Defect**.	Use the dropdown list that appears and select the defect. Click **Add.**
Delete an Element, Protective System, or Defect	On the element, protective system, or defect you want to delete.	Click **Delete** and then click **OK**.
Check my inspection credentials	**Go**, then select **Tools**. Then click **Preferences** and select the **Inspector** tab.	Based on your inspector ID, the system will show credentials assigned to you. Special inspection types (Fracture Critical, Underwater Dive, Ancillary, etc.) require specific credentials. If you do not have this credential, you will not be able to enter/complete that type of inspection. Contact the Bridge Management Section at WisDOT for more information.
Enter a late inspection.	On the **Inspection tab**, click the **Create tab**. Then check the box for the inspection that is late**.** Then click the **Create** button.	Click on the **LateReason** tab. Using the dropdown, select the reason for the inspection being late and click **Add**. Enter comments to describe why the inspection is late. If you have a late inspection approval from FHWA, click on the **Documents/Images tab** and upload the PDF by selecting **Late Reason** as the Category and upload the document.
Update Inventory Information on Inspection Form	On the **Structure Information** Tab.	This tab contains information on location, features on and under the structure, vertical clearances, span information, geometry, load ratings, traffic counts, and expansion joints. Update pertinent data and click **Save**. Items that are shaded out cannot be updated.

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Bridge Inspection and Investigation Quick Reference:

To...	Click...	And then do this...
Request a load rating based on new inspection information.	On the **Structure Information** tab, then scroll down to the capacity and rating information. Check the box for re-rate and add specific notes to help engineer understand request.	It is strongly recommended that a sketch be uploaded on this tab as well if you check the rerate button. Click **Documents/Images** and upload the pertinent PDF file as **Rerate for Capacity** in the Category. The sketch should indicate all pertinent information required to analysis the structure, including beam sizes, spacing, section loss, deck thickness, overburden, etc. Contact the Bridge Rating unit at WisDOT for more details on items to collect and templates that can be used for general structure types.
Enter recommended maintenance actions	On the **Maintenance** tab located in the general inspection tabs.	Previous outstanding maintenance items may be present. If you know the year and status, change that accordingly. To add new, select the appropriate maintenance item from the dropdown and click **Add**. Select the **Priority** from the drowpdown list, and then add comments to explain the maintenance required. There are no limits to the number of recommendations you can add.
Attach photos specific to the inspection.	While entering the inspection, click on the **Documents/Images** tab. In the Category dropdown, select the inspection you wish to attach photos to and click **Add.**	Click **Choose Files,** the browse to the files you wish to attach. You may select multiple photos. Click **Open** on the browser window, then click **Add** on the HSI tab. Enter Descriptions, as necessary, for each photo.
Upload/Download an Excel or PDF file to a specific inspection/activity type.	While entering the inspection, click on the **Documents/Images** tab. In the Category dropdown, select appropriate category and click **Add.**	Click **Choose Files,** the browse to the files you wish to attach. You may select multiple files. Click **Open** on the browser window, then click **Add** on the HSI tab. Enter Descriptions, as necessary, for each document.
Set a cover Photo for the Inspection Report	On the **Create (or Edit)** tab under the **Inspection** tab. Then click **Choose File**.	Browse to appropriate photo and click **open**. Then click **Upload**.
Complete inspection	On the **Edit** tab.	Click the **Complete** button. If outstanding issues exist, this will not work until those issues have been resolved. To see the list of Complete Disabled reasons, click on the Edit tab and view list at bottom.
Print a completed inspection	On the **History** tab.	Click the Inspection you want to print. Then click **View**. It will open in a pop-up window as a PDF file. If you've recently completed the inspection, please note that it may take 10 minutes for the file to process before you can view it.
Change the Frequency of an inspection	On the **Frequency** tab.	Click in the box under the Rcmd Mos, corresponding to the Inspection type, and type the new override frequency. The frequency can/will be auto-updated if data entered in prior inspection supports a different frequency based on policy items developed by the Structures Maintenance Section of the Bureau of Structures.
Schedule an inspection of a type not yet performed on bridge.	On the **Frequency** tab.	Click the Rcmd checkbox to schedule an inspection type on a bridge.