



# INDIANA DEPARTMENT OF TRANSPORTATION

## *Driving Indiana's Economic Growth*

### **Design Memorandum No. 16-05** **Technical Advisory**

March 8, 2016

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Elizabeth W. Phillips  
Elizabeth W. Phillips  
Manager, Standards and Policy  
Bridges Division

**SUBJECT:** Coordination of Bridge Inspection during Construction

**EFFECTIVE:** Lettings on or after September 1, 2016

The frequency of routine and post-construction bridge inspections is mandated by FHWA, and the timing for performing the inspection may occur while a project is under construction. Completion dates for bridge inspection are not adjusted for these circumstances, and failing to perform the required inspection in a timely manner can result in a loss of federal funding.

Bridge inspection is also required within 90 days of a new, reconstructed, or repaired bridge (in whole or in part) being open to traffic. This inspection period applies equally during MOT phases and when the bridge is wholly open to traffic. RSP 105-C-247 has been developed to indicate these timing requirements and identify the bridges that are due for inspection, the type of inspection required, and frequency.

Designers should complete RSP and include it in all bridge and road contracts. This includes contracts for which no bridge work is scheduled, e.g., a road project where the bridge is part of a paving exception or is an overpass structure. Where there are no bridges within the construction limits, the table should be marked "No bridges within construction limits."

The information needed to complete the table is available in the Department's Bridge Inspection Application System (BIAS). Designers may contact the appropriate INDOT Bridge Inspector below, or query BIAS to obtain the information. Instructions to query BIAS for inspection information are included as an attachment to this memo.

District	Bridge Inspector	Title	Email
Crawfordsville	Nate Pfeiffer	Bridge Inspection Area Engineer	<a href="mailto:npfeiffer@indot.IN.gov">npfeiffer@indot.IN.gov</a>
Fort Wayne	Josh Biller	Bridge Inspection Supervisor	<a href="mailto:jbiller@indot.IN.gov">jbiller@indot.IN.gov</a>
Greenfield	Jim Mickler	Bridge Inspection Supervisor	<a href="mailto:jmickler@indot.IN.gov">jmickler@indot.IN.gov</a>
LaPorte	Nate Pfeiffer	Bridge Inspection Area Engineer	<a href="mailto:npfeiffer@indot.IN.gov">npfeiffer@indot.IN.gov</a>
Seymour	Chris Everman	Bridge Inspection Supervisor	<a href="mailto:ceverman@indot.IN.gov">ceverman@indot.IN.gov</a>
Vincennes	Andy Pinkstaff	Bridge Inspection Supervisor	<a href="mailto:apinkstaff@indot.IN.gov">apinkstaff@indot.IN.gov</a>

Questions regarding BIAS should be directed to the Bridge Inspection Office at [INbridgeshelp@indot.in.gov](mailto:INbridgeshelp@indot.in.gov)

ARCHIVED

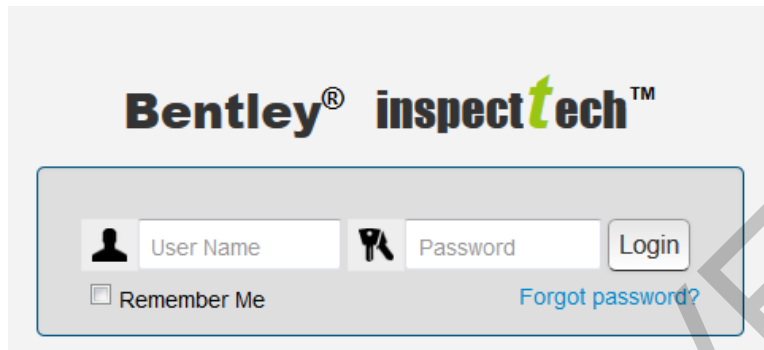
## BIAS (InspectTech)

How to find the next scheduled inspection dates by structure number

1. Log into the Bridge Inspection Application System (BIAS).

<https://indot-it.bentley.com/login.aspx>

If you don't have a log on to the system contact [INBridgesHelp@INDOT.in.gov](mailto:INBridgesHelp@INDOT.in.gov)



The screenshot shows the Bentley InspectTech login interface. At the top, the logo reads "Bentley® inspecttech™". Below the logo is a login form with two input fields: "User Name" and "Password". To the right of the "Password" field is a "Login" button. Below the "User Name" field is a "Remember Me" checkbox. To the right of the "Remember Me" checkbox is a "Forgot password?" link.

2. Enter the Structure Number or NBI number into the search window and select the appropriate value.



The screenshot shows a search window with the text "237-62-06512" entered. Below the search bar, a dropdown menu displays the search results: "237-62-06512 B [029895] (00.38 S SR 66) @ (OHIO RIVER, 3 STS, RR)". Below the dropdown menu is a link that says "Show more results for '237-62-06512'".

3. Then next scheduled inspections are clearly listed on the Main Page

inspect<sup>tech</sup> Main Collector Maintenance Manager Administration Help

Asset Details: 237-62-06512 B Show More Details Edit Asset Values Show on Map Create Report

Quick View Asset Info Files Maintenance Scheduling

Parent Asset: Border Bridges  
 Asset Name: 237-62-06512 B  
 Asset Code: 029895  
 Asset Type: Bridge  
 NBI 007: Facility Carried by Structure: SR 237  
 NBI 006: Feature Intersected: OHIO RIVER, 3 STS, RR  
 NBI 011: Milepoint: 0000.000  
 NBI 016: Latitude: 37.9031  
 NBI 017: Longitude: -86.7444  
 NBI 058: Deck: 6 - Satisfactory Condition (minor deterioration)  
 NBI 059: Superstructure: 5 - Fair Condition (minor section loss)  
 NBI 060: Substructure: 5 - Fair Condition (minor section loss)  
 NBI 062: Culverts: N - Not Applicable  
 NBI 041: Structure Open, Posted, or Closed to Traffic: A - Open  
 MAD-RP: 0  
 MAD-Offset: -0.001

**Open Reports**  
 No Reports Found

**Scheduling**

Inspection Type	Last Inspection Date	Frequency	Due Date:	Schedule Date	User Assigned to Inspection	Comments	Ongoing
Fracture Critical	10/13/2013	24 Months	October 2015				
Special	10/13/2013	24 Months	October 2015				
Routine	10/13/2013	24 Months	October 2015				
Underwater	11/02/2011	60 Months	November 2016				

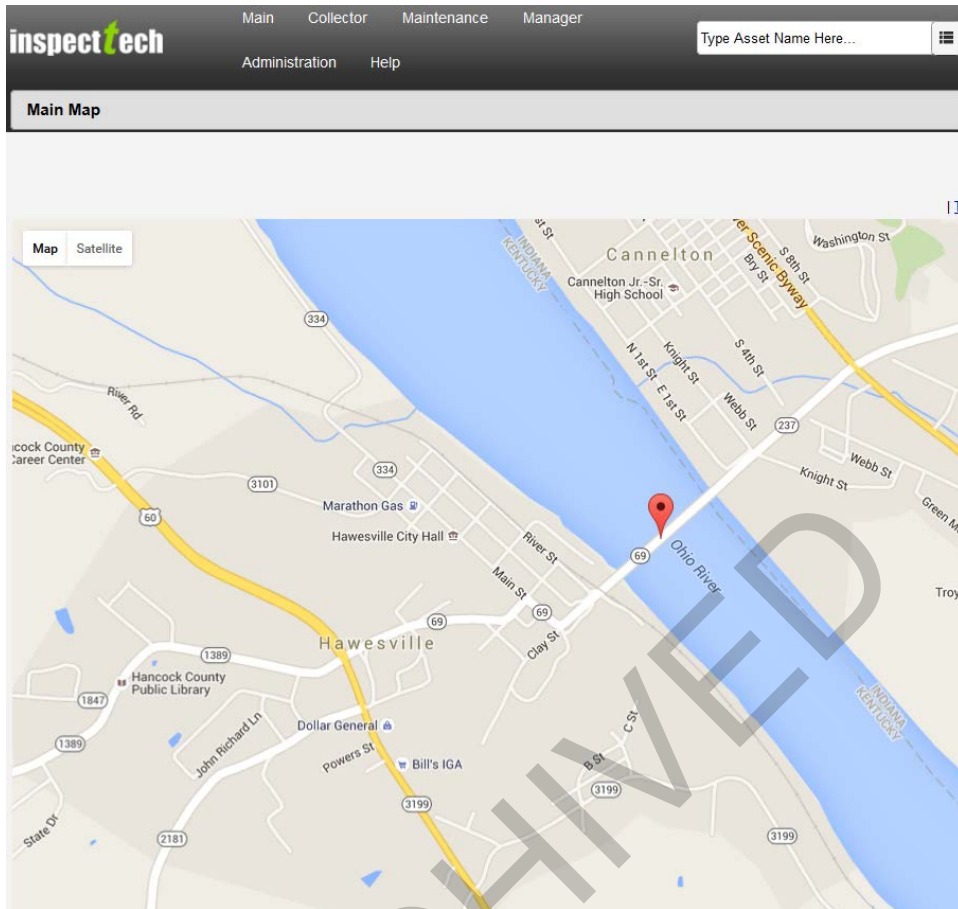
- The bridge can also be represented on a map, to check the respective location and judge if it is within the constraints of the construction limits.

inspect<sup>tech</sup> Main Collector Maintenance Manager Administration Help

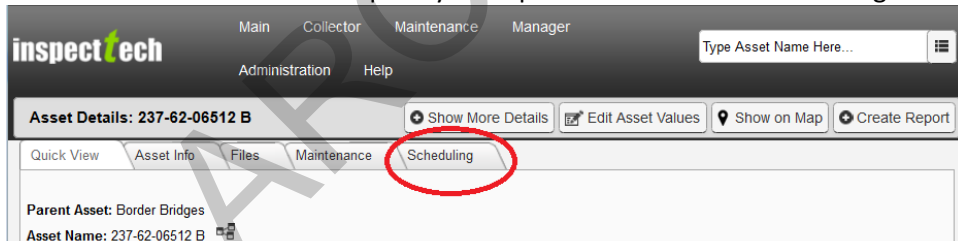
Asset Details: 237-62-06512 B Show More Details Edit Asset Values Show on Map Create Report

Quick View Asset Info Files Maintenance Scheduling

Parent Asset: Border Bridges  
 Asset Name: 237-62-06512 B



5. For more details about the frequency of inspection click on the Scheduling Tab.



The screenshot displays the 'Scheduling' page for the asset. It features a table titled 'Scheduled Inspections' with columns for Inspection Type, Last Inspection Date, Frequency, Due Date, Schedule Date, User Assigned to Inspection, Comments, Ongoing, Edit, and Delete. There are four rows of inspection data.

Inspection Type	Last Inspection Date	Frequency	Due Date	Schedule Date	User Assigned to Inspection	Comments	Ongoing	Edit	Delete
Fracture Critical	10/13/2013	24 Months	October 2015					Edit	Delete
Special	10/13/2013	24 Months	October 2015					Edit	Delete
Routine	10/13/2013	24 Months	October 2015					Edit	Delete
Underwater	11/02/2011	60 Months	November 2016					Edit	Delete

The following routine, fracture critical, underwater and/or special inspections are due to be performed by the Bridge Inspection Department, or their designee, on each bridge within the construction limits of contract.

Example:

<b>INDOT Structure Number</b>	<b>NBI Number</b>	<b>Inspection Type</b>	<b>Last Inspection Date</b>	<b>Frequency</b>	<b>First Scheduled Inspection</b>	<b>Second Scheduled Inspection</b>
237-62-06512 B	29895	Fracture Critical	10/13/2013	24 Months	October 2015	October 2017
237-62-06512 B	29895	Special	10/13/2013	24 Months	October 2015	October 2017
237-62-06512 B	29895	Routine	10/13/2013	24 Months	October 2015	October 2017
237-62-06512 B	29895	Underwater	11/2/2011	60 Months	November 2016	November 2021

ARCHIVED

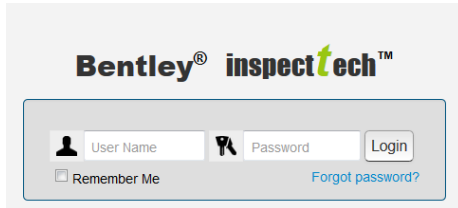
# **BIAS (InspectTech)**

## **Query to locate all bridges within a road section by RP**

1. Log into the Bridge Inspection Application System (BIAS).

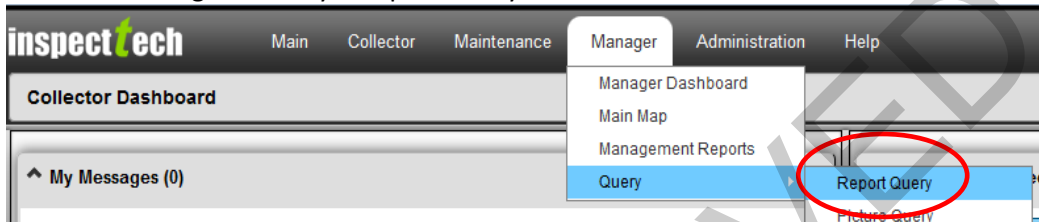
<https://indot-it.bentley.com/login.aspx>

A login can be obtained by sending an email to the system administrator at [INBridgesHelp@INDOT.in.gov](mailto:INBridgesHelp@INDOT.in.gov).

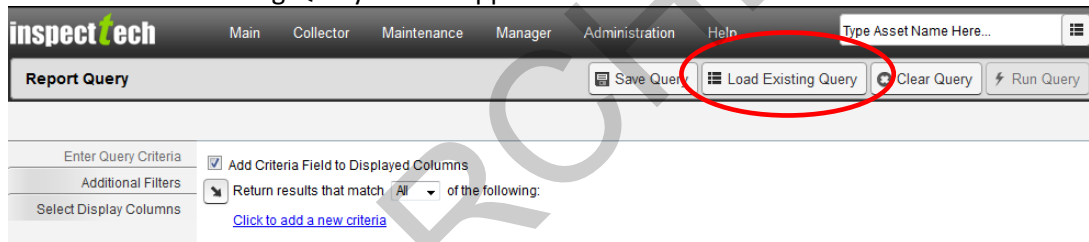


The image shows the Bentley inspecttech login page. It features the Bentley logo and the text "inspecttech". Below the logo is a login form with fields for "User Name" and "Password", a "Login" button, a "Remember Me" checkbox, and a "Forgot password?" link.

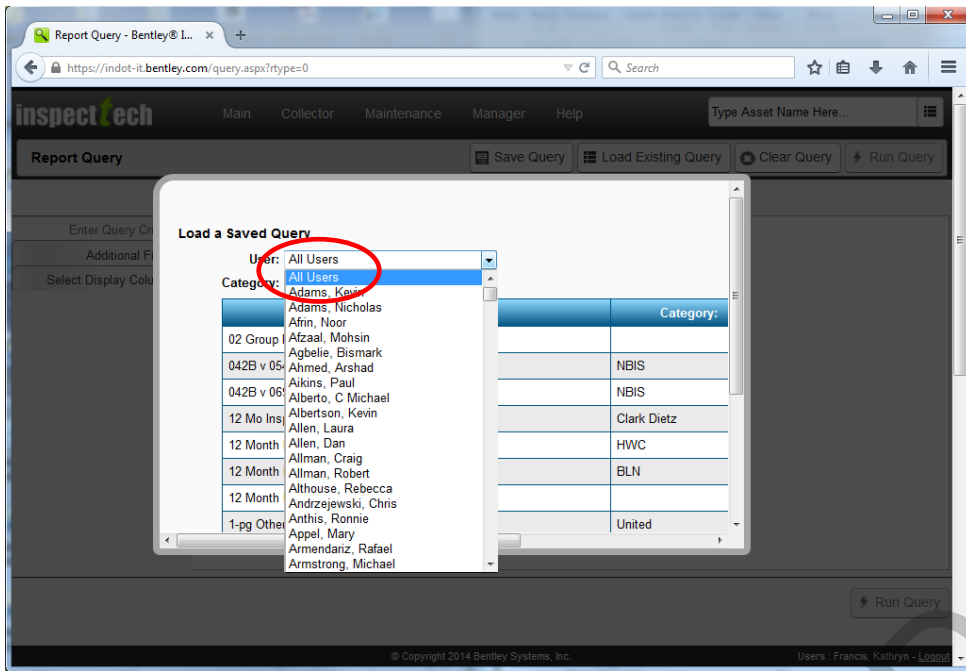
2. Go to Manager > Query > Report Query



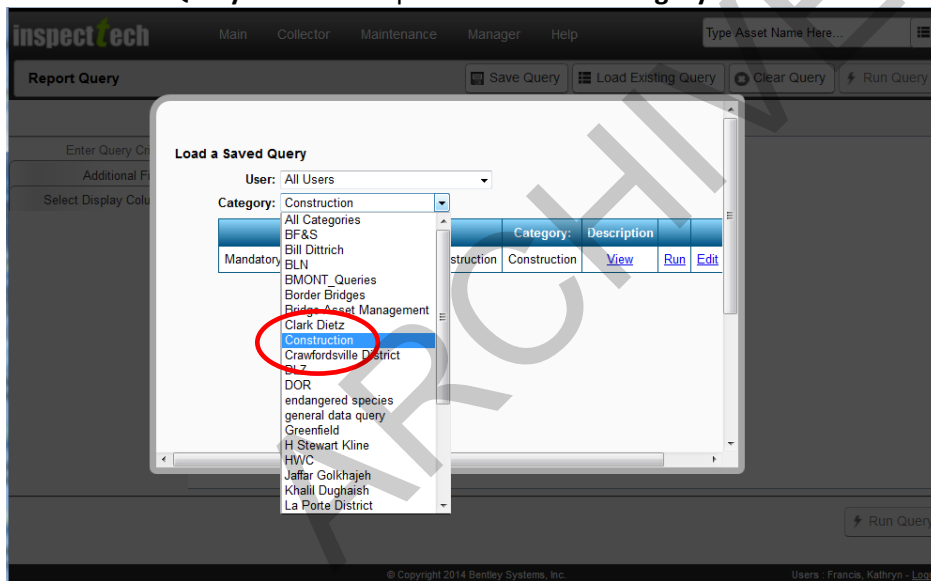
3. Select "Load Existing Query" in the upper left side of the screen



4. Load a Saved Query: Use the drop down to select User: All Users

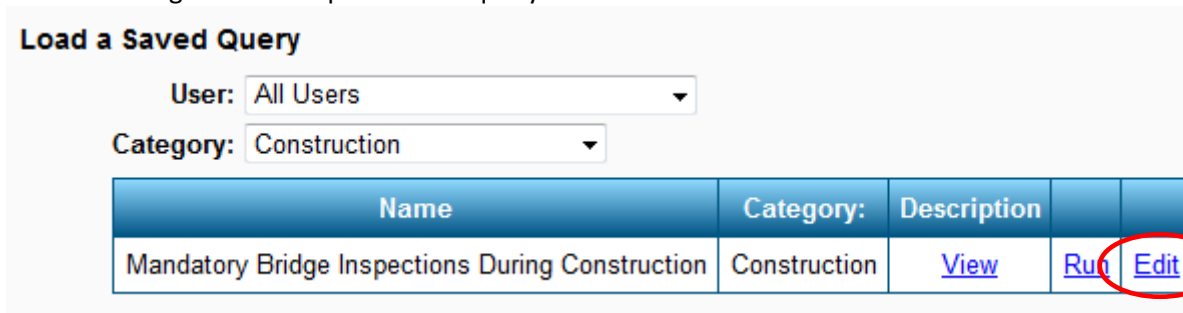


5. Load a Saved Query: Use the drop down to select Category: Construction



6. Load a Saved Query: Click on the "Edit" link for the query named "Mandatory Bridge Inspections During Construction"

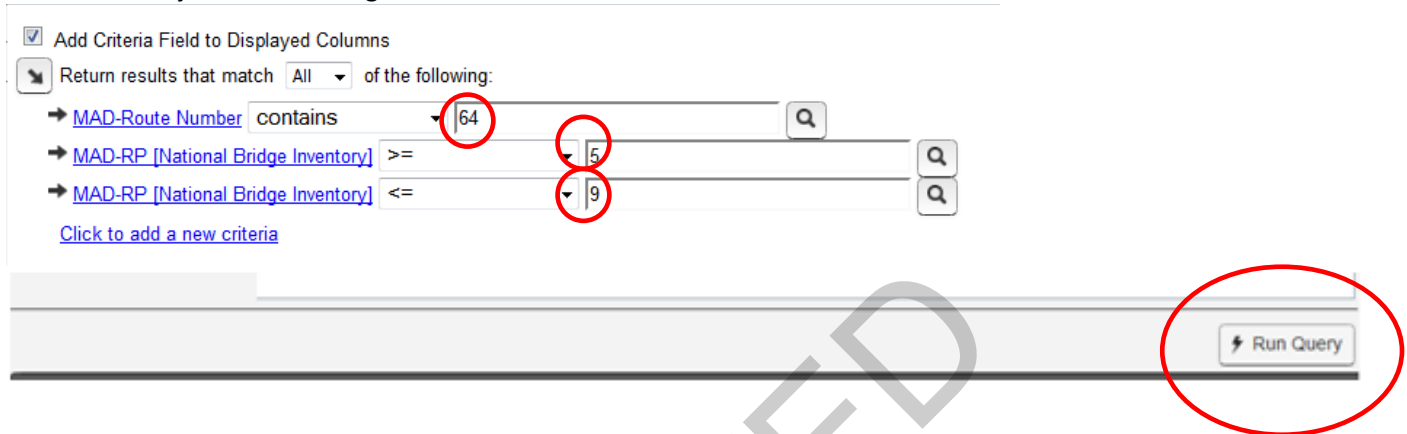
Clicking "View" will provide the query instructions





7. Edit/Input the data that pertains to the project limits. "MAD" stands for Miscellaneous Asset Details.
- MAD-Route Number **contains** \_\_\_\_: Enter the route number of the subject project limits. If there are multiple routes it is recommended that multiple queries be run.
  - MAD-RP **greater than or equal to** \_\_\_\_: Enter the lowest Reference Post number as it relates to the subject project limits
  - MAD-RP **less than or equal to** \_\_\_\_: Enter the highest Reference Post number as it relates to the subject project limits.

Click **Run Query** in the lower right corner of the screen.

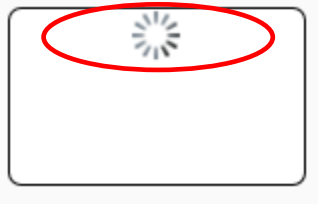


The screenshot shows a query builder interface. At the top, there is a checkbox labeled "Add Criteria Field to Displayed Columns" which is checked. Below it, a dropdown menu is set to "All" with the text "Return results that match All of the following:". There are three criteria rows:

- Row 1: "MAD-Route Number" contains "64".
- Row 2: "MAD-RP [National Bridge Inventory]" is greater than or equal to "5".
- Row 3: "MAD-RP [National Bridge Inventory]" is less than or equal to "9".

Each row has a search icon to its right. Below the criteria is a link "Click to add a new criteria". At the bottom right of the interface, there is a button labeled "Run Query" with a lightning bolt icon, which is circled in red. The input fields for "64", "5", and "9" are also circled in red.

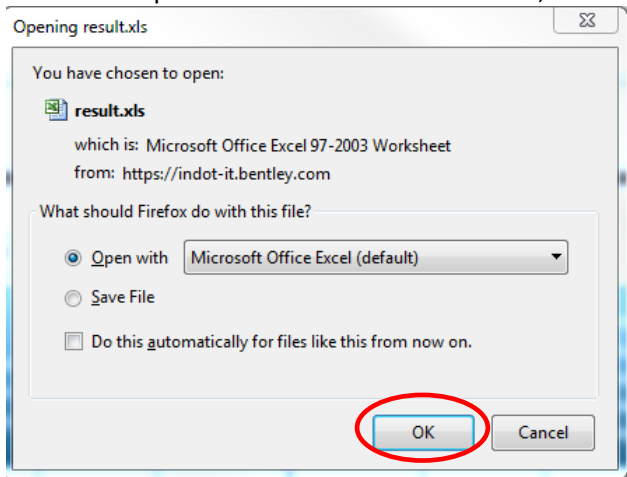
8. This Symbol will appear at the bottom of the screen as the query runs...an initial run of the query may take several minutes. Subsequent runs of the query, even with new data, will be quicker.



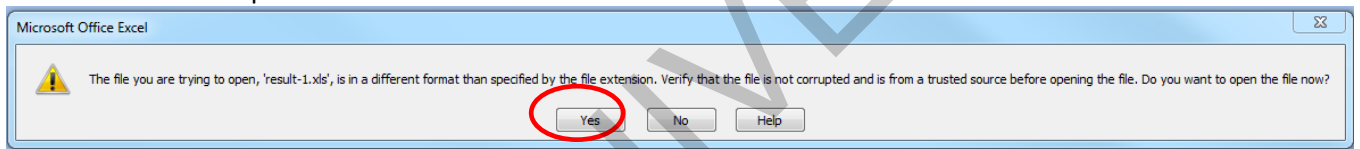
9. If the return list is small, the necessary data can be interpreted from here to fill in the matrix. However, it may be necessary to **Export Results to Excel** for additional data analysis to limit the list of structure further by Route Type or Offset.

# How to manipulate data in Excel

1. Click **Export Results to Excel**
2. Click **OK** to open file in Microsoft Office Excel, or change the default to "Save File".



This warning box may appear. Click **Yes**..it is ok to open the file now.



3. Once the file is in Excel, be sure that the columns are wide enough to read all of the column headers.

	A	B	C	D	E	F	G	H
1	<b>Asset Code</b>	<b>Asset Type</b>	<b>Parent Asset Name</b>	<b>Asset Name</b>	<b>NBI 007: Facility Carried by Structure [Identification ]</b>	<b>NBI 006: Feature Intersected [Identification ]</b>	<b>MAD-Rou</b>	<b>MAD-Rou</b>
2	022860	Bridge	State - Vincennes	064-26-04615 B	SR 64/65	RICHLAND CREEK	S	64
3	022870	Bridge	State - Vincennes	064-26-04616 B	SR 64/65	US 41	S	64

4. Turn on the filter and be sure to only select the Route Type, Route Number and RP and Offset associated within the limits of the subject project.

	A	B	C	D	E	F	G	H	I	J
	<b>Asset Code</b>	<b>Asset Type</b>	<b>Parent Asset Name</b>	<b>Asset Name</b>	<b>NBI 007: Facility Carried by Structure [Identification ]</b>	<b>NBI 006: Feature Intersected [Identification ]</b>	<b>MAD-Route Type</b>	<b>MAD-Route Number</b>	<b>MAD-RP [National Bridge Inventory]</b>	<b>MAD-Offset</b>
1										
2	022860	Bridge	State - Vincennes	064-26-04615 B	SR 64/65	RICHLAND CREEK	S	64		90.23754
3	022870	Bridge	State - Vincennes	064-26-04616 B	SR 64/65	US 41	S	64		90.50507
4	033220	Bridge	State - Vincennes	164-05-05200 BEBL	I-64 EBL	BLACK RIVER OVERFLOW	I	64		50.29178

5. An understanding of the data in NBI Fields **091** and **092 A, B & C** are necessary for input into the matrix.
- a. NBI 091 – Routine Inspection, required for all bridges in services.
    - i. **NBI 091: Designated Inspection Frequency** – The number of months between inspections.
    - ii. **NBI 090: Inspection Date** – The most recent inspection date
  - b. NBI 092A: – Fracture Critical Bridges, required as indicated.
    - i. **NBI 092A: Critical Features: Fracture Critical Req?** – Y/N Indicates whether or not a fracture critical inspection is required.
    - ii. **NBI 092A: Critical Features: Fracture Critical Details** – The number of months between inspections.
    - iii. **NBI 093A: FC Inspection Date** – The most recent inspection date
  - c. NBI 092B: Critical Features: Underwater, required as indicated.
    - i. **NBI 092B: Critical Features: Underwater Req?** – Y/N Indicates whether or not an underwater inspection is required.
    - ii. **NBI 092B: Critical Features: Underwater Inspection** – The number of months between inspections.
    - iii. **NBI 093B: Underwater Inspection Date** – The most recent inspection date
  - d. NBI 092C: Critical Features: Special Inspection, required as indicated.
    - i. **NBI 092C: Critical Features: Special Insp Req?** Y/N Indicates whether or not an underwater inspection is required.
    - ii. **NBI 092C: Critical Features: Special Inspection** – The number of months between inspections.
    - iii. **NBI 093C: Critical Feature Inspection Date: Special Inspection** – The most recent inspection date

For the matrix to be effective each of the inspection types must be listed in the matrix and the dates of each planned future inspection expected during the course of construction listed.