# File Name: QA Review Tracking Sheet Template

## Worksheets:

* 0.Source\_Data
  + Used as the data source for the macro.
  + **Do not** make changes to the order of the headers (i.e. moving header “Complex Bridge” (see list) to before “(27) Year Built”) as each column is formatted according to the current layout.
  + Data is copied from the “QC Review Tracking Sheet Template” into this worksheet (source data could be from multiple sheets). The last three columns should not be populated when data is copied from the QC Tracking Sheet.
* Index
  + Contains button to “Run Macro to Sort Structures and Select Structures for QA”
* Criteria
  + Contains the criteria used to sort the data from “0.Source\_Data” into each group. See instructions below for accessing.
* Audit
  + Only accessible through Developer > Visual Basic. See instructions below for accessing.
  + Records user access to workbook by recording User Name, Computer Name, Open Time, Close Time, File name at opening, and File name at closing.
  + Contains button that resets all of the worksheets, clears out the “0.Source\_Data” worksheet, and resets the button on the “0.Source\_Data” worksheet.
* Output Worksheets:
  + 1. Fracture\_Critical
    - Fracture Critical worksheet referenced below
  + 2.Scour\_Critical
    - Scour Critical worksheet referenced below
  + 3.Low\_NBI\_Condition
    - Low NBI Condition worksheet referenced below
  + 4.Complex\_Bridge
    - Complex Bridge worksheet referenced below
  + 5.NHS
    - NHS worksheet referenced below
  + 6.Remaining\_Structures
    - Remaining Structures worksheet referenced below
  + Summary
    - **Summary** worksheet referenced below

### File Settings

A few settings are implemented in the file to prevent any accidental edits. In addition to the “Audit” and “Criteria” worksheets being hidden from straightforward user access, the workbook implements a **forced save** when the file is opened and closed. In the background of the workbook functions, when the workbook is opened, the user information is recorded and the file is saved without prompting the user. Additionally, after pressing the button on the “Index” worksheet, all worksheets are locked, except the ‘Summary’ sheet’s ‘QA Review Performed’ column. Upon closing the workbook, the user information will be recorded and the file saved without prompting the user.

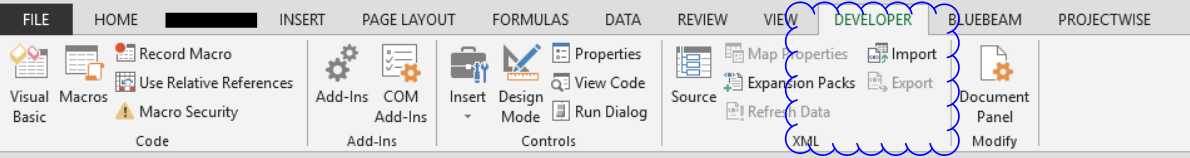
## “Index” Worksheet Button

The steps that occur when the button is pressed on the “Index” Worksheet are as follows:

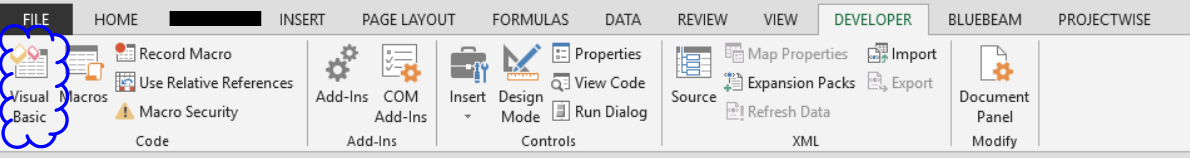
1. “StructureSorting” Macro runs
   1. Filters and copies entries meeting the criteria for the Fracture Critical conditions
      1. A random number between **0** and **100000** is applied to each entry.
      2. The entries are sorted based on the random number from highest to lowest.
      3. The total number of selected structures are calculated and selected from the top by entering a “**Yes**” in the cell. (e.g. if the total entries = 37, the sheet calculates that it needs to select 10% rounded up and it will pick the top 4 entries).
   2. Filters and copies entries meeting the criteria for the Scour Critical conditions
      1. A check is performed to compare the Asset ID of Scour Critical structures against already selected structures in the previous Fracture Critical worksheet. If a structure is encountered that has already been selected for QA in a previous category, then the text “**Already selected**” is entered in the cell.
      2. Steps **1.1.1**, **1.1.2**, and **1.1.3** repeat.
   3. Filters and copies entries meeting the criteria for the Low NBI Condition
      1. A check is performed to compare the Asset ID of Low NBI Condition structures against already selected structures in the previous Fracture Critical and Scour Critical worksheets. If a structure is encountered that has already been selected for QA in a previous category, then the text “**Already selected**” is entered in the cell.
      2. Steps **1.1.1**, **1.1.2**, and **1.1.3** repeat.
   4. Filters and copies entries meeting the criteria for the Complex Bridge conditions
      1. A check is performed to compare the Asset ID of Complex Bridge structures against already selected structures in the previous Fracture Critical, Scour Critical, and Low NBI Condition worksheets. If a structure is encountered that has already been selected for QA in a previous category, then the text “**Already selected**” is entered in the cell.
      2. Steps **1.1.1**, **1.1.2**, and **1.1.3** repeat.
   5. Filters and copies entries meeting the criteria for the NHS conditions
      1. A check is performed to compare the Asset ID of NHS structures against already selected structures in the previous Fracture Critical, Scour Critical, Low NBI Condition, and Complex Bridge worksheets. If a structure is encountered that has already been selected for QA in a previous category, then the text “**Already selected**” is entered in the cell.
      2. Steps **1.1.1**, **1.1.2**, and **1.1.3** repeat.
   6. Filters and copies entries meeting the criteria for the Remaining Structures conditions (i.e. not meeting the Fracture Critical, Scour Critical, Low NBI Condition, Complex Bridge, or NHS conditions)
      1. A check is performed to compare the Asset ID of Remaining structures against already selected structures in the previous Fracture Critical, Scour Critical, Low NBI Condition, Complex Bridge, and NHS worksheets. If a structure is encountered that has already been selected for QA in a previous category, then the text “**Already selected**” is entered in the cell.
      2. Steps **1.1.1**, **1.1.2**, and **1.1.3** repeat.
2. “CreateSummarySheet” Macro runs
   1. The selected structures from the Fracture Critical, Scour Critical, Low NBI Condition, Complex Bridge, NHS, and Remaining Structures Worksheets are copied into a **Summary** worksheet.
3. “SetFormatting” Macro runs
   1. The macro will run through Fracture Critical, Scour Critical, Low NBI Condition, Complex Bridge, NHS, Remaining Structures, and **Summary** worksheets to format the worksheets consistently for 11x17 sheets.
   2. A prompt will request the file location of the SCDOT logo.
4. “ExportAsPDF” Macro runs
   1. The macro will export the **Summary** worksheet as a pdf.
   2. A prompt will request the location where the user wants to save the file.
5. **All** worksheets are **locked** to prevent any edits (including deactivation of the button on the “Index” worksheet), except for the ‘Summary’ sheet’s ‘QA Review Performed’ column. A date should be entered into these cells by the QA engineer after QA is performed. The remaining cells in the ‘Summary’ sheet are locked but selectable for copying into other documents.
   1. The password to unlock the sheets is “SCDOT”.

## Accessing the “Audit” and “Criteria” worksheet

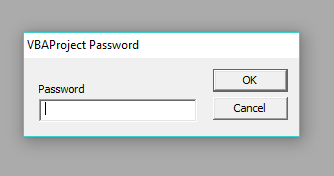
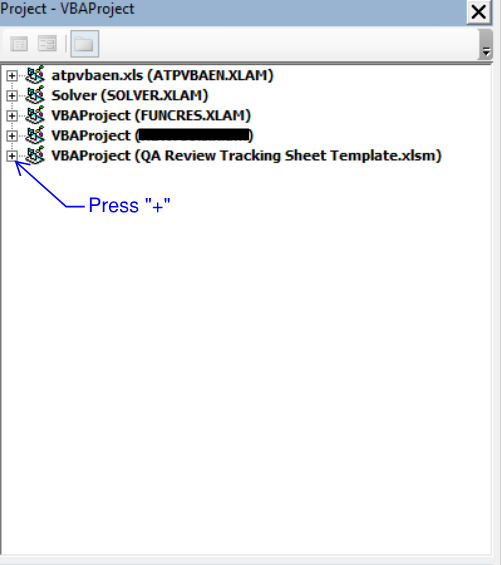
1. Confirm access to “Developer” tab in Ribbon.
   1. File > Options > Customize Ribbon > Under “Main Tabs” confirm that “Developer” is checked.



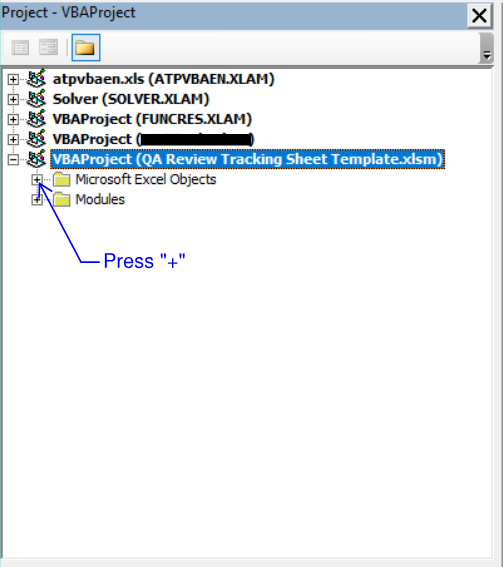
1. Open Visual Basic
   1. Ribbon Tabs > Developer > Visual Basic



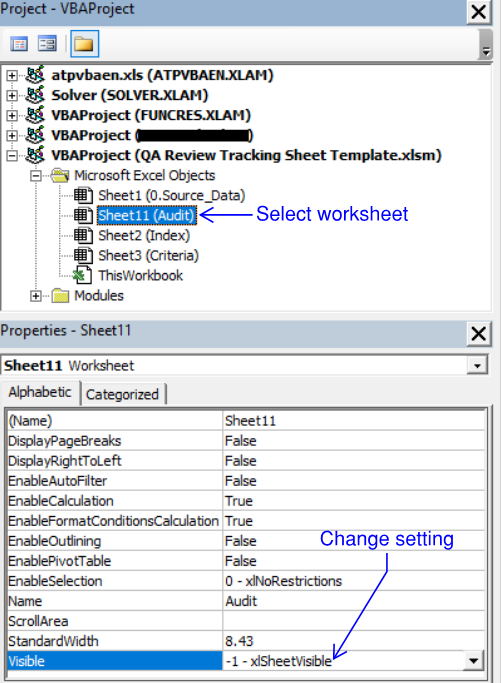
1. Open the “VBAProject (QA Review Tracking Sheet Template.xlsm)” and input password “SCDOT”.



1. Below the “VBAProject (QA Review Tracking Sheet Template.xlsm)” – open the “Microsoft Excel Objects” by clicking on the “+” sign. (This shows all the current worksheets in the workbook.)



1. Select either the “Audit” or “Criteria” Worksheet.
2. Open Properties Information
   1. View > Properties Window
3. Unlock the “Audit” or “Criteria” Worksheet
   1. Row name: Visible, select “-1 – xlSheetVisible”. After this is selected, the “Audit” or “Criteria” worksheet should immediately be visible.



### “Audit” Worksheet Button

The steps that occur when the “Reset Workbook” button is pressed on the “Audit” Worksheet are as follows:

* The following sheets are deleted:
  + 1. Fracture\_Critical
  + 2.Scour\_Critical
  + 3.Low\_NBI\_Condition
  + 4.Complex\_Bridge
  + 5.NHS
  + 6.Remaining\_Structures
  + Summary
* The data in the “0.Source\_Data” worksheet is cleared.
* The button in the “Index” worksheet is reset to allow for a new run.

### Hiding the “Audit” and “Criteria” Worksheets

In order to hide the “Audit” or “Criteria” worksheets, the user has two options:

1. A manual hide can be performed by accessing the Properties Window for the worksheet. In this case, the steps from the “Accessing the “Audit” and “Criteria” worksheet” section above would be repeated, except the selection for Step 7 would be “2 – xlSheetVeryHidden”.
2. Close the workbook. Upon opening again, the “Audit” and “Criteria” worksheets will default to hidden.

## Workbook Access, Use, and Logs

* Auditor
  + Accesses the hidden worksheets “Audit” and “Criteria”.
    - Accesses the log of file opening and closing.
  + Controls the resetting of the worksheet through the “Reset Workbook” button on the “Audit” worksheet.
* User
  + Accesses the “0.Source\_Data” worksheet.
  + Copies data into the “0.Source\_Data” worksheet.
  + Runs the macros by pressing the “Run Macro to Sort Structures and Select Structures for QA” button.
  + Specifies the location of the SCDOT logo file. (Note that this file must be sized to fit on the header.)
  + Specifies the Save location of the **Summary** pdf that is exported.
  + Cannot run the macro more than once because the worksheets will lock after one run and must be reset by the Auditor.
  + Has the capability of entering date into ‘QA Review Performed’ column of ‘Summary’ worksheet and selecting other columns of ‘Summary’ worksheet for the purpose of copying the information into other documents.
* Workbook Logs
  + Can only be accessed by Auditor.
  + Recorded Access Data:
    - User name
    - Computer name
    - Open time
      * File name of the workbook at the time of opening
    - Close time
      * File name of the workbook at the time of closing