INDIANA DEPARTMENT OF TRANSPORTATION



Driving Indiana's Economic Growth

100 North Senate Avenue Room N758-CM Indianapolis, Indiana 46204 www.in.gov/indot

Eric Holcomb, Governor Michael Smith, Commissioner

June 13, 2023

CONSTRUCTION MEMORANDUM 23-06

TO: District Deputy Commissioners

District Construction Directors

District Technical Services Directors

District LPA Coordinators

District Project Management Directors

Project Management Area Engineers

Project Engineers/Managers/Supervisors

Field Engineers

FROM: Gregory G. Pankow, P.E., Director

Division of Construction Management and District Support

SUBJECT: Revision of the Electronic Constructability Review Forms (ECRF)

SUPERSEDES: Construction Memorandum 19-01

The purpose of this memorandum is to notify all field personnel of changes to the Electronic Constructability Review Forms (ECRF). The application will remain online and accessible through the INDOT Technical Applications Pathway (ITAP).

The ECRF application contains features that will allow the constructability review to be performed paperless and efficiently. This application will provide a format for reviews and comments between Project Manager (PM), Area Engineer (AE), Project Engineer/Project Managers/Project Supervisor (PEMS) and Designers. The following are features of the ECRF application:

- 1. Provides the PM with the ability to create a review and attach the review documentation (Design plans, Environmental permits, Geotech reports. etc.).
- 2. Sends automated emails informing the AEs when the review is generated. Further, an automated email will also be sent to the PEMS if a review is assigned to them.
- 3. Gives the PEMS the ability to perform the review online and generate notes, add flags, and attach any necessary documents and photos.
- 4. Provides the AE with the ability to assign, approve, and comment on the review electronically. An automated email will be generated when the AE and the PM receive the review comments.



- 5. Allows the PM to forward the review comments to the Designers for feedback.
- 6. Provides a search function for all reviewers by project DES number, contract number, PM, AE, PEMS and Designer.

A new feature includes a role called Creator that has been added to the system.

- 1. District Construction: Enables the Office Area Engineer to be the designee for the purpose of assigning post construction reviews.
- 2. District Capital Program: Enables the Deputy Project Manager to be an alternate designee to the Project Manager for the purpose of creating a constructability review.

Constructability reviews should be an agenda item at the project kickoff meeting, or other scheduled date if no kickoff meeting is scheduled. The PM and AE should collaborate and decide if a constructability review is needed at Design Stage 1 and/or 2 for each project and how the review will be conducted. It is recommended that projects at Design Stage 3 be considered for a constructability review. These decisions should be based on potential project risk.

In addition to the Stage 1, 2, and 3 constructability reviews that are in the ECRF, work type questionnaires are available for selection. The questionnaires for the specific work types are as follows:

- 1. Bridge Deck Overlay
- 2. Bridge Painting
- 3. Bridge Rehabilitation
- 4. Bridge Replacement
- 5. Pipe Lining and Trenchless Pipe
- 6. Resurface
- 7. Scour Protection
- 8. Small Structure.

If it has been determined that a review is needed at Design Stage 3, the PM and AE should discuss the specific work type or the general Stage 3 constructability review questionnaire to be selected for the review.

A post construction review should be assigned by the first day of work or at the latest, by all items complete date and how the review will be completed.

Instructions for accessing the ECRF application as well as the help documents for completing the forms are attached to this memorandum.

Questions should be directed to the Division of Construction Management.

ATTACHMENT: Accessing the ECRF Program and completing an ECRFs

GGP/JJN/jir

Accessing the ECRF Program and completing an ECRF

Accessing the ECRF Program

All users will enter the system by accessing ITAP. For INDOT employees, the User ID and Password to access ITAP is the same ID and password used to access the network and Citrix.

Once into ITAP, the PM should click on "Electronic Constructability Review Form", then "Click here to access application". The Dashboard will then be visible for Project Managers, (PM), Area Engineers, (AE), Project Engineers/Project Managers/Project Supervisors (PEMS), and Designers.

All the District Project Managers and Area Engineers, PEMS, Consultant PEMS, and the consultant designers who do not currently have access to ECRF, will need to request access to the ECRF application.

Project Managers will need to request access via the Approver role.

Area Engineers will need to request access via the Reviewer Role.

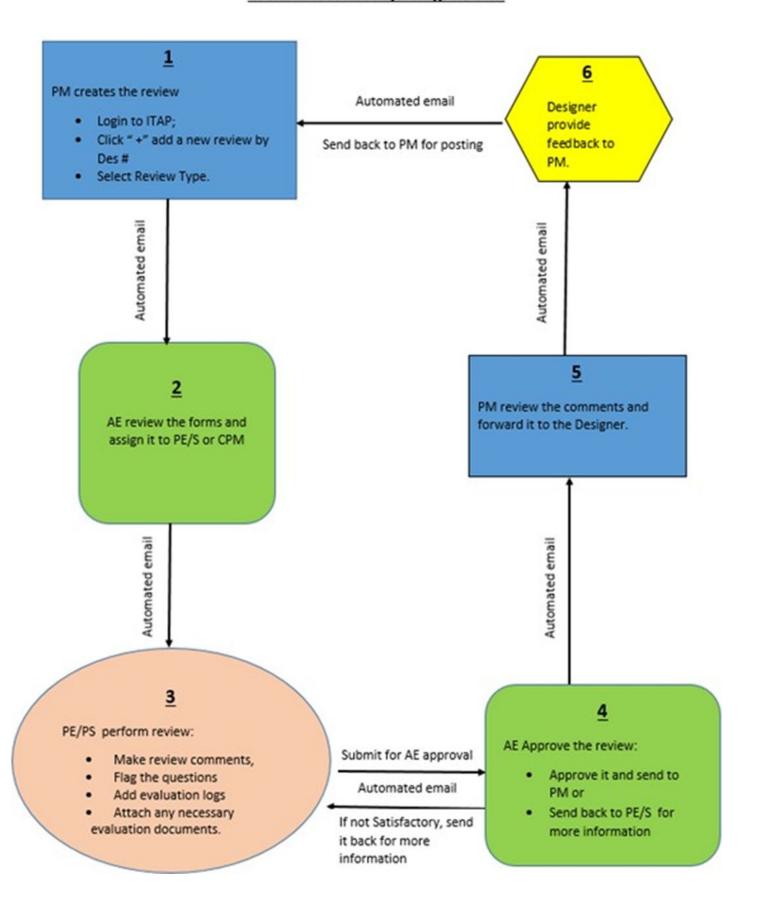
INDOT and Consultant PEMS will need to request access via the Reviewer role. INDOT and Consultant Designers will need to request access via the Designer role.

The Office Area Engineer and Deputy Project Manager will need to submit an email request for the Creator role to INDOT Construction Management Support

Companies not registered in ITAP will need to enroll as a New Business at the following web address: http://itap.indot.in.gov/login.aspx

After company enrollment, an ECRF application request must be made. The primary contact person will be responsible for enrolling new users for their company. If problems are experienced during ITAP enrollment, ITAP support can be contacted by clicking on the envelope icon in the upper left of the ITAP login screen.

Flow Chart for Completing an ECRF



System Set Up

Logging In

Access the INDOT Application Electronic Constructability Review Form through the INDOT Technical Application Pathway (ITAP). The ITAP web address is http://itap.indot.in.gov. First, the user must be registered in the system. See instructions for using ITAP on the ITAP Login screen.



Any outside customers already enrolled in ITAP should enter their state network Username and Password.

Roles and Permissions

Users are assigned Roles and Tokens, giving them permissions to certain site features. Users without permissions to certain features see grayed out records and options (or no options/icons at all) on those screens.

The Header

At the top of every screen in the Electronic Constructability Review Form application is a Menu Bar.



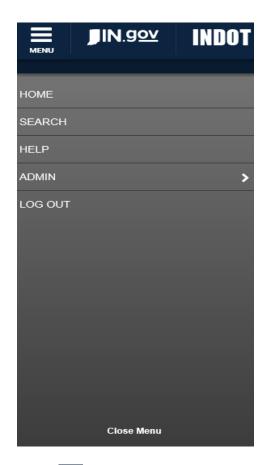
Click HOME

to return to the Home Screen.

Click HELP

to view the help guide for Electronic Constructability Review Form.

Click MENU to view menu options for this application.



Home – Takes users back to the Home Screen

Search – Allows users to search for evaluations

Help – Allows users to view the help guide

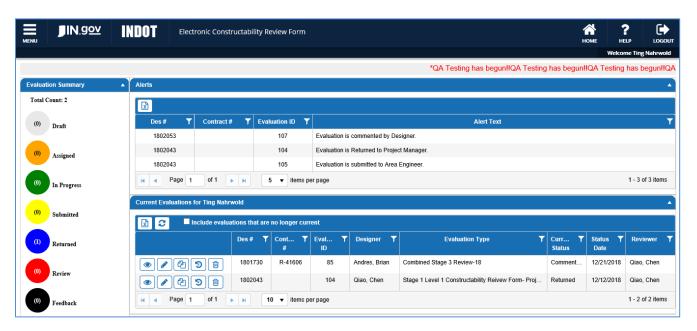
Admin – Allows admins to maintain
announcements, questions and data values

Log Out – Allows user to log out of application

Click to log out of the application.

Home Screen

The **Home Screen** displays the **Evaluation Summary** panel for all evaluation forms that are currently assigned to a user, **Alerts** panel, which notifies the user of the stages of each evaluation form and **Current Evaluations** panel for the user. The **Home Screen** does not show any completed forms unless the check box for **Include Evaluations That Are No Longer Current** is selected.



Panel Pages

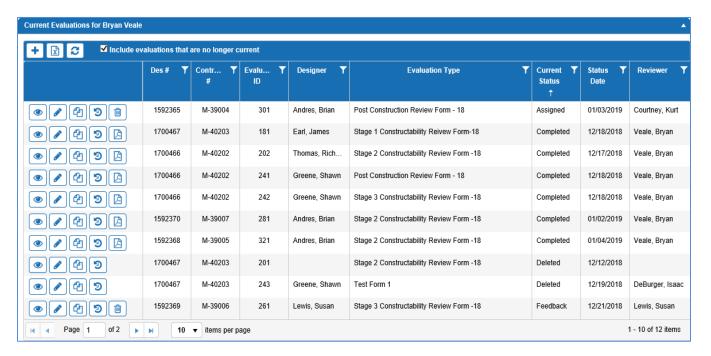
To navigate to the next page forms, use the **Next** and **Previous** buttons or click the **End** or **Beginning** buttons to jump to the very last or very first page.



Sorting

Data in Panels may be sorted in ascending or descending order numerically (smallest to largest or largest to smallest), alphabetically (A to Z or Z to A) or by date and time (oldest to newest or newest to oldest).

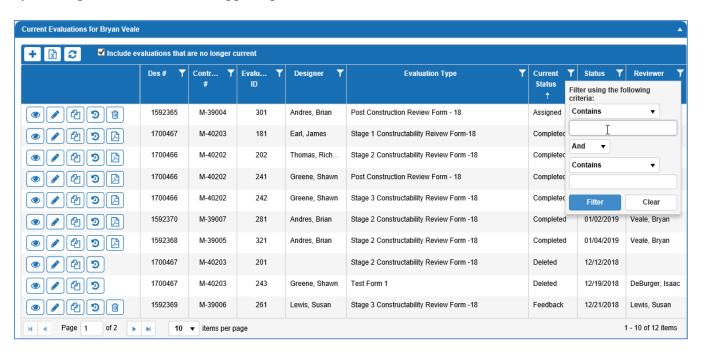
Click on the column heading of the field to be sorted. In the example below, the table is sorted by Current Status (ascending) by clicking once on the Current Status column heading. An arrow indicating the direction of the sort appears below the column heading. Click the column heading again to change the sort order to descending.



To remove the sort, click on the same column one more time (3 clicks altogether) to revert back to the default sort. The arrow will be removed from the column heading.

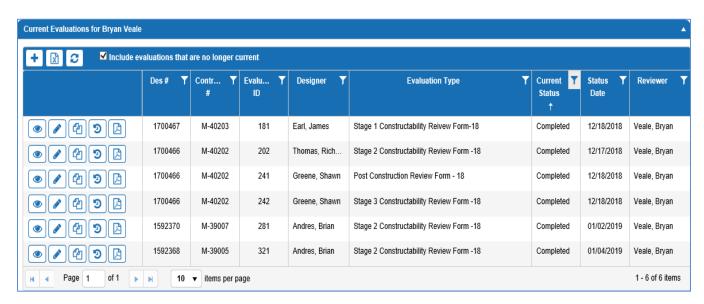
Filtering

Data in tables may be filtered so only particular content displays. Users can filter information in a table by clicking on the **Filter** in upper right hand corner of the column header.



Select the appropriate **operator** from the dropdown menu and type a **value** in the text box. A list and description of available operators is below.

The Column Settings icon will have a white box around it once a filter is applied.

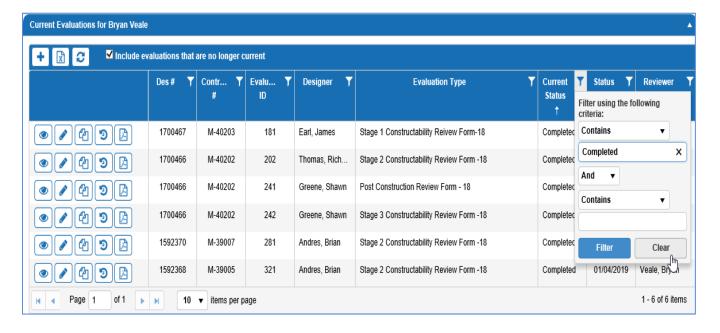


Operator	Description
Contains	Enter any character(s) or number(s) in the value to include in the results (no wildcards). For example, Legal Firm Name Contains "LLC" would return all records with the word "LLC" in their Firm Name
Does not Contain	Enter any character(s) or number(s) in the value to exclude from the results. For example, Legal Firm Name Does not Contain "LLC" would return all records that do not have the word "LLC" in their Firm Name
Starts with	Enter the values the filter term starts with
Is equal to	Enter the exact value to include in the results
Is not equal to	Enter the exact value to not include in the results
Ends with	Enter the values the filter term ends with

To apply a second filter, select "And" or "Or" from the dropdown and complete a second filter.

Click **Filter** to filter the table or click **Clear** to return to the table without applying the filter.

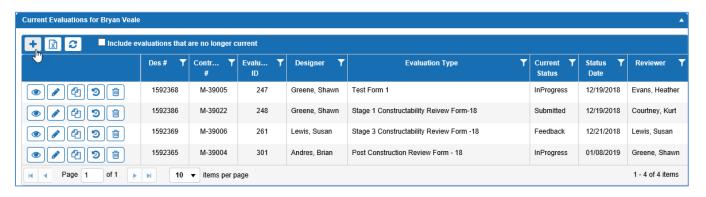
To remove the Filter, click on the Filter icon. Click Clear to remove any filters on the column.



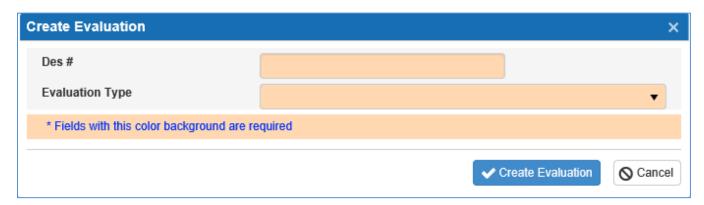
Create New Form

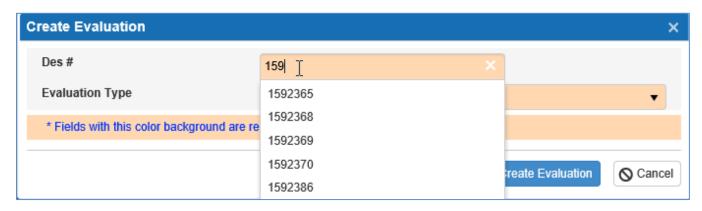
Project managers or users with permission are able to create forms.

Click the **Add New** icon at the top of Current Evaluations grid.



Project Managers must have a Des' in SPMS assigned to them in order to create the evaluation form. A list of similar Des numbers will show based on input once the user starts to type in a Des number. Only those Des' that are assigned to the project manager will show in the list. Select an Evaluation Type. The PM will need to consult with the AE on which evaluation to be assigned for the pre-letting review. When a post construction review needs to be assigned, the AE should contact the district construction designee for this review to be assigned. The post construction review can be completed for the entire contract by being assigned to the main project. If desired by the AE or PEMS review of particular projects on the contract can be conducted as well. Click **Create Evaluation** to save and open the form. Click **Cancel** to exit without saving.

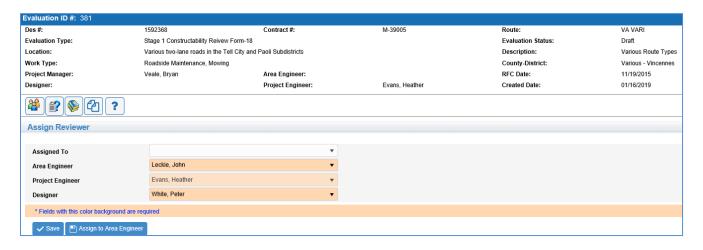




Once the form is opened, users will see the **Assign Reviewer** screen first. The form status will be **Draft** until the Project Manager assigns the form to the Area Engineer.

Users will have 5 options: Assign Reviewers 4, Fill out the Form 4, Add Log Entries 4, Upload Documents 2, and View Help Documentation 2.

Project Managers will need to assign an **Area Engineer** and **Designer** to the form by clicking the drop down lists for both fields. If the Des has a Project Engineer or Area Engineer assigned in SPMS, that engineer will be populated by the system. Users with permission will be able to change if needed.



Once assigned, user can save the form by clicking the **Save** icon or **Assign to Area Engineer** to start the form. The form status will change to **Assigned** when the Project Manager assigns to the Area Engineer.

The **Assigned To** field will populate each time the form is assigned to a user. **Project Managers** are the only ones that are able to edit the **Assigned To** field. This field should only be changed if the user decides to assign another user as **Area Engineer**, **Project Engineer** or **Designer** to match the newly selected reviewer.

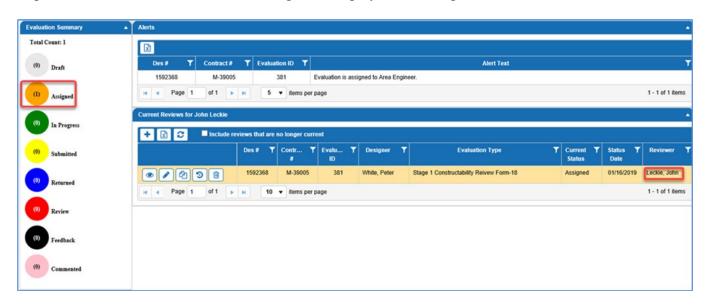


The **Assigned To** user will then log on to complete the form, make comments and/or upload documents. Only the **Assigned To** user will be able to make changes to the form. Project managers will be able to add log entries and upload documents at any time regardless of who the **Assigned To** user is.

Once the **Project Manager** assigns the form to the **Area Engineer**, the **Area Engineer** will then login to assign the **Project Engineer**, if applicable, and complete their portion of the form, if needed.

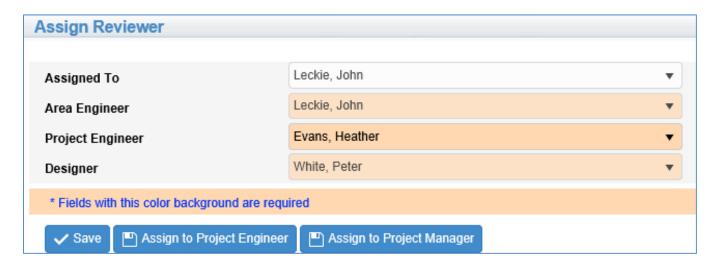
When the **Area Engineer** logs in, the **Home Screen** will display all available forms and alerts assigned to the logged in user.

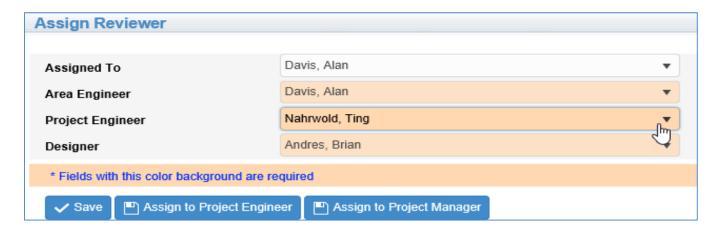
Depending on permissions, users will have the option to View Details about the form, Edit the form, Upload Documents, View the Evaluation Status History, Delete the form , Export to Excel , or Refresh the grid to display latest changes.



Click the **Edit** icon open the form.

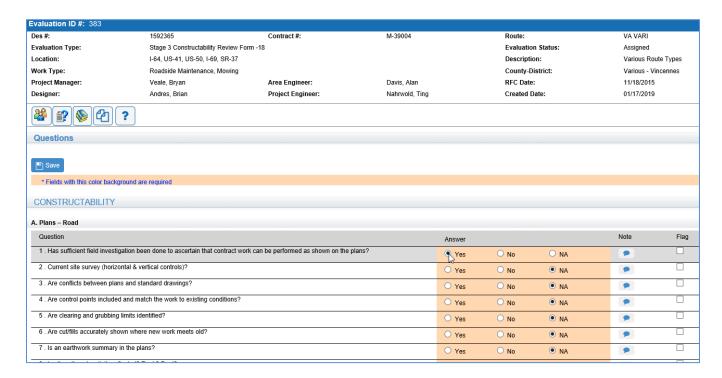
Area Engineer will need to first assign the **Project Engineer**. All other fields are disabled. In the example below, the **Project Engineer** has been pre-populated by the system. User has the option to change if needed.





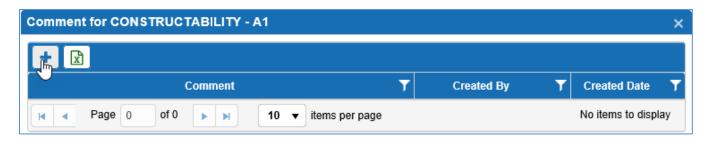
Click **Save** to save the changes made. After the **Area Engineer** assigns the **Project Engineer**, the **Area Engineer** has the option to fill out the evaluation form. Click on the **Questions** icon

The form opens. Answer the questions, if applicable.

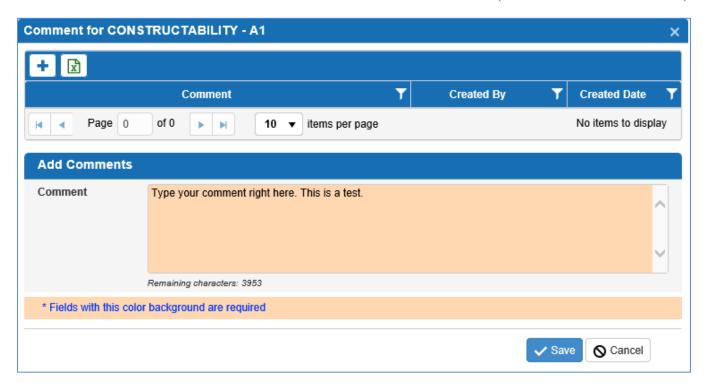


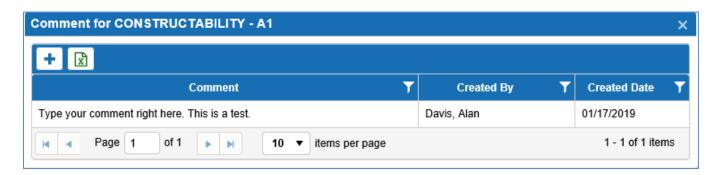
Users have the option to add notes per question, although if the answer to a question is N_0 , it is recommended that the reviewer creates a note on why the answer is N_0 .

The user should Flag the question to alert reviewers of any comments or changes to that question. To add a note click on the Note icon and dialog box will open. Click Add New to add a new note.

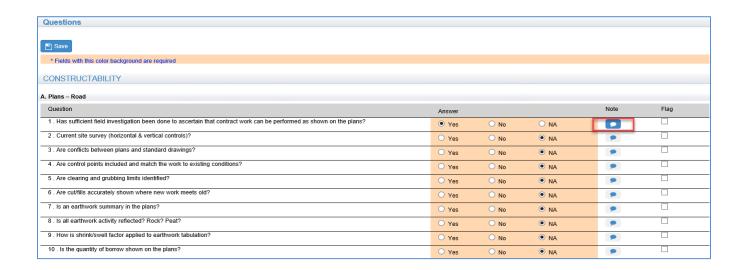


Enter the note. Click **Save** to save the comment or click **Cancel** to exit without saving. User also has the option to Export to Excel all comments for a question by clicking the Export icon .

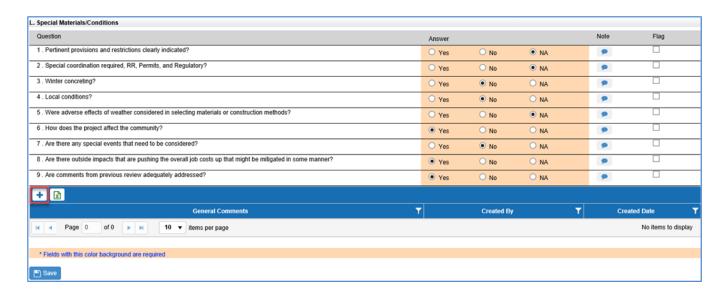




After a note has been made for a question, the Notes icon is highlighted indicating a note is present.



Users also have the option to add **General Comments** about the form in general at the bottom of the questionnaire. To add a new General Comment, click the **Add New** icon



Enter a comment. Click Save to save the comment, click Cancel to exit without saving.



Comments will be stored at the bottom of each form.

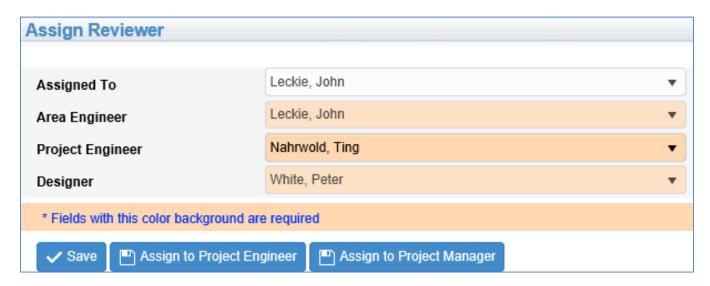


When all questions have been answered, click the Save button at the top or bottom of the screen to save the answers to the questions.

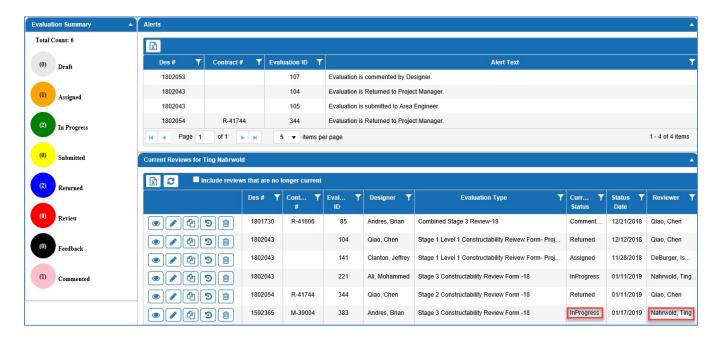
Click Assign Reviewer icon at the top of the screen to move the form to next reviewer.



Click Assign to Project Engineer icon if user is ready for Project Engineer to review or click Assign to Project Manager icon to send back to Project Manager for changes.

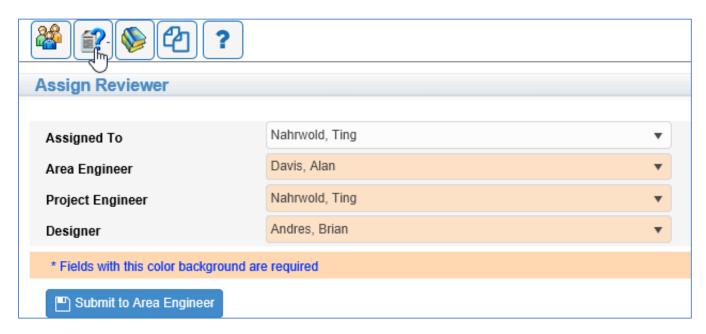


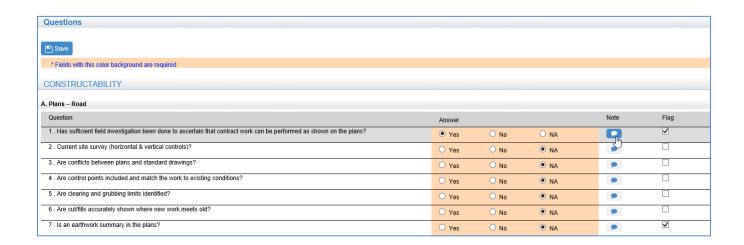
Project Engineer logs in to complete their portion of reviewing the form as described above. **Project Engineers** are able to view and respond to notes and comments made by other users as well as add log entries and upload documents. At this stage, the form status is **In Progress**.

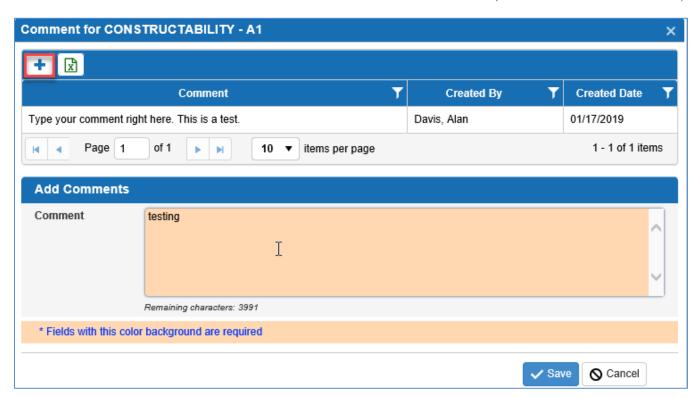


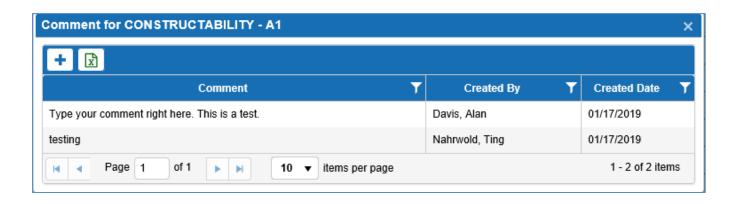
Click the **Edit** icon open the form.

Click the **Questions** icon **?**.





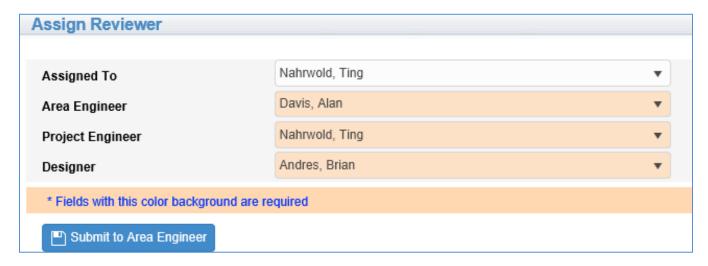




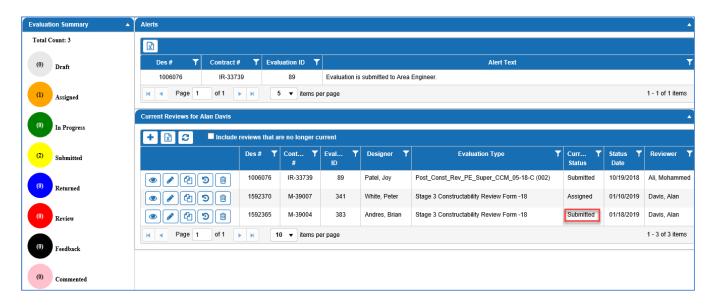
Once completed, the **Project Engineer** clicks **Assign Reviewer** icon at the top of the screen to move the form to next reviewer.



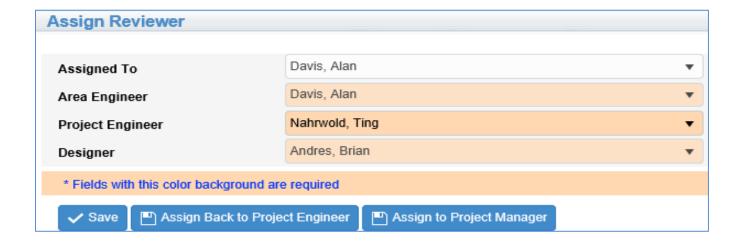
Click the Submit to Area Engineer icon.



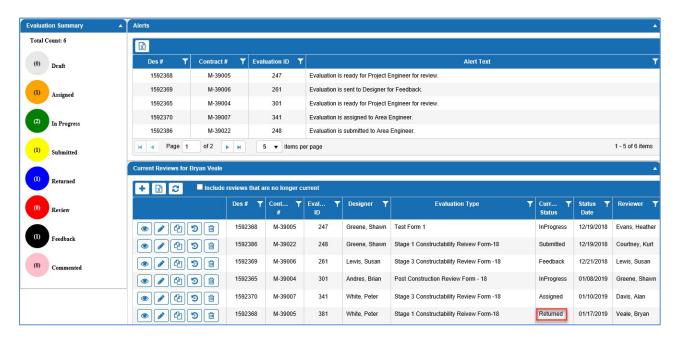
The status changes to **Submitted**.



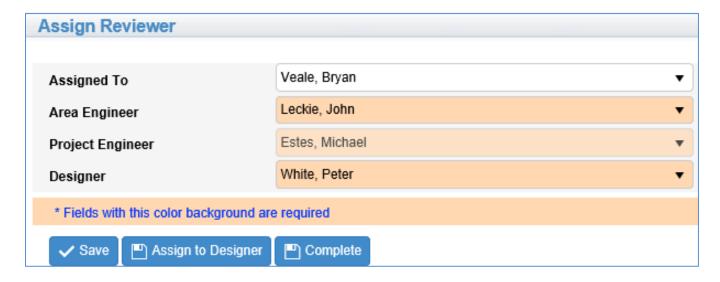
Click the **Edit** icon open the form.



If the Area Engineer decides to not send form back to Project Engineer, user has the option to Assign to Project Manager. (NOTE: Assign Back to Project Engineer repeats the process mentioned above for the Project Engineer). This option will skip the process of the Project Engineer to review the form and allow for the Project Manager to either Complete the form or Assign to Designer for review. This option will change the form status to Returned.



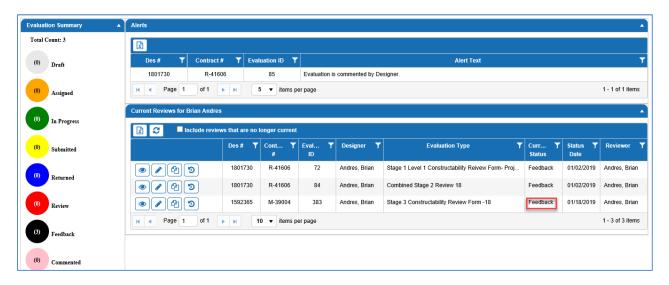
Click the **Edit** icon open the form.



Project Manager has the options to **Assign to Designer** or mark the form **Complete**.

If user assigns to **Designer**, the **Designer** will log in to review form and respond to any comments or notes as needed. **Designers** are not allowed to edit the form only respond to notes, comments and upload any documents.

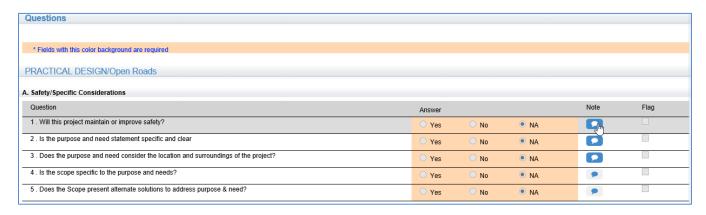
The status changes to **Feedback**.



Click the **Edit** icon to open the form.

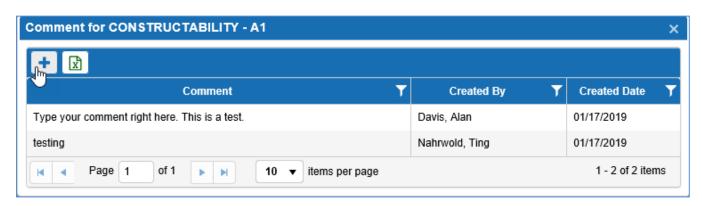
Click the Questions icon.



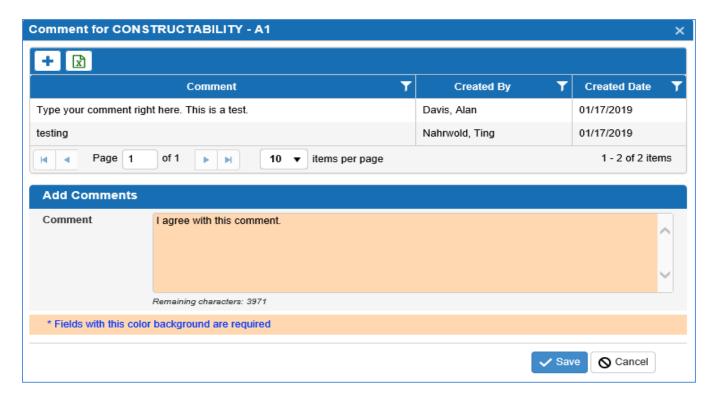


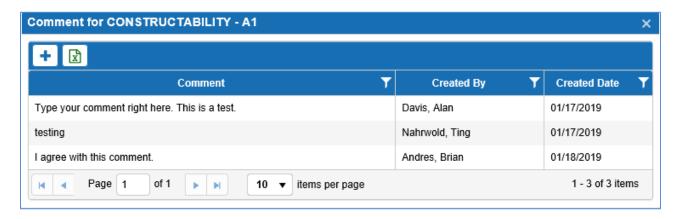
Click the notes icon .

Click **Add New** to reply to a comment.



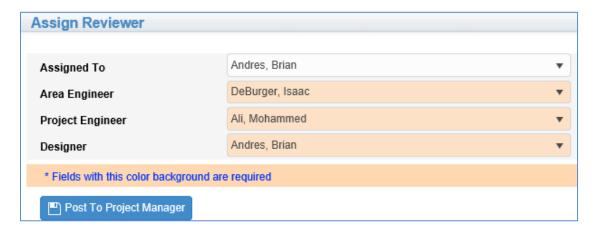
Enter a response. Click Save to save the response. Click Cancel to exit without saving.





After all responses have been entered, next click the **Post to Project Manager** button on the **Assign Reviewer** screen.





The Project Manager will log in to Complete the form. The status will change to Commented.

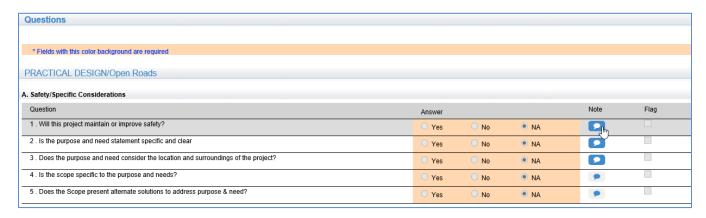


Click the **Edit** icon open the form.

This is the last opportunity for the **Project Manager** to review and respond to any comments as needed.

Click the Questions icon.



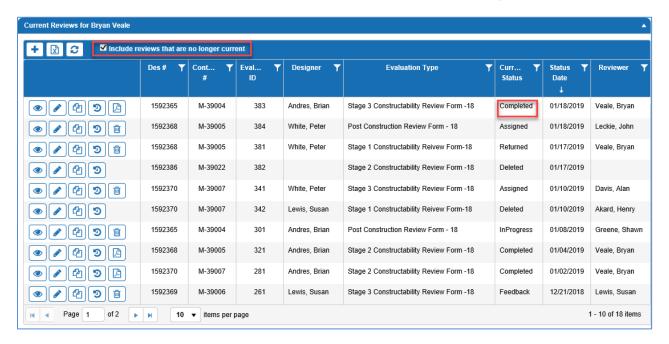


After responding to all comments, click the Complete button on the Assign Reviewer screen.





The form is now marked **Complete** and the form is available to Save and/or Print. Once the form status changes to **Complete**, the form is removed from the current list of forms available and can be seen by using the **Search** tool under the **Menu** options or clicking the check box in the grid as shown below.



To view or print the form, click the PDF icon .



01/18/2019 Indiana Department of Transportati ELECTRONIC CONSTRUCTABILITY REVIEW FORM Evaluation ID Project Manager Veale, Bryan VA VARI Evaluation Type Stage 3 Constructability Review Form -18 Area Engineer Evaluation Status RFC Date Location County - District Project Enginee I-64, US-41, US-50, I-69, SR-37 Designer Andres, Brian Other Work Type Created Date 01/18/2019 CONSTRUCTABILITY Flag ent field investigation been done to ascertain that contract work can be performed as shown on the plans? Yes Current site survey (horizontal & vertical controls)? NA Are conflicts between plans and standard drawings? NA Are control points included and match the work to existing conditions? ring and grubbing limits is Are cut/fills accurately shown where new work meets old? NA is an earthwork summary in the plans? NΑ Yes How is shrink/swell factor applied to earthwork tabulation? NA is the quantity of borrow shown on the plans? NA Solis stabilization? Type set sultable for location? (Lime dusts in residential areas, etc) NA 13 Are paying limits shown? NA is milling required Do roadway plans detail positive drainage for each phase of construction NA 16 Do roadway plans clearly identify adequacy of pipe and structure location? NA Can existing drainage patterns be maintained during construction? Is blasting allowed? NA Will excavated rock fit into available fills? How long of period can highway be closed for blasting/clearing NA Is sheeting or shoring necessary to protect roadway? If so, an Item will be required. NΑ Do driveway/turnout grades meet allowable standard Are buildings to be demolished? Will an asbestos and lead evaluation be made? (Underground storage tank presented?) NA Are ADA requirements clear and constructible? NA is drainage properly controlled at the ends of structures Evaluation Type Stage 3 Constructability Review Form -18 Y - Yes, N - No, NA - Not Applicable, Note - See note number, Flag - Item requires priority attention - Item related to consultant designer evaluation Page 1 of 6

Hover over the PDF until the options bar at the bottom appears as such below.

01/18/2019 Indiana Department of Transportation ELECTRONIC CONSTRUCTABILITY REVIEW FORM Evaluation ID Project Manager Veale, Bryan VA VARI Area Engineer Evaluation Status County - District Project Engine Nahrwold, Ting 11/18/2015 I-64, US-41, US-50, I-69, SR-37 Various Work Type
Poadside Maintenance, Mowing Designer Various Route Types CONSTRUCTABILITY Flag A. Plans ? Road Current site survey (horizontal & vertical controls)? NΑ Are conflicts between plans and standard draw Are control points included and match the work to existing conditions? NA Are clearing and grubbing limits identified? NΑ Are cutrillis accurately shown where new work meets old is an earthwork summary in the plans? NA Yes Is all earthwork activity reflected? Rock? Peat? NA How is shrink/swell factor applied to earthwork tabulation is the quantity of borrow shown on the plans? NA is earthwork phasing compatible with construction requirements? NA Soils stabilization? Type set suitable for location? (Lime dusts in residential areas, etc) Are paving limits shown? NA NA is milling required? Do roadway plans detail positive drainage for each phase of construction? Do roadway plans clearly identify adequacy of pipe and structure location? NA Can existing drainage patterns be maintained during construction? NA Can existing roadway materials be salvaged for other use? is blasting allowed? NA Will excavated rock fit into available fills? NΑ Any presence of ground water or active streams? How long of period can highway be closed for blasting/clearing? NA Is sheeting or shoring necessary to protect roadway? If so, an Item will be required. NA Do driveway/turnout grades meet allowable standa Are buildings to be demolished? Will an asbestos and lead evaluation be made? (Underground storage tank presented?) NA Are ADA requirements clear and constructible? NA Θ ① **①** Evaluation Type Stage 3 Constructability Review Form -18

Evaluation Log

To add an Evaluation Log entry, click the Evaluation Log icon.

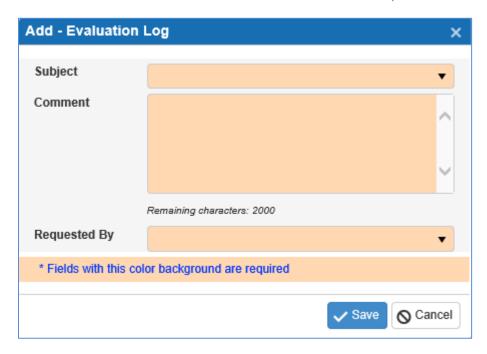


- Item related to consultant designer evaluation

Click the Add New icon at the top. All logs can be exported to Excel by clicking.



Select a **Subject**, enter a **Comment** and select the **Requested By** individual.



Click **Save** to save the log entry or click **Cancel** to exit without saving.



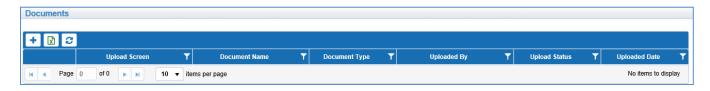
Users can Edit or View Details about each log entry.

Adding a Document

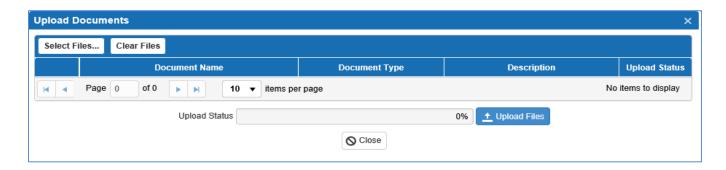
To add a document, click the Documents icon.



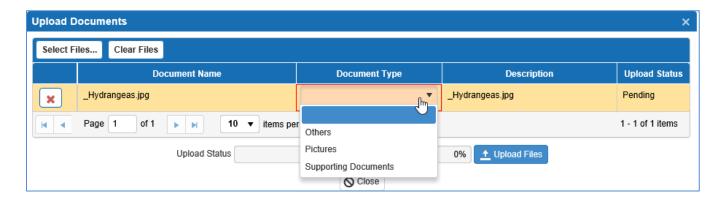
Click the Add New icon .



Click **Select Files** and choose the document(s) to be uploaded.

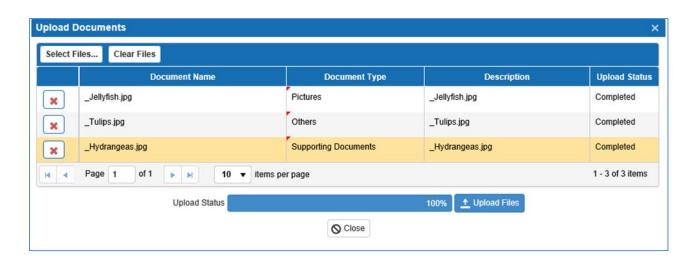


Select the appropriate **Document Type**. If user has uploaded the wrong document, click the **Delete** icon and choose another file to upload.



Repeat the process above to add multiple documents.

Once all documents have been added, click the **Upload Files** icon. The Upload Status will change to **Completed** when the document has been successfully uploaded.



Click Close to exit.