

2015

SCDOT AS-BUILT MANUAL



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Section 1: Introduction

“As-built” definition: A revised set of drawings submitted upon completion of a project or a particular job which reflects all changes made in the specification and working drawings during the construction process. The revised drawings show the exact dimensions, geometry, and surveyed location of all elements of the work completed under a contract.

As-built plans are the final product of an accurately red-lined and up to date set of as-let construction plans. The As-built plans represent the work performed in the field by clearly and accurately documenting, in red, any changes to the as-let plan documents. Each office shall have a set of plans specifically for the purpose of recording As-built information. This set of As-built plans is to be kept up to date throughout the entire duration of the construction project. Any modifications, additions, or deletions made during construction shall be documented on the As-built plans as soon as practical. It is imperative that as the project is constructed, so are the As-built plans. Having a comprehensive, all-inclusive As-built set of plans is vital to the success of this process.

Section 2: Plan Sets

The Resident Construction Engineer shall produce and deliver to the Plans Storage Office the final As-built plans for each contract *within 45 days of project acceptance*. All changes to the original as-let plan documents are to be shown in red. The As-built plans shall show all approved revisions to the contract design including but not limited to: revised roadway alignments, profiles and cross sections, revised typical sections, revised drainage installations, any changes to the demolition and removal items, utility locations, and any other changes to the original design. In addition, Pile logs, Drill Shaft logs, Borrow quantity calculations, Right of Way Plats, Utility Plans, and Shop Plans are to be submitted with the As-built plans. The final As-built plans shall be signed and sealed by a Professional Engineer. The As-built plans shall certify a true and correct representation of the work as constructed.

As-built plans are to mirror as-let plans as closely as possible. The only difference shall be limited to any revised sheets added during construction and any other required sheets added at the end of the As-built plans.

As-built plans are to be submitted at the same scale and size as the as-let plans. Full size plans are 22" x 36". Small format plans are 8.5" x 11".

Requirements for As-built Plans are subject to change as policy and technology improves. Please utilize the web site for all information. All information is found at:

http://www.scdot.org/doing/constructionLetting_AsBuilt.aspx

The AB201_SMALL Cover Sheet will include the following information:

- A) Total Sheets
- B) County or District
- C) Contract ID
- D) Project ID
- E) Total Length
- F) Letting Date
- G) Project Accepted Date
- H) Contractor Name
- I) Road/Route Numbers of additions/deletions to the contract
- J) Signature and Date (including PE seal)

AB201_SMALL

The form is titled "AS-BUILT PLANS FOR" and features the SCDOT logo at the top center. It includes a "Total Sheets" box in the top right corner. The form contains several input fields: "CONTRACT ID", "PROJECT ID", and "LENGTH" on the left; "LETTING DATE" and "PROJECT ACCEPTED" on the right; and a "CONTRACTOR" field. Below these is a section for "ROAD ADDITIONS OR DELETIONS" with multiple horizontal lines for text entry. A "SIGNATURE AND DATE" field is located at the bottom right.

All other forms have been compiled into the As-built plan process and will be covered further in the General Procedure section of this manual.

Section 4: General Procedures

Under a single Contract ID designation there may be multiple Project ID designations. Project ID's will have separate sets of plans associated with them. Each of these sets of plans is to be treated as individual sets of As-built plans, **each** with their own AB201 Cover Sheet. When necessary, please contact the Plans Storage Office for assistance to determine the requirements.

Plans should not be printed from the Plans Library for As-builts to avoid altering the plan scale and size. If additional plan sets are needed for the creation of As-built plans, please contact the Plans Storage Office for support. Additionally, an electronic pdf can be provided by the Plans Storage Office for electronically redlining the As-built plans. Every As-built plan, profile, and cross-section sheet along with all added sheets during construction shall be designated by stamping "AS-BUILT" in the upper right area of the plan sheets. This process can be expedited by the Plans Storage Office by watermarking the sheets with "AS-BUILT" when the pdf is created.

Each set of As-built plans shall reflect the final product of what was constructed in the field. Any sheet that has been altered during construction will have the altered item or items clearly noted in red.

Listed below is a comprehensive account of items that shall be included and/or red-lined in the final As-built set of plans.

- Include the completed AB201, properly indexed, and signed and sealed by a PE.
- New or revised as-let sheets shall, upon receipt, be placed in the As-built plans. Any sheets being replaced need to be removed. These items need to be included in the index of the AB201 or red-lined on the title sheet or index layout sheet in the construction plans.
- Include change order information and any adjustments to quantities. Red-line these items on the quantity sheet.
- Include any moving or removal and disposal items added, deleted or revised during construction and red-line this in the plans on the correct sheet.
- Include all final plan, profile and cross-section sheets.
- Red-line all revisions to roadway alignments and typical sections.
- Profile elevations shall be verified with a checkmark or red-lined every 50 feet.
- Cross-sections shall be verified with a note designating all sections were built according to plans or red-lined for modifications to sections, especially cross slopes and ditch changes.
 - Red-line earthwork changes on cross-sections.
 - Red-line any changes to the cross-section design and add elevations at break points.
 - Include revisions to muck and undercut on the cross-sections, these revisions are to be blue-lined.
- All revisions to drainage installations including pipe, catch basins, manholes, drop inlets, paved ditches, rip rap, etc. shall be red-lined on the plan sheets, drainage sheets or cross-section sheets.
- Red-line every deviation from the plans on bridge sheets. When applicable, include bridge utility attachment sheets.

- Include the Drilled Shaft Report/Logs as 8.5 x 11 sheets. These will be incorporated at the end of the plan set as a multipage pdf in Plans Library. A full size sheet is not required.
 - For paper submissions, clip at the front of the plan set.
 - For electronic submissions, include as a multipage pdf at the end of plan set.
- Include the full size pile record log with completed pile & equipment data.
 - Include the 8.5 x 11 forms.
 - The Pile record log can be created in Excel and converted to a PDF for submittal.
- Include required signal and signage documents. Any change in signal pole locations, additions or deletions of signal equipment and signage needs to be red-lined.
- Include final utility locations and underground items. These sheets may be submitted in the size format as provided by the utility company. Submit full size when available.
- Include Borrow Pit Sheets as full size plan sheets that include all calculations, truck counts, survey notes, pit location area, design and final payment quantities.
- Include all R/W plats. Ensure plats have the recorded stamp from the Register of Deeds office and are signed and sealed by a PLS.
- The RCE will attach all AS-1 sheets to the final estimate in Site Manager.

In addition to the applicable items above, small format projects need to include the following:

- AB-201_SMALL Cover Sheet
- Contract Cover Sheet
- Road Summary
- Summary of Quantities for project
- Individual Quantity Summary for each road
- Individual Strip Map for each road
- Change Orders

An electronic process for developing the small format As-builts can be found in the Appendix section of this manual.

Site Manager and Plans Library are to be utilized to verify all change order information and construction change sheets have been transferred to the As-built plans and the proper sheets have been inserted. The use of ProjectWise to centrally locate this information is highly encouraged. The final submittal of these plans shall be signed and sealed by a PE.

Section 5: Examples

The following examples of As-built documents are provided to help demonstrate the proper appearance and arrangement of an As-built set of plans and illustrate the red-line process.

SCDOT AS-BUILT MANUAL

Example Index for AB-201 Cover Sheet

| SHEET | DESCRIPTION |
|-------|-------------------|
| AB201 | AB201 Cover Sheet |
| 1-45 | As-let Road Plans |
| RWP1 | Right of Way Plat |

The As-Let set of plans has 45 pages. The As-let Road plans index is not duplicated on the AB-201 Cover Sheet. This information will be red-lined on the Title Sheet or Index Layout Sheet as necessary.

Old AB201 Cover Sheet

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|---------------------------------------|
| 1 | Title Sheet |
| 2 | Summary of Equipment Quantities |
| 3 | Moving Signs |
| 3 - 3A | Typicals |
| 4 - 4B | Right-of-Way and Easement Plans |
| 5 | General Notes |
| 5A - 5C | Reference Sheets and Property Details |
| 6 - 6A | Plan & Profile |
| 7 | Pipe Details |
| 7B - 7 | Traffic Signals |
| 8C - 8 | Utility Details |
| 8E - 8D | Clear Sections |
| 8F - 8 | Property Plat |

LIST BELOW ALL SHEETS WHICH HAVE BEEN REVISED AFTER AWARD OR A REVISION OF CONTRACT.

| SHEET NUMBER(S) | DESCRIPTION, REVISION NUMBER |
|-----------------|------------------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |



AS-BUILT PLANS

FILE NO. 0481190
 F.A. PROJ. NO. SA04(007)
 COUNTY ANDERSON COUNTY
 ROUTE OR ROAD NO. SC 8 AND S 485
 LENGTH OF ROADWAY 0.865 miles

PROGRESS DATA

CONTRACT AWARDED: 4/8/2014
 WORK BEGAN: 6/13/2014
 PROJECT ACCEPTED: * 5/4/2015
 * first acceptance date on form 100.03 (old 3099)

CONTRACTOR: S & S Construction, Inc.

PRIMARY TYPE OF CONSTRUCTION

| | |
|---------------------|-------------------------------------|
| ROAD | <input checked="" type="checkbox"/> |
| BRIDGE | <input type="checkbox"/> |
| RESURFACING | <input type="checkbox"/> |
| FULL DEPTH PATCHING | <input type="checkbox"/> |
| PAVEMENT MARKING | <input type="checkbox"/> |
| GUARDRAIL | <input type="checkbox"/> |
| SIGNAL | <input type="checkbox"/> |
| SKIDING | <input type="checkbox"/> |
| OTHER | <input type="checkbox"/> |

LIST OTHER TYPE _____

REVISIONS * check appropriate box*

| | YES | NO |
|---|-------------------------------------|--------------------------|
| 1. SHEETS ATTACHED TO SITEMANAGER | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. DEPTH PATCH INFORMATION IN SITEMANAGER | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. ALL BOOKS AND NOTES MAINTAINED BY RESIDENT | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

LIST ANY EXCEPTIONS OR COMMENTS BELOW _____

NOTES TO RESIDENT ENGINEER:

THE RESIDENT ENGINEER SHOULD PERSONALLY CHECK THE PLANS FOR COMPLIANCE WITH THE FOLLOWING LIST:

- HAS AN ARJIS OR ARJIS-BEEN FILLED OUT AND SIGNED BY THE RESIDENT CONSTRUCTION INSPECTOR (AND CONTRACTOR IF AS-BUILT HD ITEM)
- HAVE ALL PLAN, PROFILE AND SECTION SHEETS BEEN DESIGNATED AS "AS-BUILT PLANS" WITH BLACK STAMP OR PRINT
- HAVE ALL CHANGES FROM ORIGINAL CONSTRUCTION PLANS BEEN NOTED IN RED
- IS FILL LOG AND/OR BORROW PIT INFORMATION INCLUDED, EITHER DTM OR X-SECTION ORIGINAL AND FINAL
- HAS SHEET 1 OF THE DRILLED SHAFT REPORTS BEEN ELECTRONICALLY ATTACHED TO AN AB 201 PLAN SHEET, INDEXED AND SUBMITTED WITH AS-BUILT
- HAVE ALL REQUIRED NOTES, SPREADSHEETS, COMPUTATIONS BEEN ATTACHED IN SITEMANAGER AND NOTED ON THIS SHEET
- ARE ALL STRUCTURES RED-LINED, EITHER BY STRIKING THRU AND CORRECTING OR CHECKING IF BUILT PER PLAN
- ARE ALL RED-LINE REVISIONS LEGIBLE, TRUE TO SCALE AND DRAWN IN PROPER LINE WEIGHT
- SHOW ALL RELOCATIONS AND GRADE CHANGES ON PLAN, PROFILE AND SECTION SHEETS
- SHOW ALL INSTANCES OF MISSING AND/OR UNDERCUT IN BLEEK ON THE PLANS AND X-SECTIONS
- ARE THE PROPER WORKING DRAWING TITLE SHEETS INCLUDED AND ARE ALL REVISED SHEETS INSERTED AND THE SHEETS THEY REPLACED ARE REMOVED
- HAS THE FINAL LOCATION OF ALL UTILITIES WITHIN PROJECT LIMITS BEEN NOTED ON THE PLANS PER GENERAL PROVISION 303.4.5 IN THE CONSTRUCTION MANUAL
- RIGHT OF WAY REPORTS AND SHOP PLANS ARE NO LONGER REQUIRED TO BE SUBMITTED WITH AS-BUILT PLANS UNLESS THEY ARE REQUIRED ON THE JOB FILES
- CONTACT THE AS-BUILT ENGINEER PRIOR TO DELIVERY OF AS-BUILT PLANS TO SCHEDULE DELIVERY AND CONFIRM COMPLIANCE

PLANS SUBMITTED BY

PRINT: Clayton W. Richter
 SIGN AND DATE: *[Signature]* 3-17-15
 RESIDENT ENGINEER: _____ DATE: _____

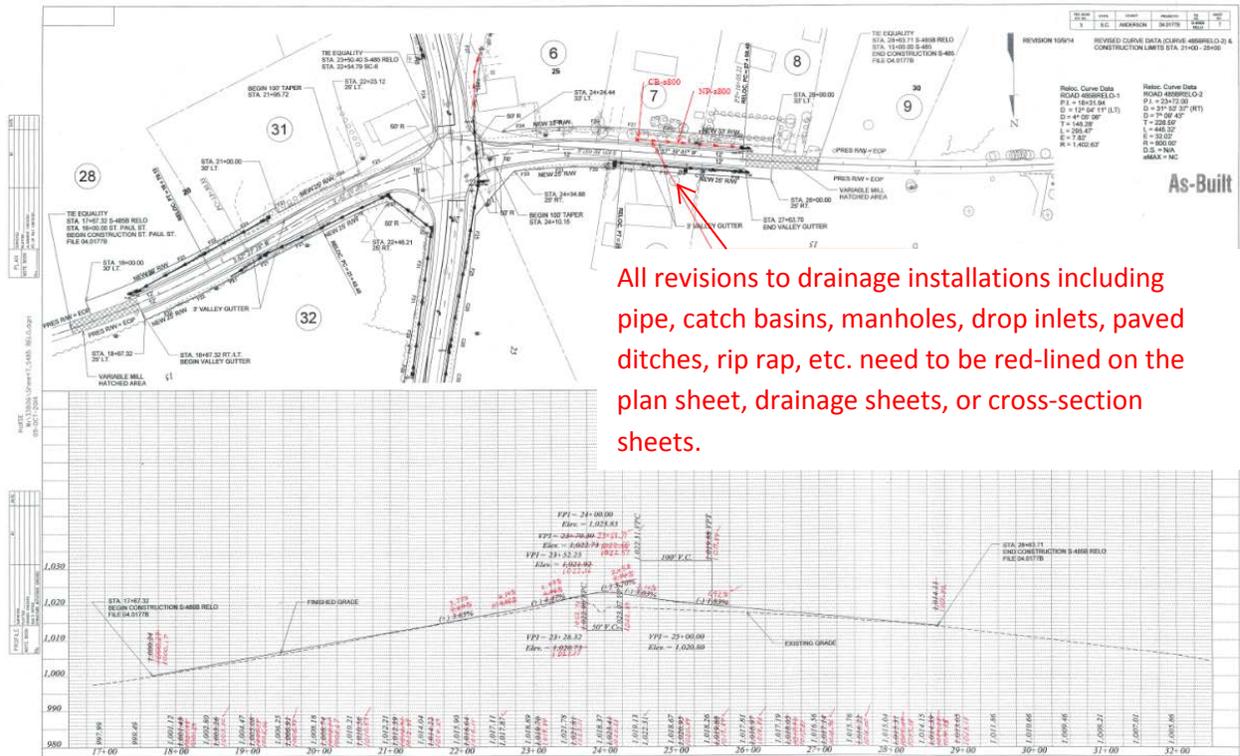
INSPECTORS NAMES

Melvin Brown *[Signature]* 3-19-2015
 Willie Johnson *[Signature]* 6-17-2015

Do not repeat index for as-let plans

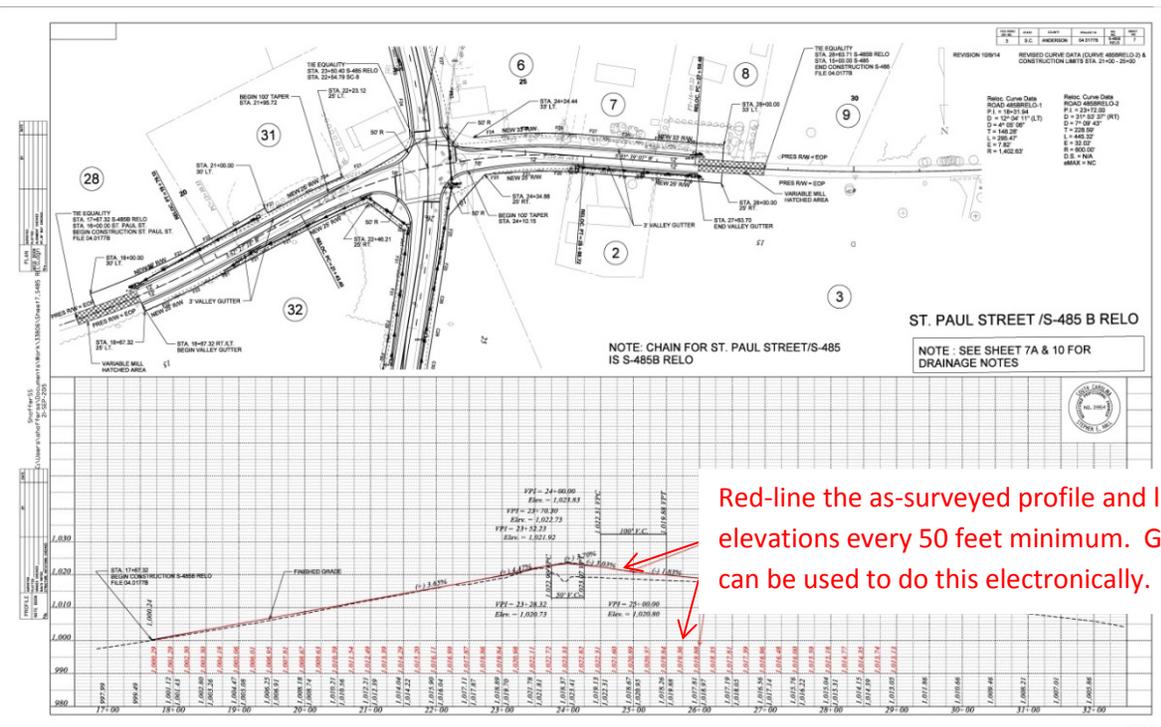


Plan sheet (Drainage)



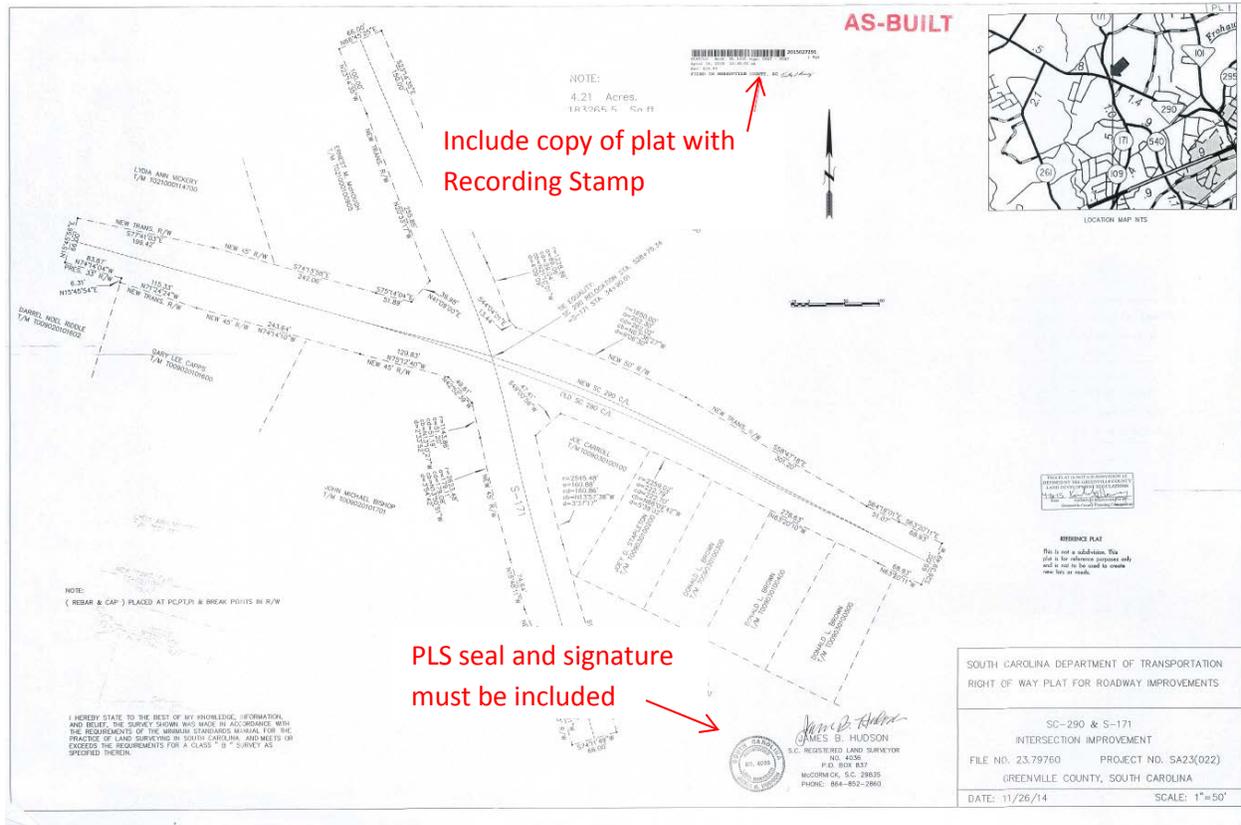
All revisions to drainage installations including pipe, catch basins, manholes, drop inlets, paved ditches, rip rap, etc. need to be red-lined on the plan sheet, drainage sheets, or cross-section sheets.

Plan sheet (Profiles)



Red-line the as-surveyed profile and label elevations every 50 feet minimum. Geopak can be used to do this electronically.

Right of Way Plat



Section 6: Sign and Seal policy

The Resident Construction Engineer (or other licensed Professional Engineer overseeing the construction) will sign and seal **each** as-built plan sheet that includes red-lined changes to the design of the as-let plans. When design changes are issued by the as-let Engineer of Record during the construction process, the signed and sealed revision sheets provided will be incorporated into the as-built plans.

It is the policy of the SCDOT to have a Professional Engineer (PE) sign and seal the As-built plans. A Professional Land Surveyor (PLS) may sign and seal sheets in the As-built plans to verify as-surveyed construction data only. All design or construction changes to the project must be signed and sealed by a PE.

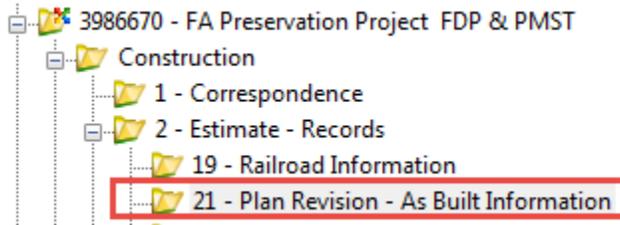
This manual applies to and authorizes the submittal of electronic documents signed and sealed using digital signatures. It does not disallow the submittal of traditional paper documents signed and sealed by hand.

This manual also encourages the redlining of the changes electronically using Adobe Acrobat, Bluebeam, and MicroStation/Geopak. Hand drawn changes are still accepted.

Section 7: Submittal

The Resident Construction Engineer will ensure that all of the guidelines have been met according to this As-Built Manual prior to submitting. The RCE may submit the As-built plans by the following methods:

1. Electronically red-line, digitally sign and seal, and archive the Adobe pdfs for the As-built plan set in ProjectWise. Add the files to the 21 – Plan Revision – As-Built Information folder. Email the link to the project folder to PlanStorage@scdot.org. Plans **MUST** be submitted as **single** page pdfs to meet the digital signature requirements.



2. Paper submittals may be delivered in person to the Plans Storage Office in Room G-21 from 8:00 am to 5:00 pm, Monday thru Friday. Paper submittals may also be sent via courier to the Plans Storage Office.

The Design Automation Office of Preconstruction Support is responsible for receipt, approval, and scanning of the As-built plans. The following personnel can assist you:

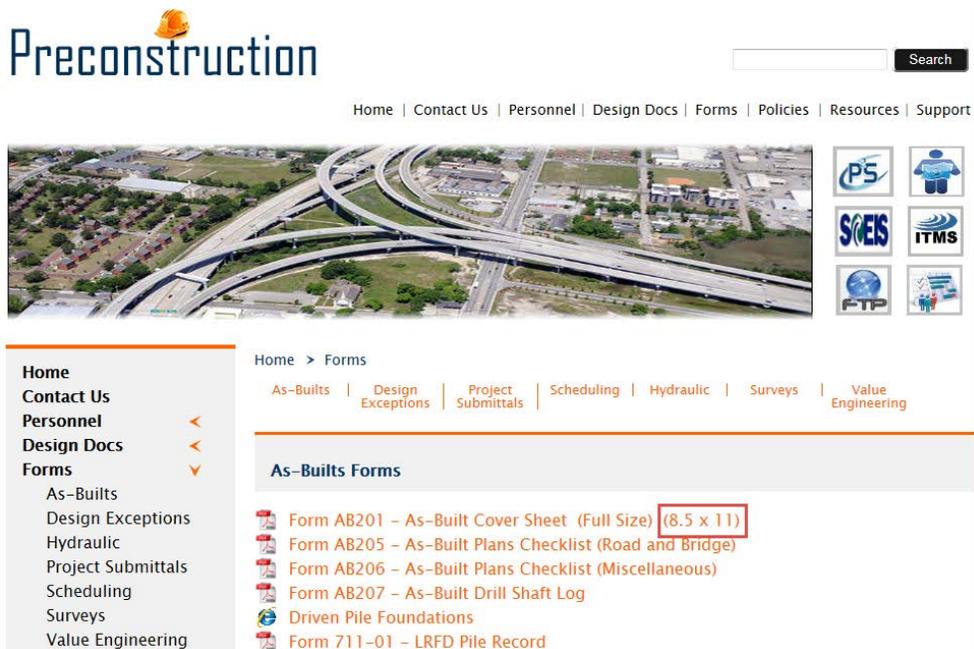
| | | |
|---------------|-------------------------------|--------------|
| Iris Neal | CADD Support Engineer | 803-737-9964 |
| Scott Shaffer | CADD Support Engineer | 803-737-1090 |
| Mark Lorick | Engineering Documents Manager | 803-737-7236 |
| Peter Yeh | Design Automation Engineer | 803-737-1904 |

Please contact the Design Automation Office with any questions or assistance required to complete the As-built plans. We can provide you with the most up to date electronic files to begin the electronic red-line process including Adobe pdfs, CADD files, and Excel files. We can also provide you with the most up to date paper plans to begin the manual red-line process. Please contact us as needed for assistance.

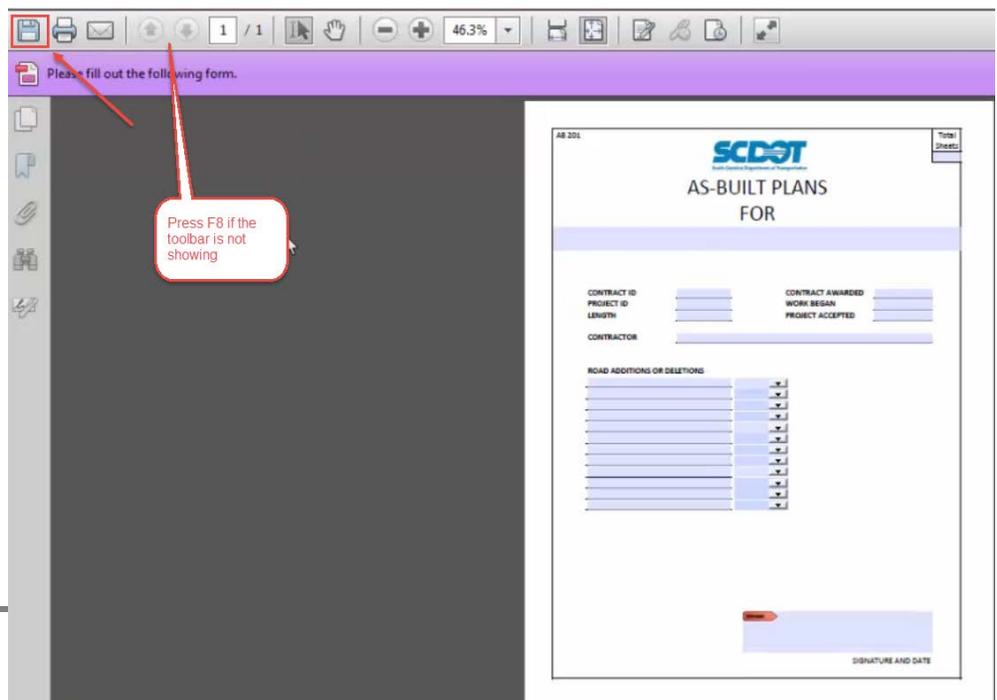
Appendix A: Small Format Contract Electronic Process

Preparing the Contract

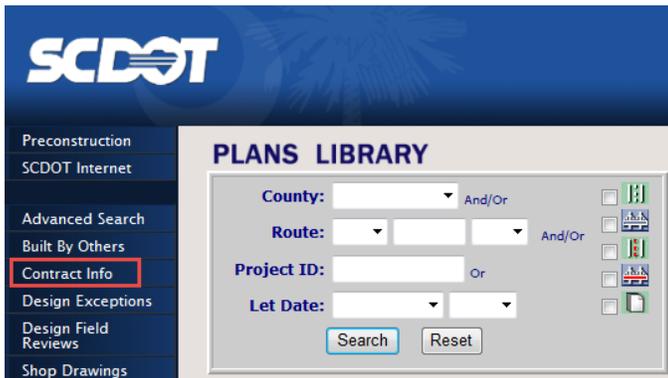
1. Create a new folder on the network sever by right clicking and selecting **New > Folder** in the appropriate location. Enter a **File Name** for the Contract folder.
2. Navigate to the [Preconstruction](#) intranet site to locate the AB 201 form. (Intranet Home Page > Departments > Preconstruction > Forms > As-Built)
3. Choose the **Form AB201 (8.5 x 11)** small format pdf.



4. Select the **Save** icon to save the pdf to your working folder created in step 1. (Press the **F8** button if the Adobe toolbar is not showing.)



- Next, navigate to the [Plans Library](#) by selecting the “Plans Man” icon on the Preconstruction intranet page. On the left, select **Contract Info**.



- Enter the **Contract ID** (or applicable search criteria) and press the **Submit Search** button.

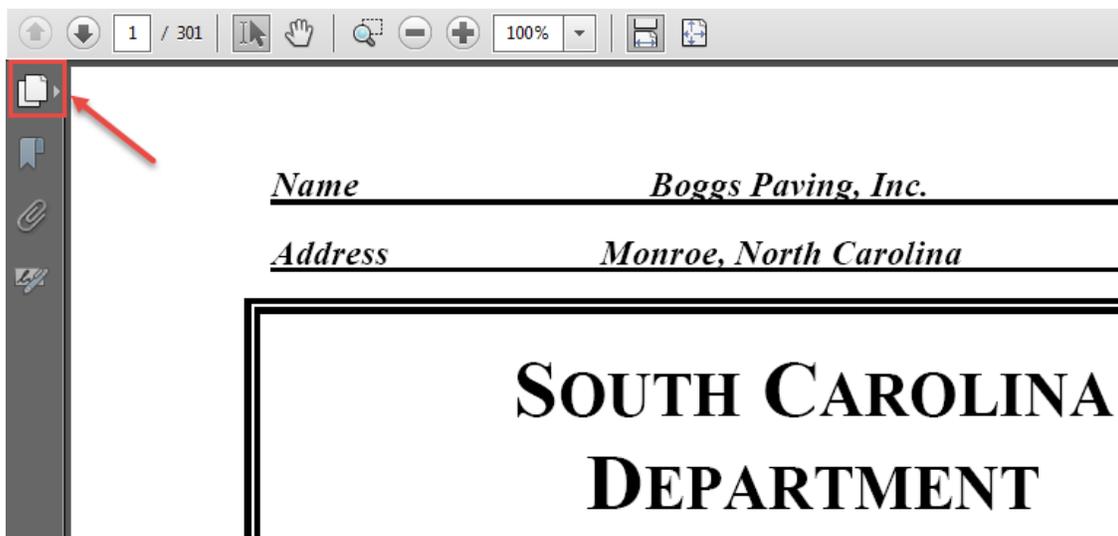
Proposals - Quick Search Form

- Locate the Contract document from the list of search results and press the **magnifying glass** icon to open the document.

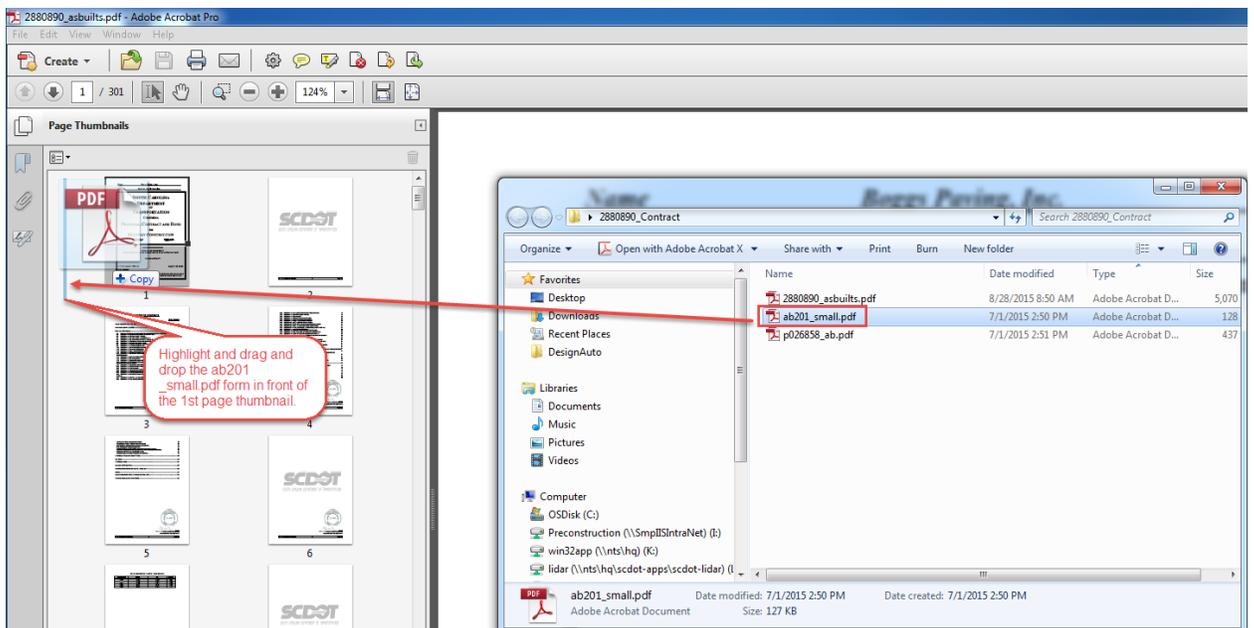
Proposals - Search Results

| Options | County | Contract ID | Project ID | Document Type | Let Date |
|---------|---------|-------------|------------|--------------------|------------|
| | KERSHAW | 2880890 | P026858 | original proposal | 2014-03-11 |
| | KERSHAW | 2880890 | P026858 | addendum 1 | 2014-03-11 |
| | KERSHAW | 2880890 | P026858 | conformed proposal | 2014-03-11 |
| | KERSHAW | 2880890 | P026858 | schedule of prices | 2014-03-11 |
| | KERSHAW | 2880890 | P026858 | award letter | 2014-03-11 |
| | KERSHAW | 2880890 | P026858 | contract | 2014-03-11 |

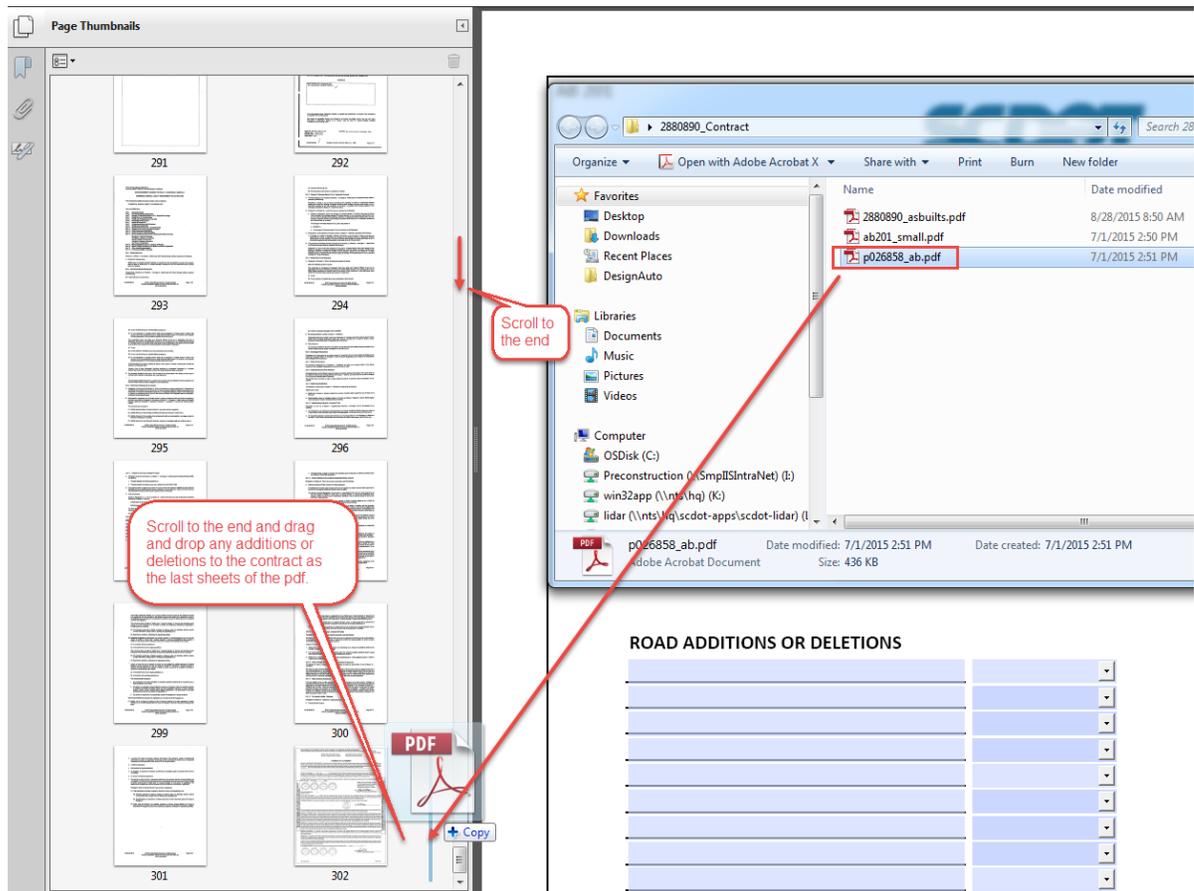
8. Select the **Save** icon to save the pdf to your working folder created in step 1. Name the file **ContractID_asbuilts.pdf** as this will be the final file you submit to the Plans Storage Office electronically. (Select File > Save as > PDF if the icon is greyed out.)
9. If you have any change orders, deletions or additions to the contract, add those pdf documents into the contract folder at this time. This should include correspondence for deletion and/or a strip map and summary of quantities for an addition.
10. Open the **ContractID_asbuilts.pdf** in the folder. On the left, press the “paper icon” button to open the “Page Thumbnails” to show small images of the pdf sheets.



11. With Windows Explorer open with the contract, **highlight** and **drag and drop** the AB201_small.pdf in front of the 1st page thumbnail to insert the form into the ContractID_asbuilts.pdf.



12. On the ContractsID_asbuilts “Page Thumbnails” window, **scroll** all the way **to the end** of the contract. **Highlight** and **drag and drop** any additions or deletions to the very end of the pdf document.

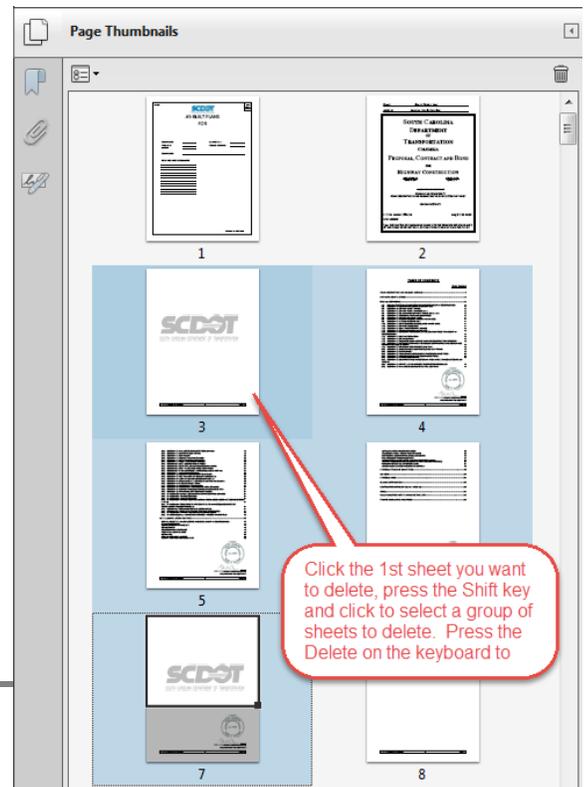


13. Scroll back to the beginning of the pdf, start highlighting the page thumbnails of the pages you do not need to keep. Use the **shift + click** to select multiple sheets at once. Press the **delete** button on the keyboard to remove those pages. Keep scrolling and selecting the pages you do not need and delete.

You will need to keep the following:

- AB201 Cover Sheet
- Contract Cover Sheet
- Road Summary
- Summary of Quantities for project
- Individual Quantity Summary for each road
- Individual Strip Map for each road
- Change Orders

14. Press the **Save** button to save the changes to the ContractID_asbuilts.pdf.

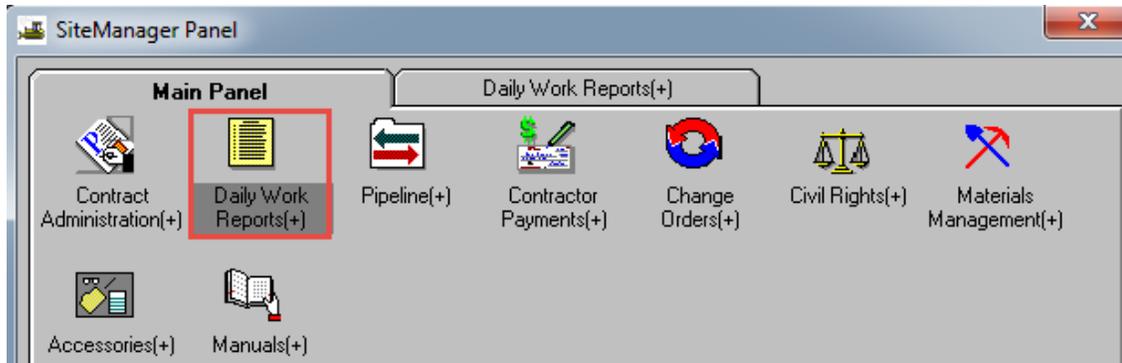


Exporting from Site Manager

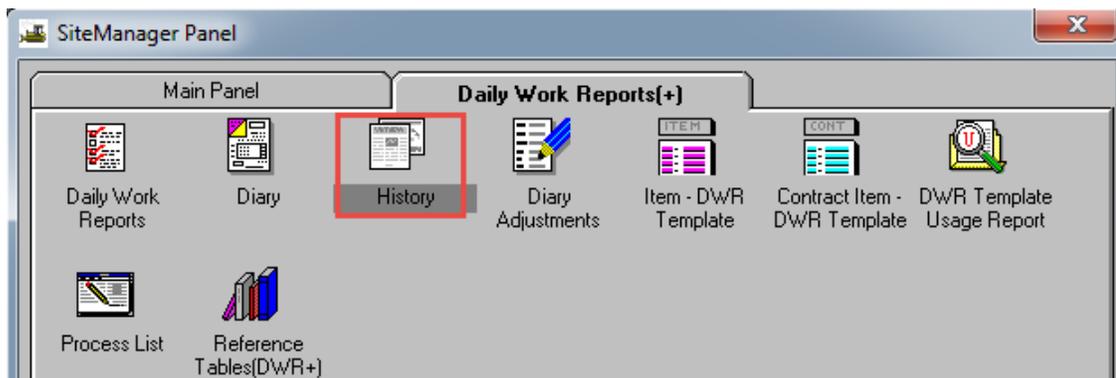
1. Login to Site Manager.



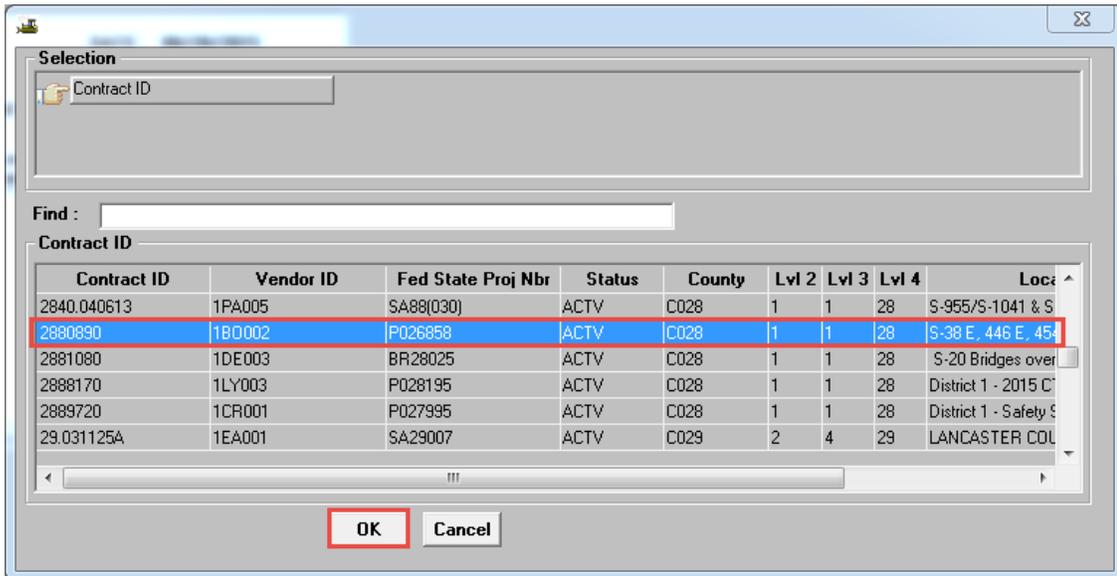
2. On the Main Panel tab, select **Daily Work Reports**.



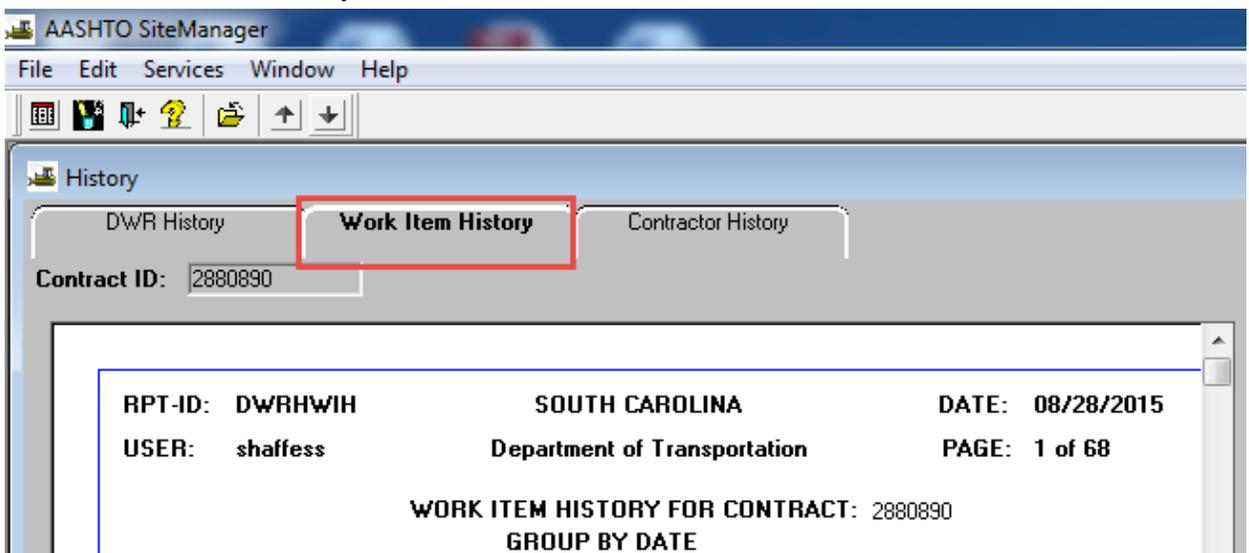
3. On the Daily Work Reports tab, select **History**.



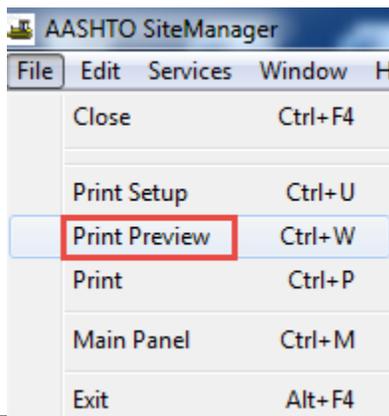
- When prompted, scroll down and find the Contract Id. **Highlight** the contract id and press the **OK** button to load the contract.



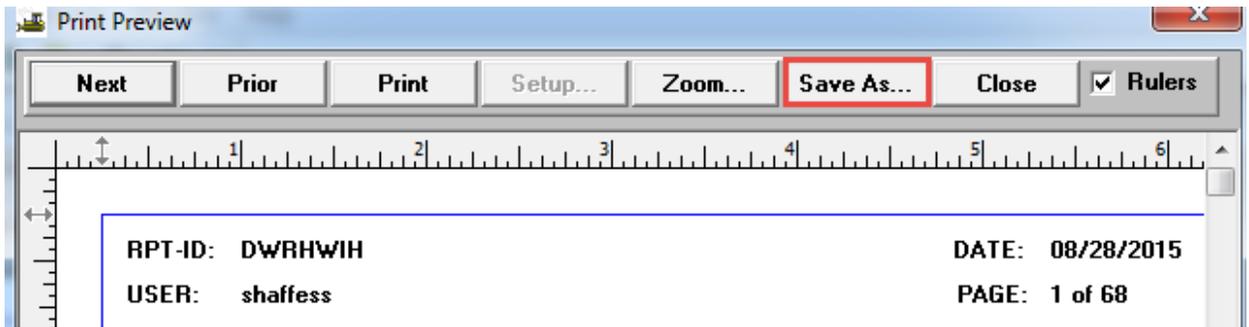
- Select the **Work Item History** tab.



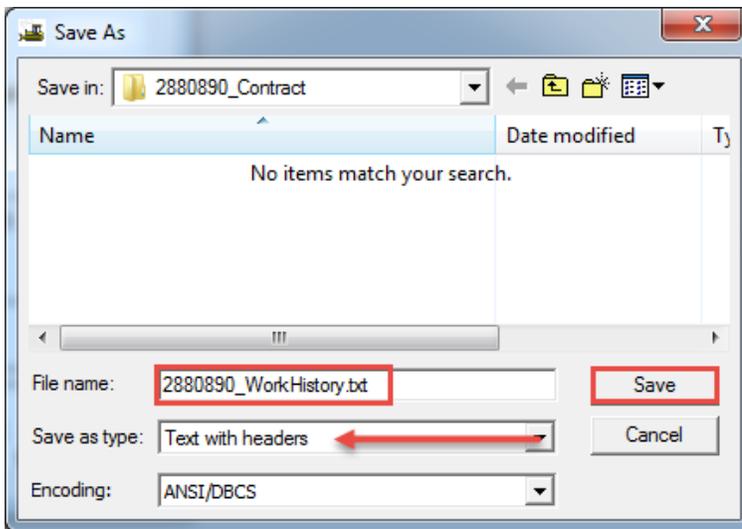
- Select **File > Print Preview**.



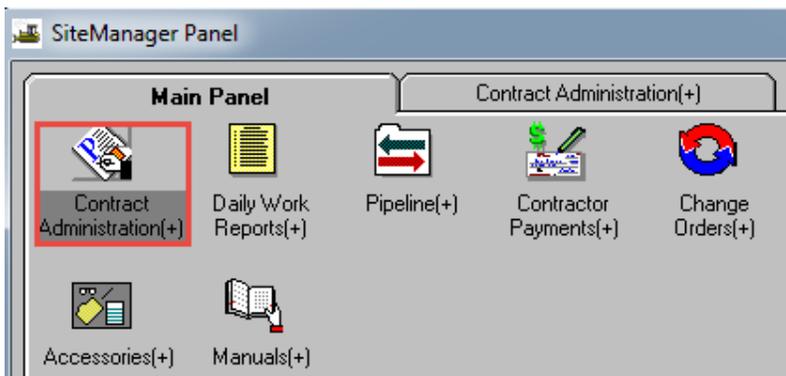
- Press the **Save As** button.



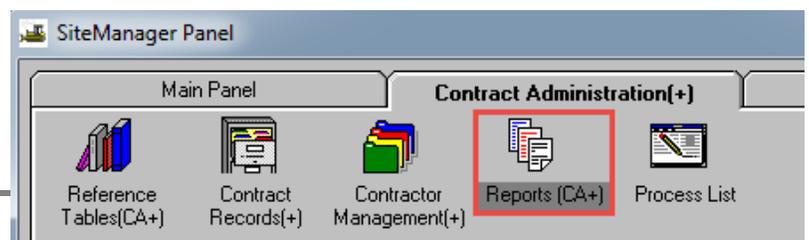
- Ensure that Text with headers is listed in the Save as type. Enter a file name with the **ContractId_WorkHistory**. Press the **Save** button. (The txt file will be created in the contract folder.)



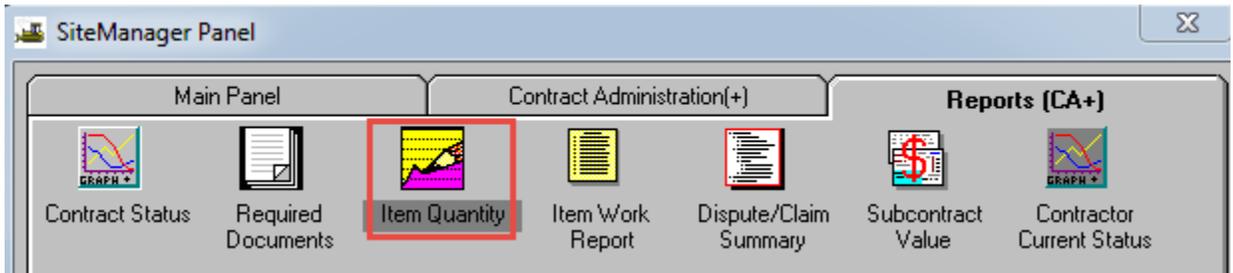
- On the Main Panel, select **Contract Administration**.



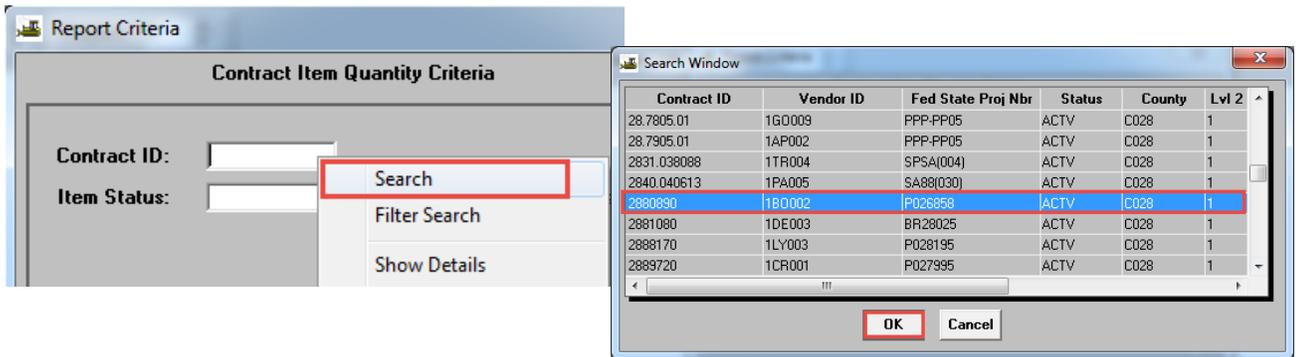
- On the Contract Administration tab, select **Reports**.



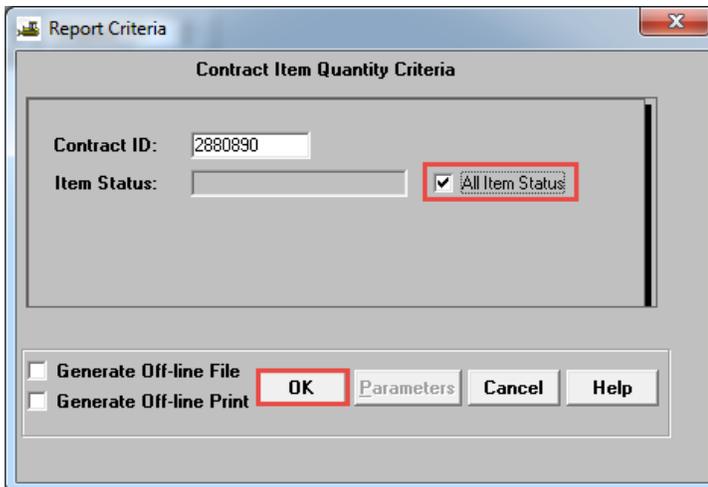
- On the Reports tab, select **Item Quantity**.



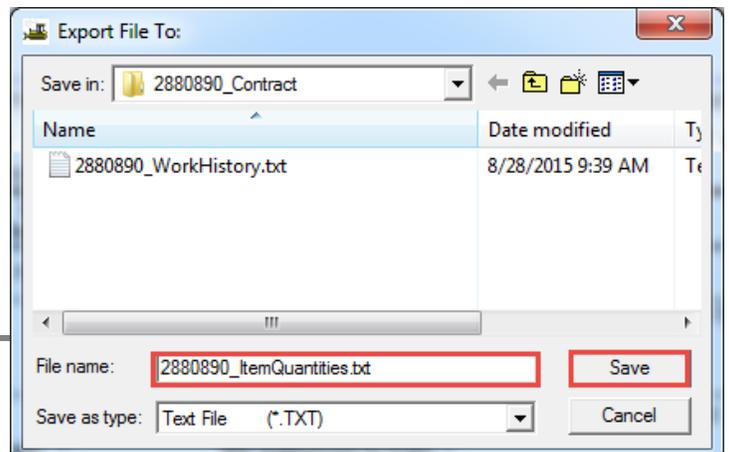
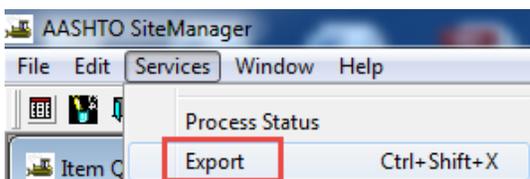
- Right click and click on **Search**. Scroll down to locate the contract id. **Highlight** and press the **OK** button to load the contract.



- Check on **All Item Status** and press **OK** to continue.



- Select **Services > Export**. Navigate to the contract folder and name the file **ContractID_ItemQuantities.txt**. Press the **Save** button.



15. On the Main Panel, select **Materials Management**.



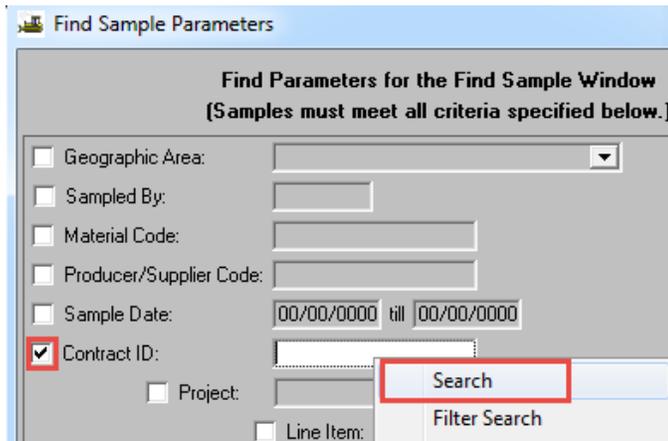
16. On the Materials Management tab, select **Sampling and Testing**.



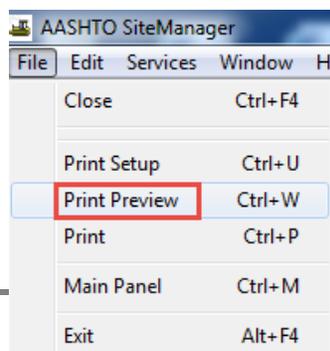
17. On the Sampling and Testing tab, select **Find Sample**.



18. Check on **Contract Id**, right click to **Search**. Scroll down to find the contract id. Highlight and press **OK** to continue. Press **OK** to load the Contract information.



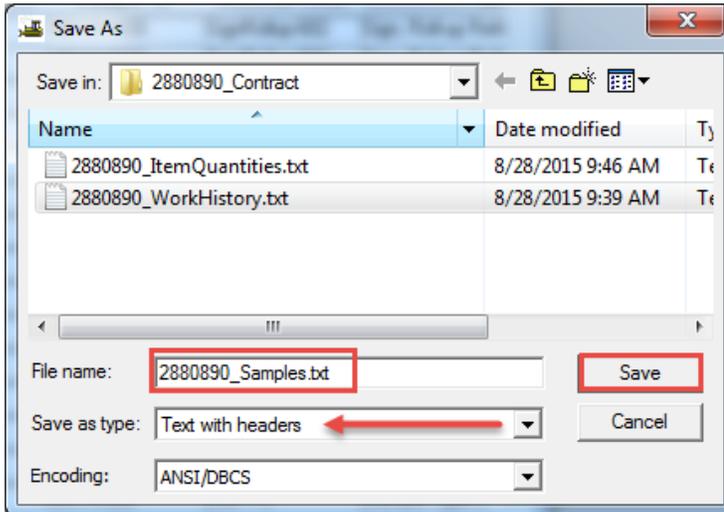
19. Select **File > Print Preview**.



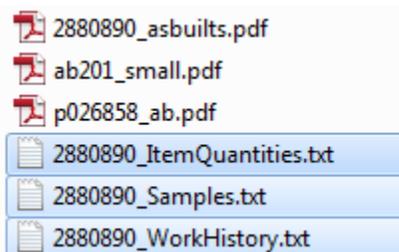
20. Select **Save As**.



21. Ensure that Text with headers is listed in the Save as type. Enter a file name with the **ContractId_Samples**. Press the **Save** button. (The txt file will be created in the contract folder.)



22. You should now have 3 txt files in the contract folder.

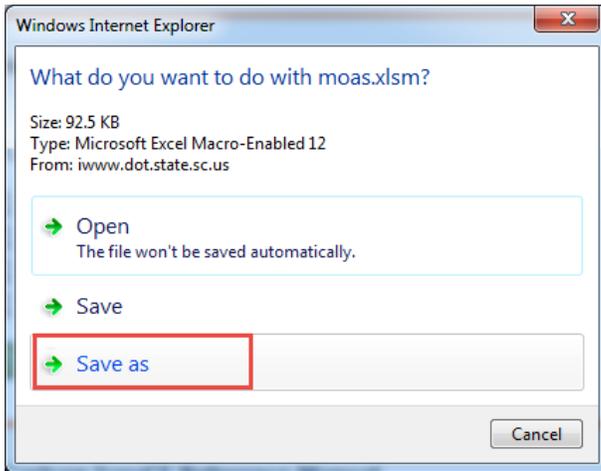


Excel Spreadsheet and Quantity Report

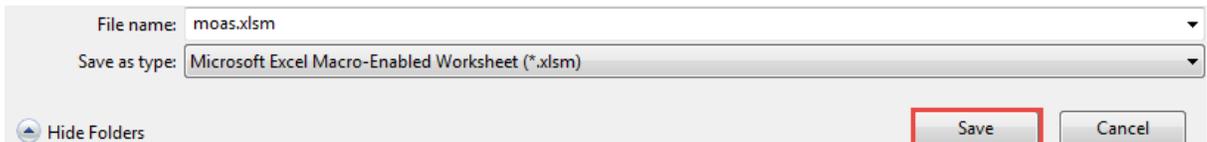
1. On the Preconstruction intranet site, under [Support > Construction Support](#), and click on the MOAS Excel Spreadsheet.xlsx link.



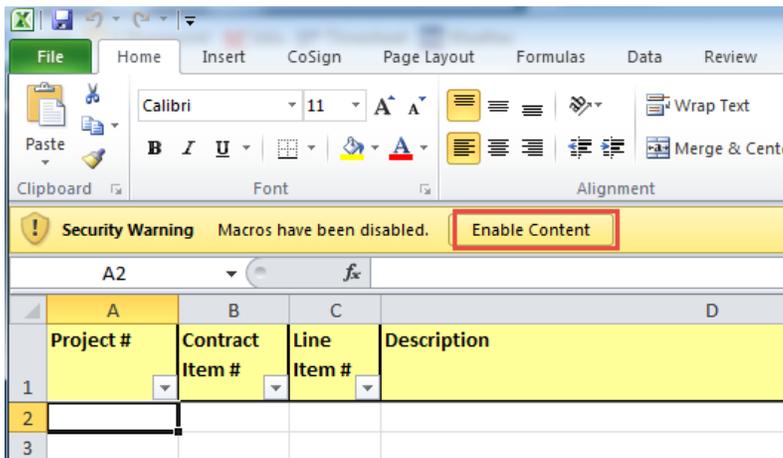
- When prompted, select **Save As**.



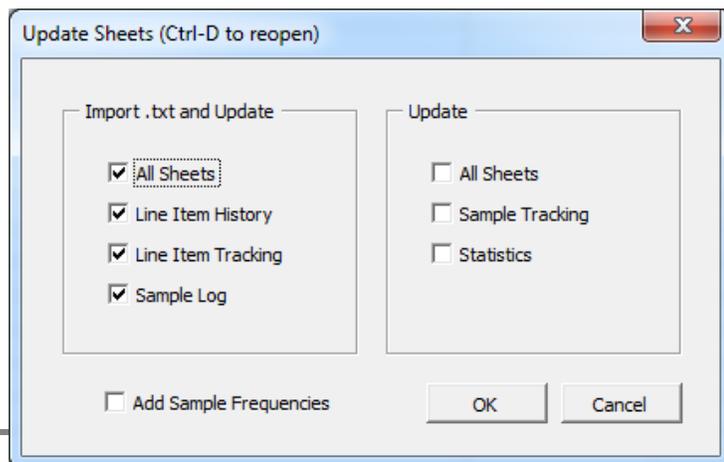
- Navigate to the contract folder and press the **Save** button to continue.



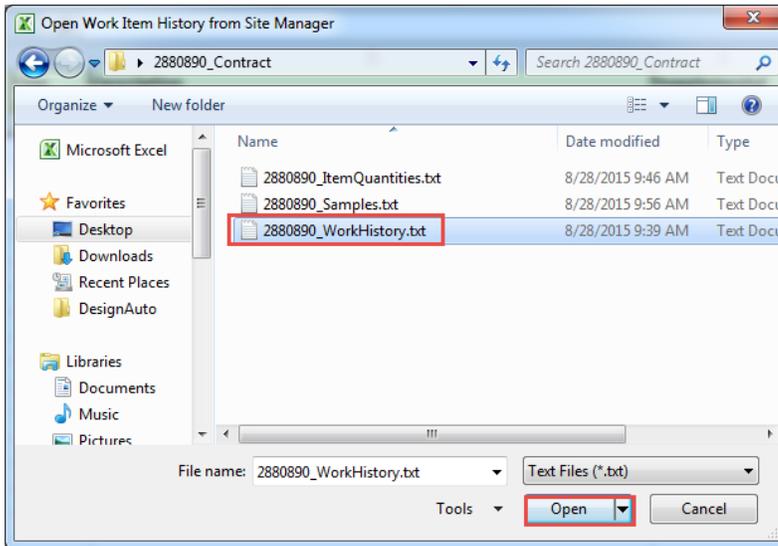
- Open the moas.xlsm file in Excel. Click **Enable Content** to start the Macros.



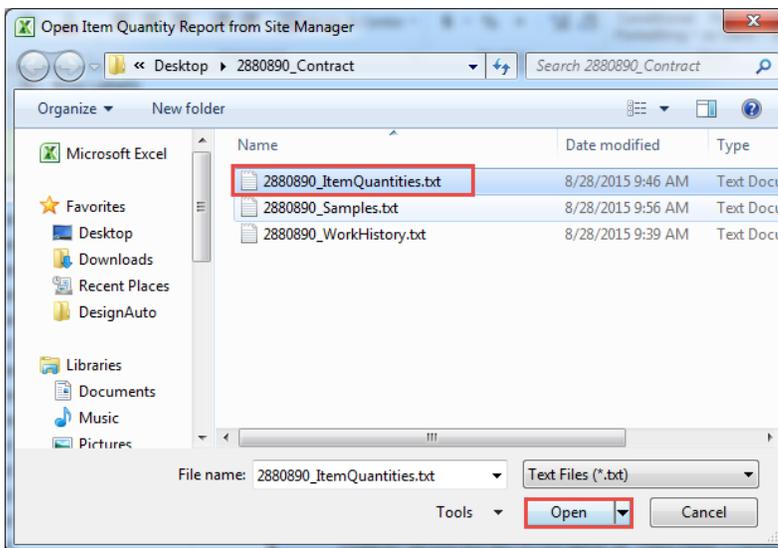
- Select **All Sheets** and press **OK**.



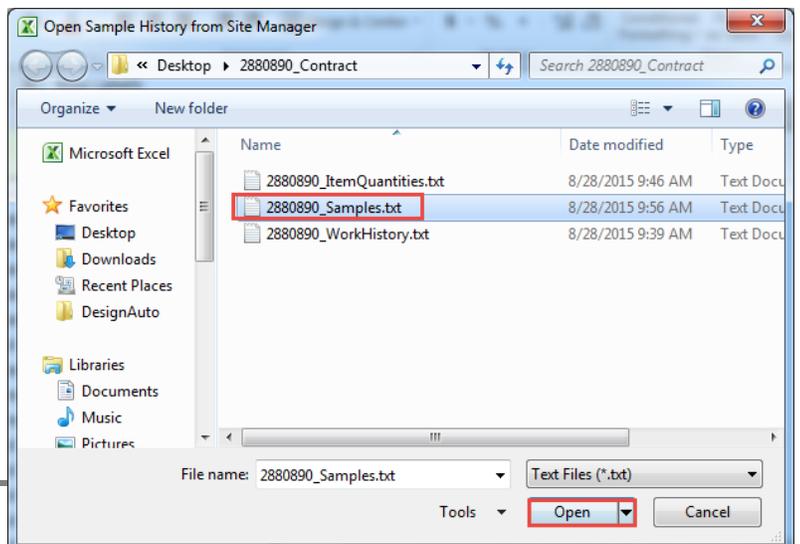
6. Navigate to the contract folder and select the **ContractID_WorkHistory.txt** file and press **Open**.



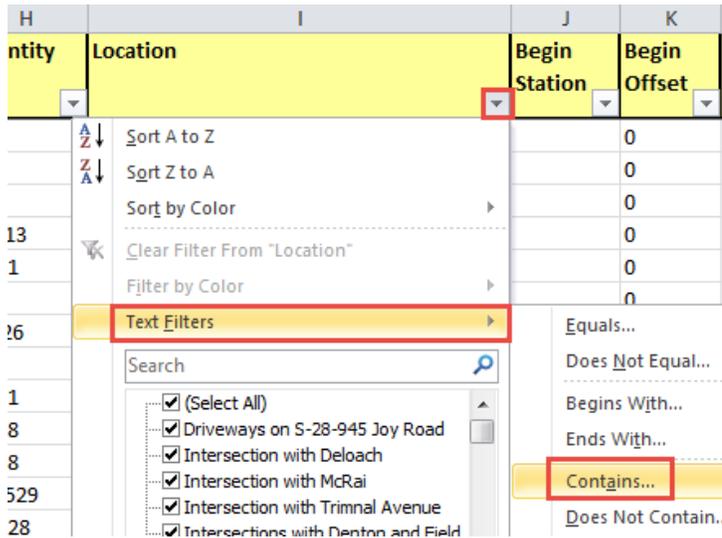
7. Select the **ContractID_ItemQuantities.txt** and press **Open**.



8. Select the **ContractID_Samples.txt** and press **Open**.



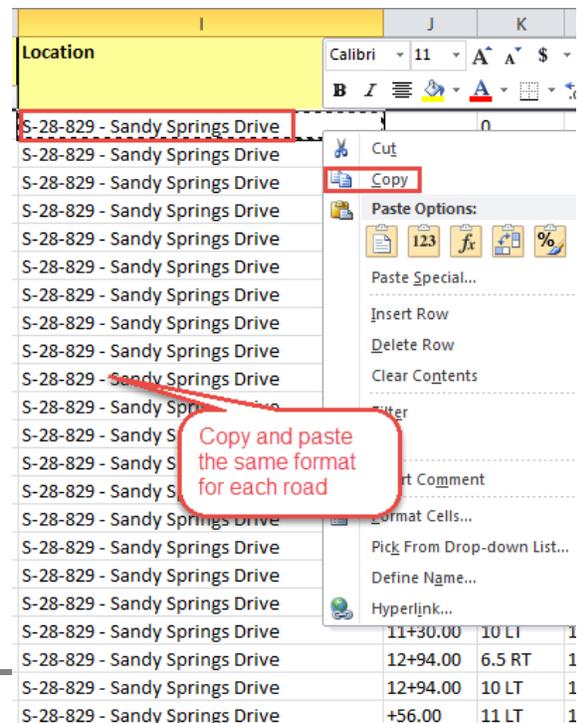
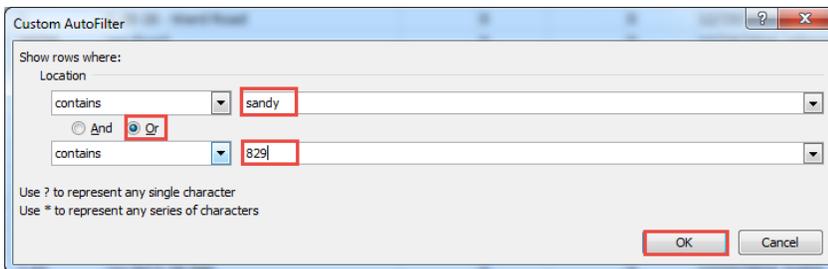
9. **Review** all of the tabs for the data that was imported from Site Manager.
10. On the Line Item History worksheet, **edit the roads** in the Location column (I) by using the filters and copy/pasting to clean up the data so each road has only one spelling and format. Continue until all roads are assigned. You may need to refer back to Site Manager to determine any discrepancies.



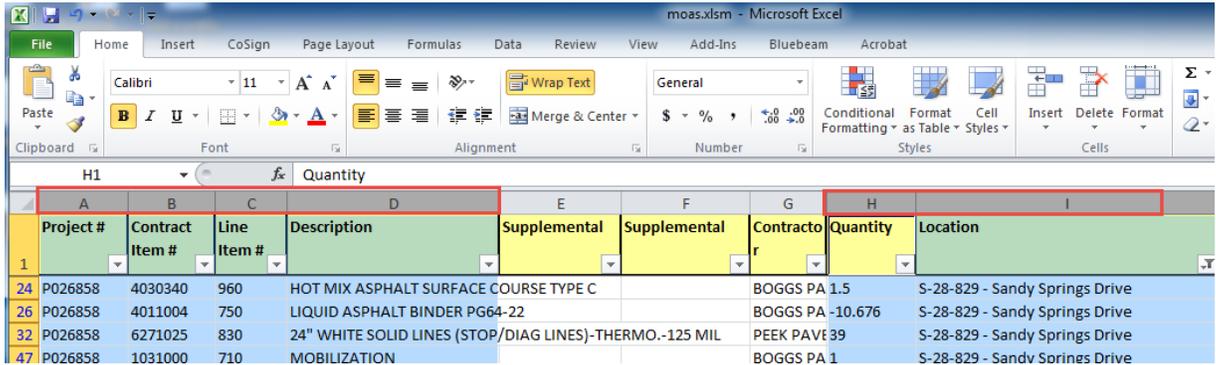
A strict file naming convention for the Location field in Site Manager is highly recommended to avoid the manual editing of this column in the future.

Examples: S-28-446 (Lewis St) or US1 (Augusta Rd) – be consistent with abbreviations, spacing, parenthesis, etc.

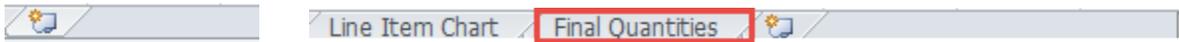
To filter, click on the drop down arrow next to Location. Select Text Filters, Contains – enter Contains and enter the road name and then toggle the Or and select contains from the drop down on the second item. In this contains enter the road number. Press **Ok** to filter. This will return all rows that have the road name or number. Pick one format that is acceptable and right click to **copy/paste** this format to all of the other rows that contain this road name and number combination. **Repeat** for each road on the contract until there is only one format for each unique road summary.



- Highlight Columns A, B, C, D, H, and I using the Control button to add the H and I columns. Right click and select **Copy**.



- Click on the **New Worksheet** tab and double click to rename it to **Final Quantities**.



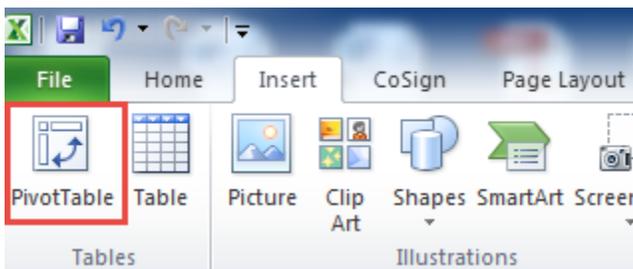
- In the first cell A1, right click and select **paste** to paste the columns from the Line Item History Tab.

| | A | B |
|---|-----------|-----------------|
| 1 | Project # | Contract Item # |
| 2 | P026858 | 8109901 |
| 3 | P026858 | 8109901 |

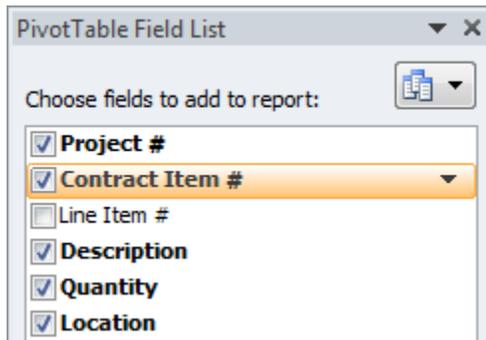
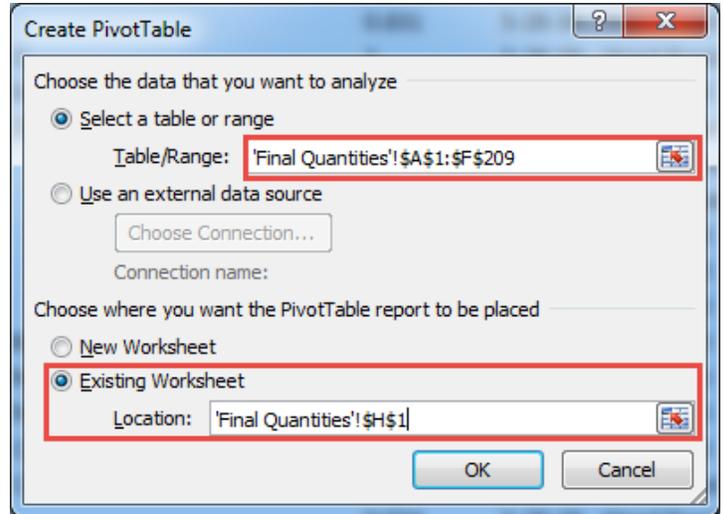
- Highlight** from cell A1 to the last cell with data in the F### column by using the Shift plus click to select the last column/row.

| | A | B | C | D | E | F |
|---|-----------|-----------------|-------------|-------------------------------|----------|---------------------|
| 1 | Project # | Contract Item # | Line Item # | Description | Quantity | Location |
| 2 | P026858 | 8109901 | 325 | MOWING | 1.3 | S-28-945 - Joy Road |
| 3 | P026858 | 8109901 | 325 | MOWING | 2.3 | S-28-38 - Ward Road |
| 4 | P026858 | 4011004 | 100 | LIQUID ASPHALT BINDER PG64-22 | 0.06 | S-28-38 - Ward Road |
| 5 | P026858 | 4011004 | 100 | LIQUID ASPHALT BINDER PG64-22 | -0.813 | S-28-38 - Ward Road |

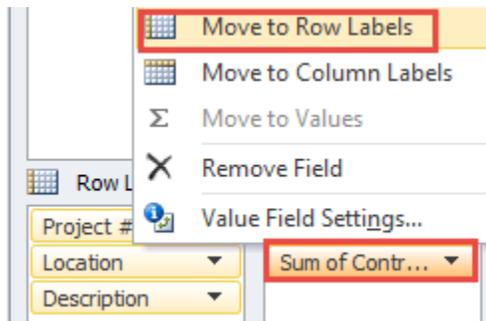
- On the Insert tab, select the **Pivot Table** button.



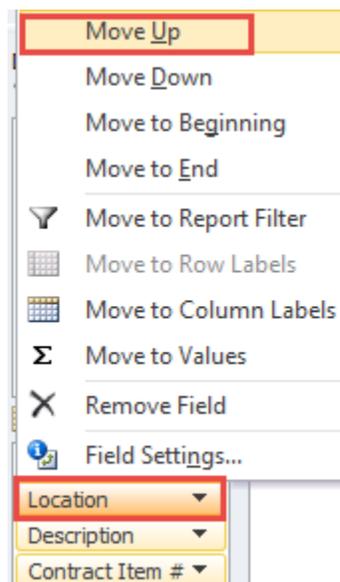
16. Ensure that the Select a table or range contains the 'Final Quantities'!\$A\$1:\$F\$### and includes all the way to the end of the data.
17. Toggle on **Existing Worksheet** and press the Location button. Select the H1 cell to insert the data. Press **OK** to create the pivot table.
18. **Check on** the Project, Contract Item, Description, Quantity, and Location.



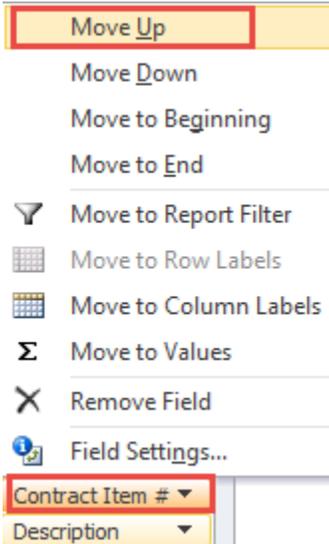
19. Click on the Summary of Contract item and select **Move to Row Labels**.



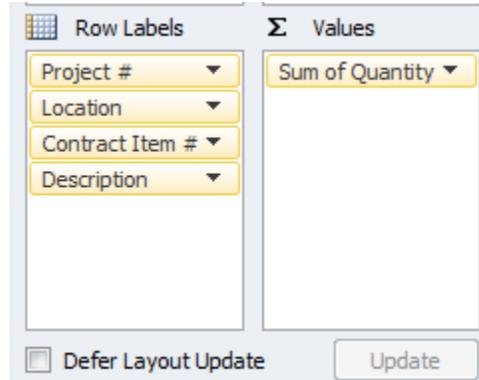
20. Click on **Location** and Move Up below Project #.



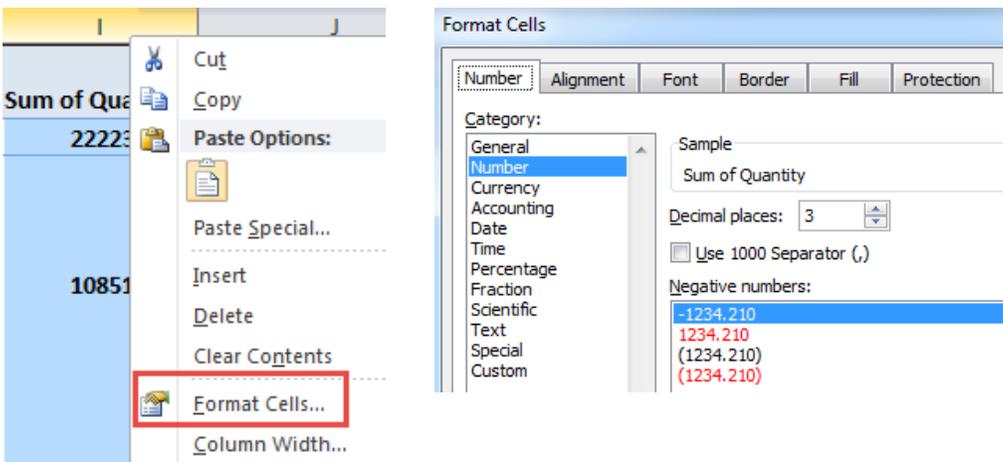
21. Click on **Contract Item** to Move Up above Description.



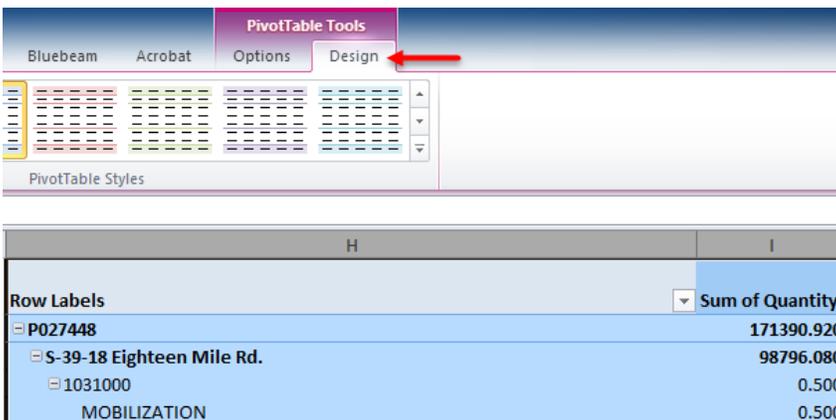
22. The **Row Labels** should now be in order of Project #, Location, Contract Item, and Description.



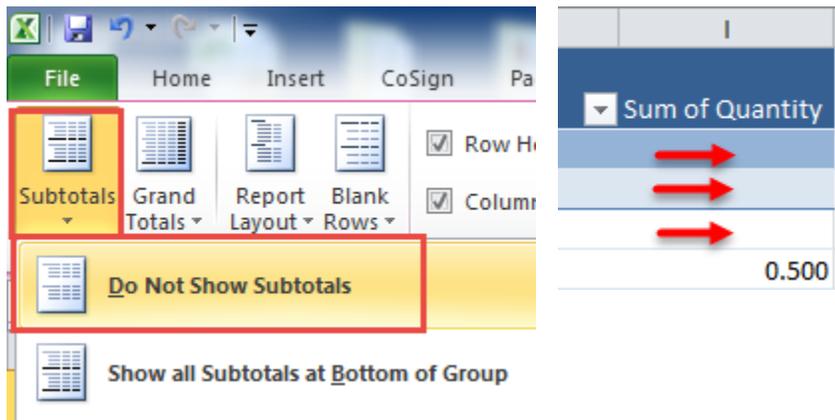
23. Highlight the Column I, right click to select Format Cells, Select **Number** and increase to 3 decimal places. Press **OK** to continue.



24. Highlight Columns H & I, select the **Design** tab at the top of Excel.



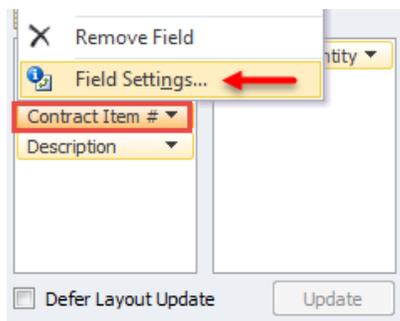
25. On the left of the Design tab, select **Subtotals > Do Not Show Subtotals** (This turns off the unnecessary totals on the right column.)



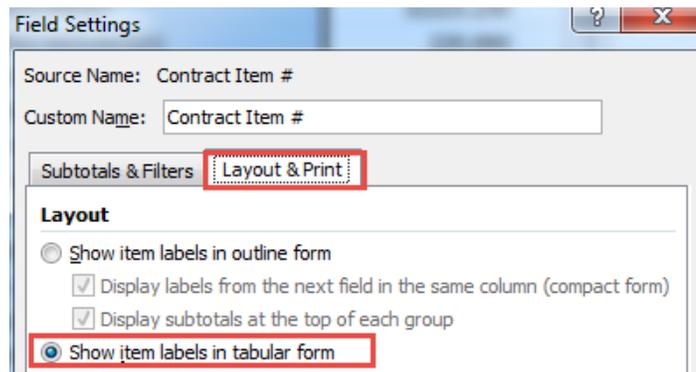
26. In the PivotTableStyles box, scroll down a couple of times and select one of the **pre-defined templates** to apply to format the table with banded colors and lines. This step is optional to increase legibility.



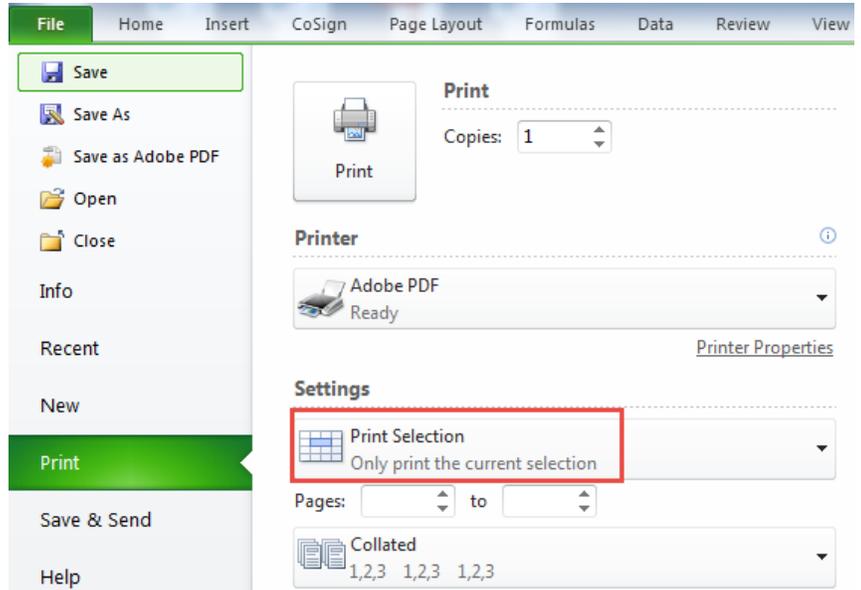
27. In the bottom right corner in the PivotTable – Row Labels, left click on **Contract Item #** and select **Field Settings**.



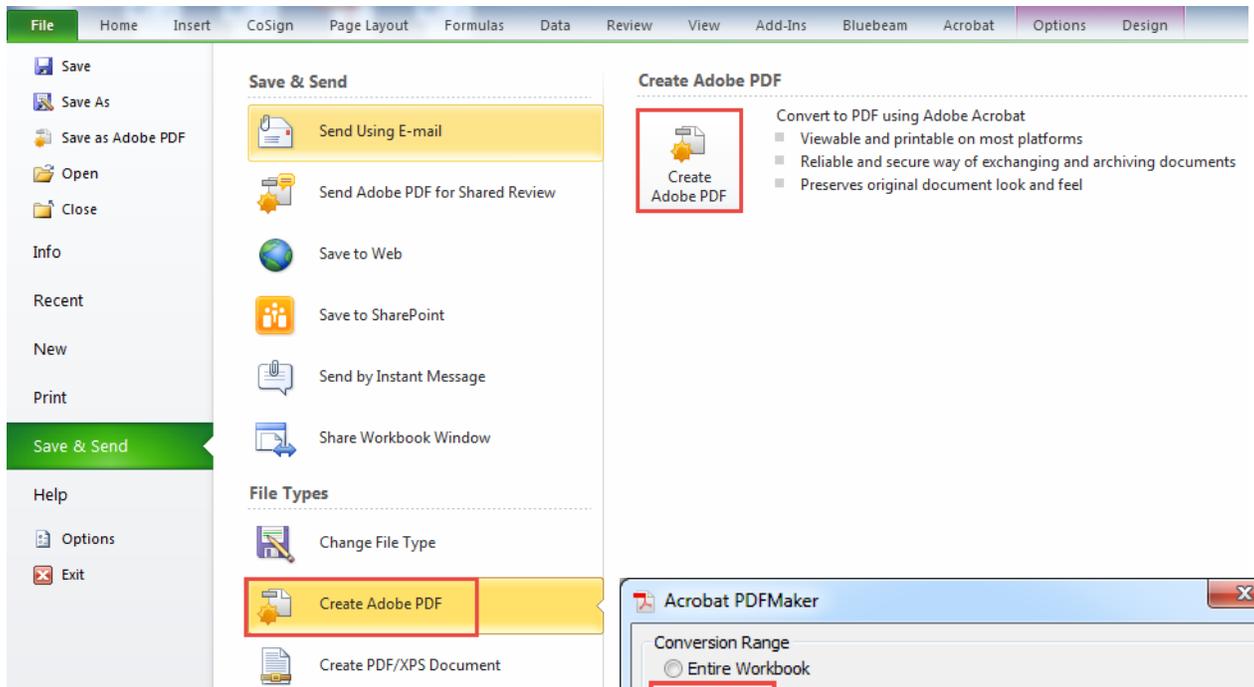
28. On the Layout & Print tab, select **Show item labels in tabular form**. This combines the pay item and description into one line. (This will create an extra column J)



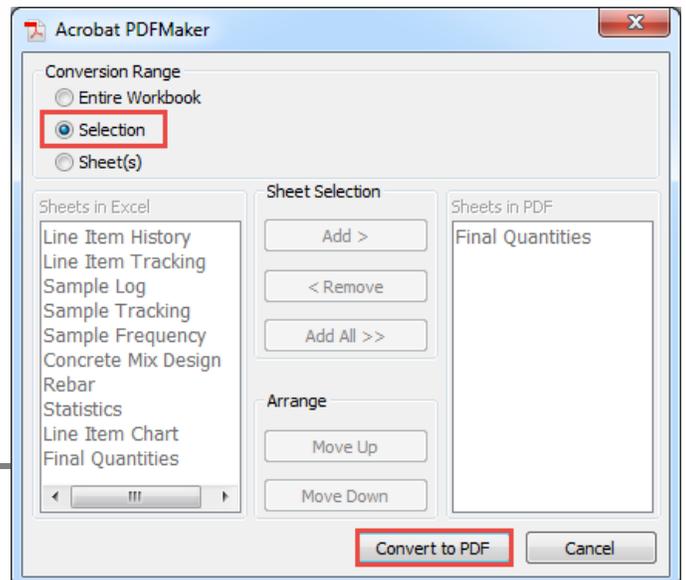
29. **Highlight** columns H, I, & J and select File > Print. **Select** an 8.5 x 11 printer (or Adobe pdf) and choose **Print Selection**.



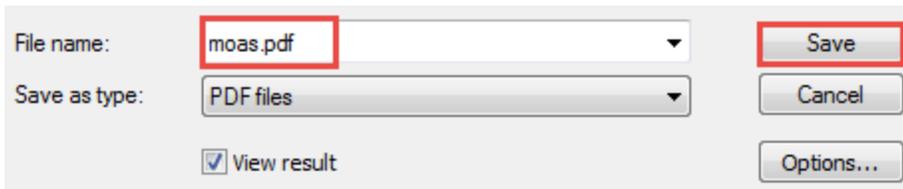
30. Press the **Save & Send** and press **Create Adobe Pdf**. Press **Create Adobe Pdf** on the right.



31. Press **Selection** and then press **Convert to PDF**.



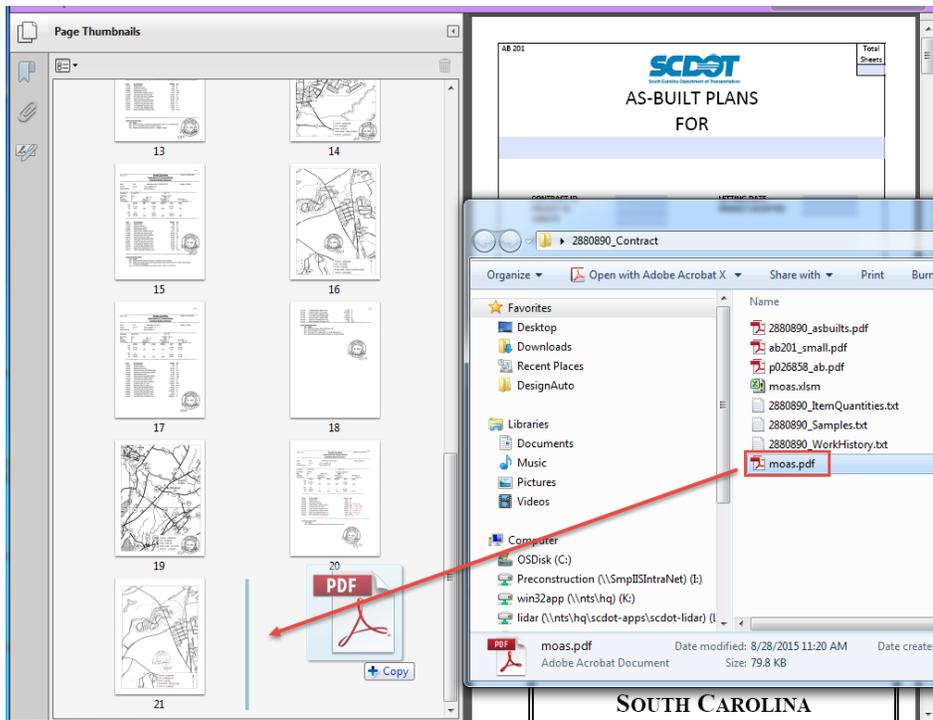
32. Enter a file name and press **Save**.



33. **Open** the ContractID_asbuilts.pdf and scroll down to the very end.

34. **Highlight** the moas.pdf and **drag and drop** it to the end of the pdf in the “page thumbnails view”.

35. Review that you have all the pages in the as-builts pdf.

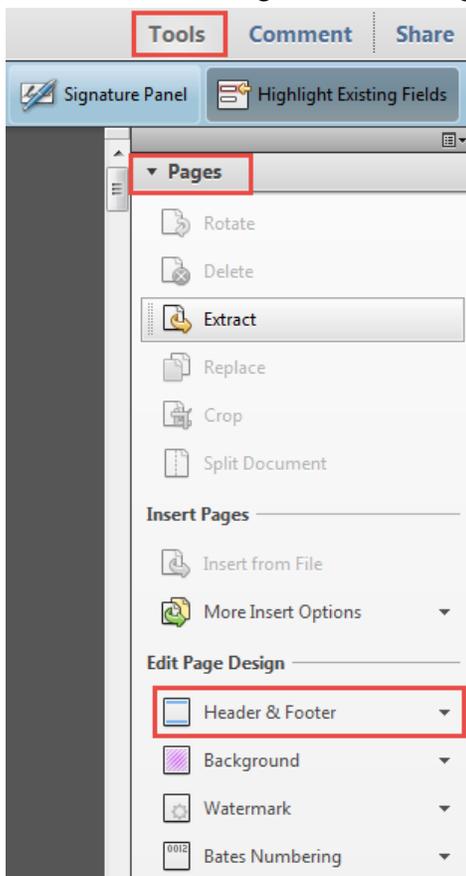


Complete the Final Submittal

1. In the ContractID_asbuilts.pdf, **fill out** the form fields on the AB201 Cover Sheet:
 - a. Enter the Total Sheets
 - b. Enter the County or District designation in the large box under “As-Built Plans For”
 - c. Enter the Contract and Project Ids, Total Length, Letting Date, and Project Accepted Date
 - d. Enter the Contractor name
 - e. Enter the Road/Route numbers and designate if they are Additions/Deletions to the contract

| | | | |
|--|---|------------------|-----------------------|
| AB 201 |  | | Total Sheets 25 |
| <h3>AS-BUILT PLANS FOR KERSHAW COUNTY</h3> | | | |
| CONTRACT ID | 2880890 | LETTING DATE | 03/01/2014 |
| PROJECT ID | P026858 | PROJECT ACCEPTED | 04/15/2015 |
| LENGTH | 4.00 MILES | | |
| CONTRACTOR | BOGGS PAVING INC. | | |
| ROAD ADDITIONS OR DELETIONS | | | |
| | S-28-830 POPLAR LANE | ADDITION | |

2. Select **Tools** on the right and select **Pages**. Click on **Header & Footer**.

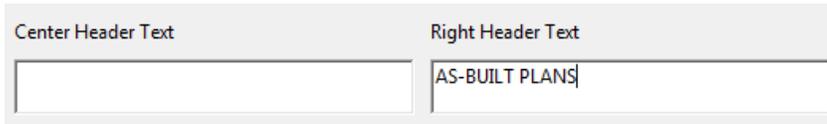


- Under Font, set the size as **12** and color to **Red**.

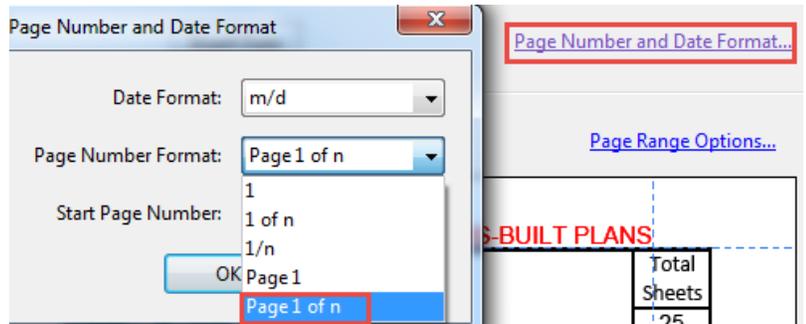


- In the **Right Header Text** box, add the text **“AS-BUILT**

PLANS” in capital letters.

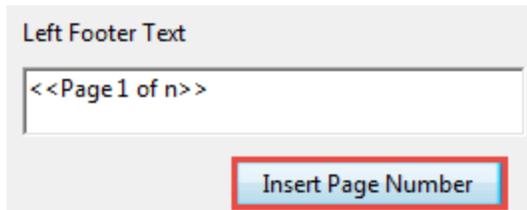


- Click in the **Left Footer Text** box to activate and then select **Page Number and Date Format**.



- From the drop down, select the **Page 1 of n** format and press **OK** to continue.

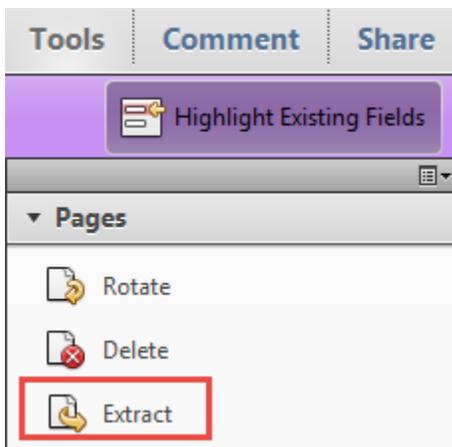
- Click in the **Left Footer Text** box to activate. Then press the **Insert Page Number** button below.



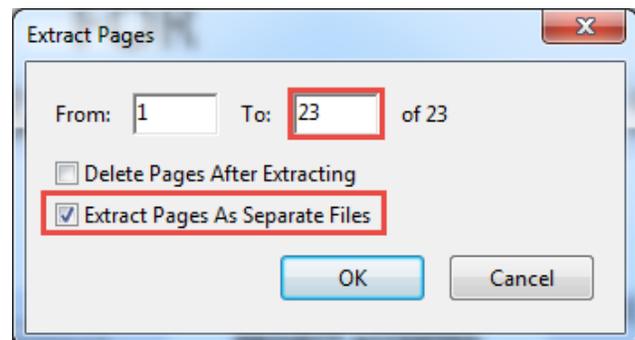
- Press the **OK** button to apply. Press the **Save** button to save the pdf.

To meet the digital signature requirements, this pdf will need to be extracted to a series of single page pdfs.

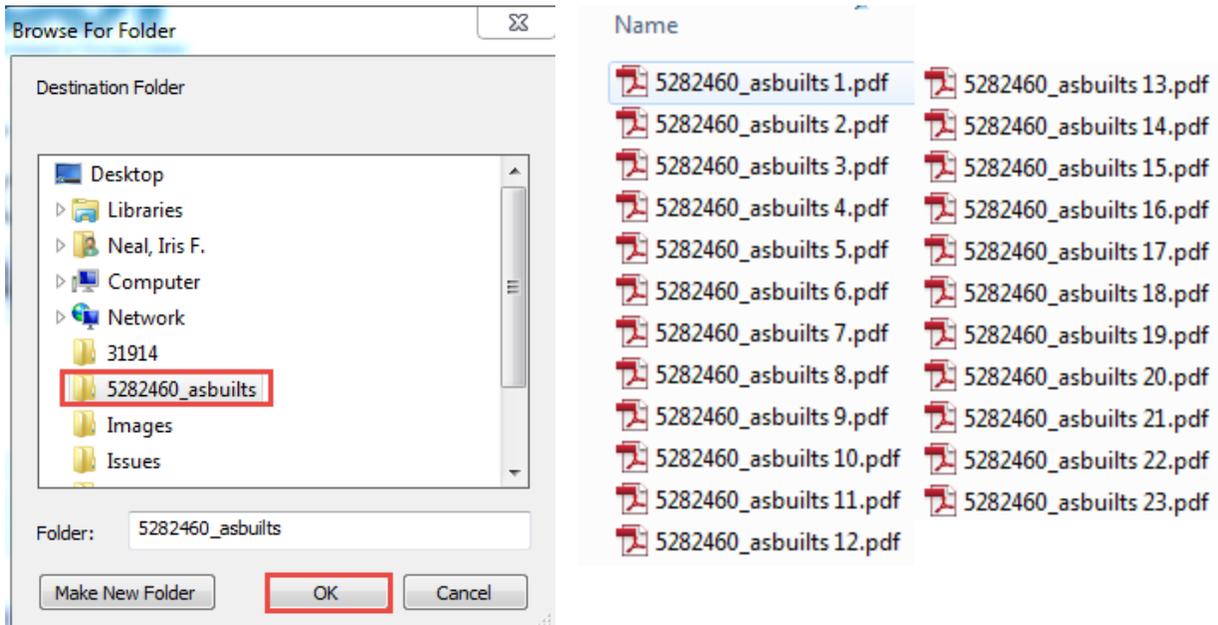
In Adobe, select **Tools > Pages > Extract**.



On the Extract Pages dialog, enter the last page number and check on **Extract Pages As Separate Files**. Press **OK** to start the process.

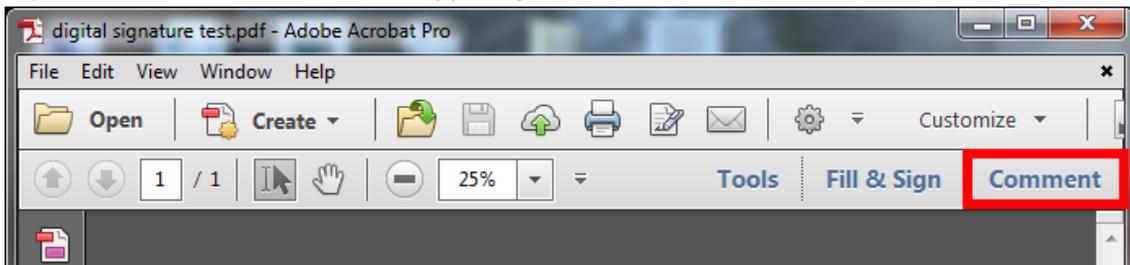


Highlight the folder to extract the files to and press the **OK** button. You will now have single page pdfs in this working folder.

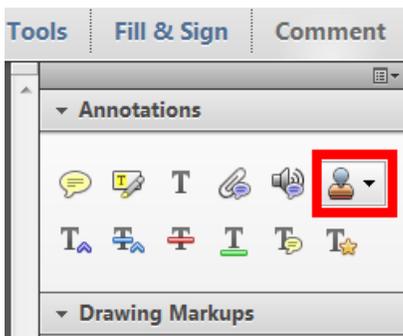


In order to complete the digital signature steps outlined below, you will need to have previously set up your “Stamp” and have had “CoSign” installed by your IRC. Please contact Design Automation for more information.

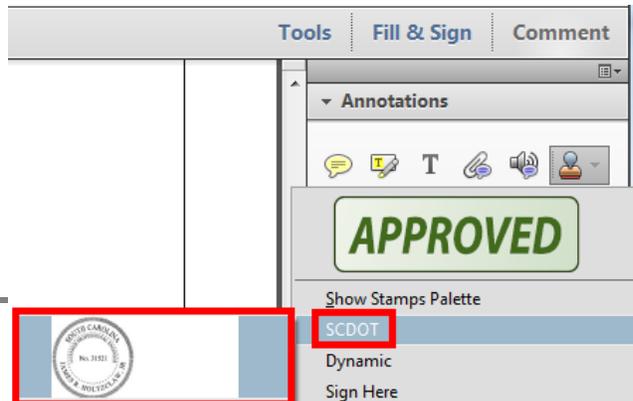
- Open the “**Comment**” tools in the upper right corner of Adobe.



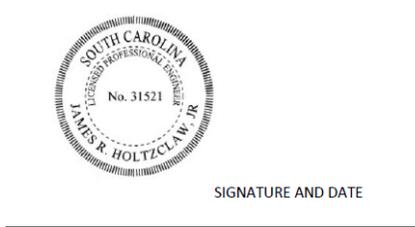
- Click on the “**Add Stamp**” tool in the Annotations list to bring up the list of available stamps.



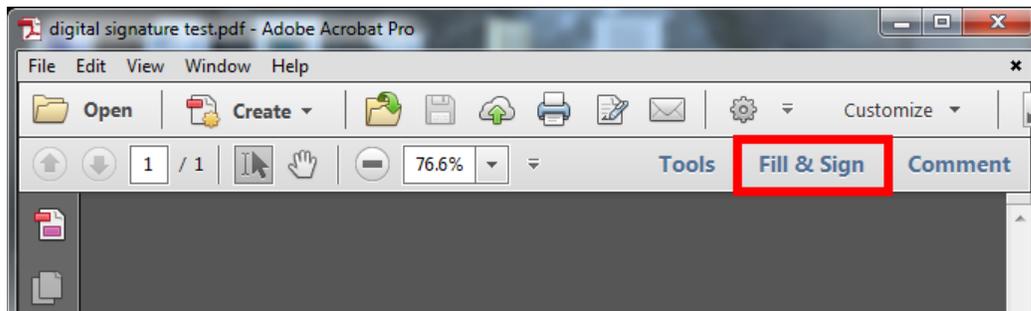
- Highlight** the SCDOT group to bring up SCDOT’s stamps. Click on your PE seal stamp to select it.



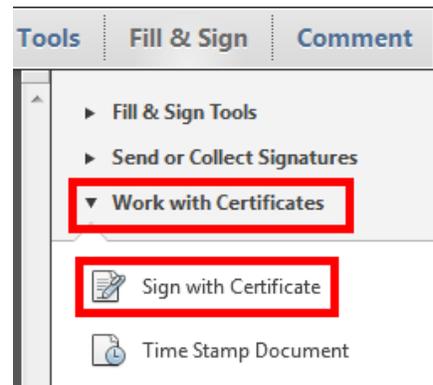
12. Click on the PDF document to place the seal.



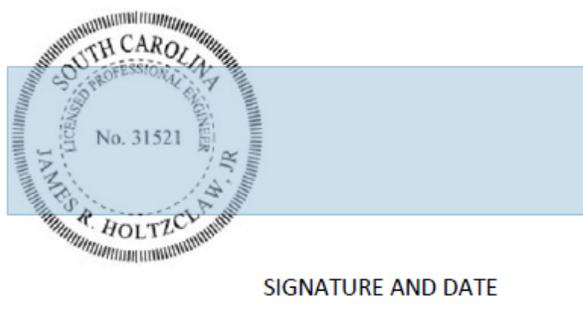
13. Open the “Fill & Sign” tools in the upper right corner of Adobe.



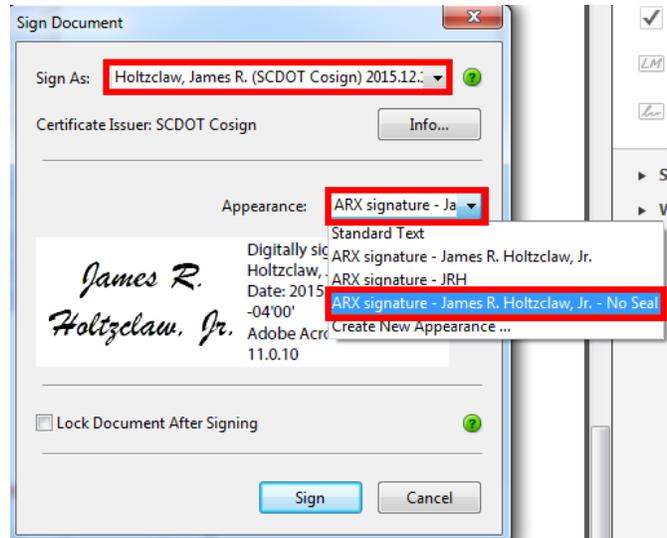
14. Expand the “Work with Certificates” menu and click on “Sign With Certificate” to enable the drawing tool. (You must have a Co-Sign Digital Signature Certificate to submit electronically. If you do not have a certificate, you can print the first page, manually sign, scan and add this sheet back to the document to submit electronically.)



15. Click and drag on the pdf to create the signature field. If a PE Seal was placed, the form should begin on the left side of the seal three-quarters of the way up, extending three-quarters of the way down the seal and right to the edge of the white space of the stamp. If a PE seal was not placed, the signature field needs to be large enough for the signature and all accompanying text to be legible. It can be adjusted later if it is too large or small.



- The Sign Document window should appear. Choose your name in the Sign As box and the signature labeled “No Seal” in the Appearance box, and then click Sign.



- Adobe will ask you to save the file. You can overwrite the unsigned version of the document or save it as a new document with a revised name (recommended).



- REPEAT** the digital signature process for **EACH** sheet that was modified from the original contract with your PE Seal and digital signature.
- Place the digitally signed and sealed single page pdf files into ProjectWise in folder 21 – Plan Revision. Email the URN link to PlanStorage@scdot.org for inclusion in the Plans Library and archiving.

