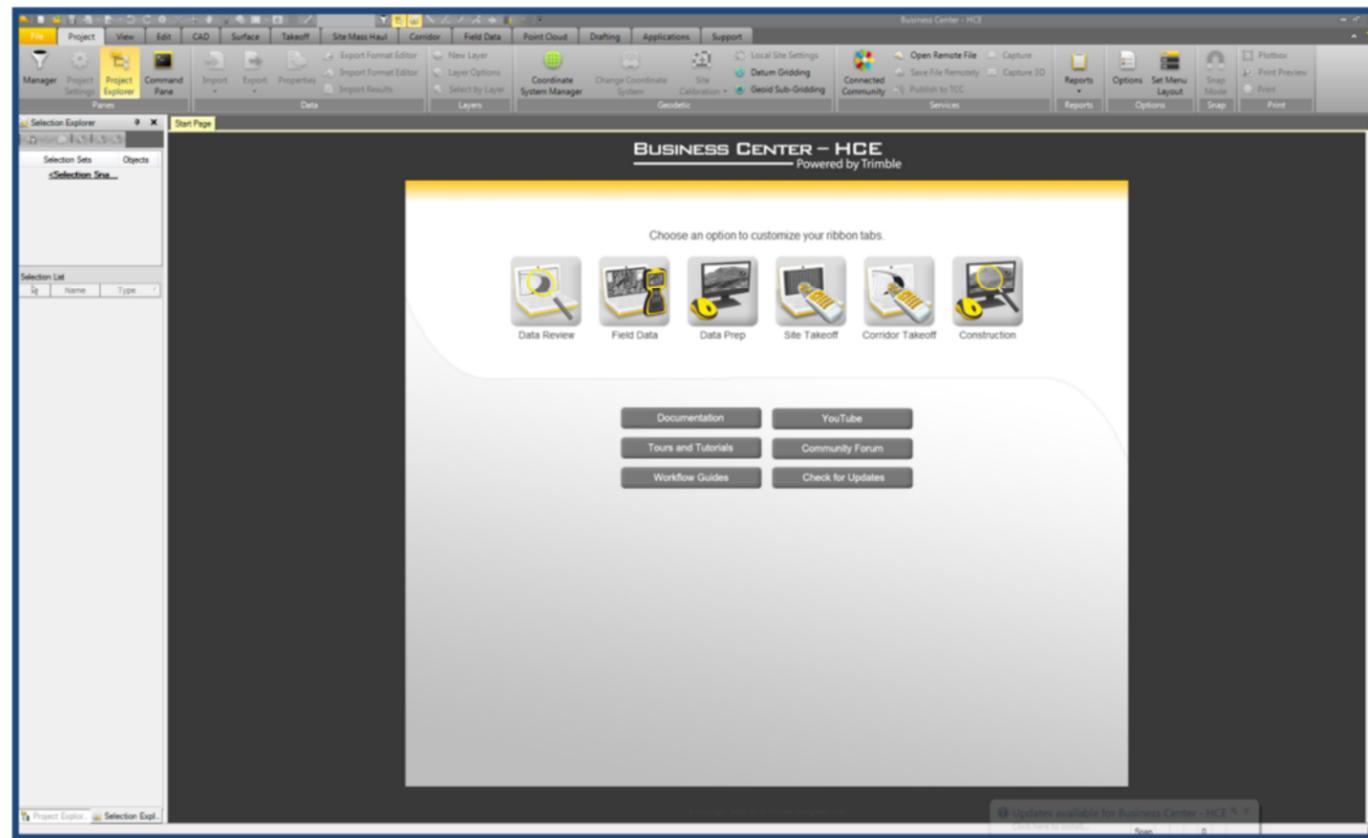


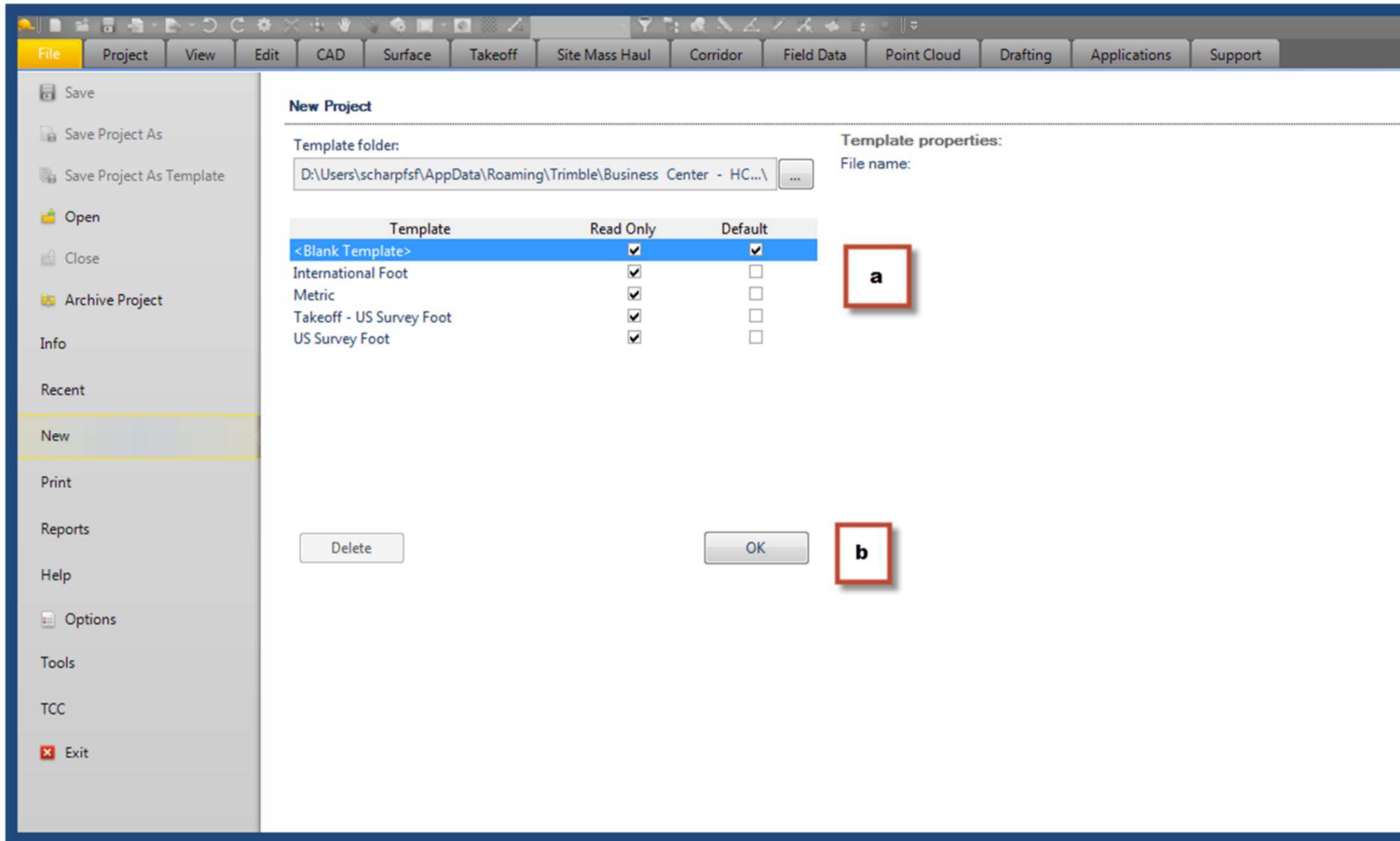
Workflow for Converting Vectorized PDFs into CAD Line Work (Using Trimble Business Center with Image Manager)

1. Open Trimble Business Center



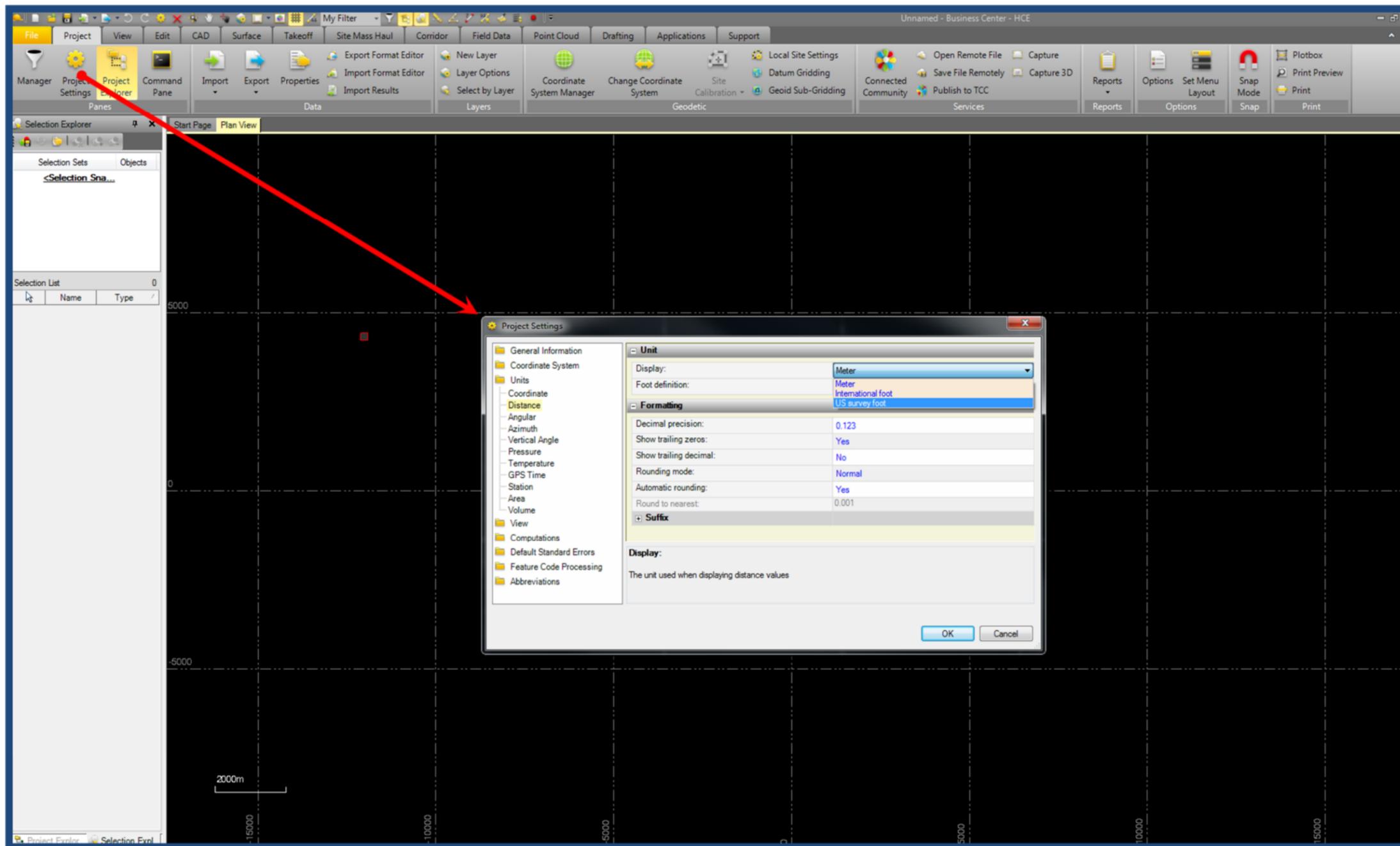
2. Select the *File* tab and click the *NEW* menu option.

- a. You can change template defaults here, but you can also change these setting later.
- b. Click *OK*



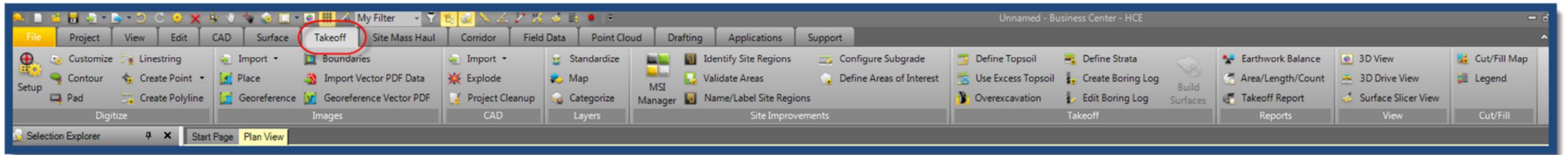
3. A new blank template has now opened.

- a. You can change your project settings such as units, precision and rounding by selecting the *Project* tab and selecting the *Project Settings* Icon.

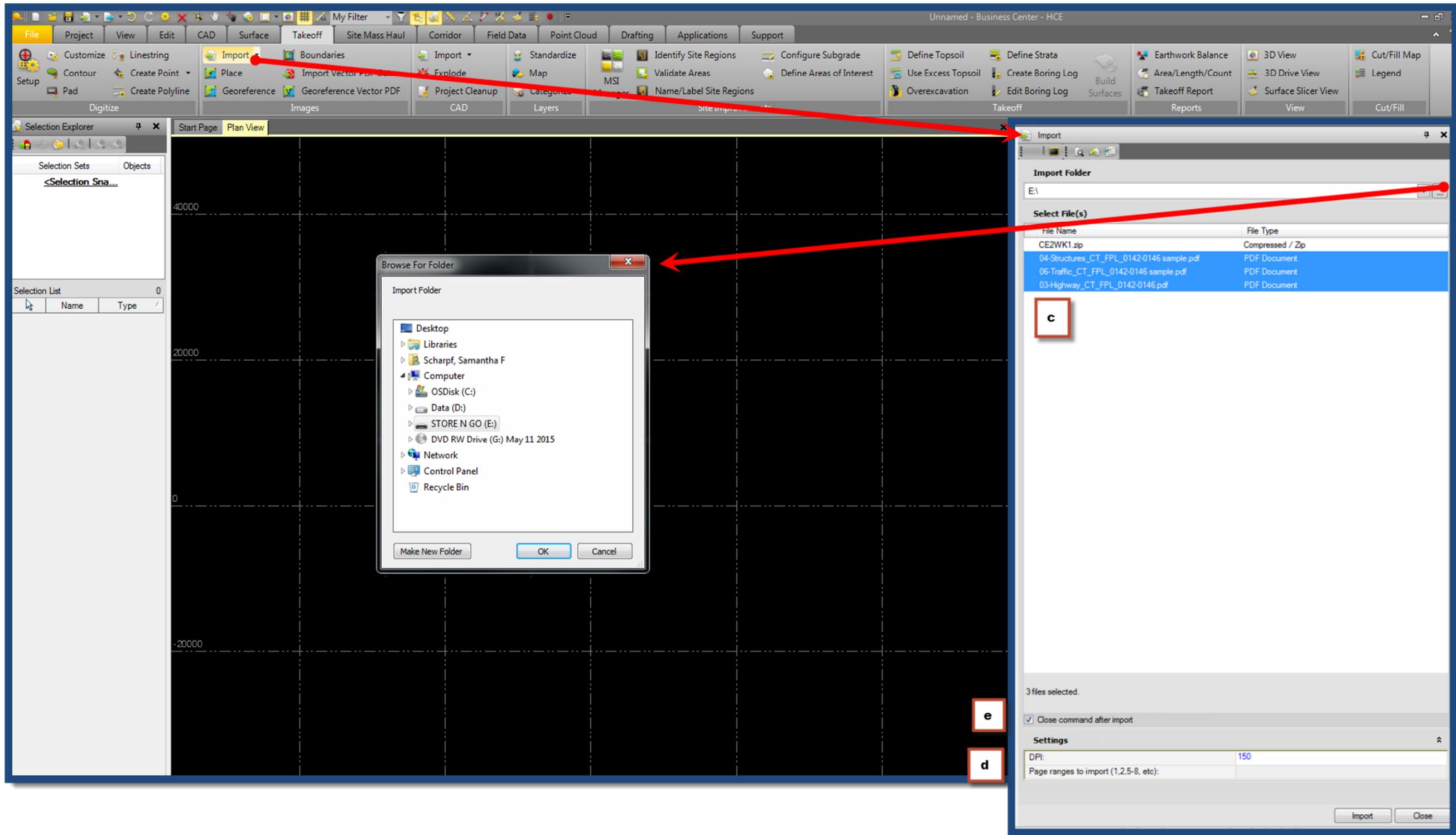


4. Next, select the *Takeoff* tab.

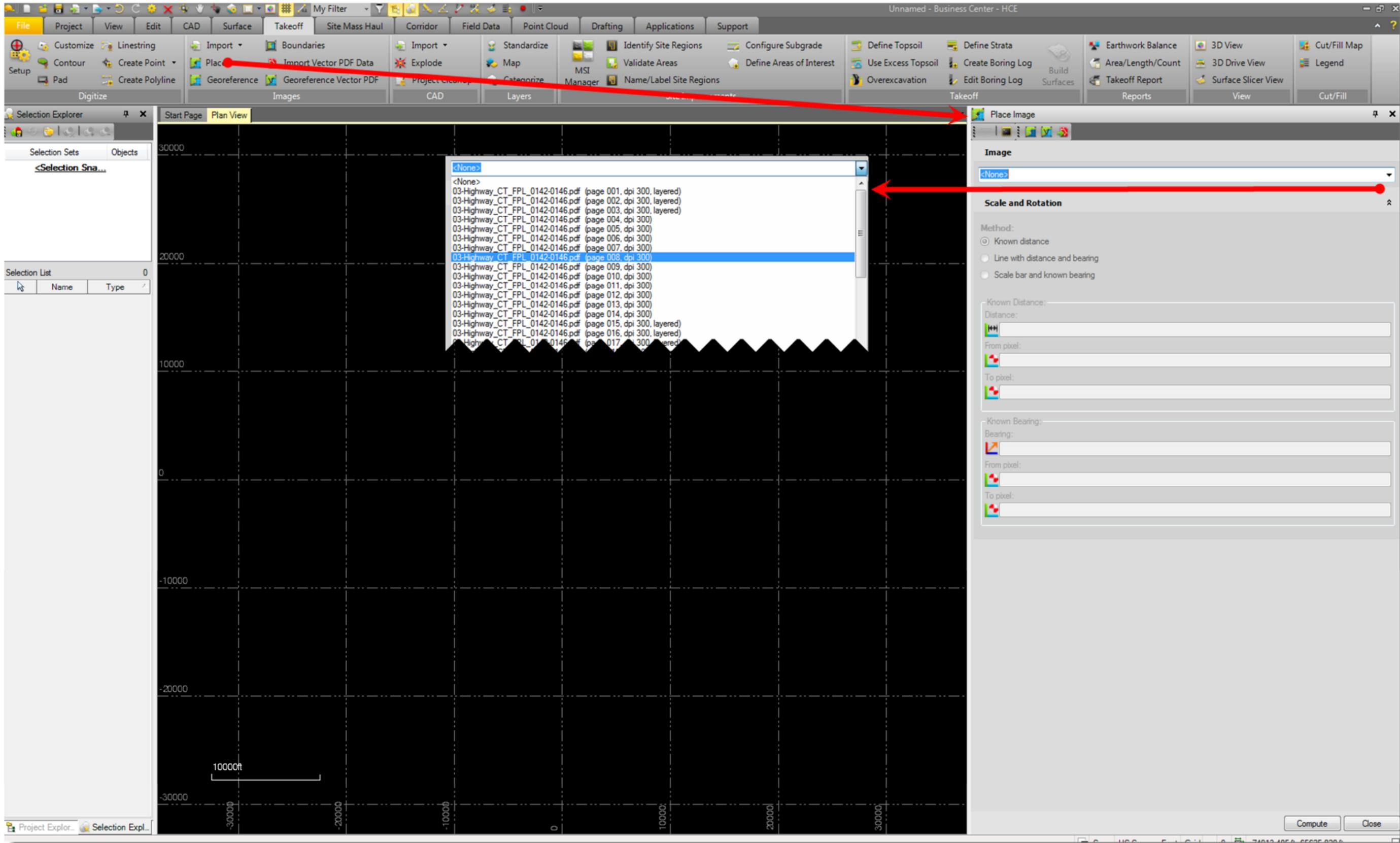
a. The *Images* section of the *Takeoff* ribbon is what we will mostly be using for this workflow.



5. Click the *Import* icon, an *Import* dialog box/ panel should open.
 - a. Under the *Import Folder* section click the ellipses (...) button and browse to the folder containing your PDFs.
 - b. A folder selection box should appear, select your folder and click OK



- c. The *Select File(s)* section of the *Import* box should now be populated with the files in your folder.
 - d. The next step is to import the PDFs you want; there are a couple of ways you can do this depending on how many files you want to bring in.
 - i. Import All PDFs in the folder – for this method you would just select all of the PDF files and Click Import. *note – if these files are batch PDFs this process could take quite a while.
 - ii. Selectively Add PDFs from the folder – for this method uncheck the *Close Command After Import* Option. Next Select a PDF File, if it is a single file you can click the *Import* button, move on to the next file and click *Import* and so on. Or you can select a PDF batch file and enter in the pages you want from the file in the *Page Ranges to Import* field. For example, If I only wanted the first 3 pages of a particular plan set PDF, I would select the PDF and enter 1-3 into the page range field. There is no need to break up Batch PDFs ahead of time for import. When you are done importing the files you want click *Close* on the *Import* Box.
 - iii. Keep in mind that if you select a higher Dpi (Resolution) the import for the pdf will take longer. Resolution will not affect the quality of the CAD elements exported from the PDF, it is only for the viewing resolution of the PDF itself.
6. Now click the *Place* command from the takeoff ribbon, the *Place Image* dialog box/ panel will appear
- a. Select an image from the dropdown menu. (If you imported an entire PDF package notice that each page from that package is listed here separately, this is because they are separate image files)
 - b. Once you select a file from the list it will automatically appear in your plan view window, this will change dynamically if you select different images from the dropdown list.



- c. Once you have the image (PDF) you want, you can scale it with a few different methods. This workflow will cover the *Known Distance* method.
- d. Select the *Known Distance* toggle option and click the *Distance* field.
- e. Find a location on the pdf that has a defined distance, in this example 3' is used.

Image

03-Highway_CT_FPL_0142-0146.pdf (page 004, dpi 300)

Scale and Rotation

Method:

- Known distance
- Line with distance and bearing
- Scale bar and known bearing

Known Distance:

Distance:

From pixel:

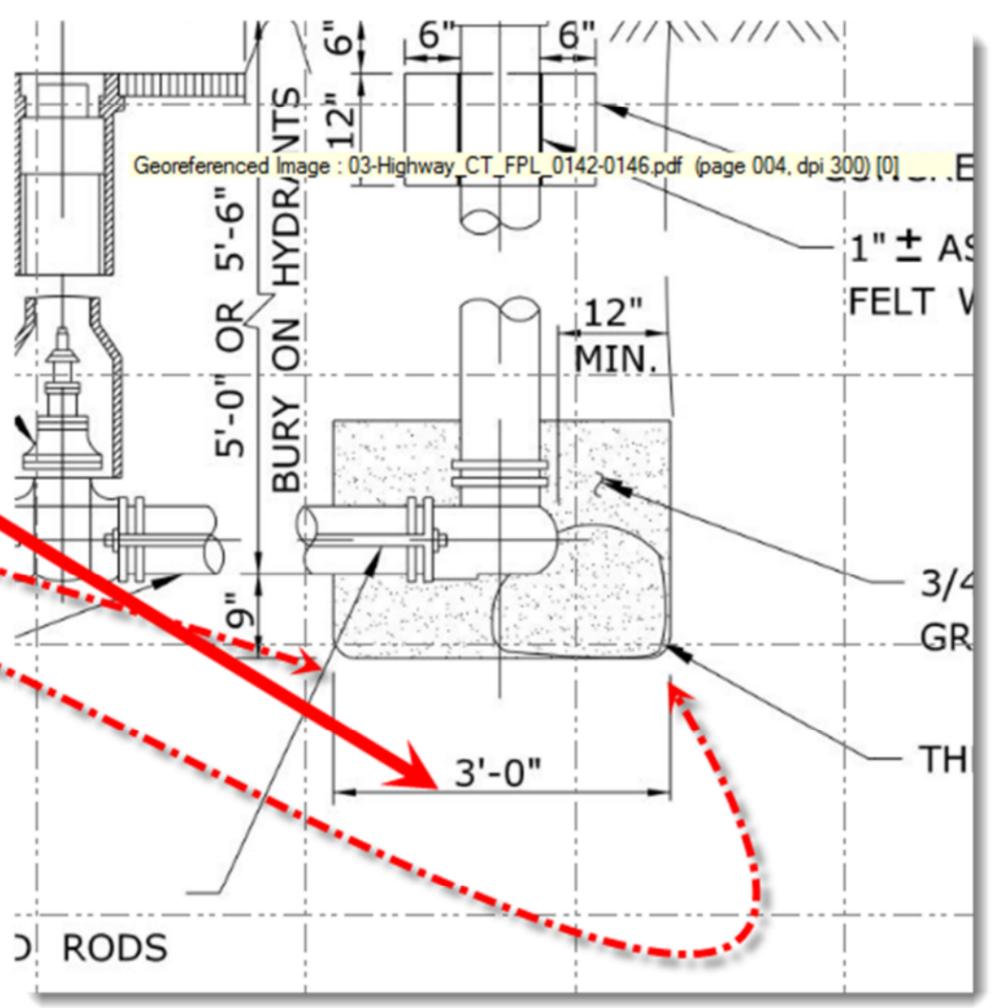
To pixel:

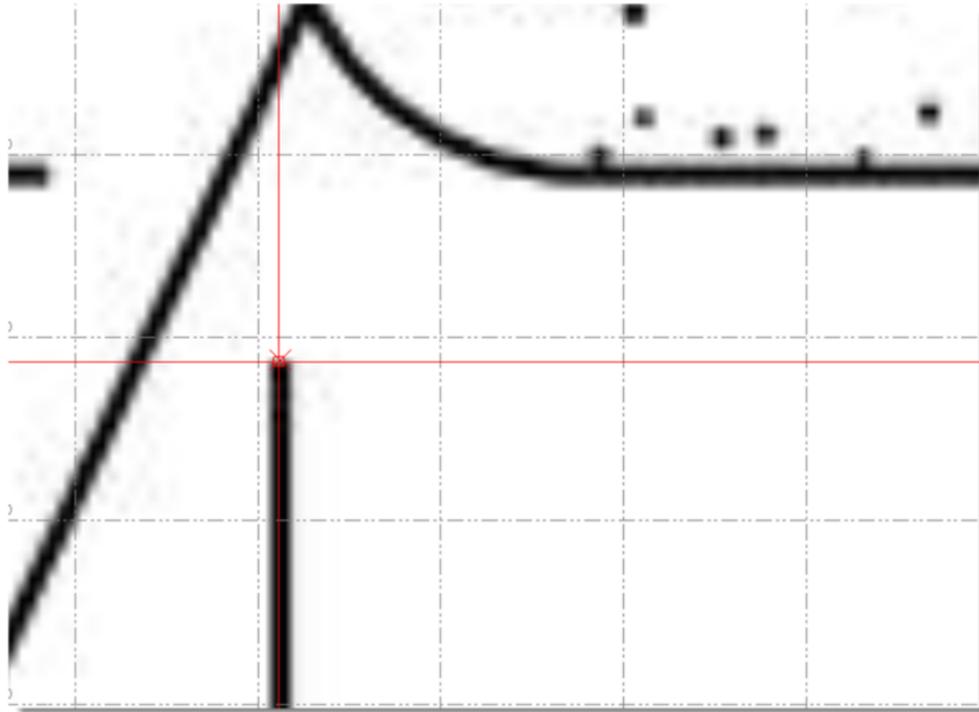
Known Bearing:

Bearing:

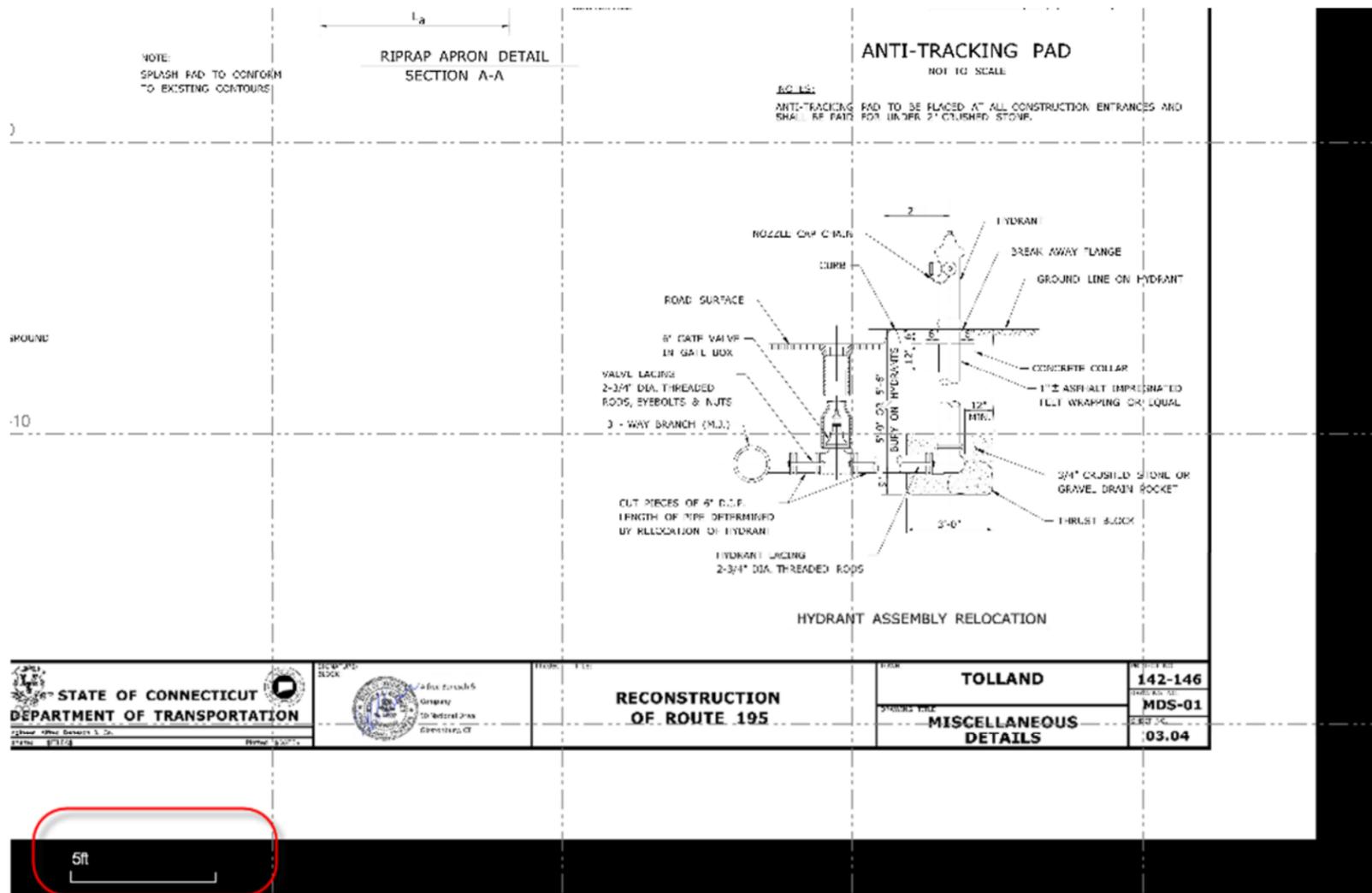
From pixel:

To pixel:



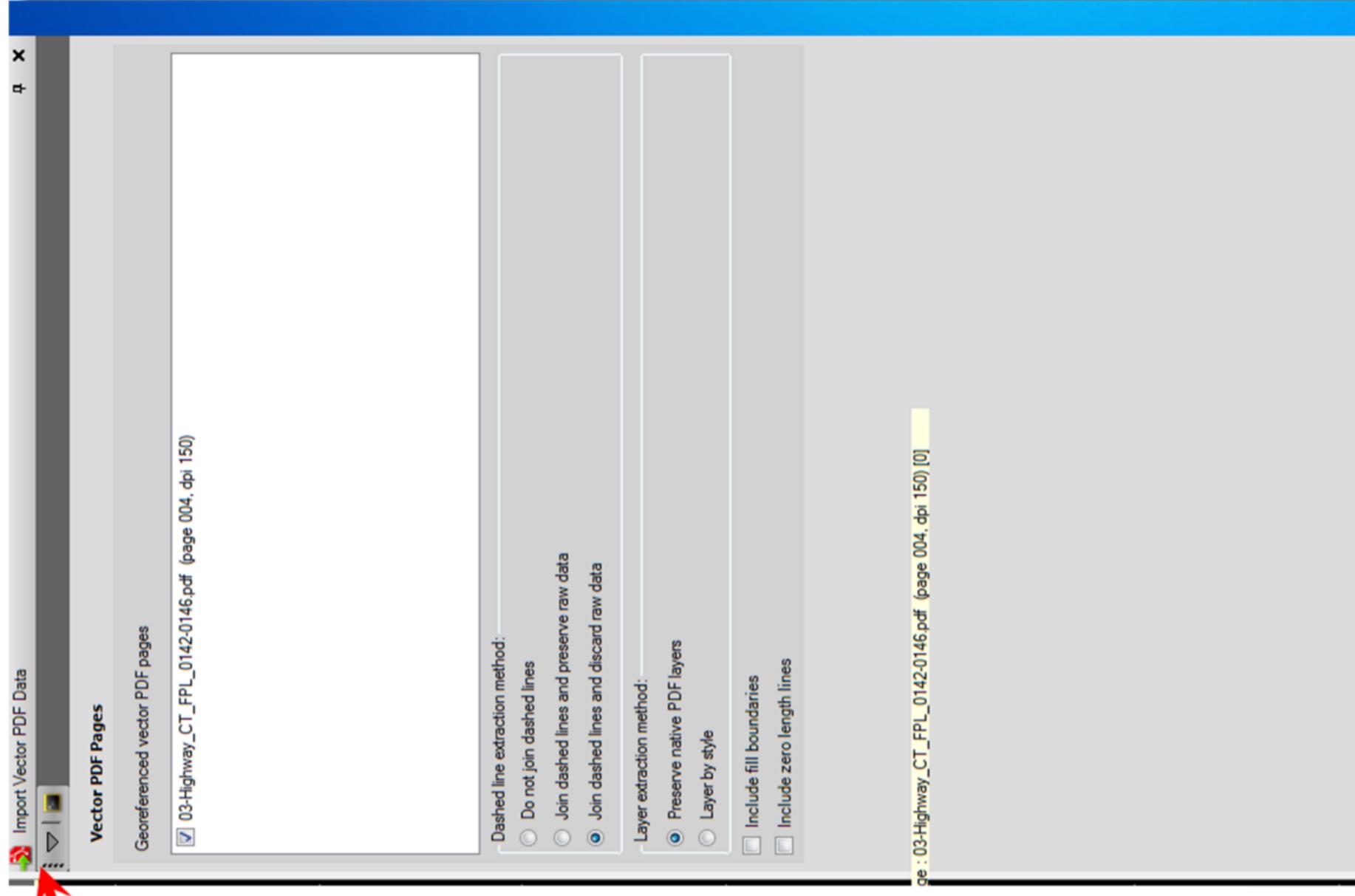
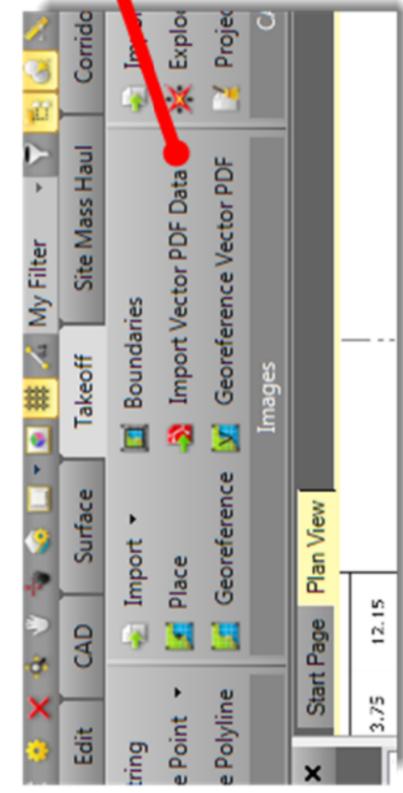


- f. Now set your cursor in the *From Pixel* field, this is the starting location of your known distance. In this case I selected the dimension leader. Notice the small red X in the selection crosshair. This is snapping to the vector information (or key point from the original file) of the PDF. You may want to select dimensions based on these key points rather than eyeballing/ estimating the center of the dimension line. Once you have clicked this first location it automatically goes to the *To Pixel* field.
- g. Click the end of your known distance. If you selected the wrong point just click in the *From Pixel* field again and draw your line again.
- h. Once your line is located where you want it, click the *Compute* button.
- i. A scale bar should now appear in your plan view outside of the PDF. This scale bar changes dynamically as you zoom in and out of the view, it shows a scale relative to your current Zoom level.



7. Now select the *Import Vector PDF Data* command, the *Import Vector PDF Data* dialog box/ panel will open.

- a. Select the images you want to convert (check boxes)
- b. Enter the desired settings for dashed lines and layers.
- c. Click *Import*



d. The line work should now appear in your plan view over the PDF Image (Note: if the original layers are in greyscale they may be hard to see at first)

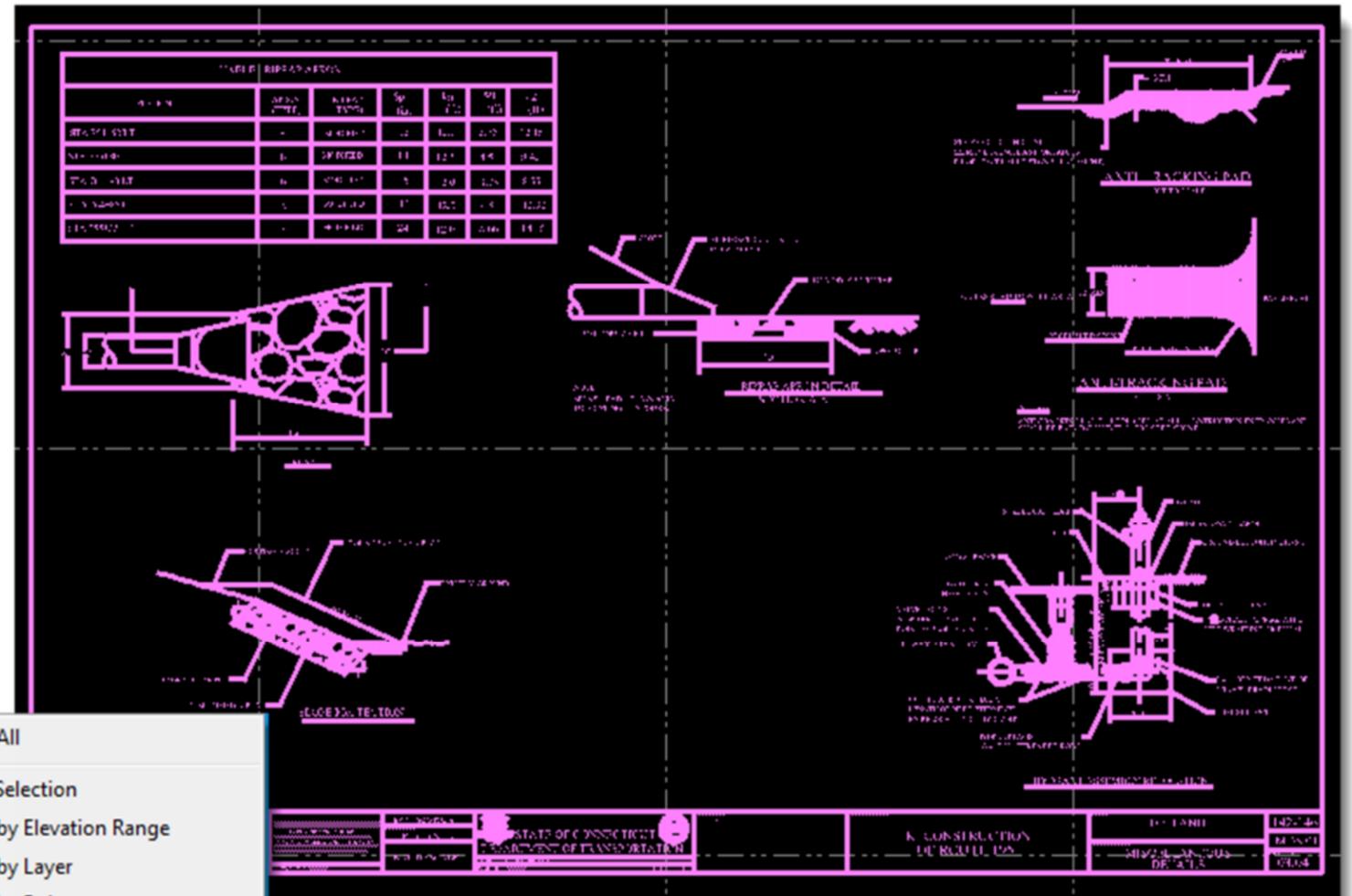
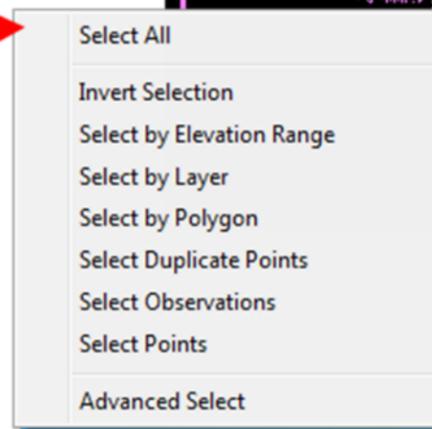
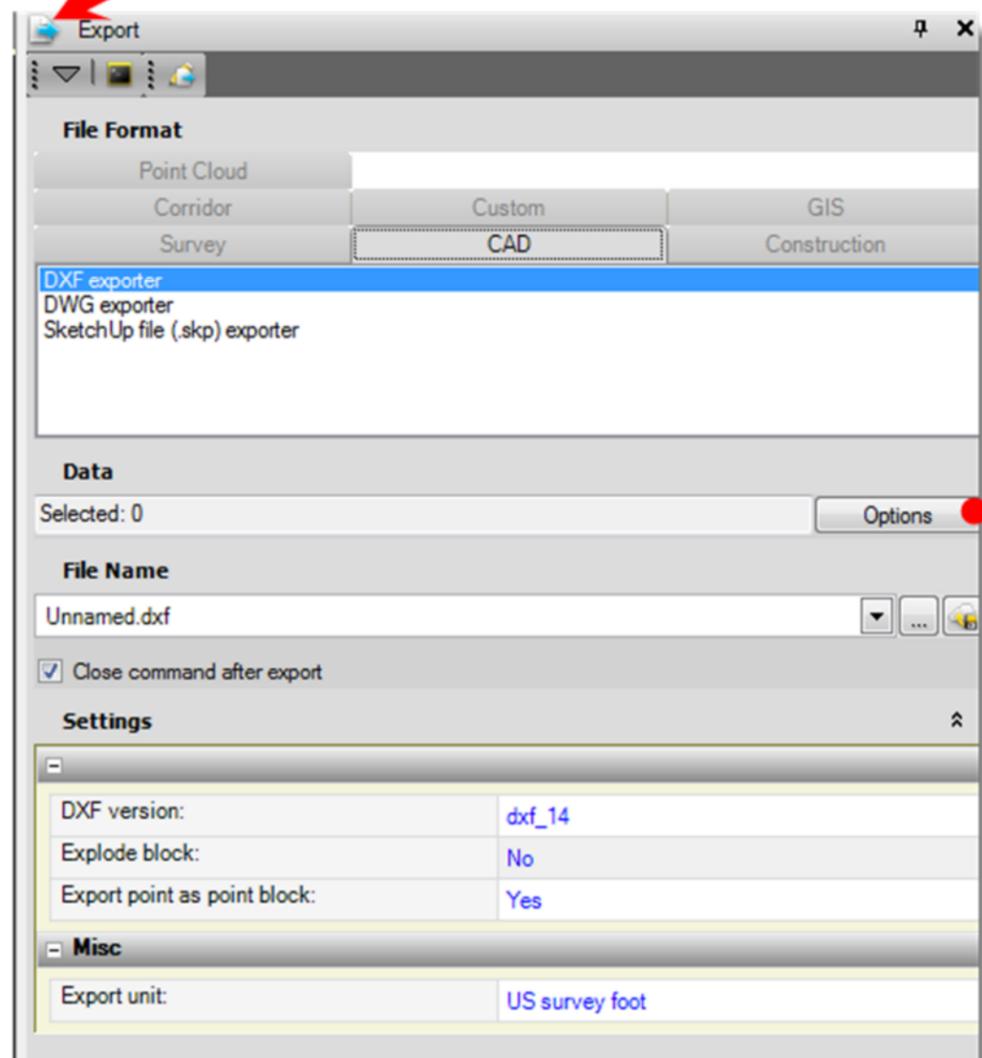
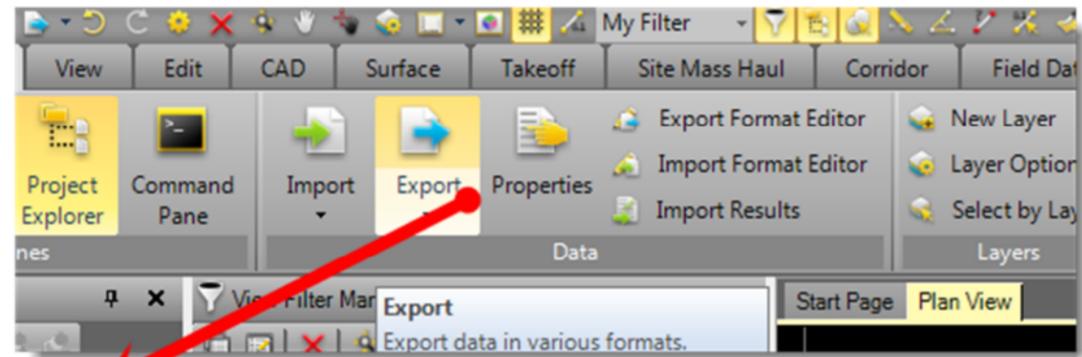
ASSEMBLY RELOCATION

OWNER:	TOLLAND	PROJECT NO.:	142-146
DRAWING TITLE:	MISCELLANEOUS DETAILS	DRAWING NO.:	MDS-01
		SHEET NO.:	03.04

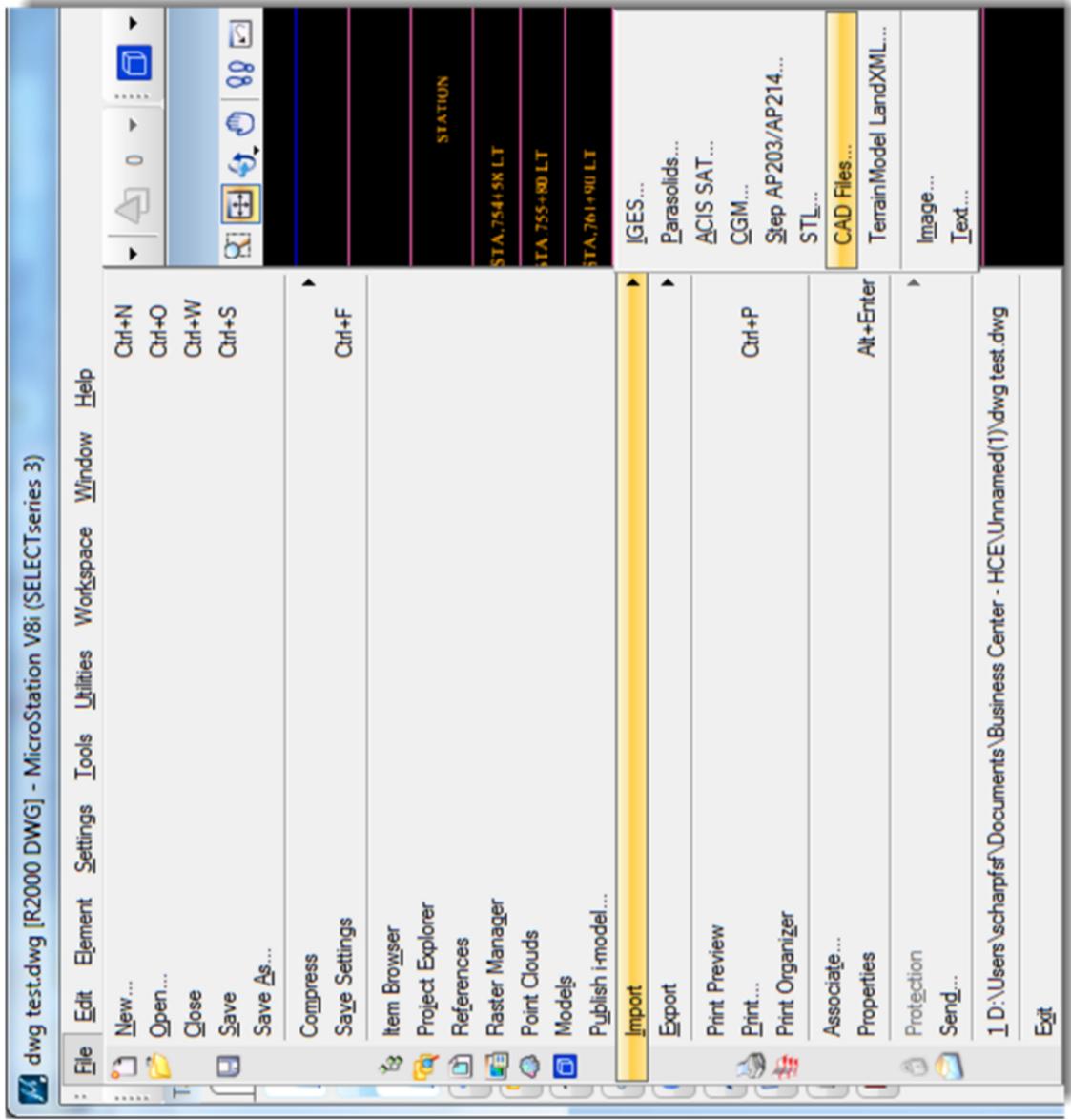
8. Now you can change your views to better see the imported line work.
 - a. Click on the *Project* tab and click the *Filter Manager* icon, the *Filter Manager* panel will open.
 - b. Set the filter from *all* to *my filter* (the *all* filter is locked, so you need to select *my filter* to see changes)
 - c. Under the *Georeferenced Images* section uncheck the image and the “Background” image will be turned off. The line work is now more visible.

9. Export the line work into a CAD format

- a. Click the *Project* tab and select the *Export* command, the *Export* dialog box/ panel will open.
- b. In the *File Format* section select the *CAD* tab.
- c. Under the *File Format* section select your file format (if you use MicroStation select the DWG format, MicroStation is a DNG format but you can import DWG files)
- d. In the *Data* section click the *Options* button, there are multiple options for selecting your lines (Data). In this example I selected the “*Select All*” option.
- e. In the *File Name* section enter a name for the exported file. If you click the ellipses button you can navigate to a specific destination for the export.
- f. In the *Settings* section you can choose which version of the software you are exporting to (this is similar to choosing excel 2003-2007 versus excel 2013 when exporting workbooks). You can also select block settings for the export (blocks in AutoCAD are cells in MicroStation). You can also set your units for the export file.



10. Open your exported file.
 - a. If you are using AutoCAD you can browse to the save location of your export file and open the file
 - b. If you are using MicroStation you will need to take a few extra steps. Open MicroStation and go to *File>Import>CAD Files*. Select the file you want to Import and click Ok. The line work should appear in your file, although there may be some differences due to platform inconsistencies.



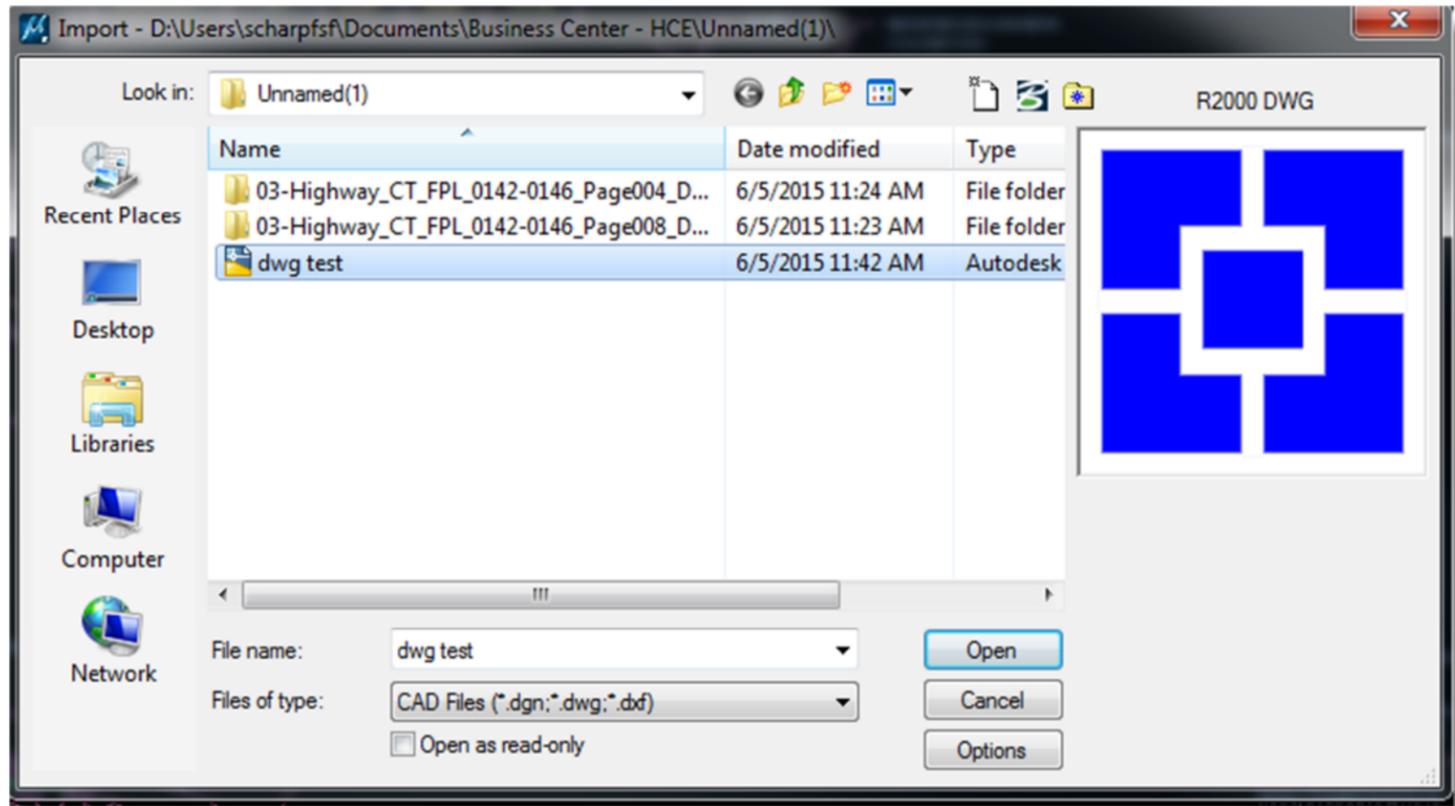
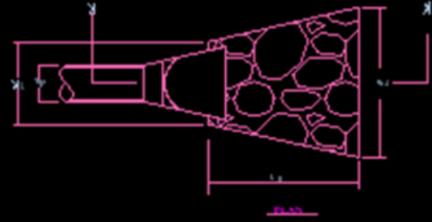


TABLE - RIPRAP APRON						
SECTION	APPROX. LENGTH	WIDTH (FEET)	SP. (IN.)	L ₅₀ (IN.)	W ₅₀ (IN.)	X ₂₅ (IN.)
STA. 76+31.1	A	10.00	15	12.0	3.75	11.7
STA. 77+01.1	B	10.00	18	12.3	4.5	9.41
STA. 78+01.1	C	10.00	15	12.0	3.75	11.9
STA. 79+01.1	A	10.00	12	12.0	4.50	13.90
STA. 80+01.1	A	10.00	24	12.3	6.00	14.4



Text Node \ Text: 6" GRANULAR FILL
Level: PDF Text (LightSteelBlue_ Thickness 8.6)

