

Overview

SCDOT Preconstruction Design Memorandum No. 8 requires the development of a Survey Control Data Sheet by a South Carolina Professional Surveyor in responsible charge of each preconstruction survey project.

The intent of the Survey Control Data Sheet is:

1. Preserve information related to the location of property corner monuments found during the field survey.
2. Clearly define the Datum used to establish the project survey control.
3. Provide information which can be used efficiently to re-establish individual property corner monuments.
4. Provide project survey control coordinate and elevation information to be used during construction.

The SCDOT Preconstruction Survey department produces a survey report for each individual project which includes detailed project mapping information. Microsoft Excel software is used to develop this report and the Survey Control Data Sheet is included within this spreadsheet format. These instructions are intended to provide the steps necessary to develop the final Survey Control Data Sheet in a PDF format which can then be sign and sealed by the licensed surveyor.

The individual surveyor may decide to use another method of generating the Survey Control Data Sheet outside of the supplied SCDOT Survey Project Report spreadsheet.

Instructions

The SCDOT file used to develop the Survey Control Data Sheet: *Survey_Project_Report_ver15.8.xlsm*


file revision number

The final Survey Control Data Sheet naming convention to be used: *40479_SCDS_5A.pdf*


Project ID Number

Within the SCDOT Survey Project Report spreadsheet there are (2) options available to create the Survey Control Data Sheet(s).

1. Automated Process (Pages 1-10)

2. Printing Survey Control Data Sheet as a PDF (Pages 10-14)

3. Manual Process (Pages 14-21)

Automated Process

The Survey Project Report spreadsheet organizes the survey project task information by the use of “tabs” located at the bottom of the spreadsheet (Figure 1).

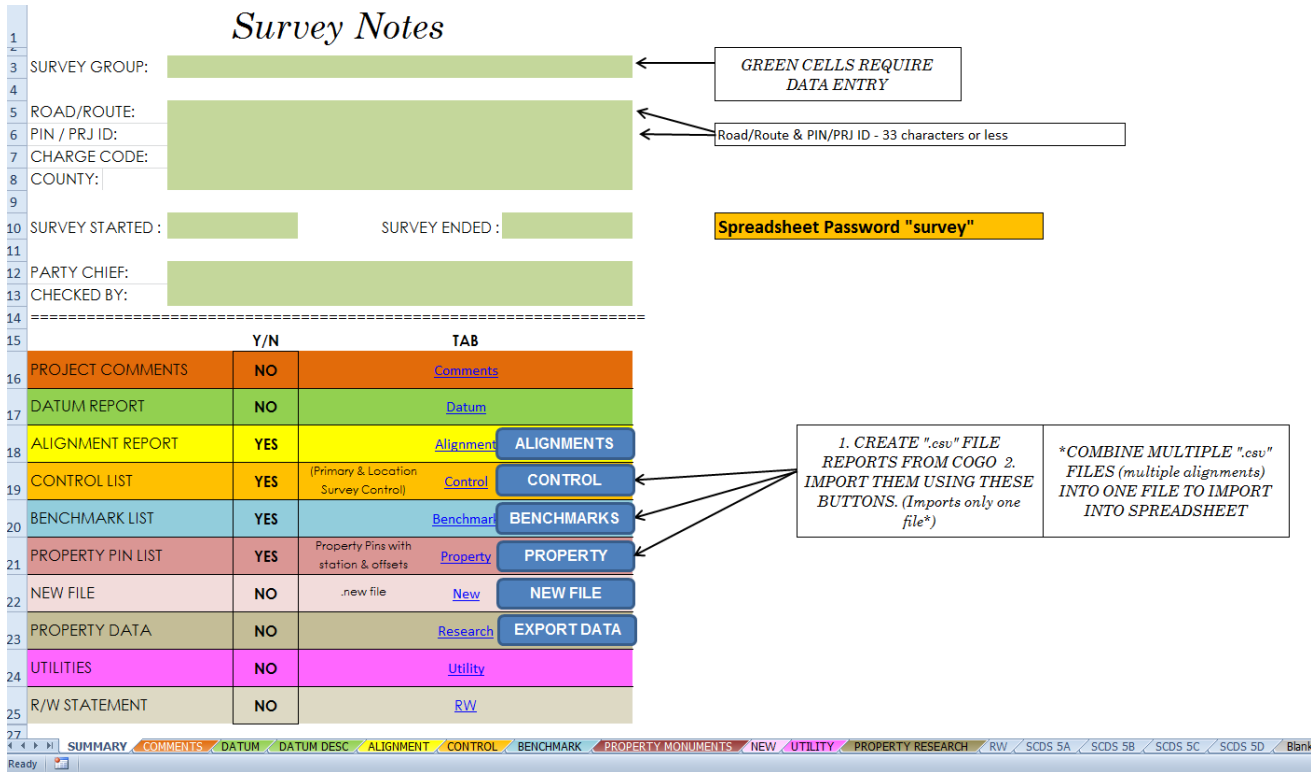


Figure 1

Tabs:

1. Summary
2. Comments
3. Datum
4. Datum Desc
5. Alignment
6. Control
7. Benchmark
8. Property Monuments
9. New
10. Utility
11. Property Research
12. RW
13. SCDS 5A thru SCDS 5D
14. Blank_Data
15. SCDS 5A Blank thru SCDS 5D Blank

Tabs used to auto create the Survey Control Data Sheet(s) are listed below:

Summary, Datum, Control, Benchmark, Property Monuments and **SCDS 5A** thru **SCDS 5D**.

The steps below list the minimum information needed if the only goal is to use the spreadsheet to auto create the Survey Control Data Sheet.

Step 1 (Summary Tab)

Populate information fields found on *Summary* Tab (Figure 2).

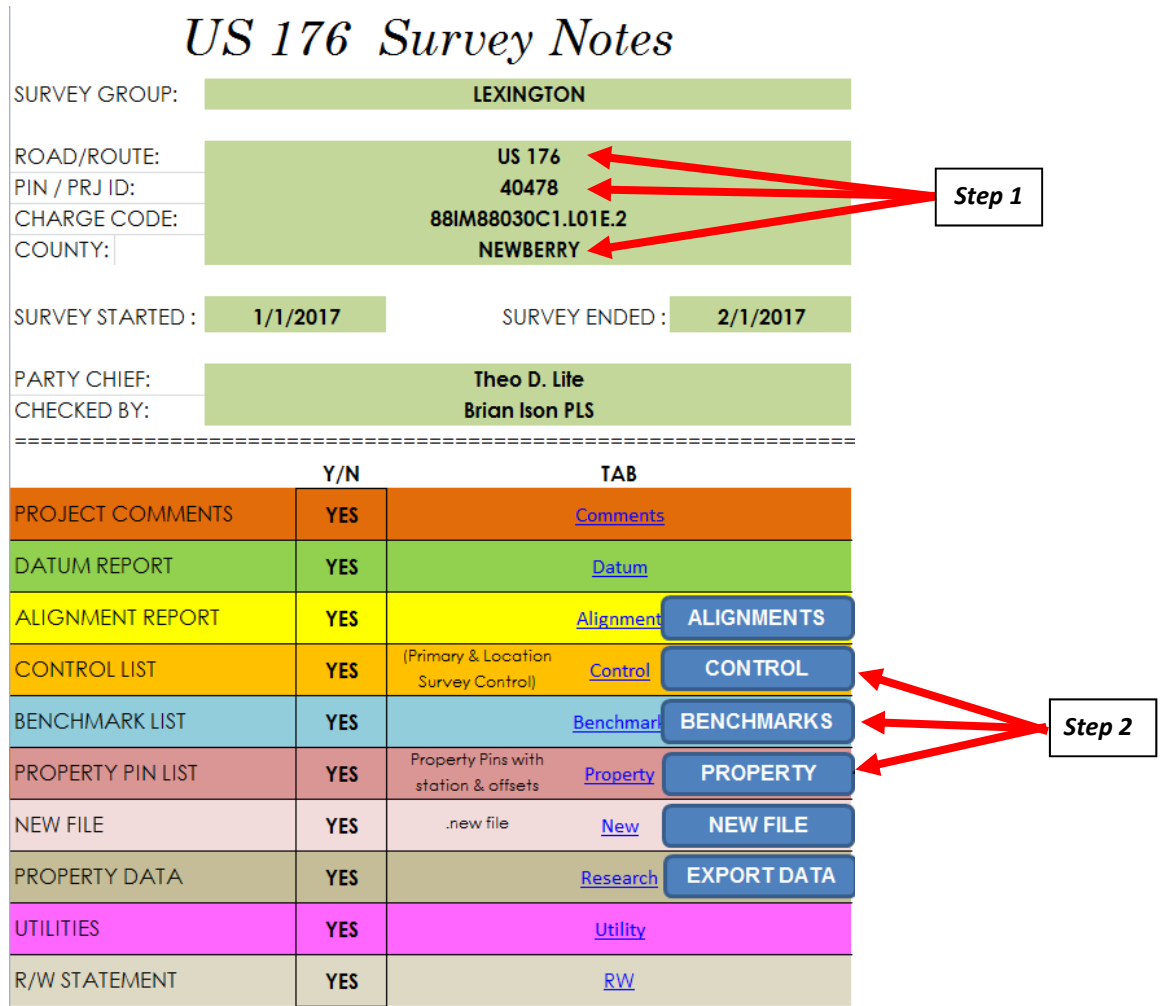


Figure 2

Step 2 (Summary Tab—Importing Data)

Excel VBA macro's have been used to automate the import of excel .csv files which include the data for the project *survey control, benchmarks* and *property monuments* found (Figure 2). The format of these .csv files are shown in (Figure 3).

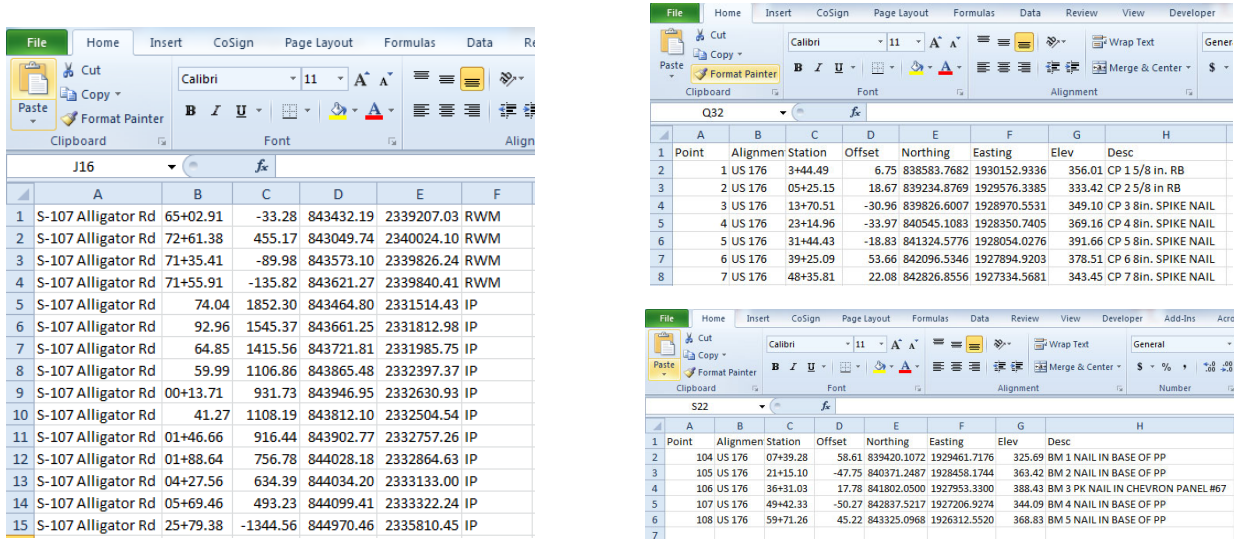


Figure 3: Property / Control / Benchmarks

Below are the data categories of each .csv file shown in Figure 3.

Property: Alignment—Station—Offset—Northing— Easting— Description.

Control: Point ID—Alignment— Offset— Northing— Easting— Elevation— Description.

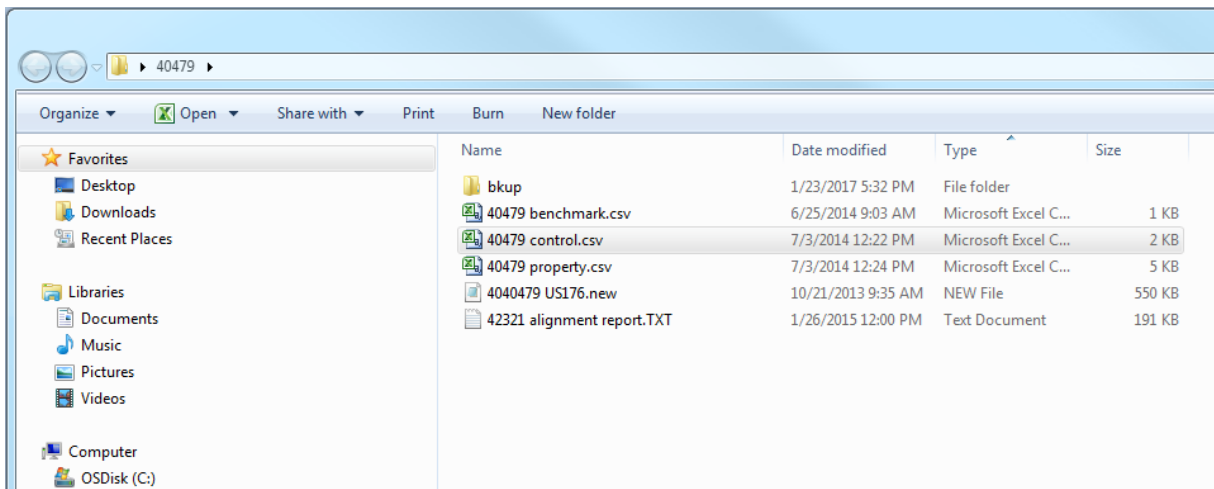
Benchmark: Point ID—Alignment— Offset— Northing— Easting— Elevation— Description.

The destination of the data imported through the macro’s listed above will be for the corresponding *Control*, *Benchmark* and *Property Monuments* tabs.

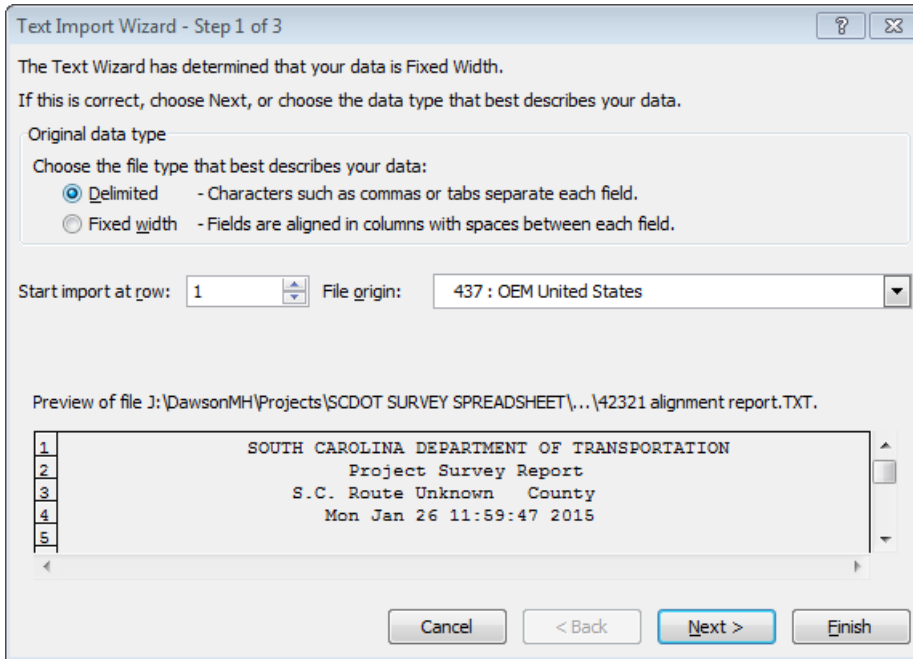
Step 2A Select the “Control” macro button.



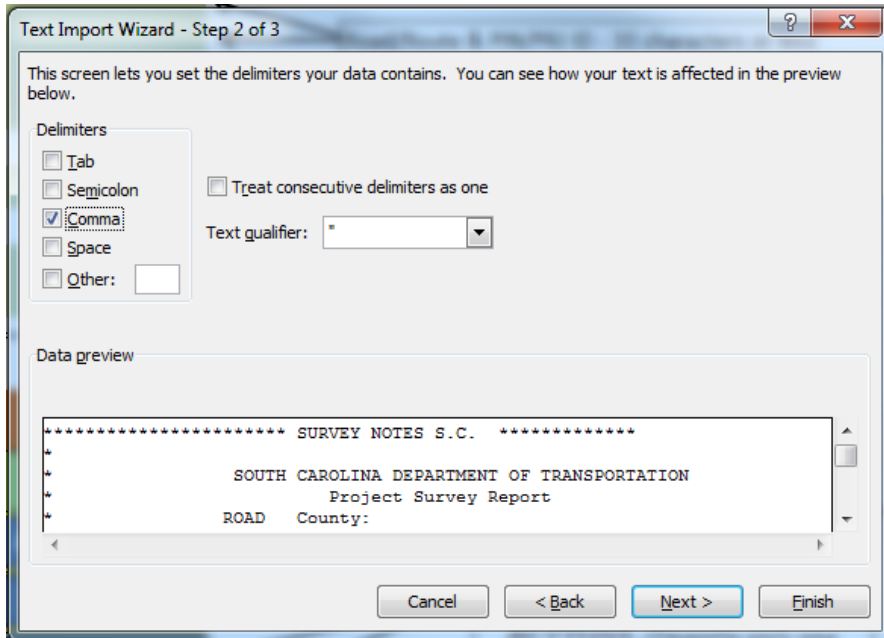
Step 2B Select the control.csv file.



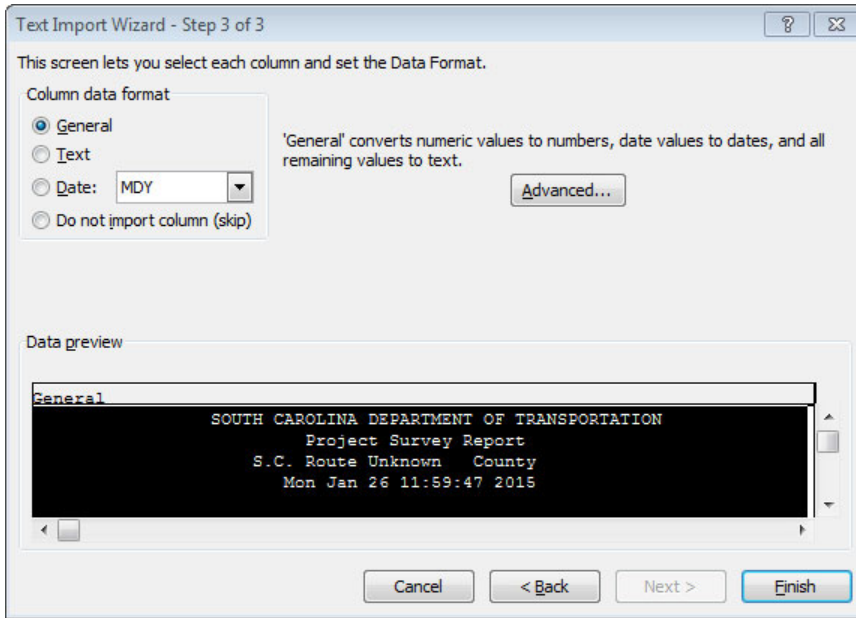
Step 2C Choose “Delimited” then “Next”



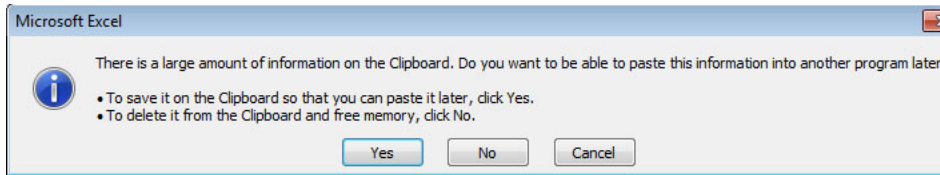
Step 2D Select “Comma” then “Next”



Step 2E Select "General" and then Select "Finish"



Step 2F Select "No"



The survey control data should now be populated on spreadsheet tab "Control".

Point	Alignment	Station	Offset	Northing	Easting	Elev	Desc	Average Geoid (meters)	Combined Scale Factor
1	US 176	41.49	6.75	838583.7682	1930152.9336	356.01	CP 1 5/8 in. RB	-30.04	0.9998147
2	US 176	05+25.15	18.67	839234.8769	1929576.3385	333.42	CP 2 5/8 in RB	-30.04	0.9998160
3	US 176	13+70.51	-30.96	839826.6007	1928970.5531	349.10	CP 3 8in. SPIKE NAIL	-30.04	0.9998155
4	US 176	23+14.96	-33.97	840545.1083	1928350.7405	369.16	CP 4 8in. SPIKE NAIL	-30.04	0.9998148
5	US 176	31+44.43	-18.83	841324.5776	1928054.0276	391.66	CP 5 8in. SPIKE NAIL	-30.04	0.9998141
6	US 176	39+25.09	53.66	842096.5346	1927894.9203	378.51	CP 6 8in. SPIKE NAIL	-30.04	0.9998150
7	US 176	48+35.81	22.08	842826.8556	1927334.5681	343.45	CP 7 8in. SPIKE NAIL	-30.04	0.9998170
8	US 176	55+62.34	32.10	843199.9712	1926704.2575	364.53	CP 8 5/8 in. RB	-30.04	0.9998161
9	US 176	62+09.56	-10.09	843334.8576	1926068.1140	366.39	CP 9 5/8 in. RB	-30.04	0.9998161
10	US 176	36+31.03	17.78	841802.0500	1927953.3300	388.43	CP 10 PANEL 67	-30.04	0.9998144
11	US 176	30+33.91	-17.79	841218.7400	1928085.8800	390.50	CP 11 PANEL 68	-30.04	0.9998141
12	US 176	39+69.50	334.21	842249.4780	1928135.1297	369.17	CP 12 MAG NAIL	-30.04	0.9998155
13	US 176	35+20.98	597.76	841858.2924	1928540.9751	373.23	CP 13 8in. SPIKE NAIL	-30.04	0.9998152
14	US 176	29+56.06	465.43	841278.8874	1928571.6205	366.53	CP 14 8in. SPIKE NAIL	-30.04	0.9998153
15	US 176	24+20.18	753.98	841026.2200	1928980.3100	365.00	CP 15 PANEL 69	-30.04	0.9998152
16	US 176	26+35.29	-342.86	840709.7686	1927914.2540	378.97	CP 16 8in. SPIKE NAIL	-30.04	0.9998144
17	US 176	30+24.98	-559.80	841058.8447	1927567.9175	377.81	CP 17 8in. SPIKE NAIL	-30.04	0.9998146
18	US 176	36+97.66	-501.12	841721.1611	1927436.4669	365.86	CP 18 8in. SPIKE NAIL	-30.04	0.9998155
19	US 176	46+57.52	-882.60	842075.6200	1926813.6300	357.92	CP 19 PANEL 66	-30.04	0.9998160
20	US 176	37+72.91	927.60	842210.0009	1928781.6218	353.21	CP 20 8in SPIKE NAIL	-30.04	0.9998163
21	US 176	28+09.79	-496.15	840852.8666	1927695.8479	377.87	CP 21 8in SPIKE NAIL	-30.04	0.9998145
22	US 176	27+72.16	-1013.40	840636.3310	1927223.2609	388.18	CP 22 8in SPIKE NAIL	-30.04	0.9998140
23	US 176	34+13.83	-207.40	841530.6215	1927797.7424	370.86	CP 23 8in. SPIKE NAIL	-30.04	0.9998151
24	US 176	31+87.43	221.87	841433.0641	1928273.1503	371.64	CP 24 8in. SPIKE NAIL	-30.04	0.9998151

Step 2G

Repeat steps 2A thru 2F for the Benchmarks and Property data.

BENCHMARK LIST	YES	Benchmark	BENCHMARKS
PROPERTY PIN LIST	YES	Property Pins with station & offsets	PROPERTY

Step 2 Alternate Automatic Method (Manual data copy/past)

As an option, the .csv data can be copied from an excel spreadsheet and pasted to the corresponding spreadsheet *Control, Benchmark and Property* tabs.

Verify Cell format of copied data is correct before pasting.

1. Control Tab - Begin pasting data into cell A10

Point	Alignment	Station	Offset	Northing	Easting	Elev	Desc
1	US 176	41.49	6.75	838583.7882	1930152.9386	356.01	CP 1 5/8 in RB
2	US 176	05+25.15	18.67	839234.8769	1929576.3385	333.42	CP 2 5/8 in RB
3	US 176	13+70.51	-30.96	839826.6007	1928970.5531	349.10	CP 3 8in. SPIKE NAIL
4	US 176	23+14.56	-31.97	840545.1083	1928350.7465	369.16	CP 4 8in. SPIKE NAIL
5	US 176	31+44.43	-18.83	841124.5776	1928054.0276	391.66	CP 5 8in. SPIKE NAIL
6	US 176	39+25.09	53.66	842096.5346	1927894.9203	378.51	CP 6 8in. SPIKE NAIL
7	US 176	48+35.81	22.08	842626.8556	1927434.9881	343.45	CP 7 8in. SPIKE NAIL
8	US 176	55+62.34	32.10	843195.9712	1926704.2573	364.53	CP 8 5/8 in. RB
9	US 176	62+05.56	-10.09	843334.8576	1926068.1140	366.39	CP 9 5/8 in. RB
10	US 176	36+31.03	17.78	841802.0500	1927953.3300	388.43	CP 10 PANEL 67
11	US 176	30+33.91	-17.79	841218.7400	1928085.8800	390.50	CP 11 PANEL 68
12	US 176	39+69.50	334.21	842283.4780	1928135.1297	369.17	CP 12 MAG NAIL
13	US 176	35+20.98	597.76	841858.2924	1928540.9751	373.23	CP 13 8in. SPIKE NAIL
14	US 176	29+56.06	465.43	841278.8874	1928571.6205	366.53	CP 14 8in. SPIKE NAIL
15	US 176	24+20.18	753.98	841026.2200	1928980.3100	365.00	CP 15 PANEL 69
16	US 176	26+35.29	-342.86	840705.7686	1927914.2540	378.97	CP 16 8in. SPIKE NAIL
17	US 176	30+24.98	-559.80	841058.8447	1927567.9175	377.81	CP 17 8in. SPIKE NAIL
18	US 176	36+97.66	-501.12	841721.1611	1927436.4669	365.86	CP 18 8in. SPIKE NAIL
19	US 176	46+57.52	-882.60	842075.6200	1926813.6300	357.92	CP 19 PANEL 66
20	US 176	37+72.91	927.60	842210.8079	1928781.6218	353.21	CP 20 8in SPIKE NAIL
21	US 176	29+05.78	-496.15	840852.8666	1927695.8479	377.87	CP 21 8in SPIKE NAIL
22	US 176	27+72.16	-1013.40	840636.3310	1927223.2609	388.18	CP 22 8in SPIKE NAIL
23	US 176	34+13.83	-207.40	841530.6215	1927797.7424	370.86	CP 23 8in. SPIKE NAIL
24	US 176	31+67.43	221.87	841433.0641	1928273.1503	371.64	CP 24 8in. SPIKE NAIL

2. Benchmark Tab - Begin pasting data into cell A10

3. Property Monuments Tab - Begin pasting data into cell A10

Step 3 (Datum Tab)

The Datum Tab is used to describe the project survey datum (Figure 4). This information will be used to auto fill the datum description on the Survey Control Data Sheet.

This step is very important for many reasons. The most obvious being the fact that the project development process can take one or more years from the initial survey to construction and this tab will represent the final record of the project control datum to be used during construction. The less obvious reason (but no less important) is this datum will be referenced by many surveyors in the future for retracement purposes of the property monuments listed and is an integral and necessary component to this retracement process.

<i>Survey Datum</i>	
1	
2	SURVEY GROUP: LEXINGTON
3	ROAD/ROUTE: US 176
4	PIN / PRJ ID: 40478
5	CHARGE CODE:
6	COUNTY: Newberry
7	MONTH / YEAR CONTROL SET: 1-1-17
8	
9	SCSP GRID DATUM:
10	SCSP LOCALIZED DATUM: x
11	ASSUMED DATUM:
12	
13	DATUM & ADJUSTMENT: NAD83(2011)
14	LOCALIZATION POINT: CP 1
15	NORTHING: 838583.7682
16	EASTING: 1930152.9340
17	ELEV: 356.10
18	CSF: 0.99981470
19	
20	VERT DATUM: NAVD88
21	BENCHMARK REFERENCE: CP 1
22	ELEVATION: 356.10
23	

PLACE AN "X" BESIDE THE CORRECT DATUM

Figure 4

The “Datum Desc” tab (Figure 5) can be used for reference when choosing the correct selection for:

1. SCSP Grid Datum
2. SCSP Localized Datum
3. Assumed Datum

1	3.05.06.01 Datum Descriptions
2	
3	The coordinate systems developed for each project will be described by a DATUM DESCRIPTION . The
4	DATUM DESCRIPTION will be one of the following types:
5	GRID State Plane Coordinate System
6	LOCALIZED State Plane Coordinate System
7	ASSUMED Coordinate System***
8	
9	GRID State Plane Coordinate System (GSPCS) Datum Descriptions will be used for projects that where the
10	Survey Control coordinate values are true Grid Coordinates. A Combined Scale Factor will be applied
11	when measuring horizontal ground distance between these points. A GSPCS Datum Description is as
12	follows:
13	The GRID Coordinate System developed for this project is based on NAD83 (2011) South Carolina State
14	Plane Coordinate System. A Combined Scale Factor (CSF) for each Survey Control Point must be
15	computed and applied to horizontal ground distances. Elevations for this project are based on
16	NAVD88 values for Bench Mark number ___ with an elevation of 123.45'
17	
18	LOCALIZED State Plane Coordinate System (LSPCS) Datum Description will be used for projects where the
19	Primary Survey Control coordinate values have been scaled from grid to reflect ground coordinates. A
20	single point is selected as the Localization Point for the LSPCS project which represents a true Grid State
21	Plane Coordinate. The remaining control points are to be scaled to the ground from the Localization Point
22	using the Combined Scale Factor. Scale factors are not applied when measuring horizontal ground
23	distances. The LSPCS Datum Description is as follows:
24	The LOCALIZED Coordinate System developed for this project is based on the NAD83(2011) South
25	Carolina State Plane Coordinate System used to establish the Localization Point. The Localization point
26	is Primary Survey Control point number ___ with a Northing of 123456.7890 and an Easting of
27	1234567.8901 . The Combined Scale Factor (CSF) (ground to grid) is 0.123456789 . Elevations for this
28	project are based on NAVD88 for Bench Mark number ___ with an elevation of 123.45'
29	
30	

Figure 5

Step 4 (Survey Control Data Sheet Tab)

The total number of control points, benchmarks and property monuments will dictate the total number of Survey Control Data Sheets which will be needed for the project. Four (4) sheets have been formatted for this purpose: *SCDS 5A, SCDS 5B, SCDS 5C and SCDS 5D*.

The auto import or alternate manual copy paste listed in step 2 above will automatically place the data in order on these (4) sheets (Figure 6).

If sheets *SCDS 5A, SCDS 5B, SCDS 5C and SCDS 5D* do not appear formatted as shown in (Figure 6), see page 10 (Step 5) for page setup instructions.

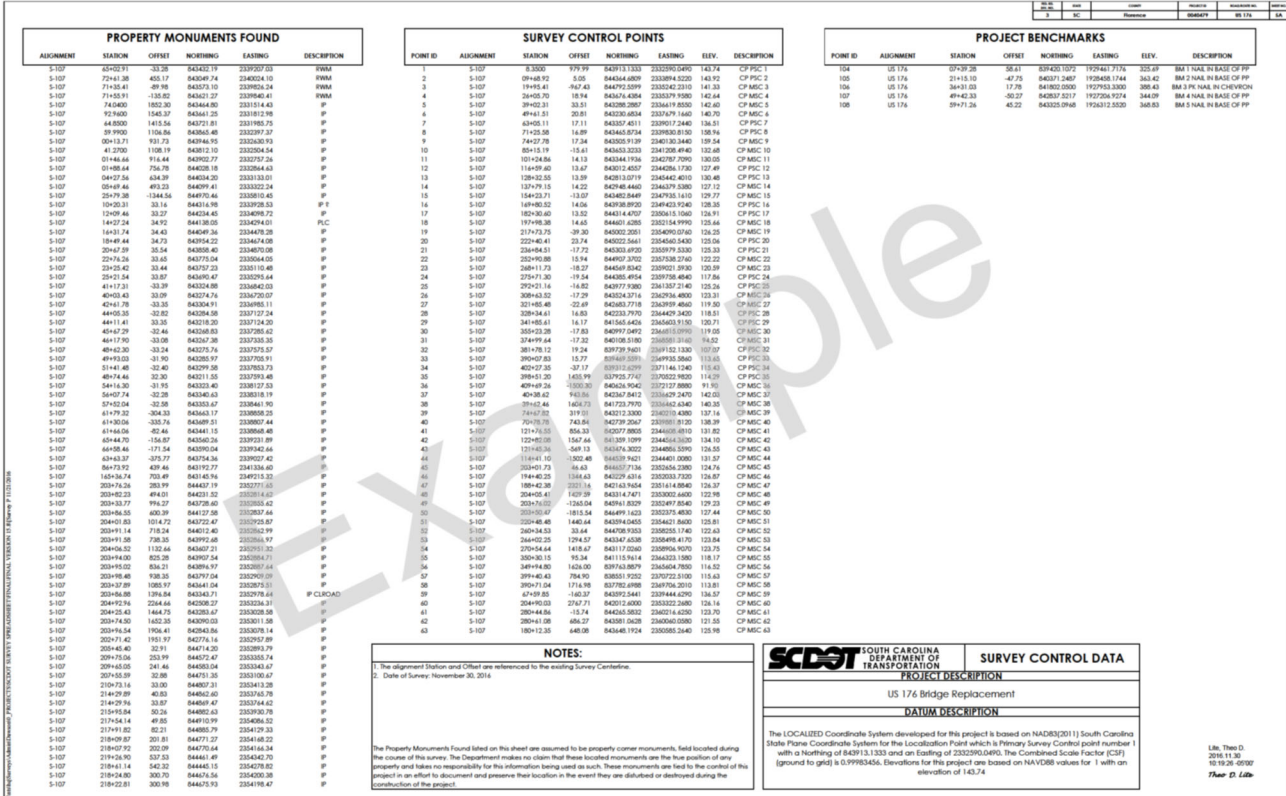


Figure 6

Step 4A

Verify that the correct County/Project ID and Road No. was entered on the Summary Tab.

FED. RD. DIST. NO.	STATE	COUNTY	PROJECT ID	ROAD/ROUTE NO.	SHEET NO.
3	SC	Newberry	40478	US 176	5A

PROJECT BENCHMARKS							
POINT ID	ALIGNMENT	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESCRIPTION
104	US 176	07+39.28	58.61	839420.1072	1929461.7176	325.69	BM 1 NAIL IN BASE OF PP
105	US 176	21+15.10	-47.75	840371.2487	1928458.1744	363.42	BM 2 NAIL IN BASE OF PP
106	US 176	36+31.03	17.78	841802.0500	1927953.3300	388.43	BM 3 PK NAIL IN CHEVRON
107	US 176	49+42.33	-50.27	842837.5217	1927206.9274	344.09	BM 4 NAIL IN BASE OF PP
108	US 176	59+71.26	45.22	843325.0968	1926312.5520	368.83	BM 5 NAIL IN BASE OF PP

Step 4B

Enter Project Description (example: "US 176") and verify Datum Description is correct.

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION	SURVEY CONTROL DATA
	PROJECT DESCRIPTION
<div style="border: 2px solid red; padding: 5px; display: inline-block;">US 176</div>	
DATUM DESCRIPTION	
<div style="border: 2px solid red; padding: 5px;"> The LOCALIZED Coordinate System developed for this project is based on NAD83(2011) South Carolina State Plane Coordinate System used to establish the Localization Point. The Localization Point is Primary Survey Control point number CP 1 with a Northing of 838583.7682 and an Easting of 1930152.9340. The Combined Scale Factor (CSF) (ground to grid) is 0.99981470. Elevations for this project are based on NAVD88 for CP 1 with an elevation of 356.10 </div>	

Step 4C

Complete Date of Survey and any notes needed to complete the Survey Control Data Sheet.

NOTES:
<div style="border: 2px solid red; padding: 5px;"> 1. The alignment Station and Offset are referenced to the existing Survey Centerline. 2. Date of Survey: </div>
<p>The Property Monuments Found listed on this sheet are assumed to be property corner monuments, field located during the course of this survey. The Department makes no claim that these located monuments are the true position of any property and takes no responsibility for this information being used as such. These monuments are tied to the control of this project in an effort to document and preserve their location in the event they are disturbed or destroyed during the construction of the project.</p>

Step 5 (Printing Survey Control Data Sheet as a PDF)

In order to print the Survey Control Data Sheet as a pdf document, several settings need to be verified.

Step 5A (Paper Size)

A custom **22" x 36"** paper size must be created to meet the SCDOT's standard paper size for full size plots.

Select "Printers and Scanners" from the Windows menu (Figure 7).

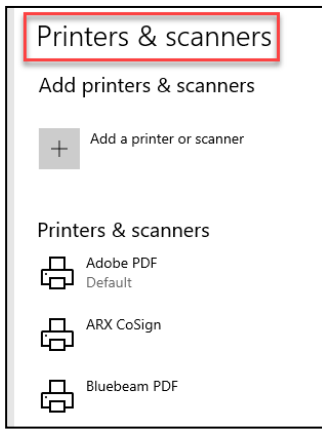


Figure 7

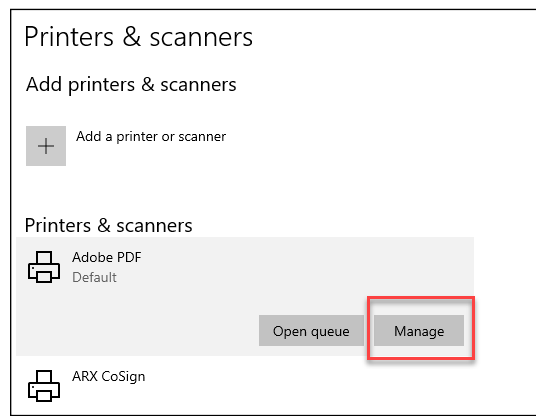


Figure 8

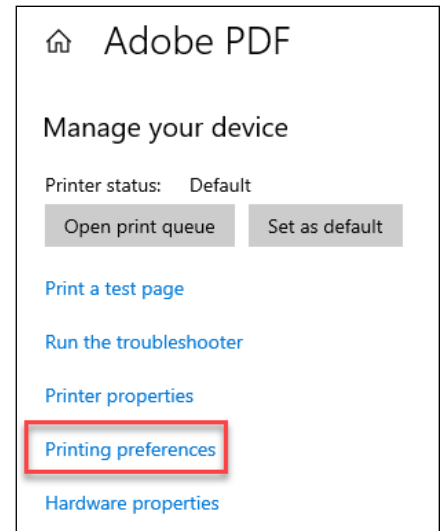


Figure 8a

Step 5B

- Select "Adobe PDF" or equivalent PDF printer (Figure 8).
- Select "Manage" (Figure 8).
- Select "Printer preferences" (Figure 8a).

Step 5C

- Select the "Add" button for Adobe PDF Page Size (Figure 9).

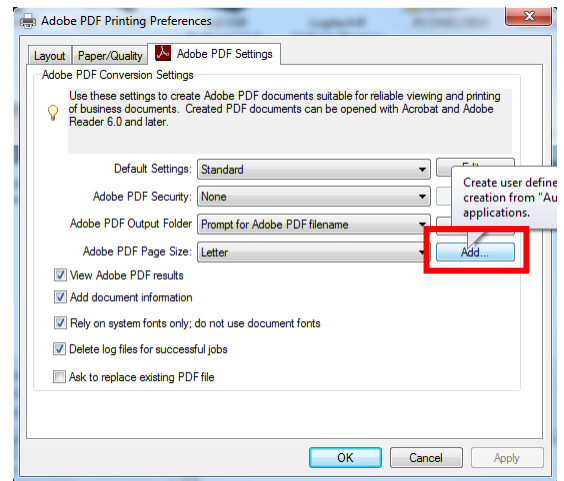


Figure 9

Step 5D

- Type "SCDOT Surveys 22x36" in "Paper Names" field.
- Enter 22.0 for Width and 36.0 for Height.
- Select "Add/Modify" button (Figure 10).
- Select "OK".

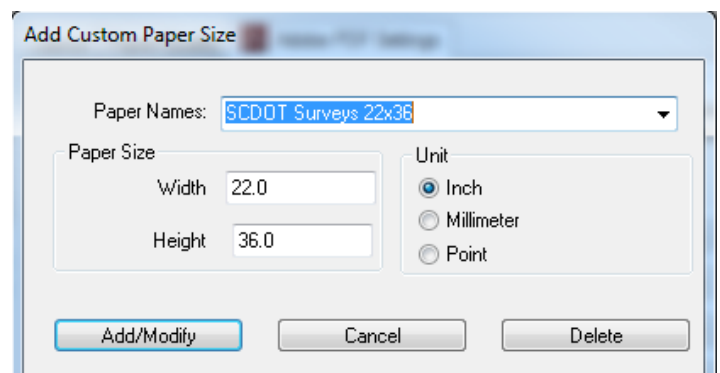


Figure 10

Step 5F

Select "Page Layout" from excel spreadsheet (Figure 11).
Then Select "Custom Margins" to setup up page margins.

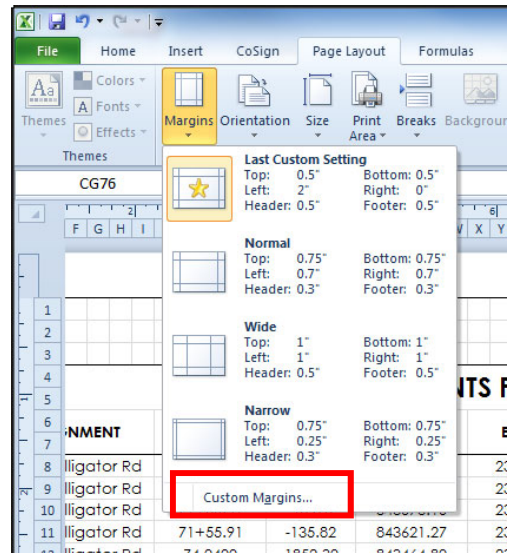


Figure 11

Step 5G

Select "Landscape", "99%", and "SCDOT Surveys 22x36" on Page tab (Figure 12).

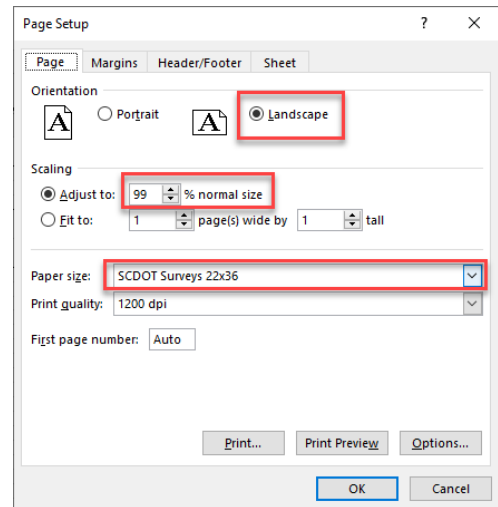


Figure 12

Select "OK".

Step 5H

Enter margin values as shown in (Figure 13).
Select "OK".

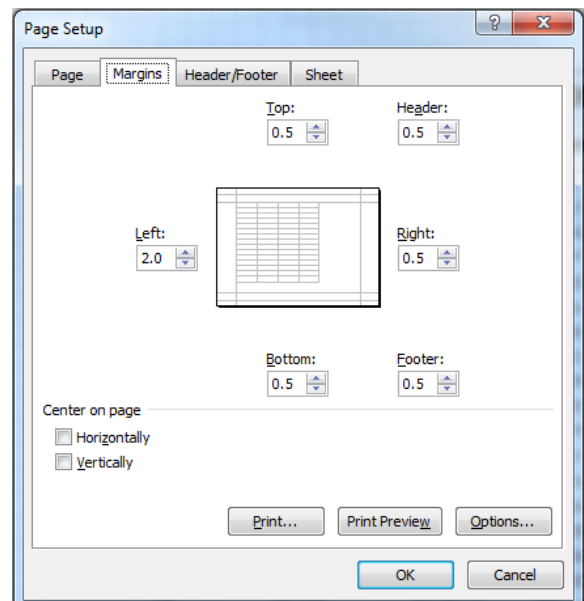


Figure 13

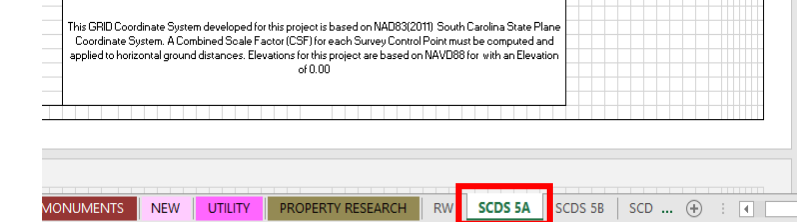


Figure 14

Step 5J

Select "File" (Figure 15A) and "Save As" (Figure 15B).

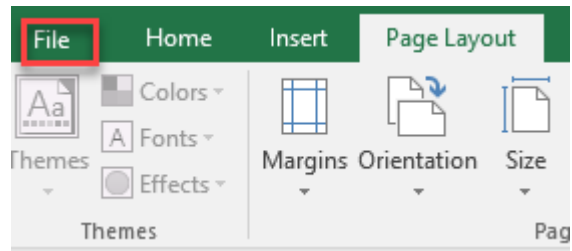


Figure 15A

Select "PDF (*.pdf)" as file type (Figure 15C).

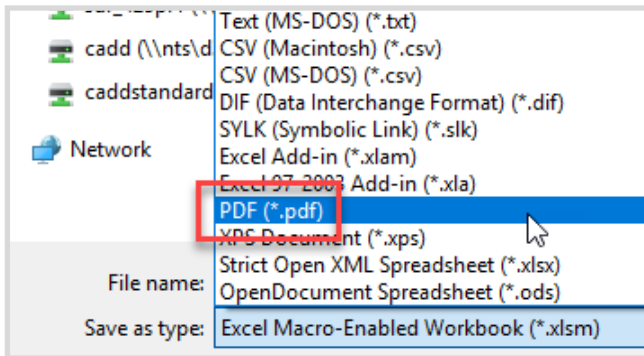


Figure 15C

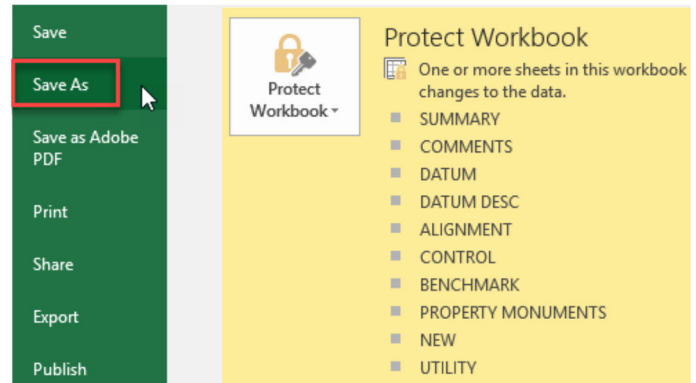


Figure 15B

Step 5K

Save PDF file (Figure 16) using naming convention as described on page 1: *40479_SCDS.pdf*

↑
Project ID Number

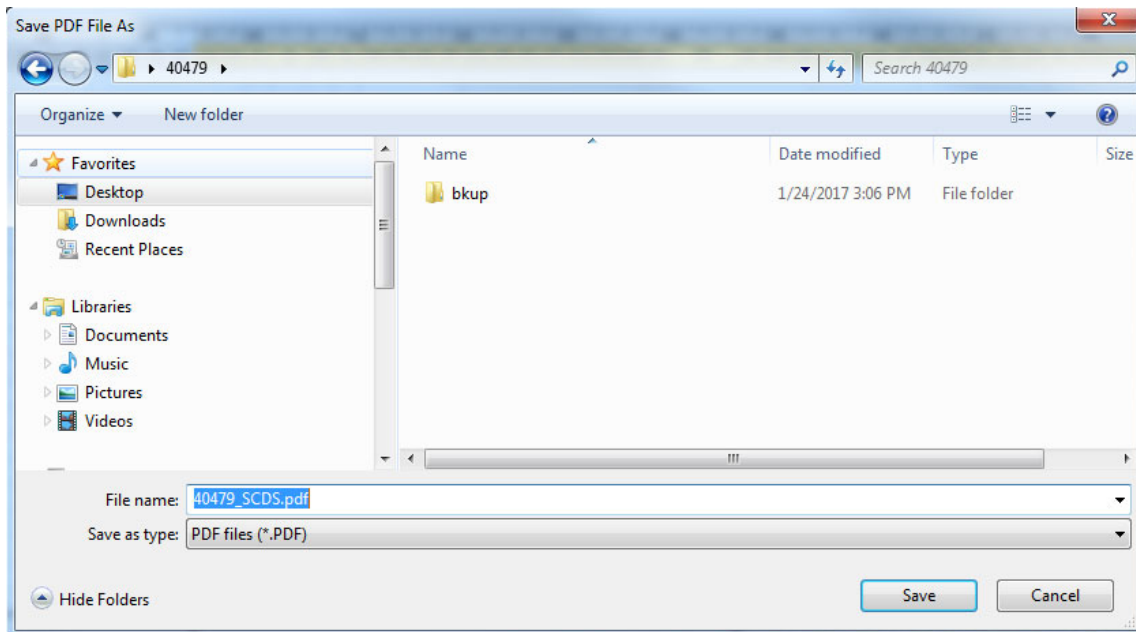


Figure 16

If Borders of sheet are not correct when viewing the PDF, then select the "View" menu on spreadsheet. Select "Page Break Preview" (Figure 17) and manually move page break line to border edge.)

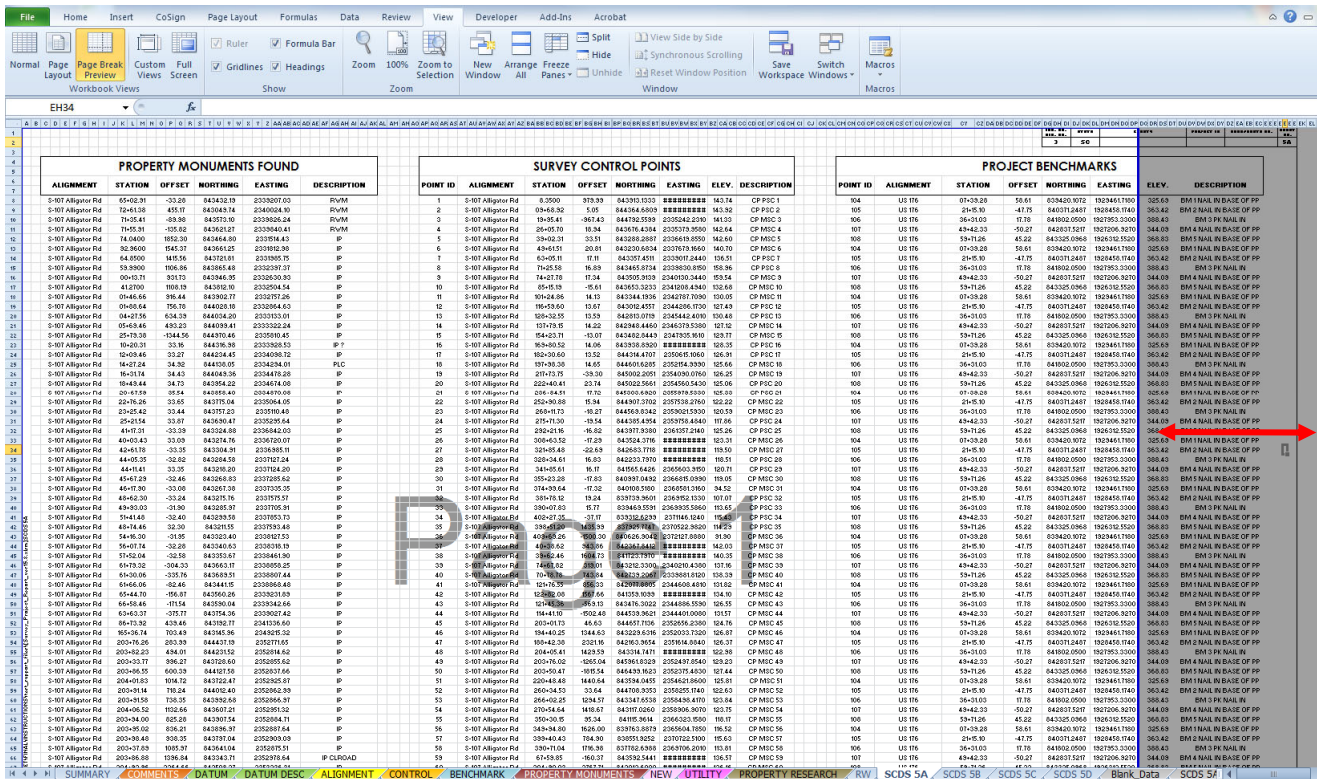


Figure 17

Manual Process

If a .csv file is not available, there is an optional manual process to cut/paste data into the pre-formatted Survey Control Data Sheet(s).

Tabs used to manually create the Survey Control Data Sheet(s) are listed below:

Blank_Data and **SCDS 5A Blank** thru **SCDS 5D Blank**.

Manual Option 1 (Tab Delimited Data)

If the Property Monument, Control and Benchmark data is formatted as a "TAB" delimited ASCII file then the data can be copied directly into the Survey Control Data Sheet (Figure 17).

40479 property_tab.txt - Notepad

File	Edit	Format	View	Help	
S-107 Alligator Rd	65+02.91	-33.28	843432.186	2339207.029	RWM
S-107 Alligator Rd	72+61.38	455.17	843049.7395	2340024.102	RWM
S-107 Alligator Rd	71+35.41	-89.98	843573.101	2339826.241	RWM
S-107 Alligator Rd	71+55.91	-135.82	843621.2743	2339840.41	RWM
S-107 Alligator Rd	74.04	1852.3	843464.8001	2331514.427	IP
S-107 Alligator Rd	92.96	1545.37	843661.2517	2331812.977	IP
S-107 Alligator Rd	64.85	1415.56	843721.8135	2331985.746	IP
S-107 Alligator Rd	59.99	1106.86	843865.4795	2332397.371	IP
S-107 Alligator Rd	00+13.71	931.73	843946.952	2332630.933	IP
S-107 Alligator Rd	41.27	1108.19	843812.0973	2332504.542	IP
S-107 Alligator Rd	01+46.66	916.44	843902.7709	2332757.258	IP
S-107 Alligator Rd	01+88.64	756.78	844028.1799	2332864.626	IP
S-107 Alligator Rd	04+27.56	634.39	844034.2	2333133.005	IP
S-107 Alligator Rd	05+69.46	493.23	844099.4065	2333322.239	IP
S-107 Alligator Rd	25+79.38	-1344.56	844970.4585	2335810.452	IP
S-107 Alligator Rd	10+20.31	33.16	844316.9832	2333928.527	IP ?
S-107 Alligator Rd	12+09.46	33.27	844234.4459	2334098.715	IP

Figure 17

Use (Figure 18) as a guide for total number of points that the spreadsheet will allow.

The screenshot shows an Excel spreadsheet with the following structure:

- Table 1: PROPERTY MONUMENTS FOUND** (80 Rows)
- Table 2: SURVEY CONTROL POINTS** (63 Rows)
- Table 3: DATUM DESCRIPTION** (63 Rows)

Additional elements in the spreadsheet include:

- NOTES:** A section for project notes.
- SCDOT SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION** logo.
- PROJECT DESCRIPTION** and **DATUM DESCRIPTION** fields.
- Worksheet Tabs:** BENCHMARK, PROPERTY MONUMENTS, NEW UTILITY, PROPERTY RESEARCH, RW, SCDS 5A, SCDS 5B, SCDS 5C, SCDS 5D, Blank_Data, SCDS 5A Blank, SCDS 5B Blank, etc.

Figure 18

Select data to be copied from the tab delimited ASCII file (Figure 17).

On the **SCDS 5A Blank** tab use right mouse button while selecting cell to paste data.

Choose the paste button (Figure 19).

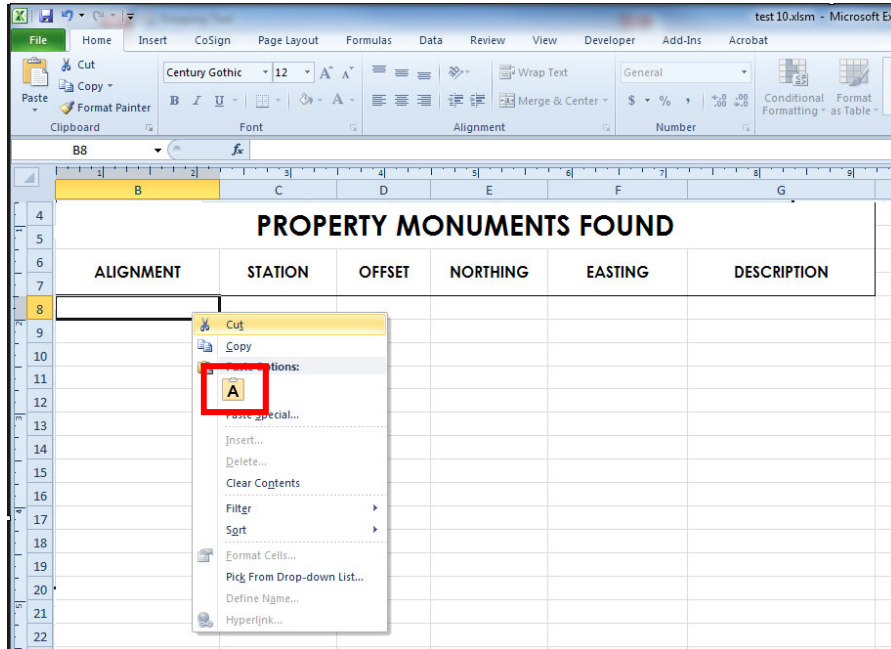


Figure 19

If data does not paste correctly or does not appear as in (Figure 20), check that both the Alignment name and Description do not exceed the allowed formatted maximum characters.

ALIGNMENT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
S-107 Alligator Rd	65+02.91	-33.28	843432.19	2339207.03	RWM
S-107 Alligator Rd	72+61.38	455.17	843049.74	2340024.10	RWM
S-107 Alligator Rd	71+35.41	-89.98	843573.10	2339826.24	RWM
S-107 Alligator Rd	71+55.91	-135.82	843621.27	2339840.41	RWM
S-107 Alligator Rd	74.04	1852.30	843464.80	2331514.43	IP
S-107 Alligator Rd	92.96	1545.37	843661.25	2331812.98	IP
S-107 Alligator Rd	64.85	1415.56	843721.81	2331985.75	IP
S-107 Alligator Rd	59.99	1106.86	843865.48	2332397.37	IP
S-107 Alligator Rd	00+13.71	931.73	843946.95	2332630.93	IP
S-107 Alligator Rd	41.27	1108.19	843812.10	2332504.54	IP
S-107 Alligator Rd	01+46.66	916.44	843902.77	2332757.26	IP
S-107 Alligator Rd	01+88.64	756.78	844028.18	2332864.63	IP
S-107 Alligator Rd	04+27.56	634.39	844034.20	2333133.01	IP
S-107 Alligator Rd	05+69.46	493.23	844099.41	2333322.24	IP
S-107 Alligator Rd	25+79.38	-1344.56	844970.46	2335810.45	IP
S-107 Alligator Rd	10+20.31	33.16	844316.98	2333928.53	IP

Figure 20

Manual Option 2 (Comma or Space Delimited Data)

If the Property Monument, Control and Benchmark data is formatted as a “Comma” delimited or “Space” delimited ASCII file then the data needs to be copied to the **Blank_Data** spreadsheet tab (Figure 21).

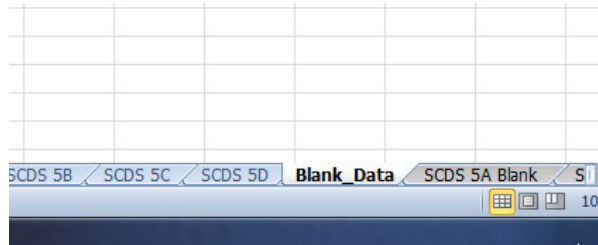


Figure 21

The **Blank_Data** tab is used to sort the data into columns.

Copy Comma or Space delimited data (Figure 22) and paste into spreadsheet cell **A1** (Figure 23).

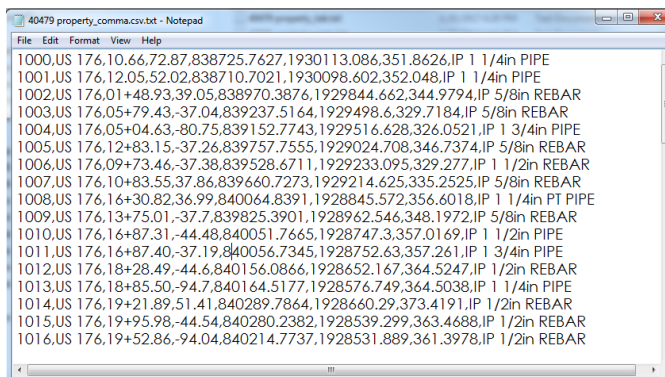


Figure 22

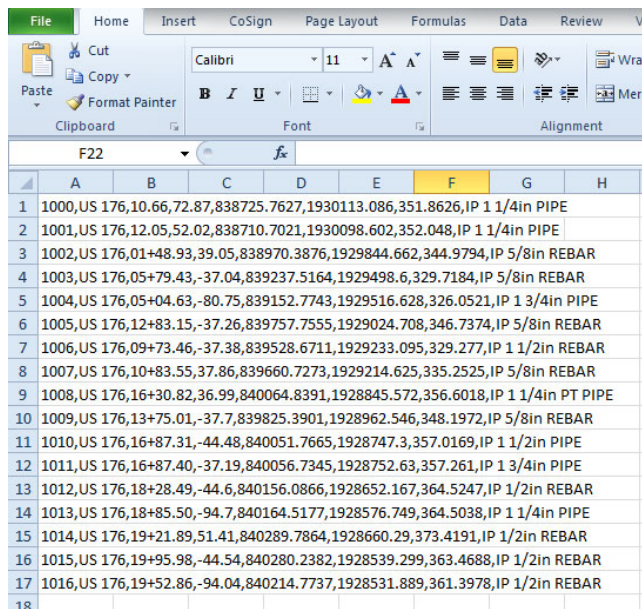


Figure 23

Select Column "A" (Figure 24).

Select "Text to Columns" button under the "Data" menu (Figure 24).

Select "Delimited" in Text Wizard box (Figure 24).

Select "Next".

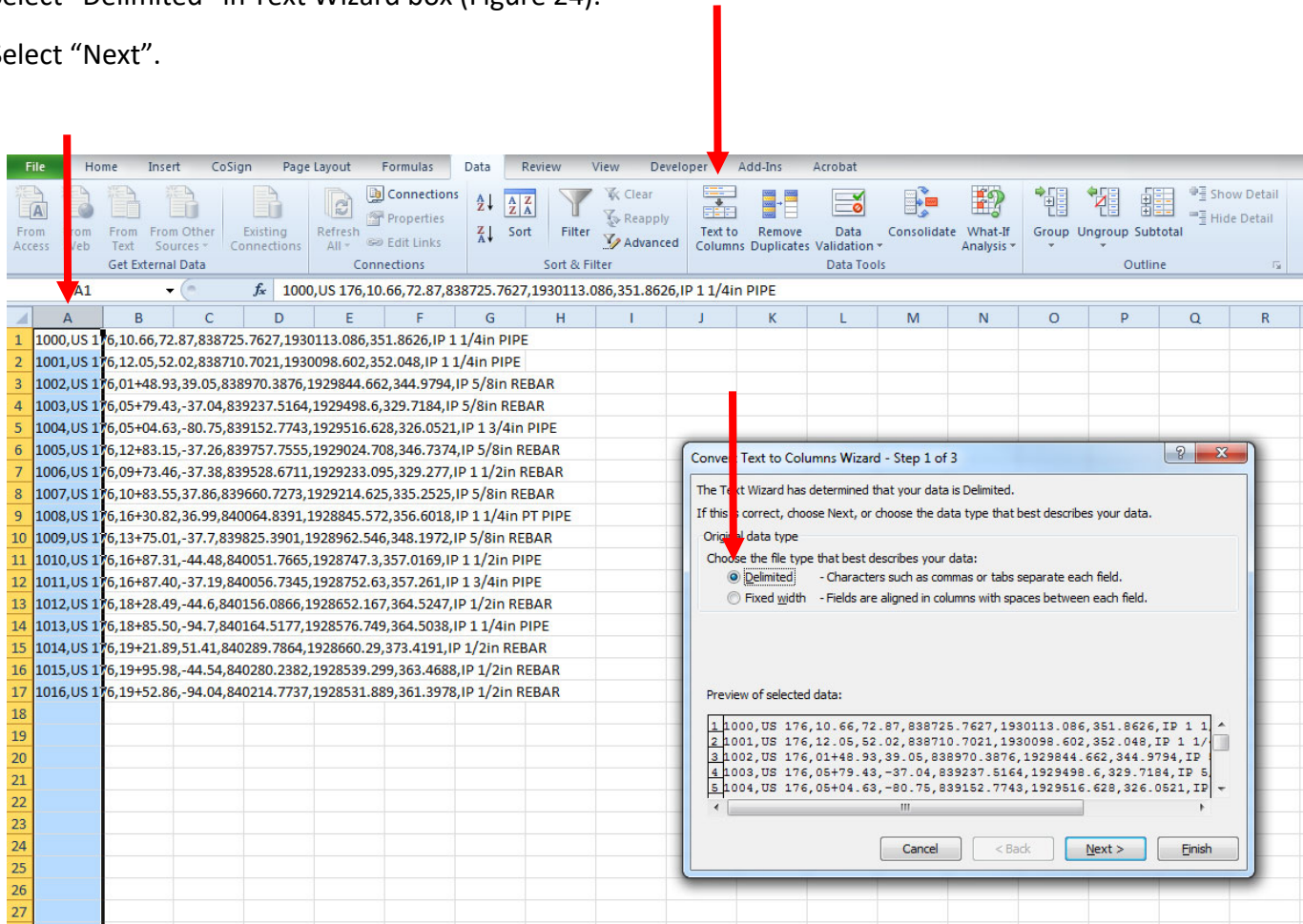


Figure 24

Depending on file type, select "Tab" or "Comma" (Figure 25).

Select "Next".

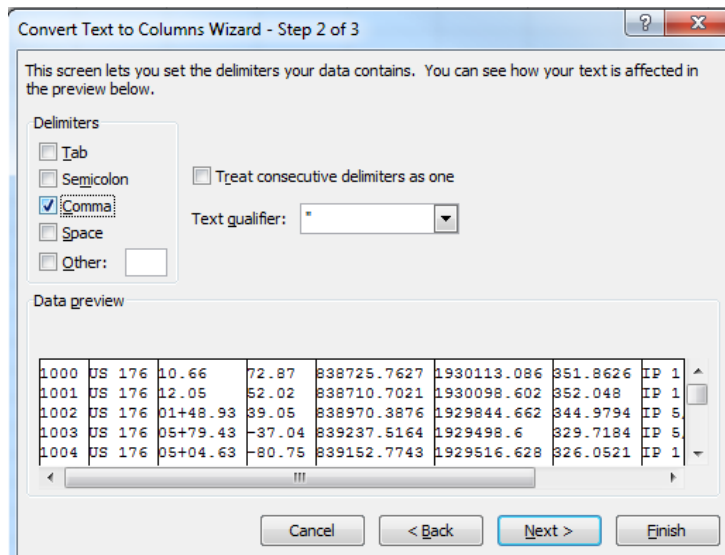


Figure 25

Select "General" (Figure 26).

Select "Finish" (Figure 26).

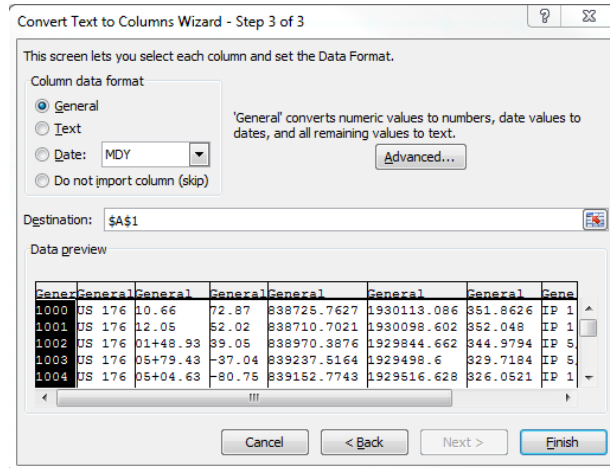


Figure 26

Data will be pasted as shown in (Figure 27).

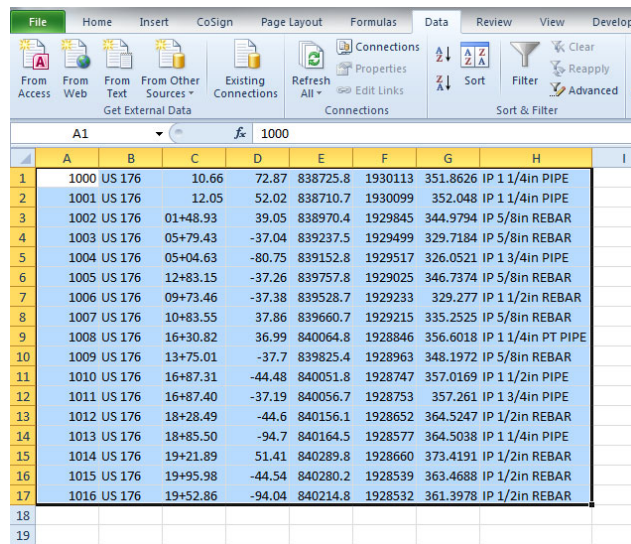


Figure 27

It may be necessary to manipulate the data by deleting columns in order to properly format for final pasting into the blank Survey Control Data Sheet. (Figure 28) shows columns "A" (point number) and "G" (elevation) have been deleted.

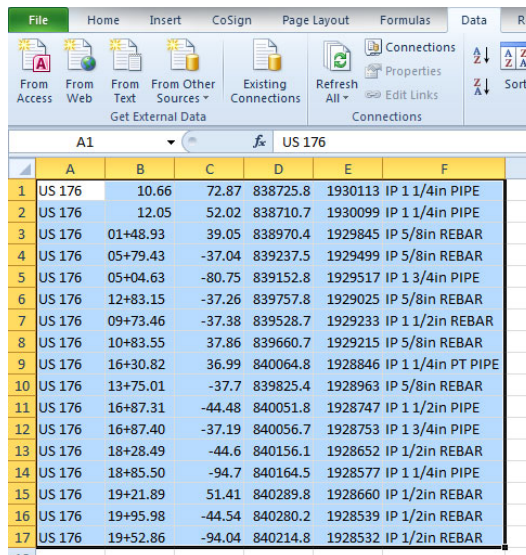


Figure 28

Copy data (Figure 29).

Paste data in appropriate cell on the blank Survey Control Data Sheet(s) (Figure 30).

	A	B	C	D	E	F
1	US 176	10.66	72.87	838725.8	1930113	IP 1 1/4in PIPE
2	US 176	12.05	52.02	838710.7	1930099	IP 1 1/4in PIPE
3	US 176	01+48.93	39.05	838970.4	1929845	IP 5/8in REBAR
4	US 176	05+79.43	-37.04	839237.5	1929499	IP 5/8in REBAR
5	US 176	05+04.63	-80.75	839152.8	1929517	IP 1 3/4in PIPE
6	US 176	12+83.15	-37.26	839757.8	1929025	IP 5/8in REBAR
7	US 176	09+73.46	-37.38	839528.7	1929233	IP 1 1/2in REBAR
8	US 176	10+83.55	37.86	839660.7	1929215	IP 5/8in REBAR
9	US 176	16+30.82	36.99	840064.8	1928846	IP 1 1/4in PT PIPE
10	US 176	13+75.01	-37.7	839825.4	1928963	IP 5/8in REBAR
11	US 176	16+87.31	-44.48	840051.8	1928747	IP 1 1/2in PIPE
12	US 176	16+87.40	-37.19	840056.7	1928753	IP 1 3/4in PIPE
13	US 176	18+28.49	-44.6	840156.1	1928652	IP 1/2in REBAR
14	US 176	18+85.50	-94.7	840164.5	1928577	IP 1 1/4in PIPE
15	US 176	19+21.89	51.41	840289.8	1928660	IP 1/2in REBAR
16	US 176	19+95.98	-44.54	840280.2	1928539	IP 1/2in REBAR
17	US 176	19+52.86	-94.04	840214.8	1928532	IP 1/2in REBAR

Figure 29

ALIGNMENT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
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Figure 30

To ensure formatting is retained, use the “Paste Value” option when using this method (Figure 31).

Figure 31

Enter the correct County/Project ID and Road No (Figure 32).

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD/ROUTE NO.	SHEET NO.
3	SC	Newberry	40478	US 176	5A

PROJECT BENCHMARKS							
POINT ID	ALIGNMENT	STATION	OFFSET	NORTHING	EASTING	ELEV.	DESCRIPTION
104	US 176	07+39.28	58.61	839420.1072	1929461.7176	325.69	BM 1 NAIL IN BASE OF PP
105	US 176	21+15.10	-47.75	840371.2487	1928458.1744	363.42	BM 2 NAIL IN BASE OF PP
106	US 176	36+31.03	17.78	841802.0500	1927953.3300	388.43	BM 3 PK NAIL IN CHEVRON
107	US 176	49+42.33	-50.27	842837.5217	1927206.9274	344.09	BM 4 NAIL IN BASE OF PP
108	US 176	59+71.26	45.22	843325.0968	1926312.5520	368.83	BM 5 NAIL IN BASE OF PP

Figure 32

Enter Project Description (example: "US 176") and Datum Description (Figure 33).


 SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION	SURVEY CONTROL DATA
	PROJECT DESCRIPTION
<div style="border: 2px solid red; padding: 5px; width: fit-content; margin: auto;">US 176</div>	
DATUM DESCRIPTION	
<div style="border: 2px solid red; padding: 5px;"> <p>The LOCALIZED Coordinate System developed for this project is based on NAD83(2011) South Carolina State Plane Coordinate System used to establish the Localization Point. The Localization Point is Primary Survey Control point number CP 1 with a Northing of 838583.7682 and an Easting of 1930152.9340. The Combined Scale Factor (CSF) (ground to grid) is 0.99981470. Elevations for this project are based on NAVD88 for CP 1 with an elevation of 356.10</p> </div>	

Figure 33

Complete Date of Survey and any notes needed to complete the Survey Control Data Sheet.

NOTES:
1. The alignment Station and Offset are referenced to the existing Survey Centerline. <div style="border: 2px solid red; padding: 5px; margin-top: 5px;">2. Date of Survey:</div>
<p>The Property Monuments Found listed on this sheet are assumed to be property corner monuments, field located during the course of this survey. The Department makes no claim that these located monuments are the true position of any property and takes no responsibility for this information being used as such. These monuments are tied to the control of this project in an effort to document and preserve their location in the event they are disturbed or destroyed during the construction of the project.</p>

Figure 34

Print Survey Control Data Sheet(s) as described on page 10 in section “Step 5 (Printing Survey Control Data Sheet as a PDF)”.

End Instructions