

Survalent.

Survalent Training Manual

SurvalentONE SCADA System Level 1

Module 6 – Efficiently Using Graphics

Revision 01



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Module 6 – Efficiently Using Graphics

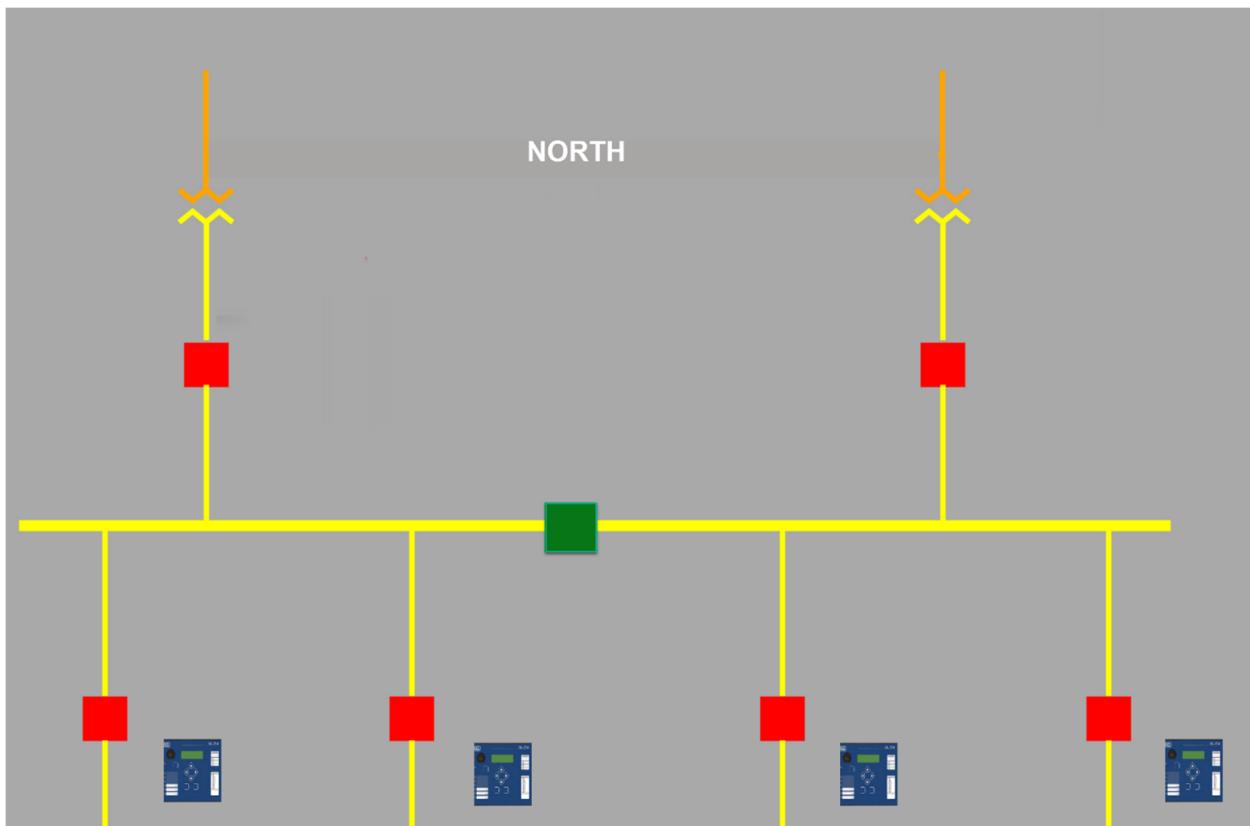
INTRODUCTION

In the last module, we generated points quickly compare to the manual method we used in module 3.

This module is similar, except that it deals with graphics. It will answer what are the ways to take these multiple points and place them on a graph. For example, in module 4, we manually placed an analog PMacro on the map which is not practical when you consider that an SEL-351A contains hundreds of analog points.

MODULE GOAL

Below is the same image we used to plan all the points we'd need to add to our substation. In this module, we will activate all these points on our map.



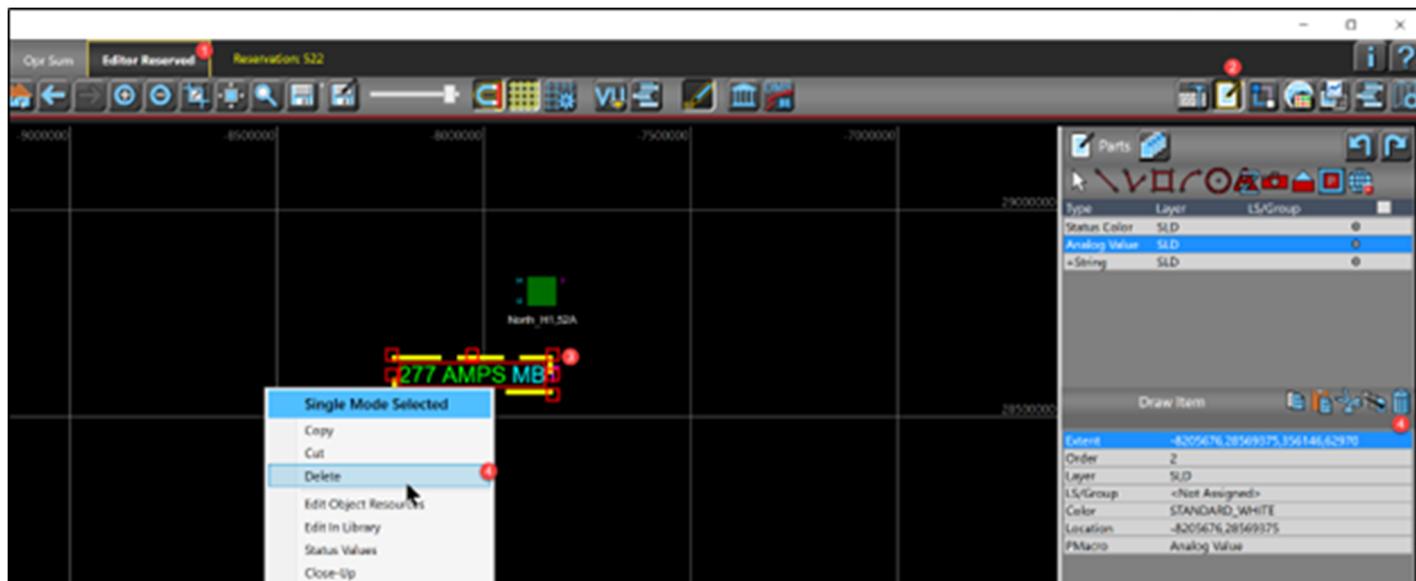
5.1 A Completed North Station

DRAWING AN SLD

In the previous sections, we added some PMacros but we didn't start turning our North Substation into a functioning SLD (Single Line Diagram). This is where we will start.

To start, I will make the decision that the only PMacro I want to keep is the Status Color PMacro. To delete the other PMacros:

1. Make sure you are in Editor.
2. Click on Edit Parts.
3. Click on the PMacro you want to remove.
4. Right-click and hit delete OR Tap Your Delete Key OR Click the Garbage Can.



6.1 Deleting All PMacros Except The Status Color PMacro



Exercise

In-class exercise: In module 3, we discussed Views. For this exercise, move the title Riverdale to the center and check the view so that the title remains centered.

There are three tools at the top that you may find handy:

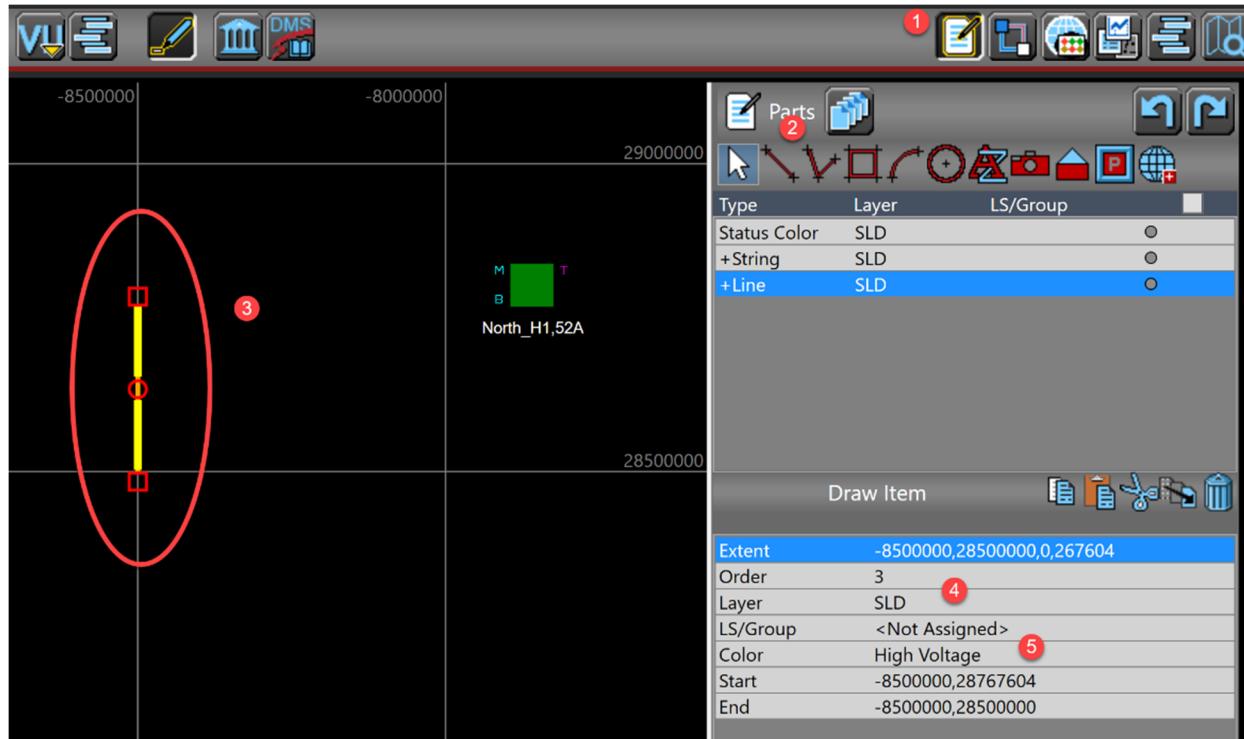


6.2 Tools for Drawing

1. Contrast slide bar. The more it's set to the right, the more you will notice the contrast between the elements and the map sharpen.
2. Snap to line. If you have gridlines active, the lines you draw will attempt to touch them when they are close.
3. This button activates and deactivates the gridline.
4. Grid options - The silver gridlines on our black map work well; however, they may not if you choose a different map background. Here you can change the color of the gridlines.

Next, let's add our first conductor. In Edit Parts (1), select a line (2), and draw it as a vertical line (3).

Choose SLD (4) for the layer and High Voltage (5) for the color.



6.3 Adding our Line

Next, let's add (1) our transformer and then our Low Voltage Line (2).

We can also cut and paste our breaker so it's next.

As you can see, I didn't do a great job of centering these elements.

Something that may help is zooming in – it's easier to see and work with larger elements.

However, in the next image, we will work with the Alignment Tool to line the elements up more accurately.

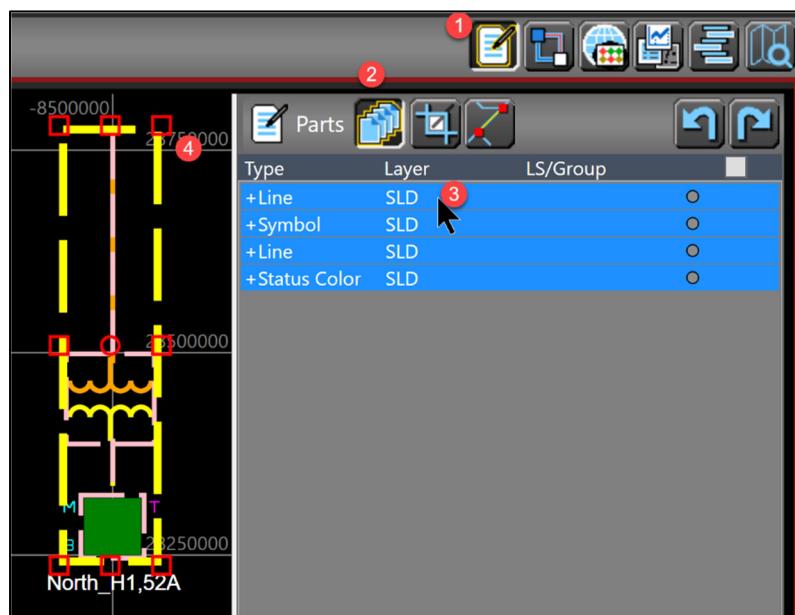


Before lining up the elements, we must select the elements. There are several ways of selecting all the elements.

6.4 Adding More Elements

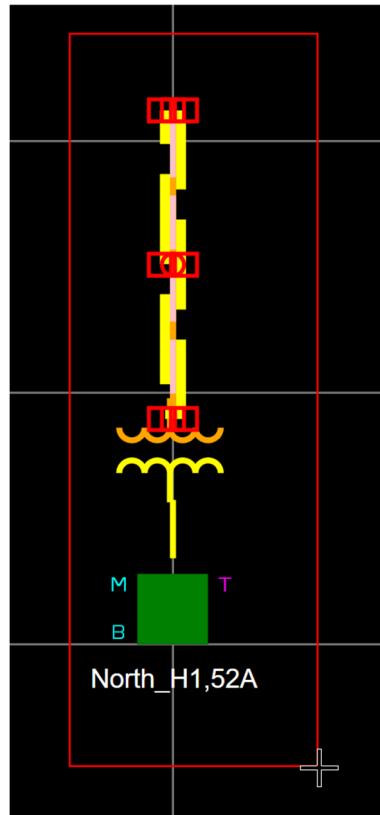
Image 6.5 shows the most precise (but slow) way of making multiple selections.

1. Make sure you are in Edit Parts.
2. Hit the Multiple Selection button.
3. Choose the elements you wish to include (one click at a time).
4. Note a large yellow boundary is now covering all the selected items.



6.5 Selecting Multiple Elements

A quicker way – with a risk of being less precise – is to click and drag your mouse over all the elements. This instantly selects them all. The red perimeter in Image 6.6 shows all the elements I selected when I dragged the mouse.

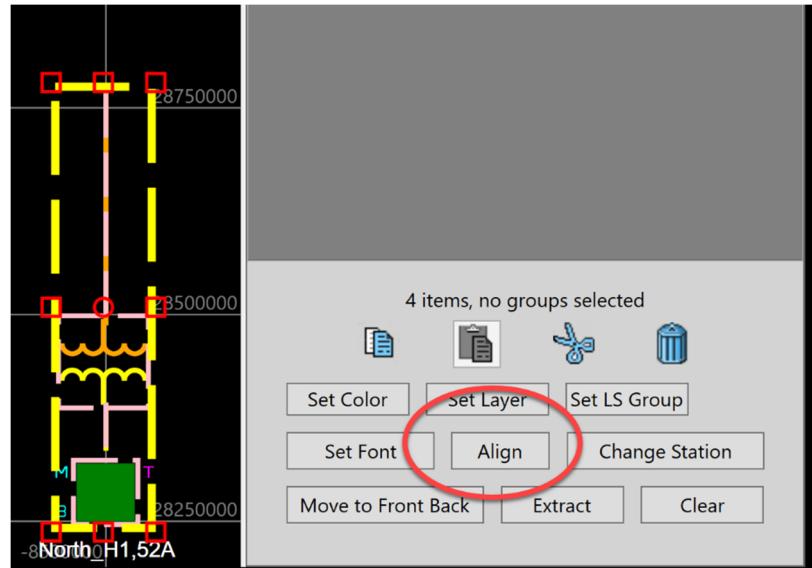


6.6. Quicker Way of Selecting
Multiple Elements

You may find other ways you like as well. For example, you can also hold down your CTRL key and click elements one at a time.

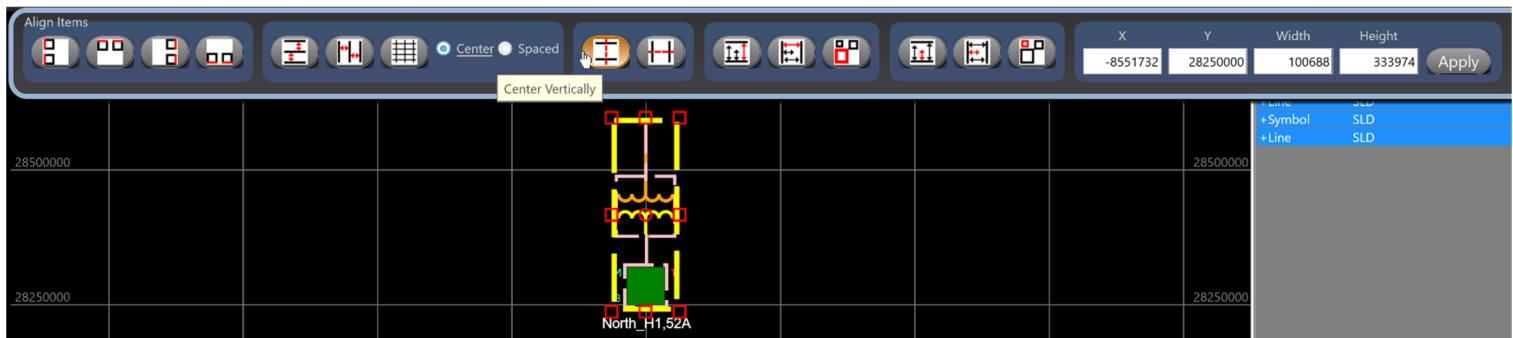
Note: Now that you are using the Multiple Selection button please note that, while you are still new to SmartVU, you may think you are having trouble manipulating single items. **Often this is due to the Multiple Selection Button being still active. Even if you use the method in 6.6, the Multiple Selection Button activates so remember to click it again to deactivate it so you can work with single elements.**

Once you have selected more than one element, the Align button now activates. Please click it.



6.7 Align Button

Here you will find options to line things to the left, to the right, and at center. For us, the Center Vertically button will line up our symbols.



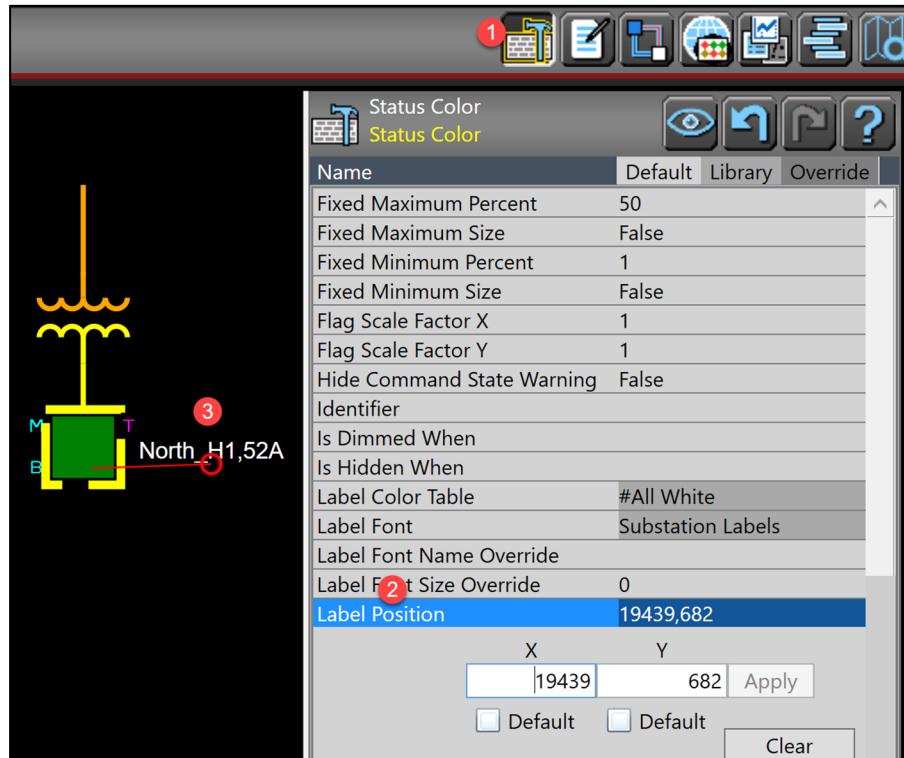
6.8 Lining Up the Elements Using Center Vertical

Note 1: This is also why we are drawing everything with the same (0,0) axis.

Note 2: You may press a button that makes things worse. It's best to not click anything else until you exit from the Alignment Tool. Once you exit, you can click CTRL X to undo the error.

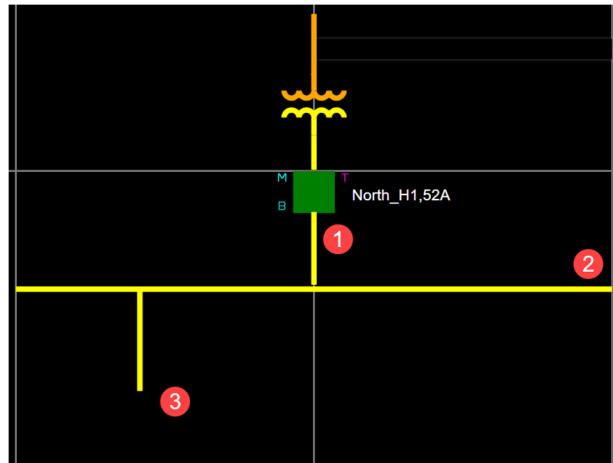
We can see another issue coming up. The label we set for the PMacro is going to get in the way of our next line.

To correct this, make sure that you are not in Multiple Selection or Edit Parts. Click the PMacro and then look for the PMacro Resources (Hammer) button (1). Next, find the Label Position setting (2) and drag the label so it won't be in the way (3).



6.9 Moving the Label

Next, we'll add 3 Low Voltage lines as shown in Image 6.10.



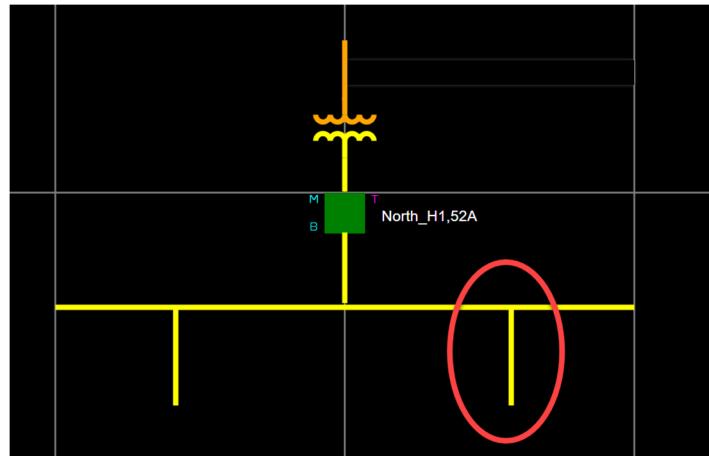
6.10 Adding More Lines

The next line we added (see Image 6.11 below) was copied from the line labelled (1) and pasted to the right (2). Because it was difficult to align by hand, the alignment tool was used to make sure they had the same top or bottom.

If line (1) is higher than line (2), use Align Top because it will align to the highest location of the highest point.

If line (1) is lower than line (2), use Align Bottom because it will align to the lowest location of the lowest point.

The assumption here is that line (1) is correctly placed and we want line (2) to align to it.



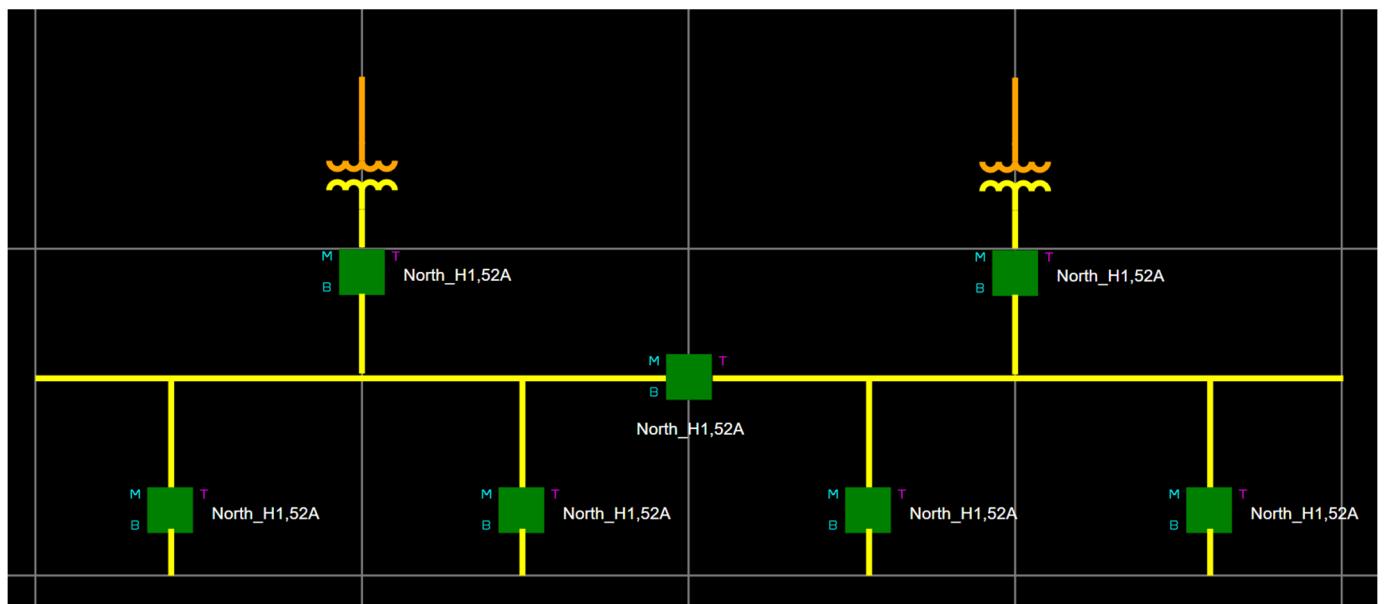
6.11 Copying a Line



Exercise

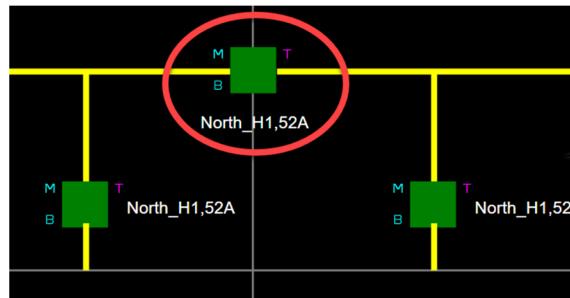
In-class exercise: Continue to add, copy, paste, and align elements until you get map similar to the one below in Image 6.12.

At this point, don't worry about the breakers not pointing properly as this will be covered in the next section.



6.12 Adding, Copying, Pasting, and Aligning our SLD

Before beginning to effectively manipulate the points in the map, we will handle the Tie Breaker (Image 6.13) separately since it behaves differently from the other breakers.



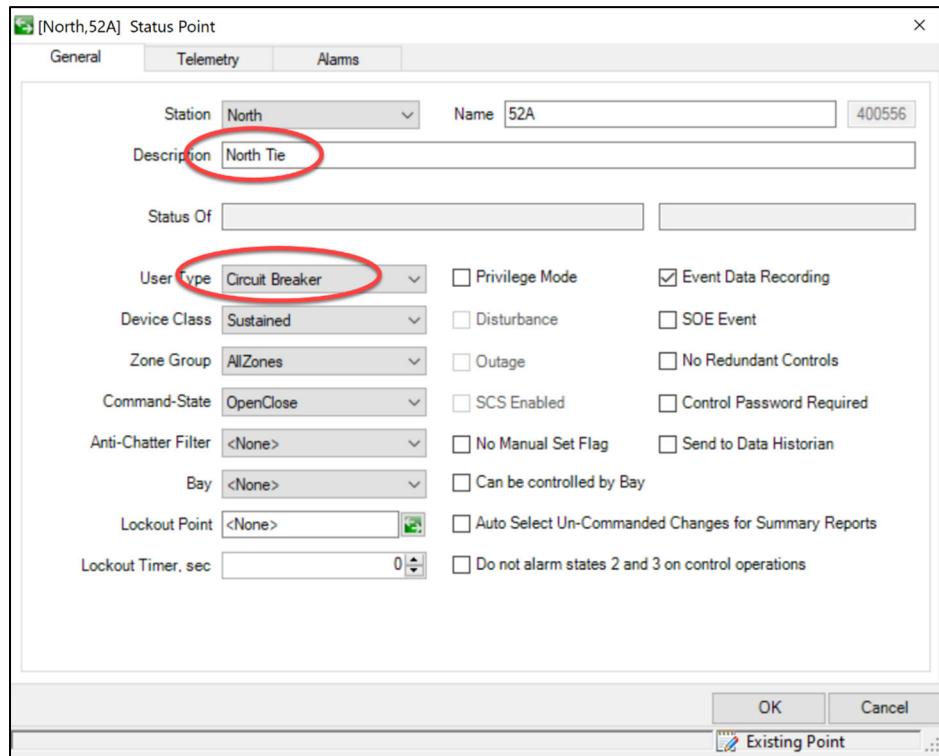
6.13 Tie Breaker

In the images on the next page, we add the Tie Breaker to the database using STC Explorer. Since it doesn't really fit in with H1, H2, F1, F2, F3, or F4, we will add it to the North Station.

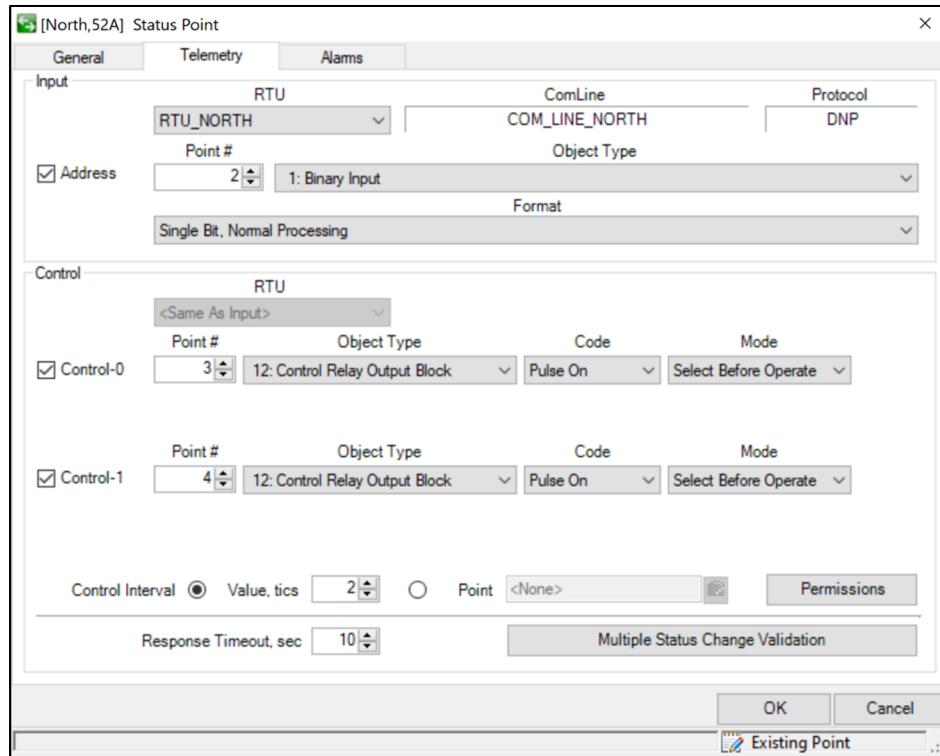
The first two images show minimal differences to the Breaker we set up in Module 4.

We should add some details in the Description.

Some clients will create a new user type called Tie Breaker whereas we did not. This field is for reporting purposes only so it would depend if it's important for you to differentiate between breakers and tie breakers in your reports.

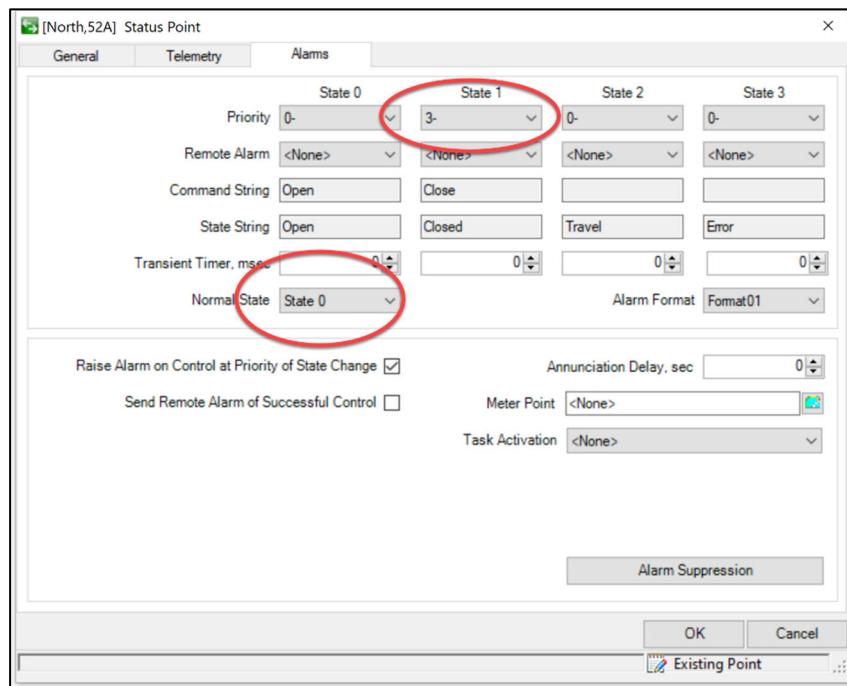


6.14 General Tab



6.15 Telemetry Tab

A significant difference is how we treat alarms on this point. A tie breaker should normally be open and we would expect a priority alarm to be raised if it closes.

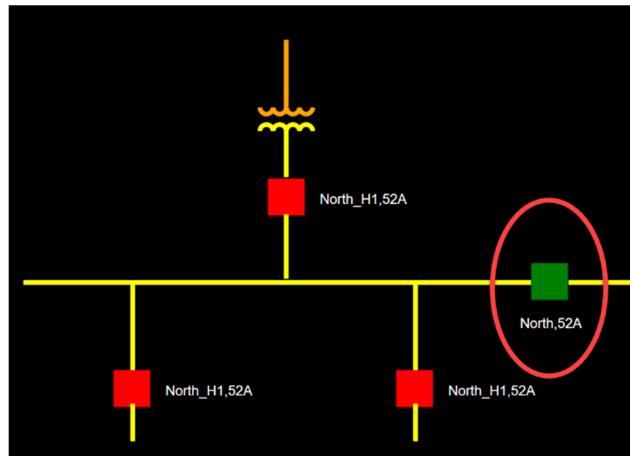


6.16 Tie Breakers are Normally Open



Exercise

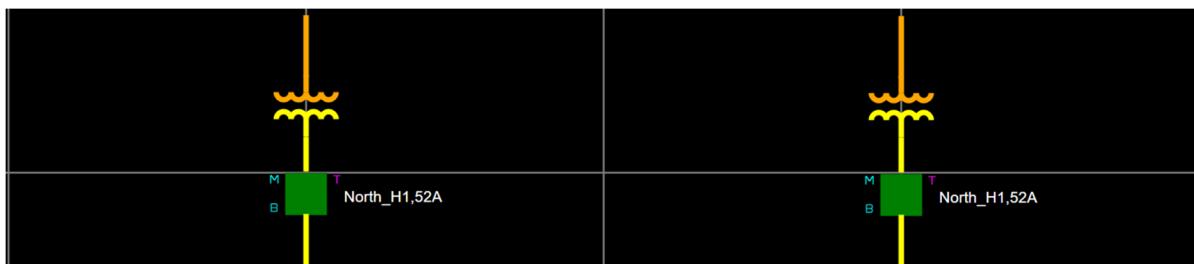
In-class exercise: Now that we have made changes to the database, connect the tie breaker in the map to its proper database point. The color showing for the Tie-Breaker should be opposite the other breakers.



6.17 Open Tie in Contrast to the other Breakers

CHANGE STATION

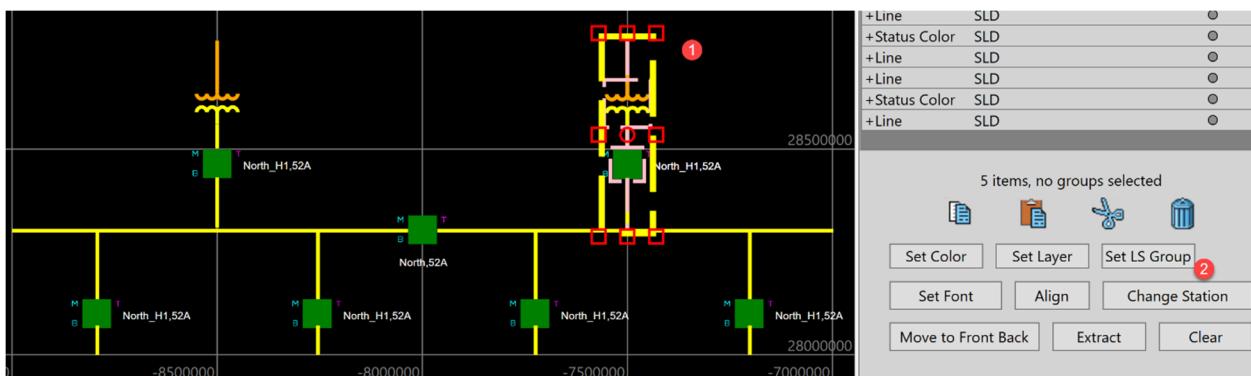
Currently we are in a situation where we took advantage of copying and pasting but now we have to fix up the PMacros. For North_H1 and North_H2, we will use Change Station. (Note: We will handle the feeders differently in later sections).



6.18 H2 Information is Incorrect

Due to time constraints, we don't have time to set up massive scenarios so please keep in mind these tools work the same whether we are dealing with 1 point or 100 points.

To start, select all the points in North_H2 and then select Change Station.

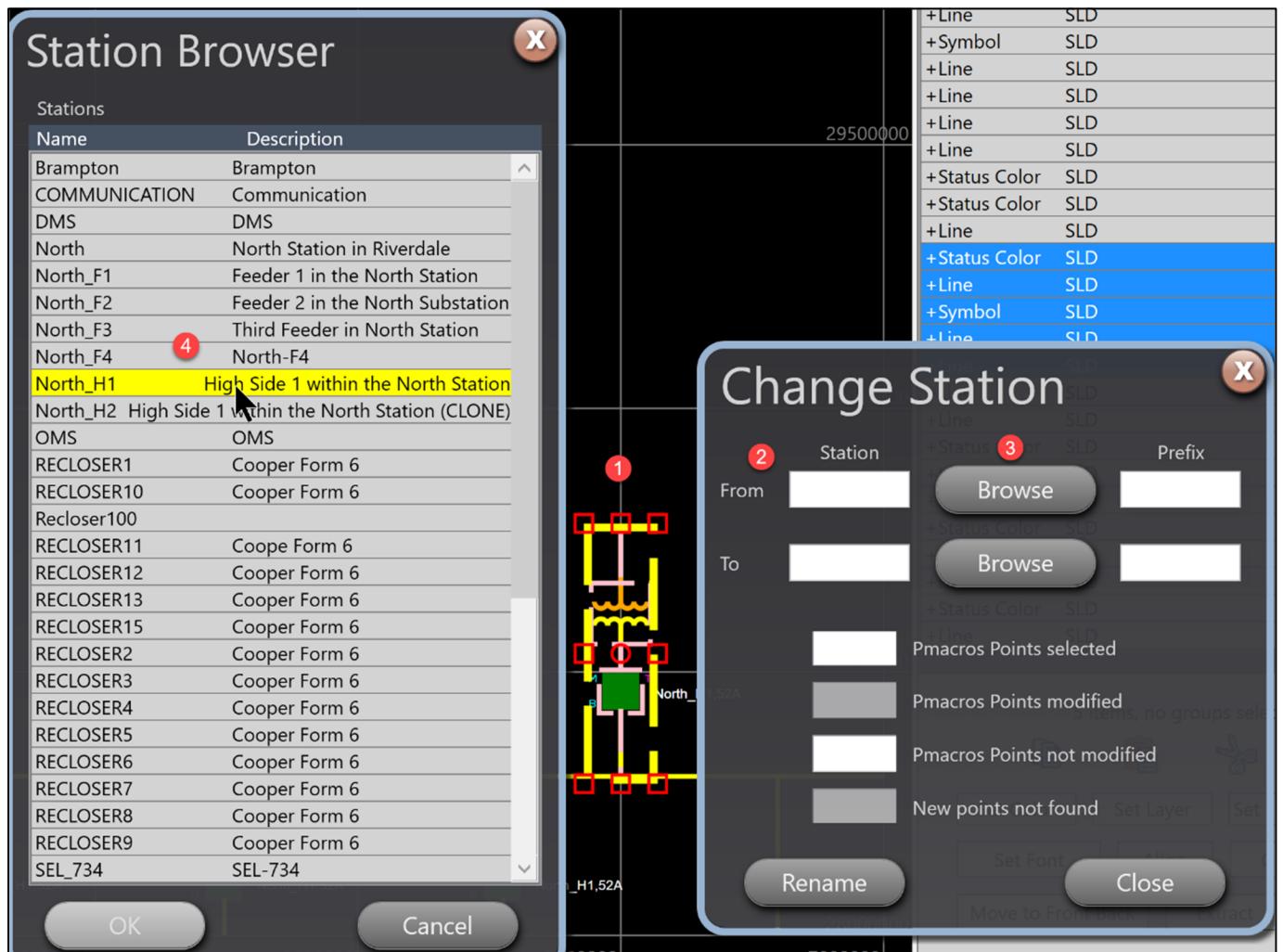


6.19 Change Station

Since we copied everything from North_H1 over to North_H2, the idea behind Change Station tool is that North_H2 is effectively North_H1 and that it needs to be changed to North_H2. You see that in what the tool requires from us.

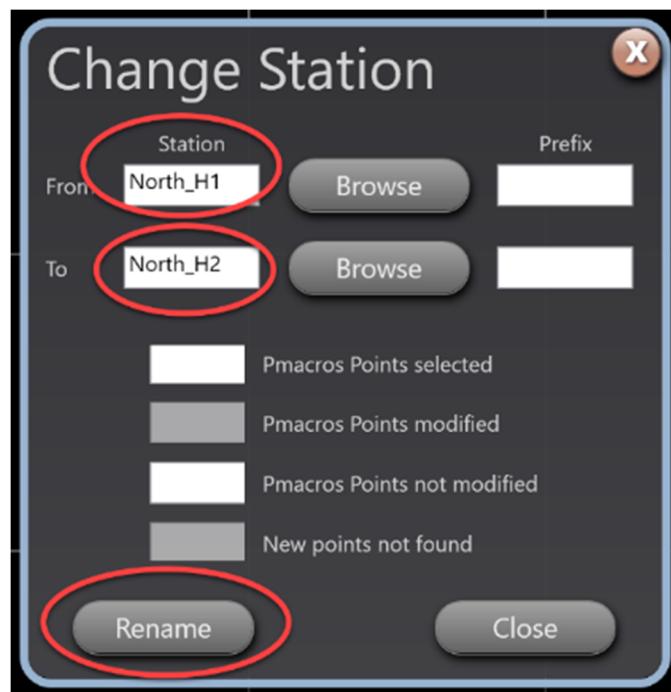
Therefore, in Image 6.20 we:

1. Select the North_H2 map elements.
2. Note that the first line is all about “From”. These selected points are acting like North_H1 so North_H1 is what we want to move them “From”.
3. We select Browse.
4. Look for North_H1 in the Station Browser pop up window.



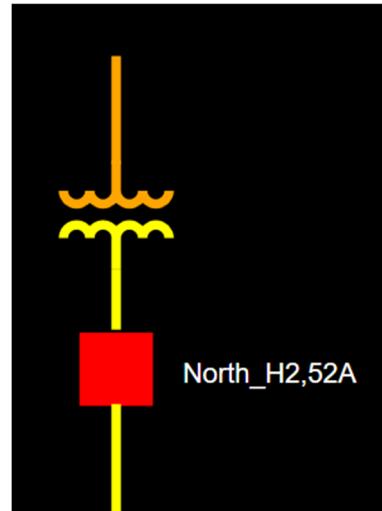
6.20 Defining the FROM

The next line is the “To” information. We want these points to behave like they are part of North_H2. When we are ready to run the tool, the Change Station window looks like Image 6.21 below. We are ready to click Rename.



6.21 Ready to Rename

Upon running the tool, you should immediately see changes when you return to the map. The points in North_H2 are now pointing correctly to North_H2.

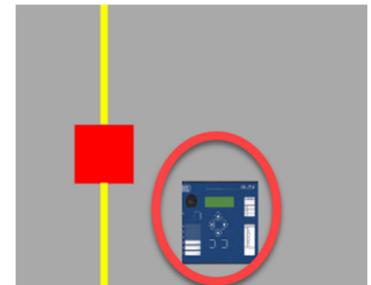


6.22 Station has changed to H2

LOCATE AND INSTALL CONTROL PANELS

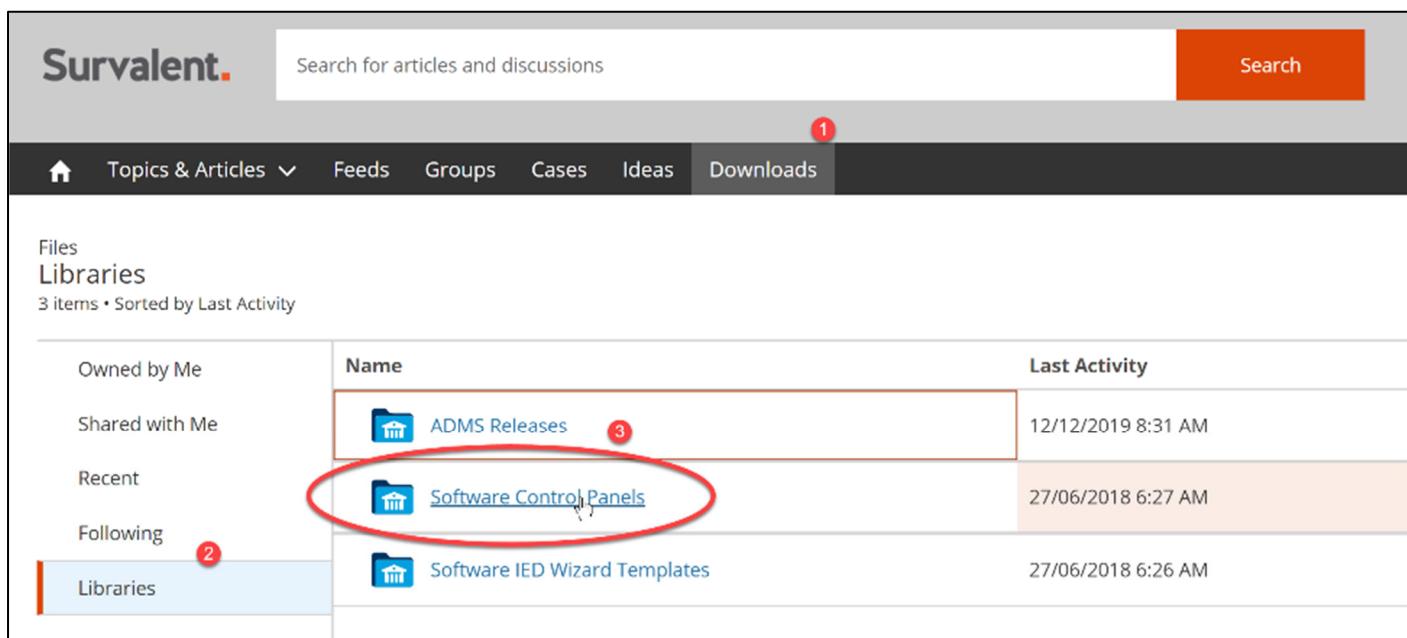
Our feeders (F1 to F4) add extra complexity because each one contains hundreds of points. The Change Station tool can manipulate hundreds of points but it does not address the issue of where to place points on the map.

For this reason, Control Panels are widely used by Survalent clients. A device (e.g. SEL-351A) containing all the points appears as a small icon on the map; however, upon being selected, it enlarges into a facsimile of the actual device. Points can be called up by pressing buttons on the facsimile that works as though the actual SEL-351A was in the control room.



6.23 Control Panels

Survalent has most IED Control Panels ready for download. The process is the same as for IED Templates. If we make Control Panels for clients, we will share them but we are not proactively making the Control Panels. Also similar to the IED Wizard Templates, is the ability to make your own Control Panels from scratch. To obtain these control panel, navigate to the My Survalent Portal, (1) click Downloads, then (2) click Libraries and to the right (3) you will see Control Panels link.



Owned by Me	Name	Last Activity
Shared with Me	ADMS Releases	12/12/2019 8:31 AM
Recent	Software Control Panels	27/06/2018 6:27 AM
Following	Software IED Wizard Templates	27/06/2018 6:26 AM

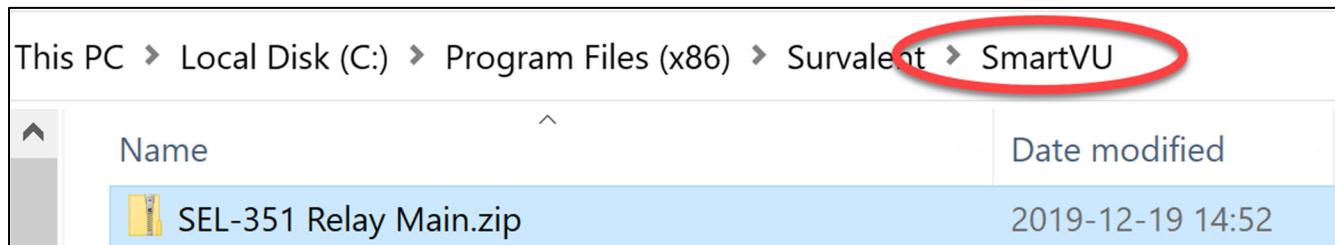
6.24 Locating Control Panels

IED Wizard Templates don't use media files such as images. This makes them small so that all the SEL devices (for e.g.) can be placed in a file. Control Panel files are different, they contain images and colors and other non-text elements. The larger size necessitates them having to be downloaded individually per device. Let's look for and download the Control Panel for SEL-351 Relay Main.



6.24B Finding our Device

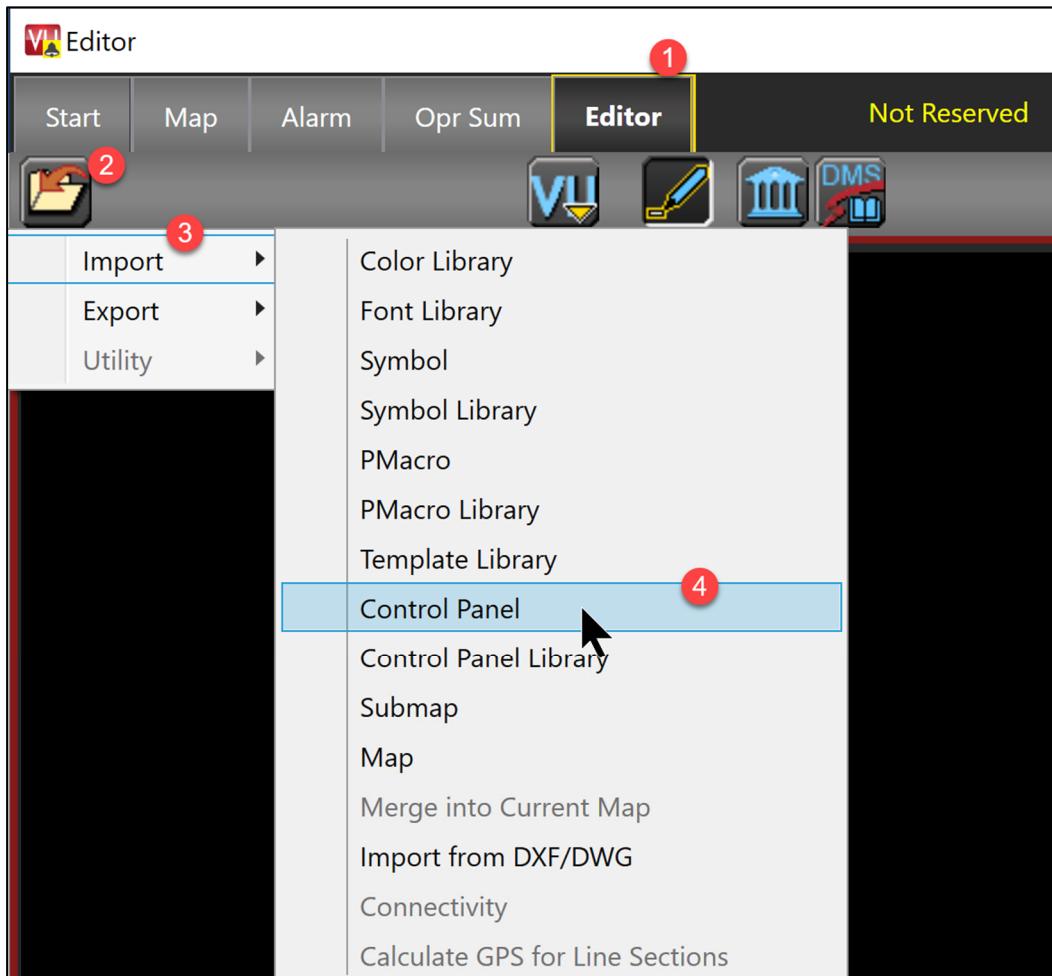
Once the file is downloaded, it's best to place it in the SmartVU folder as it's the default location for the import tool that we will be using next.



6.25 Placing the Control Panel File in SmartVU Folder

Since it is a compressed folder, the understandable tendency is to want to extract it; however, using the IMPORT tool will both extract the folder and place the many elements in the correct sub folders that we've been working with in the Standard folder (e.g. FNL, GCL, BMP e.g.).

Figure 6.26 on the next page, walks us through the steps of importing a Control Panel file.

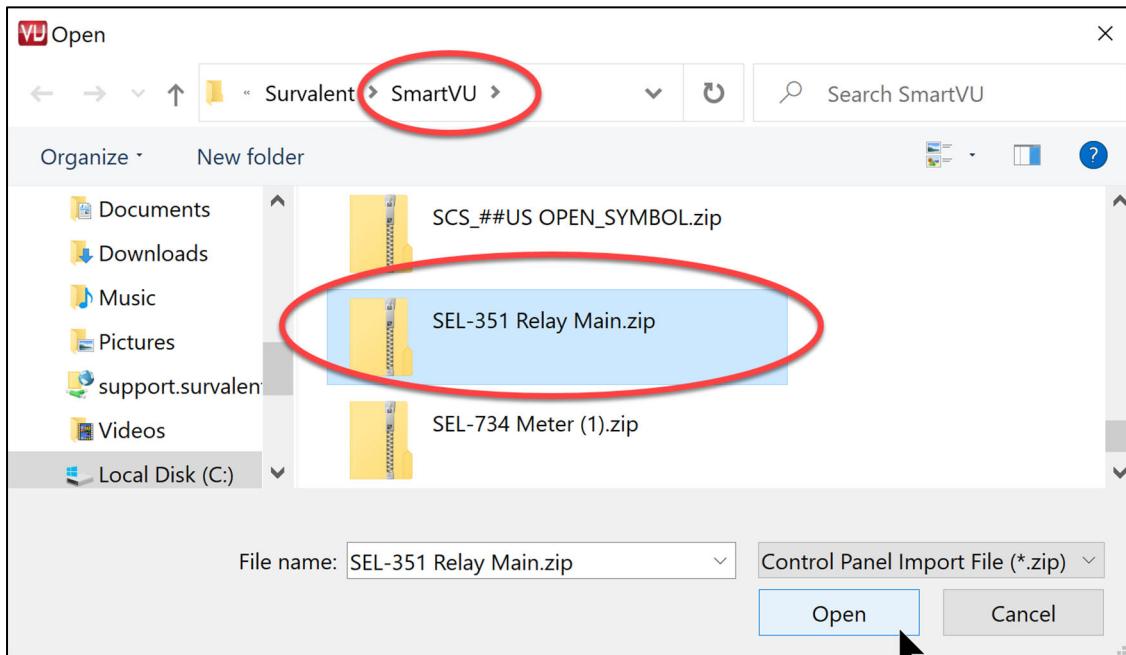


6.26 Importing a Control Panel

To import Control Panel in SmartVU:

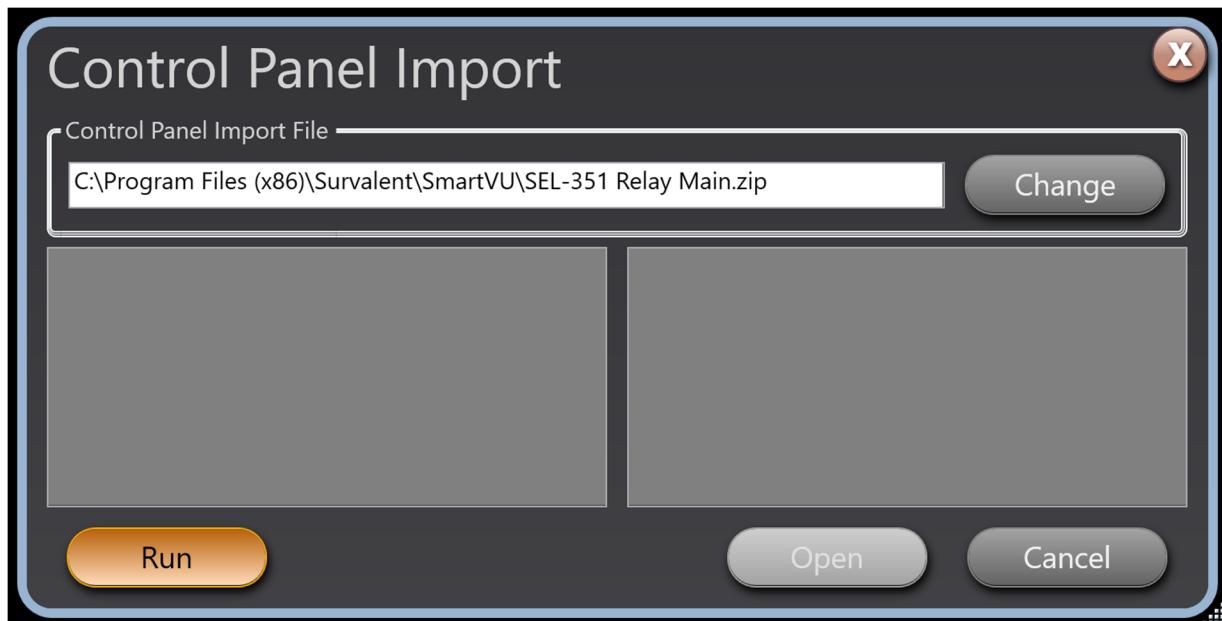
- 1- enable Editor Tab
- 2- click onto the open folder icon
- 3- hover to Import
- 4- select Control Panel

The reason for placing the file in the SmartVU folder in Image 6.25 is because the import tool will look here for our file. You can change the path of the file but the tool will also default to looking in the SmartVU folder first.



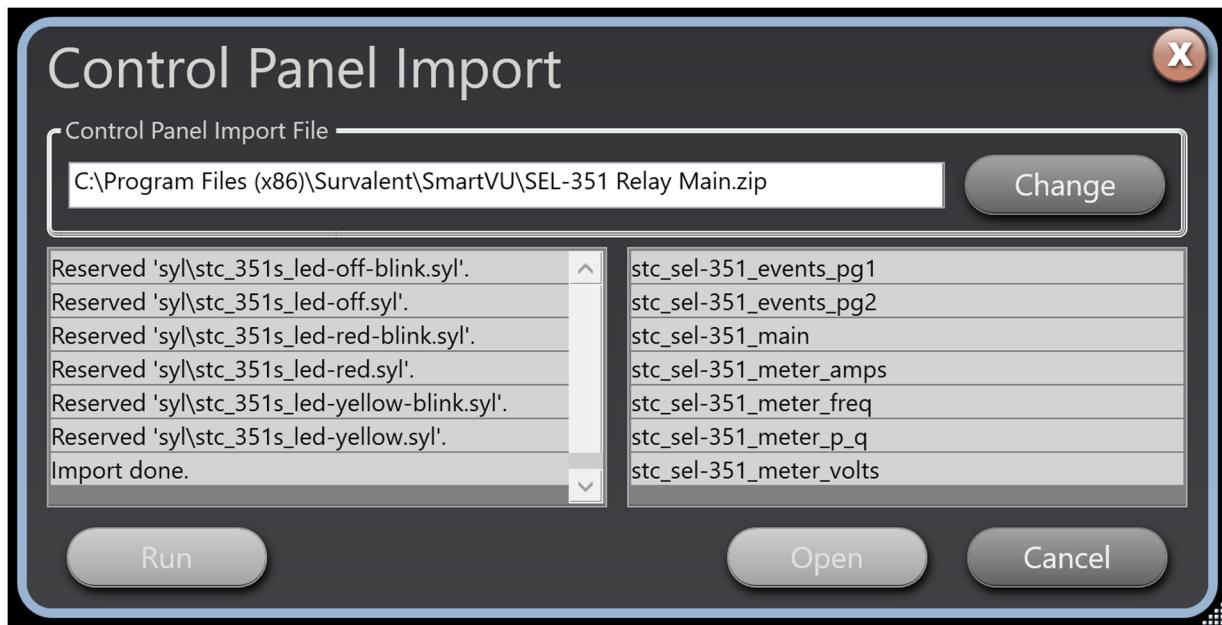
6.27 Defaulting to SmartVu Folder.

The Run button will begin the process of extracting the folder and placing the files in the proper folders in Standard.



6.28 Running the Import Tool

At the completion of the import, you can see that there were many elements placed in the appropriate Standard folders.

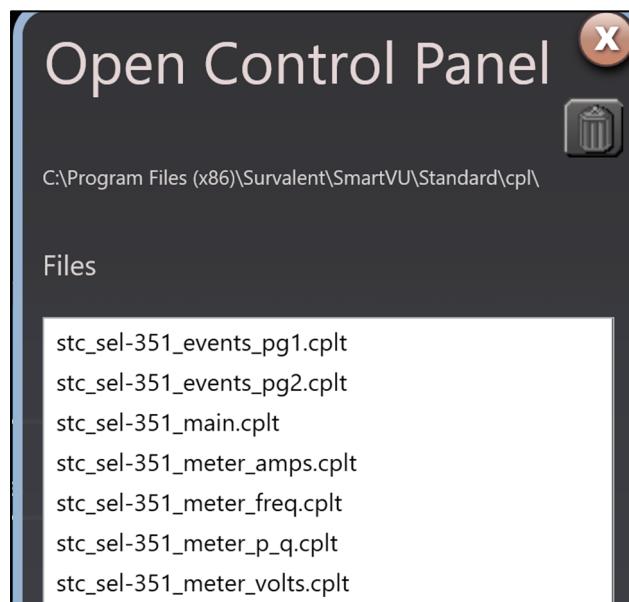


6.29 Import Completed

DOWNLOADED COMPONENTS

Learning about Control Panels also gives us a chance to review many of the concepts and procedures covered in this course.

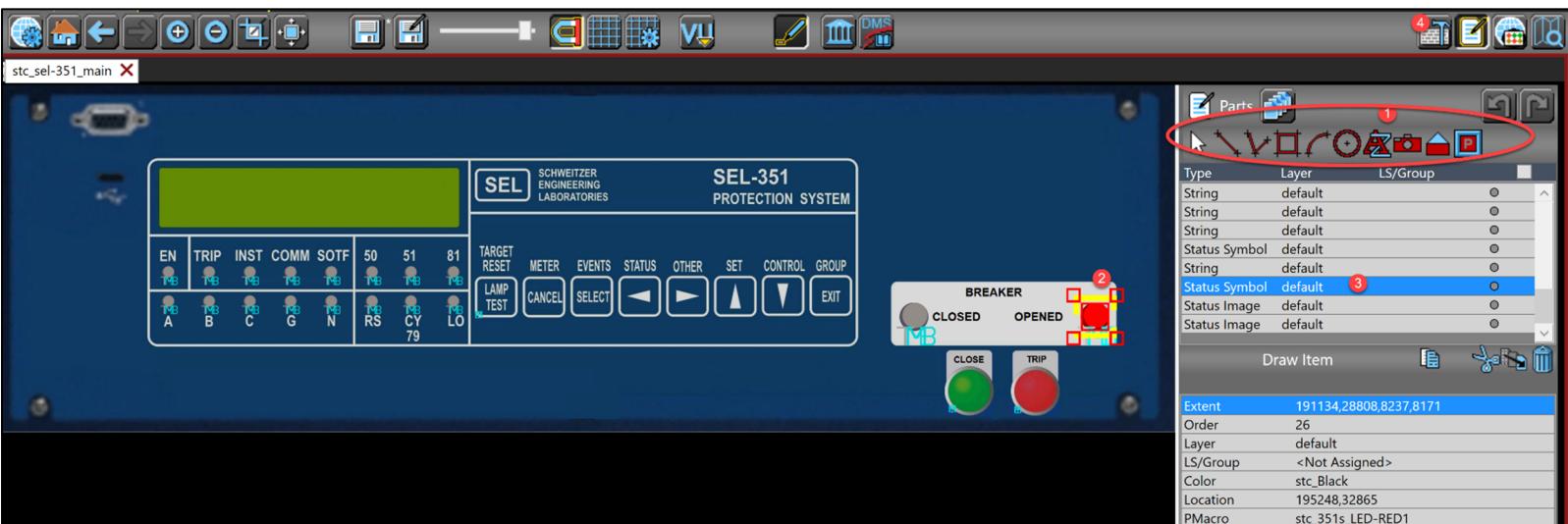
Let's start by going into the library and opening a Control Panel named stc-sel_351_main_cplt.



6.30 Imported Control Panel

Notice that there were many other SEL-351 options. There are usually many Control Panels for a model. We think of a 351 Control Panel but we can see that there are 7 Control Panels used for our device.

Open the Control Panel named stc_sel_351_main.cplt (image is on next page).



6.31 One of the SEL-351 Control Panels

We see an image of a 351-A but note:

- It's like a map because we can draw on it. We can add anything from a line to a PMacro to the image (1).
- If we click on one the items (2), we see that it's a Status Symbol PMacro similar to the one we created in Module 3 (3).
- We can see more about this PMacro if we click on the PMacro Resources button (4).

Let's recap because we've learned 2 very important concepts for Control Panels:

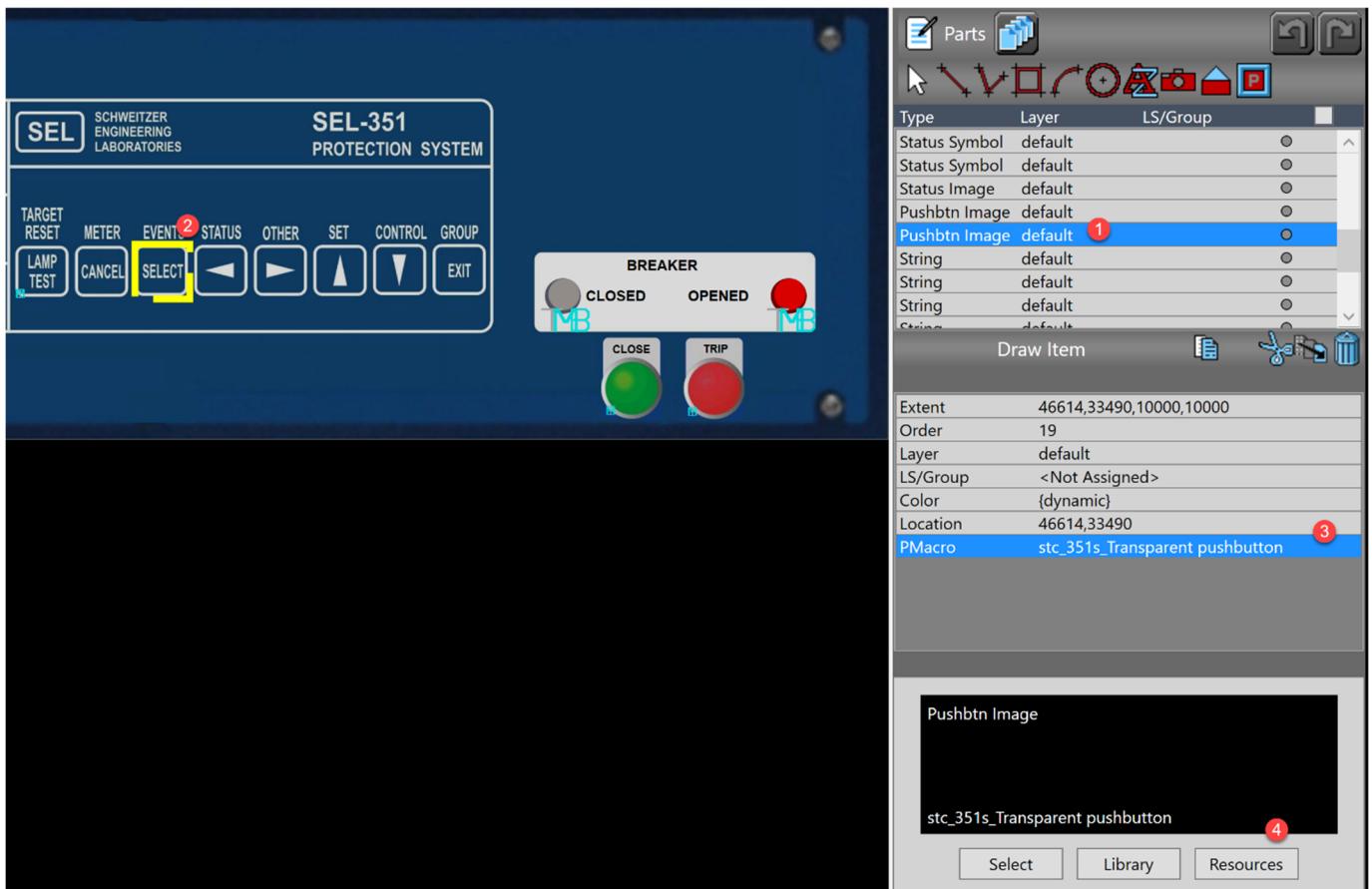
1. There is no one Control Panel for our 351-A. There are multiple Control Panels.
2. Each Control Panel is covered with drawing elements (e.g. PMacros, Text Strings, Symbols).

This is how Control Panels can mimic that actual device. You can use a status PMacro to open and close a breaker. Analog PMacros can be used to show values gathered by the device.

All the PMacros are stored efficiently on a Control Panel. For example, this main panel has open and close commands. It's a good bet that the Control Panel called stc_sel_351_meter_amps.cplt would give us amp levels across 3 phases.

So, Control Panels can work because they effectively take advantage of Status and Analog PMacros. However, how can we maneuver between all the pages?

Once again, we need to remember the versatility of PMacros. Was there a PMacro that you can program to take you to different places when you push it? Remember back in Module 4 – we covered Pushbutton PMacros. Pushbutton PMacros are very important in Control Panels too.

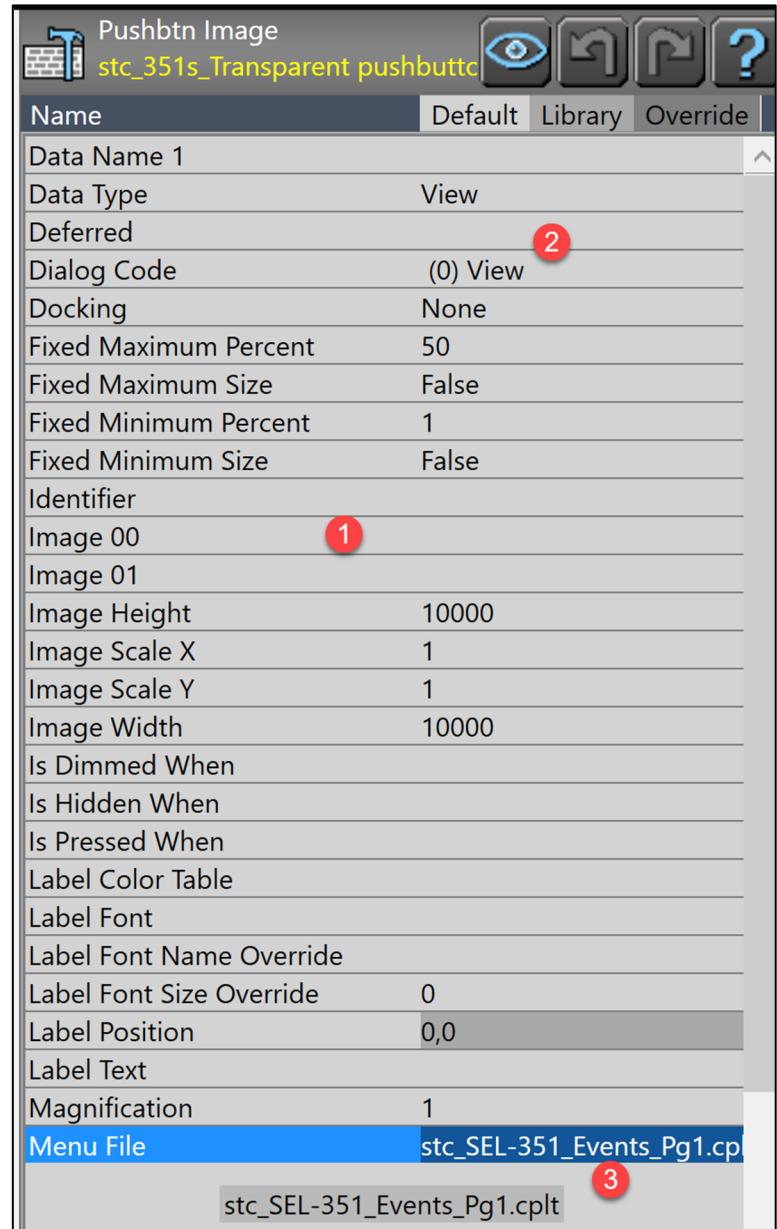


6.32 Push Button PMacro on a Control Panel

1. Keeping the Control Panel open, look in the resources for the Pushbutton Image PMacro (1) that, when clicked, puts a yellow box around the word Select (2).
2. The high-level information about the yellow box is contained near (3). Click on the line that explains that type of PMacro is something called an stc_351s_Transparent pushbutton (it was part of the import too).
3. Click on Resources to open the Pmacro (image of full Resources box follows on next page).

Recalling what we learned about Pushbutton Image PMacros:

1. Image00: If an image is specified, the image works like a button. You push the button and you go to another place on the map. In this case, the image is transparent. When the Pushbutton Image is placed on the Select button, there is an illusion that the Select button is functional.
2. Dialog code: When someone clicks the button, it's been programmed to take them to a different element or View.
3. Menu file: The view is actually another Control Panel called Events. When someone hits the button, they will be taken to a different Control Panel.



6.33 Standard Pushbutton PMacro Options

It's important to just know that Control Panels get their functionality from PMacros.

We also learned about Station PMacros in Module 4. They will also play a part when we add a Control Panel to the map.

CONFIGURING A CONTROL PANEL

How do we add a Control Panel to the map?

We've added lines, symbols, and PMacros but there is no Control Panel option.



6.34 No Option to Add Control Panels

Let's review how the Control Panel will work:

1. We click a small icon in the map.
2. When you click it, you are taken to a different view – a facsimile of the device.
3. We can also set it up so that the small icon will change colors if any of the contained points go into an alarm.

The functionality is very similar to a Station PMacro. **Therefore, the answer to the question above is that we wrap Control Panels into a Station PMacro so they can be added to a map.**

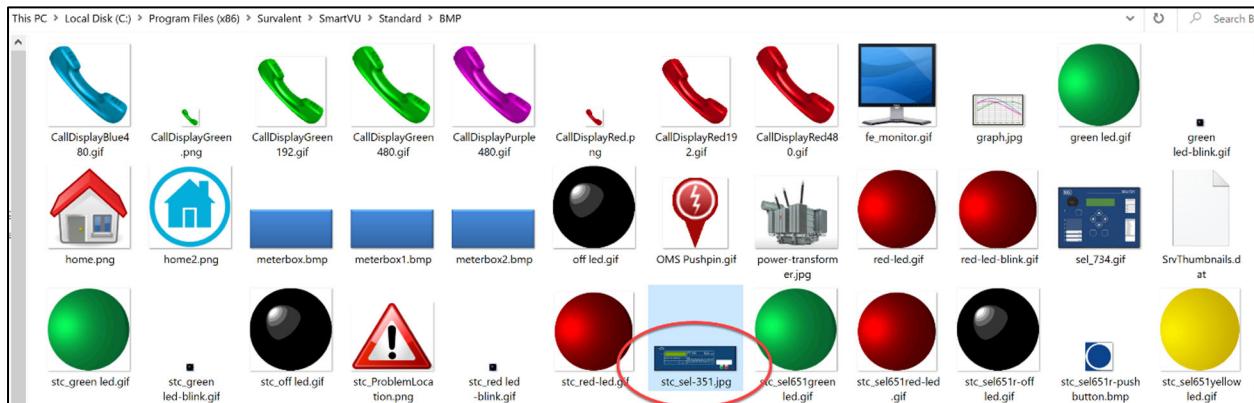
Remember that we used several images for a Station PMacro. A white image to indicate that there are no alarms in the station. A red image to say that there were acknowledged alarms in the station. We also had a flashing red and white image to say that there were unacknowledged alarms in the station.

Let's look inside the Control Panel folder. There is a jpg we can use. Since there's only 1 jpg, we won't have the functionality of colors changing with alarm states as we had when we created a Station Pmacro in Module 4.

This PC > Local Disk (C:) > Program Files (x86) > Survalent > SmartVU > Standard > CPL			
Name	Date modified	Type	Size
stc_sel-351.jpg		JPG File	162 KB
stc_sel-351_events_pg1.cplt		Cplt Document	5 KB
stc_sel-351_events_pg2.cplt		Cplt Document	5 KB
stc_sel-351_main.cplt		Cplt Document	4 KB
stc_sel-351_meter_amps.cplt		Cplt Document	5 KB
stc_sel-351_meter_freq.cplt		Cplt Document	5 KB
stc_sel-351_meter_p_q.cplt		Cplt Document	5 KB
stc_sel-351_meter_volts.cplt		Cplt Document	5 KB

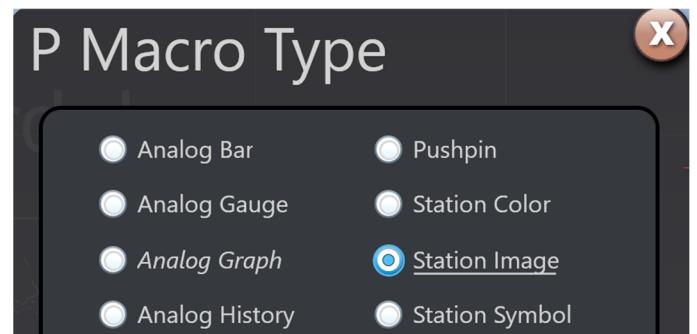
6.35 JPG that we can use for the Map Icon.

Let's take that file and move it into the BMP folder.



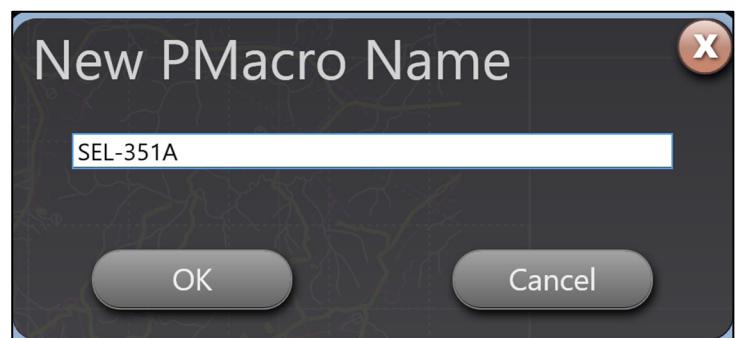
6.36 Moving the JPG to BMP Folder

We are now ready to create our Station PMacro. In the Library, we are selecting new Station Image PMacro because we will be using a JPG folder to represent the SEL-351A.



6.37 Creating a New Station Image PMacro

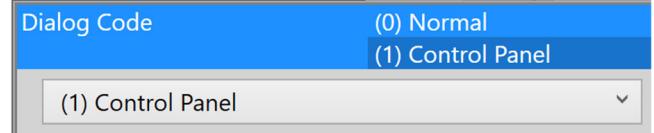
We can name it after the IED.



6.38 Providing the Name

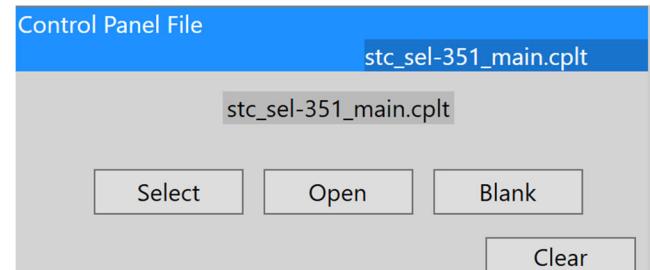
Even though a Control Panel functions similarly to a Station PMacro, there are some subtle differences. For example, clicking a Station PMacro will take us to a different view in the map whereas clicking the small SEL-351A icon will take us to the main Control Panel window that is loaded with PMacros.

We make the distinction by going to the Dialog Code setting and choosing Control Panel instead of the default Normal setting.



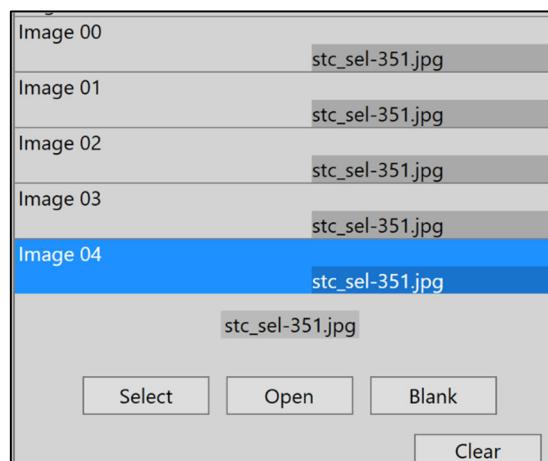
6.39 Changing the Dialog Code setting to Control Panel

Similarly, since we aren't setting a view, we must set the first Control Panel we want our users to see when they click the small icon. You'll find that most sets of Control Panels use Main or #1 in the name of the first panel.

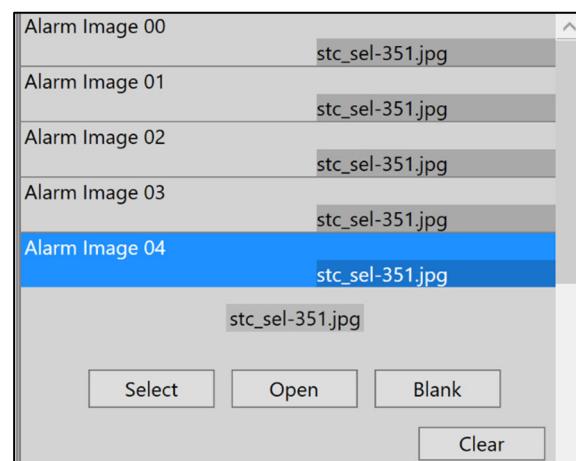


6.40 Setting the First Control Panel

We only have one jpg so we'll have to use it for all the alarm states. In the examples below, we only include up to Priority 4. If we've set Priority 5 for alarms, the small icon will disappear from the map until the priority moves to one that we have identified with an image.

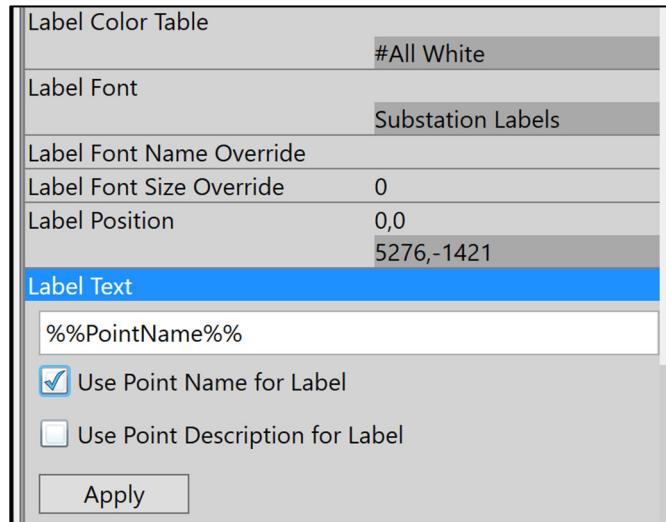


6.41 Acknowledged for Priorities Shown



6.42 Not Acknowledged for Priorities Shown

We also can set our label preferences while we are in the library.



6.43 Setting the Labels

We can now save our Station PMacro (which is really a set of Control Panels).
Next, let's place one in the map.

ADDING, TESTING, and OPTIMIZING OUR CONTROL PANEL



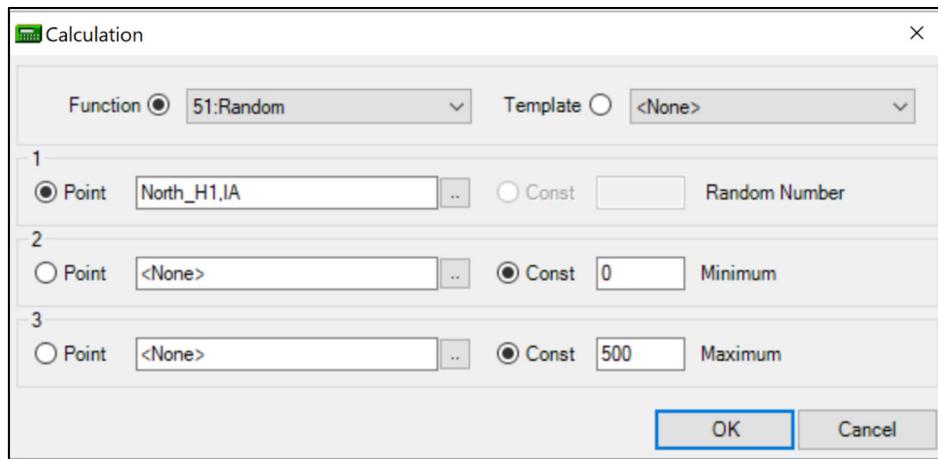
Exercise

In-class exercise: In Module 4, we simulated current by applying calculations to North_H1,IA.

Please do the same for:

- North_H2,IA
- North_F1,IA
- North_F2,IA
- North_F3,IA
- North_F4,IA

See Image 6.44 on next page for a reminder.



6.44 Applying AMPS to North_H1,IA

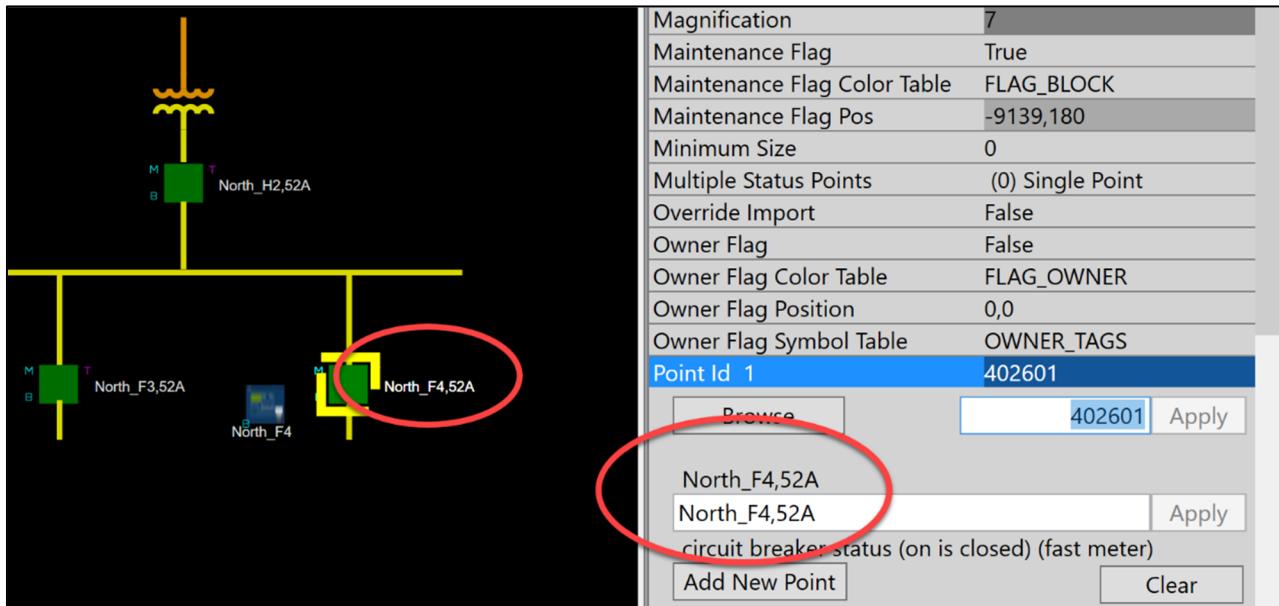


Exercise

In-class exercise: One more quick exercise before we add our Control Panel. Please manually link the breakers used in the 4 Low Voltage feeders to North_F1,52A to North_F4,52A respectively.

Note: You will have to make a database change to get this to work. Use IED Wizard to make the changes.

Below North_F4,52A is connected to the 4th Feeder.



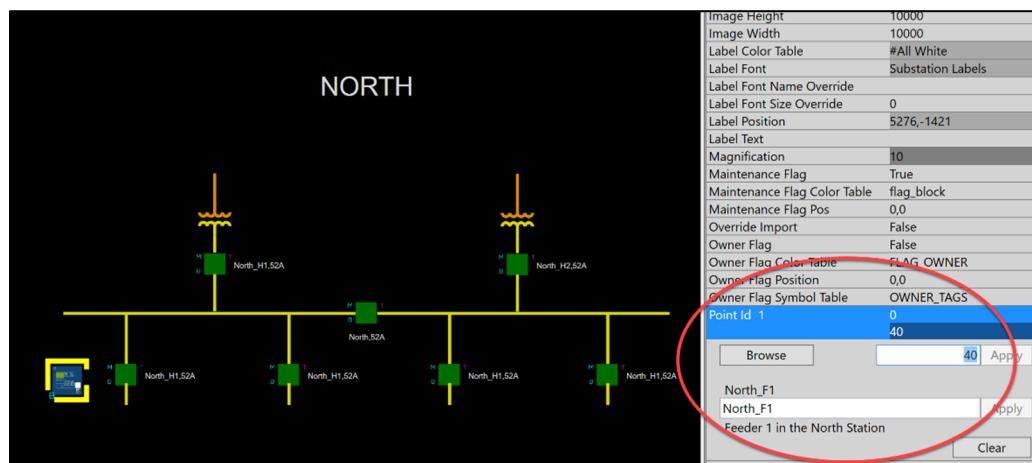
6.45 Connecting to Feeder 4

Adding our SEL-351A Control Panel icon is done by adding the Station PMacro we created and placing it beside the first feeder. Recall North Station elements should be placed on the SLD layer.



6.44 Adding Our Control Panel (aka Station PMacro) to the Map

After adding the PMacro, we must use PMacro Resources (aka The Hammer) to connect it to the station we created for it (North_F1). If the label doesn't appear, use the options in the PMacro Resources to manually type in a label.



6.46 Connecting the Control Panel to North_F1

After completing these steps, our expectations for the functionality are:

1. When we click the small icon, it will grow to a large Control Panel with functioning PMacros.
2. We should be able to move to different views of the SEL_351A because of Pushbutton PMacros.
3. We will eventually hit a page showing AMS for IA (this is the only point we activated)



Exercise

In-class exercise: Test the 3 assumptions above. Please compare to Image 6.48.

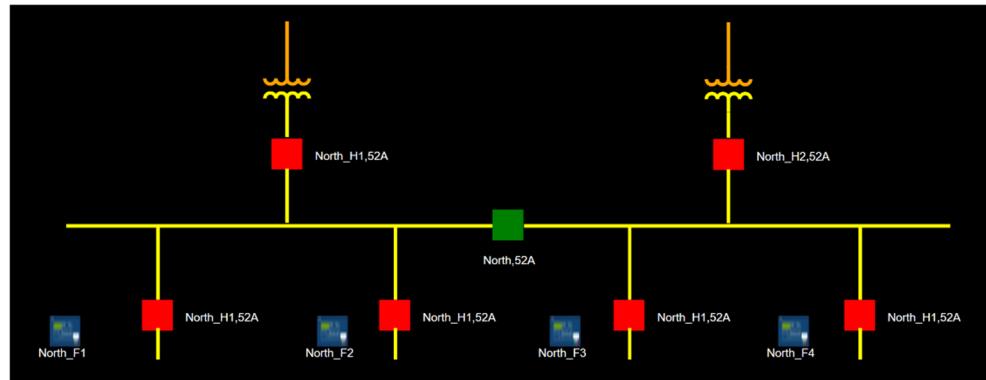


6.48 AMPS Info From Our Control Panel



Exercise

In-class exercise: Add Control Panels for F1, F2, and F3 to the map and attach them to the database. See Image 6.49 below.



6.49 Control Panels Added

We've walked through this process somewhat slowly. The main steps were that we added a PMacro and attached it to a station. Instantly, the IA PMacro started working.

We did not hook up the IA PMacro like we've learned in the past. Let's have a look. We'll start by opening up the Control Panel called stc_sel-351_meter_amps (Image 6.50).

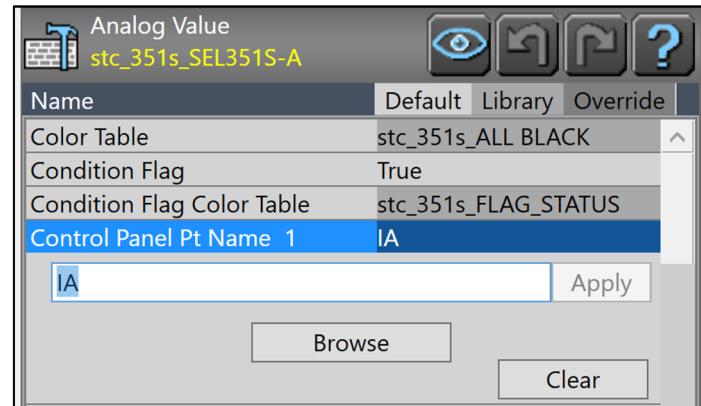


6.50 No Point ID?

When we do, you'll see that there is no Point ID for our IA PMacro. The Point ID has been the way in which we match map elements to database elements. Yet, the IA value is working.

However, there is a setting for Point Names and the person creating the Control Panel used the name IA.

This means that as long as our 351-A IED Wizard Templates use IA for a point name, the PMacro will work.



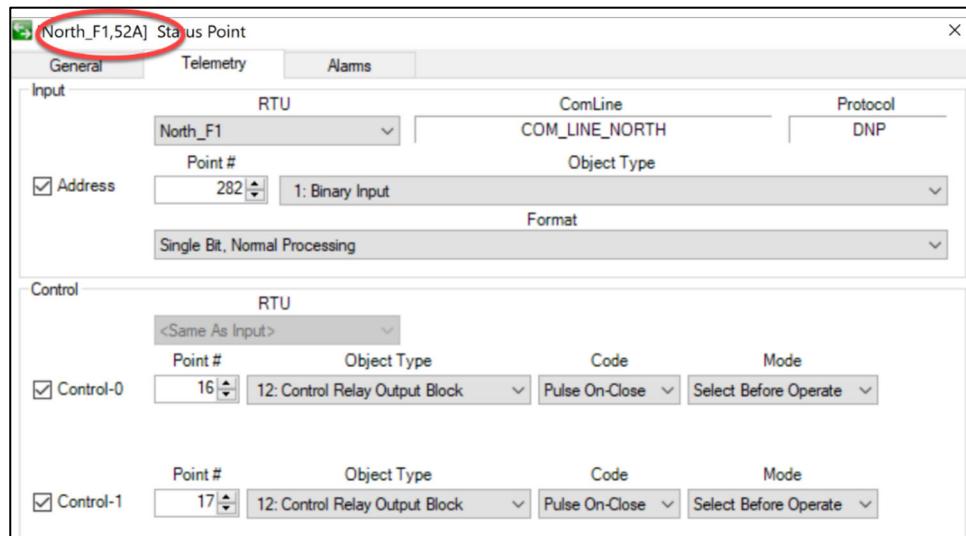
6.51 Using Names and not Point IDs

Using names allows for unique values for each point because the point is made up of the Station and Short Name of the Point. That is, as soon as we match the Control Panel up to North_F4, the point becomes unique and the PMacro will work.

Let's test this out using Status Point 52A.

Note how the point was configured in both the database and in the Control Panel.

Image 6.52 below shows the point name in the database. 52A is the short name. Similar to a person's last name, the short name can be applied to different first names.



6.52 Full and Short Name Separate by Comma

Image 6.53 shows that the person who created the Control Panel took advantage of the name 52A and combined it with the first name stc_sel-351-main. Any Pmacro placed on the image below will share the characteristics of point 52A but, when placed on the map, will be uniquely linked to a different station.



6.53 Control Panel Refers to 52A

The implication is that you should be able to open and close the F1 to F4 breakers with these buttons. Let's test it out.



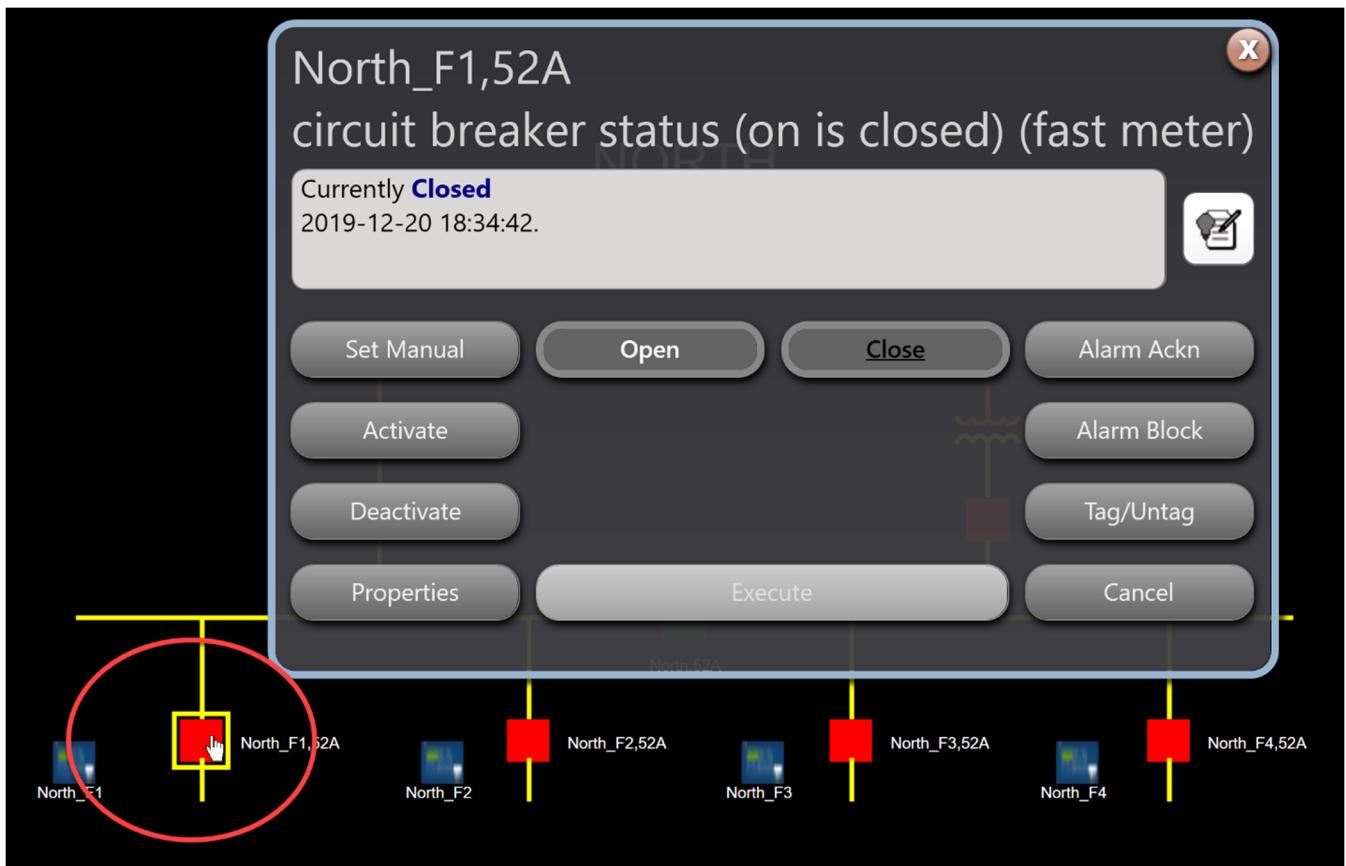
Exercise

In-class exercise:

1. Depending on your utility, the colors in the SEL-351 may be opposite of how you like to work. If so, please fix the PMacros.
2. Move the transparent Pushbutton PMacro so that Cancel isn't the command on the device which moves to different Control Panels (see the Note under Image 6.48).

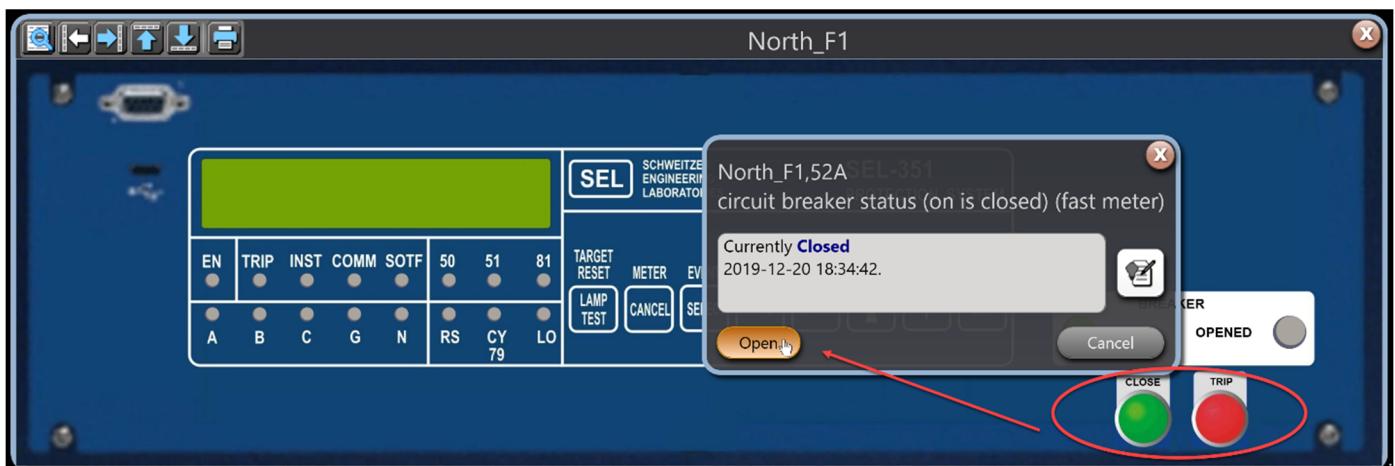
Right now, the map will let you control feeder breakers in two places:

We can click directly on the breaker.



6.55 Control Breaker by Clicking It

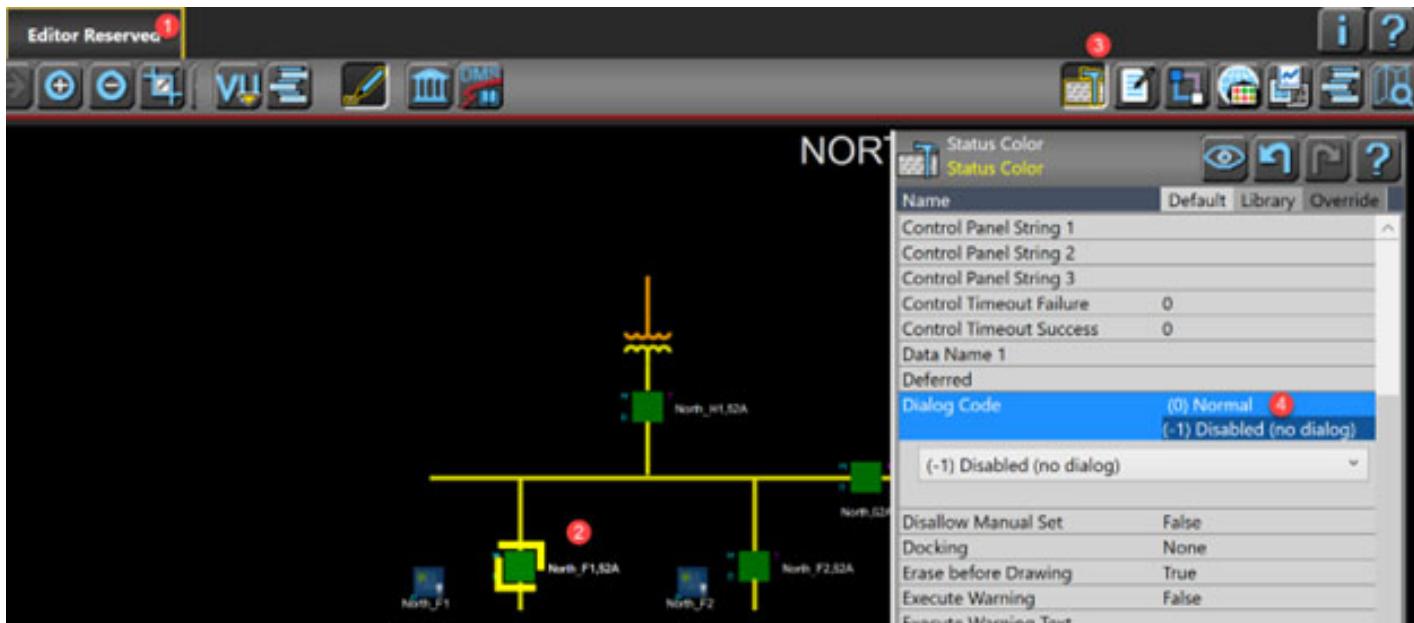
Or, we can click the Control Panel.



6.56 Using Control Panel to Control Breaker

Some administrators prefer to control the breaker from the Control Panel but still see the state of the breaker by looking at the breaker. To do this, they change the Dialogue Code of the Status Symbol PMacro. The image below shows the 4 steps:

1. Go to Editor mode.
2. Select the Pmacro.
3. Click PMacro Resources (aka the hammer)
4. Turn off the dialogue.

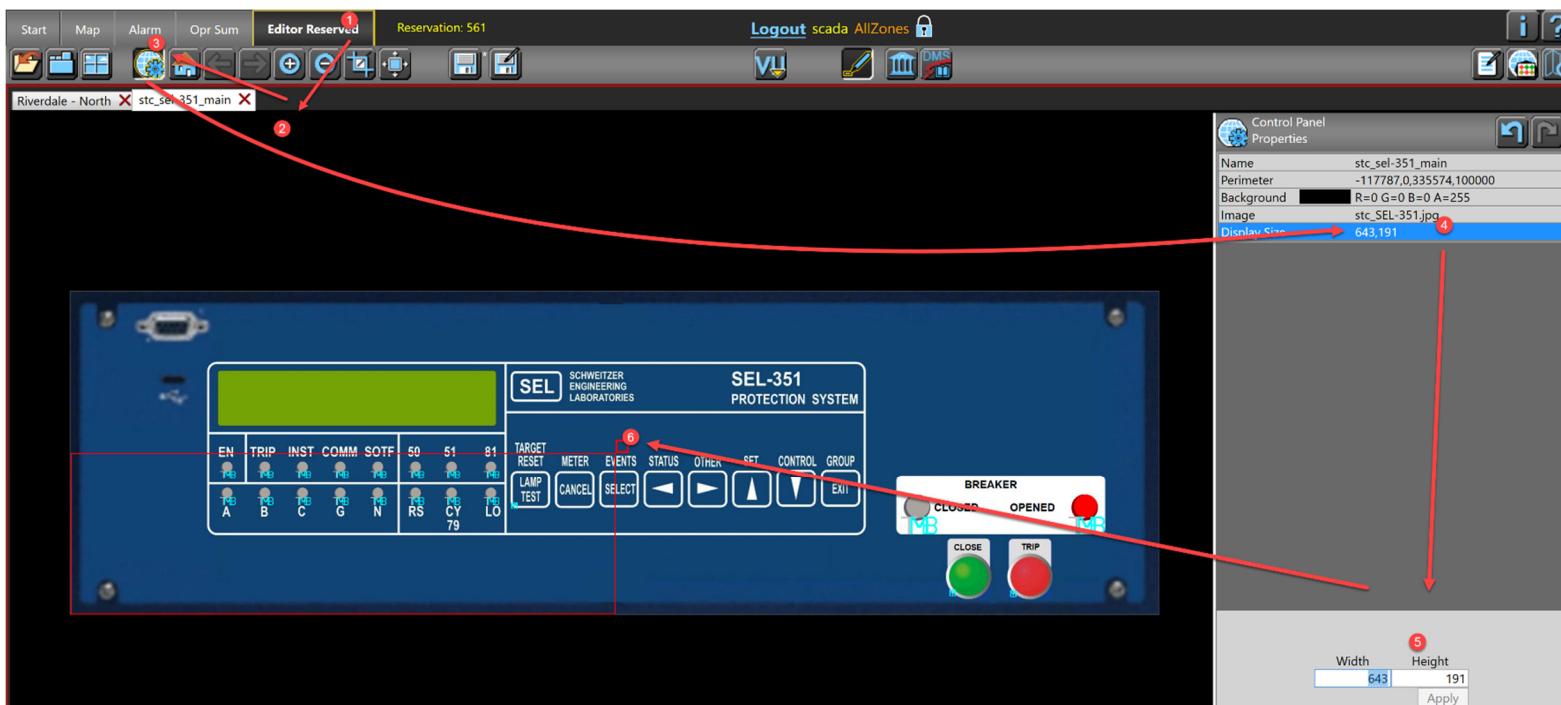


RESIZING A CONTROL PANEL

The Control Panel that pops up when the small icon is clicked, can be made smaller or bigger.

The steps are:

1. Start in Editor mode.
2. Open the main Control Panel.
3. Click Map Properties.
4. Select the Display Size
5. We made the width half the size and the height was also adjusted.
6. Click the Extent to put the Control Panel in its new boundaries.



6.58 Resizing the Control Panel

After saving and returning to the map, you will see the Control Panel is half of it's original size. Also, note all the control panels for the 351 inherit the new size.

ANALOG POINT TEMPLATE PMACROS



Exercise

In-class exercise:

Manually create points:

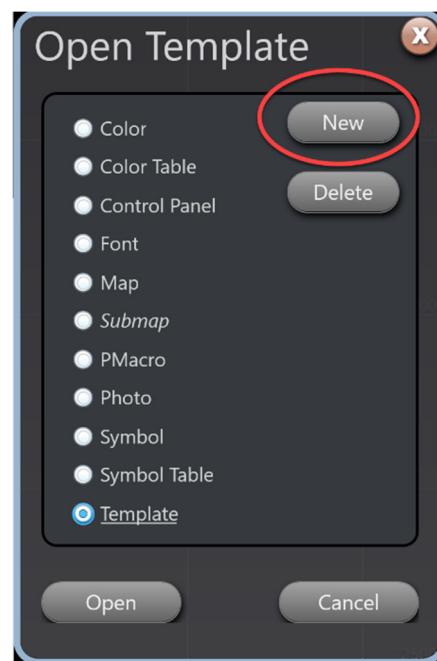
- North_H1, IB
- North_H1, IC
- North_H2, IB
- North_H2, IC

Using Calculations, generate “current” for these points.

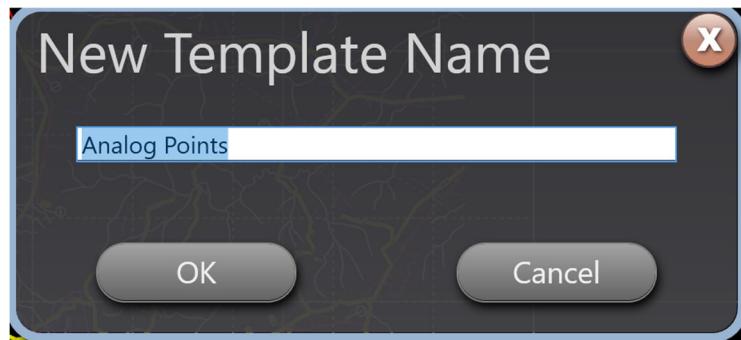
The main takeaway from creating Control Panels is that PMacros can be attached to point names. This means that points with the same names – but belonging to different devices – can quickly be added to a map.

This functionality can be extended beyond Control Panels. Template PMacros are a great example.

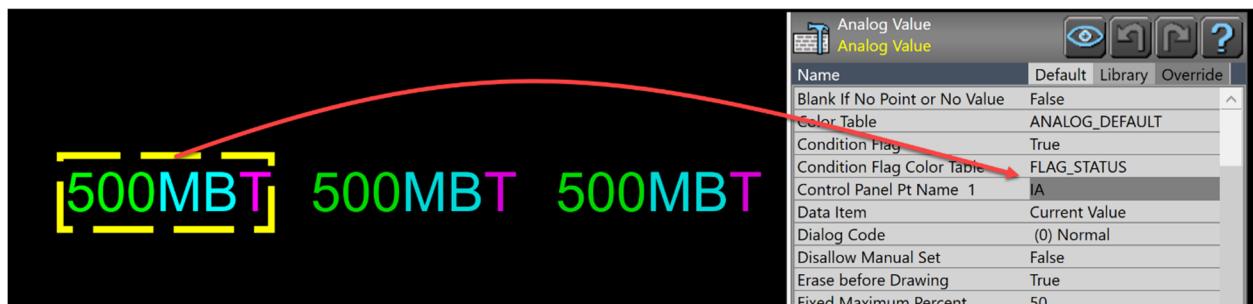
In the Library, let's create a new Template.



6.69 Creating a New Template



6.70 Naming Our Template

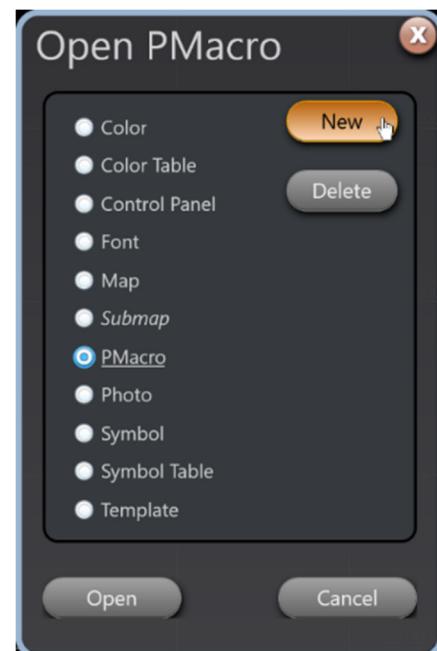


6.71 Add PMacros to our Template

Above in 6.71, notice the Template workspace is the same as a map. Let's add 3 Analog Value PMacros and link them to Control Panel Points Name **IA, IB, and IC**.

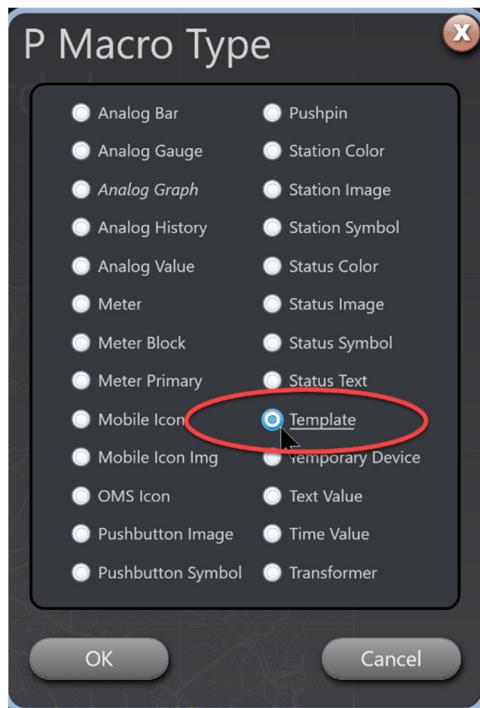
You can use the Multiple Selection tool to line them up. Click Save when finished.

It's important to note that we created a Template. It's not a Template PMacro yet. We start that process by indicating that we are creating a PMacro.



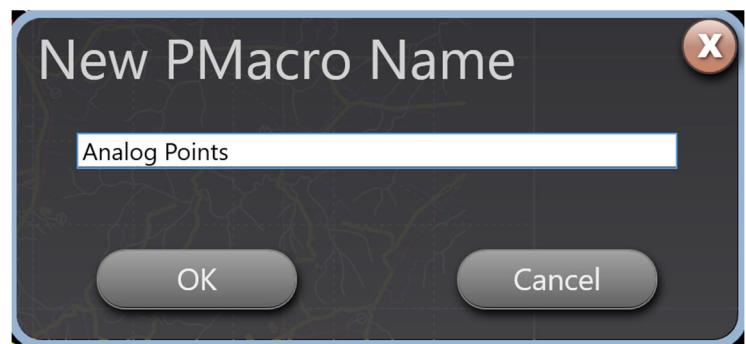
6.72 Creating a new PMacro

Specifically, we are creating a Template PMacro.



6.73 Specifying Template PMacro

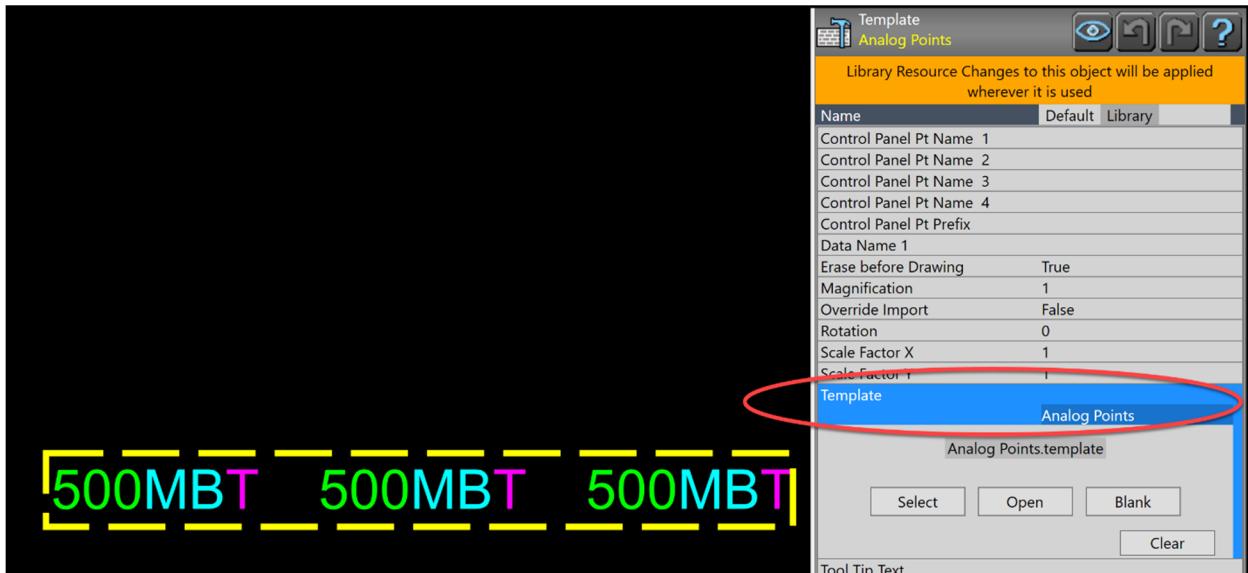
We can give it the same name as our Template.



6.74 Naming our Template PMacro

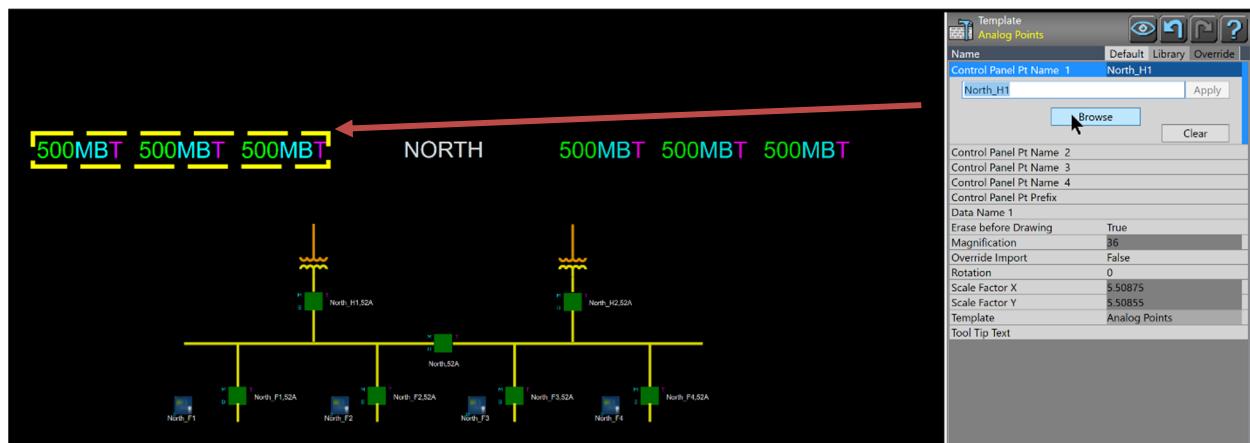
Note: Remember that a Template and a Template PMacro are two different elements. Templates get placed into Template PMacros.

In the image below, we are linking the Analog Points Template to the Analog Point Template PMacro. Click Save.



6.75 Connecting Template to Template PMacro

Let's drop this template into our map 2 times. We will connect the PMacro to North,H1 and North,H2 respectively.



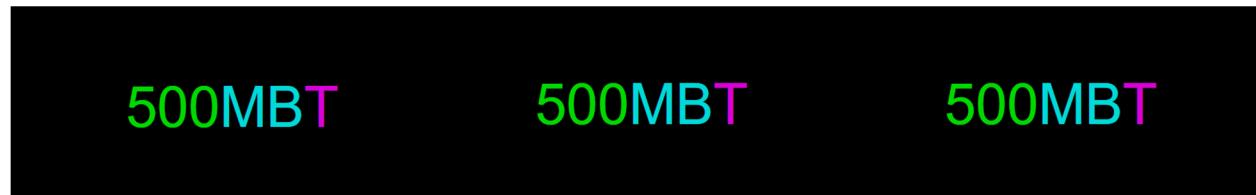
6.74 Each Template Gets Attached to a Station

After attaching the Template PMacro to North,H1 and North,H2 we see the result below.



6.75 Too Cramped Together

The source of the cramping is the Template (not the Template PMacro). Let's fix this in the Template.



6.76 Spacing the PMacros Out

The change in the PMacro instantly impacts the map.



6.77 Modification in the Template Immediately Shows in Map

Template PMacros – applied to analog points – can provide useful information quickly. If the points have the same name, the PMacro just has to be dropped in and connected to the station.

NAVIGATIONAL TEMPLATE PMACROS



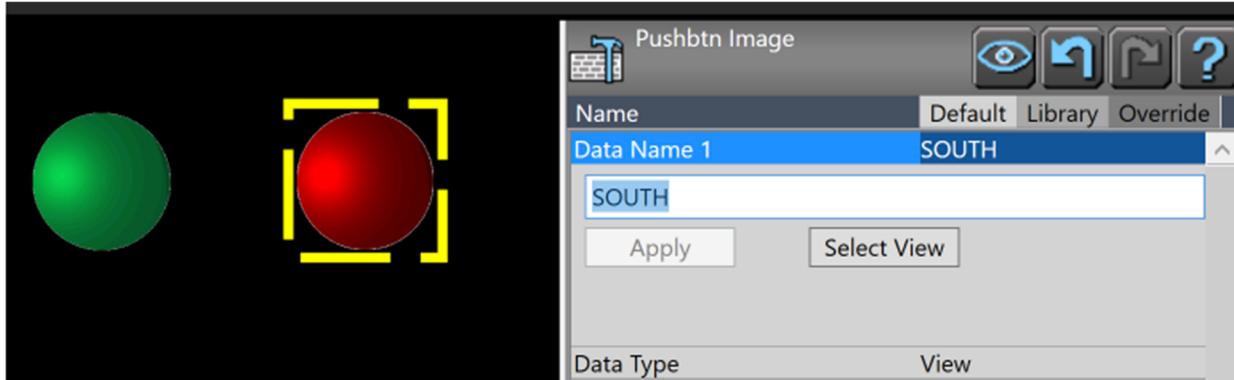
Exercise

In-class exercise:

- Zoom to spot in the map that can be a South station.
- Define the Extent (use current view).
- The South station view should only allow the SLD layer.
- Enter the text string “South” and make sure it’s in SLD layer.

Creating another view will give us a chance to create another popular Template Macro.

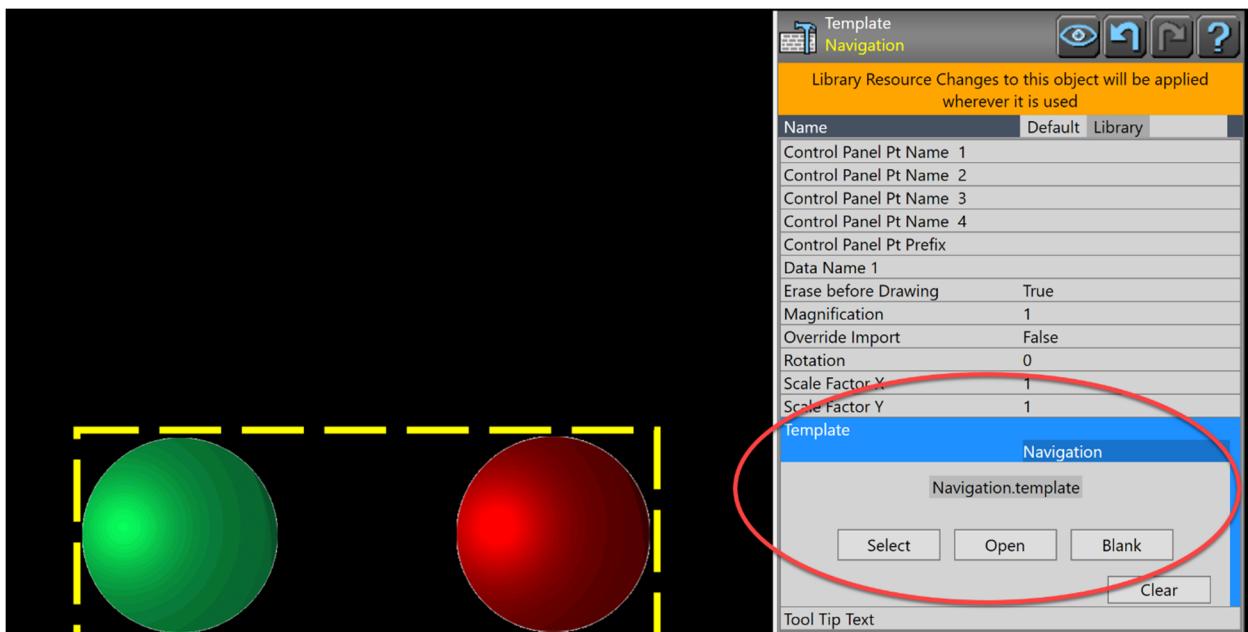
We start by creating this Template (remember a Template and a Template PMacro are different). Let's title it Navigation.



6.78 Our Navigation Template Will Start With 2 Pushbutton PMacros

The template shown in 6.78 has two pushbutton PMacros. One points to the North station and one points to the South station.

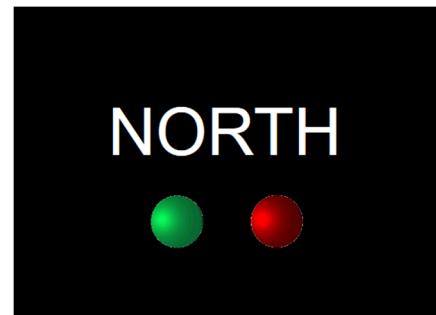
Below, we turn the Navigation Template into a Navigation Template PMacro.



6.79 Template becomes Template PMacro

No further configuration is needed. The Navigational Template PMacro just has to be dropped in the map and it works.

Each station has the exact same navigational toolbar and these do not have to be limited to views. Recall all the functions of a Pushbutton PMacro.



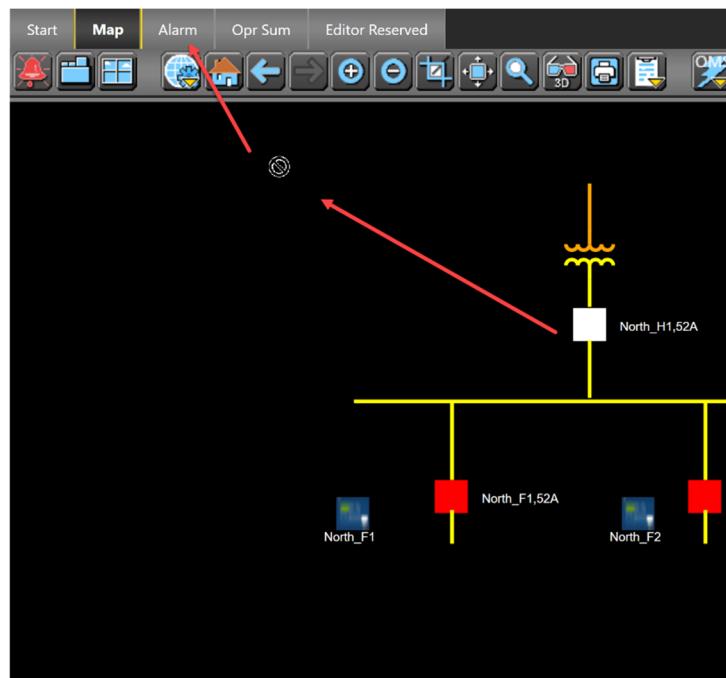
6.80 Navigational Buttons Added

When more stations are added, only one change has to be made – a change in the Template (not the Template PMacro).

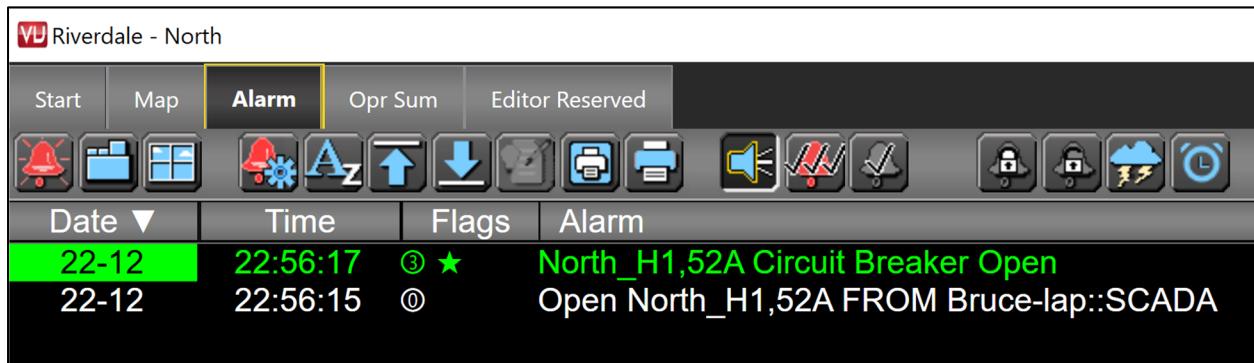
QUICKLY GETTING ALARM VALUES

We will be looking at Alarms in more detail in the next module; however, this module is about using graphics effectively and there is a nice alarm shortcut.

In this image, North_H1,52A is in an unacknowledged alarm state. The black circle between the breaker and the Alarm tab at the top is a user dragging the point to the Alarm. This shortcut provides the Alarm information on the following page.



6.81 Dragging a point in Alarm status to the Alarm Tab

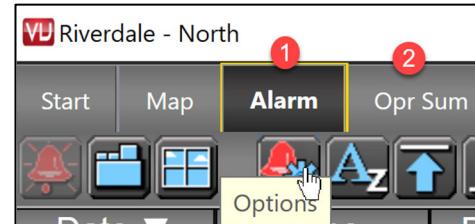


6.82 Alarm Details

We will cover the information from the Alarm Tab in the next module.

ALARM AND OPR SUM VIEWS

Above we showed a shortcut to see Alarm values. The more conventional way to see (1) Alarm and (2) Operator Summary information is to click on Options. Alarm and OPR SUM each have an option button and the options are similar for both.

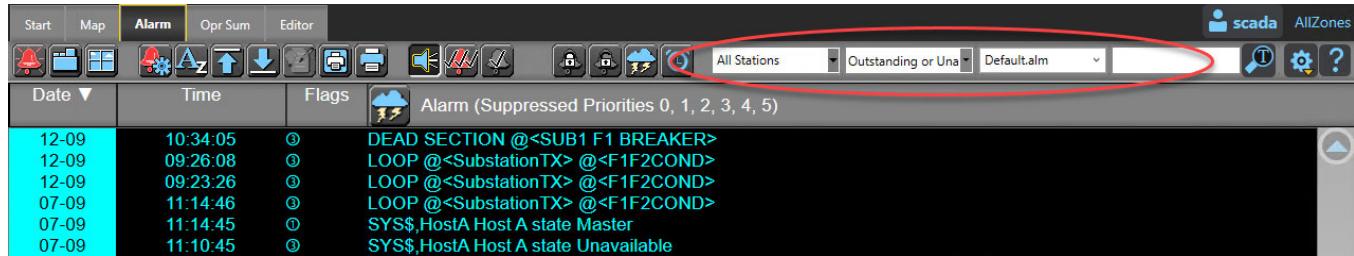


6.83 Alarm and OPR SUM Options



6.84 Setting and Saving Views

At the top of SmartVU, there's also an option to quickly override the information in the default tab



The screenshot shows the SmartVU interface in the 'Alarm' tab. At the top, there are several icons for navigation and system status. Below the icons is a toolbar with dropdown menus for 'All Stations', 'Outstanding or Una...', and 'Default.alrm'. A red oval highlights this toolbar area. The main window displays a table of alarms with columns for Date, Time, Flags, and Description. The descriptions include various system events like 'DEAD SECTION @<SUB1 F1 BREAKER>', 'LOOP @<SubstationTX> @<F1F2COND>', and 'SYS\$,HostA Host A state Master'.

Date	Time	Flags	Description
12-09	10:34:05	①	DEAD SECTION @<SUB1 F1 BREAKER>
12-09	09:26:08	①	LOOP @<SubstationTX> @<F1F2COND>
12-09	09:23:26	①	LOOP @<SubstationTX> @<F1F2COND>
07-09	11:14:46	①	LOOP @<SubstationTX> @<F1F2COND>
07-09	11:14:45	①	SYS\$,HostA Host A state Master
07-09	11:10:45	①	SYS\$,HostA Host A state Unavailable

6.85 Filtering Alarms on Points

In this module, we were able to efficiently use our graphics elements to expand our Pmacros to templates, install and configured control panels and gaining more hands-on experience with drawing our single line diagram. Next module, we will be covering and understanding the alarm management topics.