

# Setting Up a New Project

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## About this tutorial

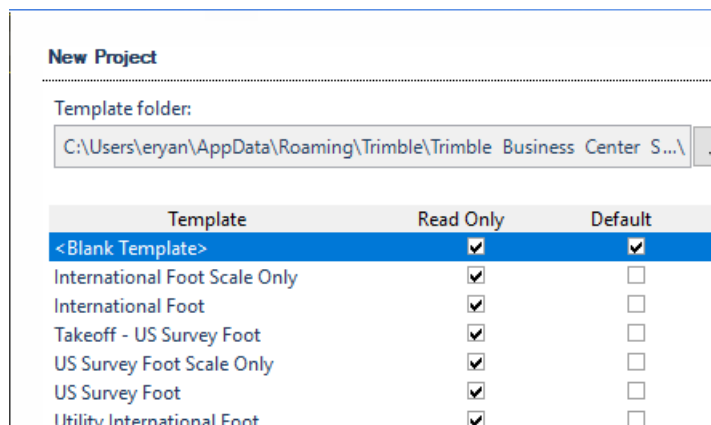
In this tutorial, you will set up a new project, review program options, select various project settings, and save the project as a template that can be used for other new projects.

**Note:** If you need additional help at any time you are using the software, press **F1** to display the online Help.

## Step 1. Create a new project

1. In Survey Office, do either of the following:
  - On the **Start Page**, click the **New Project** button.
  - In the **SO** ribbon, select **File > New**.

The **New Project** window displays.

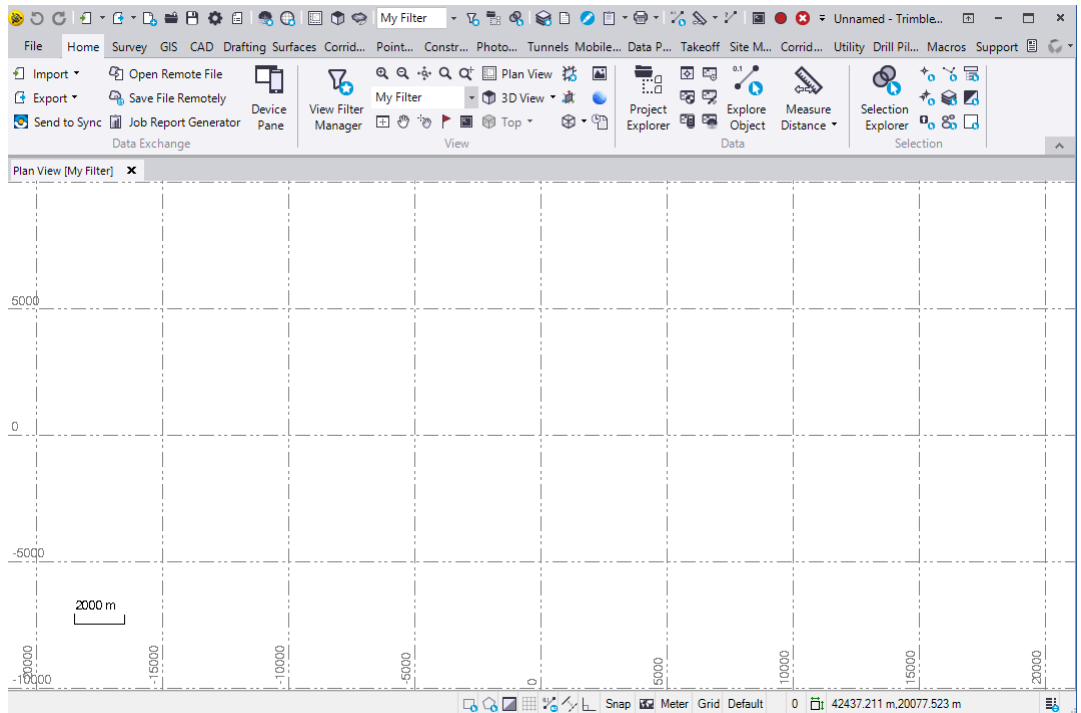


A number of templates are provided by default with SO. The names are typically descriptive enough to help you make your selection, often pertaining to predefined units of measurement. However, some more specialized workflow templates are also included. You will create your own template to display in this list later in this tutorial.

**Note:** A check mark displays in the **Default** column for the *<Blank Template>* template. This indicates that this is the template to be used when you start a new project by selecting the **New Default Project** command in the **Quick Access** toolbar. You can select to make any of the displayed templates the default template.

2. Ensure *<Blank Template>* is selected in the list, and click the **OK** button.

The **Plan View** tab displays.

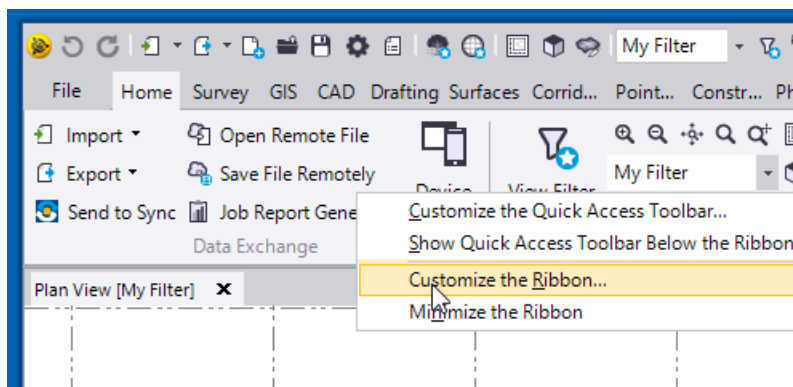


Most SO commands are accessible on the various tabs in the **SO** ribbon. Depending on your license, some of the commands on common ribbon tabs may be disabled, and some add-on module tabs shown in this example may not display at all.

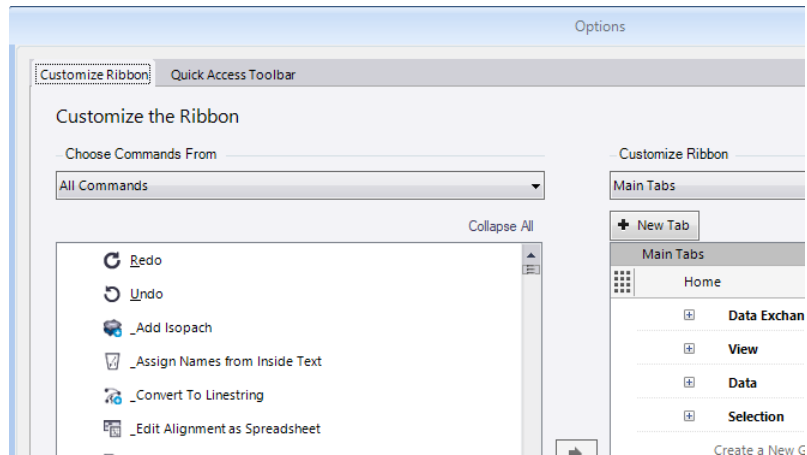
Located directly above the **SO** ribbon, the **Quick Access** toolbar provides even easier access to the most commonly used SO commands.

Optionally, you can customize the **SO** ribbon and/or the **Quick Access** toolbar to better meet your specific workflow needs.

3. Right-click anywhere on the **SO** ribbon and select **Customize the Ribbon** or **Customize the Quick Access Toolbar**.



The **Options** dialog displays. You can select the **Customize Ribbon** tab to add/edit/remove tabs and assign commands to them as necessary. And, you can import/export ribbon layout files.

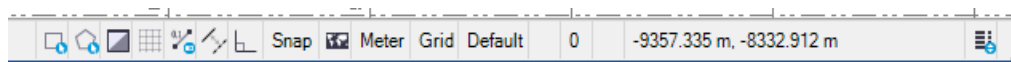


You can select the **Quick Access Toolbar** tab to add/remove commands. And, you can import/export toolbar layout files.

For this tutorial, you will not make any changes.

4. In the **Options** dialog, click **Cancel**.

Additional common commands and information are displayed in the **Status Bar** located at the bottom of the **SO** window. The commands allow you to select objects, toggle the background color and gridlines, select how lines are displayed, specify snap options, select a background map (if applicable), and compute the project. Information displayed includes the current distance unit, the type of coordinate system being used, an error flag indicator, the number of selected objects, and coordinates information.



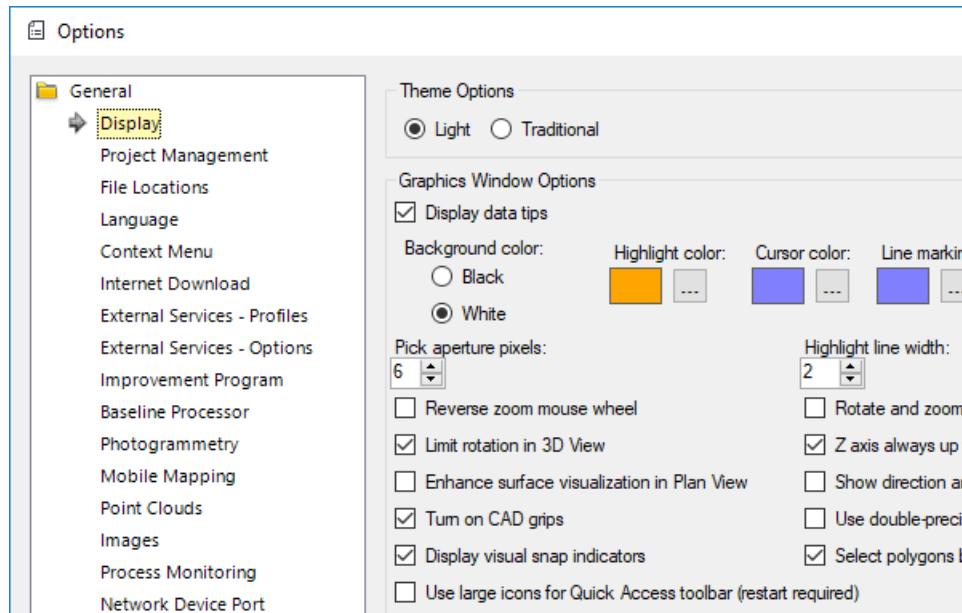
You are now ready to verify program **Options**.

## Step 2. Set display and customization options

When starting a new project, you should verify that program option settings are set appropriately. These settings apply to any project you open and do not change until you change them.

1. In the **Quick Access** toolbar, select **Options**.

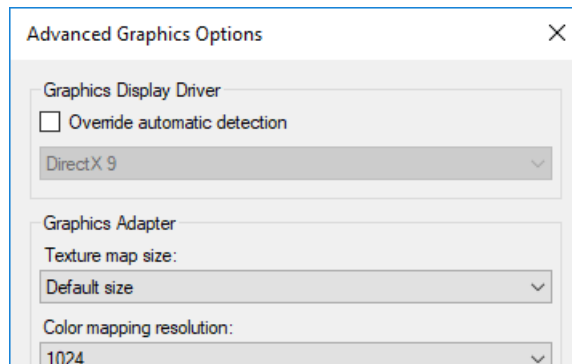
The **Options** dialog displays with the **Display** option group selected in the left navigation pane. (This is not to be confused with the **Options** dialog that displays when you select to customize the **SO** ribbon as described earlier.)



The **Display** option group enables you to specify how information is displayed in the program.

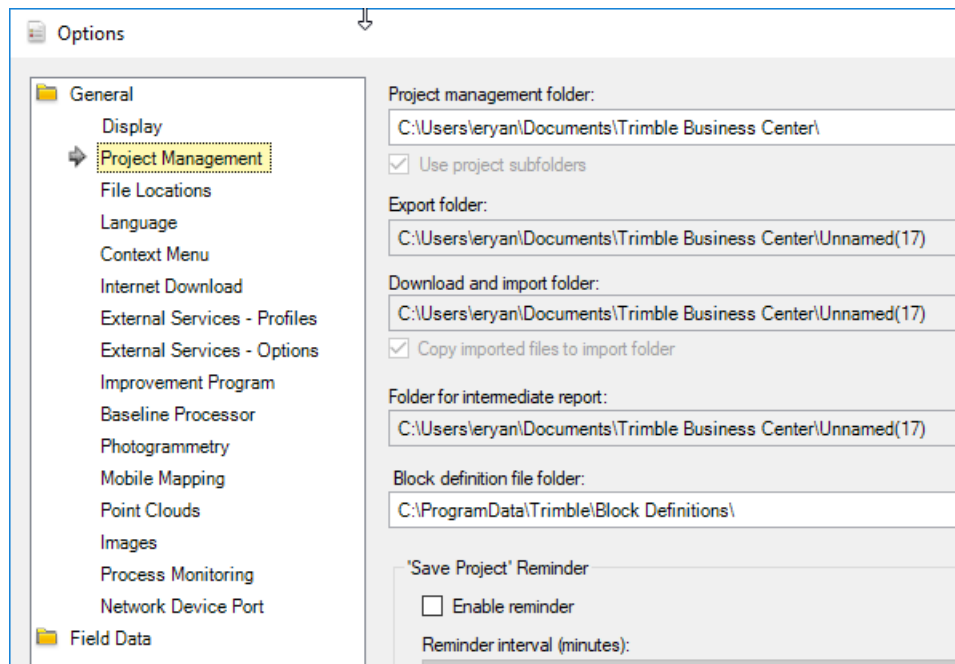
2. Click the **Advanced** button to view the **Advanced Graphics Options** dialog.

This dialog enables you to control how graphics (for example, photographs) are displayed in your project. If a very large image file does not display correctly due to memory constraints, you might try using this dialog to select a down-sampled size that will enable it to display correctly. For this tutorial, you will not make any changes.

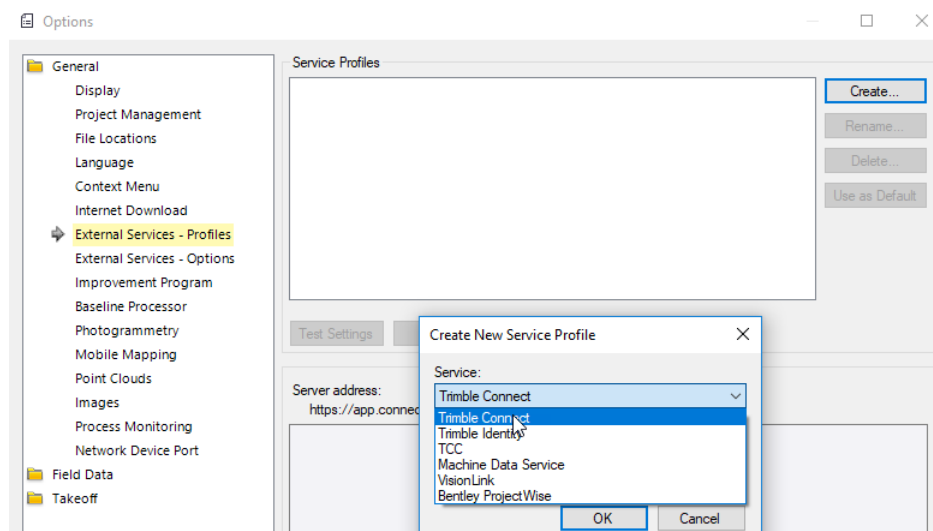


3. Click **Cancel** to close the **Advanced Graphics Options** dialog.
4. In the left navigation pane of the **Options** dialog, select **Project Management**.

This options group, along with the **File Locations** group, allows you to change the default file paths to various project-related files and set the **Save Project Reminder** interval.



5. In the left navigation pane, select **External Services - Profiles**. Then click the **Create** button to display the **Create New Service Profile** dialog.



This dialog enables you to specify credentials for logging into external services, such as the Connected Community, Trimble Connect, VisionLink, Bentley ProjectWise, and other web sites/services that work with SO. This allows you to quickly and easily connect to the service while working in SO. For additional information on setting up an account with an external service, contact your dealer or the service's account administrator.

6. Click **Cancel** to close the **Create New Service Profile** dialog.

Feel free to familiarize yourself with the other option groups to understand their applications. For example, you might try changing settings in the **Point Clouds** and **Images** option groups if you are having problems viewing point clouds or photo images.

Press **F1** if you need additional help.

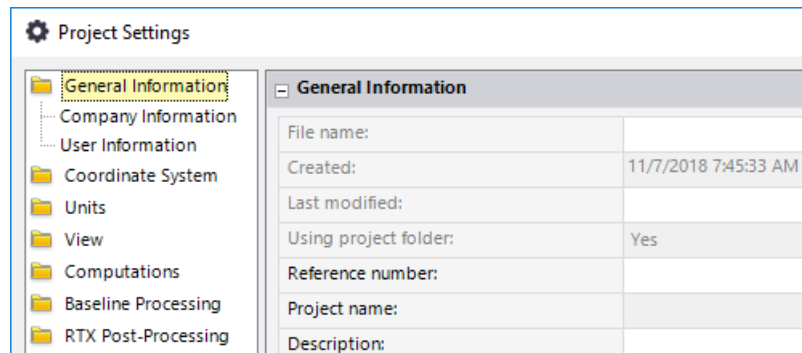
7. Click **Cancel** to close the **Options** dialog without saving any changes you may have made.

### Step 3. Select project settings

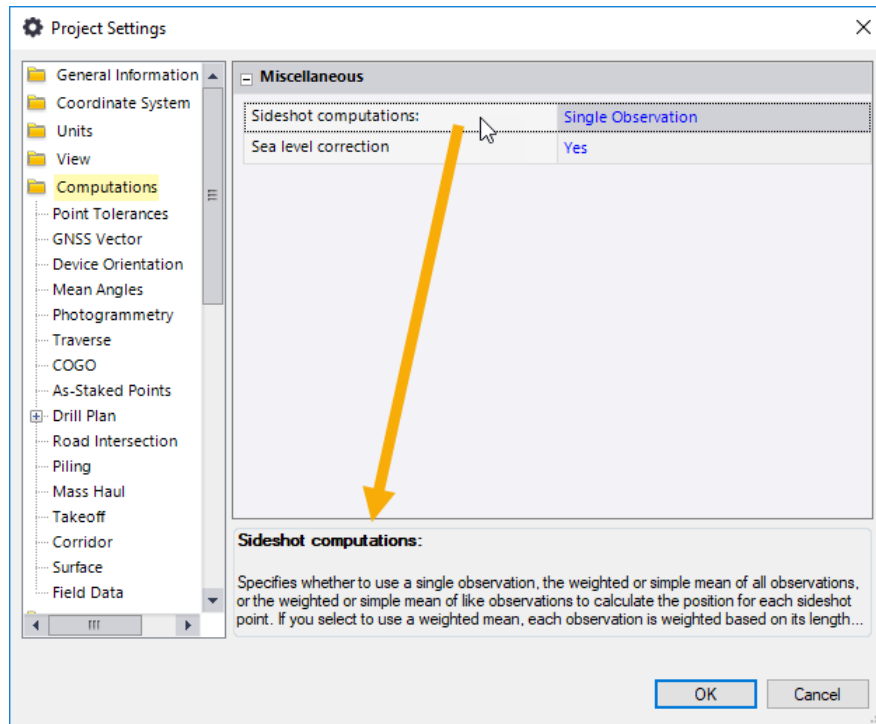
You can select a large variety of configuration settings that are specific to your new project. For this tutorial, you will specify various **Coordinate System**, **Units**, **Baseline Processing**, and **View** project settings. For all other project settings, you will keep the defaults.

**Note:** Project settings are specific to a single project. When you start a new project, the template you select to create the project determines the default project settings, which you can change as shown here.

In the **Quick Access** toolbar, select **Project Settings**.



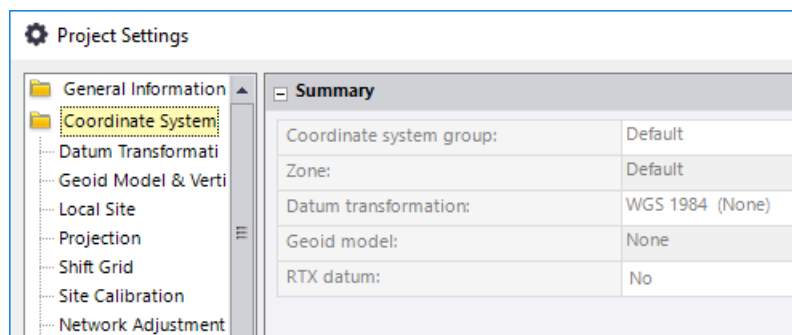
When using the **Project Settings** dialog, you can view a brief description of any setting simply by selecting it.



### 3a. Select Coordinate System settings

In this step, you will select the coordinate system you want to use for your project.

1. In the navigation (left) pane in the **Project Settings** dialog, select **Coordinate System**.



2. Click the **Change** button.

The **Select Coordinate System** dialog displays.

If you have previously selected a coordinate system to use in Survey Office, the **Recently used coordinate system** option is selected and a list of previously used systems is displayed in the **Select Coordinate System** dialog.



Change Coordinate System

Select Recently Used System

Coordinate System and Zone  
 Default projection (Transverse Mercator)  
 Recently used coordinate system

Coordinate System Group	Zone	Datum Transformation	Geoid Model
World wide/UTM	31 North	WGS 1984	EGM96 (G
United States/State Plane ...	Colorado Central 0502	NAD 1983 (Conus)	GEOID12
United States/State Plane ...	Wyoming East 4901	NAD 1983 (Conus)	GEOID12
Belgium/Lambert	Lambert 72 (conformal)	Belgium 2005	HRG03 (B

If you have not previously selected a coordinate system, the **Recently used coordinate system** option is not displayed. The **Coordinate System and Zone** option is selected by default.

Change Coordinate System

Select Coordinate System Zone

Coordinate System and Zone  
 Calibrated Site  
 Default projection (Transverse Mercator)  
 Recently used coordinate system

Coordinate System Group	Zone	(Datum Transformation)
United States/State Plane 1983	31 North	

3. If it is not already selected, select the **Coordinate System and Zone** option.
4. Do the following:
  - a. In the **Coordinate System Group** list, select *United States/State Plane 1983*.
  - b. In the **Zone** list, select *Colorado North 0501*.
  - c. Click **Next**.

The **Select Geoid Model** dialog displays.

Change Coordinate System

Select Geoid Model

No geoid model  
 Predefined geoid model:
 

GEOID12B (Conus)	▼
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Geoid model quality:
 

Unknown Quality	▼
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Vertical datum name:

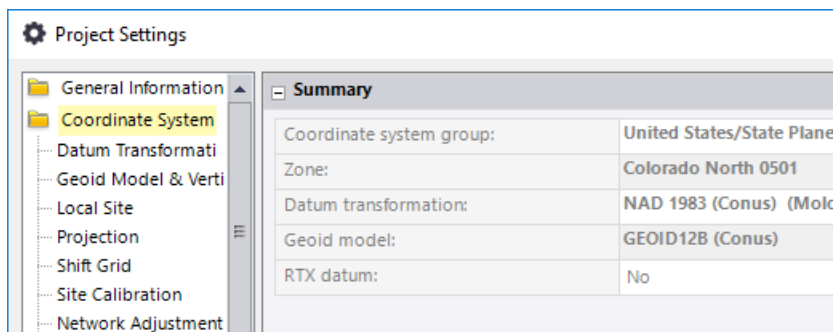
The **Predefined geoid model** option is selected by default. (If it is not selected, select it now.)

The **Coordinate System Manager** is a standalone utility that gives you access to your coordinate system database (*Current.csd*). In the **Coordinate System Manager**, geoid models can be predefined. These predefined models are listed in the **Predefined geoid model** list.

The default model selection is *GEOID 12B (Conus)* and the default quality setting is *Unknown Quality*. There is no need to change the default settings. In addition, there is no need to specify a vertical datum name.

5. Click the **Finish** button.

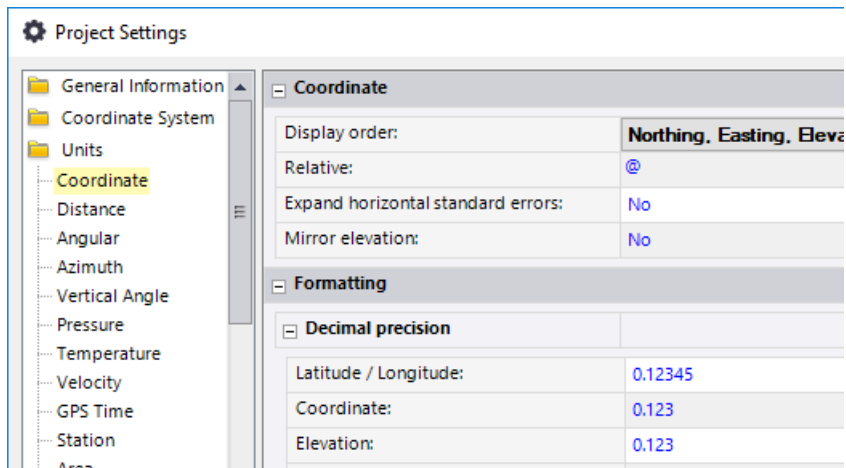
The **Project Settings** dialog displays showing the selected coordinate system information in the **Summary** section of the **Coordinate System** pane.



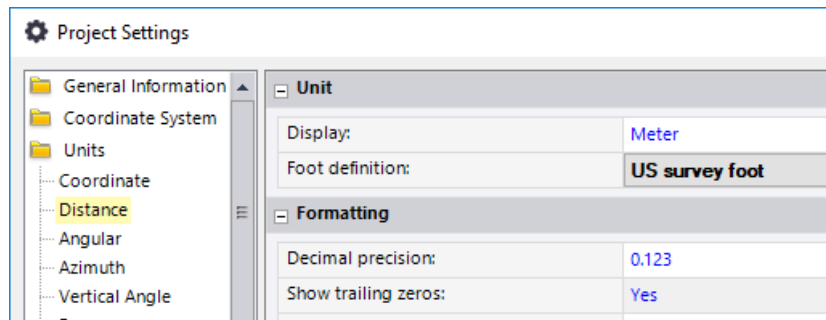
### 3b. Select Units settings

You will use the **Units** project settings to select the coordinate, distance, and GPS time unit settings you want to use for your project.

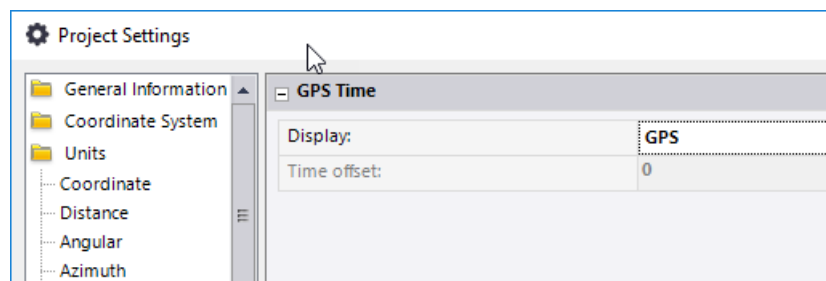
1. In the navigation pane in the **Project Settings** dialog, select **Units > Coordinate**. Then, in the **Display order** drop-down list, select *Northing, Easting, Elevation*.



2. In the navigation pane in the **Project Settings** dialog, select **Units > Distance**. Then, in the **Display** drop-down list, select *Meter*. In the **Foot definition** drop-down list, select *US survey foot*.



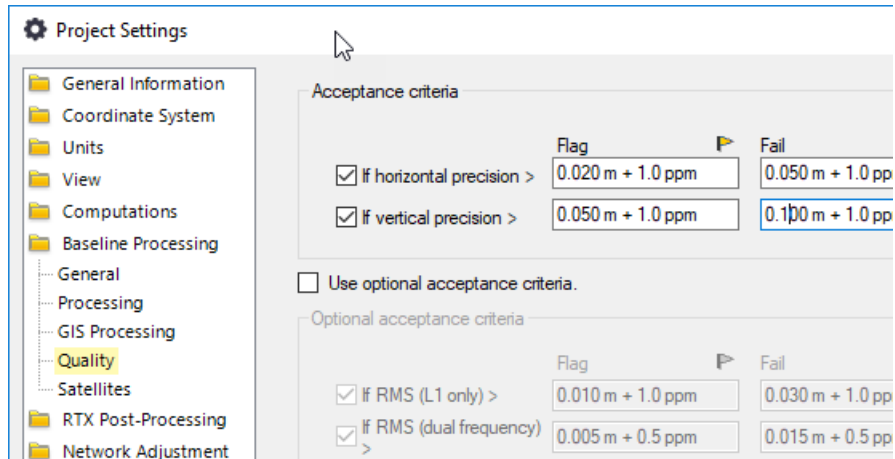
3. In the navigation pane in the **Project Settings** dialog, select **Units > GPS Time**. Then, in the **Display** drop-down list, select **GPS**.



### 3c. Select Baseline Processing settings

In this step, you will enter horizontal and vertical values that, if exceeded, will cause processed baselines to be flagged or fail altogether.

1. In the navigation (left) pane in the **Project Settings** dialog, select **Baseline Processing > Quality**.
2. Enter **Acceptance criteria** properties as follows:
  - a. Ensure the **If horizontal precision** checkbox is checked and enter the following values:
    - **Flag:** *0.020 m + 1.0 ppm*
    - **Fail:** *0.050 m + 1.0 ppm*
  - b. Ensure the **If vertical precision** checkbox is checked and enter the following values:
    - **Flag:** *0.050 m + 1.0 ppm*
    - **Fail:** *0.100 m + 1.0 ppm*

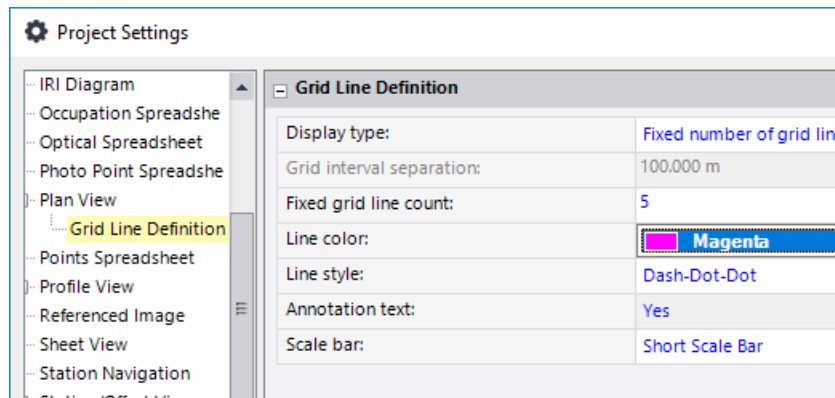


#### 4d. Select View settings

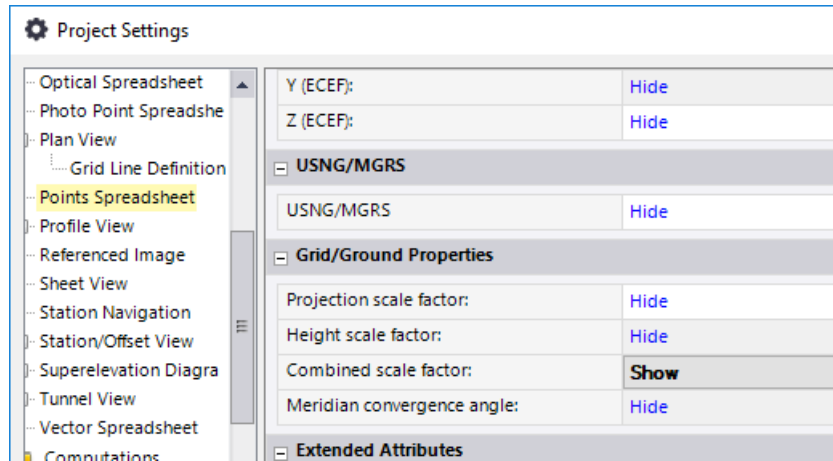
In this step, you will change the color of the grid lines displayed on the **Plan View**. You will also select to include grid/ground properties in the **Point Spreadsheet** and maximum PDOP values for post-processed vectors in the **Vector Spreadsheet**.

1. In the navigation (left) pane in the **Project Settings** dialog, select **View > Plan View > Grid Line Definition**.
2. In the **Line Color** drop-down list, select **Magenta**.

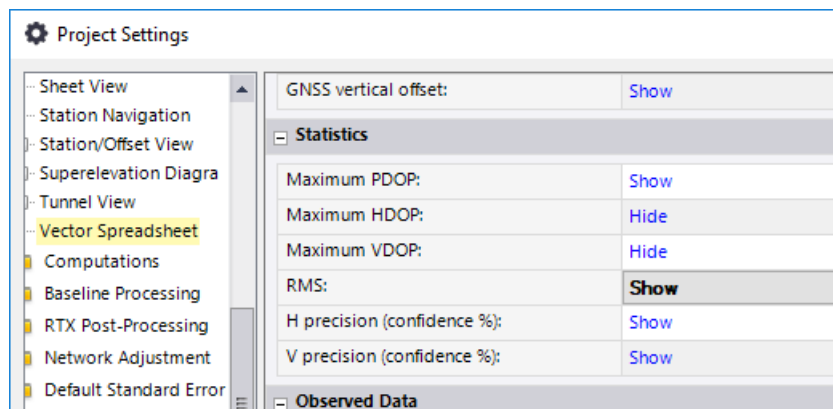
This will change the grid lines displayed on the **Plan View** to magenta, making them easier to see if you are, for example, viewing photographs.



3. In the navigation pane in the **Project Settings** dialog, select **View > Points Spreadsheet**.
4. Scroll to the **Grid/Ground Properties** section and select to show the **Combined scale factor** in the **Points Spreadsheet**.



5. In the navigation pane in the **Project Settings** dialog, select **View > Vector Spreadsheet**.
6. Scroll to the **Statistics** section and select to show the **RMS** (Root Mean Square) value in the **Vector Spreadsheet**.



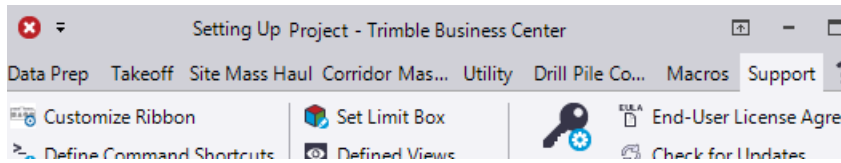
You are done selecting project settings.

7. Click **OK**.

## Step 4. Save your project

1. In this step, you will save your new project, which includes all of your project settings.
2. In the **SO** ribbon, select **File > Save**.
3. In the **Save As** dialog, navigate to `..\Documents\Survey Office`, which is the typical location for storing project files on your computer.
4. In the **File name** field, enter `Setting Up Project.vce`. Then click **Save**.

The **Survey Office** window displays the new project name in the title bar.



## Step 5. Create a project template

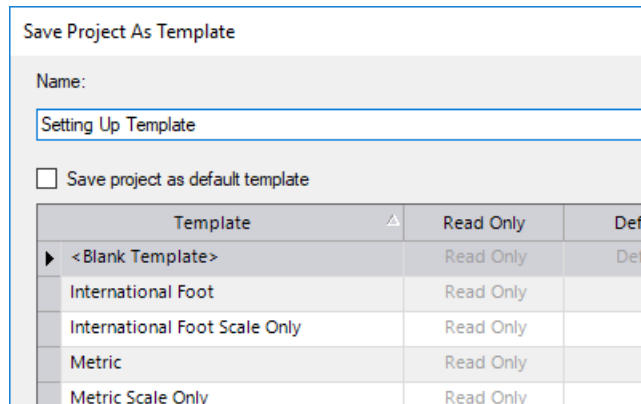
If you expect to create future projects based on your current project, you can save your current project as a project template. The template will include all of your project settings and any objects imported or created in the project. You can then select to create a new project based on the project template by selecting the template in the **New Project** pane as described earlier.

**Note:** If you have imported or created objects in your project but you want to save only the project settings in the template, delete all of the objects in the project prior to saving it as a template.

1. Select **File > Save As Template**.

The **Save Project As Template** dialog displays.

2. In the **Name** field, enter *Setting Up Template*.



You could select the **Save project as default template** check box to specify that new projects default to using this project template.

There is no need to save a project template based on this tutorial. So, in the next step, instead of clicking **Save** as you would normally do to save the template, you will click **Close**.

**Note:** If you were to click **Save**, a new *Setting Up Template.vct* project file would be created, by default, in *C:\Users\<your name>\AppData\Roaming\Trimble\Trimble Business Center Survey\<version number>*. If you needed to edit the template, you could open the VCT file and make changes as necessary. Then, the next time a new project was created using the template, it would include the changes.

3. Click **Close** to close the dialog without saving the template.  
This completes the tutorial.