INEIGHT

ESTIMATE TRAINING MANUAL

ESTIMATE

Release 21.10
Last Updated: 19 August 2025

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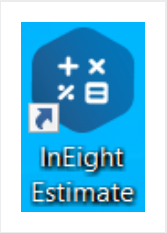
LIST OF STEP BY STEPS

LESSON 2 - NAVIGATION

STEP BY STEP – LAUNCH INEIGHT ESTIMATE VIA ON-PREMISE

1. From the Windows desktop, locate the **InEight Estimate shortcut** icon.

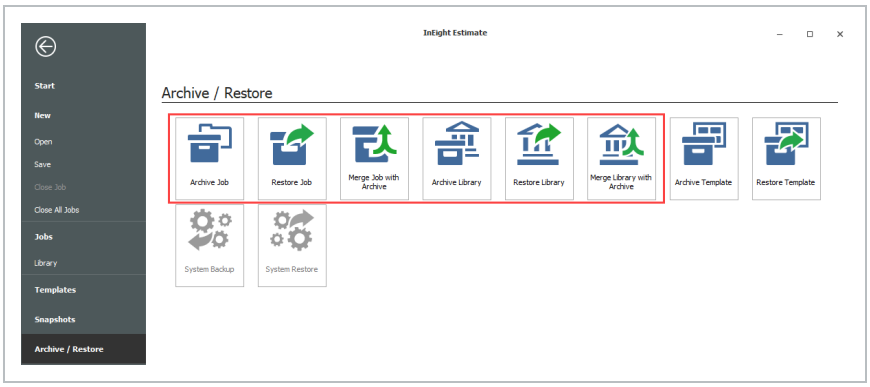


2. Double click on the icon, or right click and select Open.

> **TIP** If you cannot find the InEight Estimate shortcut icon, you can also launch InEight Estimate from the Windows Start menu.

STEP BY STEP – ARCHIVE AND RESTORE A JOB

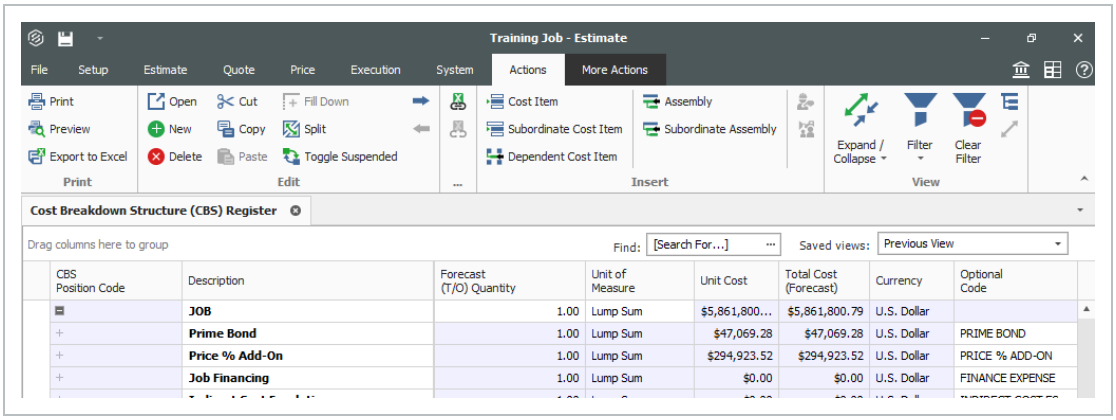
1. Click **File** to open the Backstage View.
2. Select **Archive / Restore**.
    - Several options appear for archiving and restoring your jobs and library



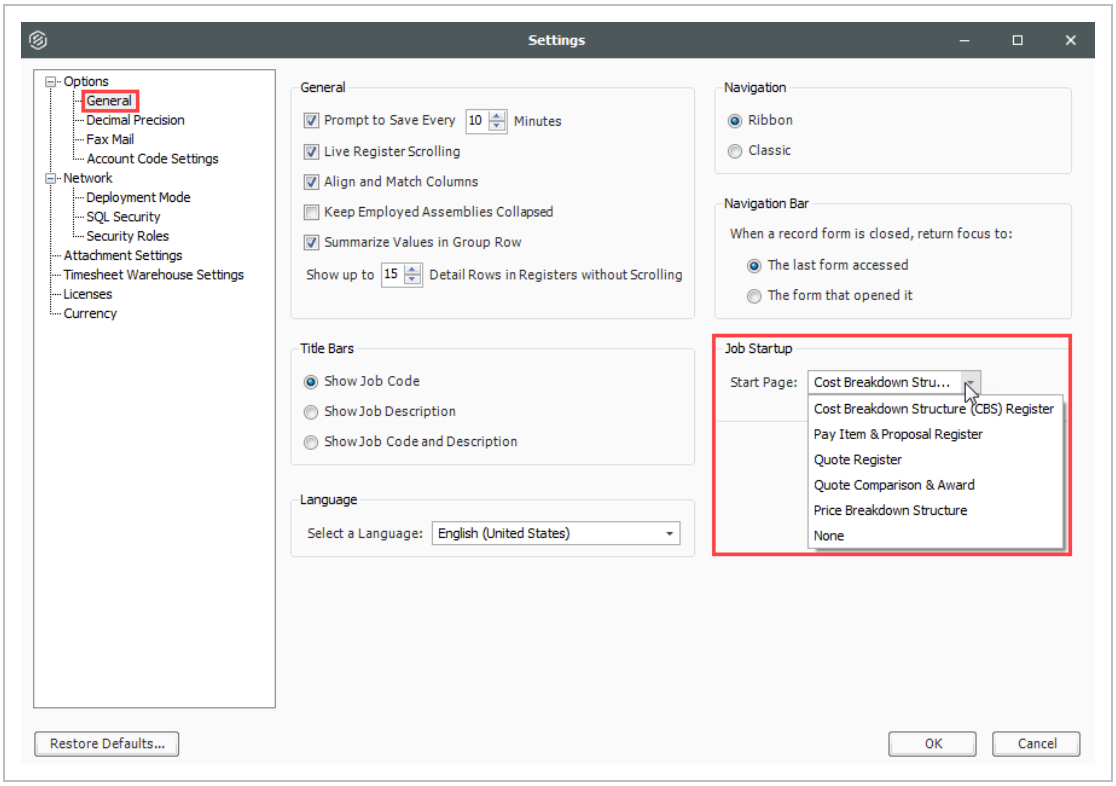
3. Select **Archive Job**.
    - The Job Register appears
4. Select the **Training Job**, then click **OK**.
5. When prompted to include attachments, click **Yes**.
    - The Save As window appears
6. Browse to where you want to save the job, then click **Save**.
7. To restore the job, select **Restore Job Archive** from the Archive / Restore page of the Backstage View.
8. Browse to the archived job and select it.
9. Click **Open**.
    - If the job already exists, a prompt will appear asking if you want to overwrite it
        - To overwrite it, select **Yes**
        - If you select **No**, you will be prompted to save it under a new Job Code

STEP BY STEP – OPEN A JOB FOLDER

1. From the Backstage view, under the **Open a recent Job** section, double click on your **job**.
2. The job folder opens by default to the Cost Breakdown Structure Register.

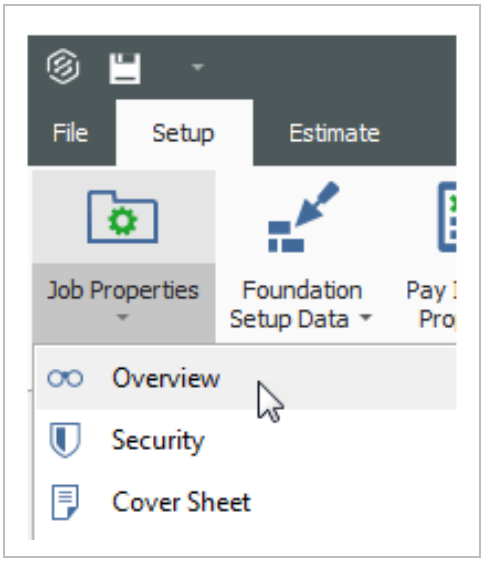


You can change the default form that opens when you start up a job. From the Backstage view, click on **Settings** to change the Job Startup > Start Page settings.

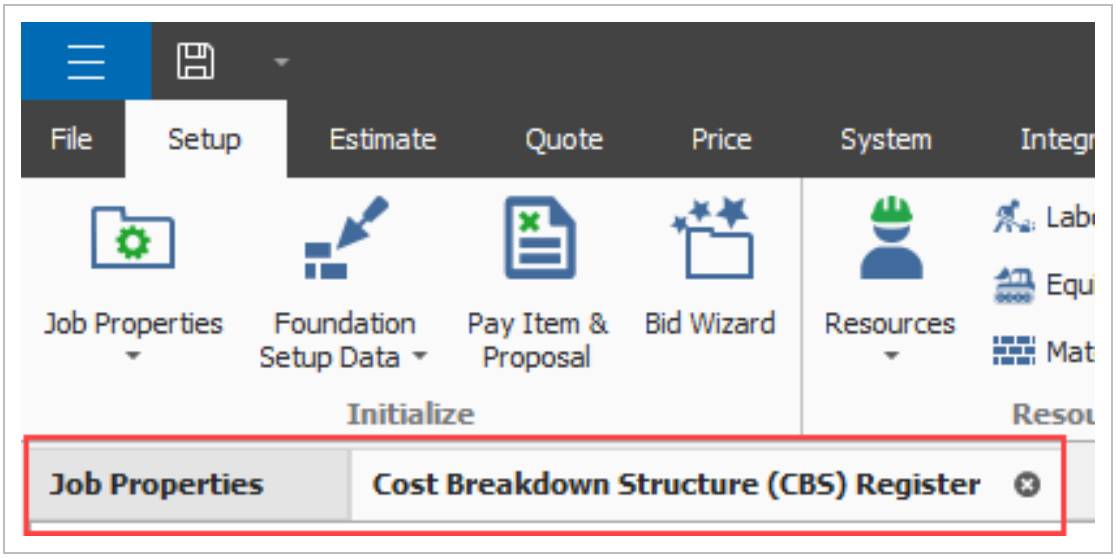


STEP BY STEP – OPEN FORMS

1. Click on the **Setup** tab.
2. In the Initialize section of the Setup tab, click on the **drop-down menu** for Job Properties.
3. Select **Overview** to open the Job Properties form.

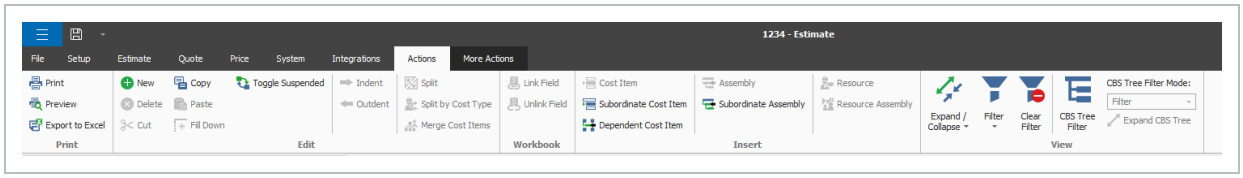


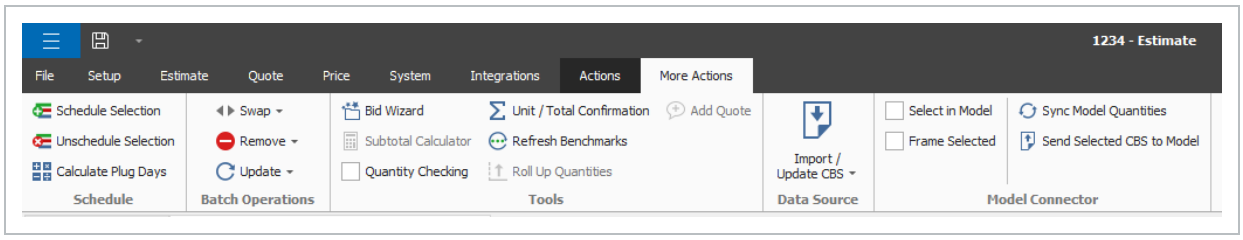
- Notice that each form opens in its own tab within the active job folder



- You can tab between these forms as you are working in InEight Estimate

- Once you are in a register, the Actions and More Actions tabs are available to you. The options available are contextual to that register





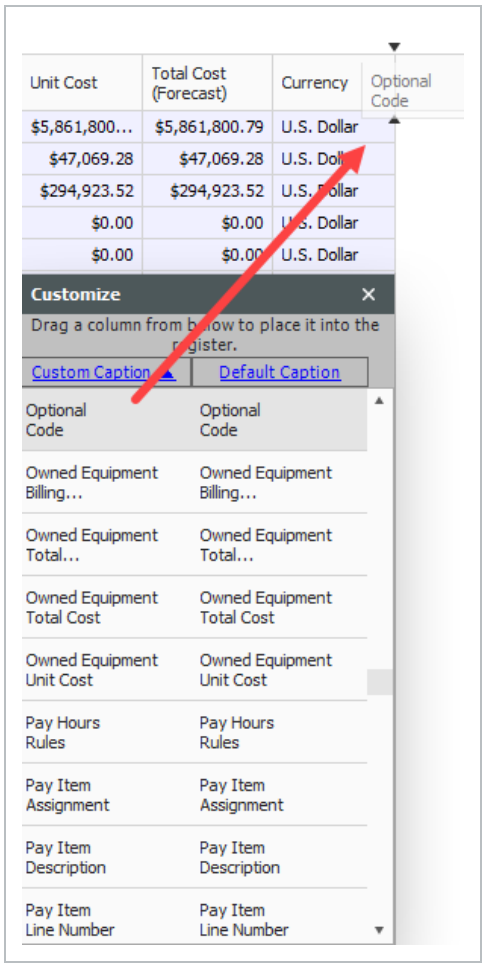
(missing or bad snippet)

STEP BY STEP – MOVE COLUMNS

1. In the CBS, click on the **Currency** column header and drag the column to the left, dropping it to the right of the Description column.
2. Hide the **Optional Code** column by dragging the Optional Code column header down until a black X appears, then let go.

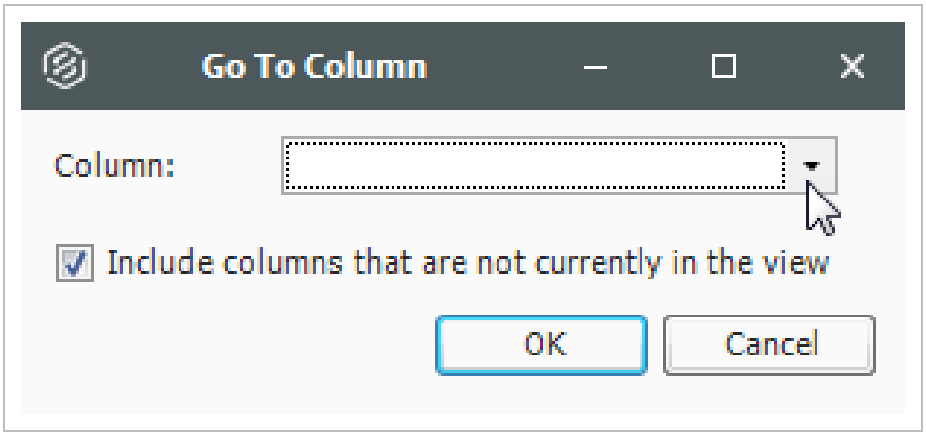
- The Optional Code is now hidden from view
- To unhide a column, right click on any column header and select **Column Chooser**; a Customization window appears, which contains all the hidden columns in that register

3. Find the **column** you want to unhide and drag-and-drop it to the location where you want it to go.



- You can also unhide a column using the Go To Column feature

4. Right click on a **column** header and select **Go To Column**.
5. Click on the **drop-down menu** and select the column you want to unhide.


Go To Column
Column:
Include columns that are not currently in the view
OK
Cancel

6. Click **OK**.

STEP BY STEP – SORT COLUMNS

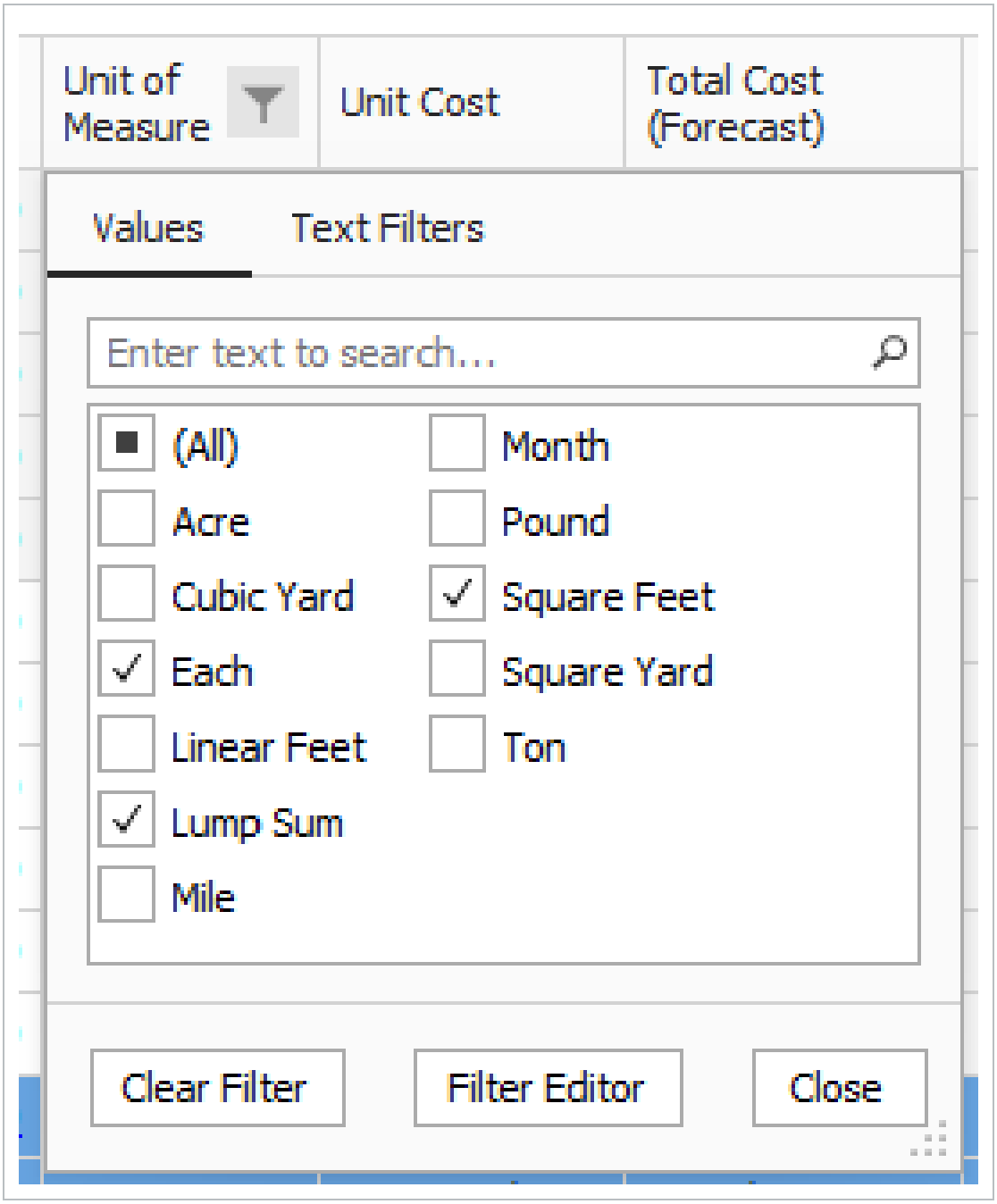
You can sort on any column by clicking once on the column header.

1. In the CBS Register, click on the **Total Cost (Forecast)** column to sort the column in ascending order (e.g., 1 to 10, A to Z).
2. Click the **Total Cost (Forecast)** column a second time to sort in descending order (e.g.,10 to 1, Z to A).

TIP	Use Ctrl-click to unsort a column and reset it to its original state.

STEP BY STEP – FILTER COLUMNS

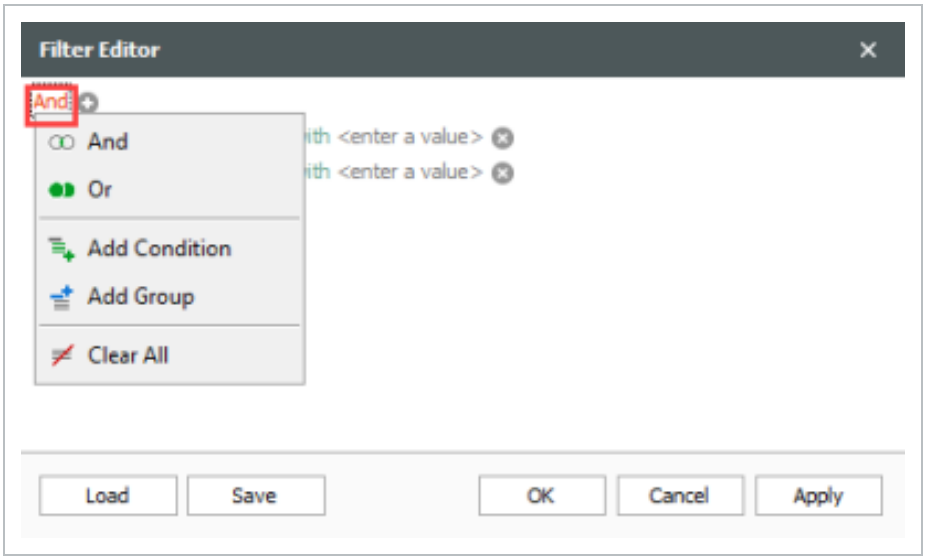
1. In the CBS, hover over the **Unit of Measure** column header for the filter icon to appear.
2. Click on the **filter** icon in the Unit of Measure column to select a filter value.
    - From the filter list, you can select any of the values defined for that column or you can use one of the predefined values (Custom, Blanks, Non blanks).



3. Make your selection, then click **Close**.
4. To clear the filter, click on the **red X** at the bottom of the form or click on the filter icon on the header of the column you filtered and select **(All)**, then click **OK**.

STEP BY STEP – FILTER EDITOR

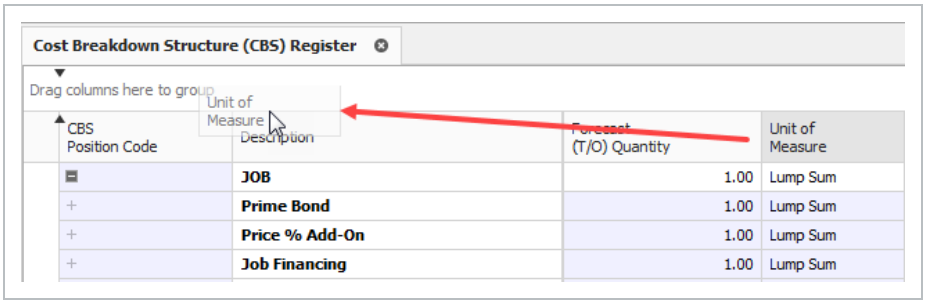
1. In the CBS, hover over the **Unit of Measure** column header for the filter icon to appear.
2. Click the **Filter** icon in the Unit of Measure column to select a filter value; select the desired UoM.
3. Select the **Filter Editor** button, and the Filter Editor data box appears.
    - By default, an **And** statement is created with a **Begins with** operator and a blank value.
4. Select your preferred operator and enter in your preferred value.
5. To add additional **And/Or** statements, select the word **And** in the top left corner. A drop-down appears.



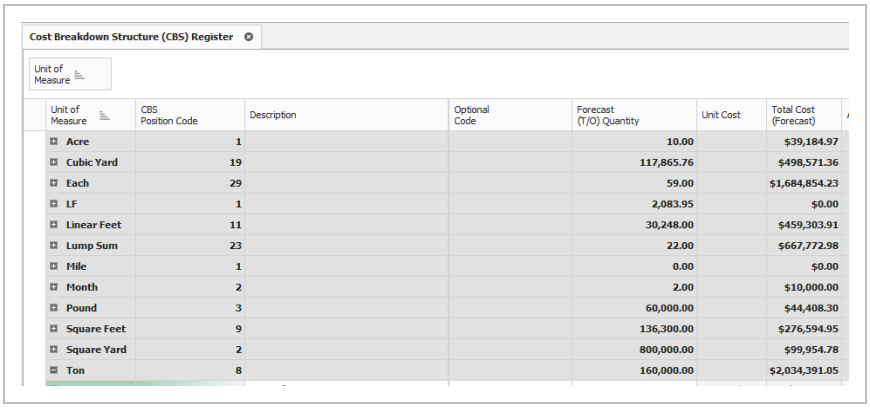
6. Choose which **And/Or** statement to add and then select the **Preferred Operator**.
7. Enter in your **Preferred Value** to complete your additional statement.
8. Click **OK**.
    - Select the **X** to delete a single statement.
9. Select the **And** statement in the top left corner to begin clearing all And/Or statements.
10. From the drop-down, select the option **Clear All**.
11. Once done, select **Apply** and then click **OK**.

STEP BY STEP – GROUP COLUMNS

1. From the CBS register, group the Unit of Measure column by dragging it into the grouping area (where it says “Drag columns here to group”).



- Notice that the cost items in the register are now grouped together by their units of measure, and each group of cost items is subtotalled by costs, hours, quantities, etc.



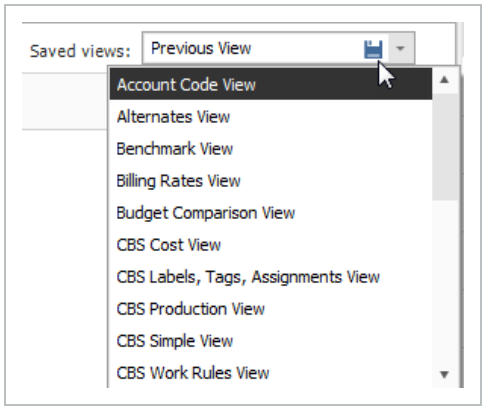
2. To ungroup, right click in the grouping area and select **Clear Grouping**

- The column returns to its original location

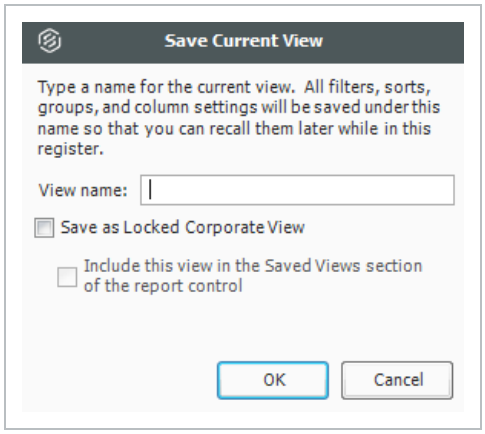
TIP	You can group by more than one column to have multiple grouping levels.

STEP BY STEP – CREATE A SAVED VIEW

1. In the CBS register, click on the **Saved Views** drop-down menu and the Save disc icon appears.



2. Click on the **Save disc** icon.
   - The Save Current View window appears



3. Enter the **View Name**, then select **OK**.
   - The new view displays in the drop-down menu

TIP Saved views are user-specific; you will only see your own saved views when you are logged in.

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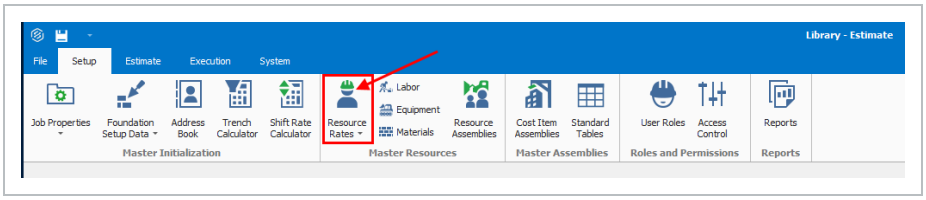
LESSON 3 - LIBRARY SETUP

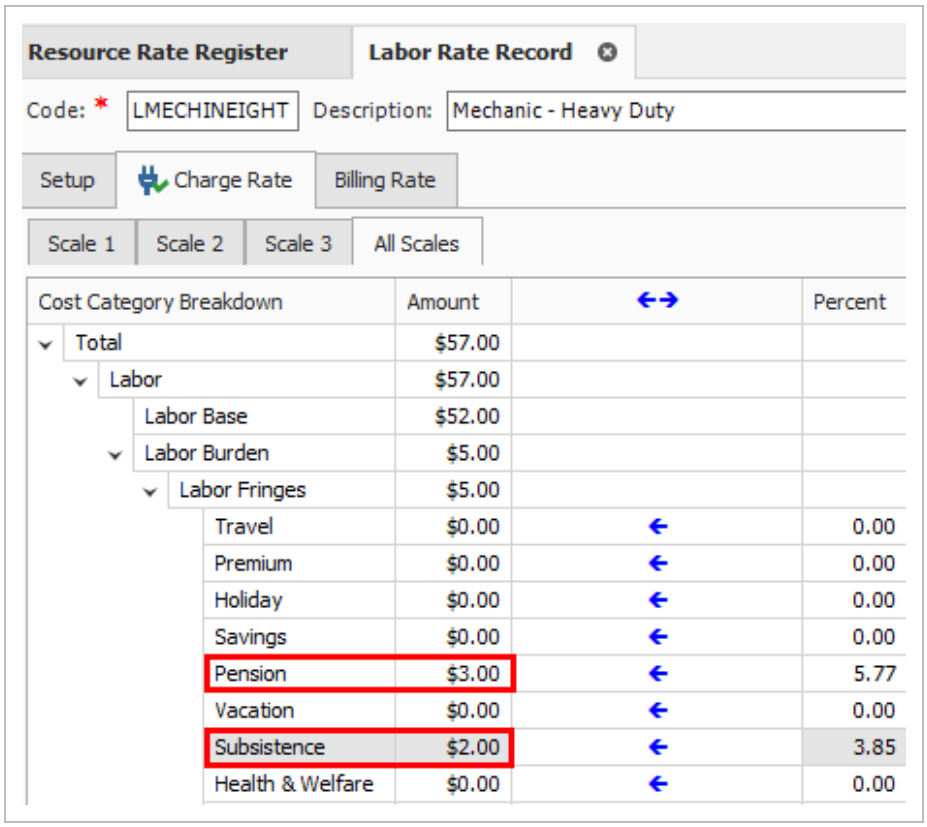
STEP BY STEP – CREATE A LABOR RESOURCE

1. From the Library landing page, on the Setup tab, click on **Resource Rates** from the Master Resources section.

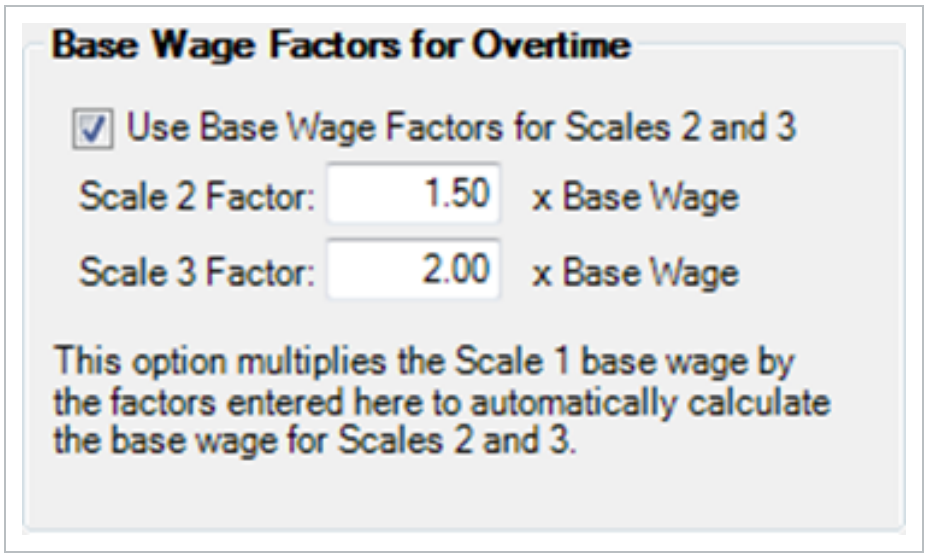


   - The Library Resource Rate Register opens
2. Select the **Labor** tab.
3. Right click on any row header and select **New**.
   - A new Labor Rate Record displays
4. In the Code field, type **L + [your initials]**.
5. Press the **Tab** key.
6. Fill in the Description field.
7. Click on the resource's **Setup** tab and select **Standard Labor Rate File** from the Resource File drop-down list.
8. Select a **location** for the Geographic Area.
9. Select **Wage Zone** A for Wage Zone.
10. Select a **labor type** for the Organizational Category.
11. For Tag 1, select a **code**.
12. For Tag 2, select a **code**.
13. On the Charge Rate tab, enter a **dollar value** for your Labor Base.
14. Expand Labor Burden and under Labor Fringes, type in a **dollar value** for Pension and

Subsistence.



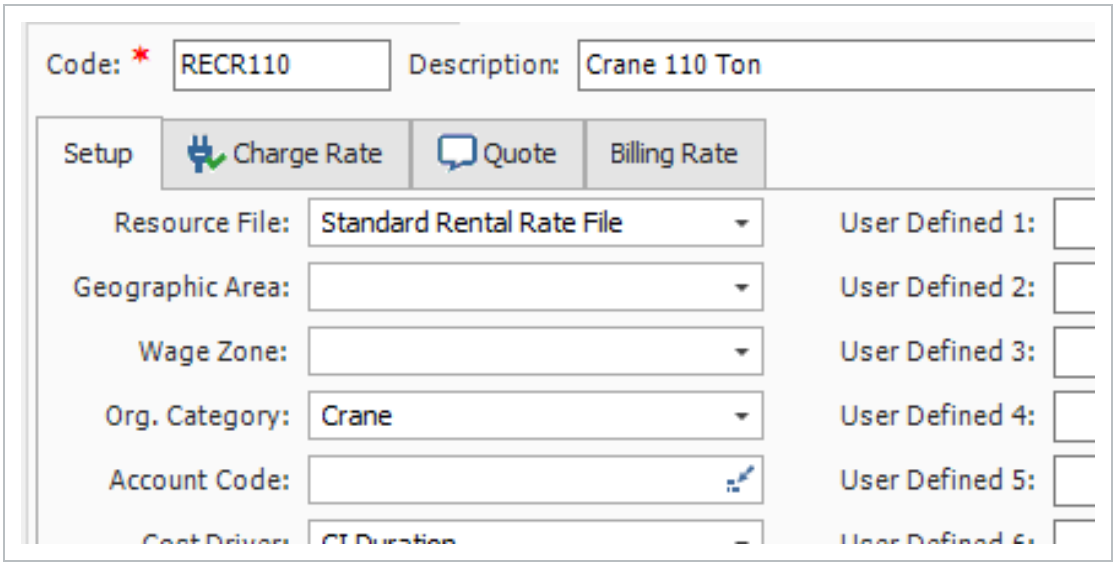
15. Define an overtime and double-time rate for the resource. Select the **checkbox** for Use Base Wage Factors for Scales 2 and 3.
16. Set the Scale 2 Factor to **1.50** x Base Wage and Scale 3 Factor to **2.00** x Base Wage.



17. Click **OK**, to close the record.

STEP BY STEP – CREATE A RENTAL EQUIPMENT RESOURCE

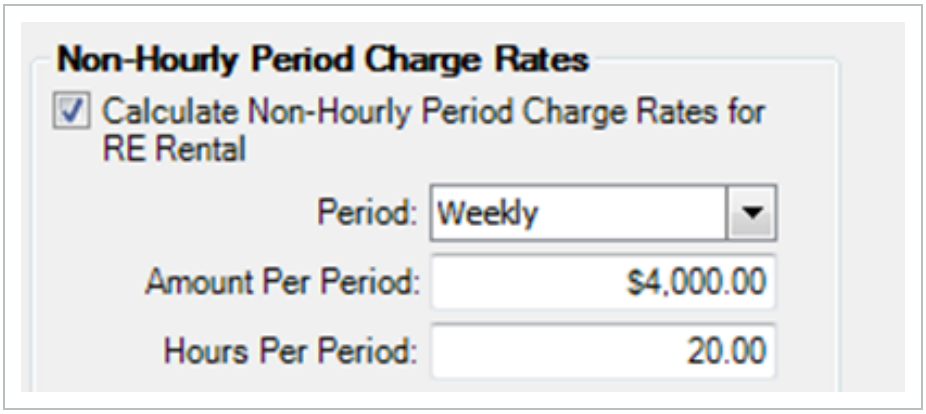
1. Open the Library Resource Rates Register.
2. Select the **Rented Construction Equipment** tab.
3. Right click on any row header and choose **New**; a new Installed Rented Equipment Rate Record displays.
4. In the Code field, type **RECR + [your initials]**, then press **Tab**.
5. In the Description field, type **Crane 110 Ton**.
6. Click on the resource's **Setup** tab and select **Standard Rental Rate File** from the Resource File drop-down list.
7. Select a **resource** from the Organizational Category drop-down list.

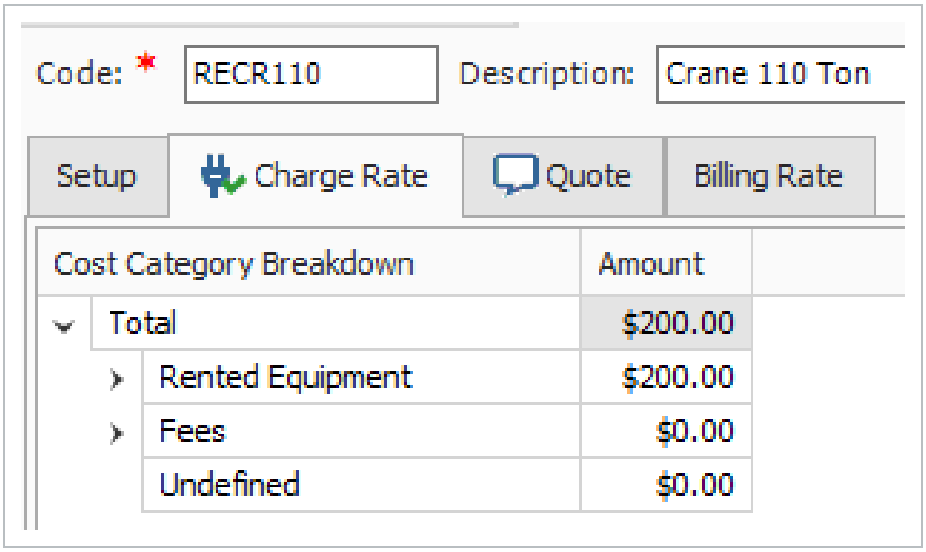


8. Move back to the Charge Rate tab to follow the step by step on the next page.

STEP BY STEP – NON-HOURLY RATE CALCULATOR

1. Refer back to your last entry's rate amount. Under Non-Hourly Period Charge Rates on the right, check the **Calculate Non-Hourly Period Charge Rates** checkbox.
2. On the resulting prompt, click **OK**.
3. In the Period field, select **Weekly**.
4. In the Amount Per Period field, type in a **number value**.
5. Type in a **number of hours** in the Hours Per Period field.

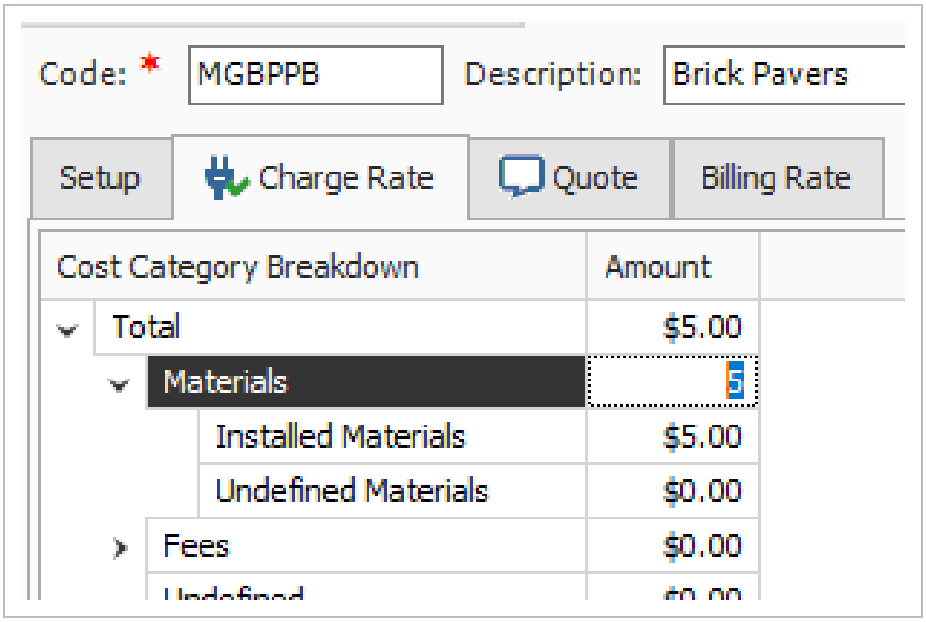




6. Click **OK** to close the record.

STEP BY STEP – CREATE AN INSTALLED MATERIAL RESOURCE

1. Select **Resource Rates** from the Library landing page.
    - The Resource Rate Register displays
2. Select the **Installed Material** tab.
3. Right click on any row header and select **New** from the drop-down menu.
    - A new Installed Material Rate Record displays
4. In the Code field, type **MGBP + [your initials],** then press **Tab.**
5. In the Description field, type **Brick Pavers**.
6. Select a **unit of measure** from the Unit of Measure drop-down list.
7. On the resource's Setup tab, under Resource File select **Standard Material Rate File**.
8. On the Charge Rate tab, expand Materials and enter a **number value**in the Installed Materials Amount field.



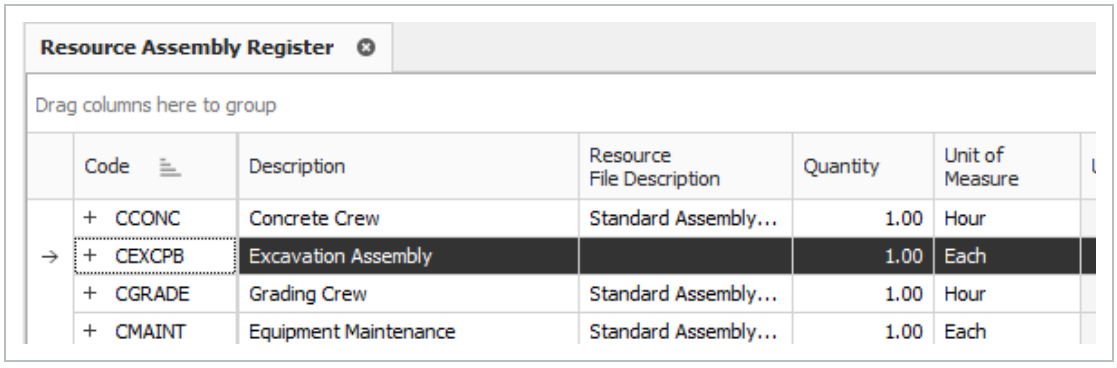
9. Click **OK** to finish adding this resource.

STEP BY STEP – CREATE A RESOURCE ASSEMBLY

1. From the Library landing page, under the Master Resources section of the Setup tab, select **Resource Assemblies**.
   - The Resource Assembly Register is shown.
2. Right click on any **row header** and select **New** from the drop-down menu.
   - A new Resource Assembly Record is shown.
3. In the Code field, type **CEXC + [your initials]** as the unique code for the assembly.
4. Add a **description** in the Description field.
5. In the Assembly Details register at the bottom of the screen, click in the **Resource Code** column in the first blank row, and then select the **Resource** icon that appears in the cell.
6. On the Labor tab of the resulting register, select the resource with the Description: **LL2Laborer** and click **OK** to add this resource to the assembly.
7. Add two additional resources.

> **TIP** You can use the Ctrl and Shift keys to select multiple resources at once.

8. Click **OK** to save and close the new assembly.



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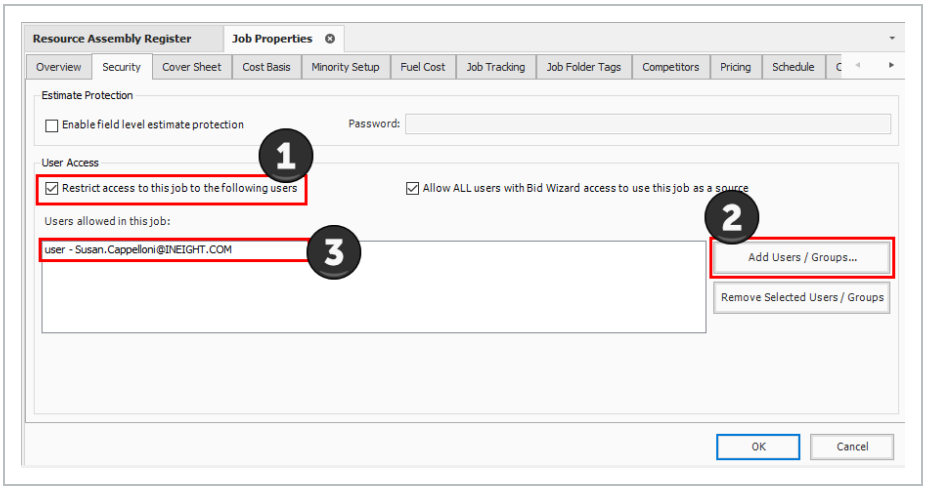
LESSON 4 - PROJECT SETUP

CREATE A NEW JOB FROM SCRATCH

1. From the Backstage view, select to create a new job from **scratch**.
2. In the New Job dialog box, click in the **Core Project** field to select a Platform job from the list.
3. Modify the **Code** field as needed.
4. Enter a description of the job in the Description field.
5. Determine if you want to select the **Auto-Update Job in Connected Analytics** check box.
6. Click **OK** to create the new project.

STEP BY STEP – SET UP JOB LEVEL SECURITY

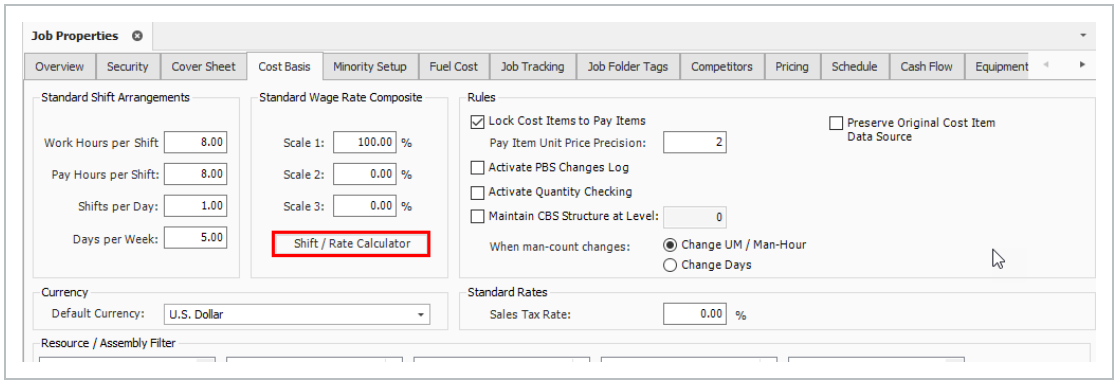
1. On the Job Properties > Security tab, select the **Restrict access to this Job…** check box.
    - Notice the checkbox to "Allow ALL users with Bid Wizard access to use this job as a source" is checked by default. Make sure to keep this checked as well
2. Click the **Add Users / Groups** button to add users.
3. In the Select Users or Groups dialog, type the **email addresses** for those that need access and then click **OK**.
    - If you don't know the email address, you can type the name of the user, and click the Check Names box to find the appropriate user



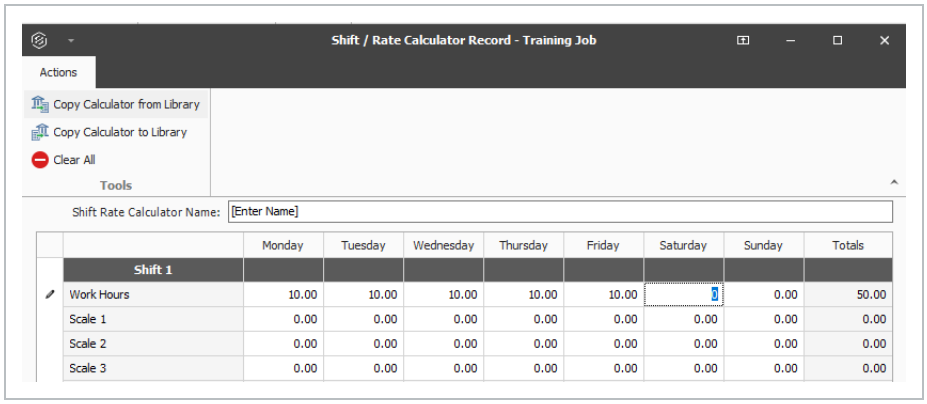
- The job can now only be opened by those listed under Users allowed in this job

STEP BY STEP – SHIFT RATE CALCULATOR

1. On the Job Properties > Cost Basis tab, select the **Shift Rate Calculator** button.



2. For Shift 1, type a **number value** of hours in the **Monday through Friday Work Hours** fields.
   - You can enter up to three shifts for the project
3. For Shift 1, type a **number value** of hours in the **Scale 1** fields.
   - Scale 1 will be your regular time and Scale 2 will be any overtime

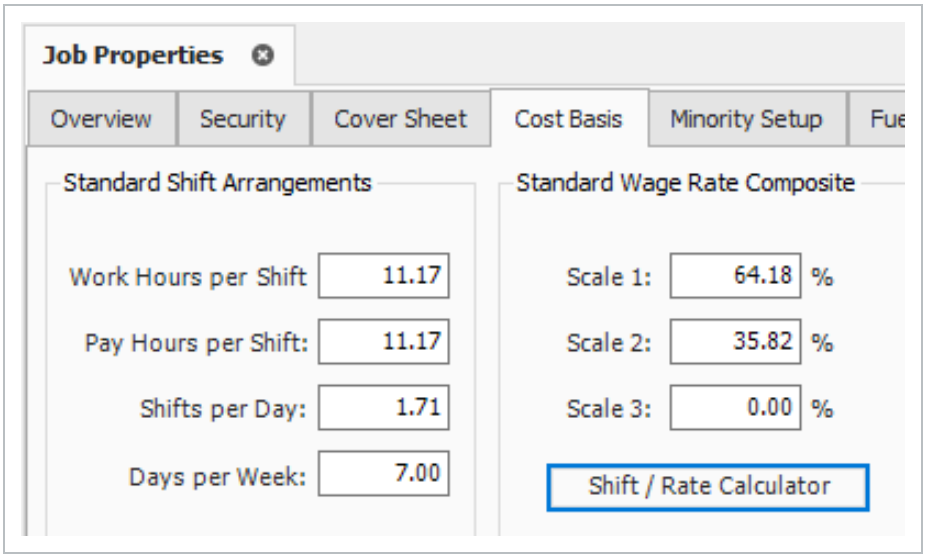


	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Totals
Shift 1								
Work Hours	10.00	10.00	10.00	10.00	10.00	0	0.00	50.00
Scale 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Enter a **number value** for hours in the **Scale 2** fields (just Monday through Friday).
5. For Shift 2, type a **number value** for hours as you did above in Step 3.
6. Click **OK**.

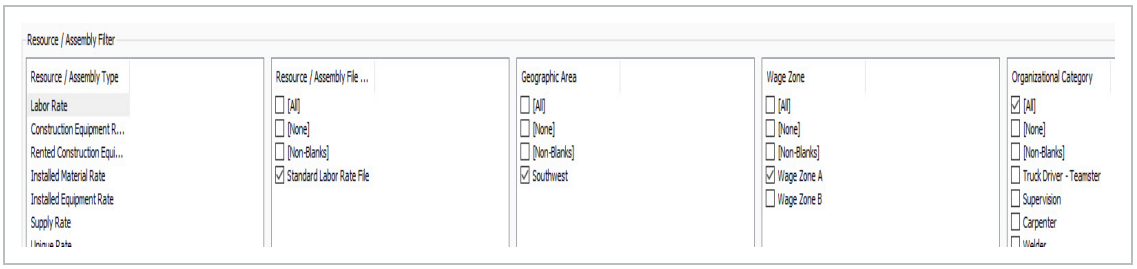
Shift 2								
Work Hours	12.00	12.00	12.00	12.00	12.00	0.00	0.00	60.00
Scale 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- Now you have a blended shift arrangement, and your labor rates are a blend of 64.18% straight-time and 35.82% overtime



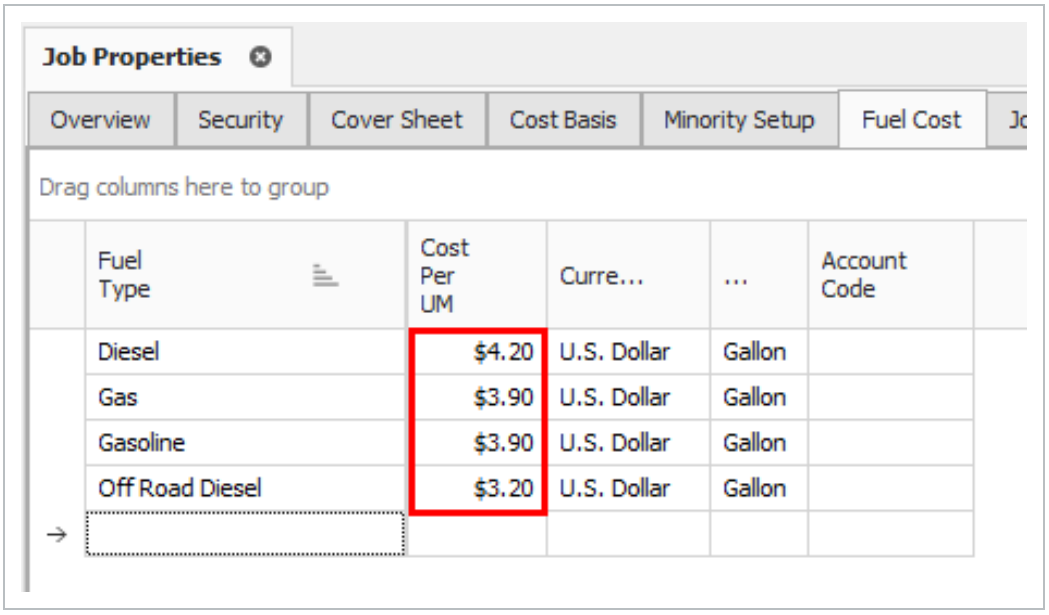
STEP BY STEP – IMPORT FILTERED RESOURCES

1. In your Job, go to the Job Properties > Cost Basis tab, select the **Labor Rate** resource type.
2. Under Resource File Description, select **Standard Labor Rate** File.
3. In the Geographic Area, select an **Area**.
4. For Wage Zone (Work Center), select a **Wage Zone**.
5. For Organizational Category, select **All**.
6. Follow the same steps for the remaining resource types.
7. Select the **Import Filtered Resources** button to bring your selected resources into the job.
    - For this example, we'll select the following filters for the Labor resource type:



STEP BY STEP – ENTER FUEL COSTS

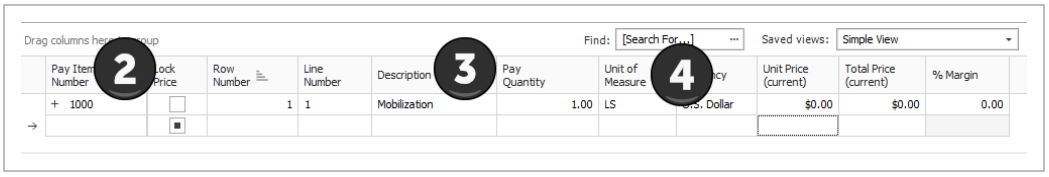
1. In your job, open the **Job Properties** > **Fuel Cost** tab.
2. In Cost Per UM column, enter a **dollar amount** into the following:
    - Diesel
    - Gas & Gasoline
    - Off Road Diesel



3. Currency should read U.S. Dollar and UM should read Gallon.

STEP BY STEP – CREATE A PAY ITEM

1. Open your job and select **Setup** tab **>Pay Item & Proposal** from the InEight Estimate landing page.
    - The Pay Item & Proposal Register displays
2. In the Pay Item Number column, in the first blank row, type a **number value**.
3. Use the Tab key to move to the Description column and type a **description**.
4. Leave the Pay Quantity at 1.00 and change the Unit of Measure to **LS (Lump Sum)**.
    - The Forecast (T/O) Quantity will auto populate to match your pay quantity, but can be changed later
    - You can tab to the next row to create additional pay items if needed



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LESSON 5 - DIRECT COSTS

STEP BY STEP – ADJUST TAKE-OFF QUANTITIES

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. In the Forecast (T/O) Quantity column, the Forecast (T/O) Quantity is brought over from the Pay Item & Proposal Register, but here you can adjust it if needed. Practice adjusting the Forecast T/O quantity of one of your cost items.
    - For this example, we'll change Clearing and Grubbing to **15.00 Acre** and Excavation to **40,000 CY**.

1	**SITEWORK & ROADWAY**	1.00	Each
1.1	Mobilization	1.00	LS
1.2	Clearing & Grubbing	15.00	Acre
1.3	Excavation	40,000.00	CY
2	**WATER & SEWER**	1.00	Each
2.1	10 PVC Pipe	1,000.00	LF

STEP BY STEP – CREATE A SUBORDINATE COST ITEM

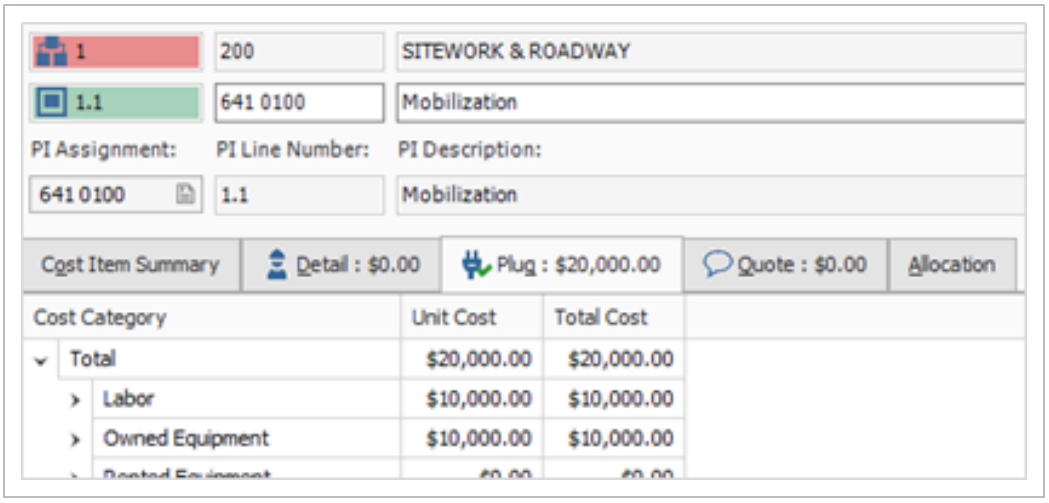
1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on a cost item and select **Insert Subordinate**.
    - This creates a new subordinate cost item below your selected cost item
3. For the subordinate cost item, enter a description.
4. Add a quantity and select your Unit of Measure.
    - For this example, we'll insert a subordinate under Clearing & Grubbing for Clearing

− 1	**SITEWORK & ROADWAY**	1.00	Each
+ 1.1	Mobilization	1.00	LS
− 1.2	Clearing & Grubbing	15.00	Acre
+ 1.2.1	Clearing	15.00	Acre
+ 1.3	Excavation	40,000.00	CY
− 2	**WATER & SEWER**	1.00	Each
+ 2.1	10 PVC Pipe	1,000.00	LF

TIP You can create a subordinate at the same level, by right clicking on an equal-level cost item and selecting **Insert**.

STEP BY STEP – DEFINE A PLUGGED COST

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for a cost item and select **Open**.
3. In the Cost Source drop-down field select **Plug**.
4. In the left section of the cost item, select the **Plug** tab.
5. Click in the Unit cost or Total cost field for a cost category and type in a **Numeric Value**.
    - For this example, on the Mobilization cost item, we'll add $10,000 in the Total Cost field for both Labor and Owner Equipment.



STEP BY STEP – ADD COST DETAIL

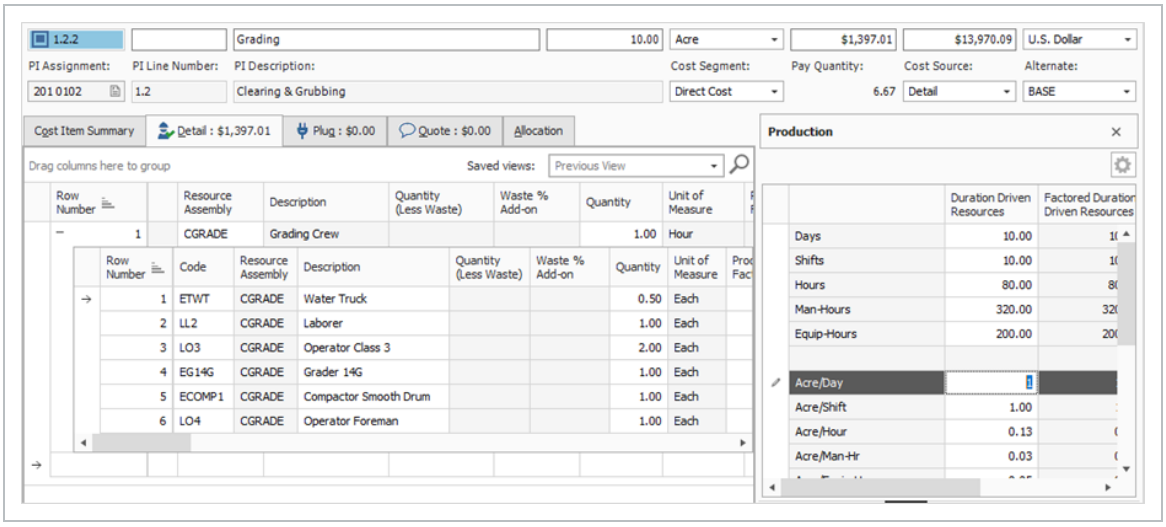
1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on **row header** for a cost item and select **Open**.
3. Select the **Detail** tab.
4. A blank row is available to define your costs. With your cursor in the code field, click the **Resource Selection** icon to open the Resource Selection Register.
5. Select a resource tab (e.g., Labor).
6. Select a resource.
7. Select **OK**.
8. Repeat the steps to add additional resources as needed.
9. Click in each resource's quantity field to change their quantity as needed.
10. From the lower-right section of the form, select the **Production** tab.
11. Type a **numeric value** in the Days field, then press **Tab**.
12. Click **OK** to close the record.

- For this example, we'll add cost detail to the Clearing cost item, adding the following labor and equipment resources and production value:

Resource	Quantity
LL2 Laborer	2
LO1 Operator Class 1	1
EL988 Loader 988	1
Cost Item Production Value (in Days)	
8	

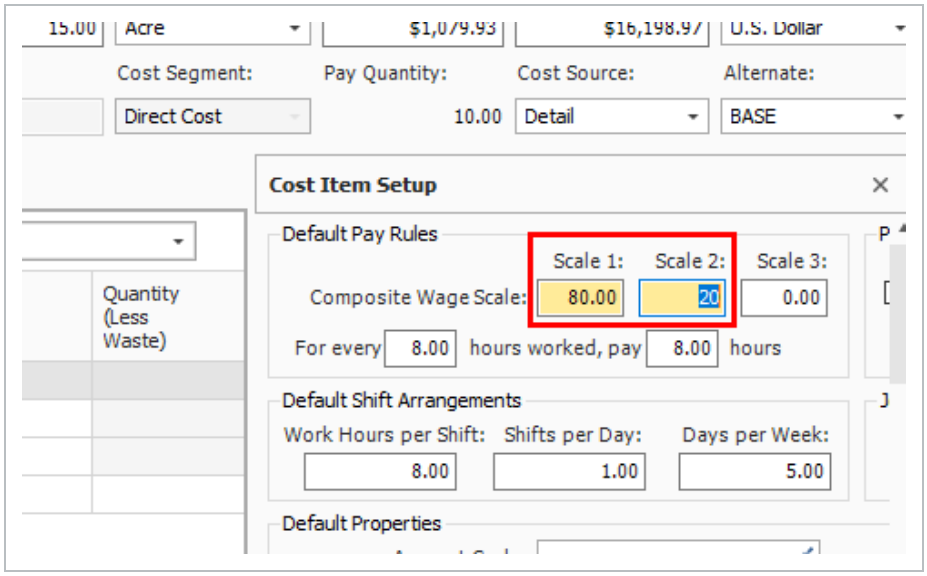
STEP BY STEP – DEFINE COST DETAIL BY ADDING AN ASSEMBLY

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for one of the cost items and select **Open**.
3. Select the **Detail** tab.
4. With your cursor in the Resource Assembly field, click the **Resource Assembly Selection** icon to open the Resource Assembly Selection Register.
5. Select an assembly, then click **OK**.
6. Because this crew includes duration-based resources, you need to enter a Production value. Select the **Production** tab.
7. Type a **numeric value** in one of the production fields (e.g., UoM/day), then press **Tab**.
    - For this example, on the Grading cost item, we'll add a Grading assembly with a production value of 1 Acre/Day.

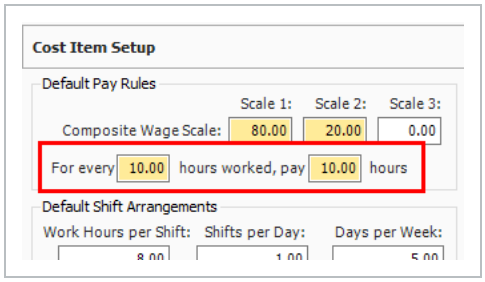


STEP BY STEP – ADJUST SHIFT ARRANGEMENTS

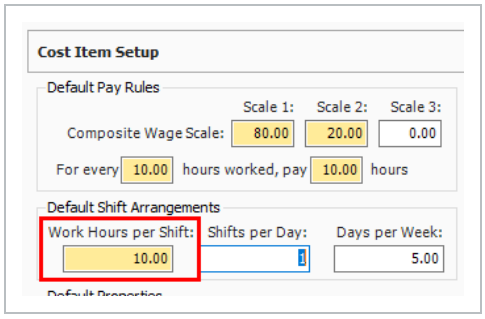
1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for a cost item and select **Open**.
3. Select the **Cost Item Setup** tab in the lower-right portion of the form (the tab name may be abbreviated).
4. In the Default Pay Rules data block, adjust your Composite Wage Scale as needed.



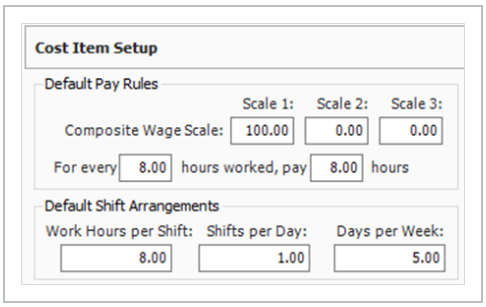
5. Under the Composite Wage Scale, adjust the number of hours and paid as needed



6. In the Default Shift Arrangements data block, make changes as needed.

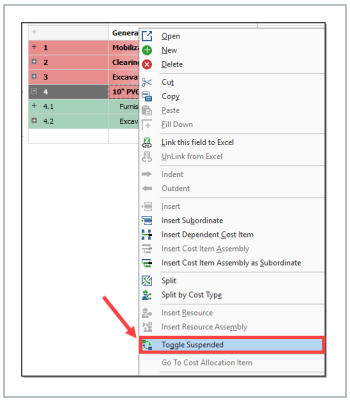


- For this example, we'll make the following changes on the Clearing cost item:
  - Composite Wage Scale – 80% Scale 1, 20% Scale 2.
  - For every 10 hours worked, pay 10 hours.
  - Default Shift Arrangements – Change Work Hours per Shift to 10.

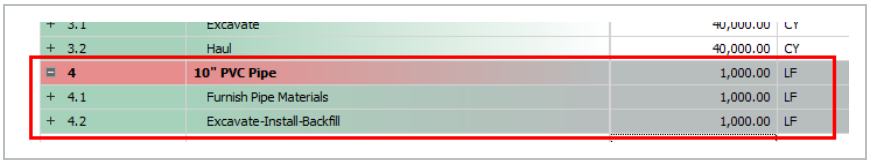


STEP BY STEP – SUSPEND A COST ITEM

1. On the **Cost Breakdown Structure (CBS) Register**, select a **cost item**.
2. Right click on the selection and select **Toggle Suspended** from the menu.
    - You can also select Toggle Suspended under the Edit section of the Actions tab up above
    - You can also suspend cost items by checking the Suspend checkbox on the Cost Item Setup tab of a cost item record



    - If a superior cost item is suspended, its subordinate cost items are automatically suspended as well



    - The costs associated with these cost items will no longer contribute to the estimate

STEP BY STEP – UNSUSPEND A COST ITEM

1. On the Cost Breakdown Structure (CBS) Register, select a **cost item**.
2. Right click on the selection and choose **Toggle Suspended**.
    - You can also select Toggle Suspended from the Edit section of the Actions tab
    - You can also unsuspend cost items by unchecking the Suspend checkbox on the Cost Item Setup tab of a cost item record

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LESSON 6 - INDIRECT COSTS

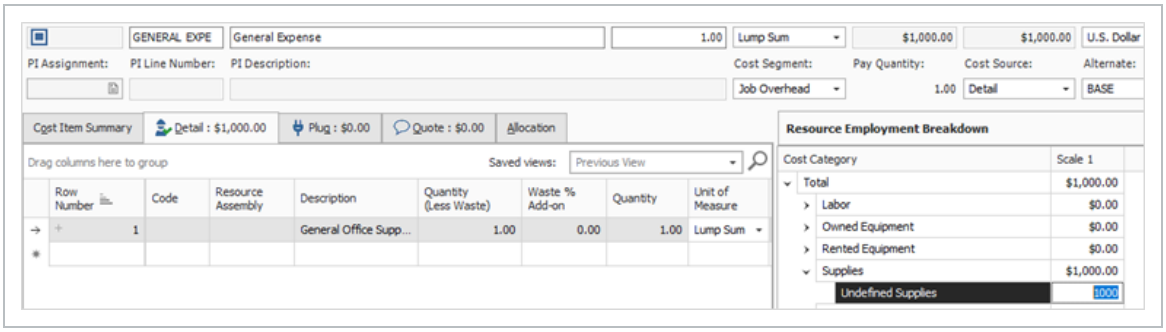
STEP BY STEP – ADD JOB MANAGEMENT & EQUIPMENT COSTS

1. In your job, from the Estimate landing page, select the **Cost Breakdown Structure (CBS)**.
2. Double-click on the row header of the **Job Management & Equipment** indirect cost item.
3. Add resources by clicking in the Code column and selecting the **Icon**.
4. Select the **Production** tab.
5. Enter a production value.
6. Click **OK** to close the record.
    - For this example, we'll add the following resources and production:

Resource	Quantity
LSSEC Secretary	1
LSSUPT Project Superintendent	1
Cost Item Production Value (in Days)	
70	

STEP BY STEP – ADD GENERAL EXPENSE COSTS

1. From the Estimate tab, select the **Cost Breakdown Structure (CBS)**.
2. Right-click the row header of the **General Expense** row header and select **Open**.
    - You could add existing resources here, but in this case, you will create an ad hoc resource.
3. In the first blank row, enter a description, quantity and unit of measure.
4. Click on (highlight) that row, and then click the **Resource Employment Breakdown** tab.
5. Type a **numeric value** in the Undefined Supplies cost category.
6. Click **Ok** to close the record.
    - For this example, we'll add General Office Supplies, 1 Lump Sum, $1,000 in the Supplies category.



STEP BY STEP – DELETE EXISTING DEFAULT DEPENDENT COST ITEMS

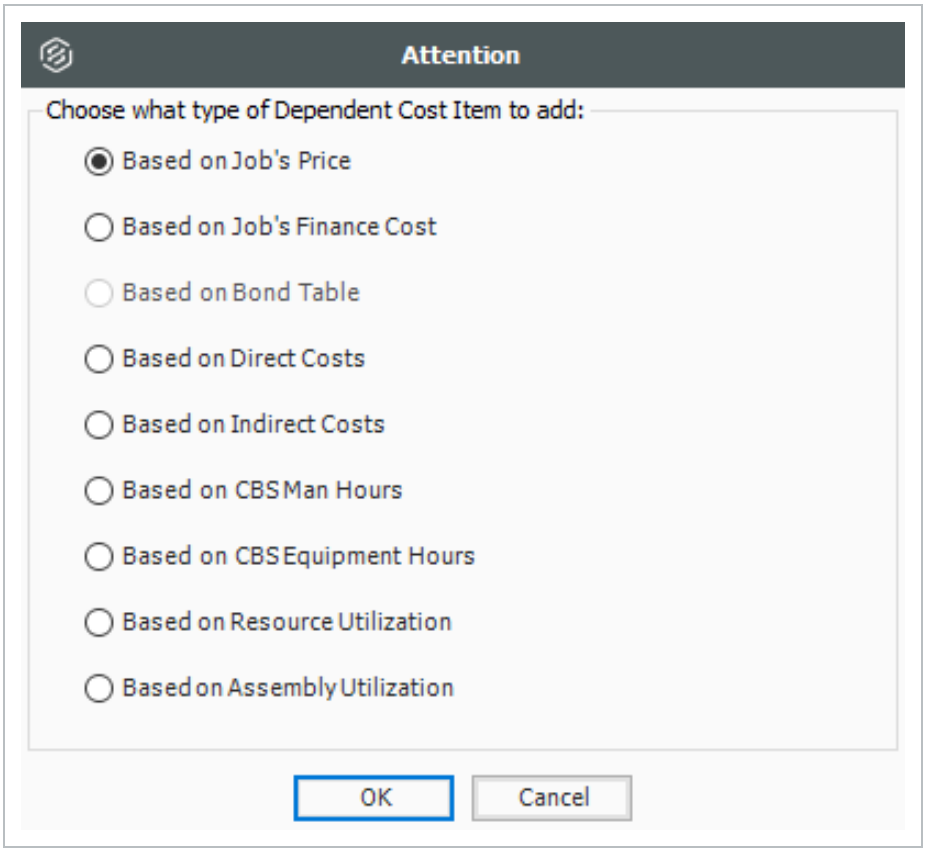
1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Select an **Indirect Cost Item** by clicking on its row header.
3. Press and hold the Ctrl or Shift key to select multiple indirect cost items.
4. Right-click on the **selection** and select **Delete**.
5. Select **Yes** to confirm you want to delete the selected cost items.

STEP BY STEP – DEFINE PRIME BOND

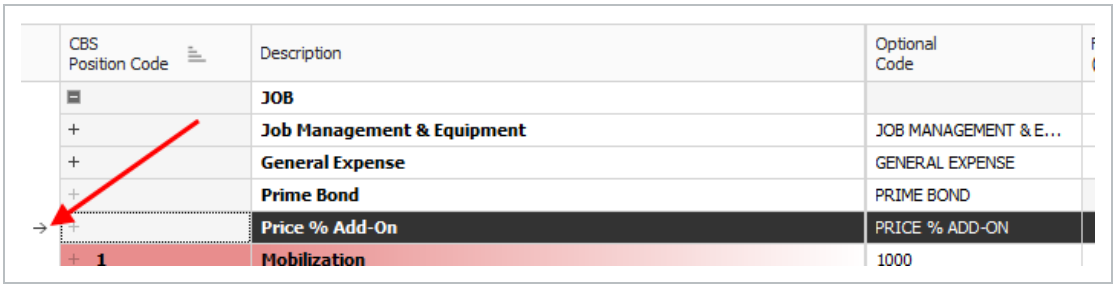
1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for any cost item and insert **Dependent cost Item**.
3. On the resulting Attention prompt, select **Based on Bond Table**.
4. Click **OK**.
5. Right-click on the Prime Bond row header and select **Open**.
6. Use the Table Name drop-down to choose a table (e.g., Example: General Construction).
7. Click **OK** to close the record.

STEP BY STEP – DEFINE A PRICE % ADD-ON

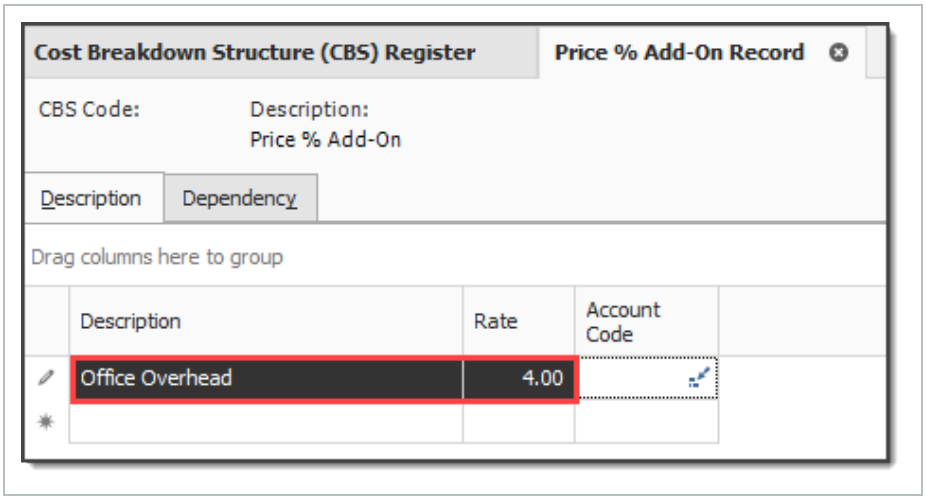
1. From the Cost Breakdown Structure (CBS) Register, right-click on the **row header** for any cost item and select **Insert Dependent Cost Item**.
2. On the resulting Attention prompt, select **Based on Job's Price**.



3. Click **OK**.
4. Double-click on the **Price % Add On** row header to open the record.



5. The Price % Add-on Record opens to the Description tab. Type a **description** in the Description field and enter a **numeric value** for rate.

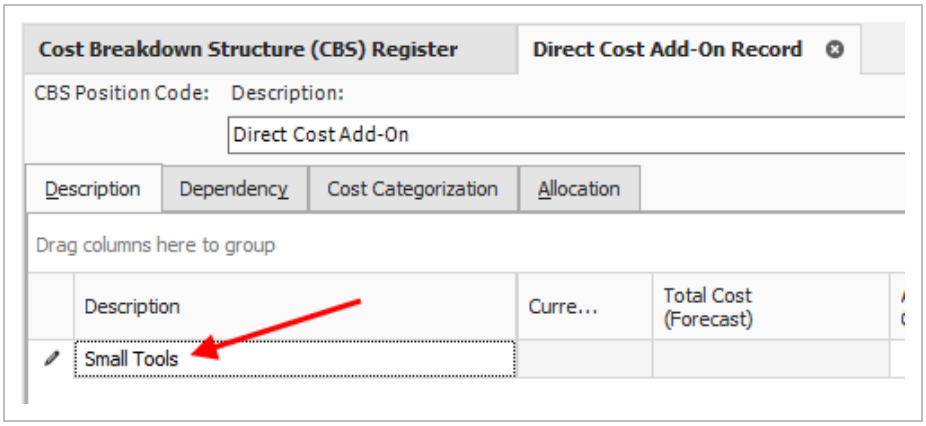


6. Click **OK** to close the record.

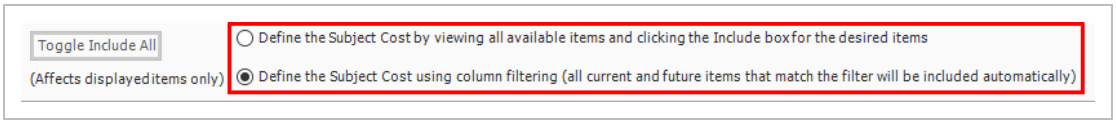
- For this example, we'll enter a description of Office Overhead and a rate of 4%.

STEP BY STEP – DEFINE A DIRECT COST ADD-ON

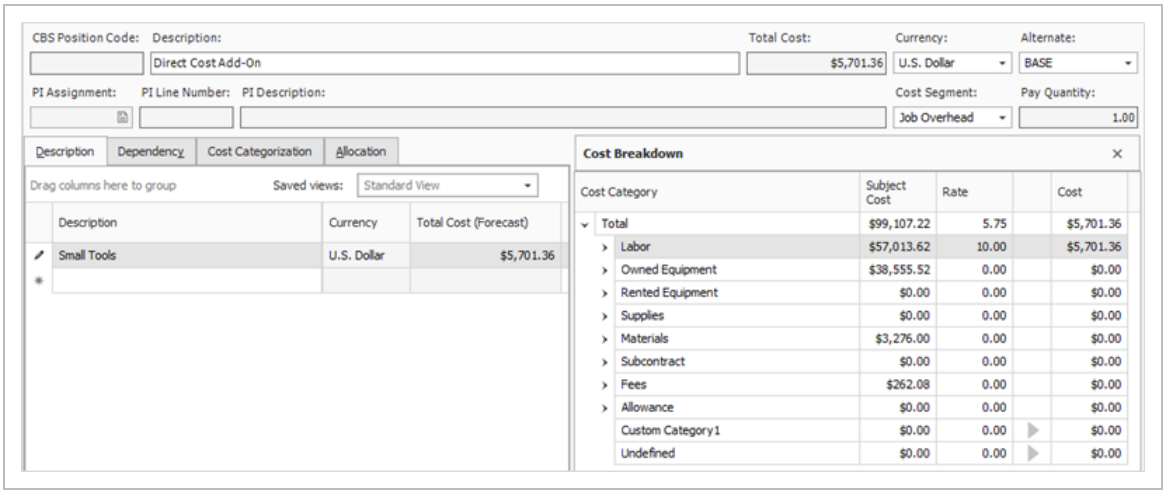
1. From the Cost Breakdown Structure (CBS) Register, right-click on the **row header** for any cost item and select **Insert Dependent Cost Item**.
2. On the resulting Attention prompt, select **Based on Direct Costs**.
3. Click **OK**.
4. Double-click on the **Direct Cost Add-On** row header.
5. On the Description tab, type a **description** in the Description column.



6. Press the **Tab** key (you can define additional rows for other add-on costs as needed).
7. Click on the **Dependency** tab to see what contributes to your subject cost.
8. For this activity, leave the default (lower) button selected.



9. On the Cost Breakdown tab on the right, add an add-on rate (percentage) or cost at any of the cost category levels you need.
    - This updates the Total Cost (Forecast) of your item on the Description tab
10. Click **OK** to close the record.
    - For this example, we'll create a new Direct Cost Add-On, giving it a description of Small Tools with a rate of 10% on the Labor cost category

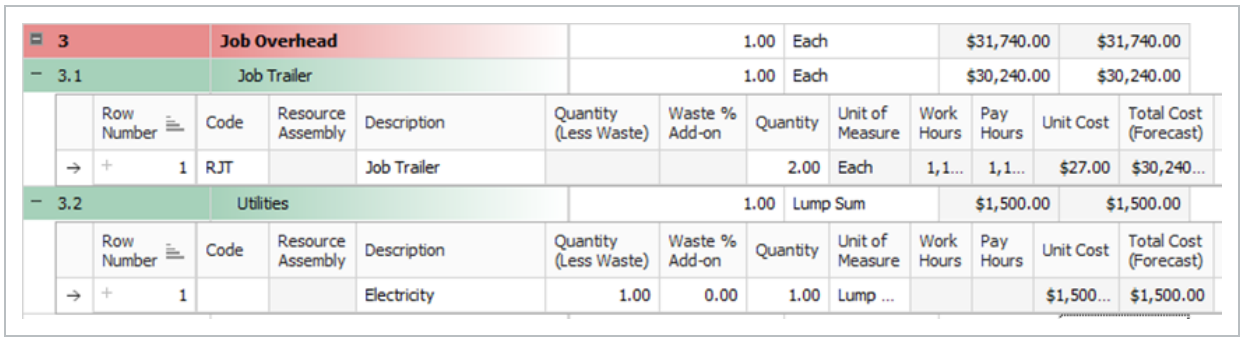

CBS Position Code:
Description:
Direct Cost Add-On
Total Cost:
$5,701.36
Currency:
U.S. Dollar
Alternate:
BASE
PI Assignment:
PI Line Number:
PI Description:
Cost Segment:
Job Overhead
Pay Quantity:
1.00
Description
Dependency
Cost Categorization
Allocation
Drag columns here to group
Saved views:
Standard View
Description
Currency
Total Cost (Forecast)
Small Tools
U.S. Dollar
$5,701.36
Cost Breakdown
Cost Category
Subject Cost
Rate
Cost
Total
$99,107.22
5.75
$5,701.36
Labor
$57,013.62
10.00
$5,701.36
Owned Equipment
$38,555.52
0.00
$0.00
Rented Equipment
$0.00
0.00
$0.00
Supplies
$0.00
0.00
$0.00
Materials
$3,276.00
0.00
$0.00
Subcontract
$0.00
0.00
$0.00
Fees
$262.08
0.00
$0.00
Allowance
$0.00
0.00
$0.00
Custom Category 1
$0.00
0.00
$0.00
Undefined
$0.00
0.00
$0.00

STEP BY STEP – ADD USER-DEFINED INDIRECT COST ITEMS

Let's walk through a specific scenario for this step by step.

1. At the bottom of your CBS, create an indirect cost item called Job Overhead with a Forecast (T/O) Quantity of **1** and Unit of Measure of **Each**.
2. Add two **subordinates** under the new cost item named Job Trailer and Utilities. Job Trailer is **1 Each** but change Utilities to **1 Lump Sum**.
3. Open the Job Trailer cost item by double-clicking on the row header.
    - Assuming there is no Job Trailer in our Resource Rate Register, you will create this resource "on the fly".
4. In the Detail grid, click on the **Resource Register** icon in the Code field as if you were going to select from the Resource Rate Register.
5. On the Resource Rate Register, click the **Rented Construction Equipment** tab.
6. Right-click on one of the **Line Items** and select **New** to add a new resource.
7. Enter a Resource Code of **RJT** and description of **Job Trailer**.
8. In the Amount column enter **25** for the Rented Equipment category.
9. Click **OK** to close the Resource Rate Record.
10. Select the **new resource** you created, then click **OK** to return to the cost item record.
11. On the cost item record, adjust the Job Trailer quantity to **2**.
12. On the Production tab, enter **70** days.
13. Click **OK** to close the record.
14. On the CBS register, select the **Utilities** cost item by double-clicking on the row header.
15. Create an ad hoc resource on this cost item called **Electricity**, which will be 1 Lump Sum.
16. Finally, go to the Resource Employment Breakdown tab and enter **1500** in the Custom Category1 row.

17. Click **OK** to close the record.



3	Job Overhead						1.00	Each			$31,740.00	$31,740.00
3.1	Job Trailer						1.00	Each			$30,240.00	$30,240.00
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)
→	1	RJT		Job Trailer			2.00	Each	1,1...	1,1...	$27.00	$30,240...
3.2	Utilities						1.00	Lump Sum			$1,500.00	$1,500.00
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)
→	1			Electricity	1.00	0.00	1.00	Lump ...			$1,500...	$1,500.00

LESSON 7 - FINALIZE ESTIMATE

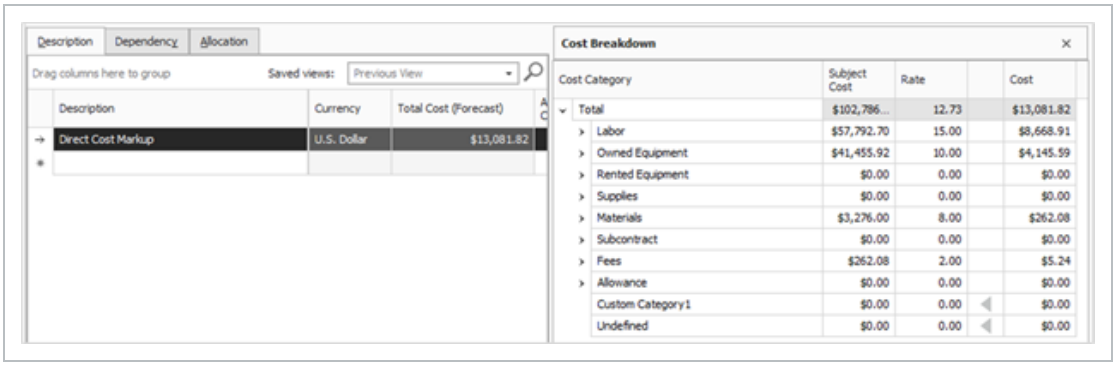
STEP BY STEP – ADD PROFIT AS A PERCENTAGE OF TARGET PRICE

1. Open your job.
2. Select the **Price** tab.
3. Select **Price Breakdown Structure** (PBS) from the Overhead and Profit section.
4. On the Target Profit row, enter a **numeric value** in the % of Target Price column; press **Tab**.
   - For this example, we'll add 10% for the Target Profit.

STEP BY STEP – MODIFY THE DIRECT COST MARKUP RECORD

1. On the **PBS** form, double-click on the **Direct Cost Markup** row.
2. In the record, overwrite the Default entry with **Direct Cost Markup** in the description field.
3. In the Rate column on the Dependency Cost Breakdown, add a **numeric value** in Labor, Owned Equipment, Materials and Fees categories. Then reset other categories back to **0**.
4. Click **Ok** to save your changes and return to the PBS.
5. Click the **Refresh Summary Data** button to see the changes reflected.

- For this example, we'll add a rate of 15 for Labor, 10 for Owned Equipment, 8 for Materials, and 2 for Fees, then zero out all other categories.



STEP BY STEP – DEFINE PRICING MANUALLY

1. From the Estimate landing page, select the **Price** tab.
2. Select **Pay Item & Proposal** from the Pay Items section.
3. Select a **Pay Item** row.
4. In either the Unit Price (current), Total Price (current), or % Margin field of a pay item, type a **numeric value**.

   For this example, we'll do the following:

   - Mobilization pay item – change Total Price (current) to $20,000.
   - Clearing & Grubbing pay item – change % Margin to 5%.

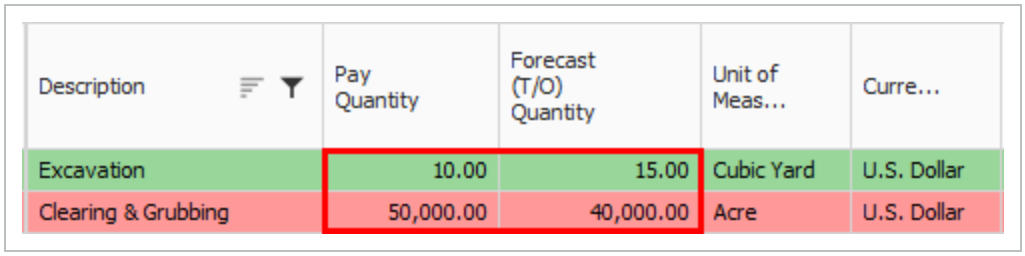
Position Code	Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	% Margin
− 1	200	SITEWORK & ROADWAY					$51,369.60	
+ 1.1	641 0100	Mobilization	1.00	1.00	LS	$20,000.00	$20,000.00	-34.67
+ 1.2	201 0102	Clearing & Grubbing	10.00	15.00	Acre	$3,136.96	$31,369.60	5.00

STEP BY STEP – USE AUTOPRICE TO BALANCE AND HIT THE TARGET TOTAL

1. Open the your job in Estimate.
2. From the Estimate landing page, select the **Price** tab.
3. Click on **Pay Item & Proposal** to open the Pay Item & Proposal Register.
4. On the Pay Item & Proposal Register menu, choose **Actions > Balanced Bid > Hit Target Total.**
5. Review the Proposal Recap and see that the Variance is now $0.00. Now that the job is balanced, you can see that the Current Price and the Target Price are the same, indicating that the costs and profit are spread proportionately over your pay items.

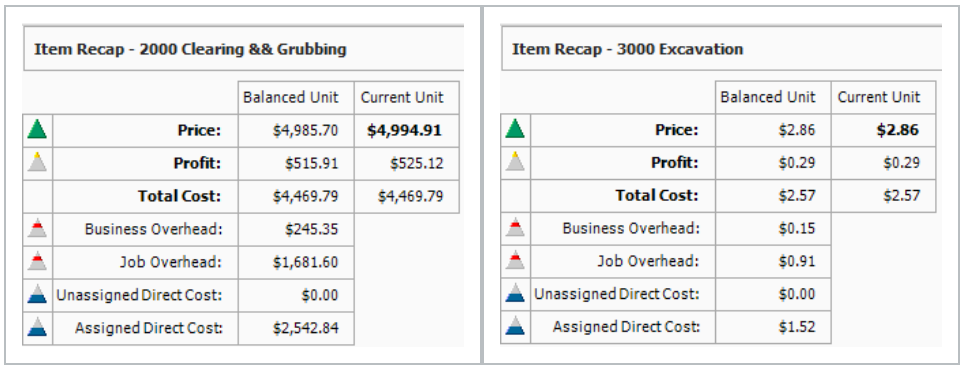
STEP BY STEP – UNBALANCE HIT TARGET TOTAL

1. You may encounter overrun and/or underrun items in the Pay Item & Proposal Register of your job.



Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Meas...	Curre...
Excavation	10.00	15.00	Cubic Yard	U.S. Dollar
Clearing & Grubbing	50,000.00	40,000.00	Acre	U.S. Dollar

2. If you do, highlight the row for each item to view it's current balanced item recap.



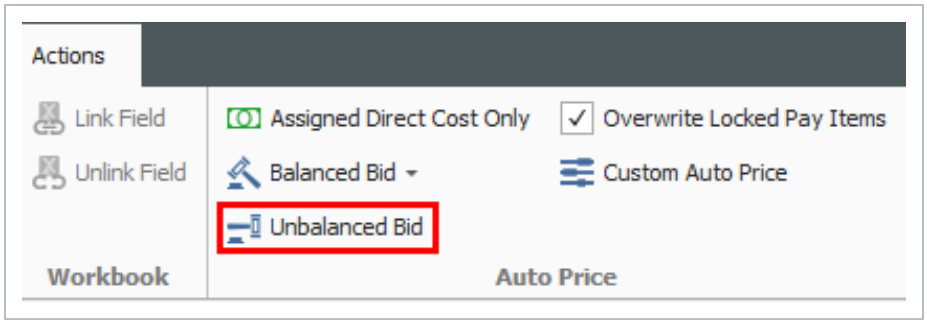
Item Recap - 2000 Clearing && Grubbing

	Balanced Unit	Current Unit
Price:	$4,985.70	**$4,994.91**
Profit:	$515.91	$525.12
Total Cost:	$4,469.79	$4,469.79
Business Overhead:	$245.35	
Job Overhead:	$1,681.60	
Unassigned Direct Cost:	$0.00	
Assigned Direct Cost:	$2,542.84	

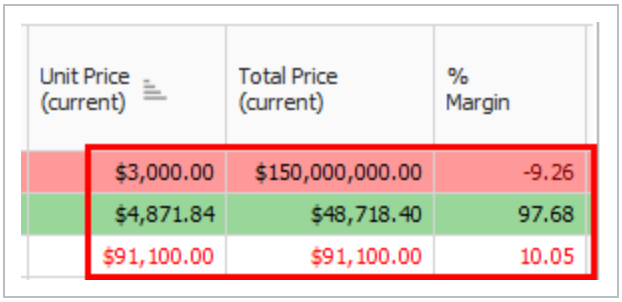
Item Recap - 3000 Excavation

	Balanced Unit	Current Unit
Price:	$2.86	**$2.86**
Profit:	$0.29	$0.29
Total Cost:	$2.57	$2.57
Business Overhead:	$0.15	
Job Overhead:	$0.91	
Unassigned Direct Cost:	$0.00	
Assigned Direct Cost:	$1.52	

3. On the Pay Item & Proposal Register menu, choose **Actions > Unbalanced Bid**.

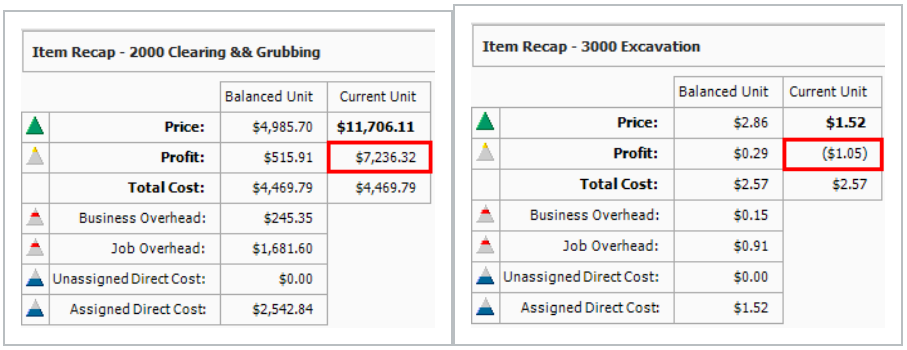


- You will see the changes reflected and how the profit was spread to your overrun and underrun items



Unit Price (current)	Total Price (current)	% Margin
$3,000.00	$150,000,000.00	-9.26
$4,871.84	$48,718.40	97.68
$91,100.00	$91,100.00	10.05

- In the example shown, highlighting each item will show that all your overhead and profit from Excavation was put onto Clearing & Grubbing.



Item Recap - 2000 Clearing && Grubbing

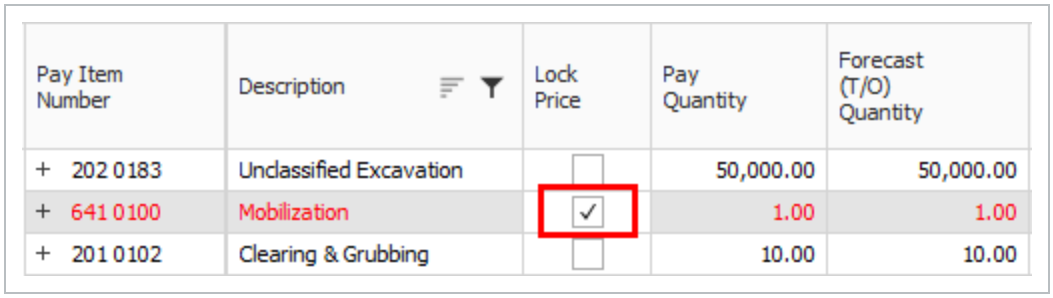
	Balanced Unit	Current Unit
Price:	$4,985.70	**$11,706.11**
Profit:	$515.91	$7,236.32
Total Cost:	$4,469.79	$4,469.79
Business Overhead:	$245.35	
Job Overhead:	$1,681.60	
Unassigned Direct Cost:	$0.00	
Assigned Direct Cost:	$2,542.84	

Item Recap - 3000 Excavation

	Balanced Unit	Current Unit
Price:	$2.86	**$1.52**
Profit:	$0.29	($1.05)
Total Cost:	$2.57	$2.57
Business Overhead:	$0.15	
Job Overhead:	$0.91	
Unassigned Direct Cost:	$0.00	
Assigned Direct Cost:	$1.52	

STEP BY STEP – LOCK PRICE

1. Select the **Lock Price** checkbox on an item's row.

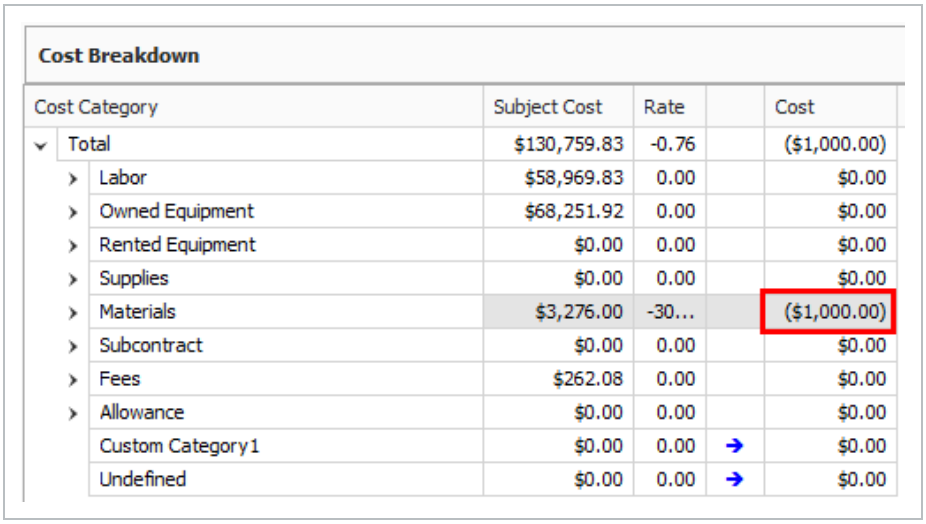


Pay Item Number	Description	Lock Price	Pay Quantity	Forecast (T/O) Quantity
+ 202 0183	Unclassified Excavation	☐	50,000.00	50,000.00
+ 641 0100	Mobilization	☑	1.00	1.00
+ 201 0102	Clearing & Grubbing	☐	10.00	10.00

2. After making further adjustments in the next step by step, you will return to the Pay Item & Proposal to rebalance.
    - You can continue to adjust at previous levels aside from solely in the Pay Item & Proposal Register
    - For example, you could make a last-minute adjustment in the PBS or CBS. You can make adjustments anywhere, but for this example an adjustment will be made in the Direct Cost Add-On record at the CBS level

STEP BY STEP – MAKE LAST MINUTE BID ADJUSTMENTS

1. With your job open, select the **Estimate** tab.
2. Click on **Cost Breakdown Structure** to open the CBS.
3. Double click on the row header to open the **Direct Cost Add-On** dependent cost item record.
4. Under the Description tab on the left, click in the blank row under the **Description column**.
5. Type in a **description**.
6. Make the adjustment by typing a **numeric value** in the **Cost column** of the Materials Cost category under the Cost Breakdown section on the right.

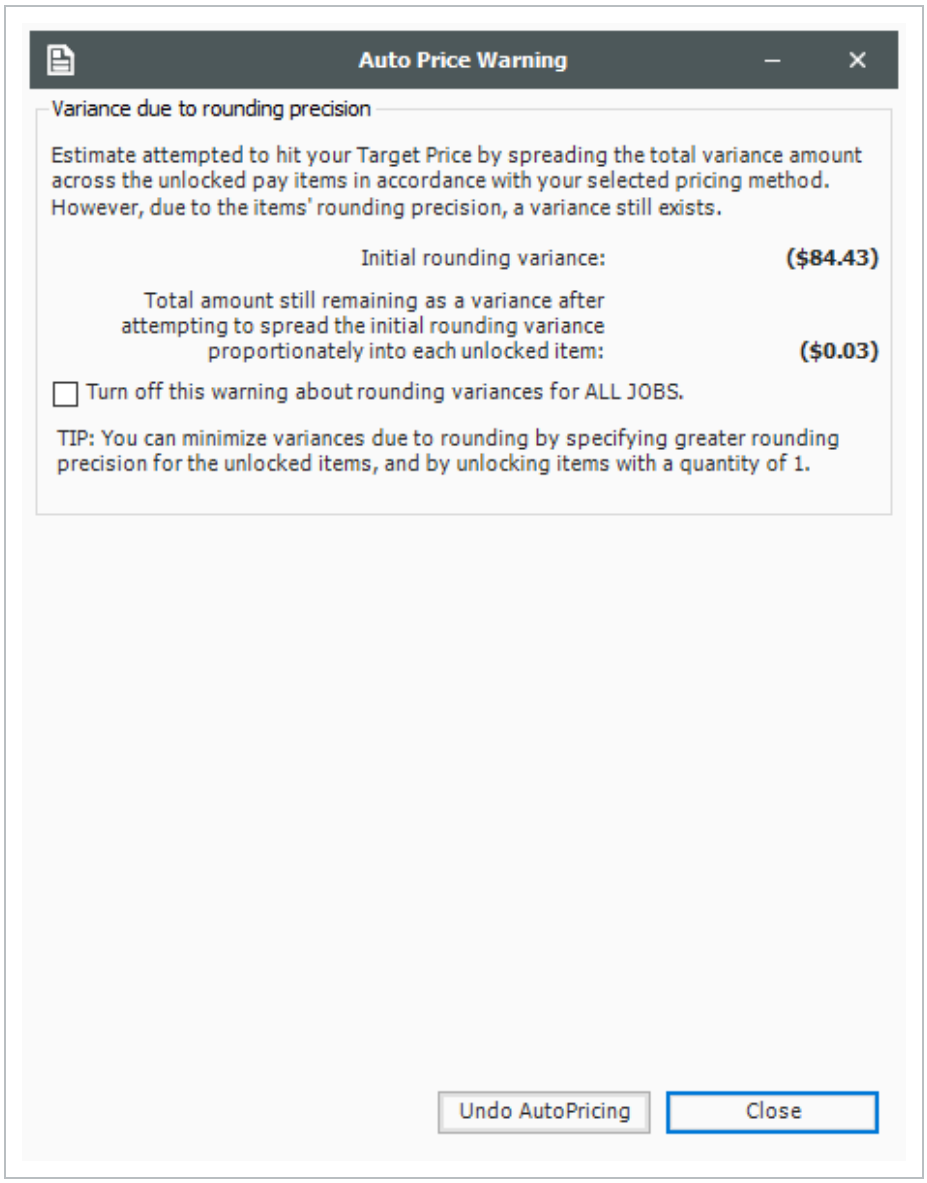


- To make a cut, enter a negative value, i.e. -1000

7. Press the **Tab** key, and your adjustment will be reflected on the left-hand side.

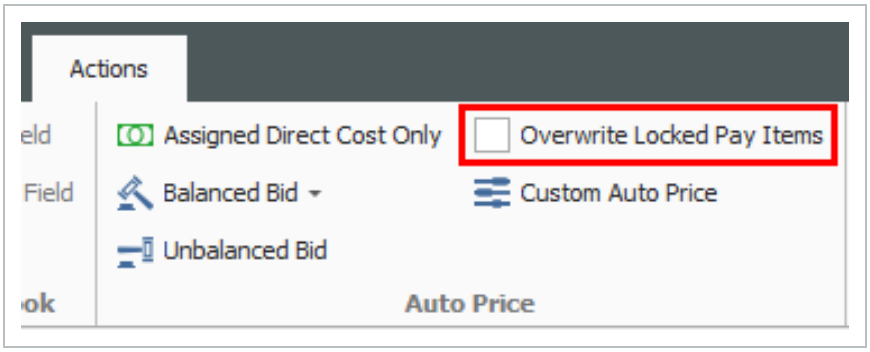
8. Finally, return to the **Pay Item & Proposal**.

9. On the **Actions** menu, select **Balanced Bid > Hit Target Total**.
10. An Auto Price Warning may display, informing you of rounding variances. After reading the details, click the **Close** button.



- Note on the proposal recap that a variance may still exists because there are limited number of pay items to spread the rounding error over
- Note that the locked item did not adjust, but the other pay items were updated

- Note that you can overwrite locked items for spreading your price by checking the **Overwrite Locked Pay Items** option on the Actions menu

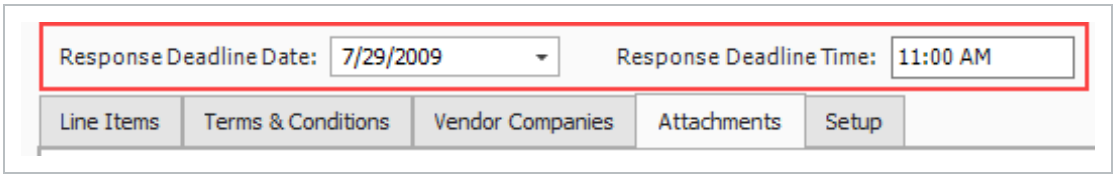


LESSON 8 - QUOTE MANAGEMENT

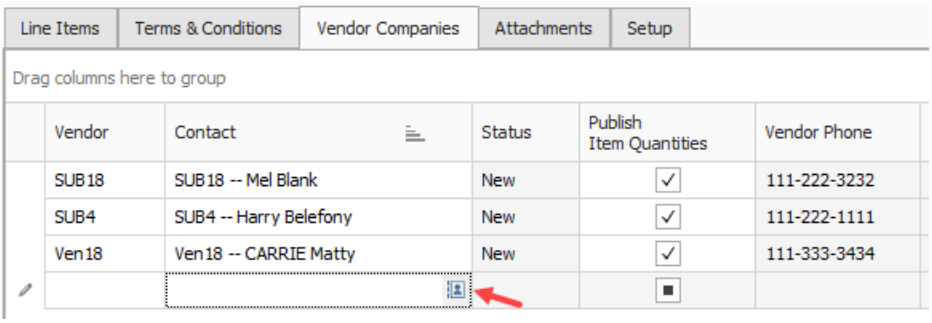
STEP BY STEP – CREATE AND PUBLISH AN RFQ

This exercise walks through a specific example using the Training Job.

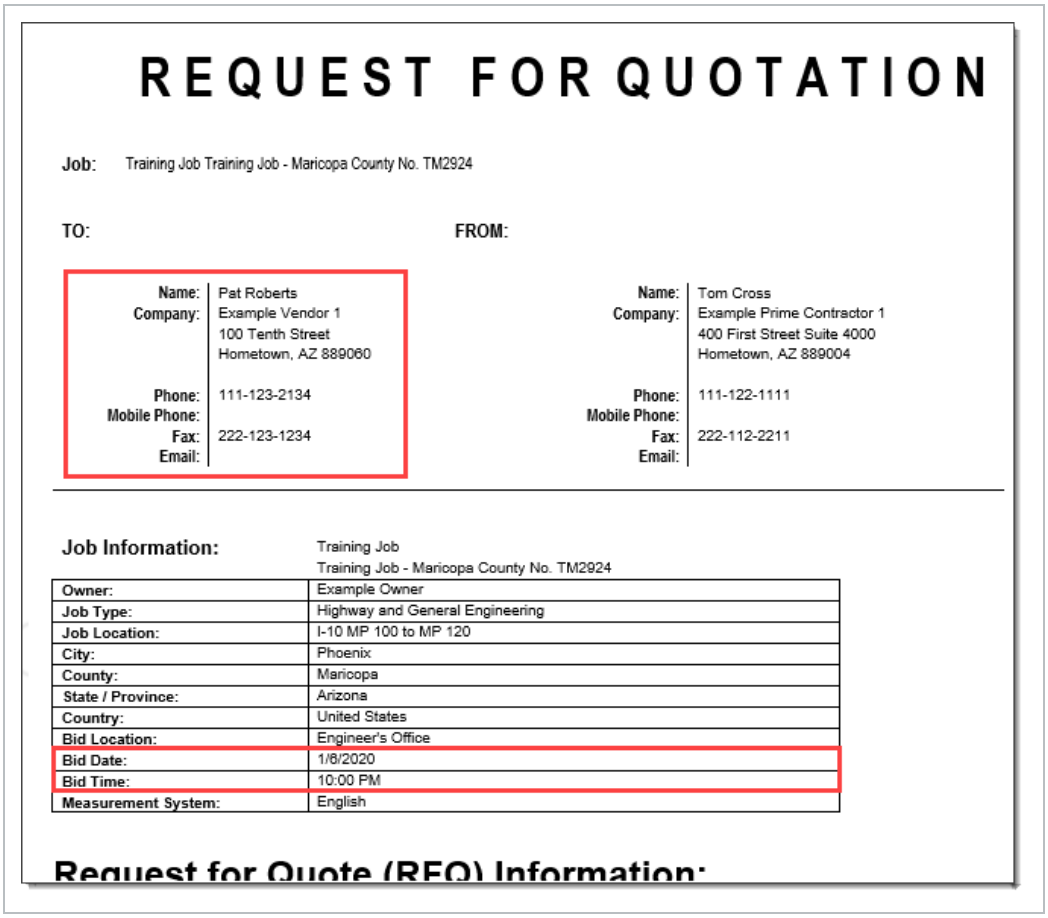
1. From the Estimate landing page, select the **Quote** tab.
2. Select **Request for Quote (RFQ).**
3. From the Actions tab, click on the **New** icon to create a new RFQ.
4. Select **Create RFQ from Quote Group Tag(s)**, leaving the checkboxes checked to only show quote groups and resources that are being used.
5. Select the **Aggregates** quote group from the right panel.
6. Click **OK**.
7. In the Response Deadline Date field, select **a date** two weeks from today, and for the Response Deadline Time, type a **time stamp** (e.g. 11:00 am).



8. Select the **Terms & Conditions** tab.
9. Create and type **Prices are good for the duration of the contract** in the Buyer's Special Terms & Conditions field.
10. Type in **All items to be delivered to jobsite by supplier's trucks** in the RFQ Instructions field.
11. Select the **Vendor Companies** tab and click in the **first blank row** in the Company Name column.



12. Click on the **Address book** icon, and then select the following example vendors:
    - Example Vendor 1: Pat Roberts
    - Example Vendor 2: Stan Mark
    - Example Vendor 4: Lester Slim
13. Click **OK**.
14. Make sure **Publish to File** is checked for all vendors.
15. Uncheck **Publish by email** for each vendor.
16. Select the **sellers** to whom you want to send the RFQ.
    - Word opens the file automatically for you to review; and from here you can either print it or send it in an email as an attachment



REQUEST FOR QUOTATION

Job: Training Job Training Job - Maricopa County No. TM2924

TO:

Name:	Pat Roberts
Company:	Example Vendor 1 100 Tenth Street Hometown, AZ 889060
Phone:	111-123-2134
Mobile Phone:	
Fax:	222-123-1234
Email:	

FROM:

Name:	Tom Cross
Company:	Example Prime Contractor 1 400 First Street Suite 4000 Hometown, AZ 889004
Phone:	111-122-1111
Mobile Phone:	
Fax:	222-112-2211
Email:	

Job Information: Training Job
Training Job - Maricopa County No. TM2924

Owner:	Example Owner
Job Type:	Highway and General Engineering
Job Location:	I-10 MP 100 to MP 120
City:	Phoenix
County:	Maricopa
State / Province:	Arizona
Country:	United States
Bid Location:	Engineer's Office
Bid Date:	1/6/2020
Bid Time:	10:00 PM
Measurement System:	English

Request for Quote (RFQ) Information:

17. On the Actions tab of the record, select **Publish** to create your RFQ document.
18. Select the folder to publish to.
19. Click **OK** to save the RFQ Record.

STEP BY STEP – CREATE A QUOTE FROM RFQ

This exercise walks through a specific example using the Training Job.

1. From the Estimate landing page, select the **Quote** tab.
2. Select **Request for Quote (RFQ)**.
3. Open the RFQ record for which you've received quotes.
4. Select the **Vendor Companies** tab and select the vendors for whom you need to create quotes. In this case, select all the vendors.
5. From the Actions menu, select **Create Quote**.
6. Click **OK** on the Quotes created prompt.
7. Close the RFQ record and the RFQ register.

STEP BY STEP – ENTER QUOTE DETAILS

This exercise walks through a specific example using the Training Job.

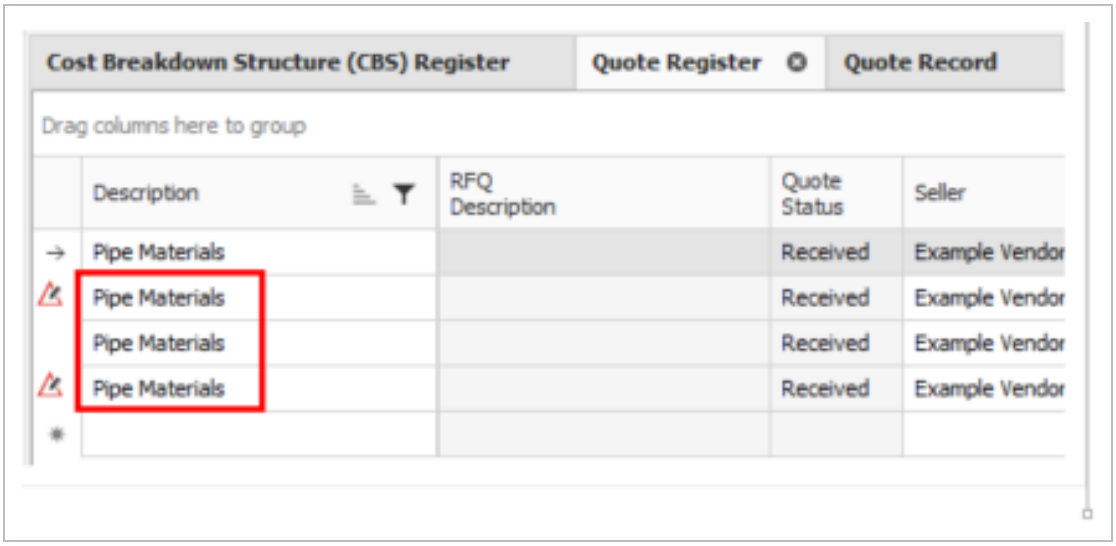
1. To open the Quote Register, select **Quote** from the Estimate landing page.
2. Select **Quotes** from the Quote Management section.
3. Open the Aggregates Quote Record for Vendor 1 – Pat Roberts.
4. On the Resources tab, make sure No Split is unchecked for all items.
5. Also on the Resources tab, enter the following unit prices:

Resource Code	Description	Unit Price
MBR	Aggregate Base Rock	$8.00
MDIRTB	Dirt Class B	$6.00

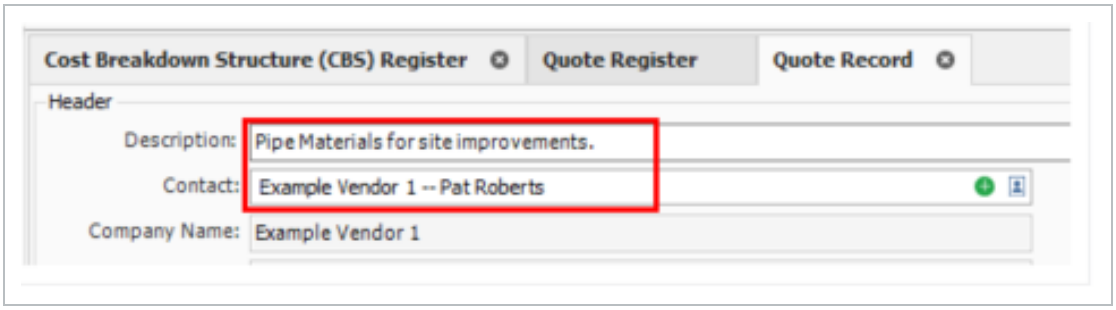
6. Click **OK** to close the Quote Record.

STEP BY STEP – CREATE A MULTI-PACKAGED QUOTE

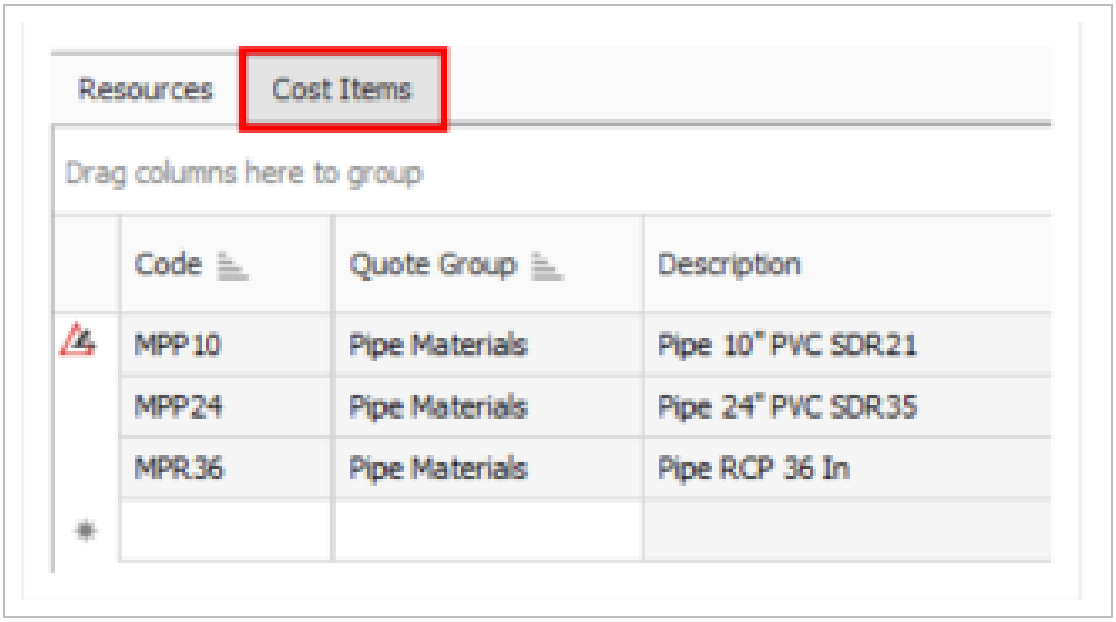
1. From the InEight Estimate landing page, select the **Quote** tab.
2. Click on the **Quotes** icon under Quote Management.
3. Double click on an item (e.g. **Pipe Materials**).



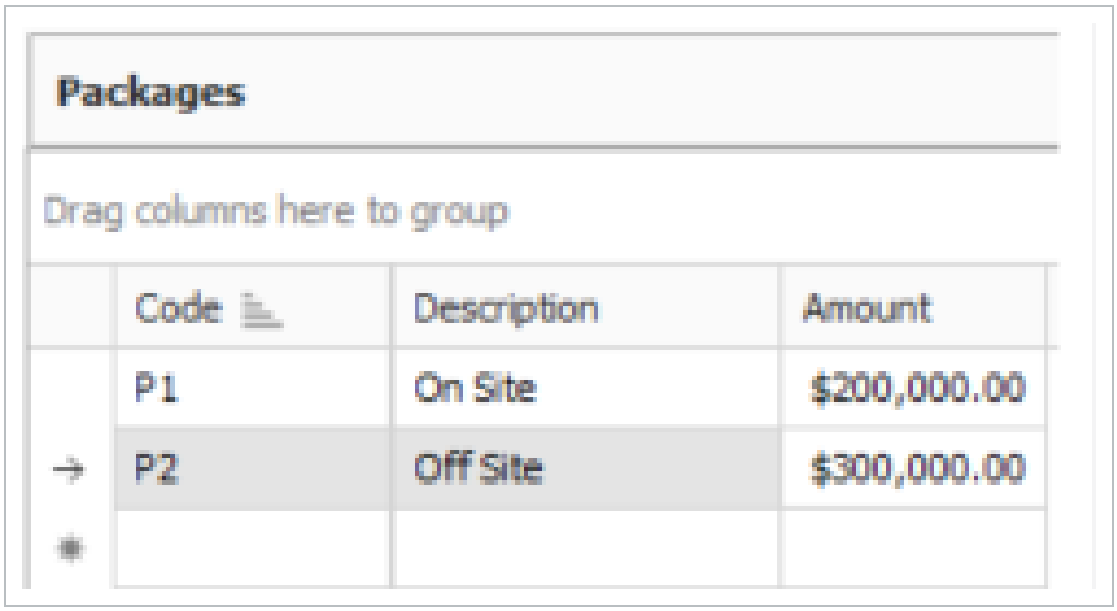
4. In the Description field, type in or replace the **description**.
5. In the Contact field, select a **contact**.



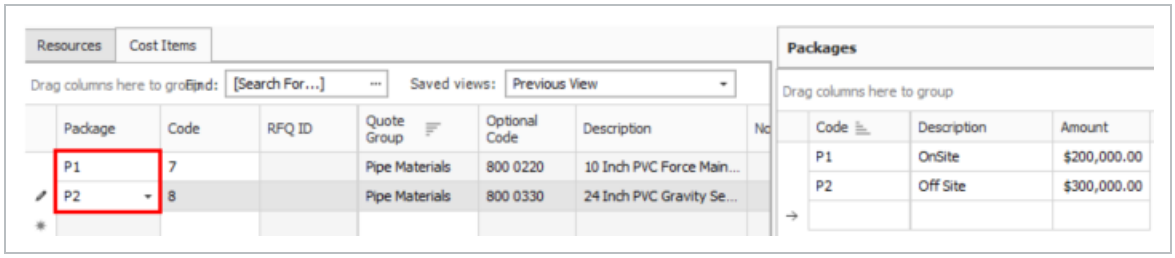
6. Click **OK**
7. Select the **Cost Items** tab on the left side of the screen.



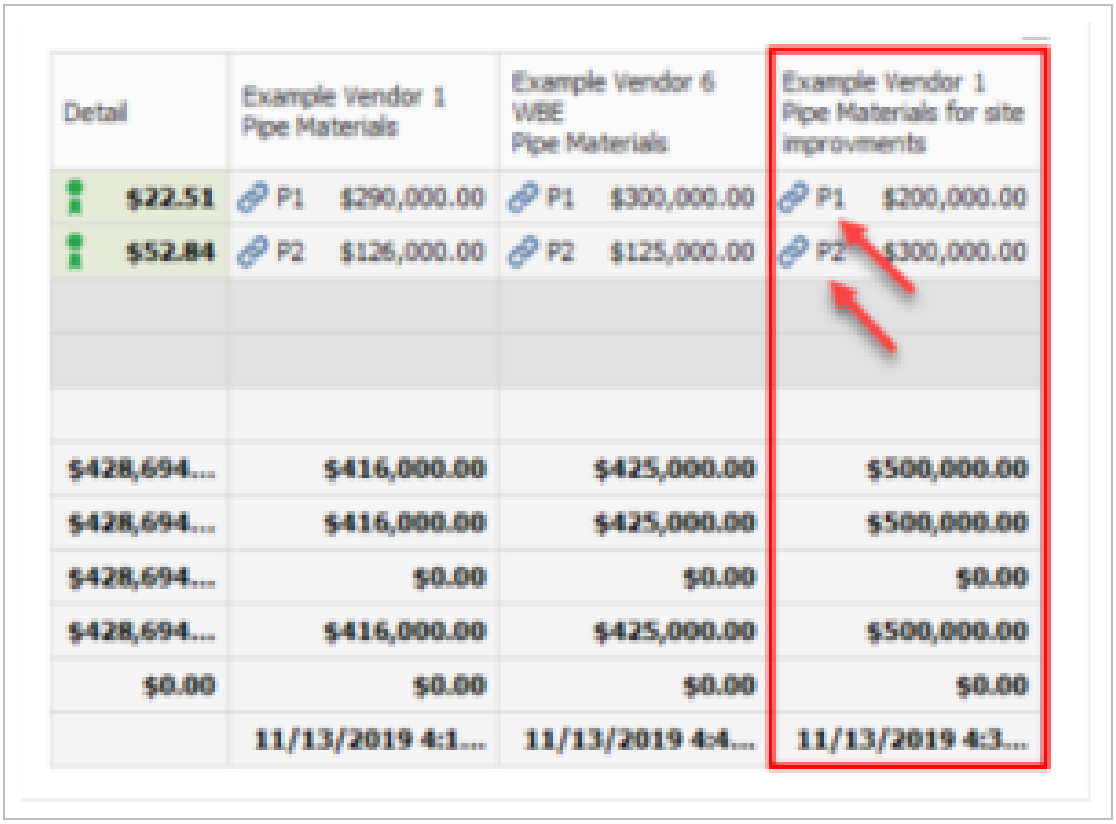
8. Add a **cost item** under Cost Items.
9. Then, add another **cost item** under Cost Items.
10. On the Packages tab, enter the following 2 new records:
    - Code: **P1**
    - Description: **On Site**
    - Amount: **$200,000**
    - Code: **P2**
    - Description: **Off Site**
    - Amount: **$300,000**



11. Type in **P1** under Package for cost item 7.
12. Type in **P2** under Package for cost item 8.

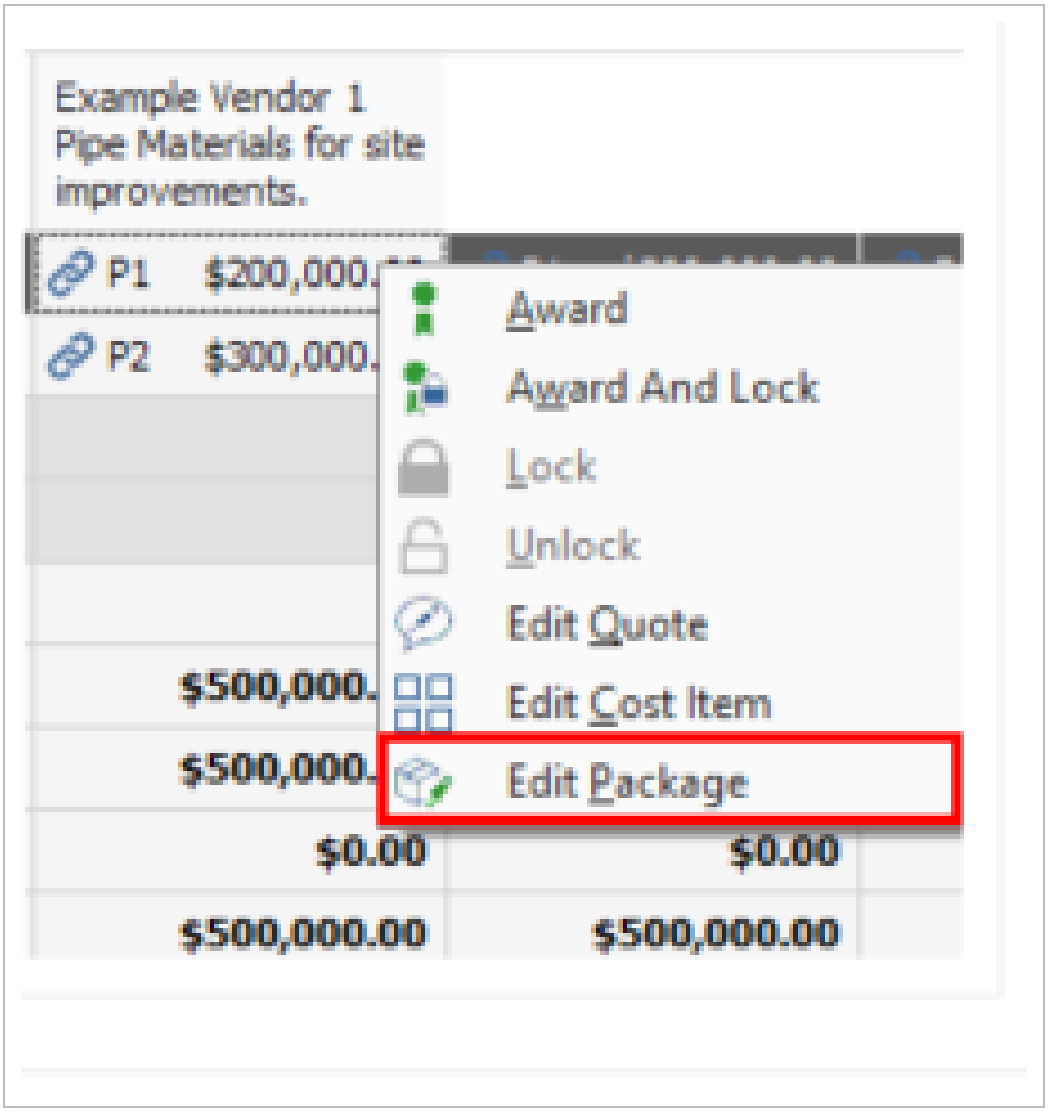


13. Select **OK**.
14. Under the Quote Comparison and Award ribbon, select **Cost Items**.
15. Under Quote Groups, select **Pipe Materials**.
    - Quote Comparison and Award shows the newly created quote with the associated package quotes.



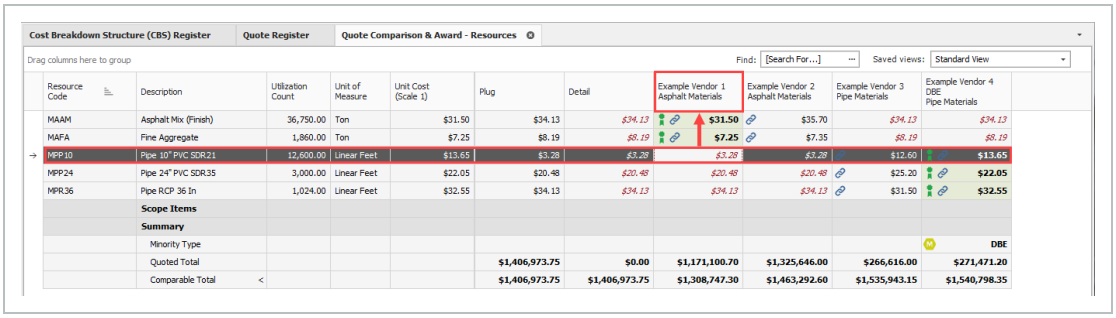
- The Package Price can quickly be modified in the Quote Comparison and Award form by selecting the Edit Package action in the Actions tab or by using the right click context

menu.

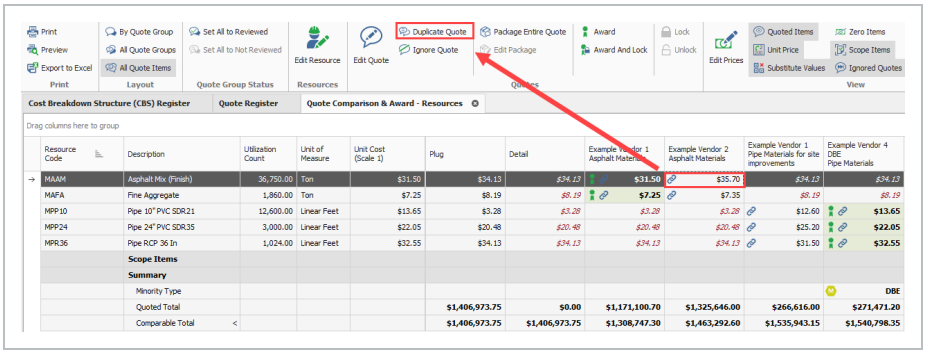

Example Vendor 1
Pipe Materials for site improvements.
P1
$200,000.
P2
$300,000.
Award
Award And Lock
Lock
Unlock
Edit Quote
Edit Cost Item
Edit Package
$500,000.
$500,000.
$0.00
$0.00
$500,000.00
$500,000.00

STEP BY STEP – DUPLICATE AN EXISTING QUOTE

1. From the InEight Estimate landing page, select the **Quote** tab.
2. Select the **Resources** icon under Quote Comparison & Award.
3. Highlight any row under the Quote column you want to duplicate.

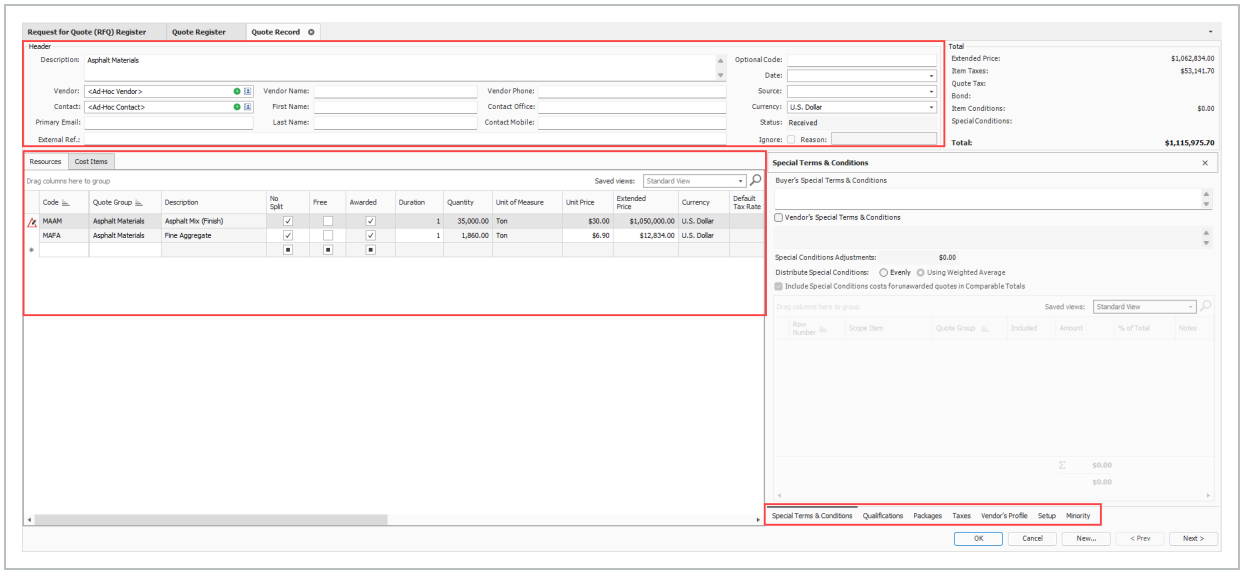


4. Select the **Actions** tab.
5. Under the Quotes section, select the **Duplicate Quote** icon.



- The resources and prices from the quote you previously selected have been copied into a new Quote Record.

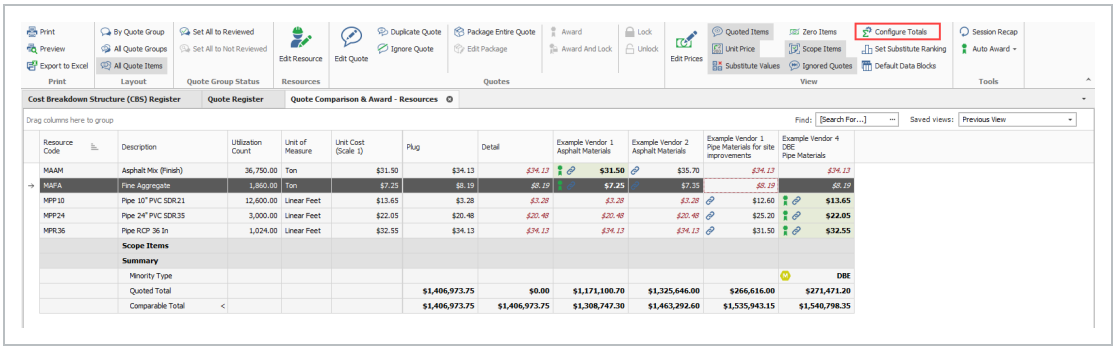
6. From the Header block, enter in any missing information.
   - The information listed in the Header block will not copy over to the duplicated quote.
7. Enter additional Cost Items in the Quote tabs data block.
   - Check the default data blocks for any information you want to add to your duplicate quote.



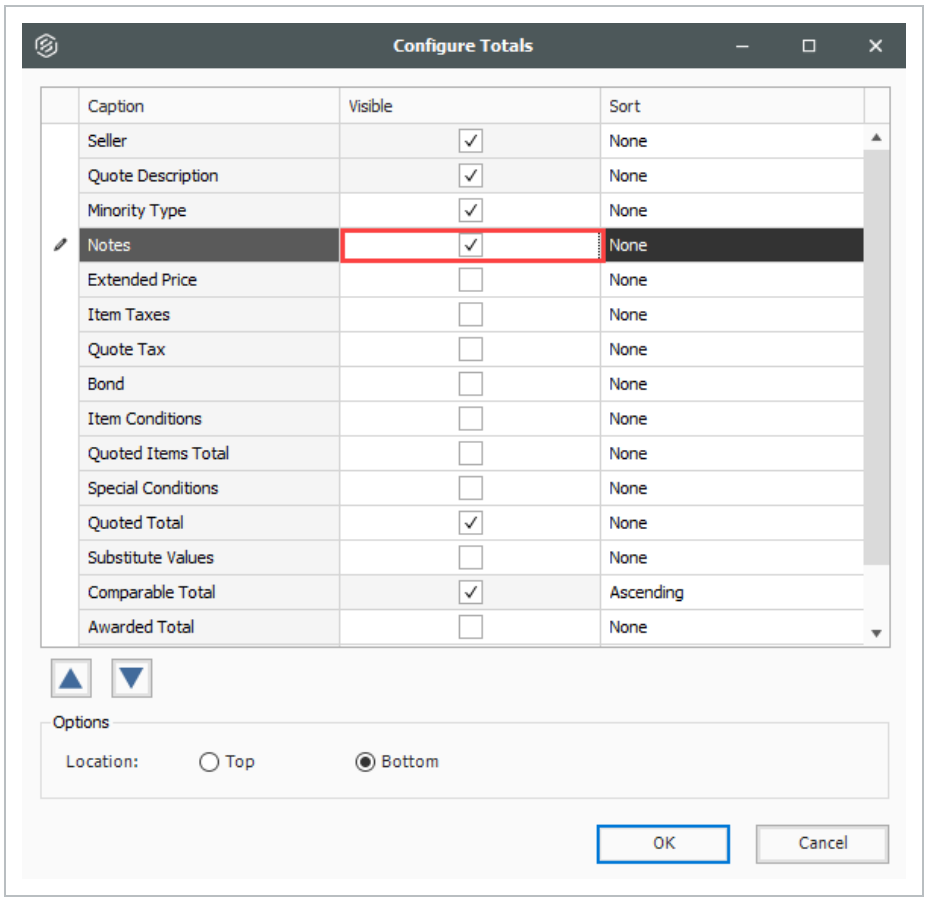
8. Once done, click **OK**.

STEP BY STEP – ADD THE NOTES SECTION TO QUOTE COMPARISON & AWARD FORM

1. From the InEight Estimate landing page, select the **Quote** tab.
2. Select the **Resources** icon under Quote Comparison & Award.
    - Notice the absence of the Notes section. This is the default option until you follow the next steps.
3. Select the **Actions** tab.
4. From the View section, select the **Configure Totals** icon.

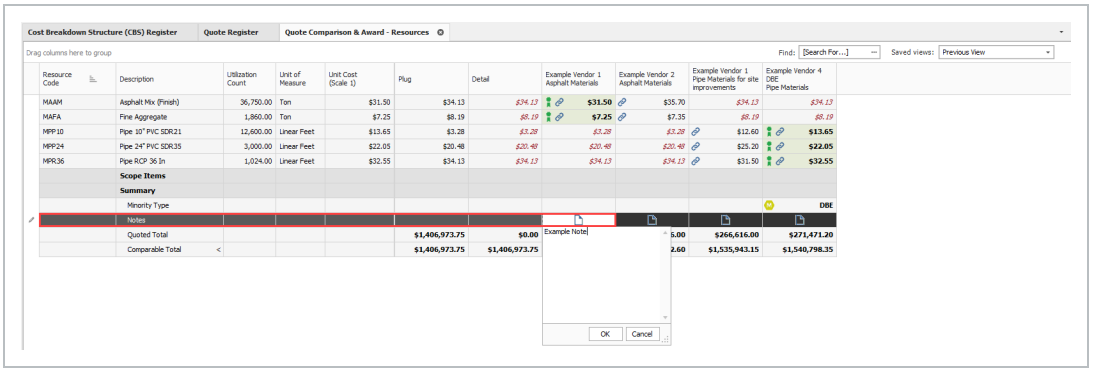


5. Select the check box in the Visible column for the Notes caption.



6. Select **OK**.

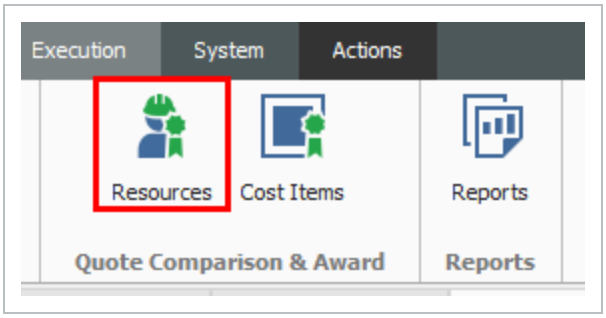
- The Notes section displays on the Quote Comparison & Award form.



STEP BY STEP – COMPARE AND AWARD QUOTES

This exercise walks through a specific example using the Training Job.

1. From the main Estimate landing page select **Quote>Quote Comparison & Award**.
2. Select **Resources** on the Quote Comparison & Award ribbon.



3. Under Quote Groups, select **Aggregates**.
4. Review the quotes to determine the lowest bidder:
   - MDIRTB is marked as Free for Example Vendor 4 and their quote is not splitable.
   - Vendor 2 Stan Mark did not give a quote for MDIRTB, so a substitute value is being used.
5. Vendor 2 has the lowest comparable amount for MBR Aggregate Base Rock and Vendor 1 has the lowest comparable amount for MDIRTB, so you decide to award each respectively. Award each of them by right-clicking on the value and selecting **Award.**
6. On the attention prompt click **Yes**.

STEP BY STEP – MANAGE AND AWARD SCOPE ITEMS

This exercise walks through a specific example using the Training Job.

1. Click the **Quote** tab and then click the **Quotes** icon to open the Quote register.
2. Open the Quote Record for HD Engineering Group and enter a Unit Price of **3,500** which is based on the quote you received.
3. Select the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** radio button.
4. Assuming the HD Engineering is excluding certain scope items from this quote, click on the **Included** checkbox to exclude (uncheck) the following scope items:
   - Surveying and Layout
   - Painting Electrical Equipment
   - Temporary Power and Lighting
5. Type **150** in the Amount field for Electrical Equipment.
   - Notice how the 3 scope items you just excluded are now added to the Special Conditions total for the quote.
6. Click **Next** to move to the other Quote record for Architectural Designs.
7. Enter a Unit Price of **3,700**.
8. Press **Tab** to move to the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** (at right) radio button.
9. Uncheck the inclusions checkbox for **Surveying and Layout**.
10. Add the amount **500**.
11. Click **Ok**.
12. Select the **Quote** tab.
13. Open the **Quote Comparison and Award** form, and select the **Cost Items** tab.
14. Under Quote Groups, select **Electrical work**.
15. Right-click on the quoted amount for Architectural Design and select **Award** to award the work to them.
16. Click **Yes** on the resulting prompt to mark the quote group as reviewed.

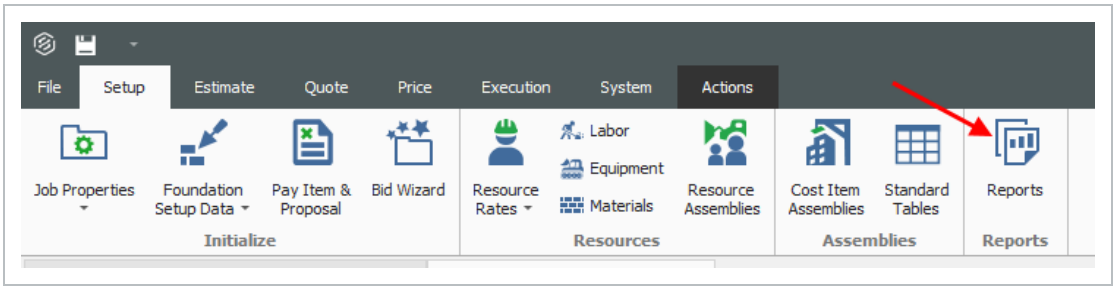
LESSON 9 - REPORTING

STEP BY STEP – GETTING TO THE REPORTS MENU

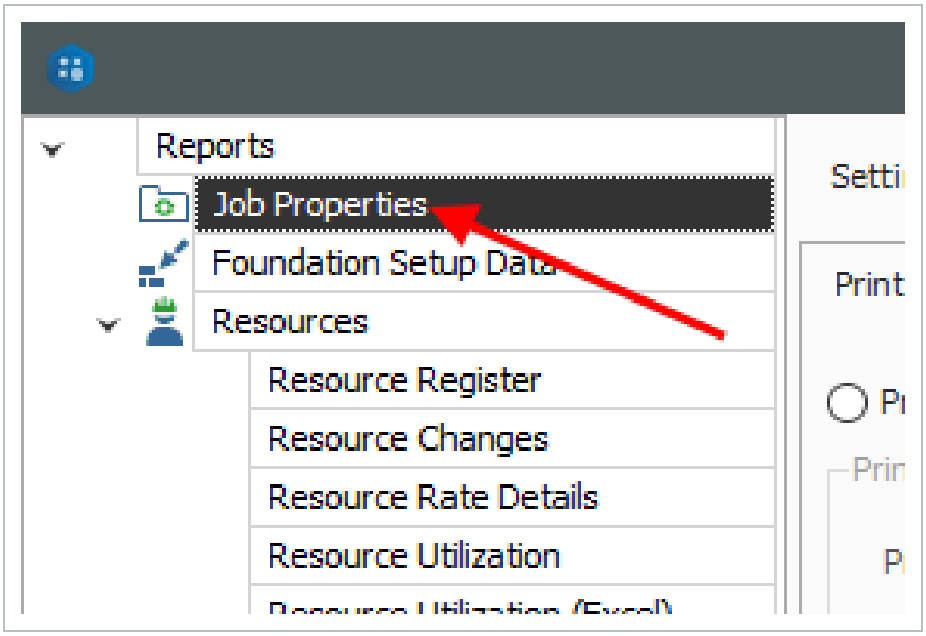
1. Open the **Training Job**, and select **Setup** tab.
    - You access the Reports menu by clicking on the Reports icon

> **TIP** You can access the Reports menu from the Setup, Estimate, Quote, Price, and Execution tabs.

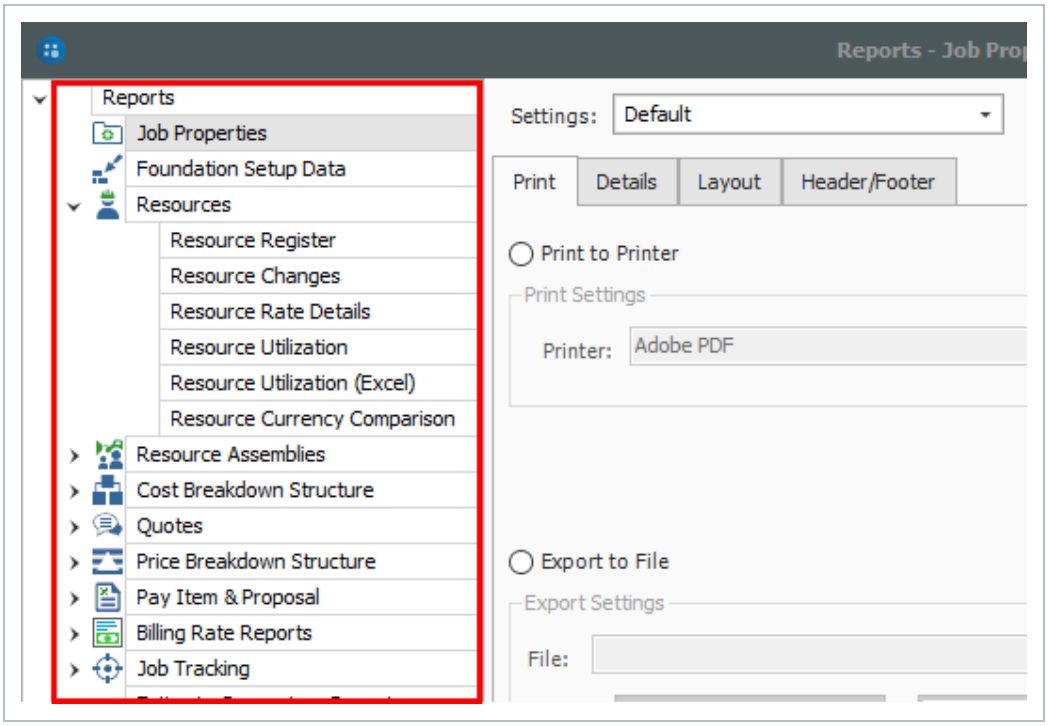
2. Select **Reports**.



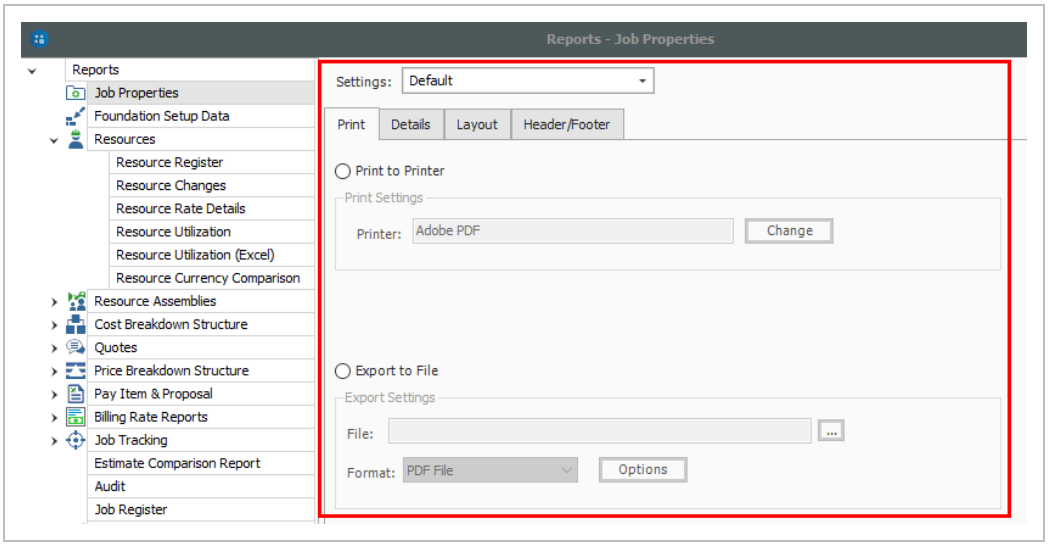
3. Here you select the Report of your choice. For this example, select the first option, **Job Properties**.



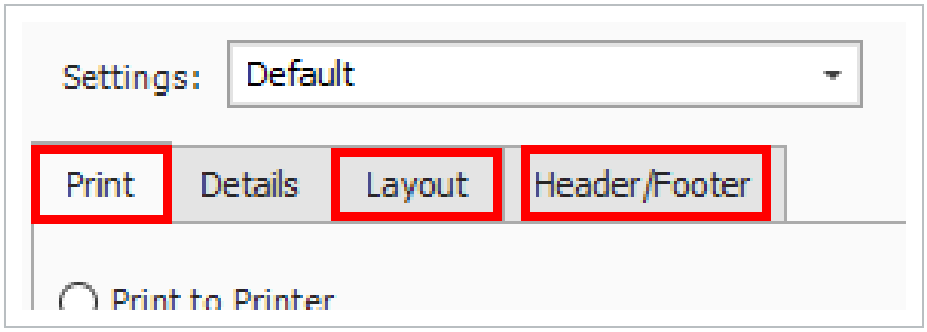
- You will see a split screen with the reports available on the left side bar
- The side bar on the left of the Reports form contains a “tree” of all InEight Estimate adjustable reports



- On the right, when you select a report node on the left, note that it displays the Output Settings on the right side of the form, from which the report settings can be adjusted and the report can then be run

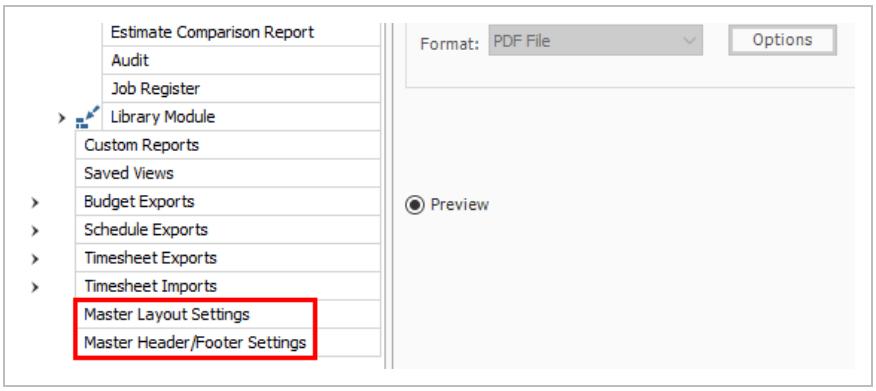


4. Each report has a Print tab, a Layout tab and a Header/ Footer tab specific to that report.



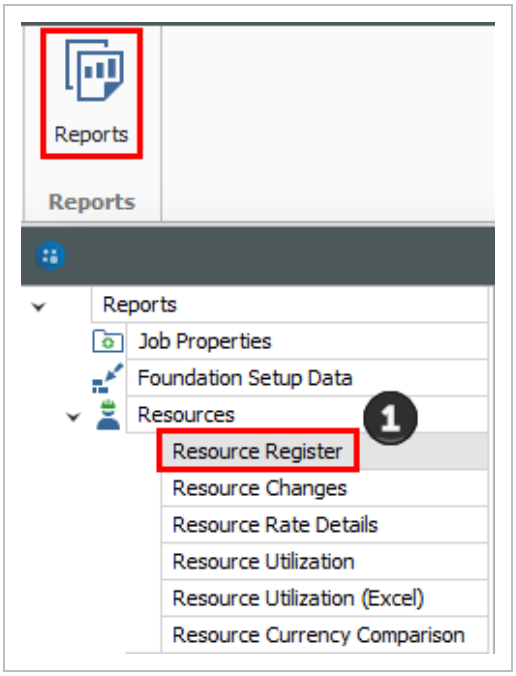
- There are also Master Layout Settings and Master Header/Footer Settings located at the bottom of the left-hand side bar tree. Here you can define settings that will apply to all

reports

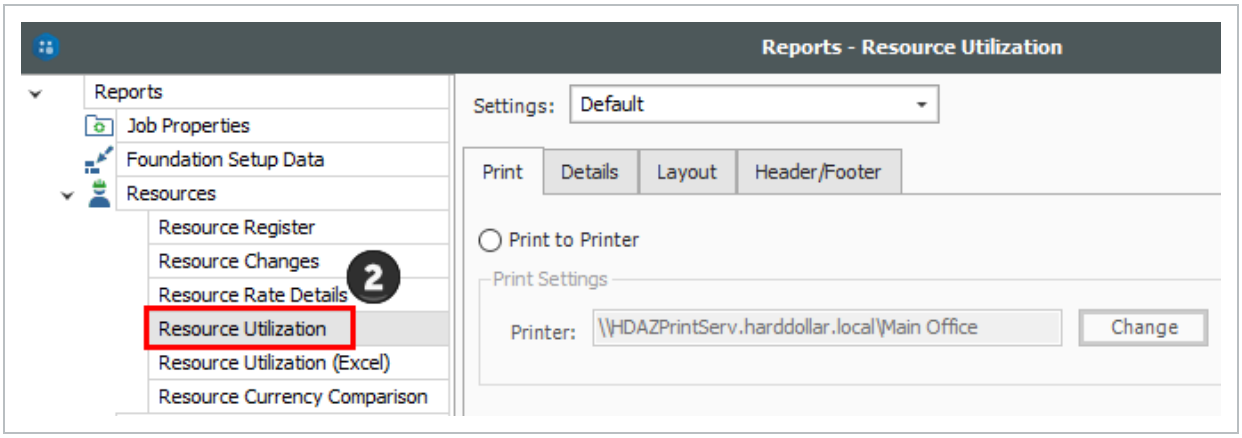

Estimate Comparison Report
Audit
Job Register
Library Module
Custom Reports
Saved Views
Budget Exports
Schedule Exports
Timesheet Exports
Timesheet Imports
Master Layout Settings
Master Header/Footer Settings
Format:
PDF File
Options
Preview

STEP BY STEP – CONFIGURE REPORT OUTPUT SETTINGS (REPORT 1)

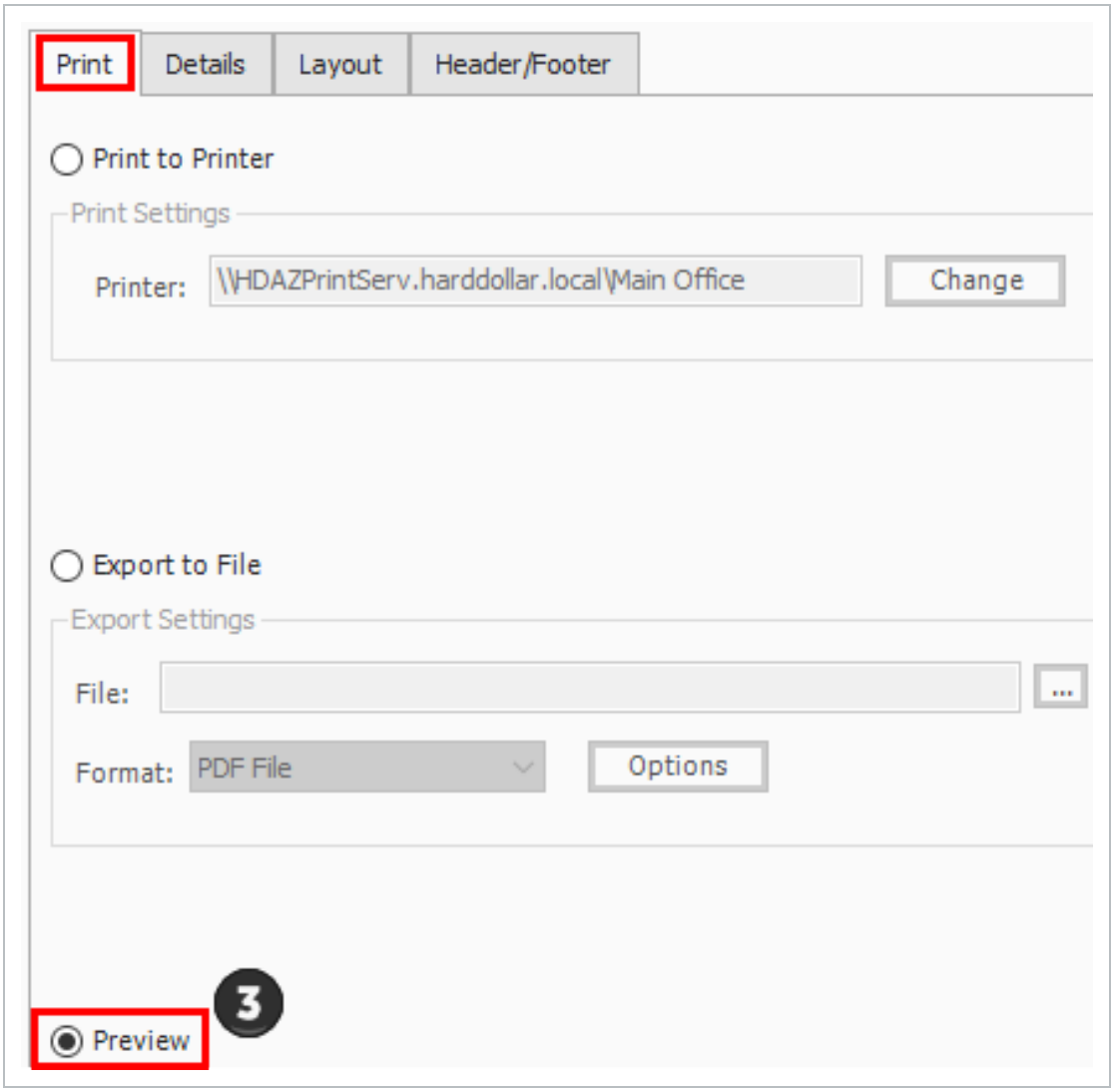
1. Open the **Training Job** and select **Setup >Report>Resources**.



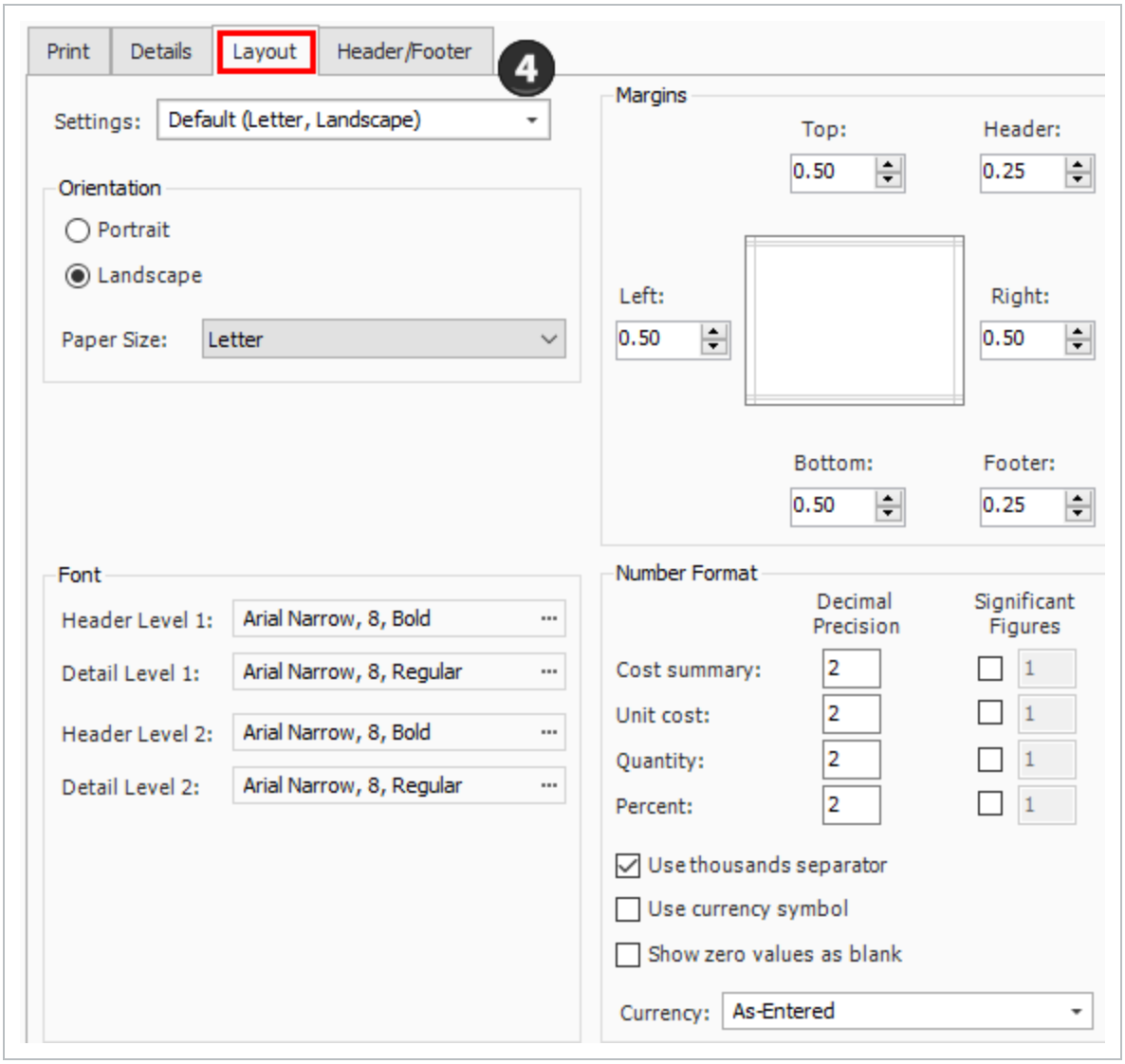
2. Under Resources on the left side bar**,** select **Resource Utilization**.



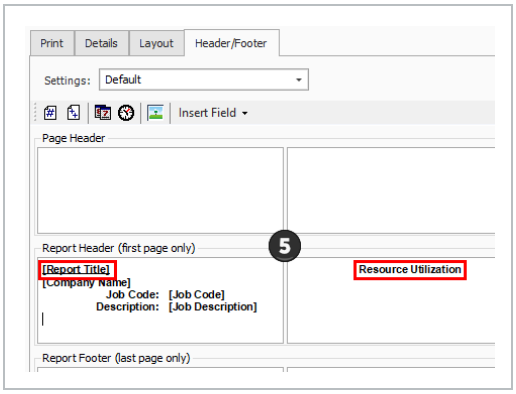
3. On the Print tab there are three options. A best practice is to always set to **Preview** so you can review before printing.



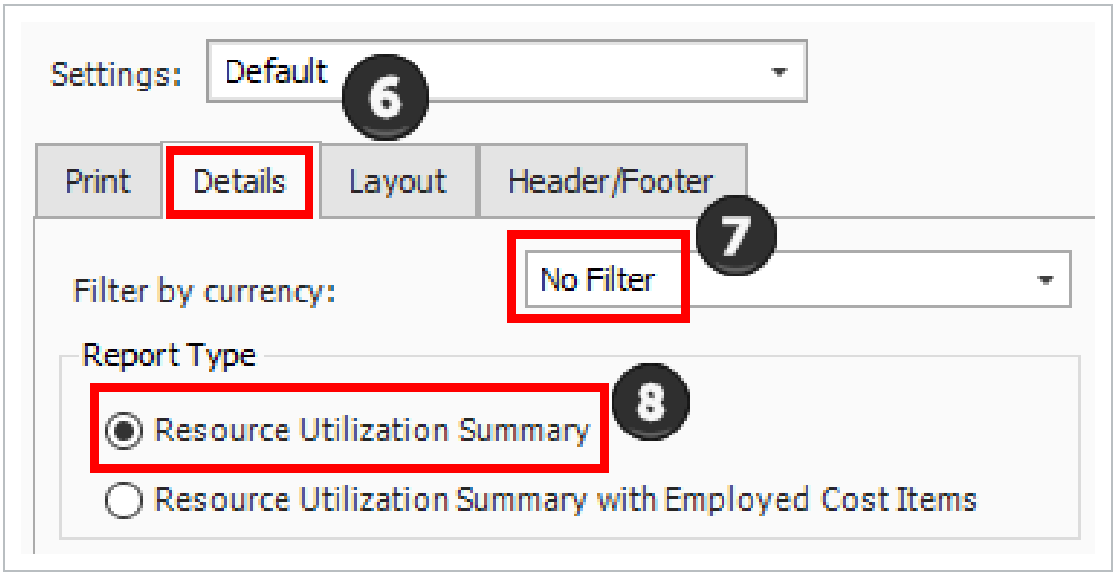
4. On the Layout tab you can make adjustments based on your preferences.



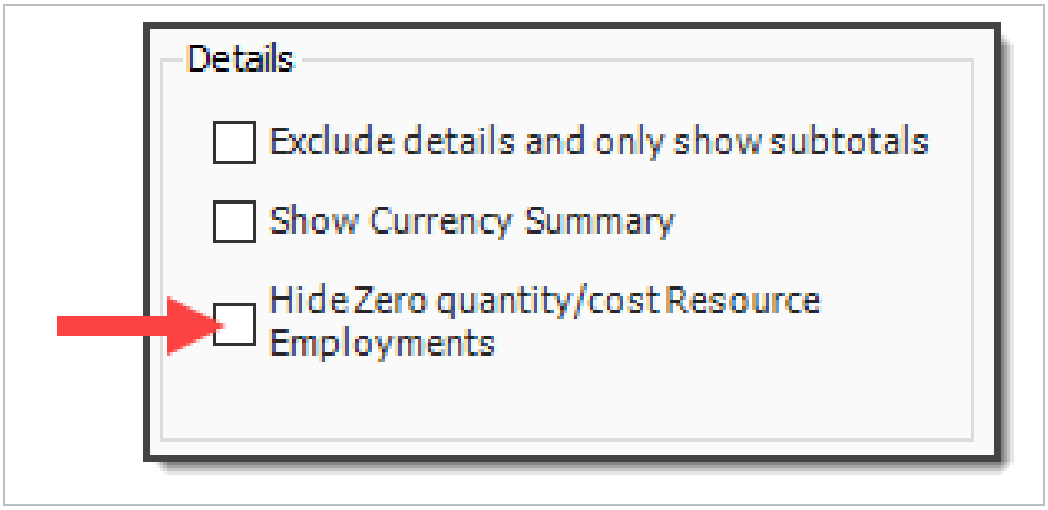
5. Move to the Header / Footer tab. Remove the default **Report Title** from the first page Header only and enter **Resource Utilization** in the center Report Header box as a title that will appear on the first page only.



6. Go to the **Details** tab, and you can see the details and options you can select to customize and adjust the report.
7. For this navigation, you will not Filter by currency; leave the selection as **No Filter**.
8. Under Report Type, choose the first option, **Resource Utilization Summary**.



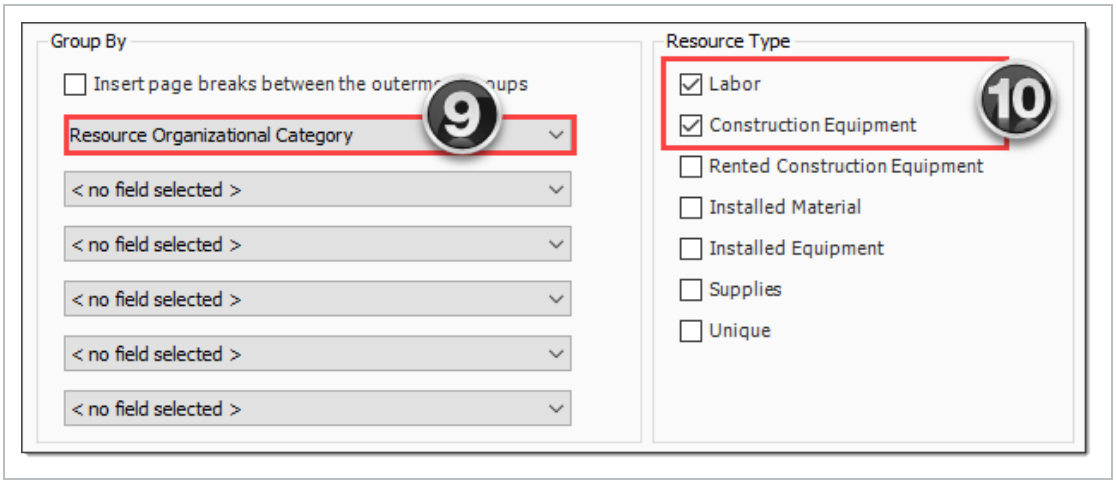
- You can choose to select the Hide Zero quantity/cost Resources Employments Details box if you prefer to have your printed report not show any resources that have a dollar value of zero



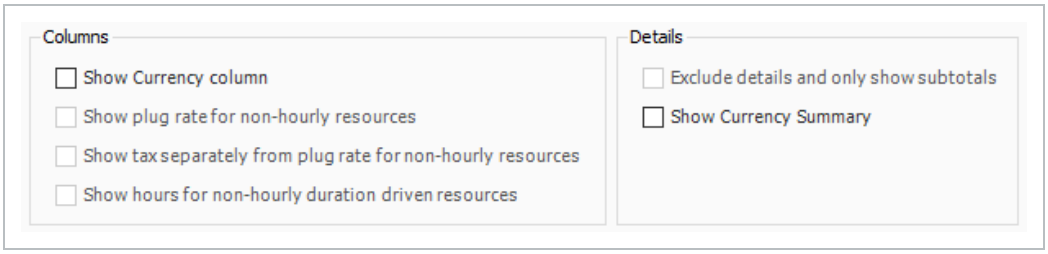
- You can choose if you want the report at a summary level, or if you want it to reference your cost items when you are looking at a resource
- If you choose Resource Utilization Summary with Employed Cost Items, it adds CBS position to the structure of the report
- You would select this if you wanted to see cost items and resources by the cost item

> **TIP** The Details settings are “sticky” features, meaning they default to what was selected the last time.

9. You can use grouping to group by different tags and user-defined fields. Most of them are related to the Resource Rate Register, for example: Geographic Area, Organizational Category, Wage Zone, etc. For this example, group by **Resource Organizational Category**.
10. Next, you can choose the resources you want to see. For this example, select the **Labor** and **Construction Equipment** Resource Types.



- For this example, you will not make any selections under Columns or Details

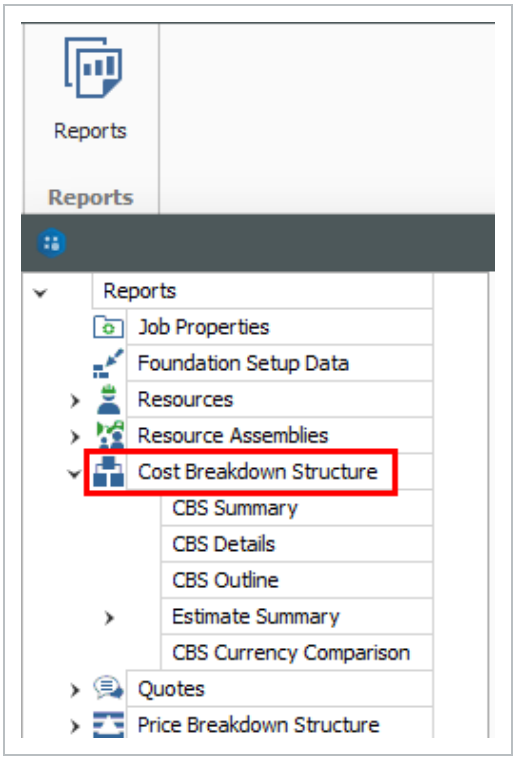


  - This is just one of many ways to organize and adjust your report.

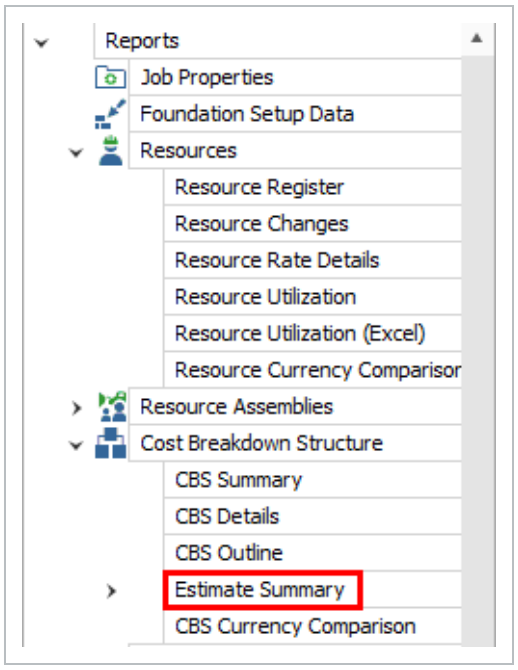
11. Click **Run** to run the report.
    - This report can be helpful for seeing your utilization hours, broken down by regular time and overtime hours
12. Click the red **X** to close this page and open the Construction Equipment page.
13. Click the red **X** to close the Construction Equipment report.

STEP BY STEP – CONFIGURE REPORT OUTPUT SETTINGS (REPORT 2)

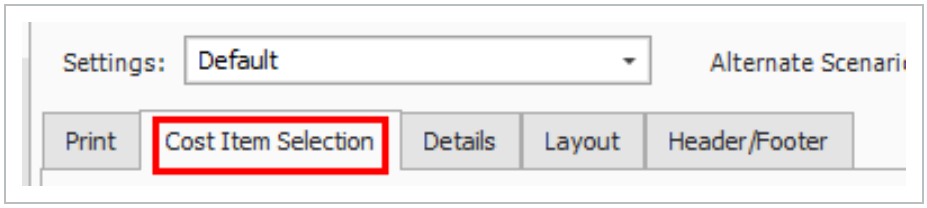
1. Open the **Training Job** and select **Setup >Reports**, then expand the **Cost Breakdown Structure** node.



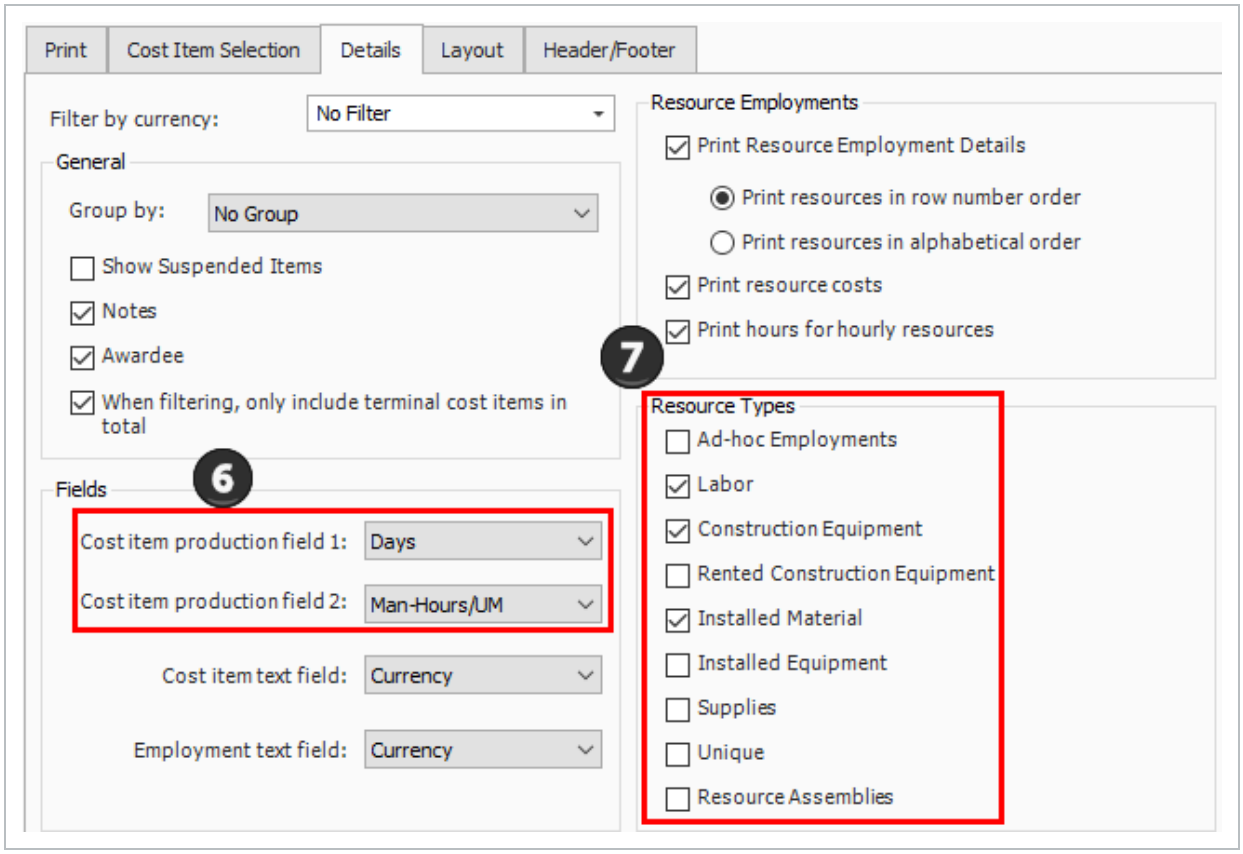
2. Under Cost Breakdown Structure on the left side bar, select **Estimate Summary**.



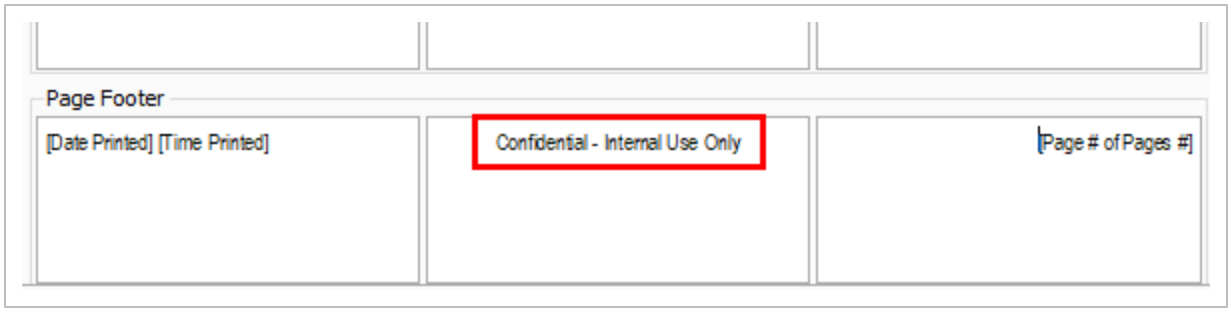
3. Along with the Print, Details, Layout, and Header / Footer tabs, there is an additional tab called **Cost Item Selection**. Select this tab.



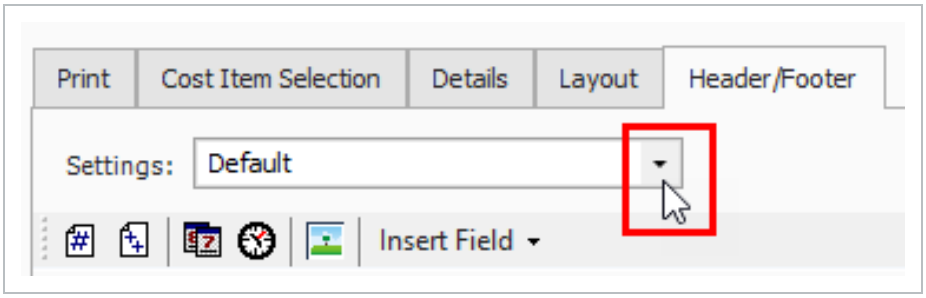
4. The Cost Item Selection tab allows you to report on a selection of cost items:
    - Print a contiguous range of cost items: Allows you to print a series of cost items in a row. In this case, print just items: select 4.1 in the From field and 4.3.2 in the To field.
    - Select cost items to print from the register below: Allows you to use column filters to select the cost items to include in the report; leave this button unselected.
5. You can roll up your cost items to a certain CBS level for the report as well, depending on the level of detail you need.
6. On the **Details** tab, select **Days** for Cost item production field 1, and **Man-Hours / UM** for Cost item production field 2 (this report allows you to report on two production values).
7. Under **Resource Types**, uncheck all of the boxes except **Labor**, **ConstructionEquipment**, and **Installed Material**.



8. Leave the rest of the settings at their defaults, then select the **Header / Footer** tab.
9. In the center **Page Footer** field delete the existing text, then type **Confidential –Internal Use Only**.

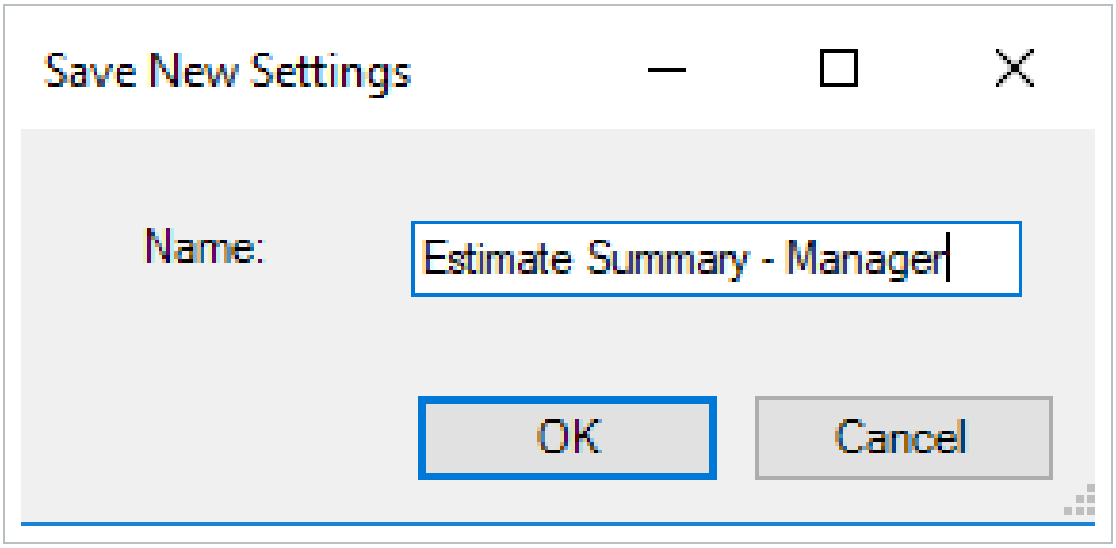


10. To save the settings you've configured, click on the **Settings** drop-down arrow above the output setting tabs.

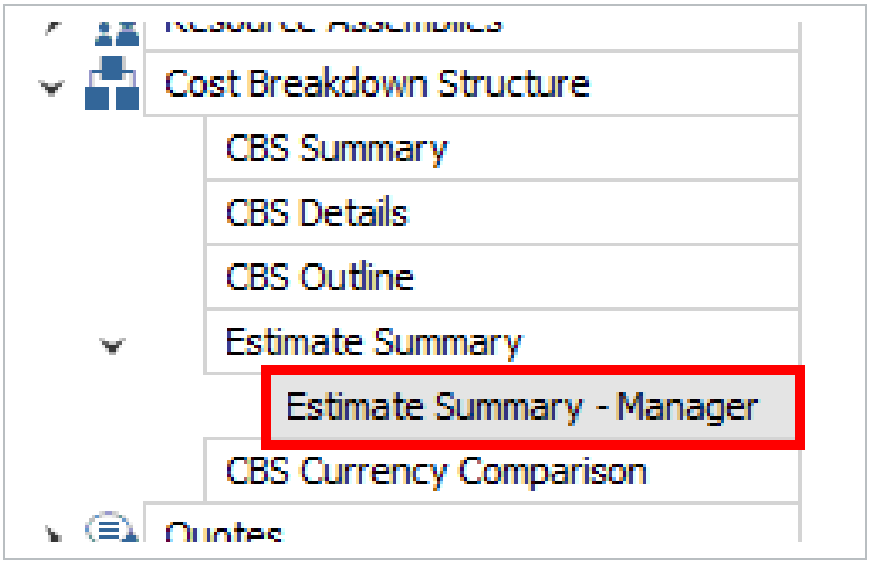


11. Select the **Save disk** icon to save the new settings.

12. Type **Estimate Summary – Manager.**
13. Click **OK**.

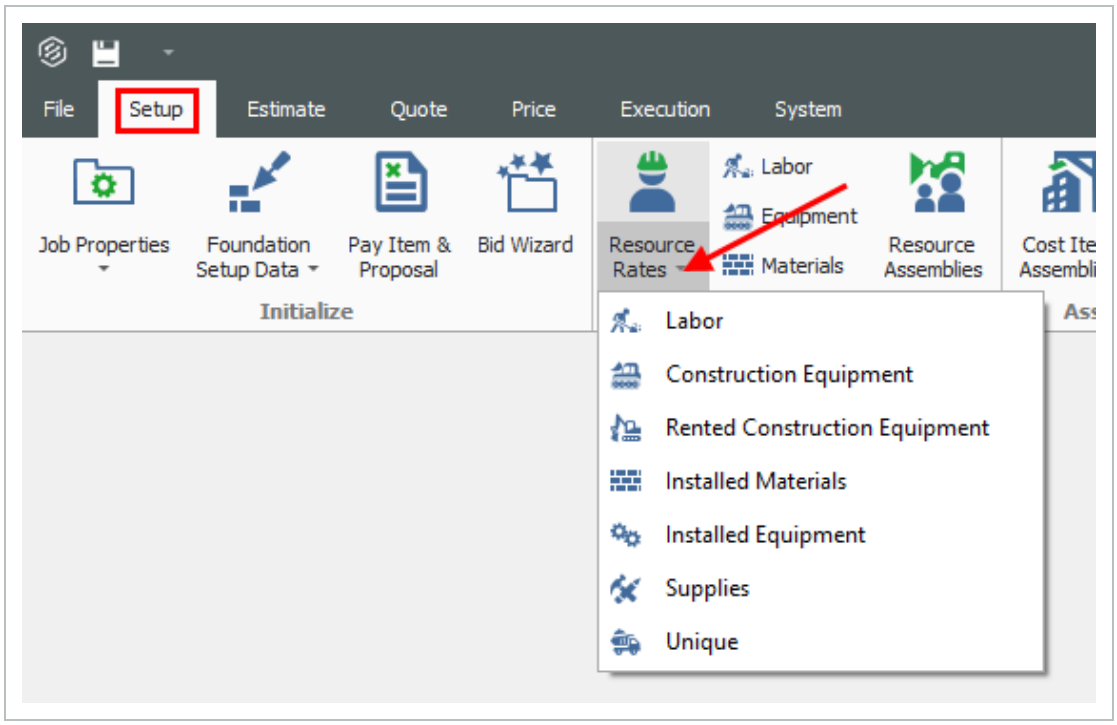


- Notice that a custom version of the report now displays under Estimate Summary on the Reports tree on the left

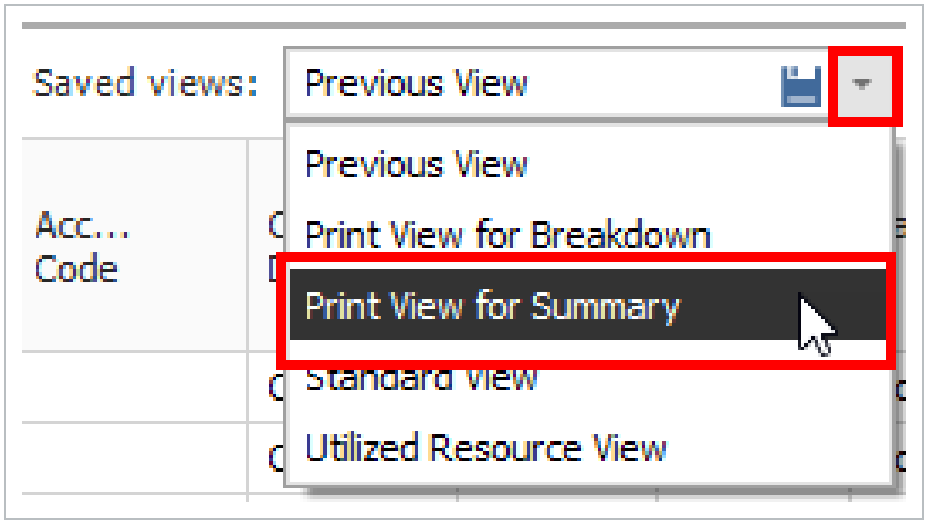

Cost Breakdown Structure
CBS Summary
CBS Details
CBS Outline
Estimate Summary
Estimate Summary - Manager
CBS Currency Comparison

STEP BY STEP – CREATE A REGISTER REPORT

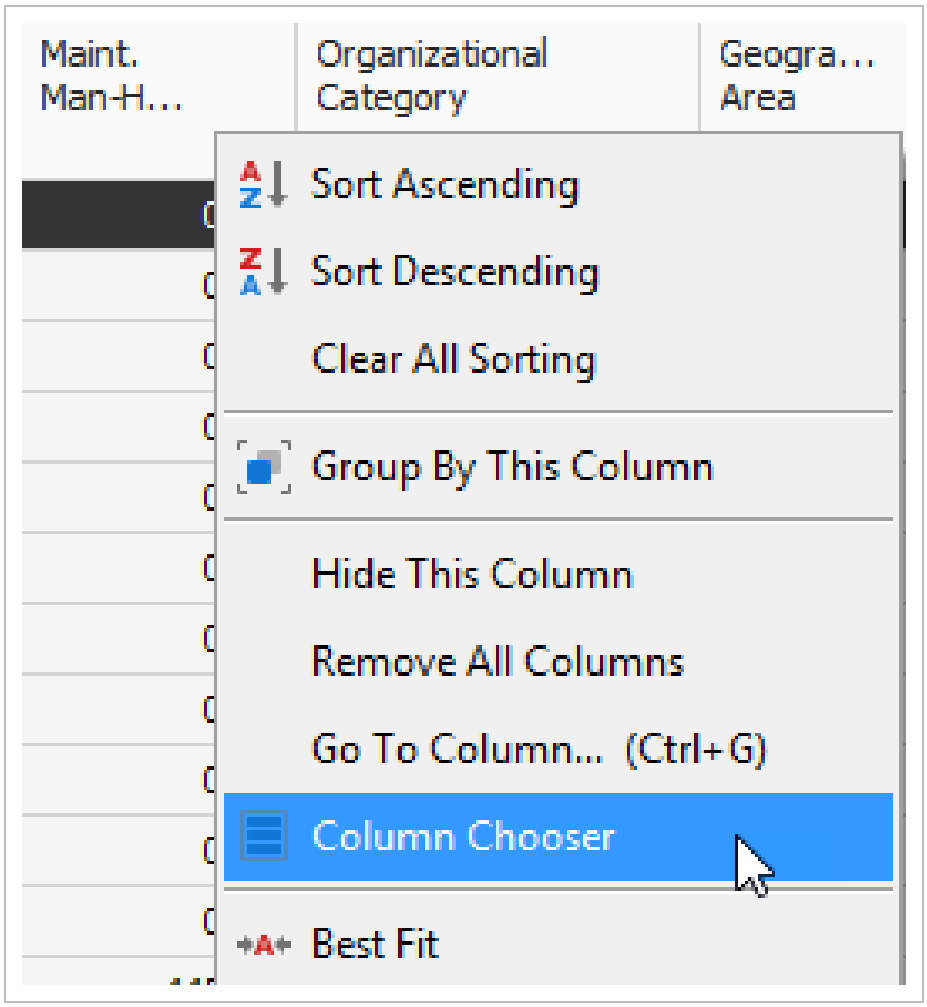
1. Open the **Training Job** and select **Setup** tab, then select the **Resource Rates** drop-down list.



2. From the drop-down list, select **Labor**.
3. From your Saved Views drop down menu on the Resource Rate Register, select the **Print View for Summary** view.

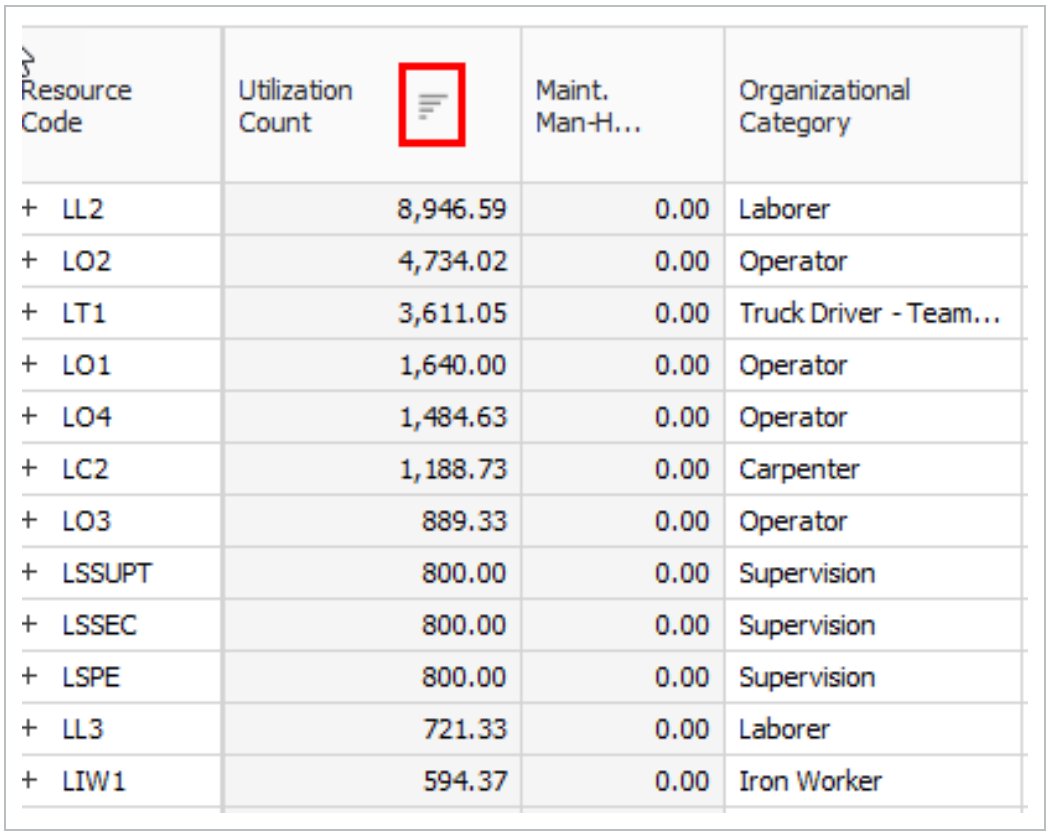


4. Notice this view includes utilization hours
5. Right-click on a column header and select **Column Chooser**.



6. From the Customization window, drag-and-drop the **Minority Percent, Unique Sales Tax, (Scale 2)**, and **Maint. Man-Hour Factor** columns into the register.
7. Close the Customize window.
8. Sort the **Utilization Count** column by clicking on the column header twice so that you see the bars descending.

- This sorts your items so the most utilized resources are at the top



Resource Code	Utilization Count	Maint. Man-H...	Organizational Category
+ LL2	8,946.59	0.00	Laborer
+ LO2	4,734.02	0.00	Operator
+ LT1	3,611.05	0.00	Truck Driver - Team...
+ LO1	1,640.00	0.00	Operator
+ LO4	1,484.63	0.00	Operator
+ LC2	1,188.73	0.00	Carpenter
+ LO3	889.33	0.00	Operator
+ LSSUPT	800.00	0.00	Supervision
+ LSSEC	800.00	0.00	Supervision
+ LSPE	800.00	0.00	Supervision
+ LL3	721.33	0.00	Laborer
+ LIW1	594.37	0.00	Iron Worker

9. Click on the **Saved Views** drop-down menu and select the **Save disc** icon to save the view.
10. Name the view **Labor Utilization View**, and then click **OK** to save the customized view.
11. From the **Actions** menu, select **Preview** to review the report before printing.

Labor Register

INEIGHT - PAUL TRIPPI
E101 - Training Job KL--Sample Training Job

Resource Code	Description	Utilization Count	Unit of Measure	Unique Sales Tax	Minority Percent	Maint. Man-Hour Factor
LO1	Operator Class 1	680.00	Hour	0.00	0.00	0.00
LL2	Laborer	590.00	Hour	0.00	0.00	0.00
LSSUPT	Project Superintendent	560.00	Hour	0.00	0.00	0.00
LSSEC	Secretary	560.00	Hour	0.00	0.00	0.00
LO3	Operator Class 3	220.00	Hour	0.00	0.00	0.00
LL3	Labor Foreman	200.00	Hour	0.00	0.00	0.00
LO4	Operator Foreman	110.00	Hour	0.00	0.00	0.00
LT1	Teamster	100.00	Hour	0.00	0.00	0.00

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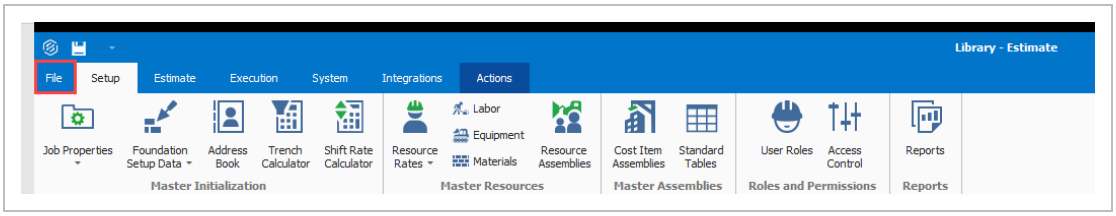
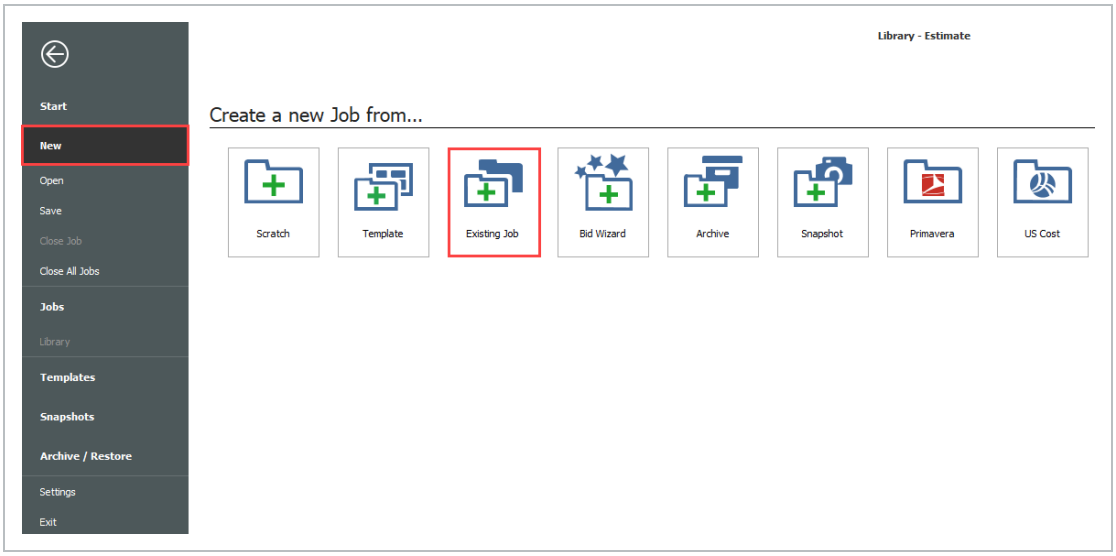
LESSON 10 - DATA REPRODUCTION

STEP BY STEP – COPY AN EXISTING JOB

1. Click the **File** tab on the **Estimate** landing page.



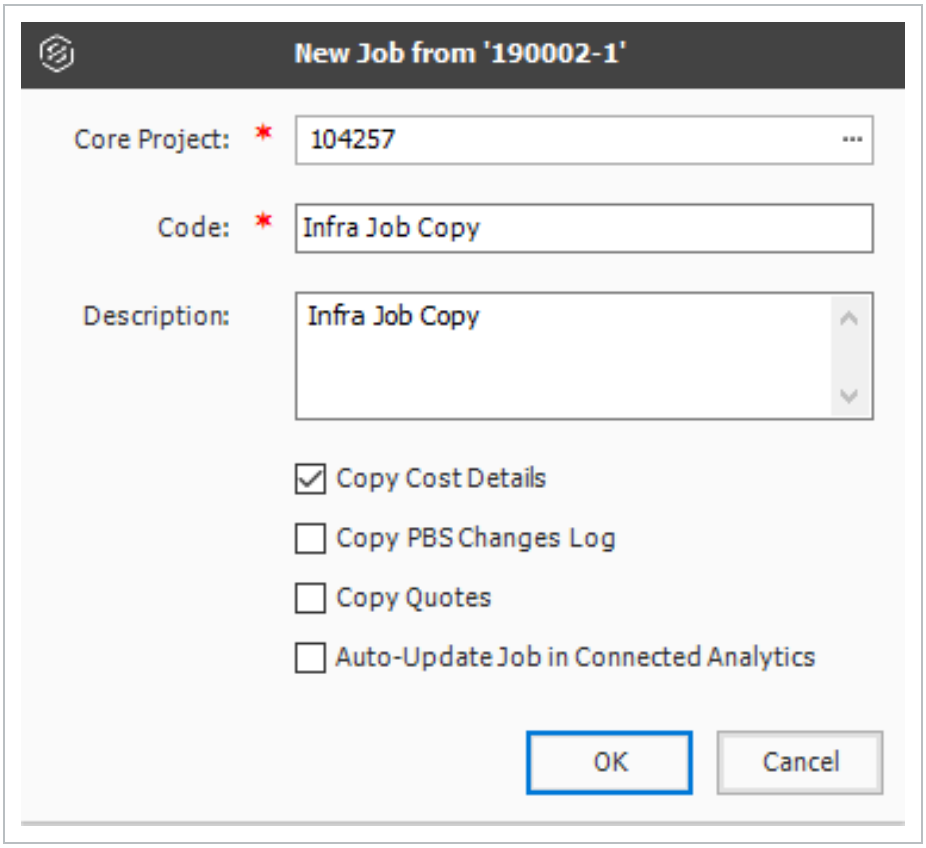
2. From the left side panel, select **New,** then select **Existing Job**.



3. The Job Register displays a list of your existing projects; select the Training Job and click **OK**.
4. On the New Job dialog, click the **ellipses** and select a Core Project.
5. In the Code field, type **Infra Job Copy** with your initials.
6. To copy the cost details from the existing job to the new job, verify that the **Copy Cost Details** checkbox is selected

- If you wanted to copy just the cost item structure without cost details, you would uncheck the box.

7. Uncheck the check for copying the PBS Changes Log, Copy Quotes and Auto-Update Job in Connected Analytics.
8. Click **OK** to create the new job.

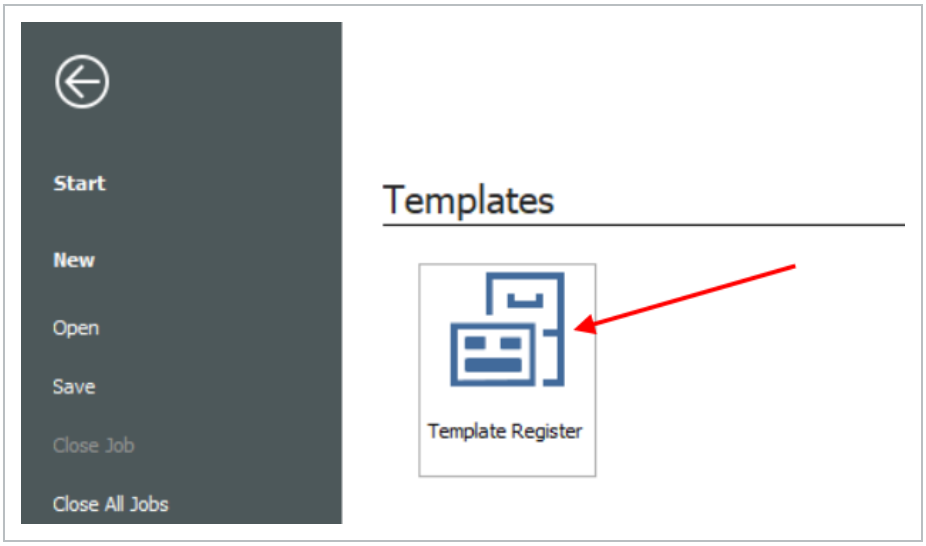


The new job opens with the Job Properties form active, so you can begin to modify the new job as needed. If you look through the tabs on the Job Properties form, you will find that it looks exactly like the job from which it was copied. Other forms, such as the Pay Item & Proposal Register and the CBS Register, also look the same in both jobs until you make modifications in one job or the other.

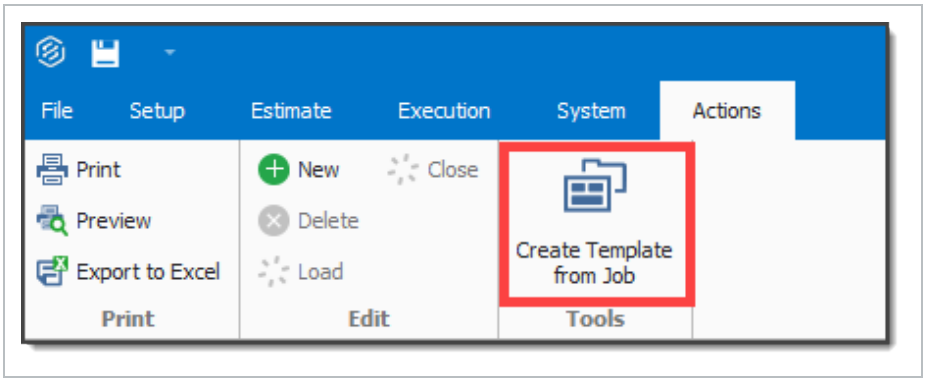
This is a very easy method for creating a new job, and it is a good choice if you want to copy an entire job. However, if you want to pick and choose which parts of a job to duplicate, the Bid Wizard is a better choice.

STEP BY STEP – CREATE A TEMPLATE

1. Click the **File** tab on the Estimate landing page.
2. From the left side panel, select **Templates**.
3. Under Templates, select the **Template Register.**

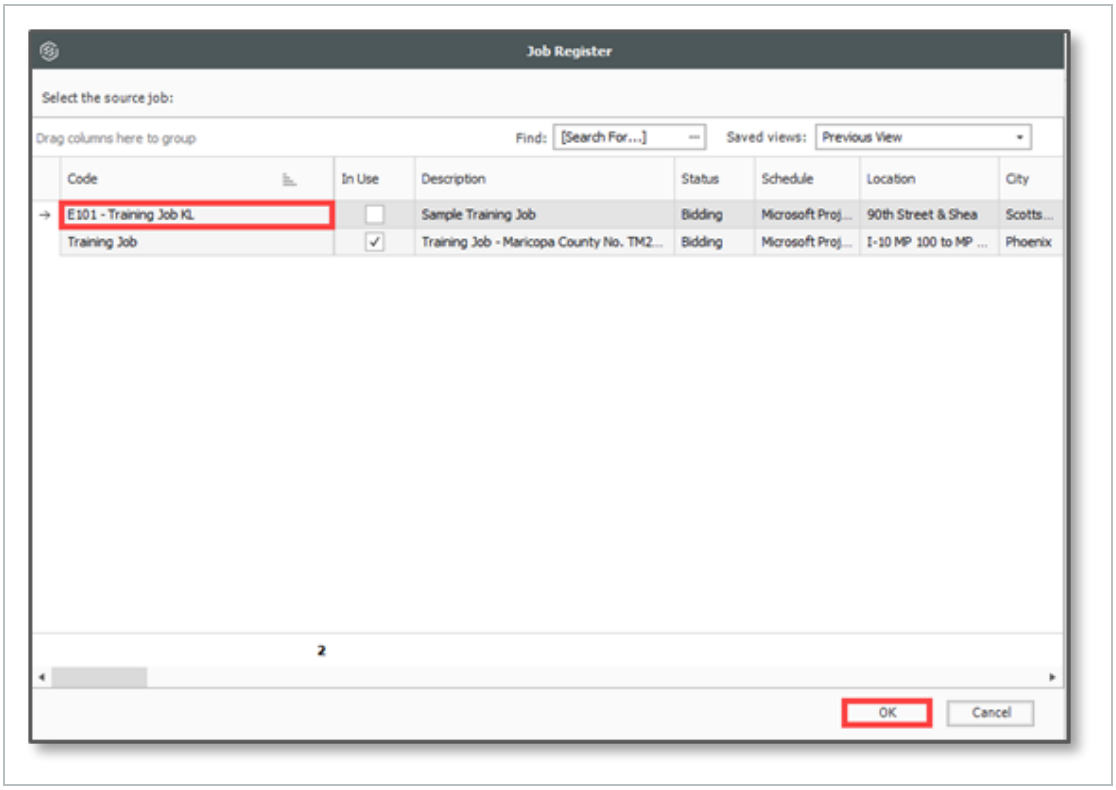


4. From the Actions tab, select **Create Template from Job**.



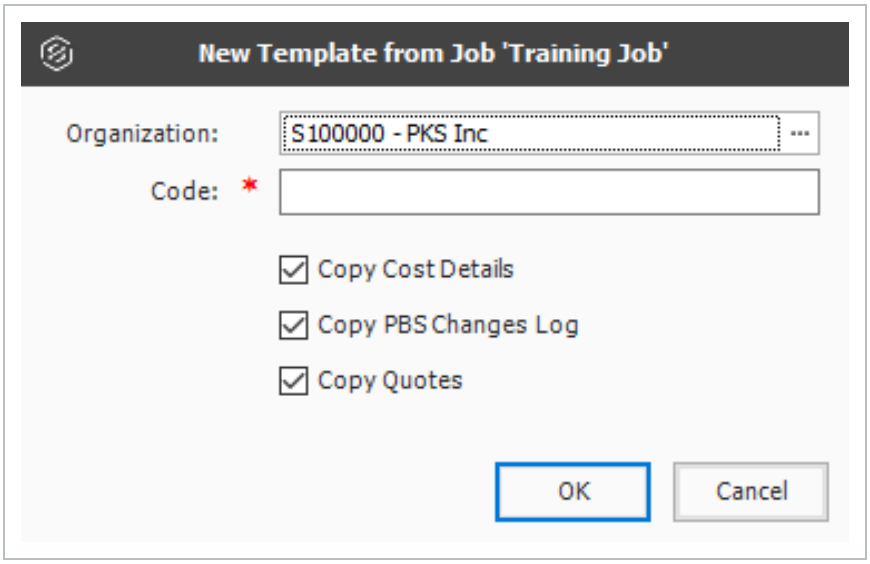
- The Job Register opens for you to select the source job for the template
- Assume that you want to make a template from your E101 Training Job

5. Select the **E101 Training Job with your initials**, then click **OK**.

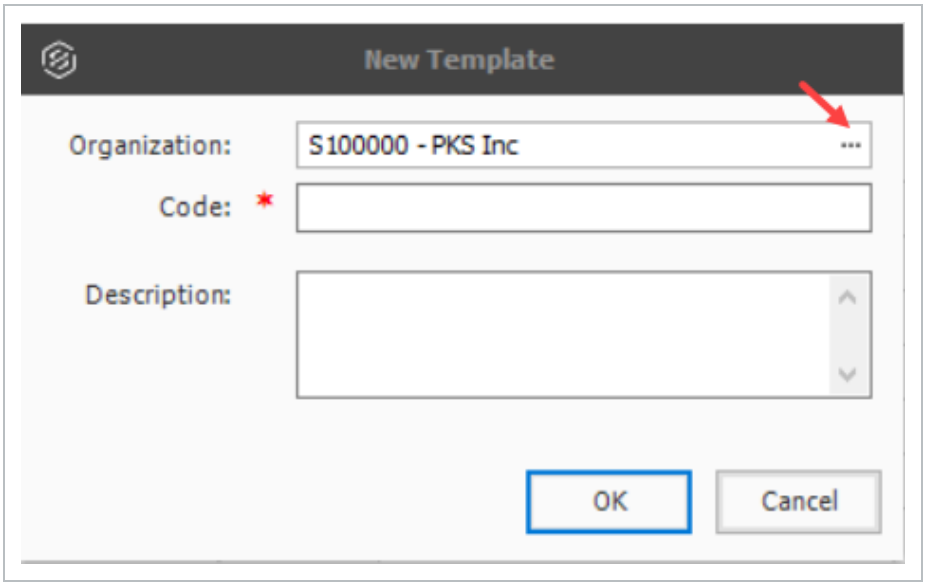


NOTE You cannot create templates from jobs that are published to Job Tracking.

- The New Template From Job 'Training Job' with your initials prompt appears.

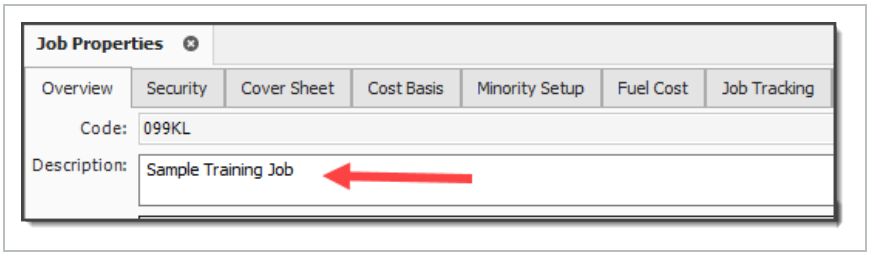


6. Click the ellipsis to the right of the Organization field.

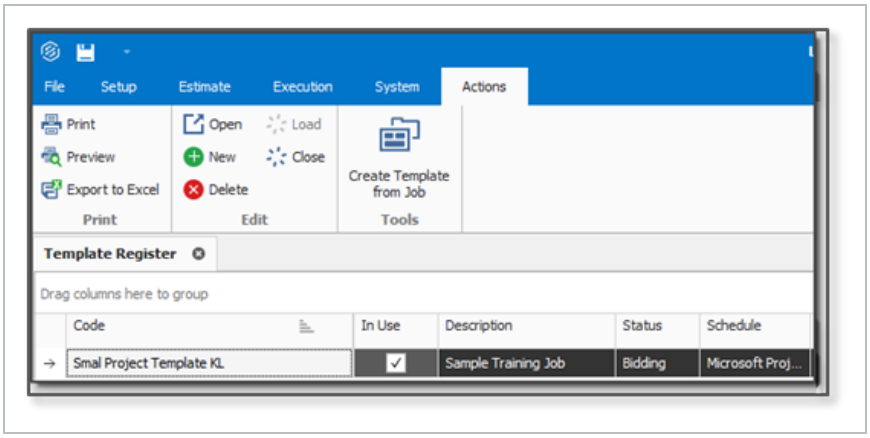


The Organization Register Library opens.

7. In the Organization Register Library, select an **organization** and then click **OK**.
8. In the Code field, type **Small Project Template[your initials]**.
    - Leave Copy Cost Details and Copy PBS Changes Log checked
9. Click **OK**.
    - The new template is created and opens to the Job Properties form
    - You can add the description in addition to the code for any new job you are creating from a template. This description is later added to the Overview tab of the new job on the Job Properties form



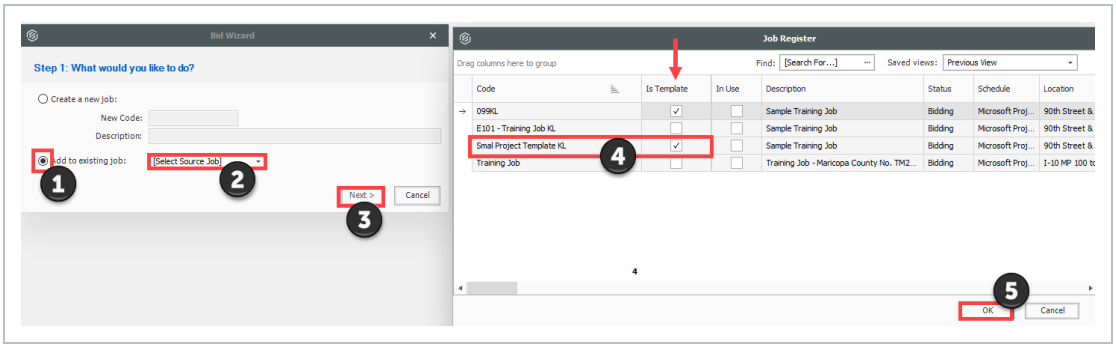
- Back in the Templates Register, you can see the new template created



- Similar to copying an existing job, you can create a new job from a template from the New menu in the Backstage View.

- You can also create a new job from a template from the New menu in the Bid Wizard.

10. Select **Add to existing job**
11. From Select Source Job, click the **dropdown** arrow
12. Click **Next**
13. Select a job that is shown as having a Template
14. Click **OK**

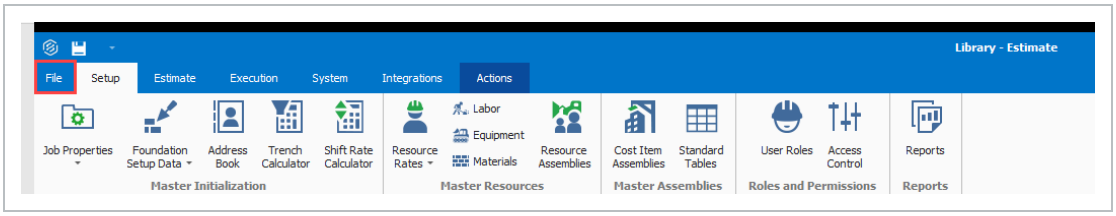

Bid Wizard
Step 1: What would you like to do?
Create a new Job:
New Code:
Description:
Add to existing job:
[Select Source Job]
Next >
Cancel
1
2
3
Job Register
Drag columns here to group
Find: [Search For...]
Saved views: Previous View
Code
Is Template
In Use
Description
Status
Schedule
Location
099KL
Sample Training Job
Bidding
Microsoft Proj...
90th Street &
E101 - Training Job KL
Sample Training Job
Bidding
Microsoft Proj...
90th Street &
Smal Project Template KL
Sample Training Job
Bidding
Microsoft Proj...
90th Street &
Training Job
Training Job - Maricopa County No. TM2...
Bidding
Microsoft Proj...
I-10 MP 100 to
4
4
5
OK
Cancel

STEP BY STEP – ARCHIVE AND RESTORE A TEMPLATE

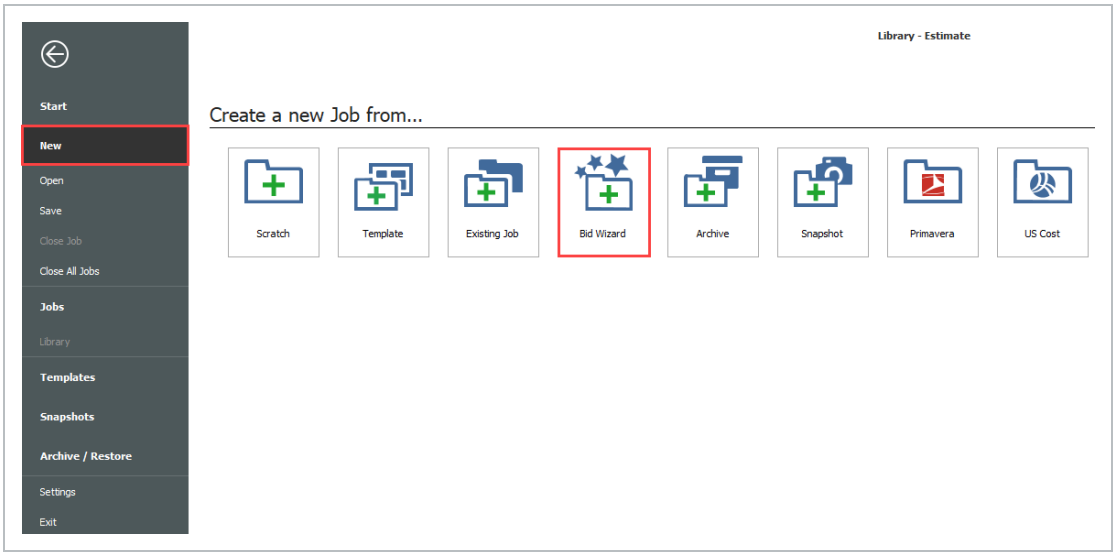
1. Click **File** to open the Backstage View.
2. Select **Archive / Restore**.
    - Several options appear for archiving and restoring your jobs, templates, and library
3. Select **Archive Template**.
    - The Template Register appears
4. Select the **Small Project Template [your initials]** template you previously made, then click **OK**.
5. When prompted to include attachments, click **Yes**.
    - The Save As window appears
6. Browse to where you want to save the job, then click **Save**.
7. Select **Restore Template** from the Archive / Restore page of the Backstage View to begin restoring the template.
8. Browse to the archived template and select it.
9. Click **Open**.
    - If the template already exists, a prompt will appear asking if you want to overwrite it
        - To overwrite it, select **Yes**
        - If you select **No**, you will be prompted to save it under a new Template Code

STEP BY STEP – USE THE BID WIZARD

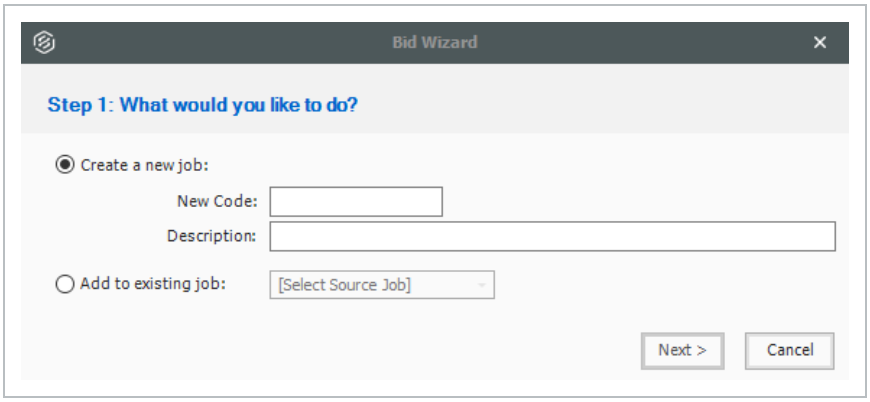
1. To open the Bid Wizard, click the **File** tab on the Estimate landing page.



2. From the left side panel, select **New**, then select **Bid Wizard**.

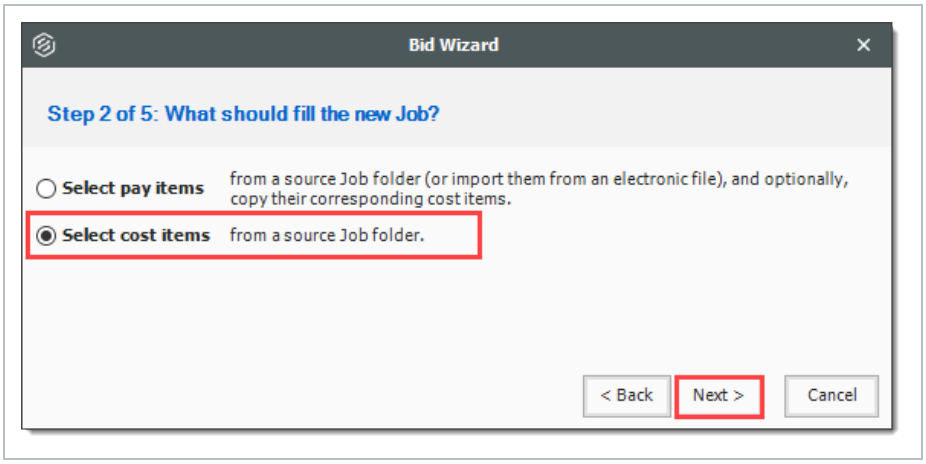


- The Bid Wizard – Step 1 dialog displays

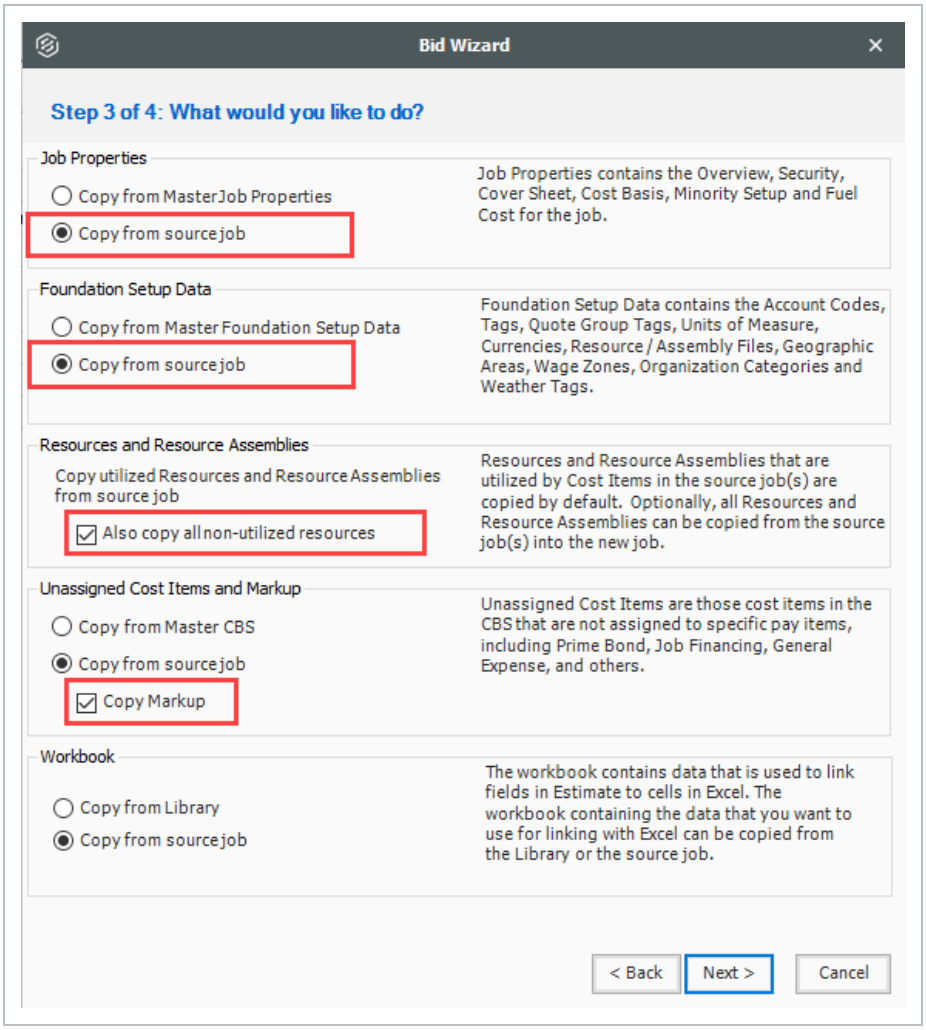


TIP Notice that you can either create a new project or add to an existing project.

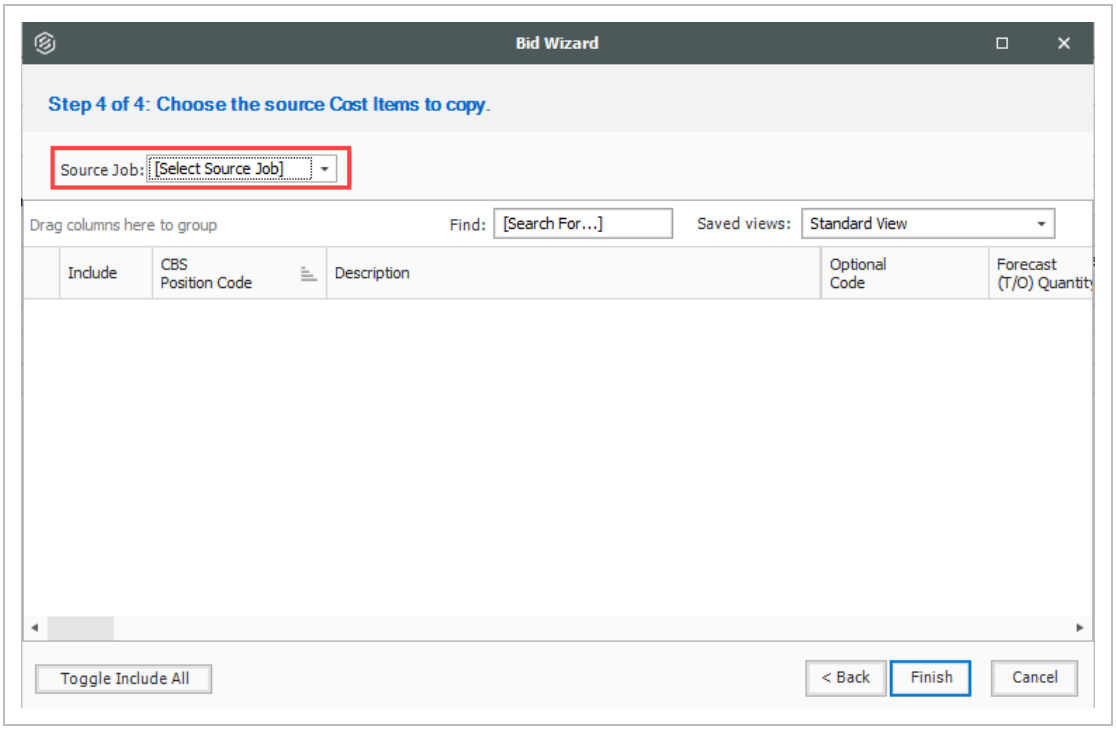
3. Type **E101 Bid Wizard** (with your initials) in the New Code field.
4. Type **Bid Wizard Example** in the Description field.
5. Click the **Next** button.
    - The Bid Wizard – Step 2 dialog displays
6. Choose **Select cost items** and click **Next**.



    - The Bid Wizard – Step 3 of 4 dialog displays
    - You use this step to indicate which source you want to pull your setup data from (the library or your source job)
7. For all selections, select **Copy from source job**.
8. Check the **Also copy all non-utilized resources** checkbox.
9. Select **Copy from source job** under Unassigned Cost Items and Markup, and the **Copy Markup** box is automatically selected.

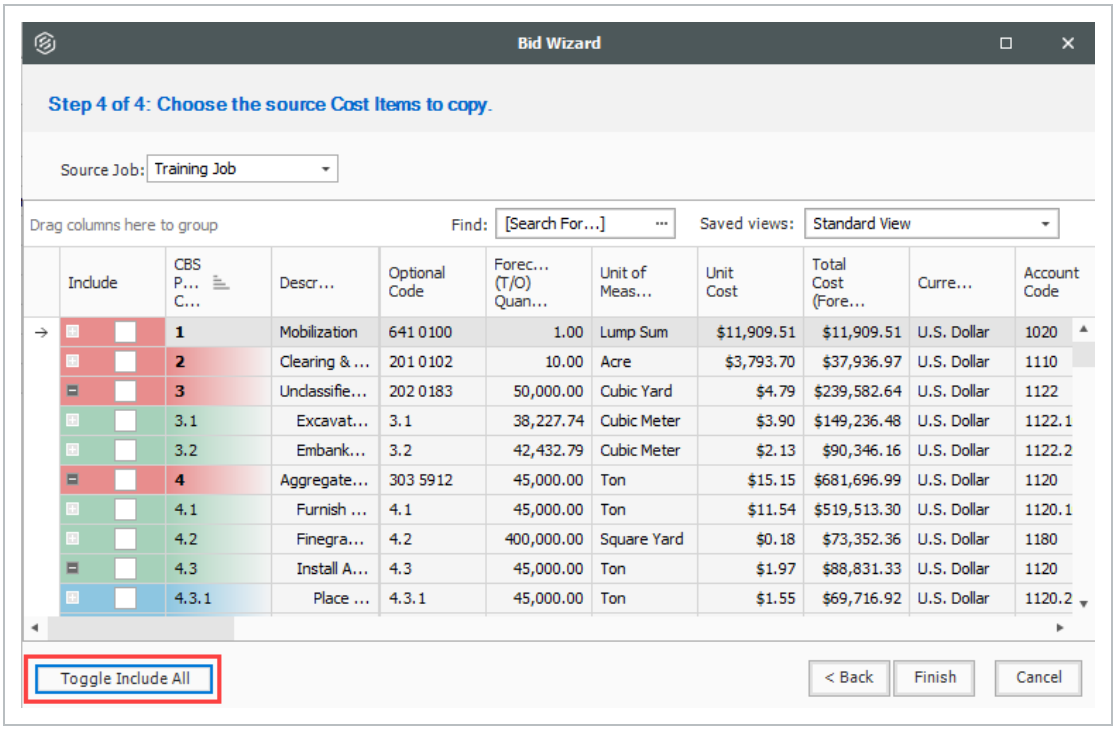


10. Click **Next**.
    - The Bid Wizard – Step 4 of 4 dialog displays
11. Click the **Source Job** drop-down arrow.

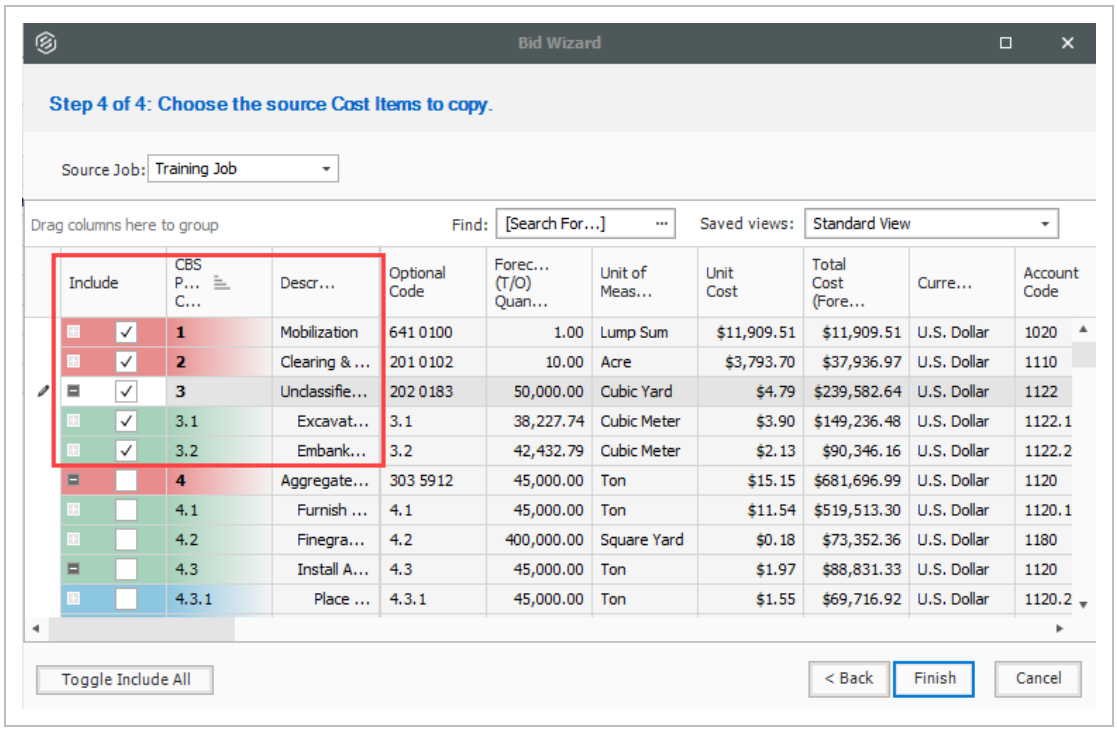


- The Job Register opens

12. Find and select **Training Job.**
13. Click **OK**.
    - This screen displays the cost items of the source job (Training Job). All items are automatically selected
14. Use the **Toggle Include All** button to exclude all selections.



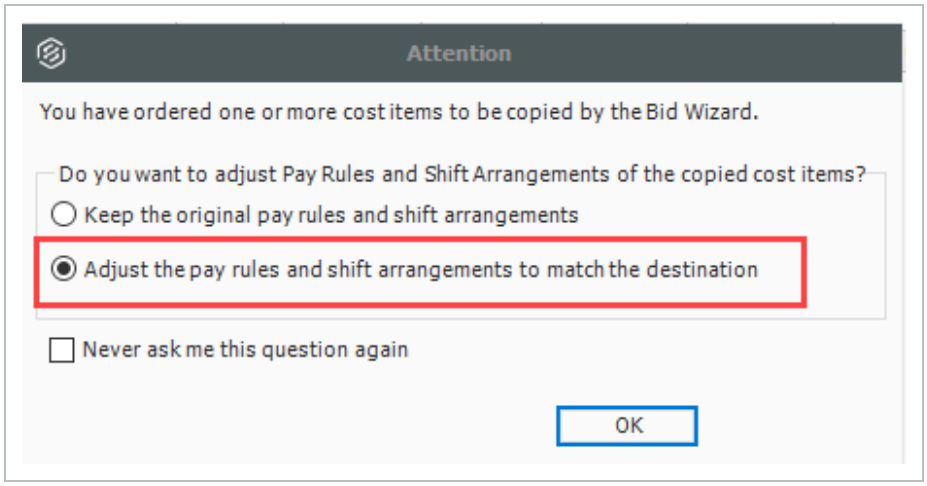
15. Select the checkboxes to include **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation**.
16. Notice that when selecting Unclassified Excavation, that cost item's subordinates are automatically selected



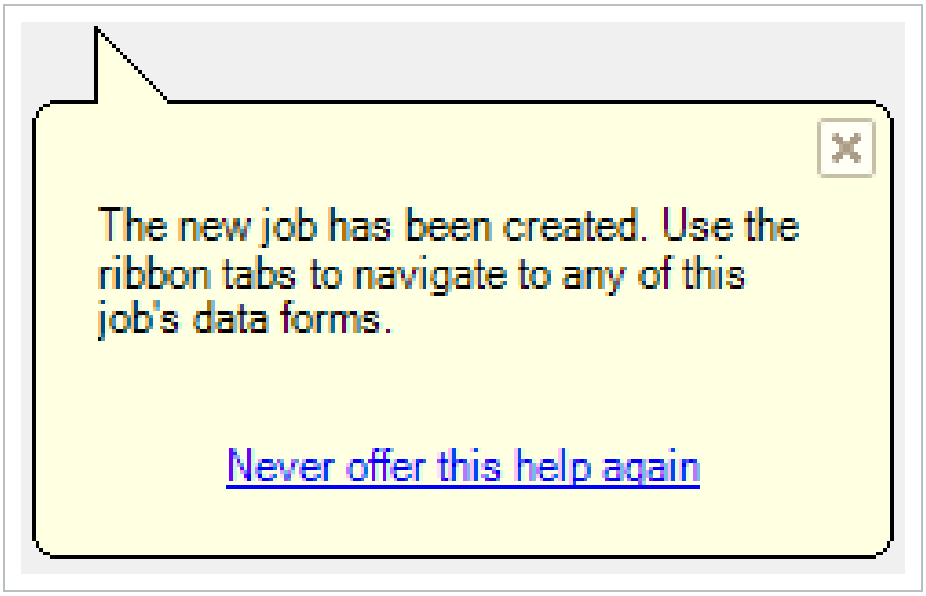
17. Click **Finish** to add the new job.

    - An Attention prompt appears asking, “Do you want to adjust Pay Rules and Shift Arrangements of the copied cost items?”
    - Typically, you will want to use the shifts and payment rules of your new destination job.

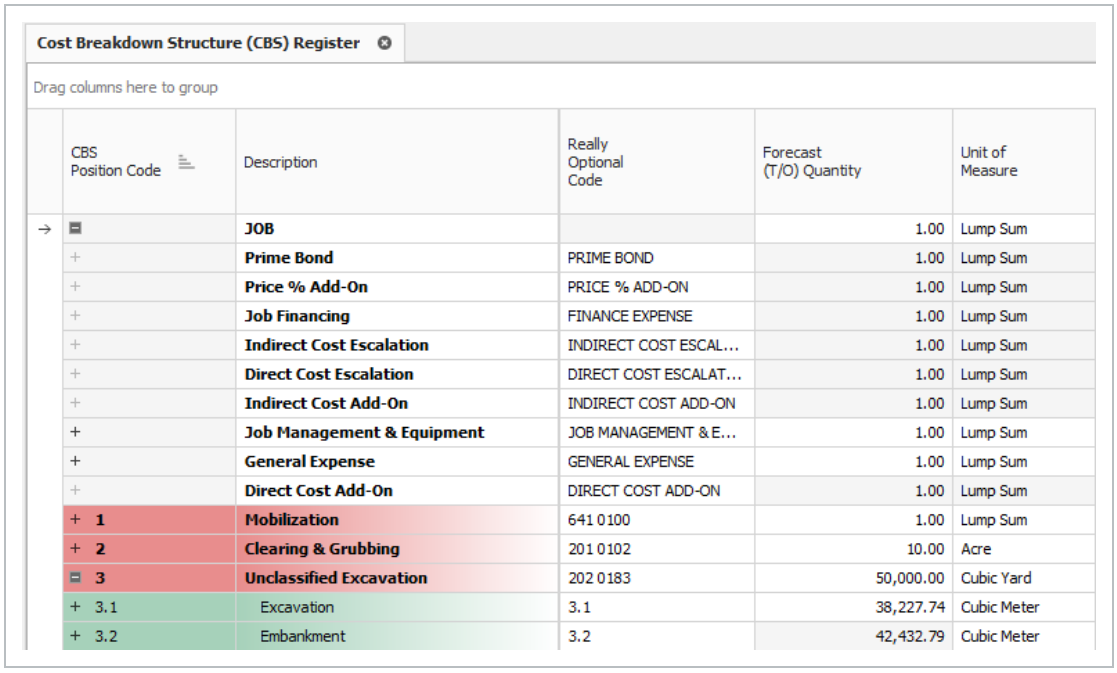
18. Select **Adjust the pay rules and shift arrangements to match the destination**.



19. Click **OK**.
    - A help bubble appears letting you know the job has been created, and that you can use the ribbon tabs on the Estimate landing page to open any form
20. Close the help bubble by selecting the **X** in the upper right corner.



21. Open the **Estimate > CBS** to see the three cost items that were brought in.



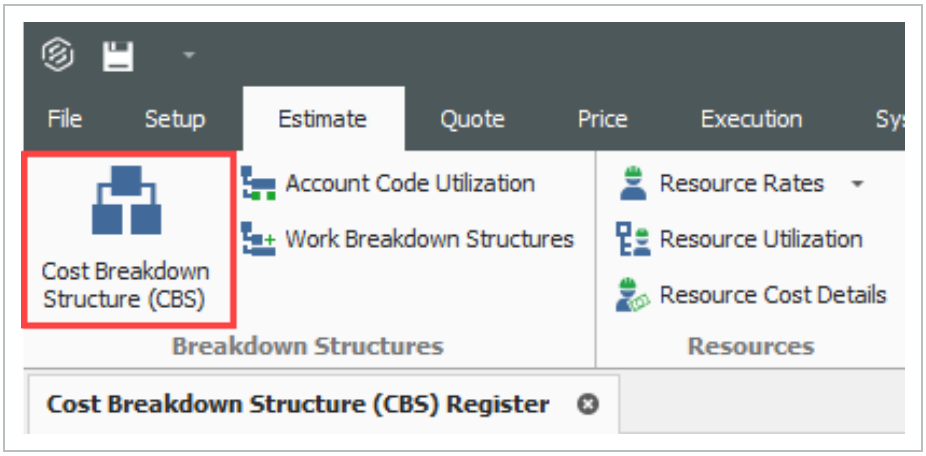
Cost Breakdown Structure (CBS) Register

Drag columns here to group

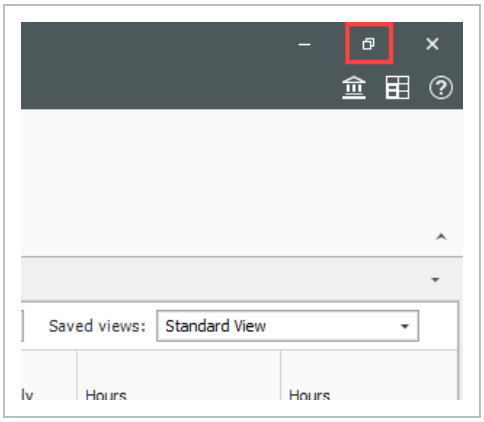
CBS Position Code	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure
→ ⊟	**JOB**		1.00	Lump Sum
+	**Prime Bond**	PRIME BOND	1.00	Lump Sum
+	**Price % Add-On**	PRICE % ADD-ON	1.00	Lump Sum
+	**Job Financing**	FINANCE EXPENSE	1.00	Lump Sum
+	**Indirect Cost Escalation**	INDIRECT COST ESCAL...	1.00	Lump Sum
+	**Direct Cost Escalation**	DIRECT COST ESCALAT...	1.00	Lump Sum
+	**Indirect Cost Add-On**	INDIRECT COST ADD-ON	1.00	Lump Sum
+	**Job Management & Equipment**	JOB MANAGEMENT & E...	1.00	Lump Sum
+	**General Expense**	GENERAL EXPENSE	1.00	Lump Sum
+	**Direct Cost Add-On**	DIRECT COST ADD-ON	1.00	Lump Sum
+ **1**	**Mobilization**	641 0100	1.00	Lump Sum
+ **2**	**Clearing & Grubbing**	201 0102	10.00	Acre
⊟ **3**	**Unclassified Excavation**	202 0183	50,000.00	Cubic Yard
+ 3.1	Excavation	3.1	38,227.74	Cubic Meter
+ 3.2	Embankment	3.2	42,432.79	Cubic Meter

STEP BY STEP – COPY ESTIMATE DATA USING EDIT COMMANDS

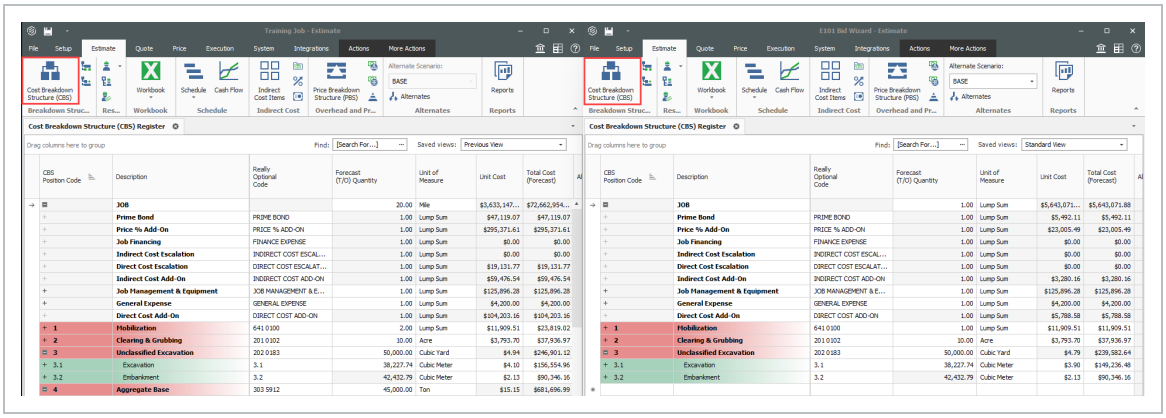
1. Click the **File** tab from the Estimate landing page and open the **E101 Bid Wizard** job you just created.
2. Open the **Training Job** (if you do not still have it open).
3. Make sure the CBS is open for both jobs by going to the Estimate menu and selecting **Cost Breakdown Structure (CBS)**.



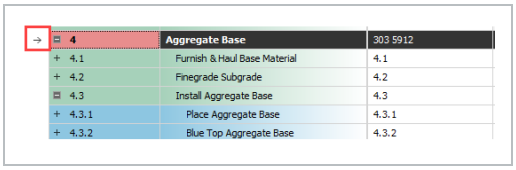
4. Since you have both jobs open and they are in their own application window, align them to be side by side by using the **minimize icons** of each job or utilizing Windows align functionality.



- Note that the window caption identifies the CBS Register for each job



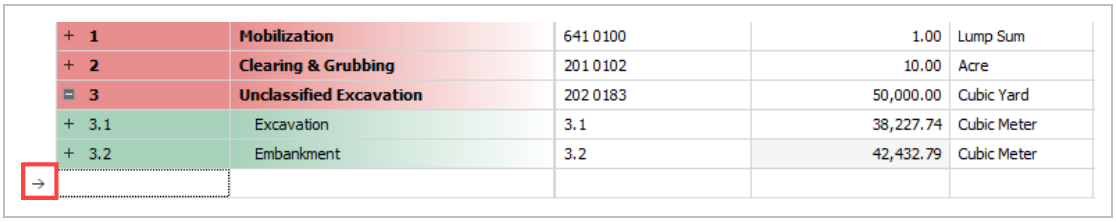
5. On the CBS of the Training Job, click the row header on cost item **4 – Aggregate Base** and press **Ctrl+C** to copy the cost item.



→	4	Aggregate Base	303 5912
	4.1	Furnish & Haul Base Material	4.1
	4.2	Finegrade Subgrade	4.2
	4.3	Install Aggregate Base	4.3
	4.3.1	Place Aggregate Base	4.3.1
	4.3.2	Blue Top Aggregate Base	4.3.2

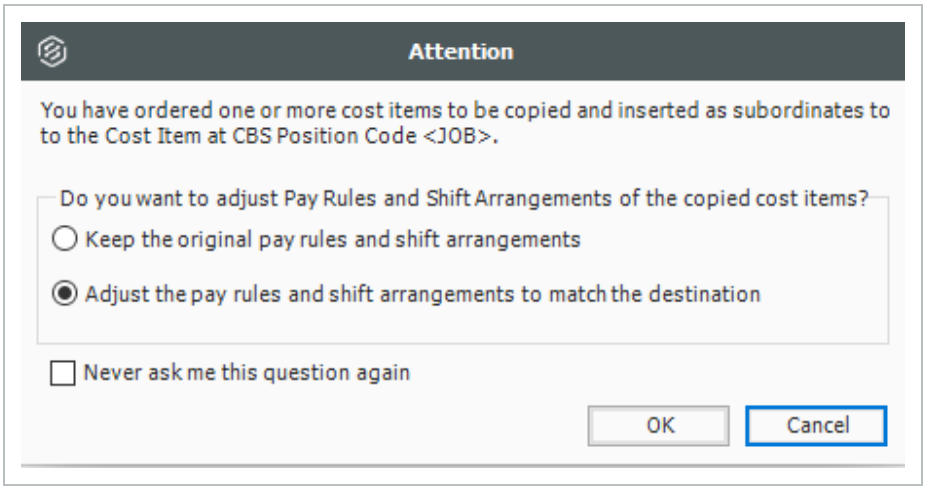
TIP When you copy a superior cost item, all of its subordinates are automatically copied.

6. On the CBS of the E101 Bid Wizard job, click the row header on the first blank register row, and press **Ctrl+V** to paste the cost item.

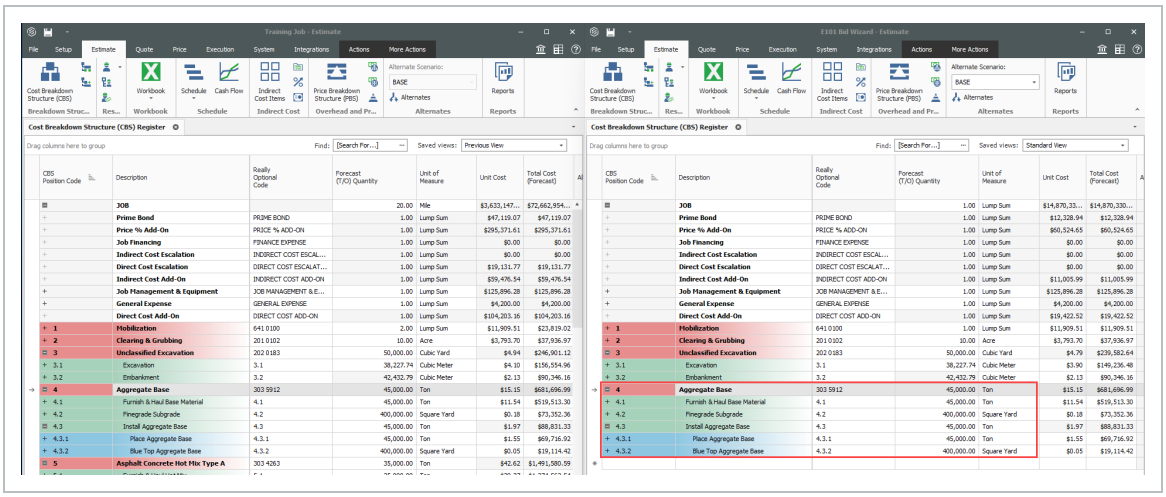


1	Mobilization	641 0100	1.00	Lump Sum
2	Clearing & Grubbing	201 0102	10.00	Acre
3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard
3.1	Excavation	3.1	38,227.74	Cubic Meter
3.2	Embankment	3.2	42,432.79	Cubic Meter
→				

7. On the Attention dialog, select **Adjust the pay rules and shift arrangements to match the destination** and click **OK**.



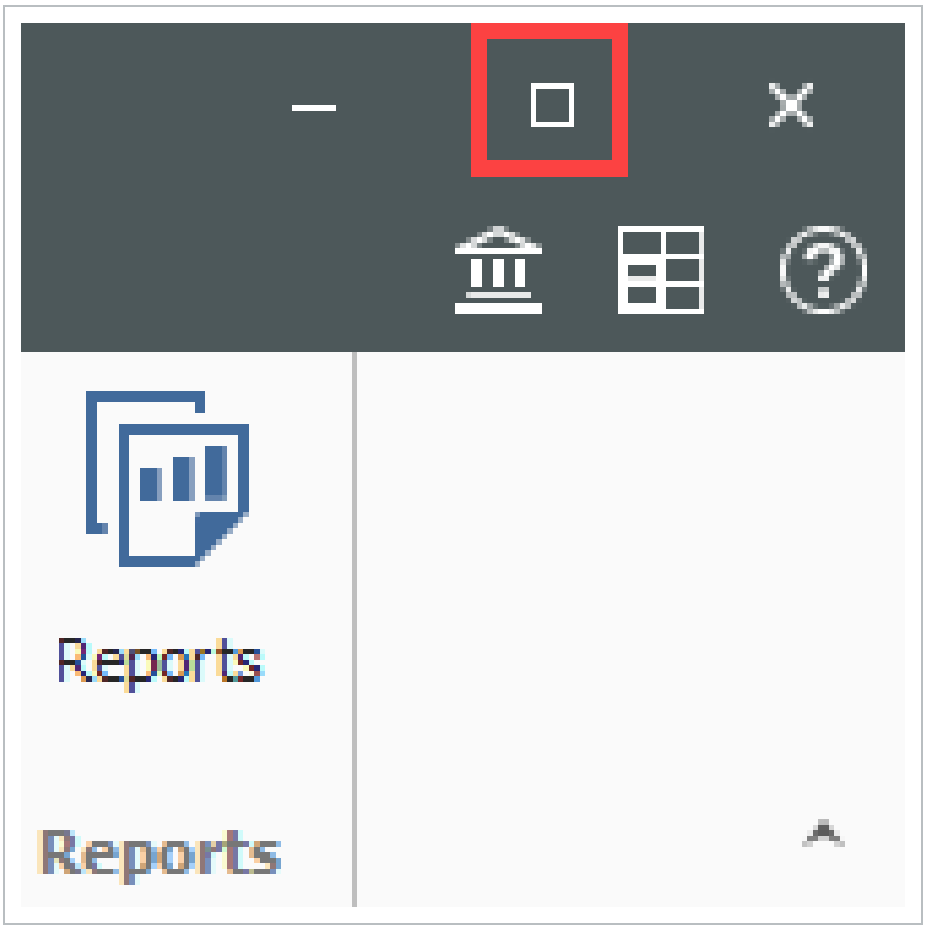
- You can see in the destination job's CBS that you've added the Aggregate Base cost item, along with its subordinate cost items and all cost and productivity detail



TIP You can also drag and drop cost items from one CBS to another instead of copying and pasting.

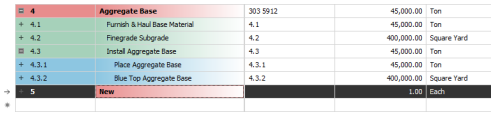
TIP Copied cost items are considered Job Overhead until they are assigned to a pay item

8. To go back to your full screen view of the E101 Bid Wizard job, select the maximize icon.

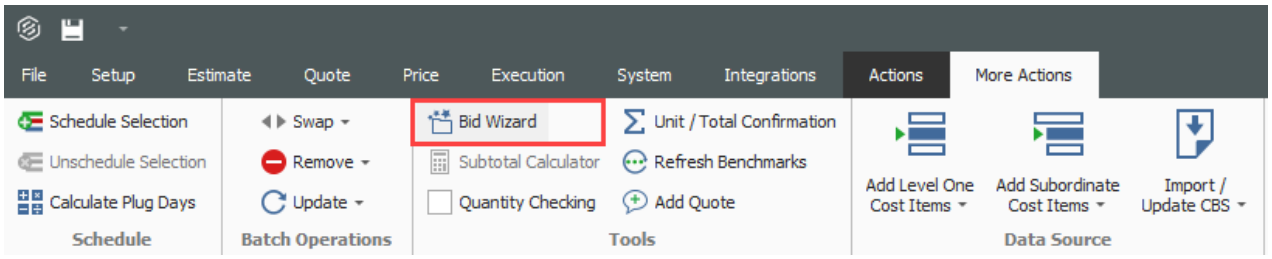

Reports
Reports

STEP BY STEP – USE THE CBS BID WIZARD

1. Click the **File** tab from the Estimate landing page and open the **E101 Bid Wizard** job you created.
2. From the **Estimate** tab, select **Cost Breakdown Structure (CBS)**.
3. Create a new cost item by typing **New** in the Description column on the bottom row of the CBS
4. Highlight the **New** row.

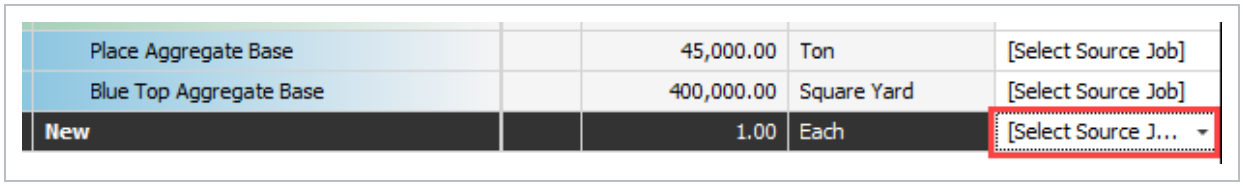


5. To open the CBS Bid Wizard, click the **Bid Wizard** icon on the **More Actions** tab.



- The Bid Wizard window opens

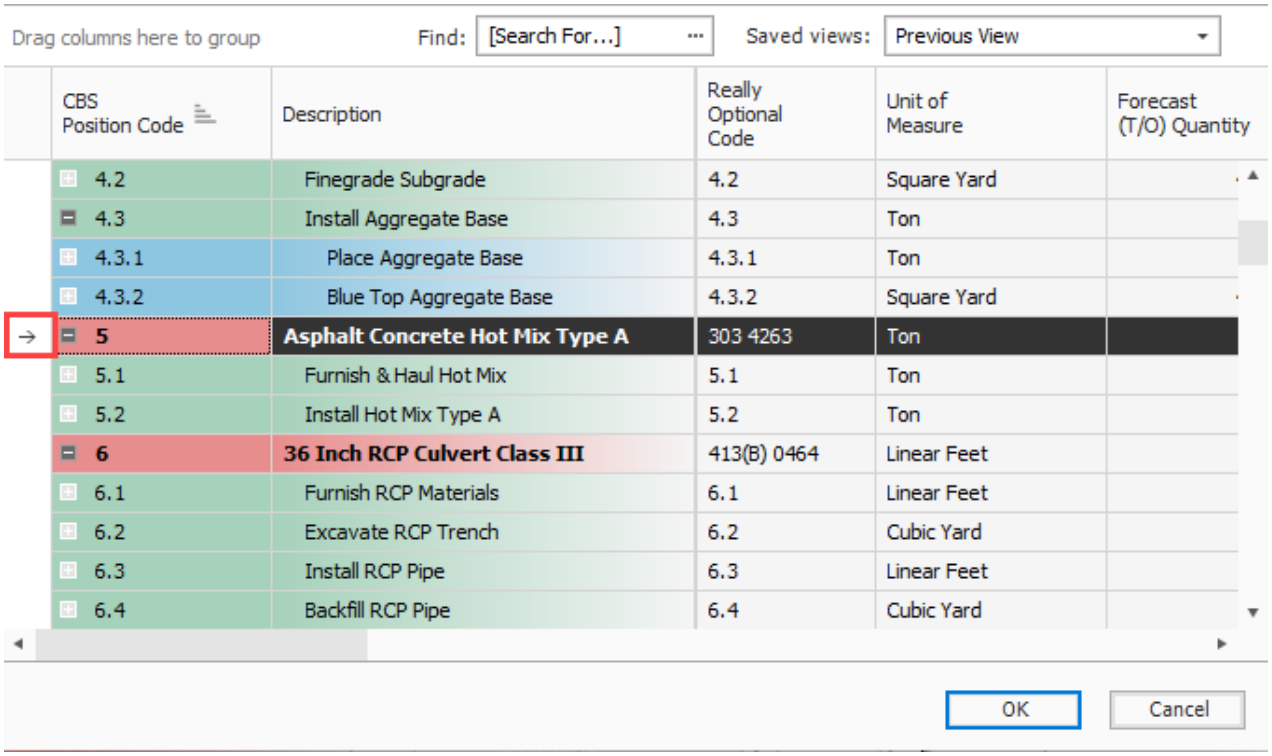
6. Click in the **Source Job** column on the New cost item row.



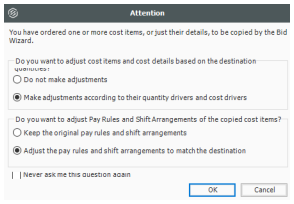
7. From the Source Job drop-down list, select **Training Job**.
8. Scroll to the right of the Source Job column and click in the **Source CBS Position Code** column on the New Cost item row.

- A source CBS Register window appears

9. Select CBS position code **5 – Asphalt Concrete Hot Mix Type A** from the register.



10. Click **OK**.
11. Click **Finish** on the Bid Wizard.
    - An Attention prompt displays, asking if you want to make adjustments
    - Keep the default options selected: **Make Adjustments according to their quantity drivers and cost drivers** and **Adjust the pay rules and shift arrangements to match the destination**
12. Click **OK**.

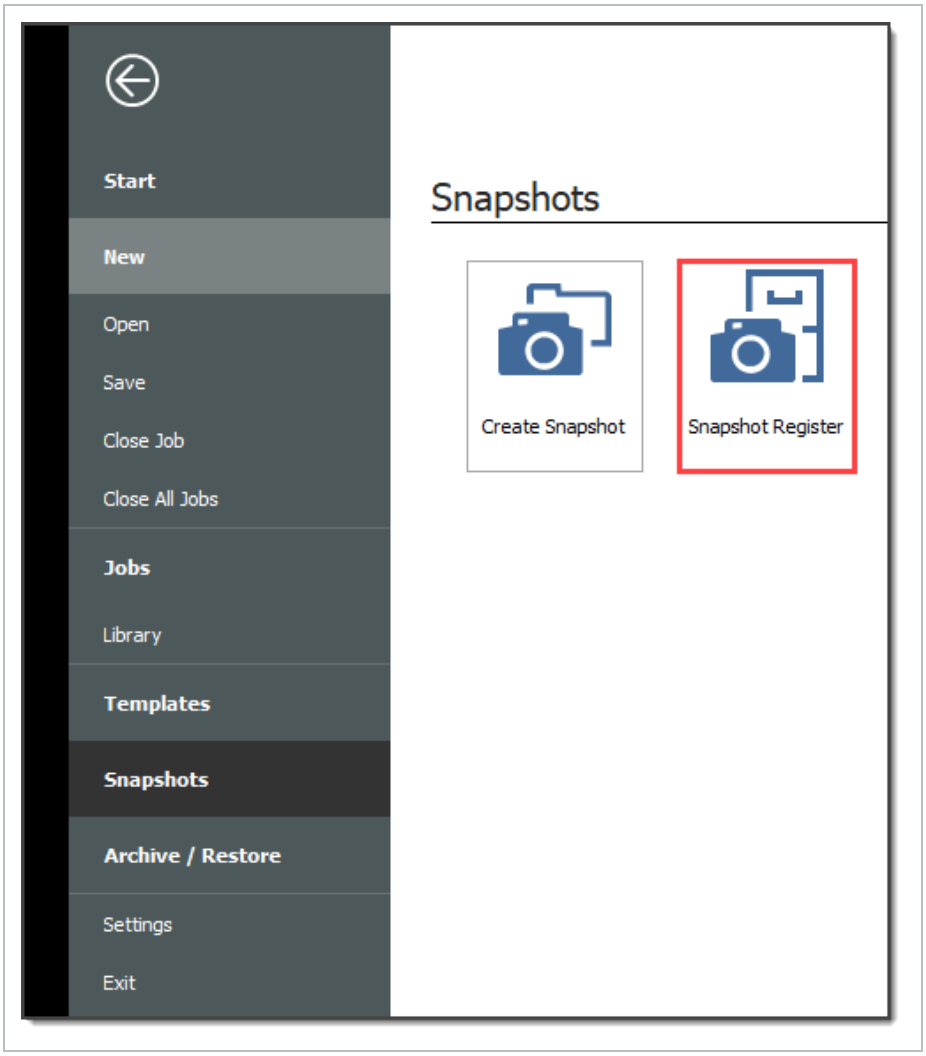


- You can see that cost item 5 and its subordinates are now imported into your existing job.
- You could choose a new name for the cost item, or name it **Asphalt Concrete Hot Mix Type A** to match the original cost item

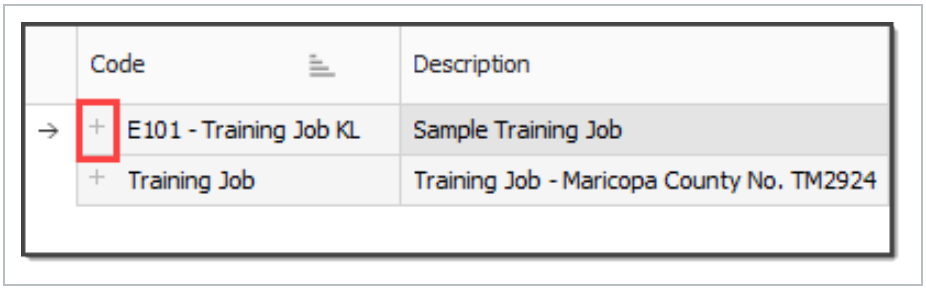
⊟	4.3	Install Aggregate Base	4.3	45,000.00	Ton
+	4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton
+	4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard
⊟	**5**	**Asphalt Concrete Hot Mix Type A**		1.00	Each
+	5.1	Furnish & Haul Hot Mix	5.1	1.00	Ton
+	5.2	Install Hot Mix Type A	5.2	1.00	Ton

STEP BY STEP – SNAPSHOT REGISTER

1. Click the**File** tab to open the Backstage View. In the panel, select **Snapshots**.
2. From the Snapshots form, select the **Snapshot Register** tab.



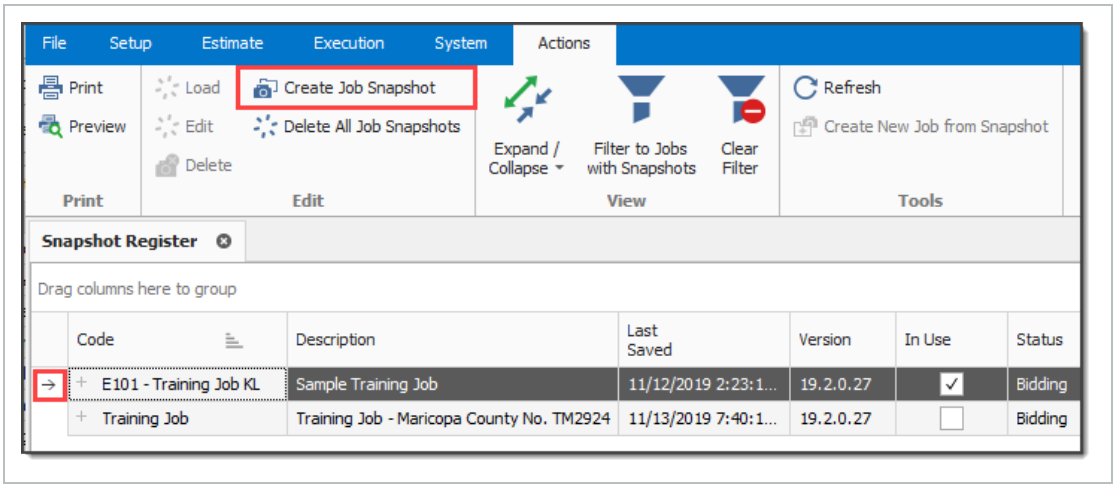
3. To view individual snapshots for specific jobs, click the + icon next to the desired job to display the list of snapshots.


Code
Description
E101 - Training Job KL
Sample Training Job
Training Job
Training Job - Maricopa County No. TM2924

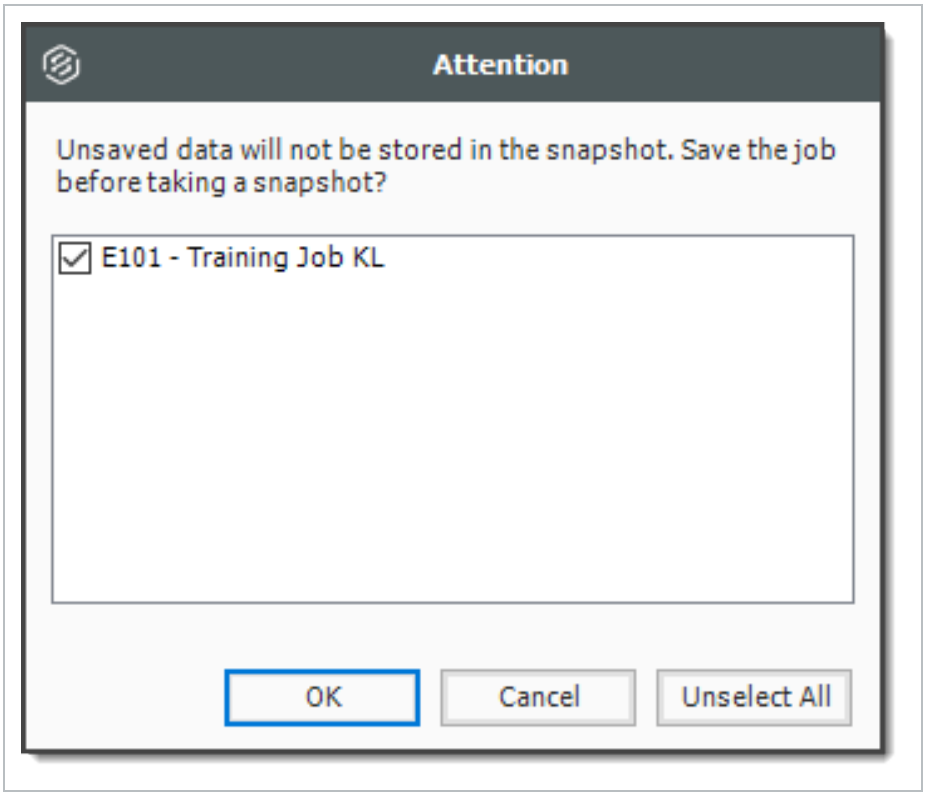
STEP BY STEP – CREATE A NEW JOB SNAPSHOT

You can create a Job Snapshot from an existing Job.

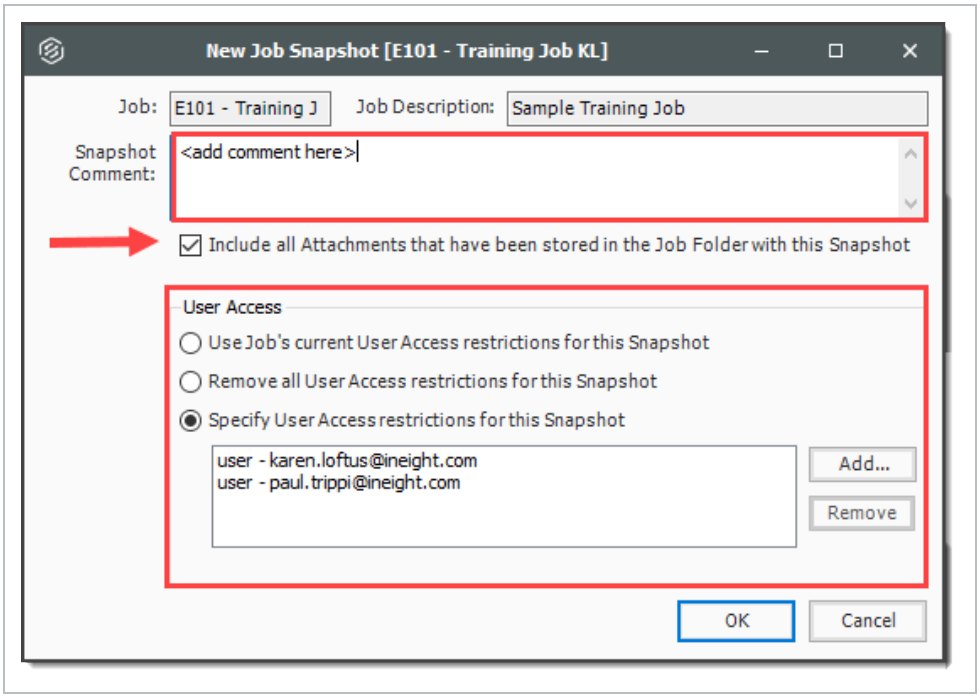
1. From the Snapshots form, select the **Create Snapshot** tab.



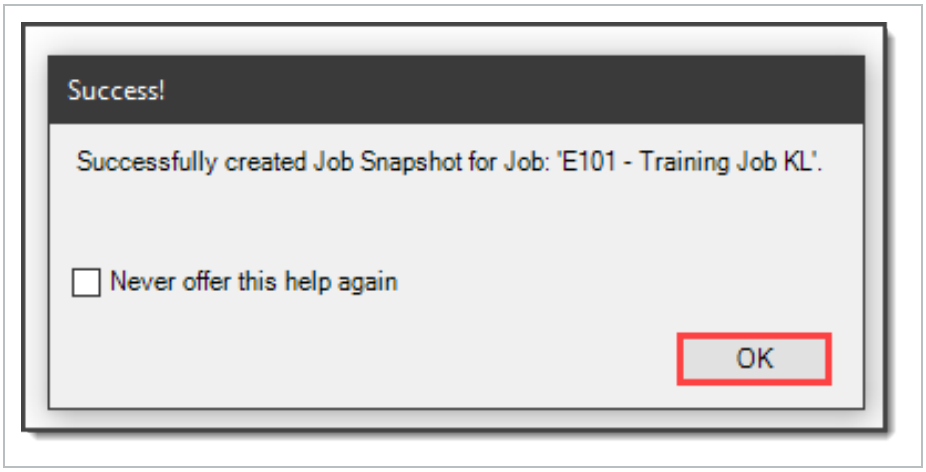
2. If an existing job is open select **Save**, if you haven't already done so.



3. A New Job Snapshot [Job Code Here] dialog box appears. From there, you can add a Snapshot comment.
    - If you want to Include all Attachments that have been stored in the Job Folder with this Snapshot, select the check box, otherwise uncheck the box.
    - If you want to Use Job's current User Access restrictions for this Snapshot, select this radio button.
    - If you want to Remove User Access restrictions for this Snapshot and allow read-only access to all users, select this radio button
    - If you want to Specify User Access restrictions for this Snapshot (default selection), select this option
        - Then use the Add and Remove buttons to specify user access using Active Directory. (Users with current access to the job default onto the list.)

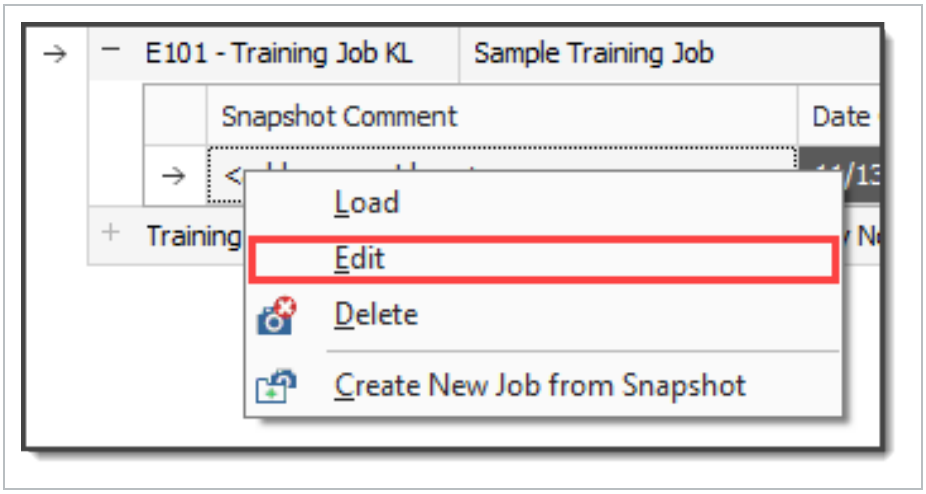


4. Click OK to create the snapshot.
5. A pop-up indicates when the snapshot has been created.


Success!
Successfully created Job Snapshot for Job: 'E101 - Training Job KL'.
Never offer this help again
OK

STEP BY STEP – EDIT A JOB SNAPSHOT

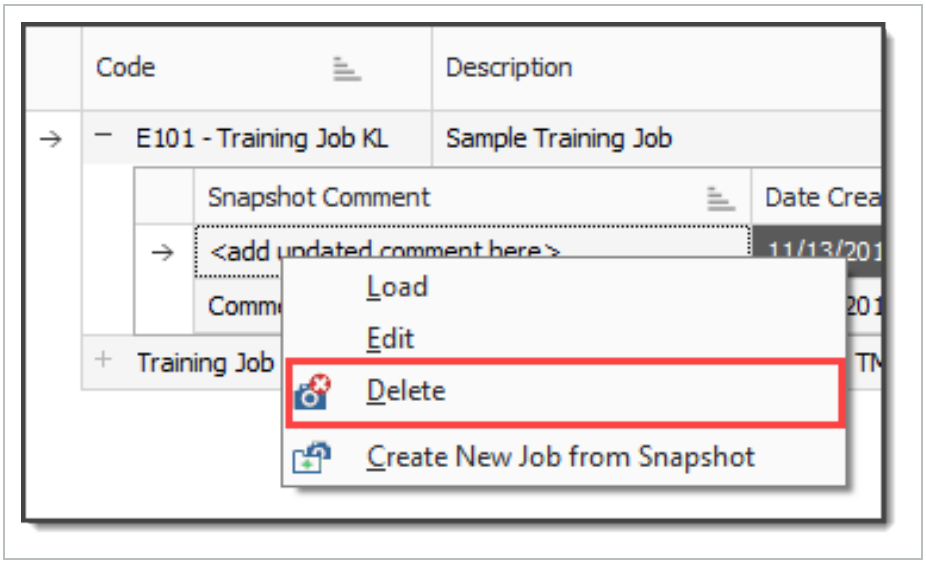
1. From the Snapshot Register, click the + icon next to the desired job to display snapshots.
2. Right-click on the individual snapshot you want to edit and select **Edit**.



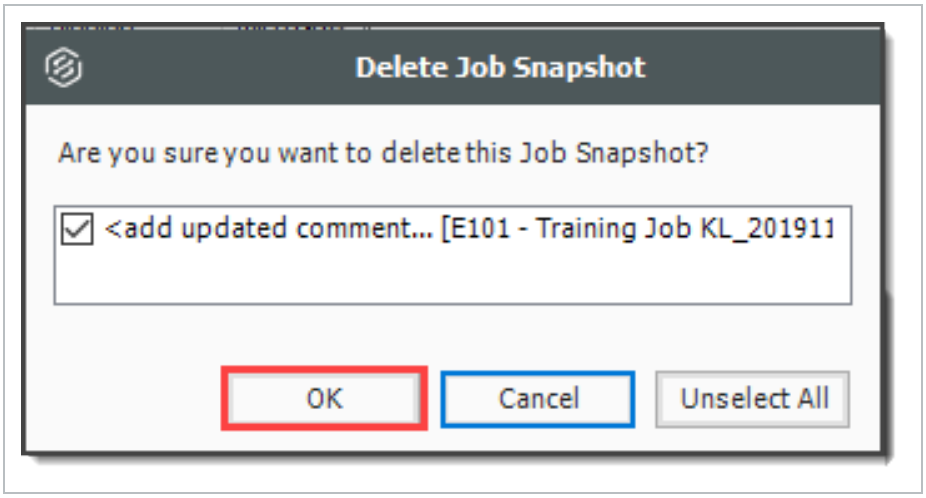
3. The same sort of dialog box opens up as when you created the Snapshot. In this case, from the Edit Job Snapshot [Job Code Here] dialog box, modify the Snapshot Comment and the User Access options as needed.
    - If you want to Include all Attachments that have been stored in the Job Folder with this Snapshot, select the check box. Otherwise, uncheck the box
    - If you want to Use Job's current User Access restrictions for this Snapshot, select this radio button
    - If you want to Remove User Access restrictions for this Snapshot and allow read-only access to all users, select this radio button
    - If you want to Specify User Access restrictions for this Snapshot (default selection), select this option
        - Then use the Add and Remove buttons to specify user access using Active Directory. (Users with current access to the job default onto the list.)
4. Click **OK** to update the snapshot.

STEP BY STEP – DELETE A JOB SNAPSHOT

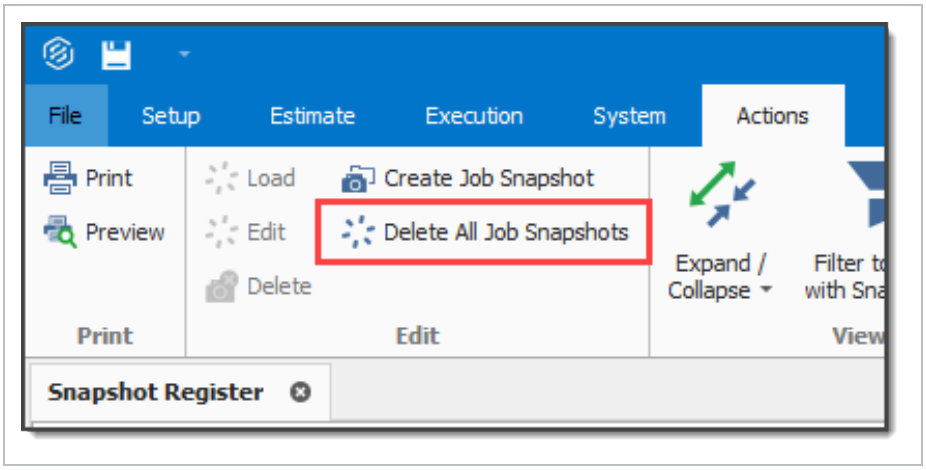
1. From the Snapshot Register, click the + icon next to the desired job to display snapshots.
2. Right-click on the individual snapshot you want to delete snapshots from and select **Delete**.



3. Click **OK**

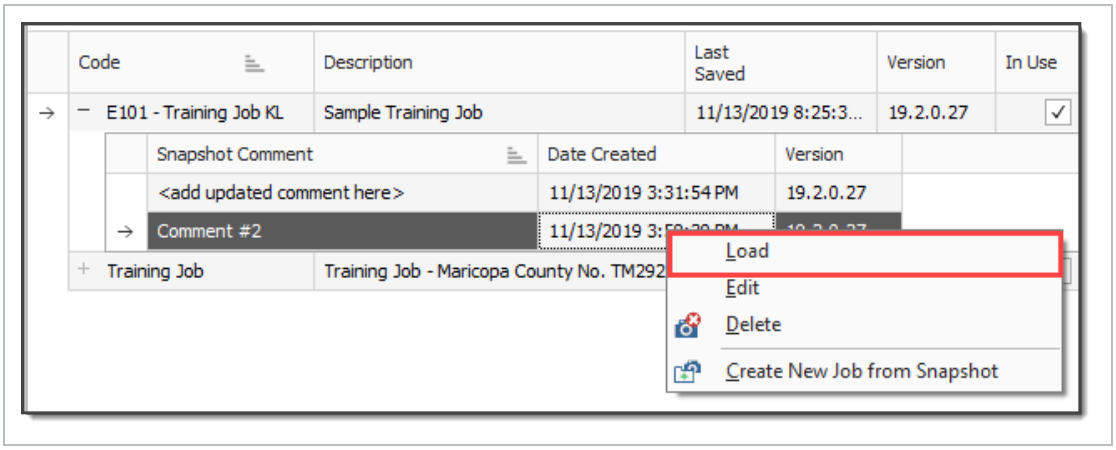


Alternatively, you can delete all Job Snapshots by clicking **Delete All Job Snapshots** from the Actions tab.


File
Setup
Estimate
Execution
System
Actions
Print
Preview
Print
Load
Edit
Delete
Create Job Snapshot
Delete All Job Snapshots
Edit
Expand / Collapse
View
Snapshot Register

STEP BY STEP – LOAD A JOB SNAPSHOT

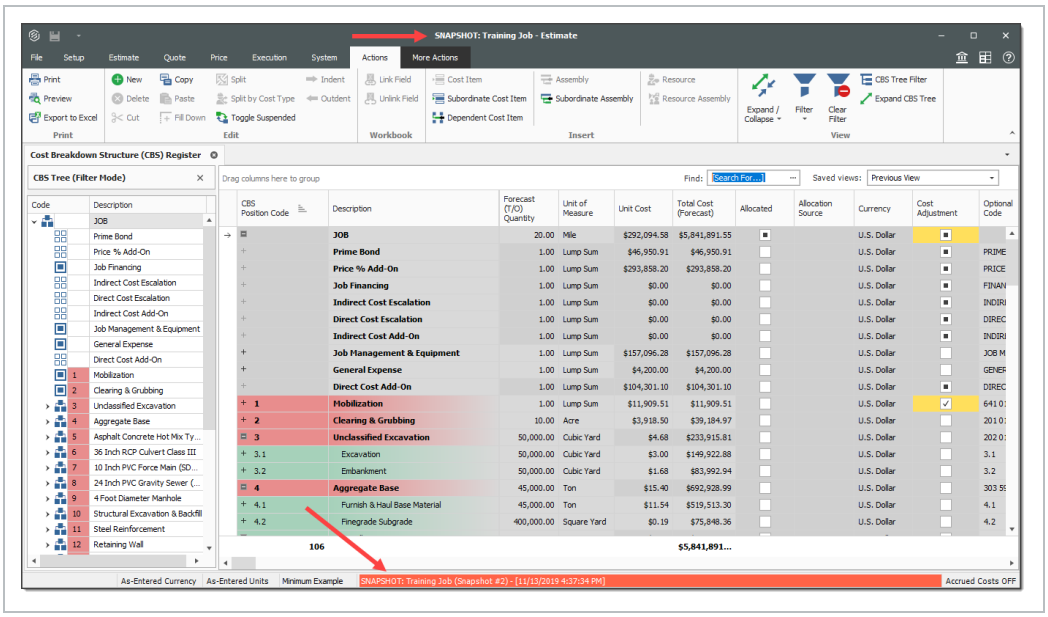
1. Click the File tab to open the Backstage View, then select **Snapshots**.
2. From the Snapshots form, select the **Snapshot Register** tab.
3. On the Snapshot Register, click the + icon next to the desired job to display the list of snapshots.
4. Right-click on the individual snapshot you want to load and select **Load**.



To identify a snapshot in Estimate as a read-only snapshot:

- The job name is preceded by the label SNAPSHOT: centered on the top of the toolbar
- A red banner shows the specific snapshot information at the bottom of the screen

NOTE A snapshot can be modified, but it cannot be saved as it is read-only.



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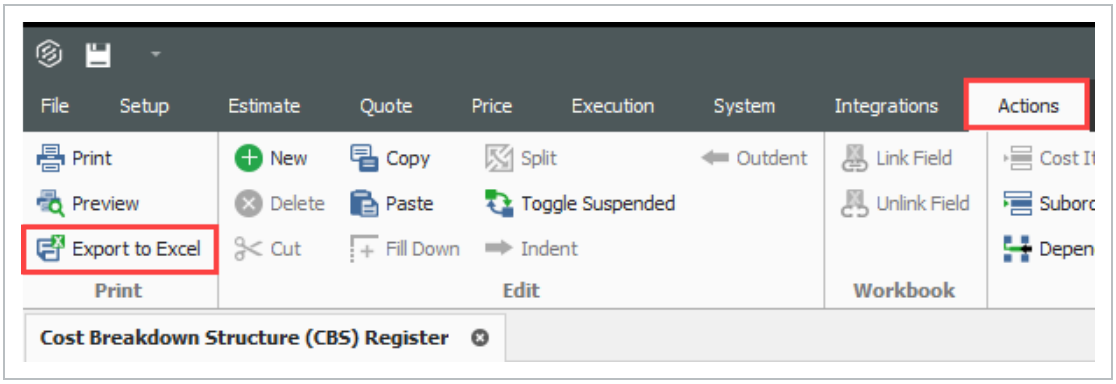
LESSON 11 - SPREADSHEET INTEGRATION

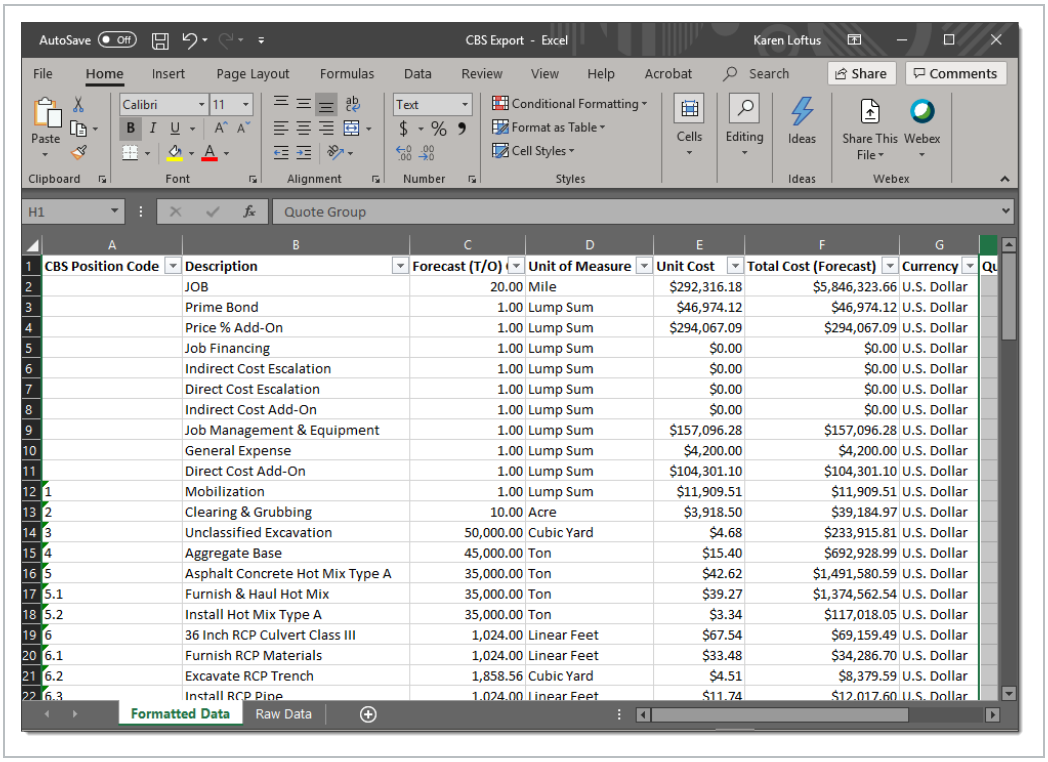
STEP BY STEP – EXPORT DATA TO AN EXCEL WORKBOOK

1. Open the **Training** Job and from the Estimate tab, open the **CBS Register**.
2. From the Actions tab, select **Export to Excel**.



3. On the Export spreadsheet to... dialog, browse to the location (folder) in your system where you want to save the workbook, enter **CBS Export** in the File name field, and click **Save**.
    - The workbook is saved to that location with the specified file name, and Excel automatically launches and displays the workbook

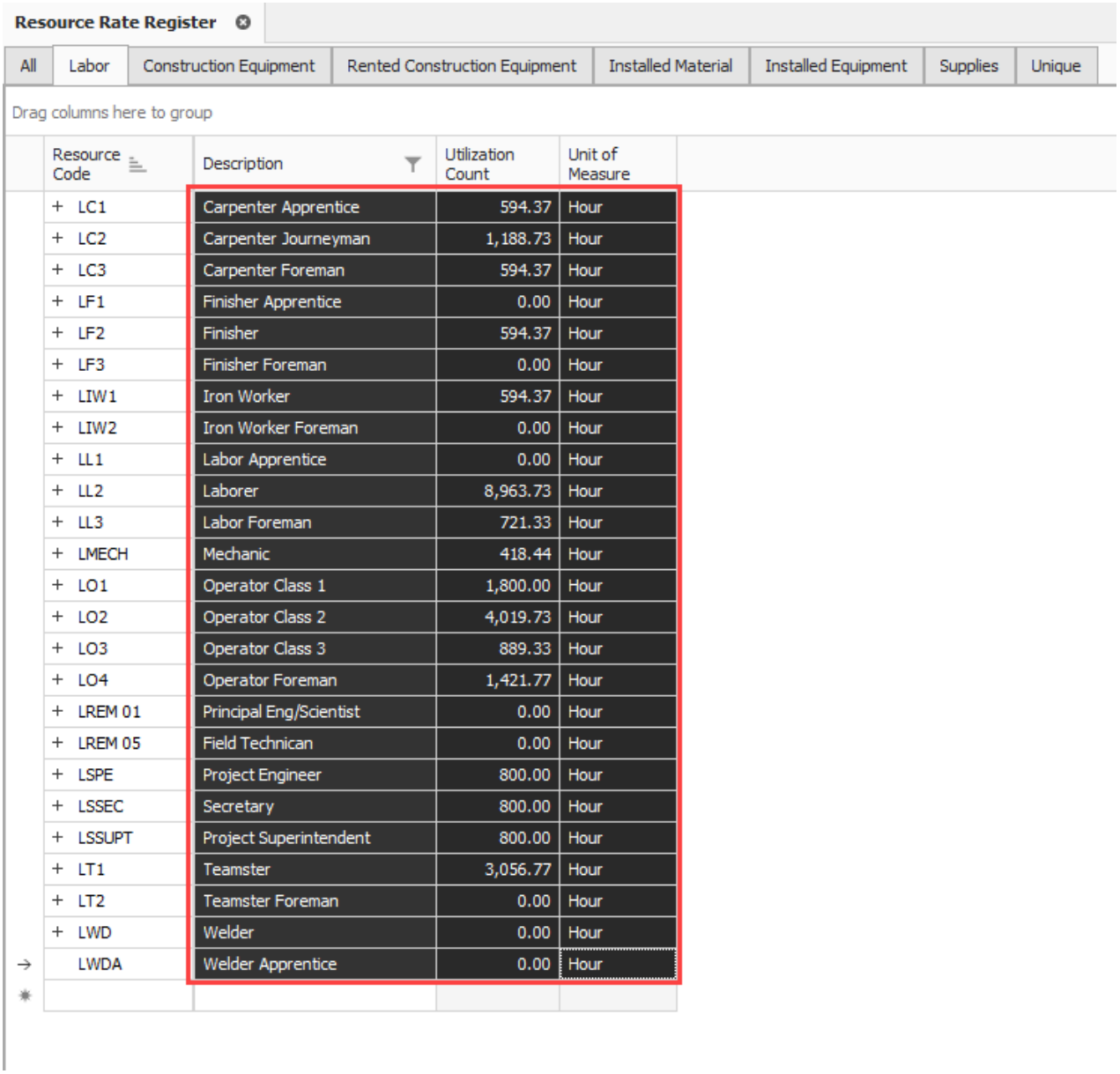
- Notice that the columns are formatted, with column headers and filtering turned on



	A	B	C	D	E	F	G
1	CBS Position Code	Description	Forecast (T/O)	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
2		JOB	20.00	Mile	$292,316.18	$5,846,323.66	U.S. Dollar
3		Prime Bond	1.00	Lump Sum	$46,974.12	$46,974.12	U.S. Dollar
4		Price % Add-On	1.00	Lump Sum	$294,067.09	$294,067.09	U.S. Dollar
5		Job Financing	1.00	Lump Sum	$0.00	$0.00	U.S. Dollar
6		Indirect Cost Escalation	1.00	Lump Sum	$0.00	$0.00	U.S. Dollar
7		Direct Cost Escalation	1.00	Lump Sum	$0.00	$0.00	U.S. Dollar
8		Indirect Cost Add-On	1.00	Lump Sum	$0.00	$0.00	U.S. Dollar
9		Job Management & Equipment	1.00	Lump Sum	$157,096.28	$157,096.28	U.S. Dollar
10		General Expense	1.00	Lump Sum	$4,200.00	$4,200.00	U.S. Dollar
11		Direct Cost Add-On	1.00	Lump Sum	$104,301.10	$104,301.10	U.S. Dollar
12	1	Mobilization	1.00	Lump Sum	$11,909.51	$11,909.51	U.S. Dollar
13	2	Clearing & Grubbing	10.00	Acre	$3,918.50	$39,184.97	U.S. Dollar
14	3	Unclassified Excavation	50,000.00	Cubic Yard	$4.68	$233,915.81	U.S. Dollar
15	4	Aggregate Base	45,000.00	Ton	$15.40	$692,928.99	U.S. Dollar
16	5	Asphalt Concrete Hot Mix Type A	35,000.00	Ton	$42.62	$1,491,580.59	U.S. Dollar
17	5.1	Furnish & Haul Hot Mix	35,000.00	Ton	$39.27	$1,374,562.54	U.S. Dollar
18	5.2	Install Hot Mix Type A	35,000.00	Ton	$3.34	$117,018.05	U.S. Dollar
19	6	36 Inch RCP Culvert Class III	1,024.00	Linear Feet	$67.54	$69,159.49	U.S. Dollar
20	6.1	Furnish RCP Materials	1,024.00	Linear Feet	$33.48	$34,286.70	U.S. Dollar
21	6.2	Excavate RCP Trench	1,858.56	Cubic Yard	$4.51	$8,379.59	U.S. Dollar
22	6.3	Install RCP Pipe	1,024.00	Linear Feet	$11.74	$12,017.60	U.S. Dollar

STEP BY STEP – CELL SELECT

1. Open the **Training** Job and from the Setup tab, open the **Resource Rate Register**.
2. Select the **Labor** tab.
3. Select **Print View for Summary** from your Saved Views drop-down menu.
4. From the top-right corner, select the **Cell Select**  icon, (next to the Help icon). This puts you in *Cell Select* mode, so you can select cells to copy in the same way you would in Excel.
5. With the Cell Select icon active, highlight all information in the **Description**, **Utilization Count** and **Unit of Measurecolumns** for all Labor resources.



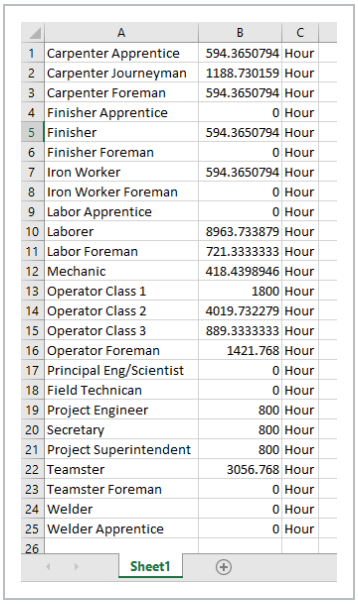
Resource Rate Register

All | Labor | Construction Equipment | Rented Construction Equipment | Installed Material | Installed Equipment | Supplies | Unique

Drag columns here to group

Resource Code	Description	Utilization Count	Unit of Measure
+ LC1	Carpenter Apprentice	594.37	Hour
+ LC2	Carpenter Journeyman	1,188.73	Hour
+ LC3	Carpenter Foreman	594.37	Hour
+ LF1	Finisher Apprentice	0.00	Hour
+ LF2	Finisher	594.37	Hour
+ LF3	Finisher Foreman	0.00	Hour
+ LIW1	Iron Worker	594.37	Hour
+ LIW2	Iron Worker Foreman	0.00	Hour
+ LL1	Labor Apprentice	0.00	Hour
+ LL2	Laborer	8,963.73	Hour
+ LL3	Labor Foreman	721.33	Hour
+ LMECH	Mechanic	418.44	Hour
+ LO1	Operator Class 1	1,800.00	Hour
+ LO2	Operator Class 2	4,019.73	Hour
+ LO3	Operator Class 3	889.33	Hour
+ LO4	Operator Foreman	1,421.77	Hour
+ LREM 01	Principal Eng/Scientist	0.00	Hour
+ LREM 05	Field Technican	0.00	Hour
+ LSPE	Project Engineer	800.00	Hour
+ LSSEC	Secretary	800.00	Hour
+ LSSUPT	Project Superintendent	800.00	Hour
+ LT1	Teamster	3,056.77	Hour
+ LT2	Teamster Foreman	0.00	Hour
+ LWD	Welder	0.00	Hour
→ LWDA	Welder Apprentice	0.00	Hour

6. Right click on the selection and select **Copy**.
7. Open an Excel spreadsheet, right click in the **A1** field and select **Paste Special,** choosing **CSV** as the Source.
8. Click **OK**. The fields you copied from InEight Estimate paste into the spreadsheet.



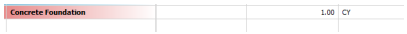
	A	B	C
1	Carpenter Apprentice	594.3650794	Hour
2	Carpenter Journeyman	1188.730159	Hour
3	Carpenter Foreman	594.3650794	Hour
4	Finisher Apprentice	0	Hour
5	Finisher	594.3650794	Hour
6	Finisher Foreman	0	Hour
7	Iron Worker	594.3650794	Hour
8	Iron Worker Foreman	0	Hour
9	Labor Apprentice	0	Hour
10	Laborer	8963.733879	Hour
11	Labor Foreman	721.3333333	Hour
12	Mechanic	418.4398946	Hour
13	Operator Class 1	1800	Hour
14	Operator Class 2	4019.732279	Hour
15	Operator Class 3	889.3333333	Hour
16	Operator Foreman	1421.768	Hour
17	Principal Eng/Scientist	0	Hour
18	Field Technican	0	Hour
19	Project Engineer	800	Hour
20	Secretary	800	Hour
21	Project Superintendent	800	Hour
22	Teamster	3056.768	Hour
23	Teamster Foreman	0	Hour
24	Welder	0	Hour
25	Welder Apprentice	0	Hour
26			

Sheet1

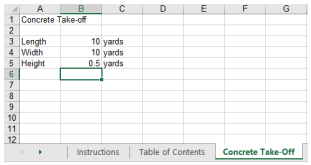
To turn off the Cell Select, simply click the Cell Select Icon again and it deselects

STEP BY STEP – LINK ESTIMATE TO THE JOB'S WORKBOOK

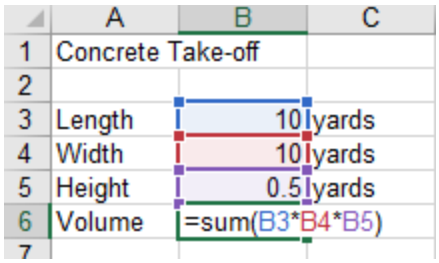
1. Open the **Training** Job and from the Estimate tab, open the **CBS Register**.
2. For this example, create a new cost item in the blank row at the bottom of the CBS register and name it **Concrete Foundation**.



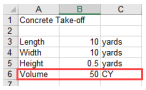
3. Open the job's workbook from the Estimate tab, by selecting the **Workbook** icon.
4. In the job's embedded workbook, create a new worksheet named **Concrete Take-off** and enter the following fields:



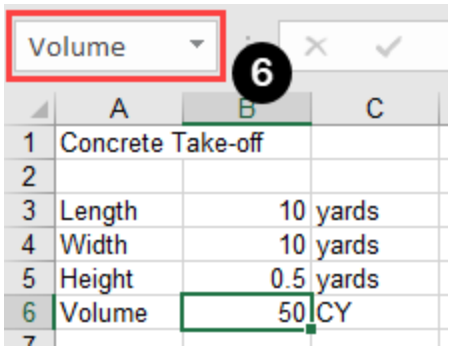
5. Create a new row to calculate the total cubic yards by factoring the length, width, and height quantities.



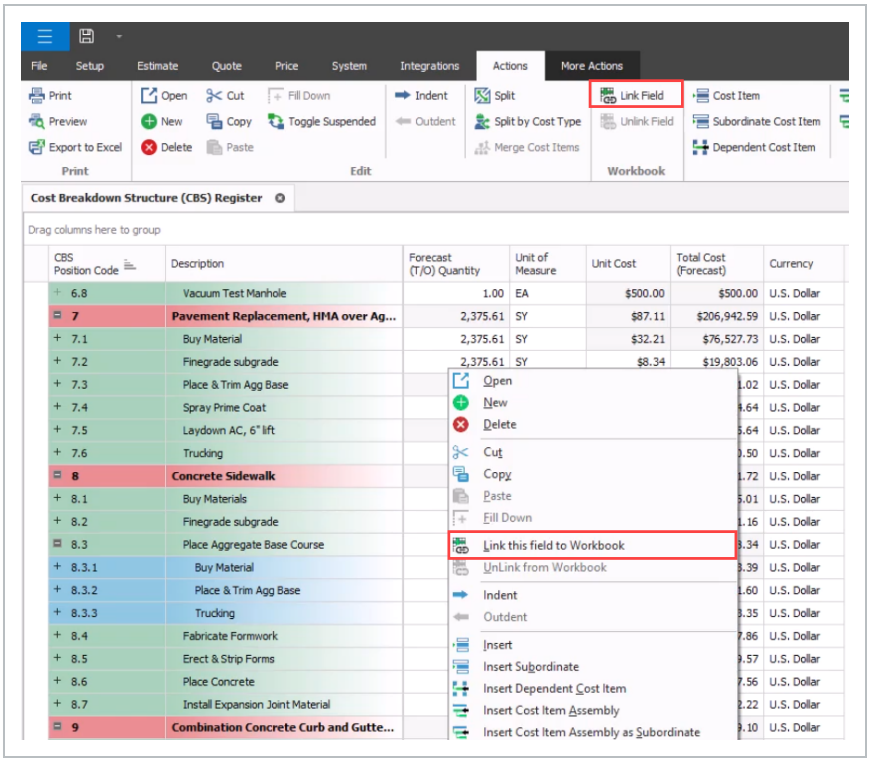
- Your Volume Total should be 50 cubic yards



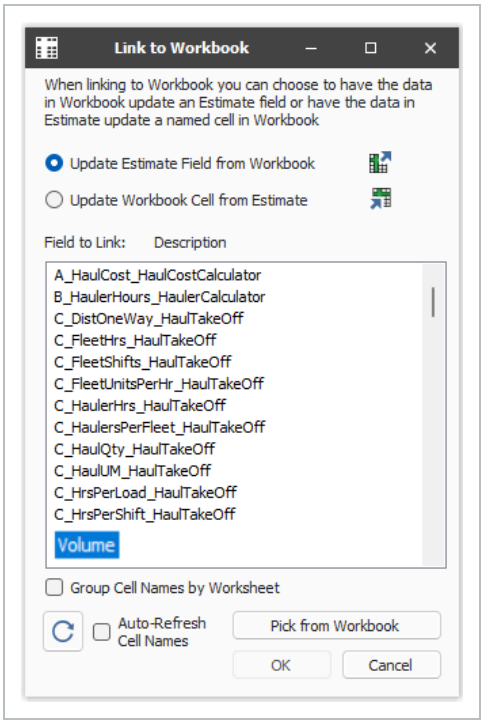
6. InEight Estimate will only link to named fields in the worksheet. Click in the field you want to name (B6), then click in the Field Name window and type **Volume**.



7. Go back to the CBS register and right click on the Concrete Foundation cost item **Forecast (T/O) Quantity** field.
8. From the resulting right click menu, select **Link this field to Workbook**.
    - You can also link the field by selecting the field and then selecting **Link Field** from the Actions tab



9. On the Link to Workbook dialog, select the **Update Estimate Field from Workbook** radio button.
10. In the Field to link window, select **Volume** (you may need to click the Refresh button for the field name to display).



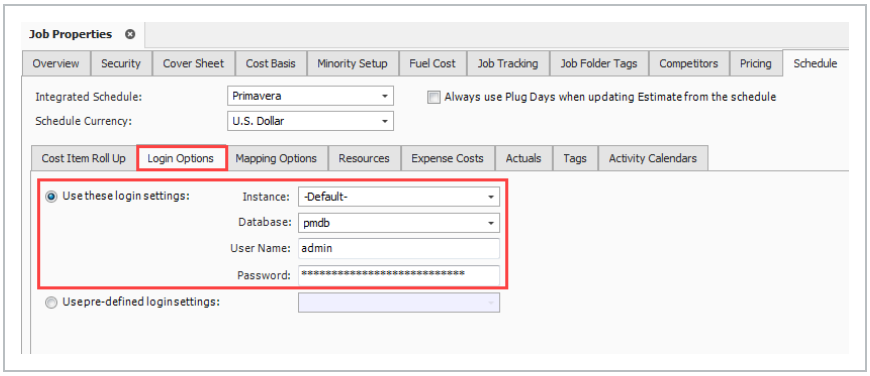
11. Click **OK**.

    - The Forecast Quantity field for Concrete now is linked to the Volume field in the worksheet and populates with the take-off quantity (50)

LESSON 12 - SCHEDULE INTEGRATION

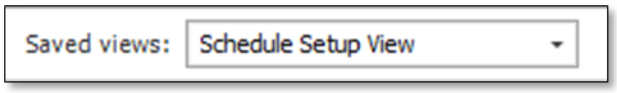
STEP BY STEP – LOGIN OPTIONS TAB

1. On the Schedule > Login Options tab of Job Properties, select the **Use these login settings** radio button.
    - If pre-defined login settings were required, the Use pre-defined login settings radio button would be selected instead
    - The Instance will remain set to **-Default-**
    - Database selection will be **pmdb** during training.
2. Type your user name in the User Name field.
3. Type your password into the Password field.
    - You will have your own login settings specific to your company



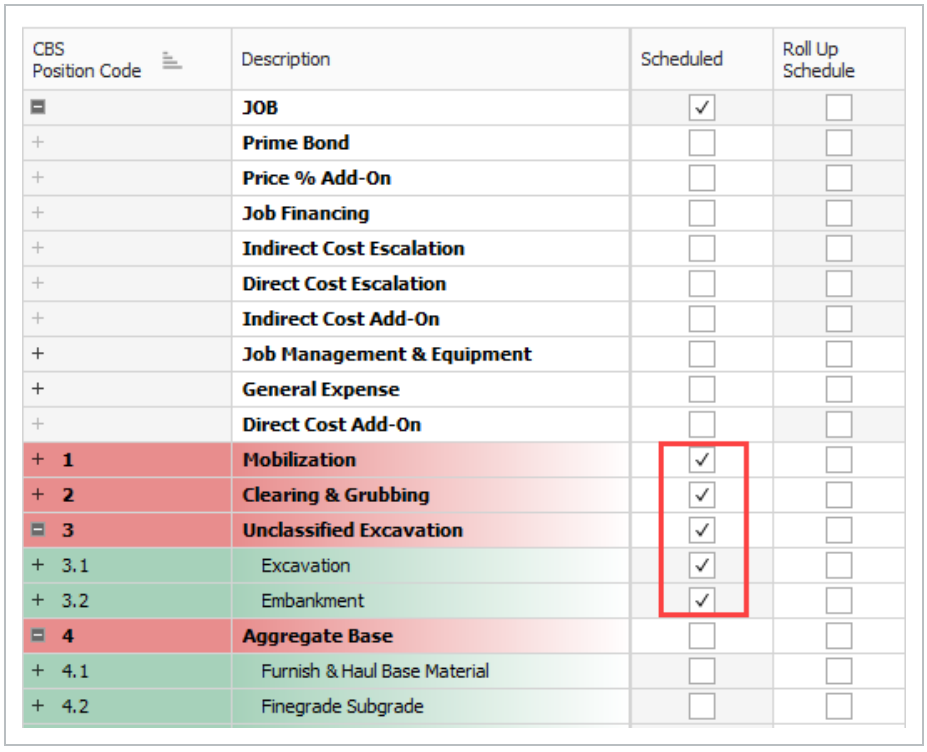
STEP BY STEP – SCHEDULE A COST ITEM IN INEIGHT ESTIMATE

1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
2. In the Saved Views drop-down list, select **Schedule Setup View**.



   - In the Scheduled column, you can select the checkbox for each cost item that you want to schedule
   - If a cost item has subordinate cost items below it, you will only be able to check the superior cost item, which will automatically schedule the subordinate cost items along with it

3. Select the **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation** cost items, then press **Tab**.



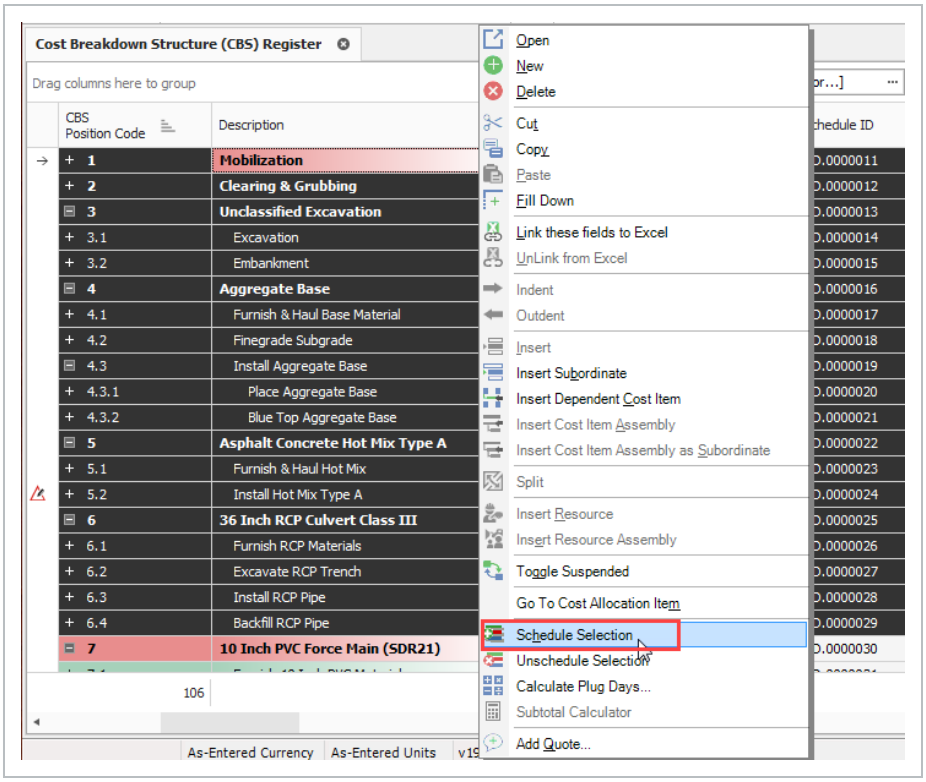
CBS Position Code	Description	Scheduled	Roll Up Schedule
	JOB	☑	☐
	Prime Bond	☐	☐
	Price % Add-On	☐	☐
	Job Financing	☐	☐
	Indirect Cost Escalation	☐	☐
	Direct Cost Escalation	☐	☐
	Indirect Cost Add-On	☐	☐
	Job Management & Equipment	☐	☐
	General Expense	☐	☐
	Direct Cost Add-On	☐	☐
1	**Mobilization**	☑	☐
2	**Clearing & Grubbing**	☑	☐
3	**Unclassified Excavation**	☑	☐
3.1	Excavation	☑	☐
3.2	Embankment	☑	☐
4	**Aggregate Base**	☐	☐
4.1	Furnish & Haul Base Material	☐	☐
4.2	Finegrade Subgrade	☐	☐

STEP BY STEP – SCHEDULE A GROUP OF COST ITEMS IN INEIGHT ESTIMATE

1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
2. From the Saved Views drop-down list, select **Schedule Setup View**.
    - To schedule multiple cost items, you can highlight the row for each cost item that you want to schedule, using the Shift and Ctrl keys to select multiple rows.
3. Select additional cost items **4-Aggregate base**, **5- Asphalt Concrete Hot Mix**, and **6- 36-inch RCP Culvert Class.**

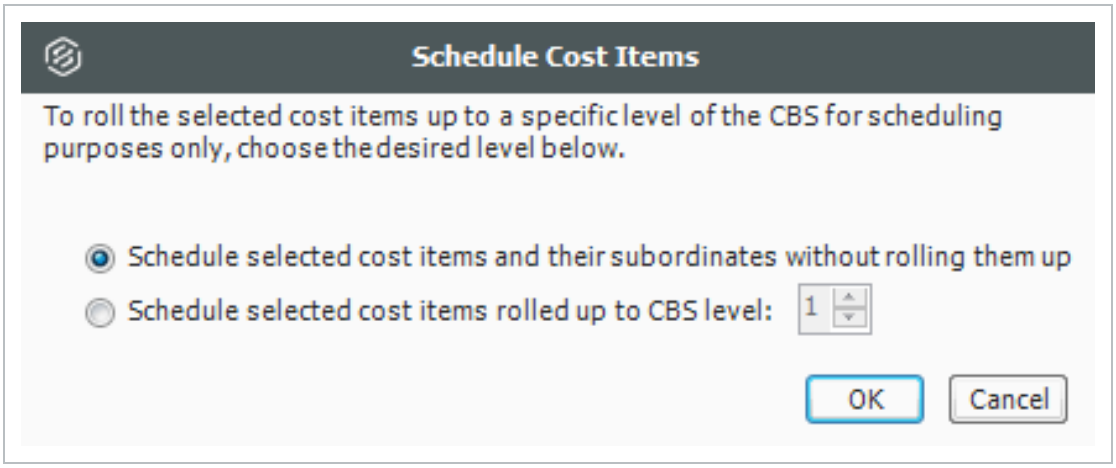
    TIP *To schedule all cost items, highlight the JOB row.*

4. Right click on the selected rows and select **Schedule Selection**.



- On the Schedule Cost Items dialog, you can select whether or not you want to roll up the selected cost items to a specific level of the CBS for scheduling purposes

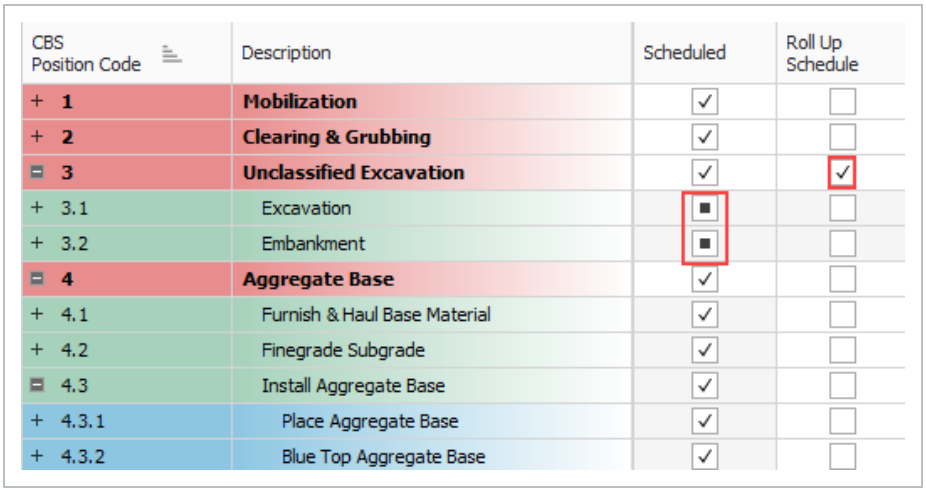
5. Select **Schedule selected cost items and their subordinates without rolling them up**, then click **OK**.



- Your scheduled cost items will import into Primavera the next time you update Primavera from InEight Estimate.

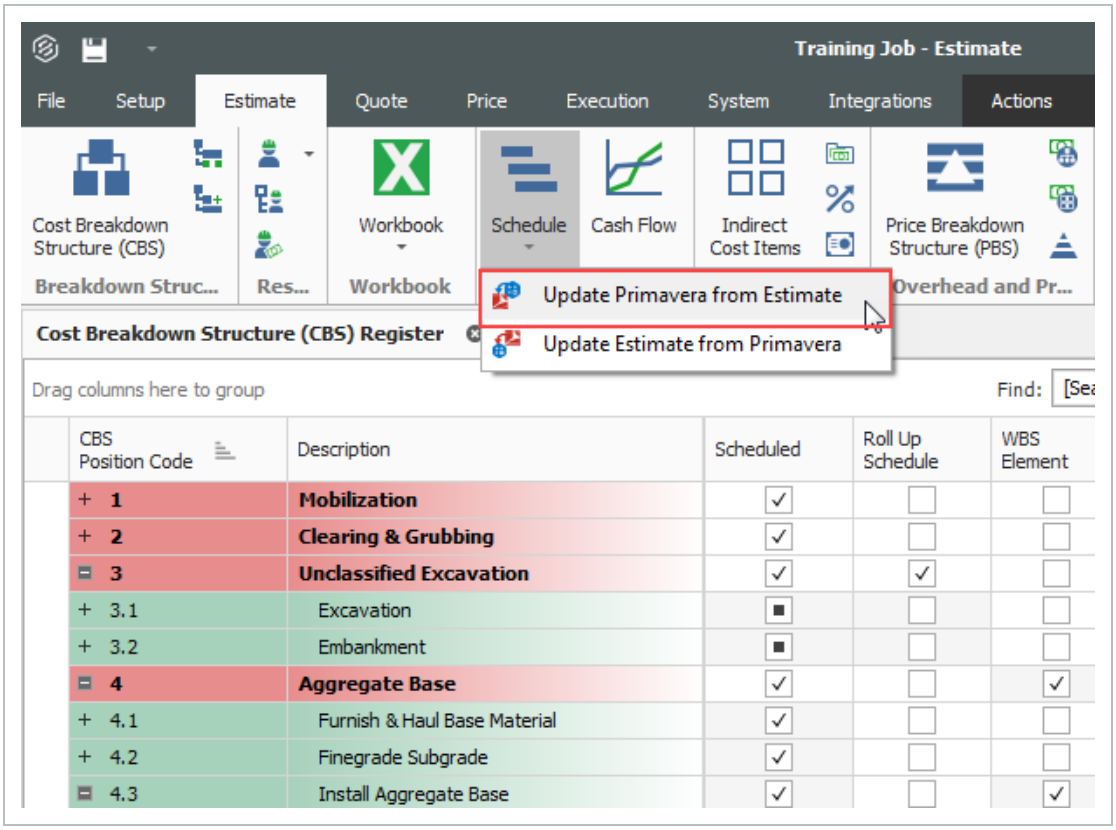
STEP BY STEP – ROLL UP SCHEDULE

1. In the **Training Job**, from the Estimate tab select **Cost Breakdown Structure**.
2. From the Saved Views drop-down list, select **Schedule Setup View**.
    - Review your cost items to decide which cost items need to be rolled up
3. Select the **Roll Up Schedule** checkbox on the Unclassified Excavation cost item.



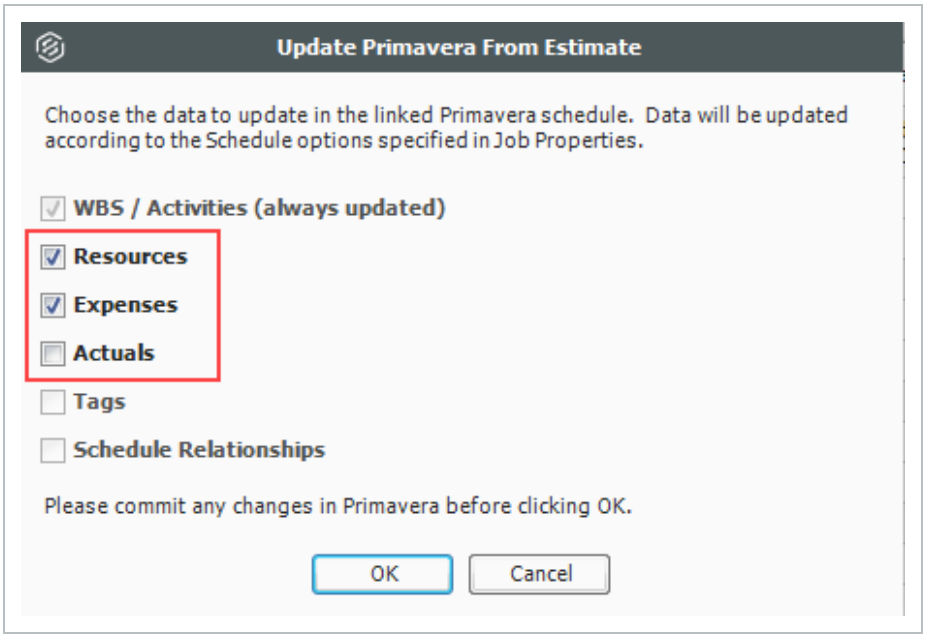
STEP BY STEP – UPDATE PRIMAVERA FROM INEIGHT ESTIMATE

1. From the Estimate tab, select **Schedule>Update Primavera from InEight Estimate**.



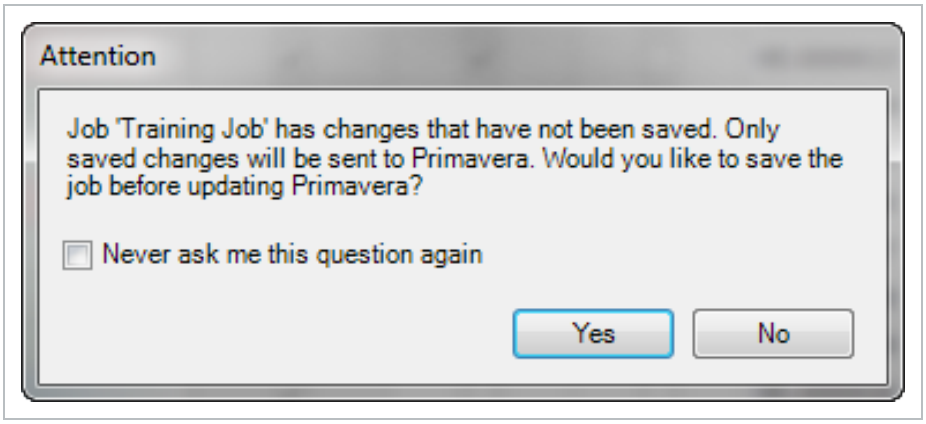
   - The Update Primavera From Estimate dialog prompts you to indicate what data to update to Primavera

2. Make sure **Resources** and **Expenses** are checked. Deselect **Actuals** (For Job Tracking purposes) if auto selected, then click **OK**.

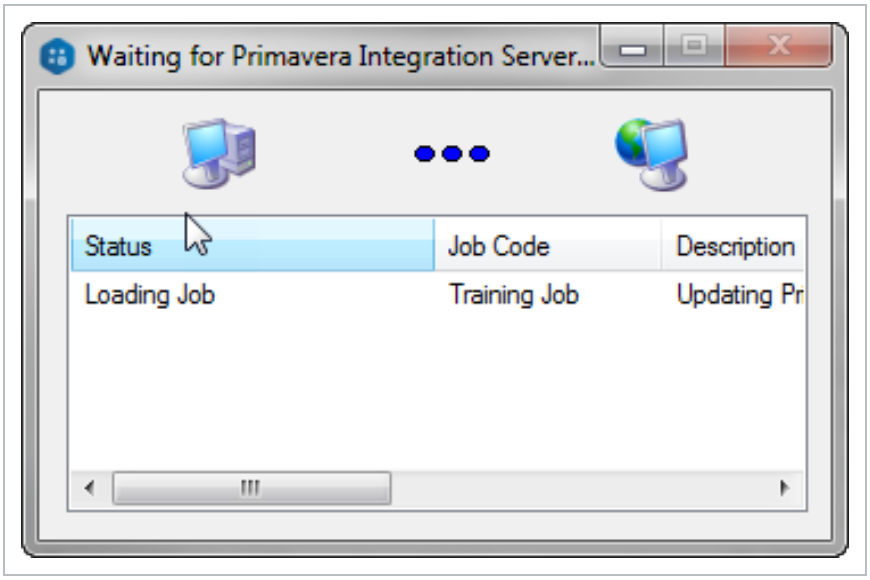


- An Attention prompt appears, letting you know that the job has not been saved.

3. Click **Yes** to save the job before updating Primavera.

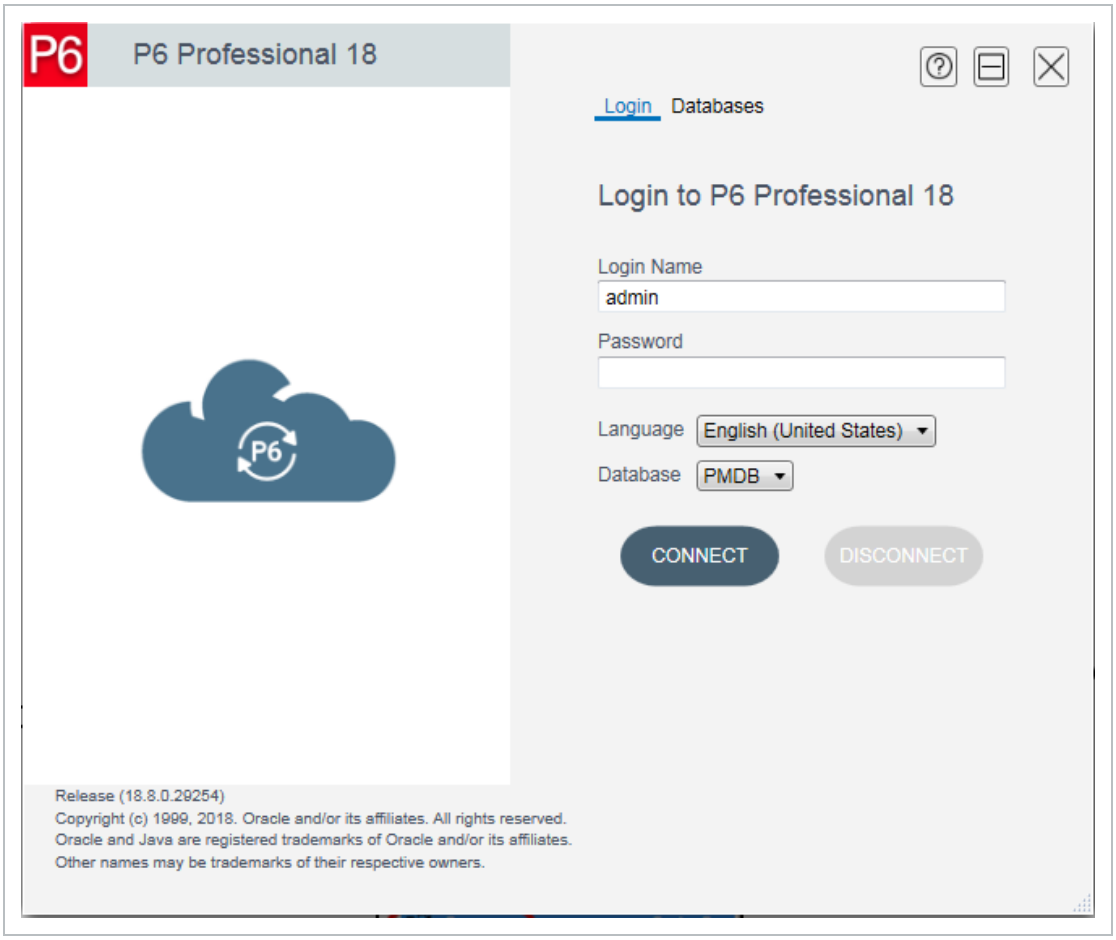


- A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take several minutes

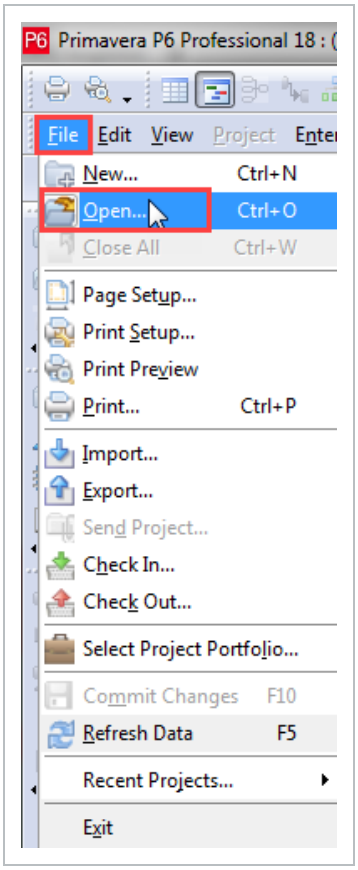


- When the window disappears, the update is complete

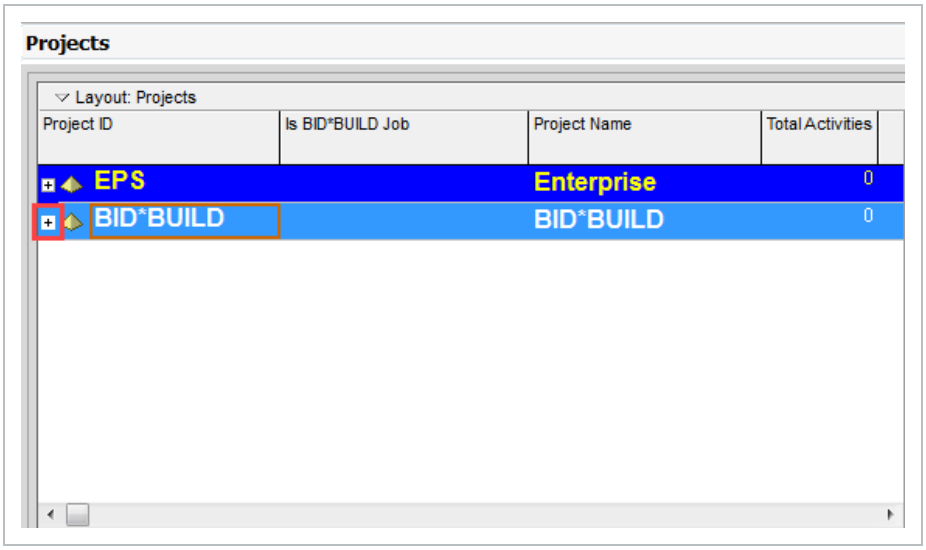
4. Open Primavera P6 (Project Management) client.
5. Log in to Primavera, using the same Username and Password that was entered on the Schedule > Login Options tab in InEight Estimate Job Properties.



6. In Primavera, open the project.



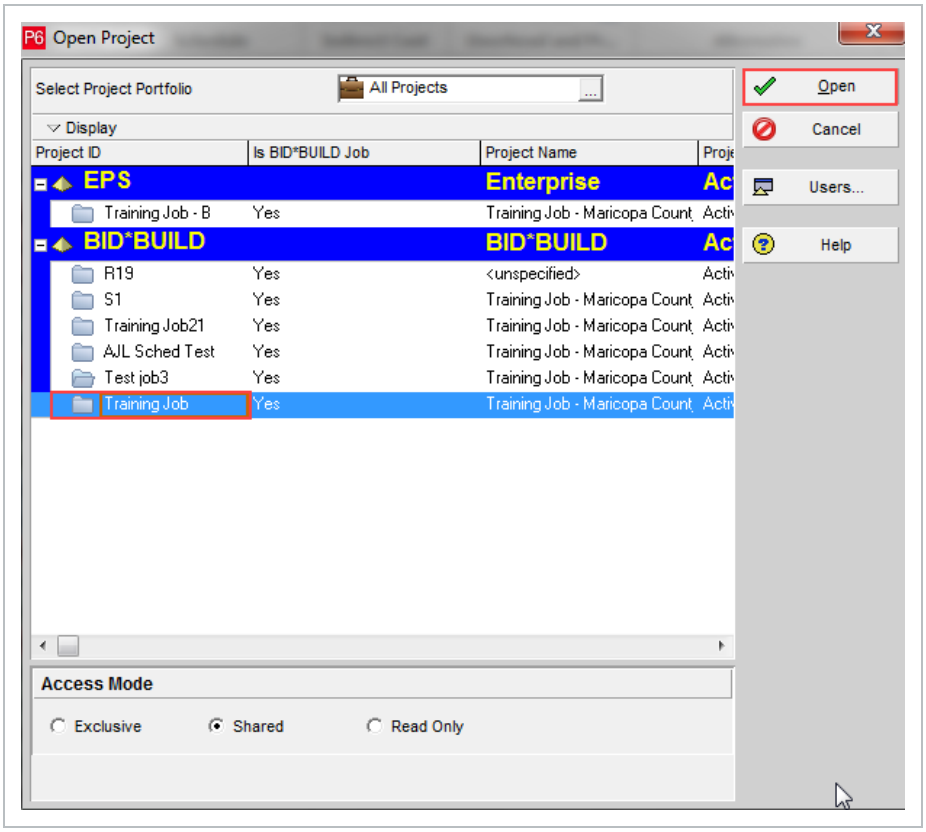
7. In the Open Project dialog, expand the **BID*BUILD** folder.



NOTE All projects created from InEight Estimate are created in the BID*BUILD folder by default.

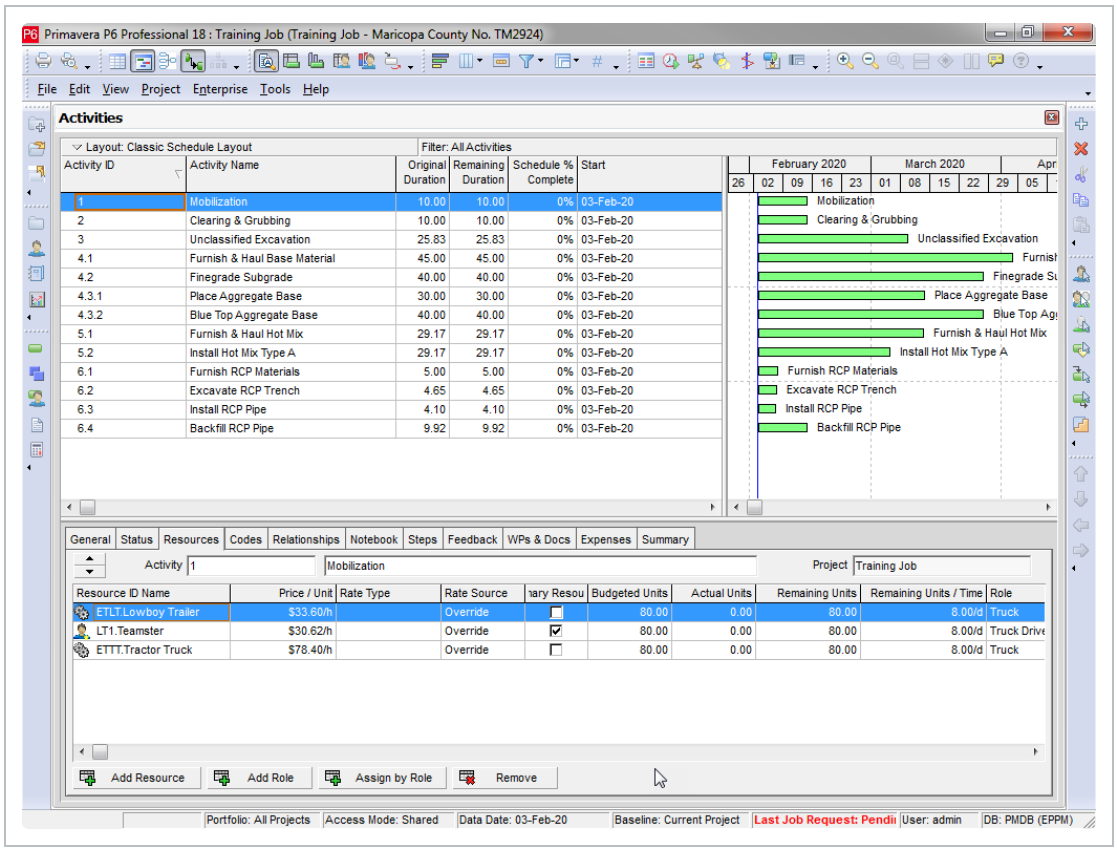
- Your available projects are sorted by their job names.

8. Select the **Training Job** (with your initials) so that it is highlighted, and then select **Open**.



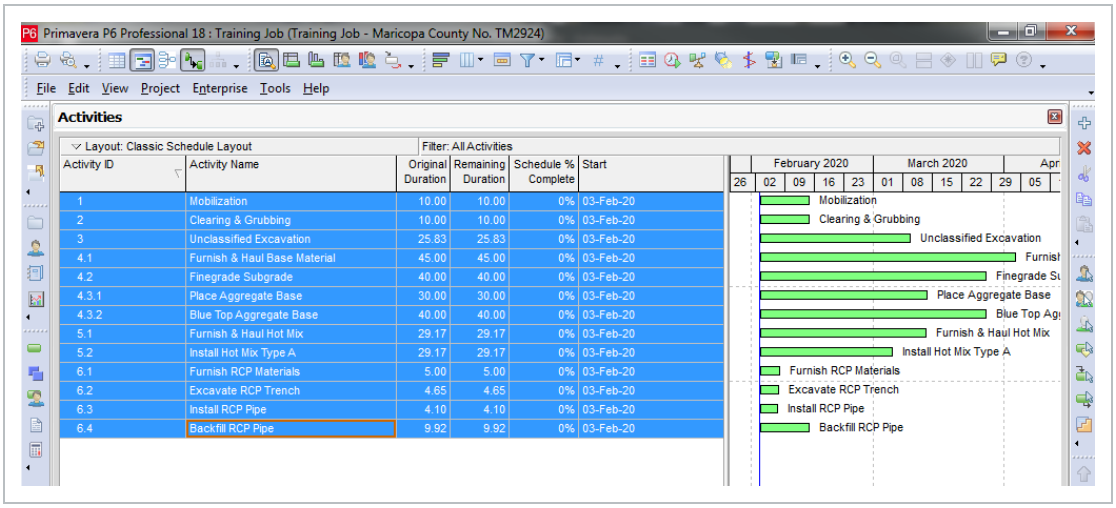
- The WBS Layout displays for the project. You can see the breakdown structure imported from InEight Estimate with durations, rolled up as specified by the Roll Up Schedule option in InEight Estimate
- Initially, the start date for your activities is the start date defined on the Job Properties > Cover Sheet tab (these will change as activity relationships are defined)

9. Select the **Resources** tab to see the resources that imported for each activity, with their associated costs.

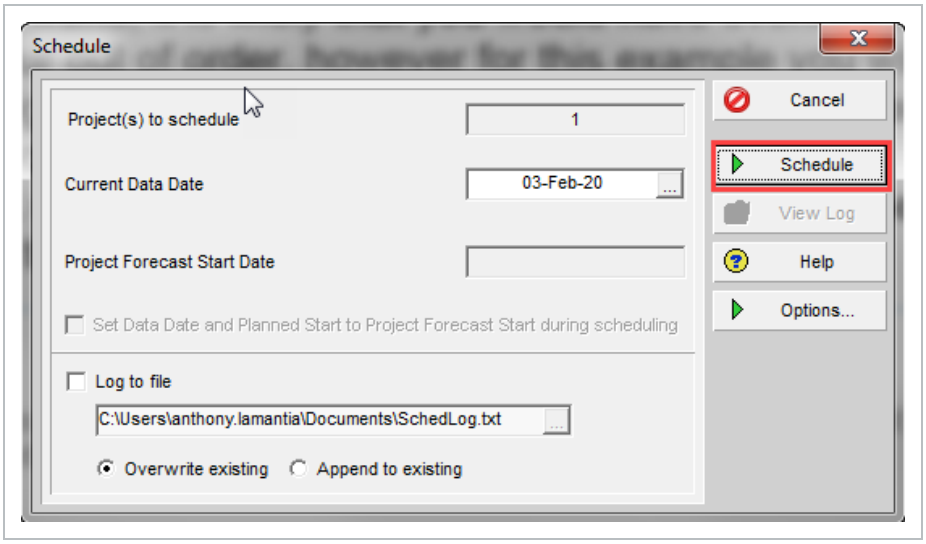

Primavera P6 Professional 18 : Training Job (Training Job - Maricopa County No. TM2924)
File Edit View Project Enterprise Tools Help
Activities
Layout: Classic Schedule Layout
Filter: All Activities
Activity ID
Activity Name
Original Duration
Remaining Duration
Schedule % Complete
Start
1 Mobilization 10.00 10.00 0% 03-Feb-20
2 Clearing & Grubbing 10.00 10.00 0% 03-Feb-20
3 Unclassified Excavation 25.83 25.83 0% 03-Feb-20
4.1 Furnish & Haul Base Material 45.00 45.00 0% 03-Feb-20
4.2 Finegrade Subgrade 40.00 40.00 0% 03-Feb-20
4.3.1 Place Aggregate Base 30.00 30.00 0% 03-Feb-20
4.3.2 Blue Top Aggregate Base 40.00 40.00 0% 03-Feb-20
5.1 Furnish & Haul Hot Mix 29.17 29.17 0% 03-Feb-20
5.2 Install Hot Mix Type A 29.17 29.17 0% 03-Feb-20
6.1 Furnish RCP Materials 5.00 5.00 0% 03-Feb-20
6.2 Excavate RCP Trench 4.65 4.65 0% 03-Feb-20
6.3 Install RCP Pipe 4.10 4.10 0% 03-Feb-20
6.4 Backfill RCP Pipe 9.92 9.92 0% 03-Feb-20
February 2020
March 2020
26 02 09 16 23 01 08 15 22 29 05
Mobilization
Clearing & Grubbing
Unclassified Excavation
Furnish
Finegrade Su
Place Aggregate Base
Blue Top Ag
Furnish & Haul Hot Mix
Install Hot Mix Type A
Furnish RCP Materials
Excavate RCP Trench
Install RCP Pipe
Backfill RCP Pipe
General Status Resources Codes Relationships Notebook Steps Feedback WPs & Docs Expenses Summary
Activity 1 Mobilization
Project Training Job
Resource ID Name
Price / Unit
Rate Type
Rate Source
Budgeted Units
Actual Units
Remaining Units
Remaining Units / Time
Role
ETLT.Lowboy Trailer $33.60/h Override 80.00 0.00 80.00 8.00/d Truck
LT1.Teamster $30.62/h Override 80.00 0.00 80.00 8.00/d Truck Drive
ETTT.Tractor Truck $78.40/h Override 80.00 0.00 80.00 8.00/d Truck
Add Resource
Add Role
Assign by Role
Remove
Portfolio: All Projects
Access Mode: Shared
Data Date: 03-Feb-20
Baseline: Current Project
Last Job Request: Pendi
User: admin
DB: PMDB (EPPM)

STEP BY STEP – UPDATE INEIGHT ESTIMATE FROM PRIMAVERA

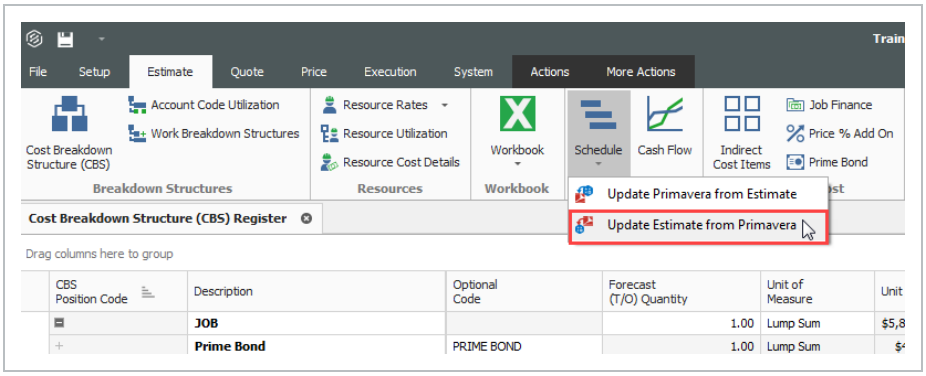
1. Open your version of the **Training Job** project in Primavera.
    - In the real world, it is likely that you would have overlapping activities, or your activities would occur out of order, however for this example you will link all activities from finish to start
2. Highlight all of your activities from **1-Mobilization** through **6.4-Backfill RCP Pipe**.



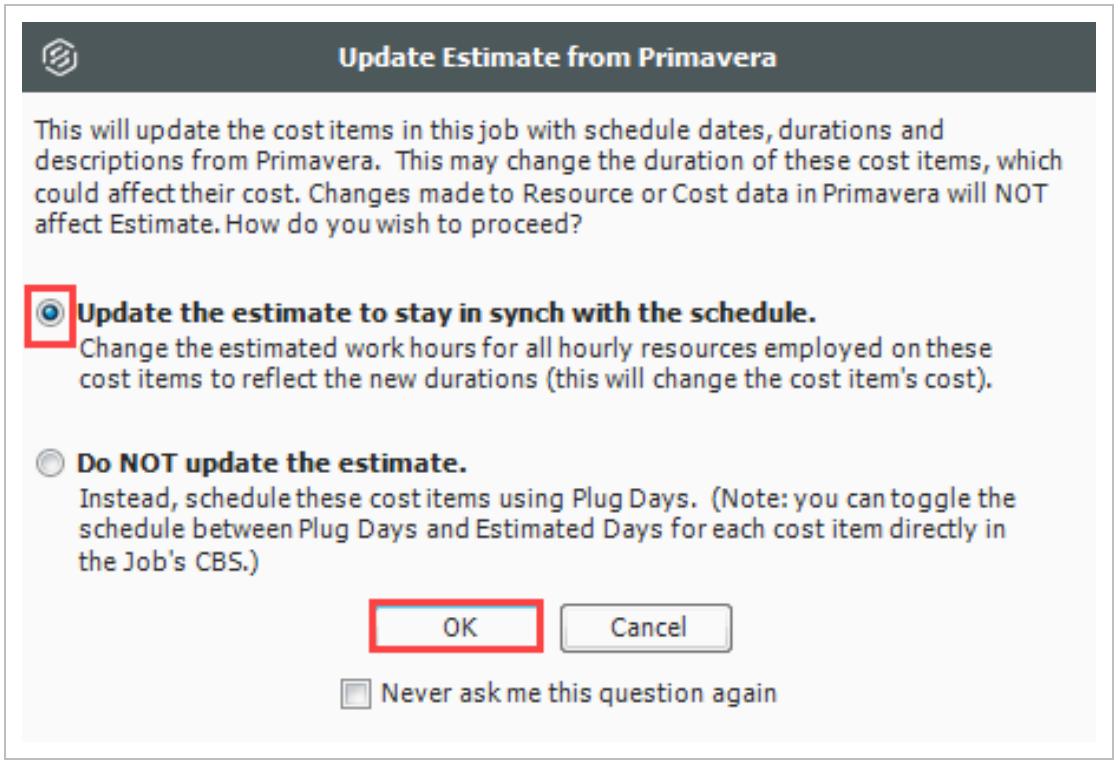
3. Right click on one of the selected rows and select **Link Selected Activities** to create the Finish to Start relationship.
    - You may have to select the Relationship Lines button to show the linked activities in the graph on the right side of the screen.
4. To schedule this new relationship, select the **Schedule** button (or press the **F9** key).
5. On the Schedule Project window, keep the default settings and select the **Schedule** button.



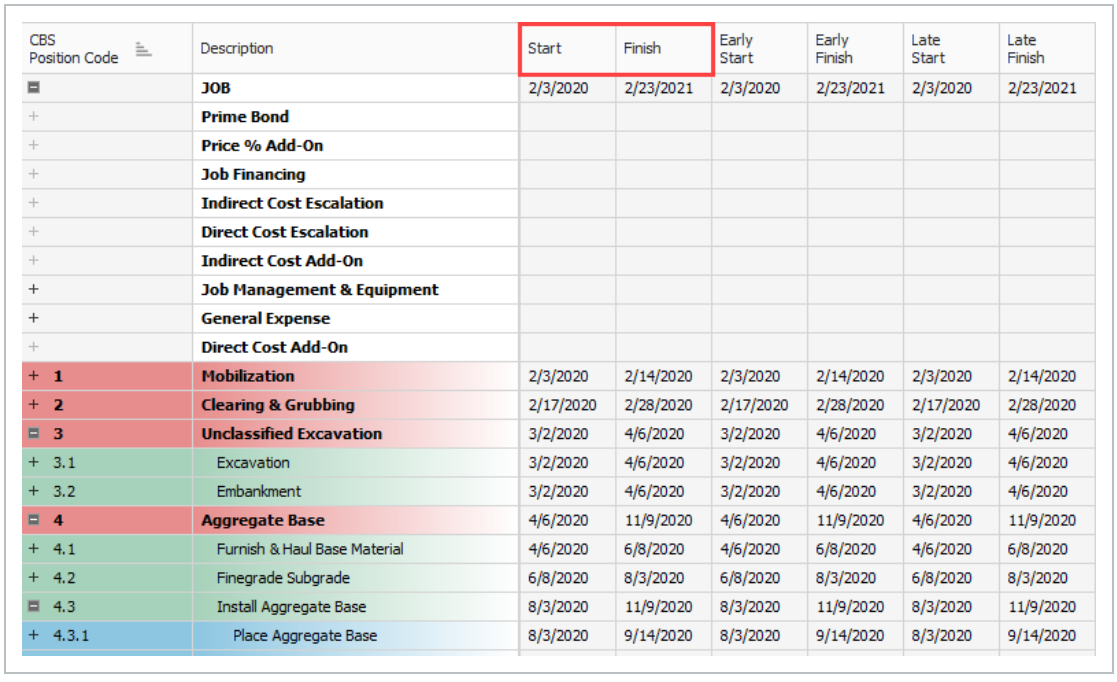
6. To update InEight Estimate with this change, go back to InEight Estimate and select **Estimate** tab.
7. Select **Schedule>Update Estimate from Primavera**.



8. On the Update InEight Estimate from Primavera prompt, keep the default **Update the estimate to stay in synch with the schedule** selected, then click **OK**.



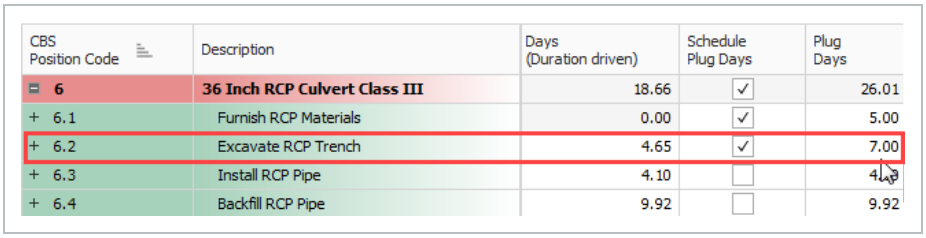
9. On the Schedule Setup View, you can see the Start and Finish dates updated from Primavera.



CBS Position Code	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
	JOB	2/3/2020	2/23/2021	2/3/2020	2/23/2021	2/3/2020	2/23/2021
	Prime Bond						
	Price % Add-On						
	Job Financing						
	Indirect Cost Escalation						
	Direct Cost Escalation						
	Indirect Cost Add-On						
	Job Management & Equipment						
	General Expense						
	Direct Cost Add-On						
1	**Mobilization**	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/14/2020
2	**Clearing & Grubbing**	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
3	**Unclassified Excavation**	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
3.1	Excavation	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
3.2	Embankment	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
4	**Aggregate Base**	4/6/2020	11/9/2020	4/6/2020	11/9/2020	4/6/2020	11/9/2020
4.1	Furnish & Haul Base Material	4/6/2020	6/8/2020	4/6/2020	6/8/2020	4/6/2020	6/8/2020
4.2	Finegrade Subgrade	6/8/2020	8/3/2020	6/8/2020	8/3/2020	6/8/2020	8/3/2020
4.3	Install Aggregate Base	8/3/2020	11/9/2020	8/3/2020	11/9/2020	8/3/2020	11/9/2020
4.3.1	Place Aggregate Base	8/3/2020	9/14/2020	8/3/2020	9/14/2020	8/3/2020	9/14/2020

STEP BY STEP – SCHEDULE PLUG DAYS

1. Look at the Days (Duration driven) column in the CBS where it shows 4.65 days for Excavate-Install-Backfill Pipe.
2. Make sure the **Schedule Plug Days** checkbox is selected on the **Excavate-Install-Backfill Pipe** cost item, then enter a Plug Days duration for the number of days the item will be scheduled in Primavera (**7** days).



CBS Position Code	Description	Days (Duration driven)	Schedule Plug Days	Plug Days
6	**36 Inch RCP Culvert Class III**	18.66	✓	26.01
6.1	Furnish RCP Materials	0.00	✓	5.00
6.2	Excavate RCP Trench	4.65	✓	7.00
6.3	Install RCP Pipe	4.10		4.10
6.4	Backfill RCP Pipe	9.92		9.92

- This allows you to maintain your duration of 4.65 days in the estimate and 7 days in the schedule.

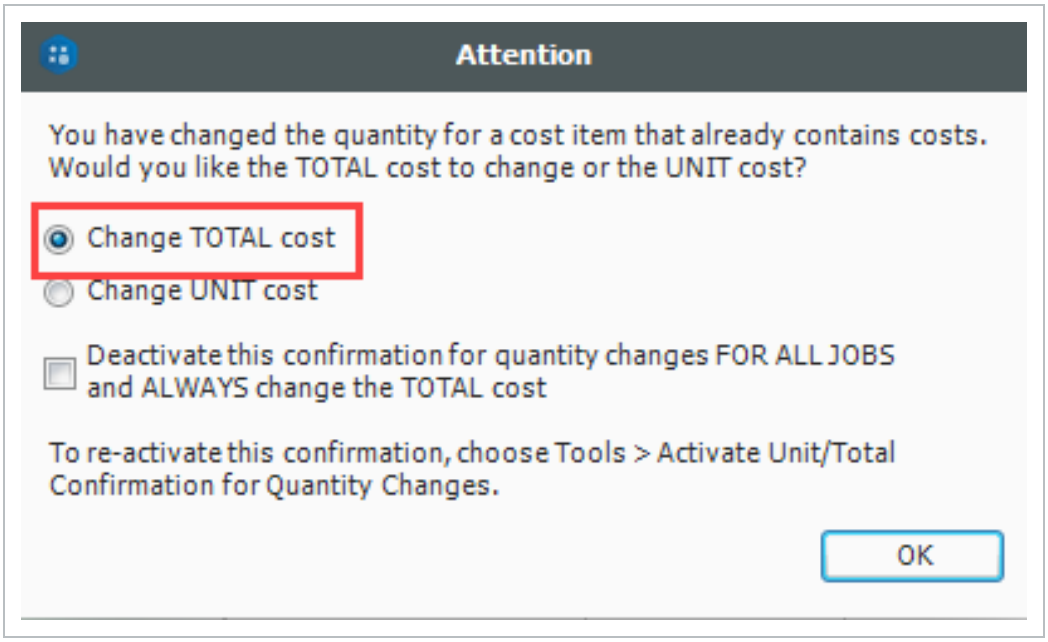
STEP BY STEP – UPDATE PRIMAVERA WITH INEIGHT ESTIMATE CHANGES

1. In the **Training Job** from the Estimate tab, select **Cost Breakdown Structure**.
    - In this scenario, there is a scope change for your Excavation requiring you to change all of your quantities
2. Change the quantity in the Forecast (T/O) Quantity field in the CBS as specified below:

Quantity Change for Cost Item

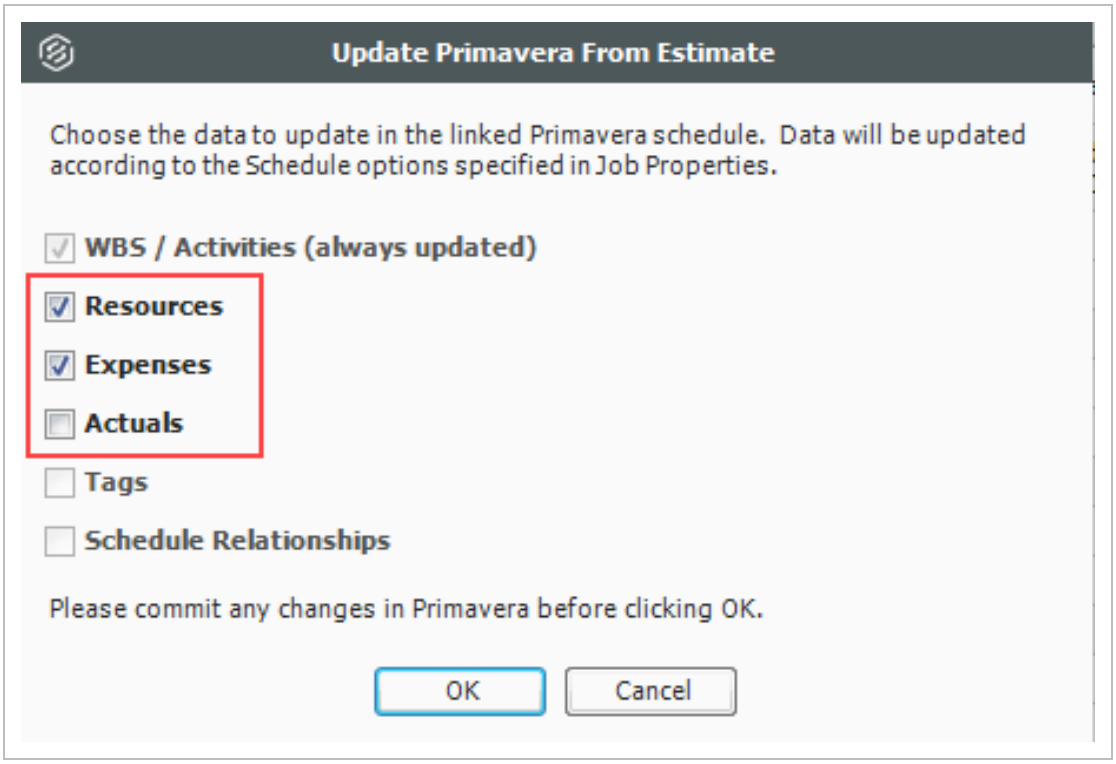
CBS Code	Description	Old Quantity	New Quantity
5	Asphalt Concrete Hot Mix Type A	35,000	25,000

    - As you make your changes, take note of how your duration changes in the Days (Duration driven) column for these items
    - If prompted about changing Total or Unit Cost, select **Change TOTAL cost**, so that your unit costs stay intact, then click **OK**.

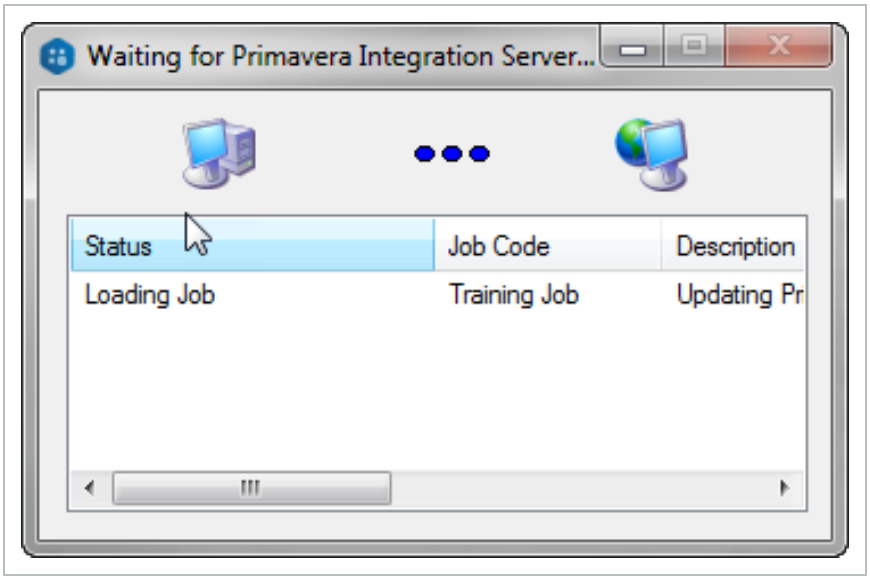


3. From the Estimate tab, select **Schedule>Update Primaverafrom InEight Estimate** to send the changed hours to Primavera.
    - The Update Primavera From InEight Estimate dialog prompts you to indicate what data to update to Primavera

4. Make sure Resources and Expenses are checked, then select **OK**.

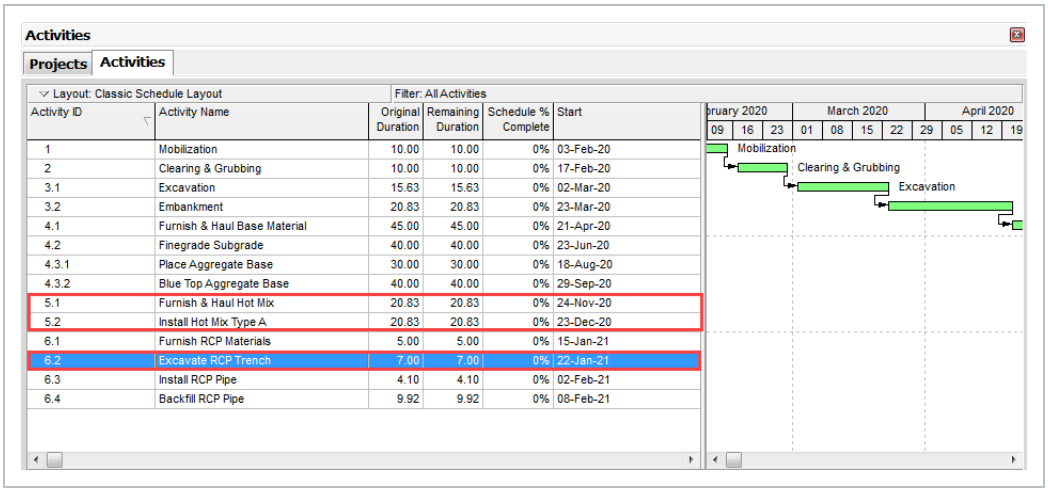


- A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take a few minutes



- When the window disappears, the update is complete

5. Open Primavera (P6 Web Client).
6. Open the **Training Job** project.
7. On the Activities screen, compare the Planned Duration to the Days (Duration driven) in InEight Estimate for Excavate-Install-Backfill Pipe.
    - The Primavera scheduled duration should have changed from 4.65 days to 7 days to match the updated duration in InEight Estimate for Excavate-Install-Backfill Pipe
    - You will also notice a change in days for Excavation after changing the T/O Quantity in InEight Estimate

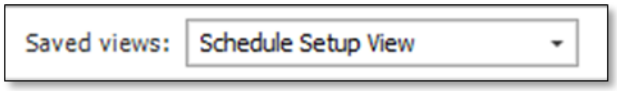


8. To schedule this change in Primavera, select the **Schedule** button (or press the **F9** key) and select the **Schedule** button on the Schedule Project window.
9. Your start and finish dates are different now. In InEight Estimate, from the Estimate tab, select **Schedule>Update InEight Estimate from Primavera** to update InEight Estimate with the new dates.

CBS Position Code	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
+ **1**	**Mobilization**	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/17/2020
+ **2**	**Clearing & Grubbing**	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	3/2/2020
- **3**	**Unclassified Excavation**	3/2/2020	4/21/2020	3/2/2020	4/21/2020	3/2/2020	4/21/2020
+ 3.1	Excavation	3/2/2020	3/23/2020	3/2/2020	3/23/2020	3/2/2020	3/23/2020
+ 3.2	Embankment	3/23/2020	4/21/2020	3/23/2020	4/21/2020	3/23/2020	4/21/2020
- **4**	**Aggregate Base**	4/21/2020	11/24/2020	4/21/2020	11/24/2020	4/21/2020	11/24/2020
+ 4.1	Furnish & Haul Base Material	4/21/2020	6/23/2020	4/21/2020	6/23/2020	4/21/2020	6/23/2020
+ 4.2	Finegrade Subgrade	6/23/2020	8/18/2020	6/23/2020	8/18/2020	6/23/2020	8/18/2020
- 4.3	Install Aggregate Base	8/18/2020	11/24/2020	8/18/2020	11/24/2020	8/18/2020	11/24/2020
+ 4.3.1	Place Aggregate Base	8/18/2020	9/29/2020	8/18/2020	9/29/2020	8/18/2020	9/29/2020
+ 4.3.2	Blue Top Aggregate Base	9/29/2020	11/24/2020	9/29/2020	11/24/2020	9/29/2020	11/24/2020
- **5**	**Asphalt Concrete Hot Mix Type A**	11/24/2020	1/14/2021	11/24/2020	1/14/2021	11/24/2020	1/15/2021
+ 5.1	Furnish & Haul Hot Mix	11/24/2020	12/23/2020	11/24/2020	12/23/2020	11/24/2020	12/23/2020
+ 5.2	Install Hot Mix Type A	12/23/2020	1/14/2021	12/23/2020	1/14/2021	12/23/2020	1/15/2021
- **6**	**36 Inch RCP Culvert Class III**	1/15/2021	2/22/2021	1/15/2021	2/22/2021	1/15/2021	2/22/2021
+ 6.1	Furnish RCP Materials	1/15/2021	1/21/2021	1/15/2021	1/21/2021	1/15/2021	1/21/2021
+ 6.2	Excavate RCP Trench	1/22/2021	2/1/2021	1/22/2021	2/1/2021	1/22/2021	2/1/2021
+ 6.3	Install RCP Pipe	2/2/2021	2/8/2021	2/2/2021	2/8/2021	2/2/2021	2/8/2021
+ 6.4	Backfill RCP Pipe	2/8/2021	2/22/2021	2/8/2021	2/22/2021	2/8/2021	2/22/2021

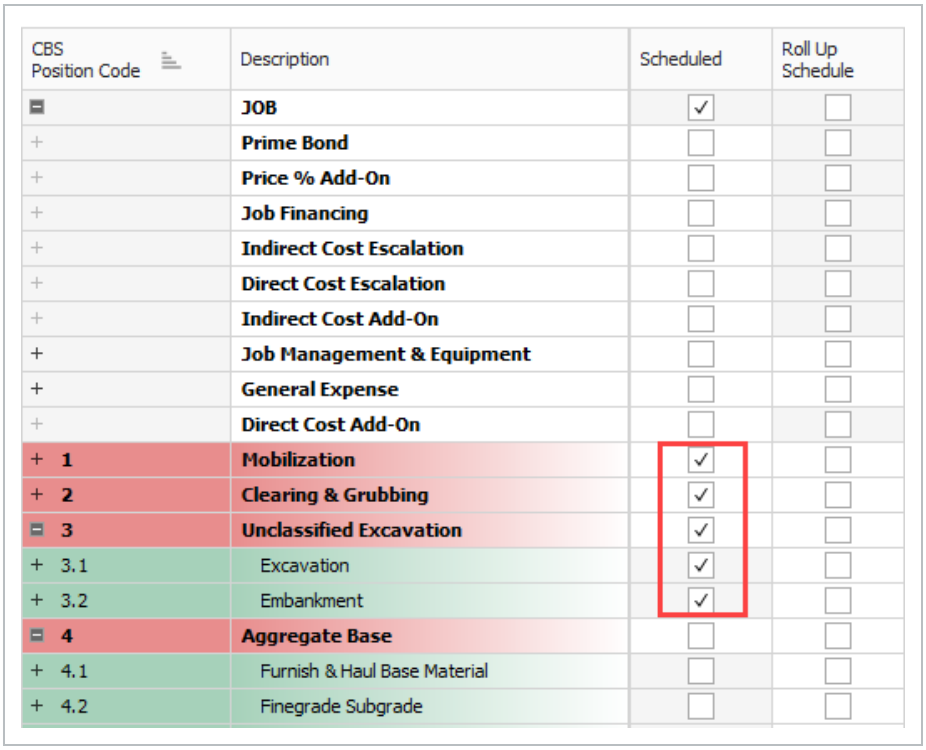
STEP BY STEP – SCHEDULE A COST ITEM IN INEIGHT ESTIMATE

1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
2. In the Saved Views drop-down list, select **Schedule Setup View**.



   - In the Scheduled column, you can select the checkbox for each cost item that you want to schedule
   - If a cost item has subordinate cost items below it, you will only be able to check the superior cost item, which will automatically schedule the subordinate cost items along with it

3. Select the **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation** cost items, then press **Tab**.



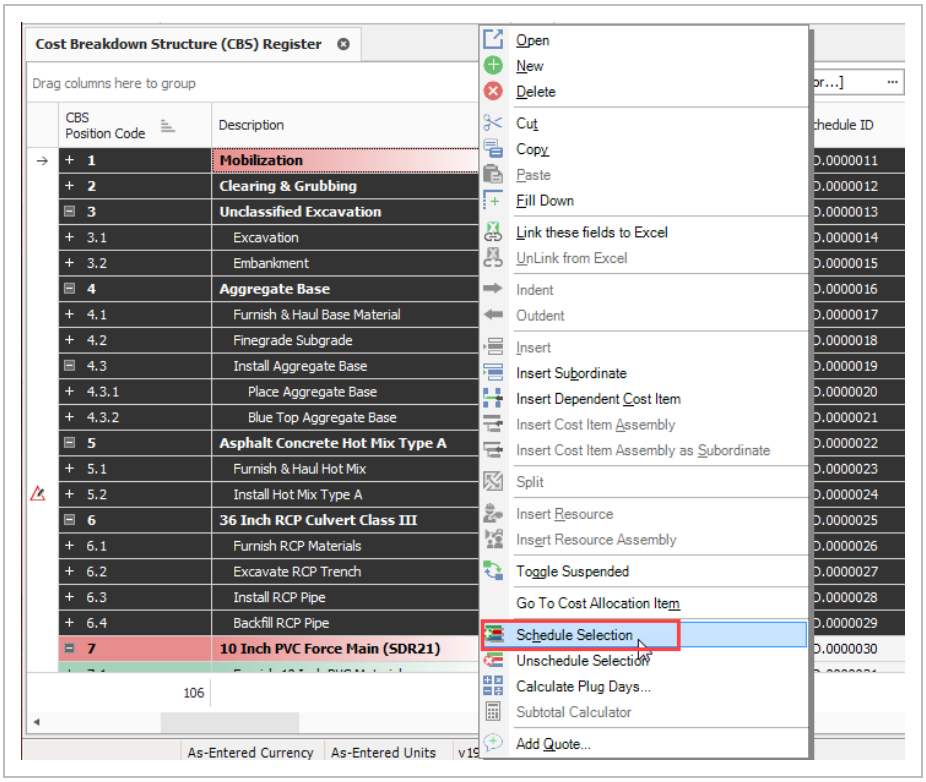
CBS Position Code	Description	Scheduled	Roll Up Schedule
	JOB	☑	☐
	Prime Bond	☐	☐
	Price % Add-On	☐	☐
	Job Financing	☐	☐
	Indirect Cost Escalation	☐	☐
	Direct Cost Escalation	☐	☐
	Indirect Cost Add-On	☐	☐
	Job Management & Equipment	☐	☐
	General Expense	☐	☐
	Direct Cost Add-On	☐	☐
1	**Mobilization**	☑	☐
2	**Clearing & Grubbing**	☑	☐
3	**Unclassified Excavation**	☑	☐
3.1	Excavation	☑	☐
3.2	Embankment	☑	☐
4	**Aggregate Base**	☐	☐
4.1	Furnish & Haul Base Material	☐	☐
4.2	Finegrade Subgrade	☐	☐

STEP BY STEP – SCHEDULE A GROUP OF COST ITEMS IN INEIGHT ESTIMATE

1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
2. From the Saved Views drop-down list, select **Schedule Setup View**.
    - To schedule multiple cost items, you can highlight the row for each cost item that you want to schedule, using the Shift and Ctrl keys to select multiple rows.
3. Select additional cost items **4-Aggregate base**, **5- Asphalt Concrete Hot Mix**, and **6- 36-inch RCP Culvert Class.**

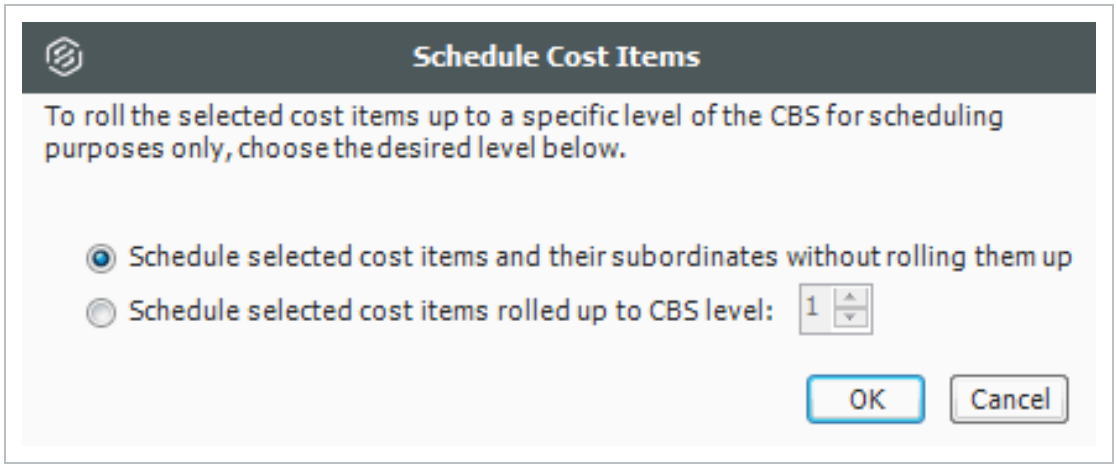
> **TIP** *To schedule all cost items, highlight the JOB row.*

4. Right click on the selected rows and select **Schedule Selection**.



- On the Schedule Cost Items dialog, you can select whether or not you want to roll up the selected cost items to a specific level of the CBS for scheduling purposes

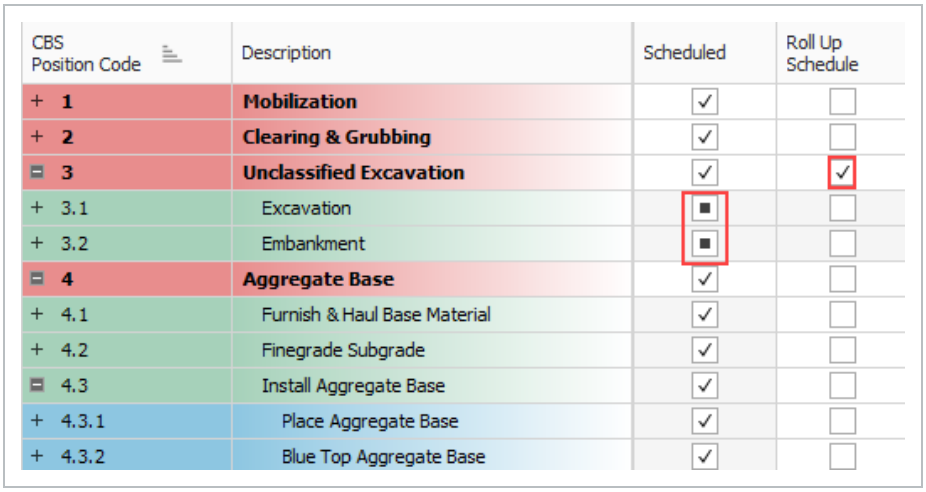
5. Select **Schedule selected cost items and their subordinates without rolling them up**, then click **OK**.



- Your scheduled cost items will import into Primavera the next time you update Primavera from InEight Estimate.

STEP BY STEP – ROLL UP SCHEDULE

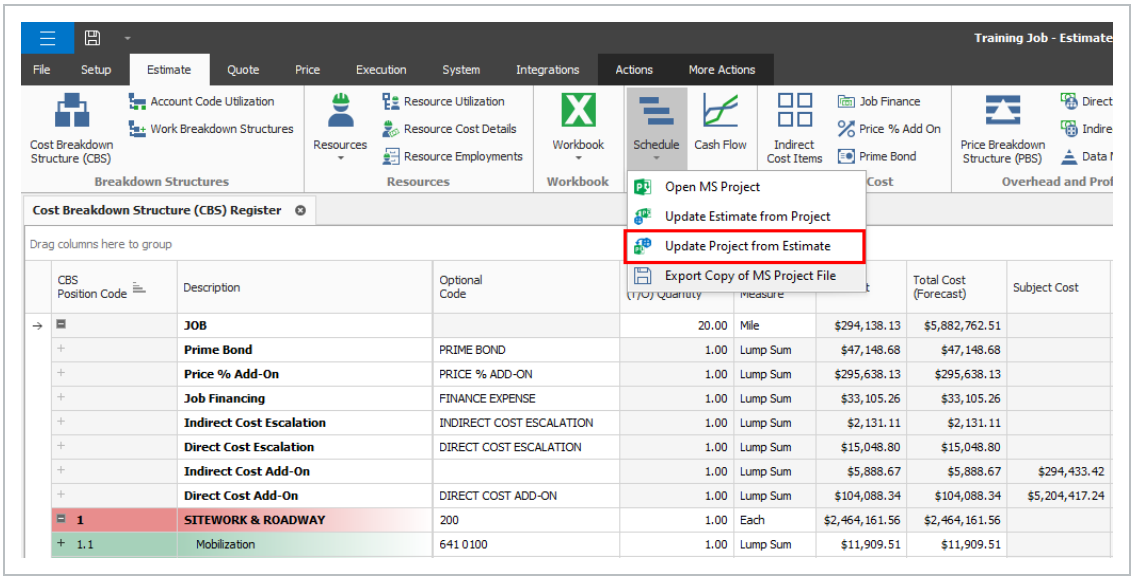
1. In the **Training Job**, from the Estimate tab select **Cost Breakdown Structure**.
2. From the Saved Views drop-down list, select **Schedule Setup View**.
    - Review your cost items to decide which cost items need to be rolled up
3. Select the **Roll Up Schedule** checkbox on the Unclassified Excavation cost item.



CBS Position Code	Description	Scheduled	Roll Up Schedule
+ **1**	**Mobilization**	☑	☐
+ **2**	**Clearing & Grubbing**	☑	☐
− **3**	**Unclassified Excavation**	☑	☑
+ 3.1	Excavation	■	☐
+ 3.2	Embankment	■	☐
− **4**	**Aggregate Base**	☑	☐
+ 4.1	Furnish & Haul Base Material	☑	☐
+ 4.2	Finegrade Subgrade	☑	☐
− 4.3	Install Aggregate Base	☑	☐
+ 4.3.1	Place Aggregate Base	☑	☐
+ 4.3.2	Blue Top Aggregate Base	☑	☐

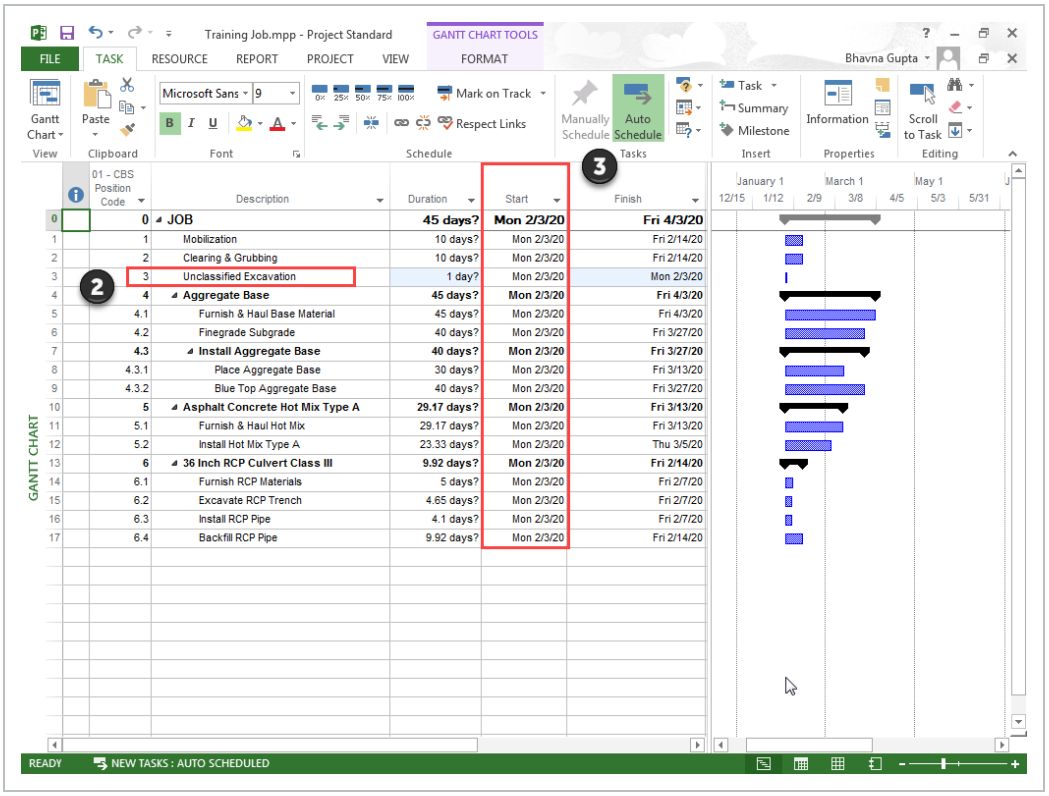
STEP BY STEP – UPDATE MS PROJECT FROM INEIGHT ESTIMATE

1. From the Estimate tab, select **Schedule>Update Project from InEight Estimate**.



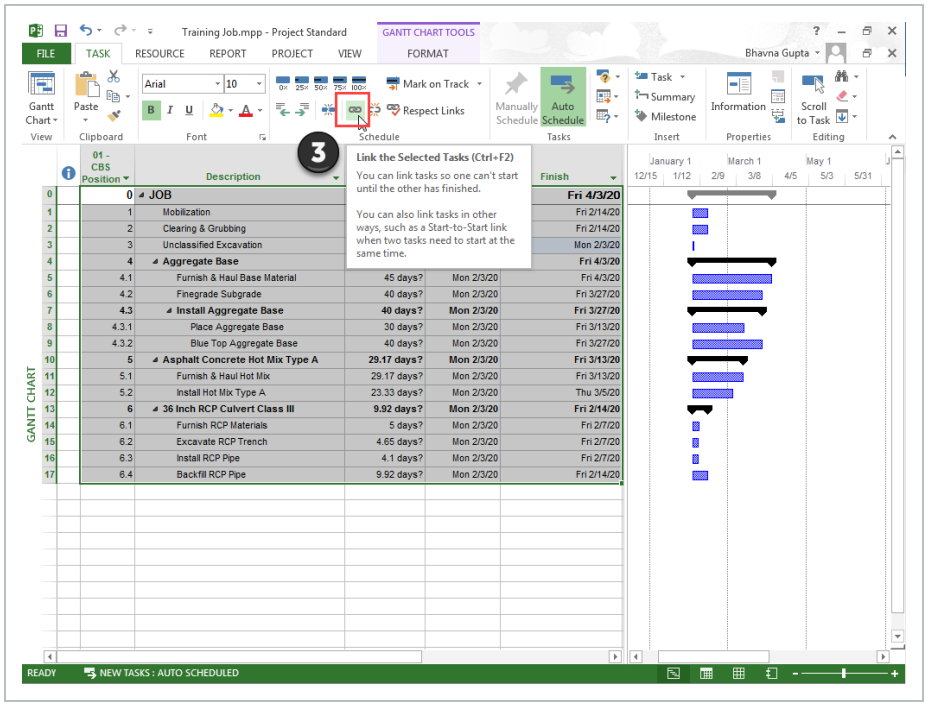
- Your job automatically opens in Microsoft Project
- The Work Breakdown Structure Layout displays for the project
- You can see the breakdown structure imported from InEight Estimate with durations, rolled up as specified by the Roll Up Schedule option in InEight Estimate
- Initially, the start date for your activities is the start date defined on the Job Properties >

Cover Sheet tab (these will change as activity relationships are defined)

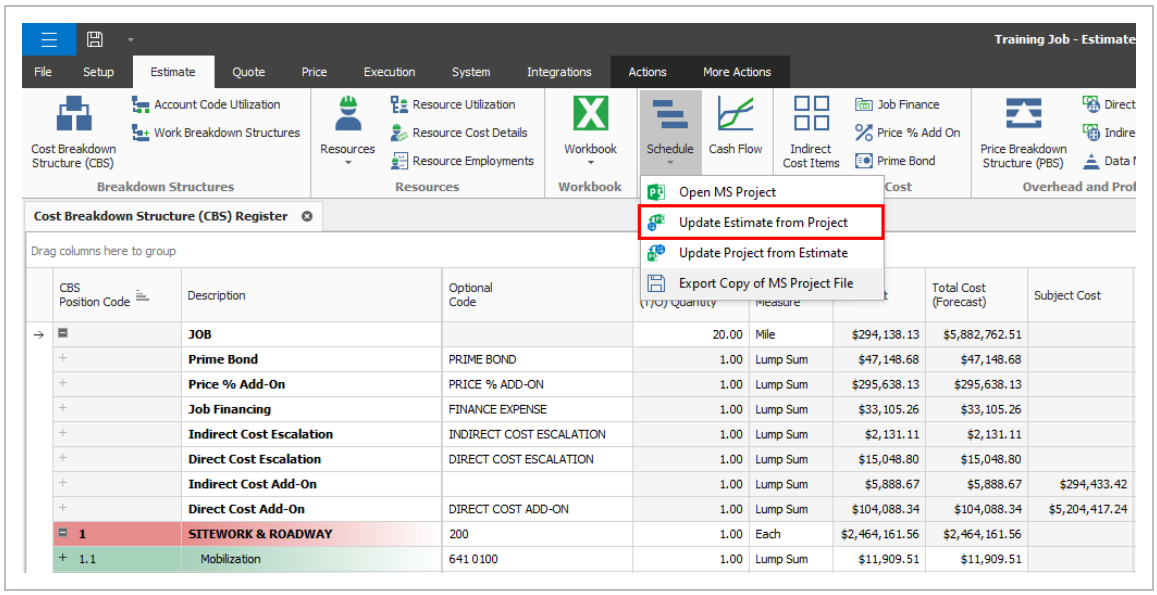


STEP BY STEP – UPDATE INEIGHT ESTIMATE FROM MS PROJECT

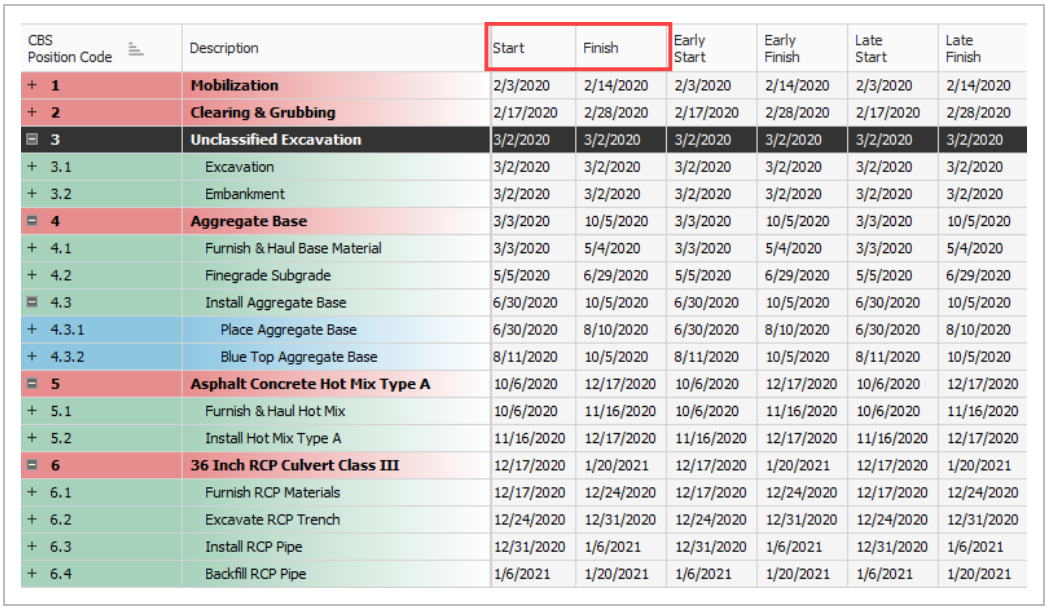
1. Open your version of the **Training Job** project in Microsoft Project.
    - In the real world, it is likely that you would have overlapping activities or your activities would be out of order, however for this example you will link all activities from finish to start
2. Click on the **Link Tasks** icon to link all activities.



    - Ensure the **Auto Schedule** button is selected
3. To update InEight Estimate with this change, go back to InEight Estimate and from the Estimate tab, select **Schedule>Update InEight Estimate from Project**.



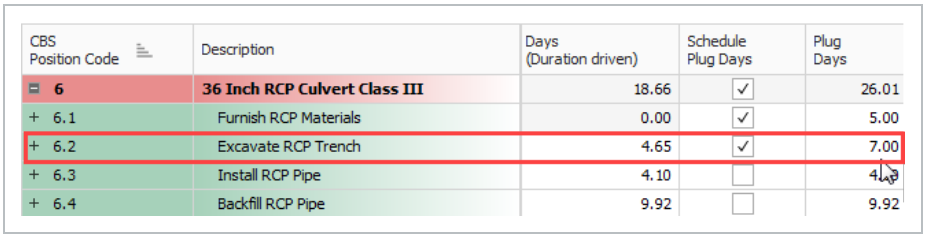
- On the Schedule Setup View, you can see the Start and Finish dates updated from MS Project.



CBS Position Code	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
1	**Mobilization**	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/14/2020
2	**Clearing & Grubbing**	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
3	**Unclassified Excavation**	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
3.1	Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
3.2	Embankment	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
4	**Aggregate Base**	3/3/2020	10/5/2020	3/3/2020	10/5/2020	3/3/2020	10/5/2020
4.1	Furnish & Haul Base Material	3/3/2020	5/4/2020	3/3/2020	5/4/2020	3/3/2020	5/4/2020
4.2	Finegrade Subgrade	5/5/2020	6/29/2020	5/5/2020	6/29/2020	5/5/2020	6/29/2020
4.3	Install Aggregate Base	6/30/2020	10/5/2020	6/30/2020	10/5/2020	6/30/2020	10/5/2020
4.3.1	Place Aggregate Base	6/30/2020	8/10/2020	6/30/2020	8/10/2020	6/30/2020	8/10/2020
4.3.2	Blue Top Aggregate Base	8/11/2020	10/5/2020	8/11/2020	10/5/2020	8/11/2020	10/5/2020
5	**Asphalt Concrete Hot Mix Type A**	10/6/2020	12/17/2020	10/6/2020	12/17/2020	10/6/2020	12/17/2020
5.1	Furnish & Haul Hot Mix	10/6/2020	11/16/2020	10/6/2020	11/16/2020	10/6/2020	11/16/2020
5.2	Install Hot Mix Type A	11/16/2020	12/17/2020	11/16/2020	12/17/2020	11/16/2020	12/17/2020
6	**36 Inch RCP Culvert Class III**	12/17/2020	1/20/2021	12/17/2020	1/20/2021	12/17/2020	1/20/2021
6.1	Furnish RCP Materials	12/17/2020	12/24/2020	12/17/2020	12/24/2020	12/17/2020	12/24/2020
6.2	Excavate RCP Trench	12/24/2020	12/31/2020	12/24/2020	12/31/2020	12/24/2020	12/31/2020
6.3	Install RCP Pipe	12/31/2020	1/6/2021	12/31/2020	1/6/2021	12/31/2020	1/6/2021
6.4	Backfill RCP Pipe	1/6/2021	1/20/2021	1/6/2021	1/20/2021	1/6/2021	1/20/2021

STEP BY STEP – SCHEDULE PLUG DAYS

1. Look at the Days (Duration driven) column in the CBS where it shows 4.65 days for Excavate-Install-Backfill Pipe.
2. Make sure the **Schedule Plug Days** checkbox is selected on the **Excavate-Install-Backfill Pipe** cost item, then enter a Plug Days duration for the number of days the item will be scheduled in Primavera (**7** days).



CBS Position Code	Description	Days (Duration driven)	Schedule Plug Days	Plug Days
6	**36 Inch RCP Culvert Class III**	18.66	✓	26.01
6.1	Furnish RCP Materials	0.00	✓	5.00
6.2	Excavate RCP Trench	4.65	✓	7.00
6.3	Install RCP Pipe	4.10		4.10
6.4	Backfill RCP Pipe	9.92		9.92

- This allows you to maintain your duration of 4.65 days in the estimate and 7 days in the schedule.

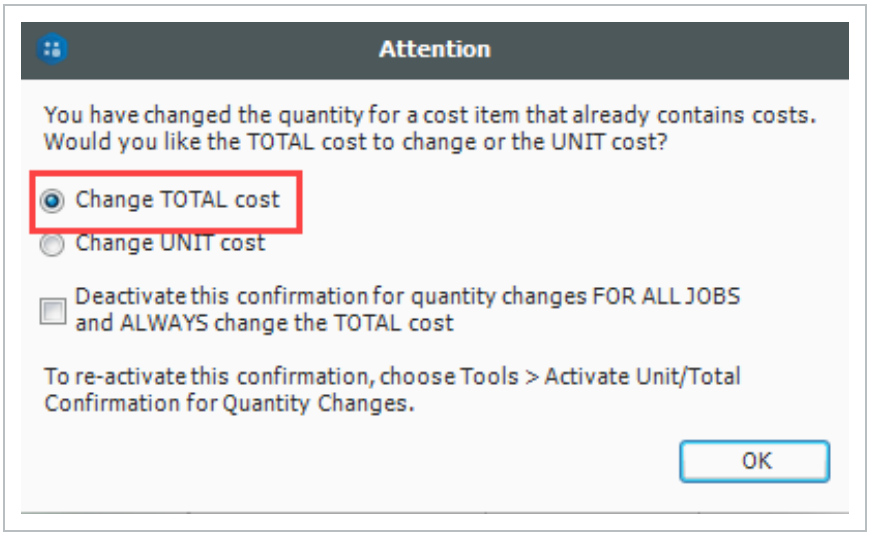
STEP BY STEP – UPDATE MS PROJECT WITH INEIGHT ESTIMATE CHANGES

1. In the InEight Estimate **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
    - In this scenario, there is a scope change for your Excavation requiring you to change all of your quantities
2. Change the quantity in the Forecast (T/O) Quantity field in the CBS as specified below.

Quantity Change for Cost Item

CBS Code	Description	Old Quantity	New Quantity
5	Asphalt Concrete Hot Mix Type A	35,000	25,000

    - As you make your changes, take note of how your duration changes in the **Days (Duration driven)** column for these items.
    - If prompted about changing Total or Unit Cost, select **Change TOTAL cost**, so that your unit costs stay intact



3. From the Estimate tab, select **Schedule>Update Projectfrom InEight Estimate** to send the changed hours to Microsoft Project.
4. Go back to the **Training Job** in Microsoft Project.
    - The Microsoft Project scheduled duration should have changed from 4.65 days to 7 days to match the updated duration in InEight Estimate for Excavate RCP Trench

- You can also see that the days for Asphalt Concrete Hot Mix Type A and its subordinates adjusted because you adjusted the Forecast T/O Quantity in InEight Estimate

	01 - CBS Position Code	Description	Duration	Start	Finish
0	0	JOB	239.51 days?	Mon 2/3/20	Fri 1/1/21
1	1	Mobilization	10 days?	Mon 2/3/20	Fri 2/14/20
2	2	Clearing & Grubbing	10 days?	Mon 2/17/20	Fri 2/28/20
3	3	Unclassified Excavation	1 day?	Mon 3/2/20	Mon 3/2/20
4	4	Aggregate Base	155 days?	Tue 3/3/20	Mon 10/5/20
5	4.1	Furnish & Haul Base Material	45 days?	Tue 3/3/20	Mon 5/4/20
6	4.2	Finegrade Subgrade	40 days?	Tue 5/5/20	Mon 6/29/20
7	4.3	Install Aggregate Base	70 days?	Tue 6/30/20	Mon 10/5/20
8	4.3.1	Place Aggregate Base	30 days?	Tue 6/30/20	Mon 8/10/20
9	4.3.2	Blue Top Aggregate Base	40 days?	Tue 8/11/20	Mon 10/5/20
10	5	Asphalt Concrete Hot Mix Type A	37.5 days?	Tue 10/6/20	Thu 11/26/20
11	5.1	Furnish & Haul Hot Mix	20.83 days?	Tue 10/6/20	Tue 11/3/20
12	5.2	Install Hot Mix Type A	16.67 days?	Tue 11/3/20	Thu 11/26/20
13	6	36 Inch RCP Culvert Class III	26.01 days?	Thu 11/26/20	Fri 1/1/21
14	6.1	Furnish RCP Materials	5 days?	Thu 11/26/20	Thu 12/3/20
15	6.2	Excavate RCP Trench	7 days?	Thu 12/3/20	Mon 12/14/20
16	6.3	Install RCP Pipe	4.1 days?	Mon 12/14/20	Fri 12/18/20
17	6.4	Backfill RCP Pipe	9.92 days?	Fri 12/18/20	Fri 1/1/21

5. Your Start and Finish dates are different now. In InEight Estimate, from the Estimate tab, select **Schedule >Update InEight Estimate from Project** to update InEight Estimate with the new dates.

CBS Position Code	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
+ 2	Clearing & Grubbing	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
- 3	Unclassified Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.1	Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.2	Embankment	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
- 4	Aggregate Base	3/3/2020	10/5/2020	3/3/2020	10/5/2020	3/3/2020	10/5/2020
+ 4.1	Furnish & Haul Base Material	3/3/2020	5/4/2020	3/3/2020	5/4/2020	3/3/2020	5/4/2020
+ 4.2	Finegrade Subgrade	5/5/2020	6/29/2020	5/5/2020	6/29/2020	5/5/2020	6/29/2020
- 4.3	Install Aggregate Base	6/30/2020	10/5/2020	6/30/2020	10/5/2020	6/30/2020	10/5/2020
+ 4.3.1	Place Aggregate Base	6/30/2020	8/10/2020	6/30/2020	8/10/2020	6/30/2020	8/10/2020
+ 4.3.2	Blue Top Aggregate Base	8/11/2020	10/5/2020	8/11/2020	10/5/2020	8/11/2020	10/5/2020
- 5	Asphalt Concrete Hot Mix Type A	10/6/2020	11/26/2020	10/6/2020	11/26/2020	10/6/2020	11/26/2020
+ 5.1	Furnish & Haul Hot Mix	10/6/2020	11/3/2020	10/6/2020	11/3/2020	10/6/2020	11/3/2020
+ 5.2	Install Hot Mix Type A	11/3/2020	11/26/2020	11/3/2020	11/26/2020	11/3/2020	11/26/2020
- 6	36 Inch RCP Culvert Class III	11/26/2020	1/1/2021	11/26/2020	1/1/2021	11/26/2020	1/1/2021
+ 6.1	Furnish RCP Materials	11/26/2020	12/3/2020	11/26/2020	12/3/2020	11/26/2020	12/3/2020
+ 6.2	Excavate RCP Trench	12/3/2020	12/14/2020	12/3/2020	12/14/2020	12/3/2020	12/14/2020
+ 6.3	Install RCP Pipe	12/14/2020	12/18/2020	12/14/2020	12/18/2020	12/14/2020	12/18/2020
+ 6.4	Backfill RCP Pipe	12/18/2020	1/1/2021	12/18/2020	1/1/2021	12/18/2020	1/1/2021

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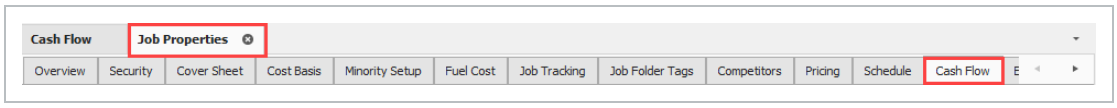
LESSON 12 - CASH FLOW

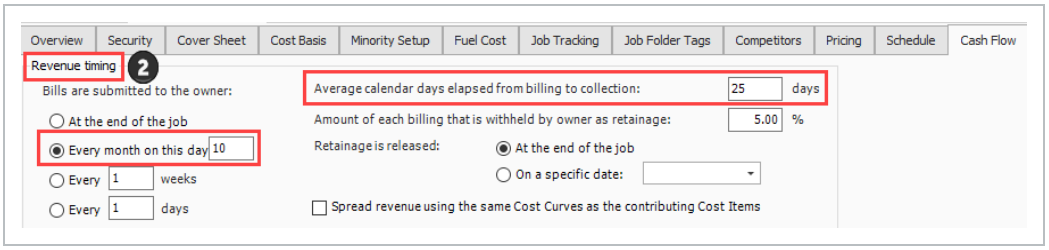
STEP BY STEP – CASH FLOW OPTIONS SETUP

1. In the **E101 – Training Job**, from the Estimate tab, select **Setup >Job Properties >Cash Flow**.

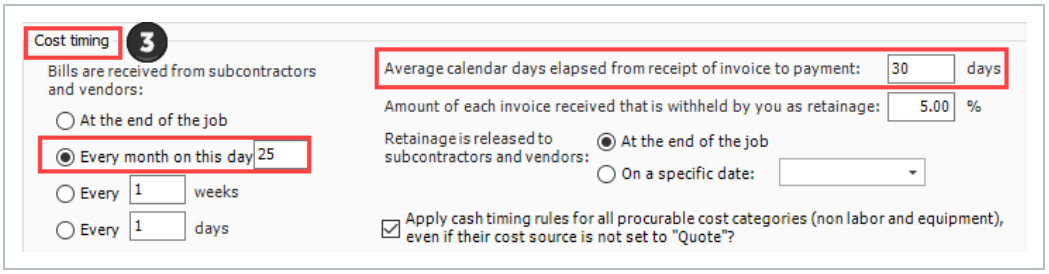


   - You will see the default options already there
   - You will adjust a few of those options

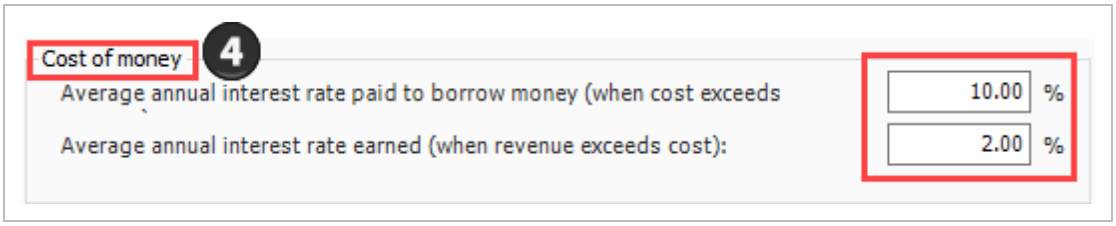
2. Change your Revenue timing to **Every month on the 10th**.
   - The average calendar days from billing to collection should be set to 25 days



3. For Cost timing, bills are received from subcontractors and vendors **Every month on the 25th.**
   - Average calendar days elapsed from receipt of invoice to payment should be set to 30 days



4. For Cost of money, enter **10%** for the Average annual interest rate paid to borrow money (when cost exceeds revenue) and **2%** for Average annual interest rate earned (when revenue exceeds cost).

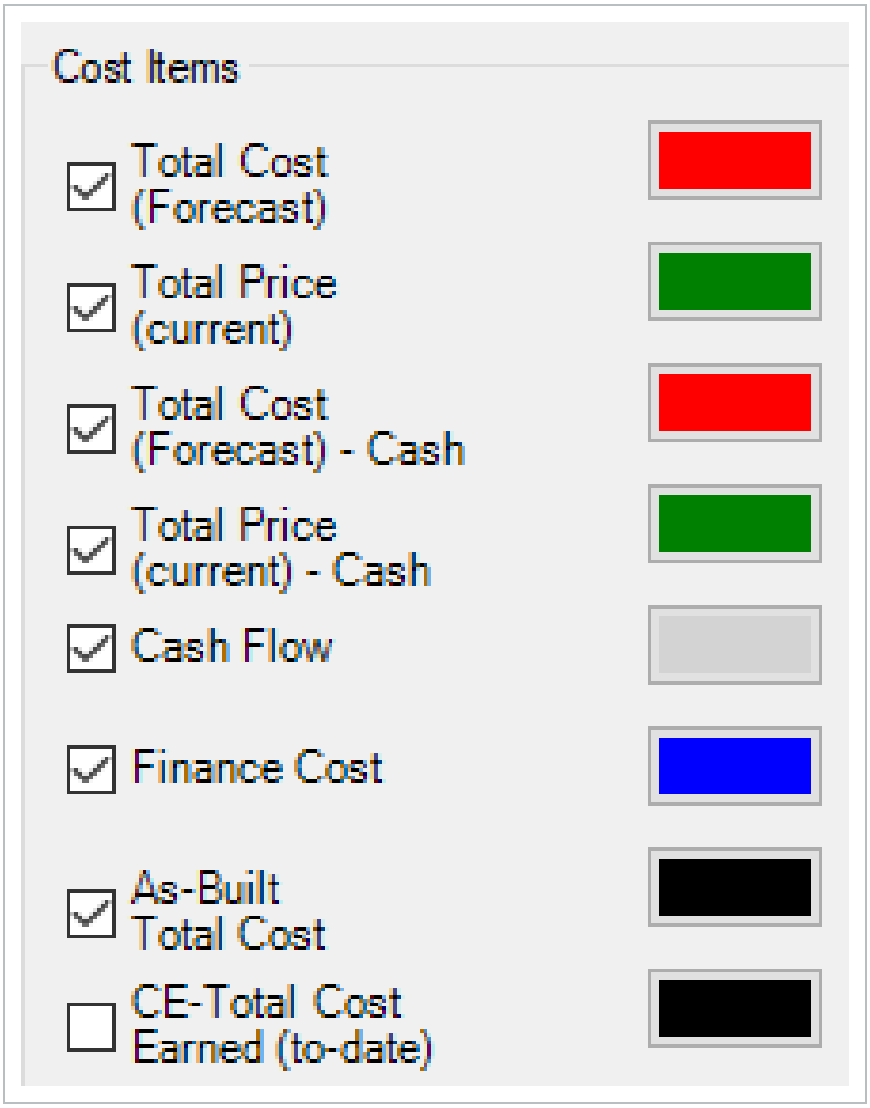


5. Leave all remaining options as originally defaulted.

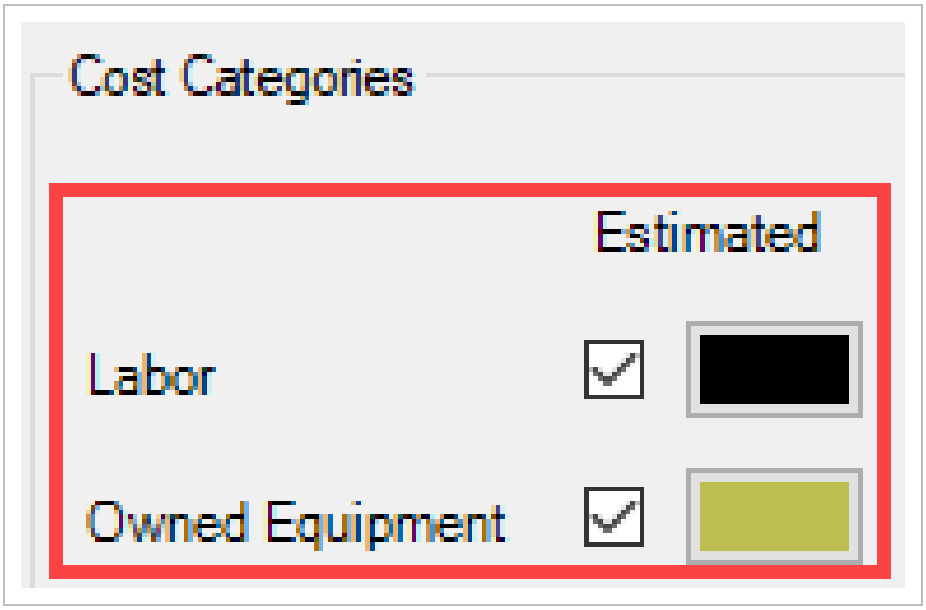
STEP BY STEP – CASH FLOW DISPLAY SETTINGS SET UP

1. In the **E101 – Training Job**, from the Estimate tab, select **Cash Flow** from the Schedule section.
2. On the **Actions** tab, select **Display Settings** to open the Display Settings window**.**
3. From the Period drop-down list, select **Week**.
4. Under the Cost Items section, make sure the following are selected:
    - Total Cost (Forecast)
    - Total Price (Forecast)
    - Total Cost (Forecast) – Cash
    - Total Price (Forecast) – Cash
    - Cash Flow

- Finance Cost



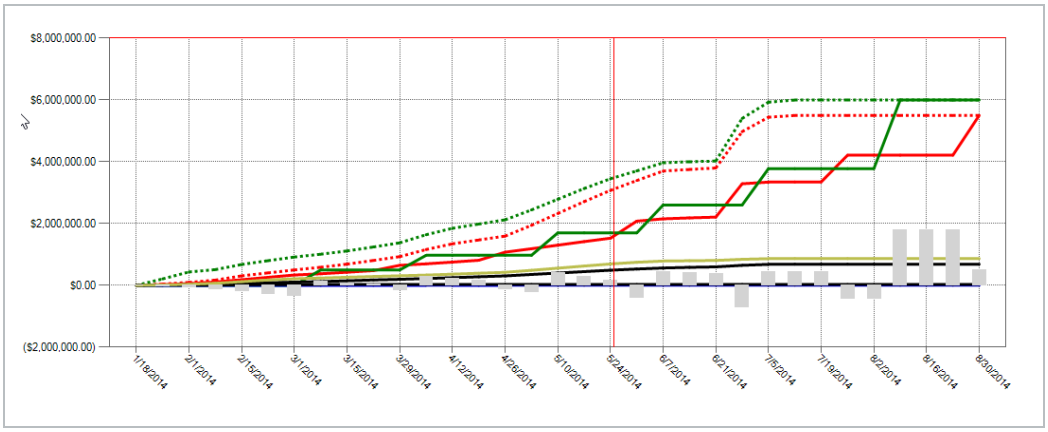
5. Under the **Cost Categories** section, check the **Estimated** checkbox for the Labor and Owned Equipment categories.



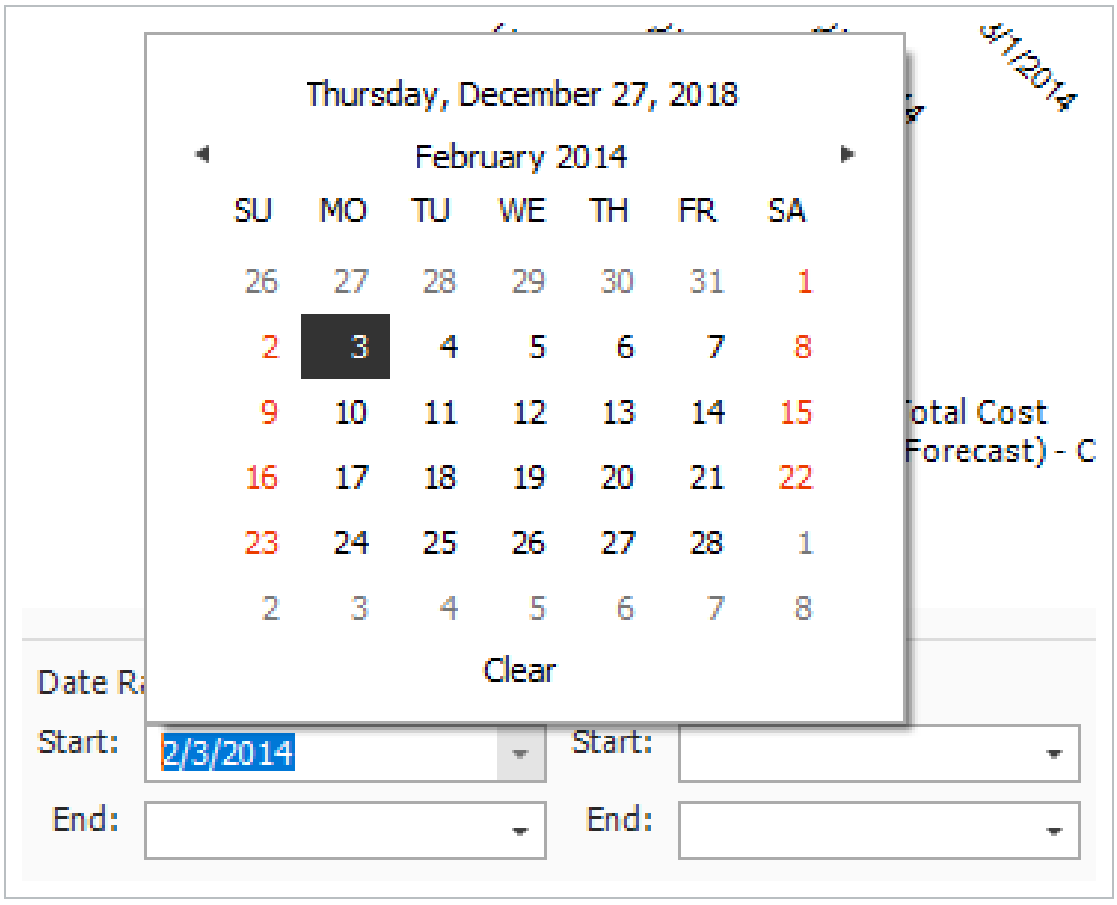
6. Click **OK** to close the Display Settings window.

- Your Total Cost (Forecast) displays as a dashed red line, indicating your accrued costs based on when your cost items are scheduled and the assigned cost curves for each cost item.
- Your Total Price (current) displays as a dashed green line, indicating the revenue you've earned, based on the timing of your pay items
- Your Total Cost (Forecast) – Cash displays as a solid red line, indicating your costs, based on when your cost items are scheduled *and* the cost timing defined in Cash Flow Options
- Your Total Price (current) – Cash displays as a solid green line, indicating your revenue, based on the timing of your pay items *and* the revenue timing defined in Cash Flow Options
- Your Cash Flow displays grey bars indicating when your cash flow is negative or positive

- Your Finance Cost displays as a blue line on the graph



7. To filter your graph by date range, click on the **Start** drop-down arrow and select a start date of your date range filter.



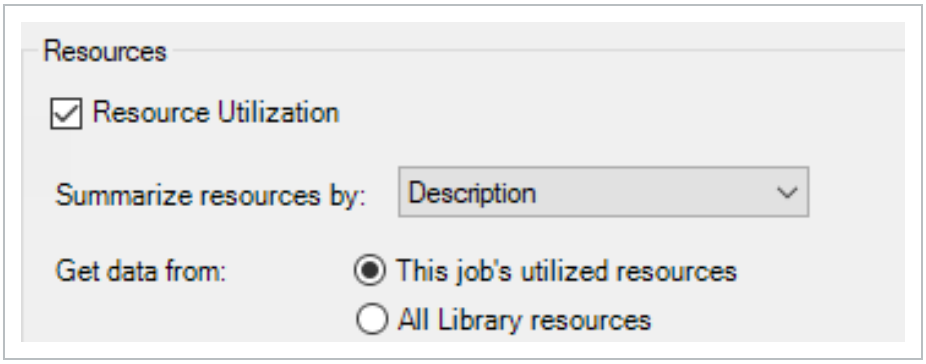
8. Click on the **End** drop-down arrow and select an end date of your date range filter.

- Your graph now only includes your cost items that fall within the specified date range

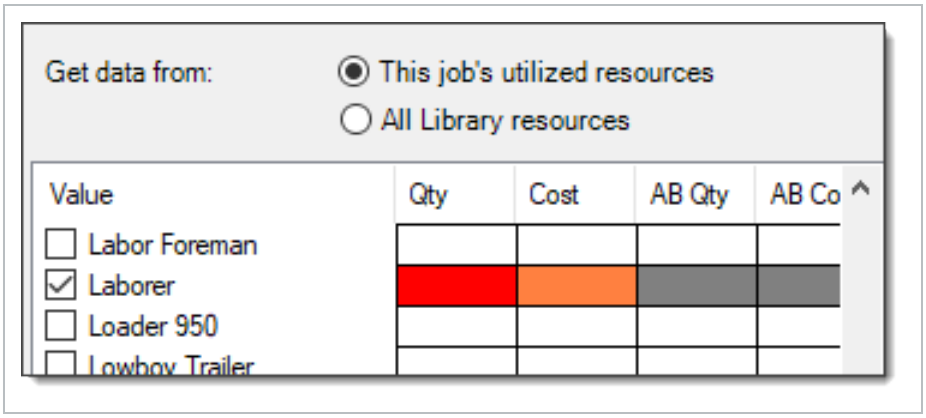
9. To remove the filter, click in the **Start** field and press the **Backspace** key.
10. Do the same for the End field.

STEP BY STEP – RESOURCE UTILIZATION DISPLAY SETUP

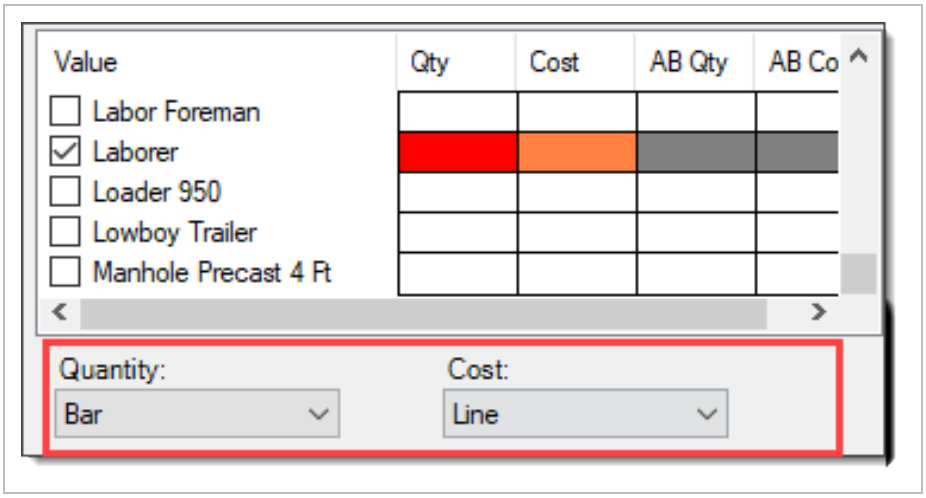
1. In the **E101 – Training Job**, from the Estimate tab, select **CashFlow** from the Schedule section.
2. On the Actions tab, select **Display Settings** to open the Display Settings window**.**
3. Make sure the all checkboxes are unchecked under the Cost Items and Cost Categories sections.
4. Under the Resources section, check the **Resource Utilization** checkbox.
5. From the Summarize resources by drop-down list, select **Description**.



6. From the resulting list of Values, select **Laborer**.
7. Click in the **Qty** field for the selected value and select a color of your choice.
   - In this case the Qty represents the work hours for your Laborer resource
8. Click in the **Cost** field for the selected value and select a different color of your choice.

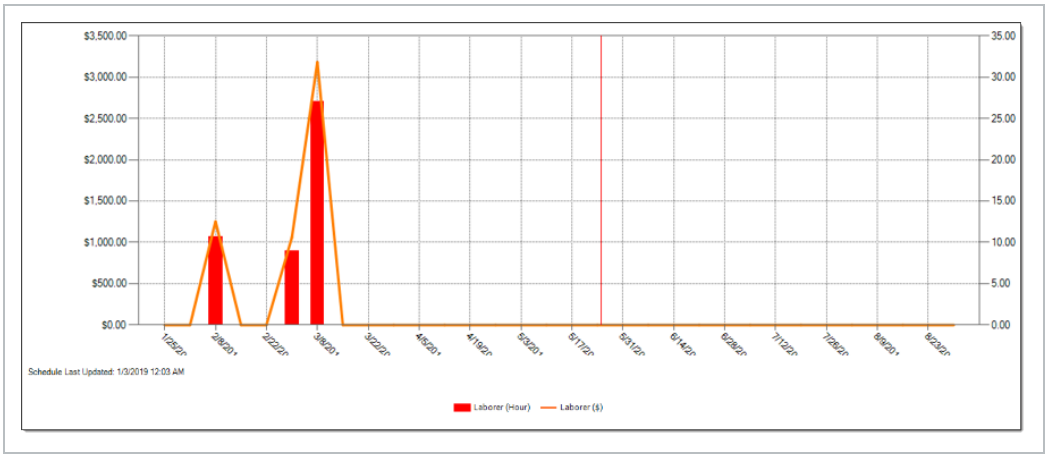


9. From the **Quantity and Cost** drop down lists, you can select how your quantities and costs will display on the graph. In this case select the Quantity to display as a **Bar** and Cost to display as a **Line**.



10. Click **OK** to close the Display Settings window.

    - The graph now displays the utilization of your Laborer resource, showing the work hours and costs used over time



The graphs displayed on the Cash Flow form are based on the estimated cost of each cost item and its resource employments (in the case of resource utilization).

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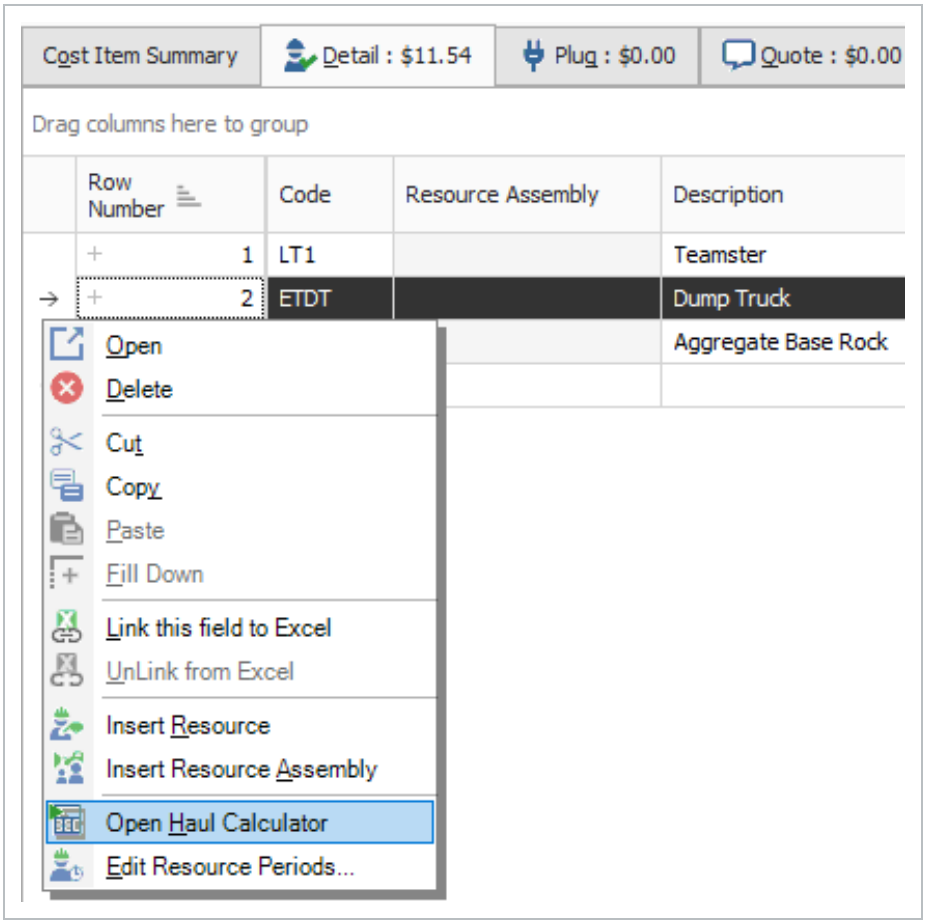
LESSON 13 - HAUL CALCULATOR

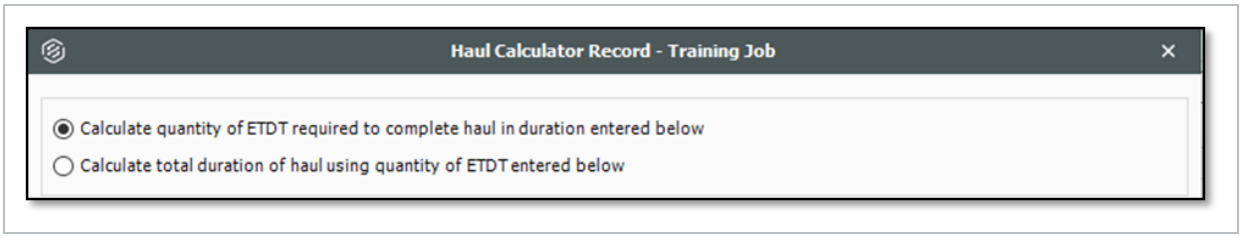
STEP BY STEP – HAUL CALCULATOR - CALCULATE QUANTITY OF TRUCKS

1. Open the **Training Job** and from the Estimate tab, select **Cost Breakdown Structure**.
2. Open cost item **4.1 – Furnish & Haul Base Material**.
3. On the Cost Item Record, click the **Detail tab**.
4. Right click on the **ETDT – Dump Truck** row header and select **Open Haul Calculator**.

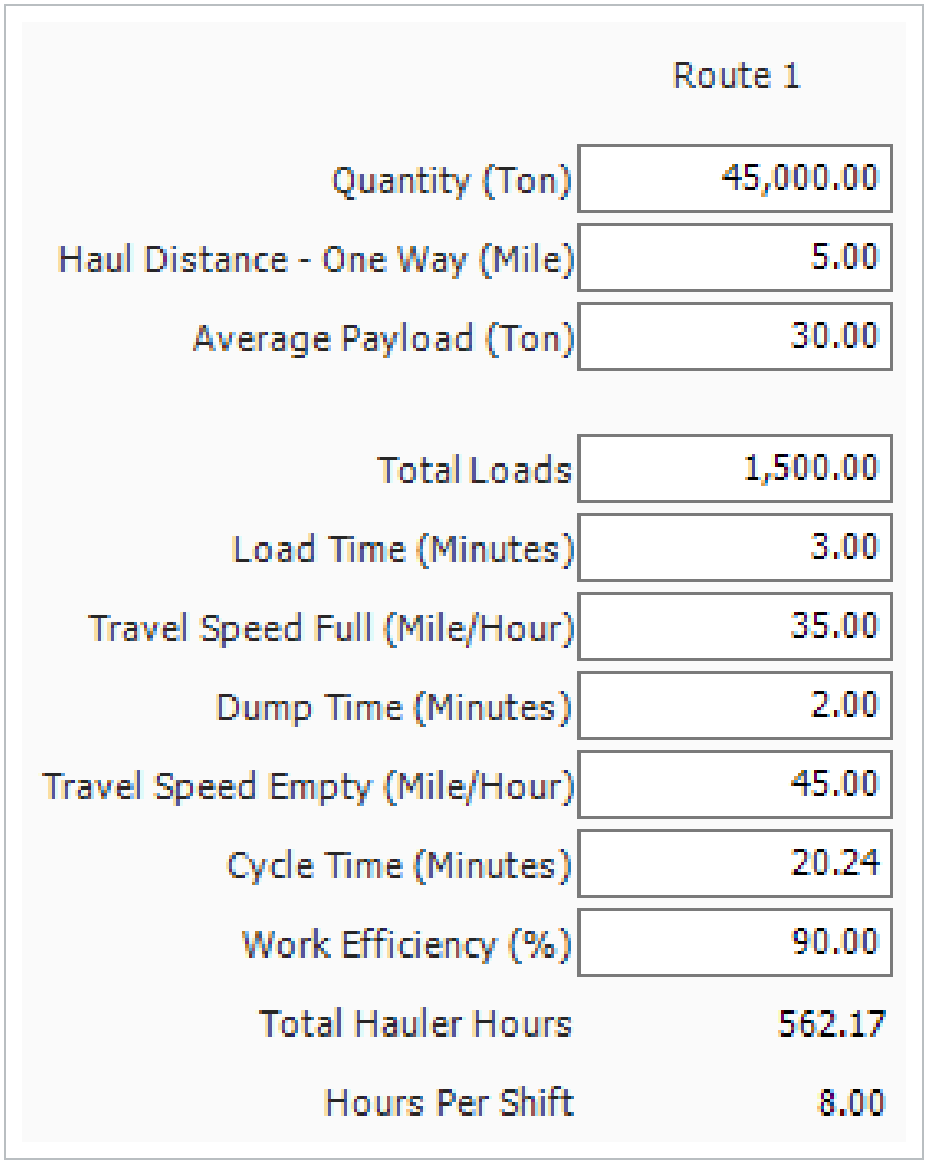


5. On the Haul Calculator, select the **Calculate quantity of ETDT required to complete haul in duration entered below** radio button. (ETDT is the resource code for the Dump Truck you

selected.)

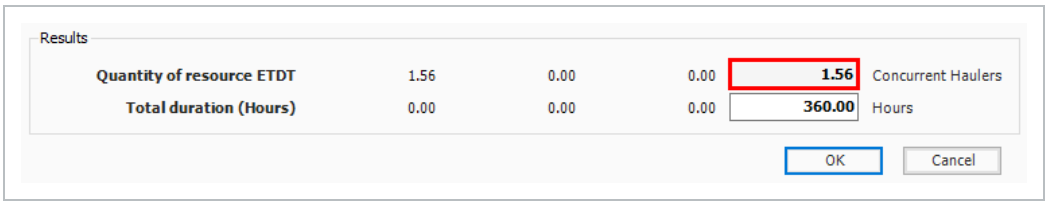


6. For the **Haul Distance**, type **5**.
7. Enter an **Average Payload (Ton)** of **30**.
8. For **Load Time (Minutes)**, type **3**.
9. Enter a **Travel Speed Full** of **35** Mile/Hour.
10. For **Dump Time (Minutes)**, type **2**.
11. Enter a **Travel Speed Empty** of **45** Mile/Hour. Notice this calculates a cycle time of 20.24.
12. Enter a **Work Efficiency** of **90 percent**.



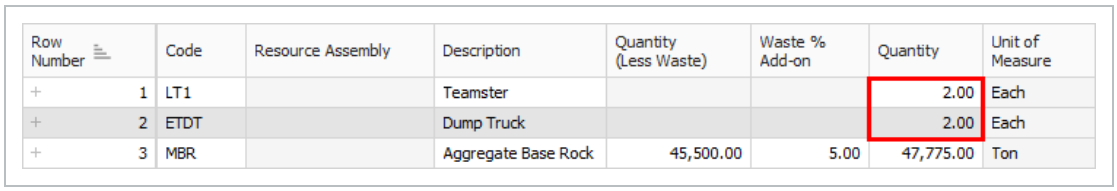
	Route 1
Quantity (Ton)	45,000.00
Haul Distance - One Way (Mile)	5.00
Average Payload (Ton)	30.00
Total Loads	1,500.00
Load Time (Minutes)	3.00
Travel Speed Full (Mile/Hour)	35.00
Dump Time (Minutes)	2.00
Travel Speed Empty (Mile/Hour)	45.00
Cycle Time (Minutes)	20.24
Work Efficiency (%)	90.00
Total Hauler Hours	562.17
Hours Per Shift	8.00

- The calculator shows a result of 1.56 concurrent haulers



13. Click **OK**.

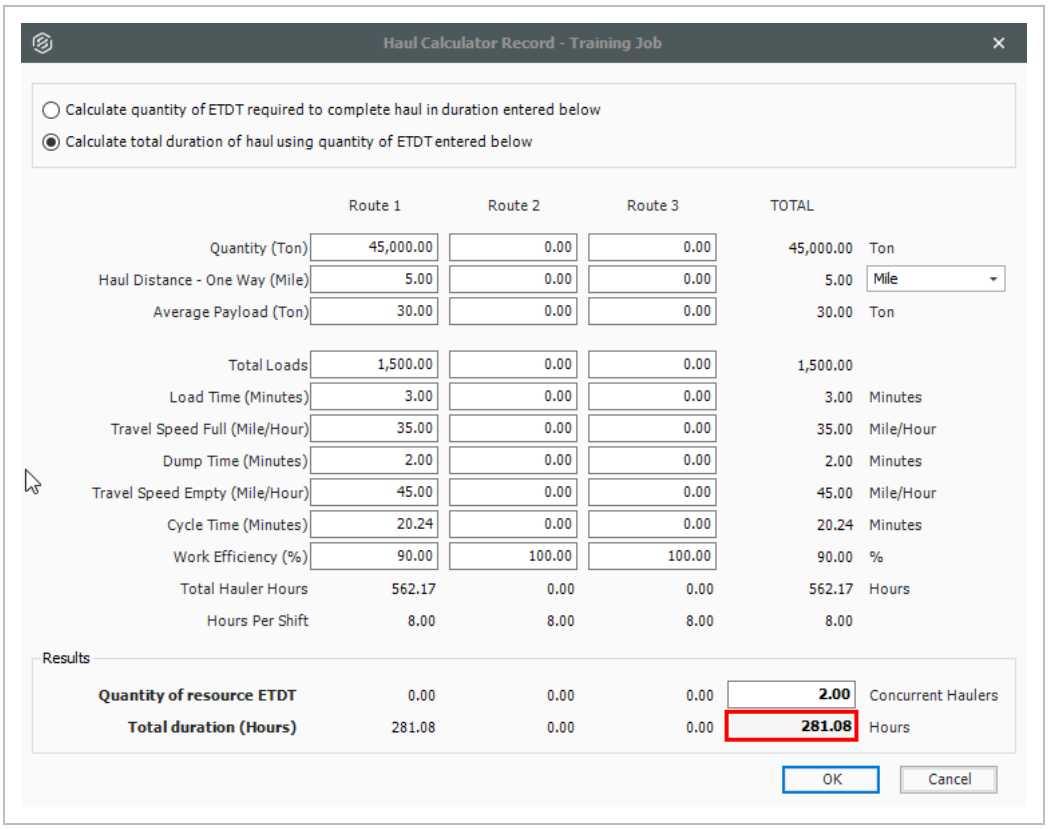
14. Your cost item now shows a quantity of 1.56. Round up the Quantity to **2**. Also, adjust the Teamster Quantity to **2** (if needed).



Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
1	LT1		Teamster			2.00	Each
2	ETDT		Dump Truck			2.00	Each
3	MBR		Aggregate Base Rock	45,500.00	5.00	47,775.00	Ton

STEP BY STEP – HAUL CALCULATOR - CALCULATE TOTAL DURATION

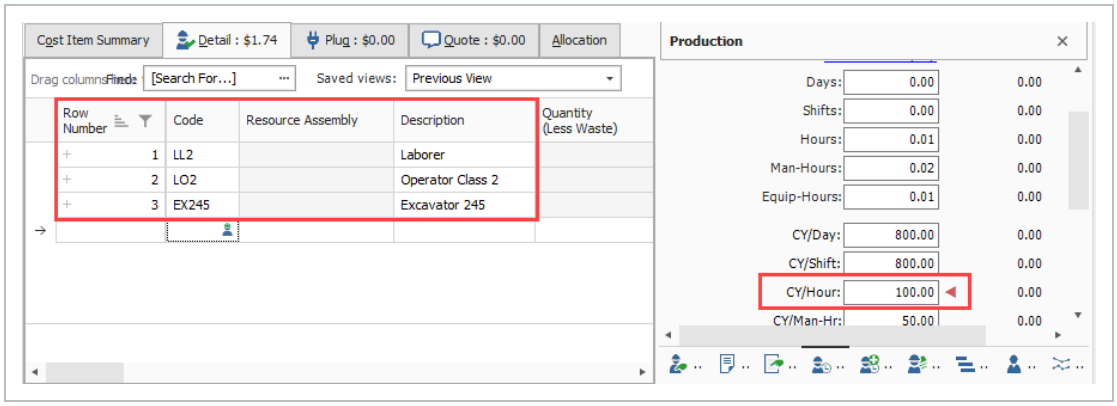
1. Open the **Training Job** and from the Estimate tab, select **Cost Breakdown Structure**.
2. Open cost item **4.1 – Furnish & Haul Base Material**.
3. On the Cost Item Record, click the **Detail** tab.
4. Change your Teamster and Dump Truck quantities back to **2 each**.
5. Right click on the **ETDT – Dump Truck** row header and select **Open Haul Calculator**.
6. On the Haul Calculator, select the **Calculate total duration of haul using quantity of ETDT entered below** radio button.
    - With the previous information you entered still there, the calculator calculates a total duration of 281.08 hours



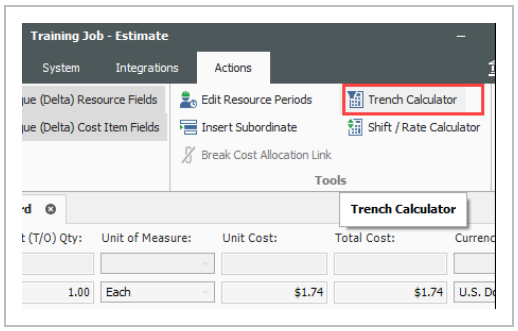
7. Click **OK**.
    - The Hours field on the Production tab updated to 281.08
    - Your ETDT Dump Truck quantity remains at 2

STEP BY STEP – TRENCH CALCULATOR - TRENCH

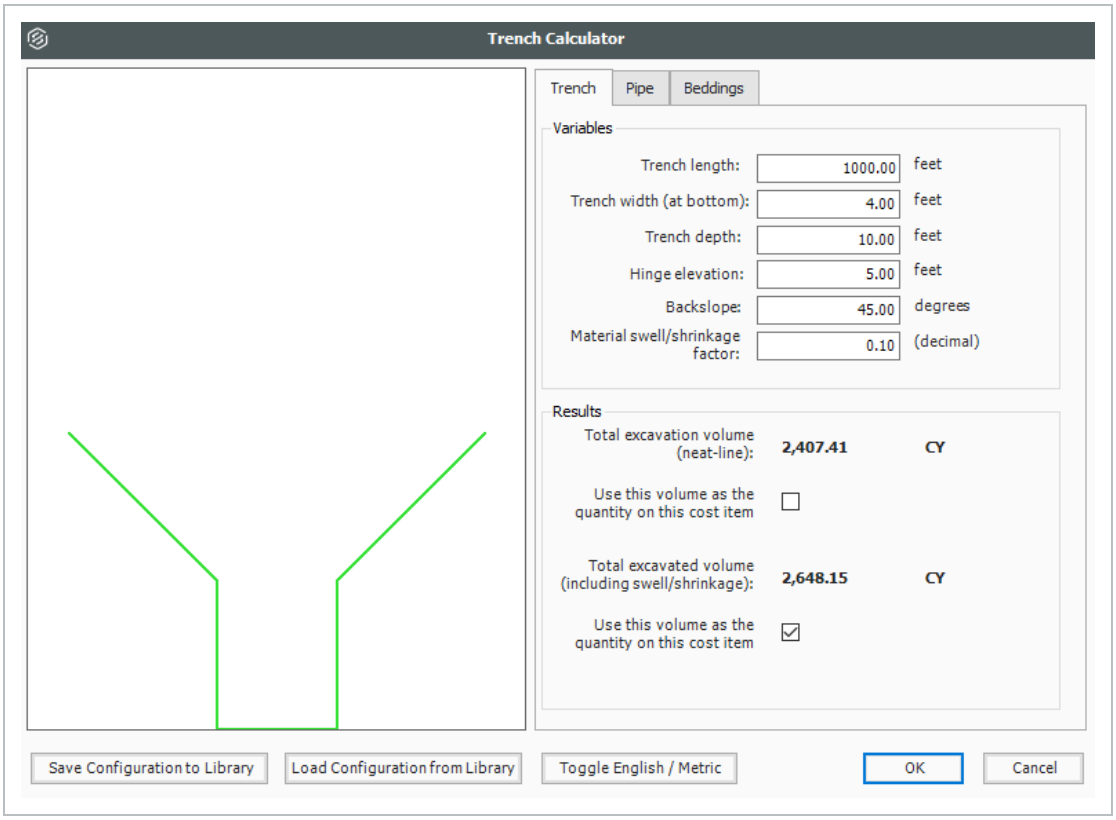
1. Open the **Training Job** and from the Estimate tab, select **Cost Breakdown Structure**.
2. Create a new cost item from the bottom row of your CBS and call it **24" Pipe**.
3. Add the following three subordinates and update their Units of Measure:
   - Excavate Trench: **CY**
   - Install Pipe: **LF**
   - Backfill Trench: **CY**
4. Open the **Excavate Trench** Cost Item Record. Add the following resources:
   - **LL2 Laborer – 1**
   - **LO2 Operator Class 2 – 1**
   - **EX245 Excavator 245 – 1**
5. Adjust the Production to: **100 CY/Hour**.



6. On the Cost Item Record's Actions tab, select **Trench Calculator**.



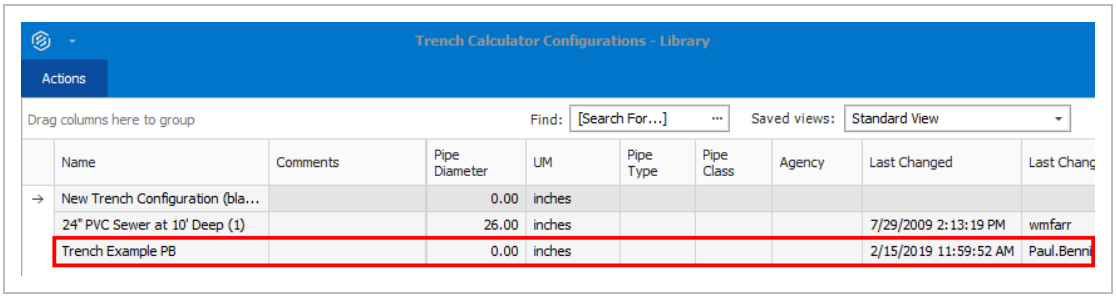
7. For **Trench Length**, type **1000.00** feet.
8. For **Trench Width** (at the bottom) type **4.00** feet.
9. Enter a **Trench Depth** of **10.00** feet.
10. Enter a **Hinge Elevation** of **5.00** feet.
11. Enter a **Backslope** of **45** degrees.
12. Define the **Material Swell/Shrinkage Factor** (fraction expressed as a decimal) at **.10**.
    - You can select either a “neat-line” total volume or include swell/shrinkage
13. Select the “Total excavated volume (including swell/shrinkage)” checkbox.



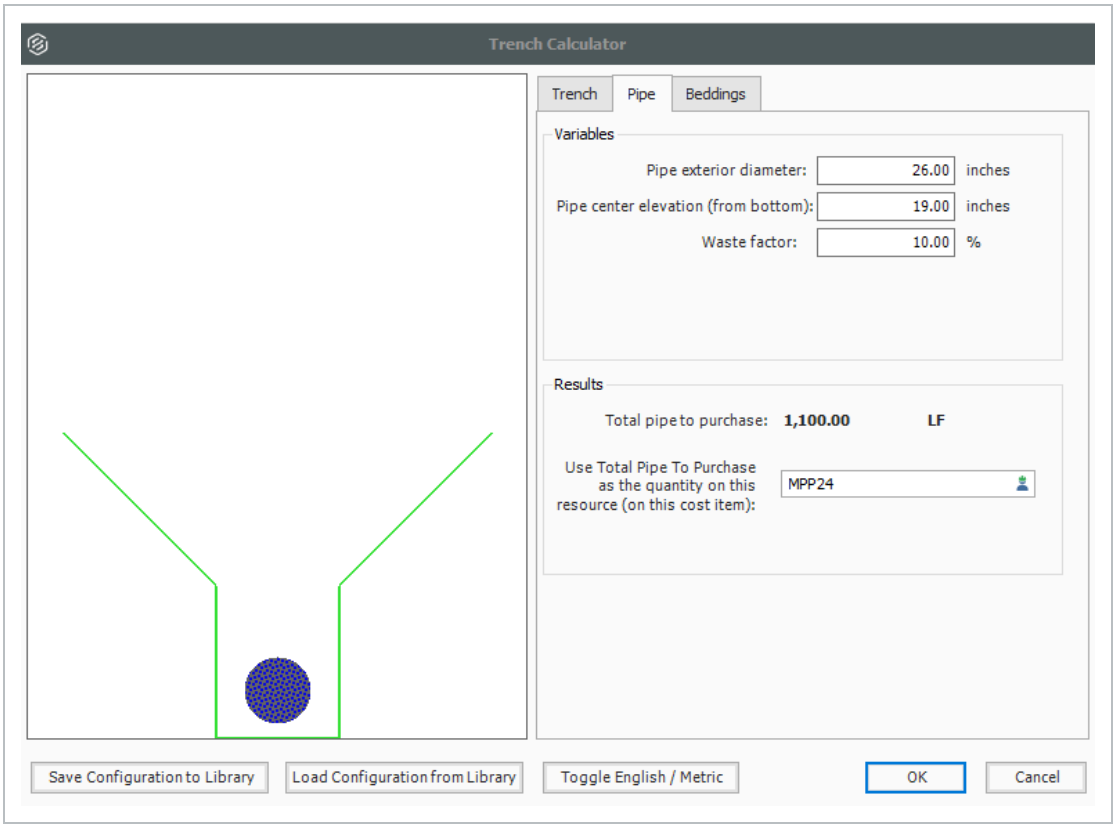
14. Click **Save Configuration to Library** and save the Trench calculator as **Trench Example** with your initials.
15. Click **OK**.

STEP BY STEP – TRENCH CALCULATOR - PIPE

1. On the CBS Register, adjust the Forecast T/O Quantity for the Install Pipe cost item to **1000** LF.
    - Assume this quantity is based off manual take-off calculations you already did
2. Open the **Install Pipe** Cost Item Record.
3. Add the Resource Assembly of **CPIPE - Pipe Crew** and adjust the production to **300** LF / Day.
4. On the Cost Item Record's Actions tab, select **Trench Calculator**.
5. Select **Load Configuration from Library**.
6. Select **Trench Example** (with your initials).



7. Click **OK**.
8. On the Trench Calculator, select the **Pipe** tab.
9. Enter the following for the size and position of the pipe:
    - Pipe exterior diameter: **26.00** inches
    - Pipe center elevation (from bottom): **19.00** inches
    - Waste factor: **10**%
10. Click on the resource icon to pull up the Resource Rate Register.
11. Select the Installed Material tab.
12. Select **MPP24 Pipe 24" PVC SDR35**, then click **OK**.
    - The Pipe variables you entered should match the following image:



13. Click **Save Configuration to Library** and save the Trench calculator as **Trench Example** with your initials.
14. When prompted to overwrite the existing saved file, click **Yes**.
15. Click **OK** to close the Trench Calculator.

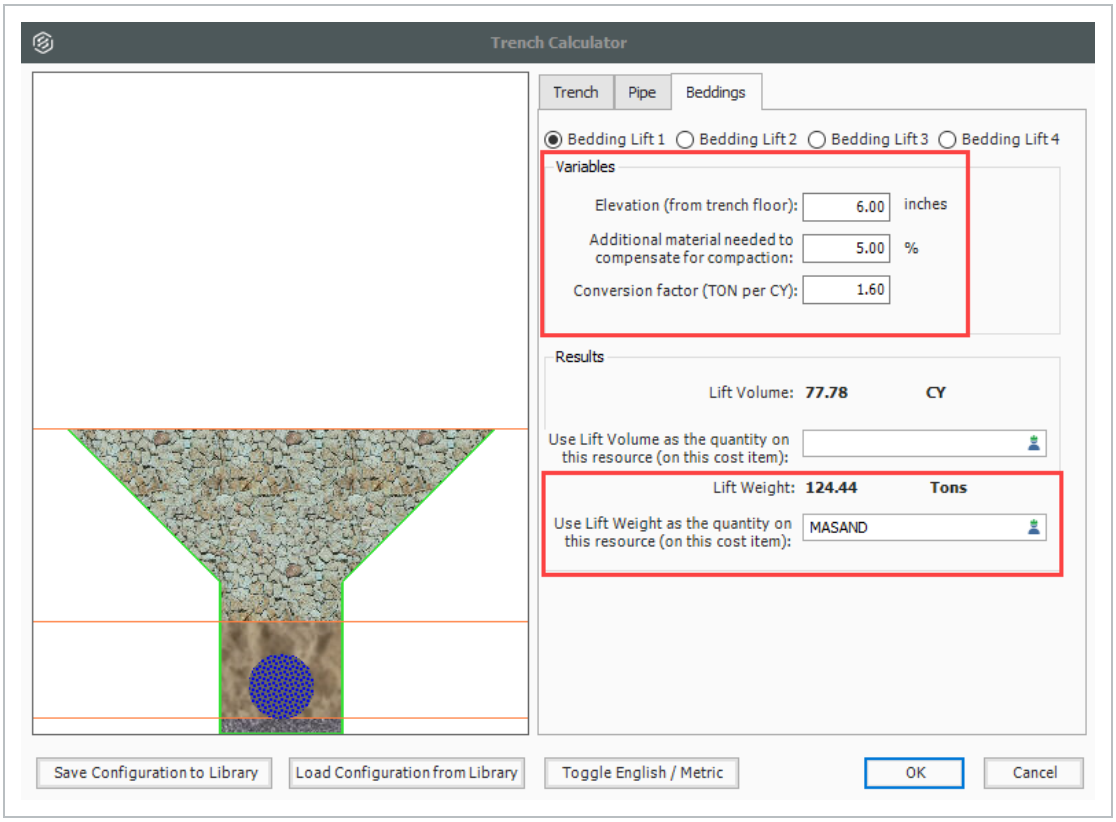
STEP BY STEP – TRENCH CALCULATOR - BEDDINGS

1. Back on the CBS Register, adjust the Forecast T/O Quantity for **Backfill Trench** to **2300** CY, based on manual calculations.
2. Open the **Backfill Trench** Cost Item Record.
3. Add the following resources:
    - **LL2 Laborer – 3**
    - **LO2 Operator Class 2 – 1**
    - **RPC Plate Compactor – 1**
    - **EL950 Loader 950 – 1**
4. Adjust the Production to **160** CY/Day.
5. From the Cost Item Record's Actions tab, select **Trench Calculator**.
6. Select **Load Configuration from Library**
7. Select **Trench Example** (with your initials), then click **OK**.
8. On the Trench Calculator, select the **Beddings** tab.
9. On the Beddings tab, you can define up to four beddings to backfill the trench
    - The variables you enter will determine how much bedding you need
10. Enter the following variables for each bedding:

	Bedding Lift 1	Bedding Lift 2	Bedding Lift 3
Elevation (from trench floor)	6.00	38.00	76.00
Additional material needed	5.00	5.00	5.00
Conversion factor	1.60	1.70	1.60

    - Under Results, you can match each of the Bedding Lifts with a material resource, by selecting the **resource** icon and selecting the resource you want to employ from the Material tab
11. Selecting the resource from the Tons selection field, select the following materials for each bedding:

	Resource Code	Resource Description
Bedding Lift 1	MASAND	Sand
Bedding Lift 2	MAFA	Fine Aggregate
Bedding Lift 3	MACA1-1/2	Coarse Aggregate



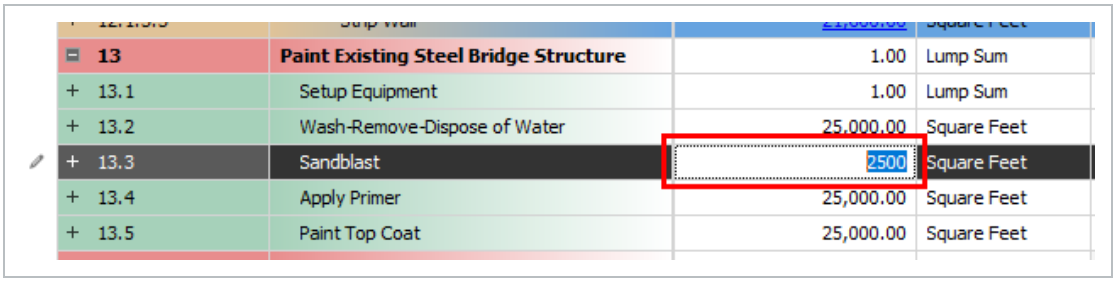
12. Click **OK**.

- Note that the pipe and bedding materials are added to the cost item with their quantities

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
1	LL2		Laborer			3.00	Each
2	LO2		Operator Class 2			1.00	Each
3	RPC		Plate Compactor			1.00	Each
4	EL950		Loader 950			1.00	Each
5	MASAND		Sand	124.44	0.00	124.44	Ton
6	MAFA		Fine Aggregate	593.66	0.00	593.66	Ton
7	MACA1...		Coarse Aggregate ...	3,327.59	0.00	3,327.59	Ton

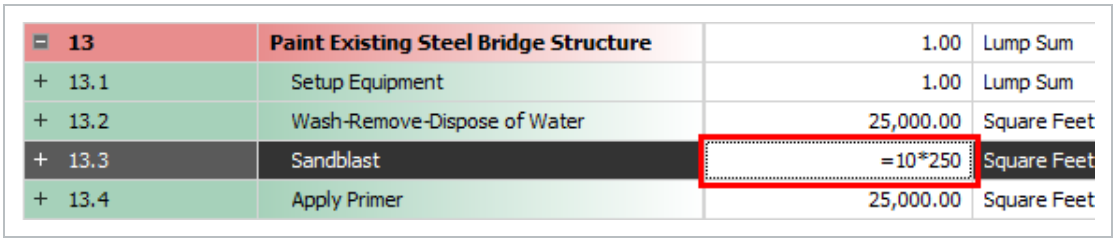
STEP BY STEP – IN-FIELD CALCULATOR

1. Open the **Training Job** and from the Estimate tab, select **Cost Breakdown Structure**.
2. Scroll to find cost item **13.3 Sandblast**.
3. Click in the **Forecast (T/O) Quantity** field.



13	Paint Existing Steel Bridge Structure	1.00	Lump Sum
13.1	Setup Equipment	1.00	Lump Sum
13.2	Wash-Remove-Dispose of Water	25,000.00	Square Feet
13.3	Sandblast	2500	Square Feet
13.4	Apply Primer	25,000.00	Square Feet
13.5	Paint Top Coat	25,000.00	Square Feet

4. Press the **=** key, then type **10*250**.



13	Paint Existing Steel Bridge Structure	1.00	Lump Sum
13.1	Setup Equipment	1.00	Lump Sum
13.2	Wash-Remove-Dispose of Water	25,000.00	Square Feet
13.3	Sandblast	=10*250	Square Feet
13.4	Apply Primer	25,000.00	Square Feet

5. Press the **Tab** key and it calculates the result.