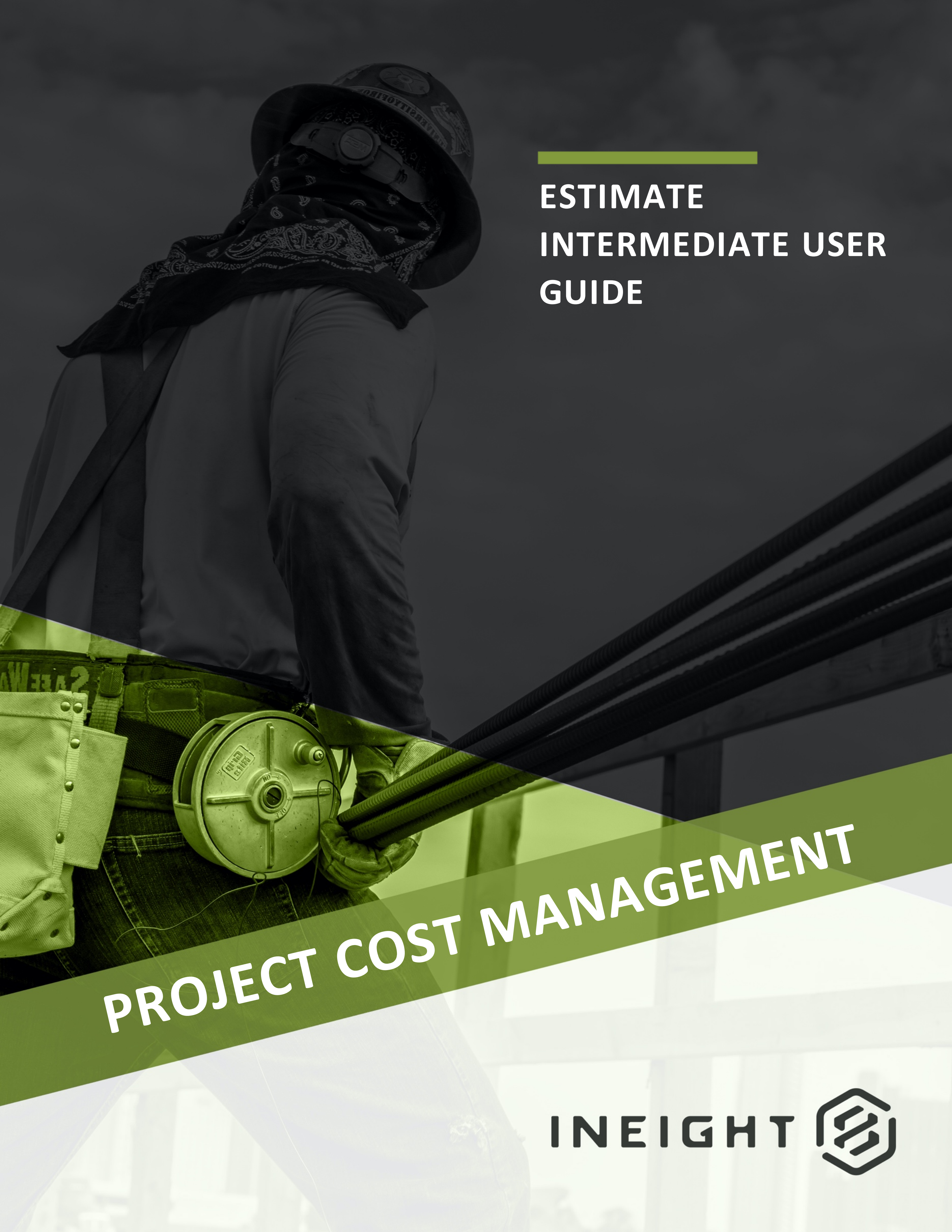

ESTIMATE INTERMEDIATE USER GUIDE

PROJECT COST MANAGEMENT

INEIGHT

Information in this document is subject to change without notice. Companies, names and data used in examples are fictitious.

Release 20.2
Last Updated: 11 August 2021

CONTENTS

STEP-BY-STEP PROCEDURES

EXERCISES

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INTERMEDIATE INTRODUCTION

Course Description

This course covers the concepts and functionality you need to know in order to use the InEight Estimate software successfully. As a result, you will be able to build cost estimates and bid proposals with precision and efficiency.

Course Objectives

As a result of this course, you will be able to use the InEight Estimate software to:

- Review and report on project information
- Integrate with MS Excel and scheduling software (MS Project or Oracle Primavera)
- Manage quotes and use additional time-saving tools

How to Use this Manual

This training manual serves as the working guide during the *E101 Essentials of Project Modeling and Estimating* instructor-led course. The first seven lessons of this document follow a natural progression of putting an estimate together, from set up of a project to finalization of a bid. The remaining lessons cover additional functionality that will help you build and review your project estimate more effectively.

Lessons

The following lessons are covered in this course:

Course Lessons	
Lesson	Topic
Lesson 8	Quote Management
Lesson 9	Reporting
Lesson 10	Data Reproduction
Lesson 11	Excel Integration
Lesson 12	Schedule Integration
Lesson 13	Cash Flow
Lesson 14	InEight Estimate Calculators
Lesson 15	Cost Item Assemblies

Lesson Format

This manual is designed to be a "hands on" learning guide. As such, each lesson is organized into sections:

Section	Description
Objectives	Specify what you will learn in each lesson.
Topics	Organize the subject matter, with explanations of key concepts and terms.
Step by Steps	Walk you through the "mechanics" of how to perform specific functions in the software. For each step by step, you will use the Training Job that comes pre-loaded in the InEight Estimate Estimating software.
Exercises	Allow you to practice and reinforce what you learn. For each exercise, you will use the Training Job that comes pre-loaded in the InEight Estimate Estimating software.
Review	Asks you questions to check what you have learned within each lesson.

Call-Outs

Throughout the document, you will also find important call-out banners.

TIP	Tips are for important notes and information you want to remember.

NOTE	Notes are for critical information you need to know.

Ongoing Use

This manual is also designed to be a comprehensive reference guide you can use outside of the classroom and revisit as needed. Each lesson is compartmentalized so that you can refer back to each lesson as needed.

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InEight® ESTIMATE

LESSON 8 – QUOTE MANAGEMENT

Lesson Duration: 60 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Create and publish RFQs
- Define quote pricing
- Compare and award quotes
- Create and analyze scope items

Lesson Topics

8.1 QUOTE MANAGEMENT OVERVIEW

8.1.1 Quote Management Workflow

When you make the decision to send out RFQs (Requests for Quote), as the estimator you will outline the specifications for the request, select the vendors you wish to contact, and issue the request for quotes.

When you receive quotes back from vendors, you can enter their pricing into InEight Estimate, where you can compare them, award them, and update your CBS costs in one fluid process without the need to re-enter data in multiple locations. InEight Estimate lets you enter multiple vendor quotes to enable price comparison.

TIP Awarding a quote in InEight Estimate does not mean the vendor is awarded the contract, but rather that their price is selected as the carrying cost in the bid.

InEight Estimate provides a built-in workflow for managing your quotes, consisting of three steps:

1. Creating and publishing Requests for Quote (RFQs)
2. Updating quotes with vendor/subcontractor pricing
3. Comparing and awarding quotes

InEight Estimate has a separate form to manage each step:

1. Request for Quote (RFQ) Register
2. Quote Register
3. Quote Comparison & Award

8.1.2 Quotes and Quote Groups

Typically, an estimate contains two types of quotes:

1. Quotes for resources (materials, equipment) purchased or rented from suppliers.
2. Quotes for subcontracted work.

In InEight Estimate, quotes from suppliers are managed at the resource level. In other words, you can use material resources to represent the items purchased from the supplier.

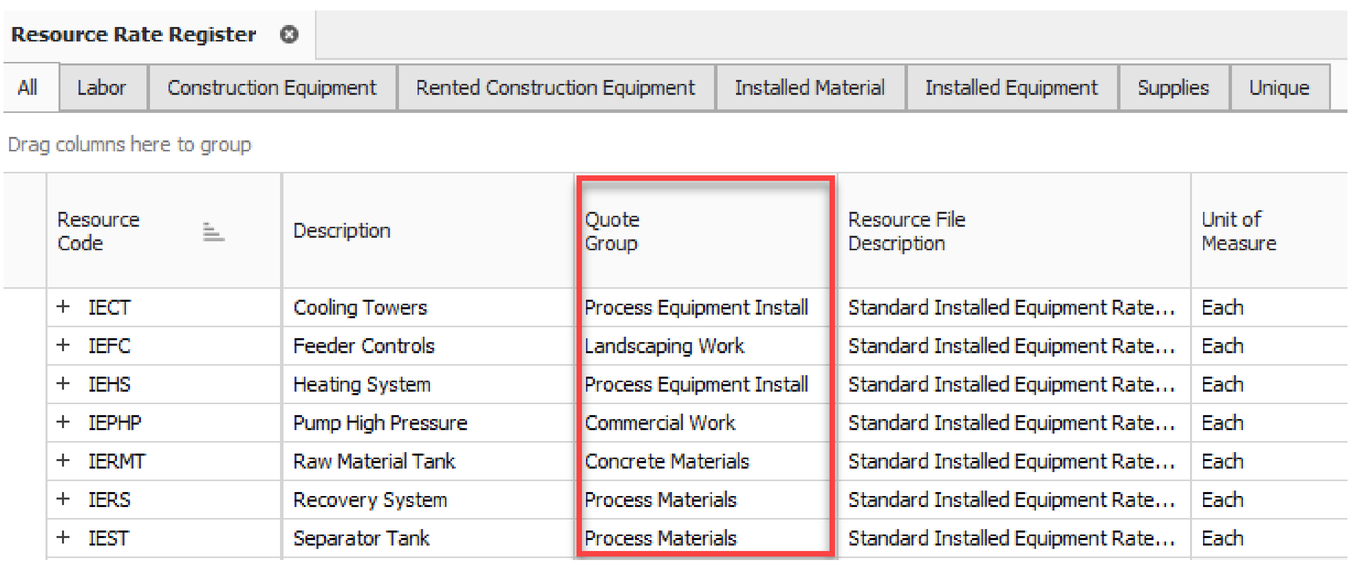
For the cost items in your project that you plan to subcontract, you can manage quotes at the cost item level, using the cost items themselves as the descriptions on the quote request.

You can use Quote Groups to group together multiple resources or cost items that will be sent in an RFQ package. Using quote group tags can save a great deal of time generating packages of items to request quotes for.

8.1.2.1 Resource Level Quote Groups

When sending out quotes, you may want to organize your resources into groups based on the type of material, such as pipe, aggregate, or concrete. When creating Requests for Quote, you will be able to select your pre-defined quote group and it will bring all the related resources along with it. You can assign quote groups using a pre-defined tag called a Quote Group in the Resource Rate Register.

Below is an example of resources with a quote group assigned:



Resource Code	Description	Quote Group	Resource File Description	Unit of Measure
+ IECT	Cooling Towers	Process Equipment Install	Standard Installed Equipment Rate...	Each
+ IEFC	Feeder Controls	Landscaping Work	Standard Installed Equipment Rate...	Each
+ IEHS	Heating System	Process Equipment Install	Standard Installed Equipment Rate...	Each
+ IEPHP	Pump High Pressure	Commercial Work	Standard Installed Equipment Rate...	Each
+ IERMT	Raw Material Tank	Concrete Materials	Standard Installed Equipment Rate...	Each
+ IERS	Recovery System	Process Materials	Standard Installed Equipment Rate...	Each
+ IEST	Separator Tank	Process Materials	Standard Installed Equipment Rate...	Each

8.1.2.2 CBS Level Quote Groups

For your subcontracted items, you can assign quote groups at the cost item level to group together subcontractor work, such as Commercial Work or Landscaping Work. These labels are assigned using a pre-defined tag called Quote Group in the Cost Breakdown Structure register.

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Quote Group
13	**Paint Existing Steel Bridge Structure**	1.00	Lump Sum	Structural Painting
14	**Process Equipment**	1.00	Each	Process Equipment Install
17	**Toll Booth**	1.00	Each	Commercial Work
18	**Guardrail Type 2**	1,000.00	Linear Feet	Guardrail Work
19	**Guardrail Type 3A**	200.00	Linear Feet	Guardrail Work
20	**Type 4 Signs**	1,000.00	Square Feet	Sign Work

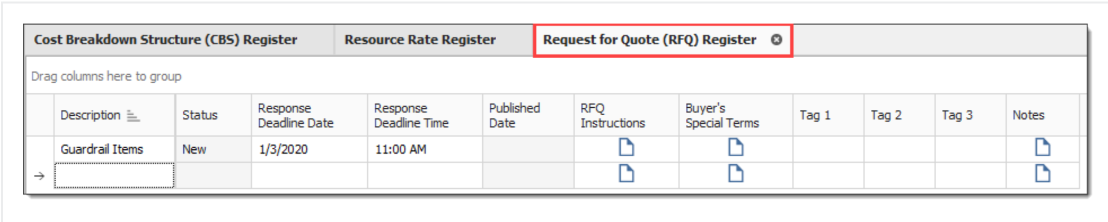
8.2 REQUESTS FOR QUOTE

Requests for Quote (RFQs) are invitations to sellers that include a requested list of items or services/pricing and terms. When you create an RFQ in InEight Estimate, you are able to indicate the line items you want to include in the quote, and the vendor(s) to whom you want to send it.

8.2.1 Request for Quote (RFQ) Register Overview

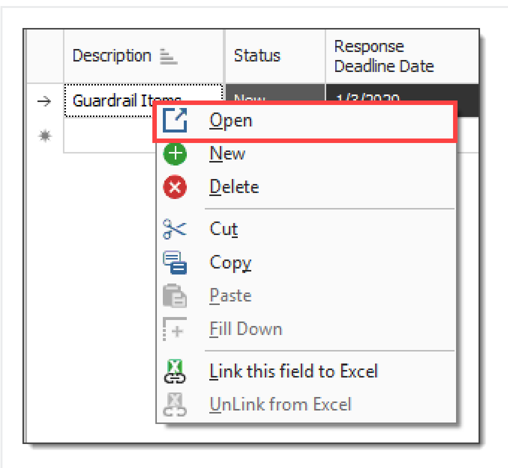
To access the Request for Quote (RFQ) Register, from the InEight Estimate landing page, select the Quote tab, then click on Request for Quote (RFQ).

- The RFQ register lists all of the RFQs you've created, with a Description, a Status, and a Response Deadline Date



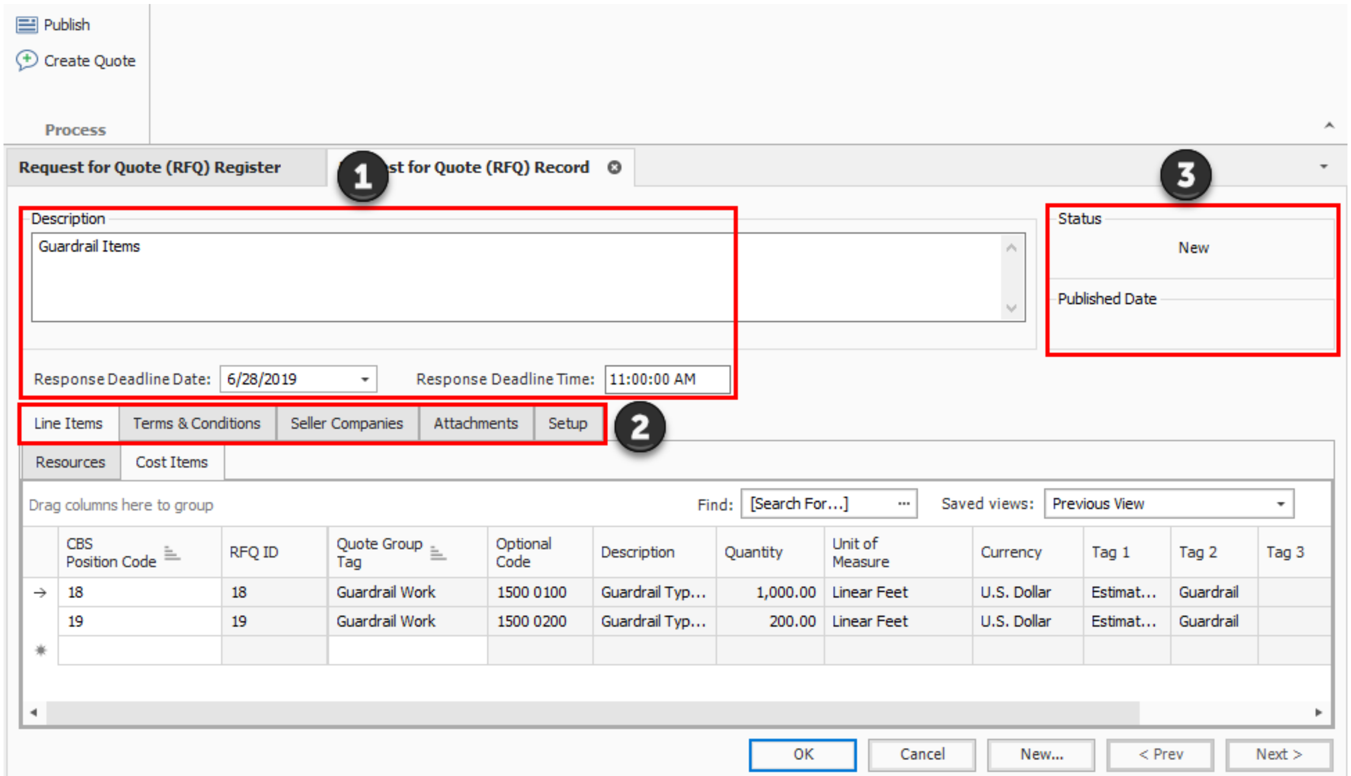
8.2.2 Request for Quote (RFQ) Record

You can double click on the row header, or right-click on any request for quote in the Request for Quote Register and choose **Open** to access an existing Request for Quote (RFQ) Record.



Overview – Request for Quote (RFQ) Record

Name		Definition
1	RFQ Description	Each record contains a Description, Deadline Date and Deadline Time fields to identify the RFQ and indicate when a response is due.
2	RFQ Tabs	The record is organized into tabs where you can define the items for the quote, terms & conditions, and the seller companies to receive the RFQ.
3	Status and Published Data	The Status and Published Date let you know if it is new or published (sent out), and when it was published.

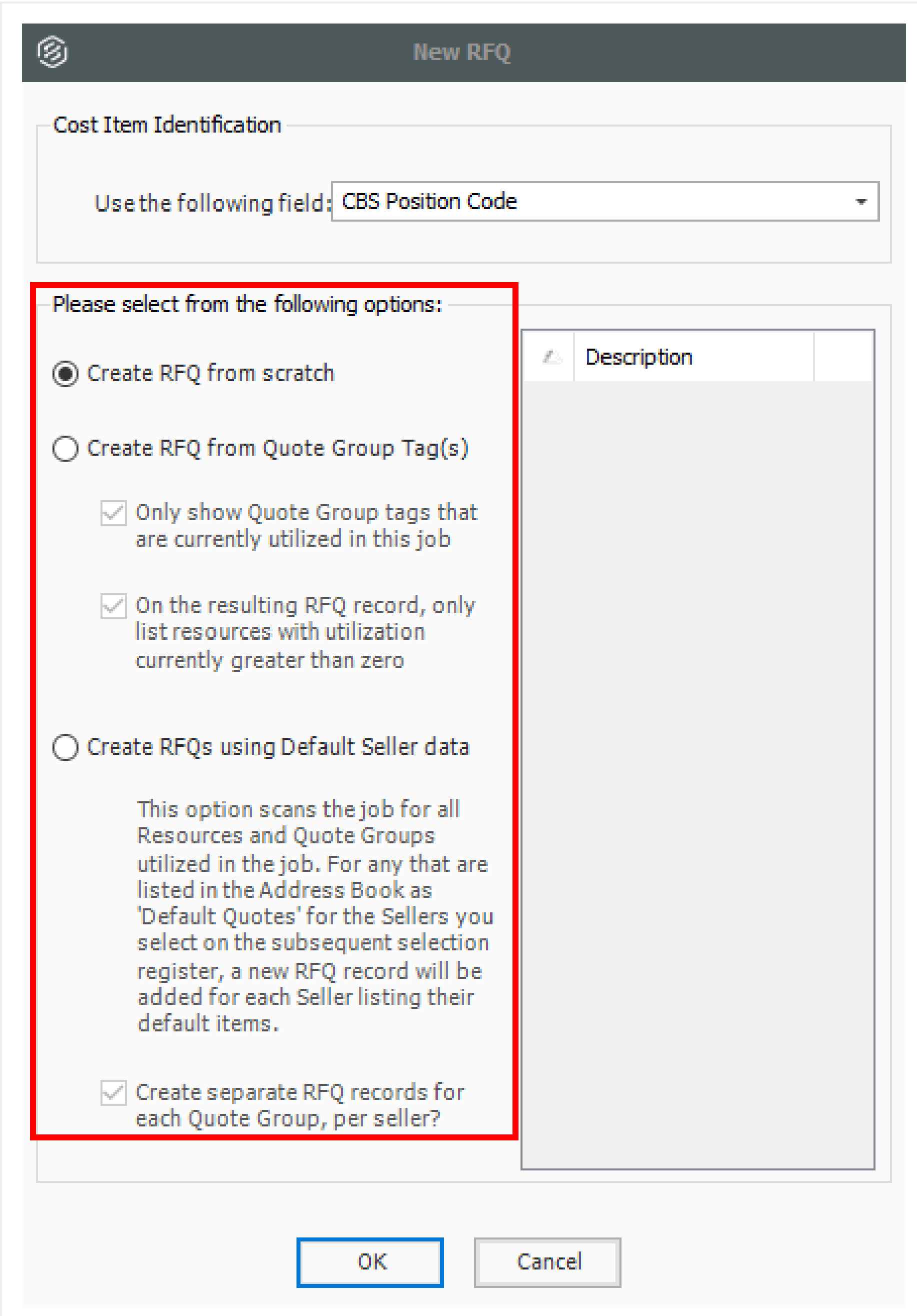


8.2.3 Create an RFQ

When putting together your RFQs, you will be able to select the appropriate material resources and cost items for which you need quotes in your estimate. To create a new RFQ, you have a few options:

- **Create RFQ from scratch**: This creates an empty RFQ Record for you to define
- **Create RFQ from Quote Group Tag(s)**: This option lets you create an RFQ from a quote group so you can add multiple materials or subcontract items at once
- **Create RFQ using Default Seller data**: In your address book you can store vendors with a list of their default materials. This option lets you select the vendor and have it automatically find their

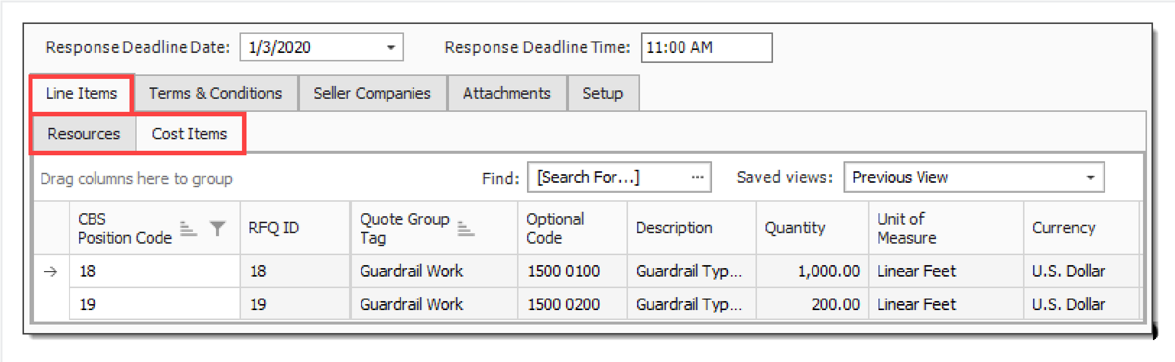
materials in the job



The rest of this section walks through each tab on the RFQ Record in more detail.

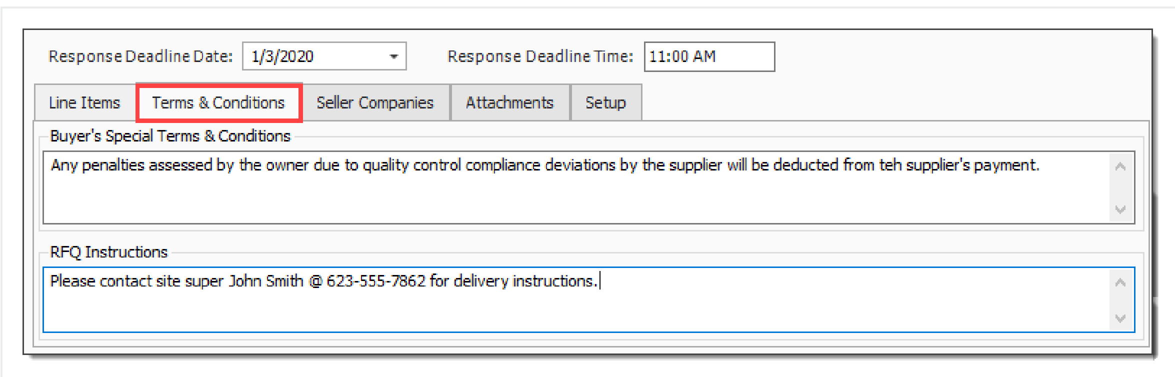
8.2.3.1 Line Items

The Line Items tab lists the resources or cost items selected for the RFQ, including the Description, Quantity, Quote Group, Currency and other user-defined tags.



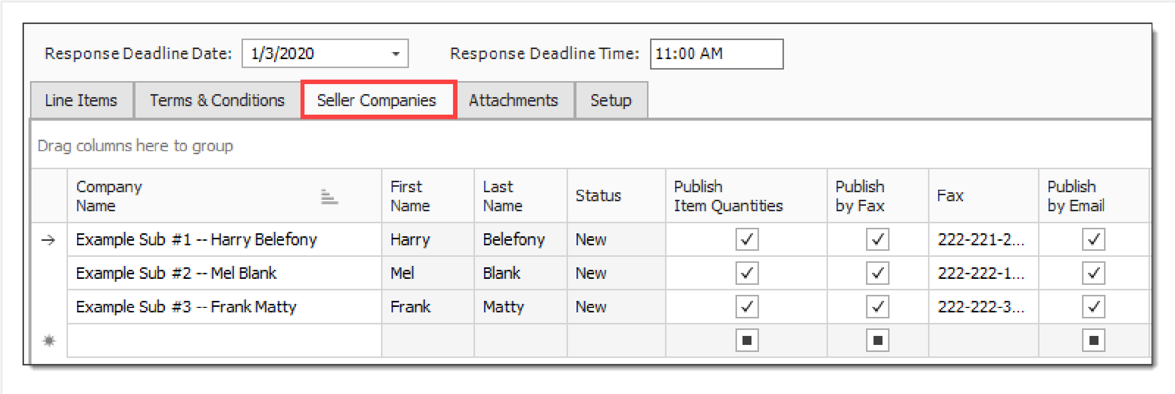
8.2.3.2 Terms & Conditions

This tab provides ample space for you to enter terms, conditions and instructions that need to be included on the RFQ.



8.2.3.3 Seller Companies

You will use the Seller Companies tab to select the suppliers or subcontractors that will be receiving the RFQ. This is done by selecting them from the InEight Estimate Library Address Book. This tab will store all of the pertinent contact information for each seller, including their fax number and/or email address so that you can send them the RFQ.



The following options are particularly noteworthy:

- **Publish Item Quantities**: If you want the RFQ to specify your take-off quantities, select this checkbox. If you want to keep that information to yourself and let the vendors or contractors determine their own quantities, deselect this checkbox
- **Publish by Fax**: If you choose to publish by fax, InEight Estimate creates a Word document with a template filled out. It is ready to print and send, but you have the opportunity to double-check the information before emailing the RFQ

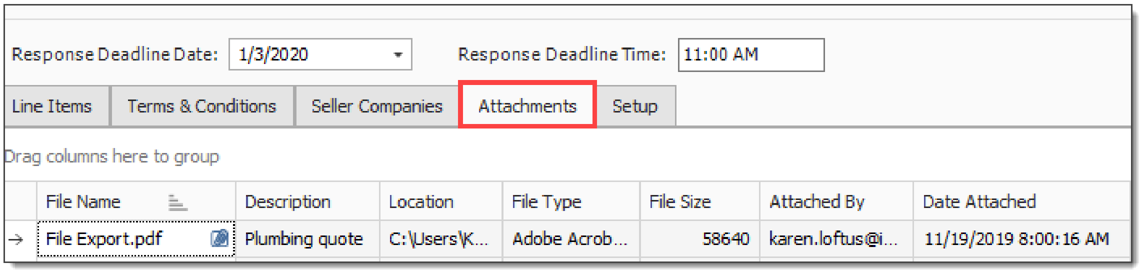
NOTE When RFQs are generated for multiple vendors using the Publish by Fax option, be sure to separate the MS Word document pages and send only the correct pages to each vendor.

- **Publish by Email**: If you choose to publish by email, the Word document is created, the template is filled out, it is attached to an email, and automatically sent to the email address listed for that vendor in the Address Book

NOTE When using the Publish by Email option, the process is automatic and it does not give you the opportunity to double check your information before the RFQ is emailed. For this reason, it is recommended to Publish by Fax, review the information, and then email the RFQ manually.

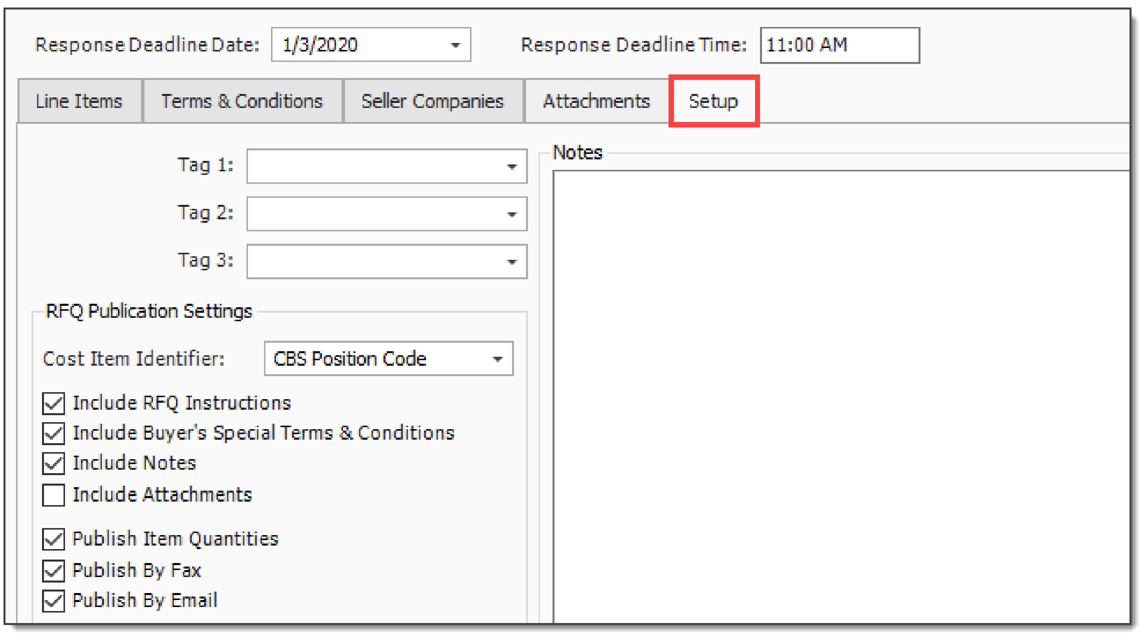
8.2.4 Attachments

This tab allows you to specify any electronic files that need to be attached to the RFQ, such as drawings or specifications for the work.



8.2.5 Setup

The Setup tab lets you indicate what information will display on the published RFQ template, including custom tags. In addition to selecting tags and adding notes on the Setup tab, you can also specify your RFQ Publication Settings and can choose whether you want to include the instructions, special terms and conditions, notes and attachments.



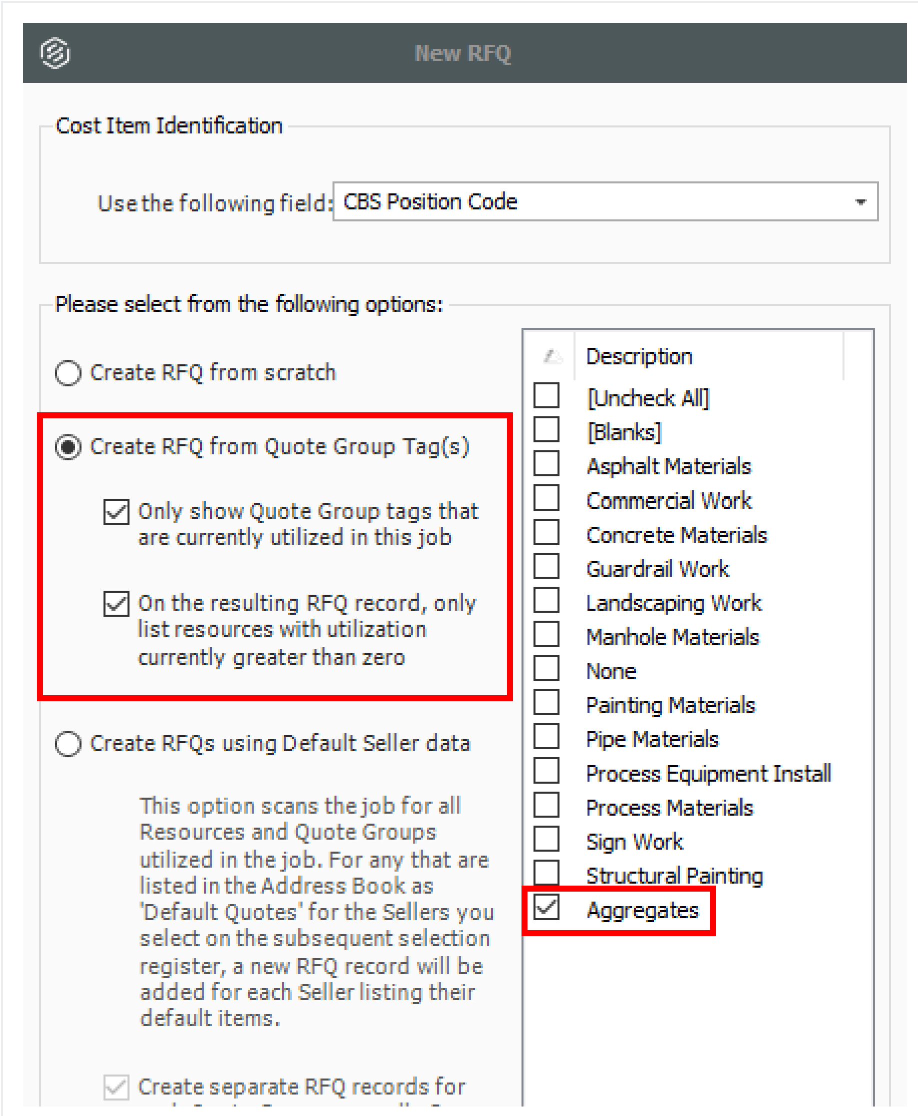
8.2.6 Publish an RFQ

Once created, InEight Estimate allows you to generate a Microsoft Word RFQ template that can be faxed or manually sent via email to the supplier or subcontractor.

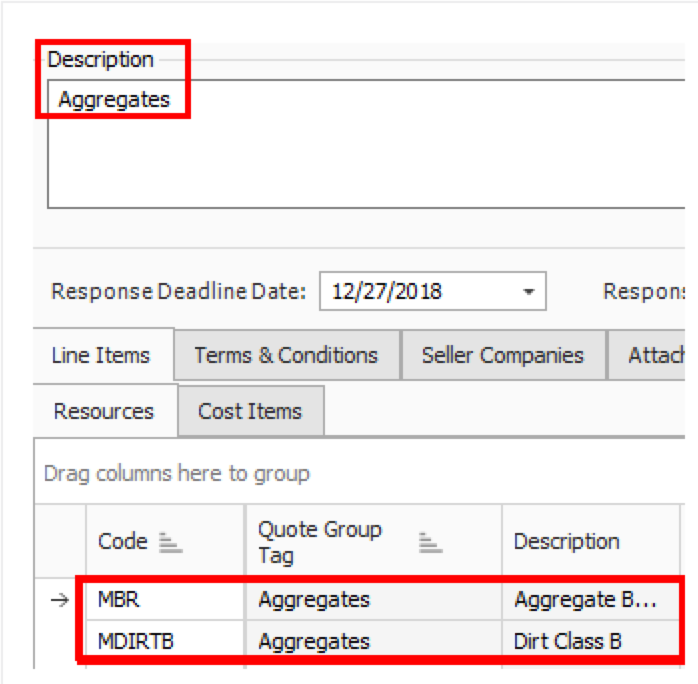
When you complete all of the fields that are required for this RFQ, you are ready to publish the RFQ, To do so, select all of the vendors that you want to receive the RFQ and click **Actions > Publish** on the RFQ Record ribbon.

Step by Step — Create and Publish an RFQ

1. Open your job.
2. From the InEight Estimate landing page, select the **Quote** tab.
3. Select **Request for Quote (RFQ)**.
4. From the Actions tab, click on the **New** icon to create a new RFQ.
5. Select **Create RFQ from Quote Group Tag(s)**, leaving the checkboxes checked to only show quote groups and resources that are being used.
6. Select a **description** from the panel.

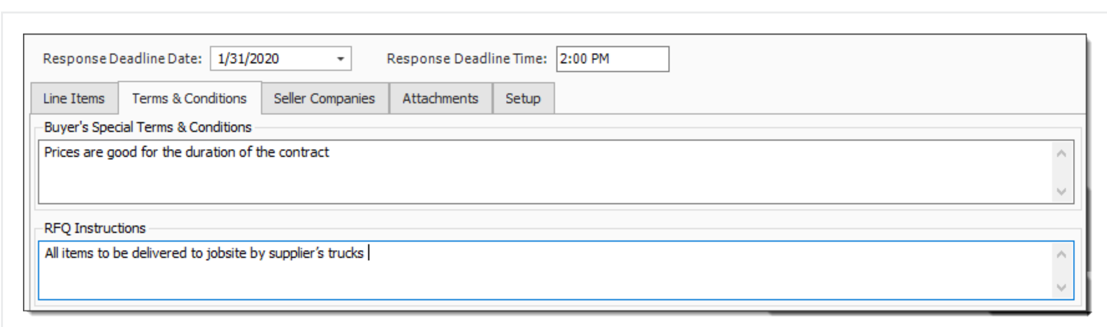


7. Click **OK**.
   - The Request for Quote (RFQ) Record is created with two aggregate line items
   - The Description field is automatically filled with the name of the quote group

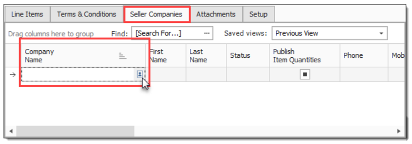


8. In the Response Deadline Date field, select **a date** two weeks from today, and for the Response Deadline Time, type a **time stamp** (e.g. 2:00 pm).

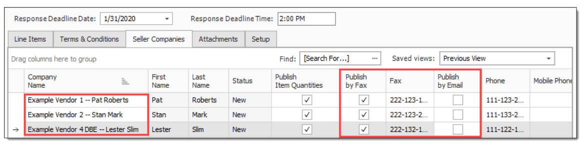
9. Select the **Terms & Conditions** tab.
10. Create and type in any **special conditions** in the Buyer's Special Terms & Conditions field.
11. Type in **instructions** in the RFQ Instructions field.



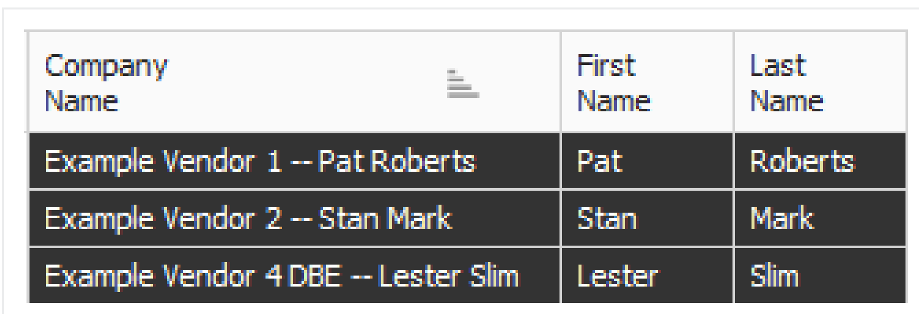
12. Select the **Seller Companies** tab and click in the first blank row in the **Company Name** column.



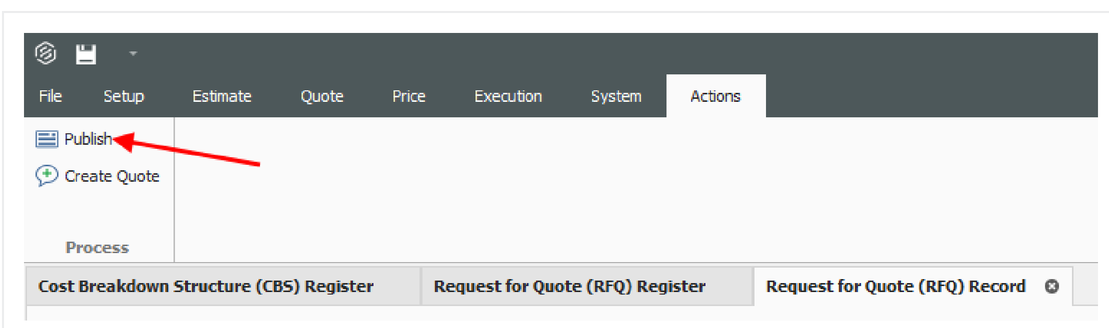
13. Click on the **Address book** icon, and then select vendors.
14. Click **OK**.
15. Make sure **Publish by Fax** is checked for all sellers, and that they all have Fax numbers.
    - Also make sure **Publish by Email** in unchecked for each vendor



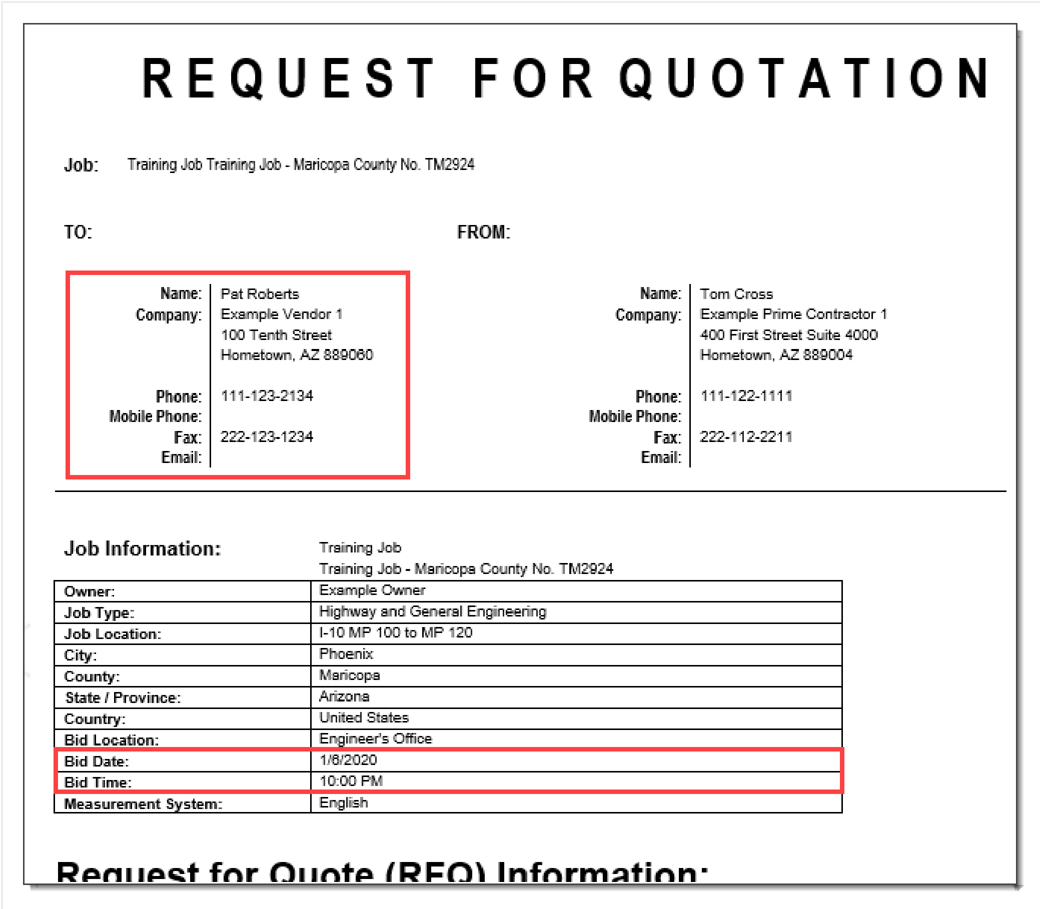
16. Select the sellers to whom you want to send the RFQ.



17. Under the Actions tab of the record, select **Publish** to create your RFQ document.



- MS 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

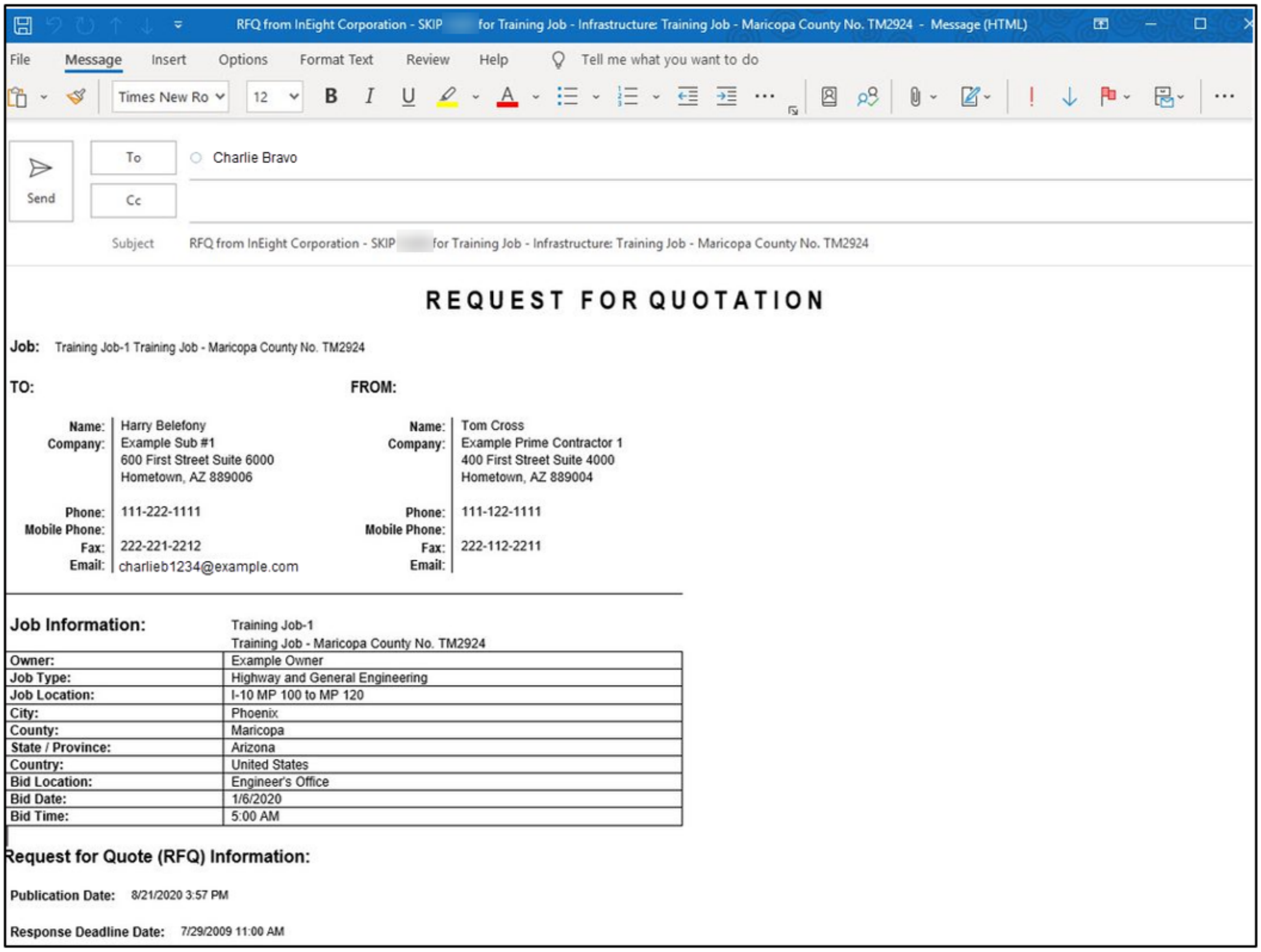
Owner:	Example Owner
Job Type:	Highway and General Engineering
Job Location:	I-10 MP 100 to MP 120
City:	Phoenix
County:	Maricopa
State / Province:	Arizona
Country:	United States
Bid Location:	Engineer's Office
Bid Date:	1/6/2020
Bid Time:	10:00 PM
Measurement System:	English

Request for Quote (RFQ) Information:

18. Click **OK** to save the RFQ Record.

8.2.7 RFQ Email Draft

When sending out Requests for Quotes (RFQ) on a bid, it is essential to be able to effectively communicate the project requirements to potential subs or suppliers to ensure you have good quote coverage within your estimate. Email RFQs open as a draft email message, giving you, the sender, the opportunity to control specifically what is sent and customize the message before sending it out to subs and suppliers.



REQUEST FOR QUOTATION

Job: Training Job-1 Training Job - Maricopa County No. TM2924

TO:

Name: Harry Belefony
Company: Example Sub #1
600 First Street Suite 6000
Hometown, AZ 889006
Phone: 111-222-1111
Mobile Phone:
Fax: 222-221-2212
Email: charlieb1234@example.com

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-1
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:	5:00 AM

Request for Quote (RFQ) Information:

Publication Date: 8/21/2020 3:57 PM

Response Deadline Date: 7/29/2009 11:00 AM

8.3 QUOTES

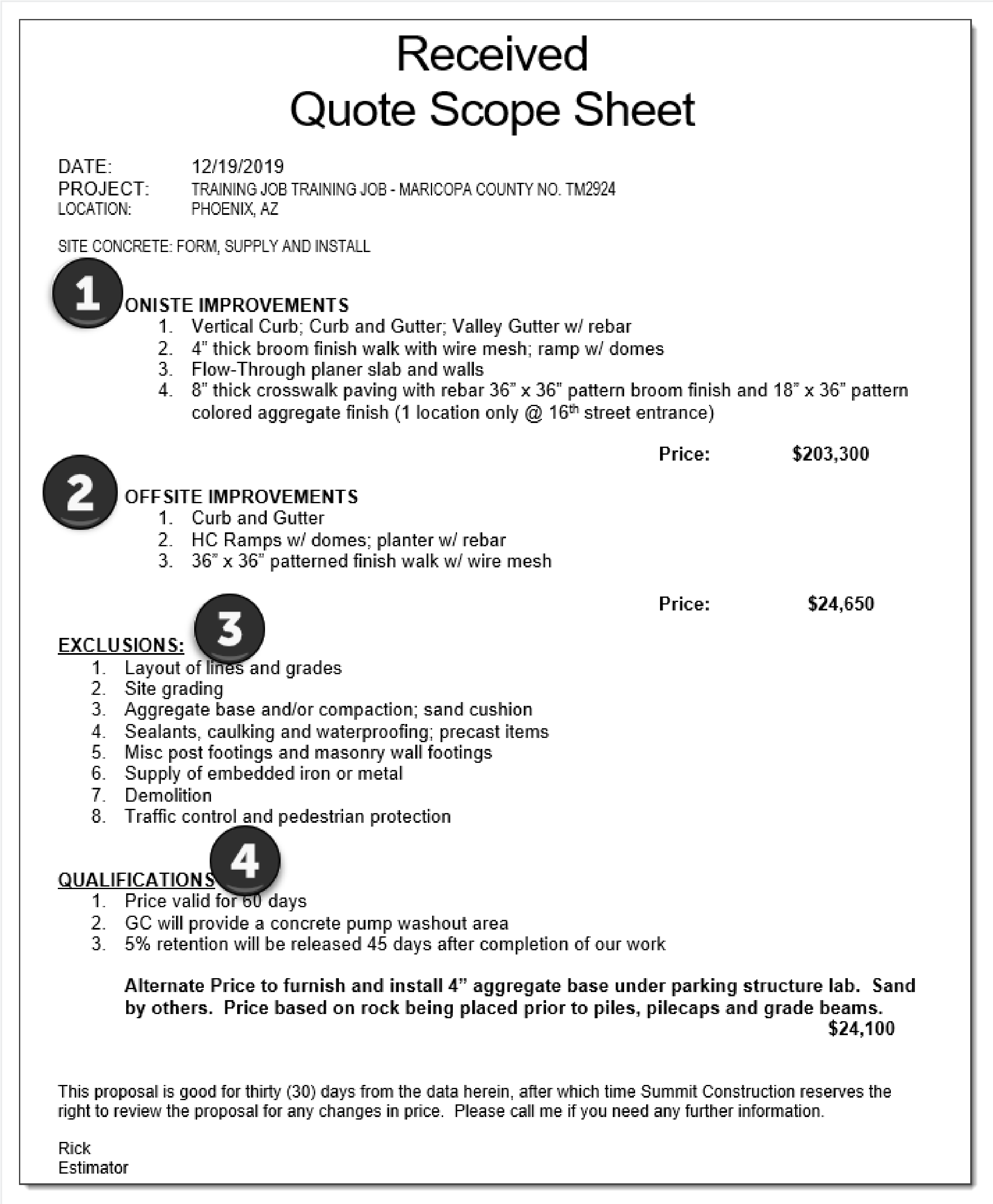
When you receive responses to your RFQ, the next step is to enter their pricing in the Quote Register. The Quote Register stores all of the quotes you have for that job. Each quote has a Description and a Quote Status, and each quote displays seller contact information.

In this case, an estimator in charge of receiving quotes would need to determine how best to input these quotes within the Quote register.

8.3.1 Sample Received Quote Scope Sheet

Overview – Received Quote Scope Sheet

Name		Description
1	Section one	Scope item one includes 4 items the subcontractor has considered as work to be done onsite. You may want to consider adding all 4 items as individual quotes. Then creating a package identifying these quotes as on-site work, totaling $203,000.
2	Section two	Scope item two includes 3 items the subcontractor has considered as work to be done offsite. You may want to consider adding all 3 items as individual quotes. Then creating a package identifying these quotes as offsite work, totaling $24,650.
3	Exclusions	The subcontractor is showing 9 items they excluded from their scope of responsibility.
4	Qualifications	The subcontractor has included 3 stipulations pertaining to this bid. If selected all 3 are considered accepted terms.



Received
Quote Scope Sheet

DATE: 12/19/2019
PROJECT: TRAINING JOB TRAINING JOB - MARICOPA COUNTY NO. TM2924
LOCATION: PHOENIX, AZ

SITE CONCRETE: FORM, SUPPLY AND INSTALL

1 **ONISTE IMPROVEMENTS**
1. Vertical Curb; Curb and Gutter; Valley Gutter w/ rebar
2. 4" thick broom finish walk with wire mesh; ramp w/ domes
3. Flow-Through planer slab and walls
4. 8" thick crosswalk paving with rebar 36" x 36" pattern broom finish and 18" x 36" pattern colored aggregate finish (1 location only @ 16th street entrance)

Price: $203,300

2 **OFFSITE IMPROVEMENTS**
1. Curb and Gutter
2. HC Ramps w/ domes; planter w/ rebar
3. 36" x 36" patterned finish walk w/ wire mesh

Price: $24,650

EXCLUSIONS: 3
1. Layout of lines and grades
2. Site grading
3. Aggregate base and/or compaction; sand cushion
4. Sealants, caulking and waterproofing; precast items
5. Misc post footings and masonry wall footings
6. Supply of embedded iron or metal
7. Demolition
8. Traffic control and pedestrian protection

QUALIFICATIONS 4
1. Price valid for 60 days
2. GC will provide a concrete pump washout area
3. 5% retention will be released 45 days after completion of our work

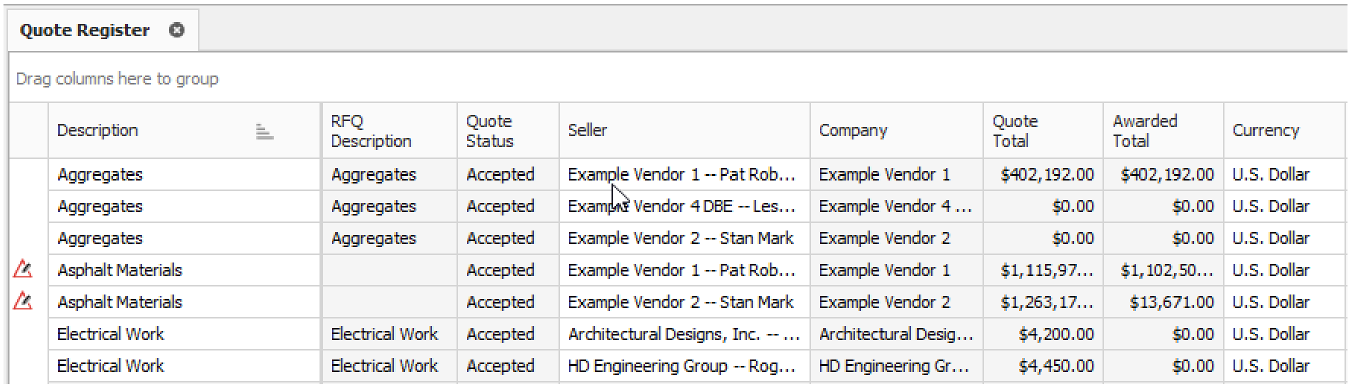
Alternate Price to furnish and install 4" aggregate base under parking structure lab. Sand by others. Price based on rock being placed prior to piles, pilecaps and grade beams.
$24,100

This proposal is good for thirty (30) days from the data herein, after which time Summit Construction reserves the right to review the proposal for any changes in price. Please call me if you need any further information.

Rick
Estimator

8.3.2 Quote Register Overview

To access the Quote Register, choose **Quote > Quotes** on the main InEight Estimate menu or click the **Quotes** icon on the toolbar.



Quote Register

Drag columns here to group

Description	RFQ Description	Quote Status	Seller	Company	Quote Total	Awarded Total	Currency
Aggregates	Aggregates	Accepted	Example Vendor 1 -- Pat Rob...	Example Vendor 1	$402,192.00	$402,192.00	U.S. Dollar
Aggregates	Aggregates	Accepted	Example Vendor 4 DBE -- Les...	Example Vendor 4 ...	$0.00	$0.00	U.S. Dollar
Aggregates	Aggregates	Accepted	Example Vendor 2 -- Stan Mark	Example Vendor 2	$0.00	$0.00	U.S. Dollar
Asphalt Materials		Accepted	Example Vendor 1 -- Pat Rob...	Example Vendor 1	$1,115,97...	$1,102,50...	U.S. Dollar
Asphalt Materials		Accepted	Example Vendor 2 -- Stan Mark	Example Vendor 2	$1,263,17...	$13,671.00	U.S. Dollar
Electrical Work	Electrical Work	Accepted	Architectural Designs, Inc. -- ...	Architectural Desig...	$4,200.00	$0.00	U.S. Dollar
Electrical Work	Electrical Work	Accepted	HD Engineering Group -- Rog...	HD Engineering Gr...	$4,450.00	$0.00	U.S. Dollar

8.3.3 Quote Record Overview

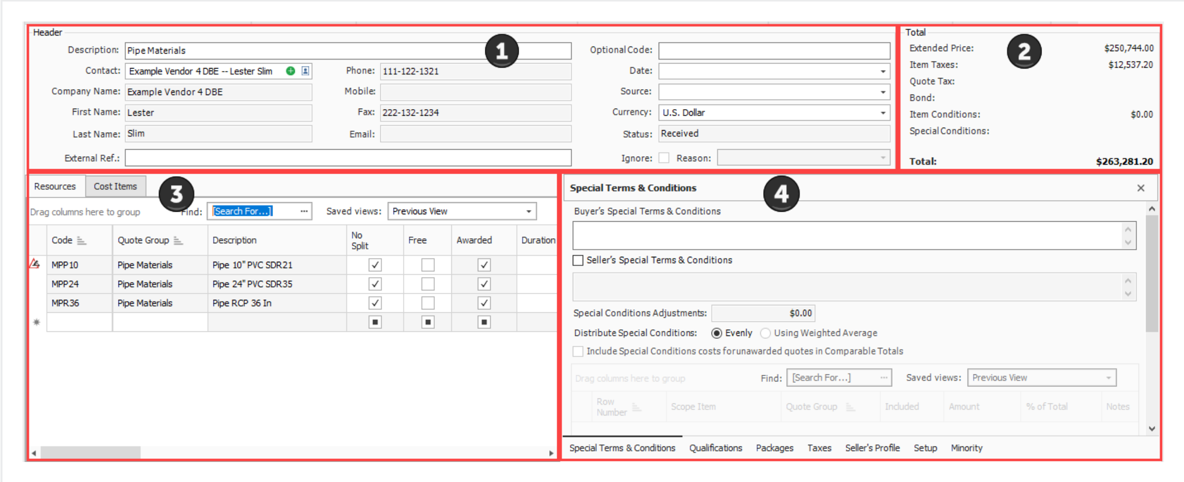
The Quote Record establishes who the vendor is, along with quoted prices and all terms and conditions. Once a requested quote returns, you can either create the quote in InEight Estimate from scratch or convert the original RFQ to a quote and enter the supplier or subcontractor pricing. Each Quote Record contains additional fields and options for managing the quote.

Quote Records utilize data blocks allowing you to reposition tabs, detach tabs into individual windows, and redock tabs in new locations. Using the data blocks layout, you can input and maintain important quote data like Vendor Qualifications and Special Terms & Conditions.

Right click on any existing quote in the Quote Register and choose **Open** to access the Quote Record.

Overview – Quote Record

Name		Description
1	Header block	You can include detailed contact information about the supplier or subcontractor. This automatically fills when you select the seller from the Address Book. The External Ref field can be used to access information specific to the bid/quote.
2	Price block	The Price data block contains a breakdown of pricing information for the quote, including taxes, item conditions, and special conditions.
3	Quote tabs	The tabs at the bottom of the screen hold detailed information regarding the quote.
4	Default Data Blocks	Data blocks include Special Terms & Conditions, Qualifications, Packages, Taxes, Seller's Profile, Setup, and Minority.



8.3.4 Header Block

The Header block portion of the screen is where you enter in description information pertaining to the quote, along with vendor/contractor information.

There is an **External Ref** field you can use as a hyperlink for attaching any supporting bid quote attachments from the vendor/contractor.

On the right portion of the header block is where you enter optional information related to:

- **Optional Code** – a code used to reference the received quote.
- **Date** – date the quote is received.
- **Source** – this is the method by which the quote was received. The options are email, fax, hard copy, phone, and other.
- **Currency** – system of money in general use for a particular country..
- **Ignore** – by ignoring the quote, and providing a reason, the quote will turn grey in the Quote Comparison & Award screen.

8.3.5 Price Block

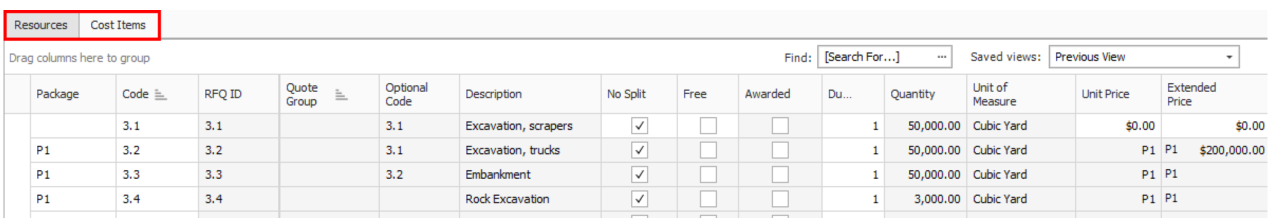
The Price block includes the quotes extended price, along with any additional taxes, bonds, item conditions, and special conditions.

8.3.6 Quote Record Tabs

8.3.6.1 Resources & Cost Items

The Resources & Cost Items tab displays the resources or cost items quoted, along with their estimated quantities and units of measure.

- A Unit Price column is included on this tab for entering the quoted pricing from the seller, either manually or by pasting from an electronic format
- If a Package code is entered, the Unit Price field is greyed out, and the Package code amount is used
- Additional columns are provided for making conditional amount or percentage adjustments to the quote to manage last-minute changes
- A note field is included for explanation changes
- A No Split option indicates that the seller will only provide the quoted goods or services if they are selected to provide all listed items. They will not provide one quoted item without you procuring all others from them as well.
- You can check an item as Free for circumstances where the vendor will include the price of one item with another. Marking the included item(s) as free reminds you there is no quoted price for that item



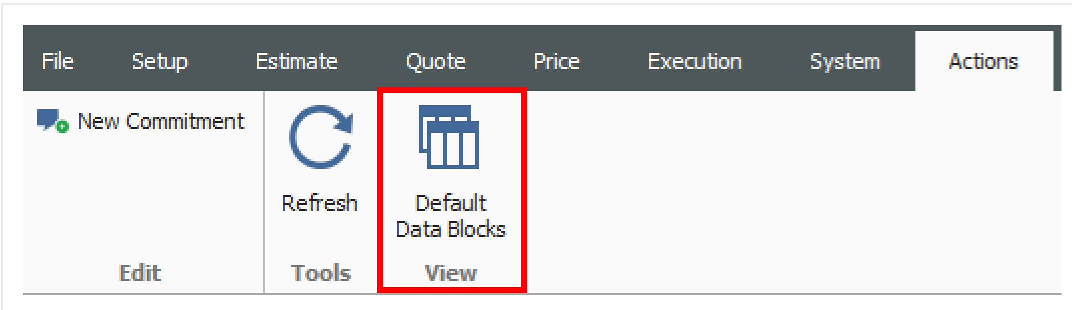
8.3.7 Data Blocks

The Quote Record utilizes data blocks that allows you to customize the layout and focus on data block tabs that matter most to you. You can select the default data block action in the ribbon to revert back to the default setting, which shows all six data blocks.

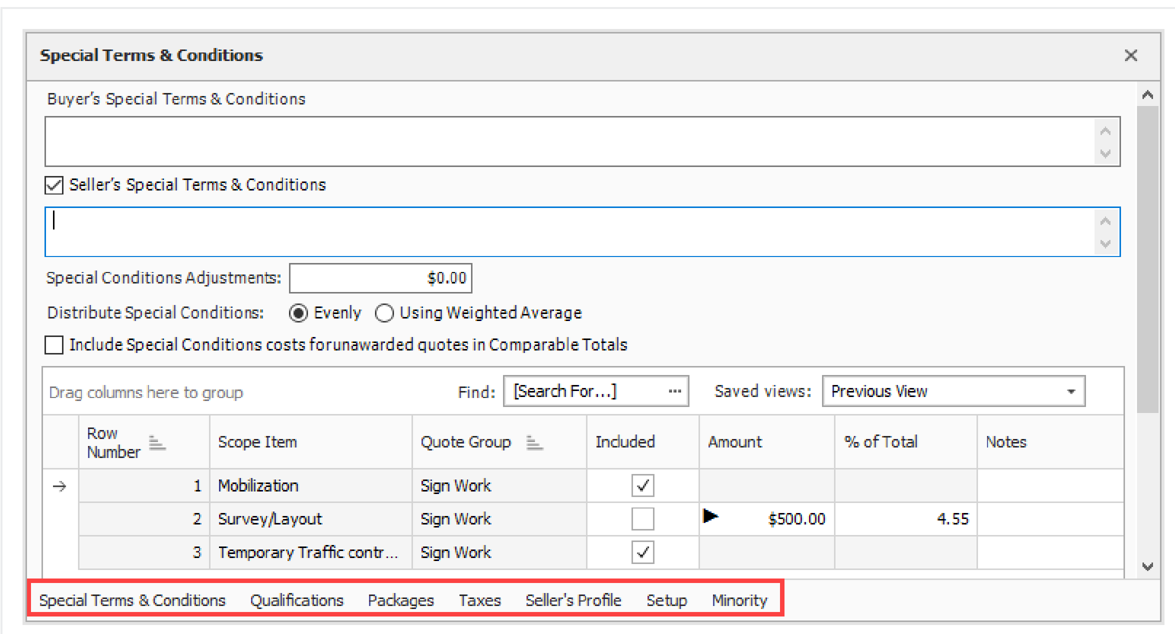
Data Block tabs include:

- Special Terms & Conditions
- Qualifications
- Packages

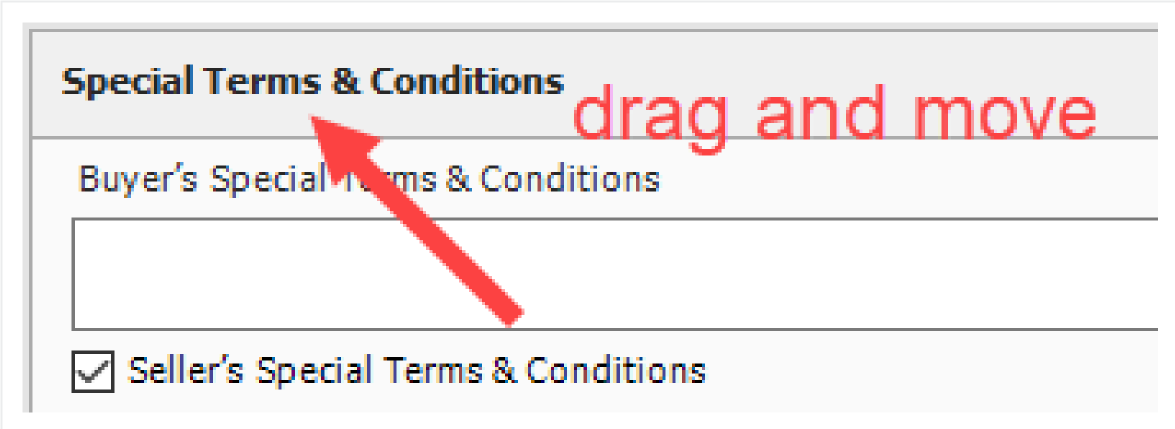
- Taxes
- Seller’s Profile
- Setup
- Minority



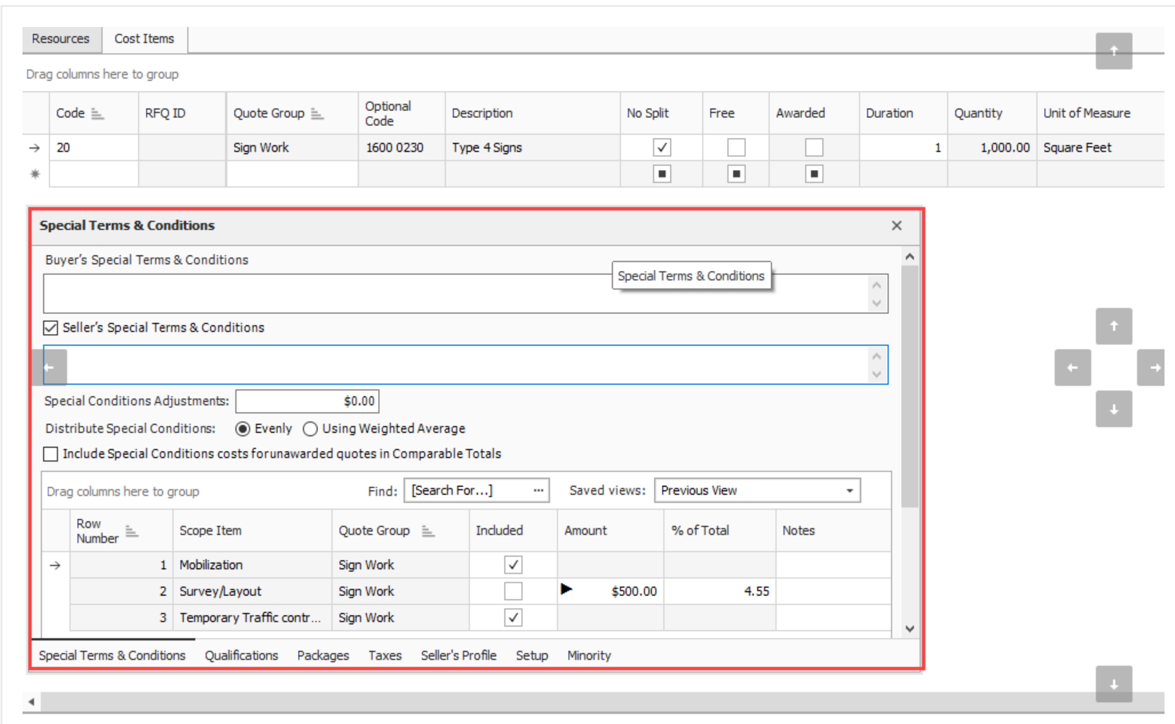
The six data blocks appear at the bottom right of the screen.



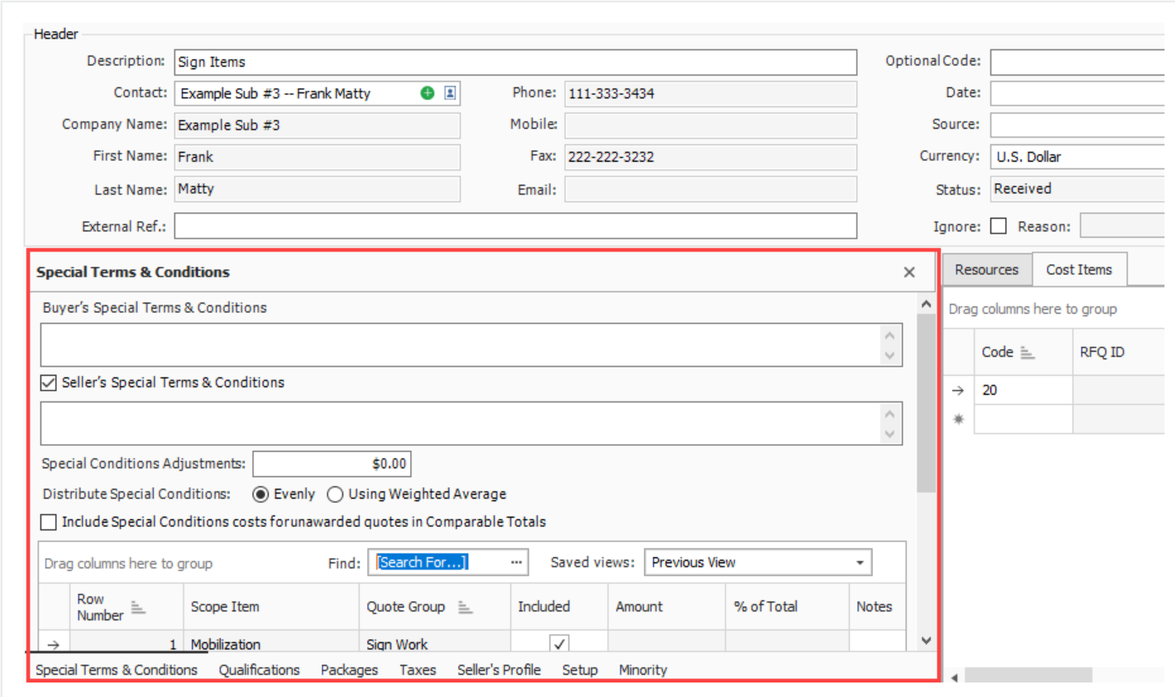
It’s possible to move the entire data block, or individual data blocks to other parts of the screen. For example, select the Special Terms & Conditions header row, and drag to the desired part of the screen.



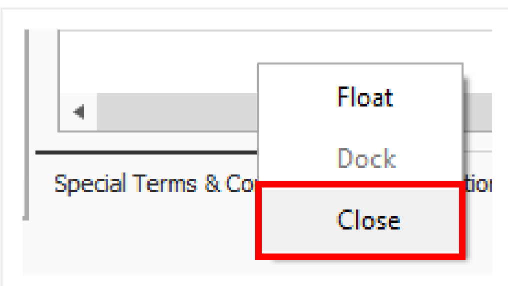
Drop the data block on top of an arrow where you wish to land the data block.



The data block will now reside on the left side of the screen.



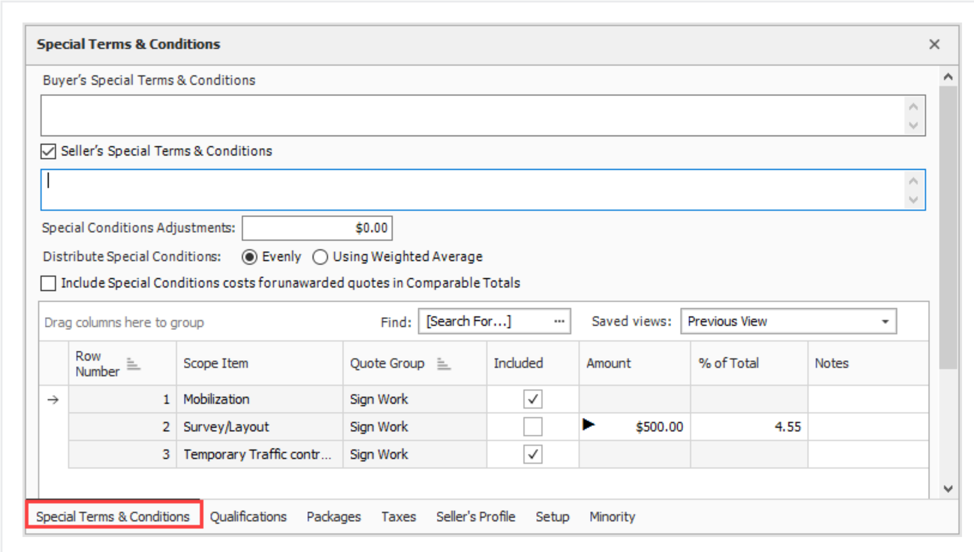
You can also close a specific tab if it's not commonly used. In this example, you can right click on a tab (like Special Terms & Conditions) and select close.



8.3.8 Data Block Tabs

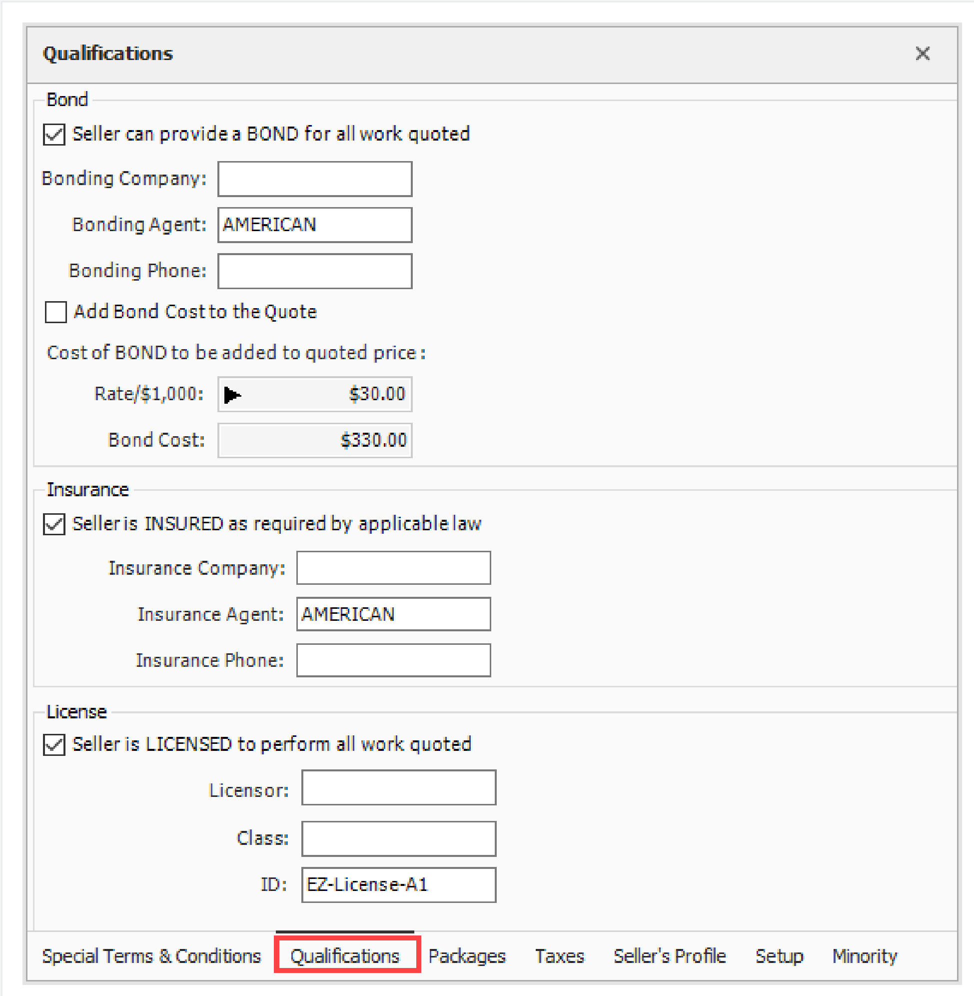
8.3.8.2 Special Terms & Conditions

Special Terms & Conditions is where you can include buyers and sellers special terms, add fixed cost to the quote, and include/exclude scope items.



8.3.8.3 Qualifications

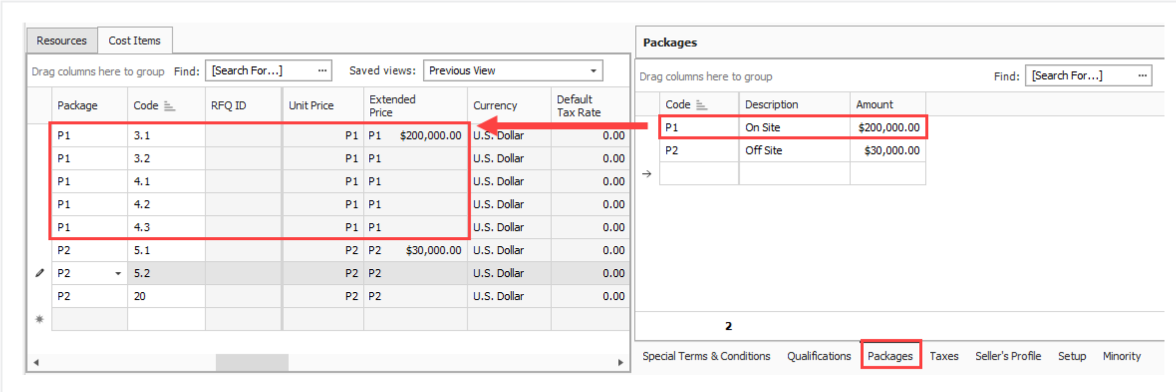
This tab allows you to include bond. You can enter the bond rate and the system will calculate the total Bond Cost or vise versa. This tab also allows you to enter insurance contact information and seller license information. If the vendor in the address book already had this information, then this information will get pre-filled when the seller is assigned to the Quote.



8.3.8.4 Packages

Using the Packages feature allows you a way to arrange quotes into a collection which makes sense for packaging your quotes. You can determine how to intake quotes from subcontractors and classify them into a package grouping.

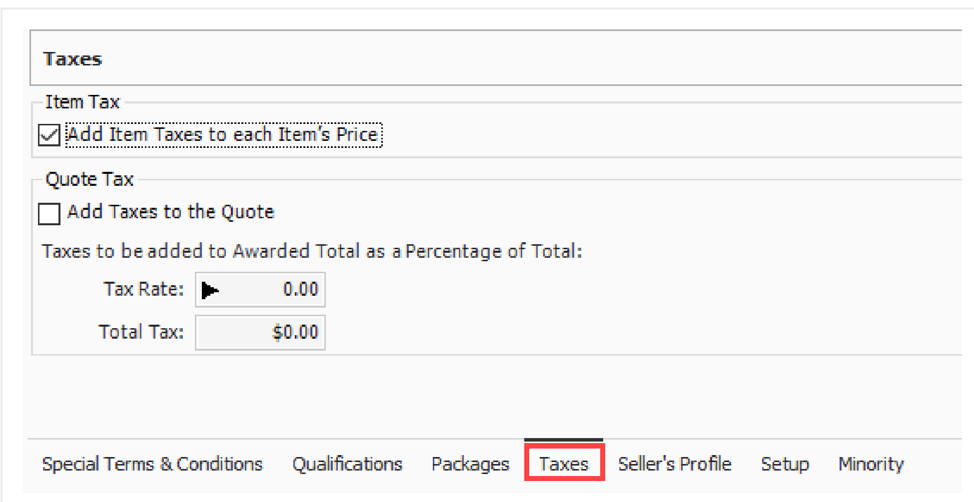
By creating a Package code within the Packages block, and giving it a dollar value, you can then assign that package code to one or many quote records. In this case, the subcontractor provided quotes for both on site and off-site concrete work. You can then determine which individual quotes go with the on site or off-site package. The Package Amount field carries over to the Extended Price field under the Cost Items tab.



You can also create a package by selecting multiple items and selecting **Add to new Package**.

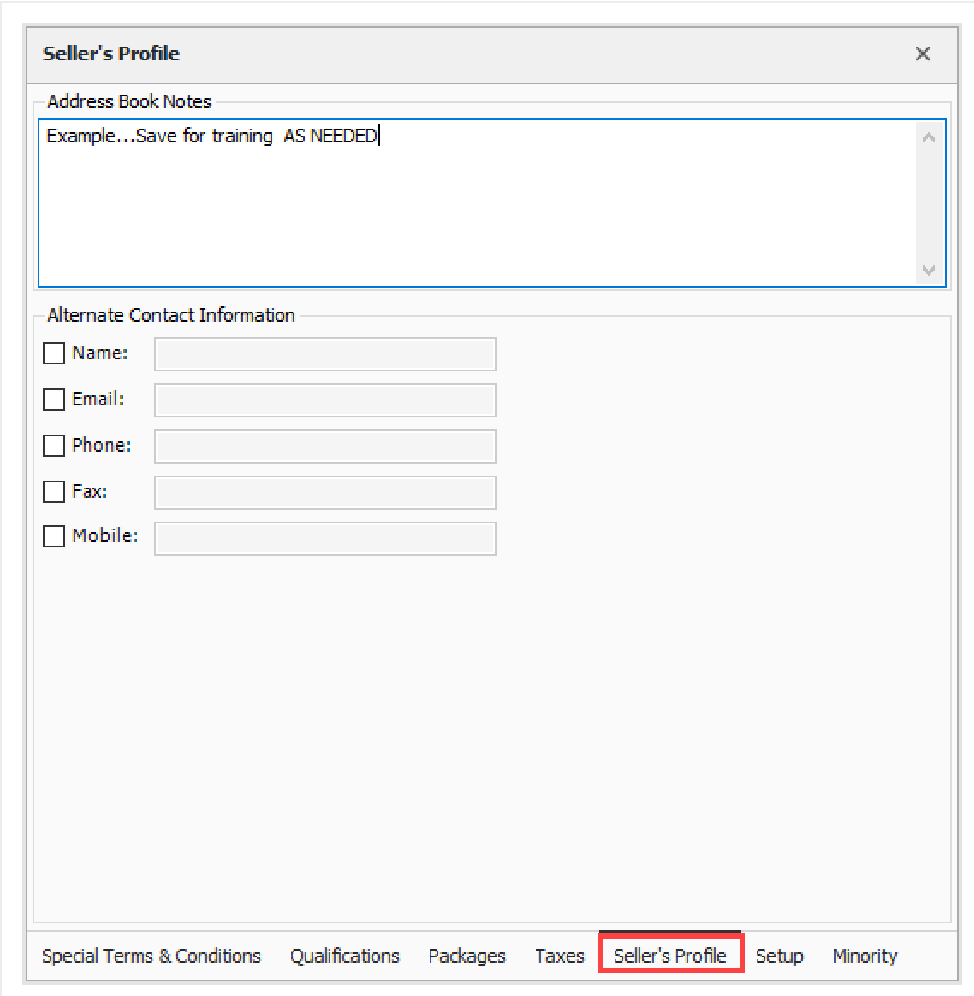
8.3.8.5 Taxes

Item Tax and Quote Tax have been combined to display on a single data block called Taxes. Using the taxes feature allows you to add item taxes to each item's price. You can also add taxes to the quote.



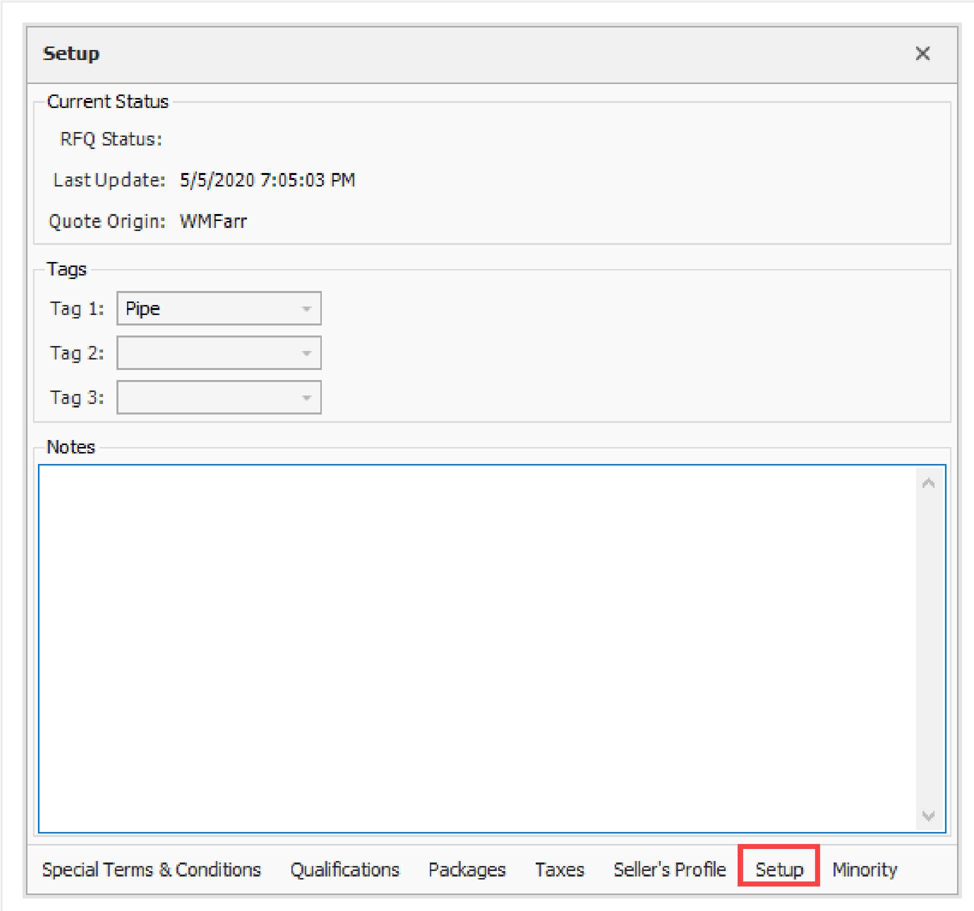
8.3.8.6 Seller’s Profile

The Seller’s Profile tab populates with address book notes and alternate contact information.



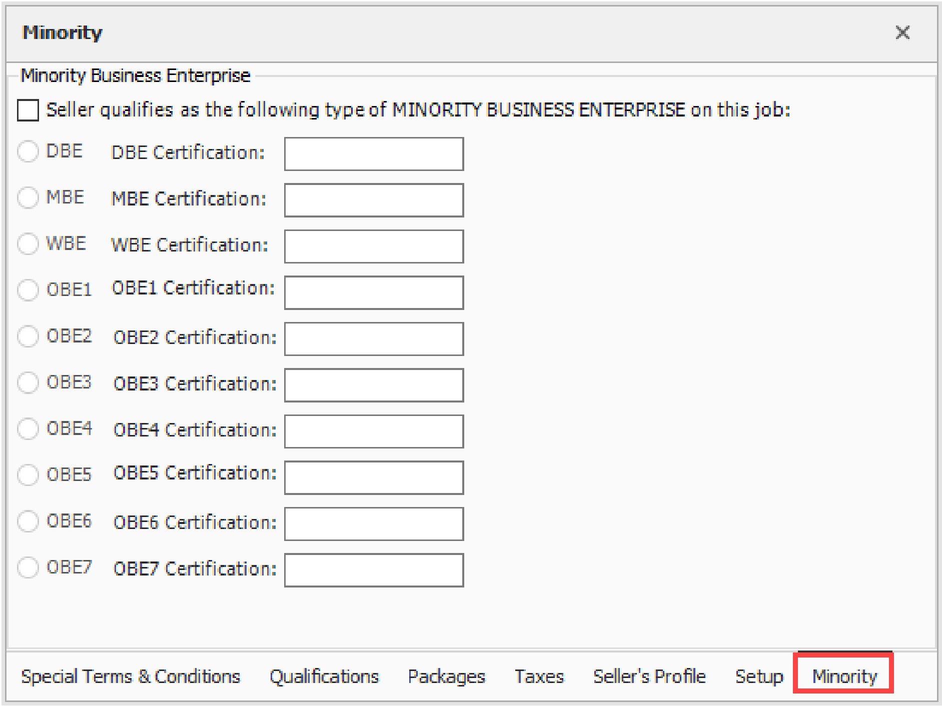
8.3.8.7 Setup

This tab provides extra space for any additional notes and tags to be assigned to the quote.

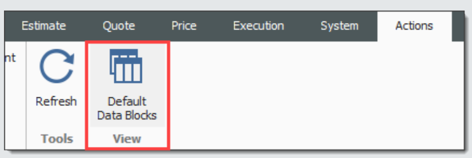


8.3.8.8 Minority

This tab allows you to determine if the seller qualifies for any type of minority business, and the ability to apply a certification number.



TIP If any of your Data Blocks become deleted on a Quote Record, simply click the **Default Data Block** icon.



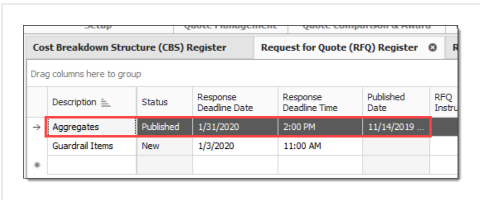
8.3.9 Create a Quote from RFQ

Walk through the steps of creating a quote from an RFQ.

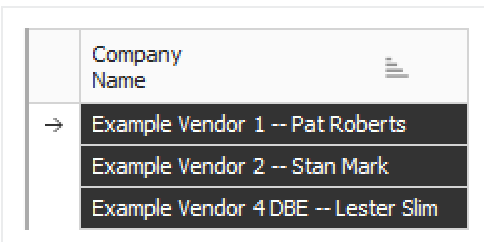
TIP To create a quote from scratch, click the **New** icon on the Quote Register and fill in the quote details and seller fields manually.

Step by Step — Create a Quote from RFQ

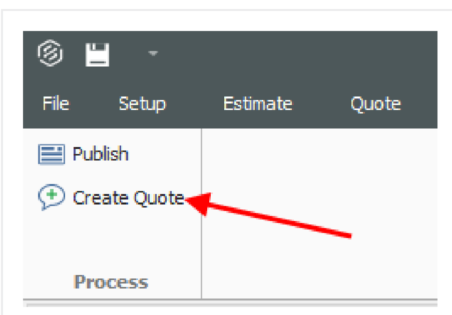
1. Open your job.
2. From the InEight Estimate landing page, select the **Quote** tab.
3. Select **Request for Quote (RFQ)**.
4. Open the **RFQ record** for which you've received quotes (e.g. Aggregates RFQ).



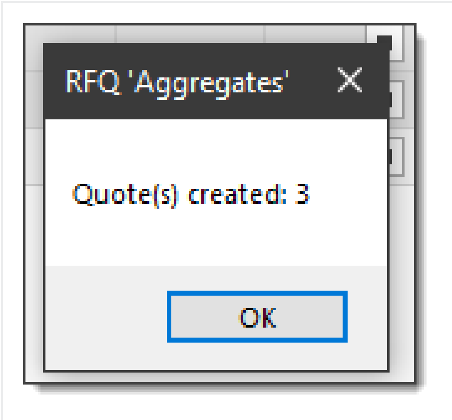
5. Select the **Seller Companies** tab and select the sellers for whom you need to create quotes.



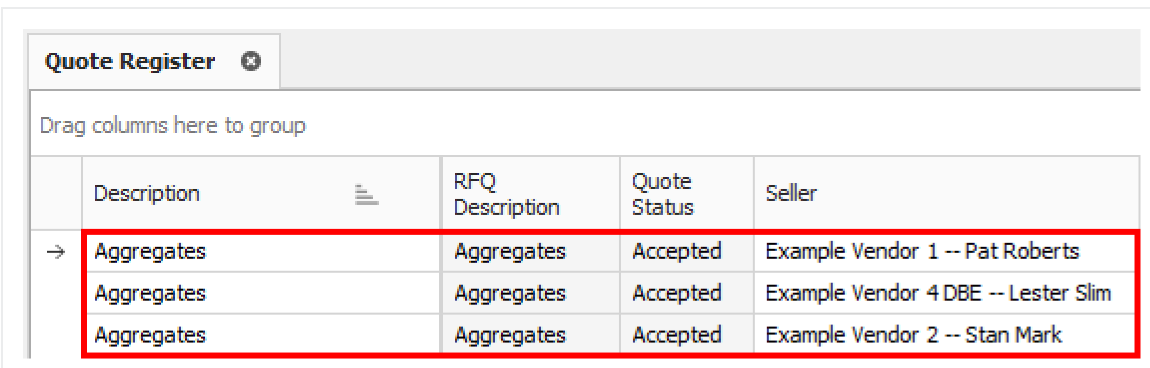
6. From the Actions menu, select **Create Quote**.
   - InEight Estimate will create quotes for each of the sellers you selected



- A prompt indicates how many quotes were created, then click OK



7. Close the RFQ Record and the RFQ Register.
8. To open the Quote Register, select **Quote** from the InEight Estimate landing page.
9. Select **Quotes** from the Quote Management section.
    - The quotes that you created from RFQ are now listed on the Quote Register



8.3.10 Enter Quote Details

Now that you have quotes created, you can enter pricing.

Step by Step — Enter Quote Details

1. Open the Quote Record for a seller.
2. On the Resources tab, make sure No Split is <u>un</u>checked for all items.

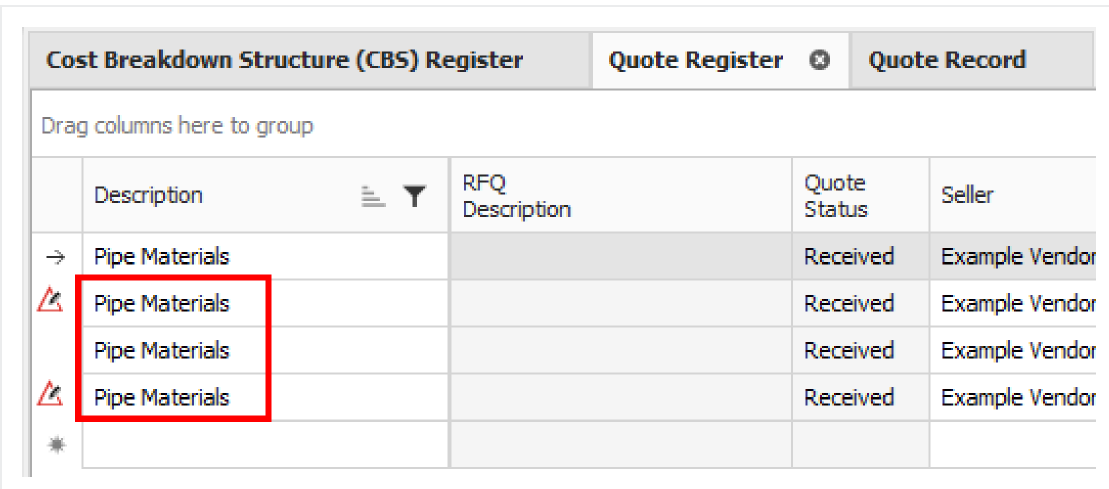
3. Also on the Item Resources & Cost Items tab, now enter the following **unit prices** for the resources:

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

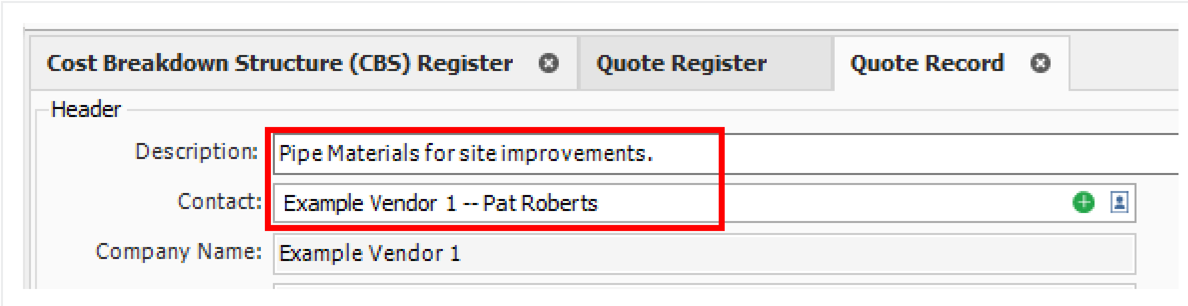
4. Click **OK** to close the Quote Record.

Step by Step — Create a Multi-packages Quote

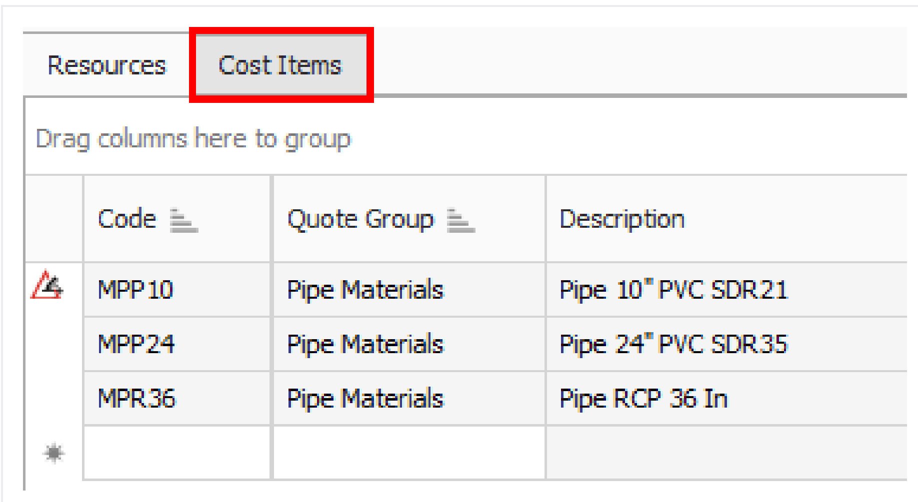
1. From the InEight Estimate landing page, select the **Quote** tab.
2. Click on the **Quotes** icon under Quote Management.
3. Double click on an item (e.g. **Pipe Materials**).



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

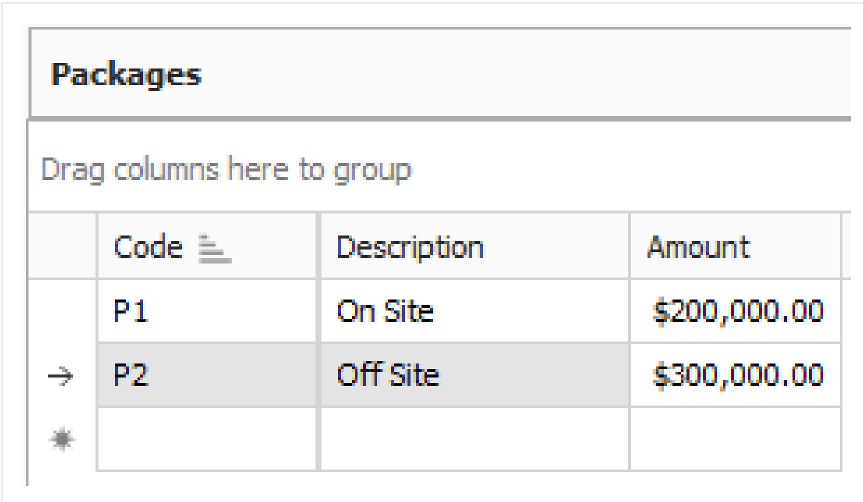


6. Click **OK**
7. Select the **Cost Items** tab on the left side of the screen.

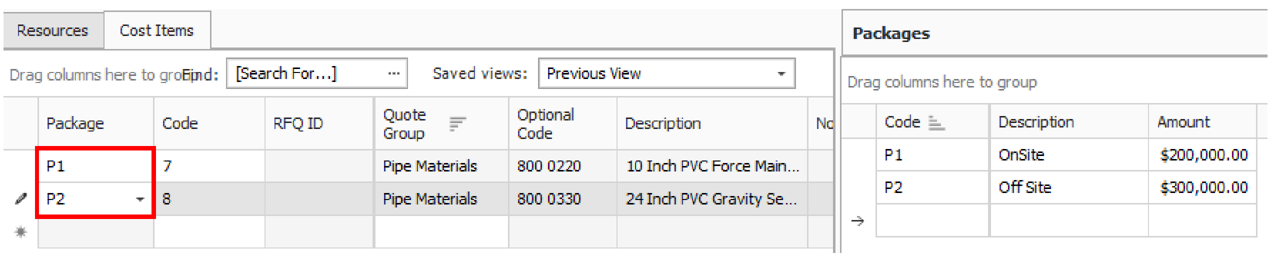


8. Add a **cost item** under Cost Items.
9. Then, add another **cost item** under Cost Items.
10. On the Packages tab, enter the following 2 new records:
    1. Code: **P1**
    2. Description: **On Site**
    3. Amount: **$200,000**
    4. Code: **P2**
    5. Description: **Off Site**

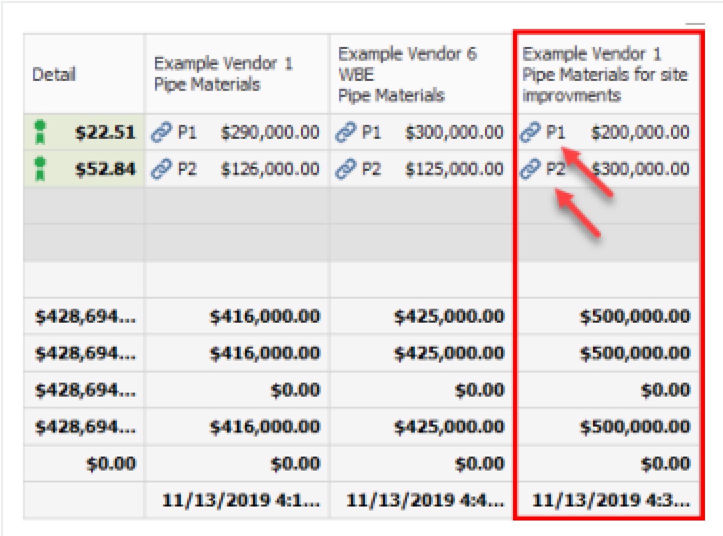
6. Amount: **$300,000**



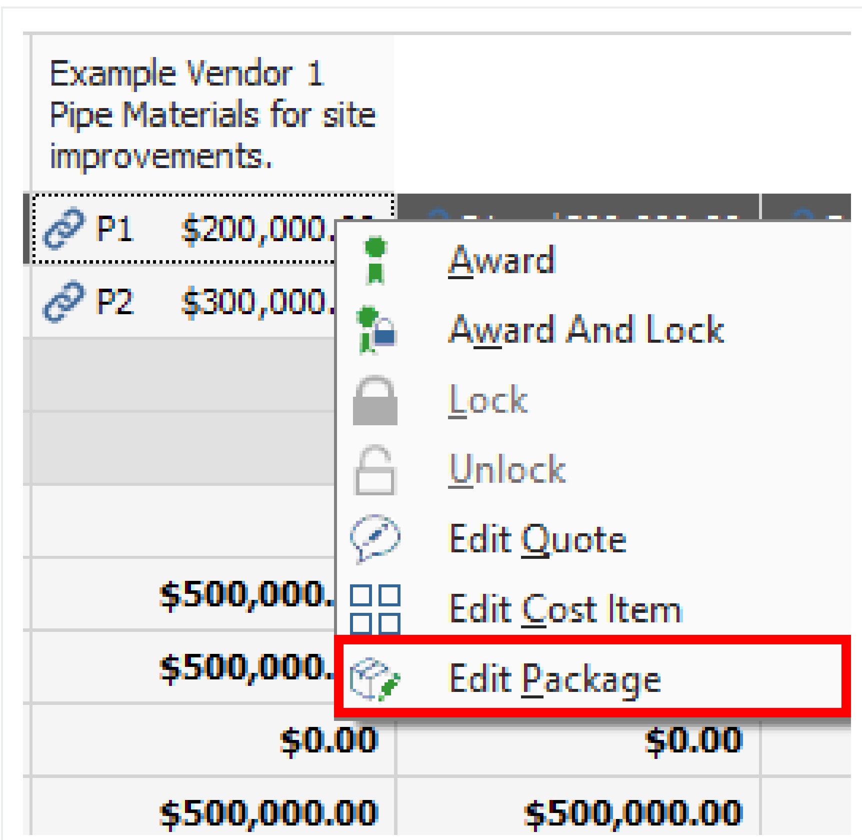
11. Type in **P1** under Package for cost item 7.
12. Type in **P2** under Package for cost item 8.



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.

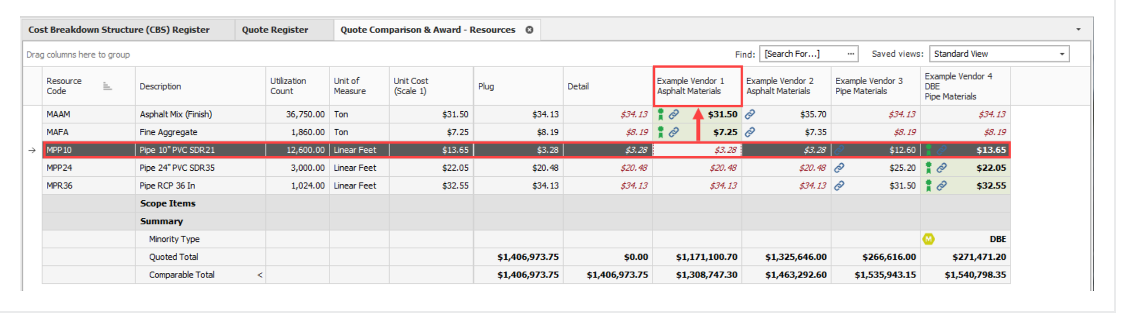


8.3.11 Duplicating an Existing Quote

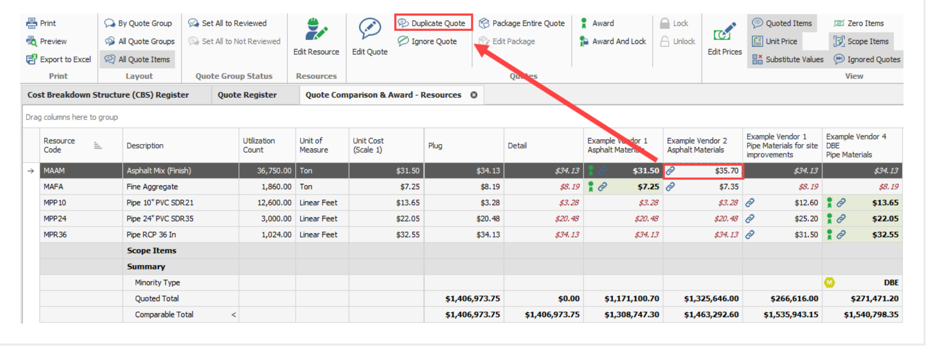
You can create a new quote by duplicating an existing quote from the Quote Compare & Award form. Duplicate Quotes will contain the same scope as the quote that you previously copied.

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.



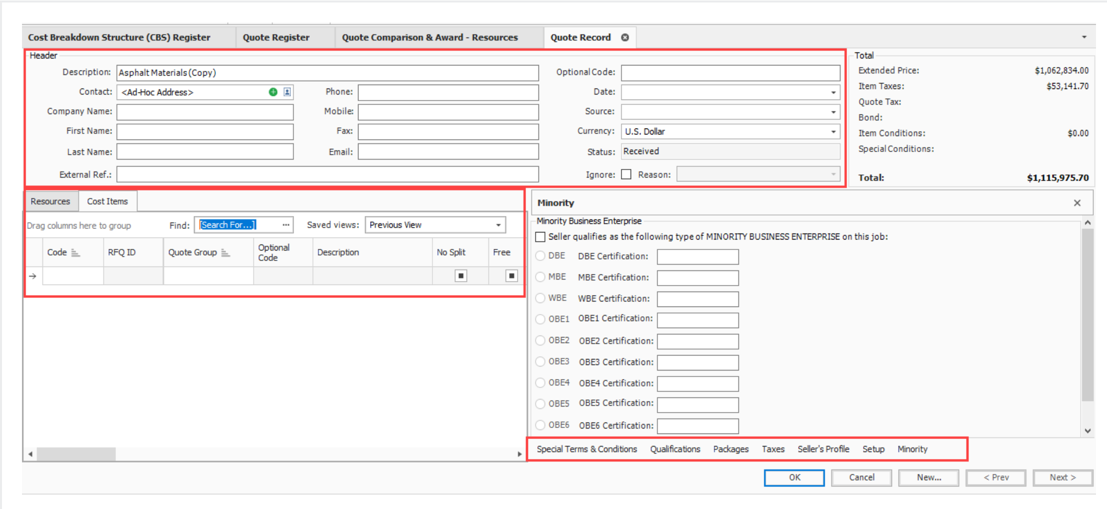
4. Select the **Actions** tab.
5. Under the Quotes section, select the **Duplicate Quote** icon.



- 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**.

Exercise 8.1 — Quote Management

When you receive quotes from vendors, you will need to record their pricing and conditions in their InEight Estimate quote records. In this exercise, you will practice entering quote details. Enter the following Quote Record details, using the Training Job:

Quote Name: Aggregates	**Seller Name**: Example Vendor 2 - Stan Mark	
Resource Code	**Description**	**Unit Price**
MBR	Aggregate Base Rock	$7.45
MDIRTB	Dirt Class B	Not Quoted (delete)
	Special Instructions Seller is NOT willing to split items.	
Quote Name: Aggregates	**Seller Name**: Example Vendor 4 - Lester Slim	
Resource Code	**Description**	**Unit Price**
MBR	Aggregate Base Rock	$8.15
MDIRTB	Dirt Class B	FREE
	Special Instructions Seller is NOT willing to split items.	

Resource Code	**Description**	**Unit Price**
Quote Name: Aggregates	**Seller Name**: Example Vendor 4 - Lester Slim	
Resource Code	**Description**	**Unit Price**
MBR	Aggregate Base Rock	$8.15
MDIRTB	Dirt Class B	FREE
Special Instructions	*Seller is NOT willing to split items.*	

You should end up with the following results

Description	RFQ Description	Seller	Contact Name	Quote Total
Aggregates	Aggregates	Example Vendor 4 DBE -- Lester Slim	Slim, Lester	$408,834.56
Aggregates	Aggregates	Example Vendor 2 -- Stan Mark	Mark, Stan	$373,719.94
Aggregates	Aggregates	Example Vendor 1 -- Pat Roberts	Roberts, Pat	$402,192.00

Congratulations, you have completed this exercise!

8.4 QUOTE COMPARISON & AWARD

Now that you've received quotes and entered pricing information, you will compare them to determine which is the preferred vendor or contractor to carry their pricing in your estimate. The Quote Comparison & Award forms improve visibility into comparative analytics, while increasing efficiencies in populating the estimate with quoted values.

The Quote Comparison & Award screen is designed to closely match the layout of a vendor comparison sheet. It's designed to show all scope items with prices provided by multiple vendors and substitute pricing where items have been excluded.

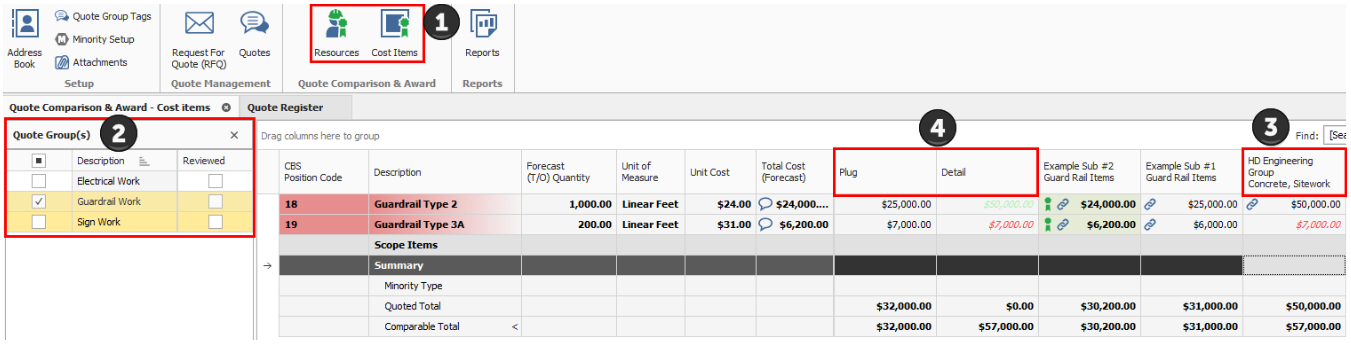
Now that you've entered contextual quote information in the Quote Register, the Quote Comparison & Award screen provides you with the ability to make better, and more efficient determinations for awarding the quote.

8.4.1 Quote Comparison & Award Overview

To open the Quote Comparison & Award form, select **Quote > Quote Comparison & Award**.

Overview – Quote Comparison and Award Form

Name		Definition
1	Resource and Cost Item Filter	You can show either your quoted resources or cost items.
2	Quote Group Filter	This section provides checkboxes to further filter your items. The Quote Group Filter allows you to mark the quotes as reviewed.
3	Quote Description and Vendor	Your quotes display with the vendor name plus the quote description. • Awarded items have an award symbol If an item is designated as No Split, it has a chain link icon • Awarded and Locked items have a lock symbol next to the award symbol
4	Cost Source Type	The cost source can either be a Plug or Detail type.

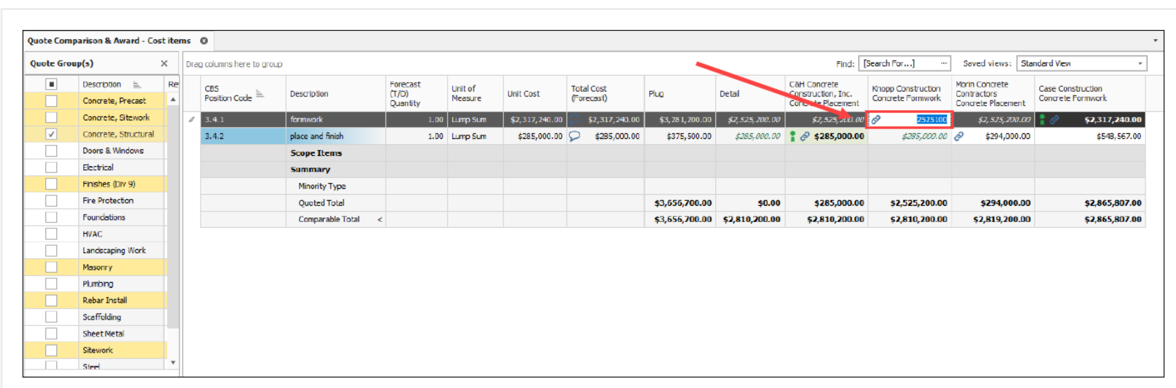


8.4.2 Edit Mode

You can make last minute modifications to the quote price directly in the Quote Comparison and Award form.

When in Edit mode, the quote item's price, unmodified by the quote's bond cost or special conditions, can be updated. You can modify the Unit price or the Extended price for each of the quote items that are not part of the package or marked as Free.

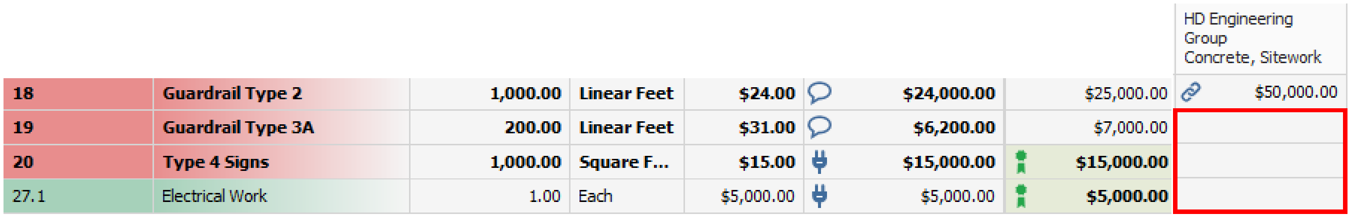
The updates made to quote items in Quote Compare and Award will update the estimate in real time allowing you to see the impact of the changes in the estimate.



8.4.3 Substitute Values

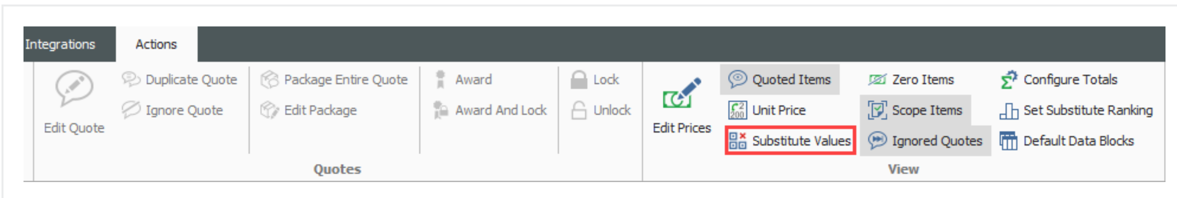
You can display a substitute value by selecting **Actions > Substitute Values**.

Notice the entered quotes. One of the vendors did not give pricing for three of the CBS items.

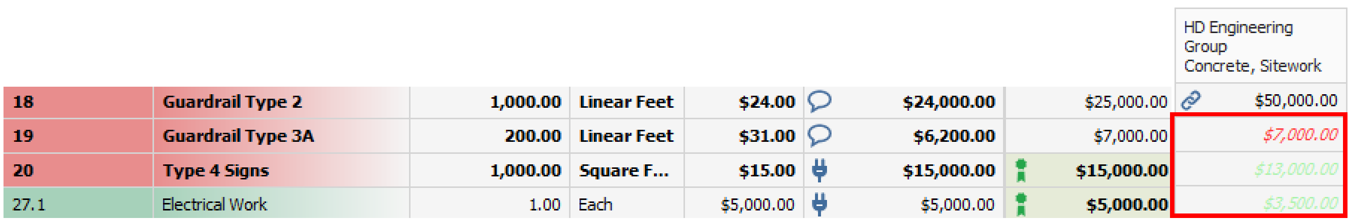


								HD Engineering Group Concrete, Sitework
18	Guardrail Type 2	1,000.00	Linear Feet	$24.00	$24,000.00		$25,000.00	$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	$31.00	$6,200.00		$7,000.00	
20	Type 4 Signs	1,000.00	Square F...	$15.00	$15,000.00		$15,000.00	
27.1	Electrical Work	1.00	Each	$5,000.00	$5,000.00		$5,000.00	

When you compare this quote to the others, it can be difficult to see if the total cost of the quote is high or low because it is missing some of the pricing. InEight Estimate can help you make an “apples to apples” comparison by filling in a substitute price for items that are missing.



You can tell when it’s a substitute value because the price displays in italics.

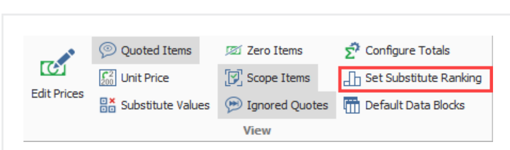


								HD Engineering Group Concrete, Sitework
18	Guardrail Type 2	1,000.00	Linear Feet	$24.00	$24,000.00		$25,000.00	$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	$31.00	$6,200.00		$7,000.00	*$7,000.00*
20	Type 4 Signs	1,000.00	Square F...	$15.00	$15,000.00		$15,000.00	*$13,000.00*
27.1	Electrical Work	1.00	Each	$5,000.00	$5,000.00		$5,000.00	*$3,500.00*

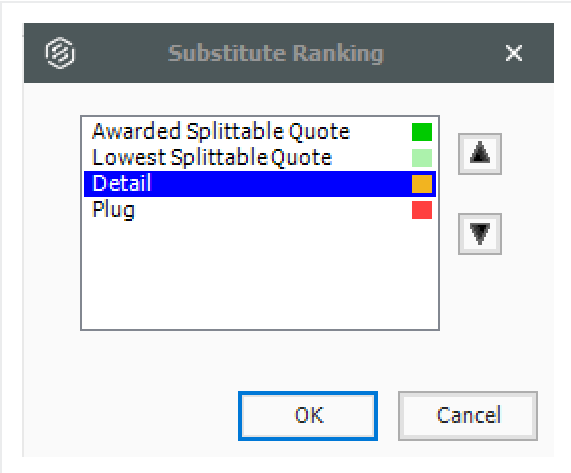
InEight Estimate grabs the substitute value from one of four places:

1. Awarded splittable quote
2. Lowest splittable quote you’ve received
3. Detail (this only applies to quoting cost items)
4. Plug cost (the rate defined for that resource in InEight Estimate)

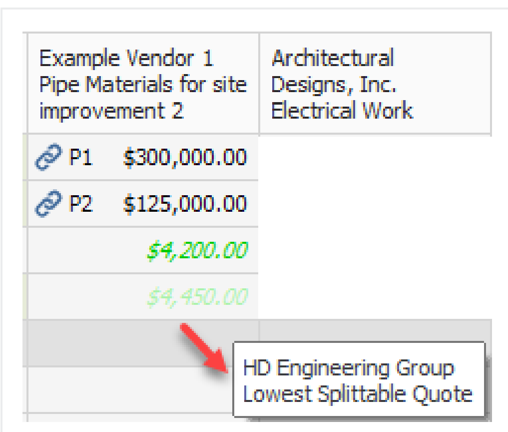
You can set the order for a substitute value by selecting **Actions > Set Substitute Ranking.**



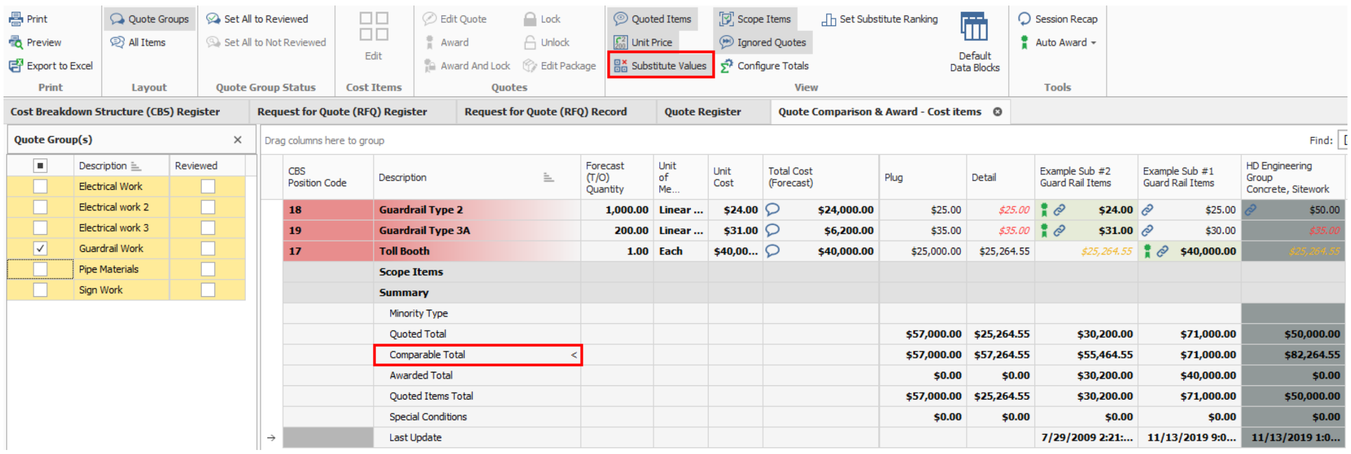
On the resulting Substitute Ranking window, you can use the up and down arrows to change the selection order. It will look from the top to the bottom of the list. The plug being in red represents the most risk, while the Awarded Splittable Quote is the least risk. Users can modify the color coding of these Substitute values by navigating to System Customize dialog and then selecting Substitute Quote Ranking in the colors sections.



Note that the substitute values are color-coded so that back on the Quote Comparison & Award form you can see the source that your substitute value comes from. When you hover- over a substitute value it displays the vendor whose substitute value has been used.



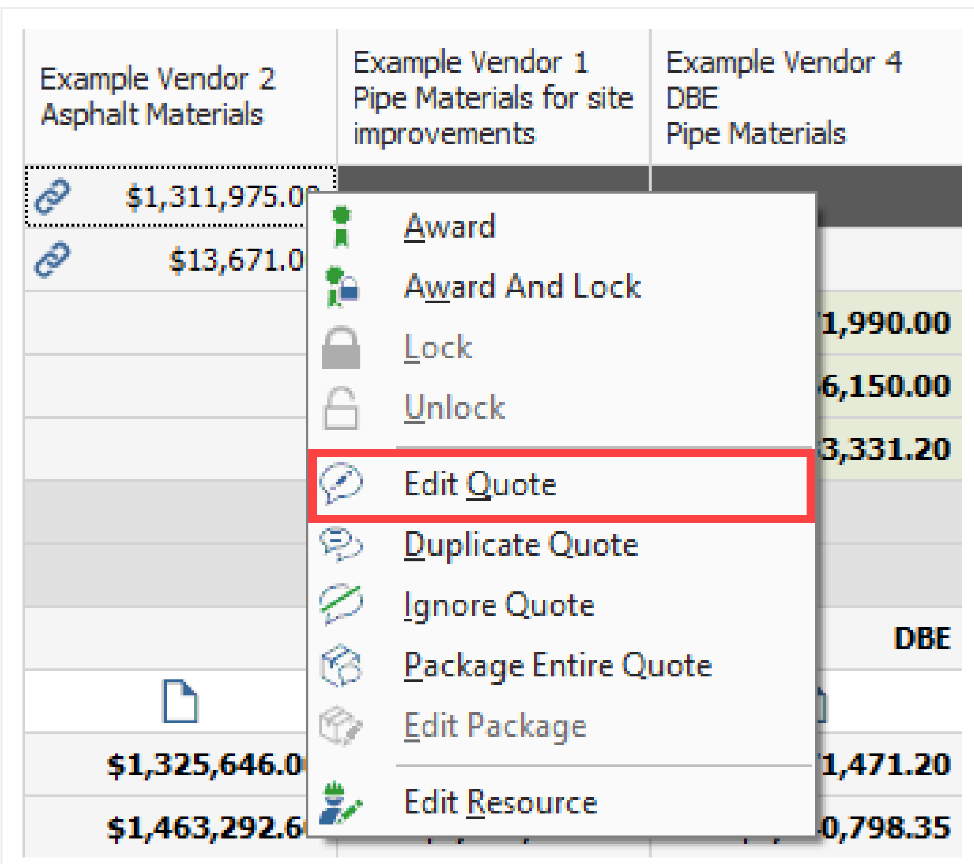
When you use a substitute value, it is included in your Comparable Total so you can have a more realistic comparison of your quotes.



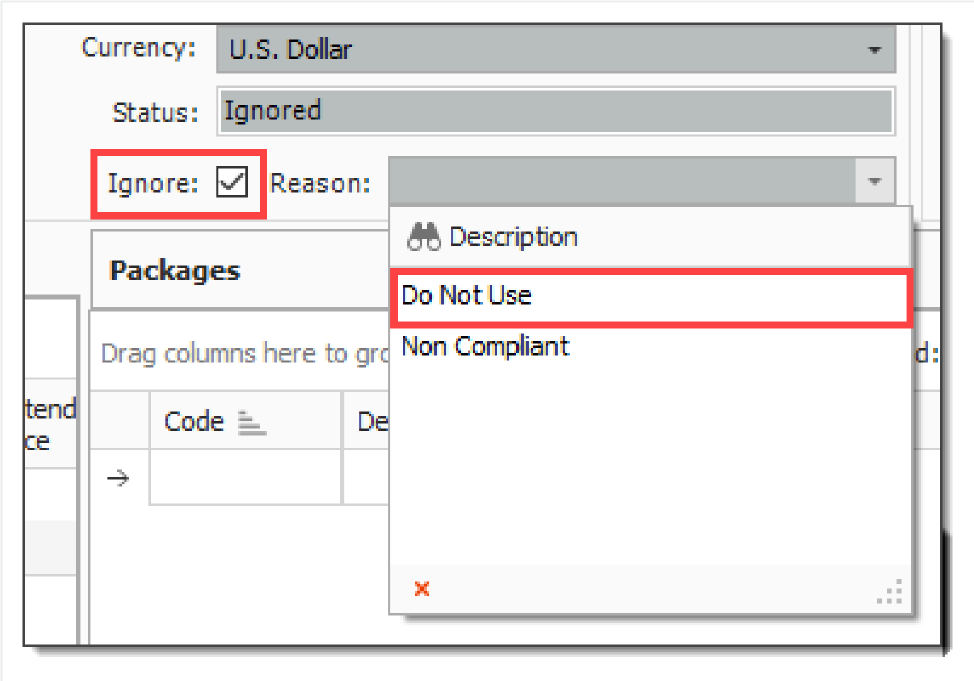
8.4.4 Display Ignored Quotes

You can view ignored quotes by selecting **Actions > Ignored Quotes**.

You can ignore a quote by right clicking on the subcontractor header, then selecting Edit Quote.

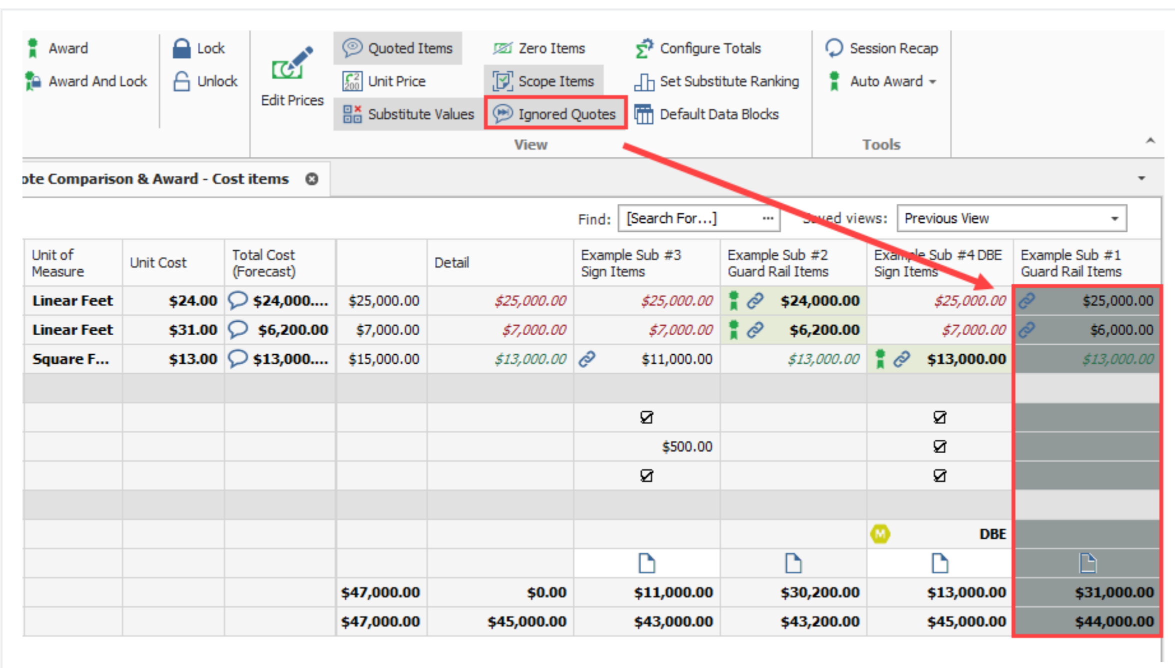


From the Quote Record screen, select the Ignore check box and also a Reason, then select OK.



NOTE If the quote record is already awarded, you will not be able to select the Ignore option.

If the Ignored Quotes button is pressed, the ignored quote will display in grey. An ignored Quote cannot be awarded. The ignored quotes get appended to the right end of the QC&A form.

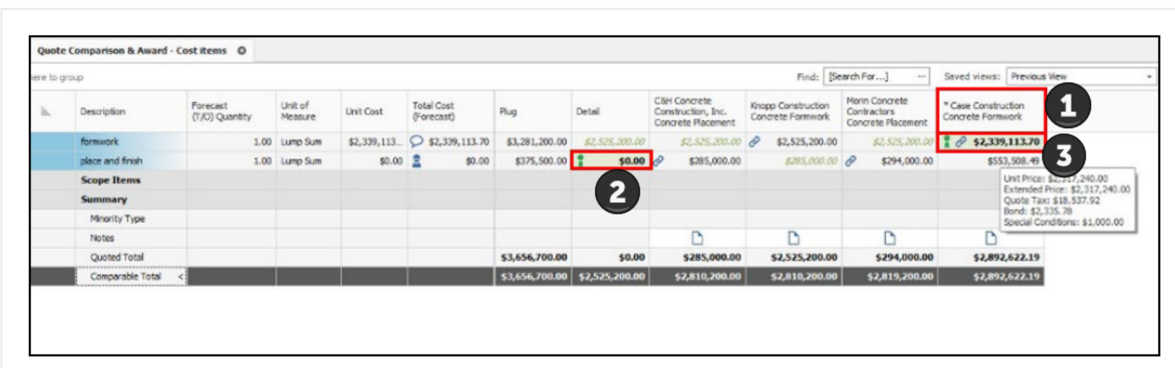


8.4.5 Additional Quote Comparison and Award functions

The Quote Comparison and Award form contains other notable functions which improves the process of selecting the quote that brings the greatest value to the estimate.

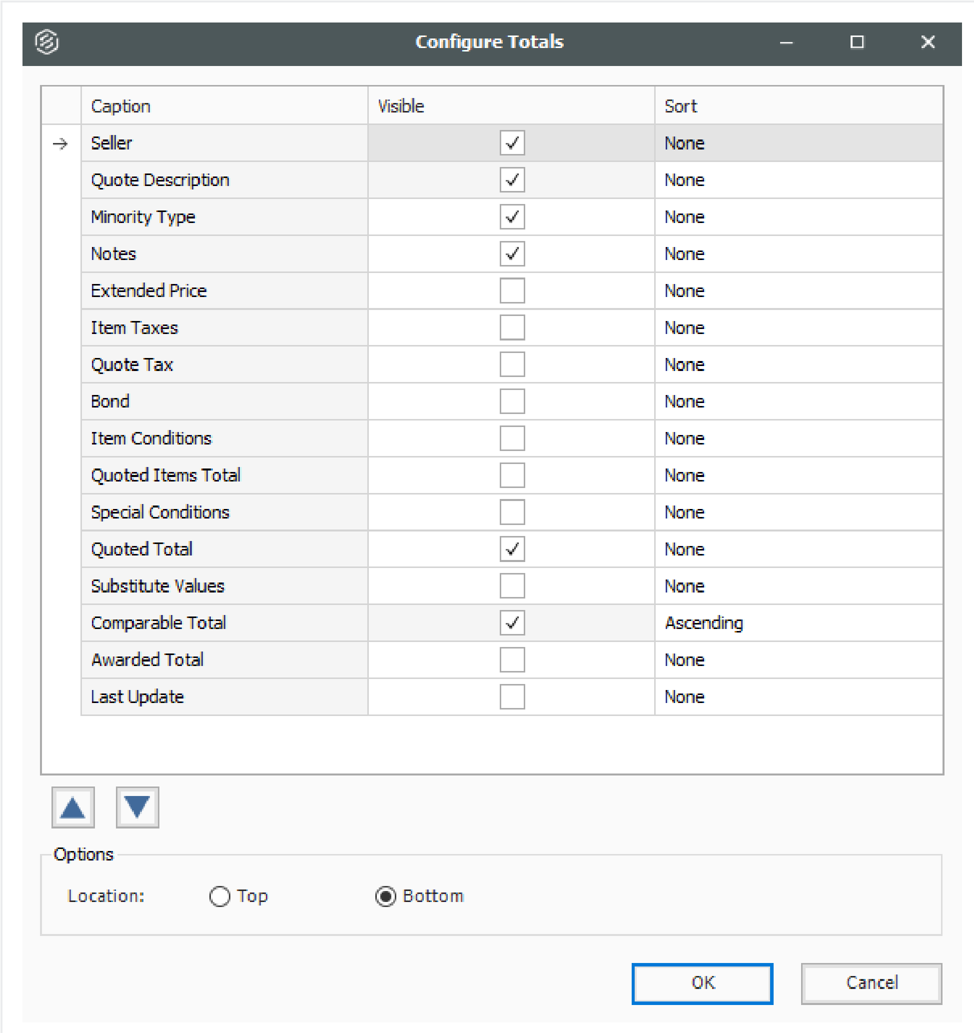
Overview – Additional Quote Comparison and Award Functions

Name		Definition
1	Asterisk next to Quote Item	An Asterisk (*) is displayed on a quote to indicate when that quote includes quote items appearing in other Quote groups.
2	Zero value Plug/Detail	Award quotes to Plug or Detail when its value is zero.
3	Updated Quote Items Tool tip	Quote Item Tool tip displays details including: • Unit Price • Extended Price • Bond • Taxes • Special Conditions • an indicator for a delta quote item



8.4.6 Configure Totals

You can display and sort additional Summary Totals, Special Conditions, and Last Updated fields by selecting **Actions > Configure Tools**.



The Options radio button give you better control for viewing totals at the tops of the screen or after the quotes.

After selecting additional captions, the new fields appear at the bottom of the Quote Comparison & Award screen. Notice that the caret symbol next to the Comparable totals in the below screenshot indicates that the Quotes are sorted based on Comparable totals in an ascending order.

CBS Position Code	Description
18	**Guardrail Type 2**
19	**Guardrail Type 3A**
20	**Type 4 Signs**
	Scope Items
	Mobilization
	Survey/Layout
	Temporary Traffic control de...
	Summary
	Minority Type
	Notes
	Extended Price
	Item Taxes
	Quote Tax
	Bond
	Item Conditions
	Quoted Items Total
	Special Conditions
	Quoted Total
	Substitute Values
	Comparable Total <
	Awarded Total: $43,200.00
	Last Update

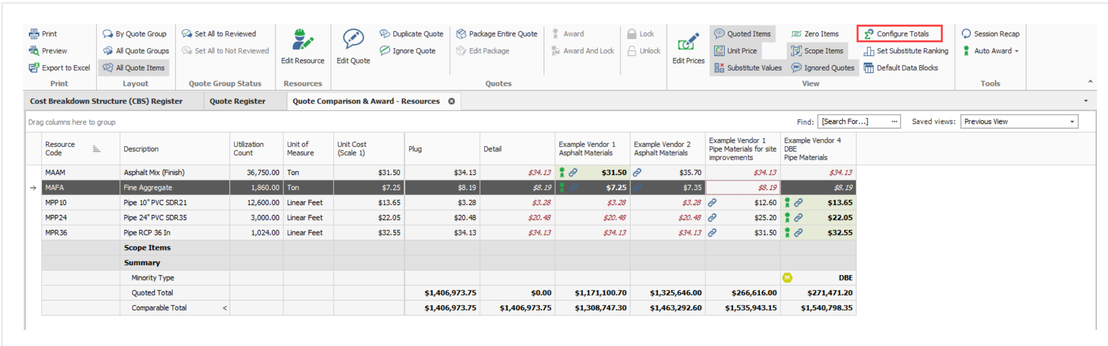
8.4.7 Adding Notes to Quote Comparison & Award

The Notes feature within the Configure Totals tool, allows you to quickly add, edit, and view notes for a quote in the Quote Comparison & Award form. Having visibility into the notes such as phone conversations with vendor/supplier, quotes that need clarification, or notes on other attributes will help you in making better decisions on who to consider when awarding a particular quote.

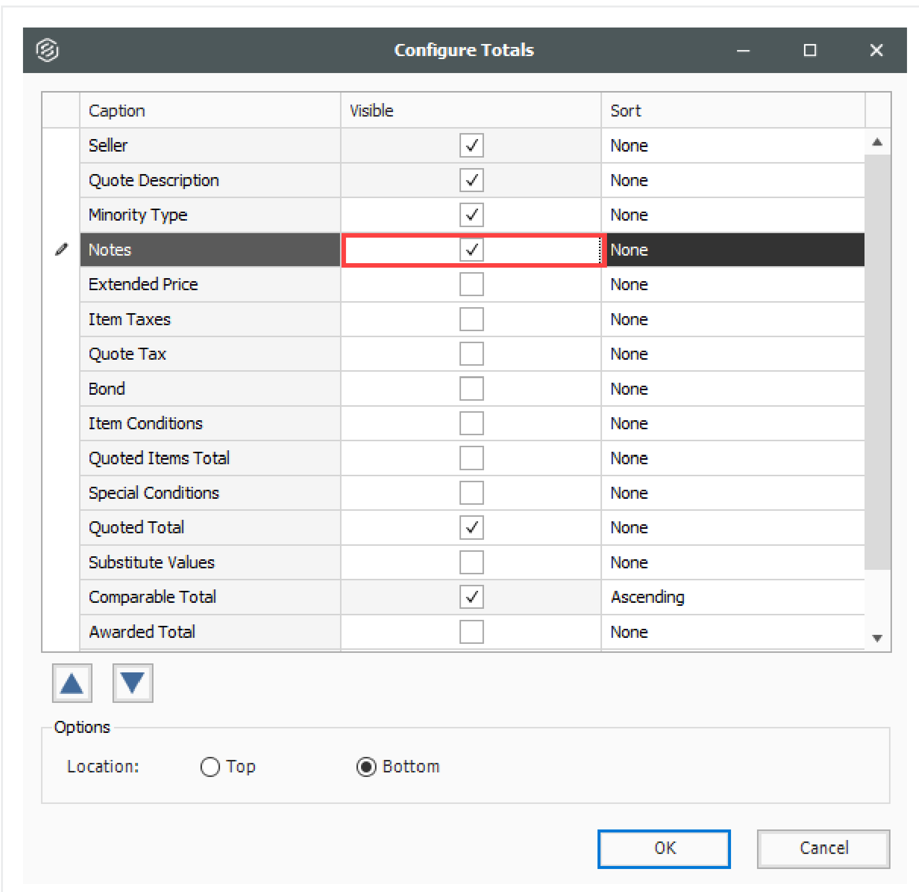
Step by Step — Add the Notes section to Quote Comparison & Award form

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.

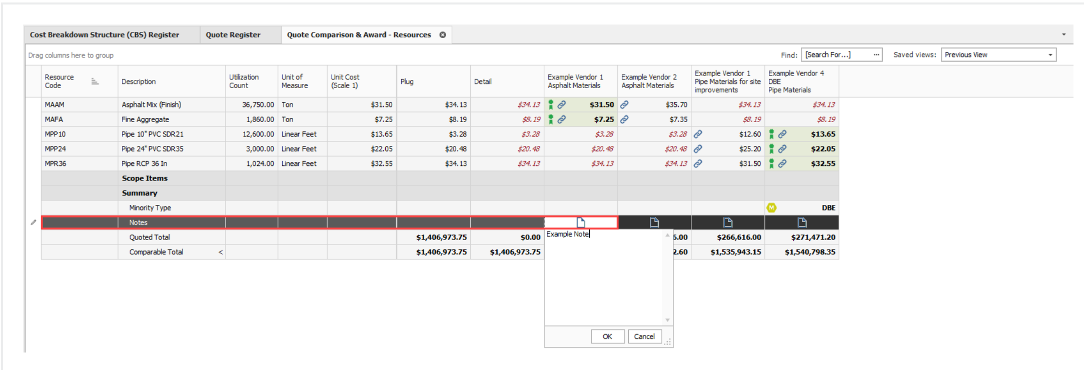


5. Select the check box in the Visible column for the Notes caption.



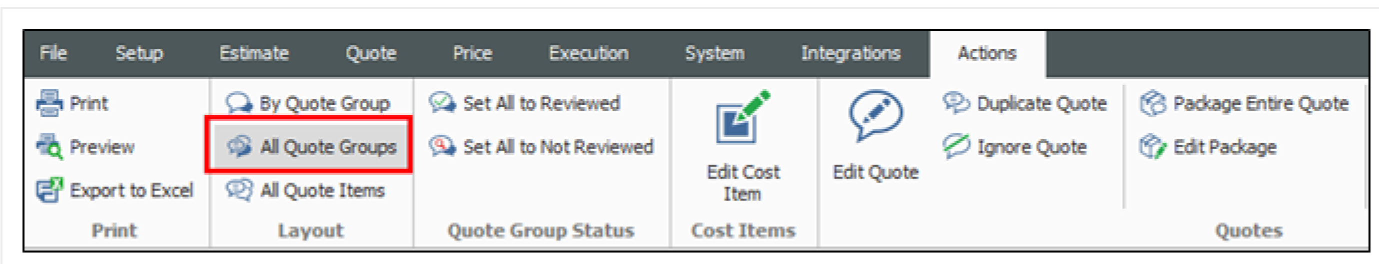
6. Select **OK**.

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



8.4.8 All Quote Groups Layout

The All Quote Group icon, located within the Quote Comparison and Award ribbon, allows you to see all the quote groups at the same time.



You can make appropriate quote group selections based on understanding how choosing a quote group impacts the entire estimate. In addition, the quote groups layout provides you with the visibility and flexibility in aligning scopes, and being able to perform an efficient comparison of various quotes.

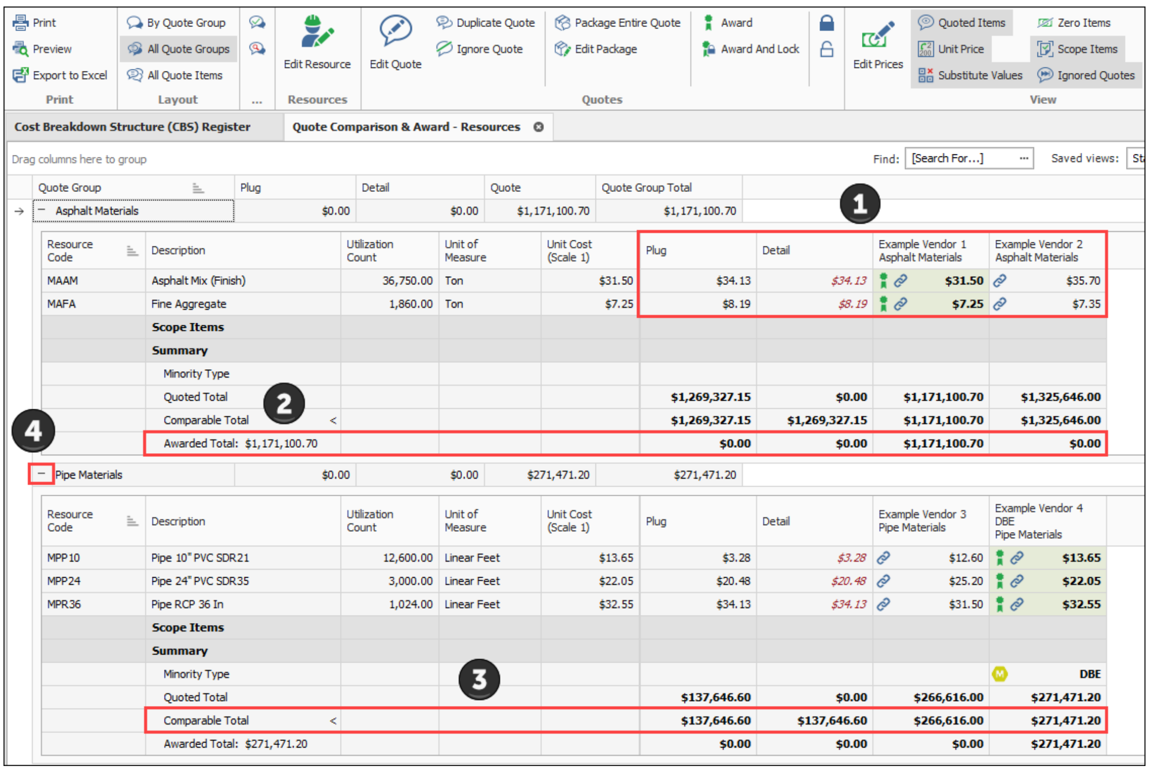
Features of this layout include:

Overview – Quote Groups Layout

Name		Definition
1	Totals per Quote Group	Ability to see the Awarded Total Plug, Detail and Quote amount per Quote Group
2	Total Awarded Amount	Visibility into the Total Awarded Amount per Quote Group

Overview – Quote Groups Layout (continued)

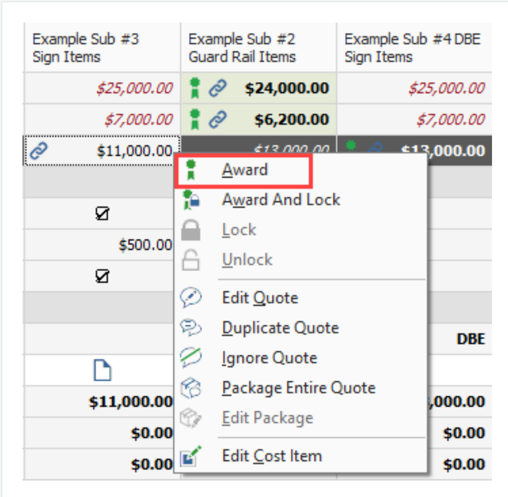
Name		Definition
3	Comparable totals	Better visibility into the Comparable totals per Quote Group
4	Expand/Collapse	Expand/Collapse individual or All Quote Groups to display the quote items



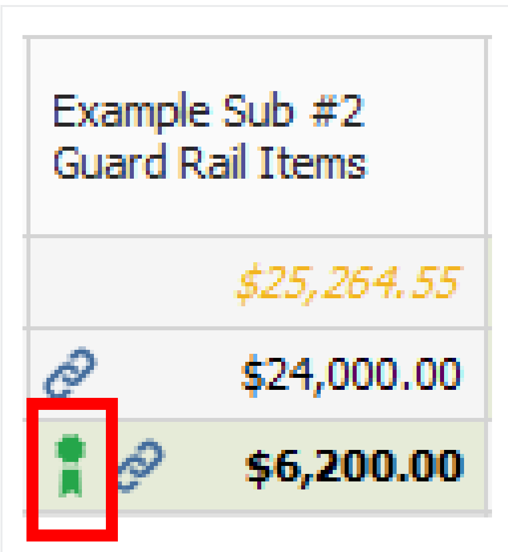
You can scan through all the quote groups in the estimate and see if you are carrying the most appropriate quote. You can also review the Totals per Quote Group and better analyze the risks in the estimate based on whether the cost is a plug number, detailed estimate or a quoted value.

8.4.9 Compare and Award Quotes

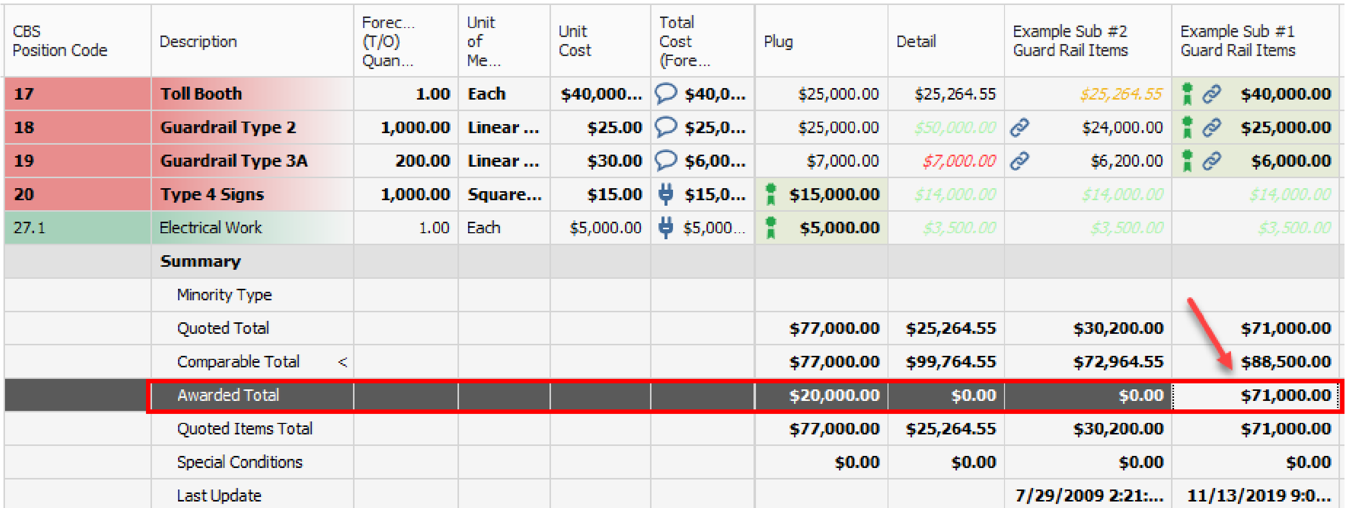
To award an item, right click on that item and select **Award**.



The Award icon displays next to the awarded item(s).



Once you award a quote in InEight Estimate, you can see it adds the Awarded Total on the comparison screen, and the pricing updates automatically in the Cost Breakdown Structure.

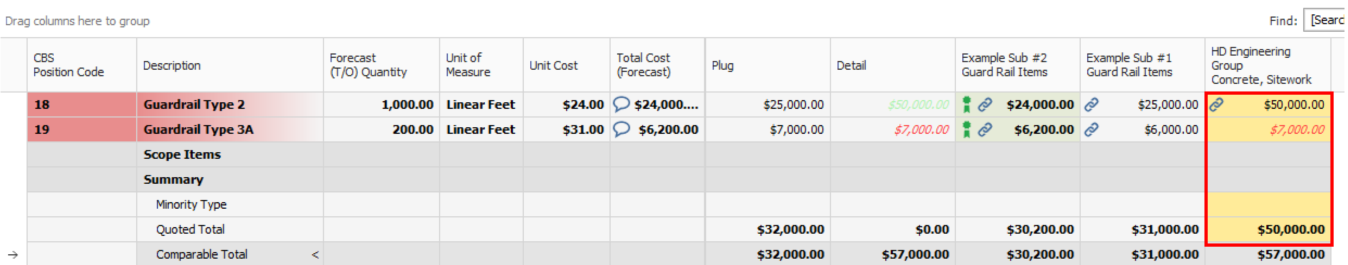


CBS Position Code	Description	Forec... (T/O) Quan...	Unit of Me...	Unit Cost	Total Cost (Fore...	Plug	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items
17	Toll Booth	1.00	Each	$40,000...	$40,0...	$25,000.00	$25,264.55	$25,264.55	$40,000.00
18	Guardrail Type 2	1,000.00	Linear ...	$25.00	$25,0...	$25,000.00	$50,000.00	$24,000.00	$25,000.00
19	Guardrail Type 3A	200.00	Linear ...	$30.00	$6,00...	$7,000.00	$7,000.00	$6,200.00	$6,000.00
20	Type 4 Signs	1,000.00	Square...	$15.00	$15,0...	$15,000.00	$14,000.00	$14,000.00	$14,000.00
27.1	Electrical Work	1.00	Each	$5,000.00	$5,000...	$5,000.00	$3,500.00	$3,500.00	$3,500.00
	Summary								
	Minority Type								
	Quoted Total					$77,000.00	$25,264.55	$30,200.00	$71,000.00
	Comparable Total <					$77,000.00	$99,764.55	$72,964.55	$88,500.00
	Awarded Total					$20,000.00	$0.00	$0.00	$71,000.00
	Quoted Items Total					$77,000.00	$25,264.55	$30,200.00	$71,000.00
	Special Conditions					$0.00	$0.00	$0.00	$0.00
	Last Update							7/29/2009 2:21:...	11/13/2019 9:0...

NOTE You can award multiple Quote items by selecting all the items and then using the right click context menu to award.

8.4.9.1 Open Status

If a quote is yellow, this indicates that the quote record is open in another screen. Closing out of the quote record, will turn the record back to gray.



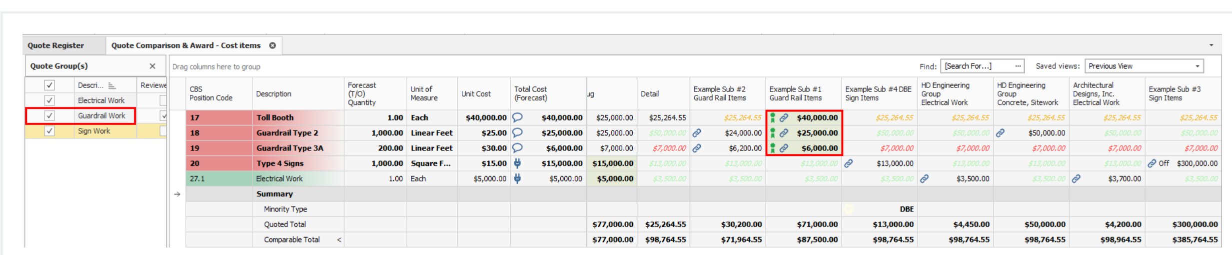
Drag columns here to group

Find: [Searc

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items	HD Engineering Group Concrete, Sitework
18	Guardrail Type 2	1,000.00	Linear Feet	$24.00	$24,000....	$25,000.00	$50,000.00	$24,000.00	$25,000.00	$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	$31.00	$6,200.00	$7,000.00	$7,000.00	$6,200.00	$6,000.00	$7,000.00
	Scope Items									
	Summary									
	Minority Type									
	Quoted Total					$32,000.00	$0.00	$30,200.00	$31,000.00	$50,000.00
	Comparable Total <					$32,000.00	$57,000.00	$30,200.00	$31,000.00	$57,000.00

8.4.9.2 Award Status

The Award Status indicates whether or not all quotes are awarded within a quote group.



Quote Register | Quote Comparison & Award - Cost items

Quote Group(s)

	Descri...	Reviewe
✓	Electrical Work	
✓	Guardrail Work	✓
✓	Sign Work	

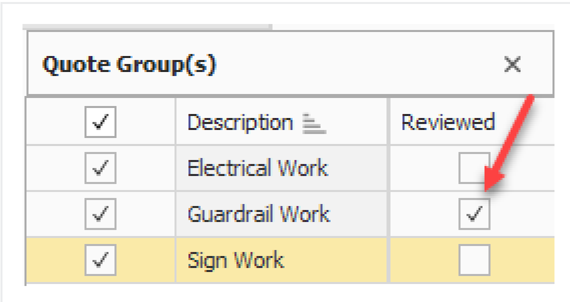
Drag columns here to group

Find: [Search For...] Saved views: Previous View

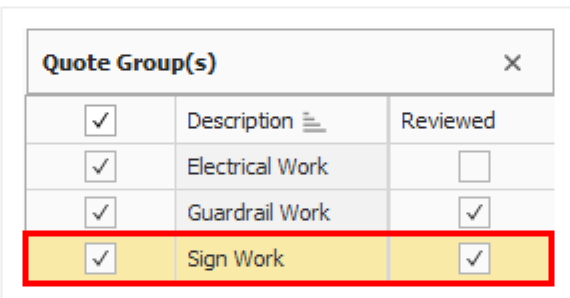
CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	ug	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items	Example Sub #4 DBE Sign Items	HD Engineering Group Electrical Work	HD Engineering Group Concrete, Sitework	Architectural Designs, Inc. Electrical Work	Example Sub #3 Sign Items
17	Toll Booth	1.00	Each	$40,000.00	$40,000.00	$25,000.00	$25,264.55	$25,264.55	$40,000.00	$25,264.55	$25,264.55	$25,264.55	$25,264.55	$25,264.55
18	Guardrail Type 2	1,000.00	Linear Feet	$25.00	$25,000.00	$25,000.00	$50,000.00	$24,000.00	$25,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	$30.00	$6,000.00	$7,000.00	$7,000.00	$6,200.00	$6,000.00	$7,000.00	$7,000.00	$7,000.00	$7,000.00	$7,000.00
20	Type 4 Signs	1,000.00	Square F...	$15.00	$15,000.00	$15,000.00	$13,000.00	$13,000.00	$13,000.00	$13,000.00	$13,000.00	$13,000.00	$13,000.00	Off $300,000.00
27.1	Electrical Work	1.00	Each	$5,000.00	$5,000.00	$5,000.00	$3,500.00	$3,500.00	$3,500.00	$3,500.00	$3,500.00	$3,500.00	$3,700.00	$3,500.00
	Summary													
	Minority Type									DBE				
	Quoted Total					$77,000.00	$25,264.55	$30,200.00	$71,000.00	$13,000.00	$4,450.00	$50,000.00	$4,200.00	$300,000.00
	Comparable Total <					$77,000.00	$98,764.55	$71,964.55	$87,500.00	$98,764.55	$98,764.55	$98,764.55	$98,964.55	$385,764.55

8.4.9.3 Review

You can keep track of what quote groups have been reviewed by checking the Reviewed check box.



This can be helpful when there are many quotes to track and several users managing them. If any changes are made to quotes within a quote group *after* the quote group is marked as Reviewed, the quote group will be highlighted in yellow to indicate something changed since the last review.

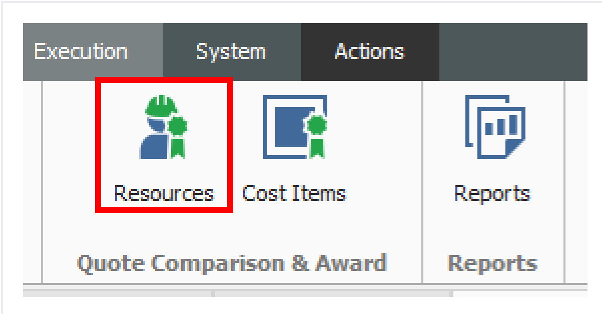


Once reviewed again after the changes, you can uncheck and check the Reviewed checkbox again to indicate it is up to date, and the yellow highlighting disappears.

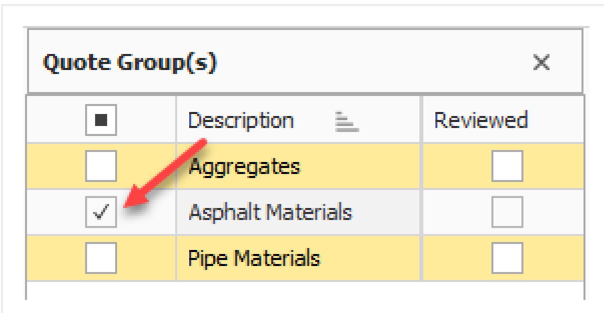
The following steps walk you through comparing and awarding the Aggregate quotes.

Step by Step — Compare and Award Quotes

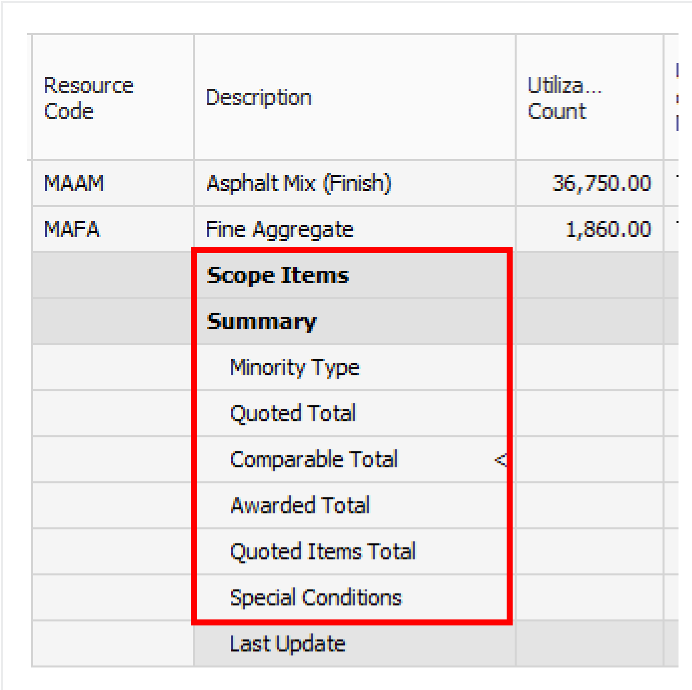
1. Open the **Training job**, and from the main InEight Estimate landing page select **Quote>Quote Comparison & Award**.
2. Select **Resources** on the Quote Comparison & Award ribbon.



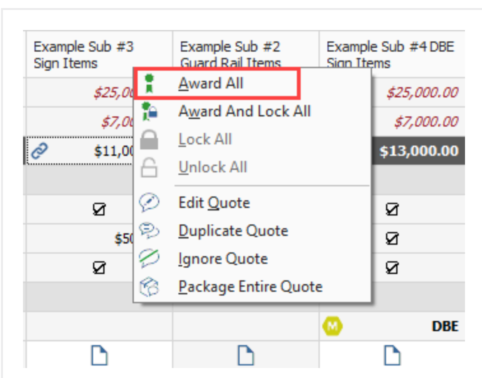
3. Under Description, select **Asphalt Materials**.



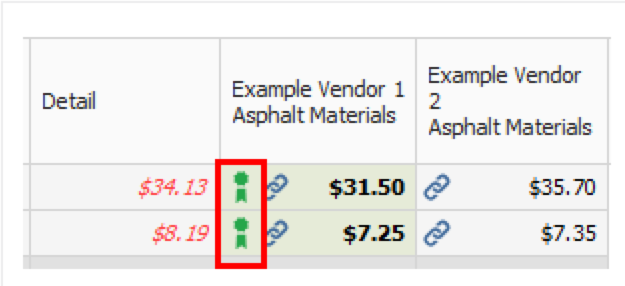
4. Review the quotes to determine the lowest bidder:
    - Select the Configure Total icon in the tool ribbon to view additional captions
    - Both vendors have no split items for both resources.



5. Example Vendor 1 has the lowest comparable amount, so award all to Vendor 1 by right clicking on the Example Vendor 1 Asphalt Materials and selecting **Award All**.

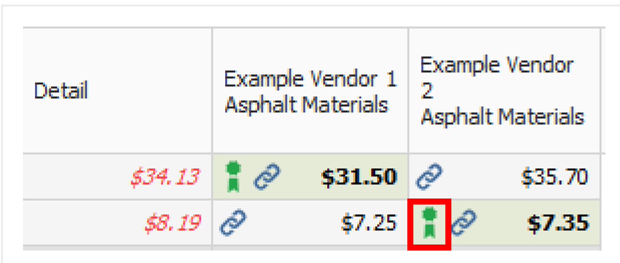


- By awarding Example Vendor 1 both resources, the award ribbon icon displays next to the unit price.



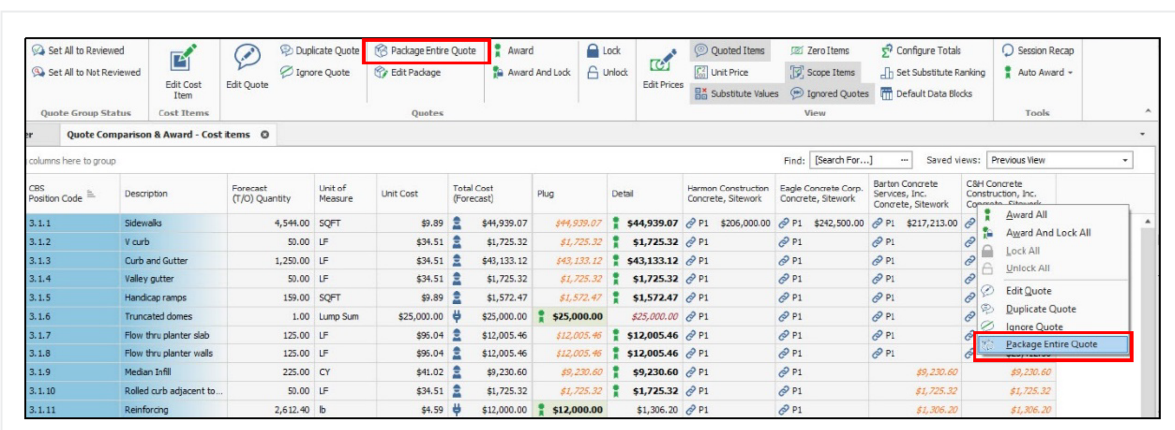
- You could also change your mind and award Example Vendor 2 one of the resources. In this case, award resource code MAFA to Example Vendor 2.

6. Right click on $7.35 under Example Vendor 2, and select **Award**.
   - You now have awarded resource code MAFA to Example Vendor 2.



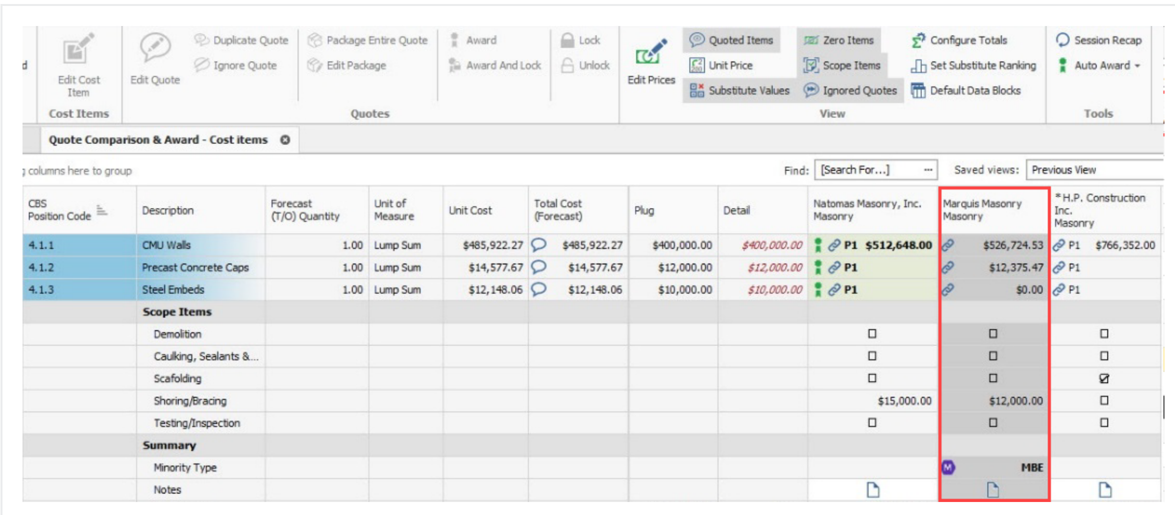
8.4.10 Package Entire Quote

The Package Entire Quote function allows you to mark an entire quote as a package. This is beneficial if you are attempting to quickly update an existing detailed quote to a lump sum quote from the Quote Record or Quote Compare and Award form.

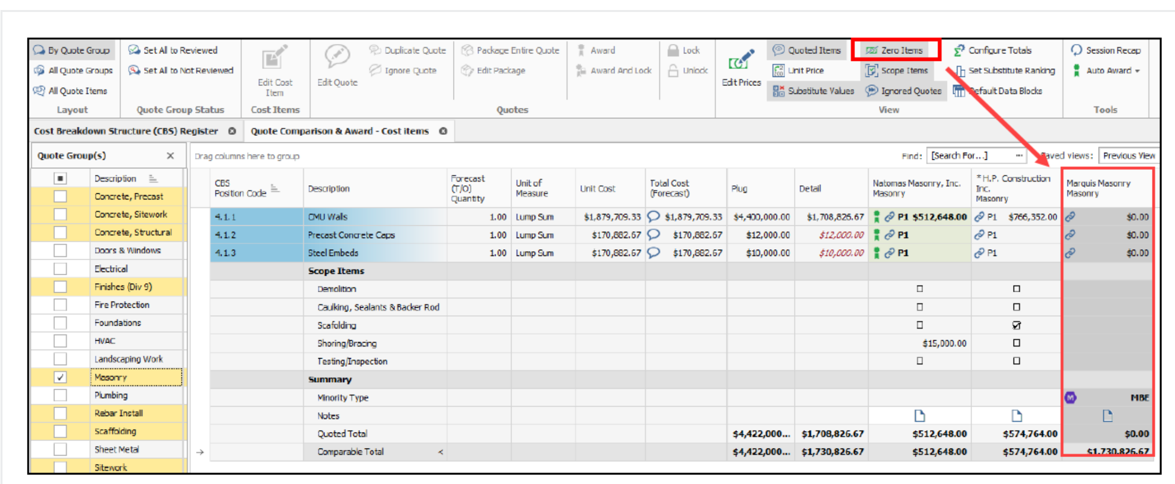


8.4.11 Incomplete Quotes

The Incomplete quotes status indicates if a quote includes quote items that do not yet have a price. This is often the case when vendors respond to an RFQ expressing interest in bidding but do not provide their prices until right before the bid is due. These quotes display in gray in the Quote Compare and Award form.



Incomplete Quotes that are Scope Only can be viewed in the Quote Compare and Award form using the **Zero Items** toggle. These are quotes that have none of the Items priced. These quotes are displayed to the right of all the Comparable Quotes.



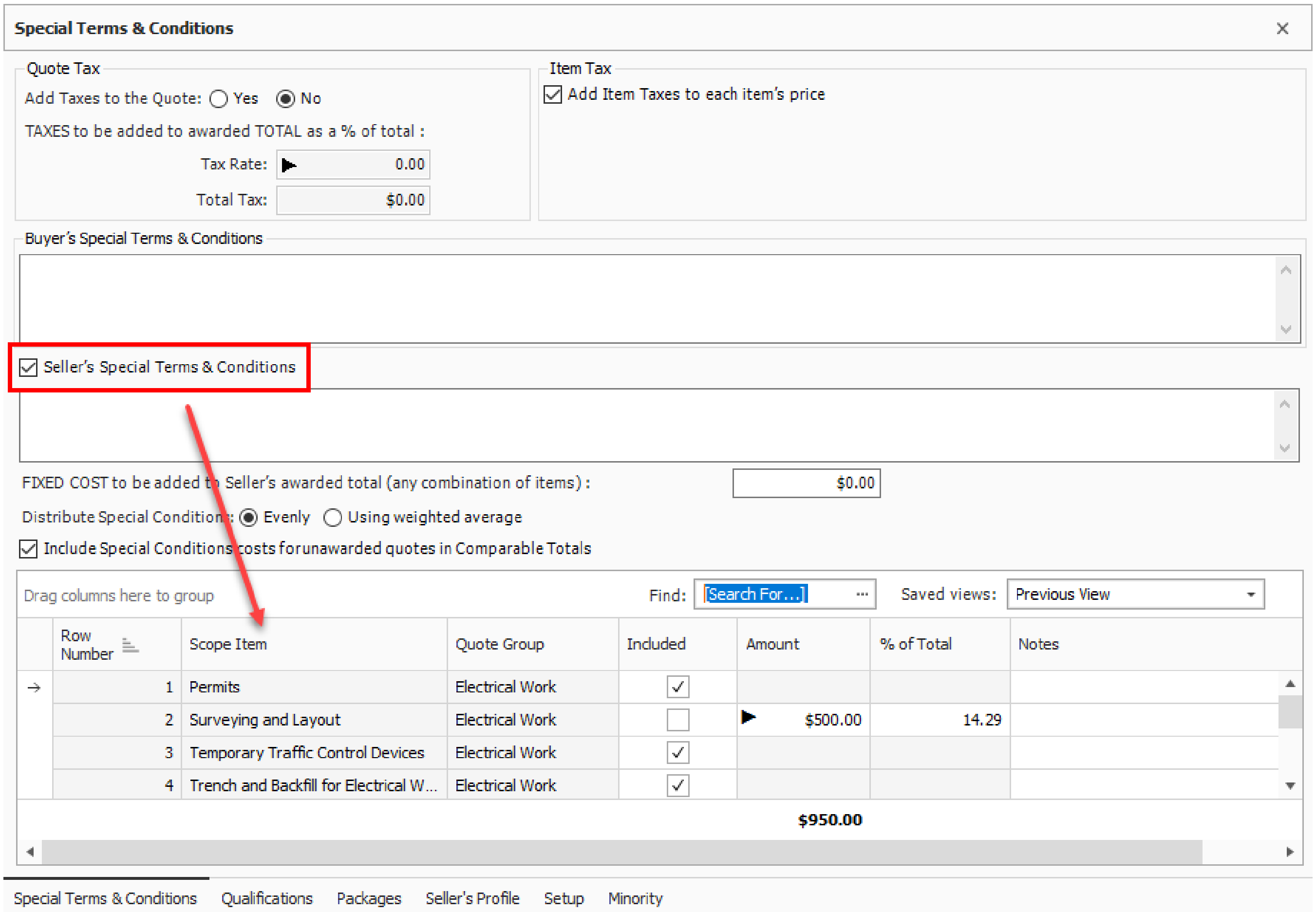
8.5 SCOPE ITEMS

During the bidding process, it’s common for subcontractors and suppliers to provide a quote(s) for work during the tail end of the bidding process. These last-minute offers make it extremely difficult for you to evaluate and compare the various quotes and your ability to award them. With **scope items**, you can create and evaluate checklists and quote group exclusions, and account for them within the Quote Comparison and Award form.

You can view scope items as a checklist of items that break down the quote’s scope of work into individual tasks to aid in the process of evaluating subcontractor and supplier quotes in greater detail. This can be used to ensure that certain items of work are included or excluded. If excluded, the scope items need to be properly accounted for by contractor awarding the quote.

Overview – Quote Record – Scope Items

Section	Description
Seller’s Special Terms & Conditions	By default, all scope items are considered included in the quote, and the Special Conditions amount is $0.00. On the quote record, by selecting the checkbox, you can indicate scope items and uncheck items that are not included. The amount associated with these items will then total up in the Special Conditions subtotal. The person responsible for awarding quotes needs to update the Inclusions field to correspond with what the subcontractor has agreed to include in the quote.

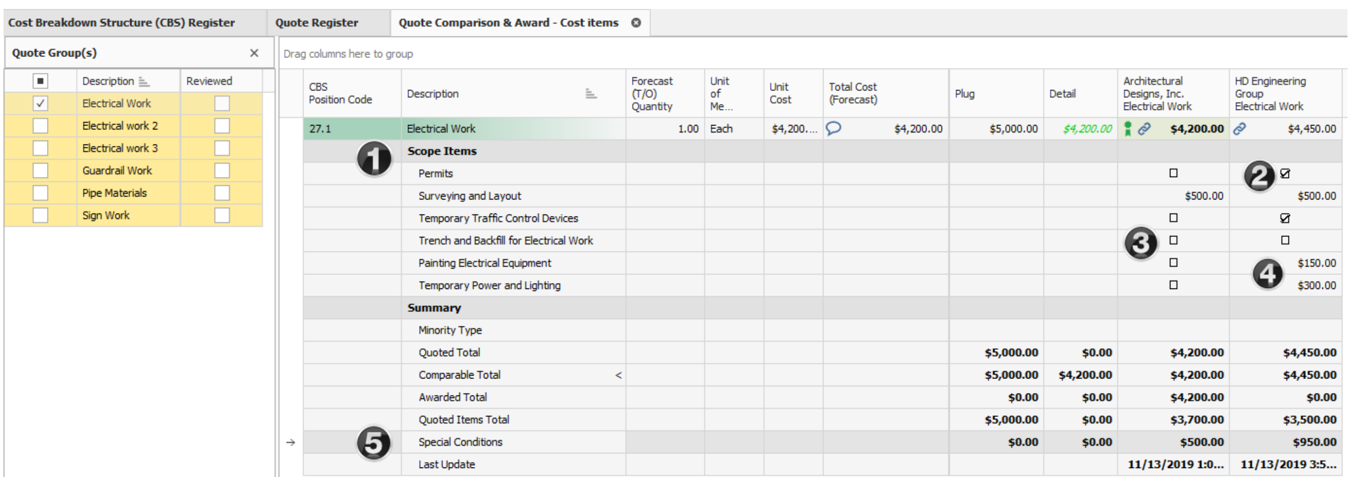


Overview – Quote Comparison and Award – Scope Items

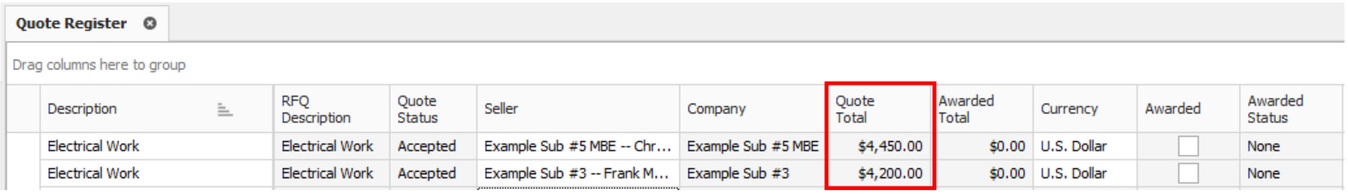
Section		Description
1	Scope Items	Quote Comparison and Award checklist items for your quote that help with evaluating subcontractor and supplier quotes in greater detail. This is used to ensure certain items are either included (inclusion) or excluded (exclusion) in the quote and accounted for by the entity awarding the quote.
2	Scope Item Inclusions	Maintained in Quote Record form. These are the Seller's Special Terms & Conditions scope items that the subcontractor is including in their quote price. When the scope item contains a value, the subcontractor is agreeing to perform the work.
3	Scope Item Exclusions	Maintained in Quote record form. These are the Seller's Special Terms & Conditions scope items price. If the Inclusions checkbox is blank, the

Overview – Quote Comparison and Award – Scope Items (continued)

Section		Description
		subcontractor is NOT agreeing to perform the scope items.
4	Scope Item value	An entered value means that the subcontractor is excluding this scope of work. However, you may add an amount because this scope could incur a cost. Once the bid is awarded, you may find another subcontractor to perform the work. You are simply accounting for a cost for this scope of work. In the example below, HD Engineering is not going to paint the electrical equipment, but you know the cost is $150.00. You are showing this cost to account the cost for this scope of work that needs to happen.
5	Seller’s Special Terms & Conditions	By default, all scope items are considered included in the quote, and the Special Conditions amount is $0.00. On the quote record, by selecting this checkbox, you can indicate scope items and uncheck items that are not included. The amount associated with these items will then total up in the Special Conditions subtotal. The person responsible for awarding quotes needs to update the Inclusions field to correspond with what the subcontractor has agreed to include in the quote.



The example below in the Quote Register form shows quotes from two subcontractors, both with different quote prices. It is important to understand all scope of work the subs are quoting. By just viewing these quotes alone, it’s difficult to understand which quote will provide you with the best value. In other words, just because Example Sub #3 is the lowest priced quote, does not mean it is the best quote to go with.

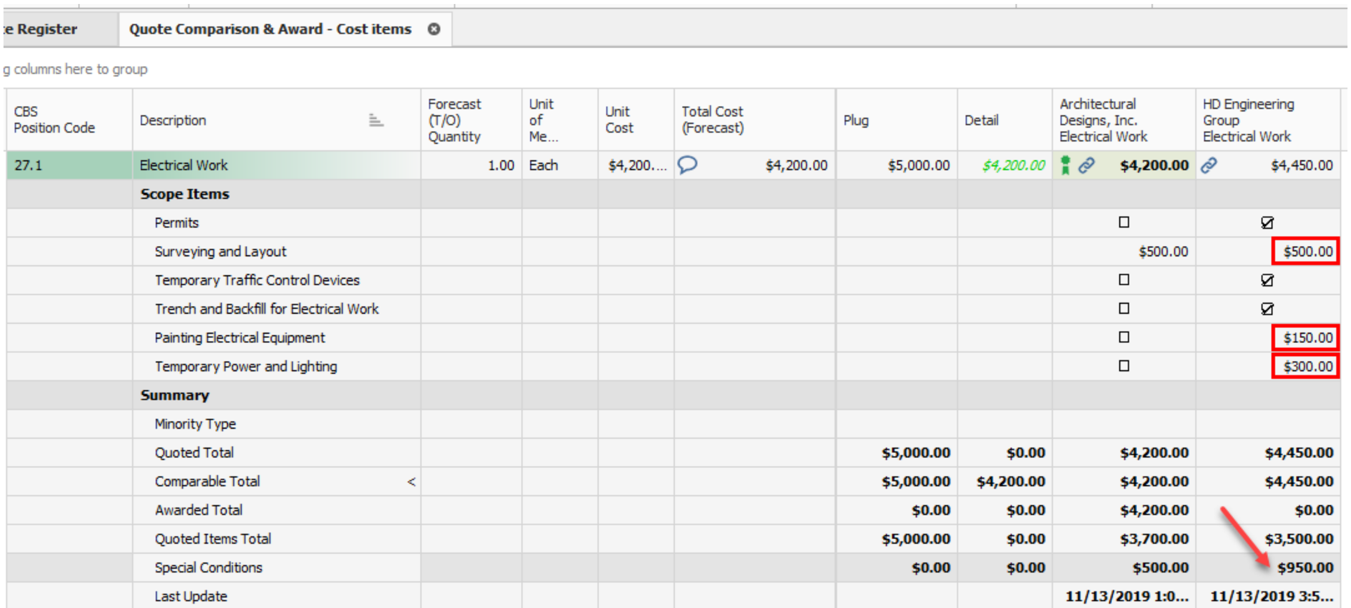


Quote Register

Drag columns here to group

Description	RFQ Description	Quote Status	Seller	Company	Quote Total	Awarded Total	Currency	Awarded	Awarded Status
Electrical Work	Electrical Work	Accepted	Example Sub #5 MBE -- Chr...	Example Sub #5 MBE	$4,450.00	$0.00	U.S. Dollar	☐	None
Electrical Work	Electrical Work	Accepted	Example Sub #3 -- Frank M...	Example Sub #3	$4,200.00	$0.00	U.S. Dollar	☐	None

The example below in Quote Comparison and Award shows that HD Engineering Group is excluding 3 scope items in their quote that totals $950. This provides a more granular picture for what is being included within each subcontractor's scope of work. It also displays how much each scope of work costs, so you have the option to find another subcontractor to perform this scope work.



e Register | Quote Comparison & Award - Cost items

g columns here to group

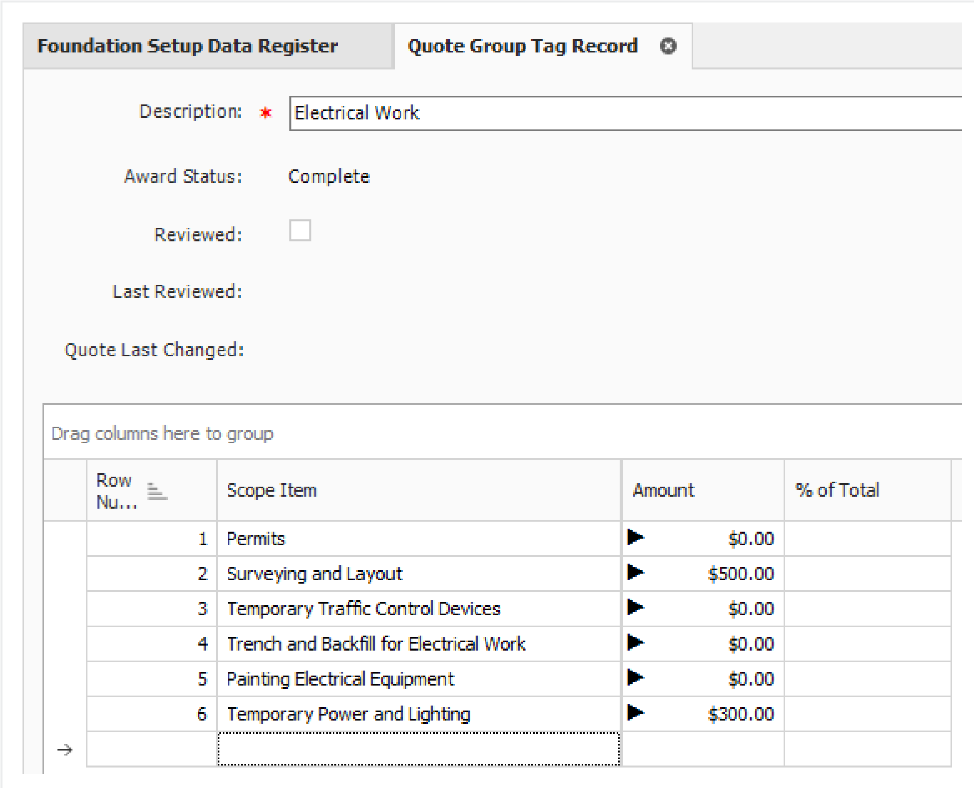
CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Me...	Unit Cost	Total Cost (Forecast)	Plug	Detail	Architectural Designs, Inc. Electrical Work	HD Engineering Group Electrical Work
27.1	Electrical Work	1.00	Each	$4,200....	$4,200.00	$5,000.00	$4,200.00	$4,200.00	$4,450.00
	Scope Items								
	Permits							☐	☑
	Surveying and Layout							$500.00	$500.00
	Temporary Traffic Control Devices							☐	☑
	Trench and Backfill for Electrical Work							☐	☑
	Painting Electrical Equipment							☐	$150.00
	Temporary Power and Lighting							☐	$300.00
	Summary								
	Minority Type								
	Quoted Total					$5,000.00	$0.00	$4,200.00	$4,450.00
	Comparable Total					$5,000.00	$4,200.00	$4,200.00	$4,450.00
	Awarded Total					$0.00	$0.00	$4,200.00	$0.00
	Quoted Items Total					$5,000.00	$0.00	$3,700.00	$3,500.00
	Special Conditions					$0.00	$0.00	$500.00	$950.00
	Last Update							11/13/2019 1:0...	11/13/2019 3:5...

Utilizing Scope Items enables you to more effectively compare quotes from subcontractors and suppliers by providing a deeper comparison of quotes. Moreover, it provides clearer visibility of what a proposal may or may not be including at the time you are attempting to make an award.

You can make a more informed decision on whom to award the quote to, now that the vendor quotes and associated scope items are all visible on one screen.

8.5.1 Scope Item Setup

Scope items are stored within each quote group tag in the Foundation Setup Data form. On each Quote Group Tag Record, you can list out scope items that break down the work into smaller scopes of work, along with the estimated cost amount associated with each scope item.

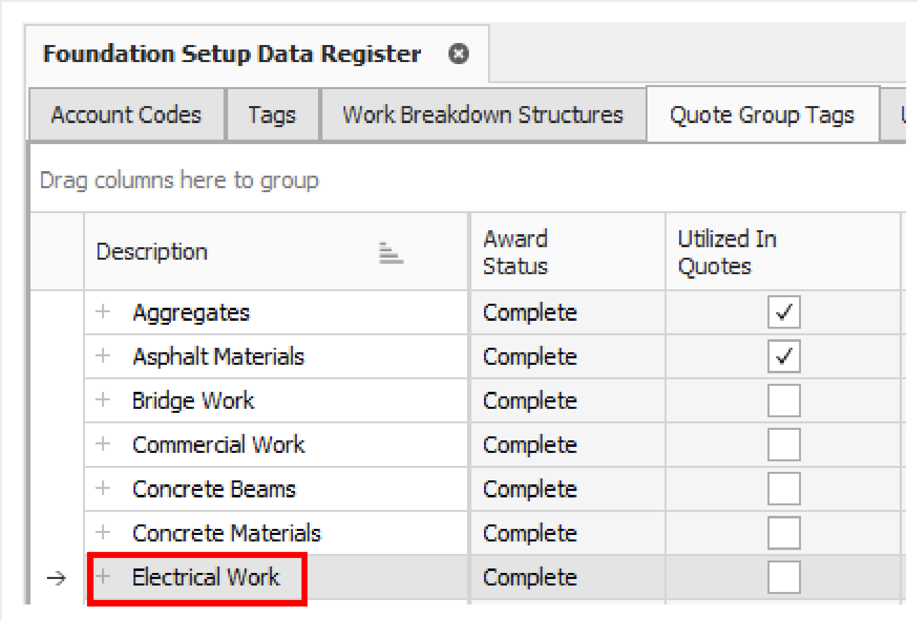


8.5.2 Scope Item Creation and Award

The following Step by Step assumes you are putting out an advertisement for bids for some electrical work on a project. You will add scope items with some fixed costs as a special condition, then will compare quotes in order to decide which vendor quote is the best deal.

Step by Step — Create and Award Scope Items

1. Open the **Training Job**.
2. Select the **Setup** tab.
3. Click on **Foundation Data Setup** in the Initialize section.
4. Select the **Quote Group Tags** tab to setup Scope Items within a Quote Group.
5. Create a new Quote Group Tag called **Electrical Work** and click **OK**.



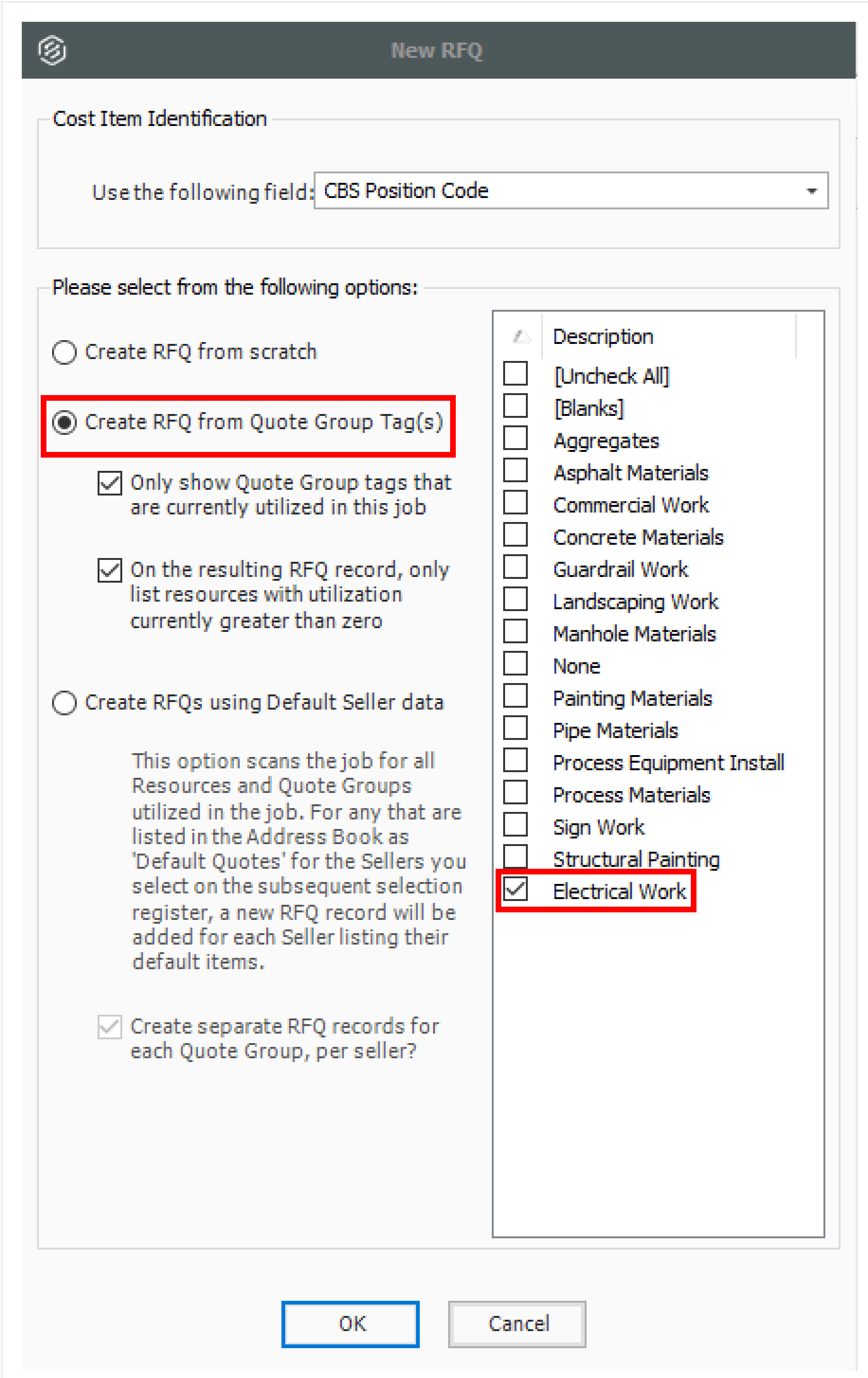
6. Open **Electrical Work** and add the following Scope Items:
   - Permits
   - Surveying and Layout
   - Temporary Traffic Control Devices
   - Trench and Backfill for Electrical Work
   - Painting Electrical Equipment
   - Temporary Power and Lighting
7. Enter **500** in the Amount field for Survey and Layout, and **300** for Temporary Power and Lighting.
   - If any of these default columns are missing, click on one of the headers, and right click. Select **Column Chooser** and drag the item(s)over tto the header bar, then click **OK**

Row Number	Scope Item	Amount	% of Total
1	Permits	$0.00	
2	Surveying and Layout	$500.00	
3	Temporary Traffic Control Devices	$0.00	
4	Trench and Backfill for Electrical Work	$0.00	
5	Painting Electrical Equipment	$0.00	
6	Temporary Power and Lighting	$300.00	

8. Click **OK**.
9. Select the **Estimate** tab.
10. Click on **Cost Breakdown Structure (CBS)**.
11. Change your Saved Views to **Quote Group Setup View**.
12. Create a cost item **Entry Gate** with a subordinate **Electrical Work**.
13. Assign **Quote Group Electrical Work** to the Electrical Work cost item.

CBS Position Code	Description	Forecast (T/O) Quantity
26	**Entry Gate**	1.00
26.1	Electrical Work	1.00

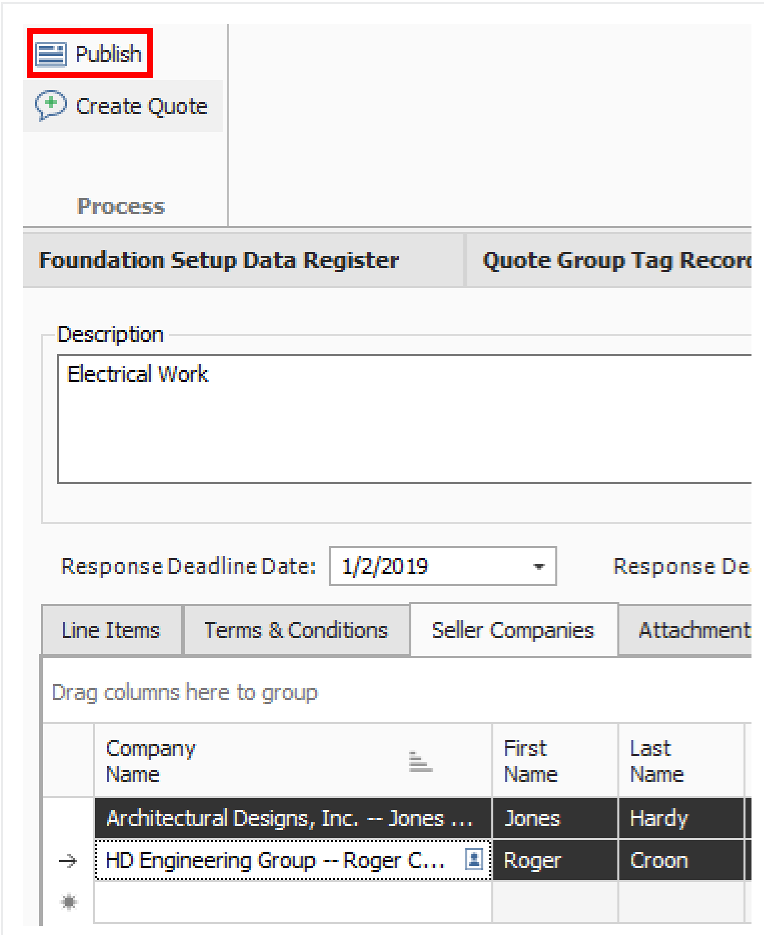
14. Select the **Quote** tab.
15. Click **Request For Quote (RFQ)** to open the RFQ Register.
16. Create an RFQ for the Electrical Work cost item by selecting the **New** icon on the Actions tab.
17. Select **Create RFQ from Quote Group Tag(s**) and select **Electrical Work**.



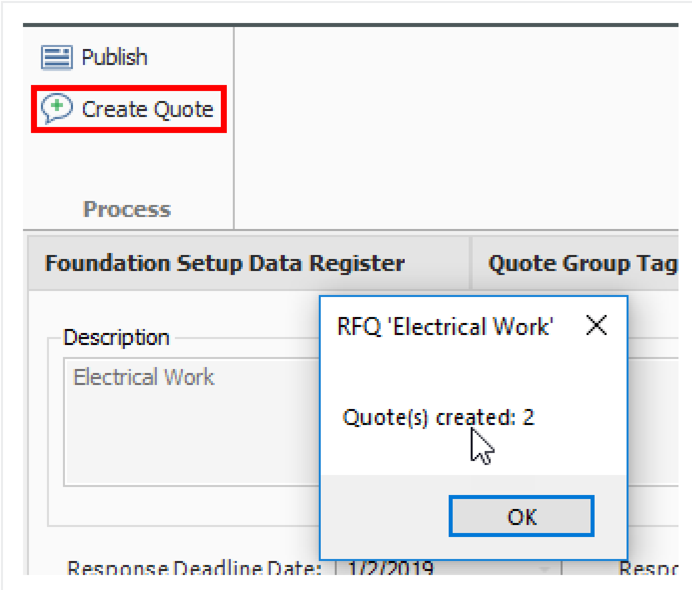
18. Click **OK**.
19. Click on the **Seller Companies** tab and select the following Company Names:

- Architectural Designs
- HD Engineering Group

20. Highlight both companies and select **Publish.**
    - Make sure the appropriate boxes are checked and fields filled out for publishing either by fax or by email prior to publishing



21. Assuming that you've already received quotes back from both companies, create a Quote from this RFQ for both companies by selecting the companies and selecting **Create Quote**.



22. Click **OK** to close the RFQ record.
23. Select the **Quote >Quotes** tab to open the Quote Register.
    - Note the 2 quotes that were just created for Electric Work

Description	RFQ Description	Quote Status	Seller
[Enter Description]		Invalid	<Ad-Hoc Address>
[Enter Description]		Invalid	<Ad-Hoc Address>
Aggregates	Aggregates	Received	Example Vendor 1 -- Pa
Aggregates	Aggregates	Received	Example Vendor 4 DBE
Aggregates	Aggregates	Received	Example Vendor 2 -- S
Asphalt Materials		Received	Example Vendor 1 -- Pa
Asphalt Materials		Received	Example Vendor 2 -- S
Concrete, Sitework		Ignored	HD Engineering Group
Electrical Work	Electrical Work	Received	Architectural Designs,
Electrical Work	Electrical Work	Received	HD Engineering Group

24. Open the Quote Record for HD Engineering Group and enter a Unit Price of **3,500**, which is based on the quote you received.

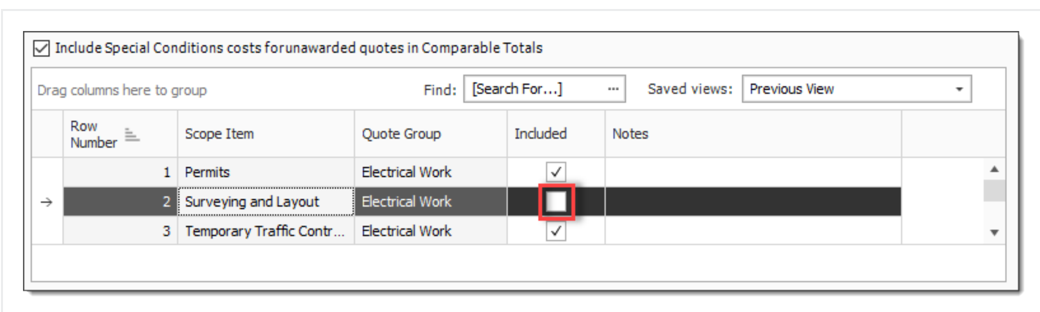
25. Select the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** radio button.

    - You now have visibility for all of scope items for this quote

Row Number	Scope Item	Quote Group	Inclusions	Amount	% of Total
1	Permits	Electrical Work	✓		
2	Surveying and Layout	Electrical Work	✓		
3	Temporary Traffic Cont...	Electrical Work	✓		
4	Trench and Backfill for E...	Electrical Work	✓		
5	Painting Electrical Equip...	Electrical Work	✓		
6	Temporary Power and L...	Electrical Work	✓		

26. Assuming HD Engineering is excluding certain scope items from this quote, click on the **Included checkbox** to exclude (uncheck) the following scope items:

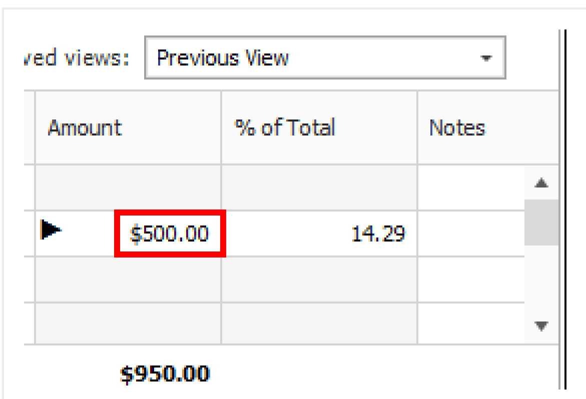
    - Surveying and Layout
    - Painting Electrical Equipment
    - Temporary Power and Lighting



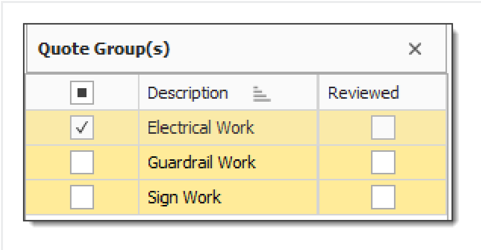
27. Type **150** in the Amount field for Painting Electrical Equipment.

    - Notice how the 3 scope items you just excluded are now added to the Special Conditions total for the quote

28. Click **NEXT** to move to the other Quote Record for Architectural Designs.
29. Enter a Unit Price of **3,700**.
30. Press **Tab** to move to the **Special Terms & Conditions** tab and select the **Seller's Special terms & Conditions (at right)** radio button.
31. Uncheck the Inclusions checkbox for **Surveying and Layout**
32. Add the amount **500**.



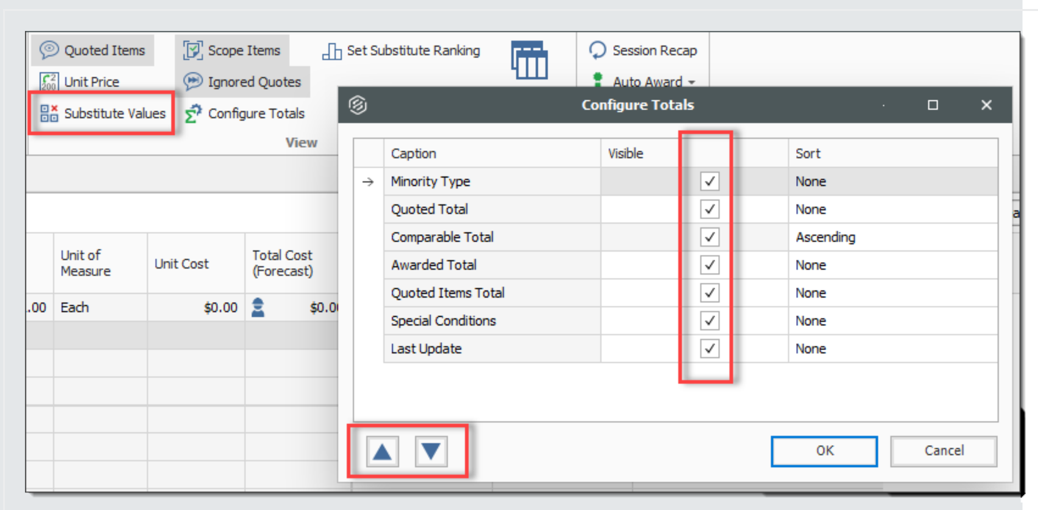
33. Click **OK.**
34. Select the **Quote** tab.
35. Open the **Quote Comparison and Award** form, and select the **Cost Items** tab.
36. Under **Quote Groups**, select **Electrical Work**.



- You will notice that scope items with inclusions and exclusions on the quotes are now displayed in the Scope Items section. The Scope Items button needs to be pressed in the View section of the screen
- The total of all exclusions are now added to the Special Conditions section for each subcontractor

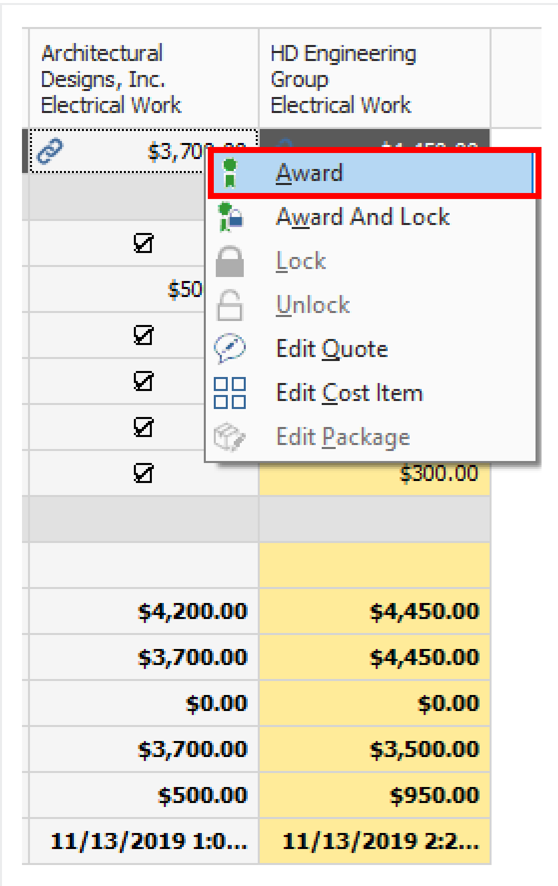
$5,000.00	$3,700.00	$3,700.00	$4,450.00
$5,000.00	$0.00	$0.00	$0.00
$5,000.00	$0.00	$3,700.00	$3,500.00
$0.00	$0.00	$500.00	$950.00

TIP If your Special Conditions row is missing, click the Substitute Values icon on the Action tab. You can also rearrange the sequence as desired.



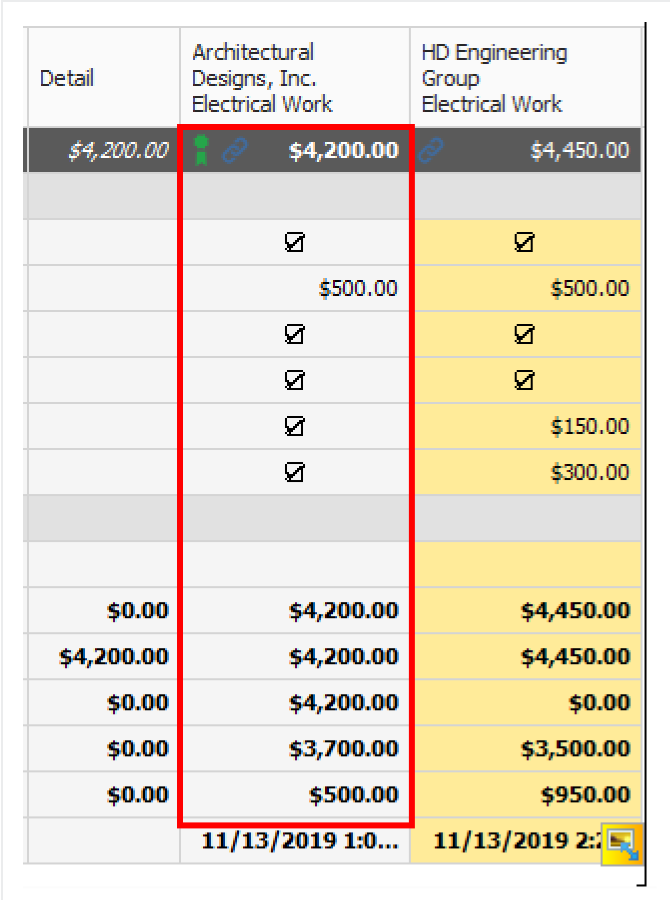
- Most importantly, this comparison including scope items makes it clear HD Engineering Group has provided a quote of $4,450, while Architectural Design's quote is $4,200

37. Right click on the quoted amount for Architectural Design and select **Award** to award the work to Architectural Design.



38. Click **Yes**, on the resulting prompt to mark the quote group as reviewed.

- The Architectural Design’s quote is now awarded



Detail	Architectural Designs, Inc. Electrical Work	HD Engineering Group Electrical Work
$4,200.00	$4,200.00	$4,450.00
	☑	☑
	$500.00	$500.00
	☑	☑
	☑	☑
	☑	$150.00
	☑	$300.00
$0.00	**$4,200.00**	**$4,450.00**
$4,200.00	**$4,200.00**	**$4,450.00**
$0.00	**$4,200.00**	**$0.00**
$0.00	**$3,700.00**	**$3,500.00**
$0.00	**$500.00**	**$950.00**
	11/13/2019 1:0...	**11/13/2019 2:**

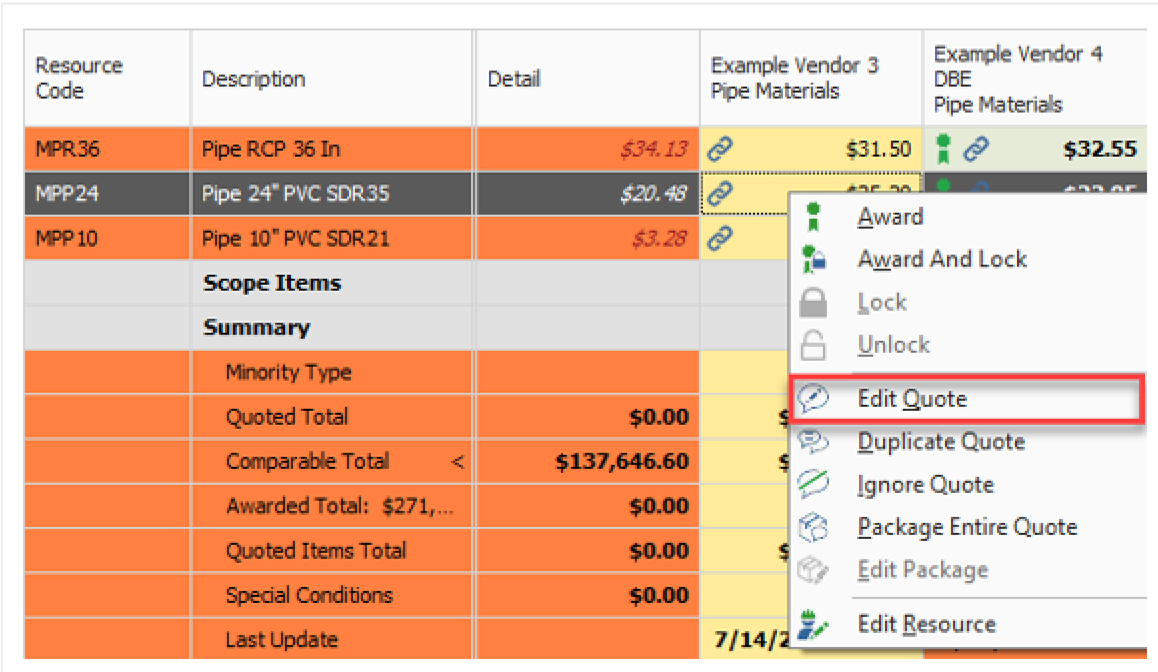
8.6 QUOTE ITEM ADJUSTMENT

Quote items can be adjusted even after a quote has been awarded. This could happen on closing day when a vendor sends in a last minute discount. For example, vendor 3 has sent in a 10% discount on piping materials. This percentage discount is applied to the vendor 3 quote by entering the 10% in the Condition Adjustment column.

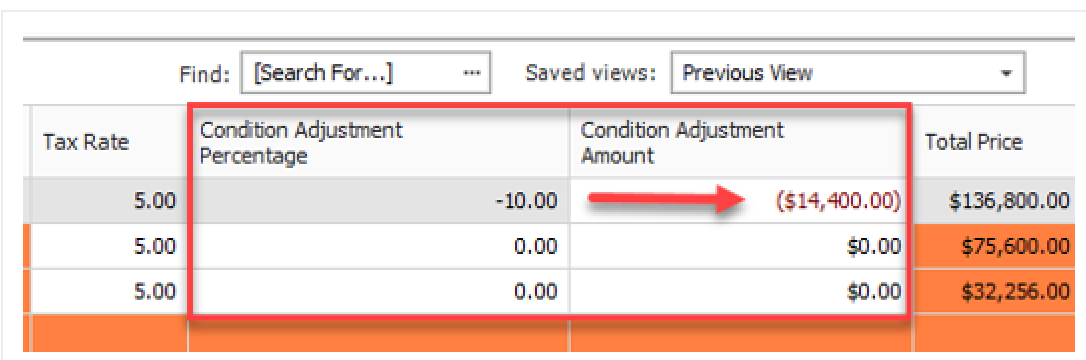
Step by Step — Quote Item Adjustment

1. From the Ribbon, select the **Quote** tab.
2. Under the Quote Comparison and Award section, select **Resources**.

3. Locate the **Example Vendor 3** column.
4. Select the quote you want to edit under the Example Vendor 3 column. In the Ribbon, select the **Actions** tab.
5. Under the Quotes section, select **Edit Quote**. You can also right-click and select **Edit Quote**. This launches the Quote Record.

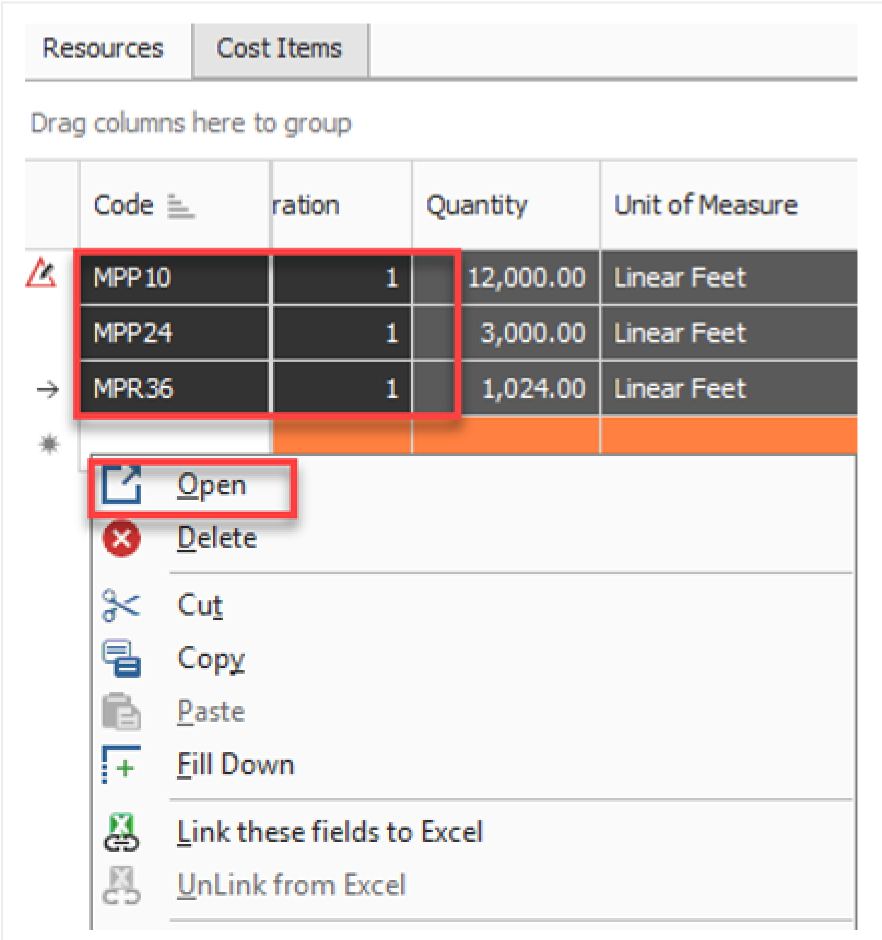


6. You can make Condition Adjustments by a percentage or an amount. Select the field to adjust the percentage or amount of the **Condition Adjustments**.

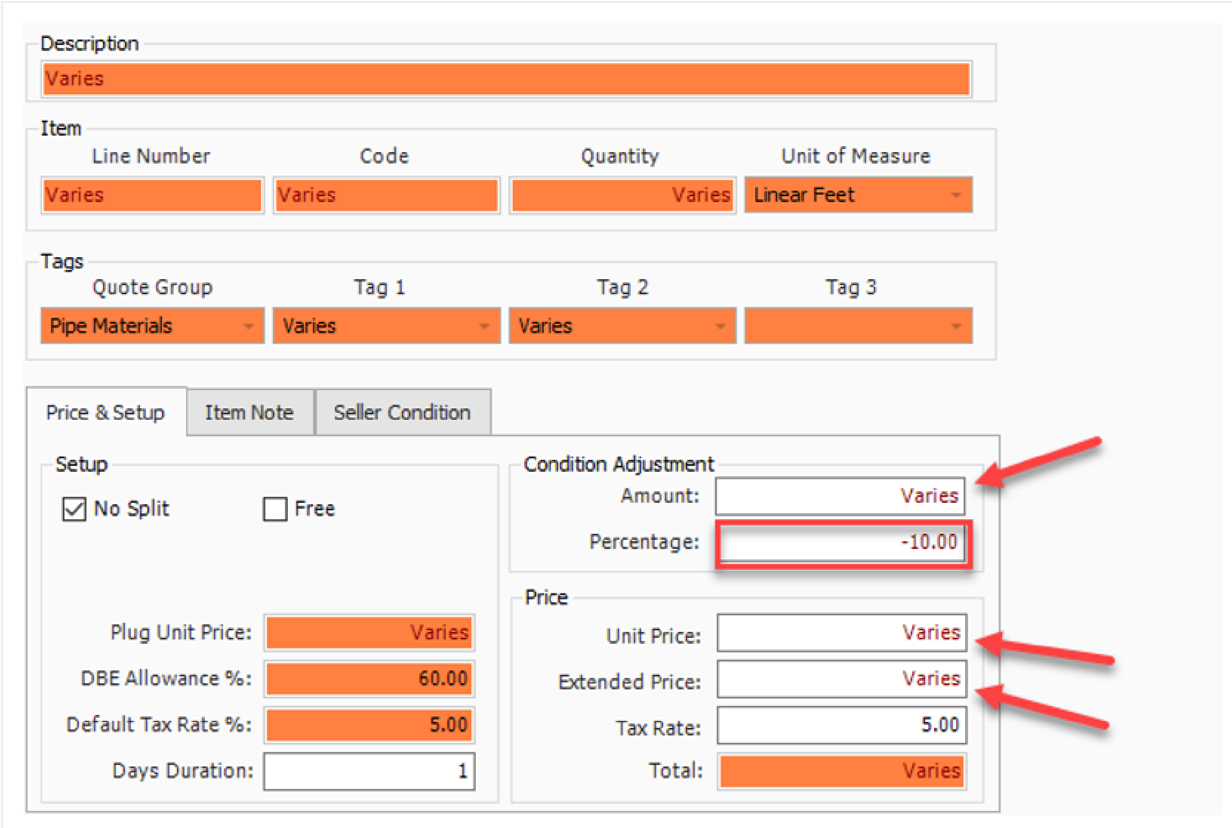


NOTE If you enter a percentage, the amount is populated based on that calculation. This is the same for entering a Condition Adjustment Amount.

7. Items adjustments can be applied individually or by using the multi-edit function. Select multiple resources in the Quote Record, then right-click and select **Open**. This opens the **Quote Resource Item Record**.



8. As you populate the 10% discount adjustment to all of the items selected using the multi-edit tool, the amount value changes to **Varies**. This is because of the variance in the unit rates for each selected item.



9. Select **OK** to save the changes to the line items in the Quote record and to save the Quote.

Lesson 8 Review

1. When you receive responses to your RFQ, the next step is to enter their pricing in the ___________________.
   a. CBS Register
   b. PBS
   c. Quote Register
   d. RFQ Register

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2. On a Quote Record, No Split means
   a. The quote must be combined with other quotes from the same vendor
   b. All items on the quote must be purchased from that seller
   c. You can't split the quote into multiple quotes

---

3. When a quote group is highlighted in yellow on the Quote Comparison & Award form, it signifies that
   a. The quote group has changed since it was last marked as Reviewed
   b. No quotes have been awarded for that quote group
   c. There are some quotes in the quote group that contain substitute values

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Lesson 8 Summary

As a result of this lesson, you can:

- Create and publish RFQs
- Define quote pricing
- Compare and award quotes
- Create and analyze scope items

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LESSON 9 – REPORTING

Lesson Duration: 30 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Run reports from the Reports menu
- Create and run reports from register forms

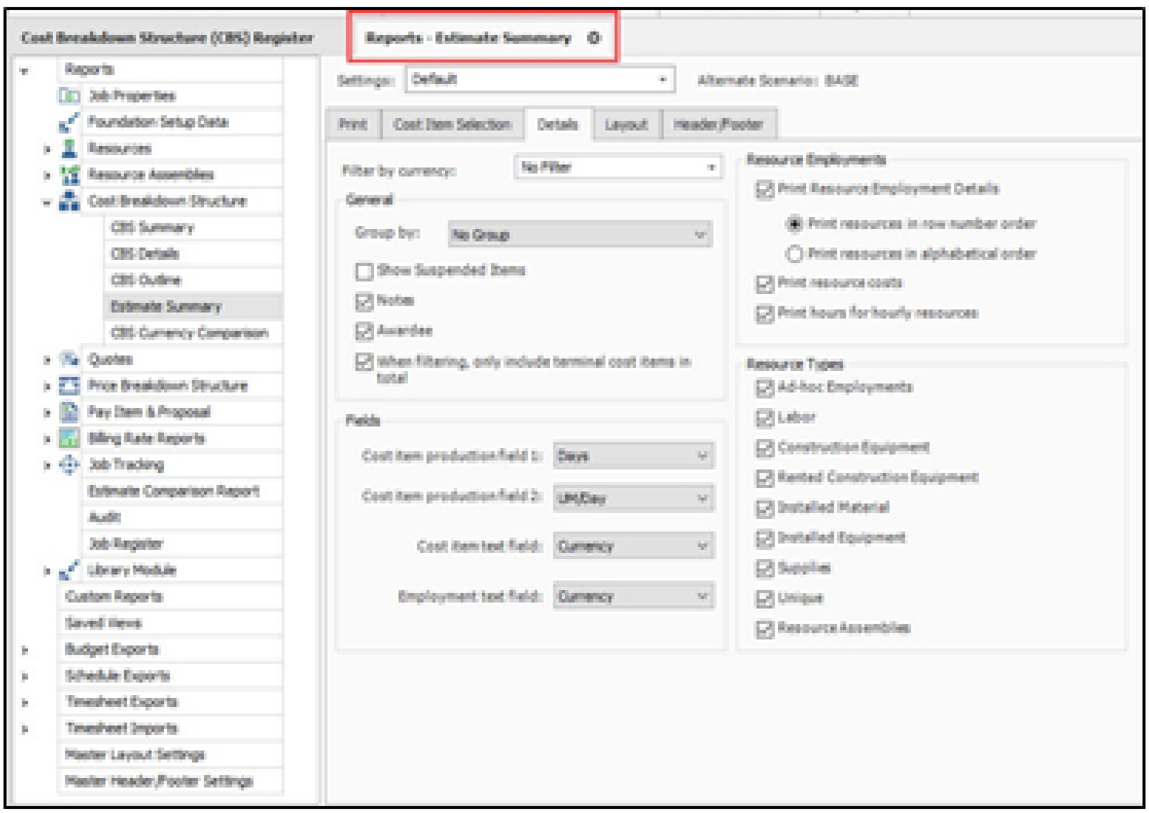
Lesson Topics

9.1 REPORTS MENU

InEight Estimate provides a lot of out of the box reports, referred to as “canned” or “system” reports, that can help you review and analyze your estimate.

9.1.1 Non-Modal Report dialog box

The Reports dialog is docked along with the other forms and registers. You can continue to work with your estimate without being forced to close the Reports dialog box.



If the report becomes undocked, the job code shows in the reports dialog box header.

9.1.2 Adjustable Reports

Most of the reports within InEight Estimate can be adjusted to output the specific data and reporting format you need. Each report has its own set of output settings for configuring and formatting the report.

All InEight Estimate adjustable reports are accessed from the Reports menu. You may even run the same report multiple times and choose different output settings based on what you want to see or who the intended audience is.

For example, you may choose to run the CBS Details Report several times to satisfy different needs or for different audiences, and include or exclude specific data depending on what you or the report recipients want to see.

- For a group of *estimators*, you may want to run a CBS Details Report that shows all cost and productivity data for a job
- For *field personnel,* you may want to run a CBS Details Report that shows no cost data, but all production and resource data
- Finally, for *executive management*, you may want to run a CBS Details Report that shows summary level information only

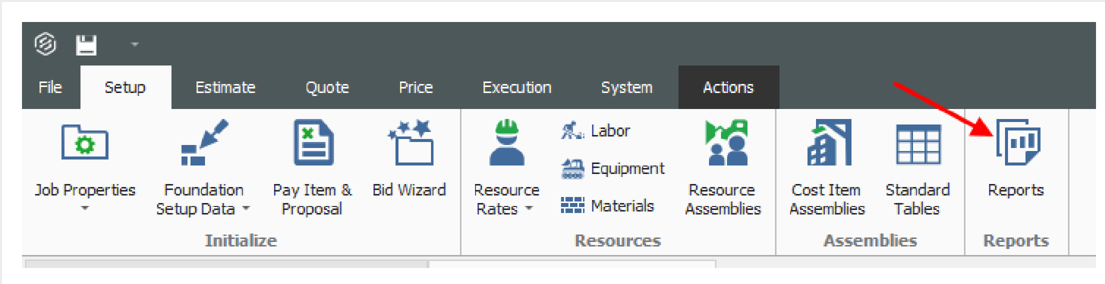
The following steps take you through a brief overview of the Reports menu and how you can access it.

Step by Step — Get to Know the Reports Menu

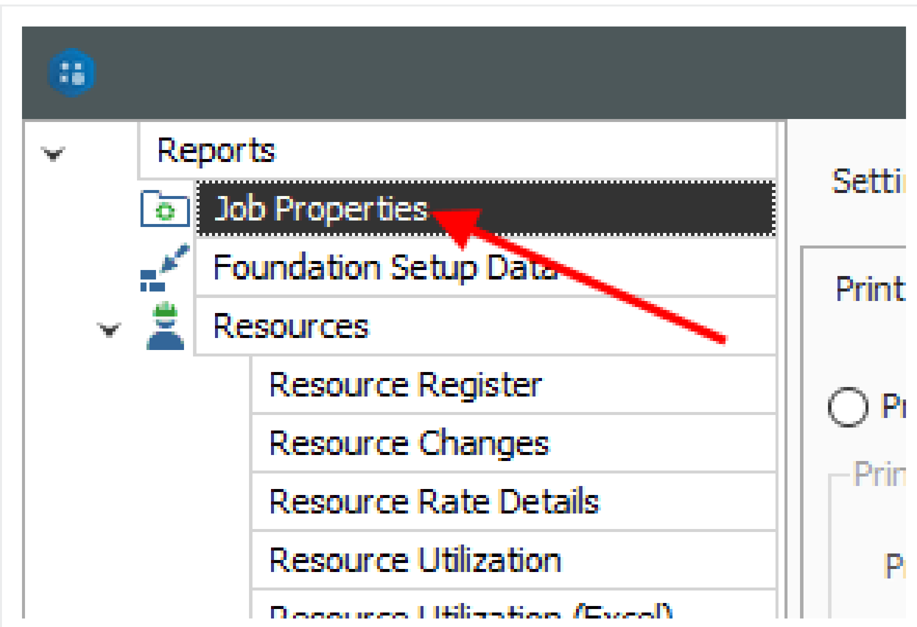
1. Open the **Training Job**, and select **Setup** tab.
    - You access the Reports menu by clicking on the Reports icon

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

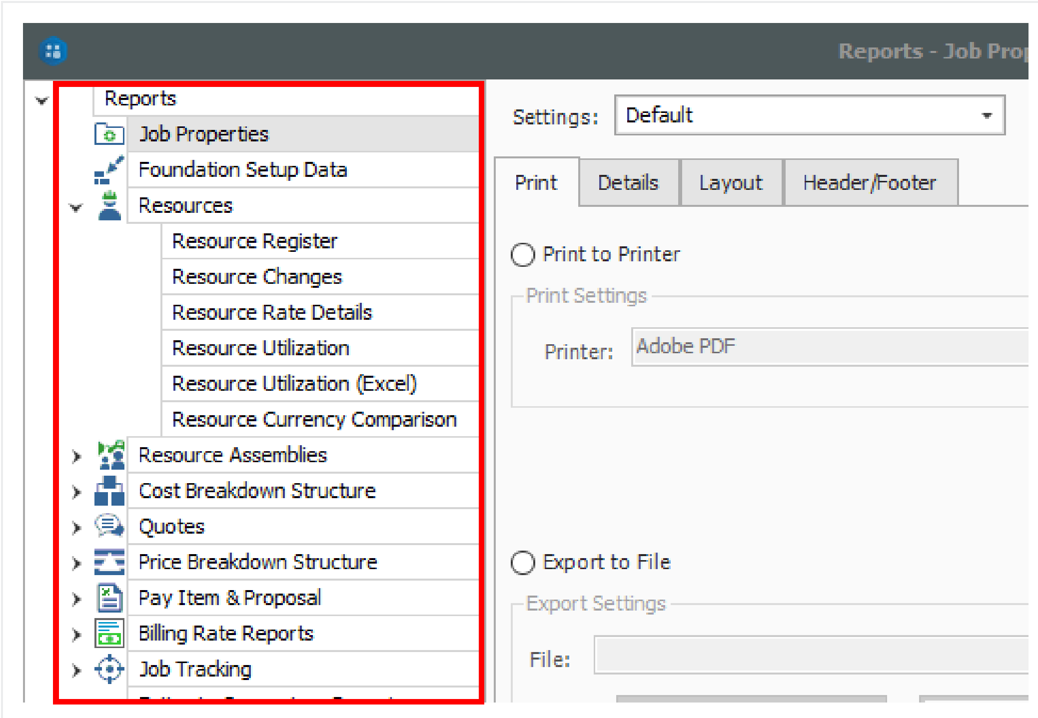
2. Select **Reports**.



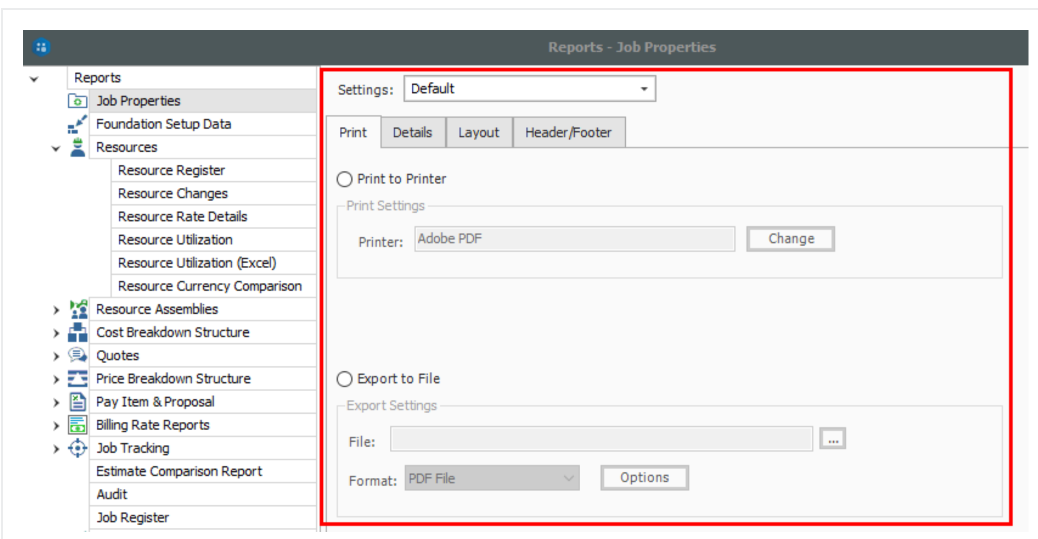
3. Here you select the Report of your choice. For this example, select the first option, **Job Properties**.



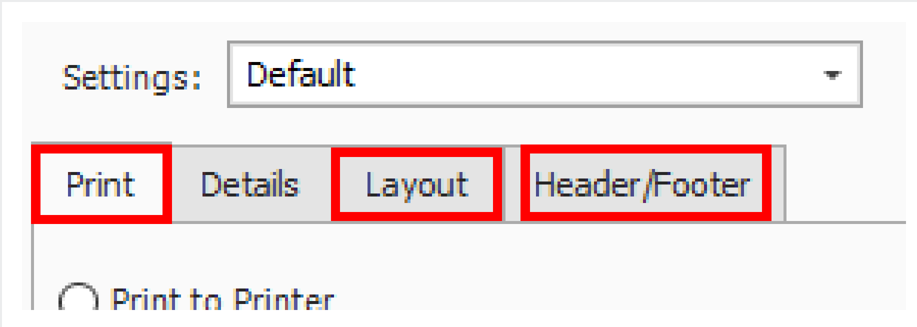
- You will see a split screen with the reports available on the left side bar
- The side bar on the left of the Reports form contains a "tree" of all InEight Estimate adjustable reports



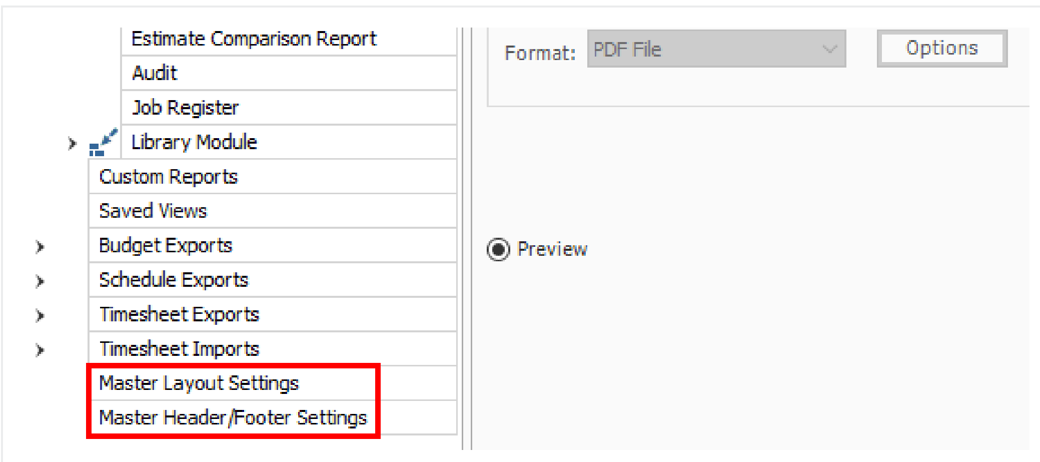
- On the right, when you select a report node on the left, note that it displays the Output Settings on the right side of the form, from which the report settings can be adjusted and the report can then be run



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



9.1.3 Output Settings

This section provides a more detailed explanation of the output setting tabs.

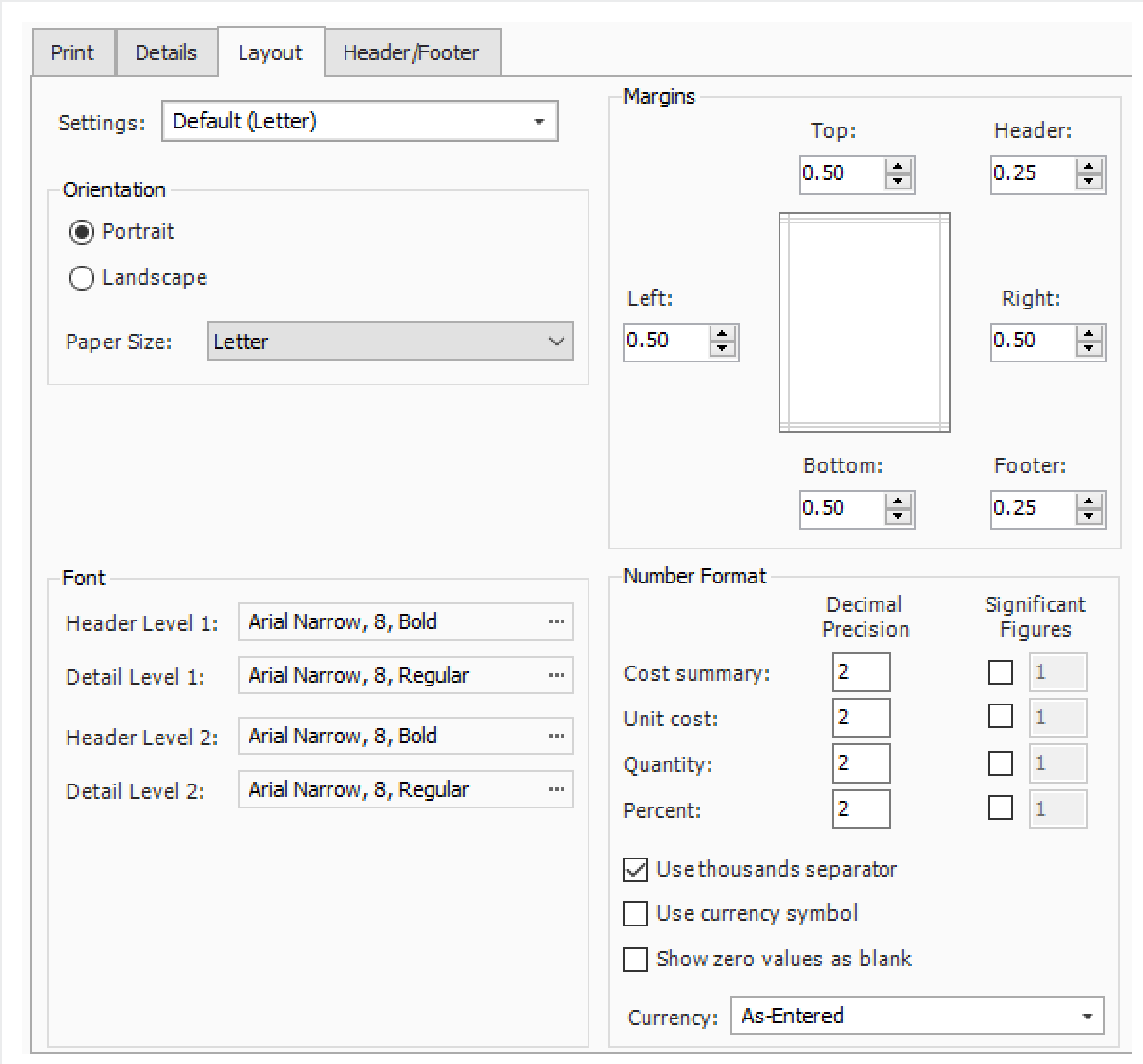
9.1.3.1 Report Printing Options

The Print tab includes three options for printing output: Print to Printer, Export to File, and Preview. Export file outputs include PDF, Excel, text, and more.

9.1.3.2 Report Layout Settings

Many of the InEight Estimate adjustable reports include formatting options for the general layout of the report, located under the Layout tab of the report's output settings. Settings for the report include:

Orientation, Margins, Font, and Number Format.

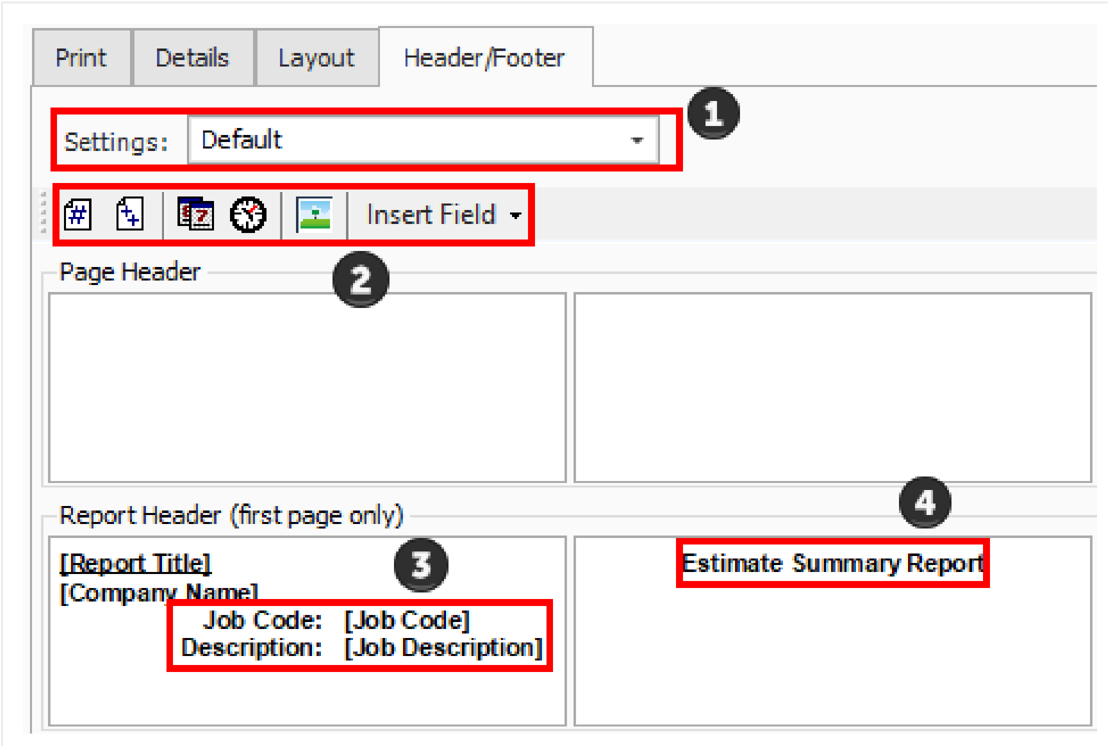


9.1.3.3 Report Header/Footer Settings

Many of the InEight Estimate adjustable reports include the option to define and insert headers and footers into the report. You can add information to the left, middle, or right of the header and footer sections of the report.

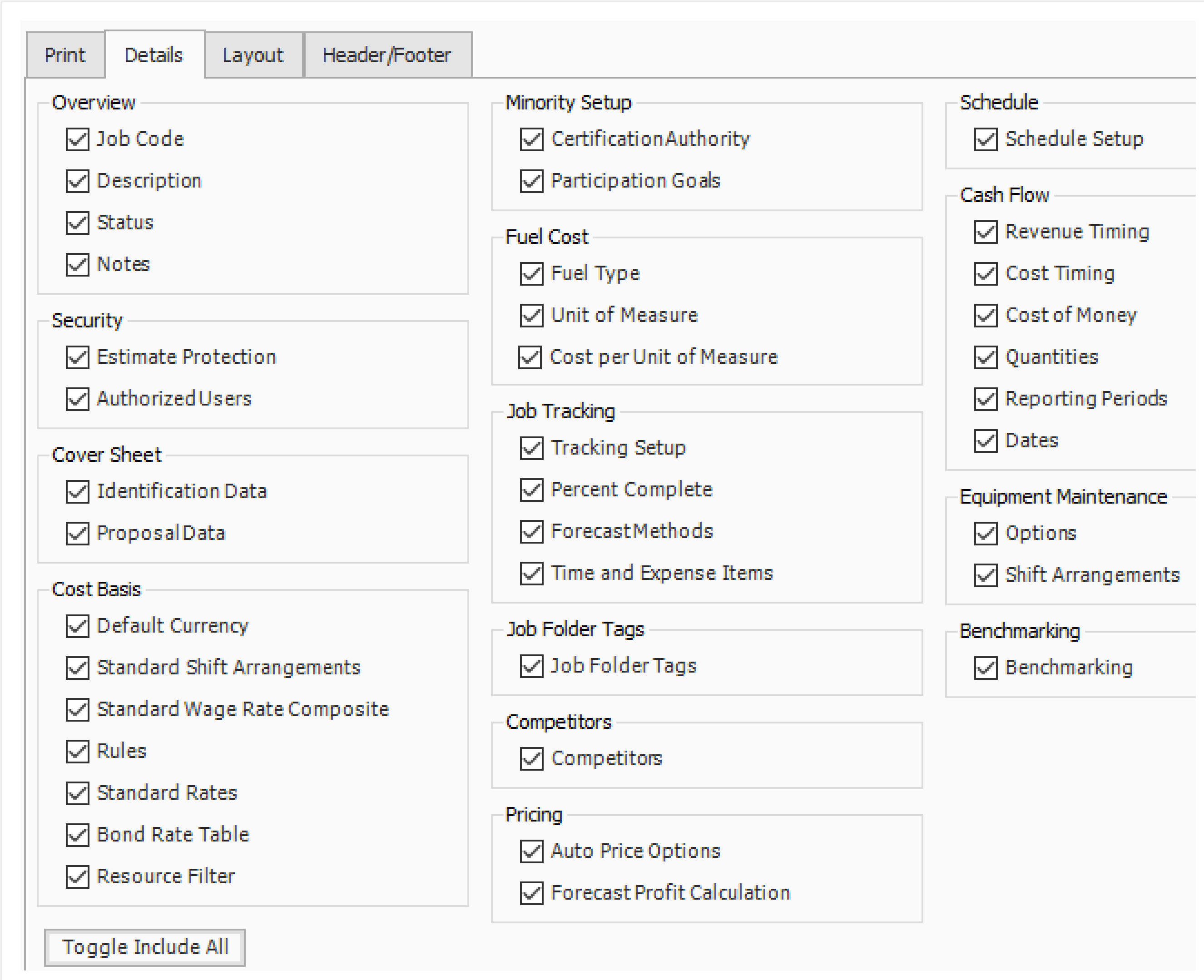
1. Once you define headers and footers, you can save them for use on other reports.
2. You can add page, time, and date stamps as needed, as well as images (e.g., company logo).
3. You can also use brackets to have it “stamp” the report with the Job Code and Job Description.

4. You can enter your own information as desired.



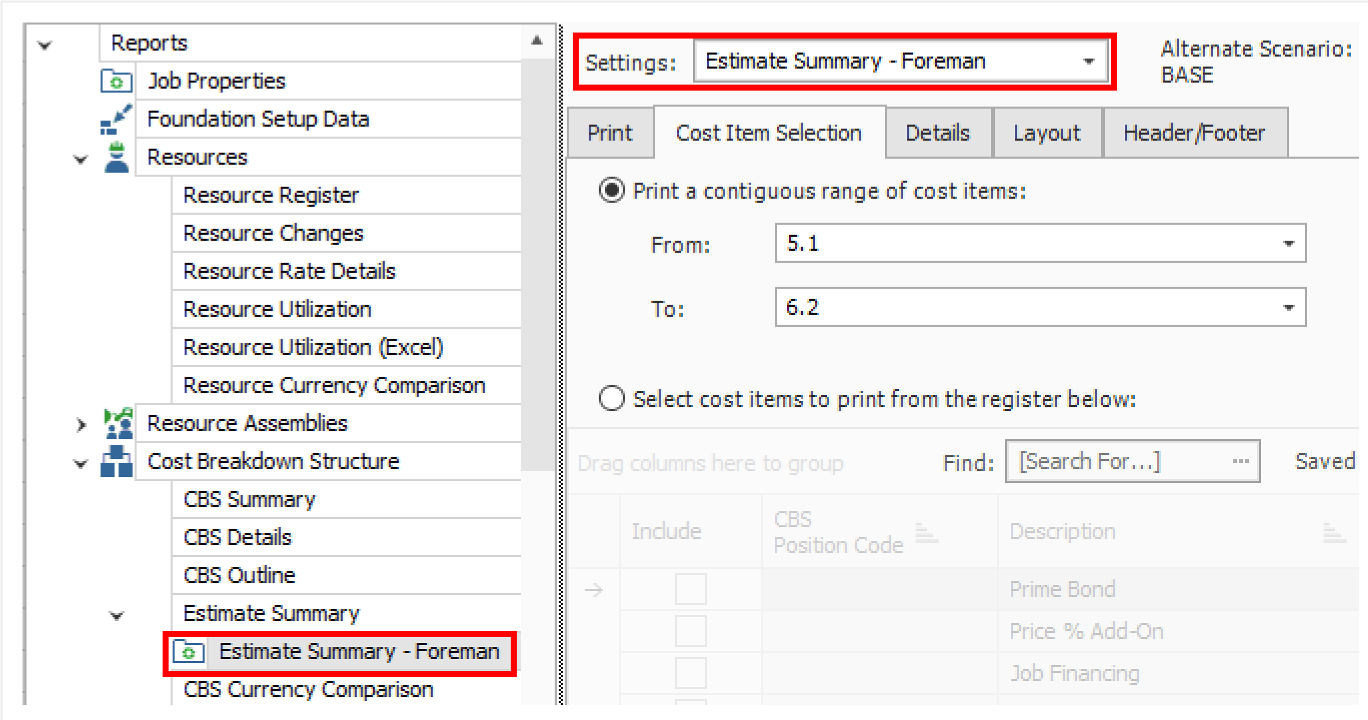
9.1.3.4 Report Detail Settings

Most reports have a Details tab with various options to configure what information is included on the report.



9.1.3.5 Save Output Settings

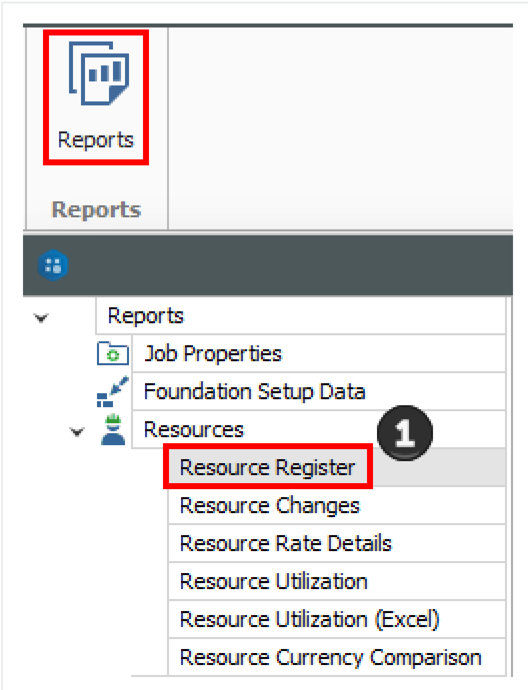
Once you've configured your settings for the report, you can save them as a custom version of that report.



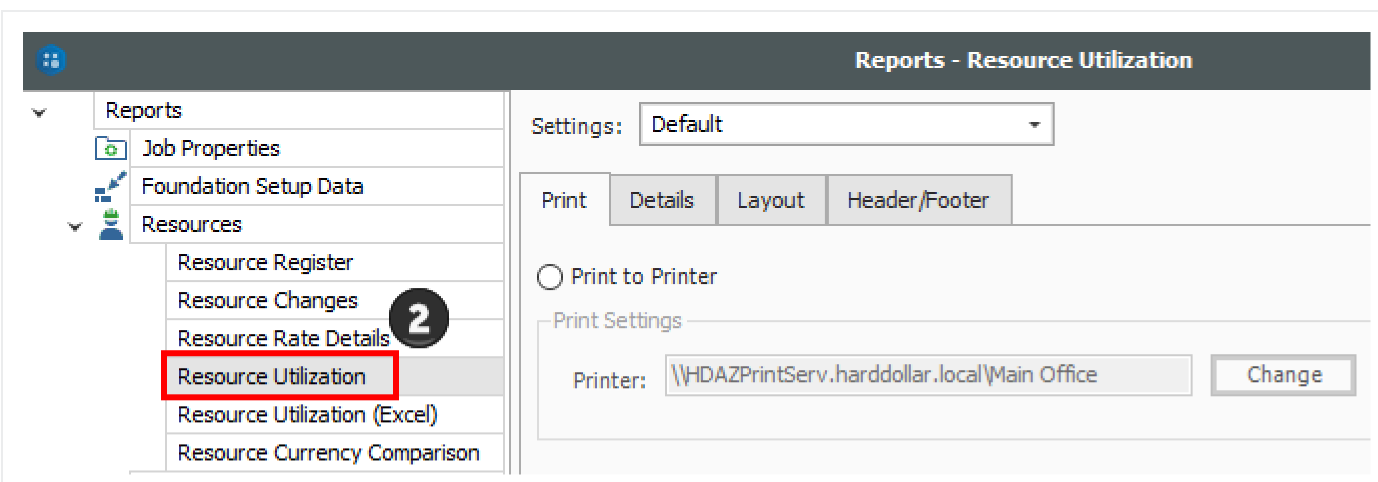
The following steps walk you through configuring the settings and formatting for two different reports.

Step by Step — Configure Report Output Settings (Report 1)

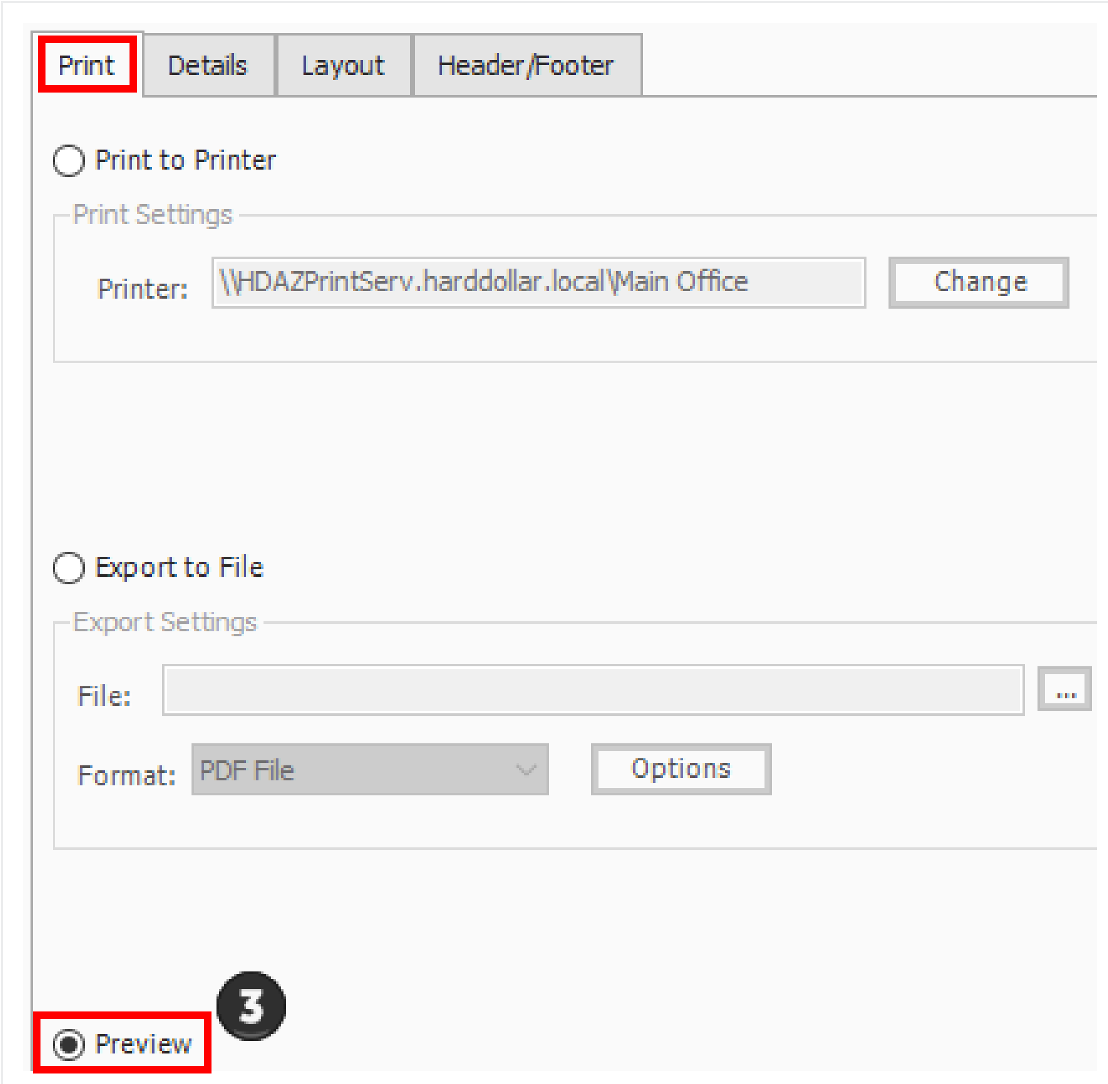
1. Open the **Training Job** and select **Setup >Report>Resources**.



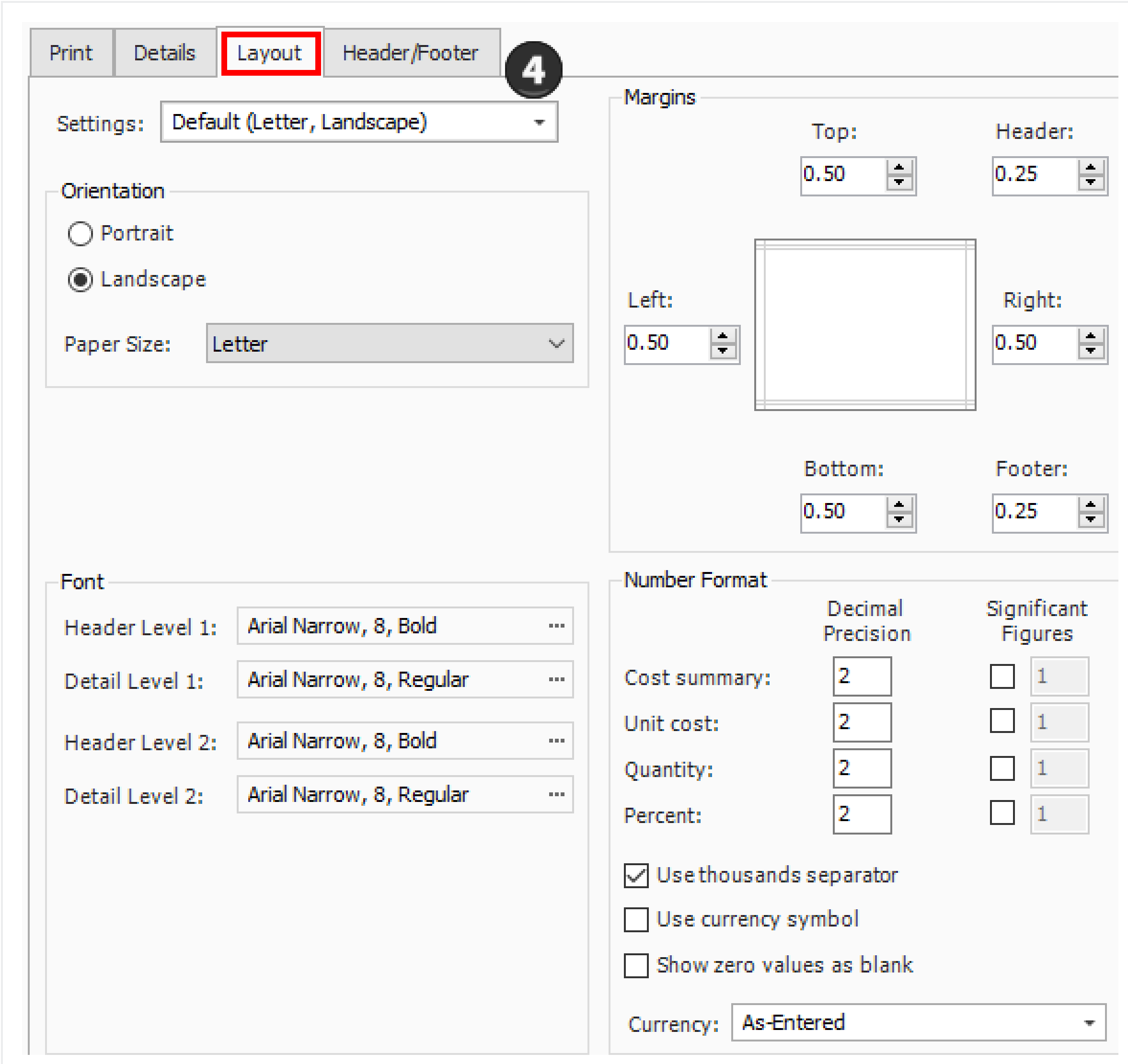
2. Under Resources on the left side bar**,** select **Resource Utilization**.



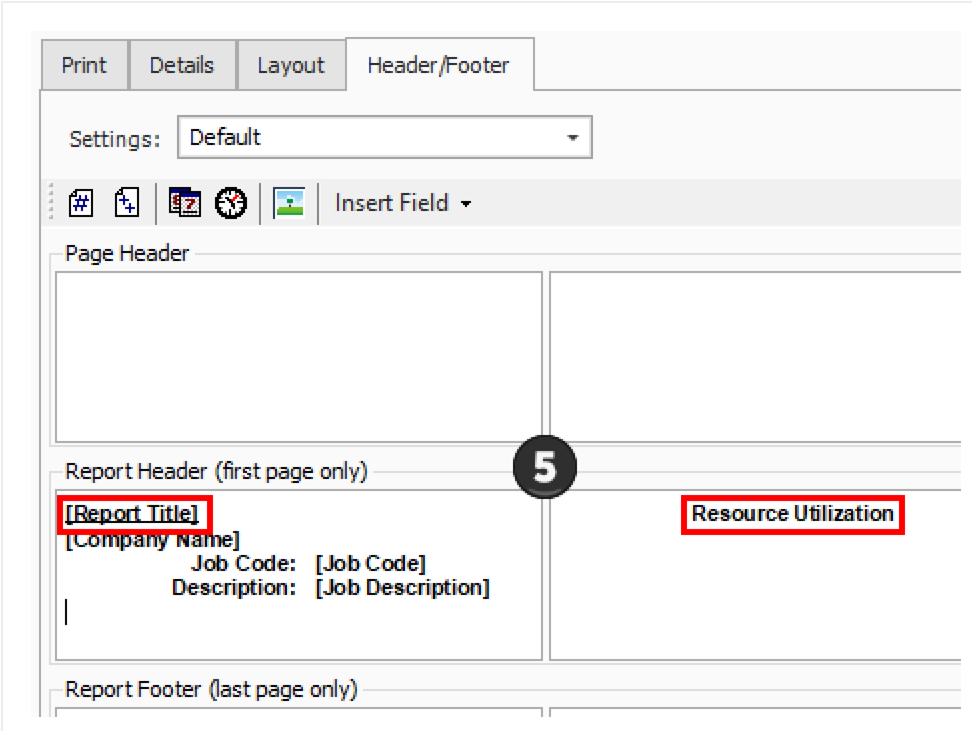
3. On the Print tab there are three options. A best practice is to always set to **Preview** so you can review before printing.



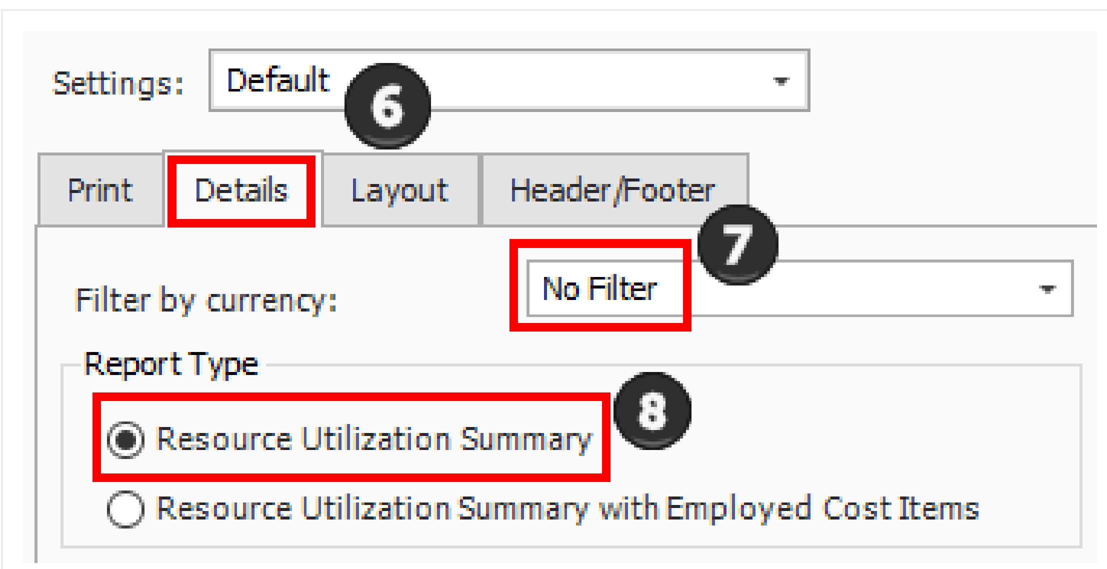
4. On the Layout tab you can make adjustments based on your preferences.



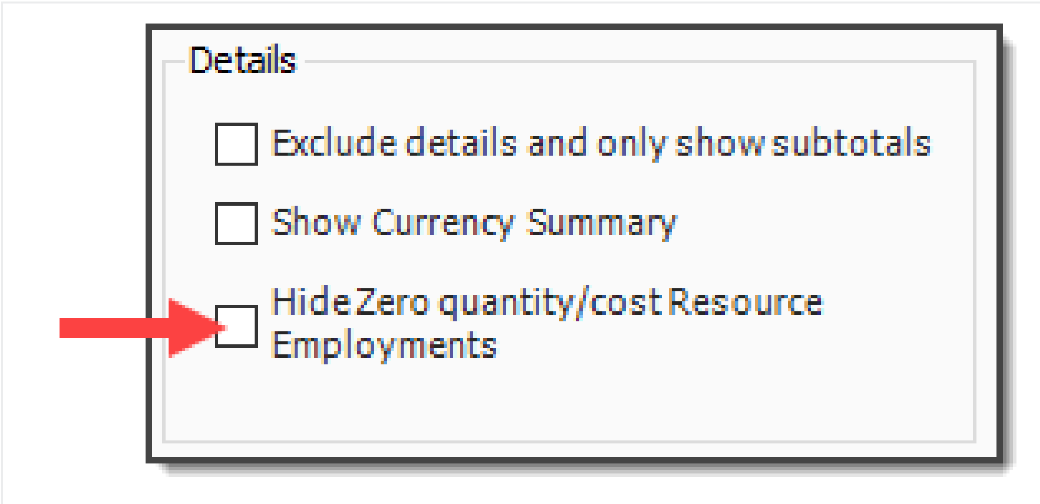
5. Move to the Header / Footer tab. Remove the default **Report Title** from the first page Header only and enter **Resource Utilization** in the center Report Header box as a title that will appear on the first page only.



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**.



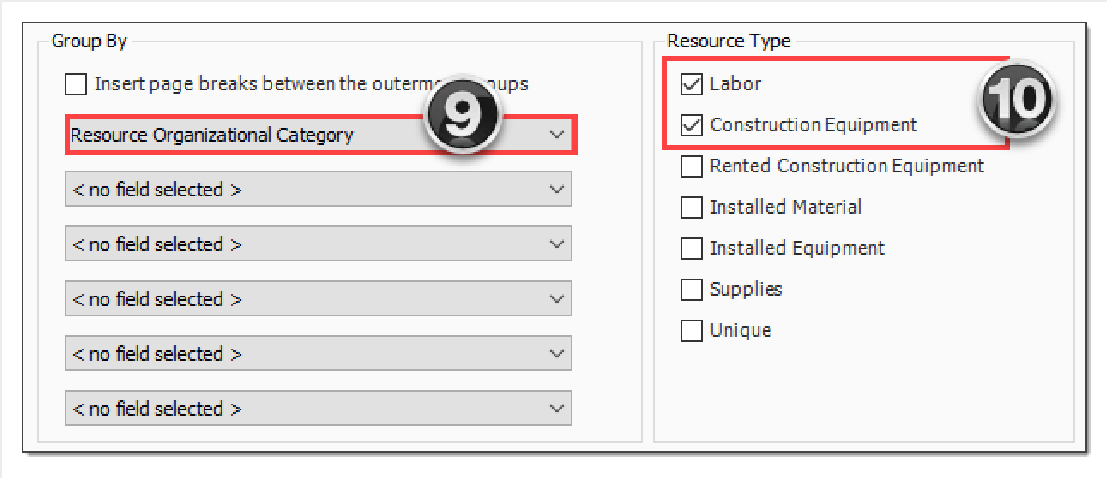
- You can choose to select the Hide Zero quantity/cost Resources Employments Details box if you prefer to have your printed report not show any resources that have a dollar value of zero



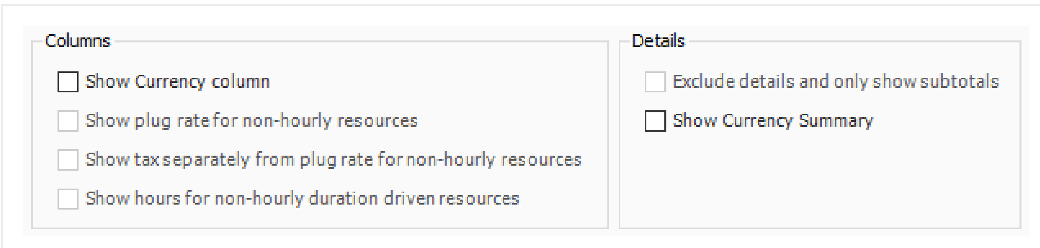
- You can choose if you want the report at a summary level, or if you want it to reference your cost items when you are looking at a resource
- If you choose Resource Utilization Summary with Employed Cost Items, it adds CBS position to the structure of the report
- You would select this if you wanted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

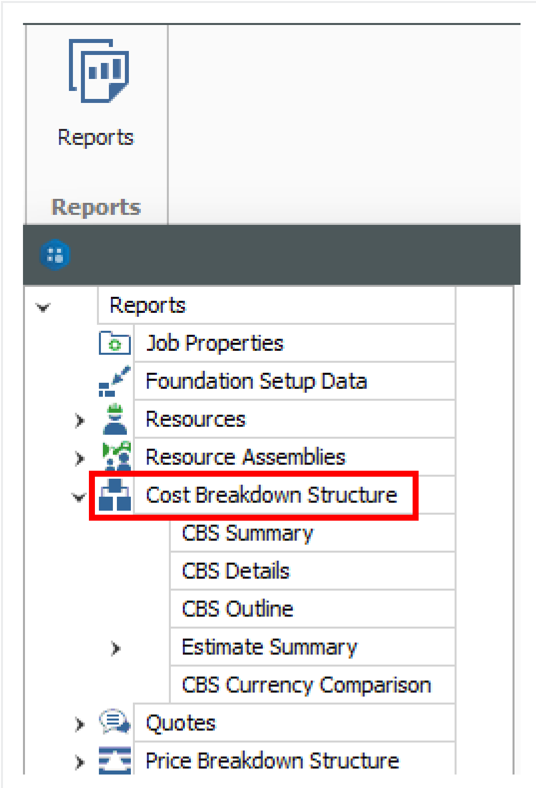


  - This is just one of many ways to organize and adjust your report.

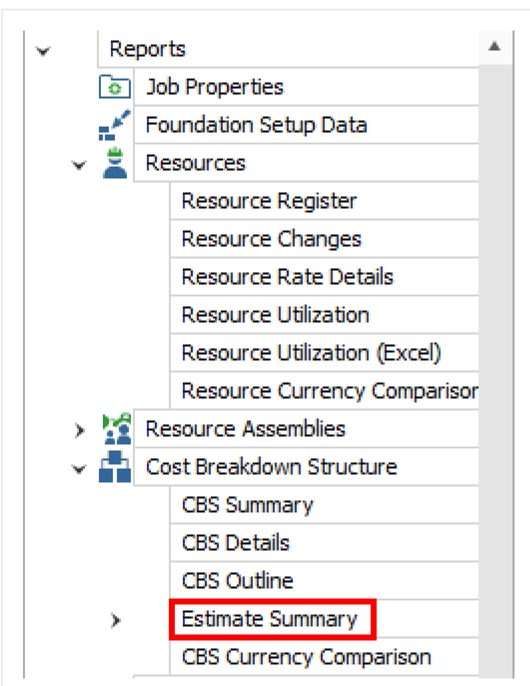
11. Click **Run** to run the report.
    - This report can be helpful for seeing your utilization hours, broken down by regular time and overtime hours
12. Click the red **X** to close this page and open the Construction Equipment page.
13. Click the red **X** to close the Construction Equipment report.

Step by Step — Configure Report Output Settings (Report 2)

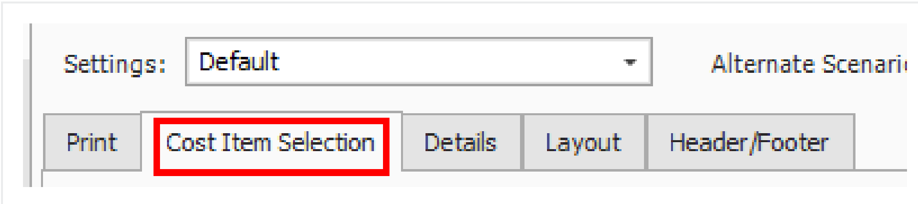
1. Open the **Training Job** and select **Setup >Reports**, then expand the **Cost Breakdown Structure** node.



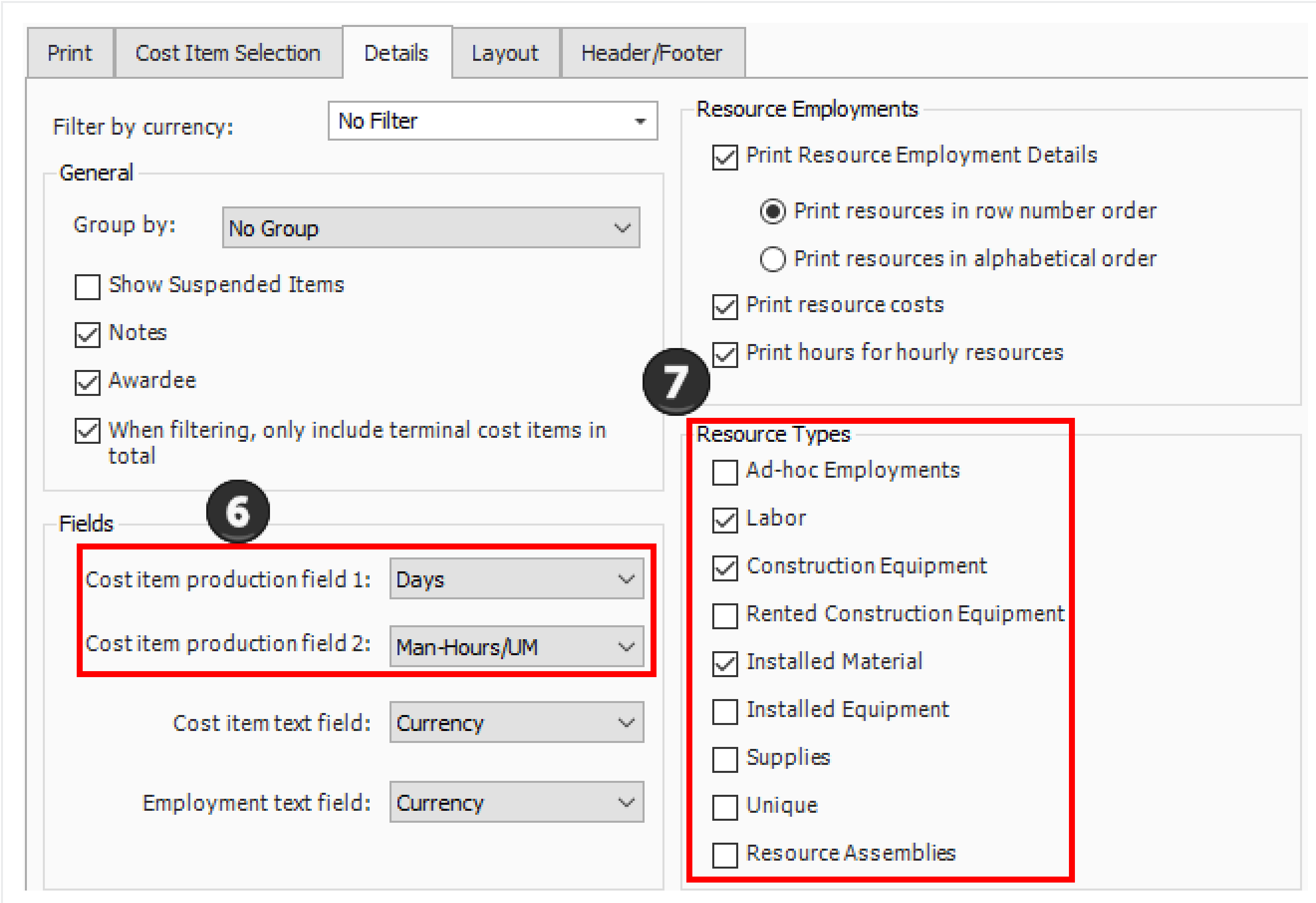
2. Under Cost Breakdown Structure on the left side bar, select **Estimate Summary**.



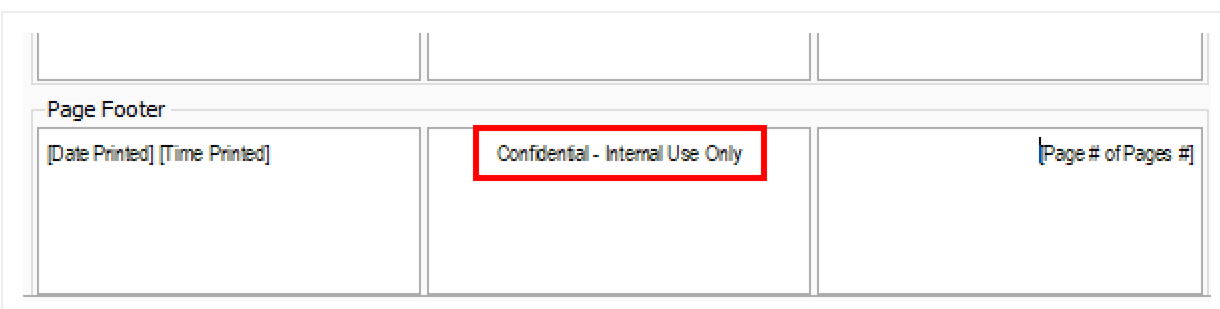
3. Along with the Print, Details, Layout, and Header / Footer tabs, there is an additional tab called **Cost Item Selection**. Select this tab.



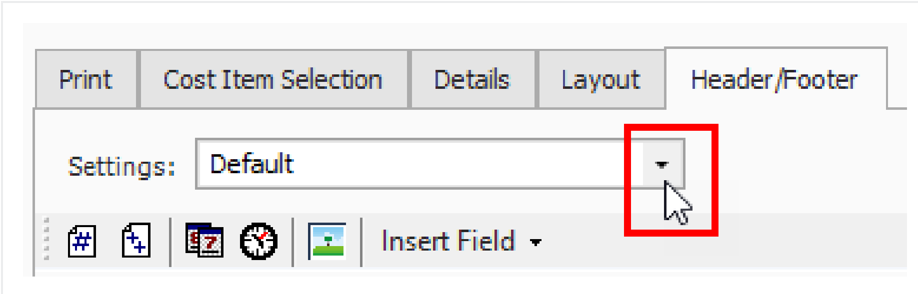
4. The Cost Item Selection tab allows you to report on a selection of cost items:
   - Print a contiguous range of cost items: Allows you to print a series of cost items in a row. In this case, print just items: select 4.1 in the From field and 4.3.2 in the To field.
   - Select cost items to print from 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**.

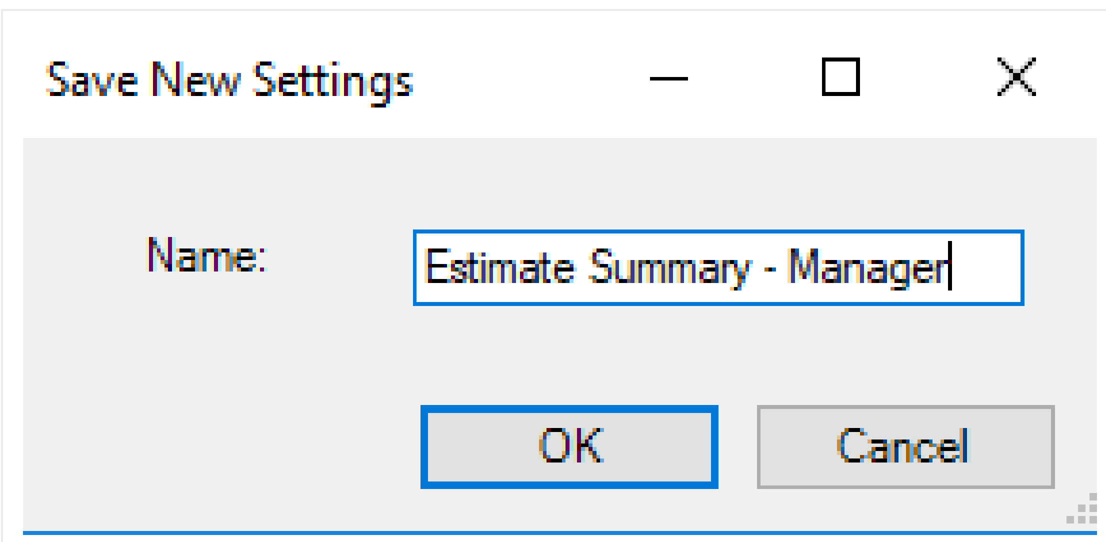


10. To save the settings you've configured, click on the **Settings** drop-down arrow above the output setting tabs.

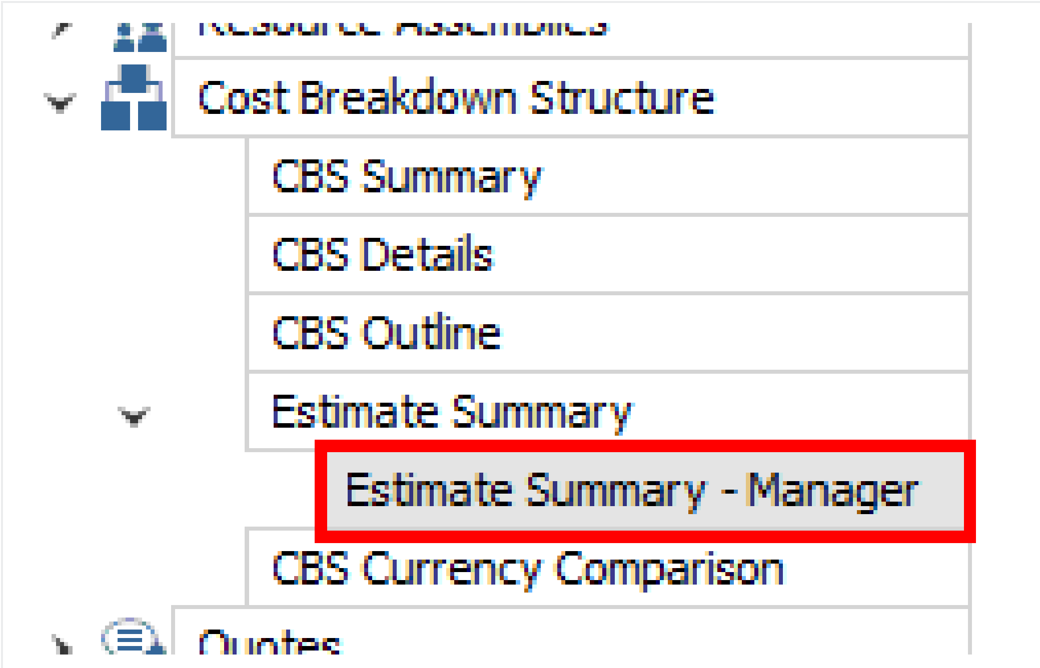


11. Select the **Save disk**  icon to save the new settings.

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



9.1.4 Helpful Reports

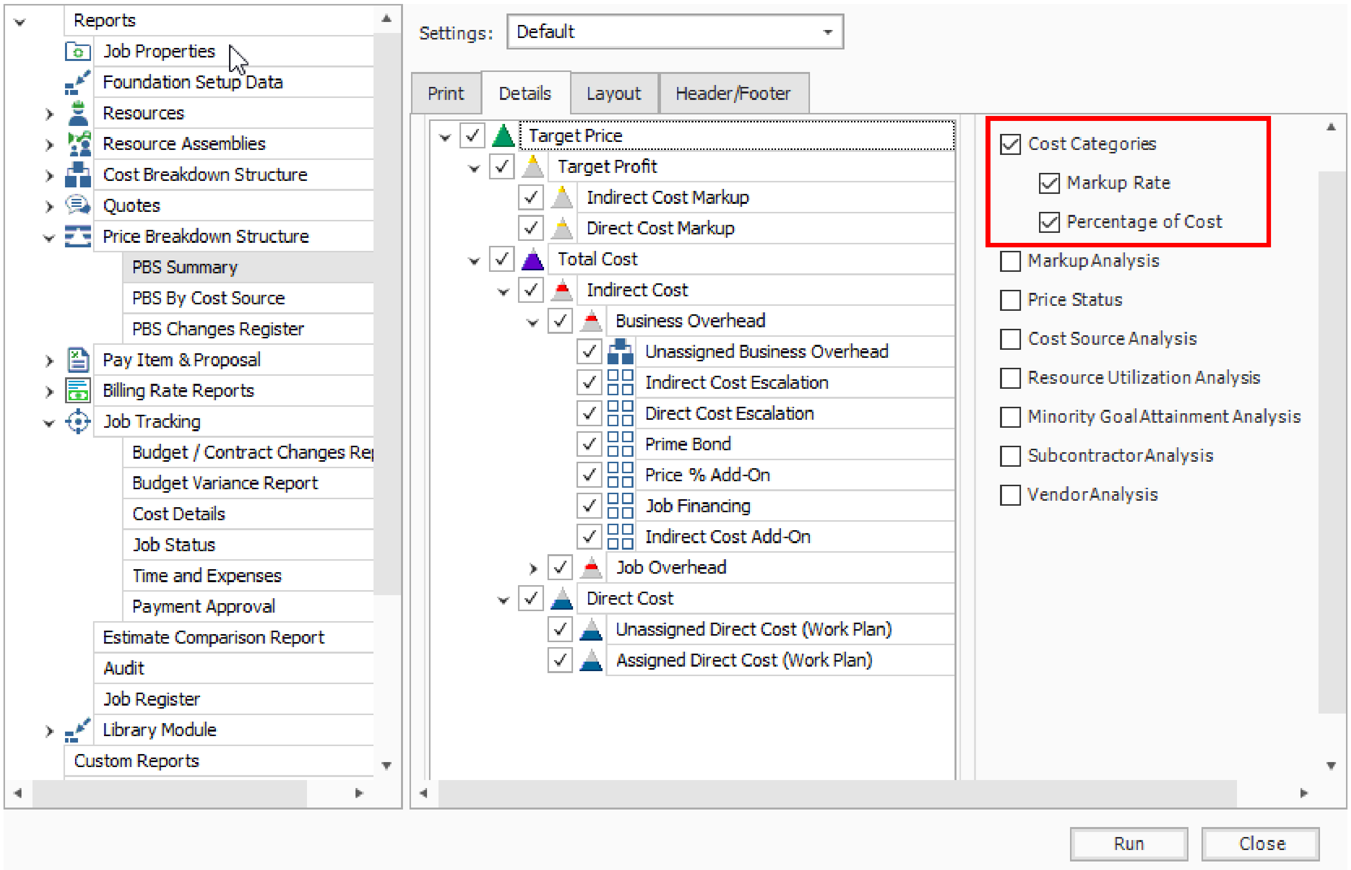
9.1.4.6 PBS Summary

Under the Price Breakdown Structure Report node, the PBS Summary Report gives a good overview of how your price breaks down by cost category. This provides a high-level overview that is cost category driven, providing information based on the total value of the project.

When selecting your settings on the Details tab, a best practice is to select and include:

- Cost Categories
- Markup Rate
- Percentage of Cost

This allows you to see your costs and markup broken out by cost category.



TIP	You can also select to show markup rate and what percentage the markup is of your cost.

9.1.5 Standard Proposal

Located under the Pay Item & Proposal report node, the Standard Proposal report can be used for contractors required to submit a pricing proposal to a client. It lists all the pay items with the client provided quantities and your final pricing. You can include subtotals (defined on the Pay Item & Proposal Register), cover sheet information, and a signature block.

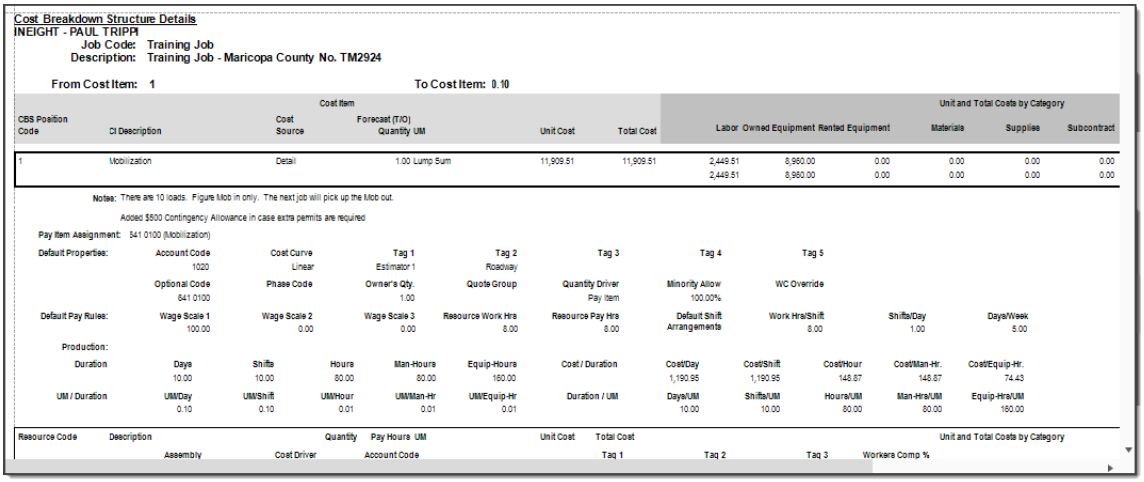
Proposal
ABC Contractors
Job Code: Training Job
Description: Training Job - Maricopa County No. TM2924

Line No.	Pay Item No.	Description / Subtotal Description	Quantity	Unit of Measure	Unit Price	Total Price
10	641 0100	Mobilization	1.00	Lump Sum	94,200	94,200.00
20	201 0102	Clearing & Grubbing	10.00	Acre	0.00	0.00
30	202 0183	Unclassified Excavation	50,000.00	Cubic Yard	7.49	374,500.00
40	303 5912	Aggregate Base	40,000.00	Ton	27.92	1,116,800.00
50	303 4263	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	42.62	1,619,560.00
60	413(B) 0464	36 Inch RCP Culvert Class III	1,000.00	Linear Feet	123.77	123,770.00
70	800 0220	10 Inch PVC Force Main (SDR21)	12,000.00	Linear Feet	29.64	355,680.00
80	800 0330	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	Linear Feet	63.26	189,780.00
90	800 0400	4 Foot Diameter Manhole	16.00	Each	4,532.35	72,517.60
100	501(A) 1306	Structural Excavation & Backfill	800.00	Cubic Yard	27.69	22,152.00
110	506(A) 1322	Steel Reinforcement	30,000.00	Pound	1.79	53,700.00
120	503(A) 1313	Retaining Wall	850.00	Cubic Yard	532.05	452,242.50
130	600 0300	Paint Existing Steel Bridge Structure	1.00	Lump Sum	100,215.00	100,215.00
140	700	Process Equipment	1.00	Each	1,946,884.65	1,946,884.65
150	1000	Removal of Underground Storage Tanks	2.00	Each	13,220.83	26,441.66
160	1010	Disposal of Contaminated Soil	800.00	Cubic Yard	30.20	24,160.00
170	1200 0100	Toll Booth	1.00	Each	30,994.27	30,994.27
180	1500 0100	Guardrail Type 2	1,000.00	Linear Feet	28.96	28,960.00
190	1500 0200	Guardrail Type 3A	200.00	Linear Feet	37.40	7,480.00
200	1600 0230	Type 4 Signs	1,000.00	Square Feet	15.68	15,680.00
21	CO1	Realignment of Water Line	1.00	Each	0.00	0.00
					GRAND TOTAL:	6,655,717.68

9.1.6 CBS Details

Under the Cost Breakdown Structure report node, the CBS Details report can be a helpful report for bid review. On the Details tab you can include or not include any of the information contained in the CBS

Register, including cost items with production, costs by category, shift arrangements, resources, and notes.



9.1.7 Audit

Under the Job Tracking node, the Audit Report is a very important report to run during estimate review to make sure you didn't leave anything out of the estimate. It checks for a number of potential errors in the estimate, including:

- Zero Price Pay Items
- Zero-value cost items
- Pay items without Cost Items assigned
- Resources with a quantity of zero

Exercise 9.1 — Run a System Report

You can adjust InEight Estimate system reports to report on the particular information you need. Complete the following steps to configure and run the Pay Item Summary report, using the Training Job:

1. From the Reports window, expand the **Pay Item & Proposal** report node.
2. On the Reports tree, select **Pay Item Summary**.
3. On the Details tab, select a **Pay Item Range from 303 4263 – 800 0220**.
4. Choose to **Include Assigned Cost Items**.
5. Show Costs As: **Unit**.
6. Include **Profit Analysis** columns and **Include Pay Item Price** columns
7. Run the report.

You should end up with the following results

ABC Contractors

Job Code: Training Job

Description: Training Job - Maricopa County No. TM2924

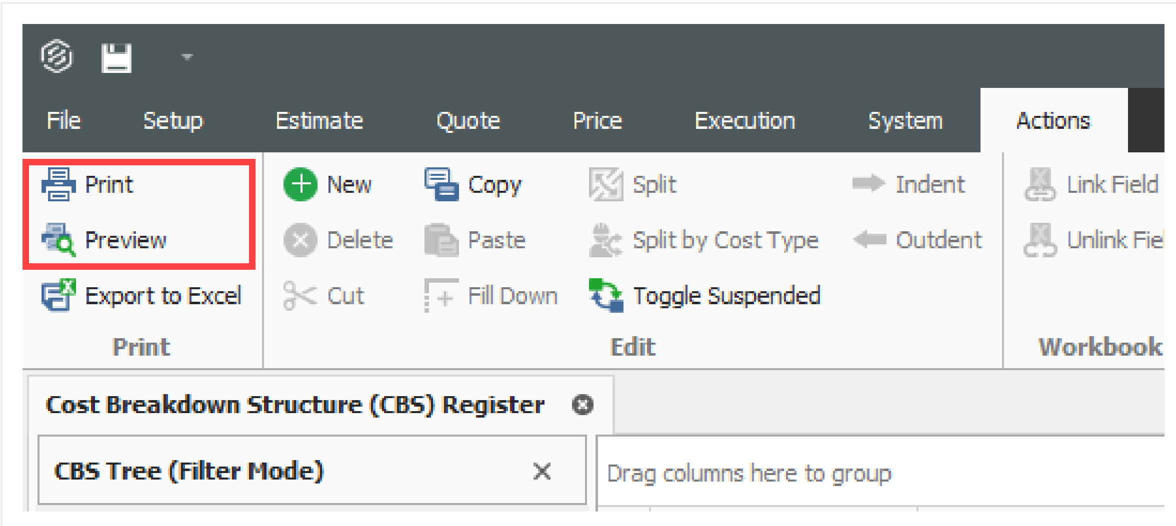
From Item: 303 4263 To Item: 800 0220

Pay/Cost Item				Unit Cost by Category									
Code		Description	Quantity	UM	Assigned Direct Cost	Labor	Owned Equipment	Rented Equipment	Materials	Supplies	Subcontract	Fees	Allowance
303 4263		Asphalt Concrete Hot Mix Type A	38,000.00	Ton	42.62	3.11	6.43	0.00	31.50	0.00	0.00	1.58	0.00
	5	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	1,619,430.35	3.11	6.43	0.00	31.50	0.00	0.00	1.58	0.00
	5.1	Furnish & Haul Hot Mix	38,000.00	Ton	1,492,382.18	1.43	4.77	0.00	31.50	0.00	0.00	1.58	0.00
	5.2	Install Hot Mix Type A	38,000.00	Ton	127,048.17	1.68	1.66	0.00	0.00	0.00	0.00	0.00	0.00
413(B) 0464		36 Inch RCP Culvert Class III	1,000.00	Linear Feet	66.42	19.60	13.48	0.93	30.82	0.00	0.00	1.59	0.00
	6	36 Inch RCP Culvert Class III	1,000.00	Linear Feet	66,416.79	19.60	13.48	0.93	30.82	0.00	0.00	1.59	0.00
	6.1	Furnish RCP Materials	1,000.00	Linear Feet	32,361.33	0.00	0.00	0.00	30.82	0.00	0.00	1.54	0.00
	6.2	Excavate RCP Trench	1,815.00	Cubic Yard	8,183.20	4.85	3.34	0.00	0.00	0.00	0.00	0.00	0.00
	6.3	Install RCP Pipe	1,000.00	Linear Feet	11,735.94	6.45	5.29	0.00	0.00	0.00	0.00	0.00	0.00
	6.4	Backfill RCP Pipe	1,550.00	Cubic Yard	14,136.32	8.31	4.86	0.93	0.00	0.00	0.00	0.05	0.00
		SUBTOTAL: SITEWORK & ROADWAY			1,685,847.14	137,894.00	257,768.56	926.90	1,227,820.31	0.00	0.00	61,437.36	0.00
800 0220		10 Inch PVC Force Main (SDR21)	12,000.00	Linear Feet	22.51	4.56	4.72	0.00	12.60	0.00	0.00	0.63	0.00
	7	10 Inch PVC Force Main (SDR21)	12,000.00	Linear Feet	270,163.37	4.56	4.72	0.00	12.60	0.00	0.00	0.63	0.00
	7.1	Furnish 10 Inch PVC Materials	12,000.00	Linear Feet	158,760.00	0.00	0.00	0.00	12.60	0.00	0.00	0.63	0.00
	7.2	Excavate-Install-Backfill 10 Inch PVC	12,000.00	Linear Feet	111,403.37	4.56	4.72	0.00	0.00	0.00	0.00	0.00	0.00
		Extended Totals By Category			1,956,010.51	192,599.77	314,466.16	926.90	1,379,020.31	0.00	0.00	68,997.36	0.00

Congratulations, you have completed this exercise!

9.2 REGISTER REPORTS

At any time, you can print a report of the data in the currently displayed register using the Print or Preview option available from the Actions tab for the register you are in.



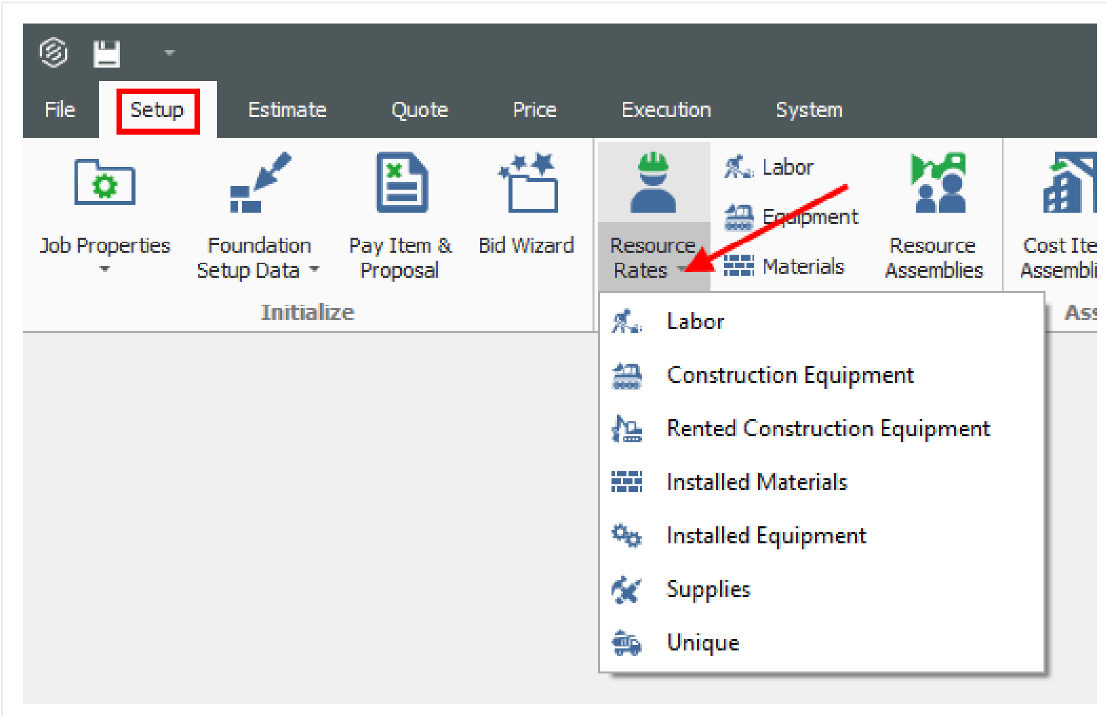
The data that prints is the data currently displayed on the register form. The report will print whatever columns are displayed on the register; if you have customized the display in the register, the report prints that data. In other words, register reports are entirely customizable.

By creating Saved Views, you can report the data on a register form in several different variations.

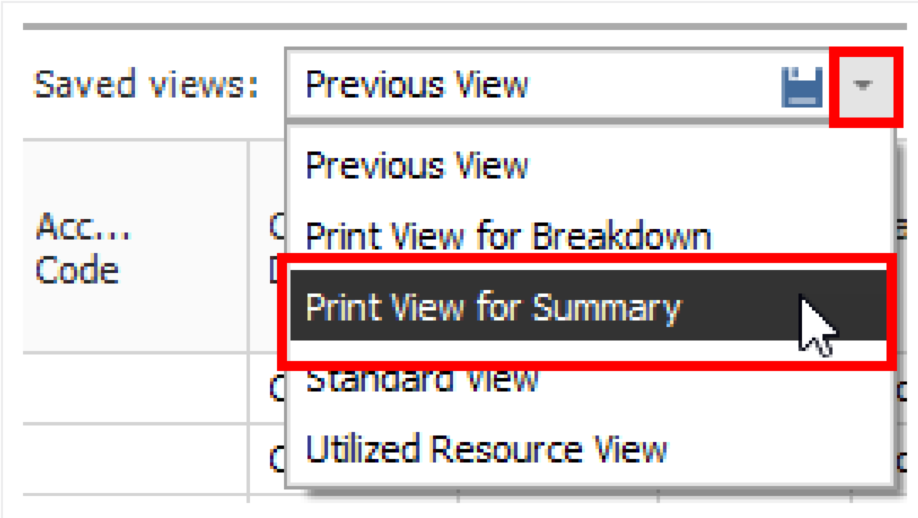
The following step by step example will walk you through creating a custom register report on resource utilization and saving it as a Saved View.

Step by Step — Create a Register Report

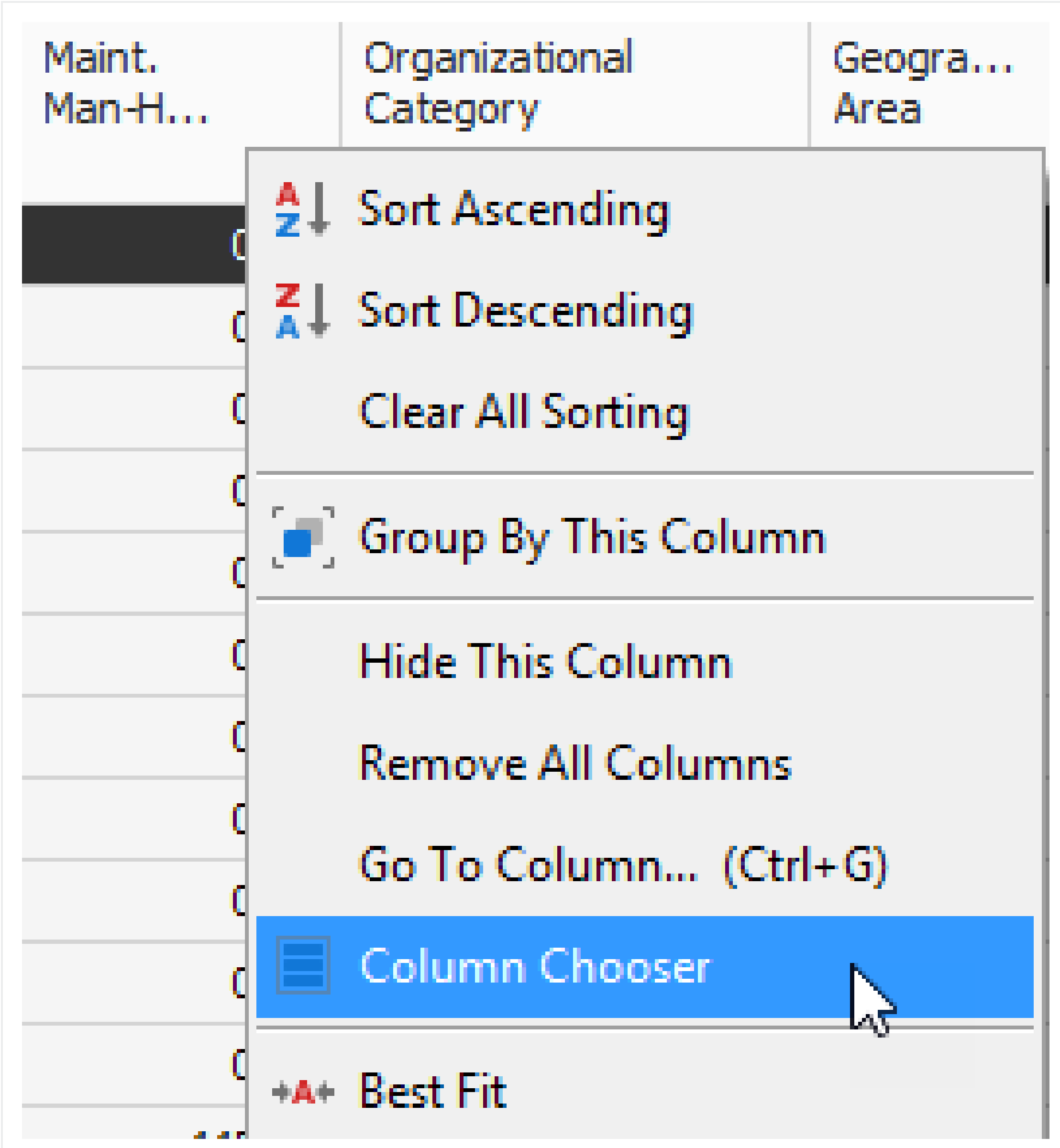
1. Open the **Training Job** and select **Setup** tab, then select the **Resource Rates** drop-down list.



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

9.2.1 Register Report Output Settings

Within the Preview for a register report, there are several options to choose from to configure the output of your report.

9.2.1.1 Page Setup

While in the Preview mode, selecting **File > Page Setup** provides setup options for the page format:

- Page Size (legal, letter, etc.)
- Paper Width & Height
- Orientation (portrait or landscape)
- Page Margins (left, right, top, bottom)

9.2.1.2 Exporting to Document

Using the Export function allows you to identify a Print range, Image quality, Password Security, and more. Selecting **File > Export Document** prints an Adobe Acrobat (*.pdf) report.

Exercise 9.2 — Create a Custom Register Report

You can configure the columns in your registers for reporting and run your own custom reports. Complete the following steps to configure and run a report from the CBS Register, using the Training Job:

1. Select **Estimate>Cost Breakdown Structure (CBS)**.
2. Under Saved Views, Select **CBS Simple View**.
3. Hide the **Optional Code column**.
4. Add back in the **Man-Hours (Total)** and **Man-Hours / UM** columns.
5. Now add back in the **Labor Total Cost, Owned Equipment Total Cost, and Materials Total Cost** categories for reviewing the estimate.
6. Save the View (create your own name for the view).
7. Select **Preview** to view the report.

You should end up with the following results

Cost Breakdown Structure (CBS) Register

ABC Contracting Inc
Training Job--Training Job - Maricopa County No. TM2924

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Man-Hours (Total)	Unit Cost	Labor Total Cost	Total Cost (Forecast)	Man-Hours otal incl. Maintenan	ed Equipment Total	Man-Hours/ UM	Materials Total Cost	Currency
	JOB	20.00	Mile	27,993.15	$306,883.14	$907,442.76	$6,137,662.81	28,438.44	$1,062,750.40		$3,393,700.70	U.S. Dollar
	Prime Bond	1.00	Lump Sum		$48,686.14	$0.00	$48,686.14		$0.00		$0.00	U.S. Dollar
	Price % Add-On	1.00	Lump Sum		$309,475.27	$0.00	$309,475.27		$0.00		$0.00	U.S. Dollar
	Job Financing	1.00	Lump Sum		$0.00	$0.00	$0.00		$0.00		$0.00	U.S. Dollar
	Indirect Cost Escalation	1.00	Lump Sum		$0.00	$0.00	$0.00		$0.00		$0.00	U.S. Dollar
	Direct Cost Escalation	1.00	Lump Sum		$11,026.79	$12,026.79	$11,026.79		$0.00		($1,000.00)	U.S. Dollar
	Indirect Cost Add-On	1.00	Lump Sum		$0.00	$0.00	$0.00		$0.00		$0.00	U.S. Dollar
	Job Management & Equipment	1.00	Lump Sum	2,400.00	$157,096.28	$91,176.28	$157,096.28	2,400.00	$65,920.00	2,400.00	$0.00	U.S. Dollar
	General Expense	1.00	Lump Sum	0.00	$4,200.00	$0.00	$4,200.00	0.00	$0.00	0.00	$0.00	U.S. Dollar
	Direct Cost Add-On	1.00	Lump Sum		$109,544.08	$15,676.56	$109,544.08		$19,450.89		$66,546.70	U.S. Dollar
1	**Mobilization**	1.00	Lump Sum	0.00	$75,000.00	$50,000.00	$75,000.00	0.00	$0.00	0.00	$25,000.00	U.S. Dollar
2	**Clearing & Grubbing**	10.00	Acre	0.00	$0.00	$0.00	$0.00	0.00	$0.00	0.00	$0.00	U.S. Dollar
3	**Unclassified Excavation**	50,000.00	Cubic Yard	3,964.29	$9.95	$110,467.00	$497,466.56	4,115.48	$302,999.56	0.08	$0.00	U.S. Dollar
3.1	Excavation, scrapers	50,000.00	Cubic Yard	1,250.00	$3.00	$33,170.48	$149,922.88	1,325.00	$116,752.40	0.03	$0.00	U.S. Dollar

Congratulations, you have completed this exercise!

Lesson 9 Review

1. The ___________ Report gives a good overview of how your price breakdowns by cost category.
   a. Estimate Summary
   b. PBS Summary
   c. Audit

---

2. The ___________ Report is a very important report to run during bid review to make sure you didn’t leave anything out of the estimate.
   a. CBS Details
   b. Audit
   c. Pay Item Summary

---

3. A best practice is to always set your Print output setting to **Preview** so you can review before printing.
   a. True
   b. False

Lesson 9 Summary

As a result of this lesson, you can:

- Run reports from the Report menu
- Create and run reports from register forms

LESSON 10 – DATA REPRODUCTION

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Create a job from an existing job or template
- Create a template
- Reproduce estimate data using the Bid Wizard
- Reproduce estimate data using copy/paste
- Add cost items to a job using the CBS Bid Wizard
- Utilize the Snapshot function

Lesson Topics

10.1 COPY AN EXISTING JOB

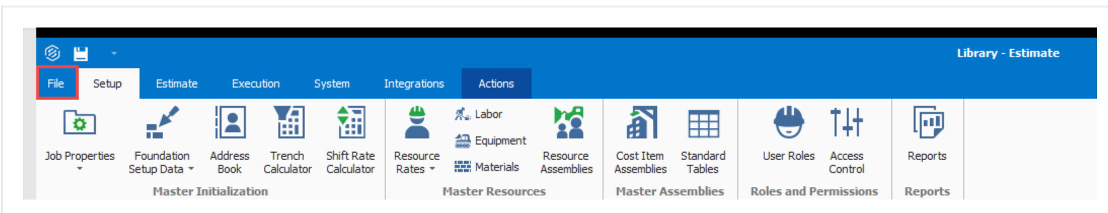
As you build an estimate, you may want to reuse pay items, cost items, or resources from a previous estimate. When you plan to reuse the majority of content within a job, you can simply make a copy of the existing job.

Using the **Create a new Job from... Existing Job** option on the Backstage View creates an exact replica of the existing job, including the job's properties, pay items, cost items, and resources.

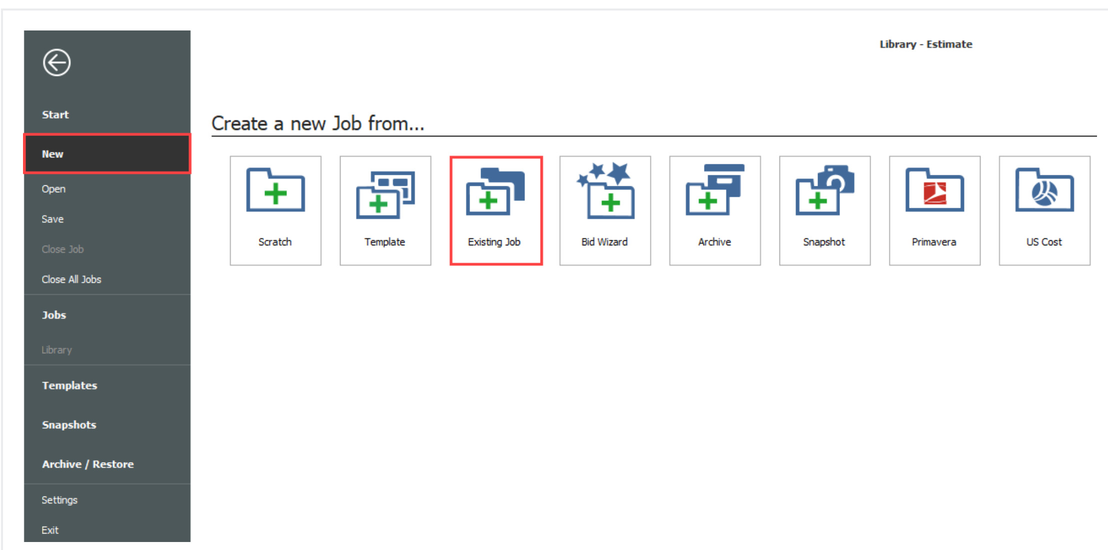
The following Step by Step walks you through how to make a copy of an existing job.

Step by Step — Copy an Existing Job

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

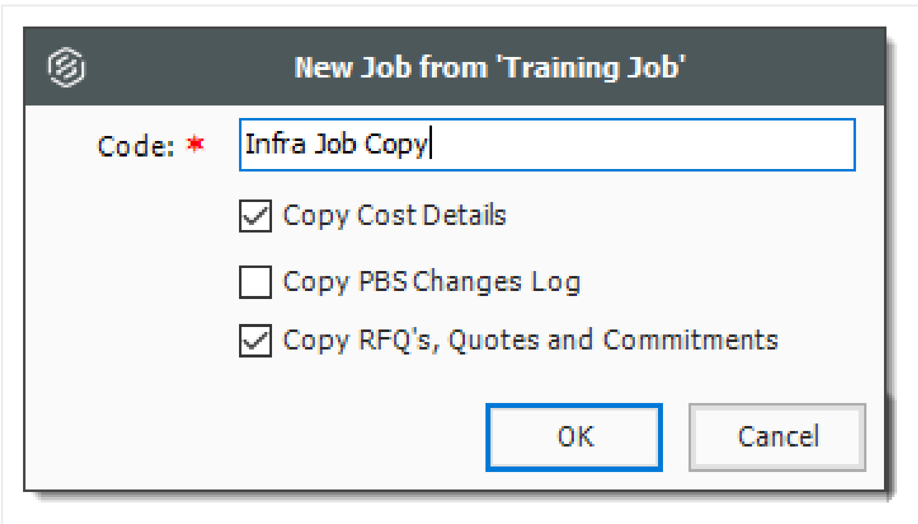


2. From the left side panel, select **New,** then select **Existing Job**.



3. The Job Register displays a list of your existing projects; select the Training Job and click **OK**.

4. On the New Job dialog, in the Code field, type **Infra Job Copy** with your initials.
5. 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.
6. Uncheck the check for copying the PBS Changes Log.
7. 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.

10.2 TEMPLATES

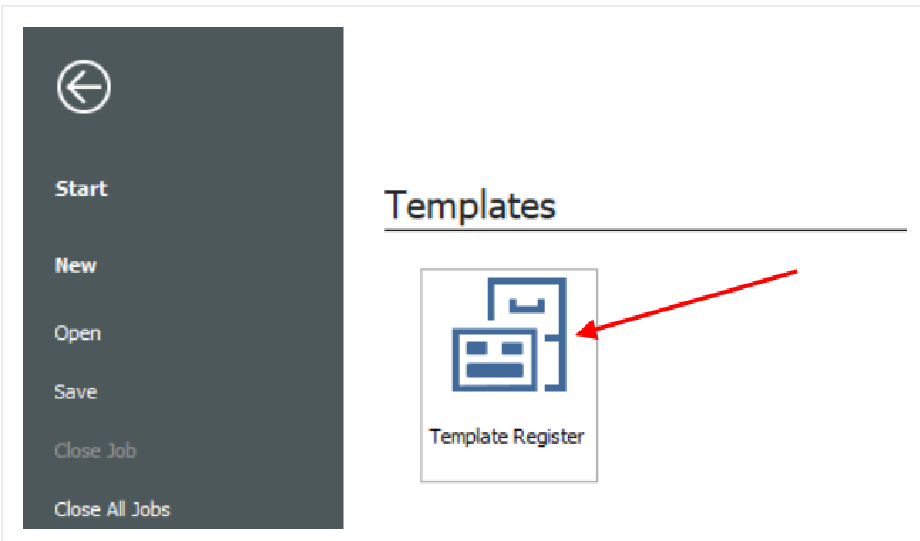
Job Templates provide you the ability to maintain a list of template jobs that can be used to create new jobs. As your company grows and increases the number of projects, the need to standardize the estimating process increases to ensure consistency and reduce the chance of information being overlooked.

In InEight Estimate you can create job folders and store them in a separate register as templates. This allows you to store cost items in master templates separate from the jobs in your Job Register.

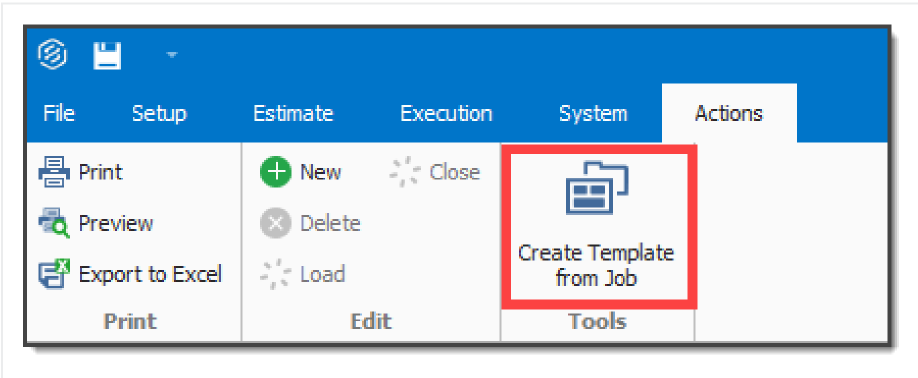
You can create templates from scratch or from existing job folders. The following steps walk you through how to create a new template from an existing job folder.

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.**

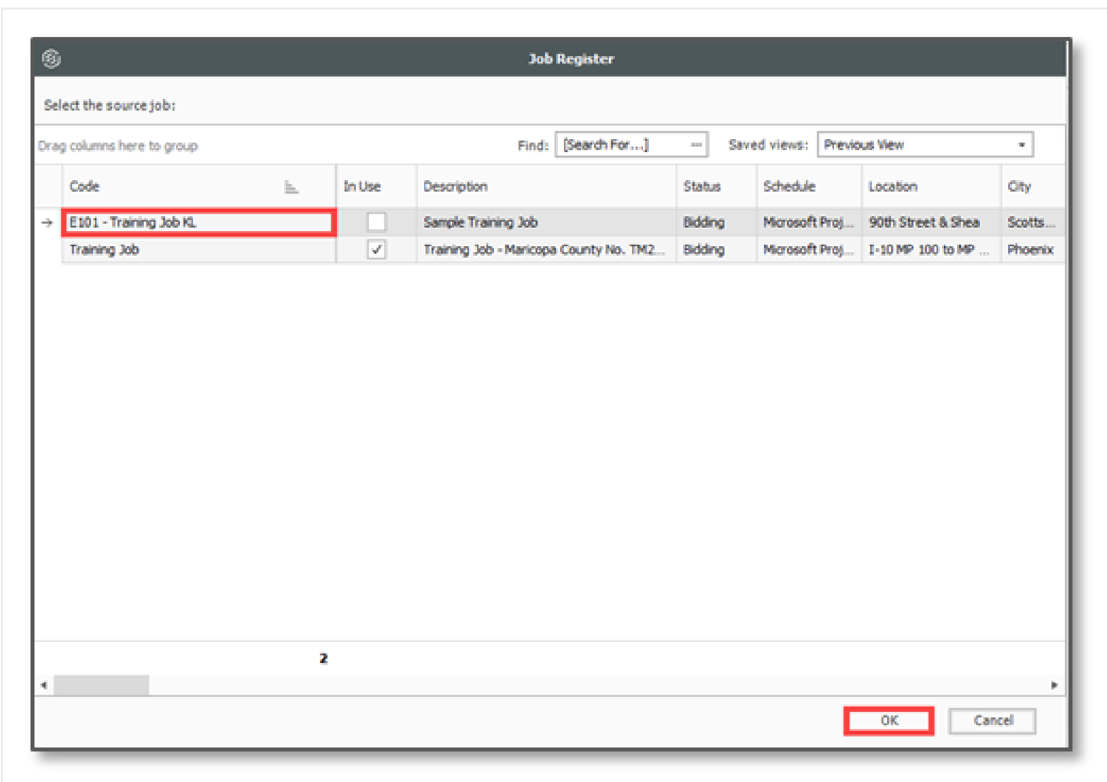


4. From the Actions tab, select **Create Template from Job**.



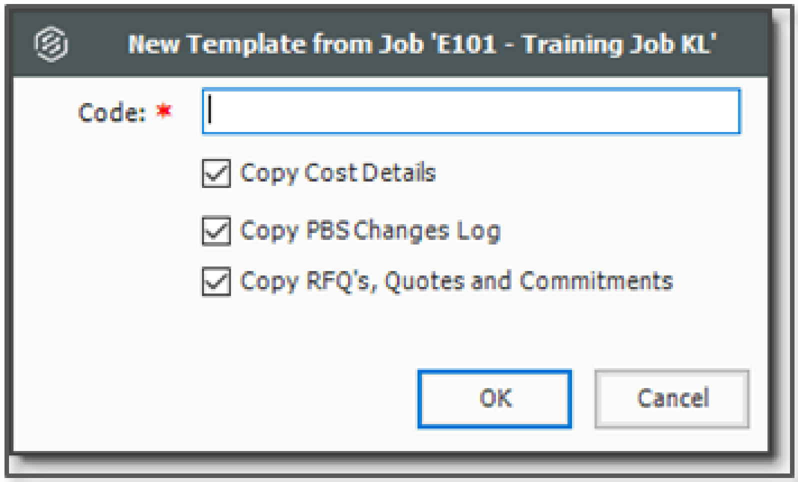
- The Job Register opens for you to select the source job for the template
- Assume that you want to make a template from your E101 Training Job

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

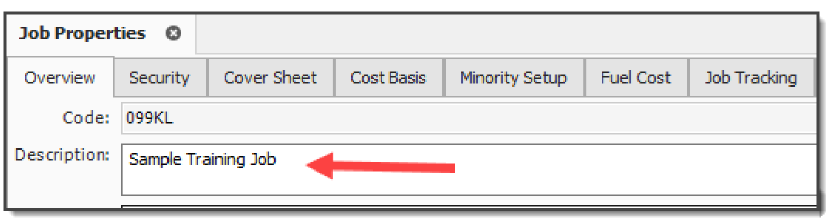


NOTE	You cannot create templates from jobs that are published to Job Tracking.

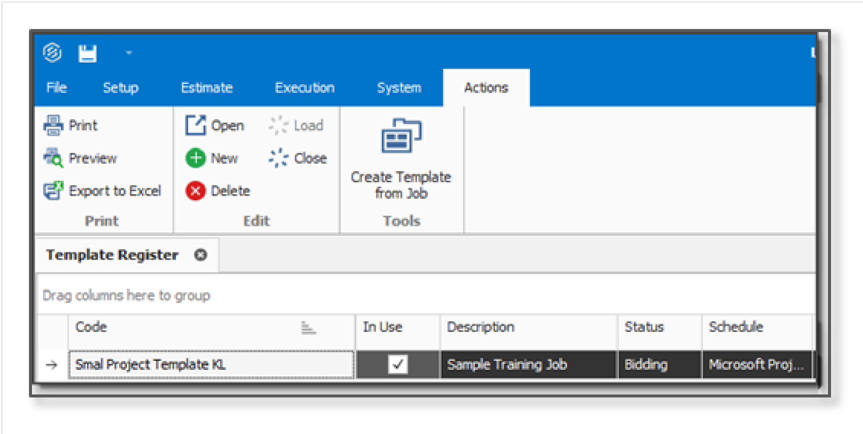
- A prompt appears to give your new template a Job Code



6. In the Code field, type **Small Project Template[your initials]**.
   - Leave Copy Cost Details and Copy PBS Changes Log checked
7. 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



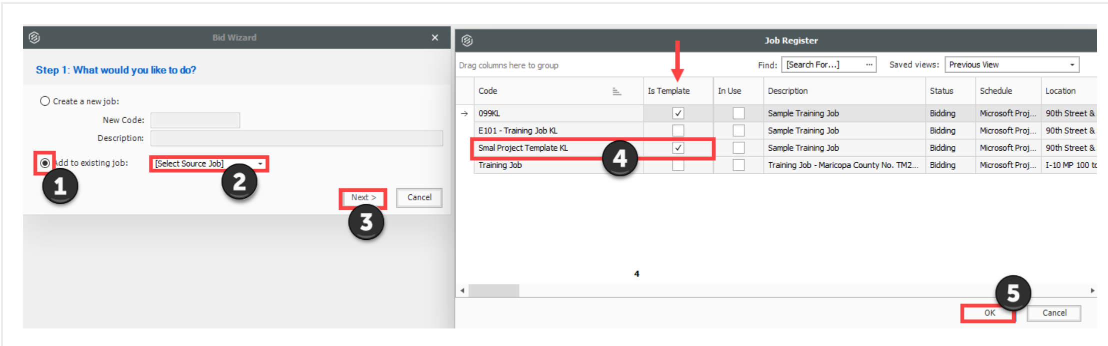
- Back in the Templates Register, you can see the new template created



- 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.

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



10.2.1 Archive and Restore Templates

The templates feature gives you the ability to archive and restore templates, enabling templates to become portable. You can move templates between different environments. You can also backup the templates similarly to the Jobs Archive and Restore function.

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

10.3 BID WIZARD

InEight Estimate's Bid Wizard is a powerful tool that can help automate the process of setting up estimates by copying information that already exists in other InEight Estimate job folders. The Bid Wizard can be used to create new projects, create a new job from an existing template, or to add to projects that are already underway.

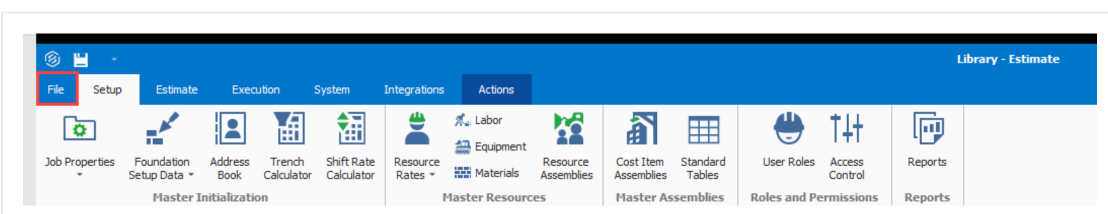
Rather than copying every part of an existing job, the Bid Wizard gives you more flexibility and control over which parts of a job you want to duplicate, e.g., pay items or cost items or both.

In most cases you will be copying cost items, but if you have a project with pay items that are commonly used, you can copy them into a new project. If you select pay items, you will be able to select cost items as well.

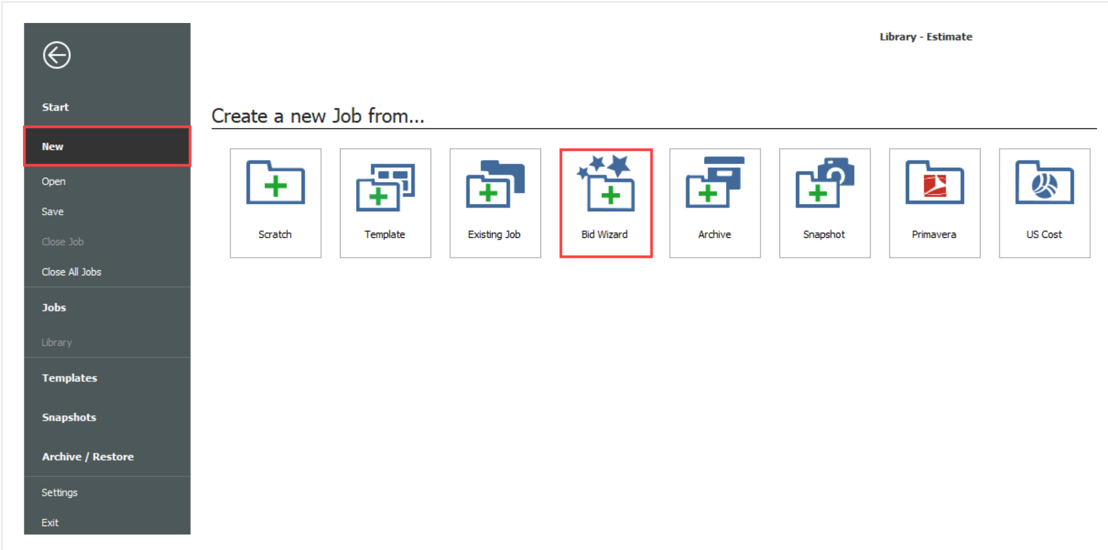
The following Step by Step walks you through how you can use the Bid Wizard to create a new job by importing pay items and their associated costs from an existing job.

Step by Step — Use the Bid Wizard

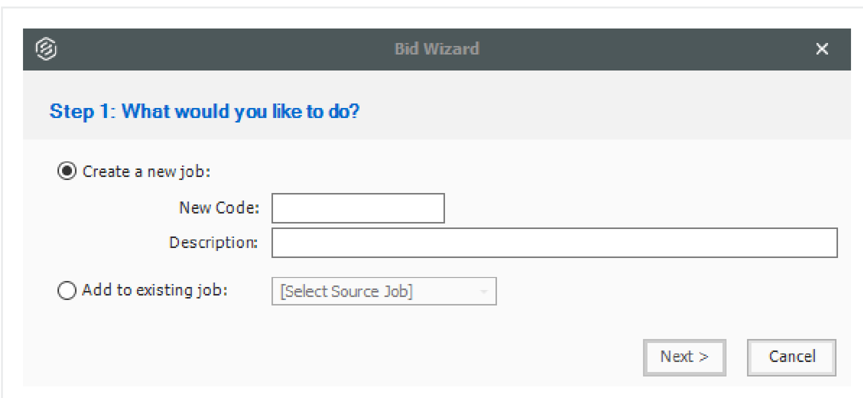
1. To open the Bid Wizard, click the **File** tab on the Estimate landing page.



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

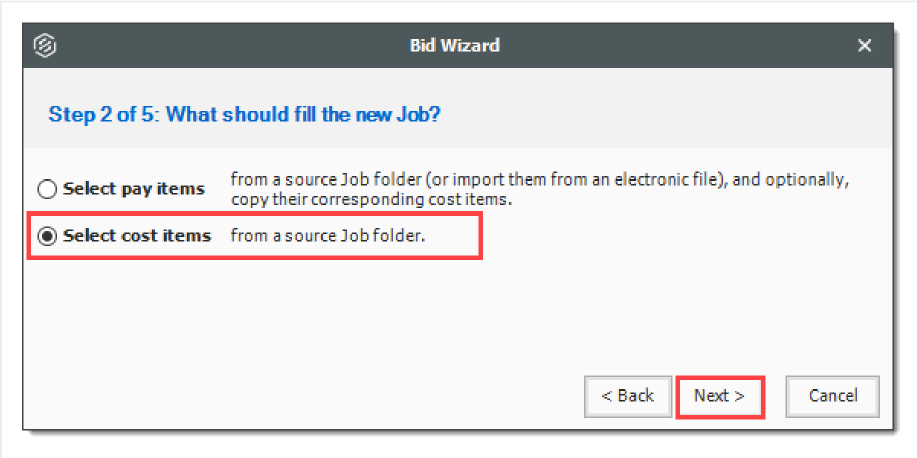


- The Bid Wizard – Step 1 dialog displays



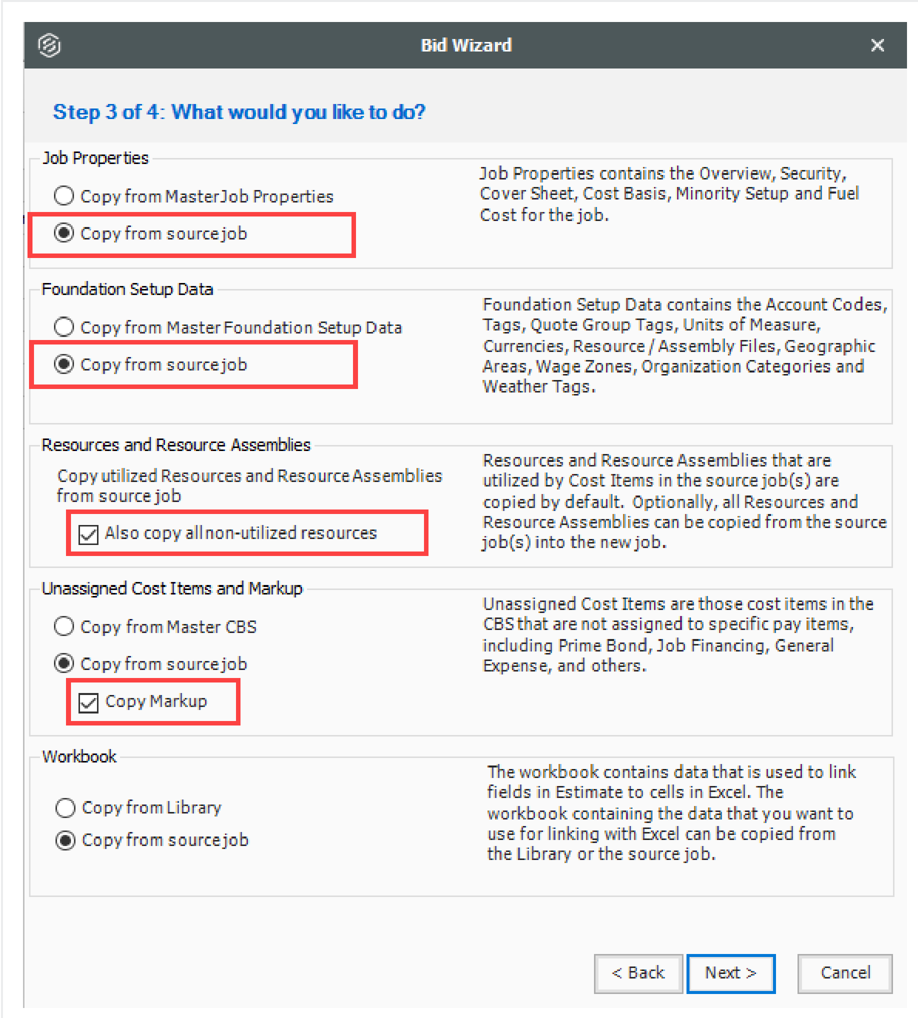
TIP	Notice that you can either create a new project or add to an existing project.

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**.

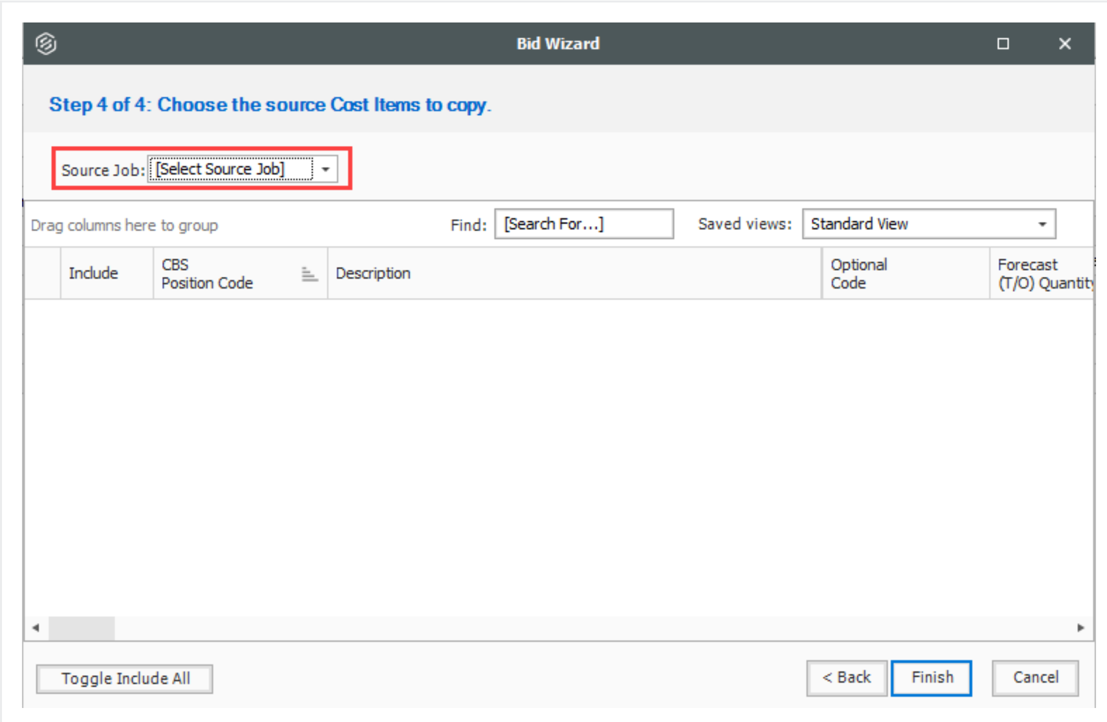


- The Bid Wizard – Step 3 of 4 dialog displays
- You use this step to indicate which source you want to pull your setup data from (the library or your source job)

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.

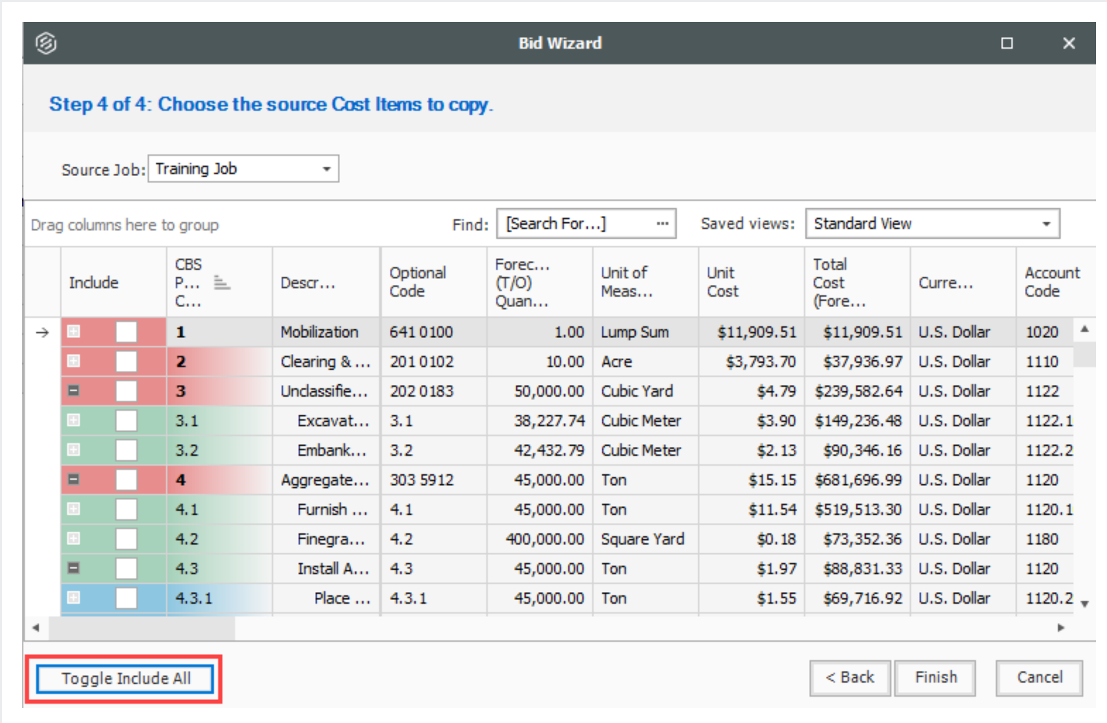


10. Click **Next**.
    - The Bid Wizard – Step 4 of 4 dialog displays
11. Click the **Source Job** drop-down arrow.

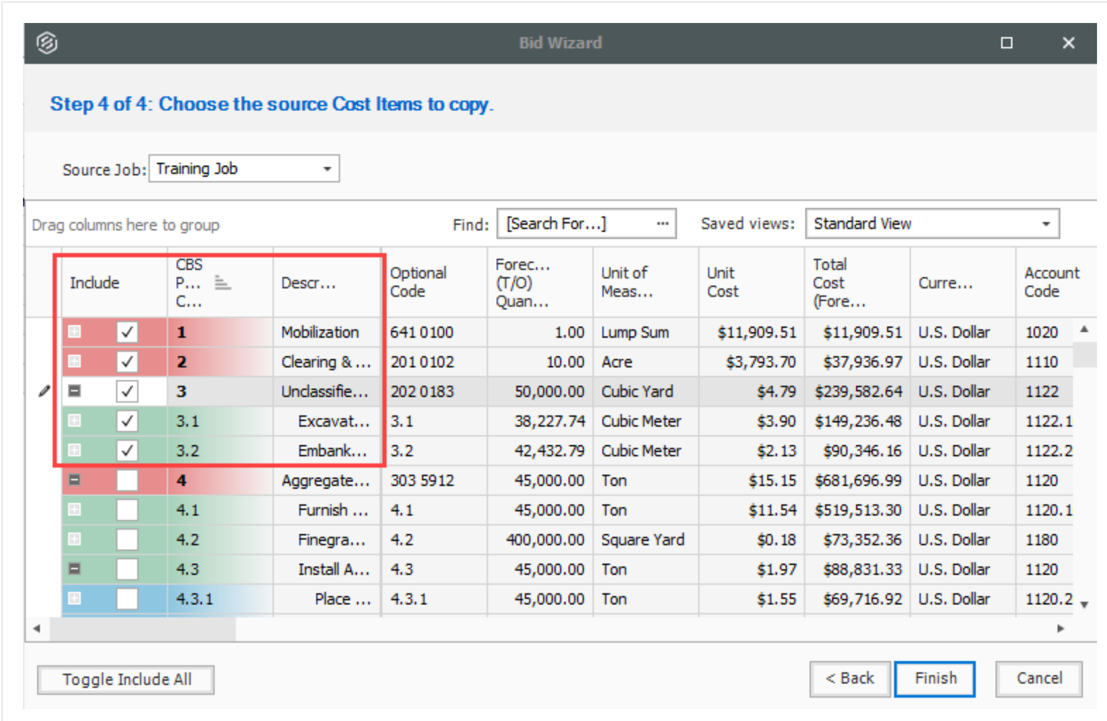


- The Job Register opens

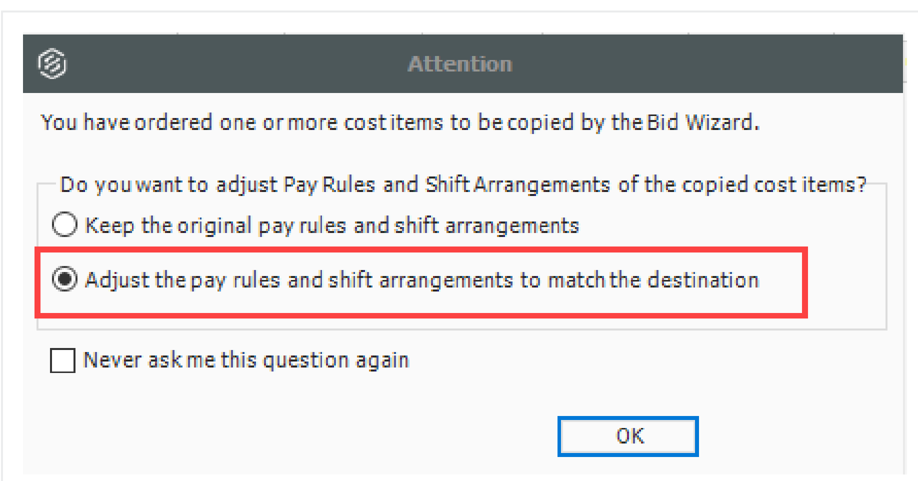
12. Find and select **Training Job.**
13. Click **OK**.
    - This screen displays the cost items of the source job (Training Job). All items are automatically selected
14. Use the **Toggle Include All** button to exclude all selections.



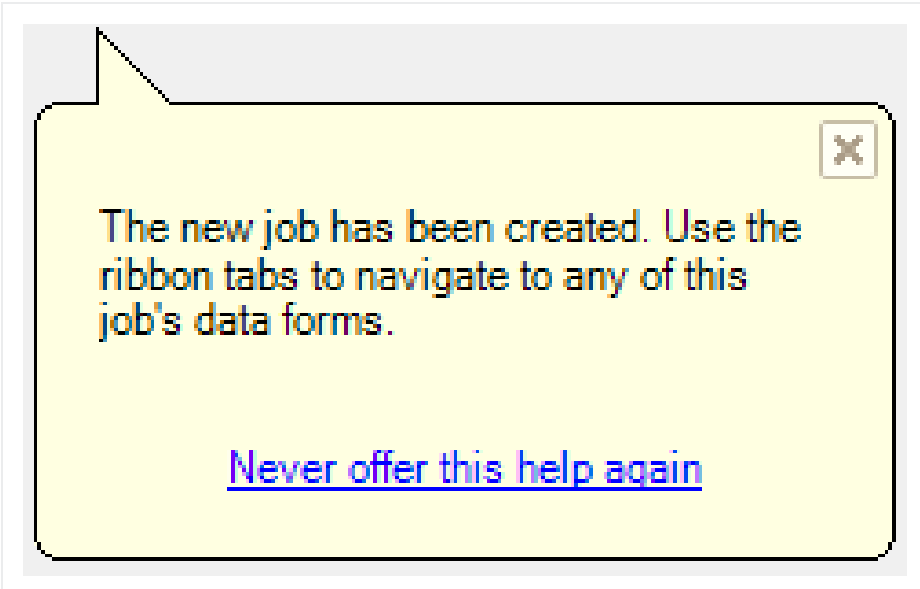
15. Select the checkboxes to include **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation**.
16. Notice that when selecting Unclassified Excavation, that cost item's subordinates are automatically selected



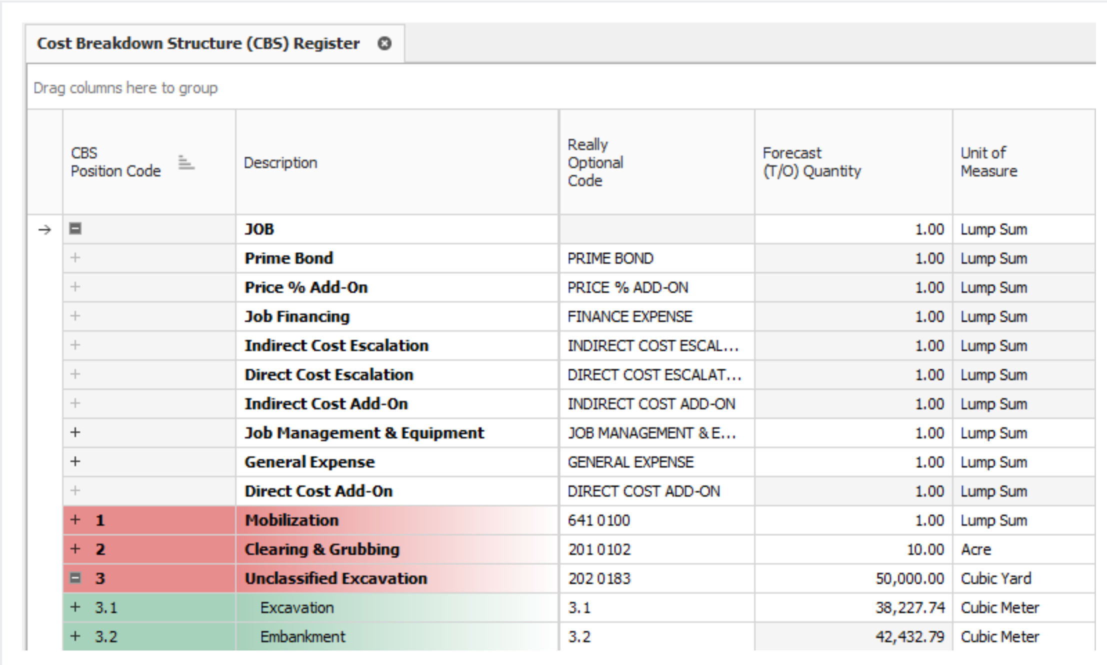
17. Click **Finish** to add the new job.
    - An Attention prompt appears asking, “Do you want to adjust Pay Rules and Shift Arrangements of the copied cost items?”
    - Typically, you will want to use the shifts and payment rules of your new destination job.
18. Select **Adjust the pay rules and shift 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

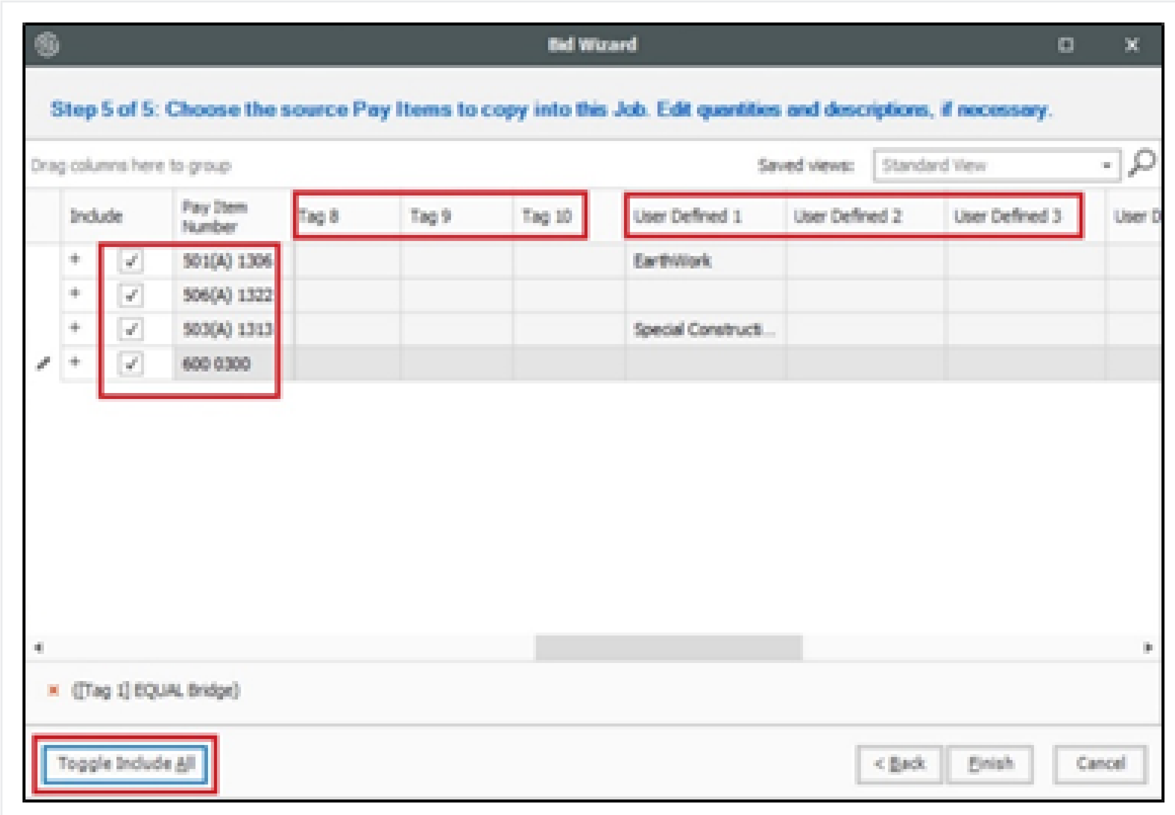
10.3.1 Bid Wizard Updates

While using the Bid Wizard, the Include option is left unchecked by default. A filter is applied to bring in pay items when using the Bid Wizard. The Toggle Include All button only selects the filtered list of items instead of all items.

When the filter criteria is modified, the selected items remain checked even if some of the items might not be visible in the view. When the view is changed, the selected items remain checked.

Tags and UDF fields are included in the **Bid Wizard Selection** register for the cost items and Pay Item & Proposal selection registers. This lets you filter the list of cost items based on a tag or UDF.

When you select the **Toggle Select All** button, only filtered items are included which allow you to include scopes of work relevant to your estimate without having to manually select all items needed.



10.4 COPY ESTIMATE DATA USING EDIT COMMANDS

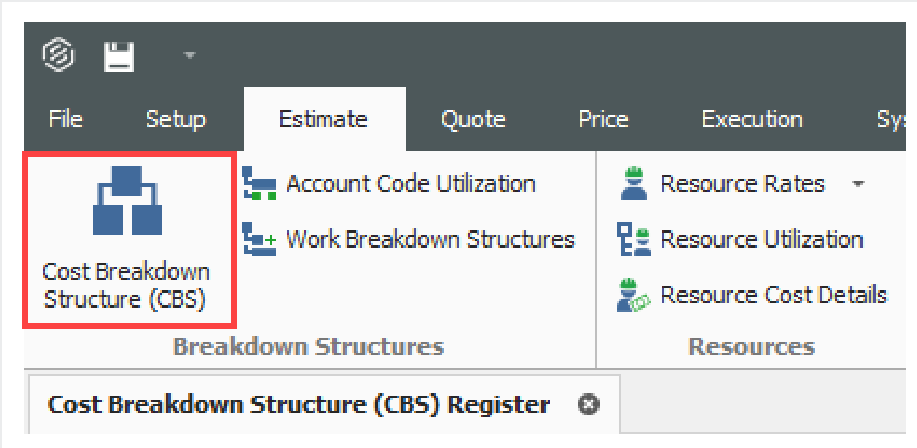
While the Bid Wizard is an efficient way to copy cost history into new projects, you may prefer to use edit commands such as copy and paste to bring cost history into your estimate.

To copy and paste cost history from one job to another, it is beneficial to see the jobs side by side. The following steps walk you through the process.

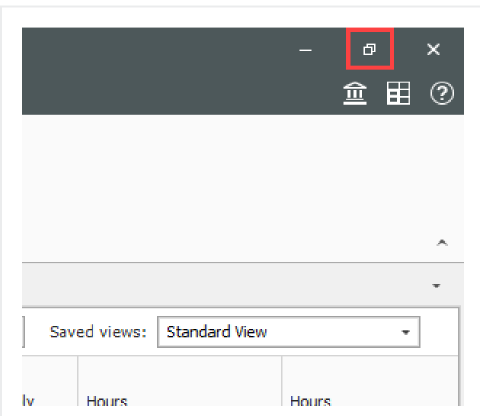
Step by Step — Copy Estimate Data Using Edit Commands

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).

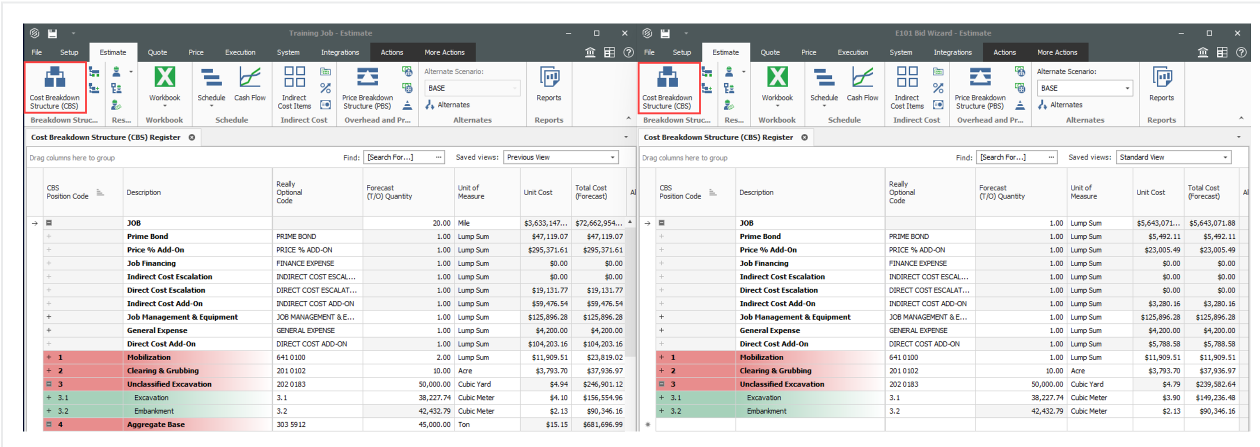
3. Make sure the CBS is open for both jobs by going to the Estimate menu and selecting **Cost Breakdown Structure (CBS)**.



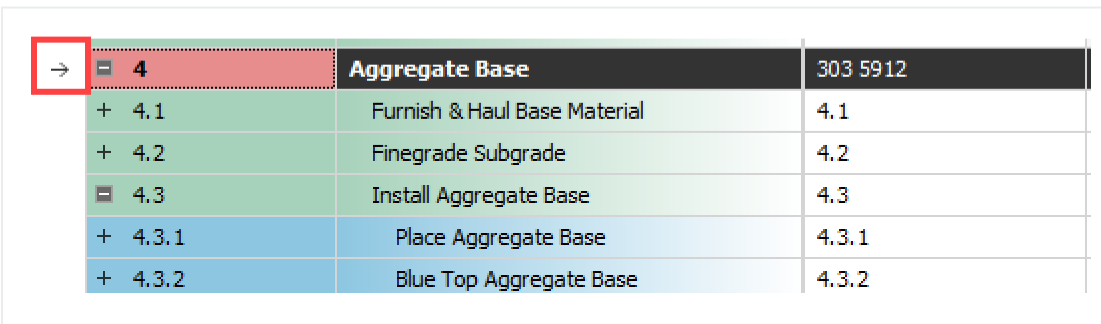
4. Since you have both jobs open and they are in their own application window, align them to be side by side by using the **minimize icons** of each job or utilizing Windows align functionality.



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

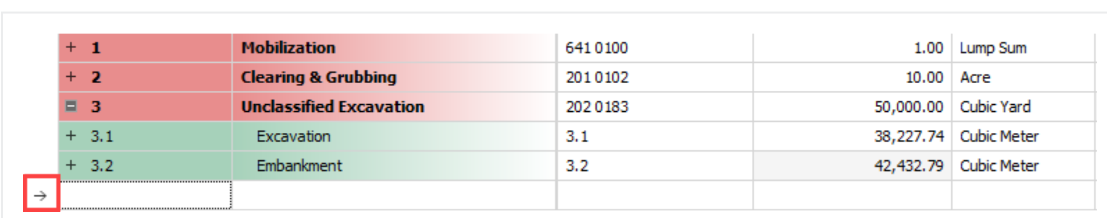


5. On the CBS of the Training Job, click the row header on cost item **4 – Aggregate Base** and press **Ctrl+C** to copy the cost item.

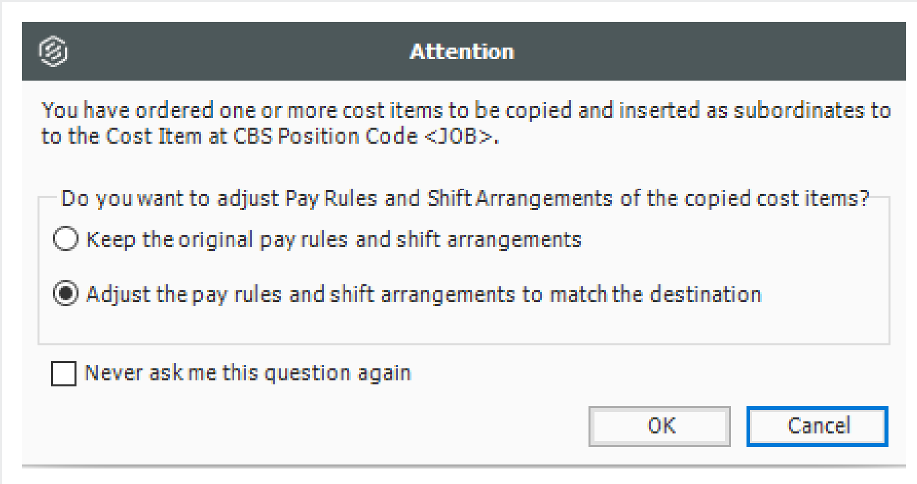


TIP When you copy a superior cost item, all of its subordinates are automatically copied.

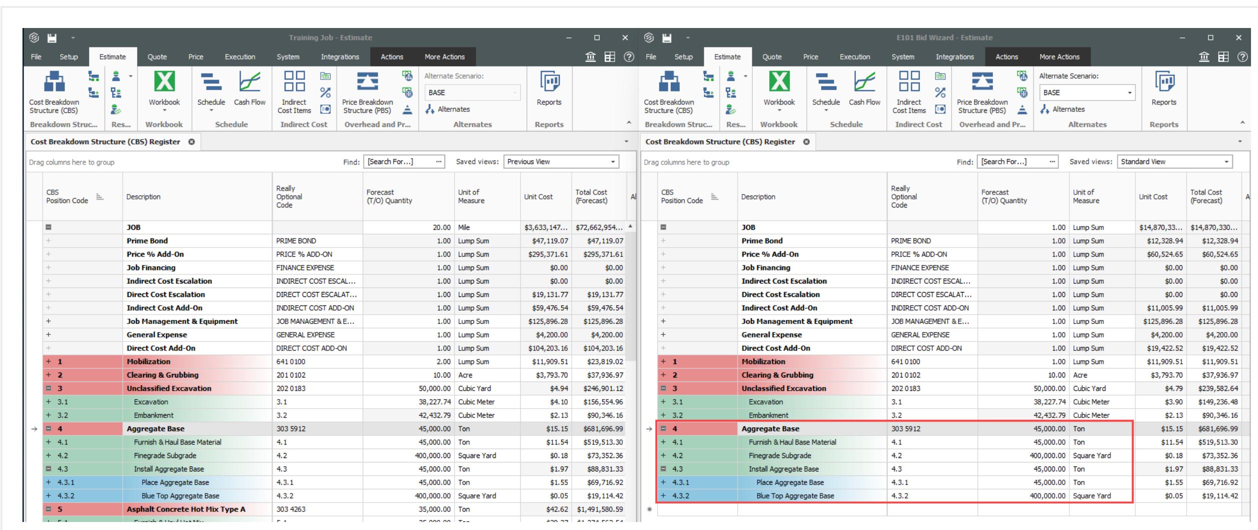
6. On the CBS of the E101 Bid Wizard job, click the row header on the first blank register row, and press **Ctrl+V** to paste the cost item.



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



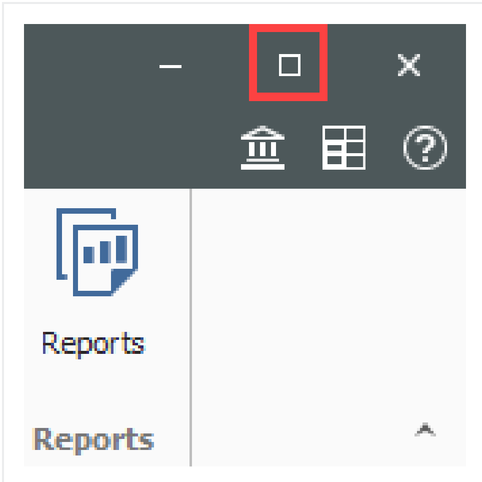
- You can see in the destination job's CBS that you've added the Aggregate Base cost item, along with its subordinate cost items and all cost and productivity detail



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.

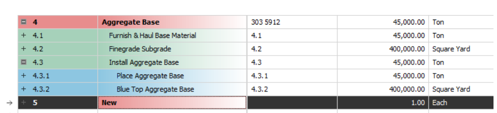


10.5 CBS BID WIZARD

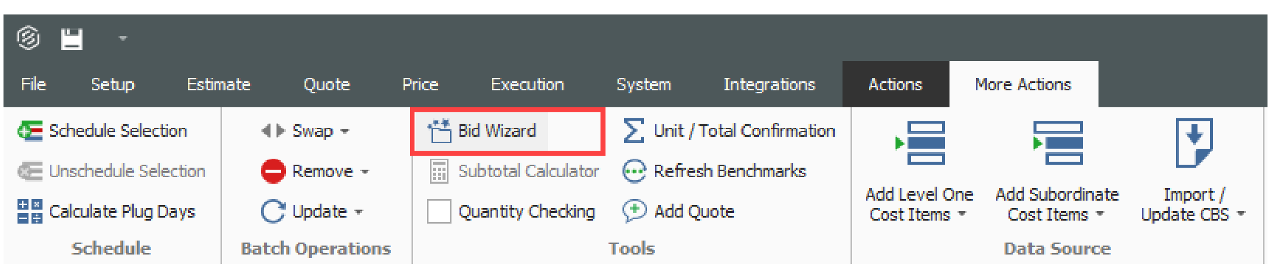
You can also use the Bid Wizard to add cost items while you are in the CBS Register. The following steps walk through using the CBS Bid Wizard.

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.

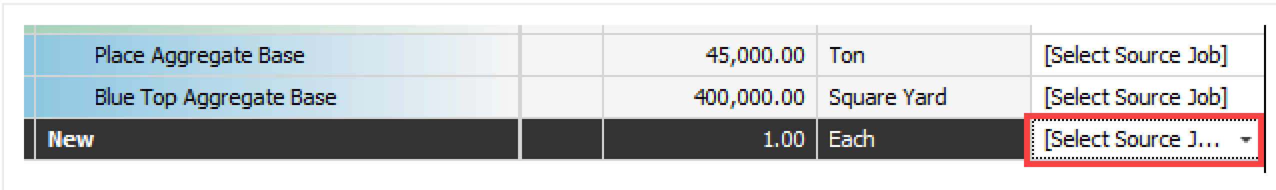


5. To open the CBS Bid Wizard, click the **Bid Wizard** icon on the **More Actions** tab.

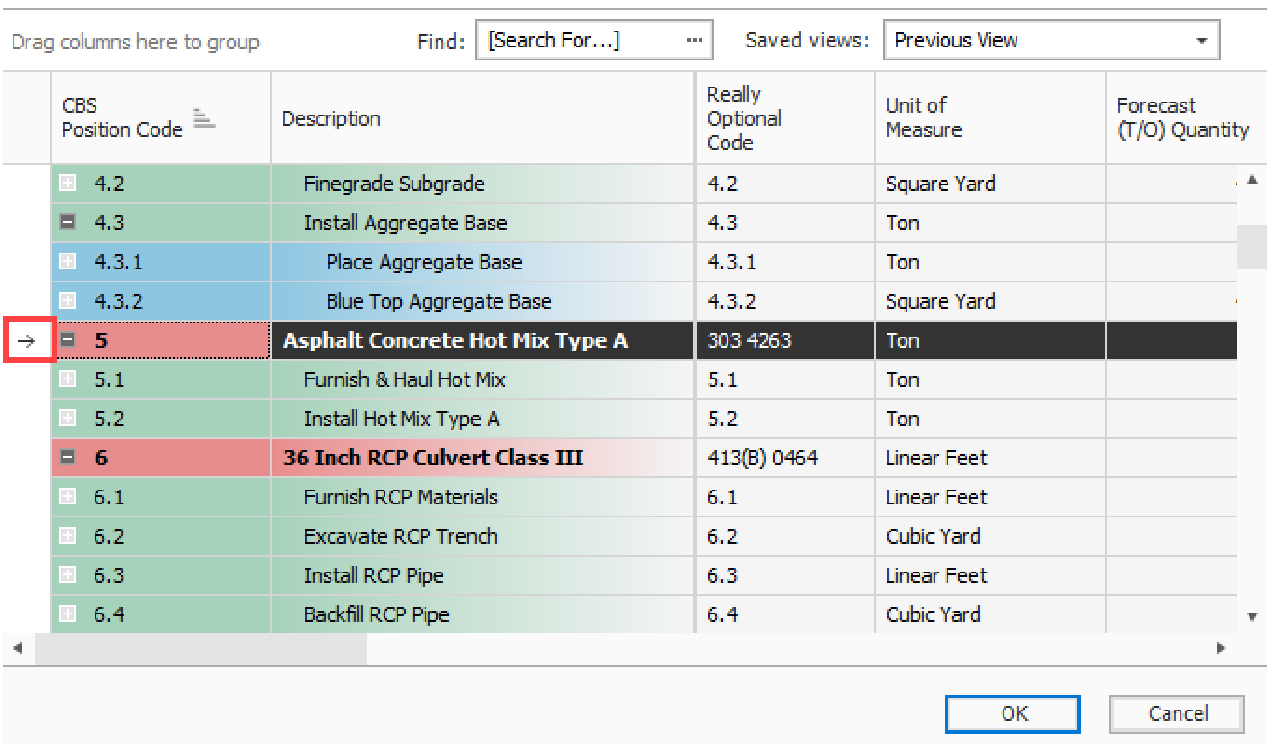


- The Bid Wizard window opens

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



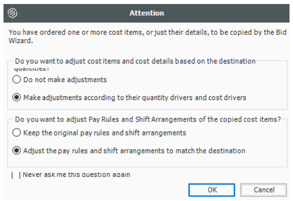
7. From the Source Job drop-down list, select **Training Job**.
8. Scroll to the right of the Source Job column and click in the **Source CBS Position Code** column on the New Cost item row.
   - A source CBS Register window appears
9. Select CBS position code **5 – Asphalt Concrete Hot Mix Type A** from the register.



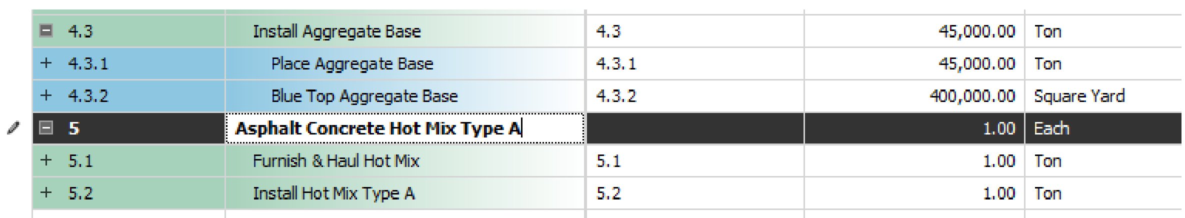
10. Click **OK**.
11. Click **Finish** on the Bid Wizard.

- 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



10.6 SNAPSHOTS

A job snapshot is a copy of an estimate that provides read-only access to the job as it existed at a specific point in time. You can now filter the Snapshot register to jobs containing snapshots.

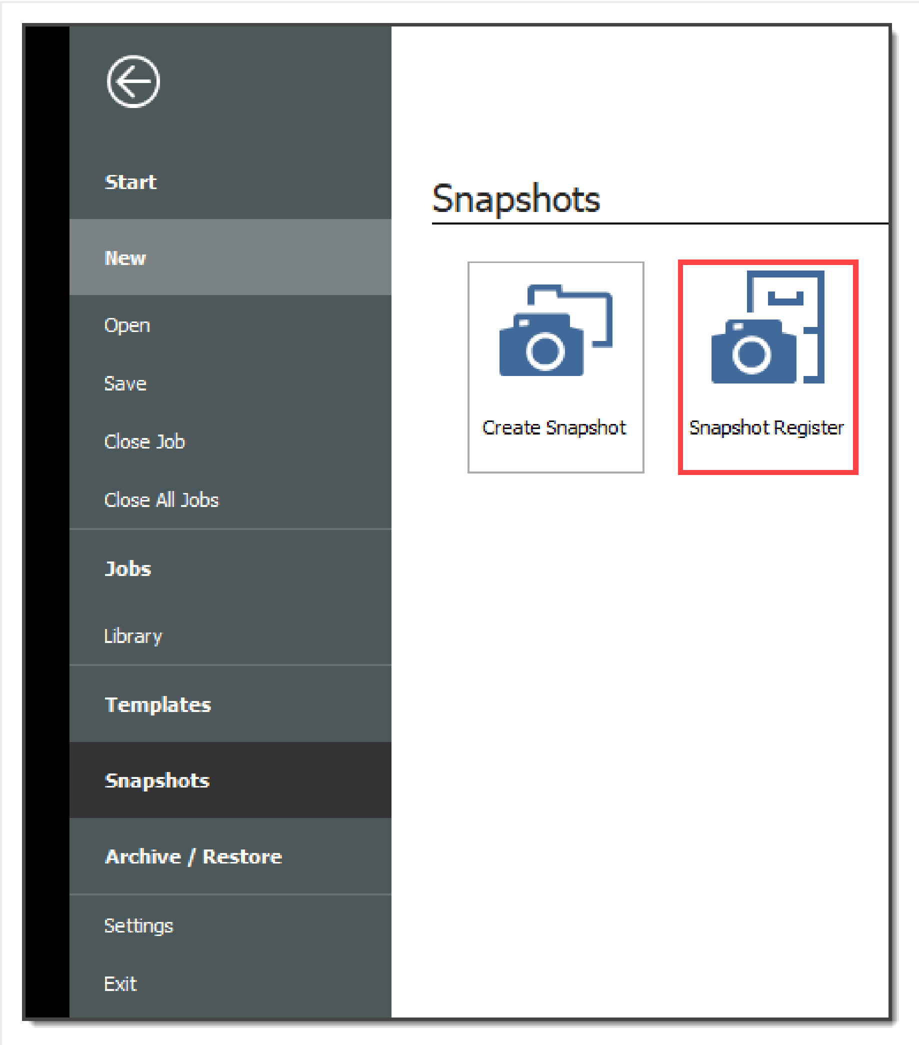
The Snapshot register has some additional columns as well. In addition to the Code, Description, Last Saved, and Version column, the Snapshot register contains all fields that are present on the Jobs register that provides you with an easier way to group, sort, filter, and find the jobs you need.

10.6.1 Snapshot Register

The Snapshot Register is where you will view individual snapshots for specific jobs.

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.



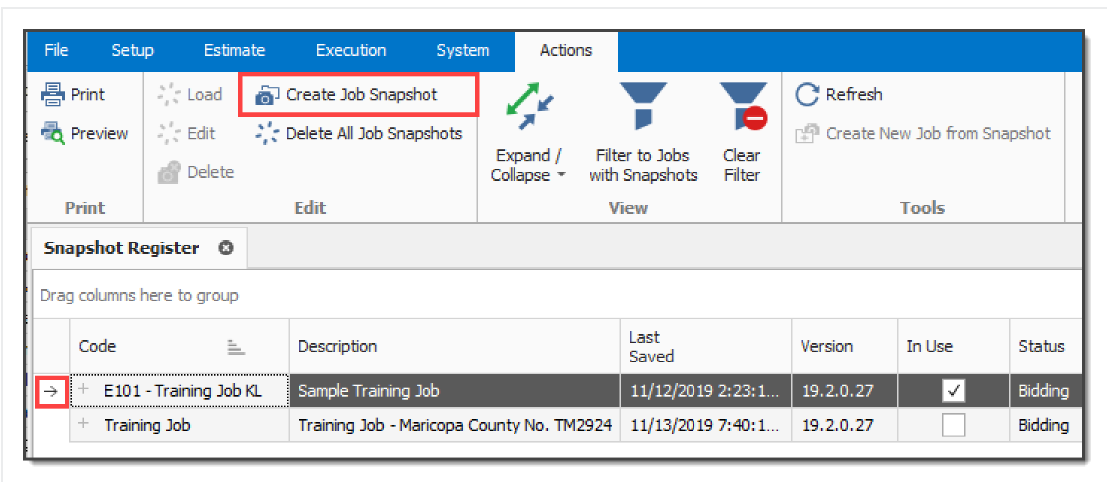
3. To view individual snapshots for specific jobs, click the icon next to the desired job to display the list of snapshots.

10.6.2 Creating a New Job Snapshot

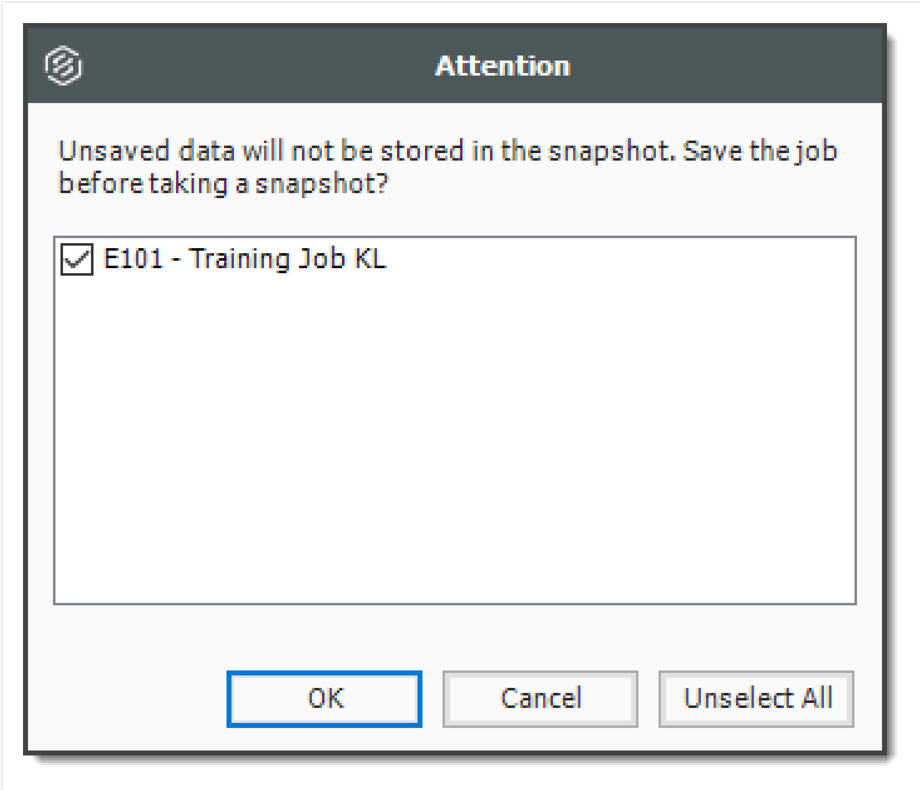
Step by Step — Create a New Job Snapshot

You can create a Job Snapshot from an existing Job.

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

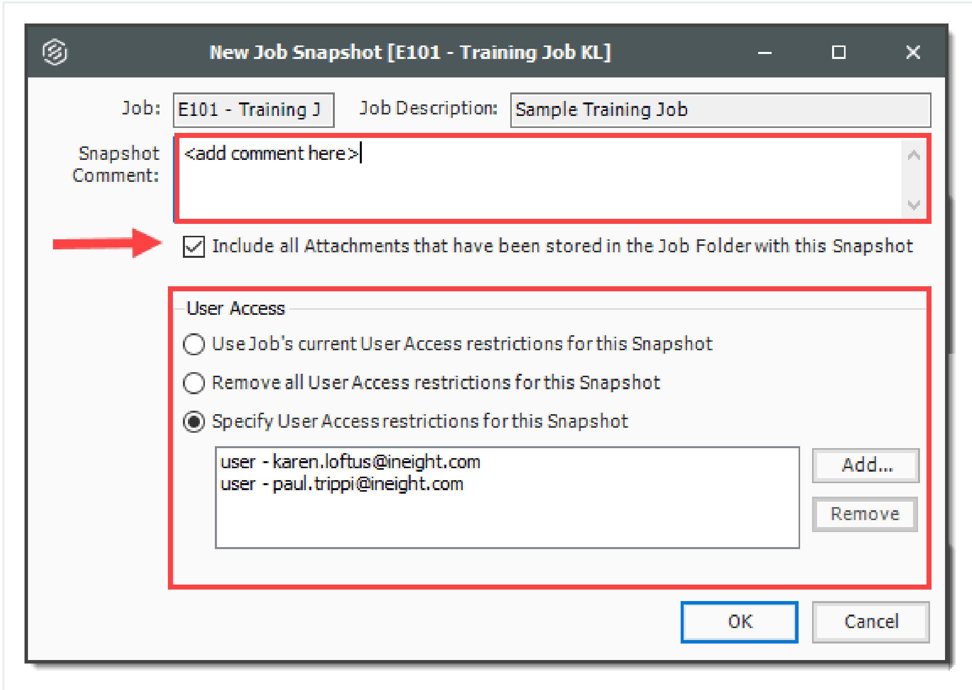


2. If an existing job is open select **Save**, if you haven't already done so.

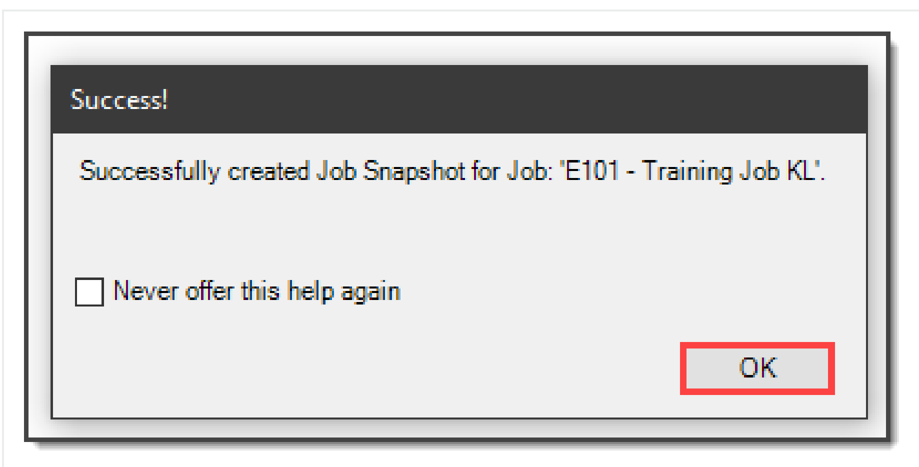


3. A New Job Snapshot [Job Code Here] dialog box appears. From there, you can add a Snapshot comment.
   - If you want to Include all Attachments that have been stored in the Job Folder with this Snapshot, select the check box, otherwise uncheck the box.
   - If you want to Use Job's current User Access 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.)



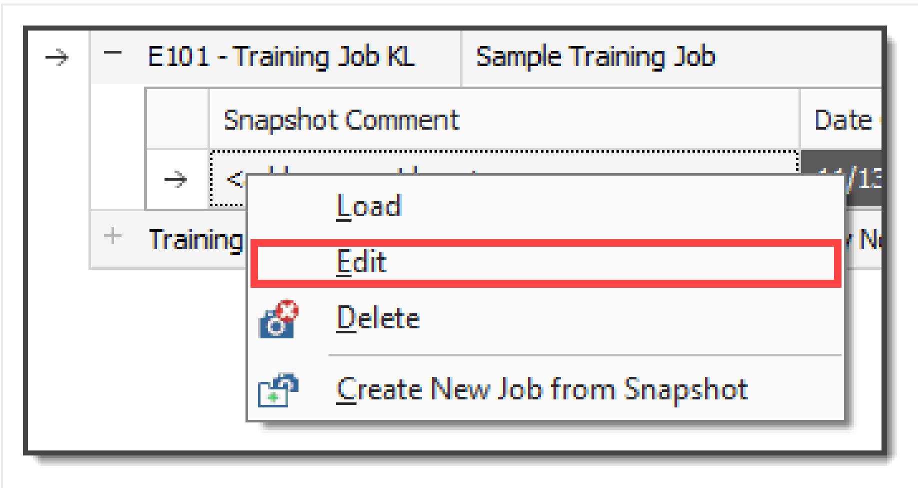
4. Click OK to create the snapshot.
5. A pop-up indicates when the snapshot has been created.



10.6.3 Editing a Job Snapshot

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**.

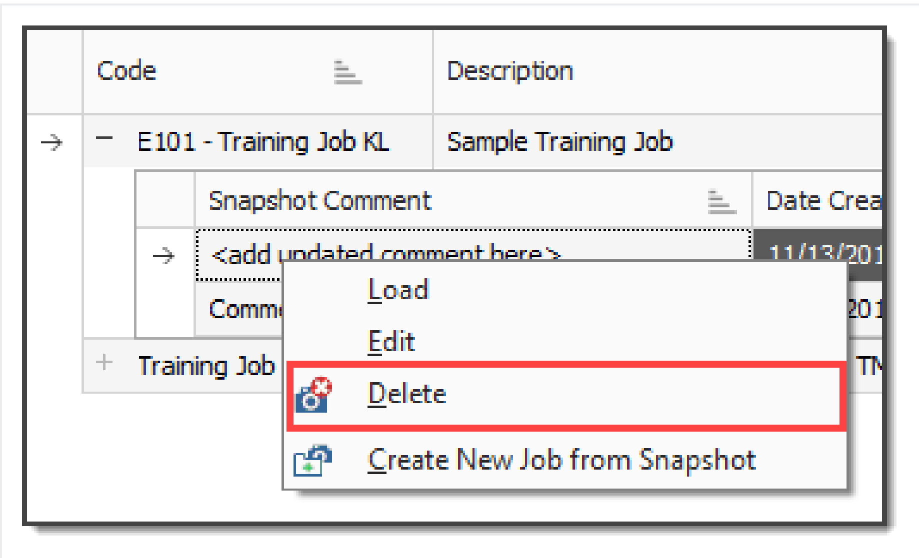


3. The same sort of dialog box opens up as when you created the Snapshot. In this case, from the Edit Job Snapshot [Job Code Here] dialog box, modify the Snapshot Comment and the User Access options as needed.
   - If you want to Include all Attachments that have been stored in the Job Folder with this 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.

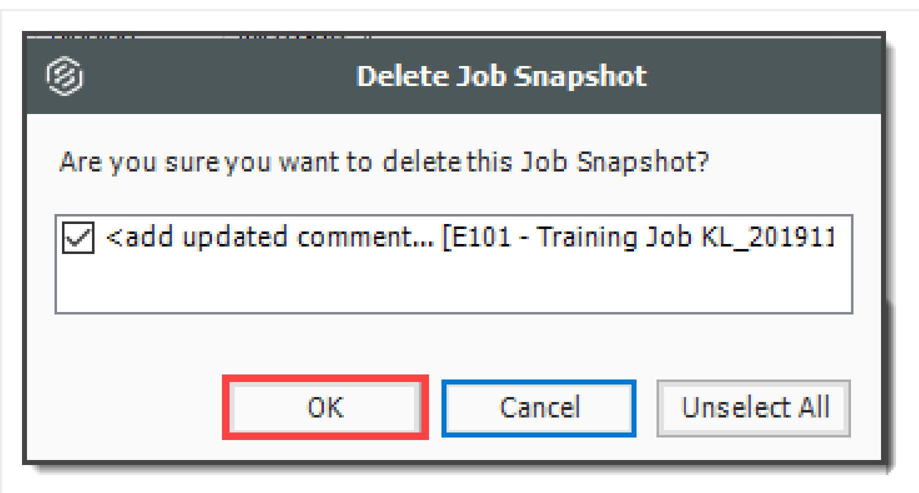
10.6.4 Deleting a Job Snapshot

Step by Step — Delete a Job Snapshot

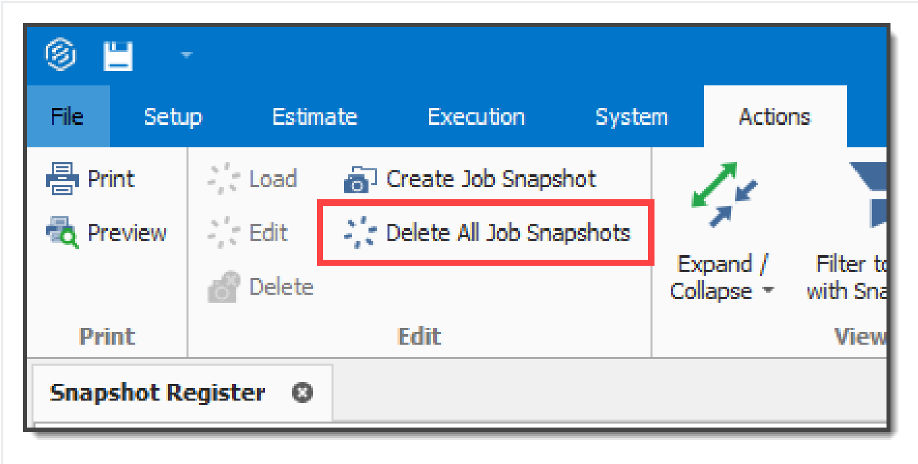
1. From the Snapshot Register, click the icon next to the desired job to display snapshots.
2. Right-click on the individual snapshot you want to delete snapshots from and select **Delete**.



3. Click **OK**



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

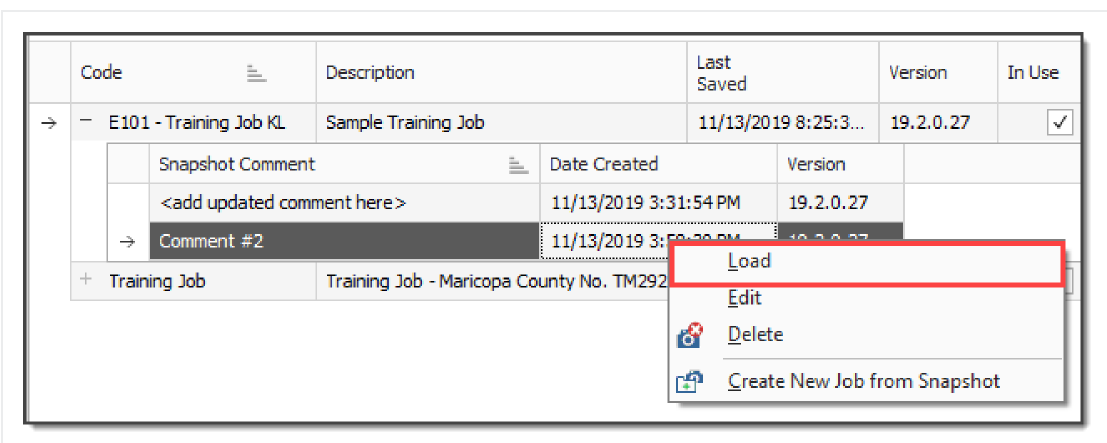


10.6.5 Loading a Job Snapshot

When you load an existing Snapshot, it loads into Estimate as any other job.

Step by Step — Load a Job Snapshot

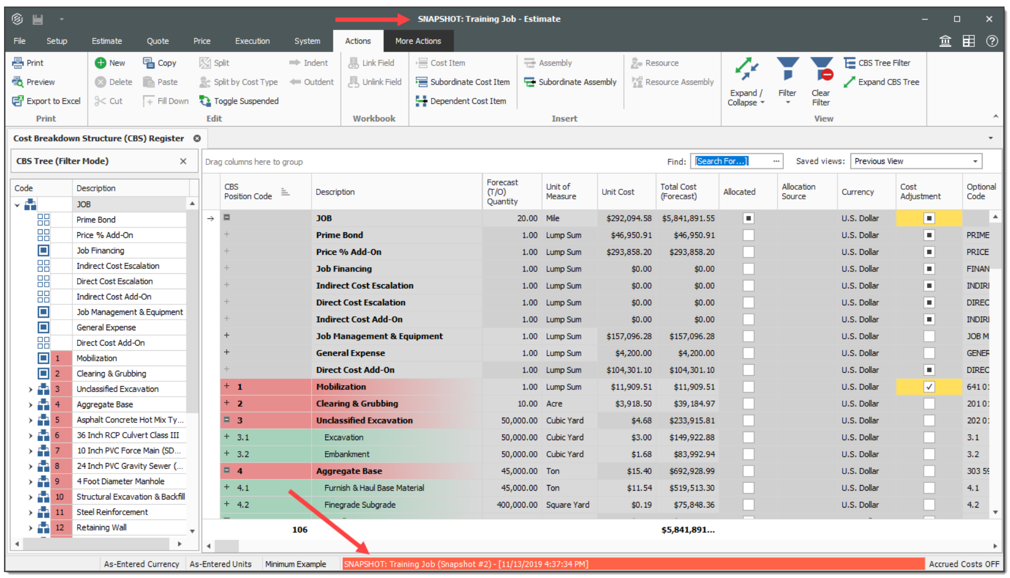
1. Click the File tab to open the Backstage View, then select **Snapshots**.
2. From the Snapshots form, select the **Snapshot Register** tab.
3. On the Snapshot Register, click the icon next to the desired job to display the list of snapshots.
4. Right-click on the individual snapshot you want to load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



Exercise 10.1 — Data Reproduction

Now that you have learned how to utilize the Bid Wizard, complete the following steps using the Bid Wizard and Copy & Paste features.

1. Open the Bid Wizard by clicking the **Bid Wizard** icon from the **More Actions** tab.
2. Choose the **Create a new job** radio button.
3. Type **BW Exercise** (with your initials) in the **New Code** field and type **Exercise** in the Description field.
4. Choose **Select cost items.**
5. For all selections, choose **Copy from source job**.
6. Select the **Also copy all non-utilized resources** checkbox.
7. Select **Copy from source job** under Unassigned Cost Items and Markup, and the Copy Markup box is automatically selected.
8. Find and select **Training Job** and click **OK**.
9. Use the **Toggle Include All** button to exclude all selections.
10. Select the checkboxes to include **Cost Items 4-7**.
11. Click **Finish** to add the new job.
12. Select **Adjust the pay rules and shift arrangements to match the destination**.
13. Open the **CBS** to see the cost items that were brought in.

14. Open the **Infra Job Copy** with your initials that you created earlier in this lesson.

15. Copy **Cost items 8 and 9** and paste them into the BW Exercise job.

You should end up with the following results

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
+	**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	**Aggregate Base**	303 5912	45,000.00	Ton
1.1	Furnish & Haul Base Material	4.1	45,000.00	Ton
1.2	Finegrade Subgrade	4.2	400,000.00	Square Yard
1.3	Install Aggregate Base	4.3	45,000.00	Ton
1.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton
1.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard
2	**Asphalt Concrete Hot Mix Type A**	303 4263	35,000.00	Ton
2.1	Furnish & Haul Hot Mix	5.1	35,000.00	Ton
2.2	Install Hot Mix Type A	5.2	35,000.00	Ton
3	**36 Inch RCP Culvert Class III**	413(B) 0464	1,024.00	Linear Feet
3.1	Furnish RCP Materials	6.1	1,024.00	Linear Feet
3.2	Excavate RCP Trench	6.2	1,858.56	Cubic Yard
3.3	Install RCP Pipe	6.3	1,024.00	Linear Feet
3.4	Backfill RCP Pipe	6.4	1,587.20	Cubic Yard
4	**10 Inch PVC Force Main (SDR21)**	800 0220	12,000.00	Linear Feet
4.1	Furnish 10 Inch PVC Materials	7.1	12,000.00	Linear Feet
4.2	Excavate-Install-Backfill 10 Inch PVC	7.2	12,000.00	Linear Feet
5	**24 Inch PVC Gravity Sewer (SDR35)**	800 0330	3,000.00	Linear Feet
5.1	Excavate 24 Inch PVC	8.1	3,000.00	Linear Feet
5.1.1	Excavate 24 Inch PVC 0-6 ft Depth	8.1.1	1,390.00	Cubic Yard
5.1.2	Excavate 24 Inch PVC 6-10 ft Depth	8.1.2	3,610.00	Cubic Yard
5.2	Furnish & Install 24 Inch PVC	8.2	3,000.00	Linear Feet
5.3	Backfill 24 Inch PVC	8.3	4,520.00	Cubic Yard
6	**4 Foot Diameter Manhole**	800 0400	16.00	Each
6.1	Furnish 4 ft Manhole Materials	9.1	16.00	Each
6.2	Excavate-Install-Backfill Manhole	9.2	16.00	Each

Congratulations, you have completed this exercise!

Lesson 10 Review

1. From the New option on the Backstage View, which of the following options are available for creating a new job? (Select all that apply)
   a. Scratch
   b. Template
   c. Import
   d. Existing Job
   e. Historic
   f. Bid Wizard

---

2. Which of the following job reproduction options lets you pick and choose which cost items you want to import into your new job?
   a. Template
   b. Bid Wizard
   c. Existing Job
   d. Archive

---

3. Which of the following options allows you to add cost items from another project when working in the CBS Register?
   a. Bid Wizard
   b. CBS Bid Wizard
   c. Template
   d. Existing Job

Lesson 10 Summary

As a result of this lesson, you can:

- Create a job from an existing job or template
- Create a template

- Reproduce estimate data using the Bid Wizard
- Reproduce estimate data using copy/paste
- Add cost items to a job using the CBS Bid Wizard
- Utilize the Snapshot function

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LESSON 11 – EXCEL INTEGRATION

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Export data from InEight Estimate to Excel
- Link a field in InEight Estimate to Excel
- Update a linked InEight Estimate field with Excel data

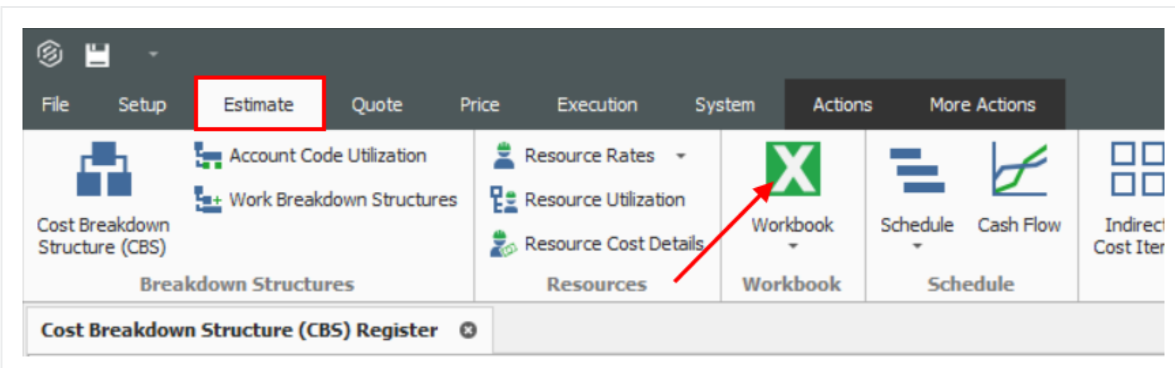
Lesson Topics

11.1 LINKING TO EXCEL

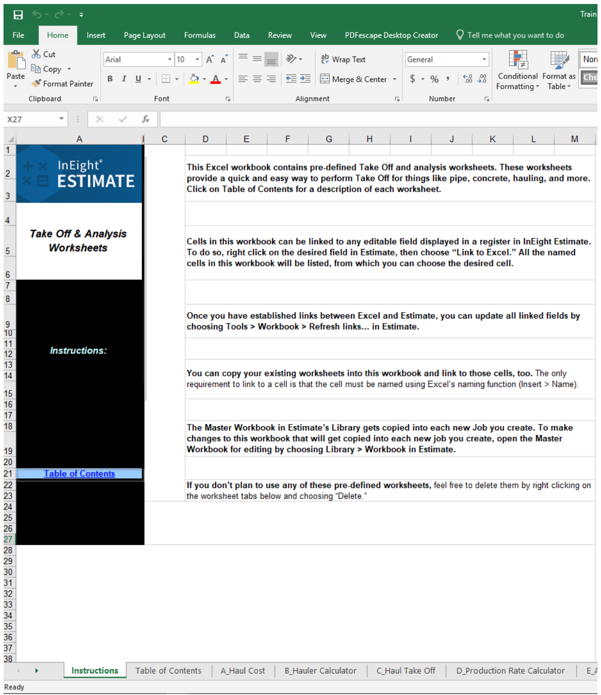
11.1.1 InEight Estimate Workbook

Every job has its own Excel workbook embedded within it for doing side calculations and take-offs. You can link your calculations to fields in InEight Estimate to automatically update them into your estimate. When you create a new job from scratch, the Library Master Workbook is copied to create a new embedded Excel workbook for the job.

The workbook comes with some pre-defined take-off and analysis worksheets, or you can create your own. Simply open the appropriate worksheet, plug in your values, and Excel will calculate your results. To open your job's workbook, select the Estimate tab, then click on the Workbook icon under the Workbook section.

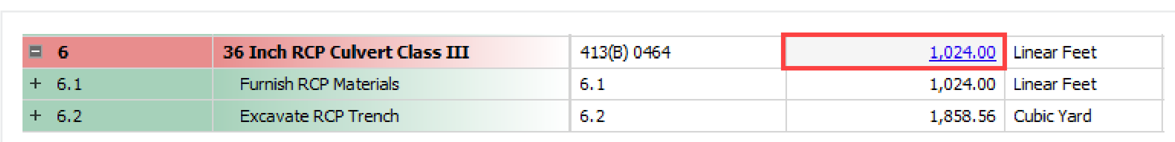


- The embedded Excel workbook for the job opens.



11.1.2 Linking to and from Excel

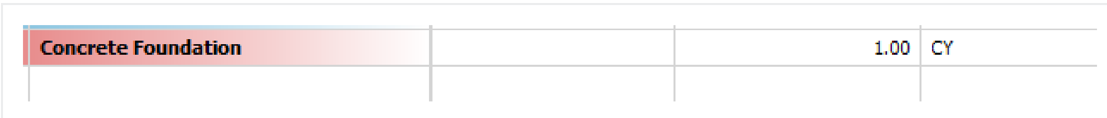
InEight Estimate's linking capabilities with Excel can be done in one of two ways. A field in InEight Estimate can be populated with a value from Excel, or a cell in Excel can be populated with the data from an InEight Estimate field. This two-way linking functionality allows you to make quick work of complex chores to perform spreadsheet-based take-off or formula-driven analysis.



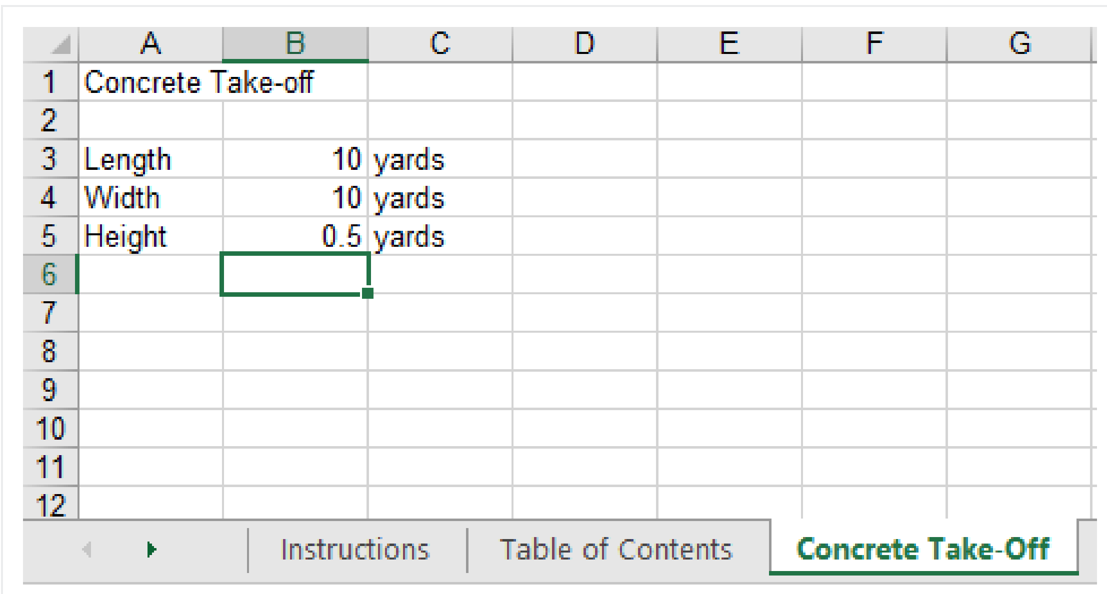
The following example walks through how to link a simple take-off calculation into InEight Estimate from Excel. It is a take-off to determine the size of a concrete foundation.

Step by Step — Link Estimate to Excel

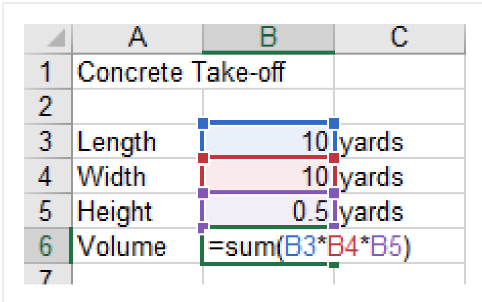
1. Open the **Training** Job and from the Estimate tab, open the **CBS Register**.
2. For this example, create a new cost item in the blank row at the bottom of the CBS register and name it **Concrete Foundation**.



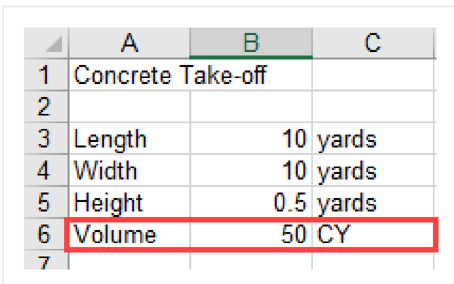
3. Open the job's Excel workbook from the Estimate tab, by selecting the Workbook icon.
4. In the workbook, create a new worksheet named **Concrete Take-off** and enter the following fields:



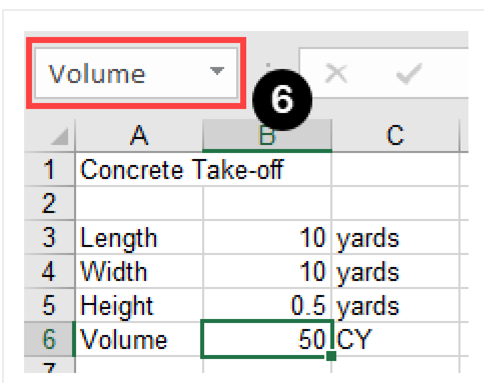
5. Create a new row to calculate the total cubic yards by factoring the length, width, and height quantities.



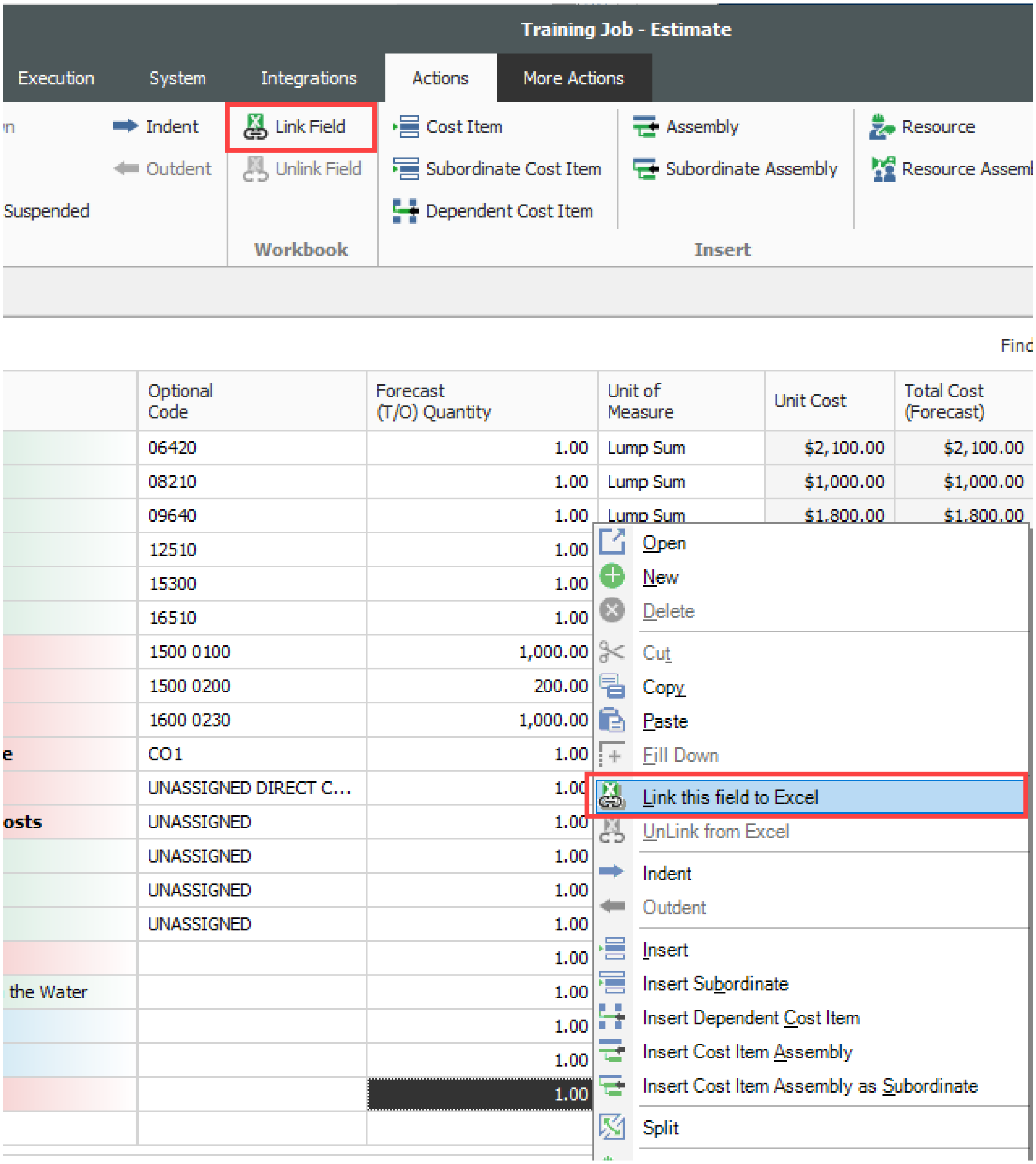
- Your Volume Total should be 50 cubic yards



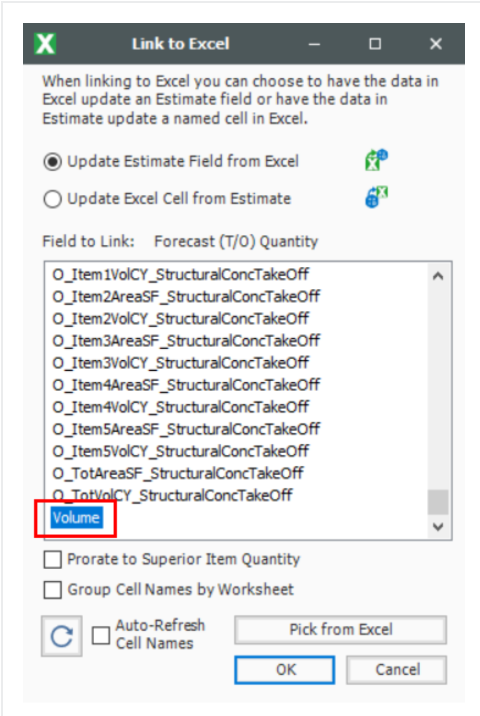
6. InEight Estimate will only link to named fields in Excel. Click in the field you want to name (B6), then click in the Field Name window and type **Volume**.



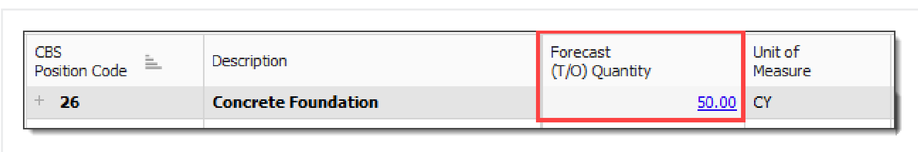
7. Go back to the CBS Register and right click on the Concrete Foundation cost item **Forecast (T/O) Quantity** field.
8. From the resulting right click menu, select **Link this field to Excel**.
   - You can also link the field by selecting the field and then selecting Link Field from the Actions tab



9. On the Link to Excel dialog, select the **Update InEight Estimate field from Excel** 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).

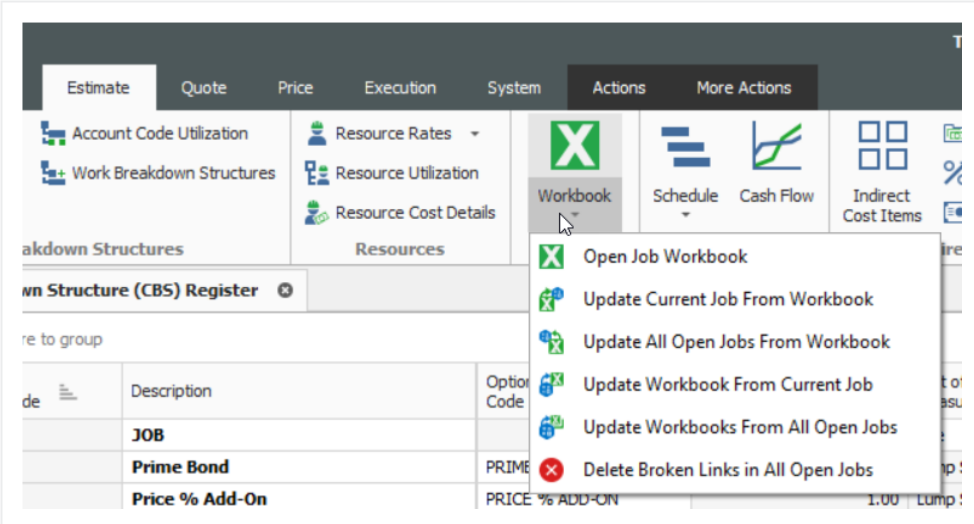


11. Click **OK**.
    - The Forecast Quantity field for Concrete now is linked to the Volume field in Excel and populates with the take-off quantity (50)



11.1.3 Update Links

When data in InEight Estimate or Excel changes, you can quickly update all links, in just the currently active job or in all open jobs. Simply select one of the following options from the Workbook drop-down list on the Estimate tab.



11.2 BUILT-IN SPREADSHEET

Most of the time, a cloud-based deployment of the Microsoft Office products, including Excel, are installed on new laptops or machines as the default installation option for Office 2016. Estimate's Excel integration relies on an on-premise (according to Microsoft) installation of the Microsoft Office products.

Estimate supports the option to use spreadsheet control for those that do not have the on-premises version of Microsoft Excel installed. You can switch between the Embedded workbook and the spreadsheet control from the Configuration Tool.

This option lets you use the functionality of the embedded workbook without having an on-premises installation of Microsoft Excel.

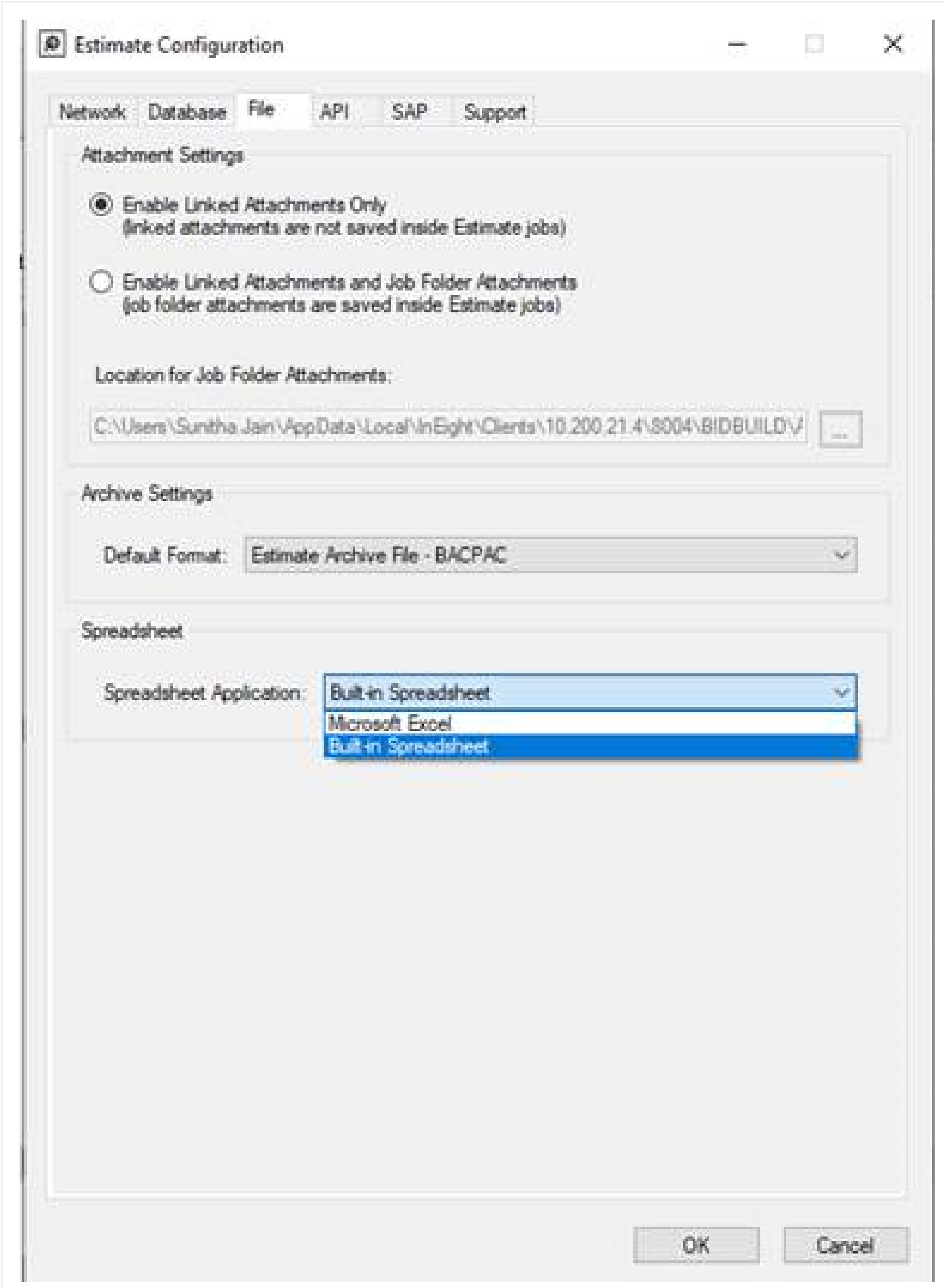
Follow the step by step below to change to the **Built-In Spreadsheet** option.

Step by Step — Built-In Spreadsheet

1. From the Windows Start Menu, search for **Configuration Tool**. The Estimate Configuration window opens.

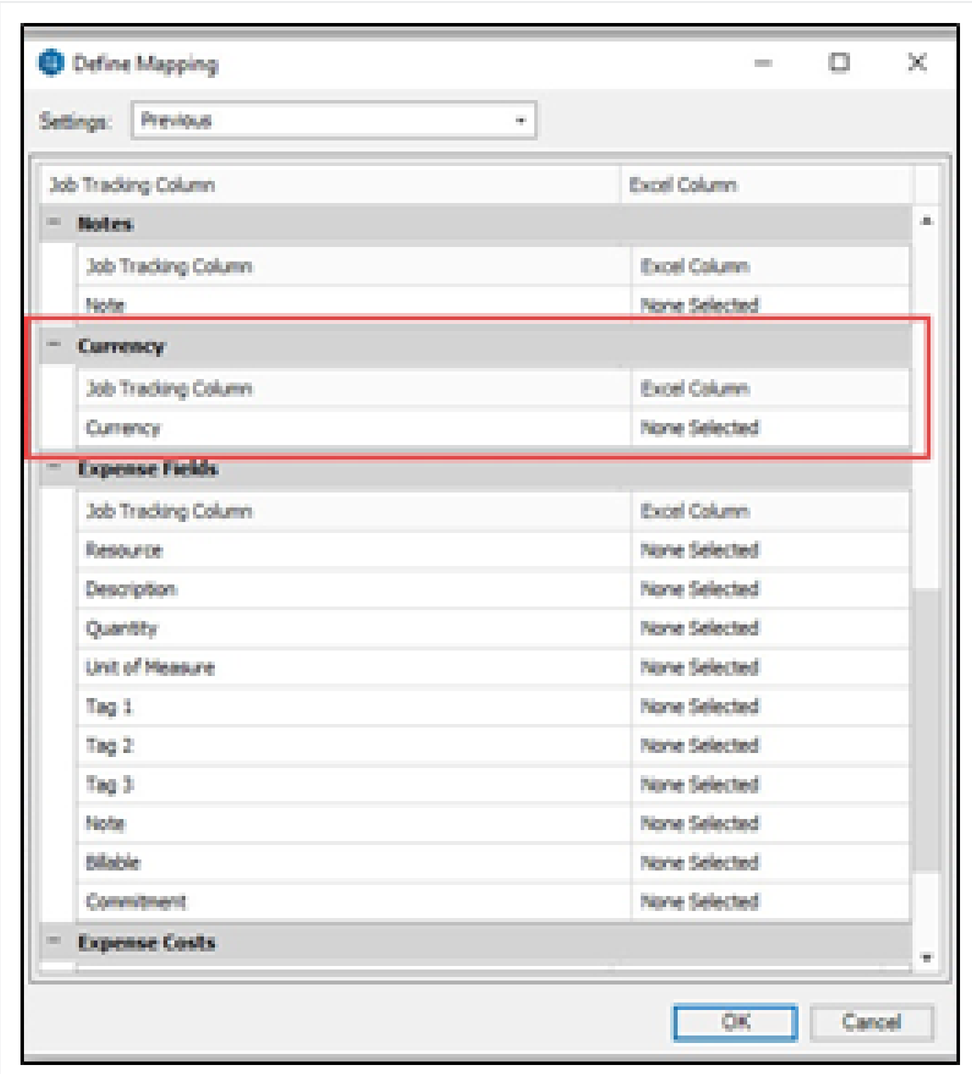
NOTE If Estimate has been directly installed on your machine, the Estimate Configuration window will appear. If you cannot find your Estimate Configuration, contact support.

2. Select the **File** tab.
3. Under the Spreadsheet data box, select the **Spreadsheet Application** drop-down arrow.
4. Select the option **Built-In Spreadsheet**.


Estimate Configuration
Network
Database
File
API
SAP
Support
Attachment Settings
Enable Linked Attachments Only
(linked attachments are not saved inside Estimate jobs)
Enable Linked Attachments and Job Folder Attachments
(job folder attachments are saved inside Estimate jobs)
Location for Job Folder Attachments:
C:\Users\Sunitha Jain\AppData\Local\InEight\Clients\10.200.21.4\8004\BIDBUILD\
Archive Settings
Default Format:
Estimate Archive File - BACPAC
Spreadsheet
Spreadsheet Application:
Built-in Spreadsheet
Microsoft Excel
Built-in Spreadsheet
OK
Cancel

11.3 CURRENCY IN JOB TRACKING EXCEL IMPORT

The currency function lets you import actuals in different currencies while you work in multiple currencies within a job.



Lesson 11 Review

1. The Export to Excel feature is available on all register forms in the system and allows you to export the data currently displayed on a register form to an Excel worksheet.
   a. True
   b. False

---

2. You can use the ___________ tool to easily select a group of items to copy.
   a. Customize
   b. Workbook
   c. Cell Select
   d. Excel Select

---

3. In order to link an Excel field to InEight Estimate, the Excel field must be:
   a. Named
   b. Highlighted
   c. Tagged
   d. Selected

Lesson 11 Summary

As a result of this lesson, you can:

- Export data from InEight Estimate to Excel
- Link a field in InEight Estimate to Excel
- Update a linked InEight Estimate field with Excel data

LESSON 12 – SCHEDULE INTEGRATION

Lesson Duration: 45 minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Set up scheduling options
- Update schedule from InEight Estimate
- Update InEight Estimate from schedule
- Manage changes between estimate and schedule

Lesson Topics

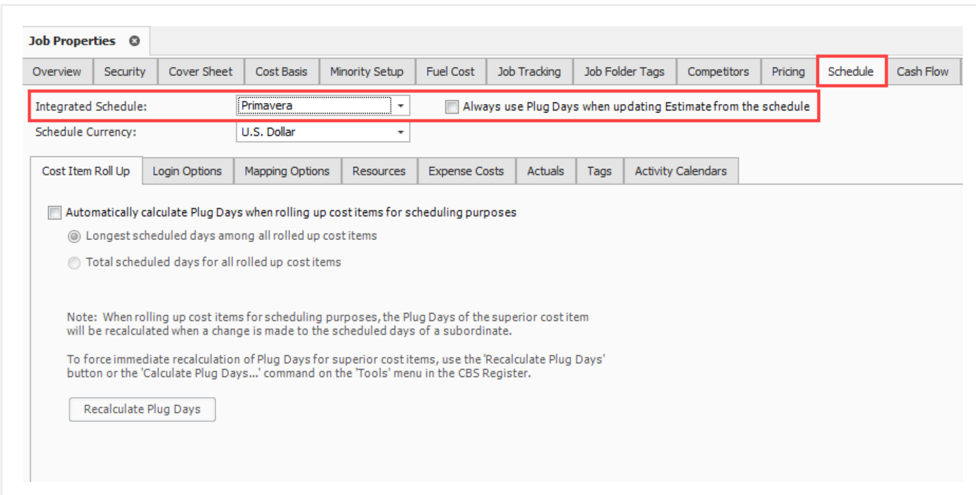
12.1 PRIMAVERA

12.1.1 Scheduling Options

Prior to sending information from InEight Estimate to Primavera, you need to make sure the proper settings are in place.

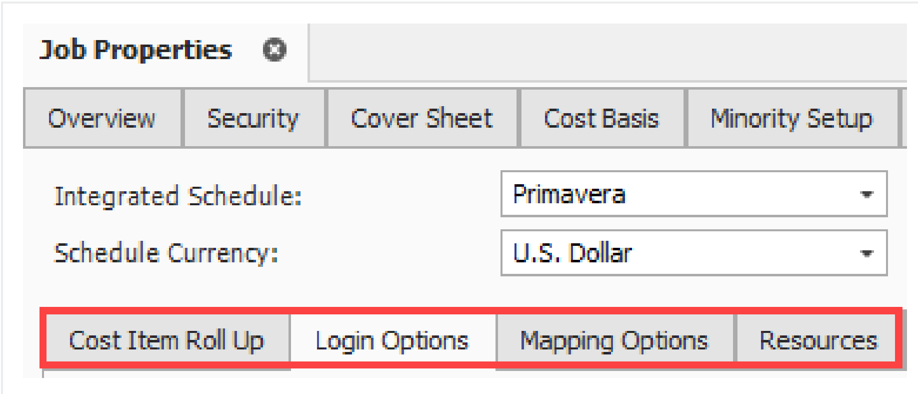
12.1.1.1 Job Properties Schedule Tab

Primavera scheduling options are configured on the **Setup > Job Properties > Schedule** tab.



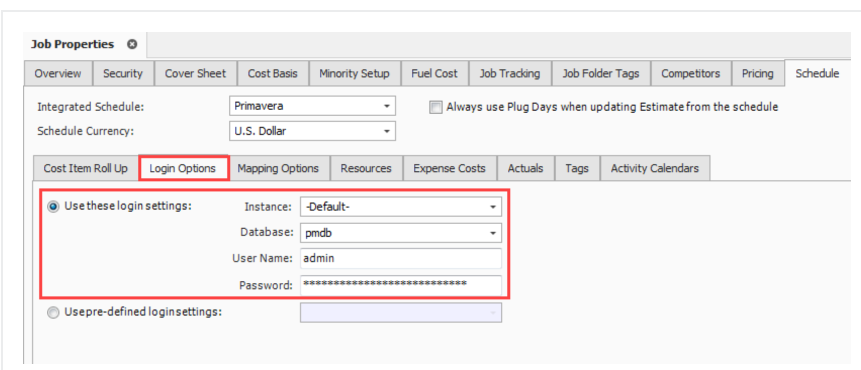
- At the top of the Schedule tab, the Integrated Schedule must be set to **Primavera**
- As a default, the **Always use Plug Days when updating InEight Estimate from the schedule** checkbox is not selected (on a job by job basis, this box can be checked later for jobs in which an estimator does not want updates from Primavera to change the duration and therefore the cost of your cost items in InEight Estimate)
- On the Schedule tab, there are several sub-tabs that need to be set up correctly to produce

correct data behavior and ensure the correct passing of data to Primavera



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

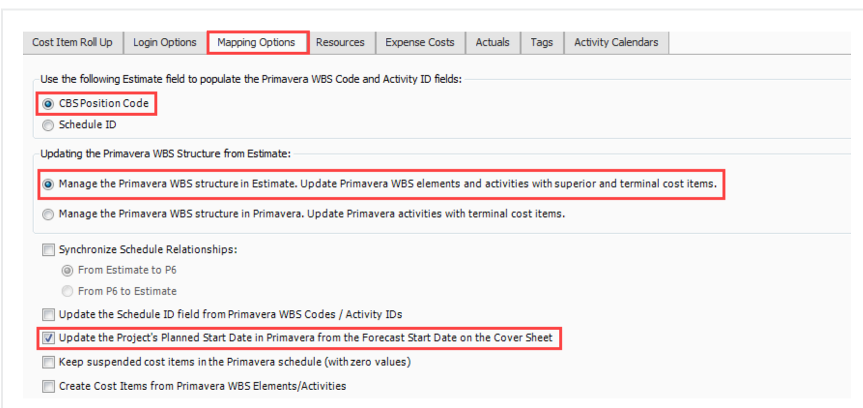


12.1.1.2 Mapping Options Tab

The Mapping Options tab contains options critical to downstream applications. It will have the following settings selected by default:

1. The **CBS Position Code** is selected as the field to populate the Primavera WBS Code and Activity ID fields.
2. The **Manage the Primavera WBS structure in InEight Estimate…** radio button is selected for the initial push from InEight Estimate to P6.
    - This means the WBS structure in Primavera will be controlled by the structure of superior and terminal cost items in InEight Estimate.
    - Selecting the other option would cause the WBS structure to be controlled in Primavera. Only terminal cost items would be sent from InEight Estimate to Primavera and all hierarchal structure (WBS Elements) would be created in Primavera manually
    - This option can be changed later, on a job-by-job basis.
3. The **Update the Project's Planned Start Date in Primavera from the Forecast Start Date** option is checked.
    - This will automatically pull the Forecast Start Date from the Job Properties > Cover Sheet tab to become the Planned Start Date in Primavera.

NOTE *You should double-check to make sure the right Start Date is defined on the Job Properties > Cover Sheet tab.*

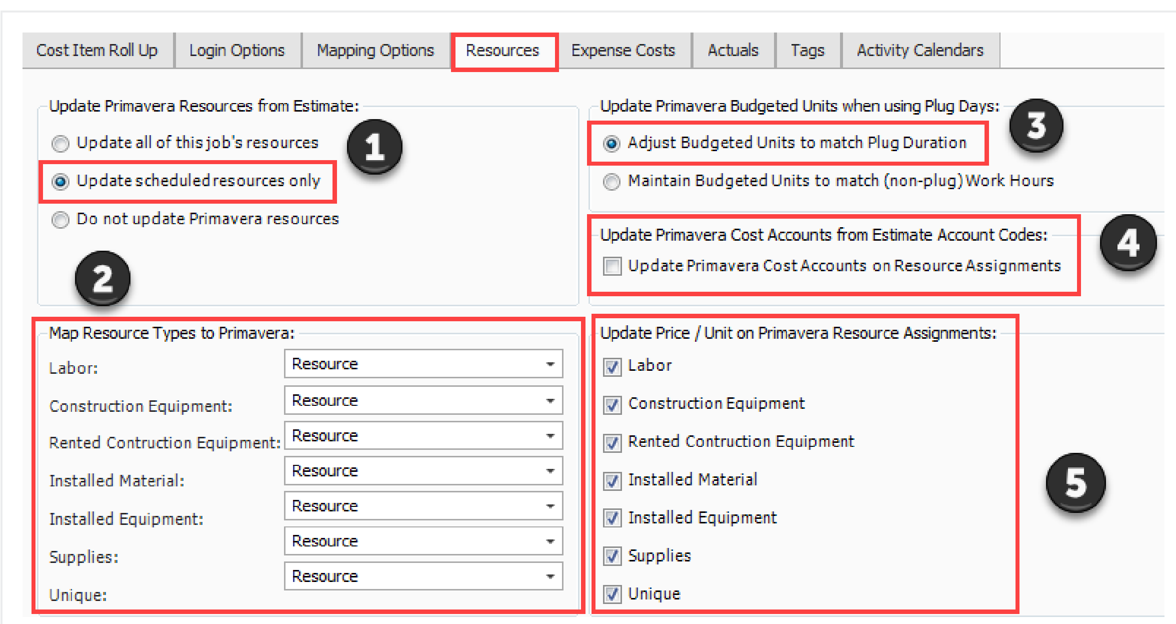


12.1.1.3 Resources Tab

The Resources tab dictates how resources are mapped between InEight Estimate and P6.

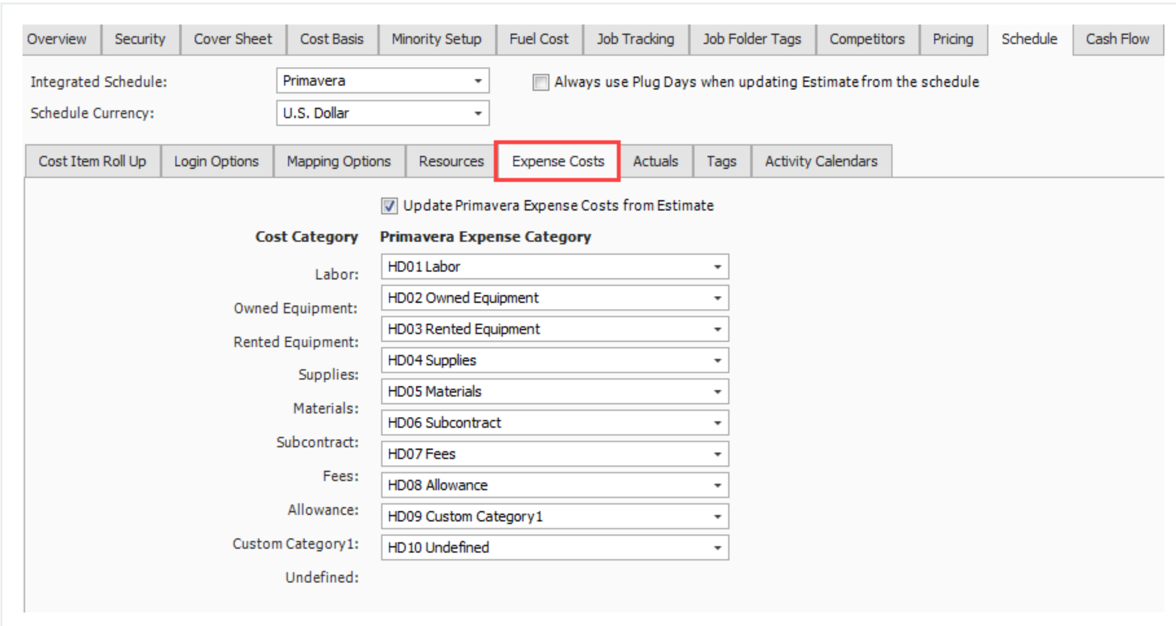
Section		Name
1	Update Primavera Resources from Estimate	Provides options for sending InEight Estimate resources to Primavera. • Typically, you would select the **Update scheduled resources only** option to send only resources that are employed on cost items • The **Update all of this job's resources** option updates Primavera with all of the resources in your project's Resource Rate Register
2	Map Resource Types to Primavera	Specify whether your resources will import into Primavera as Resources or Roles.
3	Update Primavera Budgeted Units when using Plug Days	Allows you to specify how to handle Budgeted Units for items that use Plug Days.
4	Update Primavera Cost Accounts from Estimate Account Codes	Checking this box causes assigned account codes to import into Primavera as Cost Accounts.
5	Update Price/Unit on Primavera Resource Assignments	Checking the boxes in this section will cause the Charge Rate costs of your resources to import into Primavera along with your resources.

12.1.1.4 Overview – Resources Tab



12.1.1.5 Expense Costs Tab

The Expense Costs tab is useful for bringing costs in from InEight Estimate that are not connected to resources, for example, your plugged and/or quoted cost items. This tab is optional, and it is not required to make selections here.

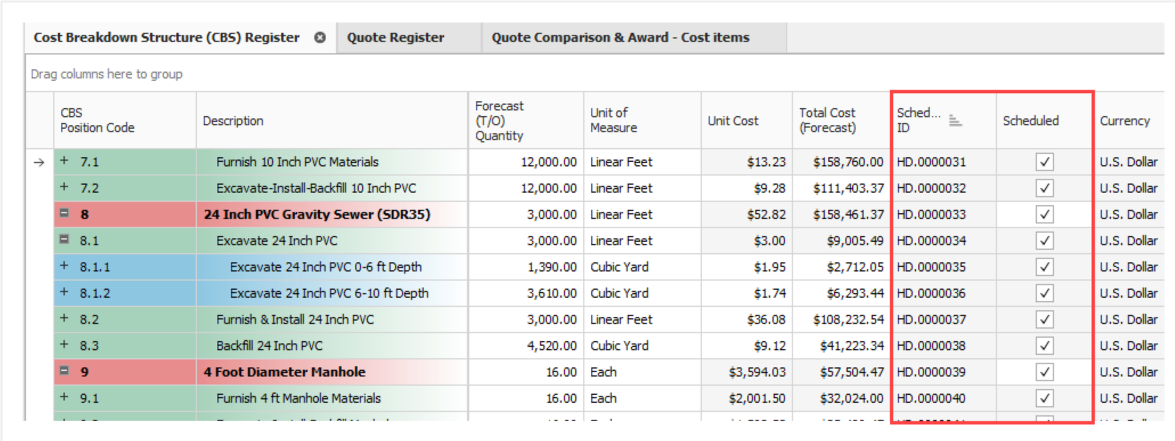


12.1.2 Schedule Cost Items

Before you can integrate with Primavera, your cost items need to be marked as Scheduled in InEight Estimate. This is done on the Cost Breakdown Structure (CBS) Register. From your Saved Views drop-down list in the CBS, the Schedule Setup View displays all of your schedule-related columns. There are a couple to keep in mind when you schedule your items:

- **Scheduled**: This column tells you which of your items are selected to be included in your Primavera schedule
- **Roll Up Schedule**: This column lets you check a box to roll up your estimate to the selected level when it imports into Primavera

In the below example, notice that all of the cost items are scheduled, but the subordinates for Unclassified Excavation will be rolled up to the superior level.



CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Sched... ID	Scheduled	Currency
7.1	Furnish 10 Inch PVC Materials	12,000.00	Linear Feet	$13.23	$158,760.00	HD.0000031	✓	U.S. Dollar
7.2	Excavate-Install-Backfill 10 Inch PVC	12,000.00	Linear Feet	$9.28	$111,403.37	HD.0000032	✓	U.S. Dollar
8	**24 Inch PVC Gravity Sewer (SDR35)**	3,000.00	Linear Feet	$52.82	$158,461.37	HD.0000033	✓	U.S. Dollar
8.1	Excavate 24 Inch PVC	3,000.00	Linear Feet	$3.00	$9,005.49	HD.0000034	✓	U.S. Dollar
8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	1,390.00	Cubic Yard	$1.95	$2,712.05	HD.0000035	✓	U.S. Dollar
8.1.2	Excavate 24 Inch PVC 6-10 ft Depth	3,610.00	Cubic Yard	$1.74	$6,293.44	HD.0000036	✓	U.S. Dollar
8.2	Furnish & Install 24 Inch PVC	3,000.00	Linear Feet	$36.08	$108,232.54	HD.0000037	✓	U.S. Dollar
8.3	Backfill 24 Inch PVC	4,520.00	Cubic Yard	$9.12	$41,223.34	HD.0000038	✓	U.S. Dollar
9	**4 Foot Diameter Manhole**	16.00	Each	$3,594.03	$57,504.47	HD.0000039	✓	U.S. Dollar
9.1	Furnish 4 ft Manhole Materials	16.00	Each	$2,001.50	$32,024.00	HD.0000040	✓	U.S. Dollar

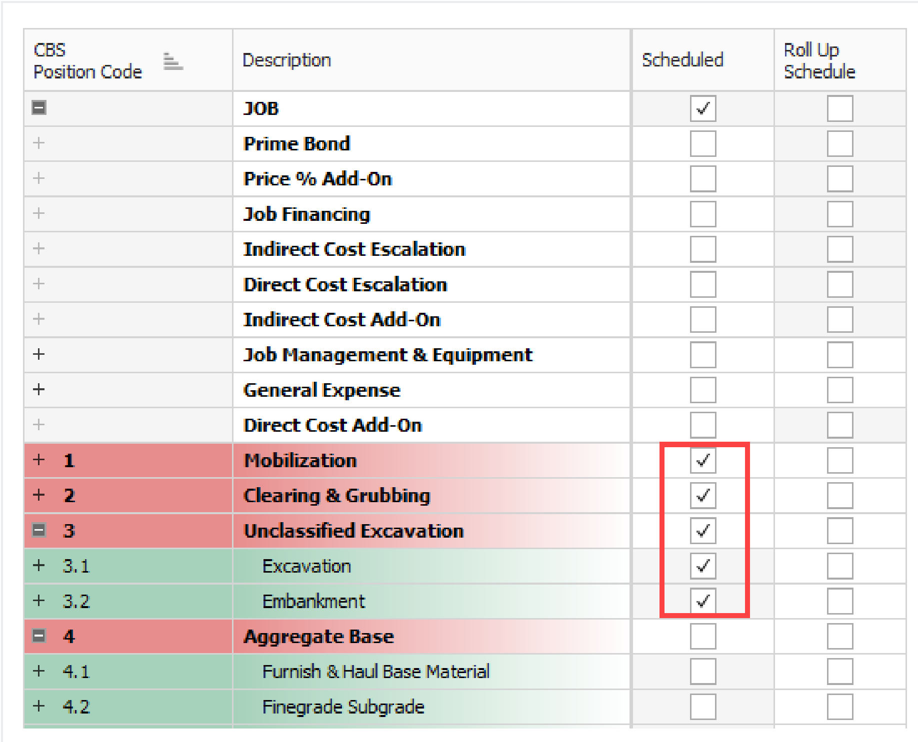
The following steps walk you through scheduling your cost items.

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**.

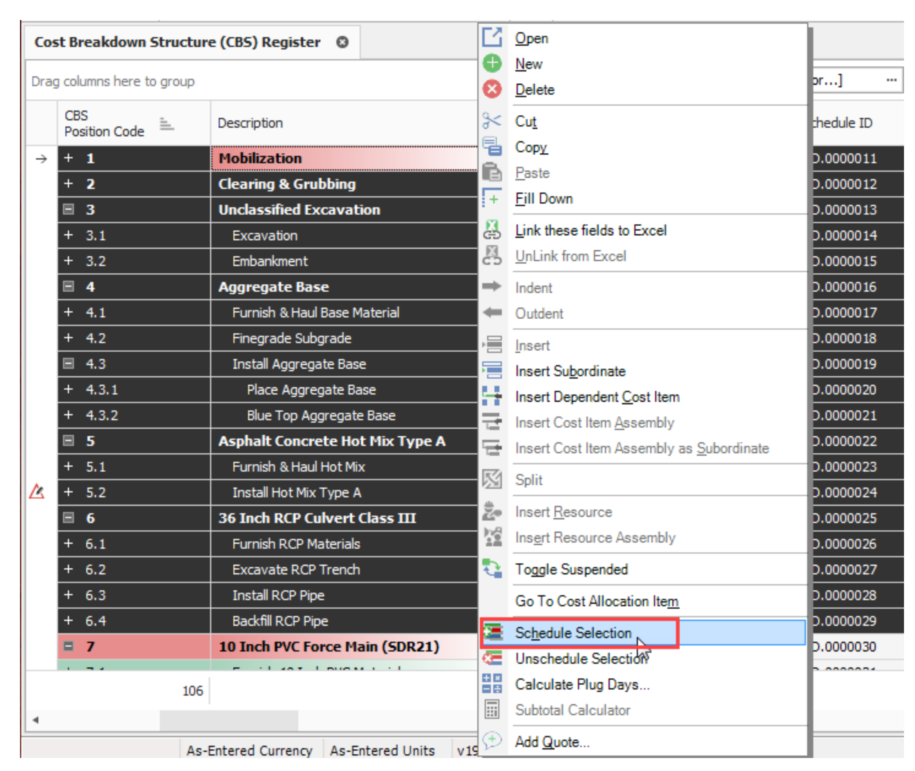


Step by Step — Schedule a Group of Cost Items in InEight Estimate

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.**

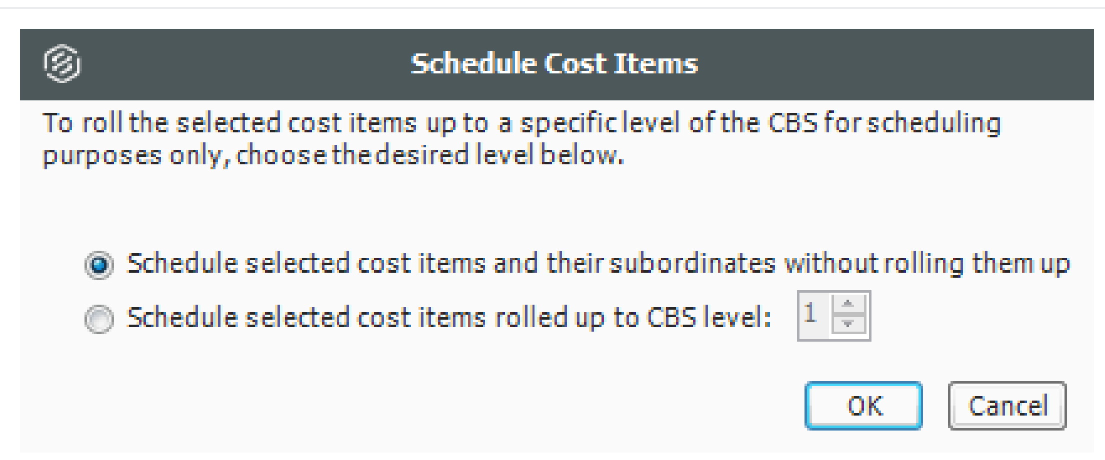
TIP	*To schedule all cost items, highlight the JOB row.*

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.

12.1.2.6 Roll Up Schedule

For cost item 3 – Unclassified Excavation, your scheduler does not need all of your estimate details and wants to roll up your cost items to a higher level when they import into the Primavera schedule.

Follow the steps below to learn how to roll up your cost items for the schedule.

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	✓	☐

12.1.3 Update Primavera from InEight Estimate

Now that you have set up your Primavera options in Job Properties and scheduled your cost items in the CBS, you are ready to send your project information to Primavera.

When you first update Primavera from InEight Estimate, Primavera will create a new project automatically and load it with the following information from InEight Estimate:

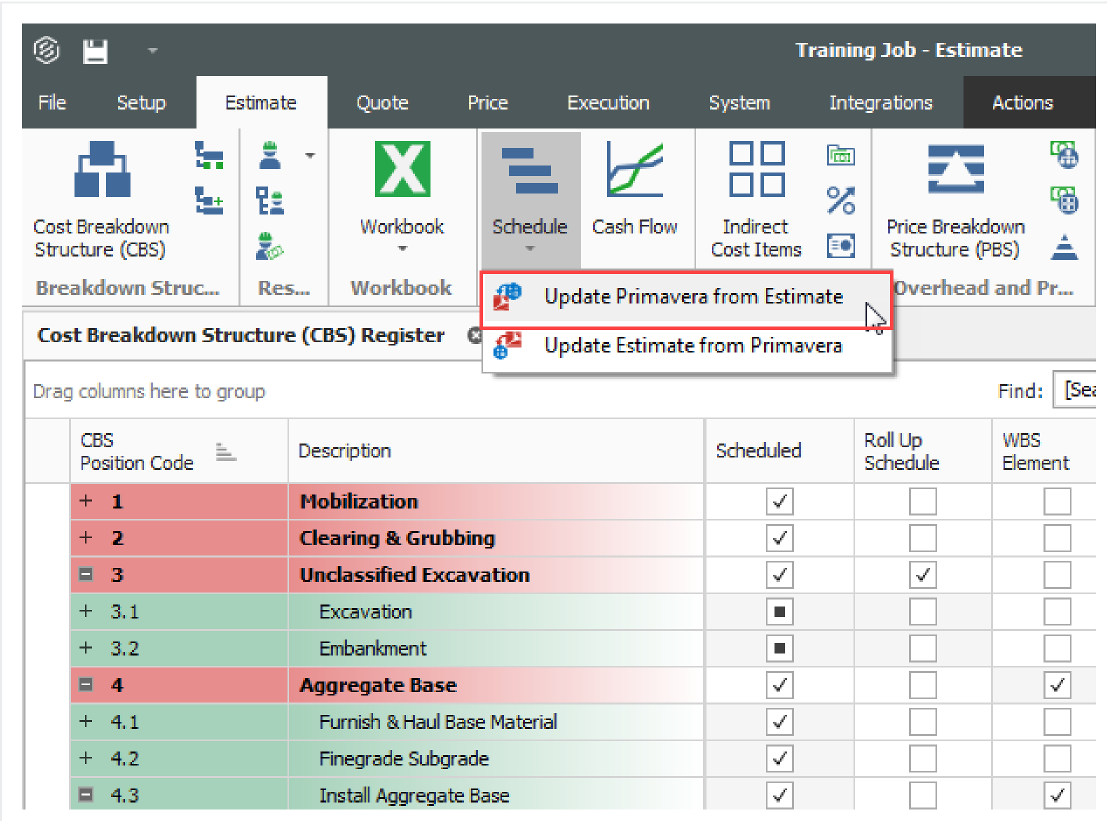
Data Sent from InEight Estimate to Primavera		
Data Type	InEight Estimate	Primavera
Project Data	Job Code	Project ID
	Job Description	Project Name
Activity Data	CBS Position Code//Schedule ID	WBS Code / Activity ID
	Description	WBS Element / Activity Name
	Hours	Planned Duration (Hours)
	Shift and Rate Rules	Activity Calendar
	Cost Item Tags and UDFs	Activity Codes or UDFs
	Cost Category Total Cost	Cost Category (custom text columns)
Resource Data	Resource Code	Resource ID
	Resource Description	Resource Name
Cost Data	Resource Cost / Unit	Resource Price / Unit
	Cost Category Total Cost	Expense Category Budgeted Cost

NOTE Tags, resource data, and cost data only update in Primavera if selected in the Job Properties > Schedule settings.

The following steps walk you through updating Primavera from InEight Estimate to create a new schedule.

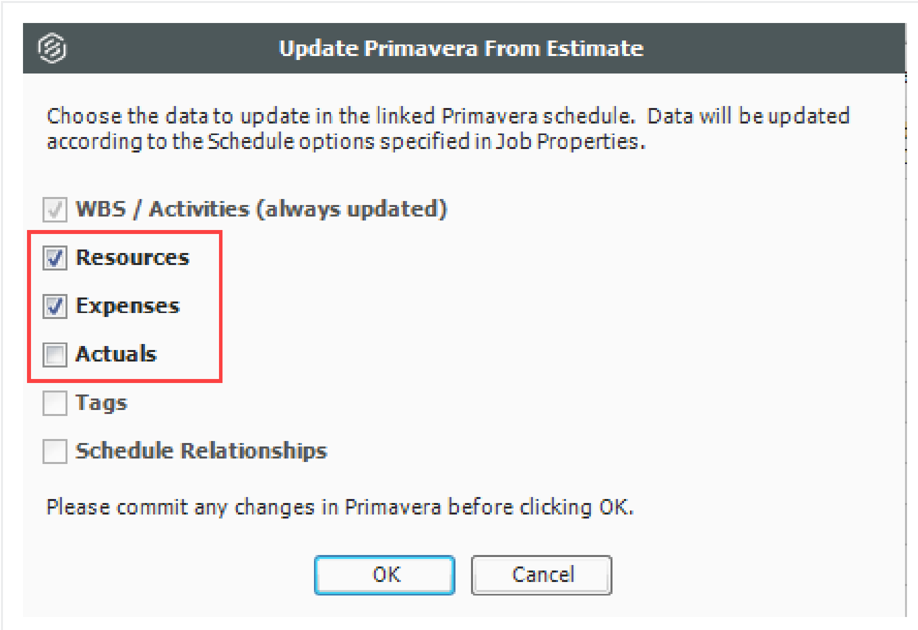
Step by Step — Update Primavera from InEight Estimate

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



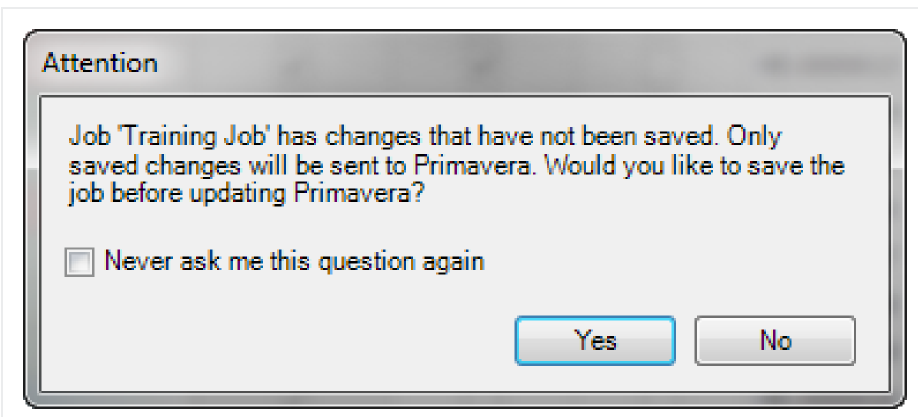
- The Update Primavera From Estimate dialog prompts you to indicate what data to update to Primavera

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

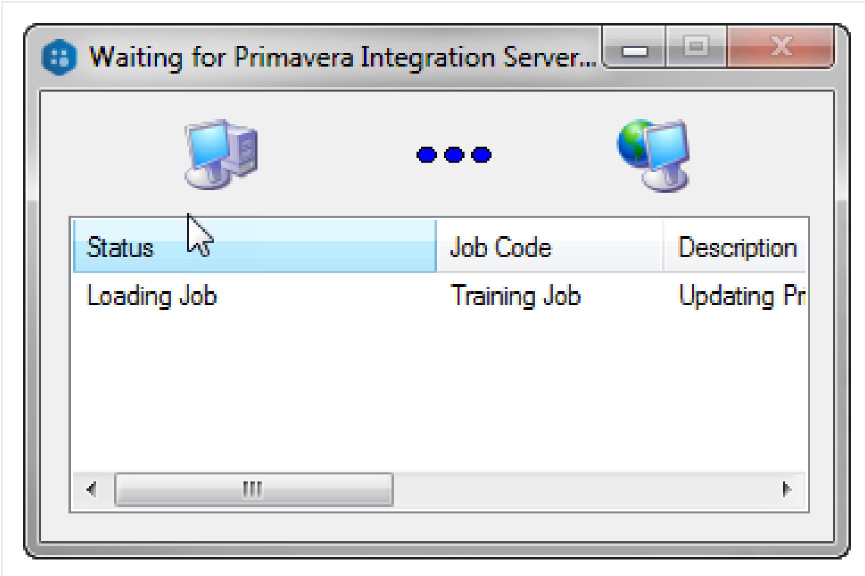


- An Attention prompt appears, letting you know that the job has not been saved.

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

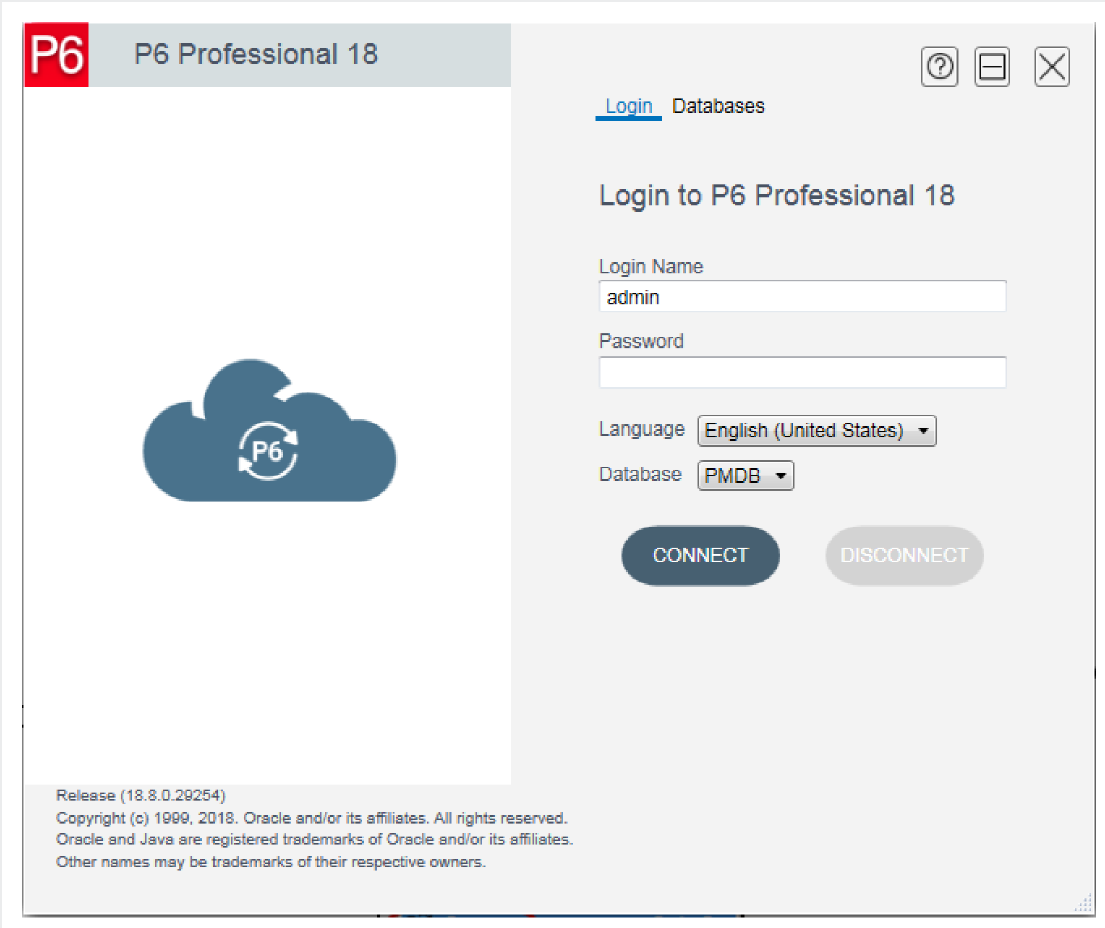


- A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take several minutes

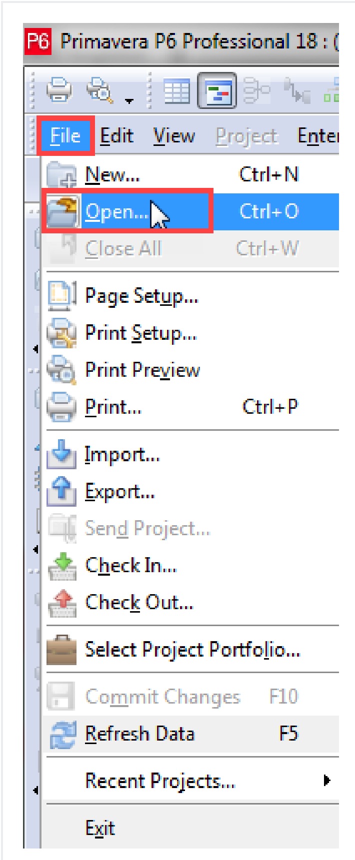


- When the window disappears, the update is complete

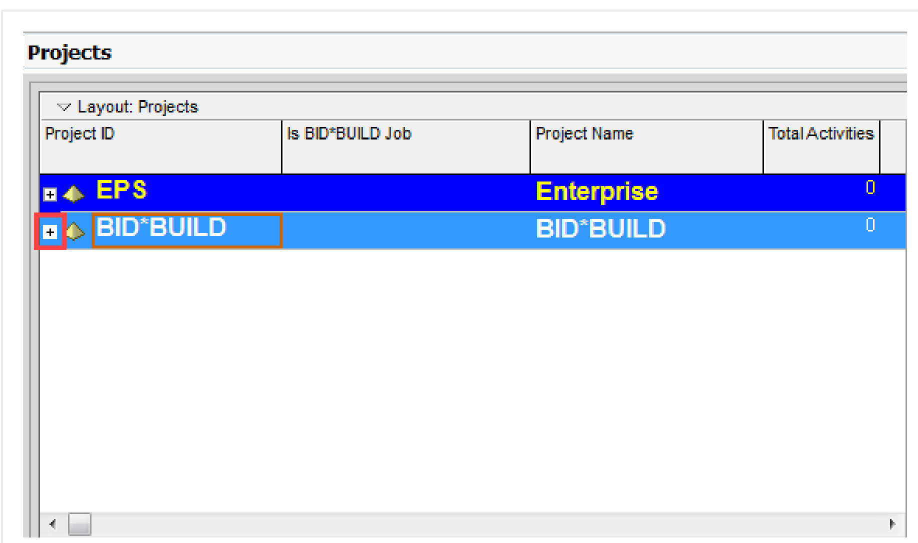
4. Open Primavera P6 (Project Management) client.
5. Log in to Primavera, using the same Username and Password that was entered on the Schedule > Login Options tab in InEight Estimate Job Properties.



6. In Primavera, open the project.



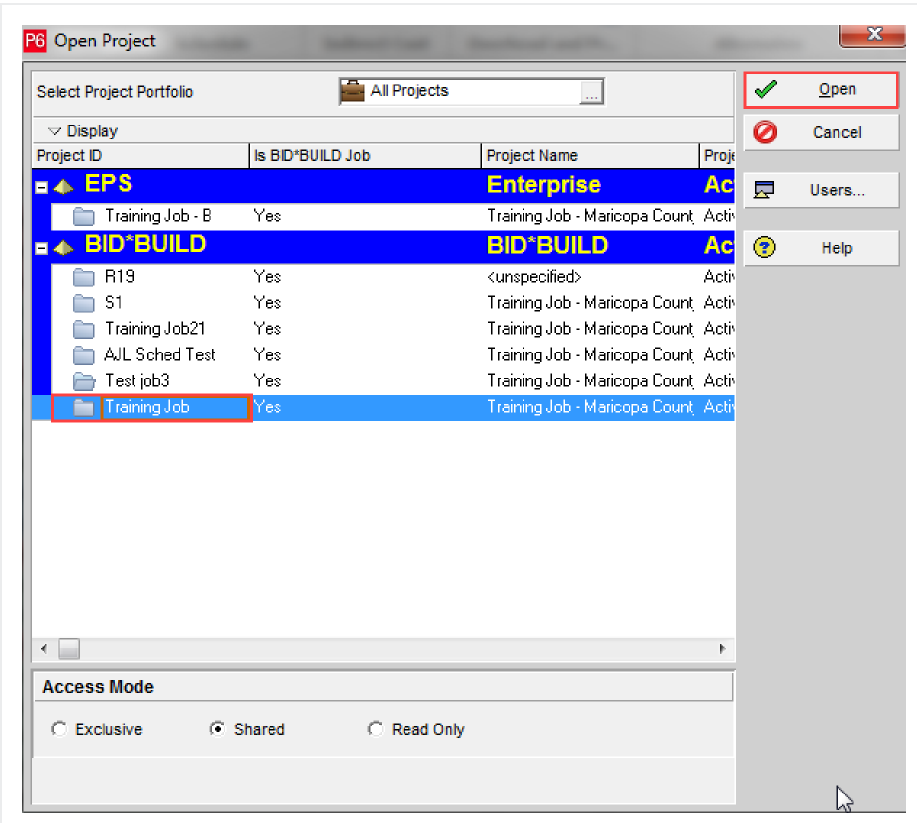
7. In the Open Project dialog, expand the **BID*BUILD** folder.



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

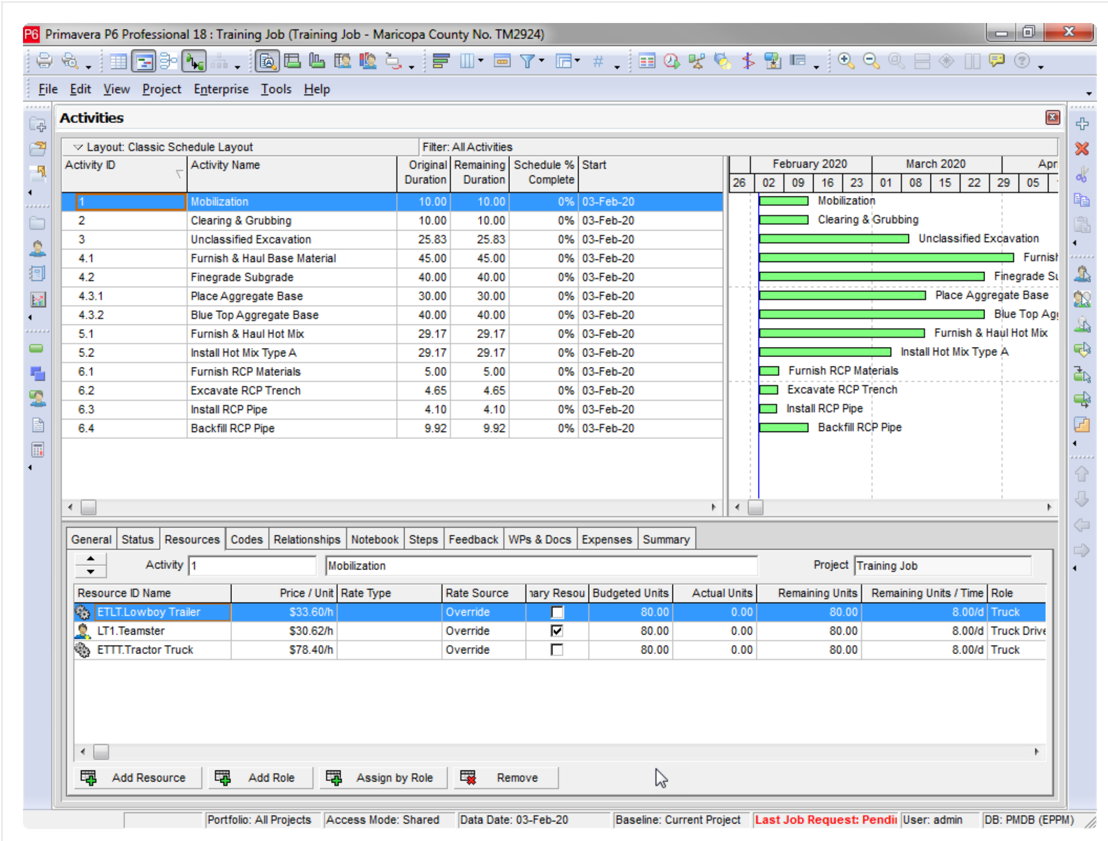
- Your available projects are sorted by their job names.

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.



12.1.4 Update InEight Estimate from Primavera

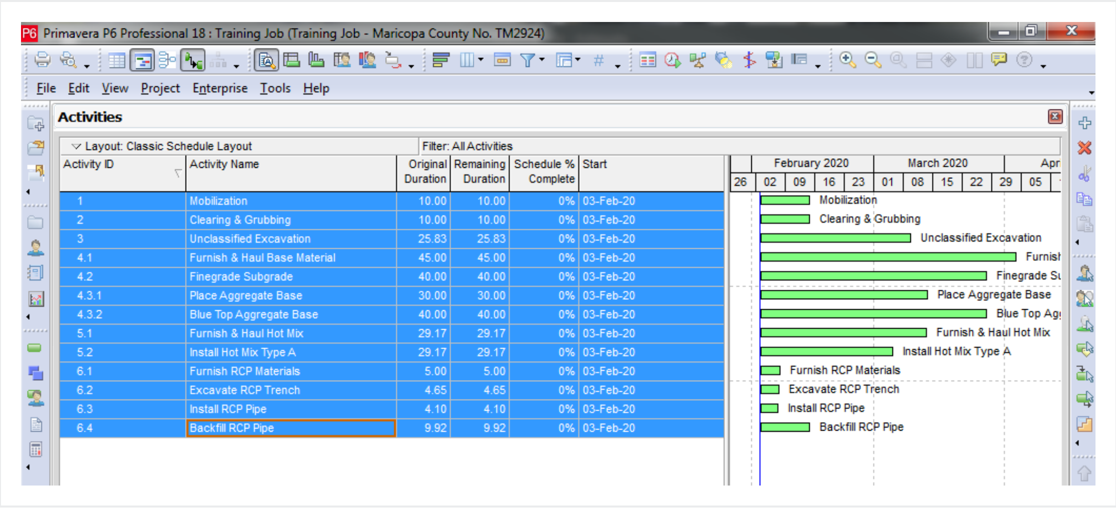
You can also bring information back from Primavera into InEight Estimate. When you update InEight Estimate from Primavera, the following information updates:

Update InEight Estimate from Primavera		
Data Type	Primavera	InEight Estimate
Activity Data	Start Dates	Start Dates
	Finish Dates	Finish Dates
	Relationships	Schedule Relationships
	Hours	Plugged Days

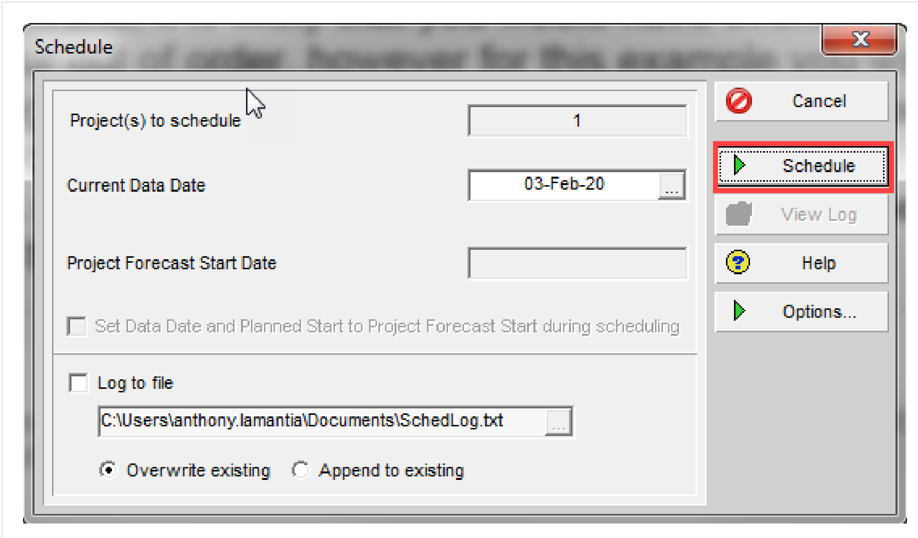
Complete the following steps to practice updating InEight Estimate from Primavera. You will create a scheduling relationship in Primavera, and then import the updated dates and relationships into InEight Estimate.

Step by Step — Update InEight Estimate from Primavera

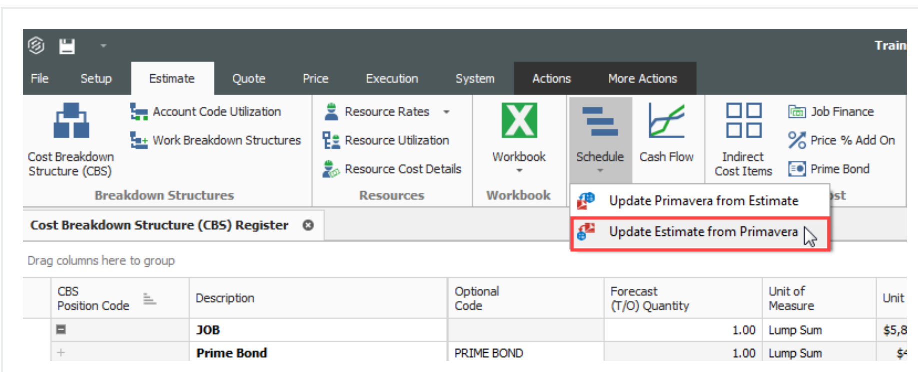
1. Open your version of the **Training Job** project in Primavera.
   - In the real world, it is likely that you would have overlapping activities, or your activities would occur out of order, however for this example you will link all activities from finish to start
2. Highlight all of your activities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



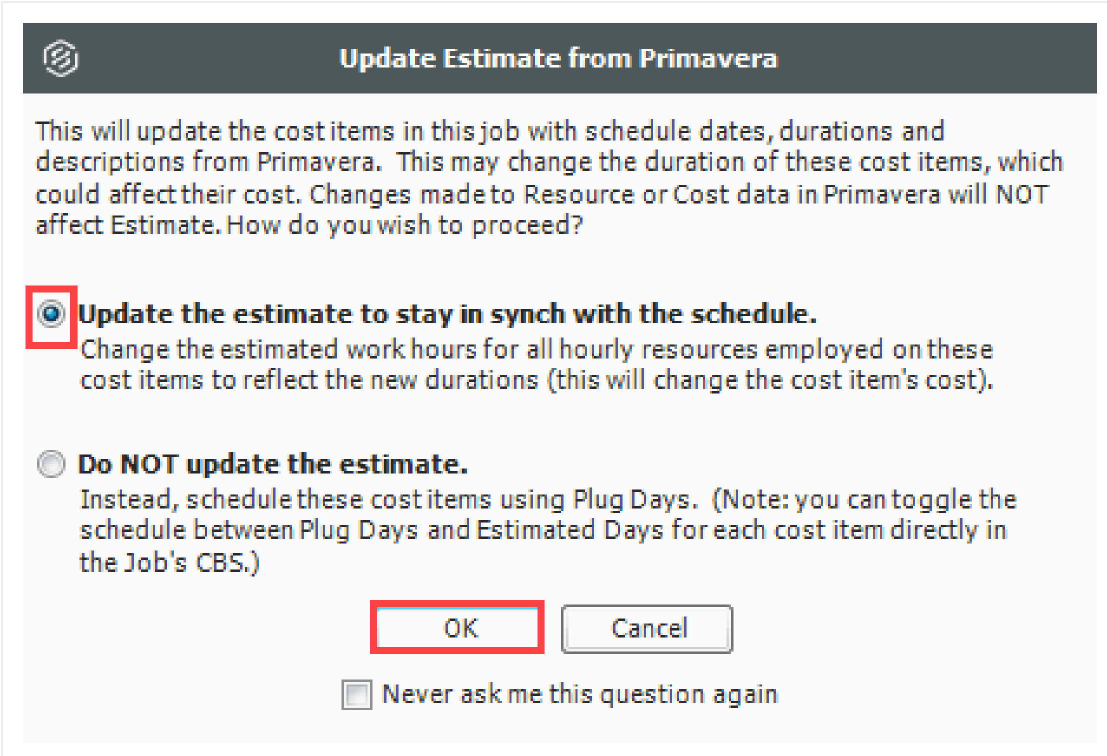
3. Right click on one of the selected rows and select **Link Selected Activities** to create the Finish to Start relationship.
   - You may have to select the Relationship Lines button to show the linked activities in the graph on the right side of the screen.
4. To schedule this new relationship, select 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

12.1.5 Manage Changes Between Estimate and Schedule

As changes to scope, resources, and costs come up in your estimate, and changes to relationships and dates occur in the schedule, you can continue updating your estimate and schedule as needed.

12.1.5.7 Plug Days

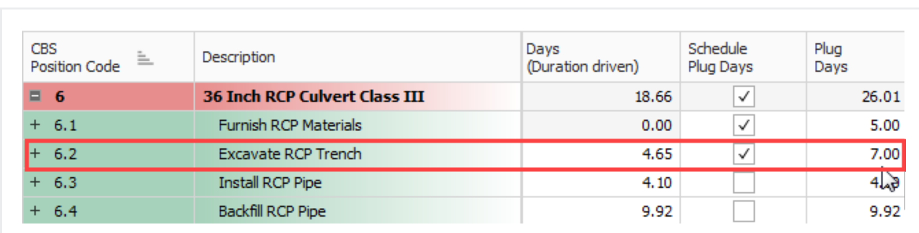
The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab.

For example, your 10” PVC Pipe activity may have extra days in the schedule due to the delivery date of the pipe material, but you don’t want those extra days to drive the costs in your estimate, since your crews won’t be working on the activity on those extra days.

NOTE All superior cost items are hard-coded to use Schedule Plug Days.

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.[illegible]
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.

12.1.5.8 Update Primavera with InEight Estimate Changes

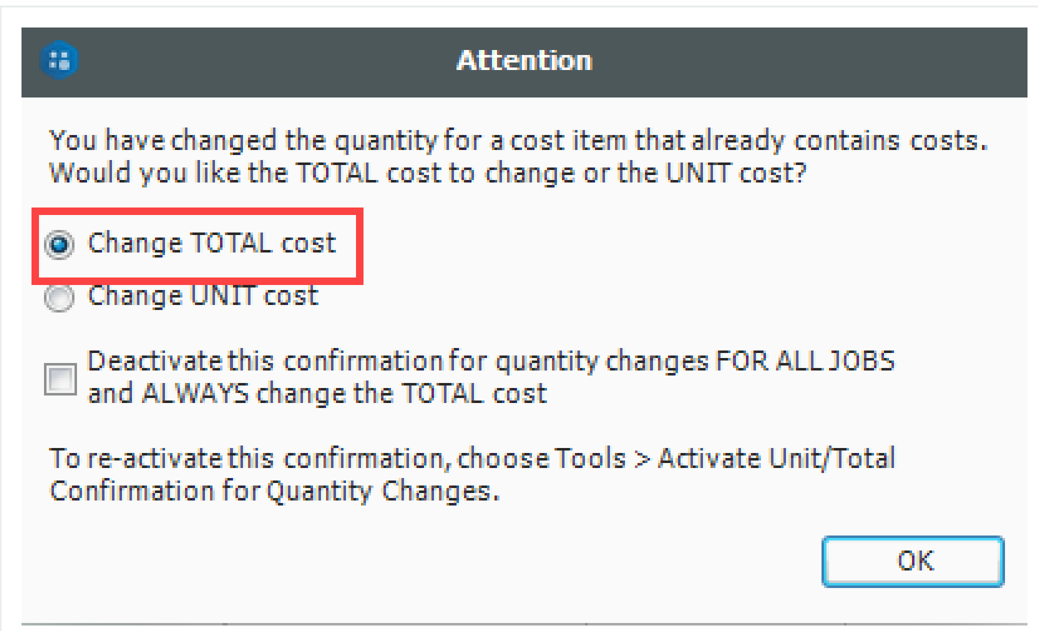
The following steps will walk you through updating the schedule with a scope change in your estimate.

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

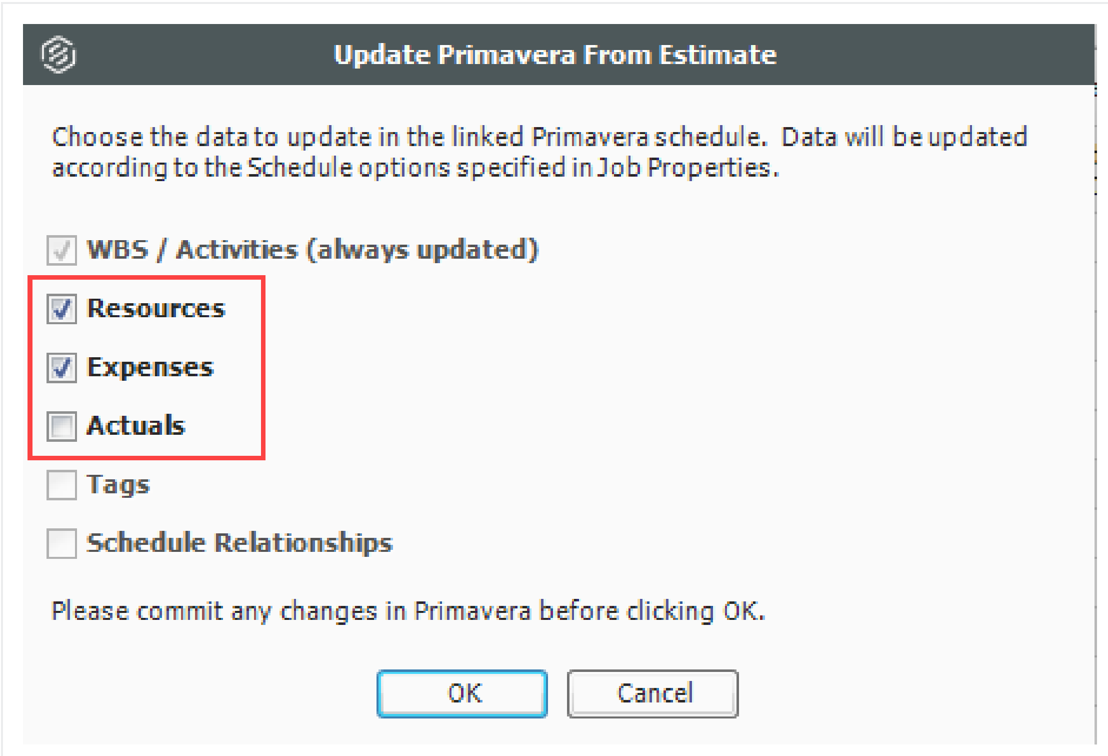
    - As you make your changes, take note of how your duration changes in the Days (Duration driven) column for these items
    - If prompted about changing Total or Unit Cost, select **Change TOTAL cost**, so that your unit costs stay intact, then click **OK**.



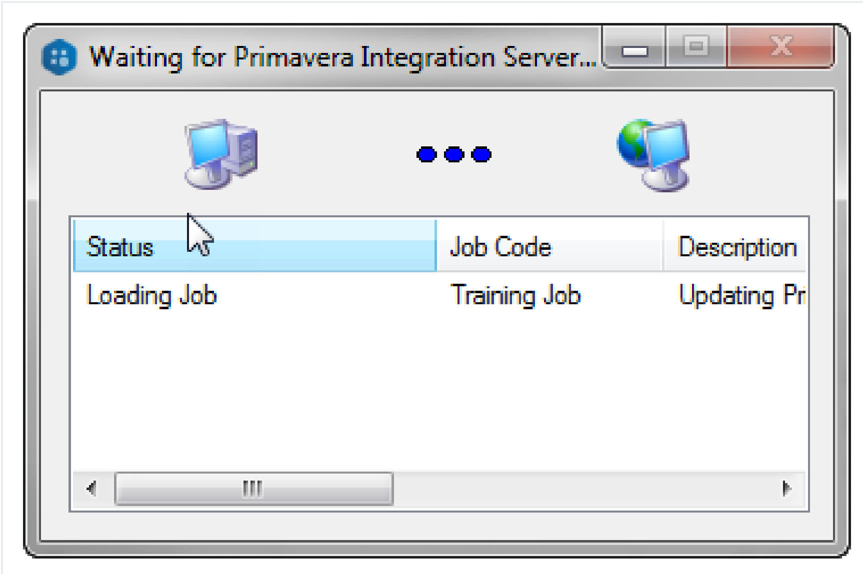
3. From the Estimate tab, select **Schedule>Update Primaverafrom InEight Estimate** to send the changed hours to Primavera.

- 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**.

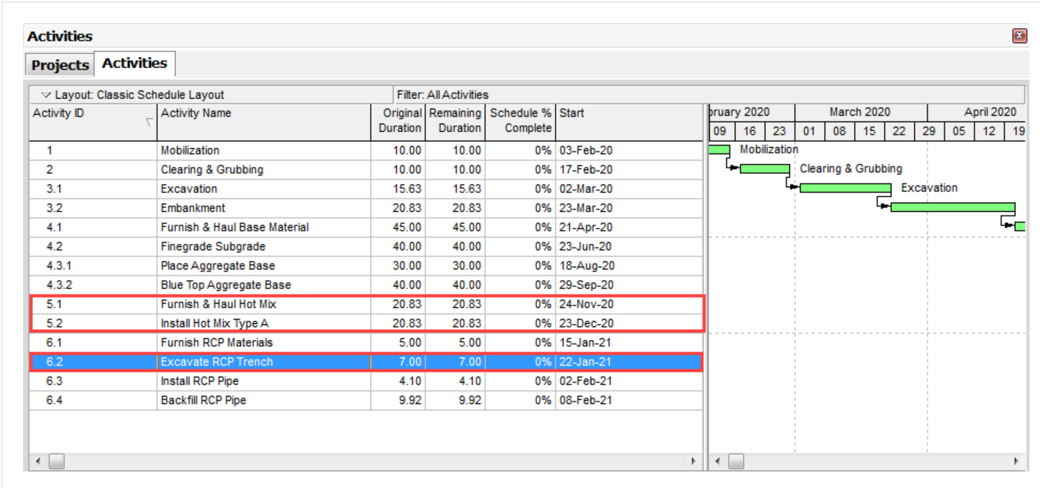


- A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take a few minutes



- 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



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%	17-Feb-20
3.1	Excavation	15.63	15.63	0%	02-Mar-20
3.2	Embankment	20.83	20.83	0%	23-Mar-20
4.1	Furnish & Haul Base Material	45.00	45.00	0%	21-Apr-20
4.2	Finegrade Subgrade	40.00	40.00	0%	23-Jun-20
4.3.1	Place Aggregate Base	30.00	30.00	0%	18-Aug-20
4.3.2	Blue Top Aggregate Base	40.00	40.00	0%	29-Sep-20
5.1	Furnish & Haul Hot Mix	20.83	20.83	0%	24-Nov-20
5.2	Install Hot Mix Type A	20.83	20.83	0%	23-Dec-20
6.1	Furnish RCP Materials	5.00	5.00	0%	15-Jan-21
6.2	Excavate RCP Trench	7.00	7.00	0%	22-Jan-21
6.3	Install RCP Pipe	4.10	4.10	0%	02-Feb-21
6.4	Backfill RCP Pipe	9.92	9.92	0%	08-Feb-21

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

Exercise 12.1 — Manage Changes Between Estimate and Primavera

As changes occur during the estimating process, you can keep the estimate and schedule in sync through schedule integration. In this exercise, you will practice making changes between the estimate and schedule. Complete the following steps:

1. Open the **Training Job** and open the **CBS Register**.
2. Check the box in the Schedule Plug Days column for the Install RCP Pipe.
3. Change the Plug Days for Install RCP Pipe to **8 days**.
4. Update Primavera from InEight Estimate.
5. Open the Training Job project in Primavera and confirm the Planned Duration (you may need to change your view to see this column) changed to 8 days.
6. In Primavera, change the Planned Duration for Backfill RCP Pipe to **12 days**.
7. Schedule the changes in Primavera (Schedule button or F9).
8. Update InEight Estimate from Primavera.

You should end up with the following results

Cost item 6.3 Install RCP Pipe is now showing 8 Plug days in Primavera.

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish
1	Mobilization	10.00	10.00	0%	03-Feb-20	14-Feb-20
2	Clearing & Grubbing	10.00	10.00	0%	17-Feb-20	28-Feb-20
3.1	Excavation	15.63	15.63	0%	02-Mar-20	23-Mar-20
3.2	Embankment	20.83	20.83	0%	23-Mar-20	21-Apr-20
4.1	Furnish & Haul Base Material	45.00	45.00	0%	21-Apr-20	23-Jun-20
4.2	Finegrade Subgrade	40.00	40.00	0%	23-Jun-20	18-Aug-20
4.3.1	Place Aggregate Base	30.00	30.00	0%	18-Aug-20	29-Sep-20
4.3.2	Blue Top Aggregate Base	40.00	40.00	0%	29-Sep-20	24-Nov-20
5.1	Furnish & Haul Hot Mix	20.83	20.83	0%	24-Nov-20	23-Dec-20
5.2	Install Hot Mix Type A	20.83	20.83	0%	23-Dec-20	14-Jan-21
6.1	Furnish RCP Materials	5.00	5.00	0%	15-Jan-21	21-Jan-21
6.2	Excavate RCP Trench	7.00	7.00	0%	22-Jan-21	01-Feb-21
6.3	Install RCP Pipe	8.00	8.00	0%	02-Feb-21	11-Feb-21
6.4	Backfill RCP Pipe	9.92	9.92	0%	08-Feb-21	22-Feb-21

Cost item 6.4 Backfill RCP Pipe should have 12 plug days in InEight Estimate.

CBS Position Code	Description	Days (Duration driven)	Schedule Plug Days	Plug Days	Start	Finish
6	**36 Inch RCP Culvert Class III**	18.66	✓	46.00	1/15/2021	3/1/2021
6.1	Furnish RCP Materials	0.00	✓	5.00	1/15/2021	1/21/2021
6.2	Excavate RCP Trench	4.65	✓	7.00	1/22/2021	2/1/2021
6.3	Install RCP Pipe	4.10	✓	8.00	2/2/2021	2/11/2021
6.4	Backfill RCP Pipe	9.92	✓	12.00	2/12/2021	3/1/2021

Congratulations, you have completed this exercise!

12.2 MICROSOFT PROJECT

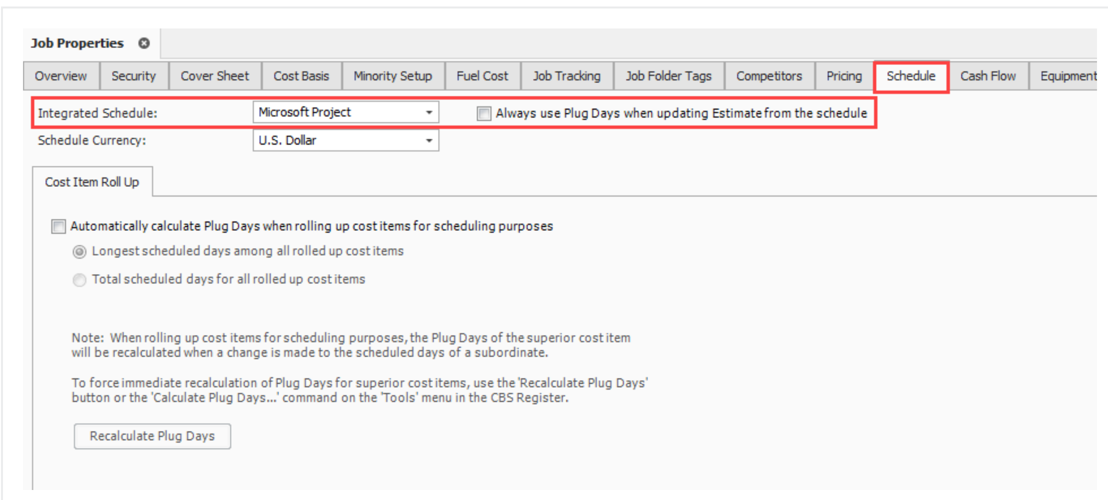
12.2.1 Set Up Scheduling Options

Prior to sending information from InEight Estimate to Microsoft Project, you need to make sure the proper settings are in place.

12.2.1.1 Job Properties Schedule Tab

Microsoft Project scheduling options are configured on the Schedule tab of the Job Properties form.

- At the top of the Schedule tab, the Integrated Schedule must be set to **Microsoft Project**
- As a default, the **Always use Plug Days when updating InEight Estimate from the schedule** checkbox is not selected (on a job by job basis, this box can be checked later for jobs in which an estimator does not want updates from Microsoft Project to change the duration and therefore the cost of your cost items in InEight Estimate)



12.2.2 Schedule Cost Items

Before you can integrate with Primavera, your cost items need to be marked as Scheduled in InEight Estimate. This is done on the Cost Breakdown Structure (CBS) Register. From your Saved Views drop-down list in the CBS, the Schedule Setup View displays all of your schedule-related columns. There are a couple to keep in mind when you schedule your items:

- **Scheduled**: This column tells you which of your items are selected to be included in your Primavera schedule
- **Roll Up Schedule**: This column lets you check a box to roll up your estimate to the selected level when it imports into Primavera

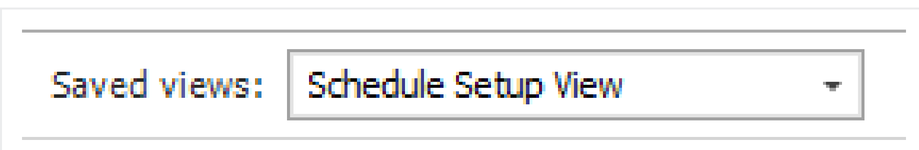
In the below example, notice that all of the cost items are scheduled, but the subordinates for Unclassified Excavation will be rolled up to the superior level.

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	☑	☐

The following steps walk you through scheduling your cost items.

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**.

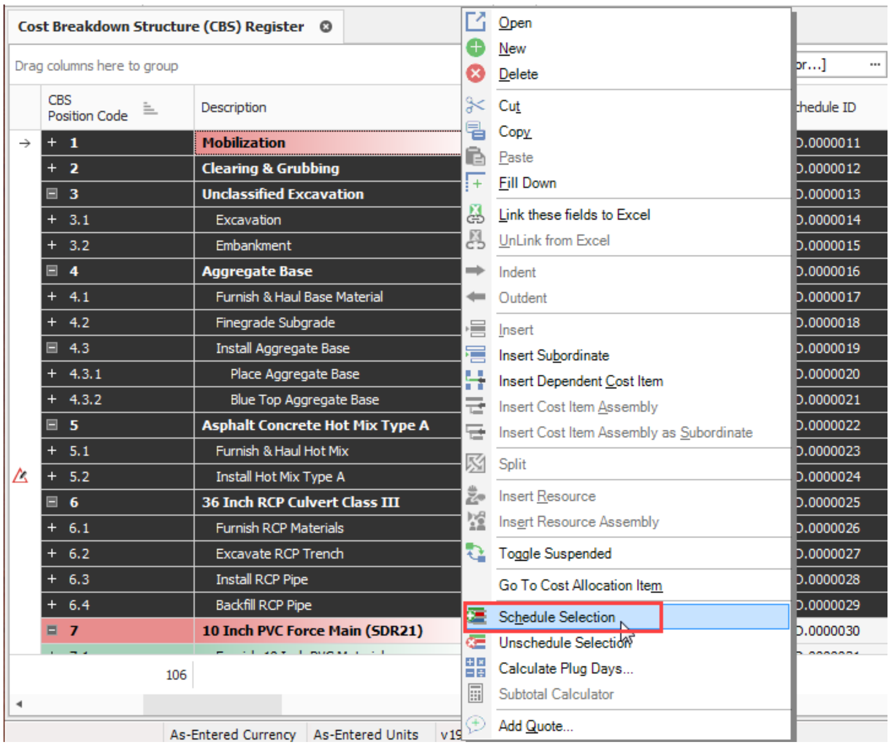
CBS Position Code	Description	Scheduled	Roll Up Schedule
⊟	**JOB**	✓	
+	**Prime Bond**		
+	**Price % Add-On**		
+	**Job Financing**		
+	**Indirect Cost Escalation**		
+	**Direct Cost Escalation**		
+	**Indirect Cost Add-On**		
+	**Job Management & Equipment**		
+	**General Expense**		
+	**Direct Cost 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.**

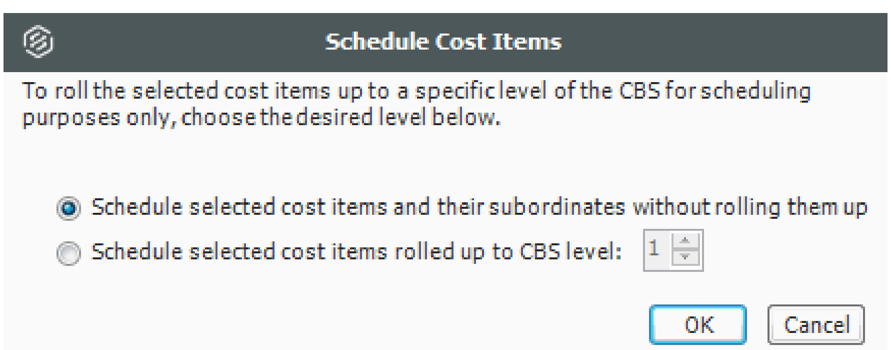
TIP	To schedule all cost items, highlight the JOB row

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.

12.2.2.2 Roll Up Schedule

For cost item 3 – Unclassified Excavation, your scheduler does not need all of your estimate details and wants to roll up your cost items to a higher level when they import into the Primavera schedule.

Follow the steps below to learn how to roll up your cost items for the schedule.

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	✓	☐

12.2.3 Update Microsoft Project from InEight Estimate

Now that you have set up your schedule to integrate with Microsoft Project in Job Properties and scheduled your cost items in the CBS, you are ready to send your project information to Microsoft Project.

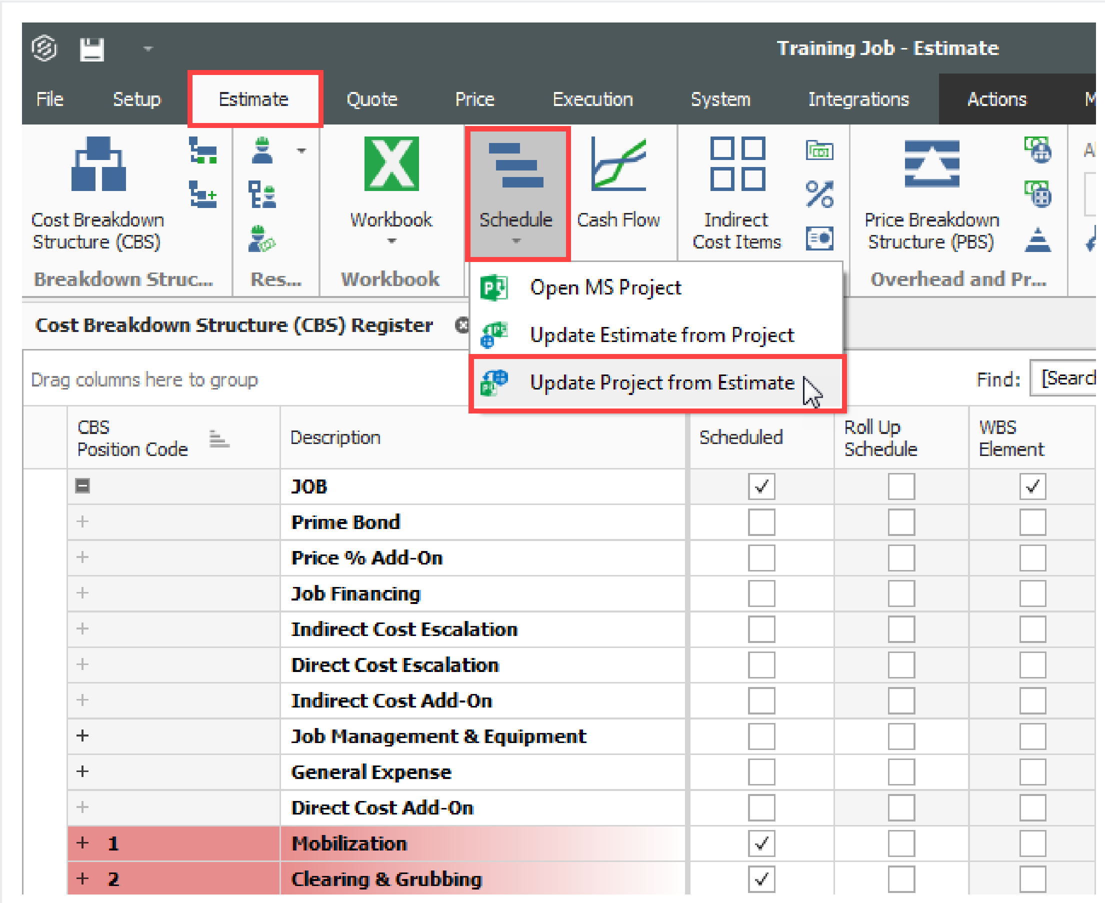
When you first update Microsoft Project from InEight Estimate, Microsoft Project will create a new project automatically and load it with the following information from InEight Estimate:

Data Sent from InEight Estimate to Microsoft Project		
Data Type	InEight Estimate	Microsoft Project
Project Data	Job Code	Project Name
Activity Data	CBS Position Code	01 – CBS Position Code
	Description	Description
	Days (Duration Driven)	Duration
Cost Data	Cost Category Total Cost	Cost Category (custom text columns)

The following steps walk you through updating Microsoft Project from InEight Estimate to create a new schedule.

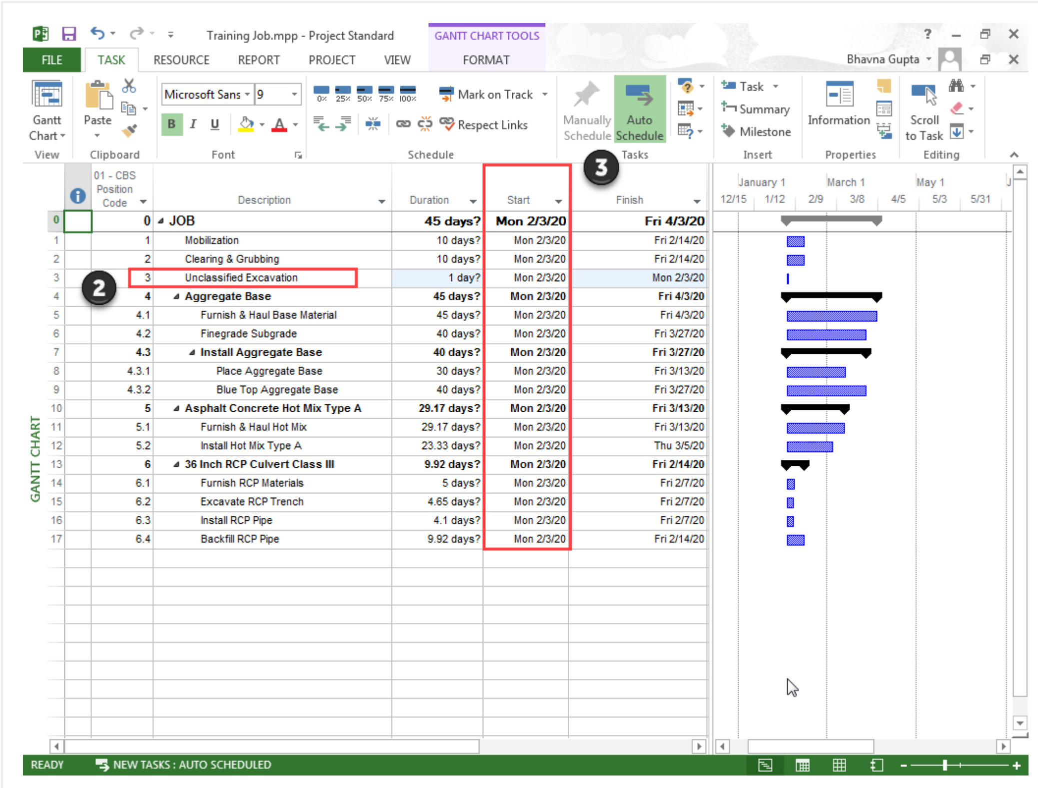
Step by Step — Update MS Project from InEight Estimate

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)



12.2.4 Update InEight Estimate from Microsoft Project

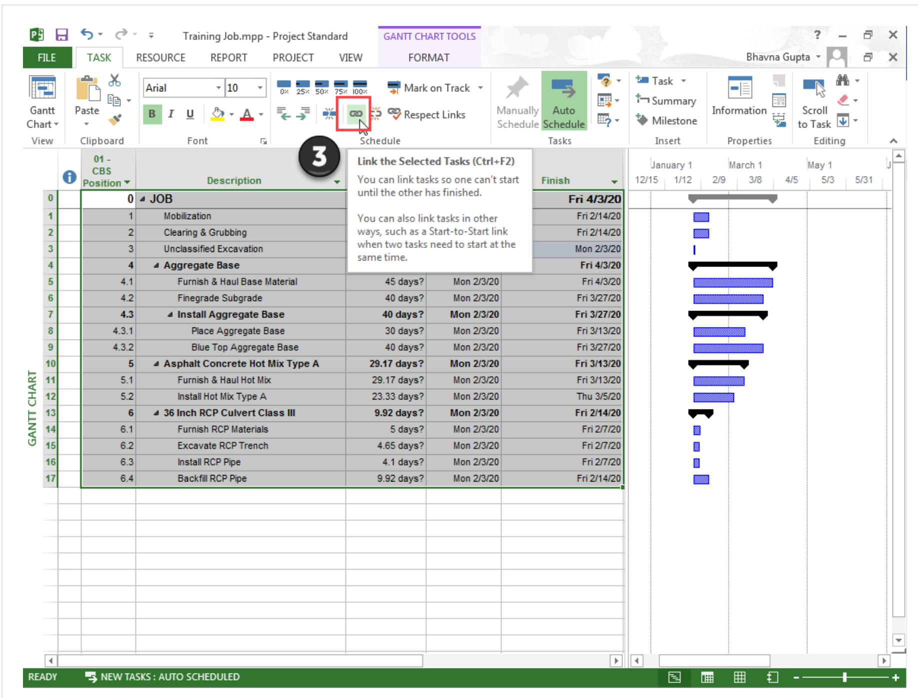
You can also bring information back from Microsoft Project into InEight Estimate. When you update InEight Estimate from Microsoft Project, the following information updates:

Update InEight Estimate from Microsoft Project		
Data Type	Microsoft Project	InEight Estimate
Activity Data	Start Dates	Start Dates
	Finish Dates	Finish Dates
	Hours	Hours

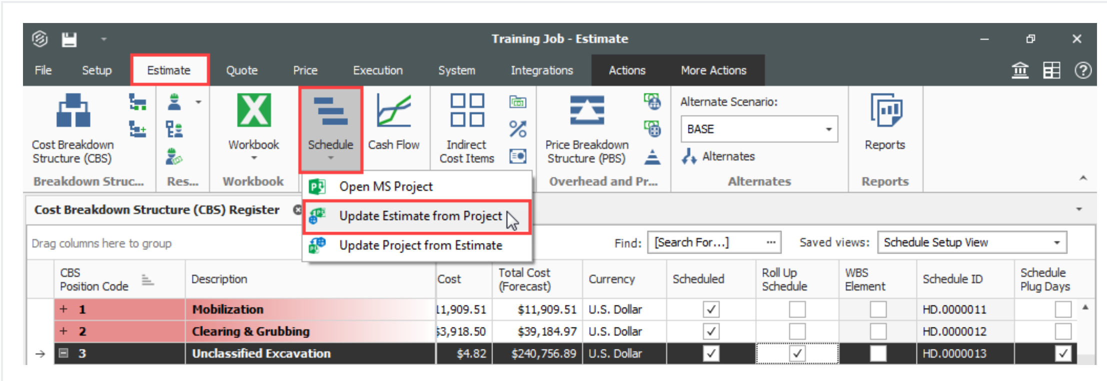
Walk through the following steps to practice updating InEight Estimate from Microsoft Project. You will create a scheduling relationship in Microsoft Project and then import the updated dates and relationships into InEight Estimate.

Step by Step — Update InEight Estimate from MS Project

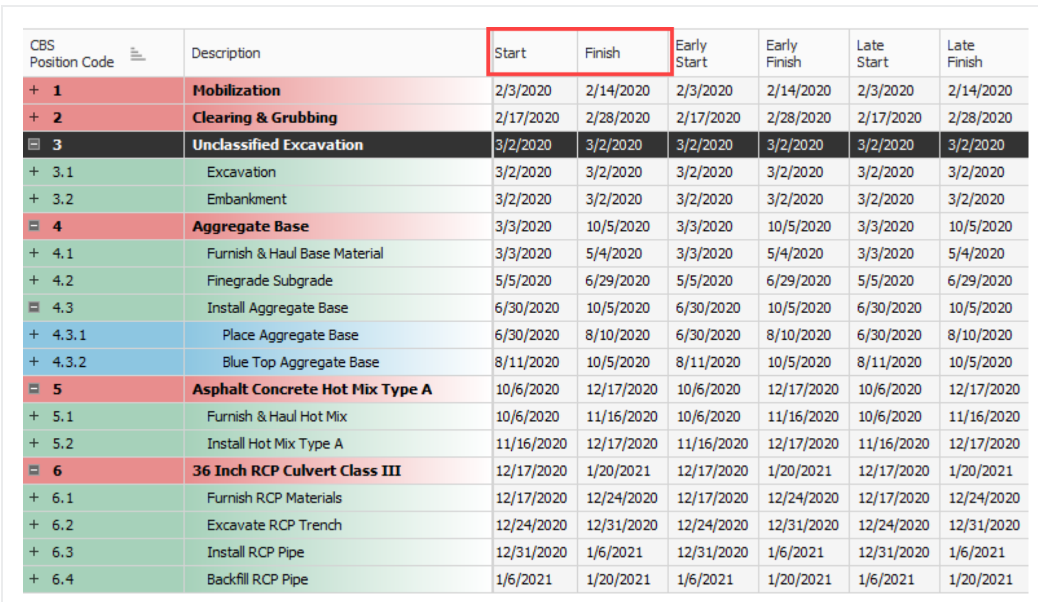
1. Open your version of the **Training Job** project in Microsoft Project.
   - In the real world, it is likely that you would have overlapping activities or your activities would be out of order, however for this example you will link all activities from finish to start
2. Click on the **Link Tasks**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

12.2.5 Manage Changes Between Estimate and Schedule

As changes to scope, resources, and costs come up in your estimate, and changes to relationships and dates occur in the schedule, you can continue updating your estimate and schedule as needed.

12.2.5.3 Plug Days

The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab. For example, your 10” PVC Pipe activity may have extra days in the schedule due to the delivery date of the pipe material, but you don’t want those extra days to drive the costs in your estimate, since your crews won't be working on the activity on those extra days.

TIP	All superior cost items are hard-coded to use Schedule Plug Days.

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 RCP Trench.
2. Make sure the **Schedule Plug Days** checkbox is selected on the Excavate RCP Trench cost item, and 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.

  Any duration changes made in Project will import into InEight Estimate as Plug Days automatically so that they can be reviewed by the estimator before making any changes to production in InEight Estimate.

12.2.5.4 Update Microsoft Project with InEight Estimate Changes

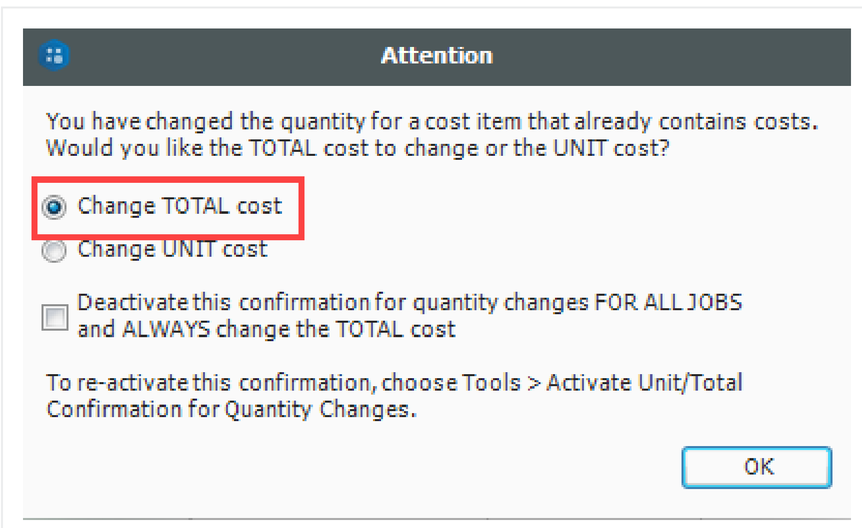
The following steps will walk you through updating the schedule with a scope change in your estimate.

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

Lesson 12 Review

1. Under the Job Properties > Schedule tab, which setting can be enabled to account for plugged costs (e.g., for subcontractors)?
   a. Resource price/unit
   b. Expense Costs
   c. Schedule ID
   d. Actuals

---

2. For InEight Estimate schedule integration with Primavera, which of the following can be sent from your estimate to the schedule? (Select all that apply)
   a. Activity data
   b. Cash Flow graphs
   c. Resource data
   d. Cost data
   e. Price data

---

3. The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab.
   a. True
   b. False

Lesson 12 Summary

As a result of this lesson, you can:

- Set up scheduling options
- Update Schedule from InEight Estimate
- Update InEight Estimate from Schedule
- Manage changes between estimate and schedule

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LESSON 13 – CASH FLOW

Lesson Duration: 25 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Interpret cash flow and resource utilization on the Cash Flow graph
- Select Cash Flow Options
- Change Cash Flow Display Settings

Lesson Topics

13.1 CASH FLOW

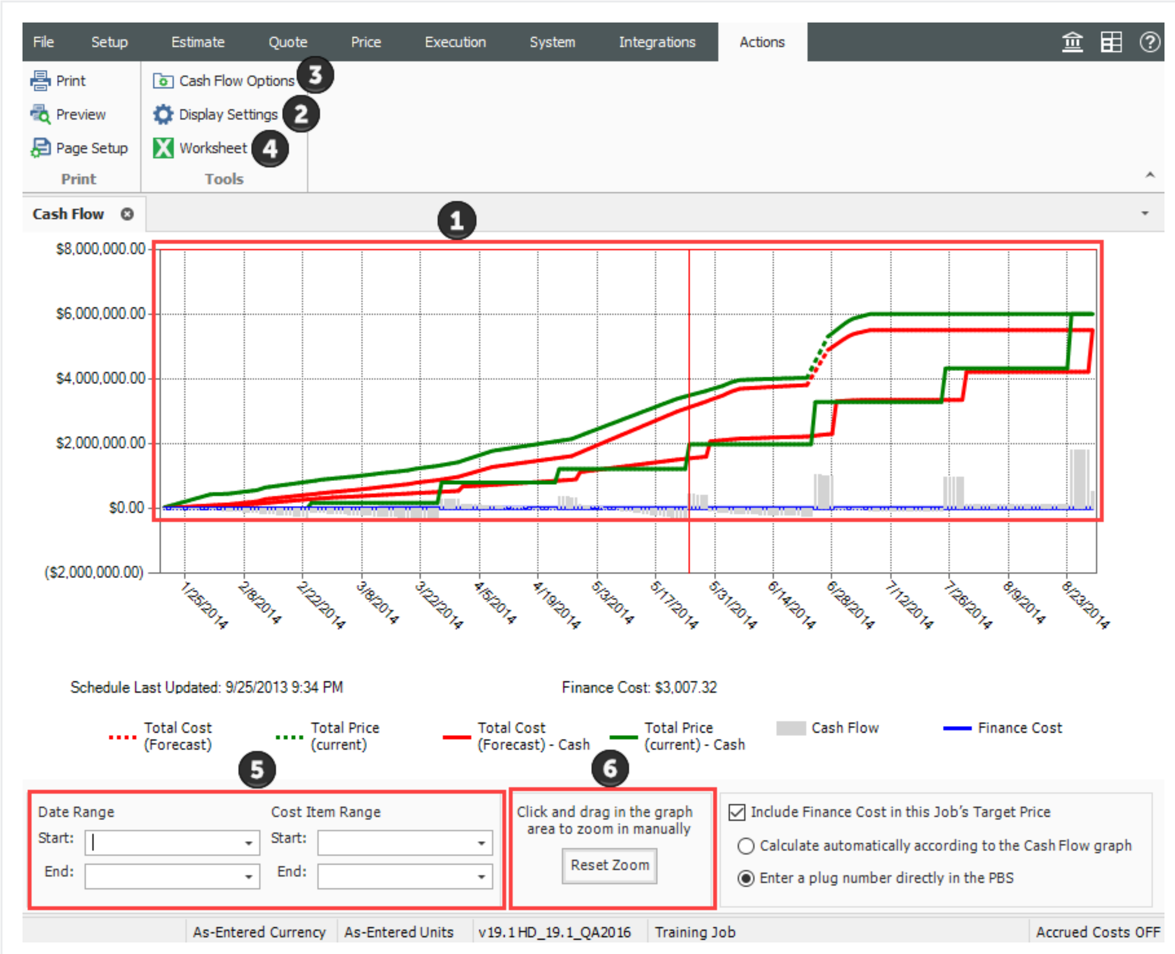
The Cash Flow form provides a graphical representation of the cash flow and resource utilization of your project, so you can quickly assess financing and resource needs.

You can open the Cash Flow form by selecting the **Estimate** tab from the Estimate landing page, then selecting **Cash Flow** from the Schedule section.

In order to generate a cash flow curve the estimate must be populated with schedule dates either directly from integration with Primavera, Microsoft project, or input manually.

Overview – Cash Flow Form

Section	Description
1	The graph displays the projected cash flow of your project, along with job financing expense, individual cost category costs and resource utilization. • The x-axis measures time • The left y-axis measures amounts • The right y-axis measures quantities (when resource utilization is displayed) • All graphs depicted on the Cash Flow form can be displayed based on Pay Quantity or Forecast (T/O) Quantity
2	Click on the **Display Settings** icon to indicate what to display on the graph. • You can display total costs and price or specific cost categories • You can also set the display settings to report on Resource Utilization
3	Click on the **Cash Flow Options** icon to specify revenue timing, cost timing, and cost of money.
4	Click the **Excel** icon to export the numerical data represented on the graph into an Excel spreadsheet where you can run additional analysis.
5	You can filter the Cash Flow graph by date range or by a range of cost items.
6	Click and drag over the graph to zoom in on a particular section. Click the **Reset Zoom** button to restore the graph to its original state.



13.2 CASH FLOW OPTIONS

The Cash Flow Options are used to define the cash flow rules (revenue timing, cost timing, cost of money, and quantities) needed to calculate the finance expense and cash flow for your project.

Cash flow rules (revenue timing, cost timing, cost of money, and quantities) describe how cash flow occurs between a contractor and a client, and between contractors or owners and vendors/subcontractors. Cash flow is then calculated based on both the earning and payment terms you specify, and the job's schedule and pay item prices.

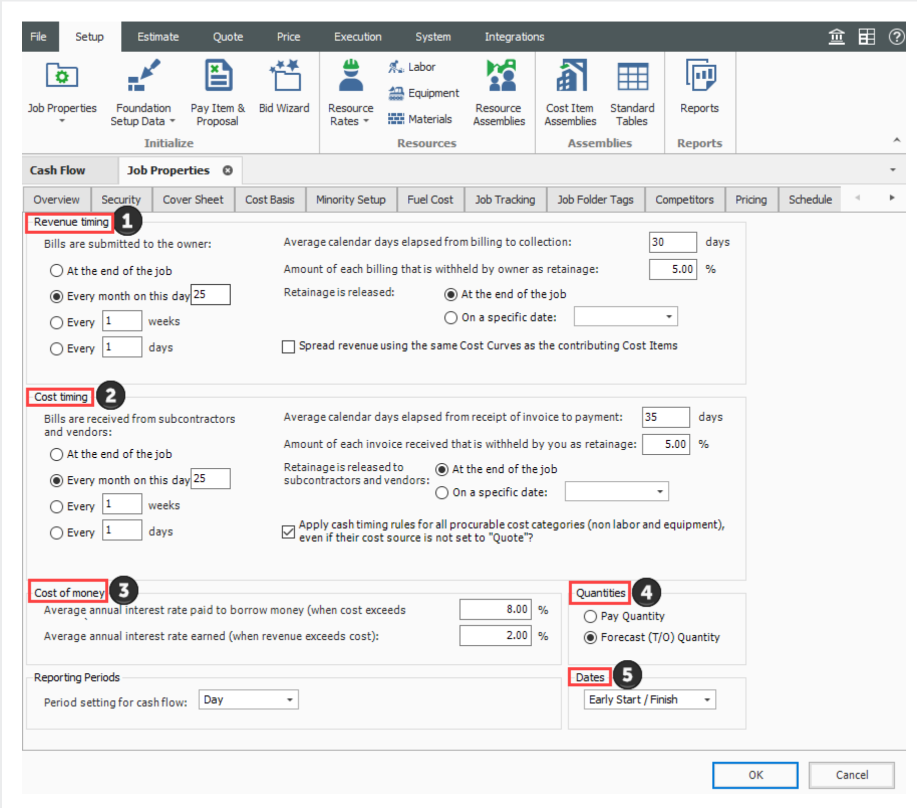
To open the Cash Flow Options, click on the **Cash Flow Options** icon in the Tools section of the Actions tab.

TIP	You can also access Cash Flow Options from the Setup > Job Properties > Cash Flow tab.

1. **Revenue timing**: Revenue is the amount of money actually paid to a contractor by the client for the completion of project deliverables. This section contains options to specify when and how often payment is recieved.
2. **Cost Timing**: Cost is the amount of money expended to complete the scope of the project. This section contains options to specify when and how often you pay contractors, subcontractors and vendors.

   NOTE To include any of your costs in your cash flow (including indirect costs), they need to be scheduled

3. **Cost of Money:** Represents the financing cost to fund the project. This section contains fields to specify interest rates you pay for the money you borrow, and interest rates you earn for money invested, to determine a total Finance Cost.
4. **Quantities:** Allows you to calculate cash flow based on pay quantities or forecast (T/O) quantities.
5. **Dates:** By default, the scheduled Early Start and Early Finish dates of each cost item (and its resource employments) as listed in the CBS Register, provide the timing of the expenses, revenue, and costs that show up on the Cash Flow graph. You have the option to base cash flow timing on Start/Finish dates or Late Start/Finish dates.

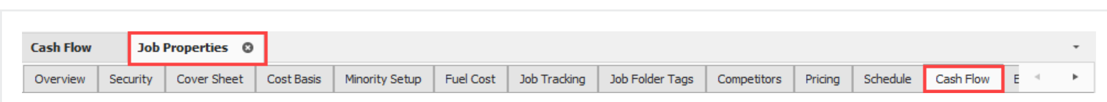


13.2.0.1 Cash Flow Options Set Up

The following steps walk you defining settings on the Cash Flow Options form.

Step by Step — Cash Flow Options Setup

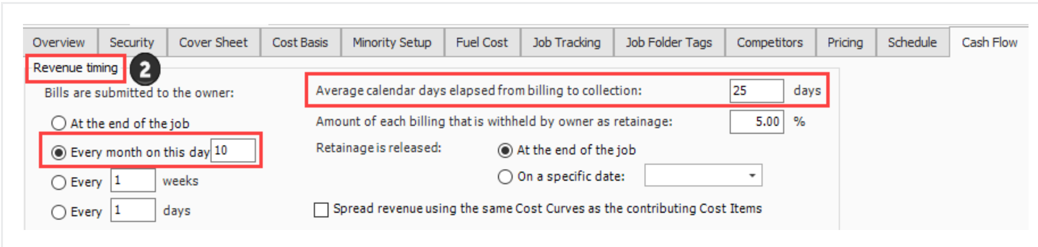
1. In the **E101 – Training Job**, from the Estimate tab, select **Setup >Job Properties >Cash Flow**.



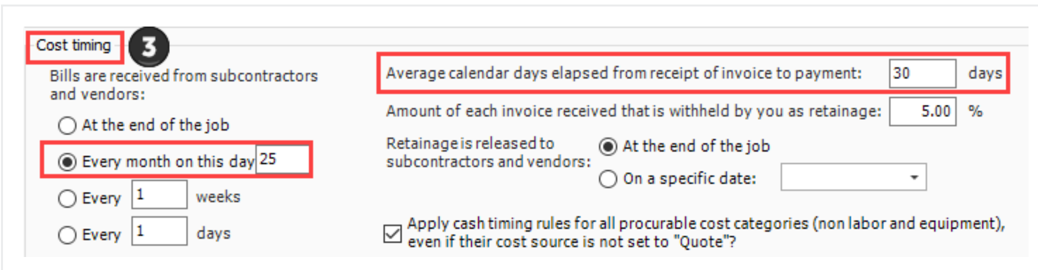
- You will see the default options already there
- You will adjust a few of those options

2. Change your Revenue timing to **Every month on the 10th**.

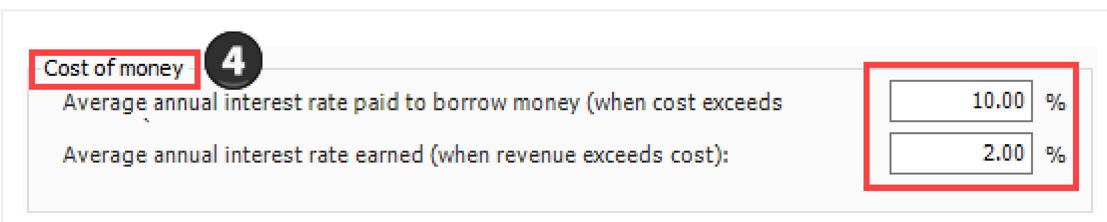
- The average calendar days from billing to collection should be set to 25 days



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.

13.3 CASH FLOW DISPLAY SETTINGS

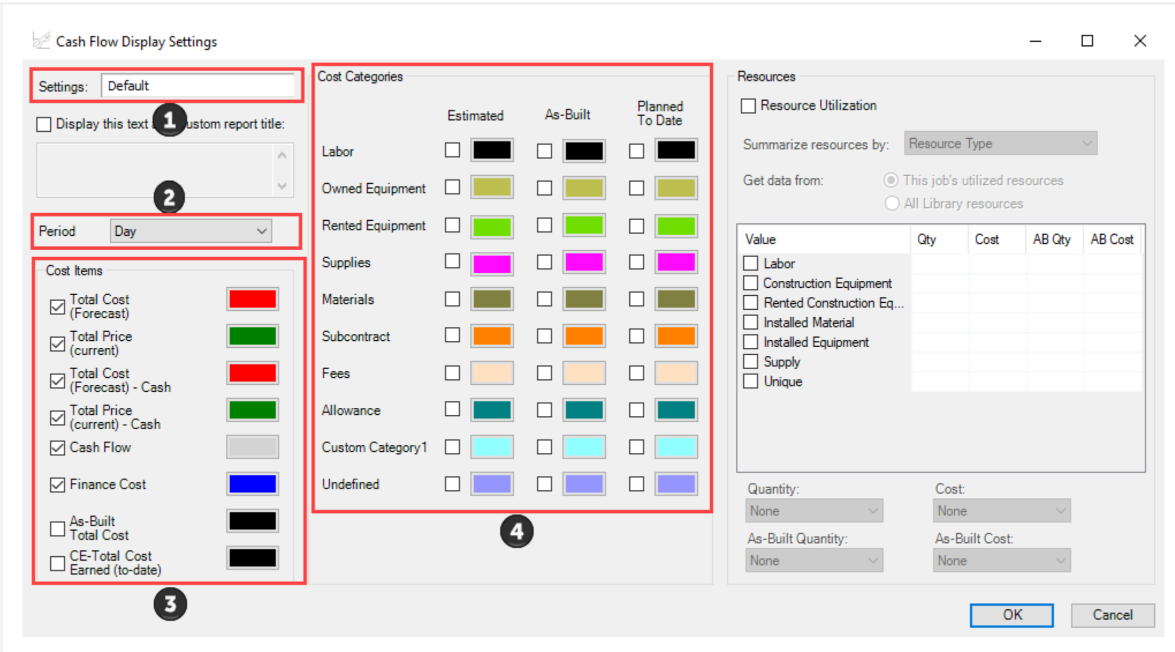
13.3.1

13.3.2 Cost Items and Cost Categories

The Cash Flow Display Settings allow you to control what information displays on the Cash Flow graph. To open the Display Settings click on the **Actions > Display Settings** icon in the Tools section.

Overview – Cash Flow Display Settings – Cost Items and Cost Categories

Section	Description
1	You can save your display settings for future use.
2	Select how the graph measures the timing of your cash flow. Options include: Day, Week, Month, Quarter, and Year.
3	Under the Cost Items section, you can select: • **Total Cost (Forecast)**: The total cost of your scheduled cost items, based on when your costs are accrued (when your cost items are scheduled). This is displayed as a dashed line on the graph • **Total Price (current)**: The total revenue of your pay items, based on when the revenue is earned (when your cost items are scheduled). This is displayed as a dashed line on the graph • **Total Cost (Forecast) – Cash**: The total cost of your scheduled cost items, reflecting the cost timing you specify in the Cash Flow Options. This is displayed as a solid line on the graph • **Total Price (current) – Cash**: The total revenue of the pay items, reflecting the revenue timing you specify in the Cash Flow Options. This is displayed as a solid line on the graph • **Cash Flow**: Displays the difference between your Total Cost – Cash and Total Price – Cash values, so you can see if you are making or losing money • **Finance Cost**: Displays the Cost of Money amount calculated from the settings you specify in the Cash Flow Options
4	You can check the Estimated box for any specific cost categories you need to display. • The other check boxes are used for InEight Estimate Performance



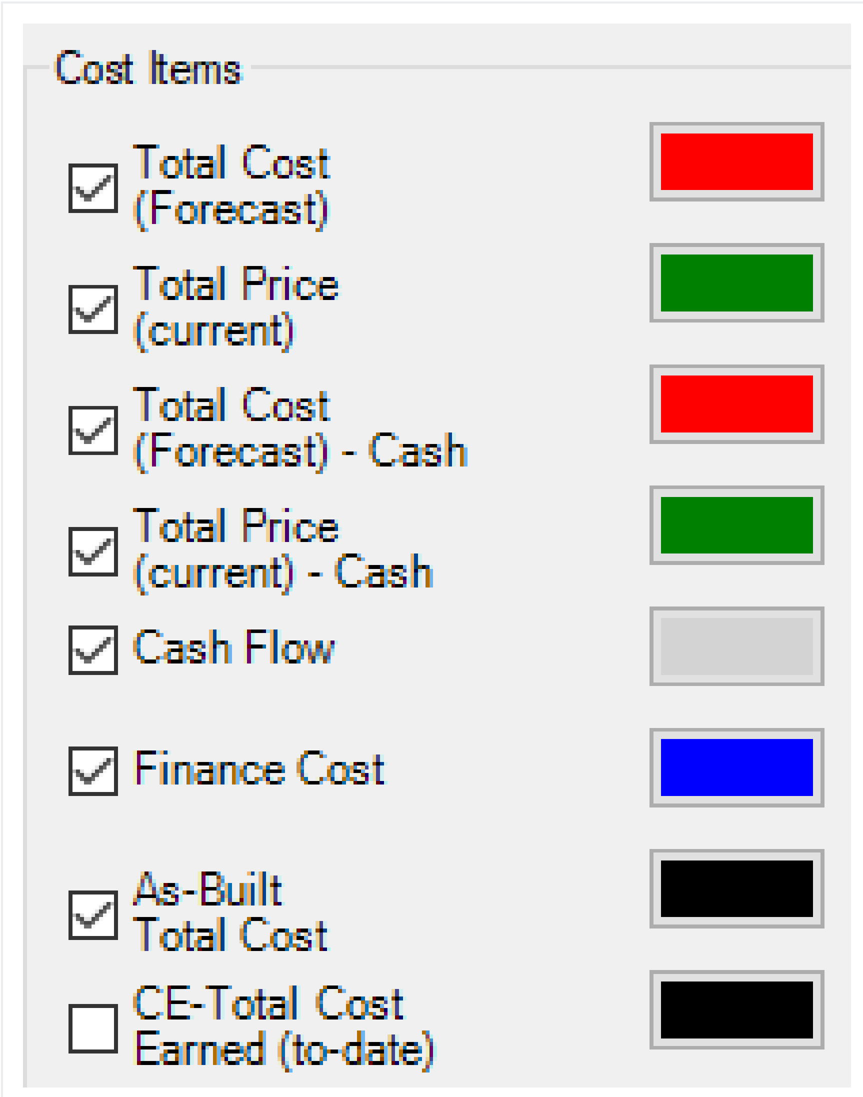
13.3.2.1 Cash Flow Display Set Up

The following steps walk you through setting up your Cash Flow Display Settings.

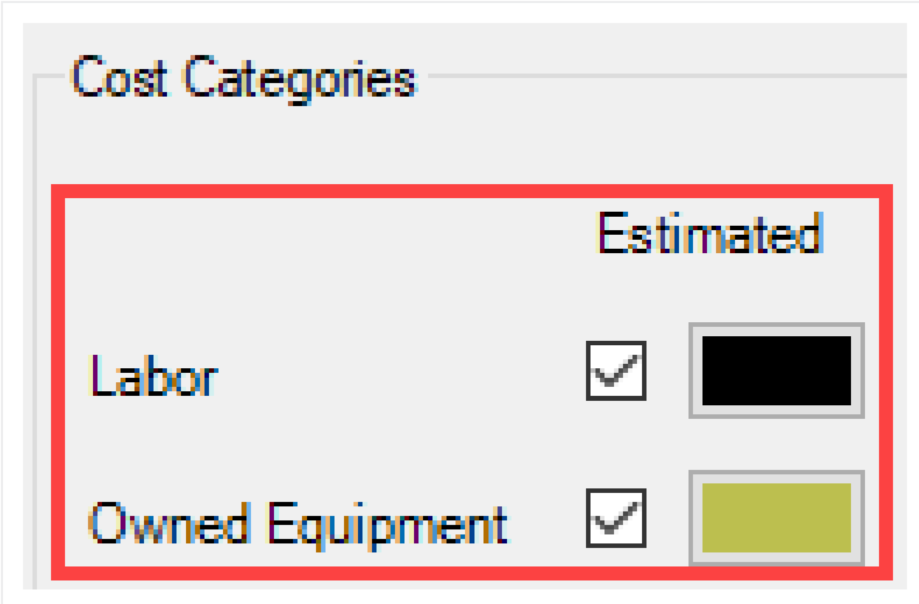
Step by Step — Cash Flow Display Settings Set Up

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

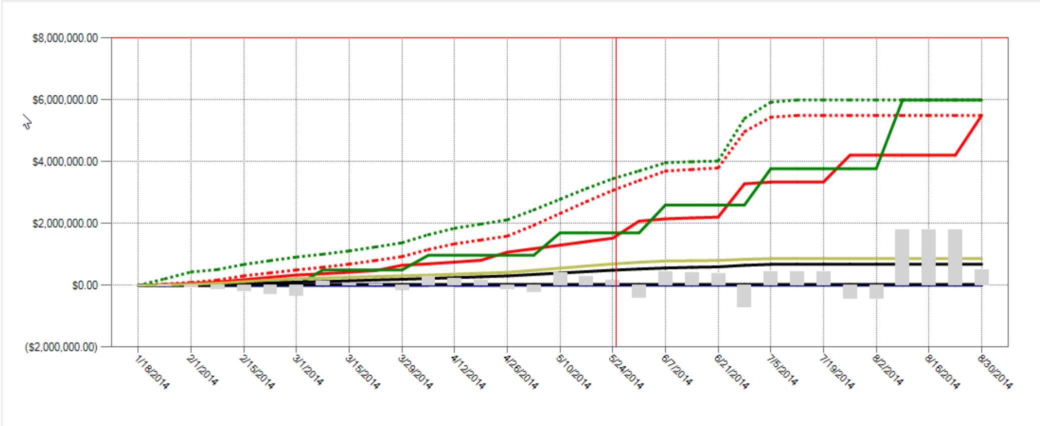


5. Under the **Cost Categories** section, check the **Estimated** checkbox for the Labor and Owned Equipment categories.

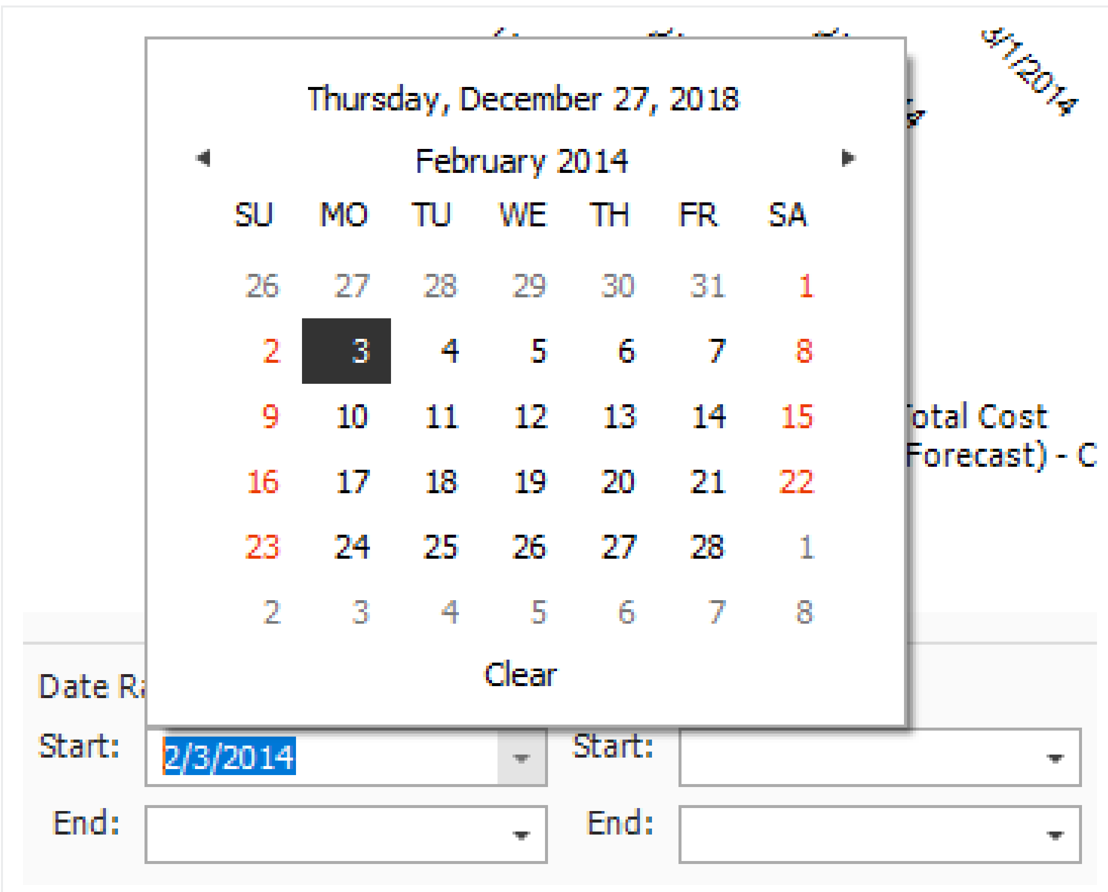


6. Click **OK** to close the Display Settings window.
   - Your Total Cost (Forecast) displays as a dashed red line, indicating your accrued costs based on when your cost items are scheduled and the assigned cost curves for each cost item.
   - Your Total Price (current) displays as a dashed green line, 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.

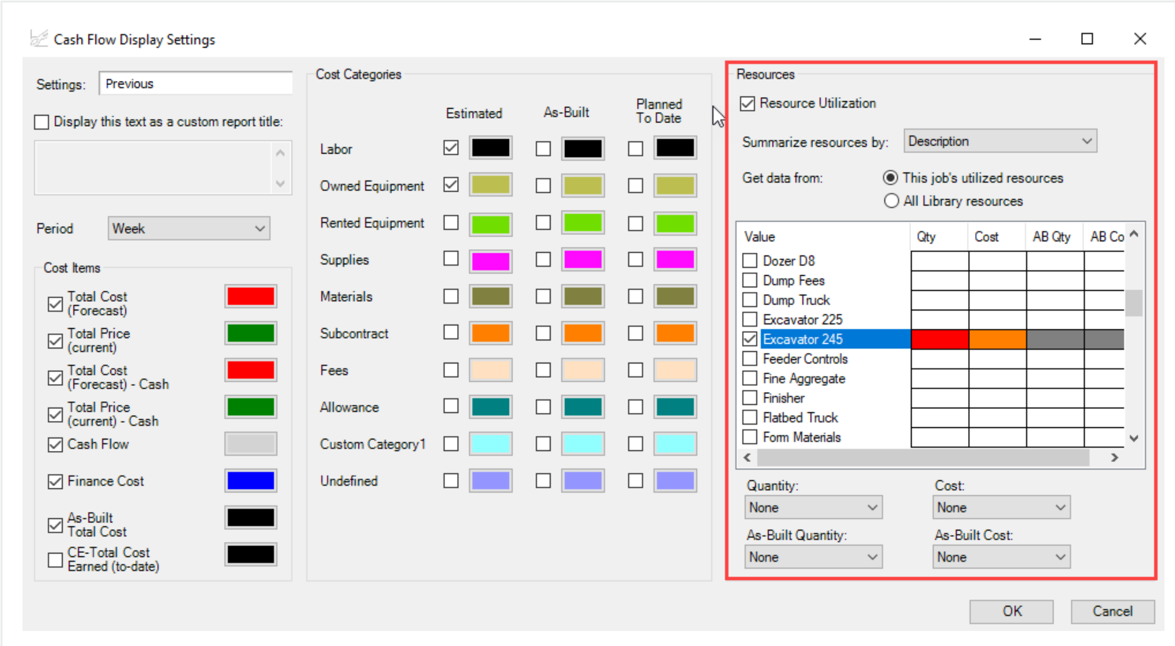
13.3.3 Resource Utilization

You can also use the Cash Flow graph to report on resource utilization. For example, you may want to run a report that displays a work hours curve for a particular labor trade or to see the peak usage times for a particular piece of heavy equipment.

You can run resource utilization graphs based off of any of the following:

- Resource Type
- Resource Code
- Description
- Organizational Category
- Tag 1, 2, and 3
- Quote Group
- Account Code and Cost Item Account Code
- Fuel Type

You set up your resource utilization settings from the same Display Settings window you use for setting up Cash Flow, **Display Settings** in the Tools section of the Actions menu.

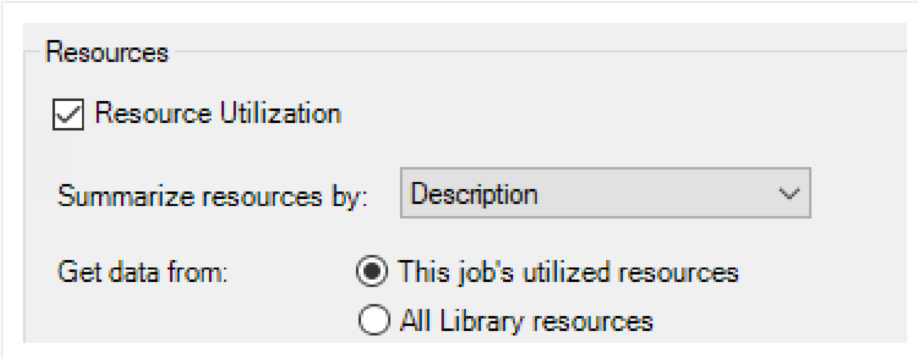


13.3.3.2 Resource Utilization Display Set Up

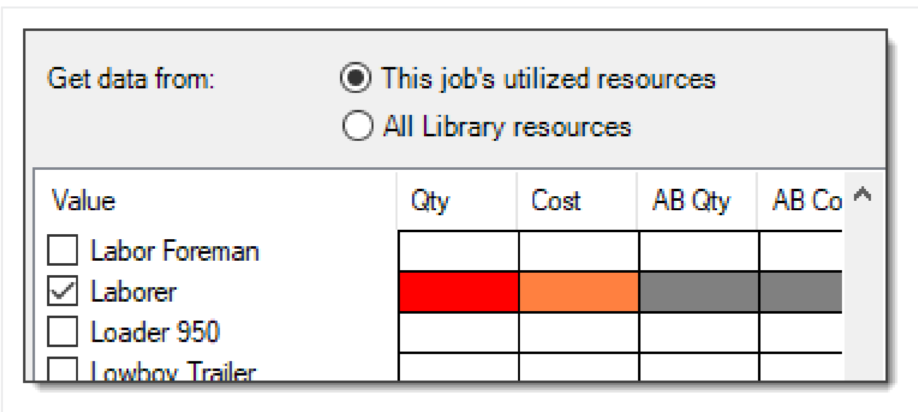
The following steps walk you through setting up your Cash Flow graph to report on Resource Utilization.

Step by Step — Resource Utilization Display Setup

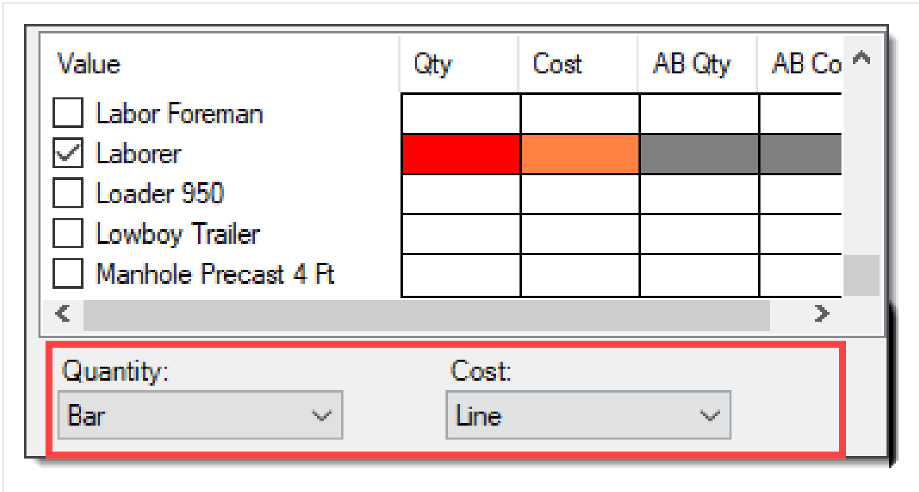
1. In the **E101 – Training Job**, from the Estimate tab, select **CashFlow** from the Schedule section.
2. On the Actions tab, select **Display Settings** to open the Display Settings window**.**
3. Make sure the all checkboxes are unchecked under the Cost Items and Cost Categories sections.
4. Under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



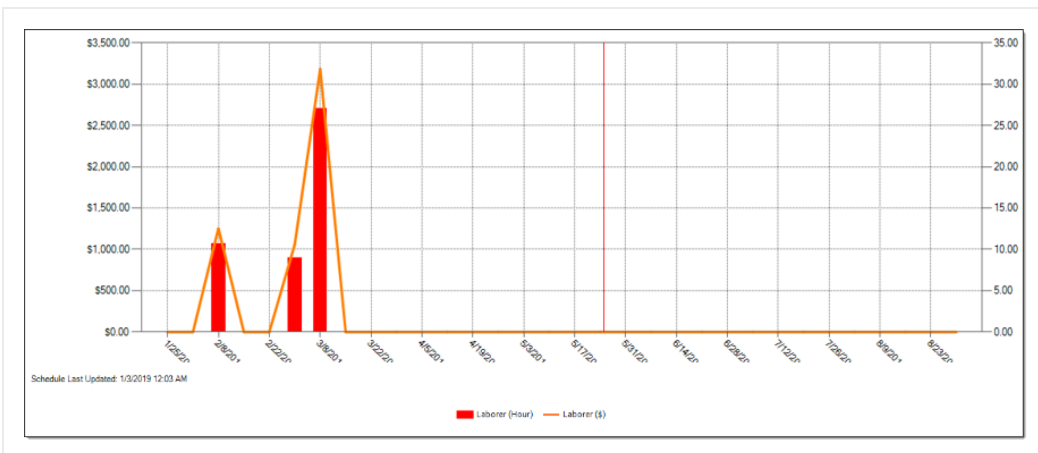
6. From the resulting list of Values, select **Laborer**.
7. Click in the **Qty** field for the selected value and select a color of your choice.
    - In this case the Qty represents the work hours for your Laborer resource
8. Click in the **Cost** field for the selected value and select a different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

Lesson 13 Review

1. Under what cash flow form can you set up your revenue and cost timing?
    a. Cash Flow Options
    b. Display Settings
    c. Worksheet
    d. Page Setup

---

2. By default, the red dashed line on the Cash Flow graph represents the:
    a. Total Cost (Forecast)
    b. Total Price (current)
    c. Total Cost (Forecast) – Cash
    d. Total Price (current) - Cash

---

3. In the Cash Flow Display Settings, Resource Utilization allows you to view a graphical summarization of your resources by which of the following? (Select all that apply)
    a. Resource File Description
    b. Resource Type
    c. Resource Code
    d. Description
    e. Wage Zone
    f. Organizational Category

Lesson 13 Summary

As a result of this lesson, you can:

- Interpret cash flow and resource utilization on the Cash Flow graph
- Select Cash Flow Options
- Change Cash Flow Display Settings

LESSON 14 – INEIGHT ESTIMATE CALCULATORS

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Use the Haul Calculator
- Use the Trench Calculator
- Use the In-Field Calculator

Lesson Topics

14.1 HAUL CALCULATOR

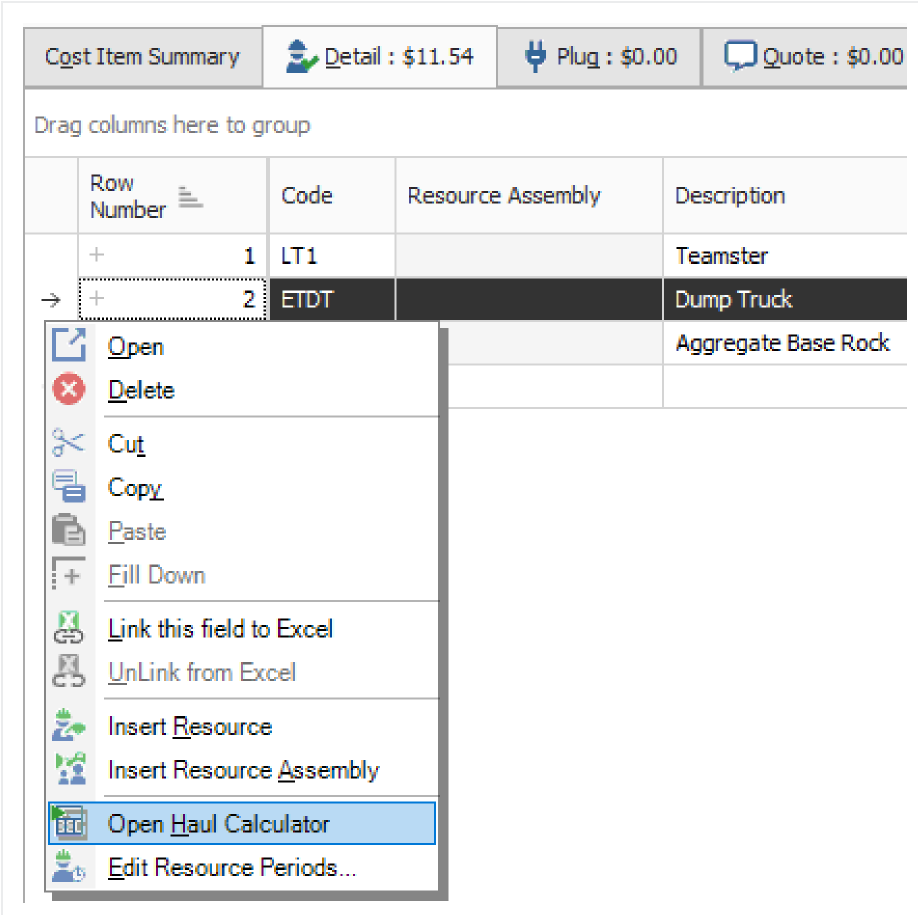
The **Haul Calculator** allows you to enter the specifics of up to three haul routes (distance, travel speed, etc.). Once entered, you can either:

- Calculate the number of trucks required to complete the haul in a set amount of time, or
- Calculate how long it will take to complete the haul with a set number of trucks

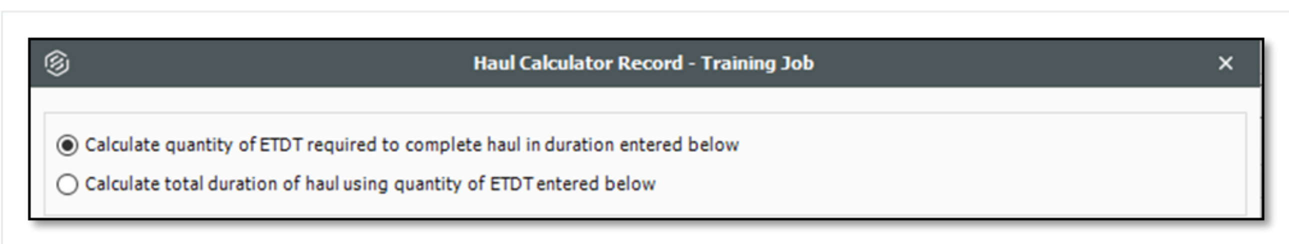
The following activity walks step by step through using the Haul Calculator to calculate the number of trucks needed for a cost item.

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.)

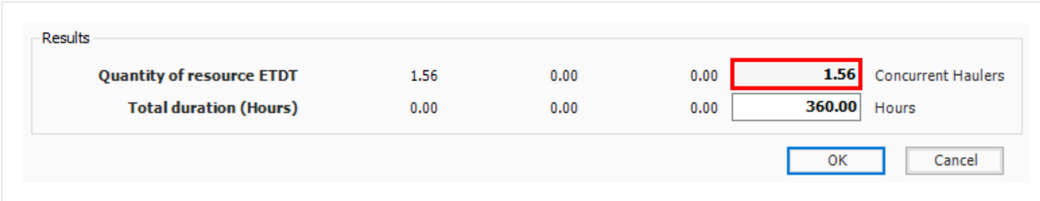


6. For the **Haul Distance**, type **5**.
7. Enter an **Average Payload (Ton)** of **30**.
8. For **Load Time (Minutes)**, type **3**.
9. Enter a **Travel Speed Full** of **35** Mile/Hour.

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

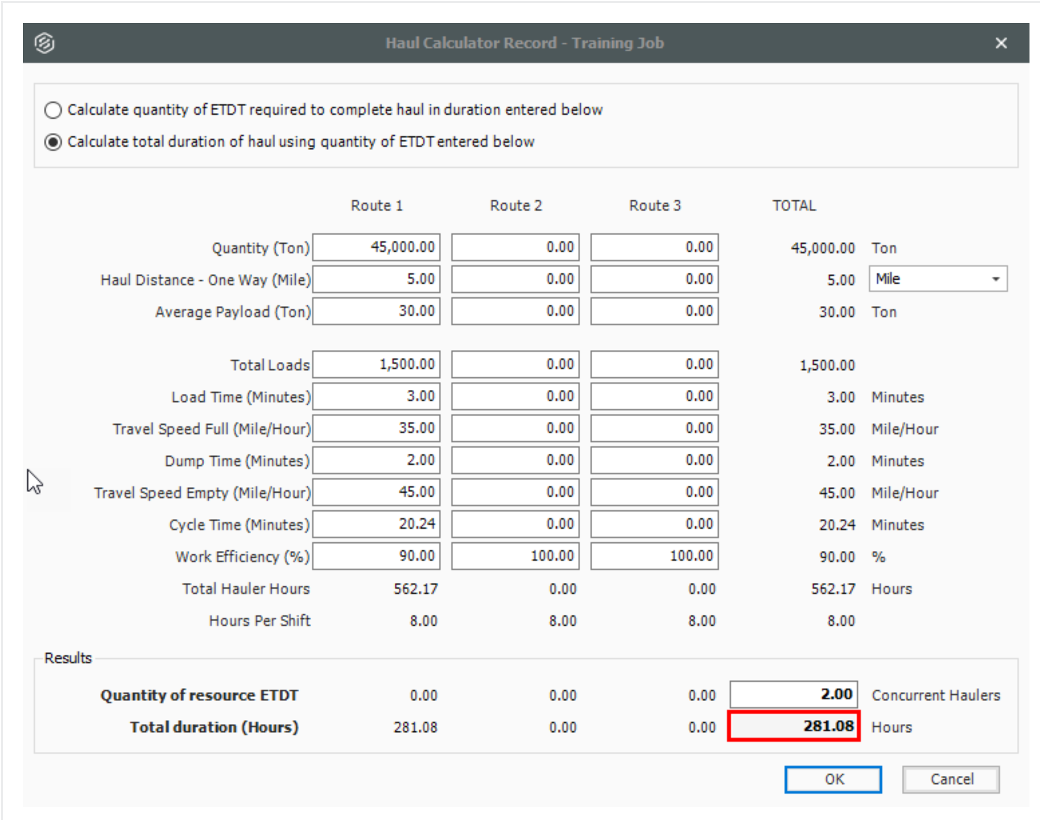


13. Click **OK**.
14. Your cost item now shows a quantity of 1.56. Round up the Quantity to **2**. Also, adjust the Teamster Quantity to **2** (if needed).

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

14.2 TRENCH CALCULATOR

The **Trench Calculator** allows you to quickly calculate trench, pipe, and bedding values. You can perform pipe-related take-off by defining the details of the trench (e.g., length, depth, width, hinge elevation, backslope, and swell factor), the pipe (diameter, elevation, and waste factor), and up to four beddings.

With this information, the Trench Calculator can automatically calculate:

- Total excavation volume (neat-line)
- Total excavation volume (including swell/shrinkage)

- Total pipe to purchase
- Lift Volume (for up to four beddings)
- Lift Weight (for up to four beddings)

You can use these calculations to define certain cost item setup data:

- You can use the Total Excavation Volume that is calculated as the quantity of the cost item
- You can use the Total pipe to purchase calculation as the quantity of a resource (e.g., pipe) that has been employed to the cost item
- You can use the Lift Volume or Lift Weight that is calculated as the quantity of a resource employed to the cost item in either cubic yards or tons
- You can click the Toggle English / Metric button at the bottom of the dialog to switch between the English and Metric systems for entering data

TIP	You can access the Trench Calculator from the Actions tab of a Cost Item Record

NOTE	When copying cost items in a job or from job to job, the Trench Calculator variable data is included with the data being copied. When a cost item is copied to the clipboard, Trench Calculator variable data is also included.

14.2.1 Trench Calculator – Trench Tab

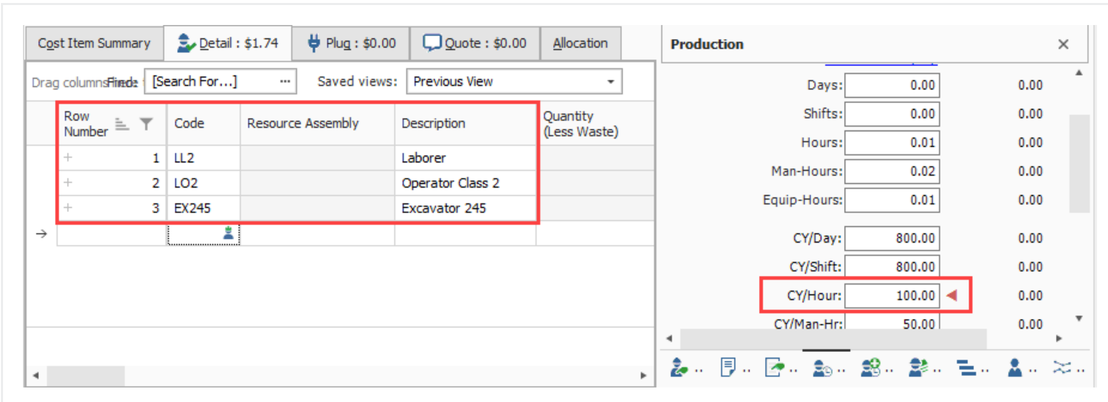
The following steps walk through using the Trench Calculator to take-off excavation volume.

Step by Step — Trench Calculator – Trench

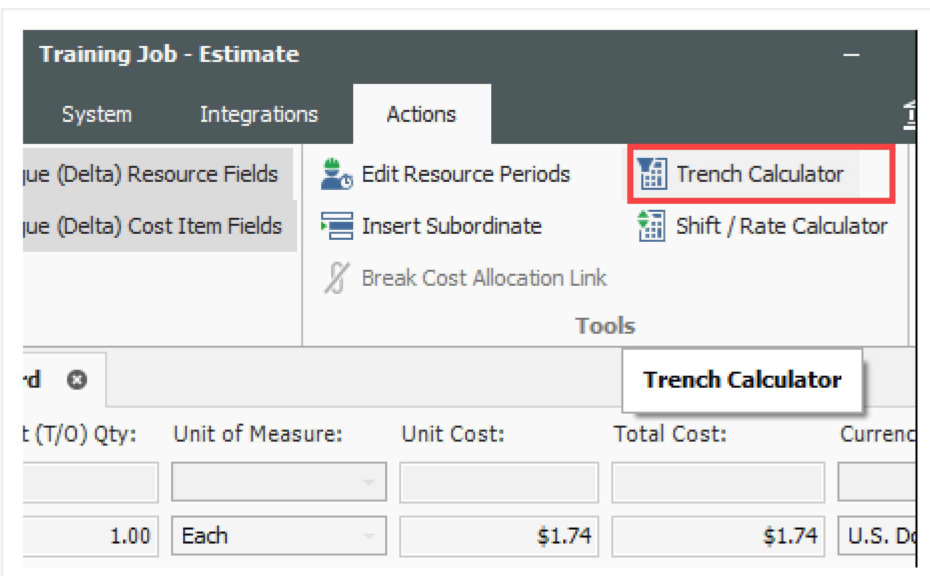
1. Open the **Training Job** and from the Estimate tab, select **Cost Breakdown Structure**.
2. Create a new cost item from the bottom row of your CBS and call it **24” Pipe**.
3. Add the following three subordinates and update their Units of Measure:
   - Excavate Trench: **CY**
   - Install Pipe: **LF**
   - 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**.

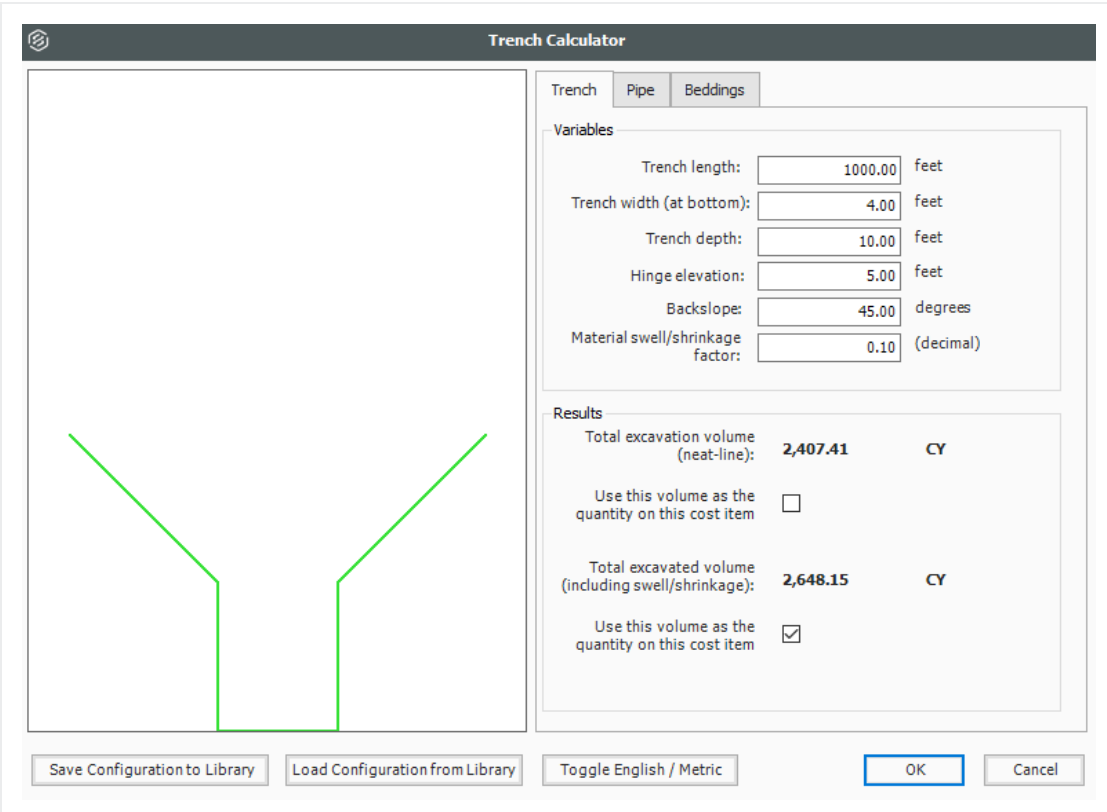


6. On the Cost Item Record's Actions tab, select **Trench Calculator**.



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.



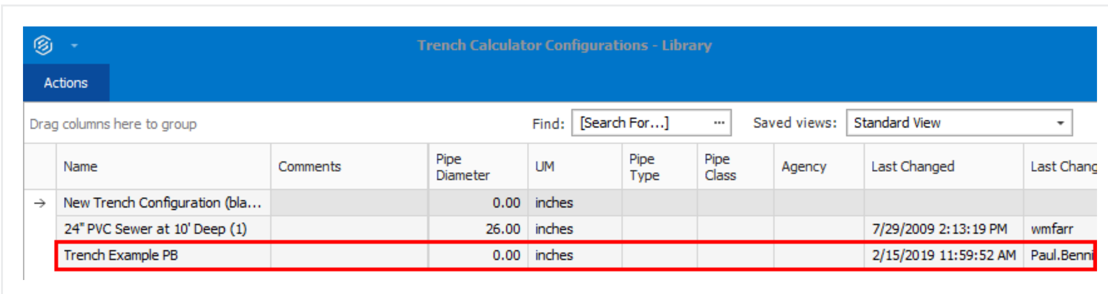
14. Click **Save Configuration to Library** and save the Trench calculator as **Trench Example** with your initials.
15. Click **OK**.

14.2.2 Trench Calculator – Pipe Tab

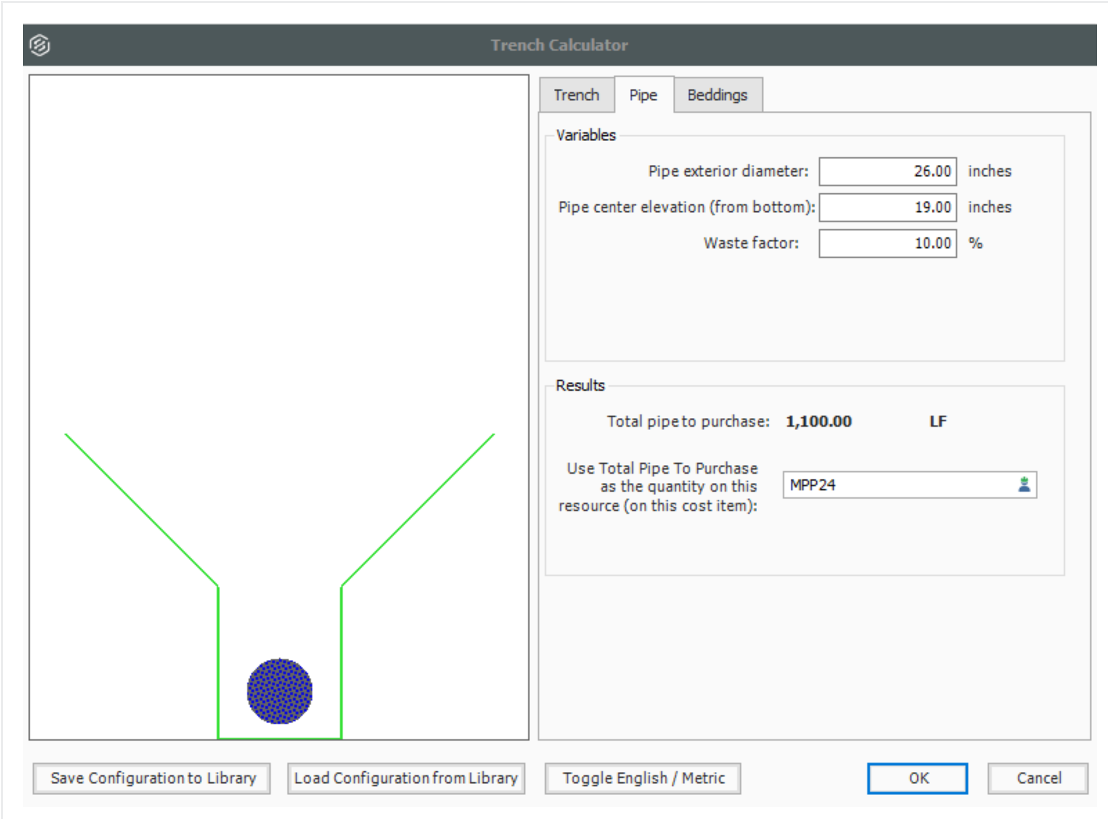
You can also use the Trench Calculator to take off how much piping and bedding you need for the trench.

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.

14.2.3 Trench Calculator – Beddings Tab

The following steps walk you using the Trench Calculator to calculate bedding take-offs.

Step by Step — Trench Calculator – Beddings

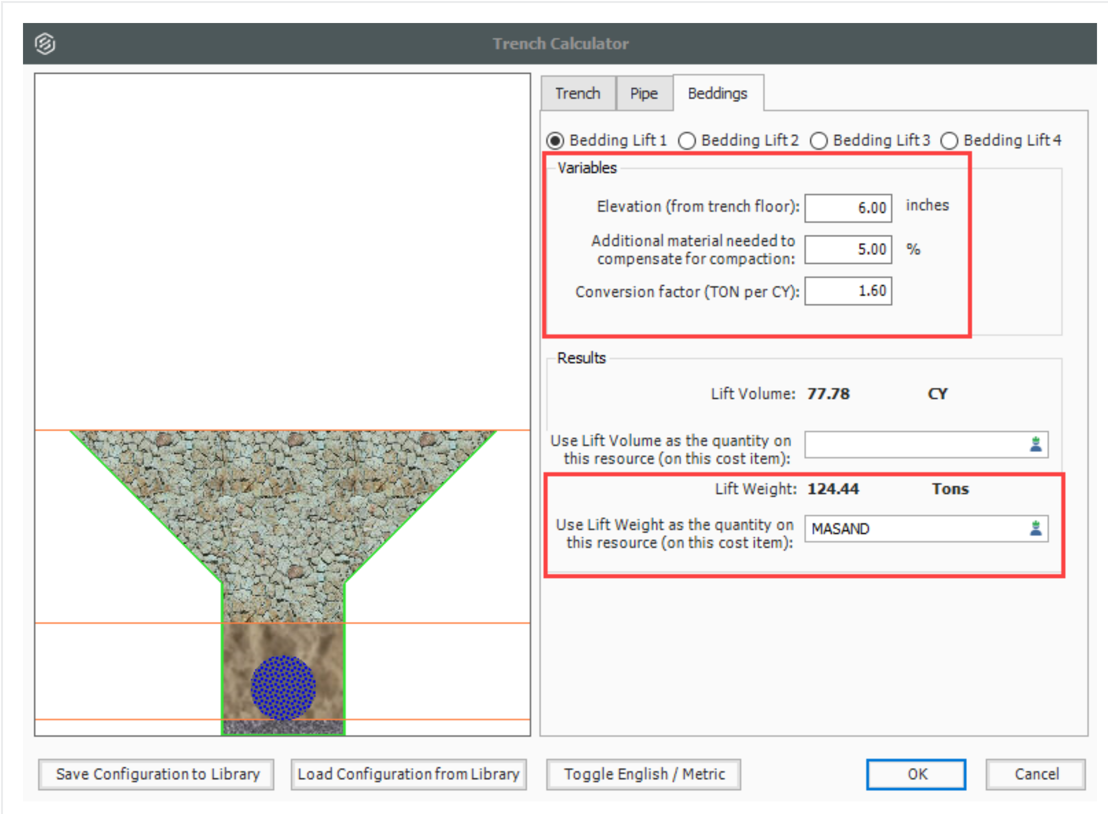
1. Back on the CBS Register, adjust the Forecast T/O Quantity for **Backfill Trench** to **2300** CY, based on manual calculations.
2. Open the **Backfill Trench** Cost Item Record.

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

Exercise 14.1 — Trench Calculator

In this exercise, you will practice using the Trench Calculator to take-off piping and bedding materials. Complete the following steps:

1. In the **Training Job**, create a new cost item called **Underground Pipe**.

2. Give the cost item a quantity and unit of measure of **1640 Linear Feet**.

3. Open the new cost item and open the **Trench Calculator**.

4. On the **Trench tab**, enter the variables for the trench:

Trench length	1000 feet
Trench width (at bottom)	4 feet
Trench depth	10 feet
Hinge elevation	5 feet
Backslope	45 degrees
Material swell/shrinkage factor	0.10 (decimal)

   - Do NOT check the box to bring in volume shrinkage.

5. Select the **MPR36** material resource from the drop-down Results list.

6. On the **Beddings** tab, enter bedding variables.

Bedding lift 1	
Elevation (from trench floor)	6 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.3

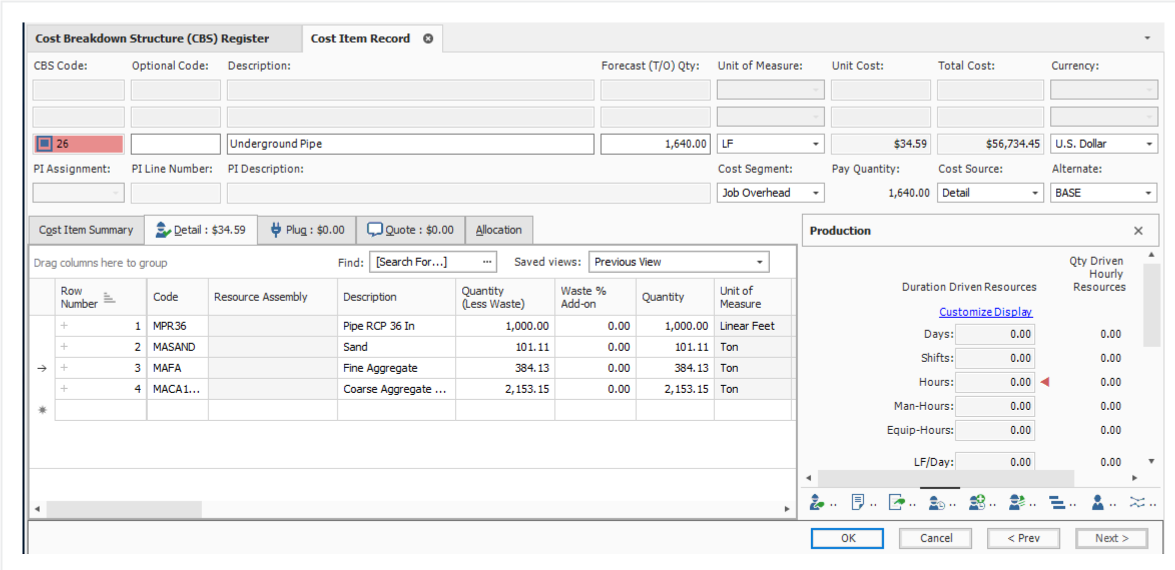
Bedding lift 1	
Bedding material resource (Tons)	MASAND

Bedding lift 2	
Elevation (from trench floor)	38 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.1
Bedding material resource (Tons)	MAFA

Bedding lift 3	
Elevation (from trench floor)	76 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.1
Bedding material resource (Tons)	MACA1-1/2

7. Select **OK** and confirm that the pipe material and bedding materials populated the cost item.

You should end up with the following results



Congratulations, you have completed this exercise!

14.3 IN-FIELD CALCULATOR

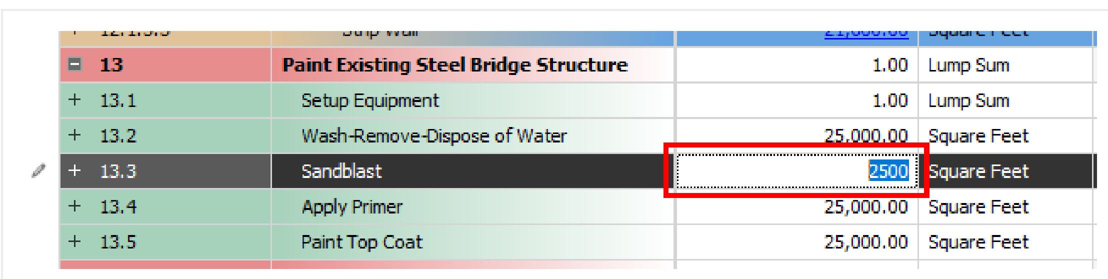
You can use the In-field Calculator to do simple mathematical calculations in any numeric field on records, registers, and tree lists. You use this calculator much like an Excel workbook field, by inserting the cursor in the field where you want to perform a calculation, then pressing the "=" key, followed by a valid arithmetic expression. To display the calculated result, you press the tab key. The resulting value is stored without the arithmetic expression used to calculate the value.

The following steps walk through using the In-field Calculator to calculate the area of how much sandblasting is needed for painting the steel bridge structure specified in the Training Job.

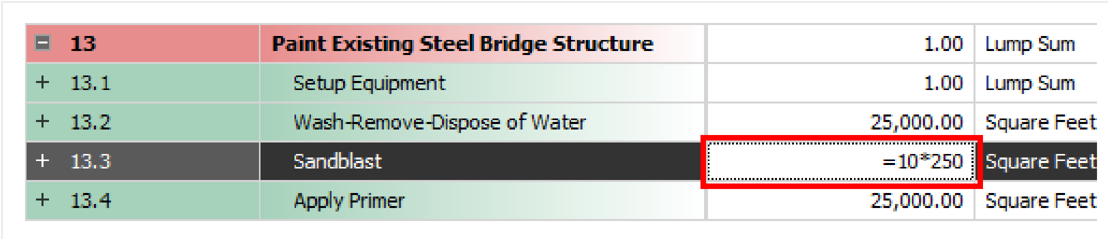
NOTE The resulting field value is stored without the arithmetic expression used to calculate the value.

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.



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



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

Lesson 14 Review

1. The Haul calculator allows you to:
    a. Calculate the number of trucks required to complete the haul in a set amount of time
    b. Calculate how long it will take to complete the haul with a set number of trucks
    c. Neither
    d. Both

---

2. The Trench Calculator allows you to quickly calculate ____________ values.
    a. Trench
    b. Pipe
    c. Bedding
    d. All of the above

---

3. For the in-field calculator, what symbol needs to be at the beginning of the math equation for it to calculate?
    a. +
    b. –
    c. =
    d. (

Lesson 14 Summary

As a result of this lesson, you can:

- Use the Haul Calculator
- Use the Trench Calculator
- Use the In-Field Calculator