

Prepping the Control Budget

Multiple Interfaces



Changelog

This changelog contains only significant or other notable changes to the document revision. Editorial or minor changes that do not affect the context of the document are not included in the changelog.

Rev	Date	Description
1.0	20-JULY-2021	Initial publication.
2.0	04-JAN-2024	Various spelling edits.
3.0	02-APR-2024	Added new section Functional tips and tricks for conforming the estimate.
4.0	25-APR-2024	Multiple edits.

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Synopsis

Organizations require certainty when it comes to the financial performance of project execution. This can be required to determine profitability for general contractors and to determine the total cost of delivering and funding an asset for owners. Projects teams are frequently left to invent data structures and processes based on previous experience. Project data is often isolated in spreadsheets or point solutions and not available for portfolio level benchmarking.

InEight provides an integrated and connected platform that enables standardization of processes around project cost performance and the collection of data. This structured approach enables the collection of portfolio data in a way that allows for efficient collection and insight.

This document outlines considerations and recommendations for the preparation of a project budget for implementation in Control. It also covers several specific configuration options when publishing the project budget from Estimate to Control. It is intended to assist with the preparation of standard operating procedures for the preparation of budgets for use with Control.

Introduction

The project budget represents the total cost of delivering the required business outcome represented by the project scope. For owners this represents the funding and cost of delivering and potentially maintaining an asset, where, for a general contractor, this is the profitable delivery of project scope. The project budget is typically created upon project initiation after a process of estimating the required budget against the initial project scope.

For the purposes of implementation in Control, the project budget is a hierarchical decomposition of the project scope represented in terms of budgeted cost. This cost is broken down into detail that lets the project team monitor and forecast project financial performance. This structure is called the Cost Breakdown Structure (CBS), and it consists of budget at the lowest level (terminal cost items), summary data at parent levels (superior cost items) and culminates at a single summary project cost item at the highest level.

Estimating processes and tools often do not provide the project budget in a format that enables tracking, forecasting, and reporting through project delivery. Estimating techniques and structures are typically used to provide efficiency to the estimating process but might not deliver budget detail in a format that enables the many external interfaces of the project budget.

Upon project initiation, the estimate must be reworked into a CBS that takes into consideration these external interfaces. This process of preparing the budget is called conforming the budget.

Often a new project team will bring with it previous practice and implement without consideration of the organization's requirements. Portfolio performance is then difficult to gauge when projects are not tracking performance in a consistent fashion.

InEight provides an integrated and connected platform that enables standardization of processes around project cost performance. In this context, the project budget sits at the heart of the project and organization data structure and must enable efficient data capture and reporting.

Development of standard operating procedures and establishing a data structure that enables performance tracking across a portfolio is a critical requirement of successfully implementing and maximizing the benefit of InEight project suite.

This document provides guidance on the context of the project budget, related systems and processes and some specific guidance on preparing the budget for implementation in Control. While it assumes largely that Estimate, Control, Contract, Plan and Progress are being used, the guidance also suits partial use of the solutions.

Business outcomes

A properly structured budget supports the following business outcomes:

- Analytics and insight
 - Portfolio and project analytics
 - Reduced time from data capture to insight
- Consistent approach to project controls
 - Project teams do not need to invent process and can focus on project execution
 - Consistent and centralized project reporting analytics and insight
- Risk mitigation
 - Standardized and centralized data and reporting – risk is not hidden
 - Reduced time to insight enables early intervention/corrective action
- Efficiency in data capture
 - Capture one time – use many times
 - Validated data entry reduces errors
 - Structured data increases accuracy and value
 - Benchmarking
 - Historic data available to benchmark project performance and estimating rates

Budget requirements

The following sections describe the related processes and considerations for determining the level of detail to be included in the budget, but there are fundamental questions that need to be answered:

- What is the minimum level that cost performance per unit of measure required?
- What is the minimum level that project forecasting will be carried out?

The answers to these questions can help you to determine the level of detail to be included at the terminal level of the CBS, where budget, actual cost, and quantity are recorded. Often it is assumed that more detail provides better insight; however, careful consideration is required on the level of detail and the overhead required to capture actual data.

Estimate as the data source

The project budget is typically derived from an estimate of project costs that reflects the project scope and structure at the time of estimating. There are several factors that could impact the need to and degree of conforming that the estimate requires during the preparation of the budget, such as the following:

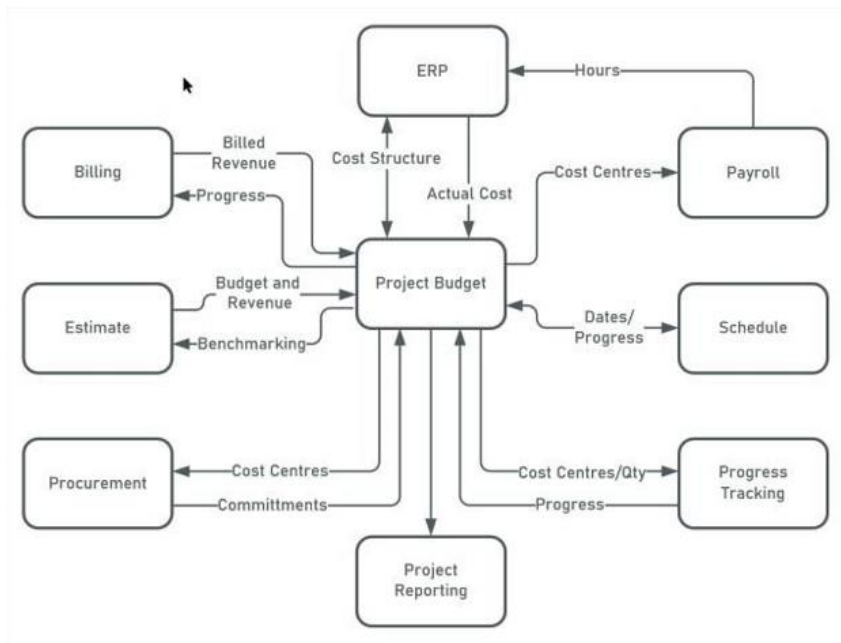
- Estimating methods encourage efficiency in estimating and the business requirements for bid review, not project cost control. The level of detail and cost types might need to be regrouped for cost tracking.
- Estimates can include values calculated on a percentage or spread that need to be tracked as discrete cost in project execution. These items need to be recalculated and represented as discrete cost items.
- The estimate might be based on units of measure that do not reflect the project execution and performance measurement requirements.
- Tender take-off quantities structure, cost types, quantities, and units of measure need to be conformed to the requirements of project execution and related systems.

This document contains several specific considerations for preparing a budget from an estimate calculated in Estimate; however, the process is the same if the budget is prepared using any other estimate data sources such as a Microsoft Excel spreadsheet.

Related processes

In an integrated project controls solution, the project budget is at the heart of a series of related systems and processes. The balance of these relationships determine the level of detail that can be tracked or is required in the project budget.

The following diagram and supporting detail describe the relationships with the budget that are considered when establishing the budget structure and level of detail.



ERP

The ERP is the system of record for financial transactions for an organization, and determines the resolution and requirements for the tracking and reporting of actual cost transactions for the project. The WBS phase code is used to map terminal cost items to cost objects in the ERP, which acts as the actual cost collectors.

Configuration and mapping between the ERP cost objects and the cost items in Control are determined during the process design stage of the implementation. When preparing the project budget, phase codes and the resolution and type of cost items need to be consistent with the configured integration of data between the systems.

Procurement

Procurement and subcontract commitments raised on the project must be allocated against the relevant cost items in Control through the WBS phase code allocation and the contract line items.

Consideration must be given to the level of detail required in the budget on committed cost and cost performance:

- Does cost performance and forecasting need to happen at the level of individual contract commitments or is it appropriate for many commitments and uncommitted cost to exist against one cost item?
- Is forecasting required at the contract line-item level, or the contract level?
- Is there a need to identify contract variations in the project budget?

These decisions determine the level of detail required in the project budget. Starting budget might also only have total procurement budget in a single cost item, which is then broken out as a procurement strategy when the project is formulated.

Payroll and equipment costs

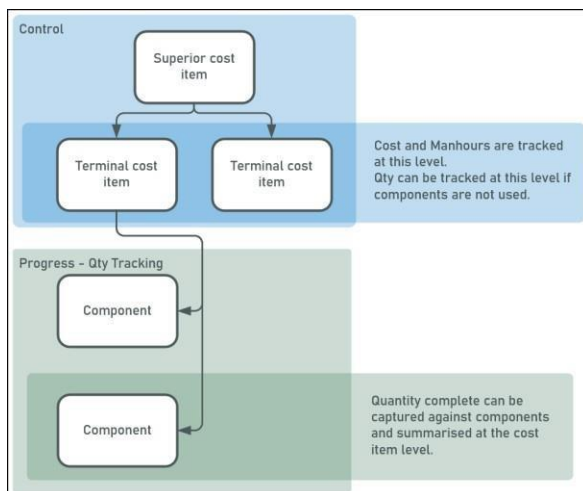
Both man and equipment hours are tracked at the terminal cost item level in the CBS. These hours are costed via payroll or external systems and then the cost and quantity of these hours are passed back to Control as actual cost. For self-performed work, terminal cost items are the lowest level at which resource performance can be measured, which is a primary source of productivity benchmarking data.

Tasks appear on the timesheets for foremen or operational resources to record their time, so the level of detail and description should be meaningful to the users at that level. This detail needs to be appropriate to the level of effort required to capture data. For example, if supervision is required to split a shift's hours across too many tasks, then the captured data is likely to be inaccurate.

Progress tracking

Quantity complete must be periodically recorded against the cost items to inform project progress, earned value and other calculations (such as CPI/SPI) to enable some of the available forecasting techniques in Control.

Quantity tracking can occur either directly in Control or against the further breakdown of the CBS quantities as components in Progress.



The decision to claim in Control or Progress is based on the cost item type and data source for quantity claiming.

- Progress allows for either the claiming of quantities directly into the quantity tracking view of the web application or for field crews to track daily quantity measured as complete in the field.
- Claiming of quantity directly in Control would be reserved for cost items, where quantity complete is managed as part of the budget/forecast process such as weeks complete for indirect site costs, or percent complete for procurement line items.

In both cases, Progress tracking is enabled through proper allocation of quantity and unit of measure for cost items that is meaningful to the progress of the task.

Billing

For contractors, project margin is the difference between revenue and cost. Generally, direct cost items contribute towards the physical progress of the project and therefore to the earning of project revenue. Indirect costs are spread across the pay items. Mapping of direct costs to pay items can be established in Control through the cost item to pay item allocation and earning rules.

Consideration needs to be given to the following:

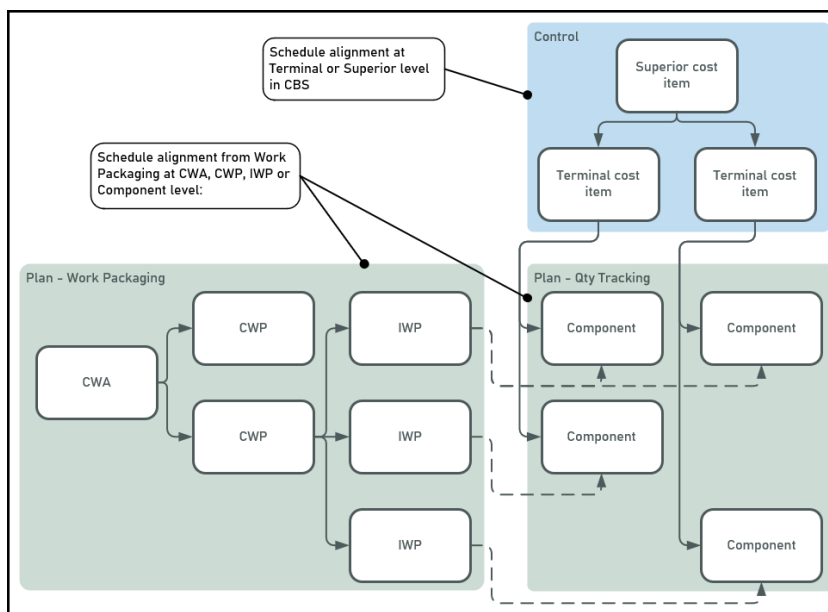
- The contract type which drives the method of revenue earning, and therefore the pay item type: fixed final price, cost plus or unit rate
- The contribution of cost items to pay items (earning rules)
- Establishing pay item cost, quantity, and unit of measure per the head contract requirements

Schedule

To enable time phasing of budget and forecast data as well as Earned Value Management, Control requires schedule start and finish dates for cost items in the CBS. In Control, it is possible to track schedule dates at a rolled-up level, however for time phasing of budget data these dates are required against the terminal cost items.

For most projects, the project schedule uses a Work Breakdown Structure (WBS) that reflects the construction methodology and requirements for tracking of project completion. This does not always align with the requirements of cost tracking due to the number of the external interfaces of the project budget as highlighted in this document.

Control and Plan have structures that similarly reflect these requirements that are linked using components in Quantity Tracking.



Schedule dates can be updated into Control through either uploading .XER files or importing schedule dates directly into the CBS. For either method, the project must be able to align the Schedule WBS and CBS for the project in sufficient detail to provide start and finish dates for the terminal cost items.

Generally, scheduling Components as the lowest level in the project WBS is the best scenario for providing the required dates for time phasing in Control as well as using qty complete captured in Planto progress both the project schedule and budget.

Reporting

Internal and external stakeholders rely on project reporting to clearly establish project progress and performance. Project reports provide insight into status and trends and allow the early identification of issues to maximize the opportunity to mitigate risk.

In some cases, project reporting is unique to the particulars of the project, however all projects will be conducted within an organization level context and will require standardized reporting at that level. In either case, reports and dashboards are configured to provide insight based on structured underlying data.

While preparing the budget, consideration must be given to the project reporting requirements and data structures required to succeed. During project execution change and the capture of actual progress must also be managed as required for project reporting to provide accurate results.

Benchmarking

InEight provides the ability to accumulate portfolio level performance data over time. This data can be used to provide benchmark performance evaluation using data structures such as Account Codes (these are not the general ledger accounts, but a standardized series of activity codes such as those published by CESSM). Account codes can provide insight to activity performance within the current project, across the portfolio and

provide feedback to estimating teams on actual performance.

Consideration needs to be given to cost item design, to not only provide cost performance data at the cost item level, but to also match the requirements of account codes in terms of contributing cost type (for example, labor, equipment, or procurement) as well as unit of measure.

Preparing the budget

CBS structure

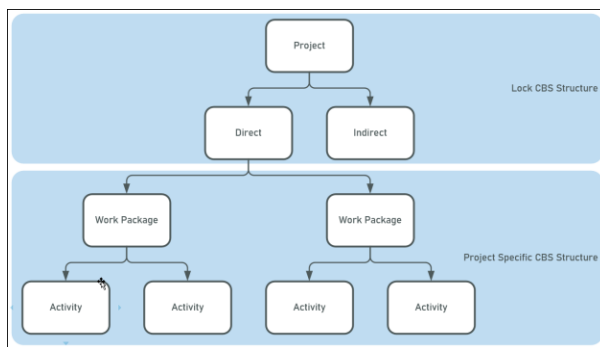
As defined in the introduction, the project CBS is a hierarchical decomposition of the project scope represented in terms of budgeted cost, which has budget at the lowest level (terminal cost items), summary data at parent levels (superior cost items) and culminates at a single summary project cost item at the highest level.

The terminal cost items are expressed in terms of budget cost, quantity and units of measure that are relevant to the execution of the project scope and might also include budgeted man-hours.

The following are examples of CBS structures that are above the terminal level:

- Breakdown by project phase or area/location
- Breakdown by direct/indirect cost
- Breakdown per project deliverable
- Breakdown per head contract separable portion

It can be beneficial to develop a fixed top level CBS hierarchy to provide consistency across a portfolio. Projects can then be provided with the freedom to create a project-specific structure below the set structure. The following image shows an example of a level two locked CBS structure:



Terminal cost items

The terminal cost items are where the budget lives and cost performance is measured. A project's estimate will typically organize different cost types together to support the estimating process. As the budget is conformed to the requirements of project execution the different cost types need to be broken out in line with the above considerations.

The level of detail should also be carefully considered. Too much detail will saddle the project team with an unrealistic burden of capturing unnecessary data. Often this results in frustration, shortcuts, work arounds and ultimately less accurate data captured. Too little detail results in less meaningful insights gained around project or portfolio performance.

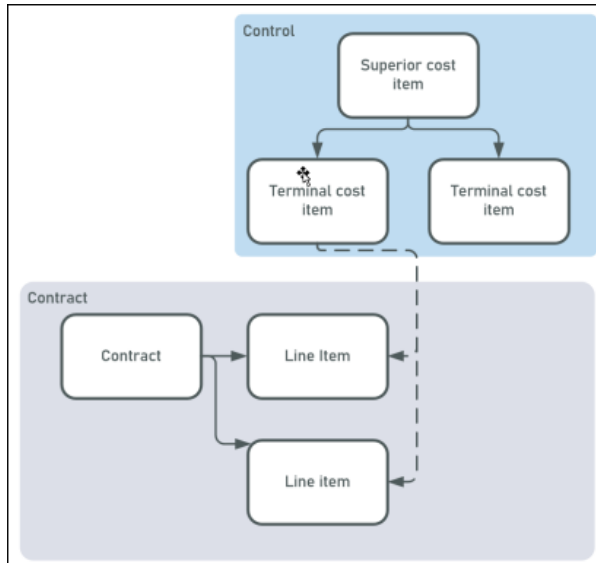
Procurement type cost items

Commitments raised in Contract are aligned with the terminal cost items in Control via allocation at the contract line item. Like other cost item types, the breakdown of procurement cost items is driven by the required visibility of procurement packages in Control for cost performance and forecasting.

Quantity claiming in Control drives the calculation of earned value and enables various forecasting methods. Terminal cost item quantity and unit of measure can be configured to allow claiming of progress in line with procurement costs spent or accrued to date.

There are three possible scenarios for the relationship between terminal cost items and contract line items.

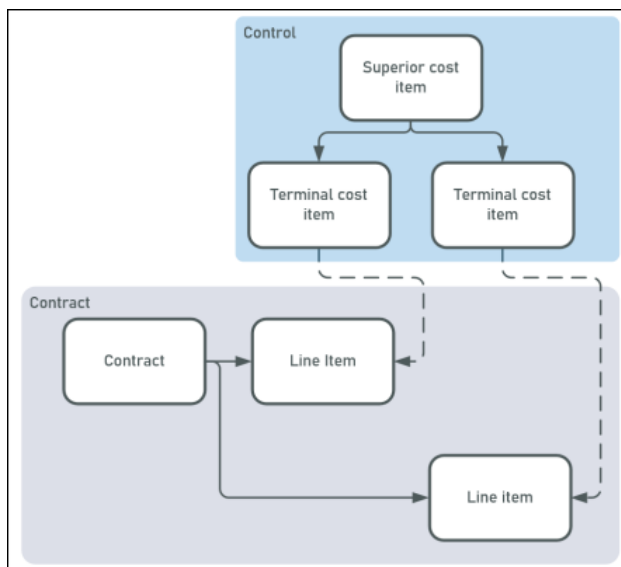
Terminal cost item per contract



This configuration provides the best combination of visibility of discrete procurement packages in Control while enabling contract detail to be managed in the Contract module. This structure provides the best visibility of procurement budget in bid packages as well as enabling the best use of the committed cost in Control for forecasting and status.

This structure is suitable for major subcontract or materials procurement packages where discrete visibility of commitment and forecasting is required in the project budget.

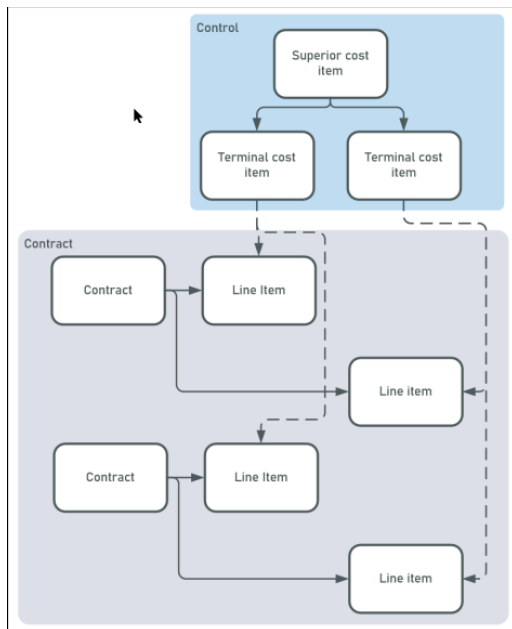
Terminal cost item per contract line item



This configuration provides greater detail in Control to the single cost item per contract; however this detail comes with additional overhead managing cost items and associated data in Control.

Like the terminal cost item per contract, this structure is suitable for major subcontract or materials procurement packages where a greater level of detail is required in Control that justifies the additional management effort.

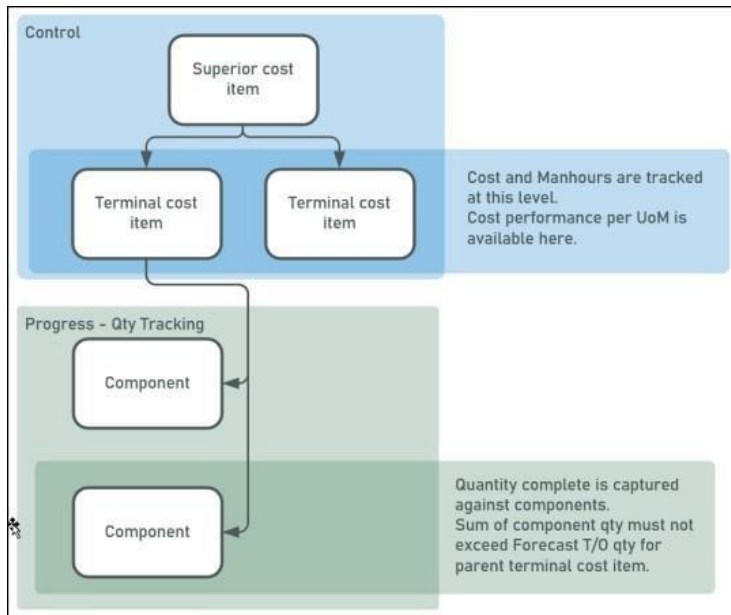
Many contract line items per terminal cost item



This configuration provides no visibility in Control over the cost content of the terminal line items. This structure is suitable for procurement such as miscellaneous or low value procurement items.

Direct labor and equipment costs

This type of cost item is used for the execution of direct cost activities where cost performance is tracked at the terminal cost item in terms labor hours or labor and equipment cost. Quantity is tracked either using components in progress or quantity claimed directly in Control. Hours are captured in either Daily Plan or the Weekly Time Sheet against the terminal cost items.



Careful consideration must be given to the breakdown of activities at the terminal level. The ability to track cost performance becomes more granular with a greater breakdown at the terminal level, however, with this detail comes the burden of capturing the data. Too many cost items could discourage field staff from accurate data entry and would ultimately lead to data that does not provide the desired insight on cost performance. Superior cost structure can also dictate the level of detail at the terminal level, for example, activities per phase or project deliverable.

There are typically three methods of structuring this type of cost item:

- Labor only – employed
- Labor and equipment – owned/employed
- Labor and equipment – subcontract – cost performance only.

Labor only – employed

The Labor only – employed method is used for tracking labor performance against activity UoM. Man-hours per UoM, cost per man hour, and other labor measures are key performance measures. Budget will have man-hours and labor budget only.

Man-hours are captured through Daily Plans or Weekly Timesheet and cost is calculated through payroll. Quantity complete is captured either via Daily Plan/Quantity tracking or directly in Control.

Labor and equipment – owned/employed

The Labor and equipment – owned/employed method is used for tracking performance against unit of measure where equipment and labor resource requirements are proportionate to each other and the execution of the activity. An example is bulk earthworks tracked in cubic meters where an excavator is always engaged with an operator. Man-hours, equipment cost and composite cost performance per UoM are key performance measures.

Quantity complete is tracked and actual man and equipment hours are captured on a Daily Plan. Hours captured are used to calculate labor cost through payroll and equipment cost through asset management.

Labor and equipment – subcontract – cost performance only

Used for tracking performance against unit of measure where resources performing the works are engaged on a subcontract basis, either time and money or unit rate (cost item UoM). Hours are not a key performance measure, so cost items have only labor and equipment budget either in discrete cost categories or as subcontract cost. This type of cost item would be used where subcontract resources are utilized but cost performance risk is not passed to the subcontract resources. This is distinct to subcontract/procurement type costs where lump sum or unit rate cost performance is passed to the subcontractor.

Quantity complete is tracked and actual man and equipment-hours might be tracked on Daily Plans to:

- validate subcontractor claims
- substantiate site resource hours for client reporting
- enable daily production cost tracking dashboards

Budget holding cost item

Detailed quantity or project execution planning is not always available on project kickoff. It might be that the need to track indirect and site establishment costs precedes the availability of a detailed quantity take-off or procurement strategy. In this case, it is possible to create the initial project budget with a number of budget holding cost items. The budget will be locked with these items in place, so original budget remains here for the project duration. As project detail evolves, current budget values will be updated and moved to the new detail in the CBS using budget moves.

An example of procurement budget that develops detail as the project evolves would be budget held in a terminal cost item:

Tasks				Cost Item Data		
<input type="checkbox"/>	CBS position	Description	WBS phase code	OB total cost	CB total cost	Approved budget changes
<input type="checkbox"/>	1	Project	1000	\$ 1,000,000.00	\$ 1,000,000.00	\$ 0.00
<input type="checkbox"/>	1.1	Procurement	1001	\$ 1,000,000.00	\$ 1,000,000.00	\$ 0.00
<input type="checkbox"/>	1.1.1	Procurement Budget	1002	\$ 1,000,000.00	\$ 1,000,000.00	\$ 0.00

Then expanded as procurement packages are detailed:

Tasks				Cost Item Data		
<input type="checkbox"/>	CBS position	Description	WBS phase code	OB total cost	CB total cost	Approved budget changes
<input type="checkbox"/>	1	Project	1000	\$ 1,000,000.00	\$ 1,000,000.00	\$ 0.00
<input type="checkbox"/>	1.1	Procurement	1001	\$ 1,000,000.00	\$ 1,000,000.00	\$ 0.00
<input type="checkbox"/>	1.1.1	Procurement Budget	1002	\$ 1,000,000.00	\$ 400,000.00	(\$ 600,000.00)
<input type="checkbox"/>	1.1.2	Design Package	1003	\$ 0.00	\$ 200,000.00	\$ 200,000.00
<input type="checkbox"/>	1.1.3	Materials Procurement	1004	\$ 0.00	\$ 400,000.00	\$ 400,000.00

Contingency

Management reserve

Management reserve is project contingency that lives outside of the project budget for the unknown unknown risks. This would typically not be included in the project CBS. If management reserve were to be drawn down for inclusion in the project budget, this would take the form of a contract adjustment to include the additional funding to the project CBS.

Contingency reserve

Contingency reserve is to cover risks considered as known unknowns and would typically live in discrete contingency cost items in the project CBS. Contingency should not be directly included in cost items where cost performance is required against budgeted rates.

For example, an excavation cost item with contingency included will show a rate per unit of measure that includes this contingency. This would represent the worst-case scenario to project teams as the budget or targeted cost rate. Instead, a discrete contingency item, say for rock excavation, should be used. If rock is encountered, then either:

- cost can be tracked against the excavation cost item to show the diminished performance and contingency draw-down can be tracked through claimed quantity and forecast value against the contingency cost item, or
- cost for regular excavation can be tracked against the excavation cost item and the rock contingency item can be used to track cost of the actual rock impacted excavation

Aggregate cost items

In the cases described above, the separation of discrete cost types allows for accurate and simplified tracking and reporting of cost performance. This separation of cost types would naturally align with the cost categories utilized within the CBS cost item.

There are other scenarios where the aggregation of cost types is appropriate to simplify the management of these items in the CBS. These are typically activities where cost performance per unit of measure is not a requirement. Examples include:

- general project procurement such as small tools, stationary or consumables
- low value and low risk cost items

Cost item configuration options

The following fields are available in Control for configuration of cost items.

Allow as-built

The allow as-built setting determines what actual values can be recorded against a cost item. Available values and impact are:

Setting	Detail
Cost	Cost and man-hours can be tracked.

Quantity	Only quantity complete can be tracked.
All	Cost, quantity equipment and man-hours can be tracked.
None	No actual transactions can be tracked.

The setting of All against all terminal cost items that will have actual transactions is the recommended setting. This will best enable calculation of earned value, cost performance tracking, forecasting and roll-up cost item percent complete.

After actual transactions have been recorded against a cost item, the Allow As-built setting cannot be changed back to None.

The Allow As-built field can be configured in Estimate prior to publish to Control or configured directly in Control.

CBS contribute qty

The CBS contribute qty setting allows child cost items to contribute to the quantity or parent cost items. In order for the cost items to contribute they must have matching units of measure.

In the example below, item 12.3.1 contributes qty to the parent where 12.3.2 does not. This structure allows for visibility of cost performance of both productive work and lost time at the terminal level and aggregate performance at the superior level.

Tasks				Tasks-Var		
<input type="checkbox"/>	CBS position	Description	WBS phase code	Forecast (T/O) qty	UoM	CBS contribute qty
<input type="checkbox"/>	12.3	Piling & anch. soil disposal		550.00	Cubic Meter	<input type="checkbox"/>
<input type="checkbox"/>	12.3.1	Piling & anch. Spoil Disposal	1079	550.00	Cubic Meter	<input checked="" type="checkbox"/>
<input type="checkbox"/>	12.3.2	Lost Time - Acces Ramp Issues	LT01	1.00	Lump Sum	<input type="checkbox"/>

This setting does not exist in Estimate and needs to be configured in Control after establishment of the project budget. This setting should be enabled prior to locking the project budget or executing a budget move so that OB and CB values reflect the correct qty, UoM and unit rates.

Qty driver

The available settings for Qty Driver are Fixed or Superior CI. The Superior CI setting for this field enables the use of superior cost item quantity to drive the qty of child cost items.

Qty driver can be established against cost items in Estimate prior to publish to Control.

Hide in Plan and Progress

Hide in Plan and Progress can be used for cost items where quantities and hours will not be tracked through these applications. This could be for cost items that will never be tracked this way, or to enable a staged release of data to Plan and Progress over the project duration. It cannot be used to hide cost items in Plan and Progress after claiming has commenced against components.

Hide in Plan and Progress is not available in Estimate and must be configured in Control.

As-built lock

When selected, As-built lock will not allow the allocation of actual costs against a cost item. Example use cases for locking ERP status include:

- work will not begin for two more years
- foreman is not allowed to claim more quantity because work is 100% complete
- work is complete and you do not want people mistakenly charging cost to completed cost items

If as-built lock is enabled for a cost item, any actual cost transactions posted via integration to the cost item will result in the API data being rejected and an error file being posted in the import register.

The As-built lock field is not available in Estimate and needs to be configured directly in Control.

Pay items

For general contractors where the project revenue is governed by an upstream client contract, the pay items represent the Contract line items against which invoices will be raised and revenue recognized.

Cost items in the CBS can be allocated to a pay item at the terminal or superior level to enable cost item progress to contribute to earned revenue on the project. This also allows for calculation of revenue forecasts. One pay item can have many cost items associated, but each cost item can have only one pay item.

Cost items can have pay item assigned at any level in the CBS, however, they should be allocated at the terminal level as far as practical. Care should be taken to ensure cost items are allocated only one time at either the terminal or superior level to avoid duplication in the calculation of earning rules for the pay item.

Not all cost items require a pay item allocation. If cost items are indirect costs and do not directly contribute to the calculation of revenue earned, they can be left unallocated. Margin and indirect cost will be tracked in the CBS but be represented in the difference between the total revenue and total cost.

Pay item type should be configured to match the head contract and revenue calculation method. Available options are Fixed Final Cost, Cost Plus and Unit Rate.

Pay items and pay item mapping can be established in InEight Estimate and published to Control or configured directly in the Control interface.

Tags and user defined fields

Tags and user defined fields are available in Estimate and Control to enable customers to reorganize project data to support additional reporting, analysis, and cross project comparisons.

Examples include:

- a tag field used to identify the cost owner. This would enable the cost owner to filter the CBS view in Control to just the required cost items.
- a Contractor that performs similar work across projects could tag discipline or commodity against a cost item to enable cross-project comparison of cost performance.

- pay item UDF used to track client pay item hierarchy. This can then be used to group and sort pay items in the pay item view.

User Defined Fields (UDF) are free text fields and Tags are pre-populated lists of values that are typically selected via a drop-down menu. There are many fields available across several entities in Control.

Entity	Available
Project	Tag x 15
CBS – cost item	Tag x 25, 15 x UDF
Pay Item	Tag x 10, UDF x 10
Resource	Tag x 3, UDF x 10
Account Code	Tag x 20, UDF x 10

Tag values will need to be established at the organization or project level in Control prior to being utilized against items. The above tag and UDFs can be configured in Estimate and published to Control with the CBS or configured directly in Control.

Change management

Change to the project budget is an inevitable consequence of project execution. The source of project change can come through several project events including:

- increase in the level of detail as project scope is clarified or detailed take-offs are completed
- budget evolving due to a phased approach to project execution e.g. construction budget defined after completion of detail design
- reactive project variations such as inclement weather requiring discrete tracking of costs for claims
- implementation of new scope due to project variation
- a change in execution methodology from subcontract to self-perform

Each of these events requires change in the form of a budget move or contract adjustments. While managing this change is not in the scope of this document, planning for change should be a part of preparing the budget and change management should be covered in budgeting standard operating procedures. The considerations listed here for establishing the budget match those required when deciding how to represent this change in new or adjusted cost items.

Detailed knowledge of the change management process in Control is also a key success factor to proper budget planning and tracking through project execution.

Publish from Estimate considerations

This section contains some of the specific considerations when publishing budget data from Estimate to Control.

Calculated cost items

Estimate allows the calculation of cost item detail using several complex structures. While these structures enable efficient calculation of the estimate value, Control does not have equivalent data structures or calculation capabilities. When publishing to Control, any of these structures must be removed from the Estimate file during the conforming process leaving cost items that are built up of either plug values or detailed resource build up.

Items that must be removed or broken down into standard cost items and resources are:

- Dependent cost items
- Cost item assemblies

Ad-hoc resources

Estimate allows the use of ad-hoc resources, that are not linked to a library resource, in the calculation of a cost item value. These items will not be imported to Control and either need to be converted to a library resource or a plug value against the cost item.

Man-hours

Man-hours published from Estimate to Control come from the resource hours allocation against terminal cost items. If the project budget does not include man-hours calculated from a detailed build-up of resources, then there are two options for the import of plug man-hour values into Control.

Create a labor resource in Estimate

To load cost items with labor hours a simple labor resource can be created and allocated against the required cost items. Quantity of hours can then be allocated against this resource. To simplify the allocation of the resource and hours qty, Excel upload can be utilized into Estimate.

On publish, the resource and hours will be imported with the budget into Control.

Import man-hours direct to Control

Excel import into the Control interface can also be used to upload hours against terminal cost items without requiring a resource buildup. The budget structure and associated data can be imported from Estimate to Control and then the interface upload can be used to allocate man-hours as required.

Productivity factor

Productivity factor can be used in Estimate to calculate partial resource utilization. While the productivity factor value will import to Control on publish, this value will not be used in the calculation of man-hours. Resources need to be updated in Estimate to reflect the actual budgeted man-hours that are required for the cost item in Control.

Organization level CBS tags

Several tag fields in Control are organization level validated fields. If tags are required with the imported data from Estimate the tag values must be established in Core at the organization level prior to import. If the tags are not populated in Core the imported data will leave these fields blank.

The tag fields are:

- Job Folder Tag 8
- CBS Tag 9
- CBS Tag 11
- CBS Tag 12
- CBS Tag 20

Pay item configuration

Pay item configuration and mapping will import from Estimate to Control. As such, the pay items should be configured to the extent required in control. Key fields that should be properly configured in Estimate prior to publish are:

- Payment method
- Forecast T/O Qty
- Pay Item Number
- UoM
- Pay Quantity
- Unit Price and Total Price
- Any user defined fields and tags

Functional tips and tricks for conforming the estimate

This section is designed to provide users who will be utilizing Estimate solely to conform project budgets in preparation for project execution a basic understanding of the general navigation and common functions performed during the conformance process. Wherever possible, we have linked to the knowledge library to provide supplemental step by step instructions.

Strategy

In many cases, estimates are not organized exactly as work to be executed in the field. Because of this, many customers will conform their estimates to a structure that is consistent with how the work will be performed and measured. There are many ways in which you can do this, but they fall into a few broad categories:

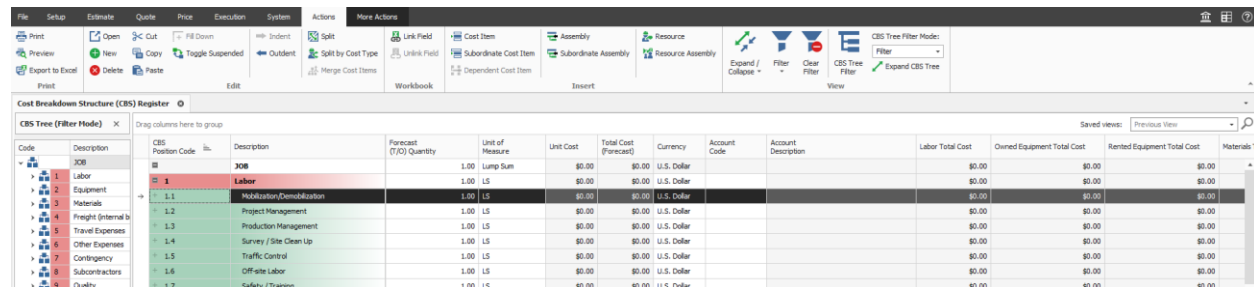
- Summarizing the estimate details into logical work groupings
 - This typically involves combining costs, quantities and work hours for work activities and resources.
- Breaking the estimate structure out into more detail. For example: to track progress by area

- Components can be used in the Plan and Progress applications to track progress at a more granular level, so it is a good idea to understand those capabilities ahead of time.
- Aligning the estimate data with an Account Code structure
 - Typically, many cost items are summarized into a single account code. For example, this allows for an estimate with 1000's of lines of detail to be summarized into a manageable list of dozens of Accounts.
- Conforming major materials from Resources used in Estimate to Cost Items in Control
 - Control provides earned value metrics and forecasting for cost items.
 - Resources in Control can contribute to budgeted and actual costs, but the earned value metrics and forecasting capabilities are only available on cost items.

InEight Estimate General Navigation

See [General Navigation](#) for a guide to accessing Estimate for the first time. When you open an Estimate you will open to the Cost Breakdown Structure (CBS), which is where you will perform most of the conformance steps. The CBS is what publishes from Estimate to Control.

Estimate is designed to function like Microsoft products with a menu ribbon and functions along the top. From within the Cost Breakdown Structure, the Actions tab contains most the functions you will need for conforming. It's important to note if you navigate to different Registers the options on the Actions tab will change.



Code	Description	Forecast (70) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency	Account Code	Account Description	Labor Total Cost	Owned Equipment Total Cost	Rented Equipment Total Cost	Materials
1	Labor	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.1	Mobilization/De-mobilization	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.2	Project Management	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.3	Production Management	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.4	Survey / Site Clean Up	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.5	Traffic Control	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.6	Off-site Labor	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00
1.7	Safety / Training	1.00	LS	\$0.00	\$0.00	U.S. Dollar			\$0.00	\$0.00	\$0.00	\$0.00

The CBS within Estimate works a bit different than it does in Control in that there are no data blocks for setting up views. This is because data in the columns does not need to be duplicated for time slicing, forecast comparisons etc. like it often does in Control. You can customize and save views by adding/removing/moving columns, filtering, grouping by, or using the CBS Tree. See [Columns](#) for a step by step instructions to setup and save views.

Cost Item Basics

The CBS is a hierarchical structure where costs and resource details only reside at the lowest level of the structure, those items are called terminal. Is Terminal is a column that can be brought into your view and filtered to *True* if you want to only see the terminal cost items. All parent level cost items are a roll up of the terminal cost below. By default, quantities do not roll up to the parent cost items as they might not be the same unit of measure or might be duplicates of the same quantity. For example, CY of concrete to install and CY of concrete to purchase.

Each terminal cost item carries a value based on the cost source. The cost source could be Plug, Detail, or Quote. The cost item can have values for all three but will only show the cost based on the option that is entered for cost source, and that value is what will send to Control when an estimate is published.

Dependent cost items ([InEight Learn: Dependent Cost Items](#)) have neither detail, plug or quote as the cost source and rather derive their value from a dependency on other values in the estimate which enables them to dynamically change as an estimator finalizes the estimate. Dependent items can be published to Control, but after it is in Control a user needs to change the cost source to plug for any cost/budget to show up on the cost item in Control.

Preparation

Many customers create a copy of the estimate (preserving the original) to conform the estimate.

Prior to beginning the conformance process on an estimate, it is a suggested best practice to create an archive of the estimate, and to ensure the PBS Changes Log is active. The PBS Changes Log will capture changes by user, time, and Job Status, so another best practice would be to create a job status of Conform Estimate (or similar) to isolate any changes made to the overall price or cost of the estimate during this process.

While most customers will want to restructure the estimate to some extent, seldom do they want their budgets to change, and the PBS Changes Log can help identify any areas where this might have inadvertently happened. The estimate archive can be restored at any point in time to revert to the state of the estimate prior to beginning the conformance process.

Moving cost items

Moving cost items in Estimate works by dragging and dropping and/or cutting and pasting. The key is where you select the cost item to start dragging and how the cursor changes to indicate where it will be dropped. It is best to select the cost item by clicking and holding on the CBS position code cell. Selecting anywhere else on the cost item row could activate that cell to be edited. After you have a cost item selected and start dragging it, you will notice the cursor changes.

The symbol with three equal bars will drop the cost item at the same level as the cost item you drop it on.



The symbol with a subordinate bar will make the cost item become a subordinate to the one you drop it on.



Similarly, pasting (Ctrl+V) items which have been Cut (Ctrl + X) by selecting a parent cost item will result in the pasted items becoming subordinate (i.e., “children”) to the selected item.

If you drop a cost item under an already terminal cost item as a subordinate (second option above) an error message will pop up letting you know that action will make the previously terminal cost item a

superior and all resource employments will be lost. This is not typically desired as that will remove cost from the estimate. Instead, consider adding a new parent cost item and drag both terminal items under it to keep all cost intact.

Splitting Cost items

Often during conformance, you will want to split cost items either to separate areas/sections of work or to separate cost types such as labor and material.

You can split cost items two ways. The first is into equal parts – [Split Cost Items into parts](#). This will duplicate the cost item by the number of parts entered and evening distribute the Forecast T/O qty. While you can adjust the forecast T/O qty for each new cost item after it has been split, it is important to ensure that all of the original quantities have been accounted for on the split items.

The second way to split cost items is by cost type – [Split by Cost Type](#). This will create a new cost item for each cost type (labor, material, eqp, etc.) that had value on the original cost item. This is helpful to use with the next functional tactic of merging cost items. Often you will want to split all material cost out and then use the next method to merge like materials.

Combining cost items

Cost items can be combined using the merge cost items feature. This feature works on superior cost items that only have terminal cost items below. If you are trying to merge at a higher level in your CBS, then you will need to take additional steps starting at the lowest superior level of the structure and working your way up. After you merge cost items, all subordinate cost items quantities, costs, productivity rates and crew compositions are combined into a single parent cost item. To merge cost items from different locations in the CBS, first move them under a single superior cost item.

[Merge Cost Items](#)

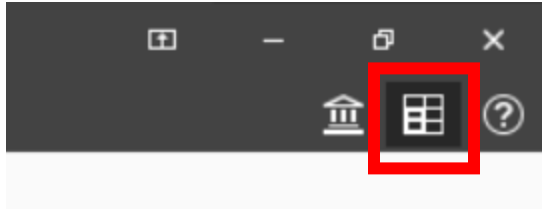
It is important to pay attention to the selected options before merging as there is no undo button. Selecting "Use total duration to calculate production details" will keep the Hours/Man Hours total the same.

Cost Categories – making changes (plug vs detail cost items)

If the cost category where budgeted costs lands after being published to Control is of significance to your organization, then you might need to adjust some of the cost categories.

For Plug cost items you can setup a view with each of the top-level cost categories as a column and you can use the block selector to copy/paste cost from one column to another. Pasting into the top-level cost category will, by default, put the cost into the undefined bucket for that cost category. If you need cost in a specific lower-level cost category, then you will need to open each plug cost item to move it.

The Block Select tool is a button at the top right of the Estimate program. Activating this button will change the way your cursor behaves to function more like Excel allowing you to select multiple cells and copy/paste with ease. When this tool is activated, you will notice your cursor changes to a + icon. You can toggle this function on and off by clicking on it.



For Detail Cost Items that have resources employed, you can change the cost category where the costs reside by editing the resource cost. Navigate to the Setup Tab > Resources > Labor, which opens all resources. After it is in the Resource Rate Register, the Actions menu will have an option for Resource Cost Details. Enter the Resource Cost Details Register to see all the cost categories for every resource.

Also, summary totals for each of the individual cost category nodes driven by resource employments can be viewed in the Resource Utilization Register. This would allow, for instance, a reportable project total for labor subsistence that might be built in as part of the labor rate, to be isolated and moved to another cost category that could be more aligned with how actual costs will hit the budget. When performing an operation like this, it is important to remove the originally calculated cost from each resource's rate build up to avoid doubling this amount in your budget.

It is recommended to set up saved views in this register as there are many columns. You can bring in the column Utilization Count to filter to see only the resources currently utilized in the estimate. In this register you can use the block select tool to copy and paste from one cost category to another (at all levels of the cost category hierarchy). Each of the 128 cost categories is an available column so you need to be careful you are not copy/pasting into conflicting levels of the cost category hierarchy. To easily see the cost category hierarchy, navigate to any terminal cost item and open the Plug Tab to expand the hierarchy levels.

Changing any of the resource cost details will automatically update all cost items that have those resources employed.

Updating resources – resource assemblies

Resource assemblies are used often in estimating to make up crews, group materials that are purchased together, and combine labor with equipment for equipment intensive operations. Assemblies can be changed quickly and used to update the cost items wherever they are employed. For example, if all equipment needs to be in separate cost codes from Labor for project execution you can create new equipment cost items, add in the individual equipment resources and utilization, then remove the equipment from the labor resource assemblies.

To edit Resource assemblies, navigate to the Setup tab > Resource Assemblies. This will open the Resource Assembly Register. You can select any row by double-clicking the small arrow to the left of the row. This will open the Resource assembly record where you can adjust the resources included by removing or adding resources.

When you make a change to a resource assembly that is already employed, you will need to navigate to the CBS Register > More Actions tab > Batch Operations > Update > Update Crew Resource Assembly employments for those changes to be reflected on the cost items. The second option allows you to

overwrite any edits to assemblies that were made directly on the cost item, making them unique from the library assembly.

Swapping Resources

Swapping Resources –

Another option for adjusting resources is to simply swap one resource code or assembly out for another. For a step by step guide to performing this function see: [Swap Resources](#)

Use caution when updating Resource Assemblies or swapping Resources as these changes can affect costs, and ultimately the budgets that were created as a part of the estimating process.

Populating Data quickly – opening multiple cost items

When making mass edits to the CBS structure, you can utilize the block select method or you can multi-select cost items, and then right-click > **Open to edit multiple cost items all at once**. This opens one cost item record that shows varies for any field that is unique to each cost item. This method is helpful for applying tags, changing the cost source, or other functions that you want to do to multiple cost items at the same time.

Consolidate Estimated Resources to a new Cost Item

The following methods can be used to take Estimated Resources that are spread throughout the cost items and add them to a new cost item.

Typical examples of this include Materials, Rented Equipment, Construction Equipment and Supplies, but these methods can be used in many other ways.

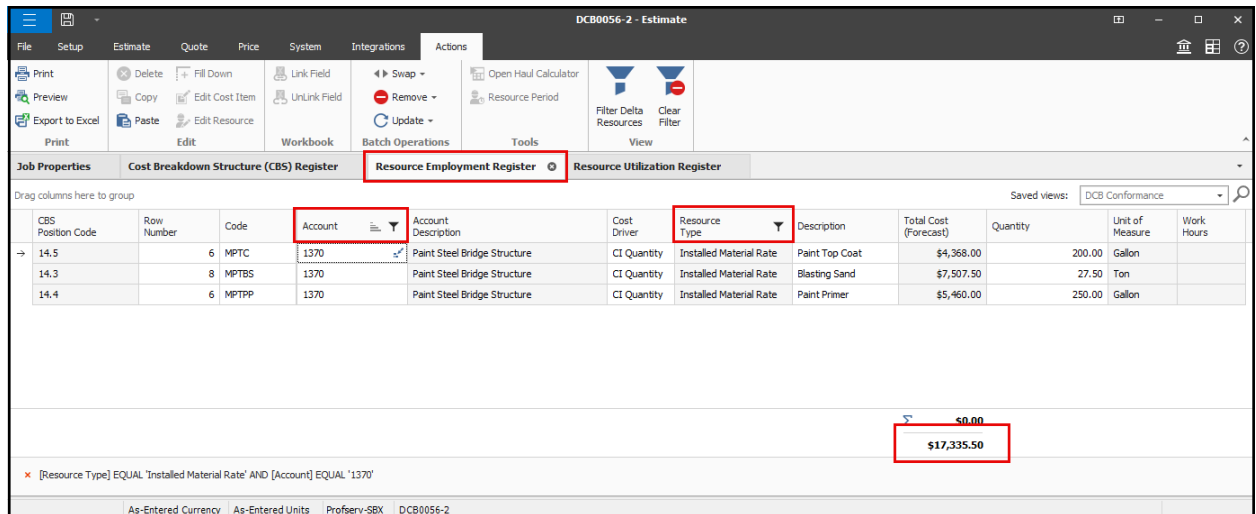
Plug Cost Item: This method is used for creating new cost items based on estimated resources total cost and quantities if applicable.

1. Using both the Resource Employment Register and the Resource Utilization Register filter to the Resource Type that will be consolidated.

Resource Type: Installed Materials

Account: 1370 Paint Steel Bridge Structure

Resource Employment Register

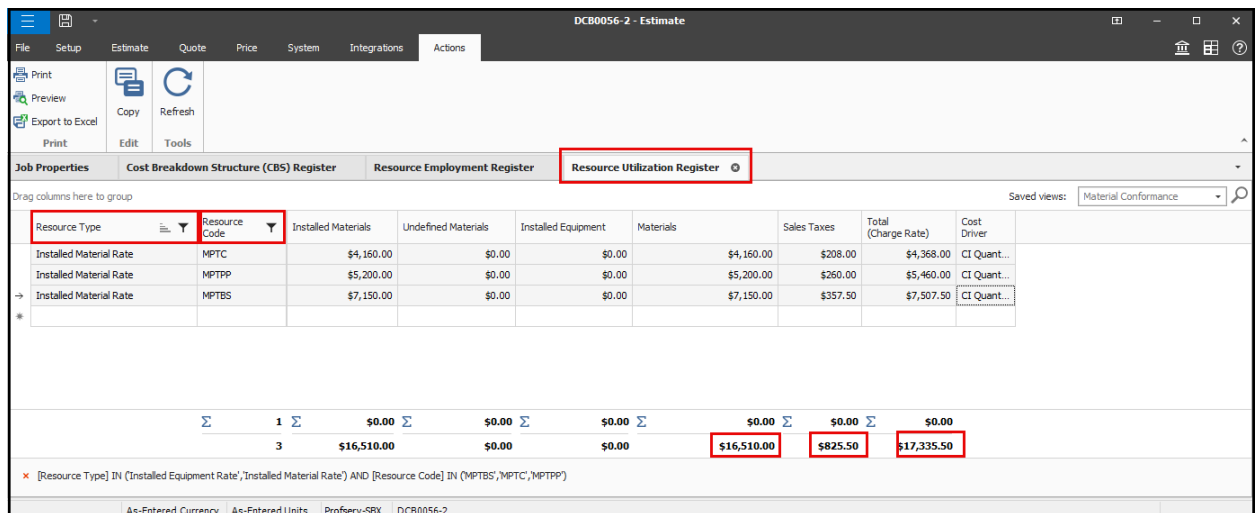


CBS Position Code	Row Number	Code	Account	Account Description	Cost Driver	Resource Type	Description	Total Cost (Forecast)	Quantity	Unit of Measure	Work Hours
14.5	6	MPTC	1370	Paint Steel Bridge Structure	CI Quantity	Installed Material Rate	Paint Top Coat	\$4,368.00	200.00	Gallon	
14.3	8	MPTBS	1370	Paint Steel Bridge Structure	CI Quantity	Installed Material Rate	Blasting Sand	\$7,507.50	27.50	Ton	
14.4	6	MPTTP	1370	Paint Steel Bridge Structure	CI Quantity	Installed Material Rate	Paint Primer	\$5,460.00	250.00	Gallon	
								\$0.00			
								\$17,335.50			

× [Resource Type] EQUAL 'Installed Material Rate' AND [Account] EQUAL '1370'

As-Entered Currency As-Entered Units Profserv-SBX DCB0056-2

Resource Utilization Register



Resource Type	Resource Code	Installed Materials	Undefined Materials	Installed Equipment	Materials	Sales Taxes	Total (Charge Rate)	Cost Driver
Installed Material Rate	MPTC	\$4,160.00	\$0.00	\$0.00	\$4,160.00	\$208.00	\$4,368.00	CI Quant...
Installed Material Rate	MPTTP	\$5,200.00	\$0.00	\$0.00	\$5,200.00	\$260.00	\$5,460.00	CI Quant...
Installed Material Rate	MPTBS	\$7,150.00	\$0.00	\$0.00	\$7,150.00	\$357.50	\$7,507.50	CI Quant...
		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
		\$16,510.00	\$0.00	\$0.00	\$16,510.00	\$825.50	\$17,335.50	

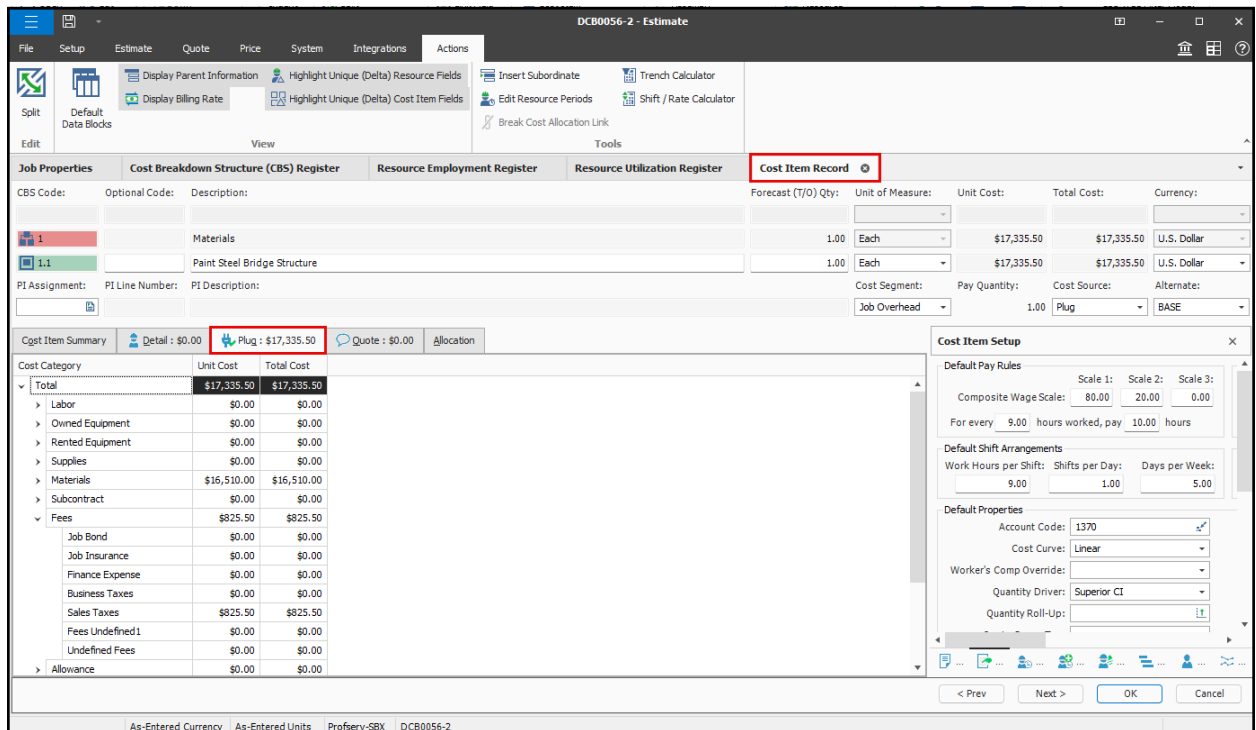
× [Resource Type] IN ('Installed Equipment Rate','Installed Material Rate') AND [Resource Code] IN ('MPTBS','MPTC','MPTTP')

As-Entered Currency As-Entered Units Profserv-SBX DCB0056-2

- In the CBS Register add a new Cost Item for the consolidated materials.
 - Enter the Total Cost based on the Cost Categories
 - If consolidating a Labor Code, then a general Plug Labor Resource can be used for the hours.

Plug Labor Resource with no rate, default qty of 1

Hours are entered into the Production Tab of the Resource



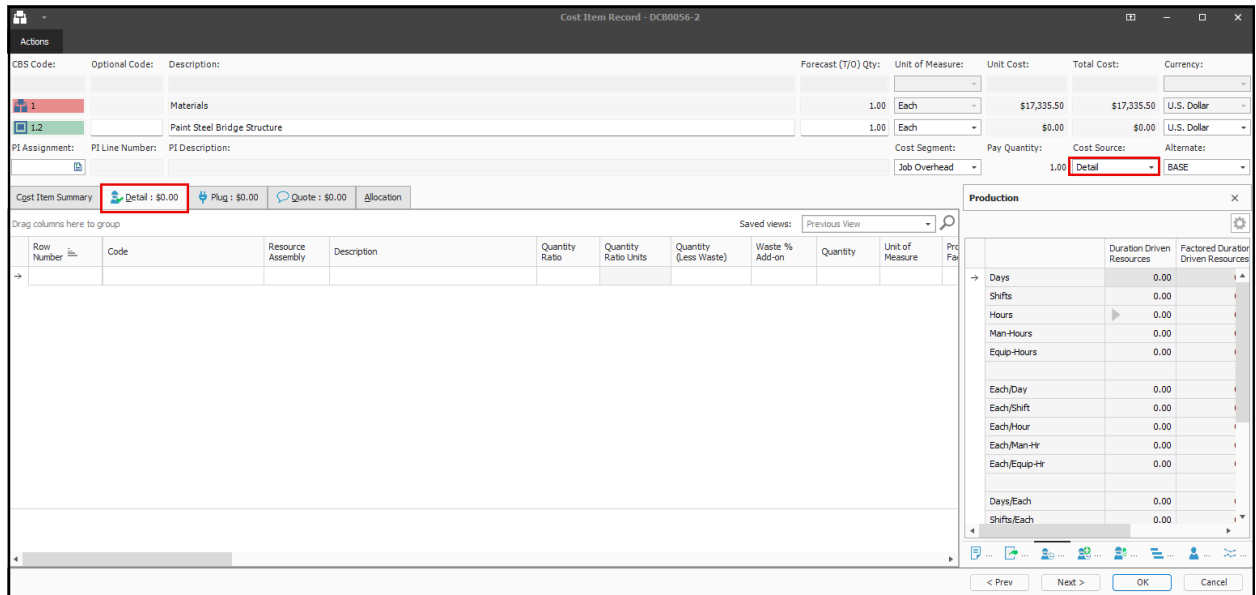
3. In the Resource Employment Register

Filter to the same set of Estimated Resources and delete them from the register, the cost is now accounted for in the new Plug Cost Item.

Detail Cost Item: This method is used for creating new cost items based on estimated resources quantities, if applicable. The Estimated Resources will be added to the new cost item and the details of the estimate will be available in Control.

1. In the CBS Register add a new cost item for the consolidated resources.

- Drag this tab into its own window to make it easier to switch between multiple screens
- Set the Cost Source to Detail

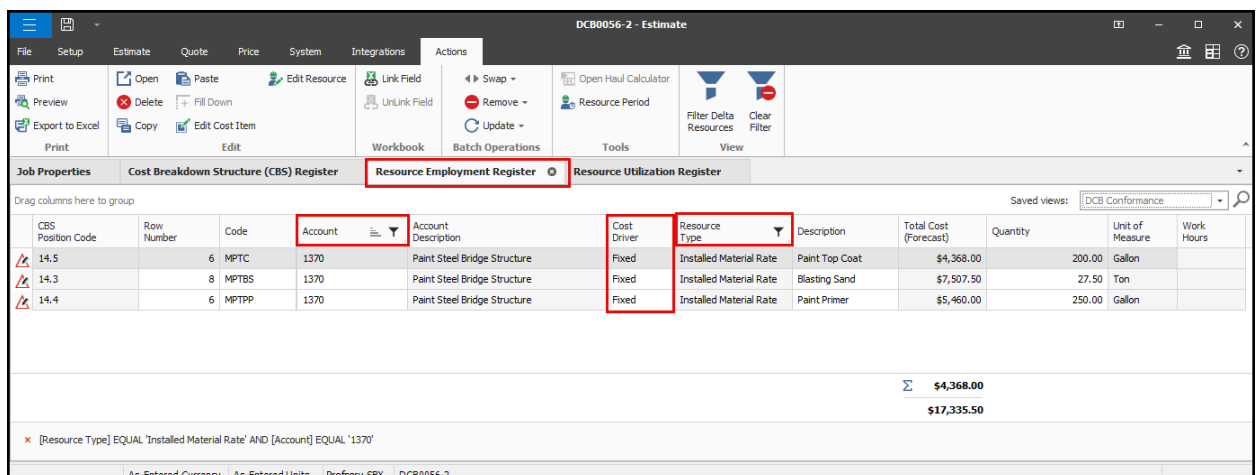


- In the Resource Employment Register, filter to the resource type that will be consolidated.

Resource Type: Installed Materials

Account: 1370 Paint Steel Bridge Structure

- Change the cost driver to *Fixed* for each of the resources. Change the first record to *Fixed*, copy the value, select all the rows, right-click on *Fixed*, and then select Fill Down.
- Select and copy the records.



CBS Position Code	Row Number	Code	Account	Account Description	Cost Driver	Resource Type	Description	Total Cost (Forecast)	Quantity	Unit of Measure	Work Hours
14.5	6	MPTC	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Top Coat	\$4,368.00	200.00	Gallon	
14.3	8	MPTBS	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Blasting Sand	\$7,507.50	27.50	Ton	
14.4	6	MPTTP	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Primer	\$5,460.00	250.00	Gallon	
								\$4,368.00			
								\$17,335.50			

* [Resource Type] EQUAL 'Installed Material Rate' AND [Account] EQUAL '1370'

- On the new cost item, paste the copied estimated resources into the Details tab.

Cost Item Record - DCB0056-2

Actions

CBS Codes: Optional Codes: Descriptions: Forecast (T/O) Qty: Unit of Measure: Unit Cost: Total Cost: Currency:

1 Materials 1.00 Each \$34,671.00 \$34,671.00 U.S. Dollar

1.2 Paint Steel Bridge Structure 1.00 Each \$17,335.50 \$17,335.50 U.S. Dollar

PI Assignment: PI Line Number: PI Description: Cost Segment: Pay Quantity: Cost Source: Alternate:

Job Overhead 1.00 Detail BASE

Cost Item Summary Detail: \$17,335.50 Plug: \$0.00 Quote: \$0.00 Allocation

Production

Row Number	Code	Resource Assembly	Description	Quantity Ratio	Quantity Ratio Units	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Pr. Fa.
1	MPTC		Paint Top Coat			200.00	0.00	200.00	Gallon	
2	MPTBS		Blasting Sand			27.50	0.00	27.50	Ton	
3	MPTTP		Paint Primer			250.00	0.00	250.00	Gallon	

Days 0.00
Shifts 0.00
Hours 0.00
Man-Hours 0.00
Equip-Hours 0.00
Each/Day 0.00
Each/Shift 0.00
Each/Hour 0.00
Each/Man-Hr 0.00
Each/Equip-Hr 0.00

- In the Resource Employment Register, delete the estimated resources not associated to the new cost item.

DCB0056-2 - Estimate

File Setup Estimate Quote Price System Integrations Actions

Print Open Paste Edit Resource Link Fields Swap Open Haul Calculator Filter Delta Resources Clear Filter

Preview Delete Fill Down UnLink Field Remove Update Batch Operations Tools View

Export to Excel Print Copy Edit Cost Item Edit Workbook

Job Properties Cost Breakdown Structure (CBS) Register **Resource Employment Register** Resource Utilization Register

Drag columns here to group Saved views: DCB Conformance

CBS Position Code	Row Number	Code	Account	Account Description	Cost Driver	Resource Type	Description	Total Cost (Forecast)	Quantity	Unit of Measure	Work Hours
1.2	3	MPTTP	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Primer	\$5,460.00	250.00	Gallon	
1.2	2	MPTBS	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Blasting Sand	\$7,507.50	27.50	Ton	
1.2	1	MPTC	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Top Coat	\$4,368.00	200.00	Gallon	
14.3	8	MPTBS	1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Blasting Sand	\$7,507.50	27.50	Ton	
14.4			1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Primer	\$5,460.00	250.00	Gallon	
14.5			1370	Paint Steel Bridge Structure	Fixed	Installed Material Rate	Paint Top Coat	\$4,368.00	200.00	Gallon	
								\$17,335.50			
								\$34,671.00			

Account EQUAL '1370'

Units Profserv-SBX DCB0056-2

DCB0057 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Export to Excel New Copy Delete Cut Paste Toggle Suspended Indent Outdent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Dependent Cost Item Assembly Subordinate Assembly Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter CBS Tree Filter Expand CBS Tree

Cost Breakdown Structure (CBS) Register Resource Utilization Register Cost Item Record Job Properties

CBS Tree (Filter Mode) Drag columns here to group

Code	Description	CBS Position Code	Description	Unit Cost	Total Cost (Forecast)	Currency	Labor Total Cost	Hours (Duration driven)	Hours (Total)	Owned Equipment Total Cost
1	General Conditions			\$5,300,646.06	\$5,300,646.06	U.S. Dollar	\$843,850.79	4,643.99	4,643.99	\$888,742.49
2	Materials			\$12,453.85	\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
3	Subcontracts			\$2,310,048.86	\$2,310,048.86	U.S. Dollar	\$19,210.52	193.60	193.60	\$15,052.80
4	Equipment			\$110,600.00	\$110,600.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
5	Direct Labor			\$0.00	\$0.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
6				\$2,867,543.35	\$2,867,543.35	U.S. Dollar	\$821,646.41	4,370.39	4,370.39	\$864,729.69
Σ	1			\$0.00	\$0.00		\$0.00	0.00	0.00	\$0.00
Σ	6			\$5,300,646.06	\$5,300,646.06		\$843,850.79	4,643.99	4,643.99	\$888,742.49

As-Entered Currency As-Entered Units Profserv-SBX DCB0057

- In the Estimate file grouped by account code, expand the first account code. If there is only one cost item, copy and paste it into the applicable location in the conformance project.

DCB0056-1 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Export to Excel Open New Copy Delete Cut Paste Toggle Suspended Indent Outdent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Dependent Cost Item Assembly Subordinate Assembly Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter CBS Tree Filter Expand CBS Tree

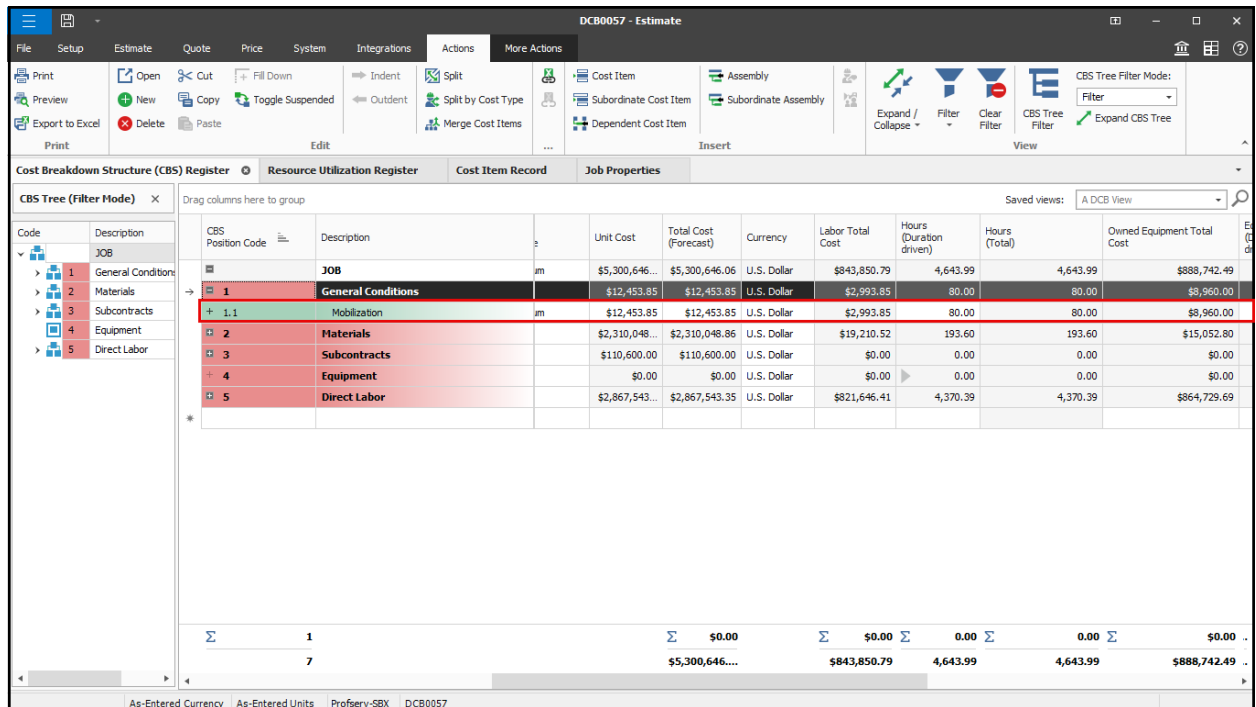
Cost Breakdown Structure (CBS) Register Cost Item Record Resource Employment Register Cost Item Record

Account Code

Saved views: Previous View

Account Code	CBS Position Code	Description	Account Description	Is Ter...	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
Unassigned	21								\$81,317,926.00	
1020 (Mobilization)	1					1.00			\$12,453.85	
1020	1	Mobilization	Mobilization	<input checked="" type="checkbox"/>	641 0100	1.00	Lump Sum	\$12,453.85	\$12,453.85	U.S. Do
1110 (Clearing and Grubbing)	1					10.00			\$42,214.43	
1120.100 (Furn and Haul Base Material)	1					45,000.00			\$524,412.32	
1120.200 (Place Aggregate Base)	2								\$114,108.52	
1122.100 (Excavation)	1					50,000.00			\$158,686.22	
1122.200 (Embankment)	1					50,000.00			\$91,735.81	
1180 (Finegrade Subgrade)	1					400,000.00			\$88,540.00	
1240.100 (Furnish and Haul Asphalt Concrete)	1					35,000.00			\$1,482,144.81	
1240.200 (Install Asphalt Concrete)	1					35,000.00			\$132,493.39	
1330 (Steel Reinforcement)	2					60,000.00			\$44,524.46	
1340 (Retaining Wall)	6								\$0.00	
Σ	1					1.00			\$12,453.85	
Σ	96								\$86,584,57...	

As-Entered Currency As-Entered Units Profserv-SBX DCB0056-1



Code	Description	CBS Position Code	Unit Cost	Total Cost (Forecast)	Currency	Labor Total Cost	Hours (Duration driven)	Hours (Total)	Owned Equipment Total Cost
1	General Conditions			\$5,300,646.06	U.S. Dollar	\$843,850.79	4,643.99	4,643.99	\$888,742.49
2	Materials			\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
3	Subcontracts			\$110,600.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
4	Equipment			\$0.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
5	Direct Labor			\$2,867,543.35	U.S. Dollar	\$821,646.41	4,370.39	4,370.39	\$864,729.69
1.1	Mobilization			\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
2	Materials			\$2,310,048.86	U.S. Dollar	\$19,210.52	193.60	193.60	\$15,052.80
3	Subcontracts			\$110,600.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
4	Equipment			\$0.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
5	Direct Labor			\$2,867,543.35	U.S. Dollar	\$821,646.41	4,370.39	4,370.39	\$864,729.69
Σ	1			\$0.00		\$0.00	0.00	0.00	\$0.00
	7			\$5,300,646.06		\$843,850.79	4,643.99	4,643.99	\$888,742.49

4. For account codes that have multiple cost items, a parent cost item can be added to the conformance project, and then the cost items from the Estimate project can be pasted as subordinates.
 - Use the Merge option to create one cost item for that account code.

Conformance by Account Codes

Some customers might have the need to conform the Estimate CBS structure to match a standard account code structure. The following steps provide instructions for completing this task. This method assumes account codes were properly assigned by the estimators. If account codes have not already been assigned to all terminal cost items that would need to be done first.

1. Open a copy of the Estimate Project that will be used for reference. Group by Account Code in the CBS register.

DCB0056-1 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Open New Cut Copy Paste Toggle Suspended Indent Outdent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Subordinate Assembly Dependent Cost Item Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter Expand CBS Tree

Cost Breakdown Structure (CBS) Register Cost Item Record Resource Employment Register Cost Item Record

Account Code

Saved views: Previous View

Account Code	CBS Position Code	Description	Account Description	Is Ter...	Optional Code	Forecast (T/D) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
Unassigned	21								\$81,317,926...	
1020 (Mobilization)	1					1.00			\$12,453.85	
1110 (Clearing and Grubbing)	1					10.00			\$42,214.43	
1120.100 (Furn and Haul Base Material)	1					45,000.00			\$524,412.32	
1120.200 (Place Aggregate Base)	2								\$114,108.52	
1122.100 (Excavation)	1					50,000.00			\$158,686.22	
1122.200 (Embankment)	1					50,000.00			\$91,735.81	
1180 (Finegrade Subgrade)	1					400,000.00			\$88,540.00	
1240.100 (Furnish and Haul Asphalt Concrete)	1					35,000.00			\$1,482,144.81	
1240.200 (Install Asphalt Concrete)	1					35,000.00			\$132,493.39	
1330 (Steel Reinforcement)	2					60,000.00			\$44,524.46	
1340 (Retaining Wall)	6								\$0.00	
1340.100 (Furnish Retaining Wall Materials)	1					850.00			\$125,719.65	
	21								\$81,317,926...	
	96								\$86,584,57...	

As-Entered Currency As-Entered Units Profserv-SBX DCB0056-1

- Create a Conformance Estimate file, where items from the original estimate will be copied to.
 - Be sure all job properties and settings match the original Estimate file.
 - Create any initial CBS structure that is needed to organize your cost structure, such as General Conditions, Direct Labor, Material and Subcontracts.

DCB0057 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Open New Copy Paste Toggle Suspended Indent Outdent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Subordinate Assembly Dependent Cost Item Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter Expand CBS Tree

Cost Breakdown Structure (CBS) Register Resource Utilization Register Cost Item Record Job Properties

CBS Tree (Filter Mode)

Drag columns here to group

Saved views: A DCB View

Code	Description	CBS Position Code	Description	Unit Cost	Total Cost (Forecast)	Currency	Labor Total Cost	Hours (Duration driven)	Hours (Total)	Owned Equipment Total Cost
1	General Conditions			\$5,300,646...	\$5,300,646.06	U.S. Dollar	\$843,850.79	4,643.99	4,643.99	\$888,742.49
2	Materials			\$12,453.85	\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
3	Subcontracts			\$2,310,048...	\$2,310,048.86	U.S. Dollar	\$19,210.52	193.60	193.60	\$15,052.80
4	Equipment			\$110,600.00	\$110,600.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
5	Direct Labor			\$0.00	\$0.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
				\$2,867,543...	\$2,867,543.35	U.S. Dollar	\$821,646.41	4,370.39	4,370.39	\$864,729.69
					\$0.00		\$0.00	0.00	0.00	\$0.00
					\$5,300,646...		\$843,850.79	4,643.99	4,643.99	\$888,742.49

As-Entered Currency As-Entered Units Profserv-SBX DCB0057

- In the Estimate file grouped by account code, expand the first account code. if there is only one cost item, copy and paste it into the applicable location in the conformance project.

DCB0056-1 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Open New Cut Copy Paste Toggle Suspended Outdent Indent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Subordinate Assembly Dependent Cost Item Assembly Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter Expand CBS Tree

Cost Breakdown Structure (CBS) Register Cost Item Record Resource Employment Register Cost Item Record

Account Code Saved views: Previous View

Account Code	CBS Position Code	Description	Account Description	Is Ter...	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
Unassigned	21								\$81,317,926...	
1020 (Mobilization)	1					1.00			\$12,453.85	
+ 1020	1	Mobilization	Mobilization	✓	641 0100	1.00	Lump Sum	\$12,453.85	\$12,453.85	U.S. Do
1110 (Clearing and Grubbing)	1					10.00			\$42,214.43	
1120.100 (Furn and Haul Base Material)	1					45,000.00			\$524,412.32	
1120.200 (Place Aggregate Base)	2								\$114,108.52	
1122.100 (Excavation)	1					50,000.00			\$158,686.22	
1122.200 (Embankment)	1					50,000.00			\$91,735.81	
1180 (Finegrade Subgrade)	1					400,000.00			\$88,540.00	
1240.100 (Furnish and Haul Asphalt Concrete)	1					35,000.00			\$1,482,144.81	
1240.200 (Install Asphalt Concrete)	1					35,000.00			\$132,493.39	
1330 (Steel Reinforcement)	2					60,000.00			\$44,524.46	
1340 (Retaining Wall)	6								\$0.00	
Σ	1					Σ 1.00			Σ \$12,453.85	
	96								\$86,584,57...	

* [Is Terminal] EQUAL True

As-Entered Currency As-Entered Units Profserv-SBX DCB0056-1

DCB0057 - Estimate

File Setup Estimate Quote Price System Integrations Actions More Actions

Print Preview Open New Cut Copy Paste Toggle Suspended Outdent Indent Split Split by Cost Type Merge Cost Items Cost Item Subordinate Cost Item Subordinate Assembly Dependent Cost Item Assembly Expand / Collapse Filter Clear Filter CBS Tree Filter Mode: Filter Expand CBS Tree

Cost Breakdown Structure (CBS) Register Resource Utilization Register Cost Item Record Job Properties

CBS Tree (Filter Mode) X Drag columns here to group Saved views: A DCB View

Code	Description	CBS Position Code	Description	Unit Cost	Total Cost (Forecast)	Currency	Labor Total Cost	Hours (Duration driven)	Hours (Total)	Owned Equipment Total Cost
1	General Conditions			\$5,300,646...	\$5,300,646.06	U.S. Dollar	\$843,850.79	4,643.99	4,643.99	\$888,742.49
+ 1	Mobilization			\$12,453.85	\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
+ 1.1	General Conditions			\$12,453.85	\$12,453.85	U.S. Dollar	\$2,993.85	80.00	80.00	\$8,960.00
2	Materials			\$2,310,048...	\$2,310,048.86	U.S. Dollar	\$19,210.52	193.60	193.60	\$15,052.80
3	Subcontracts			\$110,600.00	\$110,600.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
4	Equipment			\$0.00	\$0.00	U.S. Dollar	\$0.00	0.00	0.00	\$0.00
5	Direct Labor			\$2,867,543...	\$2,867,543.35	U.S. Dollar	\$821,646.41	4,370.39	4,370.39	\$864,729.69
Σ	1			Σ \$0.00	Σ \$0.00		Σ \$0.00	Σ 0.00	Σ 0.00	Σ \$0.00
	7				\$5,300,646...		\$843,850.79	4,643.99	4,643.99	\$888,742.49

As-Entered Currency As-Entered Units Profserv-SBX DCB0057

- For account codes that have multiple cost items, a parent cost item can be added to the conformance project, and then the cost items from the Estimate project can be pasted as subordinates.

Use the Merge option to create one cost item for that account code.

Assign Phase Codes

Note: this step can be done either in Estimate, or in Control.

Control uses a data field called WBS Phase Code, which is the unique identifier for that cost item, and this is how that cost item is referenced across the InEight cloud platform (e.g., in Plan, Progress, Contract, Change, etc.). While there are capabilities within Control to assign these automatically as sequential numeric values, some customers choose to use WBS Phase Codes that provide a bit more context on the task, for example Conc-Pour-Area1-001 could be the WBS phase code for the first activity related to pouring concrete in Area 1 of the project.

The Phase Code column in Estimate maps to the WBS Phase Code field in Control when publishing data from Estimate to Control. There is a project setting in Control that determines whether the phase codes are automatically generated or not.

If needed, the Phase Code column can be populated in Estimate prior to publishing the data to Control. In both Estimate and Control, phase codes must be unique values or the system will enforce uniqueness.

Choose where costs and quantities will be captured during execution

Note: this step can be done either in Estimate or in Control.

Control has settings that determine where costs, quantities and hours can be entered during project execution. For instance, an organization might want to charge hours and costs to a high-level parent item (e.g., Electrical), but want installation quantities recorded at a subordinate child item to drive a percent complete to the parent. For example, there was eight hours of work done on Electrical (parent), and installed xx feet of conduit, terminated yy connections, and installed zz cable trays (children).

If needed, the Allow As-Built field can be populated in Estimate prior to publishing the data to Control. Similarly, this data field can be populated in Control after the data has been published. The options in the Allow As-Built field include All, None, Costs, and Quantities. Logic has been created to prevent data entry at competing levels (e.g., if a subordinate item is set to All the parent automatically reverts to None.)