



## Explore API Documentation

# SelfService\_Estimate\_CostItemProductions

Version 1.0

Last Modified: 11/14/2023

Last Modified By: Aaron Cohen

## Change Log

This changelog only contains significant or notable changes to the revision. Any editorial type changes or minor changes are not included.

Revision	Change Date	Description	Modified By
1.0	6/6/2022	Initial draft	Aaron Cohen

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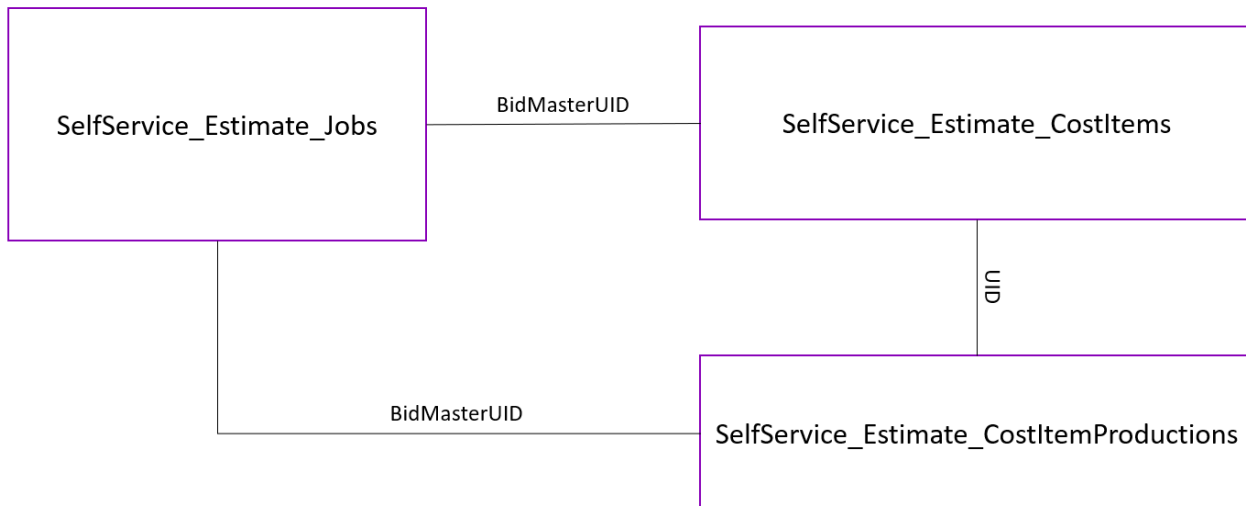
## Overview

The **SelfService\_Estimate\_CostItemProductions** API is one of multiple APIs comprising the data contained in the Estimate Cost Item entity. A Cost Item is an item representing an activity for a scope of work being estimated. It is commonly a collection of resource employments, labor, equipment, material, etc., whose quantities are related to the amount or work or duration of the activity. The total cost of a Cost Item can be based on its detailed resource employments, or it can be a plug cost, or it can be determined from the proportional amount of an awarded quote. Cost Items have a position in a hierarchy of costs, all of which roll up to the Job level, which is the top level cost item representing the projects total estimated cost. Terminal level cost items are where all the costs in an estimate exist, either as detailed, plugged or quoted costs, and superior cost items are cost items having subordinate and/or terminal cost items belonging to them. Superior Cost Items do not contribute to the cost of the estimate but rather roll up the costs of all cost items belonging to them.

Data fields included in the **SelfService\_Estimate\_CostItemProductions** are the Productivity values found on the Production datablock and in the CBS Register as well as the Man Hour Factors found on the Man-Hour Factors datablock for Cost Item records.

## Relationships and Dependencies

From: Table	To: Table	Relationship	Cardinality <sup>1</sup>	Comment
<b>CostItemProductions (CIP)</b>	Jobs (J)	CIP.BidMasterJobUID = J.BidMasterJobUID	M:1	
<b>CostItemProductions (CIP)</b>	CostItems (CI)	CIP.UID = CI.UID	1:1	



<sup>1</sup> 1:M = One to Many, 1:1 = One to One, M:1 = Many to one

## API Detail

Direction	From Project Suite	
Pagination	50,000 Rows	
Frequency	All Reporting APIs are used by calling a GET method at an interval determined by the customer. InEight suggests using these APIs on an infrequent basis (once per day) to avoid potential performance impact to live systems when the returned data set could be large.	
Trigger Method(s)	All default OData filters are supported	
Average Payload Size	Depends on date range selected	
APIM Name	SelfService_Estimate_CostItemProductions	
Data Refresh/Delta/Incremental Loads		
Project Suite	Starting Version	23.4
	Ending Version	N/A

## Supported Filters

All default OData filters are supported by this API.

## Fields

Name	Type	Char Max Length	Numeric Precision	Date Precision	Product	PK
EstimateCostItemProductionId	bigint	8	19	0	Estimate	X
EstimateCostItemProductionUF	uniqueidentifier	16	0	0	Estimate	
EstimateCostItemUID	uniqueidentifier	16	0	0	Estimate	
Days	float	8	53	0	Estimate	
DaysFactored	float	8	53	0	Estimate	
DaysPerPeriod	float	8	53	0	Estimate	
DaysPerUM	float	8	53	0	Estimate	
DaysPerUMFactored	float	8	53	0	Estimate	
DaysPerUMQuantity	float	8	53	0	Estimate	
DaysPerUMSummary	float	8	53	0	Estimate	
DaysQuantity	float	8	53	0	Estimate	
DaysSummary	float	8	53	0	Estimate	
DefaultPayHours	float	8	53	0	Estimate	
DefaultScale1Composite	float	8	53	0	Estimate	
DefaultScale2Composite	float	8	53	0	Estimate	
DefaultScale3Composite	float	8	53	0	Estimate	
DefaultWorkHours	float	8	53	0	Estimate	
EquipHours	float	8	53	0	Estimate	
EquipHoursFactored	float	8	53	0	Estimate	
EquipHoursPerUM	float	8	53	0	Estimate	
EquipHoursPerUMFactored	float	8	53	0	Estimate	

EquipHoursPerUMQuantity	float	8	53	0	Estimate	
EquipHoursPerUMSummary	float	8	53	0	Estimate	
EquipHoursQuantity	float	8	53	0	Estimate	
EquipHoursSummary	float	8	53	0	Estimate	
Hours	float	8	53	0	Estimate	
HoursFactored	float	8	53	0	Estimate	
HoursPerShift	float	8	53	0	Estimate	
HoursPerUM	float	8	53	0	Estimate	
HoursPerUMFactored	float	8	53	0	Estimate	
HoursPerUMQuantity	float	8	53	0	Estimate	
HoursPerUMSummary	float	8	53	0	Estimate	
HoursQuantity	float	8	53	0	Estimate	
HoursSummary	float	8	53	0	Estimate	
ManHourFactor1	float	8	53	0	Estimate	
ManHourFactor2	float	8	53	0	Estimate	
ManHourFactor3	float	8	53	0	Estimate	
ManHourFactor4	float	8	53	0	Estimate	
ManHourFactor5	float	8	53	0	Estimate	
ManHourFactor6	float	8	53	0	Estimate	
ManHourFactor7	float	8	53	0	Estimate	
ManHourFactor8	float	8	53	0	Estimate	
ManHourFactor9	float	8	53	0	Estimate	
ManHourFactor10	float	8	53	0	Estimate	
ManHourFactorComposite	float	8	53	0	Estimate	
ManHours	float	8	53	0	Estimate	
ManHoursFactored	float	8	53	0	Estimate	
ManHoursMaintenance	float	8	53	0	Estimate	
ManHoursPerUM	float	8	53	0	Estimate	
ManHoursPerUMFactored	float	8	53	0	Estimate	
ManHoursPerUMQuantity	float	8	53	0	Estimate	
ManHoursPerUMSummary	float	8	53	0	Estimate	
ManHoursQuantity	float	8	53	0	Estimate	
ManHoursSummary	float	8	53	0	Estimate	
ManHoursSummaryWithMaintenance	float	8	53	0	Estimate	
PeriodQuantityText	nvarchar	-1	0	0	Estimate	
ProductionDriver	int	4	10	0	Estimate	
Shifts	float	8	53	0	Estimate	
ShiftsFactored	float	8	53	0	Estimate	
ShiftsPerDay	float	8	53	0	Estimate	
ShiftsPerUM	float	8	53	0	Estimate	
ShiftsPerUMFactored	float	8	53	0	Estimate	
ShiftsPerUMQuantity	float	8	53	0	Estimate	
ShiftsPerUMSummary	float	8	53	0	Estimate	



ShiftsQuantity	float	8	53	0	Estimate	
ShiftsSummary	float	8	53	0	Estimate	
UMPerDay	float	8	53	0	Estimate	
UMPerDayFactored	float	8	53	0	Estimate	
UMPerDayQuantity	float	8	53	0	Estimate	
UMPerDaySummary	float	8	53	0	Estimate	
UMPerEquipHour	float	8	53	0	Estimate	
UMPerEquipHourFactored	float	8	53	0	Estimate	
UMPerEquipHourQuantity	float	8	53	0	Estimate	
UMPerEquipHourSummary	float	8	53	0	Estimate	
UMPerHour	float	8	53	0	Estimate	
UMPerHourFactored	float	8	53	0	Estimate	
UMPerHourQuantity	float	8	53	0	Estimate	
UMPerHourSummary	float	8	53	0	Estimate	
UMPerManHour	float	8	53	0	Estimate	
UMPerManHourFactored	float	8	53	0	Estimate	
UMPerManHourQuantity	float	8	53	0	Estimate	
UMPerManHourSummary	float	8	53	0	Estimate	
UMPerShift	float	8	53	0	Estimate	
UMPerShiftFactored	float	8	53	0	Estimate	
UMPerShiftQuantity	float	8	53	0	Estimate	
UMPerShiftSummary	float	8	53	0	Estimate	
BidMasterJobUID	uniqueidentifier	16	0	0	Estimate	
LastUpdateID	int	4	10	0	Estimate	
IsActive	bit	1	1	0	Estimate	
CreatedById	bigint	8	19	0	Estimate	
CreatedDate	datetimeoffset	10	34	7	Estimate	
ModifiedById	bigint	8	19	0	Estimate	
ModifiedDate	datetimeoffset	10	34	7	Estimate	

## Field Descriptions

Name	Description	Example
EstimateCostItemProductionId	Unique identifier assigned to each record in the table	2386702
EstimateCostItemProductionUF	System generated field, for internal use only	2d9ae57b-e145-0e47-05c5-102db00ebb11
EstimateCostItemUID	Unique identifier for the Cost Item. Not visible in the Interface	f35992fc-451c-487c-a0a2-cdad40f9bea2
Days	Days (Duration driven) column value on the CBS Register and the Days field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	30

DaysFactored	Days field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	30
DaysPerPeriod	Days per Week column value on the CBS Register and the Days per Week field value in the Default Shift Arrangements group on the Cost Item Setup datablock of the Cost Item record	5
DaysPerUM	Days/UM column value on the CBS Register and the Days/UM field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	7.34874e-10
DaysPerUMFactored	Days/UM field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	7.34874e-10
DaysPerUMQuantity	Days/UM field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
DaysPerUMSummary	Days/UM field value in the Cost Item Summary column on Production datablock of the Cost Item record	7.34874e-10
DaysQuantity	Days (Non-Duration driven) column value on the CBS Register and the Days field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
DaysSummary	Days (Total) column value on the CBS Register and the Days field value in the Cost Item Summary column on Production datablock of the Cost Item record	30
DefaultPayHours	Pay Hour Rules column value on the CBS Register and the first field value labeled "For every x hours worked, pay Y hours" in the Default Pay Rules group on the Cost Item Setup datablock of the Cost Item record	8
DefaultScale1Composite	Scale 1 column value on the CBS Register and the Composite Wage Scale 1 field value in the Default Pay Rules group on the Cost Item Setup datablock of the Cost Item record	100
DefaultScale2Composite	Scale 2 column value on the CBS Register and the Composite Wage Scale 2 field value in the	0



	Default Pay Rules group on the Cost Item Setup datablock of the Cost Item record	
DefaultScale3Composite	Scale 3 column value on the CBS Register and the Composite Wage Scale 3 field value in the Default Pay Rules group on the Cost Item Setup datablock of the Cost Item record	0
DefaultWorkHours	Work Hour Rules column value on the CBS Register and the second field value labeled "For every x hours worked, pay Y hours" in the Default Pay Rules group on the Cost Item Setup datablock of the Cost Item record	8
EquipHours	Equip-Hours (Duration driven) column value on the CBS Register and the Equip-Hours field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	960
EquipHoursFactored	Equip-Hours field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	960
EquipHoursPerUM	Equip-Hours/UM column value on the CBS Register and the Equip-Hours/UM field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	2.3515976e-8
EquipHoursPerUMFactored	Equip-Hours/UM field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	2.3515976e-8
EquipHoursPerUMQuantity	Equip-Hours/UM field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
EquipHoursPerUMSummary	Equip-Hours/UM field value in the Cost Item Summary column on Production datablock of the Cost Item record	2.3515976e-8
EquipHoursQuantity	Equip-Hours (Non-Duration driven) column value on the CBS Register and the Equip-Hours field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
EquipHoursSummary	Equip-Hours (Total) column value on the CBS Register and the Equip-Hours field value in the Cost Item Summary column on	960



	Production datablock of the Cost Item record	
Hours	Hours (Duration driven) column value on the CBS Register and the Hours field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	240
HoursFactored	Hours field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	240
HoursPerShift	Work Hours per Shift column value on the CBS Register and the Work Hours per Shift field value in the Default Shift Arrangements group on the Cost Item Setup datablock of the Cost Item record	8
HoursPerUM	Hours/UM column value on the CBS Register and the Hours/UM field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	5.878994e-9
HoursPerUMFactored	Hours/UM field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	5.878994e-9
HoursPerUMQuantity	Hours/UM field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
HoursPerUMSummary	Hours/UM field value in the Cost Item Summary column on Production datablock of the Cost Item record	5.878994e-9
HoursQuantity	Hours (Non-Duration driven) column value on the CBS Register and the Hours field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
HoursSummary	Hours (Total) column value on the CBS Register and the Hours field value in the Cost Item Summary column on Production datablock of the Cost Item record	240
ManHourFactor1	Factor 1 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor2	Factor 2 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor3	Factor 3 field value on the Man-	1



	Hour Factors datablock of the Cost Item record	
ManHourFactor4	Factor 4 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor5	Factor 5 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor6	Factor 6 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor7	Factor 7 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor8	Factor 8 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor9	Factor 9 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactor10	Factor 10 field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHourFactorComposite	Factor Composite column value on the CBS Register and the Factor Composite field value on the Man-Hour Factors datablock of the Cost Item record	1
ManHours	Man-Hours (Duration driven) column value on the CBS Register and the Man-Hours field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	1200
ManHoursFactored	Man-Hours field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	1200
ManHoursMaintenance	Man-Hours (Maintenance) column value on the CBS Register	24
ManHoursPerUM	Man-Hours/UM column value on the CBS Register and the Man-Hours/UM field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	2.939497e-8
ManHoursPerUMFactored	Man-Hours/UM field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	2.939497e-8
ManHoursPerUMQuantity	Man-Hours/UM field value in the Qty Driven Hourly Resources column on Production datablock	0

	of the Cost Item record	
ManHoursPerUMSummary	Man-Hours/UM field value in the Cost Item Summary column on Production datablock of the Cost Item record	2.939497e-8
ManHoursQuantity	Man-Hours (Non-Duration driven) column value on the CBS Register and the Man-Hours field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
ManHoursSummary	Man-Hours (Total) column value on the CBS Register and the Man-Hours field value in the Cost Item Summary column on Production datablock of the Cost Item record	1200
ManHoursSummaryWithMaintenance	Man-Hours (Total incl. Maintenance) column value on the CBS Register	1224
PeriodQuantityText	A semicolon delimited field value list of percentages that are multiplied by the Cost Item Quantity and Cost to establish the values per period when the Use Period Quantities checkbox in the Period Quantities group on the Cost Item Setup datablock of the Cost Item Record.	
ProductionDriver	Indicates which of the productivity fields are the driver or the field in which the user has entered a value triggering the recalculation of all the rest of the production field values. This value also determines which productivity field in the interface will contain the carat, or visual indicator of the productivity driver in both the CBS Register and the Production datablock of the Cost Item record	11
Shifts	Shifts (Duration driven) column value on the CBS Register and the Shifts field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	30
ShiftsFactored	Shifts field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	30
ShiftsPerDay	Shifts per Day column value on the CBS Register and the Shifts per Day field value in the Default Shift Arrangements group on the	1



	Cost Item Setup datablock of the Cost Item record	
ShiftsPerUM	Shifts/UM column value on the CBS Register and the Shifts/UM field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	7.34874e-10
ShiftsPerUMFactored	Shifts/UM field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	7.34874e-10
ShiftsPerUMQuantity	Shifts/UM field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
ShiftsPerUMSummary	Shifts/UM field value in the Cost Item Summary column on Production datablock of the Cost Item record	7.34874e-10
ShiftsQuantity	Shifts (Non-Duration driven) column value on the CBS Register and the Shifts field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
ShiftsSummary	Shifts (Total) column value on the CBS Register and the Shifts field value in the Cost Item Summary column on Production datablock of the Cost Item record	30
UMPerDay	UM/Day column value on the CBS Register and the UM/Day field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	1360777050
UMPerDayFactored	UM/Day field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	1360777050
UMPerDayQuantity	UM/Day field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
UMPerDaySummary	UM/Day field value in the Cost Item Summary column on Production datablock of the Cost Item record	1360777050
UMPerEquipHour	UM/Equip-Hour column value on the CBS Register and the UM/Equip-Hr field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	42524282.8125

UMPerEquipHourFactored	UM/Equip-Hr field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	42524282.8125
UMPerEquipHourQuantity	UM/Equip-Hr field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
UMPerEquipHourSummary	UM/Equip-Hr field value in the Cost Item Summary column on Production datablock of the Cost Item record	42524282.8125
UMPerHour	UM/Hour column value on the CBS Register and the UM/Hour field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	170097131.25
UMPerHourFactored	UM/Hour field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	170097131.25
UMPerHourQuantity	UM/Hour field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
UMPerHourSummary	UM/Hour field value in the Cost Item Summary column on Production datablock of the Cost Item record	170097131.25
UMPerManHour	UM/Man-Hour column value on the CBS Register and the UM/Man-Hr field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	34019426.25
UMPerManHourFactored	UM/Man-Hr field value in the Factored Duration Driven Resources column on Production datablock of the Cost Item record	34019426.25
UMPerManHourQuantity	UM/Man-Hr field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
UMPerManHourSummary	UM/Man-Hr field value in the Cost Item Summary column on Production datablock of the Cost Item record	34019426.25
UMPerShift	UM/Shift column value on the CBS Register and the UM/Shift field value in the Duration Driven Resources column on the Production datablock of the Cost Item record	1360777050
UMPerShiftFactored	UM/Shift field value in the	1360777050



	Factored Duration Driven Resources column on Production datablock of the Cost Item record	
UMPerShiftQuantity	UM/Shift field value in the Qty Driven Hourly Resources column on Production datablock of the Cost Item record	0
UMPerShiftSummary	UM/Shift field value in the Cost Item Summary column on Production datablock of the Cost Item record	1360777050
BidMasterJobUID	Identifier of the Job record from the Jobs table in the BidMaster database. This field is not unique in this table but is unique to an instance of a Job. Not visible in the application	dec37787-a459-463b-a567-dd80f0f705b3
LastUpdateID	Field for internal use only	730
IsActive	Indicates if record is active. Please note: records will become inactive if a user un-syncs a job from Estimate application	true
CreatedByld	System generated Id, will always represent the system, not actual users. This field is for internal use only	1
CreatedDate	Date/timestamp record is entered	2023-06-05T23:33:02.2557453Z
ModifiedByld	System generated Id, will always represent the system, not actual users. This field is for internal use only	1
ModifiedDate	Date/timestamp record is modified	2023-06-05T23:33:02.2557453Z

## Sample

```
{
  "EstimateCostItemProductionId": 2386702,
  "EstimateCostItemProductionUF": "2d9ae57b-e145-0e47-05c5-102db00ebb11",
  "EstimateCostItemUID": "f35992fc-451c-487c-a0a2-cdad40f9bea2",
  "Days": 30.0,
  "DaysFactored": 30.0,
  "DaysPerPeriod": 5.0,
  "DaysPerUM": 7.34874E-10,
  "DaysPerUMFactored": 7.34874E-10,
  "DaysPerUMQuantity": 0.0,
  "DaysPerUMSummary": 7.34874E-10,
  "DaysQuantity": 0.0,
  "DaysSummary": 30.0,
  "DefaultPayHours": 8.0,
  "DefaultScale1Composite": 100.0,
```

"DefaultScale2Composite": 0.0,  
"DefaultScale3Composite": 0.0,  
"DefaultWorkHours": 8.0,  
"EquipHours": 960.0,  
"EquipHoursFactored": 960.0,  
"EquipHoursPerUM": 2.3515976E-08,  
"EquipHoursPerUMFactored": 2.3515976E-08,  
"EquipHoursPerUMQuantity": 0.0,  
"EquipHoursPerUMSummary": 2.3515976E-08,  
"EquipHoursQuantity": 0.0,  
"EquipHoursSummary": 960.0,  
"Hours": 240.0,  
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"HoursPerShift": 8.0,  
"HoursPerUM": 5.878994E-09,  
"HoursPerUMFactored": 5.878994E-09,  
"HoursPerUMQuantity": 0.0,  
"HoursPerUMSummary": 5.878994E-09,  
"HoursQuantity": 0.0,  
"HoursSummary": 240.0,  
"ManHourFactor1": 1.0,  
"ManHourFactor2": 1.0,  
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"ManHourFactor6": 1.0,  
"ManHourFactor7": 1.0,  
"ManHourFactor8": 1.0,  
"ManHourFactor9": 1.0,  
"ManHourFactor10": 1.0,  
"ManHourFactorComposite": 1.0,  
"ManHours": 1200.0,  
"ManHoursFactored": 1200.0,  
"ManHoursMaintenance": 24.0,  
"ManHoursPerUM": 2.939497E-08,  
"ManHoursPerUMFactored": 2.939497E-08,  
"ManHoursPerUMQuantity": 0.0,  
"ManHoursPerUMSummary": 2.939497E-08,  
"ManHoursQuantity": 0.0,  
"ManHoursSummary": 1200.0,  
"ManHoursSummaryWithMaintenance": 1224.0,  
"PeriodQuantityText": null,  
"ProductionDriver": 11,  
"Shifts": 30.0,  
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"ShiftsPerDay": 1.0,  
"ShiftsPerUM": 7.34874E-10,  
"ShiftsPerUMFactored": 7.34874E-10,  
"ShiftsPerUMQuantity": 0.0,  
"ShiftsPerUMSummary": 7.34874E-10,  
"ShiftsQuantity": 0.0,



```
"ShiftsSummary": 30.0,  
"UMPerDay": 1360777050.0,  
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"UMPerManHourFactored": 34019426.25,  
"UMPerManHourQuantity": 0.0,  
"UMPerManHourSummary": 34019426.25,  
"UMPerShift": 1360777050.0,  
"UMPerShiftFactored": 1360777050.0,  
"UMPerShiftQuantity": 0.0,  
"UMPerShiftSummary": 1360777050.0,  
"BidMasterJobUID": "dec37787-a459-463b-a567-dd80f0f705b3",  
"LastUpdateID": 730,  
"IsActive": true,  
"CreatedById": 1,  
"CreatedDate": "2023-06-05T23:33:02.2557453Z",  
"ModifiedById": 1,  
"ModifiedDate": "2023-06-05T23:33:02.2557453Z"  
}
```



## Data Validation

Productivity data can be validated by opening the CBS Register or a Cost Item Record in an open job in the Estimate Application

Figure 1: Productivity fields values on the CBS Register

Cost Breakdown Structure (CBS) Register		Cost Item Record												
Drag columns here to group														
CBS Position Code	Description	Equip-Hours (Total)	UM/ Day	UM/ Shift	UM/ Hour	UM/ Man-Hour	UM/ Equip-Hour	Days/ UM	Shifts/ UM	Hours/ UM	Man-Hours/ UM	Equip-Hours/ UM	Cost Source	Notes
	<b>JOB</b>	100,932.36												
	<b>Prime Bond</b>													
	<b>Price % Add-On</b>													
	<b>Job Financing</b>													
	<b>Direct Cost Escalation</b>													
	<b>Indirect Cost Escalation</b>													
	<b>Direct Cost Add-On</b>													
	<b>Indirect Cost Add-On</b>													
	<b>Job Management &amp; Equipment</b>	2,400.00	0.01	0.01	0.00	0.00	0.00	100.00	100.00	800.00	2,400.00	2,400.00	Detail	
	<b>General Expense</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Detail	
1	<b>Mobilization</b>	160.00	0.10	0.10	0.01	0.01	0.01	10.00	10.00	80.00	80.00	160.00	Detail	
2	<b>Clearing &amp; Grubbing</b>	320.00	1.00	1.00	0.13	0.02	0.03	1.00	1.00	8.00	48.00	32.00	Detail	
3	<b>Unclassified Excavation</b>	1,000.00	3,333.33	3,333.33	416.67	41.67	52.08	0.00	0.00	0.00	0.02	0.02	Detail	
3.1	Excavation	1,000.00	2,800.00	2,800.00	350.00	35.00	43.75	0.00	0.00	0.00	0.03	0.03	Detail	
3.2	Embankment	6,650.00	240.60	240.60	30.08	5.01	7.52	0.00	0.00	0.03	0.20	0.13	Detail	
4	<b>Aggregate Base</b>	88,480.00	9.76	9.76	1.22	0.60	0.61	0.10	0.10	0.82	1.67	1.65	Detail	
4.1	Furnish & Haul Base Material	86,400.00	10.00	10.00	1.25	0.63	0.63	0.10	0.10	0.80	1.60	1.60	Detail	
4.2	Finegrade Subgrade	800.00	10,000.00	10,000.00	1,250.00	312.50	500.00	0.00	0.00	0.00	0.00	0.00	Detail	
4.3	Install Aggregate Base	1,280.00	642.86	642.86	80.36	24.46	35.16	0.00	0.00	0.01	0.04	0.03	Detail	
4.3.1	Place Aggregate Base	960.00	1,500.00	1,500.00	187.50	37.50	46.88	0.00	0.00	0.01	0.03	0.02	Detail	
4.3.2	Blue Top Aggregate Base	320.00	10,000.00	10,000.00	1,250.00	625.00	1,250.00	0.00	0.00	0.00	0.00	0.00	Detail	
5	<b>Asphalt Concrete Hot Mix Type A</b>	2,566.67	666.67	666.67	75.00	10.00	13.64	0.00	0.00	0.01	0.10	0.07	Detail	
5.1	Furnish & Haul Hot Mix	1,633.33	1,200.00	1,200.00	150.00	21.43	21.43	0.00	0.00	0.01	0.05	0.05	Detail	
5.2	Install Hot Mix Type A	933.33	1,500.00	1,500.00	150.00	18.75	37.50	0.00	0.00	0.01	0.05	0.03	Detail	
6	<b>36 Inch RCP Culvert Class III</b>	356.15	54.87	54.87	6.86	1.40	3.00	0.02	0.02	0.15	0.72	0.33	Detail	
6.1	Furnish RCP Materials	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Detail	
6.2	Excavate RCP Trench	37.17	400.00	400.00	50.00	10.00	50.00	0.00	0.00	0.02	0.10	0.02	Detail	
6.3	Install RCP Pipe	80.90	250.00	250.00	31.25	4.46	15.63	0.00	0.00	0.03	0.22	0.06	Detail	
6.4	Backfill RCP Pipe	238.08	160.00	160.00	20.00	5.00	6.67	0.01	0.01	0.05	0.20	0.15	Detail	
7	<b>10 Inch PVC Force Main (SDR21)</b>	960.00	300.00	300.00	37.50	6.25	12.50	0.00	0.00	0.03	0.16	0.08	Detail	
7.1	Furnish 10 Inch PVC Materials	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Detail	
7.2	Excavate-Install-Backfill 10 Inch PVC	960.00	300.00	300.00	37.50	6.25	12.50	0.00	0.00	0.03	0.16	0.08	Detail	
8	<b>24 Inch PVC Gravity Sewer (SDR35)</b>	972.63	66.55	66.55	8.32	2.01	3.08	0.02	0.02	0.12	0.50	0.32	Detail	
8.1	Excavate 24 Inch PVC	54.63	439.29	439.29	54.91	27.46	54.91	0.00	0.00	0.02	0.04	0.02	Detail	
<b>128</b>		<b>100,932.36</b>												



Figure 2: Productivity field values on the Production datablock of the Cost Item Record

**Cost Breakdown Structure (CBS) Register**
**Cost Item Record**

CBS Code: 303 5912    Optional Code:    Description: AggregateBase

PI Assignment: 303 5912    PI Line Number: 40    PI Description: AggregateBase

Forecast (T/O) Qty: 45,000.00    Unit of Measure: Ton    Unit Cost: \$268.29    Total Cost: \$12,072,852.34    Currency: U.S. Dollar

4.3    4.3    Install AggregateBase    45,000.00    Ton    \$2.17    \$97,567.33    U.S. Dollar

4.3.1    4.3.1    Place Aggregate Base    45,000.00    Ton    \$1.63    \$73,460.92    U.S. Dollar

Cost Segment: Direct Cost    Pay Quantity: 40,000.00    Cost Source: Detail    Alternate: BASE

**Cost Item Summary**    Detail: \$1.63    Plug: \$0.00    Quote: \$0.00    Allocation

Drag columns here to group    Saved views: Standard View

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours	Unit Cost
1	LL2		Laborer			1.00	Each	1.00	240.00	240.00	\$26.33
2	LO2		Operator Class 2			3.00	Each	1.00	720.00	720.00	\$28.00
3	LT1		Teamster			1.00	Each	1.00	240.00	240.00	\$30.62
4	EG14G		Grader 14G			1.00	Each	1.00	240.00	240.00	\$60.20
5	ECOMP1		Compactor Smooth ...			2.00	Each	1.00	480.00	480.00	\$36.40
6	ETWT		Water Truck			1.00	Each	1.00	240.00	240.00	\$29.60

**Production**

	Duration Driven Resources	Factored Duration Driven Resources	Qty Driven Hourly Resources	Cost Item Summary
Days	30.00	30.00	0.00	30.00
Shifts	30.00	30.00	0.00	30.00
Hours	240.00	240.00	0.00	240.00
Man-Hours	1,200.00	1,200.00	0.00	1,200.00
Equip-Hours	960.00	960.00	0.00	960.00
Ton/Day	1,500.00	1,500.00	0.00	1,500.00
Ton/Shift	1,500.00	1,500.00	0.00	1,500.00
Ton/Hour	187.50	187.50	0.00	187.50
Ton/Man-Hr	37.50	37.50	0.00	37.50
Ton/Equip-Hr	46.88	46.88	0.00	46.88
Days/Ton	0.00	0.00	0.00	0.00
Shifts/Ton	0.00	0.00	0.00	0.00
Hours/Ton	0.01	0.01	0.00	0.01
Man-Hours/Ton	0.03	0.03	0.00	0.03
Equip-Hours/Ton	0.02	0.02	0.00	0.02
Man Count	5.00			
Equipment Count	4.00			

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Figure 3: Man-Hour field values on the Man-Hour Factors datablock of the Cost Item Record

**Cost Breakdown Structure (CBS) Register**    **Cost Item Record**

CBS Code: 303 5912    Optional Code:    Description: AggregateBase    Forecast (T/O) Qty: 45,000.00    Unit of Measure: Ton    Unit Cost: \$268.29    Total Cost: \$12,072,852.34    Currency: U.S. Dollar

4.3    4.3    Install AggregateBase    45,000.00    Ton    \$2.17    \$97,567.33    U.S. Dollar

4.3.1    4.3.1    Place Aggregate Base    45,000.00    Ton    \$1.63    \$73,460.92    U.S. Dollar

PI Assignment: 303 5912    PI Line Number: 40    PI Description: AggregateBase    Cost Segment: Direct Cost    Pay Quantity: 40,000.00    Cost Source: Detail    Alternate: BASE

Cost Item Summary    Detail: \$1.63    Plug: \$0.00    Quote: \$0.00    Allocation

Man-Hour Factors

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours	Unit Cost
1	LL2		Laborer			1.00	Each	1.00	240.00	240.00	\$26.31
2	LO2		Operator Class 2			3.00	Each	1.00	720.00	720.00	\$28.00
3	LT1		Teamster			1.00	Each	1.00	240.00	240.00	\$30.62
4	EG14G		Grader 14G			1.00	Each	1.00	240.00	240.00	\$60.20
5	ECOMP1		Compactor Smooth ...			2.00	Each	1.00	480.00	480.00	\$36.40
6	ETWT		Water Truck			1.00	Each	1.00	240.00	240.00	\$29.60

Man-Hour Factors

Factor 1:	1.00
Factor 2:	1.00
Factor 3:	1.00
Factor 4:	1.00
Factor 5:	1.00
Factor 6:	1.00
Factor 7:	1.00
Factor 8:	1.00
Factor 9:	1.00
Factor 10:	1.00
FactorComposite:	1.0000

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