



Explore API Documentation

SelfService_Estimate_PayItemCalculatedValue

Version 1.0

Last Modified: 11/14/2023

Last Modified By: Natalie Takacs



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	3/30/2022	Initial draft	Natalie Takacs

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Overview

The **SelfService_Estimate_PayItemCalculatedValues** API is one of multiple APIs comprising the data contained in the Estimate Pay Item entity. A Pay Item is business object commonly representing a Bid Item on an owners Bid Form or a line item on a Schedule of Values and the sum of all Pay Item prices commonly represents the total Bid Amount of an Estimate. In a locked job the Pay Item automatically creates a corresponding Level 1 Cost Item which it is assigned to. In an unlocked job, Pay Items and Cost Items can be created independently of each other and assignments can be made regardless of an items position in the hierarchy.

The Estimate Pay Item entity mainly includes three tables, *SelfService_Estimate_PayItem*, *SelfService_Estimate_PayItemCalculatedValues* and *SelfService_Estimate_PayItemReferencedData*.

The *SelfService_Estimate_PayItem* table contains Pay Items as created and managed within the Estimate application.

The *SelfService_Estimate_PayItemCalculatedValues* table contains Pay Item data commonly calculated in some way for display purposes in the application and can provide a convenient way to reference data as it appears in the application without needing to transform it for display purposes.

The *SelfService_Estimate_PayItemReferencedData* contains the values of the many foreign key lookup values stored in reference tables and can provide a convenient way to reference data as it appears in the application without needing to lookup the foreign key values from a lookup table.

Monetary values stored in the database are stored in their base currency and corresponding values displayed in the application have been modified based on the conversion factor of the items assigned currency.

Quantity values stored in the database are stored in their base measurement units and corresponding values displayed in the application are potentially modified based on the conversation factor of the items unit of measure

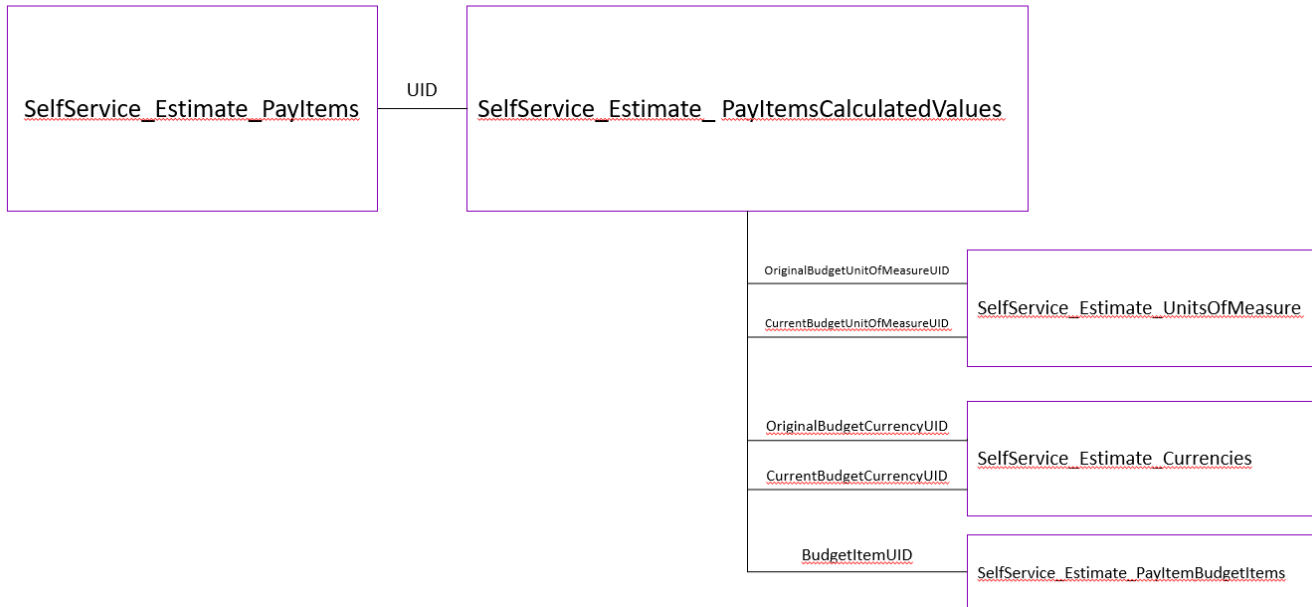
Relationships and Dependencies

From: Table	To: Table	Relationship	Cardinality ¹
PayItemsCalculatedValues(PICV)	PayItems (PI)	PICV.UID = PI.UID	1:1
PayItemsCalculatedValues(PICV)	UnitsOfMeasure (OBUM)	PICV.OriginalBudgetUnitOfMeasureUID = OBUM.UID	1:M
PayItemsCalculatedValues(PICV)	UnitsOfMeasure (CBUM)	PICV.CurrentBudgetUnitOfMeasureUID = CBUM.UID	1:M
PayItemsCalculatedValues(PICV)	Currencies (OBCUR)	PICV.OriginalBudgetCurrencyUID = OBCUR.UID	1:M
PayItemsCalculatedValues(PICV)	Currencies (CBCUR)	PICV.CurrentBudgetCurrencyUID = CBCUR.UID	1:M
PayItemsCalculatedValues(PICV)	PayItemBudgetItems (PIBI)	PICV.BudgetItemUID = PIBI.UID	1:1

¹ 1:M = One to Many, 1:1 = One to One, M:1 = Many to one



SelfService_Estimate_PayItemsCalculatedValues



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_PayItemCalculatedValue	
Data Refresh/Delta/Incremental Loads		
Project Suite	Starting Version	21.5
	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
EstimatePayItemCalculatedValueId	bigint		19		Estimate	X
EstimatePayItemCalculatedValueUF	uniqueidentifier				Estimate	
EstimatePayItemCalculatedValueUID	uniqueidentifier				Estimate	
AlternateDescription	nvarchar	1000			Estimate	
AssignedDirectUnitCost	float		53		Estimate	
BalancedTotalPrice	float		53		Estimate	
EstimateBudgetItemUID	uniqueidentifier				Estimate	
CurrentBudgetCurrencyUID	uniqueidentifier				Estimate	
CurrentBudgetQuantity	float		53		Estimate	
CurrentBudgetTotalPrice	float		53		Estimate	
CurrentBudgetUnitOfMeasureUID	uniqueidentifier				Estimate	
CurrentPricePercent	float		53		Estimate	
DirectUnitCost	float		53		Estimate	
IndirectCost	float		53		Estimate	
IndirectUnitCost	float		53		Estimate	
IsOverriddenByAlternate	bit				Estimate	
OriginalBudgetCurrencyUID	uniqueidentifier				Estimate	
OriginalBudgetQuantity	float		53		Estimate	
OriginalBudgetTotalPrice	float		53		Estimate	
OriginalBudgetUnitOfMeasureUID	uniqueidentifier				Estimate	
TotalCost	float		53		Estimate	
TotalPriceVariance	float		53		Estimate	
UnassignedDirectUnitCost	float		53		Estimate	
UnassignedEarningsAmount	float		53		Estimate	
UnassignedEarningsPercent	float		53		Estimate	
UnitCost	float		53		Estimate	
UnitPriceVariance	float		53		Estimate	
BidMasterJobUID	uniqueidentifier				Estimate	
LastUpdateID	int		10		Estimate	
IsActive	bit				Estimate	
CreatedById	bigint		19		Estimate	
CreatedDate	datetimeoffset			7	Estimate	
ModifiedById	bigint		19		Estimate	
ModifiedDate	datetimeoffset			7	Estimate	
AssignedBusinessOverheadUnitCost	float		53		Estimate	
AssignedCost	float		53		Estimate	
AssignedJobOverheadUnitCost	float		53		Estimate	



AssignedManHoursDuration	float		53		Estimate	
AssignedManHoursFactored	float		53		Estimate	
AssignedManHoursQuantity	float		53		Estimate	
AssignedManHoursSummary	float		53		Estimate	
AssignedUnitCost	float		53		Estimate	
BalancedMarkup	float		53		Estimate	
BalancedUnitMarkup	float		53		Estimate	
CurrentUnitMarkup	float		53		Estimate	
DirectCost	float		53		Estimate	
IsLeaf	bit				Estimate	
TotalDistribution	float		53		Estimate	
UnassignedBusinessOverheadUnitCost	float		53		Estimate	
UnassignedCost	float		53		Estimate	
UnassignedJobOverheadUnitCost	float		53		Estimate	
UnassignedUnitCost	float		53		Estimate	
UnitDistribution	float		53		Estimate	

Field Descriptions

Name	Description	Example
EstimatePayItemCalculatedValueId	Unique identifier assigned to each record in the table	515714
EstimatePayItemCalculatedValueUF	System generated field, for internal use only	8cfcdeba-d2b0-0568-25b7-546b77ac33e7
EstimatePayItemCalculatedValueUID	Unique identifier for a Pay Item record. Not visible in the interface.	3dea9d6f-976e-43a1-8b1a-c1066ddbdf69
AlternateDescription	Value of the Pay Item's <i>Alternate Description</i> column in pay item & proposal register. This value can also be obtained using the pay items [AlternateUID] field in the payitems table and joining to the Alternates table.	BASE
AssignedDirectUnitCost	It is the Unit Assigned Direct Cost (bid qty) for the pay item entries in pay item & proposal.	2.0253389749681036 E-05
BalancedTotalPrice	It is the Total Price (balanced) field for pay item entries in pay item record & proposal register	998799.99999999988
EstimateBudgetItemUID	Identifier of pay items Estimate Budget item	null

UnitCost	It is the Unit Cost field value for pay item entries in pay item record and pay item & proposal register	2.5959029633039017 E-05
UnitPriceVariance	It is the value of Unit Price Variance (current-balanced) for pay item entries in pay item & proposal register	0.0
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 interface.	b11643d5-45de-46c9-aead-956d1a77ec8e
LastUpdateID	Field for internal use only	38
IsActive	Indicates if record is active. Please note: records will become inactive if a user un-syncs a job from Estimate application	true
CreatedById	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	2023-05-27T01:33:08.0330475 Z
ModifiedById	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	2023-05-27T01:33:08.0330475 Z
AssignedBusinessOverheadUnitCost	Assigned Business Overhead Unit Cost value in the Item Recap datablock on the Pay Item & Proposal register	1.3217877241536372 E-08
AssignedCost	Assigned Total Cost value in the Item Recap datablock on the Pay Item & Proposal register. This value is the sum of all assigned Direct Costs, Job Overhead and Business Overhead costs	847061.40749583545
AssignedJobOverheadUnitCost	Assigned Job Overhead Unit Cost value in the Item Recap datablock on the Pay Item & Proposal register	3.0765276655882991 E-06
AssignedManHoursDuration	Man-Hours (Duration driven) field value for pay item entries in pay item record and pay item & proposal register	4560.0
AssignedManHoursFactored	Factored Man-Hours field value for pay item entries in pay item record and pay item & proposal register	4848.0
AssignedManHoursQuantity	Man-Hours (Non-Duration driven) field value for pay item entries in pay item record and pay item & proposal register	0.0

AssignedManHoursSummary	Man-Hours (Total) field value for pay item entries in pay item record and pay item & proposal register	4848.0
AssignedUnitCost	Assigned Unit Cost value in the Item Recap datablock on the Pay Item & Proposal register. This value is the sum of all assigned Direct Costs, Job Overhead and Business Overhead costs	2.3343135292510871 E-05
BalancedMarkup	Total Markup (balanced) field value for pay item entries in pay item record and pay item & proposal register	56965.892039395439
BalancedUnitMarkup	Unit Markup (balanced) field value for pay item entries in pay item record and pay item & proposal register	1.5698537475167801 E-06
CurrentUnitMarkup	Unit Markup (current) field value for pay item entries in pay item record and pay item & proposal register	1.5656850143751178 E-06
DirectCost	Direct Total Cost field value for pay item entries in pay item record and pay item & proposal register. This value includes both Assigned and Unassigned Direct Costs	735098.55172747106
IsLeaf	Indicates if the Pay Item is a terminal item. Terminal items are the items whose price contributes to the total price of the estimate. Non-terminal items are commonly superior Pay Items and rolling up prices of the subordinate items, but do not contribute their prices to the total price of the estimate. Not directly visible in the application.	true
TotalDistribution	Total Distribution field value for pay item entries in pay item record and pay item & proposal register, which is the Pay Items share of the proportional distribution of all unassigned costs in the estimate	151889.86494114436
UnassignedBusinessOverheadUnitCost	Business Overhead Unit Cost Distribution field value for pay item entries in pay item record and pay item & proposal register and the Unassigned Business Overhead Unit Cost value in the Item Recap datablock on the Pay Item & Proposal register	1.3681836042731382 E-06
UnassignedCost	Unassigned Total Cost field value for pay item entries in pay item record and pay item & proposal register	94923.97290174893
UnassignedJobOverheadUnitCost	Job Overhead Unit Cost Distribution field value for pay item entries in pay item record and pay item & proposal register and the Unassigned Job Overhead Unit Cost value in the Item	1.2434133873917483 E-06



	Recap datablock on the Pay Item & Proposal register	
UnassignedUnitCost	Unassigned Unit Cost field value for pay item entries in pay item record and pay item & proposal register and the Unassigned Unit Cost value in the Item Recap datablock on the Pay Item & Proposal register. This value is the sum of all Unassigned Direct Costs, Job Overhead and Business Overhead costs	2.6158943405281454E-06
UnitDistribution	Unit Distribution field value for pay item entries in pay item record and pay item & proposal register, which is the Pay Items share of the proportional distribution of all unassigned costs in the estimate	4.1857480880449253E-06

Sample

```
{
  "EstimatePayItemCalculatedValueId": 515714,
  "EstimatePayItemCalculatedValueUF": "8cfcdeba-d2b0-0568-25b7-546b77ac33e7",
  "EstimatePayItemCalculatedValueUID": "3dea9d6f-976e-43a1-8b1a-c1066ddbdf69",
  "AlternateDescription": "BASE",
  "AssignedDirectUnitCost": 2.0253389749681036E-05,
  "BalancedTotalPrice": 998799.9999999998,
  "EstimateBudgetItemUID": null,
  "CurrentBudgetCurrencyUID": "58687bb8-8107-4b88-ae04-f236c3050e58",
  "CurrentBudgetQuantity": 0.0,
  "CurrentBudgetTotalPrice": 0.0,
  "CurrentBudgetUnitOfMeasureUID": "c985403d-620f-4af0-96da-3c2df9edac6c",
  "CurrentPricePercent": 16.423389185216308,
  "DirectUnitCost": 2.0257687098544296E-05,
  "IndirectCost": 206886.82867011335,
  "IndirectUnitCost": 5.7013425344947217E-06,
  "IsOverriddenByAlternate": false,
  "OriginalBudgetCurrencyUID": "58687bb8-8107-4b88-ae04-f236c3050e58",
  "OriginalBudgetQuantity": 0.0,
  "OriginalBudgetTotalPrice": 0.0,
  "OriginalBudgetUnitOfMeasureUID": "c985403d-620f-4af0-96da-3c2df9edac6c",
  "TotalCost": 941985.38039758441,
  "TotalPriceVariance": 0.0,
  "UnassignedDirectUnitCost": 4.2973488632586041E-09,
  "UnassignedEarningsAmount": 0.0,
  "UnassignedEarningsPercent": 0.0,
  "UnitCost": 2.5959029633039017E-05,
  "UnitPriceVariance": 0.0,
  "BidMasterJobUID": "b11643d5-45de-46c9-ae04-956d1a77ec8e",
  "LastUpdateID": 38,
  "IsActive": true,
  "CreatedBy": 1,
}
```

```

"CreateDate": "2023-05-27T01:33:08.0330475Z",
"ModifiedById": 1,
"ModifiedDate": "2023-05-27T01:33:08.0330475Z",
"AssignedBusinessOverheadUnitCost": 1.3217877241536372E-08,
"AssignedCost": 847061.40749583545,
"AssignedJobOverheadUnitCost": 3.0765276655882991E-06,
"AssignedManHoursDuration": 4560.0,
"AssignedManHoursFactored": 4848.0,
"AssignedManHoursQuantity": 0.0,
"AssignedManHoursSummary": 4848.0,
"AssignedUnitCost": 2.3343135292510871E-05,
"BalancedMarkup": 56965.892039395439,
"BalancedUnitMarkup": 1.5698537475167801E-06,
"CurrentUnitMarkup": 1.5656850143751178E-06,
"DirectCost": 735098.55172747106,
"IsLeaf": true,
"TotalDistribution": 151889.86494114436,
"UnassignedBusinessOverheadUnitCost": 1.3681836042731382E-06,
"UnassignedCost": 94923.97290174893,
"UnassignedJobOverheadUnitCost": 1.2434133873917483E-06,
"UnassignedUnitCost": 2.6158943405281454E-06,
"UnitDistribution": 4.1857480880449253E-06
}
    
```

Data Validation

This data can be validated by viewing Pay Items in Pay Item & Proposal Register or opening a Pay Item record from Pay Item & Proposal Register

Figure 1: Pay Items in Pay Item & Proposal Register

Position Code	Pay Item Number	Description	Pay Quantity	Forecast (F/O) Quantity	Unit of Measure	Currency	Unit Price (Current)	Total Price (Current)	Unit Markup (Current)	Total Markup (Current)	Unit Distribution	Total Cost
1	200	SITWORK & ROADWAY				U.S. Dollar	\$1,402,700.00					
1.1	541 0300	Mobilization	1.00	1.00	Lump Sum	U.S. Dollar	\$395,600.00	\$395,600.00	\$2,848.15	\$2,848.15	\$6,553.48	
1.2	201 0302	Cleaning & Grubbing	10.00	10.00	Acre	U.S. Dollar	\$5,900.00	\$59,000.00	\$976.24	\$9,762.36	\$1,973.16	
1.3	202 0303	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard	U.S. Dollar	\$5.50	\$275,000.00	\$1.11	\$55,694.42	\$1.65	
1.4	303 5912	Aggregate Base	40,000.00	45,000.00	Ton	U.S. Dollar	\$26.50	\$1,060,000.00	\$3.02	\$120,771.08	\$4.14	
1.5	303 4263	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	U.S. Dollar	\$42.45	\$1,613,100.00	\$7.61	\$289,320.12	\$9.87	
2	400	WATER & SEWER				U.S. Dollar	\$718,550.00					
2.1	41300 0464	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	U.S. Dollar	\$97.45	\$97,450.00	\$14.30	\$14,297.53	\$19.96	
2.2	800 0220	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	U.S. Dollar	\$29.50	\$354,000.00	\$4.62	\$55,406.82	\$6.25	
2.3	800 0330	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	3,000.00	Linear Feet	U.S. Dollar	\$64.50	\$193,500.00	\$10.50	\$31,485.91	\$14.69	
2.4	800 0400	4 Foot Diameter Manhole	16.00		Each	U.S. Dollar	\$4,600.00	\$73,600.00	\$737.20	\$11,795.15	\$1,000.61	
3	500	STRUCTURAL CONCRETE & BRIDGES				U.S. Dollar	\$63,895.00					
3.1	501(A) 1306	Structural Excavation & Backfill	800.00	800.00	Cubic Yard	U.S. Dollar	\$28.00	\$22,400.00	\$4.57	\$3,632.29	\$6.35	
3.2	506(A) 1322	Steel Reinforcement	30,000.00	30,000.00	Pound	U.S. Dollar	\$1.70	\$51,000.00	\$0.18	\$5,333.35	\$0.23	
3.3	503(A) 1313	Retaining Wall	850.00	850.00	Cubic Yard	U.S. Dollar	\$545.00	\$463,250.00	\$92.57	\$78,688.74	\$133.06	
3.4	600 0300	Paint Existing Steel Bridge Structure	1.00	1.00	Lump Sum	U.S. Dollar	\$95,245.00	\$95,245.00	\$18,604.62	\$18,604.62	\$27,975.58	
4	700	INDUSTRIAL & REMEDIATION				U.S. Dollar	\$1,737,020.00					
4.1	700	Process Equipment	1.00	1.00	Each	U.S. Dollar	\$1,690,850.00	\$1,690,850.00	\$270,458.99	\$270,458.99	\$332,632.55	
4.2	1000	Removal of Underground Storage Tanks	2.00	2.00	Each	U.S. Dollar	\$12,685.00	\$25,370.00	\$2,100.37	\$4,200.74	\$4,729.39	
4.3	1010	Disposal of Contaminated Soil	800.00	800.00	Cubic Yard	U.S. Dollar	\$26.00	\$20,800.00	\$4.33	\$3,463.37	\$9.07	
5	1200	COMMERCIAL				U.S. Dollar	\$30,000.00					
5.1	1200 0100	Toll Booth	1.00	1.00	Each	U.S. Dollar	\$30,000.00	\$30,000.00	\$3,425.44	\$3,425.44	\$4,606.37	
6	1500	GUARDRAIL & SIGNING				U.S. Dollar	\$49,570.00					
6.1	1500 0100	Guardrail Type 2	1,000.00	1,000.00	Linear Feet	U.S. Dollar	\$27.50	\$27,500.00	\$2.73	\$2,728.08	\$3.46	
6.2	1500 0200	Guardrail Type 3A	200.00	200.00	Linear Feet	U.S. Dollar	\$35.60	\$7,120.00	\$3.52	\$704.75	\$4.47	
6.3	1600 0230	Type 4 Signs	1,000.00	1,000.00	Square Feet	U.S. Dollar	\$14.95	\$14,950.00	\$1.46	\$1,477.71	\$1.87	
							26	\$6,569,735.00	\$984,119.62			

	Current	Target	Forecast	Variance	
Price	\$6,569,735.00	\$6,569,735.00	\$6,577,223.00	\$1,288.00	ADD
Markup	\$984,119.62	\$984,119.62	\$1,041,388.54	\$57,268.92	CUT
Margin%	14.98	14.98	15.83	\$66,029.81	CUT



Figure 2: Pay Item Record

Training Job - Estimate

File Setup Estimate Quote Price Execution System Integrations

Job Properties Foundation Setup Data Pay Item & Proposal Bid Wizard Resources Labor Equipment Materials Resource Assemblies Cost Item Assemblies Standard Tables Reports

Initialize Resources Assemblies Reports

Cost Breakdown Structure (CBS) Register Pay Item & Proposal Register Pay Item Record

Pay Item Number: 201 0102 Line Number: 20
 Description: Clearing & Grubbing Alternate: BASE Suspend:

Quantity
 Lock Quantity: Pay Quantity: 10.00 Forecast (T/O) Qty: 10.00 Unit of Measure: Acre Qty Variance: 0.00 Qty Variance %: 0.00 Qty Variance Group: Even Run

Price
 Lock Price: Unit Price Precision: 2 Unit Price: \$5,900.00 Total Price: \$59,000.00 Currency: U.S. Dollar Payment Method: Unit Price % Margin: 16.69

Overview Earnings Rules Tags / User Defined Fields

Alarm Limits
 Minimum: 0.00 Maximum: 0.00
 Percentage of Job: 0.00
 Unit Price: \$0.00
 Assignments
 Account: 1110

Proposal Layout Settings
 Insert Subtotal after this Pay Item? Subtotal Description:

Notes

OK Cancel New... < Prev Next >