Explore API Documentation

Explore_Estimate_CostItemBilling

Version 1.0

Last Modified: 20-Nov-2024

Last Modified By: Aaron Cohen

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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	19-Nov-2024	Initial release	Aaron Cohen

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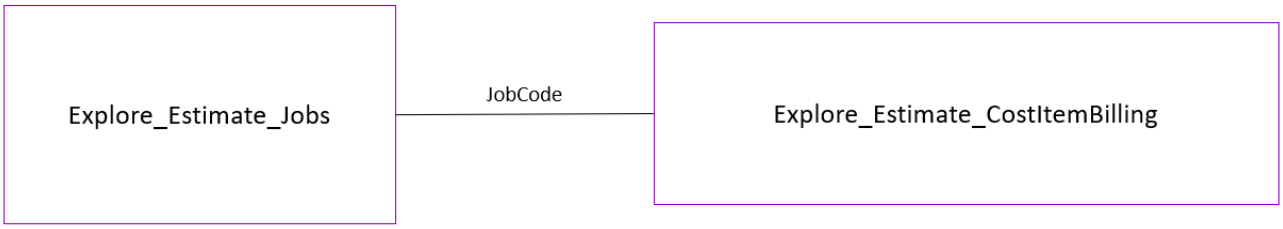
Overview

The ***Explore_Estimate_CostItemBilling*** API provides Cost Item record fields for Billing Rates.

Relationships and Dependencies

From: Table	To: Table	Relationship	Cardinality[1]	Comment
CostItemBilling (CIB)	Jobs (J)	CIB.JobCode = J.JobCode	M:1	



[1] *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		Explore_Estimate_CostItemBilling
Replicate View		[Explore].[vwEstimateCostItemBilling]
Data Refresh/Delta/Incremental Loads		The refresh of the data in this API is sync-based. The time it takes data to appear in this API is dependent on the load on the server at the time. If it takes more than 15 minutes, please submit a ticket with the Service Desk.
Project Suite	**Starting Version**	23.12
	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
EstimateCostItemBillingId	bigint	8	19	0	Estimate	X
CostItemsUID	uniqueidentifier	16	0	0	Estimate	
BidMasterJobUID	uniqueidentifier	16	0	0	Estimate	
JobCode	nvarchar	200	0	0	Estimate	
CBSPositionCode	nvarchar	100	0	0	Estimate	
Description	nvarchar	-1	0	0	Estimate	
ForecastTOQuantity	float	8	53	0	Estimate	
UnitofMeasure	nvarchar	50	0	0	Estimate	
UnitCost	float	8	53	0	Estimate	
TotalCost	float	8	53	0	Estimate	
Currency	nvarchar	400	0	0	Estimate	
BillingUnitRate	float	8	53	0	Estimate	
TotalBillingAmount	float	8	53	0	Estimate	
SubjectBillingAmount	float	8	53	0	Estimate	
SubjectBillingRate	float	8	53	0	Estimate	
BillingRateMarkup	float	8	53	0	Estimate	
BillingRateMarkupPct	float	8	53	0	Estimate	
LaborBillingUnitRate	float	8	53	0	Estimate	

OwnedEquipmentBillingUnitRate	float	8	53	0	Estimate	
RentedEquipmentBillingUnitRate	float	8	53	0	Estimate	
SuppliesBillingUnitRate	float	8	53	0	Estimate	
MaterialsBillingUnitRate	float	8	53	0	Estimate	
SubcontractBillingUnitRate	float	8	53	0	Estimate	
FeesBillingUnitRate	float	8	53	0	Estimate	
AllowanceBillingUnitRate	float	8	53	0	Estimate	
CustomBillingUnitRate	float	8	53	0	Estimate	
UndefinedBillingUnitRate	float	8	53	0	Estimate	
LaborTotalBillingAmount	float	8	53	0	Estimate	
OwnedEquipmentTotalBillingAmount	float	8	53	0	Estimate	
RentedEquipmentTotalBillingAmount	float	8	53	0	Estimate	
SuppliesTotalBillingAmount	float	8	53	0	Estimate	
MaterialsTotalBillingAmount	float	8	53	0	Estimate	
SubcontractTotalBillingAmount	float	8	53	0	Estimate	
FeeTotalBillingAmount	float	8	53	0	Estimate	
AllowanceTotalBillingAmount	float	8	53	0	Estimate	
CustomTotalBillingAmount	float	8	53	0	Estimate	
UndefinedTotalBillingAmount	float	8	53	0	Estimate	
BillingAdjustment	bit	1	1	0	Estimate	
TotalBillingAdjustmentAmount	float	8	53	0	Estimate	
TotalBillingAdjustmentPercent	float	8	53	0	Estimate	
LaborBillingAdjustmentAmount	float	8	53	0	Estimate	
LaborBillingAdjustmentPercent	float	8	53	0	Estimate	
OwnedEquipmentBillingAdjustmentAmount	float	8	53	0	Estimate	
OwnedEquipmentBillingAdjustmentPercent	float	8	53	0	Estimate	
RentedEquipmentBillingAdjustmentAmount	float	8	53	0	Estimate	
RentedEquipmentBillingAdjustmentPercent	float	8	53	0	Estimate	
SuppliesBillingAdjustmentAmount	float	8	53	0	Estimate	
SuppliesBillingAdjustmentPercent	float	8	53	0	Estimate	
MaterialsBillingAdjustmentAmount	float	8	53	0	Estimate	
MaterialsBillingAdjustmentPercent	float	8	53	0	Estimate	
SubcontractBillingAdjustmentAmount	float	8	53	0	Estimate	
SubcontractBillingAdjustmentPercent	float	8	53	0	Estimate	
FeeBillingAdjustmentAmount	float	8	53	0	Estimate	
FeeBillingAdjustmentPercent	float	8	53	0	Estimate	
AllowanceBillingAdjustmentAmount	float	8	53	0	Estimate	
AllowanceBillingAdjustmentPercent	float	8	53	0	Estimate	
CustomBillingAdjustmentAmount	float	8	53	0	Estimate	
CustomBillingAdjustmentPercent	float	8	53	0	Estimate	
UndefinedBillingAdjustmentAmount	float	8	53	0	Estimate	
UndefinedBillingAdjustmentPercent	float	8	53	0	Estimate	
IsTerminal	bit	1	1	0	Estimate	

Suspend	bit	1	1	0	Estimate	
CostItemSort	nvarchar	100	0	0	Estimate	

Field Descriptions

Name	Description	Example
EstimateCostItemBillingId	System generated field, for internal use only	468336
CostItemsUID	Unique identifier for a Cost Item record within a Job. This fields value is not visible in the application.	ec614499-750f-4592-b75d-dac50f4e3e66
BidMasterJobUID	Identifier of the Job record from the Jobs table in the BidMaster database.	baed5a3e-d9cf-495b-b134-67236ab01d63
JobCode	Code field value of the Job as found on the Overview tab of Job Properties or in the Job Register of the Estimate Application	Training Job
CBSPositionCode	CBS Position Code field value of the Cost Item record	4.1
Description	Description field value of the Cost Item record	Furnish & Haul Base Material
ForecastTOQuantity	Forecast (T/O) Quantity field value of the Cost Item record	45000
UnitofMeasure	Unit of Measure field value of the Cost Item record	Ton
UnitCost	Unit Cost field value of the Cost Item record	13.669842299776516
TotalCost	Total Cost (Forecast) field value of the Cost Item record	615142.9034821363
Currency	Currency field value of the Cost Item record	U.S. Dollar
BillingUnitRate	Billing Unit Rate field value of the Cost Item record	14.06176421084289
TotalBillingAmount	Total Billing Amount field value of the Cost Item record	632779.3895
SubjectBillingAmount	Subject Billing Amount field value of the Cost Item record	0
SubjectBillingRate	Subject Billing Rate field value of the Cost Item record	0
BillingRateMarkup	Billing Rate Markup field value of the Cost Item record	17636.486005793675

BillingRateMarkupPct	Billing Rate Markup % field value of the Cost Item record	2.867055103124641
LaborBillingUnitRate	Labor Billing Unit Rate field value of the Cost Item record	1.3717267112398628
OwnedEquipmentBillingUnitRate	Owned Equipment Billing Unit Rate field value of the Cost Item record	3.2704000000000004
RentedEquipmentBillingUnitRate	Rented Equipment Billing Unit Rate field value of the Cost Item record	0
SuppliesBillingUnitRate	Supplies Billing Unit Rate field value of the Cost Item record	0
MaterialsBillingUnitRate	Materials Billing Unit Rate field value of the Cost Item record	8.971083333322168
SubcontractBillingUnitRate	Subcontract Billing Unit Rate field value of the Cost Item record	0
FeesBillingUnitRate	Fees Billing Unit Rate field value of the Cost Item record	0.44855416628085737
AllowanceBillingUnitRate	Allowance Billing Unit Rate field value of the Cost Item record	0
CustomBillingUnitRate	Custom Category1 Billing Unit Rate field value of the Cost Item record	0
UndefinedBillingUnitRate	Undefined Billing Unit Rate field value of the Cost Item record	0
LaborTotalBillingAmount	Labor Total Billing Amount field value of the Cost Item record	61727.70200579382
OwnedEquipmentTotalBillingAmount	Owned Equipment Total Billing Amount field value of the Cost Item record	147168
RentedEquipmentTotalBillingAmount	Rented Equipment Total Billing Amount field value of the Cost Item record	0
SuppliesTotalBillingAmount	Supplies Total Billing Amount field value of the Cost Item record	0
MaterialsTotalBillingAmount	Materials Total Billing Amount field value of the Cost Item record	403698.74999949755
SubcontractTotalBillingAmount	Subcontract Total Billing Amount field value of the Cost Item record	0
FeeTotalBillingAmount	Fees Total Billing Amount field value of the Cost Item record	20184.93748263858

AllowanceTotalBillingAmount	Allowance Total Billing Amount field value of the Cost Item record	0
CustomTotalBillingAmount	Custom Category1 Total Billing Amount field value of the Cost Item record	0
UndefinedTotalBillingAmount	Undefined Total Billing Amount field value of the Cost Item record	0
BillingAdjustment	Billing Adjustment field value of the Cost Item record	FALSE
TotalBillingAdjustmentAmount	Total Billing Adjustment Amount field value of the Cost Item record	0
TotalBillingAdjustmentPercent	Total Billing Adjustment Percent field value of the Cost Item record	0
LaborBillingAdjustmentAmount	Labor Billing Adjustment Amount field value of the Cost Item record	0
LaborBillingAdjustmentPercent	Labor Billing Adjustment Percent field value of the Cost Item record	0
OwnedEquipmentBillingAdjustmentAmount	Owned Equipment Billing Adjustment Amount field value of the Cost Item record	0
OwnedEquipmentBillingAdjustmentPercent	Owned Equipment Billing Adjustment Percent field value of the Cost Item record	0
RentedEquipmentBillingAdjustmentAmount	Rented Equipment Billing Adjustment Amount field value of the Cost Item record	0
RentedEquipmentBillingAdjustmentPercent	Rented Equipment Billing Adjustment Percent field value of the Cost Item record	0
SuppliesBillingAdjustmentAmount	Supplies Billing Adjustment Amount field value of the Cost Item record	0
SuppliesBillingAdjustmentPercent	Supplies Billing Adjustment Percent field value of the Cost Item record	0
MaterialsBillingAdjustmentAmount	Materials Billing Adjustment Amount field value of the Cost Item record	0
MaterialsBillingAdjustmentPercent	Materials Billing Adjustment Percent field value of the Cost Item record	0
SubcontractBillingAdjustmentAmount	Subcontract Billing Adjustment Amount field	0

	value of the Cost Item record	
SubcontractBillingAdjustmentPercent	Subcontract Billing Adjustment Percent field value of the Cost Item record	0
FeeBillingAdjustmentAmount	Fees Billing Adjustment Amount field value of the Cost Item record	0
FeeBillingAdjustmentPercent	Fees Billing Adjustment Percent field value of the Cost Item record	0
AllowanceBillingAdjustmentAmount	Allowance Billing Adjustment Amount field value of the Cost Item record	0
AllowanceBillingAdjustmentPercent	Allowance Billing Adjustment Percent field value of the Cost Item record	0
CustomBillingAdjustmentAmount	Custom Category1 Billing Adjustment Amount field value of the Cost Item record	0
CustomBillingAdjustmentPercent	Custom Category1 Billing Adjustment Percent field value of the Cost Item record	0
UndefinedBillingAdjustmentAmount	Undefined Billing Adjustment Amount field value of the Cost Item record	0
UndefinedBillingAdjustmentPercent	Undefined Billing Adjustment Percent field value of the Cost Item record	0
IsTerminal	Is Terminal field value of the Cost Item record	TRUE
Suspend	Suspend field value of the Cost Item record	FALSE
CostItemSort	Value indicating the ordinal position of the Cost Items in the CBS Register when the register is sorted by the CBS position code. Can be used for sorting. Not visible in the application.	4.1

Sample


```
{
        "EstimateCostItemBillingId": 468336,
        "CostItemsUID": "ec614499-750f-4592-b75d-dac50f4e3e66",
```

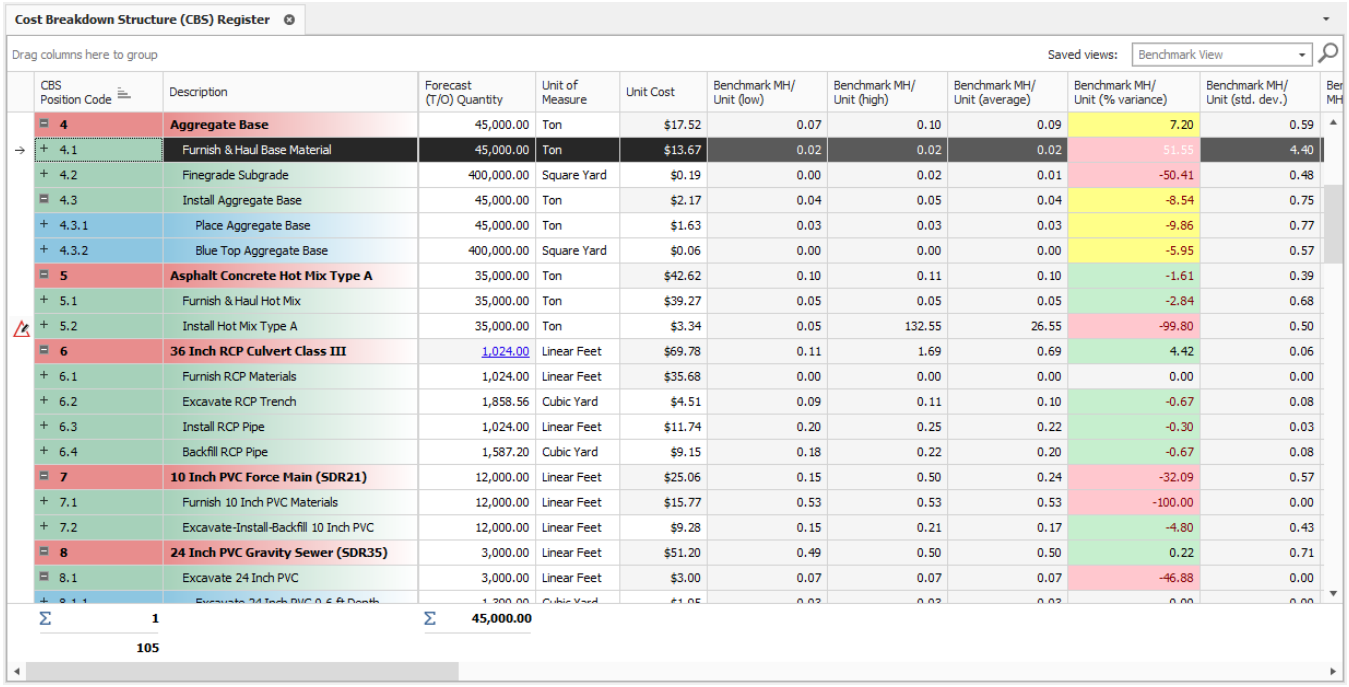
```
"BidMasterJobUID": "baed5a3e-d9cf-495b-b134-67236ab01d63",
"JobCode": "Training Job",
"CBSPositionCode": "4.1",
"Description": "Furnish & Haul Base Material",
"ForecastTOQuantity": 45000.0,
"UnitofMeasure": "Ton",
"UnitCost": 13.669842299776516,
"TotalCost": 615142.90348213632,
"Currency": "U.S. Dollar",
"BillingUnitRate": 14.06176421084289,
"TotalBillingAmount": 632779.38948793,
"SubjectBillingAmount": 0.0,
"SubjectBillingRate": 0.0,
"BillingRateMarkup": 17636.486005793675,
"BillingRateMarkupPct": 2.867055103124641,
"LaborBillingUnitRate": 1.3717267112398628,
"OwnedEquipmentBillingUnitRate": 3.2704000000000004,
"RentedEquipmentBillingUnitRate": 0.0,
"SuppliesBillingUnitRate": 0.0,
"MaterialsBillingUnitRate": 8.9710833333221682,
"SubcontractBillingUnitRate": 0.0,
"FeesBillingUnitRate": 0.44855416628085737,
"AllowanceBillingUnitRate": 0.0,
"CustomBillingUnitRate": 0.0,
"UndefinedBillingUnitRate": 0.0,
"LaborTotalBillingAmount": 61727.702005793821,
"OwnedEquipmentTotalBillingAmount": 147168.0,
"RentedEquipmentTotalBillingAmount": 0.0,
"SuppliesTotalBillingAmount": 0.0,
"MaterialsTotalBillingAmount": 403698.74999949755,
"SubcontractTotalBillingAmount": 0.0,
"FeeTotalBillingAmount": 20184.937482638579,
"AllowanceTotalBillingAmount": 0.0,
"CustomTotalBillingAmount": 0.0,
"UndefinedTotalBillingAmount": 0.0,
"BillingAdjustment": false,
"TotalBillingAdjustmentAmount": 0.0,
"TotalBillingAdjustmentPercent": 0.0,
"LaborBillingAdjustmentAmount": 0.0,
"LaborBillingAdjustmentPercent": 0.0,
"OwnedEquipmentBillingAdjustmentAmount": 0.0,
"OwnedEquipmentBillingAdjustmentPercent": 0.0,
"RentedEquipmentBillingAdjustmentAmount": 0.0,
"RentedEquipmentBillingAdjustmentPercent": 0.0,
"SuppliesBillingAdjustmentAmount": 0.0,
"SuppliesBillingAdjustmentPercent": 0.0,
"MaterialsBillingAdjustmentAmount": 0.0,
"MaterialsBillingAdjustmentPercent": 0.0,
"SubcontractBillingAdjustmentAmount": 0.0,
"SubcontractBillingAdjustmentPercent": 0.0,
"FeeBillingAdjustmentAmount": 0.0,
```

```
        "FeeBillingAdjustmentPercent": 0.0,
        "AllowanceBillingAdjustmentAmount": 0.0,
        "AllowanceBillingAdjustmentPercent": 0.0,
        "CustomBillingAdjustmentAmount": 0.0,
        "CustomBillingAdjustmentPercent": 0.0,
        "UndefinedBillingAdjustmentAmount": 0.0,
        "UndefinedBillingAdjustmentPercent": 0.0,
        "IsTerminal": true,
        "Suspend": false,
        "CostItemSort": "4.1"
}
```

Data Validation

The Cost Item Billing records can be validated by opening using the Billing Rates View in the CBS Register or opening individual Cost Item records.

Figure 1: Cost Breakdown Structure (CBS) Register with the *Billing Rates* saved view selected



Cost Breakdown Structure (CBS) Register

Drag columns here to group — Saved views: Benchmark View

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Benchmark MH/ Unit (low)	Benchmark MH/ Unit (high)	Benchmark MH/ Unit (average)	Benchmark MH/ Unit (% variance)	Benchmark MH/ Unit (std. dev.)
4	**Aggregate Base**	45,000.00	Ton	$17.52	0.07	0.10	0.09	7.20	0.59
4.1	Furnish & Haul Base Material	45,000.00	Ton	$13.67	0.02	0.02	0.02	51.55	4.40
4.2	Finegrade Subgrade	400,000.00	Square Yard	$0.19	0.00	0.02	0.01	-50.41	0.48
4.3	Install Aggregate Base	45,000.00	Ton	$2.17	0.04	0.05	0.04	-8.54	0.75
4.3.1	Place Aggregate Base	45,000.00	Ton	$1.63	0.03	0.03	0.03	-9.86	0.77
4.3.2	Blue Top Aggregate Base	400,000.00	Square Yard	$0.06	0.00	0.00	0.00	-5.95	0.57
5	**Asphalt Concrete Hot Mix Type A**	35,000.00	Ton	$42.62	0.10	0.11	0.10	-1.61	0.39
5.1	Furnish & Haul Hot Mix	35,000.00	Ton	$39.27	0.05	0.05	0.05	-2.84	0.68
5.2	Install Hot Mix Type A	35,000.00	Ton	$3.34	0.05	132.55	26.55	-99.80	0.50
6	**36 Inch RCP Culvert Class III**	1,024.00	Linear Feet	$69.78	0.11	1.69	0.69	4.42	0.06
6.1	Furnish RCP Materials	1,024.00	Linear Feet	$35.68	0.00	0.00	0.00	0.00	0.00
6.2	Excavate RCP Trench	1,858.56	Cubic Yard	$4.51	0.09	0.11	0.10	-0.67	0.08
6.3	Install RCP Pipe	1,024.00	Linear Feet	$11.74	0.20	0.25	0.22	-0.30	0.03
6.4	Backfill RCP Pipe	1,587.20	Cubic Yard	$9.15	0.18	0.22	0.20	-0.67	0.08
7	**10 Inch PVC Force Main (SDR21)**	12,000.00	Linear Feet	$25.06	0.15	0.50	0.24	-32.09	0.57
7.1	Furnish 10 Inch PVC Materials	12,000.00	Linear Feet	$15.77	0.53	0.53	0.53	-100.00	0.00
7.2	Excavate-Install-Backfill 10 Inch PVC	12,000.00	Linear Feet	$9.28	0.15	0.21	0.17	-4.80	0.43
8	**24 Inch PVC Gravity Sewer (SDR35)**	3,000.00	Linear Feet	$51.20	0.49	0.50	0.50	0.22	0.71
8.1	Excavate 24 Inch PVC	3,000.00	Linear Feet	$3.00	0.07	0.07	0.07	-46.88	0.00
8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	1,200.00	Cubic Yard	$1.05	0.03	0.03	0.03	0.00	0.00
Σ 1		Σ 45,000.00							
105									