

Project Estimate Database Quick Guide

Design Manual
Chapter 21
Miscellaneous Topics
Originally Issued: 05-31-12
Revised: 09-02-16

This database is a tool for developing cost estimates. Keep in mind that it cannot account for the special details in a project without the designer's input.

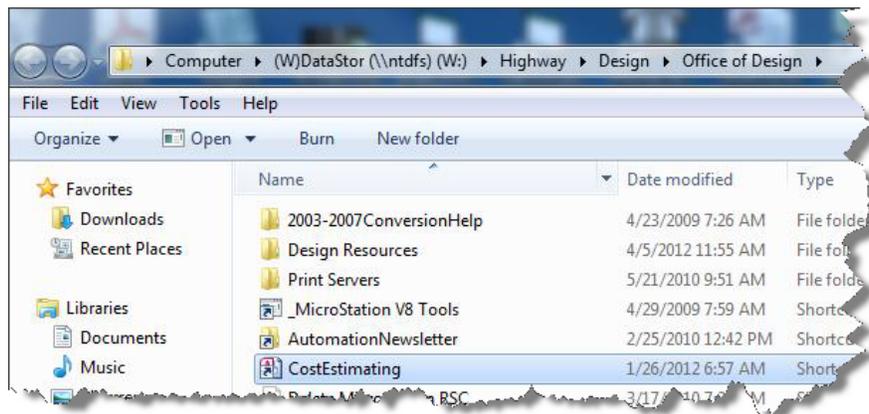
The following topics are included:

- [Enter Screen](#)
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- [Estimating Screen](#)
 - [Items from Project Scheduling System \(PSS\)](#)
 - [Update After Pasting](#)
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- [General Information](#)
- [Entering Bid Items](#)
- [Reviewing Production Estimates](#)
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The database may be accessed on the W drive:

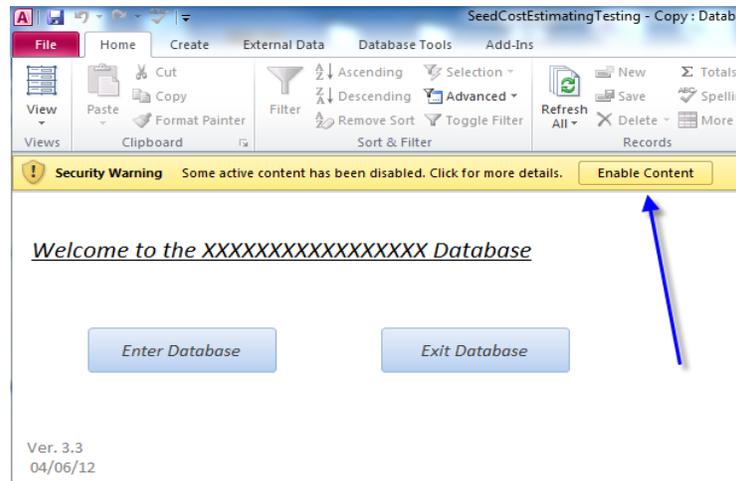
W:\Highway\Design\CADD\Access\SeedCostEstimating.accdb

It is also available through a short cut in the office of design folder:



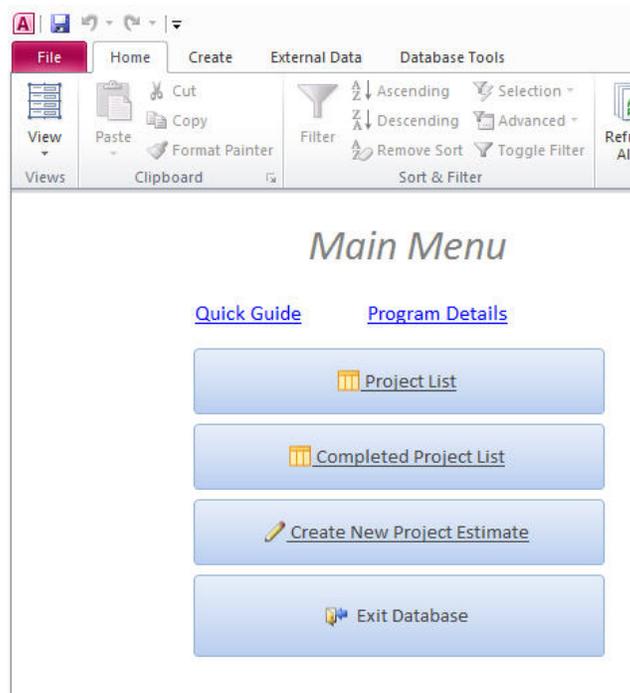
Enter Screen

When you enter the database, you will need to enable the macros to make it work properly (see the blue arrow in the figure shown below). Next select the Enter Database button.



Main Menu

The main menu will have the four options shown below:



Project Estimate List

Review the Project List for an existing project prior to creating a new project. To prevent the user from adding a project that already exists, the option to create new projects will not show the projects that already have an estimate started.



The working table where estimates are developed only allows one estimate per project number per office.

Several options are available for filtering the list of existing projects. By default, it filters based on the username. The user can select another user (red arrow), filter by the Design Section (blue arrow), or list all projects with estimates (black arrow). See the figure below.

Select a project by clicking the magnifying glass button on the left edge of that row (green arrow), see the figure below. The project estimate will open for reviewing or updating.

Project Number	County	Estimator	Office
BG-2C51(002)--80-97	ADAIR	bsmith2	Bridge
BG-2M51(003)--80-49	ADAIR	bsmith2	Design
BG-2N21(003)--80-10	ADAIR	bsmith2	Design
BG-9A10(2)--80-85		bsmith2	Design

If your project is not available in the list of existing projects, you will need to return to the main menu and select Create New Project Estimate. If you are unable to find your project number in either the existing estimate list or the new project list, please contact ODAC. Your project may need to be added to the list of projects. Once you have found or created an estimate, you should be on a screen as shown below. For more detailed information on this screen, see Section [21M-46](#).

Estimate

Project Estimate

Alternative: S Selected Alternative

SubAlternative: S Selected Sub Alternative

Project Number: BG-2M51(003)--80-49

County: ADAIR

Office: Design

Event: D00

Design Section: Road3

Estimator: kbenne2

Average Cost Date: 4/28/2016

Project Complete:

Project Total: \$0.00

Bid Item	Bid Item Description	Units	Qty	Average Cost	Average Cost LastYear	4YearAverage	Extended Co
*							

It is a good idea to add all of your project information prior to selecting bid items. This assures that your county specific costs are applied and that the estimate is associated with the correct event date and design section. Items may be added in one of two ways: 1) select the items one by one from the bid item number field; or 2) copy in items that have been selected within Project Scheduling. Since Project Scheduling has tools to filter and search bid items, it is a more desirable choice for selecting bid items. The second way also prevents double entry of the items since the bid items and quantities will ultimately need to reside in Project Scheduling.

Items from Project Scheduling System (PSS)

Open or create the PSS bid item list. For details on creating the PSS bid item list, see Section [20J-82](#). The bid item list screen should resemble the graphic shown below. When the list is complete, *click* the **Reports** button as shown by the arrow.

Bid Item (V4111149)
 Project No.: BRF-034-7(130)--38-90 Plan Turn-In 02-07-2012 Assigned To: Jame
 Division: [] Letting: 04-17-2012 Eng./Metric: Engli

Design 0112 Division 2

Common Items Division
 Alternate Items Division

Header: Estimated Bridge Quantities

Name: Design 0112
 Desc: Design No. 0112, 770'-0 x 77' CONTINUOUS WELDED GIRDER
 BRIDGE STAGE 2

Line	Item Number	Item	Unit	Quantity	Note	Common N	Meas
1	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1.00	Yes		Stanc
2	2402-2720000	EXCAVATION, CLASS 20	CY	206			Stanc
3	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	385.8	Yes		Stanc
4	2403-7000210	HIGH PERFORMANCE STRUCTURAL CONCRETE	CY	972.5	Yes		Devel
5	2403-7000220	TRIAL BATCH HIGH PERFORMANCE STRUCTURAL CONCRETE	LS	1.00			Devel
6	2404-7775000	REINFORCING STEEL	LB	40,163	Yes		Stanc
7	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	302,956			Stanc
8	2404-7775009	REINFORCING STEEL, STAINLESS STEEL	LB	146			Stanc
9	2408-7800000	STRUCTURAL STEEL	LB	1,043,308	Yes		Stanc
10	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE	LF	82.0	Yes		Proje
11	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING	LF	82.0	Yes		Proje
12	2414-6424110	CONCRETE BARRIER RAILING	LF	805.4	Yes		Stanc
13	2501-0201057	PILES, STEEL, HP 10 X 57	LF	600			Stanc
14	2533-4980005	MOBILIZATION	LS	1.00			Stanc

Division owned by Bridges and Structures

Add Division Update Div. Delete Div. Item List **Reports** Re-

Bid Item Reports (V4112150)
 Project No.: BRF-034-7(130)--38-90

Process

Bid Items
 Estimate Reference Information
 Activity Log

Choose Division

Design 0112
 Division 2

Excel Return

The **Reports** button (above) will cause the **Bid Item Reports** dialog to display, as shown on the right.

Select the **Bid Items** option and the desired **Divisions**, then click the **Excel** button, all shown on the right.

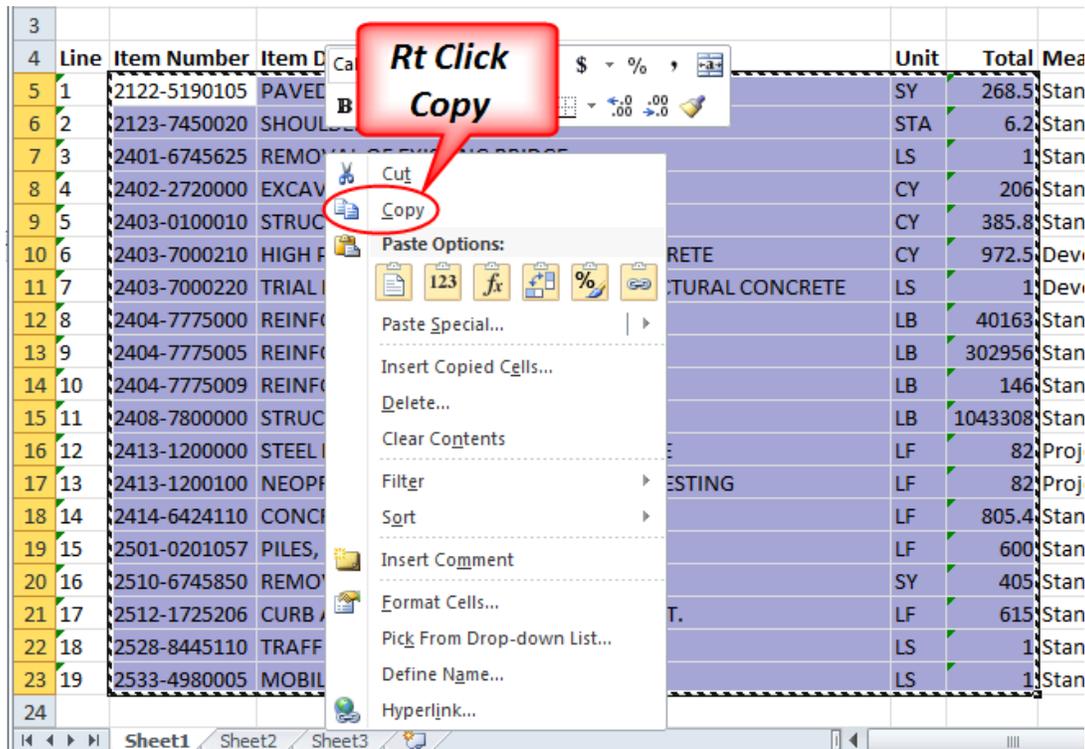
The above steps will cause an Excel file listing of the bid items to display, as shown below. The **Project Estimate** program will only work with one group of numbers at a time, so eliminate all but one of the **Division** columns, or delete all the **Division** columns and work with the **Total** column of numbers. Remove any lines that do not have a bid item number. Usually, these extra lines are generated due to very long descriptions. To retain the entire description, add the end of the description from the second row to the row above it.

Line	Item Number	Item Desc.	Unit	Design 0112	Division 2	Total Measure/Payment
1	2122-5190105	PAVED SHOULDER, P.C. CONCRETE, 10.5 IN.	SY		268.5	268.5 Standard Specifications
2	2123-7450020	SHOULDER FINISHING, EARTH	STA		6.2	6.2 Standard Specifications
3	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1		1 Standard Specifications
4	2402-2720000	EXCAVATION, CLASS 20	CY	206		206 Standard Specifications
5	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	385.8		385.8 Standard Specifications
6	2403-7000210	HIGH PERFORMANCE STRUCTURAL CONCRETE	CY	972.5		972.5 Developmental Specifications
7	2403-7000220	TRIAL BATCH HIGH PERFORMANCE STRUCTURAL CONCRETE	LS	1		1 Developmental Specifications
8	2404-7775000	REINFORCING STEEL	LB	40163		40163 Standard Specifications
9	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	302956		302956 Standard Specifications
10	2404-7775009	REINFORCING STEEL, STAINLESS STEEL	LB	146		146 Standard Specifications - including
11	2408-7800000	STRUCTURAL STEEL	LB	1043308		1043308 Standard Specifications
12	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE	LF	82		82 Project Plans
13	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING	LF	82		82 Project Plans
14	2414-6424110	CONCRETE BARRIER RAILING	LF	805.4		805.4 Standard Specifications
15	2501-0201057	PILES, STEEL, HP 10 X 57	LF	600		600 Standard Specifications
16	2510-6745850	REMOVAL OF PAVEMENT	SY		405	405 Standard Specifications
17	2512-1725206	CURB AND GUTTER, P.C. CONCRETE, 2.0 FT.	LF		615	615 Standard Specifications
18	2528-8445110	TRAFFIC CONTROL	LS		1	1 Standard Specifications
19	2533-4980005	MOBILIZATION	LS	1	0	1 Standard Specifications

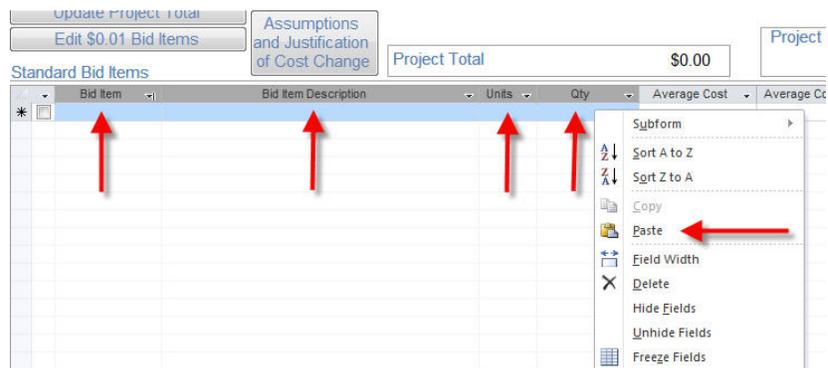
12	2213-8201080	BASE WIDENING, 8 IN. HOT MIX ASPHALT MIXTURE	SY
13	2214-5145150	PAVEMENT SCARIFICATION	SY
14	2301-1003100	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 10 IN.	SY
15	2303-0053503	HOT MIX ASPHALT MIXTURE (10,000,000 ESAL), SURFACE COURSE, 1/2 IN MIX, FRICTION L-3	TON
16	2303-0246428	ASPHALT BINDER, PG 64-28	TON

Delete this row after moving the text

When the modifications to the list are complete, select the information to be copied, then *Rt-click Copy*, as shown below.



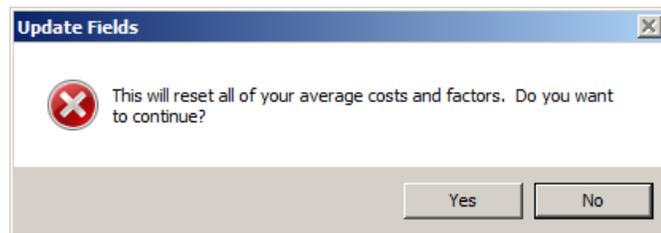
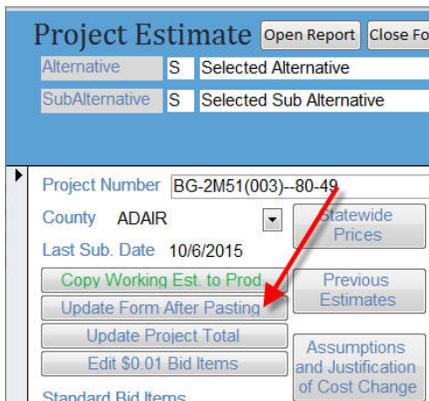
Move back to the **Project Estimate** Access file and select the four columns shown below by holding down the shift key. Then *Rt-click Paste*, as shown at the right.



This will paste a copy of the selected bid items to the **Project Estimate** file, as shown below.

Update After Pasting

After pasting the bid items, *click* the “**Update Form After Pasting**” button, as located by the arrow below.



The **Update Fields** warning box will display as shown to the right.

Click **Yes** to continue.

The **“Update Form After Pasting”** button sorts the bid items to the appropriate locations and assures the costs for the selected county are applied. For more details see Section [21M-46](#). The county must be selected prior to running the update to ensure the appropriate cost information is used and to ensure the county specific bid items function correctly.

Project Estimate Open Report Close Form Change Proj Info. Work with Alternatives Bidx costs

Alternative S Selected Alternative
SubAlternative S Selected Sub Alternative

Project Number BG-2M51(003)--80-49 Office Design
County ADAIR Statewide Prices Event D00 Average Cost Date 4/28/2016
Last Sub. Date 10/7/2015 Design Section Road3 Project Complete
Copy Working Est. to Prod. Previous Estimates Estimator kbenne2
Update Form After Pasting Assumptions and Justification of Cost Change Fiscal Year of Letting
Update Project Total Edit \$0.01 Bid Items
Project Total \$1,390,000.00 Project Total With Last Years Item Prices \$1,356,500.00

Standard Bid Items	Bid Item	Bid Item Description	Units	Qty	Average Cost	Average Cost LastYear	4YearAverage	Extended Co
<input type="checkbox"/>	2101-0850002	CLEAR+GRUBB	UNIT	50,000.00	\$27.80	\$27.13	\$14.59	\$1,390.00
<input type="checkbox"/>	2102-0425071	SPECIAL BACKFILL	CY		\$23.27	\$21.55	\$23.17	
<input type="checkbox"/>	2102-2625000	EMBANKMENT-IN-PLACE	CY		\$12.92	\$12.78	\$11.72	
<input type="checkbox"/>	2102-2625010	EMBANKMENT-IN-PLACE, STKP	CY		\$3.11	\$3.26	\$0.01	

Record: 1 of 4 No Filter Search

Standard Bid Item Total \$1,390,000.00

Non Lump Sum Special Bid Items *Includes Items with a 0.01 average cost*

Item Code	Item Description	Units	Quantity	Average Cost	AvgCstLastYear	Extended	RskFc
2303-0063753	HMA (30M ESAL) SURF, 3/4", FRIC L-3	TON	1	\$0.01	\$0.01		
2201-0505100	BASE, STD/S-F PCC, 10"	SY	1	\$0.01	\$0.01		

The horizontal slide bar will show several more columns of data to the right, as displayed below.

Ext. Cost With Last Years Cs	Qty Factor	Risk Factor	Project Number	LineTotal	LineTotalLastYearsCst	Risk and Quantity Factor Comments	Office	County
\$2.69	1	1		\$2.69	\$2.69			Statewide
\$1,186.68	1	1		\$1,652.49	\$1,186.68			Statewide
\$2,692.42	1	1		\$4,089.10	\$2,692.42			Statewide

Update Project Totals

To update the project total, click the **Update Project Total** button, and updated values will display in the **Project Total** fields, as shown below. The subtotals under each bid item classification will also be updated. The current user's name will be assigned to the estimate.

Update Project Total Edit \$0.01 Bid Items Assumptions and Justification of Cost Change Project Total \$1,390,000.00 Project Total With Last Years Item Prices \$1,356,500.00

Standard Bid Items Fiscal Year of Letting

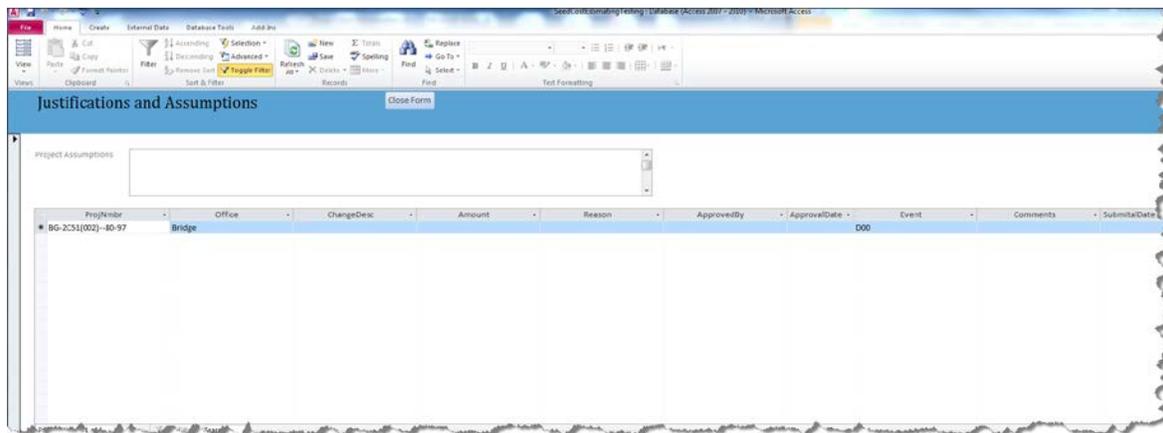
Justifications and Assumptions



As a rule, all significant cost or scope changes will be documented here.

The Justifications and Assumptions form is created to help the designer explain the estimates. Any assumptions made during estimating should be noted here (Example: No staging was assumed for this project).

The justifications portion is for documenting changes to the scope of the project, the amount that the change added or removed from the estimate, and why the change was needed. The justification needs to include the date that the change was approved, who approved the change, and any additional comments. Normally changes will be approved at Project Review or by the District Engineer.



General Information

To make the information accessible for management, or for future review, the working estimate must be copied to the production table. This will be described in more detail later in this document. If the user updates the production table within 30 days or less of the last update, the new information will replace the existing copy in the production table. If it has been longer than 30 days, the previous estimate will be retained. Unlimited copies are allowed for each project and each office within the production table.

When an estimate is complete, the designer should create a PDF copy as a backup and to compare to future estimates.

Entering Bid Items

Within an individual estimate, the bid items are grouped as follows:

Standard Bid Items

This is the first section of the bid items area. These items have adequate cost history to provide acceptable base costs. Items with lump sum unit, items with a 2599-** item code, and any items with a unit cost of \$0.01 are excluded from this item list.

To adjust unit costs of items within this area, adjust either the risk or quantity factor. The number within the risk or quantity factor column is multiplied by the unit cost to increase or decrease the unit price. An explanation is required if any value other than 1.0 is entered in these fields.

Non Lump Sum Special Bid Items

This section includes all 2599-** series bid items that do not have a unit of lump sum, plus any standard bid item with a unit cost of \$0.01. The unit costs can be adjusted by the user. Once an item with a unit cost of \$0.01 has been changed, it will be listed with the Standard Bid Items the next time the estimate is opened. These items cannot be set as a percentage of the overall project cost.

Special Bid Items – All Lump Sum Items other than Unquantified

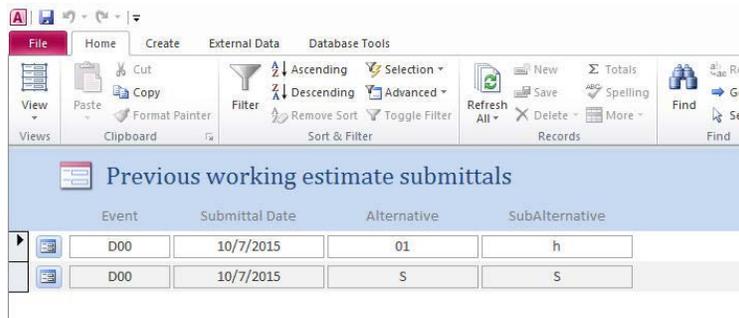
This section works with all lump sum items other than the 'Unquantified' bid items. The user may use a quantity and unit cost, or a percentage of the total costs, of the bid items above. If a percentage is placed in a row, it takes precedence over the unit price and quantity. To use the unit price and quantity, delete the percentage and leave the percentage field blank.

Unquantified Bid Items

This section is setup to account for items that do not have detailed information at the time of the estimate. Only one item is available and it is intended to cover all of the unquantified items. These costs were previously included in a contingency item. However, “unquantified items” better describes the actual costs. The item cost is intended to be a percentage, but can be a lump sum amount if required.

Reviewing Production Estimates

This form allows the user to review projects that have been submitted to the production database. To access this form, **click Previous Estimates** from the project estimate screen, then select a project by clicking the folder button on the left edge of that row. The project estimate will open for reviewing. More complete reporting for these projects will be added as time allows.



‘Estimating Only’ Bid Items

Several bid items are available in the estimating program that are only for estimating purposes. These items are not available in PSS. They are intended to make preliminary estimates more efficient. The whole series of bid items are in the 5000 – 5999 range. Below are a few examples.

tblBidItems		
ItmCd	ItmDscr	Units
5200-0000205	36' MEDIAN-DUAL CROSSOVER	EACH
5200-0000210	50' MEDIAN-DUAL CROSSOVER	EACH
5200-0000215	64' MEDAIN-DUAL CROSSOVER	EACH
5200-0000220	68.24' MEDIAN-DUAL CROSSOVER	EACH
5200-0000225	50' MEDIAN-INTERCHANGE CROSSOVER	EACH
5200-0000230	64' MEDIAN-INTERCHANGE CROSSOVER	EACH
5200-0000235	50' MEDIAN-ONE LANE CROSSOVER	EACH

These items are grouped by which office controls the items. Below is a breakdown of how the items are managed.

Item Grouping	Group managing the items
5200-.....	Preliminary Design
5500-.....	Design
5600-.....	Office of Location and Environment
5700-.....	Bridge
5800-.....	Traffic and Safety
5900-.....	Right of Way

Chronology of Changes to Design Manual Section:

021M-045 Cost Estimates Quick Guide

9/2/2016	Revised Revisions to Reviewing Production Estimates subsection. Deleted Design Numbers subsection. Both changes are related to changes with the estimation database.
1/7/2016	Revised Updated screenshots to include new "Edit \$0.01 Bid Items" button.
5/31/2012	NEW New.