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AASHTOWare Project™ Estimator

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CTDOT AASHTOWare Project Estimator® Procedures Guide

Estimator Version 2.13a-1

Prepared for the
Connecticut Department of Transportation Guide Version 4.0
April 2016

Prepared by:

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WORKING FOR YOU

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Section 1. Overview

Before you use AASHTOWare Estimator®, browse through the beginning chapters of this manual. Read through this chapter before proceeding through the manual; it tells you how the Guide is organized.

This guide was written to document the processes and procedures for Estimator as implemented at the Connecticut Department of Transportation (CTDOT). Additional information can be found in the Generic Estimator User's Guide or Generic Estimator Training Guide.

Information in working with Estimator in web-Trnsport can also be found at Web-Trnsport Interaction Guide .

This guide is intended for users that will be delivering their final estimates to the lead engineer, and for lead engineers delivering their estimate to the Contract Development unit.

This guide was also written for a user without super-user (administrative) privileges. For information on super- users (consultant engineers Estimator Administrators), please read the Estimator System Manager's Guide . Also, read the *System Manager's Guide* if you install and maintain Estimator or manage the reference database, which describes these operations in detail, or if there are menu options available to you that are not discussed in this guide.

The CTDOT AASHTOWare Estimator® Procedures Guide is divided into six chapters and four appendices.

Section l:Overview

Section 2: Getting Started - Prerequisites, focuses on the steps and information needed to get Estimator installed and working with the CTDOT environment.

Section 3: Navigating in Estimator provides general information on the navigation within the Estimator application.

Section 4: Using Estimator at Discipline Level provides information on the different methods of starting an estimate: hand entry into Estimator, import from a spreadsheet, and import from Quantity Manager. This Section includes detailed Estimator instructions.

Section 5: More Information about Items, discusses Estimator items in detail. It covers biddable vs. non-biddable, lump sums, obsolete items, special provision ("A") items, estimated items, and alternate items.

Section 6: Using Estimator at Lead Level, details the steps the lead estimator will take on processing an existing estimate and getting an estimate into ProjectWise. It also covers how a consultant gets an estimate delivered to the DOT.

Appendix A: Glossary provides definitions of Estimator terms.

Appendix B: Consultant Installation provides information on initial setup of Estimator

Appendix C: : Troubleshooting/Support provides information on common errors and how to submit a support request.

Appendix D: Locating Midpoint; provides instructions for finding the correct coordinates for the project.

Appendix E: Revisions

1.1 Estimator

Estimator is an interactive, PC based, stand-alone cost estimation system for highway construction. It is a mature product which has been in production for over twenty years and is currently being used in twenty five other states, including New York, Maine, Maryland, Ohio, Pennsylvania, Vermont, Virginia, and the District of Columbia.

The Estimator program provides the following benefits:

- Estimator supports estimation via cost-based and historical techniques, while permitting ad hoc data entry if historical data is not present. The base data to support historical techniques will be provided via CTDOT's Estimator catalogs. CTDOT Estimator catalogs include the item list and historical item price estimation data (both weighted average and regression coefficient).
- Estimator estimates can be combined, allowing several designers to work independently on different engineering shares (or even parts of shares) then merging them into a single estimate.
- Estimator verification functionality assists with finalizing the estimate by identifying errors such as incompatible or incomplete data.
- Estimates can be easily imported from Excel Spreadsheets.

Estimator can be installed stand-alone or in a networked environment with managed user access for state agencies. Both installation models will use CTDOT's Estimator catalogs. Estimator licenses for consultants are on a "per user" basis, i.e., a license is required for each user. However, there are discounts available for multi-users.

Estimator is designed to estimate the cost of a construction project using items of the project and several estimation methods to determine the price of the items. To use Estimator productively, you must understand the grouping of the items and estimation methodologies used.

Contractors bidding on highway construction projects must determine approximately how much it costs to perform the required work so their bids are not so low that they lose money or so high that they lose the contract. Agencies paying for highway construction need to know how much a project costs so they can set up funding and evaluate the bids they receive. Estimator helps agencies develop these highway construction detailed cost estimates.

Estimator makes sophisticated, technologically advanced highway construction estimation easy. Estimation typically involves an unwieldy quantity of information that must be logically divided to organize the estimation process. Estimator divides this information into manageable estimates and catalogs.

To determine the total cost of an estimate, the estimated cost for each item must be determined. Because quantity estimates have already been developed as part of the design process, the estimator's job becomes one of unit price estimation. The total of all individual item costs provides the cost of the complete construction estimate.

Estimator supports three approaches to estimate unit prices:

- Estimation based on the components (equipment, labor, and materials) used to produce the item (cost-based estimation).
- Estimation based on the historical price of the item from previous contracts (bid-based estimation).
- Estimation based on a subcontractor or supplier quote, or the estimator's experience (reference price estimation).

Each of these estimation methods are discussed later in this document. All estimation methodologies can be used in a single estimate.

1.1.1 High Level Business Workflow – Estimator

The flow diagram shown in this section (***Figure 1***) depicts the High Level Business Workflow for Estimator as used in CTDOT. All final estimates will be delivered to ProjectWise, the Department's integration server (also available on the internet). For more information on ProjectWise, see Section 3 Submitting Digital Contract Documents to CTDOT of the Department's [Digital Project Development Manual](#).

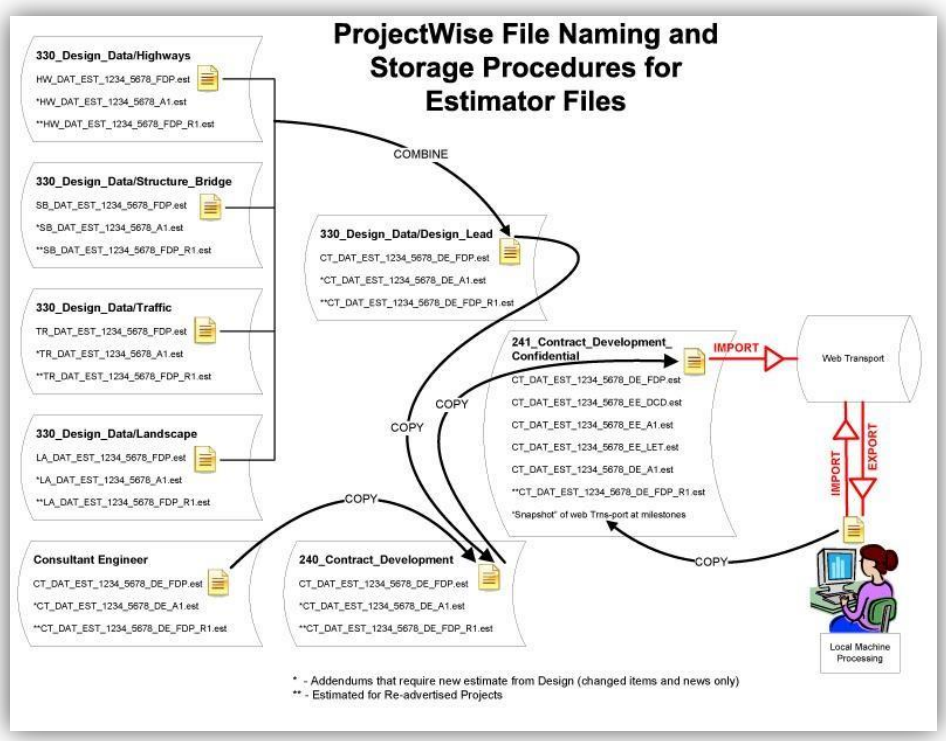


Figure 1. Business Workflow

Figure 1 illustrates how estimates derived from in-house engineers and consultants flow into web Trns•port. It also shows how estimates can be imported to or exported from web Trns•port to perform additional processing of the estimate.

Each of the Discipline Level Estimators will create their estimates and pass them to the Design Lead to process.

The CTDOT Design Lead will combine the estimates received from the Discipline Level Estimators into one estimate. The final estimate will then be delivered to the project specific 240_Contract_Development ProjectWise folder, along with the specifications (contract plans will be delivered to the l00_Contract_Plans (PDF) folder). At the time of delivery, an e-mailwill be sent notifying appropriate Department personnel. Contract Development personnel will then move the estimate into 24l_Contract_Development_Confidential folder.

The Consultant Engineers will create a full estimate on their workstation. The final estimate will then be delivered to the project specific 240_Contract_Development ProjectWise folder, along with the specifications (contract plans will be delivered to the l00_Contract_Plans (PDF) folder). At the time of delivery, an e-mail will be sent notifying appropriate Department personnel.

Contract Development personnel will then move the estimate into the project specific 24l_Contract_Development_Confidential folder.

An Estimator Checklist will be submitted with all estimates. See Section 6.8.2

Completed estimates will be imported into projects within web Trns•port. Estimates that are projects within web Trns•port can be checked out to Estimator by exporting the estimate as an XML file so that they can be worked on to make changes.

1.2 AASHTOWare Products Suite

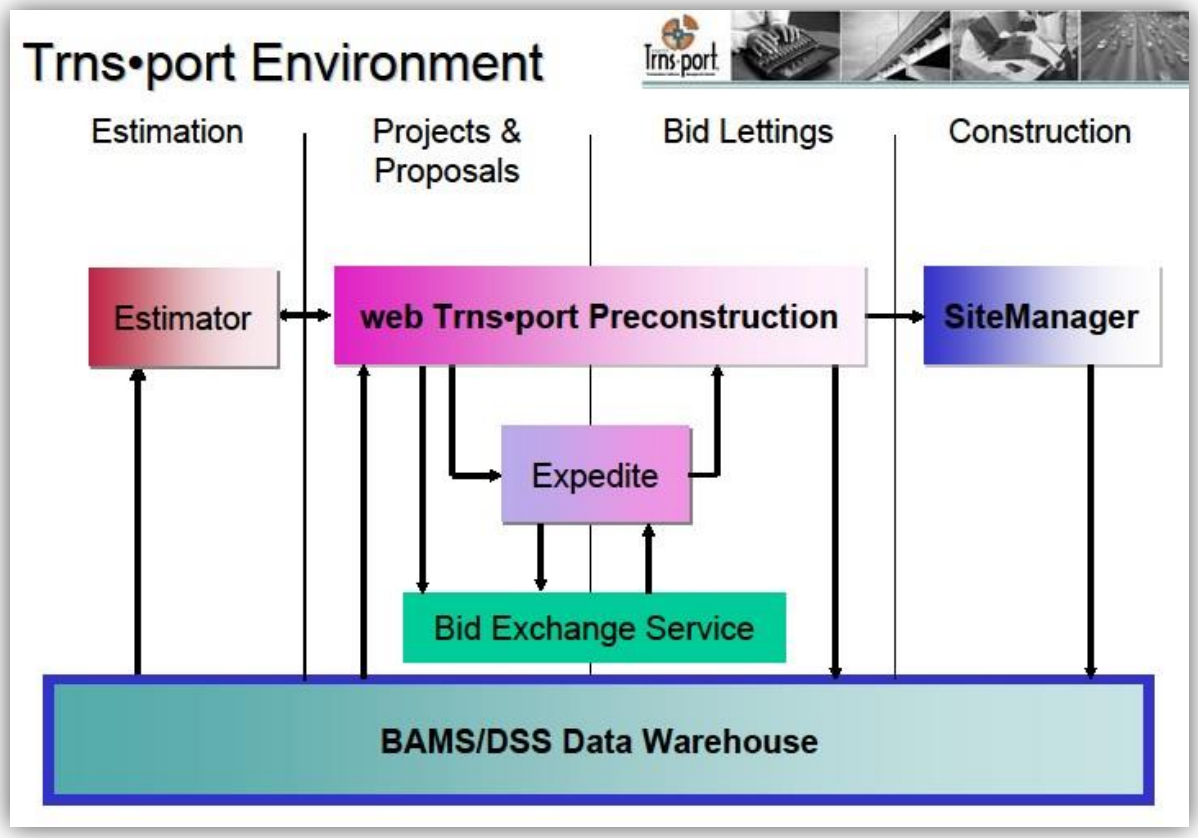


Figure 2. AASHTOWare Products Suite

Estimator is part of a suite of applications for Trns•port.

AASHTOWare is AASHTO's transportation software management solution. It is an integrated construction contract management system that has been developed based on the experience and needs of AASHTO's member agencies.

All of the data these applications rely on are stored in the BAMS/DSS Data Warehouse.

AASHTO Software	Description
Estimator	allows the designers to enter the estimates
Preconstruction	Deals with bid preparation and electronic (on-line) bidding and awards.
Site Manager	Software the Office of Construction uses to track payments to the contractor.

All of the data these applications rely on is stored in the BAMS/DSS Data Warehouse.

To obtain more information regarding the AASHTOWare Products in use at CTDOT go to the Connecticut Department of Transportation website at CTDOT AASHTO Trns•port Environment. On the AASHTO Trns•port page click the links to the various AASHTOWare and Info Tech, Inc. products used at CTDOT to get more information on these products.

Section 2. Getting Started –Prerequisites

Before you can use AASHTOWare Estimator® you will need to install the application on your system and set up your user access and reference data catalogs. This Section covers the information needed to get the application installed for your use. Follow the appropriate instructions below based on whether you are an In-House Agency user or a Consultant Non- Agency user.

This section will also cover information related to the Estimator item catalog that you will use.

2.1 In-House (CTDOT) users

2.1.1 User ID/Password

At CTDOT one of the first things you must do in order to use Estimator is to make a formal request for an Estimator User ID and password. You do this by sending an email request to the Estimator Request mailbox DOT.TrnsPortEstimator@ct.gov.

Once you receive the User ID and Password you will be able to login to Estimator using the instructions provided in your email response.

***Note:** New users who obtain a new Estimator User ID/Password will not be able to open Estimator files created prior to the date the ID/Password was issued. Please see D.2.

2.1.2 Change Password

You should change your password the first time you run Estimator. This ensures that only you are using your Estimator account. If you forget your password, your system manager can reset it for you. For CTDOT users, please contact: Ronald.Tellier@ct.gov or Julie.Annino@ct.gov.

Consultant Engineers must contact their system manager.

Your password should be changed periodically for security purposes. Select from the **Other Tools> Change Password** menu to change your Estimator password. Estimator displays the Change Password dialog box shown in ***Figure 3***:

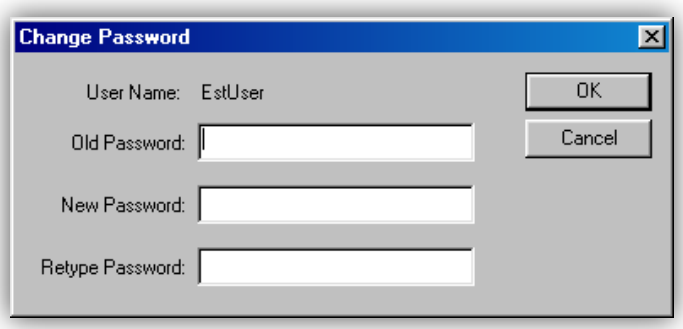


Figure 3. Change Password

Because Estimator does not display passwords on the screen as you type them, you could potentially make a typing error without knowing it. Therefore, Estimator requires you to enter the new password twice. Click **OK**.

Estimator compares the two entries of the new password to make sure they match. If the two entries of the new password are not exactly alike, Estimator displays an error message. If this occurs, you must enter the information again. When the new password has been entered the same way twice, Estimator accepts the new password and includes it in the Estimator User Catalog. You must use the new password when you start a subsequent Estimator work session.

Your password is ***case-sensitive***, which means that capital and lowercase letters must be typed as such each time you enter your password.

2.2 Consultant Users - Initial Setup

See Appendix B for Consultant Engineers Initial Setup.

2.3 Catalog Basics

***Note**: *Estimator 2.13a* allows users to have more than one catalog open at a time. To open additional catalogs, select **Catalog Tools** >**Open A Catalog** from the menu.

Highway construction estimation is based on experience and past estimates. Estimators use a core set of information to develop several different estimates. Estimator catalogs store core information for use in estimation. The Estimator catalogs and code tables make data readily available through a well-organized, easy-to-use interface. You can quickly use information from the catalogs and code tables in your estimates.

To see which catalog is the current catalog, select **Catalog Tools** >**Show Open Catalogs** from the menu:

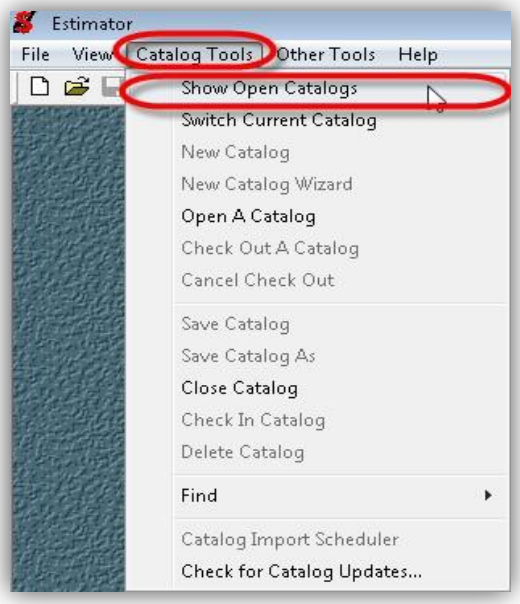


Figure 4. View Current Catalog

To open catalogs go to **Catalog Tools**>**Open a Catalog**:

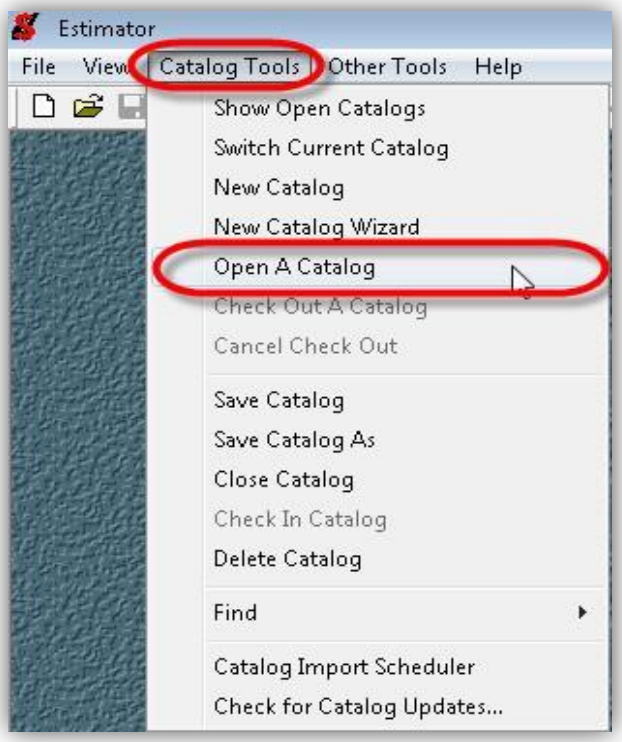


Figure 5. Open Catalog

Select the catalog you wish to use and select OK:

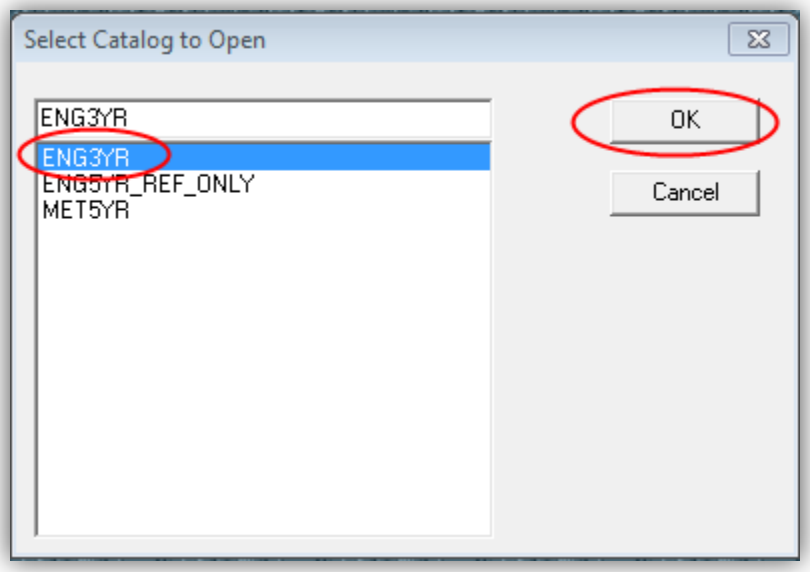


Figure 6. Select Catalog

***Note:** The first time you open Estimator, you may get the following message:

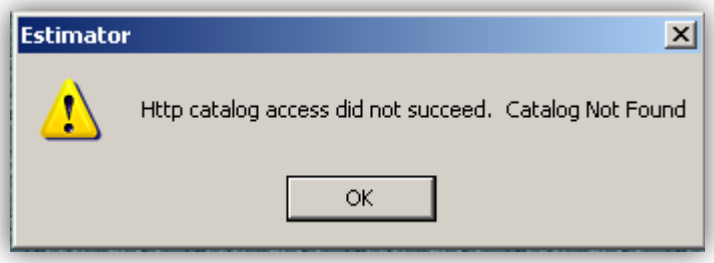


Figure 7. Catalog Error Message

Simply select OK and open a catalog as described above.

2.3.1 Main Catalog

When the catalog is displayed (after selecting **Catalog Tools>Show Open Catalogs** or **Catalog Tools>Open Catalog**), select the top row (name of catalog) and Estimator displays the catalog header and these available fields:

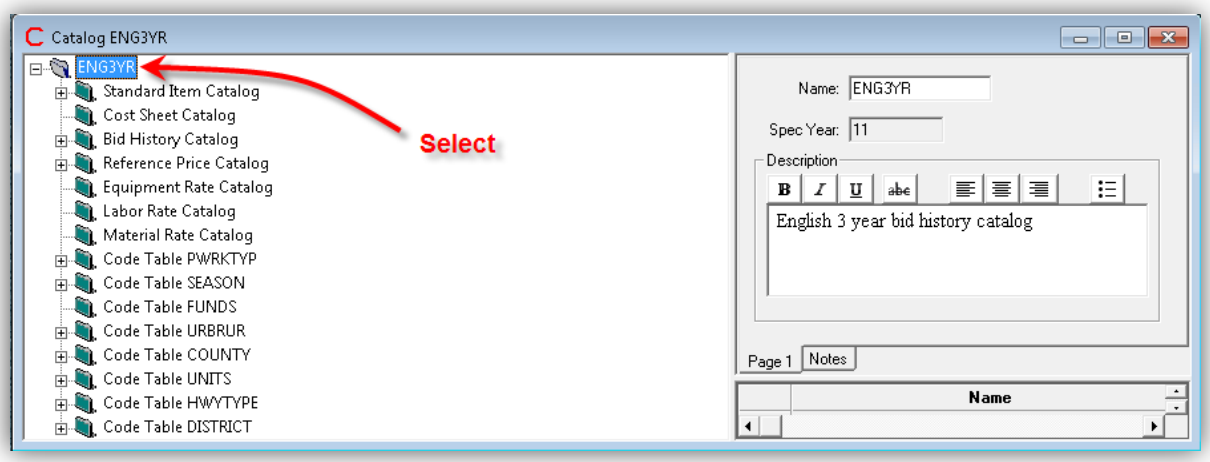


Figure 8. Catalog

Name	The Name field contains the name of the currently loaded catalog.
Spec Year	The Spec Year field is an assigned year value for the standard item catalog. As of August 2011, the English spec year is 11 and the metric is 10.
Description	The Description field is a brief comment about the contents of the catalog. It should indicate the measure of the catalog, along with more descriptive information.

You can also see which catalog an estimate is using by selecting **Estimate Options** from the **Edit** menu when your estimate is open.

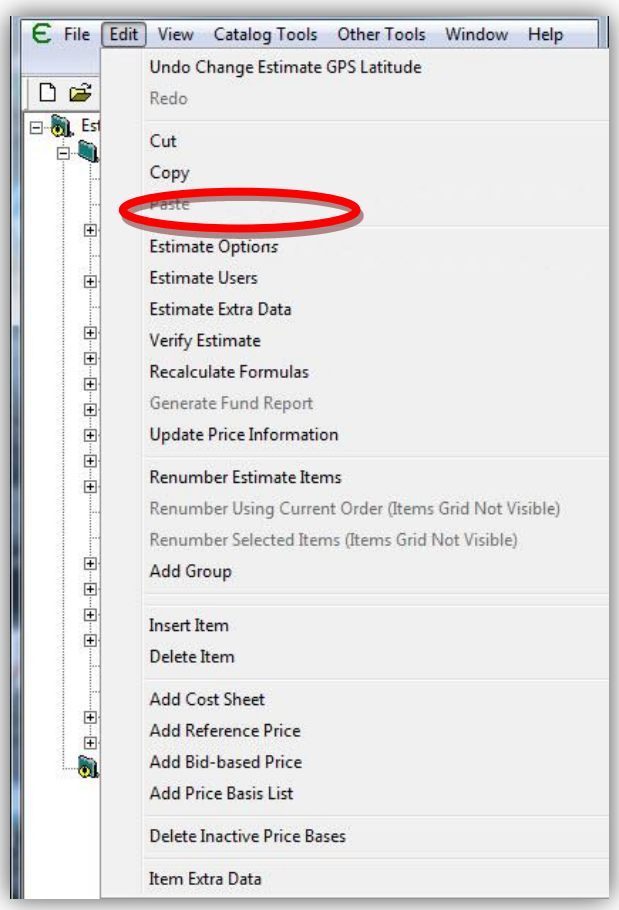


Figure 9. Estimate Options

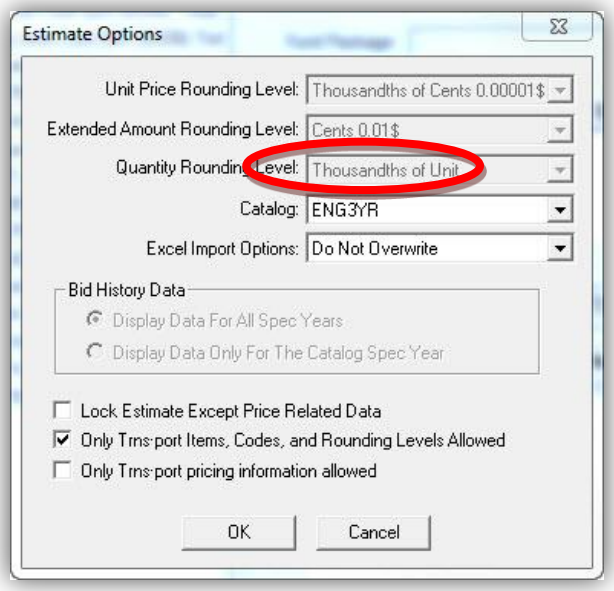


Figure 10. Catalog Selected

2.3.2 The Standard Item Catalog

The Standard Item Catalog contains the construction items and pricing information available to estimate the cost of an estimate. The Item list will be updated monthly with new items; therefore, if you know you will need a new item for a project, follow standard procedures to request a new item (see Requesting a New Item). As a non-super-user, you can view the items in the Standard Item catalog and add them to your estimate.

2.3.3 Viewing the Standard Item Catalog

To view the Standard Item Catalog window, select **Catalog Tools> Show Open Catalogs**:

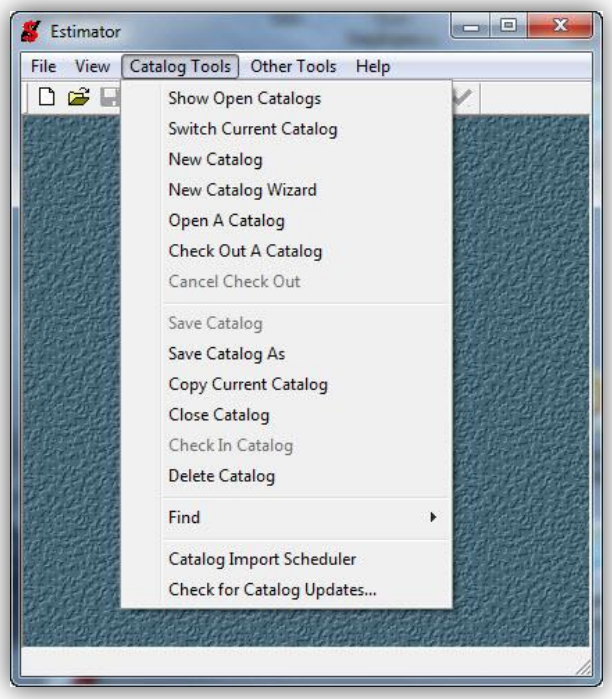


Figure 11. Show Current Catalog

Highlight the Standard Item Catalog in the tree area.

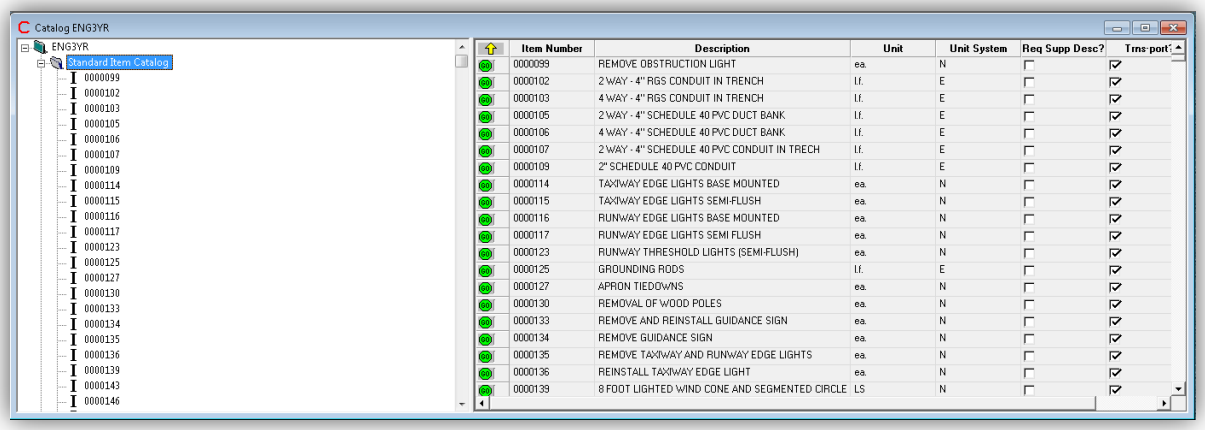
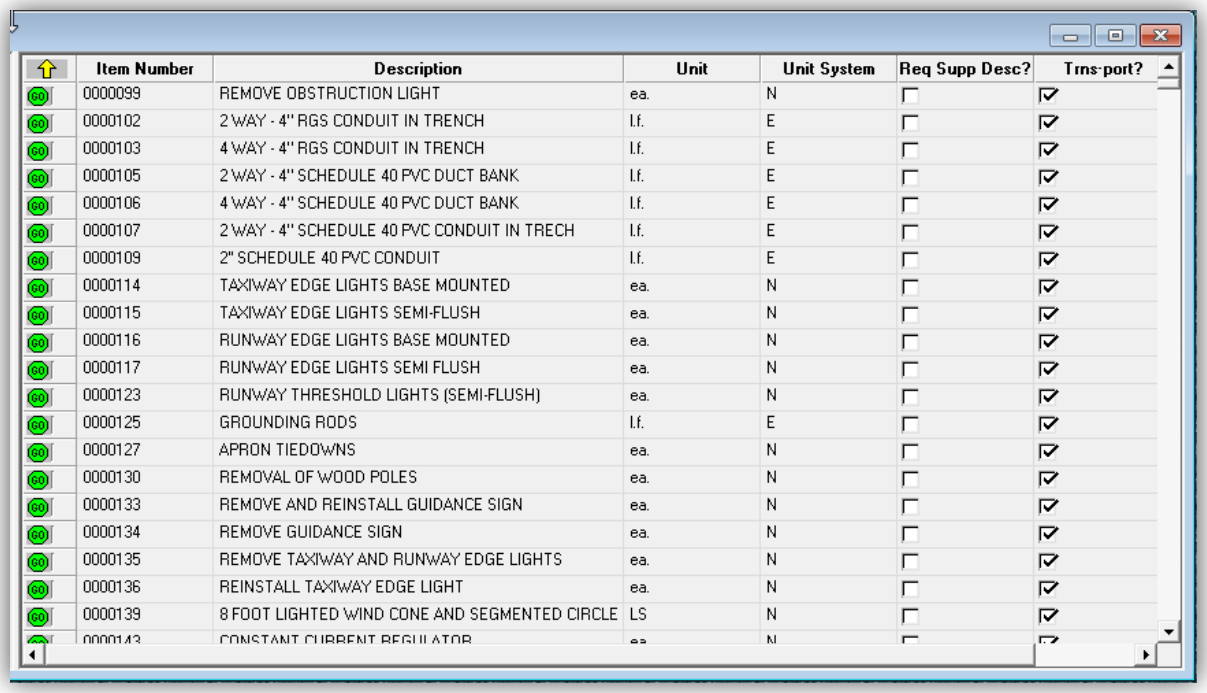


Figure 12. Standard Item Catalog

Estimator displays the Standard Item Catalog window shown in ***Figure 12***.

As shown in the figure above, the fields in the Standard Item Catalog are unavailable (greyed out). This means you do not have the ability to edit the catalog. Super-users can grant this ability to other users. The figure below is an enlargement of the figure above widow on the right:



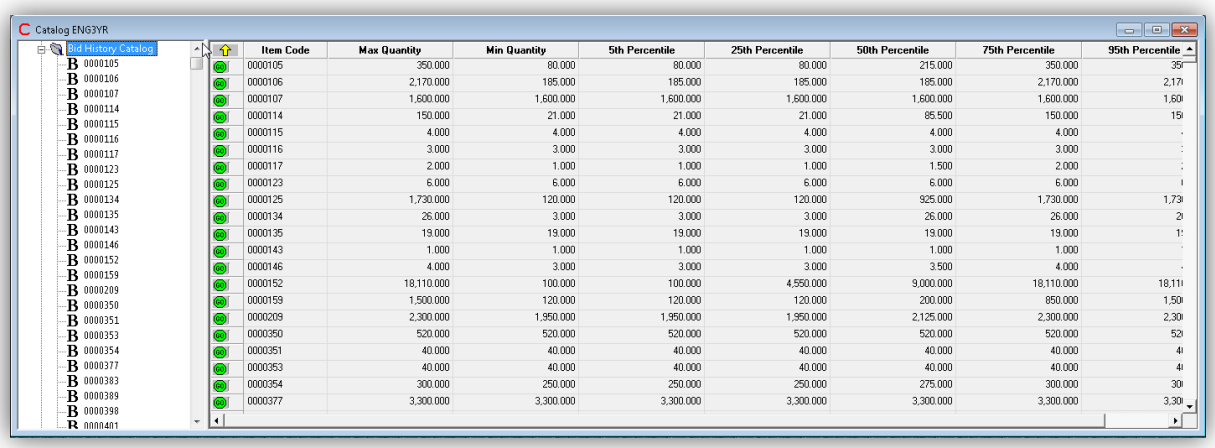
Item Number	Description	Unit	Unit System	Req Supp Desc?	Trns-port?
0000099	REMOVE OBSTRUCTION LIGHT	ea.	N	☐	☑
0000102	2 WAY - 4" RGS CONDUIT IN TRENCH	l.f.	E	☐	☑
0000103	4 WAY - 4" RGS CONDUIT IN TRENCH	l.f.	E	☐	☑
0000105	2 WAY - 4" SCHEDULE 40 PVC DUCT BANK	l.f.	E	☐	☑
0000106	4 WAY - 4" SCHEDULE 40 PVC DUCT BANK	l.f.	E	☐	☑
0000107	2 WAY - 4" SCHEDULE 40 PVC CONDUIT IN TRECH	l.f.	E	☐	☑
0000109	2" SCHEDULE 40 PVC CONDUIT	l.f.	E	☐	☑
0000114	TAXIWAY EDGE LIGHTS BASE MOUNTED	ea.	N	☐	☑
0000115	TAXIWAY EDGE LIGHTS SEMI-FLUSH	ea.	N	☐	☑
0000116	RUNWAY EDGE LIGHTS BASE MOUNTED	ea.	N	☐	☑
0000117	RUNWAY EDGE LIGHTS SEMI FLUSH	ea.	N	☐	☑
0000123	RUNWAY THRESHOLD LIGHTS (SEMI-FLUSH)	ea.	N	☐	☑
0000125	GROUNDING RODS	l.f.	E	☐	☑
0000127	APRON TIEDOWNS	ea.	N	☐	☑
0000130	REMOVAL OF WOOD POLES	ea.	N	☐	☑
0000133	REMOVE AND REINSTALL GUIDANCE SIGN	ea.	N	☐	☑
0000134	REMOVE GUIDANCE SIGN	ea.	N	☐	☑
0000135	REMOVE TAXIWAY AND RUNWAY EDGE LIGHTS	ea.	N	☐	☑
0000136	REINSTALL TAXIWAY EDGE LIGHT	ea.	N	☐	☑
0000139	8 FOOT LIGHTED WIND CONE AND SEGMENTED CIRCLE	LS	N	☐	☑
0000143	CONSTANT CURRENT REGULATOR	ea.	N	☐	☑

Figure 13. Items

Item Number	The Item Number field is a unique combination of letters, special characters, or numbers assigned to standard items by the agency. Estimator does not require you to follow an agency item code format. It is your responsibility to conform to any standards, if they apply.
Description	The Description field includes the name of the item, a brief description of the item, or both.
Unit	The Unit field is a specific unit of measurement that must be provided for each item (***hr*** for time in hours**,** ***c.y.*** for cubic yards**,** ***l.f.*** for linear feet**,** LS for lump sum, etc.).
Unit System	The Unit System field is the system of measurement used for the unit. It is either **M** for metric, **E** for English or **N** for None.
Req Supp Desc.	The Require Supplemental Description field indicates whether a supplemental description is needed for the item.
Trns●port?	The Trns●port field indicates whether the item came from a Trns●port application.
Fixed Price?	The Fix Price flag is assigned to an item indicating that the bid pricing is restricted to that price.

2.3.4 Viewing Bid Histories Attached to a Standard Item Catalog Item

Select an item in the Standard Item Catalog that has at least one bid-based price attached to it. Estimator displays the Bid History Catalog window specific to the item you selected in the Standard Item Catalog.



Item Code	Max Quantity	Min Quantity	5th Percentile	25th Percentile	50th Percentile	75th Percentile	95th Percentile
0000105	350.000	80.000	80.000	80.000	215.000	350.000	35
0000106	2,170.000	185.000	185.000	185.000	185.000	2,170.000	2,17
0000107	1,600.000	1,600.000	1,600.000	1,600.000	1,600.000	1,600.000	1,60
0000114	150.000	21.000	21.000	21.000	85.500	150.000	15
0000115	4.000	4.000	4.000	4.000	4.000	4.000	-
0000116	3.000	3.000	3.000	3.000	3.000	3.000	:
0000117	2.000	1.000	1.000	1.000	1.500	2.000	:
0000123	6.000	6.000	6.000	6.000	6.000	6.000	-
0000125	1,730.000	120.000	120.000	120.000	925.000	1,730.000	1,73
0000134	26.000	3.000	3.000	3.000	26.000	26.000	2
0000135	19.000	19.000	19.000	19.000	19.000	19.000	1
0000143	1.000	1.000	1.000	1.000	1.000	1.000	-
0000146	4.000	3.000	3.000	3.000	3.500	4.000	-
0000152	18,110.000	100.000	100.000	4,550.000	9,000.000	18,110.000	18,11
0000159	1,500.000	120.000	120.000	120.000	200.000	850.000	1,50
0000209	2,300.000	1,950.000	1,950.000	1,950.000	2,125.000	2,300.000	2,30
0000350	520.000	520.000	520.000	520.000	520.000	520.000	52
0000351	40.000	40.000	40.000	40.000	40.000	40.000	4
0000353	40.000	40.000	40.000	40.000	40.000	40.000	4
0000354	300.000	250.000	250.000	250.000	275.000	300.000	30
0000377	3,300.000	3,300.000	3,300.000	3,300.000	3,300.000	3,300.000	3,30

Figure 14. Bid Histories

Click the GO button to see the bid history of an item in its own catalog.

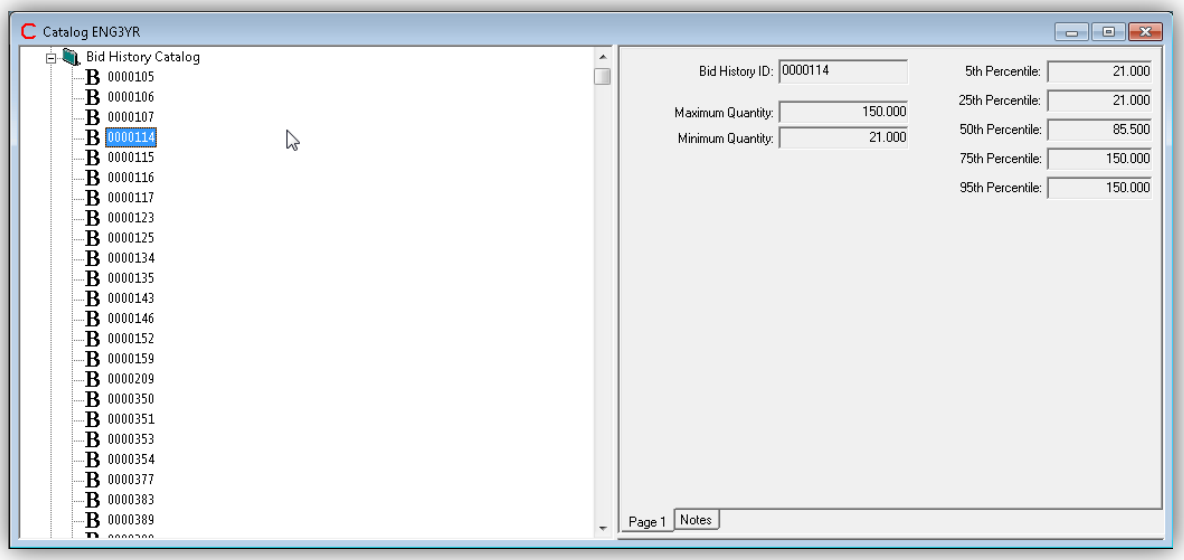


Figure 15. Bid History Information

As shown in ***Figure 15***, the fields in the Bid History Catalog are unavailable greyed out). This means you do not have the ability to edit the catalog. Super-users can grant this ability to other users.

Bid History ID	**Item Number**
Minimum Quantity	This is the minimum quantity that can be entered for a regression analysis to be performed. If a smaller quantity is entered, the user will get an “Out of Range” warning.
Maximum Quantity	This is the maximum quantity that can be entered for a regression analysis to be performed. If a larger quantity is entered, the user will get an “Out of Range” warning.
5th – 95th Percentiles	The values below which percent of the observations may be found.

2.3.5 Viewing Reference Prices Attached to a Standard Catalog Item

Select an item in the Standard Item Catalog that has at least one reference price attached to it. Estimator displays a Reference Price Catalog window that is specific to the item you selected in the Standard Item Catalog.

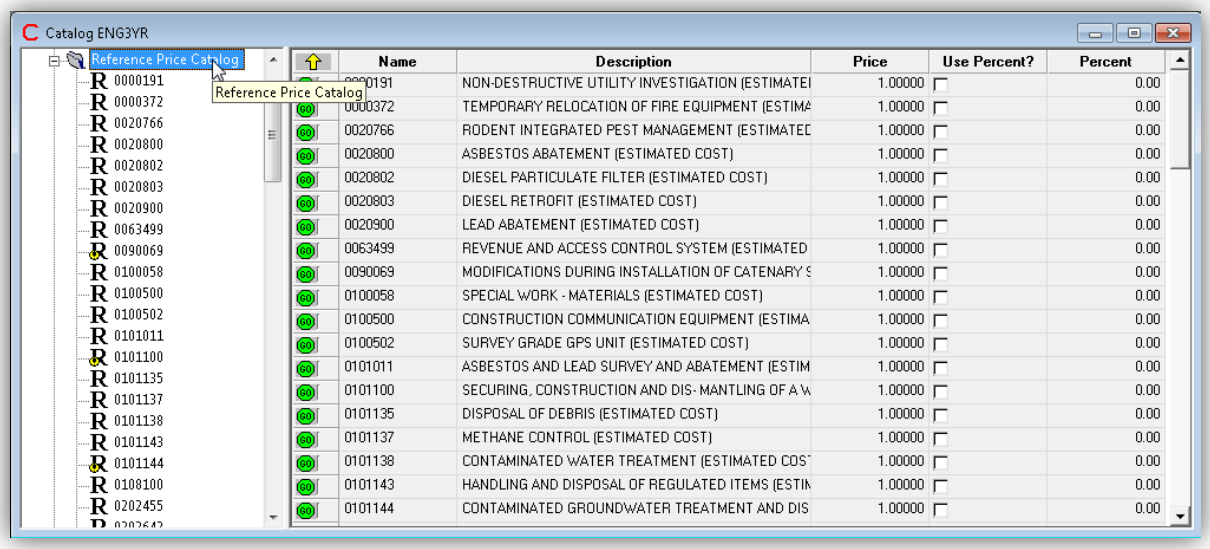


Figure 16. Reference Price Catalog

Click the GO button to see the reference price in its own catalog.

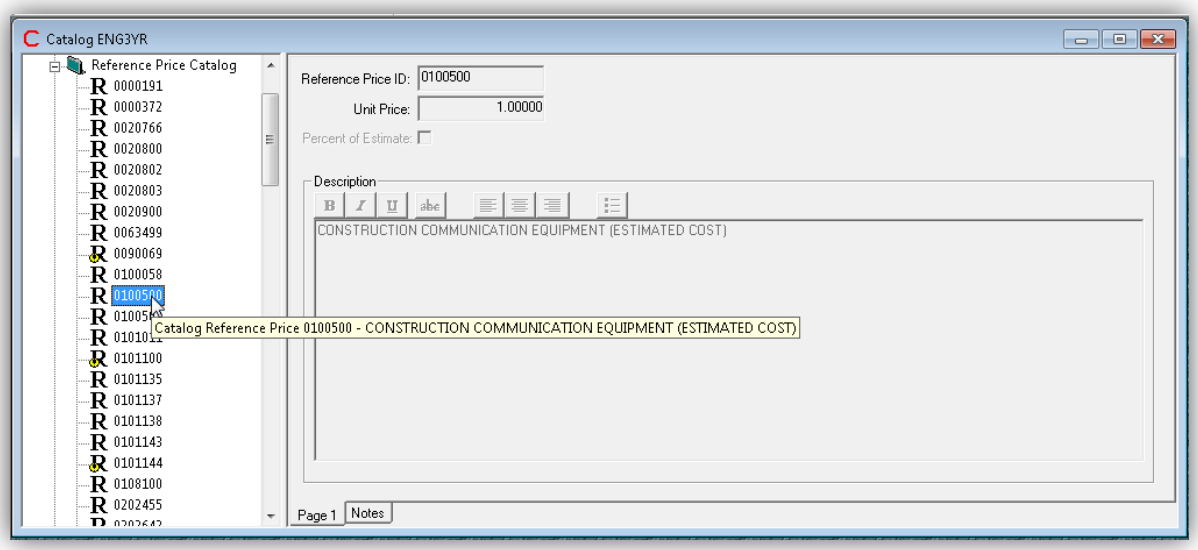


Figure 17. Reference Price

***Note**: Currently, the only reference prices that are attached to items are for items that have units of est. (estimated items). These items all have a reference price of $1 attached to them. This is because the Office of Construction is not allowed to change the price of any item in Site Manager, just the quantities. Because estimated items need to be adjusted during construction, the estimated cost is entered as the quantity <u>for est. items</u> <u>only</u>.

As shown in ***Figure 17***, the fields in the Reference Price Catalog are unavailable. This meansyou do not have the ability to edit the catalog. Super-users can grant this ability to other users.

2.3.6 Cost Sheet and Rates Catalogs

CTDOT does not plan to develop cost-based pricing in the catalog or rate catalogs (equipment, labor and material); however, consultants may wish to develop their own catalogs.

2.3.7 Table Catalogs

These are the catalogs that the estimate header user for generating the drop down lists for work types, seasons, etc.

2.4 Catalog Selection

CTDOT provides metric and English versions of the latest catalogs. Catalogs should be available in the location pointed to by your Catalog Path specified on the Global Options URLs tab.

In previous versions of Estimator, the user was only able to open one catalog at a time. With Version 2.13a, a user can now open more than one catalog as long as an estimate is not open.

You can select which catalog you will be using for the estimate by selecting Open Catalog from the Tools menu. If the Open Catalog selection is not available, then a current catalog is already open and Switch Catalog should be available.

When you open an existing estimate it has a catalog associated with it. This catalog will be opened, if it exists in your copy of Estimator, and will become your current catalog. Select **Show Open Catalogs** from the **Catalog Tools** menu to see the current catalog. If this is not the catalog you wish to use for your estimate, the **Switch Current Catalog** command located under the **Catalog Tools** menu will allow you to select a catalog to open.

The year (YR) refers to the number of years the catalog use past bid histories to estimate costs.

2.4.1 English 3 Year Catalog (ENG3YR)

This catalog will be used for estimates that have English only items and bid history.

2.4.2 English 5 Year Reference Catalog (ENG5YR_REF_ONLY)

This catalog can be used for reference if there is an item in the English 3 year catalog that does not have a bid history. **Do not use this catalog for obtaining cost estimates for the entire estimate.**

2.4.3 Metric 5 Year Catalog (MET5YR)

This catalog will be used for estimates that have metric only items and bid history. 5 years was chosen since the metric items typically do not have an extensive bid history as the English items do; therefore a longer period was needed to obtain cost estimates.

Section 3. Navigating In Estimator

If you are a new Estimator user, you need to learn the software navigation mechanics before you can use Estimator to produce detailed estimates. This Section explains Estimator system elements and how to make those elements interact. It tells you how to set up your working environment and describes Estimator windows and command menus.

3.1 Estimator Windows and Commands

You interact with Estimator through two basic elements: windows and commands. Windows display information and sometimes require you to enter information. Commands displayed in menus at the top of the screen or issued through shortcut keys and command buttons tell Estimator what function you want to perform.

3.1.1 Working with Estimator Windows

Estimator displays catalogs and estimates in windows. You can open several windows at the same time. The active window is the window in which you are currently working. The active window displays in the foreground and has a different colored (usually brighter) title bar. Only the active window receives your keyboard input. If you select Delete from the Edit menu with the wrong active window displayed, you could accidentally delete data. Make sure you know which window is currently active when you issue commands.

A window automatically activates when you open it. It remains active until you open another window or activate a different open window. The lower half of the Window menu lists the names of all open windows in alphabetical order (a maximum of nine window names are listed at one time). A check mark appears next to the name of the active window (only one window can be active) as shown in ***Figure 18***.

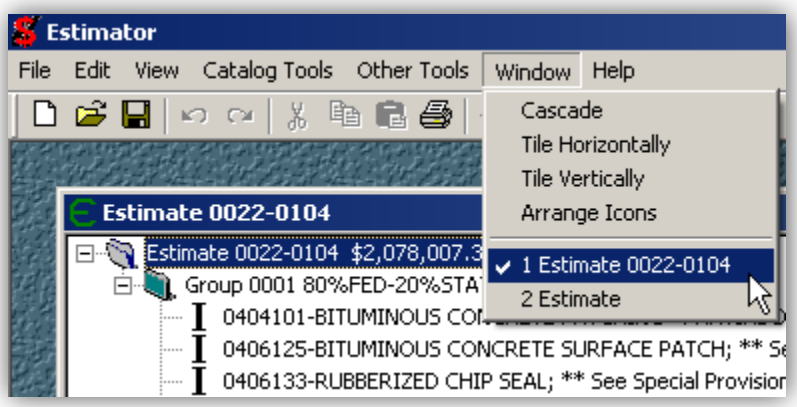


Figure 18. Active Estimate

You can activate an inactive open window in one of three ways: by clicking anywhere in the window with a mouse, by pressing CTRL+F6 until the desired window is activated, or by choosing the name of the window you want to activate from the Window menu.

When you perform one of these actions, Estimator activates the selected window and, if the window was partially or completely hidden behind another window or windows, it reorganizes all the windows on the display screen so that the newly activated window is fully visible.

If 10 or more windows are open on the screen at one time, the Window menu includes the More Windows… command. When you select **More Windows** from the Window menu, Estimator displays the Select Window dialog box, which lists the names of all open windows (see ***Figure 19***).

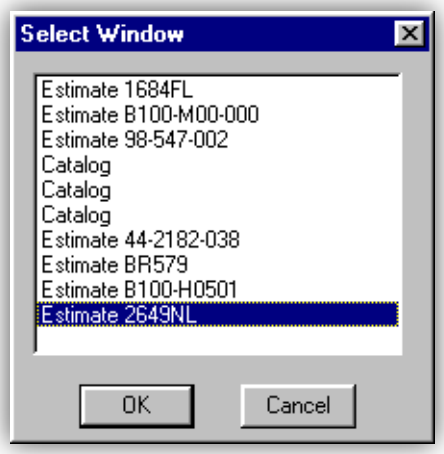


Figure 19. Select Window Dialog Box With List of Open Windows

To activate an open window, select the name of the desired window from the Windows list box and click OK.

Arranging Windows

You can modify the way Estimator displays open windows on the screen. The upper half of the Window menu contains the commands Tile and Cascade to allow to a way to establish how you want the windows displayed. The Window menu is only available when a window is open.

These commands organize the layout of the open windows. Estimator enables these commands when two or more windows are open.

Select **Cascade** from the **Window** menu to organize the open windows into an overlapping, cascading format.

Select **Tiled** (Vertically or Horizontally) from the Window menu to organize the open windows so all windows are simultaneously visible on the computer screen.

Read-Only Windows

If you do not have permission to edit an estimate or if the proper catalog is not loaded for that estimate, then the words Read Only appear in the title bar of the window (see ***Figure 20***). If you work in windows that display this, you cannot make changes or additions to the catalog or estimate.

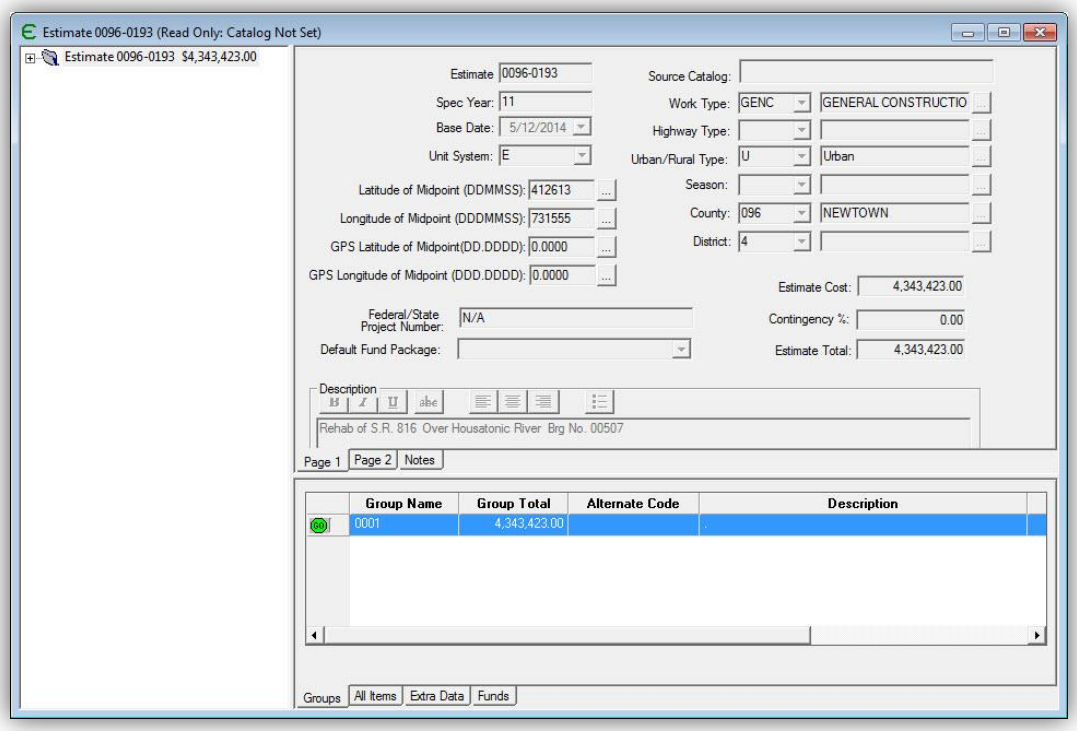


Figure 20. Estimator Window With Read-Only Access

If you are a system administrator accessing a catalog though a Web server, then data sharing can often be problematic between several users. Estimator allows the first user who checks out a catalog to edit that catalog. Estimator grants subsequent system administrator users read-only access to the data.

***Note**: CTDOT in-house estimators will be limited to read-only access to catalogs.

An estimate also becomes a read-only estimate when the current catalog changes to one that is incompatible with the estimate, such as a different spec year or different system of measure.

3.1.2 Tree Area vs. Grid Area

Estimator displays list information in a tree area, and the corresponding detail information in a grid area as depicted in ***Figure 21***.

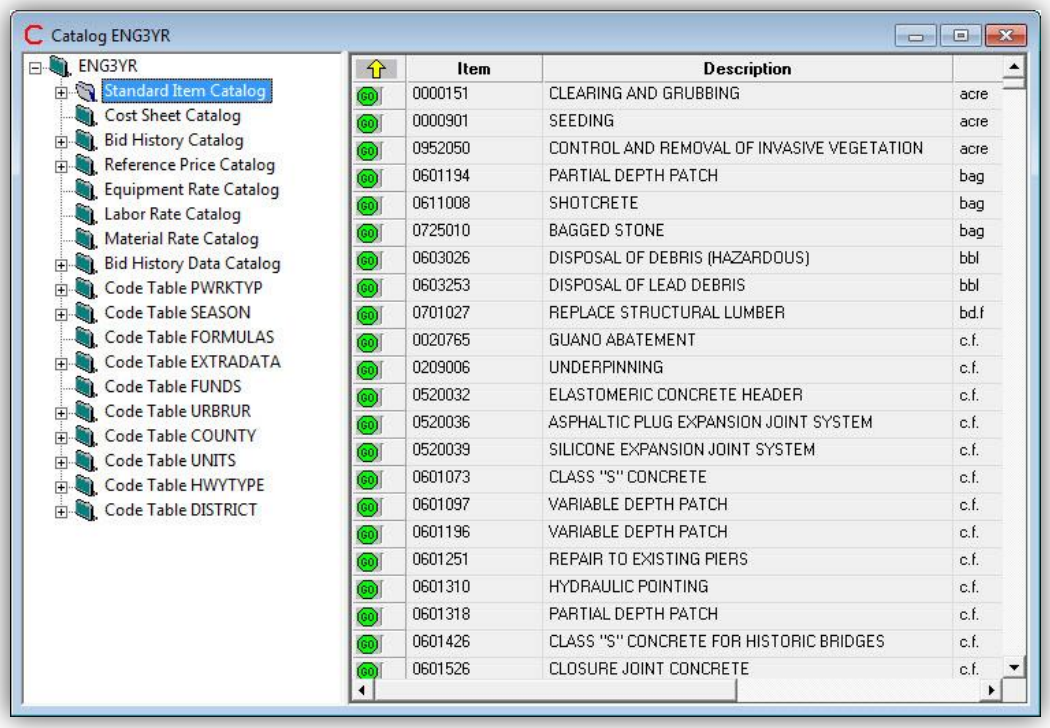


Figure 21. Catalog List in a Tree Area With Corresponding Catalog Selection in Grid Area

The tree area, in the left pane, is a list of all information available for that particular window. The elements with plus signs represent a hierarchy of information for that particular element.

The grid area, in the right pane, displays the details of the selected information in the tree area, although you do not need to use the tree to access the information in the grid. If you select an element in the grid area, the tree displays the location of that information in the hierarchy.

Most information in Estimator is displayed with tree areas and grid areas, even if they are mixed with other types of displayed information as shown in ***Figure 22***.

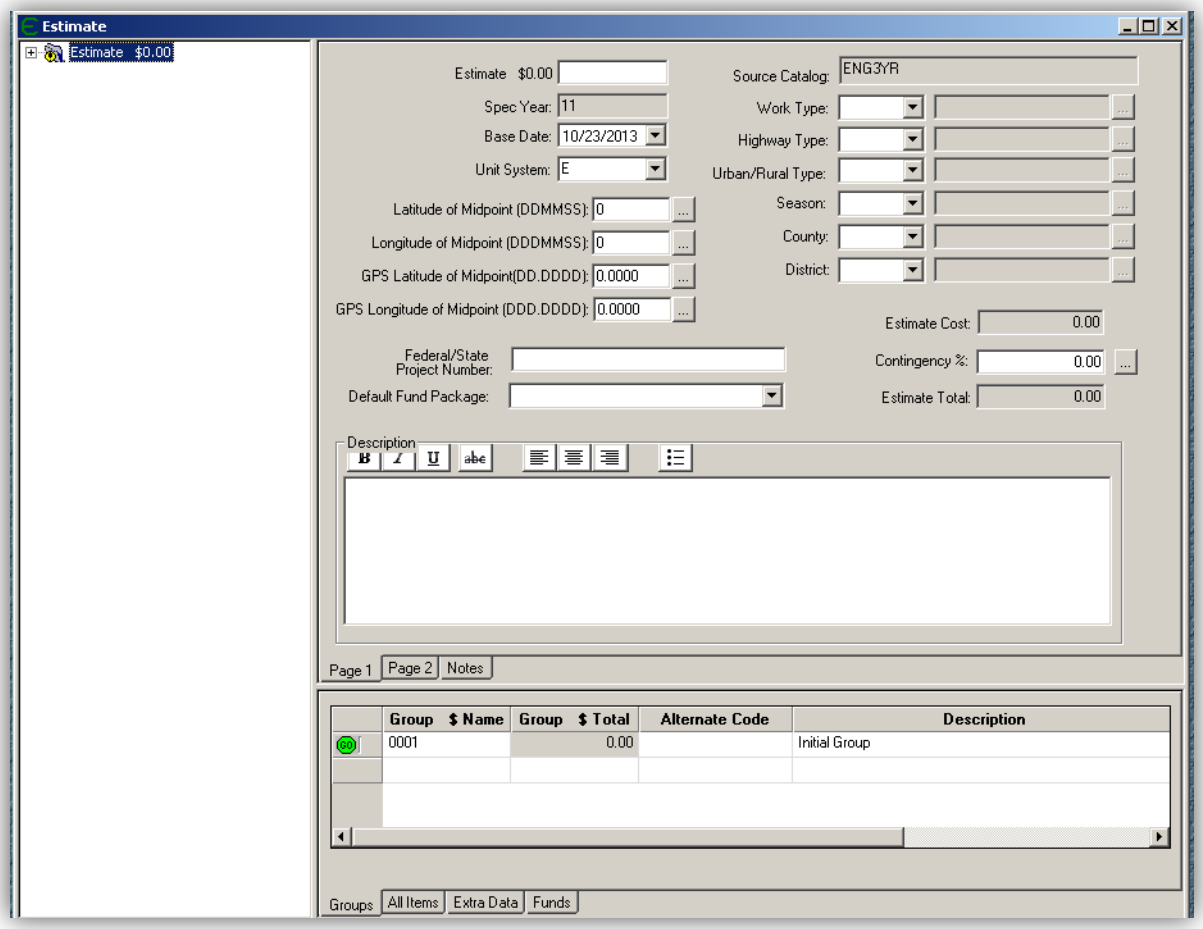


Figure 22. Estimate Displaying Tree Area, Grid Area, and Data Entry Fields

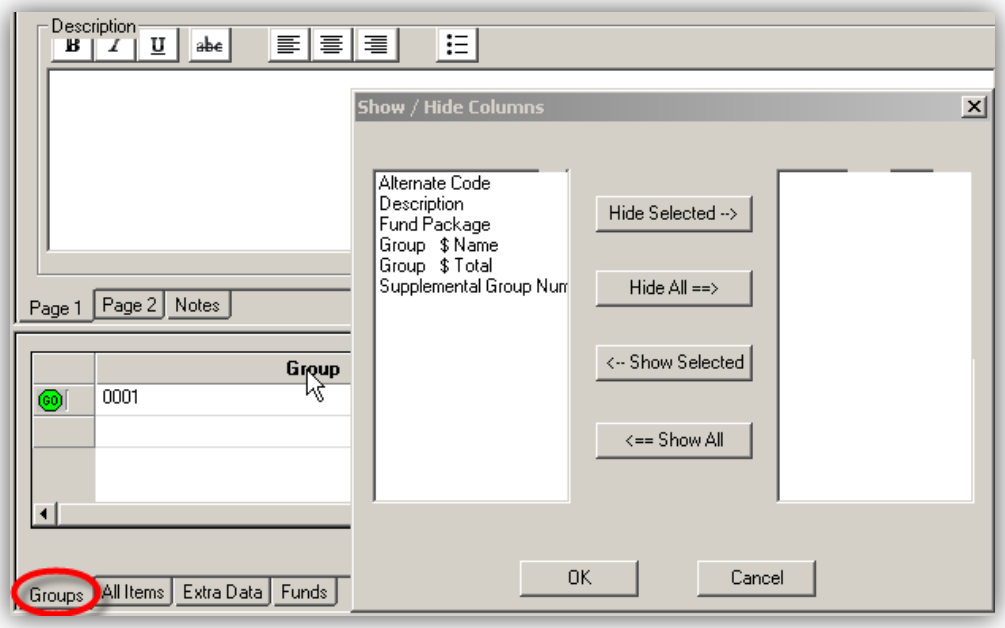
To move around in the tree area, use the plus signs next to the group, item, or catalog to display the details in the grid area, and select the desired element in the tree area to display it in the grid area. Click the GO button next to the information in the grid area or use the navigational arrows to access the corresponding information in the tree area.

3.1.3 Hide/Show Columns

In addition to hiding the tree view, you can also hide columns in your estimate or catalog. For example, if your agency never uses the Alternate Code description for a group, you can hide that column from the grid area.

Each window in Estimator has its own columns for hiding or showing. The Show/Hide Columns window displays differently depending on where you are in Estimator.

With the estimate open, select **Hide/Show Columns** from the **View** menu. Estimator displays the Show/Hide Columns window.



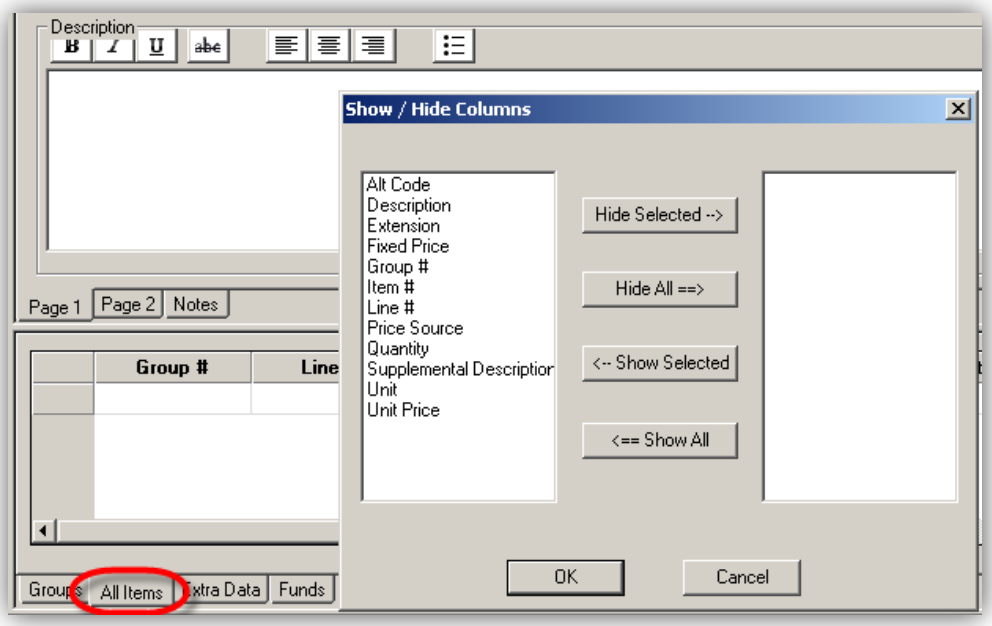


Figure 23. Estimator Show/Hide Columns Window

Figure 23 depicts the window that lists the current columns, and shows which ones are displayed and which are hidden for the Groups tab and All Items tab.

a) Select the columns you wish to hide in the left pane. Then click HIDE SELECTED. The selected columns move to the right pane.

b) Click OK. The selected columns are hidden in your estimate.

c) To show the hidden columns, select Show/Hide Columns from the View menu.

d) Select the columns to be shown, and then click SHOW SELECTED. The columns moves from the Hide list to the Show list.

e) Click OK. The hidden columns are now visible.

If you had wanted to hide all the columns, you would have clicked the HIDE ALL button in the Show/Hide Columns window. If you wanted all the hidden columns visible, you would have clicked the SHOW ALL button.

3.1.4 Show/Hide Tree View

If you prefer to work in the grid area only, you can hide the tree area in Estimator catalogs and estimates. You can navigate using the grid area.

To hide the tree view, open the catalog or estimate. Select **Show/Hide Tree View** from the **View** menu. Estimator displays the grid area only.

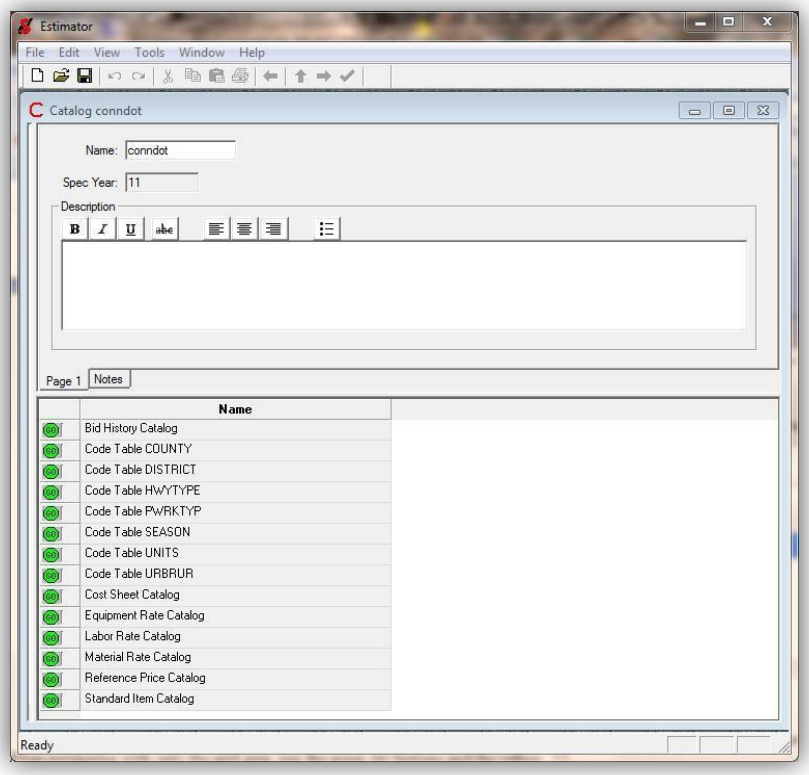


Figure 24. Catalog With Grid Area Only

When navigating with only the grid area, use the green go buttons and the yellow directional arrows to move through the estimate or catalog. To view the tree area again, select **Show/Hide Tree Area** from the **View** menu.

3.1.5 Expand or Collapse All Tree View

Estimator has commands that will let you view all parts of the estimate in the tree area. When you choose to expand the tree view, Estimator acts as if you have clicked every plus (+) sign in the estimate or catalog. Each group, item, and price basis is visible when used in an estimate; each catalog and code table is visible when used in the current catalog.

To see all tree items for your selected estimate or catalog, select **Expand All Tree View** from the **View** menu.

You can also close each opened item at once using the Collapse All command. When you choose this command, Estimator acts as if you have clicked every minus (-) sign in the estimate or catalog.

To close all expanded tree items, select **Collapse All Tree View** from the **View** menu.

3.2 Getting Help

Estimator provides an online Help system you can access while using the application. Look in the online help for instructions on how to perform Estimator functions.

3.2.1 Using Online Help

You can access Help in a variety of ways, depending on the type of information you need. To get help on the active window, select **Help on Active Window** from the **Help** menu. To search for a specific topic, select **Search** from the **Help** menu. Select **Contents** from the Help menu to browse the table of contents for the Estimator Help system and then choose a topic.

Estimator Help is *context sensitive*. In other words, you can display help windows specific to open windows and menu commands while you are working in Estimator. To get help on the active window, press SHIFT+F1. To get Help on a specific menu command, press F1 when the menu command is highlighted.

3.2.2 Generate Support Request

The Generate Support Request command displays a support request form. Enter all the necessary information and save the file, then attach it to an e-mail and send it to:

DOT.TrnsPortEstimator@ct.gov.

Information on this form is used to help solve Estimator problems. You can also suggest future enhancements you would like added to Estimator. When you choose Generate Support Request from the Help menu, Estimator displays the Generate Support Request dialog box (see ***Figure 25***).

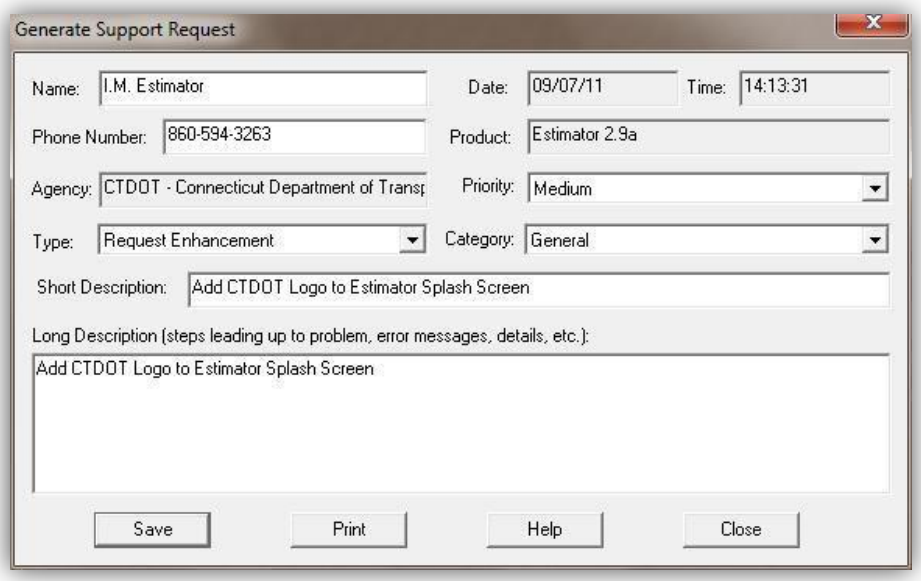


Figure 25. Support Request Dialog Box

Enter your name and telephone number in the appropriate fields. In the Type field, click the down arrow and choose the type of request you are generating from the selection list. In the Priority field, click the down arrow and choose a priority level according to the importance of your request. In the Category field, select the type of problem you are having. In the Short Description field, give a brief description of the problem or comment. In the Long Description field, give a detailed description of the problem or comment. When you finish entering information for the request, click on SAVE. Save the support request as a text file, and then e-mail it to Info Tech.

The Priority field has several options from which to choose. Use the following descriptions to help you choose the right one.

Low	Problem is a nuisance to business functions.
Medium	Problem is a definite issue that causes a minor inconvenience but does not prevent business functions from being completed.
High – Important	Problem is a major inconvenience but does not prevent critical business functions from being completed.
Critical – Very Important	Problem prevents implementation or upgrade of Trns•port from being completed. This classification is for use by licensees that are not in production use of the release and needs to include a date by which the fix is needed. This classification should only be used on errors that would be considered Urgent if the licensee was in production use of the software.
Urgent – Very Important	Problem stops the ability to perform a critical business function. This classification is for use by licensees that are in production use of the release.

3.2.3 Getting Information about Estimator

When you select **About Estimator…** from the **Help** menu, the About Estimator window appears (***Figure 26***), which contains the full-length name of the Estimator program, the Estimator icon, the Estimator program release number, and the copyright notice.

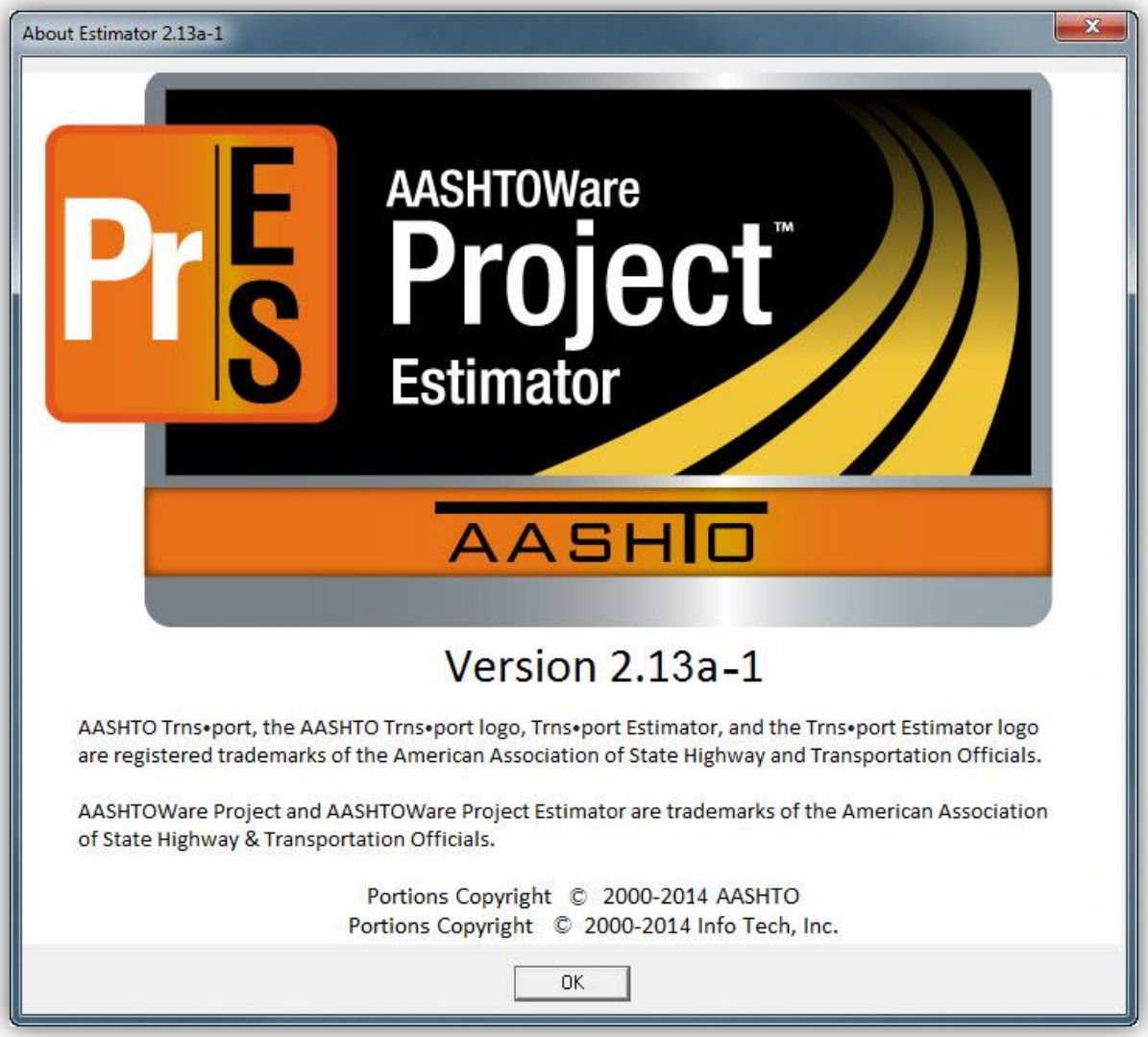


Figure 26. About Estimator Window

3.2.4 Setting Up Your Working Environment

You can set defaults in Estimator that manage how windows display on the screen, how often you save your work, and other preferences.

You can modify some of your Estimator working environment as described earlier. However, there are some settings that are required by CTDOT. CTDOT in-house estimators will not be able to change the Global Options settings. If you are a consultant, please refer to B.2 of this document for information.

Section 4. Using Estimator at the Discipline Level

This chapter covers four methods of estimate creation, detailed instructions for entering the estimate header, adding groups and items, and the various pricing methods. Finally, the chapter discusses the processes related to delivering the final estimate to the Lead Engineer.

***Note:** For Estimator files being delivered to the lead engineer or to the Processing Unit at the Final Design Plan date (FDP), the items will be grouped by funding source. If there are non-bid items, they will be contained in a separate group (named 8888) also. Items that occur more than once will be combined (rolled up) so there is only one occurrence of an individual item per estimate, unless they are in different funding groups. This is important as other downstream AASHTOWare processes, particularly SiteManager®, need the estimate to be in this format. If the funding source is not known, place all of the items into one group.

4.1 Estimate Creation

There are four main methods of creating an estimate for CTDOT. The Estimate may be entered directly into Estimator, created from a template, imported from Excel spreadsheets, or imported from InRoads Quantity Manager.

4.1.1 Direct Entry into Estimator

- Log into Estimator and the New File icon or select New from the File menu.
- Fill out the project header information (see Section 4.2 Project header Information).
- Enter a description for the default initial group. The description should be a funding group. This field is required.

Add other groups if necessary (if more than one funding source) with descriptions (see Section 4.3.1Adding Groups).

In the example below, one group was added - 100% State funding

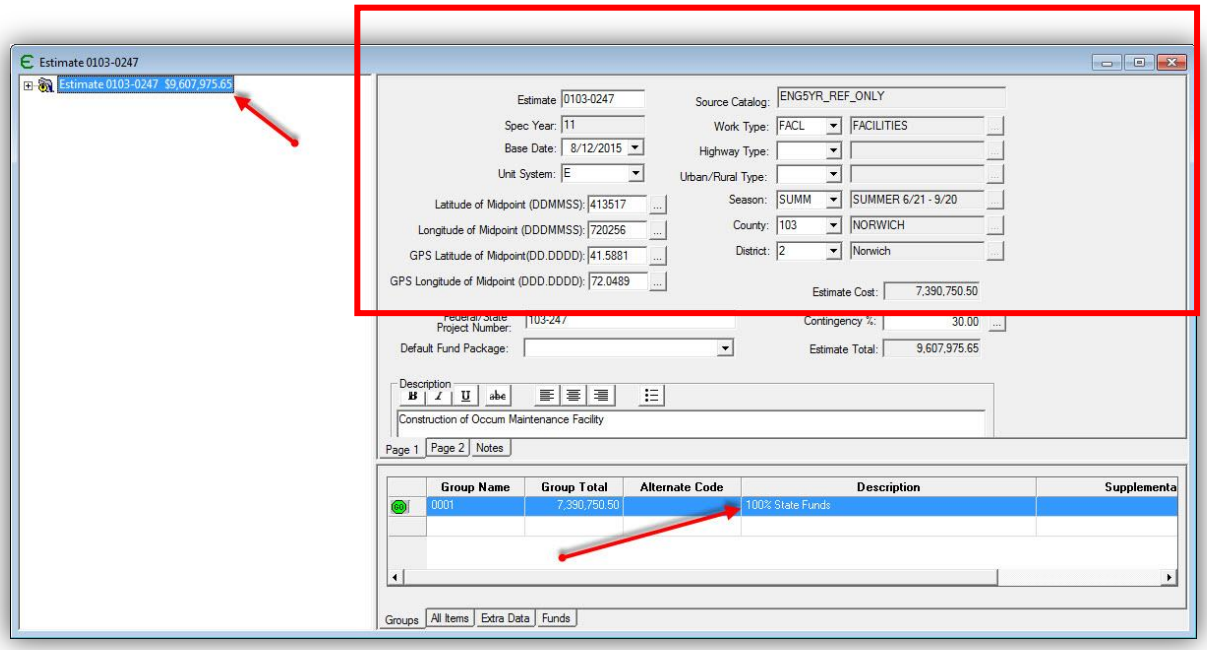


Figure 27. Estimate Direct Entry

To add individual items to a group, see Adding Items to Your Estimate

4.1.2 Importing Templates

Estimator templates have been developed for highway design and landscape design. Templates can be used to save time when the same items are used for multiple estimates. The templates developed include:

Highway Design

- Roundabouts
- Intersections
- Culvert Replacement
- Major Reconstruction
- Pavement Preservation
- Landscape Design
- General landscaping
- Busway Projects

They are available on the web (zip file) at: Estimator Templates

To use the templates, download the template zip file and extract the template (.xml) files. In Estimator, select **Import** from the **File** menu and browse to the location where the files were downloaded. Select Estimate Template files (*.ETM) from the Files of type field. Highlight the template you wish to use, and click OPEN:

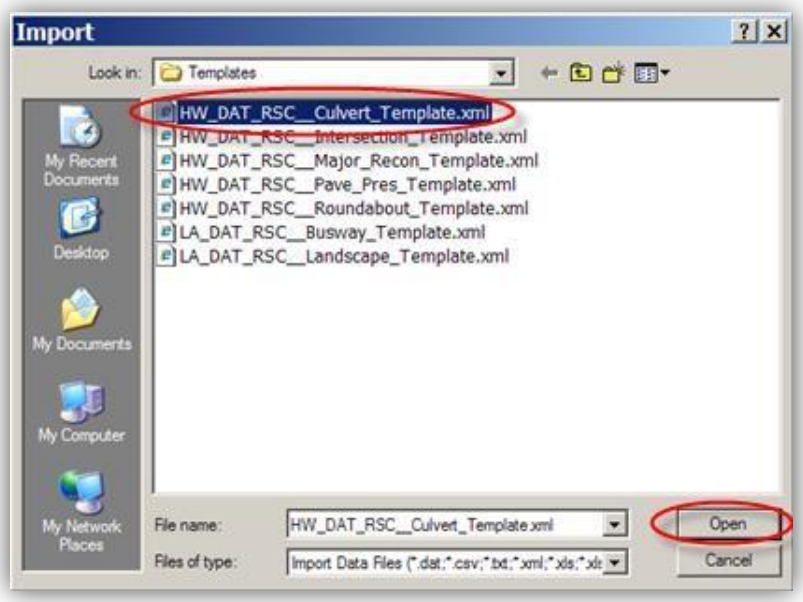


Figure 28. Templates

Add items that are needed and delete items that are not necessary. Enter the quantities and then update the price information (see 4.7.5 Update Price Information).

4.1.3 Import from Excel Spreadsheet

When importing an estimate from an Excel spreadsheet, the spreadsheet must be formatted correctly for import. The following columns and headings are **required** for the estimate to be imported properly:

- **Group** – Items should be grouped by funding sources. If the funding sources are not known, place all of the items into a single group. All items that are in the same group must have the same value in the Group column.
- **Item –** Item number must be formatted as text and contain leading zeros. The item number cannot contain the "A" for supplemental specifications.
- **Supplemental Description –** Special Provision required ("A" Items) – needs to be in a separate column as **** See Special Provisions **** in this exact syntax.

- **Quantity –** Rounded to the nearest whole number.

The following column is optional:

- Unit Price – If user wishes to use predefined (ad hoc) prices instead of prices provided by Estimator, add this column (round to the nearest cent).

The following columns are ignored by Estimator and are primarily for the user's convenience:

- Item Description – Estimator will obtain this from the catalog according to the item number.
- Unit– Estimator will obtain this from the catalog according to the item number.
- Total Price (Unit Price X Quantity) – Estimator will automatically compute this cost.

For an example of an Excel spreadsheet that is formatted correctly, go to: Sample Estimator Spreadsheet

To import an Excel spreadsheet, first make sure the spreadsheet is not opened in any other program. Log into Estimator, select **Current Catalog** from the **View** menu and select the correct catalog (3 Year English or 5 Year Metric) is loaded. If it is not, select **Switch Catalog** from the **Tools** menu and select the proper one. Then select **Import** from the **File** menu.

Browse to the spreadsheet you wish to import and click open.

Select **Estimate** on the Excel Import dialog box and then click ok:

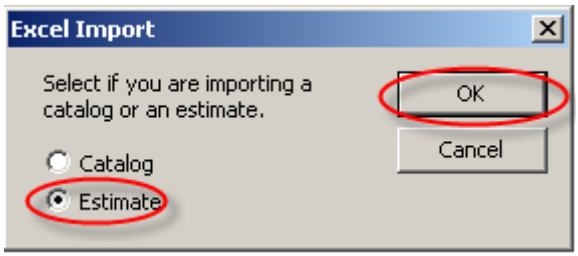
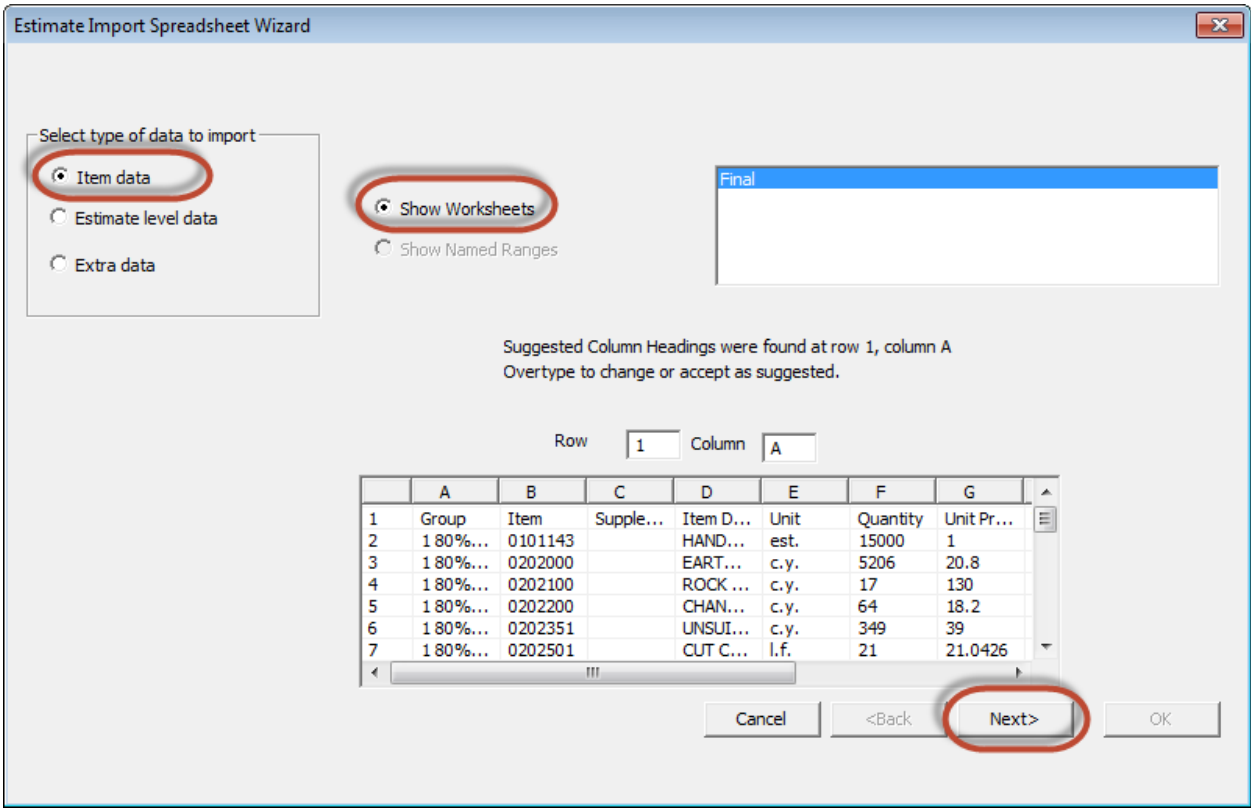


Figure 29. Excel Import

To import an Excel spreadsheet as an estimate, select **Import** from the **File** menu. Estimator displays the Import dialog box. If the file you want to import is not in this directory, use the Look In field to select the correct directory. Select the file and click OPEN. Estimator displays the Import Spreadsheet Wizard.

When using Estimator to import estimate-level data, the Estimate Import Spreadsheet Wizard displays the following screen:



Select **Item Data**, **Worksheets** and **Next**

Figure 30. Estimate Import Spreadsheet Wizard-Importing Item-Level Data

Estimator displays the Row and Column and determines contains headings that match the Estimator entities. You can override the selection by typing in alternate Row and Column information. When the worksheet or range you want is selected, and the Row and Column information is correct, click NEXT. Estimator displays the second page of the Import Wizard.

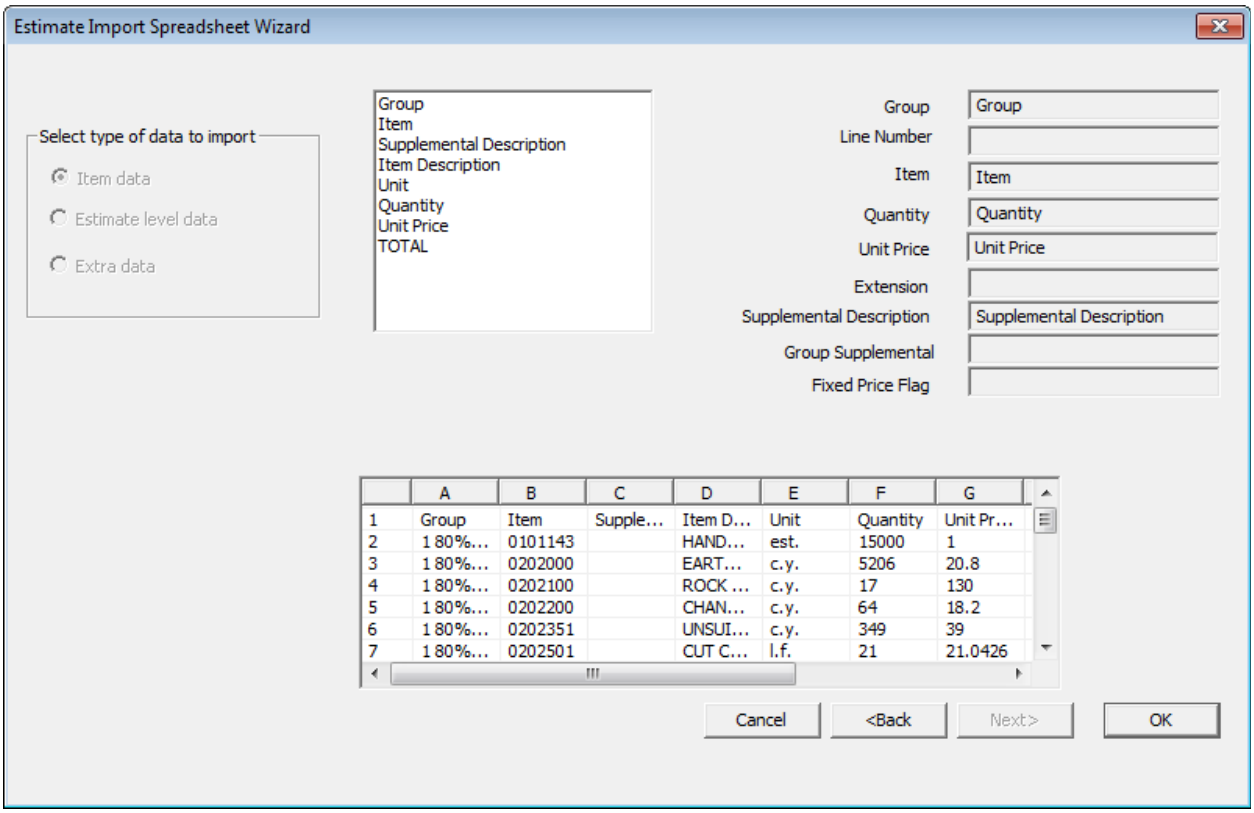


Figure 31. Estimate Import Spreadsheet Wizard-Second page

If the column headings in your Excel file do not match the fields in Estimator, you will need to tell Estimator which columns to use for which fields when importing.

For example, on the second page of the import wizard as shown in ***Figure 33***, the estimate being imported does not have a column named Group or one named Supplemental Description. Therefore, those fields are left blank by the Import Wizard.

To enter the corresponding columns in the Estimator fields:

a) Highlight the name of the column in the left pane

b) Click in the corresponding field on the right side.

c) Repeat step b until each field is properly matched.

d) When all the fields for Estimator contain the correct data, click OK.

e) Estimator imports and displays the estimate.

Note: For information on importing Estimate Level Data and Extra data see 8.2 Importing Estimates of Generic Estimator User's Guide

4.1.4 Import from Quantity Manager

Quantity Manager is a Bentley InRoads product used to harvest quantities directly from the MicroStation/InRoads design model. Guidelines for importing from Quantity Manager will be added at a later date.

4.2 Project Header Information

This section details the steps needed to complete an estimate. The estimate should have been created with one of the methods identified above. Once that has been done, you can continue with the process of building the estimate.

***Note:** Header information is used by Estimator in estimating prices. **If this information is not filled out or filled out incorrectly, it may have a considerable impact on the prices generated by Estimator.**

Header Information Page 1

Page 1 of the estimate header must be filled in with identifying data specific to the project being estimated. Highlight the estimate in the tree view and see the screen shot shown in ***Figure 35*** and the following steps to fill in Header Page 1:

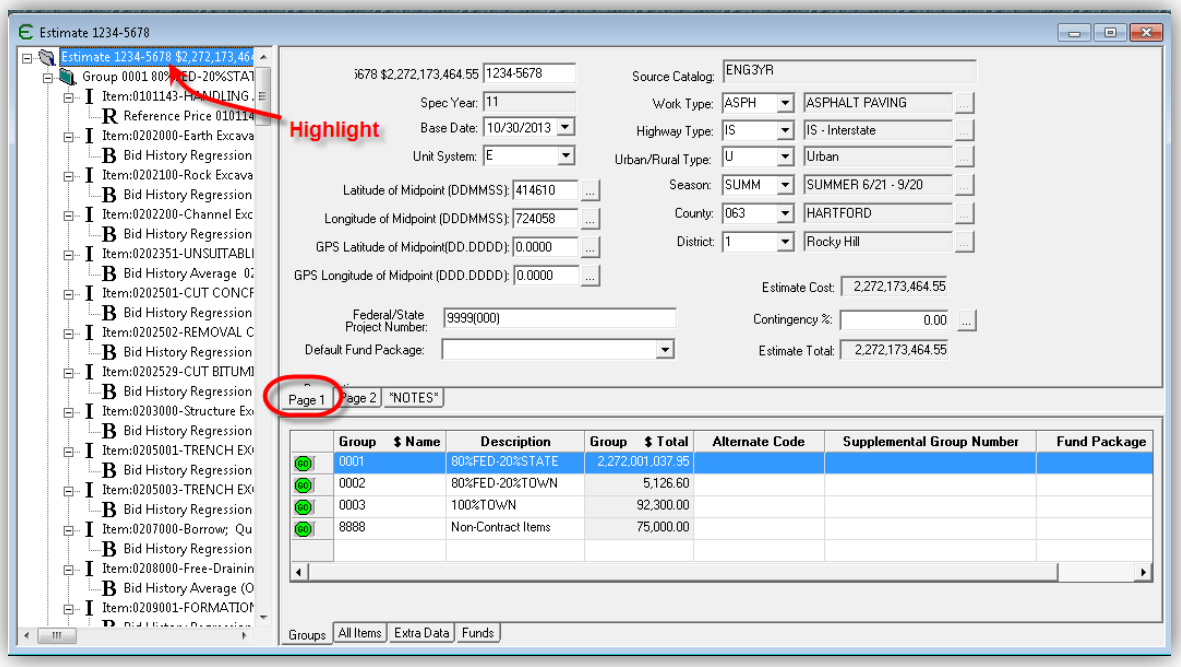


Figure 32. Estimate Header Page 1

Estimate ID

In the upper left corner of the Estimate's Grid Area you will find the Estimate ID field. The Estimate ID will consist of the actual eight-digit Project ID number (with leading zeros if appropriate) followed by the Discipline Designator (i.e. 1234-5678-TR). It is restricted to 13 characters in length.

***Note**: The final estimate that goes to processing at FDP will have the Discipline Code removed from the Estimate ID (i.e. 1234-5678). When the estimate is saved, the Estimator file name will be consistent with the Estimate ID.

Use these Discipline Designators in the Estimate ID:

- AE - Aeronautics
- EC – Environmental Compliance
- FA – Facilities
- HO – Highway Operations
- HW – Highways
- IL - Illumination
- LA – Landscape Architect
- PD – Project Development
- PL – Planning
- SB – Structures and Bridges
- TE – Traffic Electrical
- TR – Traffic
- UT – Utilities

Spec Year

Below the Estimate ID is the Spec Year field. The Spec Year will already contain the correct year for the catalog that your estimate has been opened with. This field cannot be changed and is unavailable. If the metric catalog is being used, the Spec Year will contain 10. If the Englishcatalog is being used, the Spec Year will contain 11. Ensure that you have the correct Spec Yearfor the project on which you are working.

Base Date

The Base Date field is located below the Spec Year and should contain *anticipated letting date* of the project if known. If this date is not known, use the FDP (Final Design Plans) date + 70 days. This is the date on which Estimator bid history prices base the inflation cost . This date can be changed at any time using the date picker when clicking on the dropdown arrow.

*__Note__: To manually add inflation costs based on dates, see Contingency Percent.

Unit System

The Unit System field is located below the Base Date field. The value for this field can be selected using the dropdown arrow and should contain the Unit System appropriate for the catalog and project you are estimating. The choices in the dropdown are limited to: E – English, M – Metric, and N – None.

Midpoint

The midpoint consists of two fields located under the Unit System field: Latitude of Midpoint and Longitude of Midpoint. The combination of these two coordinates should locate the approximate midpoint of the project and be in a DDDMMSS (degrees, minutes, and seconds) format. Negative signs or N and E designators are not required. Coordinates are required for web Trns•port Preconstruction and are extremely important for data analysis in Trns•port BAMS/DSS®.

The GPS Latitude of Midpoint and GPS Longitude of Midpoint fields are simply the decimal degree (DD:DDDD) equivalents of the Latitude of Midpoint and Longitude of Midpoint fields.

These fields will be filled in automatically. If a user chooses to fill in these fields with the decimal degrees, the DDDMMSS fields will be filled in automatically.

There are many free online sources for obtaining accurate coordinates. One such method is described in Locating Midpoint Latitude and Longitude.

For Connecticut, longitude will be from a maximum value of 73° and a minimum value of 72°. Latitude will be from a maximum value of 42° and a minimum value of 40°. If the project is statewide, use the location of the central office (Headquarters). If the project is district wide, use the location of that district office. Latitudes and longitudes of Headquarters and all four district offices can be copied from the Extra Data tab on the header page:

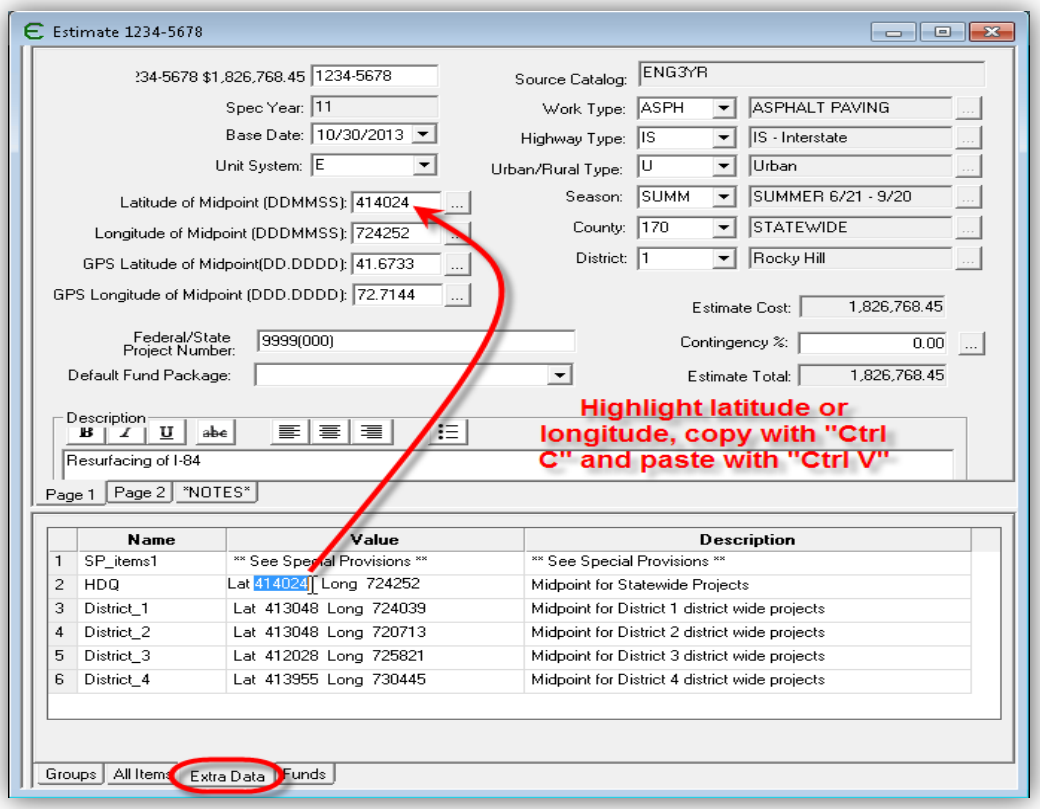


Figure 33. Latitude and Longitude

Federal/State Project Number

The Federal/State Project Number field is located on the Estimate Grid above the Description field. This field should contain the FAP (Federal Aid Project) number if it is known; otherwise, leave it blank.

Default Fund Package

This field is not being used by CTDOT at this time. Leave blank.

Work Type

The Work Type field is located in the upper right corner of the Estimate Grid on Page l of the header. This field is populated by selecting the correct Work Type from the dropdown list. The Work Type Code selected is based on the most costly types of items within the project (e.g., how will most of the project money be spent?). See section Sorting Items by Cost.

Highway Type

The Highway Type is located beneath the Work Type field. Select the correct Highway Type code from the dropdown to populate this field. Highway types are based on functional classifications. If the functional classification is not known, it can be found in the CTDOT Highway Log at: Highway Log by log mile.

Urban/Rural Type

The Urban/Rural Type field is located under the Highway Type field. This field can be populated by selecting the Urban/Rural Type with the dropdown. There are two possible selections for this field: Urban and Rural. This field can also be found in the CTDOT Highway Log.

Season

The Season field is located on the grid beneath the Urban/Rural Type field. This field should have the appropriate season that corresponds with the base date. Seasons that are available on the dropdown include:

FALL – Fall 9/2l – l2/20

SPRI – Spring 3/2l –6/20

SUMM – Summer 6/2l -9/20

WINT – Winter l2/2l -3/20

The season should correspond with the Base Date (anticipated Letting Date).

County (Town)

The County field is located under the Season field on the grid view. This field can be selected with the dropdown which contains the names of all towns within the State of Connecticut, statewide and district wide selections. Select the most appropriate entry for your project from the dropdown list.

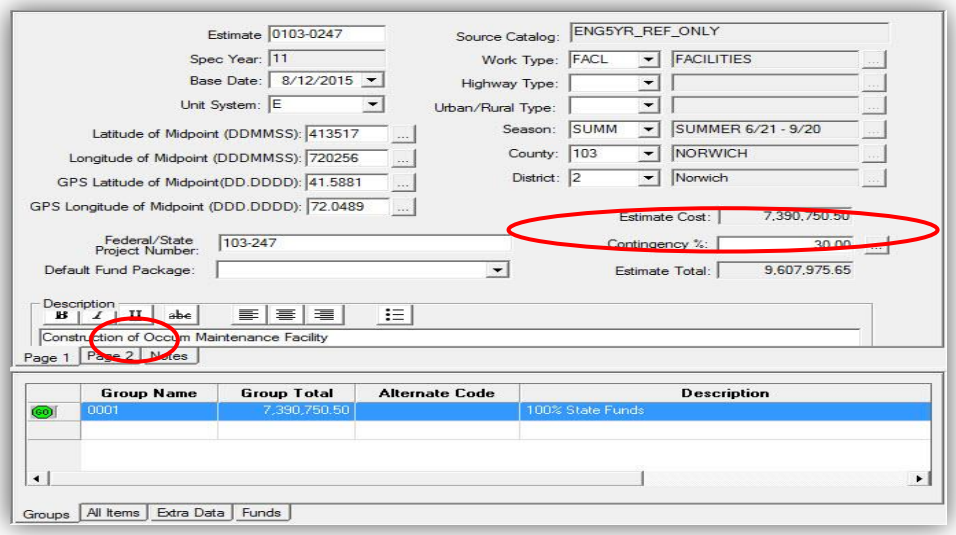
District

The District field is located beneath the County code in the grid view. This field can be selected with the dropdown. The contents of the dropdown for this field consist of:

- 1 – Rocky Hill
- 1A – New Haven Rail Yard
- 2 – Norwich
- 3 – New Haven
- 3A – Q Corridor
- 4 – Thomaston
- HDQ – DOT Headquarters

Contingency %

The Contingency % field is located in the center right of the grid view between Estimate Cost and Estimate Total. This field is filled in at the Lead Level and does not get passed to Preconstruction. The Estimate Cost and Estimate Total fields are calculated fields that will be filled in and updated by the Estimator software as the estimate is worked on. The Estimate Total field uses the Contingency % in its calculation. If the user wishes to enter the contingency and incidental percentages, they can be added as a combined percentage in this box. If this is done, the user must enter a note on the Notes page of the project header listing the breakdown of the percentages:



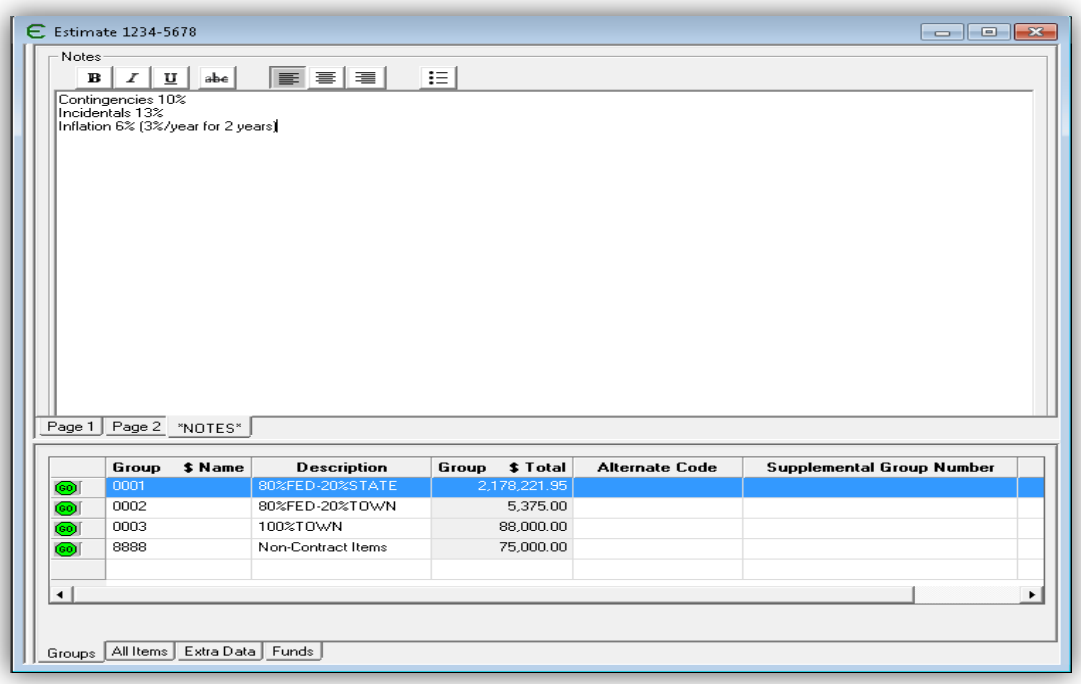


Figure 34. Notes Tab

Description

The Description field is located at the bottom of the grid view for Page 1 of the Header. This is a required field which is used to give a lengthy textual description of the project. **The description should be the same as the project title.** Additional information that needs to be recorded can be done on the Notes page (see below).

***Note**: If you cannot see the Description field, drag the bottom of the header area down with your mouse:

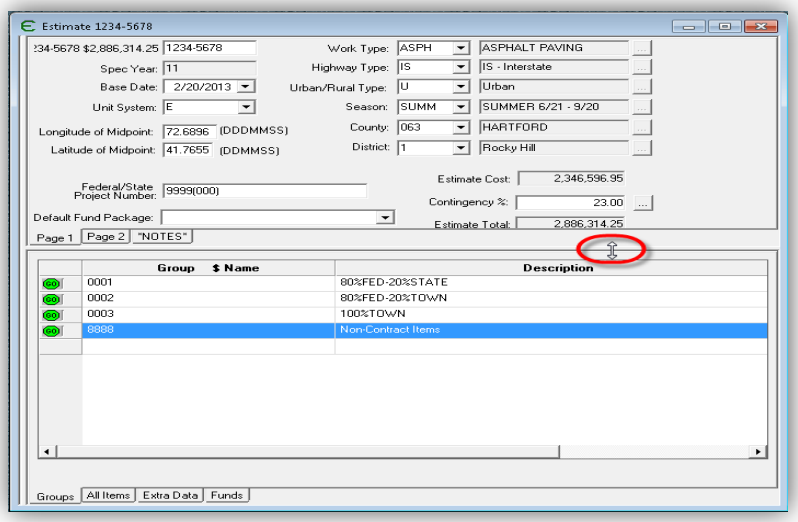


Figure 35. Estimate Description Window

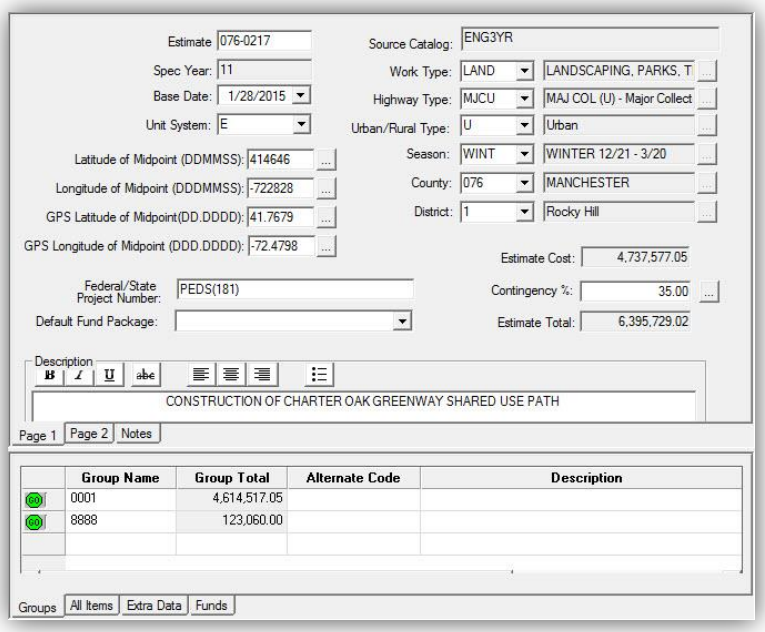


Figure 36. Showing Estimate Description Window

4.2.1 Header Information Page 2

Page 2 of the estimate header contains the signoffs for the Estimate. The screen shot shown in ***Figure 40*** illustrates the header information fields on Page 2. These fields are further described in the following sections.

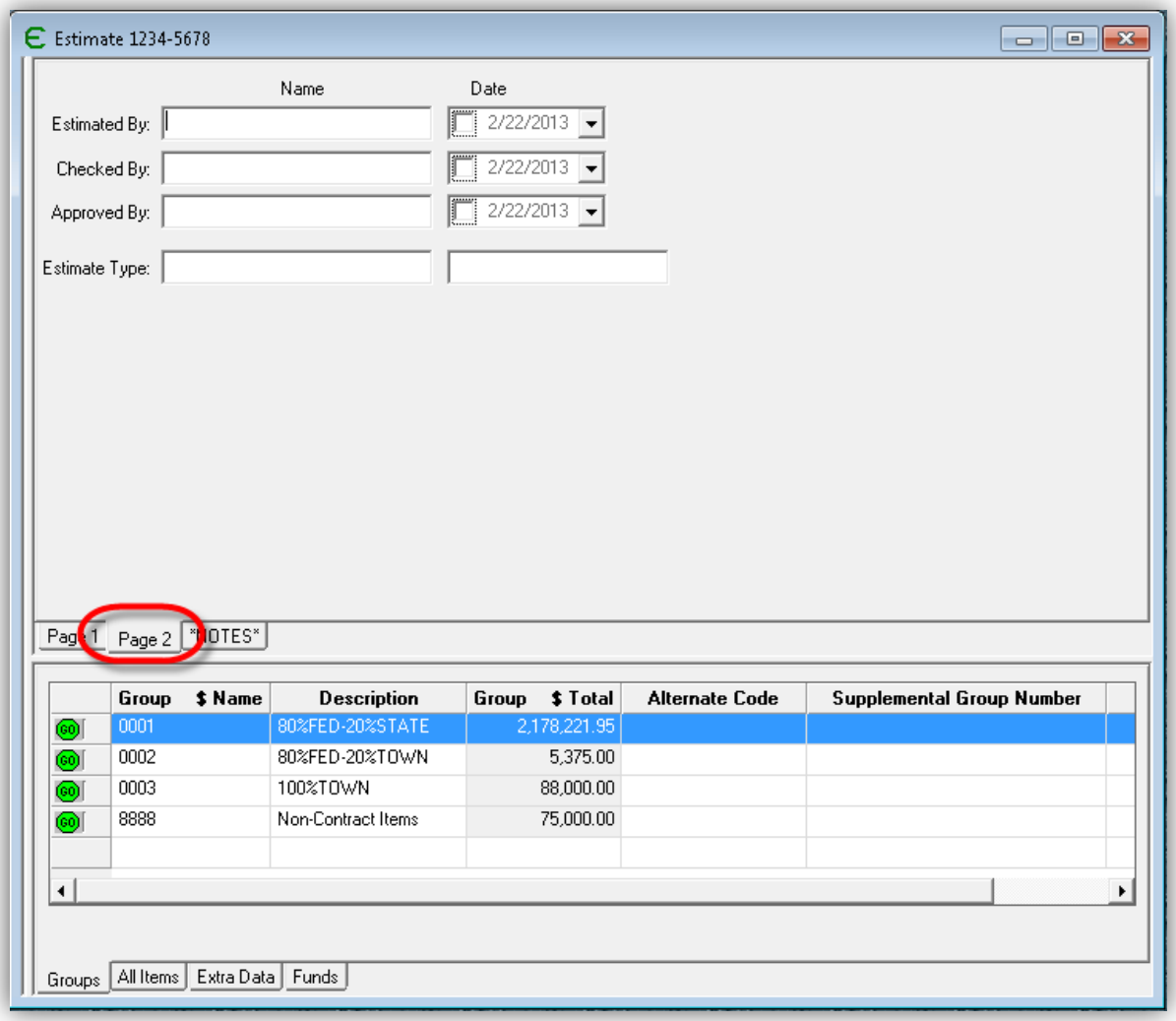


Figure 37. Header Information Page 2

Estimated By

The Estimated By field contains the name of the Primary Estimator and the date his/her estimate was completed. This will be auto-filled with the initials of the user logged in on the machine where the estimate is created. This field should be left as is because it must match the STAFF Code Table when imported into web Trns•port.

For consultants, delete anything inside this box and leave blank.

Checked By

The Checked By field contains the name of the Estimate reviewer and the date he/she reviewed the estimate. This field is optional.

Approved By

The Approved By field contains the name of the lead approving the estimate and the date he/she approved it. This field is optional.

Estimate Type

This Estimate Type field should use one of the following:

- Scoping
- 30%
- Final
- Addendum
- Change Order
- Other

4.2.2 Header Information Notes Page

The Notes page of the estimate header contains any notes the Estimator/Reviewer/Approver may add for the Estimate. This page does not get exported from Estimator so it will not be seen externally. If the contingency box is filled out on Page 1 of the project header, a breakdown of contingency/incidental/inflation percentage should be listed here (see Contingencies Section Header Information Page 1).

4.3 The Groups and All Items Tabs

At the bottom of the grid area of the estimate header window are two tabs - the GROUPS tab and the ALL ITEMS tab. Either tab can be used when you create your estimate. They contain the same information, but the information is added differently on each tab.

4.3.1 Adding Groups

Adding a group to your estimate can be done two ways:

1. Right click on Estimate in the tree view and select **Add Group**:

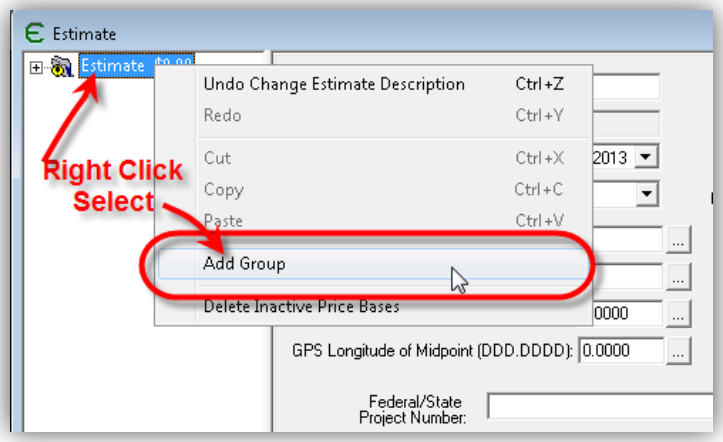


Figure 38. Right Click and Select Add Group

2. Go to **Edit>AddGroup**:

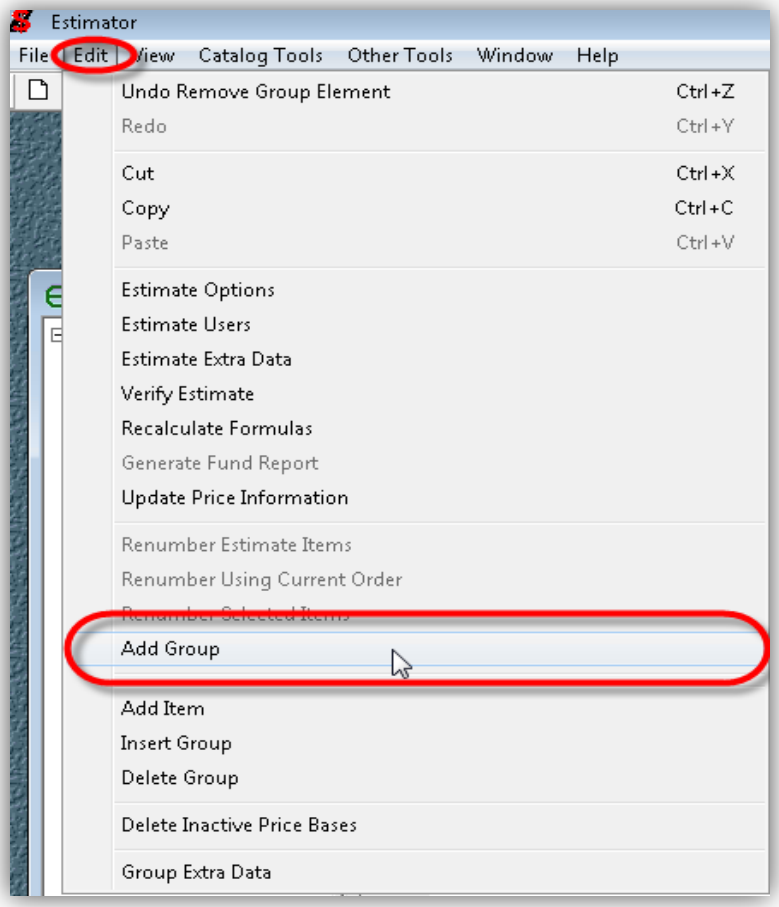


Figure 39. Right Click and Select Add Group

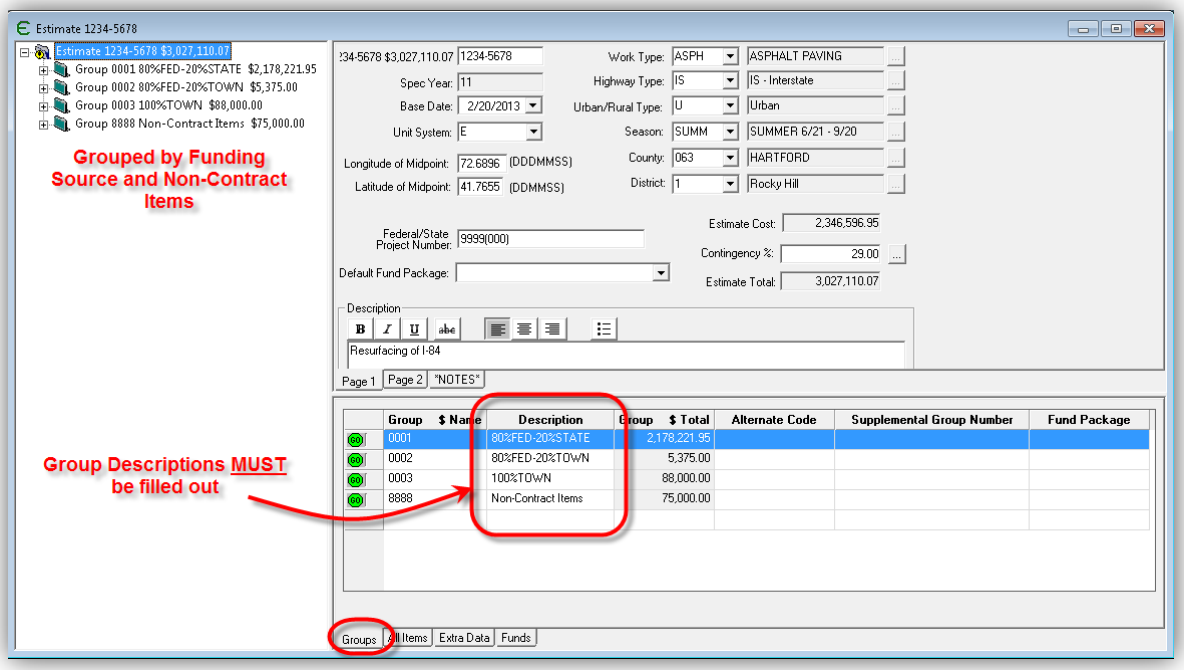


Figure 40. Group Description

4.3.2 Introduction to the Groups Tab

When you use the groups tab, the estimator creates groups in which items that relate to one another in some way are stored. In early estimates, this can include, for example, items that are all associated with a traffic intersection, or structure. However, at CTDOT, the final estimate groups will be based on items which share the same Funding source. Each group can contain an unlimited number of items.

Once a group is created, the group header information must be completed. The Group Number field and the Group Increment are determined by the Estimator global options. Use the default group numbering, i.e., 0001, 0002, and 0003 that has been set. Enter a group description based on the items that will be added to the group. For final estimates this will be based on funding source, for example, 80% Federal and 20% Town. If funding groups are not known, place all of the items into one group.

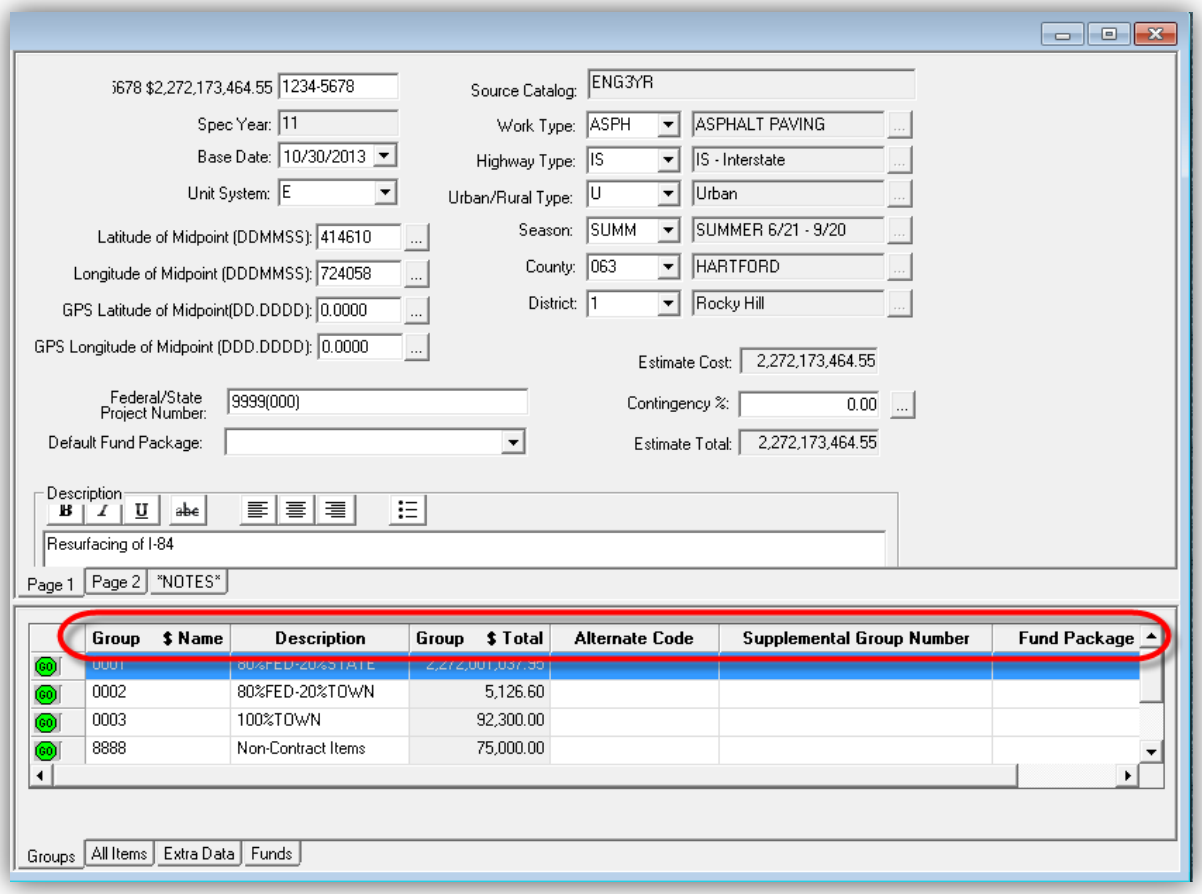


Figure 41. Group Item List Window

When you select an item in the tree area or in the grid, Estimator displays item information for these fields:

Group Name	The Group Number field refers to the group's number in the estimate.
Description	The description is the name of the group. It should be the funding source or a non-contract item group. **<u>It is important that the group description be filled out or the estimate file will not pass to webTrns*port.</u>**
Group Total	The total dollar amount for that group.
Alternate Code	The Alt Code is used when the bidder has a choice of which groups to bid on. See Alternate Items for further information.
Supplemental Group Number	This is an additional field to further identify a group. For example, some agencies are using this field to identify structure numbers within a group. CTDOT is not using this field at this time; leave blank.
Fund Package	A fund package can be created at the estimate level, and has a Fund ID, percent, Maximum Amount, Priority, and Fund Package Name. CTDOT is not using this field at this time; leave blank.

4.3.3 Introduction to the All Items Tab

When you use the ALL ITEMS tab, estimates are formed by adding items to the estimate, regardless of to which group they belong. Even though you are building the estimate in item order, you must still assign a group to each item as it is added to the estimate.

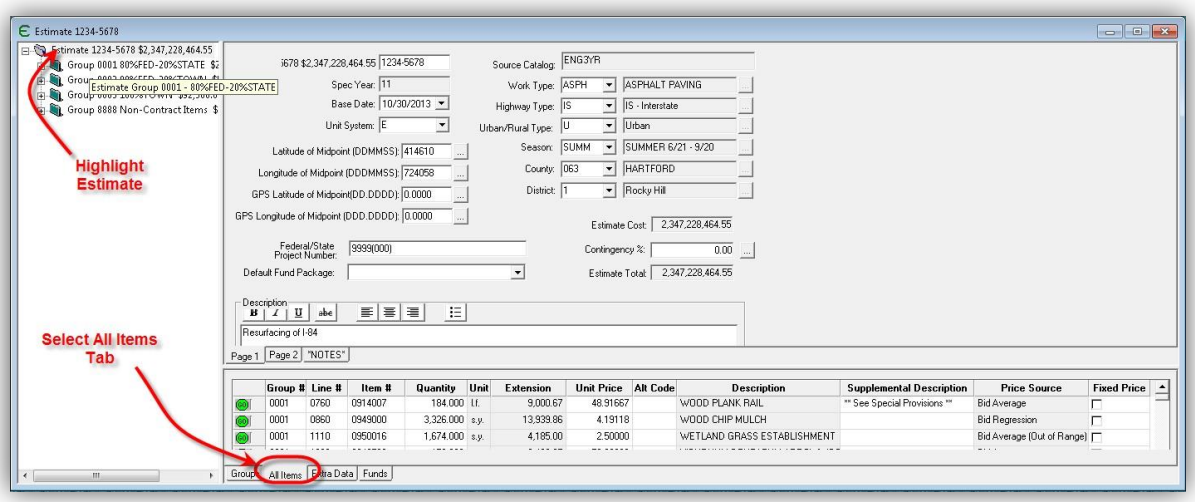


Figure 42. All Items Tab

After you click the ALL ITEMS tab, Estimator displays a grid with a blank row available for your first item. You can assign your item to a group that already exists, or you can create a new group for your item. To assign an already-existing group, click the down arrow next to the Group # cell and select the group from the drop-down list.

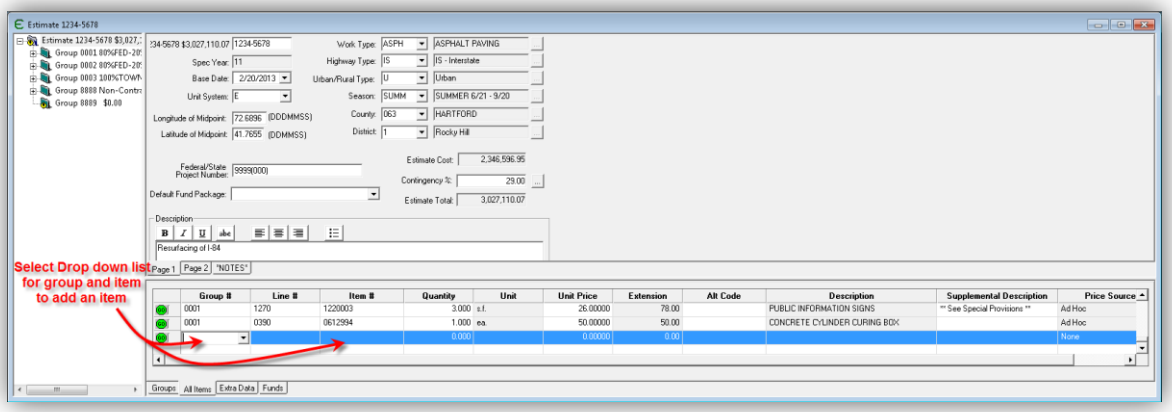


Figure 43. Add Item

If you try to leave the cell without selecting a group, Estimator displays the Select Group window.

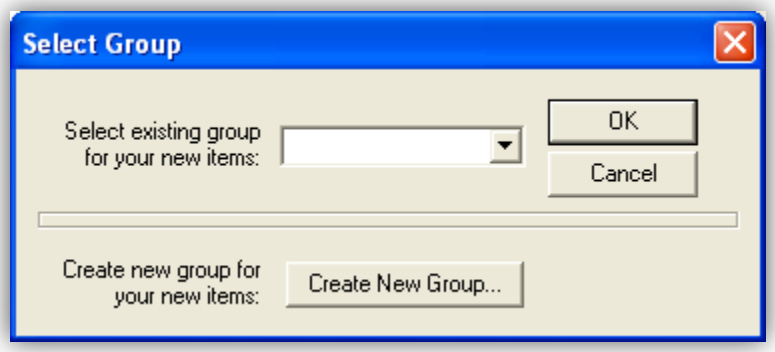


Figure 44. Select Group Window

Use the drop down list to select a preexisting group, or click create new group to create a new group for your item. Estimator displays the Create New Group window. Here you can add the new group to your estimate.

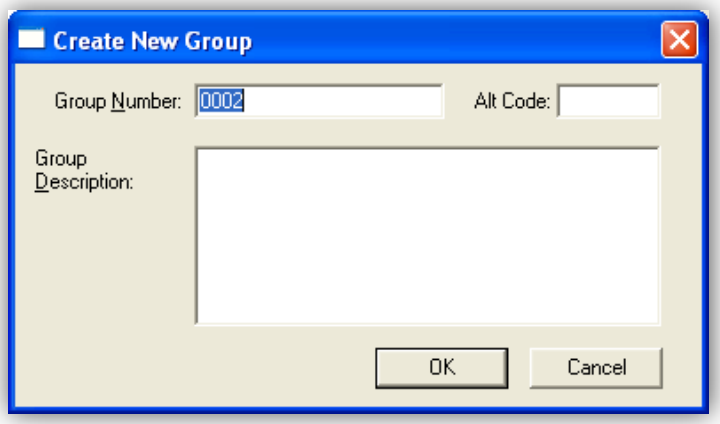


Figure 45. Create New Group Window

While only the Group Number field is required, use the other fields to enter more information about your group. When you are finished, click ok. Click cancel to return to the Select Group window.

When you are finished assigning your item to a group, click ok. Click cancel to return to the estimate without assigning a group. Once you click ok and return to the estimate, you can start adding information to your item.

4.4 Working with the Estimate Item List

The Item List contains all items that you have associated with an estimate. When a new estimate is created, the Item List is blank. The list also includes price bases and anything else attached to the items. The Item List can contain any number of items. On the GROUPS tab, the grid area contains the item list for the selected group. On the ALL ITEMS tab, the grid area contains the entire estimate item list. The entire estimate item list can also be viewed in the tree area if all groups are expanded to show their contents.

Finished Item Lists contain standard items found in the Estimator Catalog.

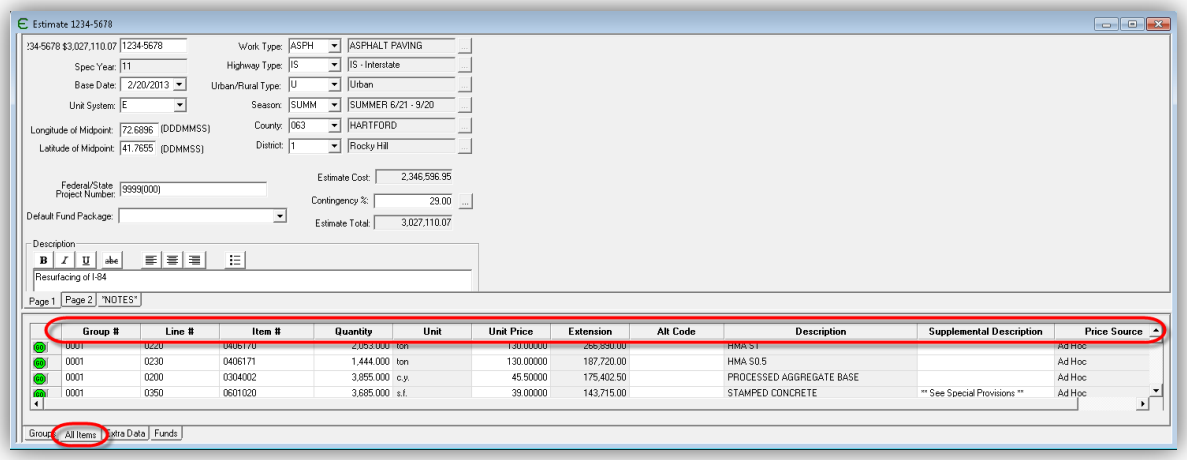


Figure 46. Estimate Item List Window

When you select the estimate in the tree area and the all items tab, Estimator displays item information for these fields:

Group Number	The Group Number field refers to the item's group in the estimate.
Line Number	The Line Number field refers to the item's location in the estimate. Estimator saves this information and automatically generates new line numbers for newly added items according to the specifications in the Global Options. The line numbers are used by other AASHTOWare processes.
Item Number	The Item Number field is a combination of letters, special characters, numbers, or both, assigned to standard items by the agency. For CTDOT, the item number consists of seven numerical characters with leading zeros if appropriate. The item no longer has the designation of "A" for special provisions.
Quantity	The Quantity value for an item indicates the number of units of the item to be used in the estimate. This should be rounded to the nearest whole unit.
Unit	The Unit field identifies a specific unit of measurement provided for an item (for example, hr for time in hours, c.y. for cubic yards, l.f. for linear feet, or LS for lump sum). This field is filled in by Estimator.
Extension	Unit price times quantity. This field is filled in by Estimator.
Unit Price	The Unit Price field identifies the price per unit of an item. This field is filled in by Estimator or entered by the user (ad hoc).
Alt Code	The Alt Code is used when the bidder has a choice of which item to bid on. See Alternate Items for further information.
Description	The Description field contains a description of the item. This field is filled in by Estimator.
Supplemental Description	At CTDOT, the Supplemental Description is used to indicate whether there is a Special Provision attached to the item. See Special Provision Items ("A" Items) for details on how to indicate this.
Price Source	The Price Source field identifies the type of price basis used to determine the unit price of the item. If there are no active price bases attached to the item, then the Price Source field is None. If there is only one type of active price basis, then the Price Source field reflects that type of price basis. If there is more than one type of active price bases, the Price Source is Multiple. If the user creates a price basis for the item, the Price Source is Ad Hoc.
Fixed Price	The Fix Price flag is assigned to an item indicating that the bid pricing is restricted to that price.

Use the notes tab of the Item header window to store additional information about the item.

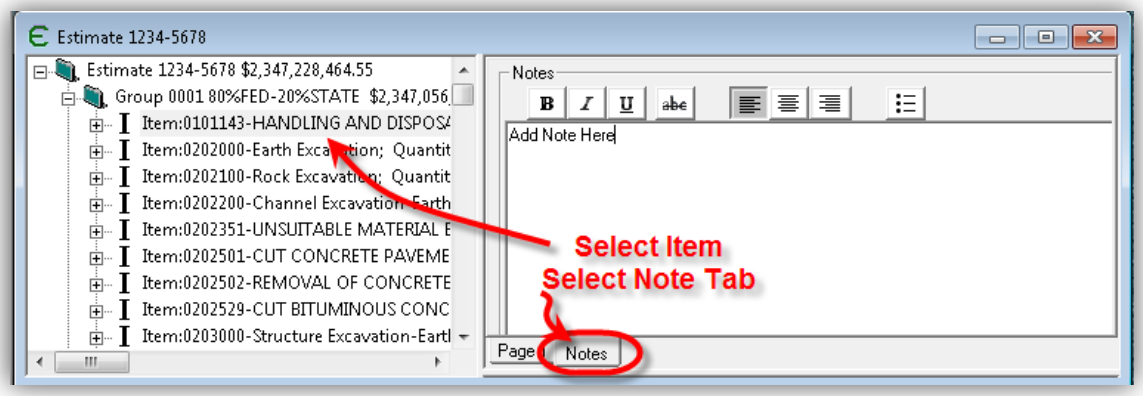


Figure 47. Adding a note to an item

4.5 Adding Items to Your Estimate

Items can be added to your estimate while in the two tabbed folders - groups and all items. Although the information for each item is the same, the way it is entered depends on which tab you are using.

To request a new item number, see Requesting a New Item.

4.5.1 Item Information

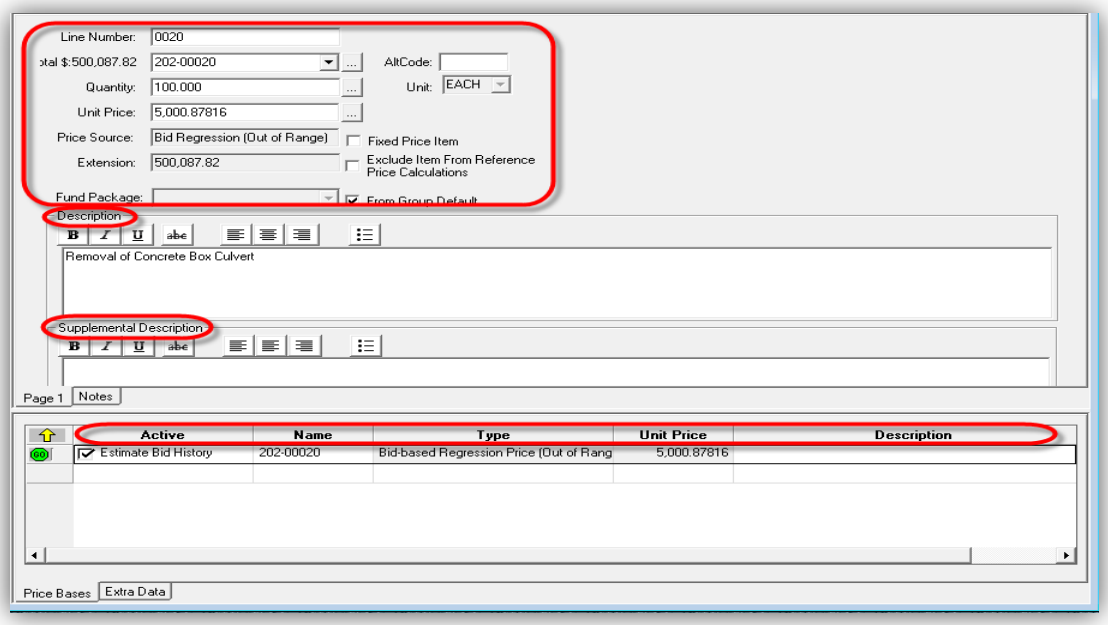


Figure 48. Item Information Window

Line Number	The Line Number field refers to the item's location in the estimate. Estimator saves this information and automatically generates new line numbers for newly added items according to the specifications in the Global Options. The line numbers are used by other AASHTOWare processes.
Item Number	The Item Number field is a combination of letters, special characters, numbers, or both, assigned to standard items by the agency. For CTDOT, the item number consists of seven numerical characters with leading zeros if appropriate. The item no longer has the designation of "A" for special provisions.
AltCode	The Alt Code is used when the bidder has a choice of which item to bid on. See Alternate Items for further information.
Quantity	The Quantity value for an item indicates the number of units of the item to be used in the estimate. This should be rounded to the nearest whole unit.
Unit	The Unit field identifies a specific unit of measurement provided for an item (for example, **hr** for time in hours, **c.y**. for cubic yards, **l.f**. for linear feet, or **LS** for lump sum). This field is filled in by Estimator

Unit Price	The Unit Price field identifies the price per unit of an item. This field is filled in by Estimator or entered by the user (ad hoc).
Price Source	The Price Source field identifies the type of price basis used to determine the unit price of the item. If there is no active price bases attached to the item, then the Price Source field is *None*. If there is only one type of active price basis, then the Price Source field reflects that type of price basis. If there is more than one type of active price bases, the Price Source is *Multiple*. If the user creates a price basis for the item, the Price Source is *Ad Hoc*.
Fixed Price	The Fix Price flag is assigned to an item indicating that the bid pricing is restricted to that price. <u>This field should not be checked.</u>
Extension	Unit price times quantity. This field is filled in by Estimator.
Exclude Item From Reference Price Calculations	If this box is checked the item will not be included in the percentage calculations. See 4.7. 1 Adding a Percentage Based Reference Price
Fund Package	Funding source of an item. <u>This field should be blank.</u>
From Group Default	If checked the default funding package will be assigned to that item. This box should be checked (default funding package is blank).
Description	The Description field contains a description of the item. This field is filled in by Estimator.
Supplemental Description	At CTDOT, the Supplemental Description is used to indicate whether there is a Special Provision attached to the item. See Special Provision Items ("A" Items) for details on how to indicate this.
Active	Displays the active price basis for an item
Name	Displays reference price name if there is one
Type	Displays price basis type. There may be more than one price basis attached to an item; however only one price basis can be active.
Unit Price	Displays the unit price of the reference price if attached.
Description	Displays the description of the reference price if attached.

4.5.2 Adding an Item While in the Groups Grid

Within the group window, you can add new items, modify or delete existing items, and modify the quantity and price basis information for any or all of the items in the Item List.

While in the estimate header window for the GROUPS tab, click the green GO button next to the group in the grid area whose items you wish to see. You can also click on the plus sign (+) of the group in the tree area, but using the grid give you more detailed item information. Estimator displays the group Item List window.

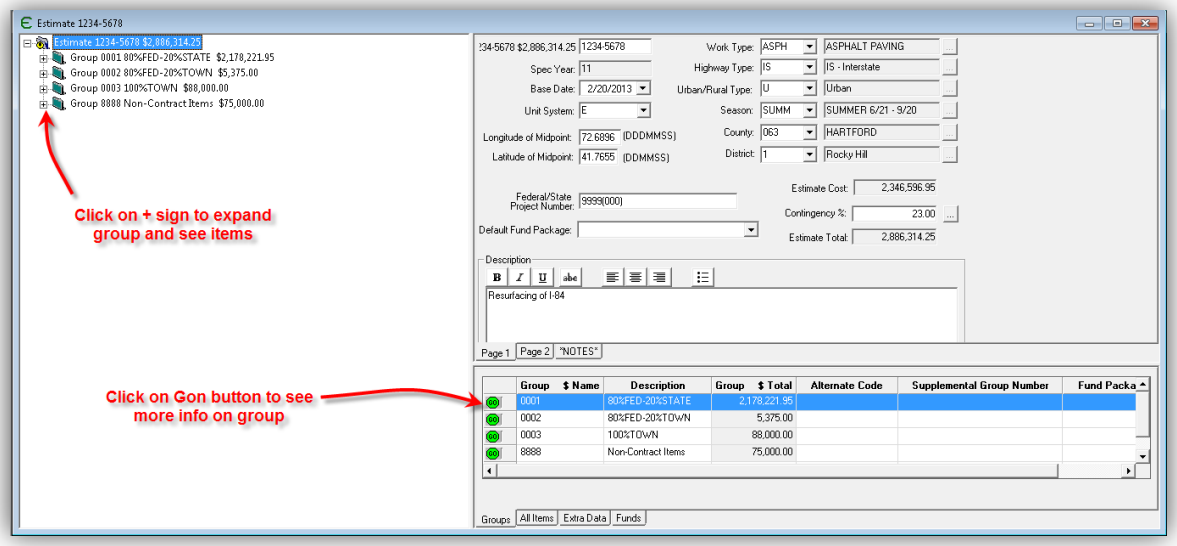


Figure 49. Group Item List

To add items to the group, highlight the group you wish to add an item to, and select **Add Item** from the **Edit** menu. You can also add a new item by clicking in the empty Line # cell in the grid area of the group.

4.5.3 Adding an Item in the All Items Grid

Within the All Items grid, you can add new items, modify or delete existing items, and modify the quantity and price basis information for any or all of the items in the Item List.

While in the Estimate header window with the estimated highlighted in the tree view, select the ALL ITEMS tab. Click in the empty Group # cell in the All Items grid. Select a group from the drop down list or create your own group from the Select Group window. After you assign a group to your item, you can enter the rest of the item information into the grid.

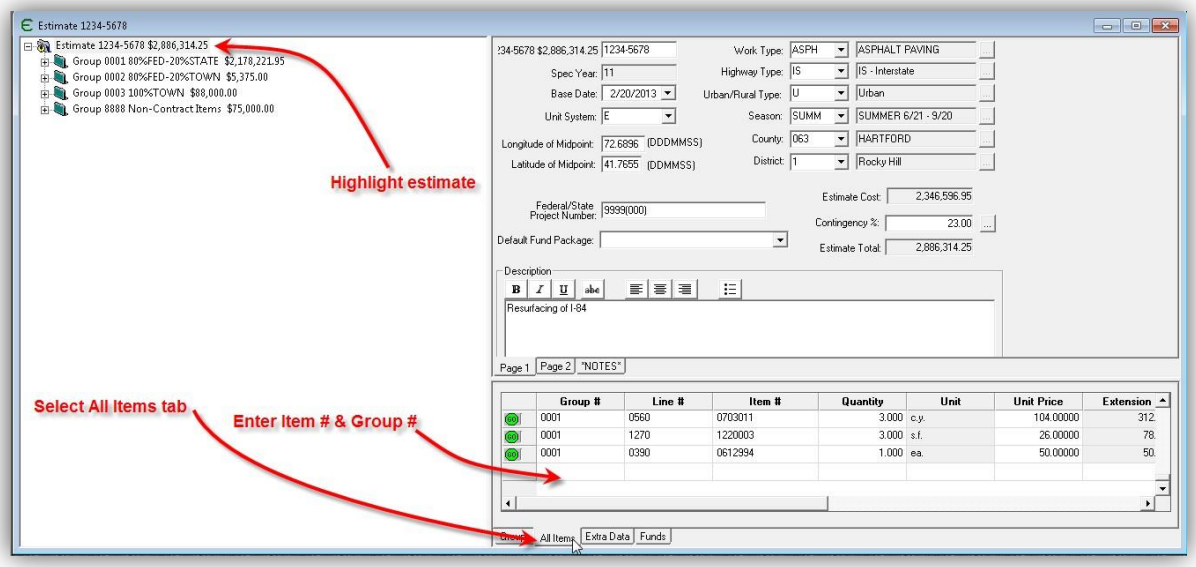


Figure 50. Adding Items Grid

If you know the item number of the item, you can enter it directly into the Item Number field. Estimator displays the first item in the list that matches the entered information; for example, if you wanted to enter item number 1103027, when you type in the 1, the first item that starts with a 1 is displayed in the Item Number field. As you enter the subsequent numbers, the item in the Item Number field will change with each added number.

The Quantity field is required; Estimator does not supply this value. Lump sum items (LS) and estimated items (est.) should always be set to a quantity of 1. After the Unit Price and Quantity values have been determined, Estimator automatically calculates the extended amount.

Use the notes tab of the Item header window to store additional information about the item:

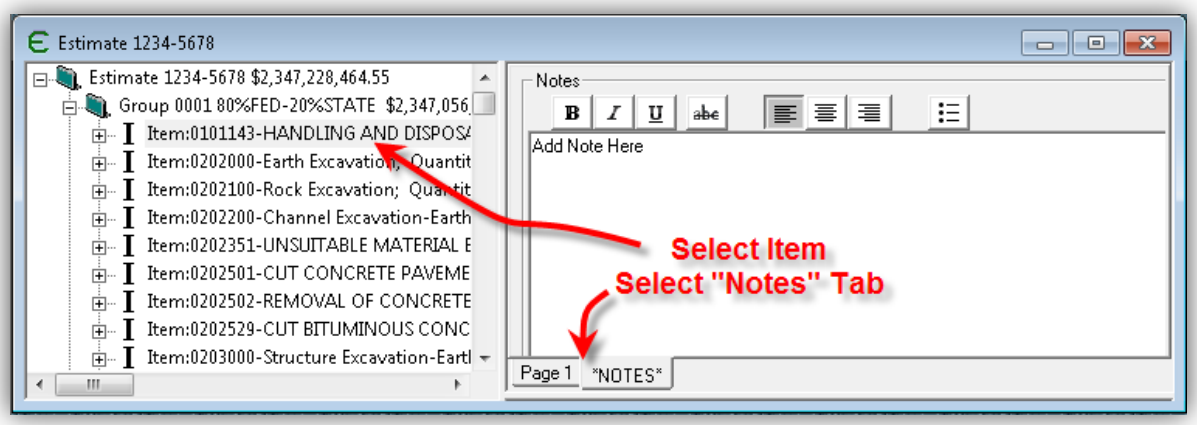


Figure 51. Adding Item Notes

4.5.4 Adding Items from the Tree View

To add an item to a group from the tree view, right click on the group you wish to add the item to in the tree view and select **Add Item:**

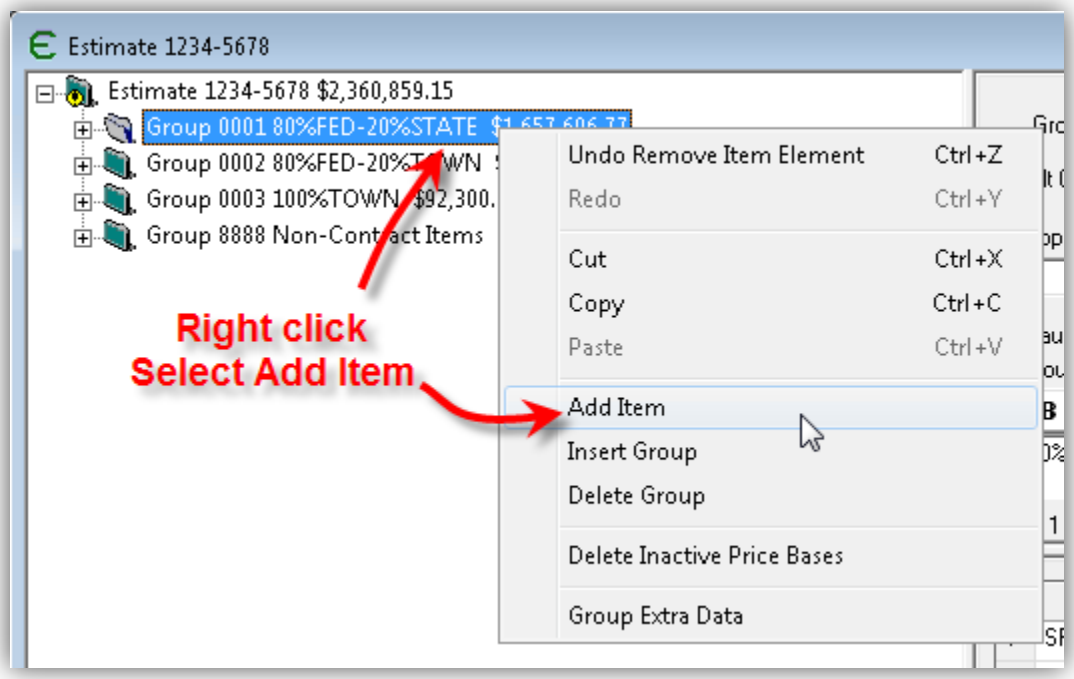


Figure 52. Adding Items

4.5.5 Using the Find Item Button

If you know the item code of an item, or a word or words included in the description, you can use that information to search for a particular item. You can also search for a unit of measurement or the unit system of English, metric, or none. The more information you enter about your item, the easier it will be to find.

Click the GO button next to the line number of the item for which you wish to find in the grid area of the Group window (for the GROUP tab) or the grid area of the Estimate header window (for the ALL ITEMS tab), or select the line number of the item in the tree area. You may have to create an item row if you are on the ALL ITEMS tab. Estimator displays the item window. Next to the Item Number field, a small button marked with an ellipsis (…) is visible. This is the FIND button.

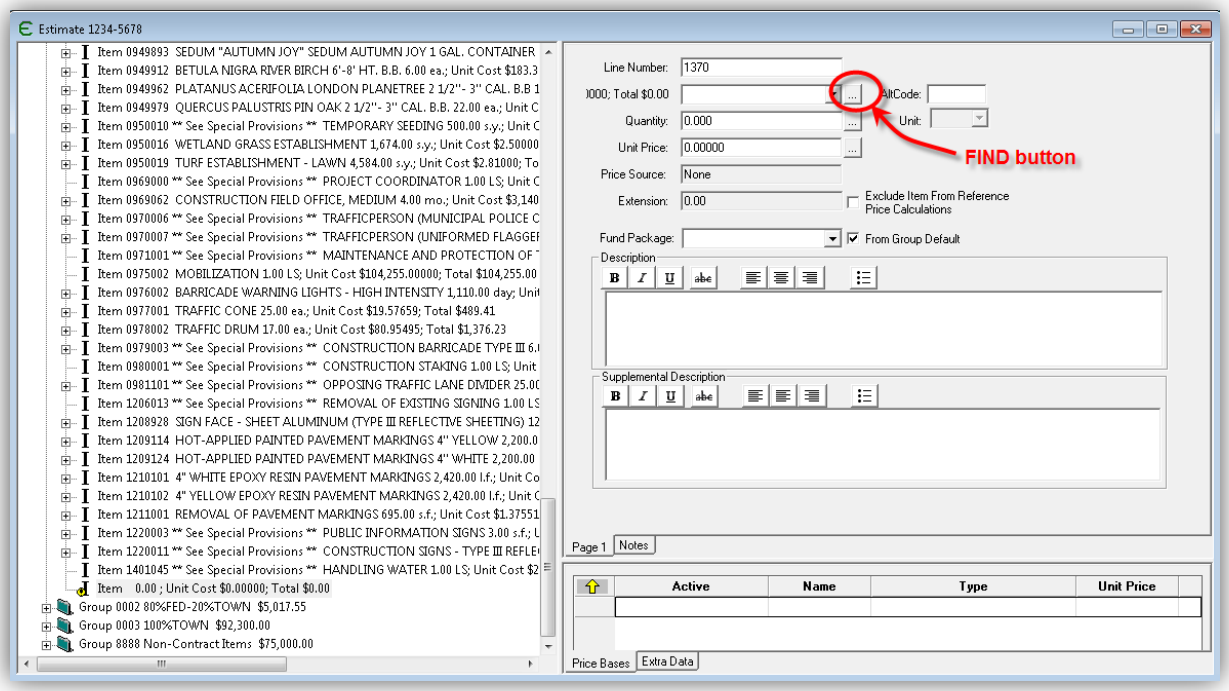


Figure 53. Find Item Button

Click the FIND button to bring up the Find Item window:

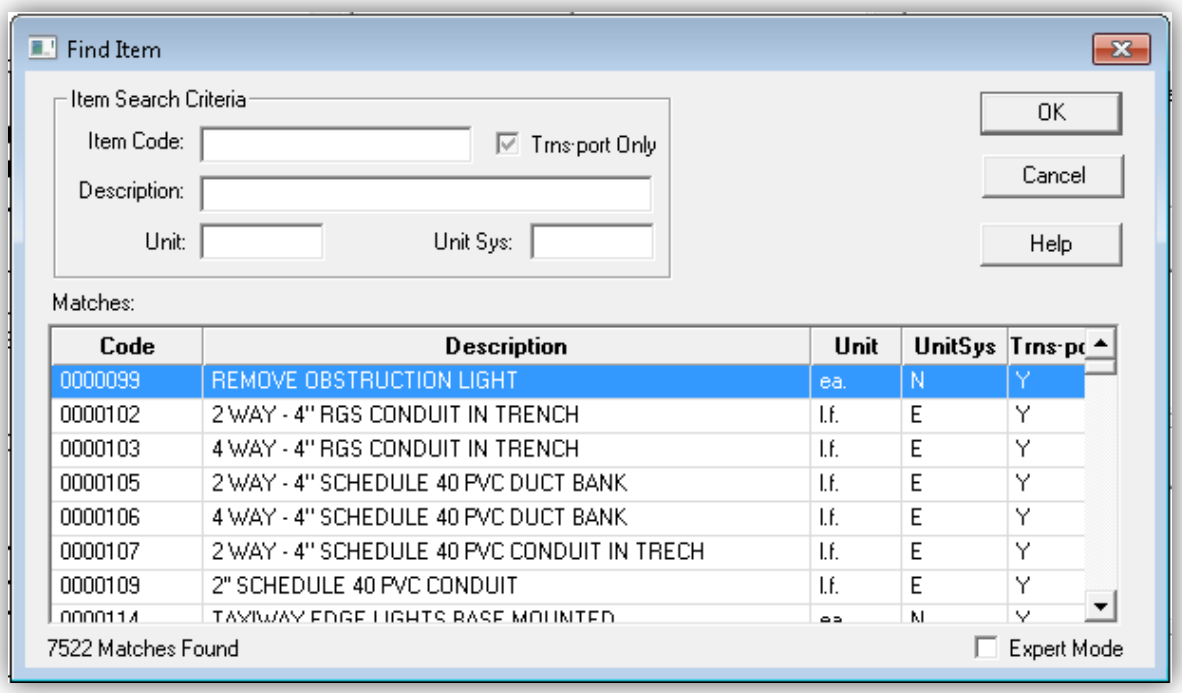


Figure 54. Find Item Window

Enter the criteria in the appropriate fields for the item you wish to find and press the TAB key between each entry. Do not press ENTER or click OK, as this will select the first item on the list and return you to the Item window.

Each time you press TAB, the list of match's narrows to those items that fit the entered information. Once you have entered all the criteria for which you are searching, select the desired item by highlighting it in the Matches list, and click OK. If there are no items that match the search, double check your information or be less specific and enter the search criteria again.

***Note**: If an item is displayed with a line through it, it means the item does not match the unit system (English, metric, or none) of the estimate and cannot be selected.

Once you find the item you are searching for, select the item in the Matches list and click OK. Click CANCEL if you decide not to use any of the items.

Expert Mode

If the Expert Mode box is selected in the Find Item window, then the criteria entered in the Find fields must exactly match the item for which you are searching, or you must use wildcards to find the item for which you are searching.

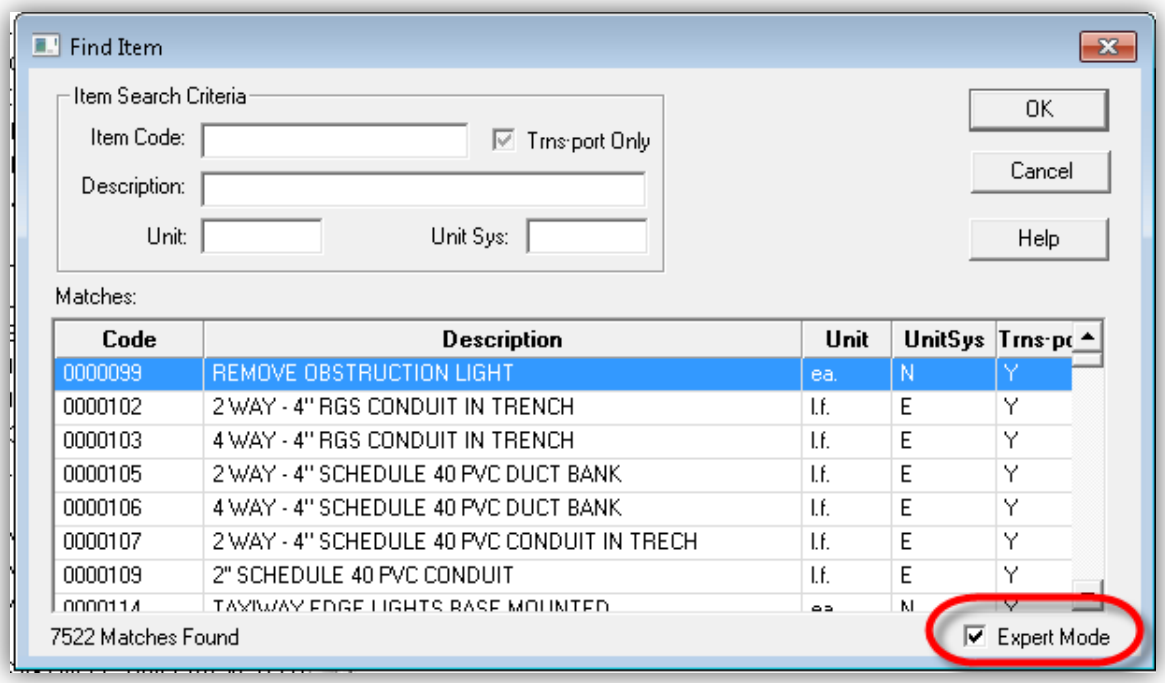


Figure 55. Find Item Expert Mode Box

For example, if you enter **Bridge** in the Description field when you are using Find Item in the regular mode, the Matches display every item in which the word *Bridge* appears somewhere in the description. In Expert Mode, however, you would have to enter the entire description - for example, **Bridge Approach Panel**, or **Install Bridge Superstructure** in order for Estimator to find a match, unless the item's entire description consists of the word Bridge.

*__Note:__ You must still use the tab key in Expert Mode for Find Item to function.

You can also use wildcards to search for an item. The two wildcards Estimator uses are the question mark (?) and the asterisk (*).

Using * finds any number of characters. For example, if you know the word Bridge is the last word of an item's description, but you are not sure what the first word is, you can enter ***bridge** in the Description field and press tab. Estimator displays all items that contain Bridge as their last word.

Using ? will find only one character. Suppose you wanted to find items that have a one-character designation; for example, Remove G Light, or Remove 7 Light. Enter **Remove ? Light** in the Description field and press tab. Estimator displays all items that have the words Remove and Light in it, with one character in between the two words.

You can also combine the use of the wild cards. If you enter **?t*** in the Description field and press tab, Estimator returns all items whose second letter is a T.

Once you find the item you are searching for, select the item in the Matches list and click ok. Click cancel if you decide not to use any of the items.

4.5.6 Using the Find Tool

In Estimator 2.12a, a function was added under Catalog Tools to locate Standard Items, Cost Sheets, Bid Histories, and Reference Prices. This tool allows the user to find an item without having an estimate open. Go to **Catalog Tools**>**Find** and select the criteria you are searching for:

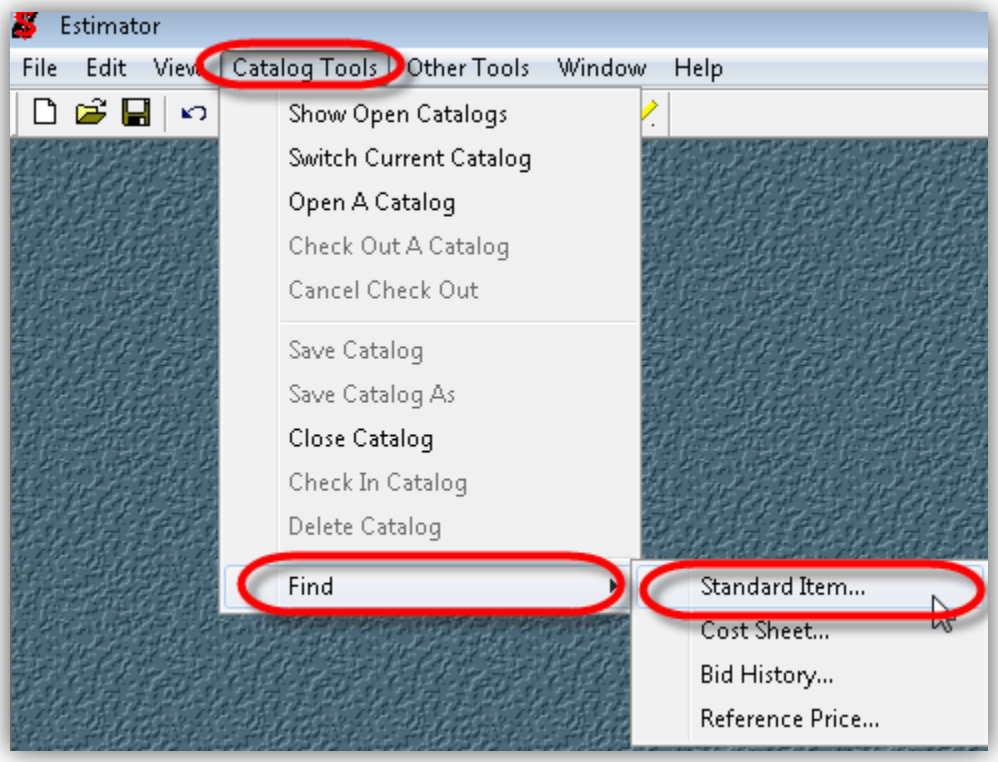


Figure 56. Find Tool

The same dialog box shown in ***Figure 58*** will appear.

4.5.7 Requesting a New Item

If a new item is required, requests **MUST BE SUBMITTED SIX WEEKS PRIOR TO THE FINAL DESIGN (FDP) DATE**. To request a new item please fill out New Item Request form located on the CTDOT Estimator web site.

Consultant engineers must submit this form to their consultant liaison; CTDOT personnel must submit this form to Contract Development.

4.6 Sorting the Item List

4.6.1 Sorting by Item Number

You can sort the item list for the estimate from the ALL ITEMS tab, or sort each group's item list from the GROUPS tab. You can also sort Estimator's item list from the Item window before adding an item to your estimate. Estimator retains the sort order in the grid each time you access a sorted list, but the sort is not reflected in the tree area.

Estimator initially lists the items by Line # order. When you first click the desired sort column heading, Estimator sorts the items in ascending (A to Z, or 0 to 9) order, depending on the data in the field. Click again, and the sort order reverses to descending (Z to A, or 9 to 0).

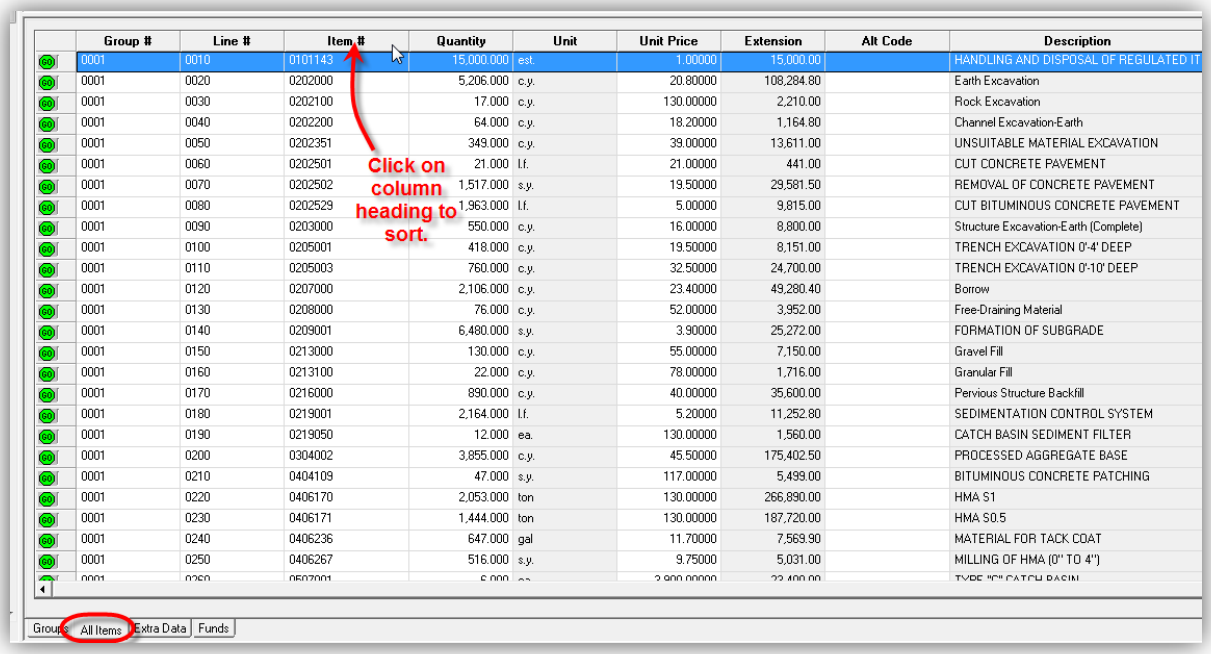


Figure 57. Sorting Items

4.6.2 Sorting Items by Cost

In order to determine the work type of a project, sort the items by cost to see which items are the largest percentages of the cost of the project. This step must be completed after pricing is done. Highlight the Estimate, select the All Items tab and click on Extension (quantity times the unit price) to sort:

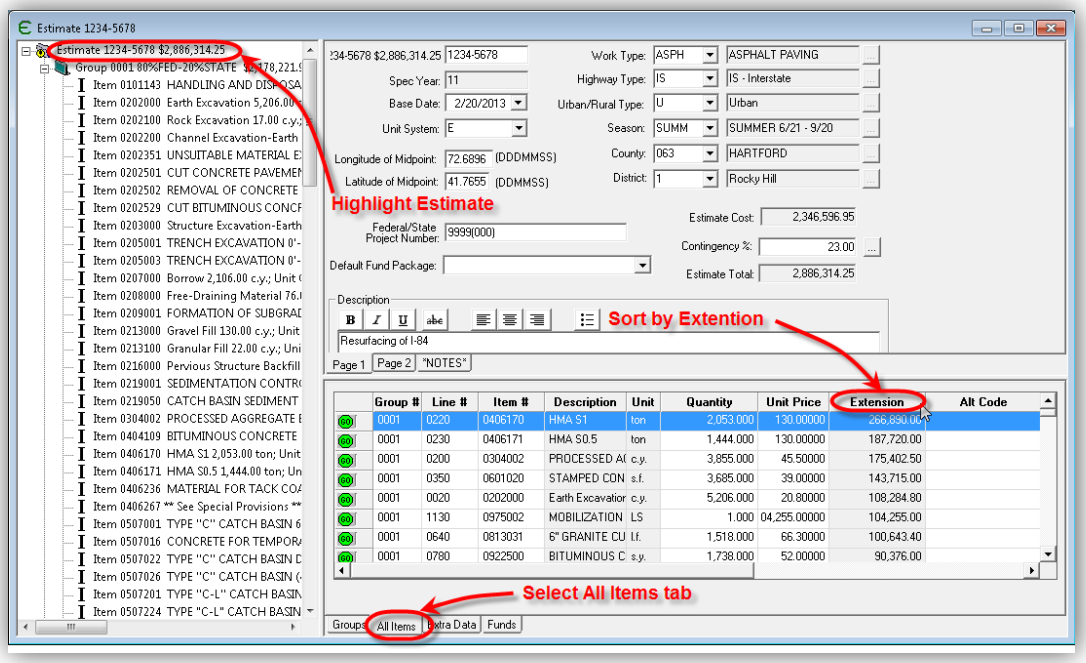


Figure 58. Sorting an Item by Cost

In this example, HMA (Hot Mix Asphalt) and its associated items were the most costly items. Therefore, this project would be classified as ASPH (Asphalt Paving). After assigning a work type to the header, this step should be repeated as a check since changing the work type may affect the price.

4.6.3 Sorting the Estimate and Group Item Lists

You can sort the order of items in the estimate's Item List and a group's item list by any of the column headings. Click the column heading in the grid area of the characteristic by which you wish to sort. For example, to sort by Description, click the description column heading. The items in the tree do not reflect the sort.

When you save the estimate, Estimator also saves the order of the items in the grid. If you reorder the items in an Item List and save the estimate, the next time you open the estimate file the items in the Item List are sorted in the same order.

4.7 Estimator Pricing

Estimator allows you to use five types of price bases to estimate the costs of the items in an estimate: cost sheets, bid histories, ad hoc, reference prices, and price basis list.

- Reference Prices can be derived from a variety of sources. For CTDOT, reference prices will usually be based upon a percentage of the total estimate, such as Mobilization. All estimated items (est.) use a reference price of $1.

- Bid History pricing is the most commonly used pricing method. Bid history prices are based on past bids for that item. If there is sufficient bid history on an item, Estimator performs a regression analysis and provides a price which is based on quantity. It also bases the price on type of work, location within the state, time of year, and date, if this information is included in the Estimate header.

* **Note:** It is <u>very important</u> that the header information be filled out correctly as it can have an effect on the bid history pricing.

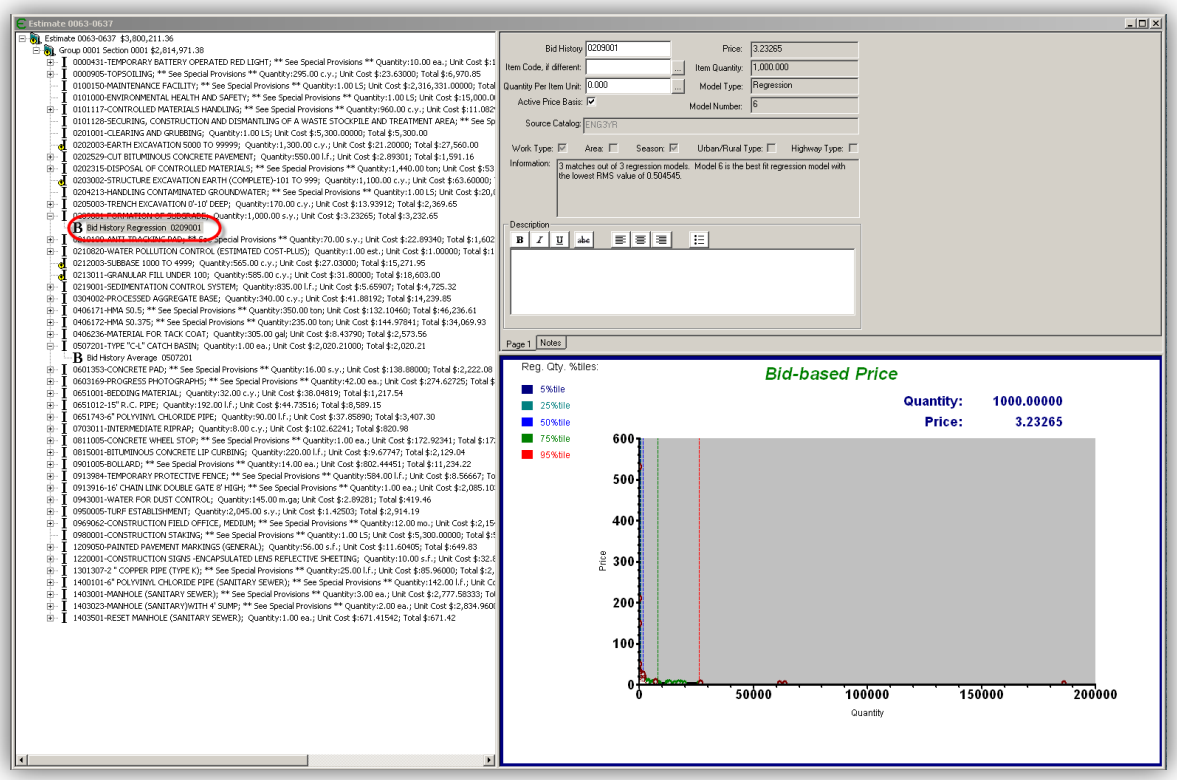


Figure 59. Bid History Regression

If there is not sufficient data to perform a regression analysis, Estimator will return a weighted average price:

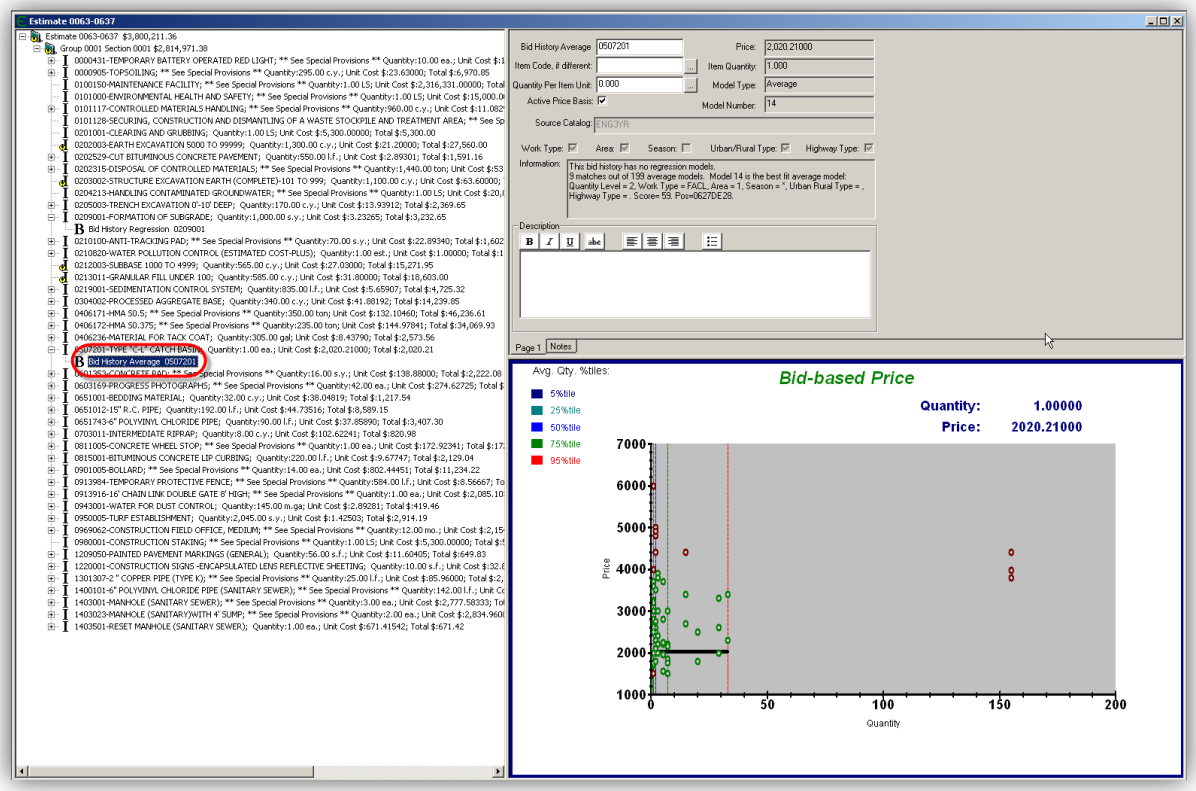


Figure 60. Bid History Average

If there is no supporting bid data, no price is returned, but the user may wish to use a bid history price for a similar item.

- Bid history regression prices are also adjusted for inflation, relative to the base date. The adjustment is calculated based on the rate of inflation for the item, based on bids over the time period in the catalog, i.e. three years or five years.

- Average prices do not include any adjustment for inflation. If the user wishes to add a project-wide inflation percentage, this should be added to the project header.

See Contingency % in the Header Information Page 1 in Section 4.2.1.

- Ad hoc prices are prices that are entered by the estimator or are imported from an Excel spreadsheet.

- Cost Sheets base an item's cost on equipment, labor, and materials. If an estimator knows what these prices are, they can be added by right clicking on an item and select Add Cost Sheet. To date, CTDOT does not have cost-based pricing information. If these cost values are developed in the future, they will be included in the catalog.

- Price Basis List is a grouping of multiple pricing tasks which the user may find convenient to use as one task.

4.7.1 Working with Reference Prices

To view the reference price for an item, select that item in the tree area so it is expanded. Any price basis marked with an R is a reference price.

Select the desired reference price by highlighting it in the tree area or clicking **GO** in the grid. Estimator displays the selected reference price in a Reference Price window as shown in ***Figure 65***.

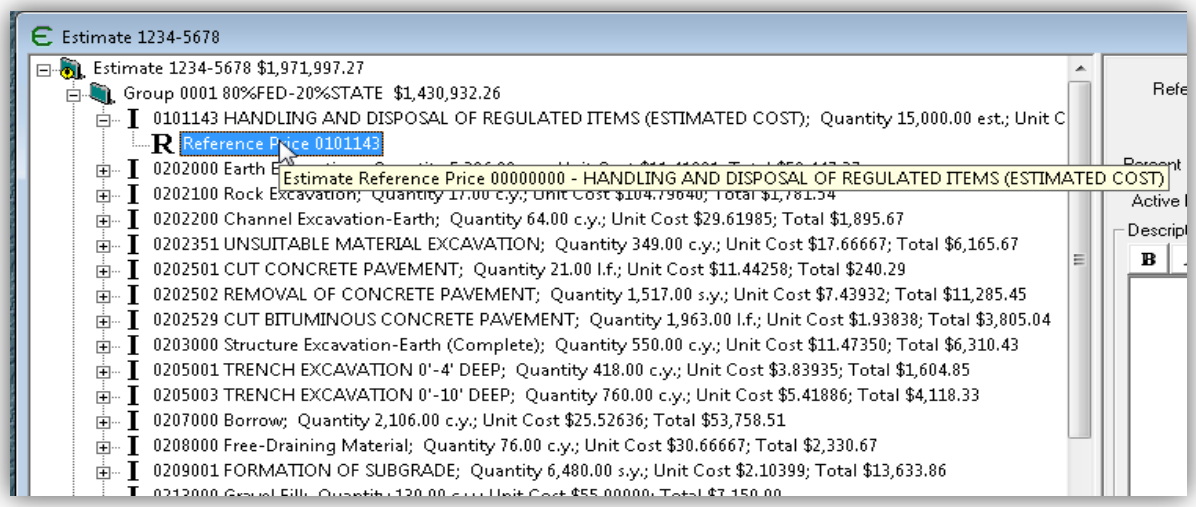


Figure 61. Reference Price

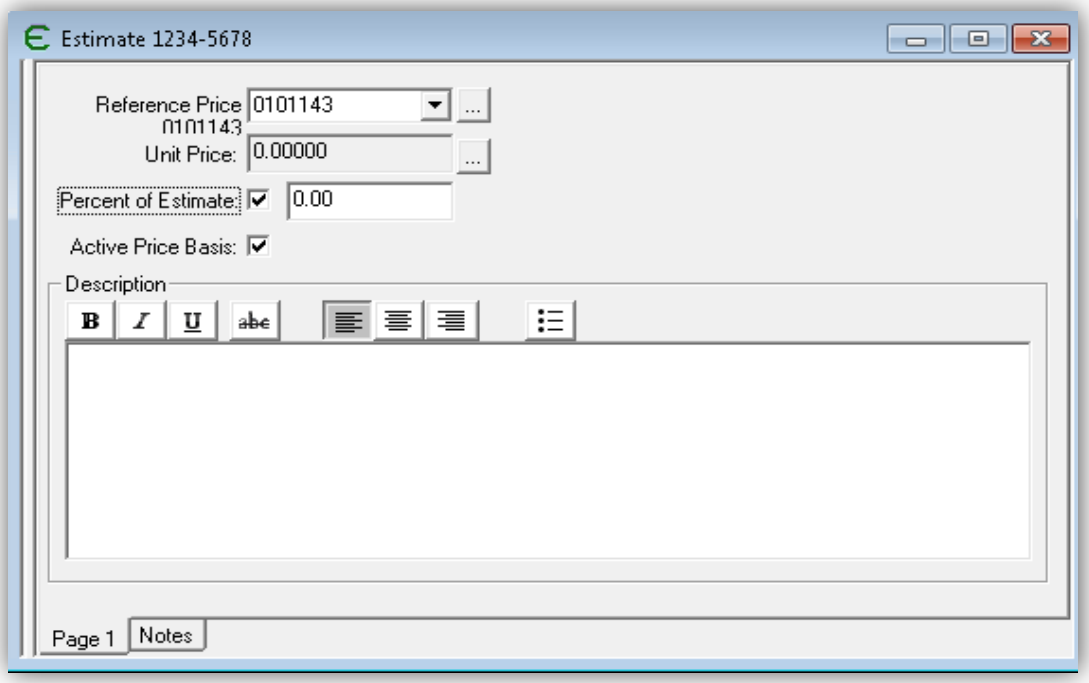


Figure 62. View Reference Price Dialog Box

Reference Price Window Fields

Reference Price ID	The Name field displays the name of the reference price.
Unit Price	The Unit Price field displays the estimated cost of one unit of the estimate item to which the reference price is attached.
Percent of Estimate	Select this check box to indicate the reference price be calculated as a percentage of the estimate total. Enter the total percentage in the field that appears when this check box is selected.
Active Price Basis	The Active Price Basis check box determines if the reference price is used as a price basis. If this box is not selected, the price will not be included in the estimate total, so another pricing method must be used.
Description	The Description field is a text field used by the estimator to detail the characteristics of the reference price. For example, this field might contain the name of the outside source from which the reference price was derived, the circumstances under which the reference price is appropriate, the date that the reference price was entered into Estimator, and the name or initials of the estimator who entered the reference price.

Adding a Percentage Based Reference Price

To have Estimator calculate a cost of an item that is based on a percentage of the estimate, a reference price must be added. To add a percentage-based reference price to an item, right click on the item in the tree view and select “Add Reference Price”:

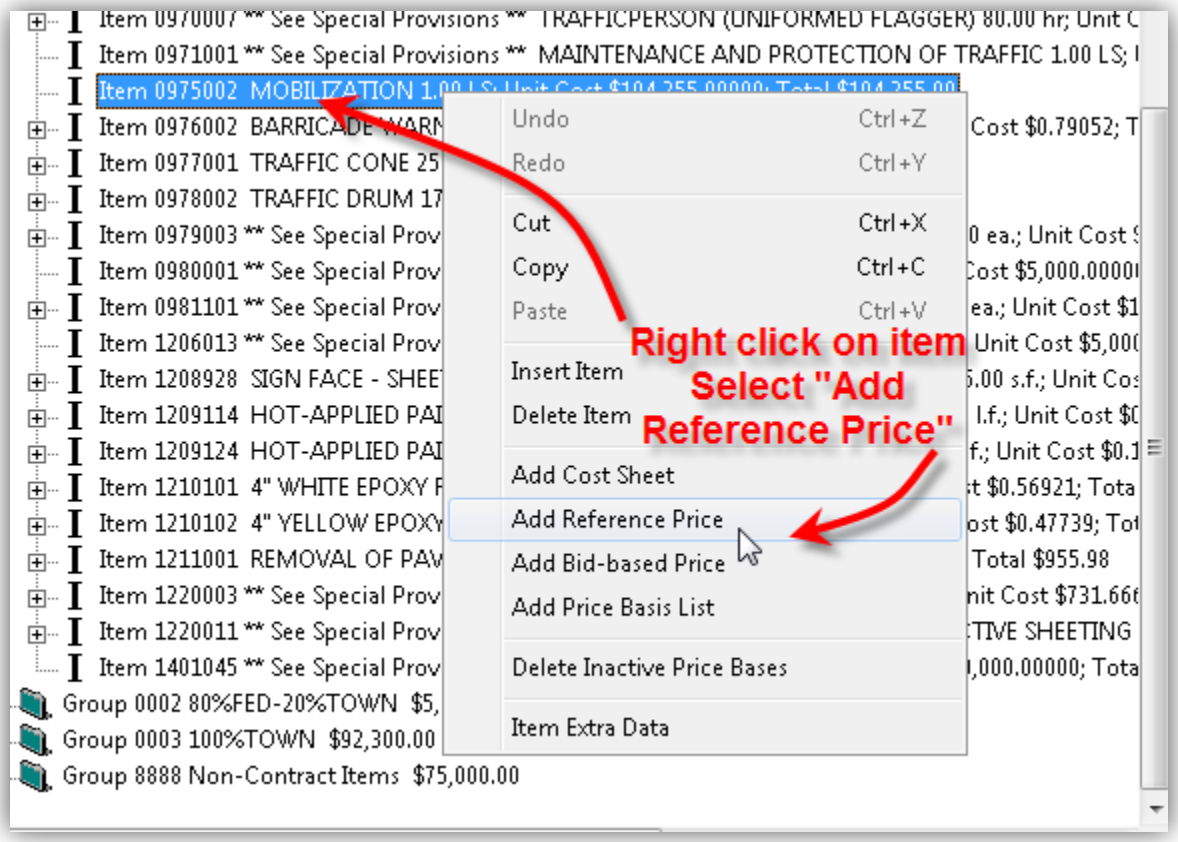


Figure 63. Adding Reference Price

Enter a name for the Reference price, check **Percent of Estimate,** and fill in the percent:

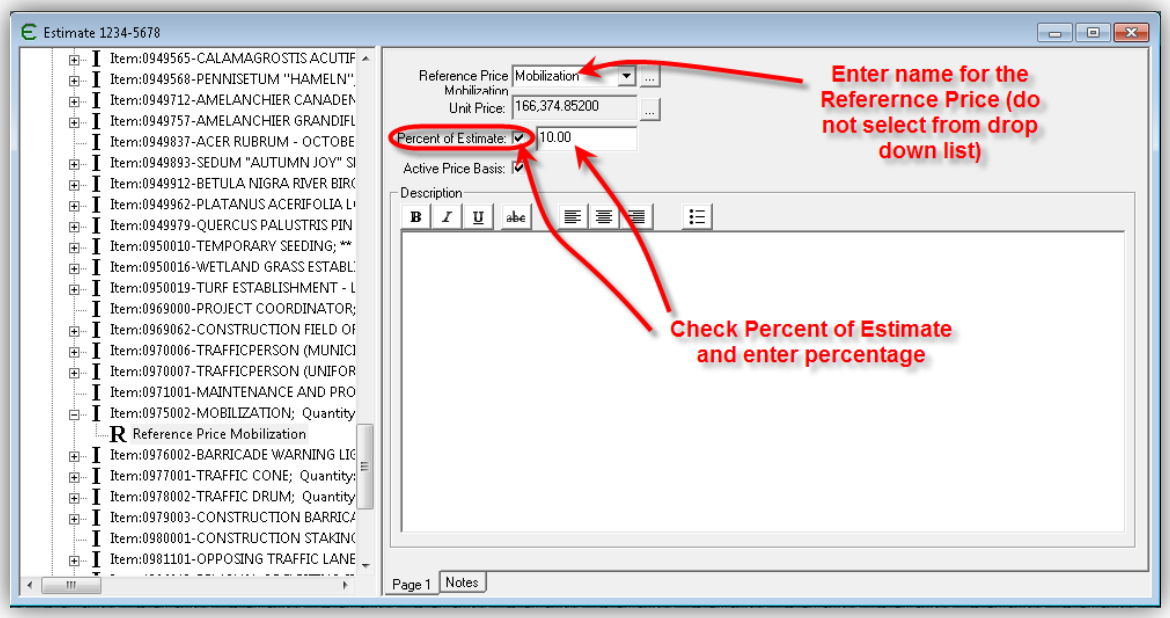


Figure 64. Reference Price Percentage

***Note**: If a name is not entered for the reference price, when the estimate is verified the user will get a warning stating that "The Reference Price Name is blank". This warning will not prevent the estimate from being passed to web Trns*Port. The drop down list contains reference prices that were added to estimated items (.est). Do not use the drop down list, enter your own name.

If the user does not want the item to be included in the percentage calculation (which is usually the case for CTDOT percentage based items), the "Exclude Item From Reference Price Calculations" box must be checked:

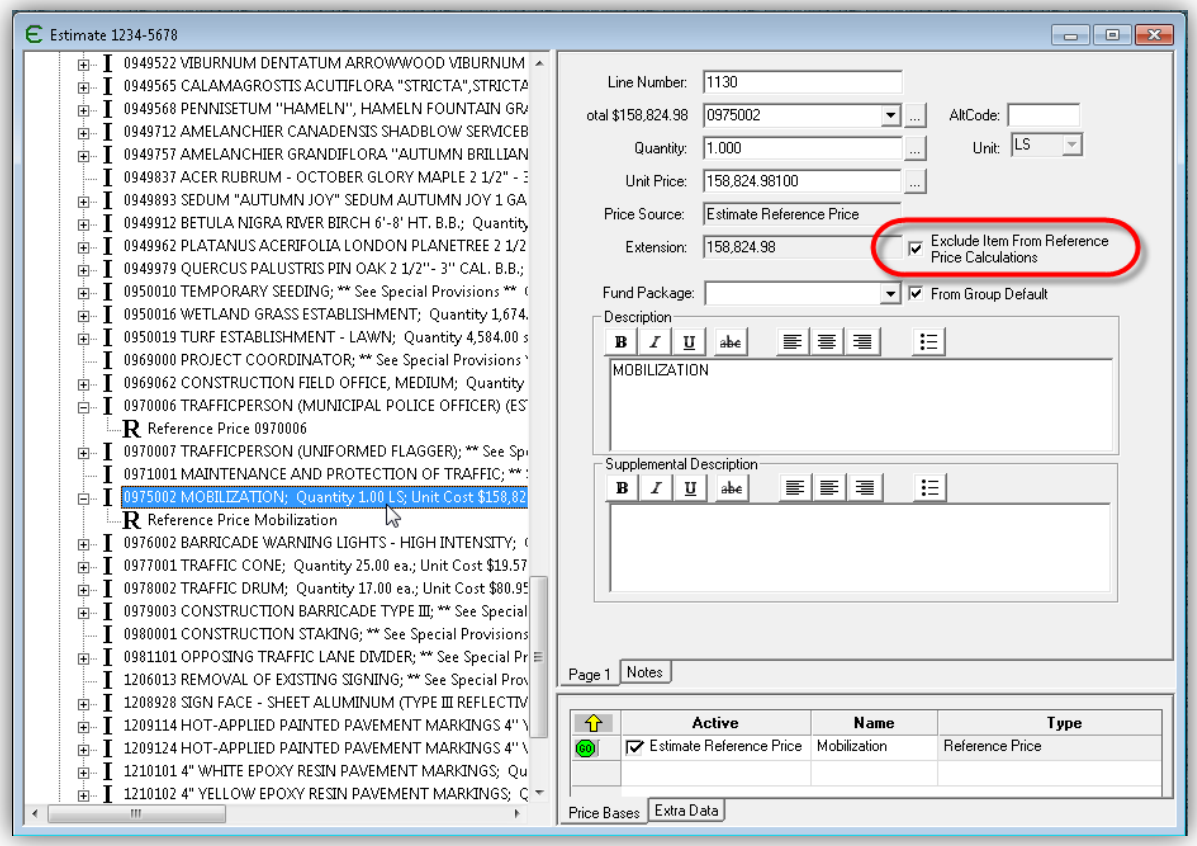


Figure 65. Exclude Item From Reference Price Calculations

4.7.1 Working with Bid Histories

A *bid history*, information that has been derived by statistically analyzing past bids for an item, can be used to predict future bid prices for an item. There are two kinds of bid histories supported in Estimator: Average Prices and Regression Coefficients.

Average Prices predicts future bids on an item by determining the weighted average (total extended amount divided by total quantity) of past bids on the item.

Regression Coefficients use historical data (provided a sufficient amount exists) to fit the historical item bids into a formula that takes into account item quantity, inflation, estimate location, season of the year, and estimate work type. A statistical analysis model determines the coefficients of the formula that Estimator uses to predict a future bid price.

For detailed technical information of how bid histories are calculated, see Generic Estimator User's Guide , Chapter 3.

You can display a bid history as long as the item selected has at least one bid history attached to it (whether or not it is the active price basis). You can also view bid histories from the Standard Item Catalog and the Bid History Catalog.

There are four fields that you can edit for a bid history:

Bid History ID	The unique identifier of the bid history
Item Code, if different	The item code to which this bid history belongs, if it is different than the item to which the bid history is attached.
Quantity per Item Unit	The conversion factor used to adjust the quantity of the bid history when a bid history for a different item is used. For example, if the actual item's unit of measure is feet and the bid history item is inches, the Quantity per Item Unit should be set to 12. If the units of measure for both items are the same, thedefault value of 1 should be used.
Active Price Basis	Indicates if the bid history is an active price basis.

Viewing Bid Histories

To view the bid history for an item, select the plus sign for that item so it is expanded. Any price basis in the tree area marked with a **B** is a bid history:

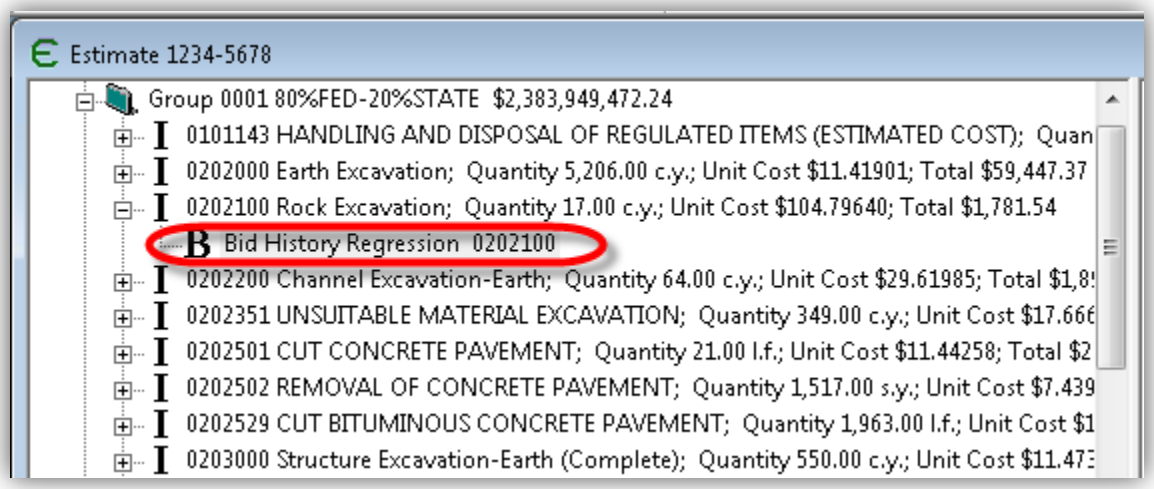


Figure 66. Bid History Regression Tree View

Bid History Regression

Select the desired bid history by highlighting it in the tree view or clicking the GO button in the grid. If you are looking at a bid history for an item, Estimator displays the selected bid history in a Bid History window as shown in ***Figure 70***.

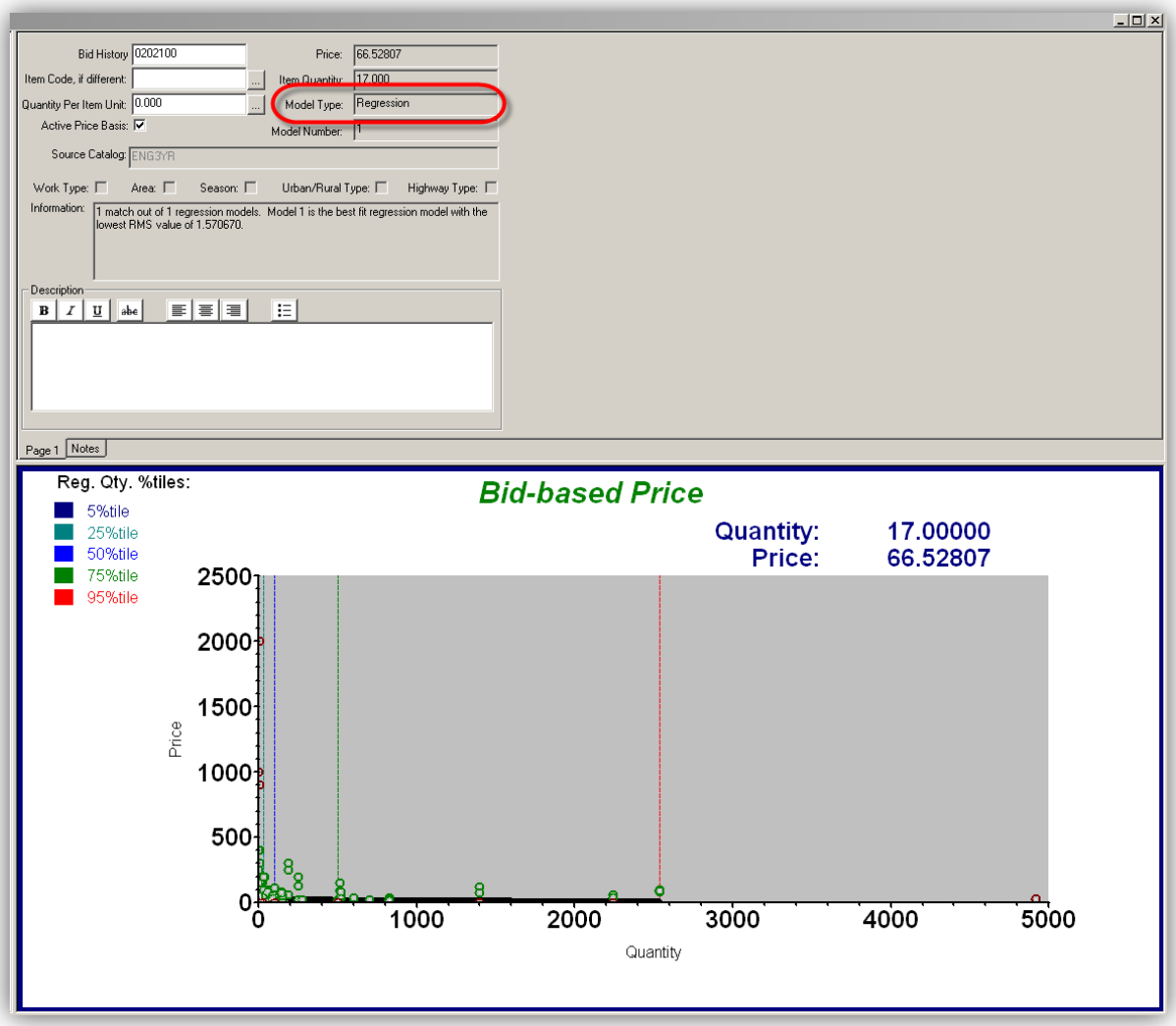


Figure 67. Bid History Regression

For bid histories residing in estimates, the bid history windows include graphs of unit price versus quantity for the bid history item.

The green lines indicate the item's current quantity and price. You can find a specific price for quantity by placing your mouse on the graph, and pressing and holding down the right mouse button while finding that quantity and price on the graph.

The five colored lines on the graph represent the percentile in which the values are divided. This makes it easier to see where your quantity falls within the bid history regression plot.

Bid History Regression (Out of Range)

This indicates while there was sufficient data to perform the regression analysis on the selected item, the quantity that was entered was beyond the quantity range of the model. *Item cost estimates that are flagged regression (out of range) should be further investigated by the user*:

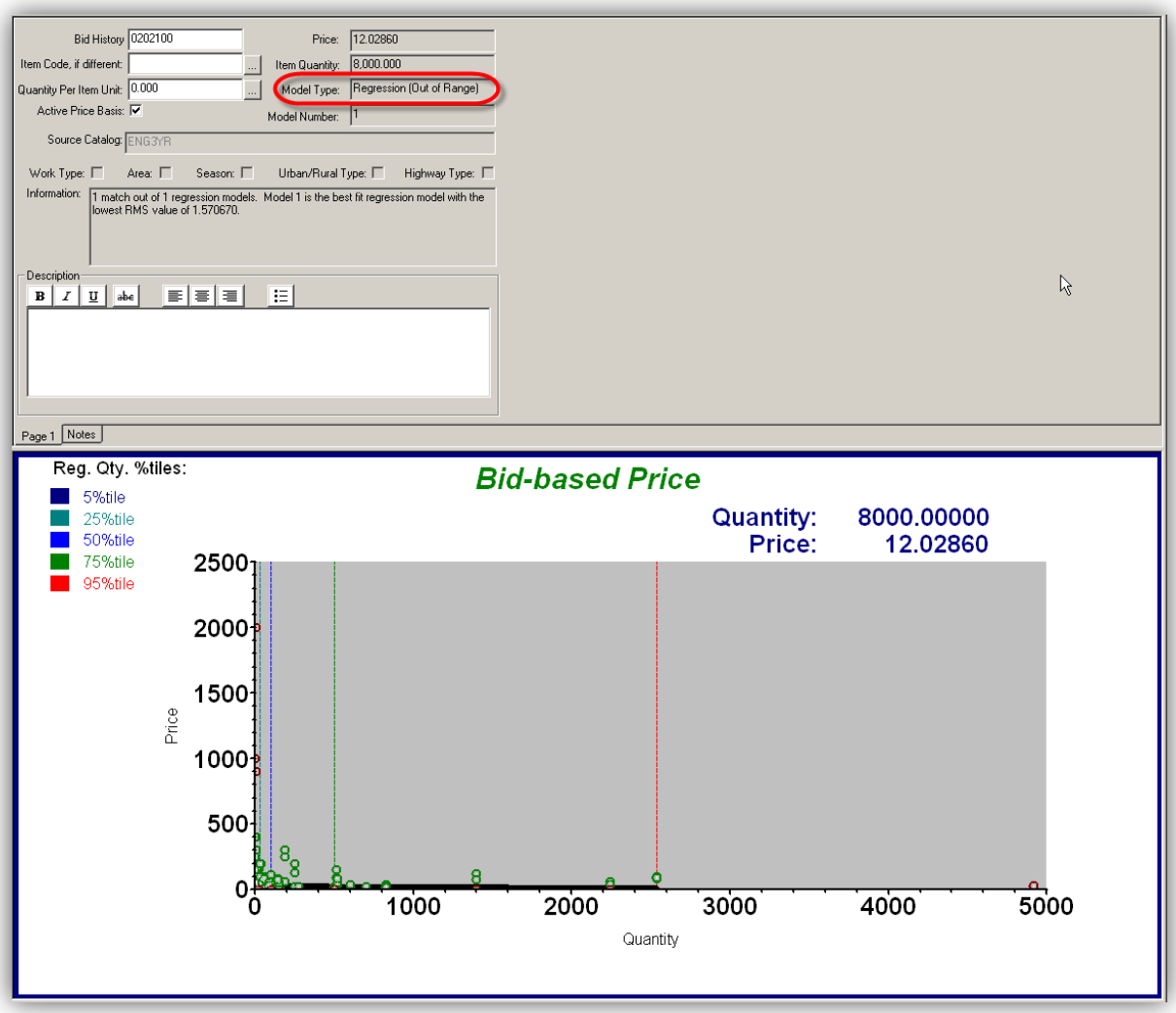


Figure 68. Bid History Regression (Out of Range)

Bid History Average

If there is not enough bid history to do a regression analysis and create a bid history regression plot, a bid history average is provided:

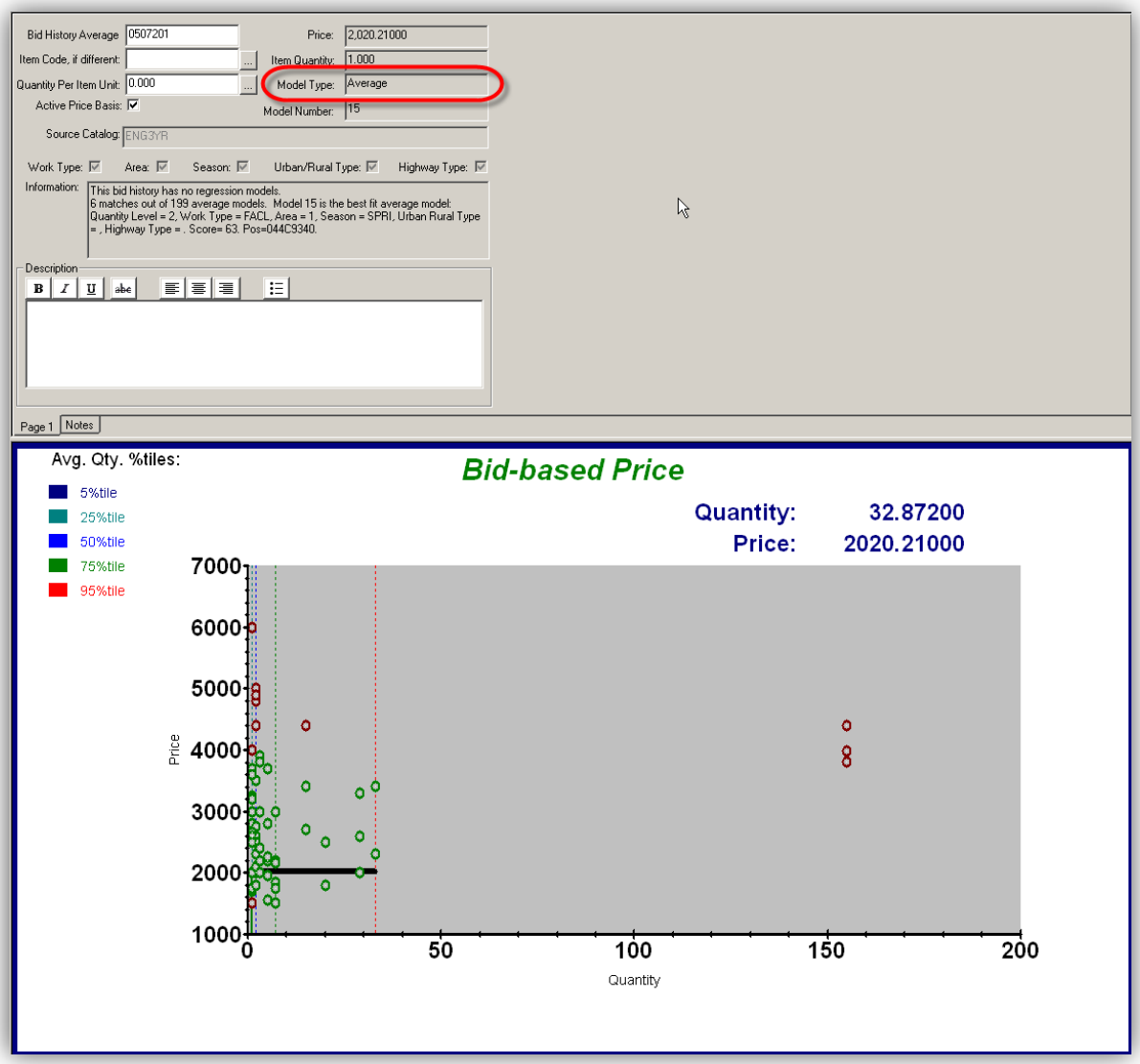


Figure 69. Bid History Average

This will give a weighted unit price for the item. *Item cost estimates that are flagged average should be further investigated by the user.*

Average (Out of Range)

If there is not enough bid history to do a regression analysis and the quantity entered are beyond the ranges of the bid history average model is provided:

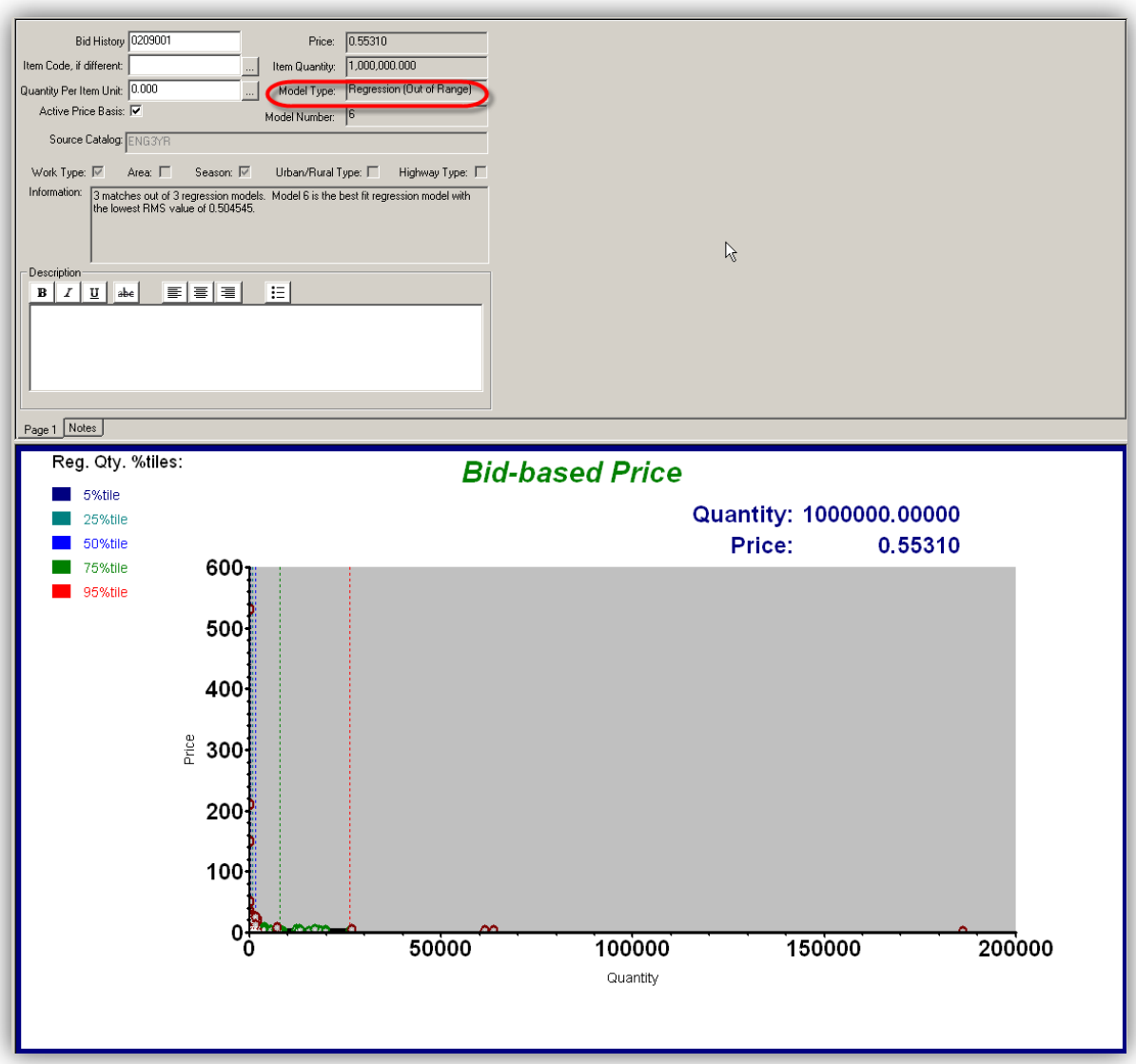


Figure 70. Average (Out of Range)

Item cost estimates that are flagged average (out of range) should be further investigated by the user.

4.7.2 Modifying a Price Basis in an Estimate

Once a price basis is added to your item, you can modify it, delete it, or update it.

Changing the Active Price Basis for an Item

If the item being added to the estimate already has one or more attached price bases, Estimator uses the item's designated active price basis to determine the unit price of the item. If more than one price bases are attached to the item, you can select any of the attached price bases to serve as the active price basis.

***Note**: If an item has more than one active price basis selected, the prices will be added together.

To view an attached price basis of an item, open your estimate and select the item in the tree area or click the green GO button next to the item in the grid area for a group or on the ALL ITEMS tab. Estimator displays the symbol for each of the attached price bases:

- C - Cost Sheet
- R - Reference Price
- B - Bid-based Price
- I - Price Basis List, shown as a folder icon as well

An ad hoc price basis does not display as an attached price basis.

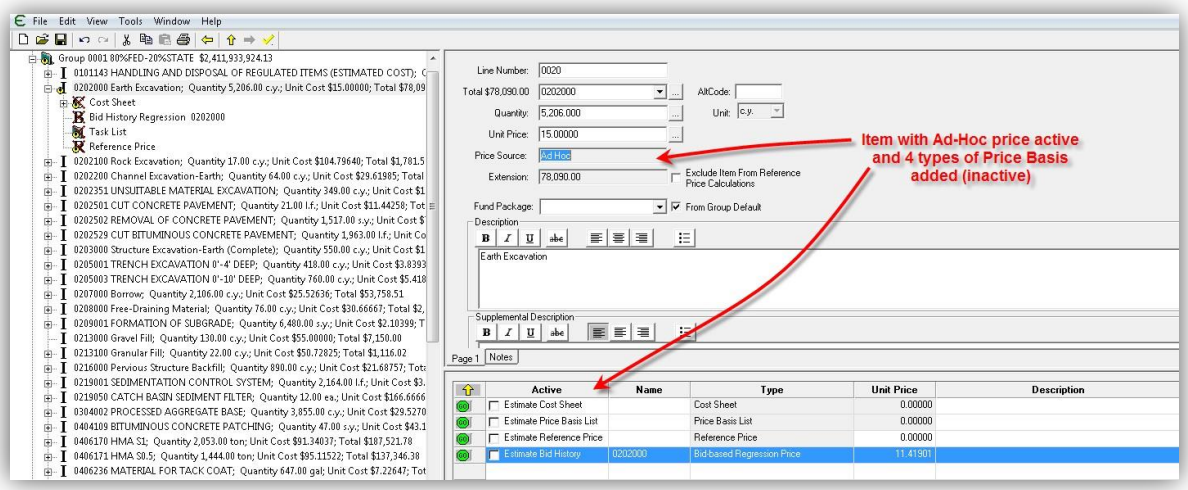


Figure 71. Active Price Basis

To make a price basis inactive, highlight that price basis in the tree view and select Toggle Active/Inactive from the Edit menu. You can also clear the check box in the Active column in the grid view for that price basis. An ad hoc price basis is automatically active. Estimator places a red X on the inactive price basis.

Deleting Price Bases from an Item

To delete a price basis from an item, select the price basis in the tree view. Select the Edit menu and choose Delete for the desired price basis. This has no effect on other copies of the same price basis that might be included in a price basis catalog or that might be attached to other items in the same or different Estimator estimates; the delete only affects the selected item.

You can also delete the price basis from the grid area by highlighting it in the item window and selecting **Delete Price Bases** from the right mouse button menu. If there is a possibility that the price basis might later be needed, you should make the price basis inactive instead of deleting it.

Adding Bid Based Prices to an Item with no Bid History

If you had an item in your estimate that did not have any bid history associated with it, but there was another item that was very similar that had a bid history, you can associate the bid history of the similar item to the original item to obtain a price estimate. For example if you had an item such as "0507165 RESET TYPE "C-M-4" CATCH BASIN" with no bid history, you could add the bid history of "0507701 RESET TYPE ''C'' CATCH BASIN" which is a similar item to obtain the price.

After adding the item with no bid history (and its quantity), right click on the item and select "Add Bid Based Price"

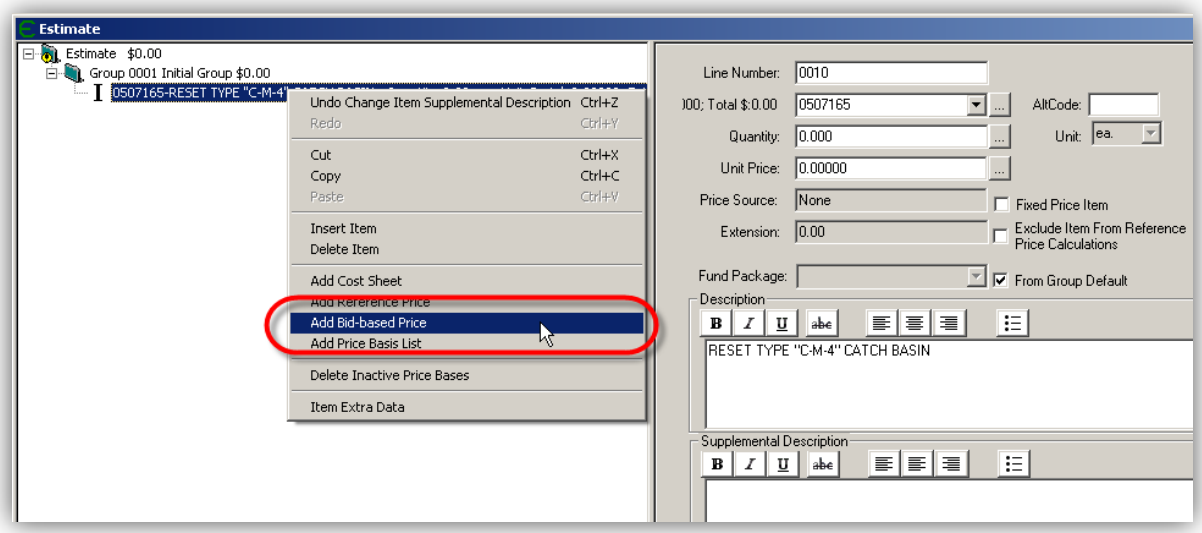


Figure 72. Add Bid-based Price

Select the pick button next to “Item Code, if different” and select the item whose bid history you wish to associate with the new item:

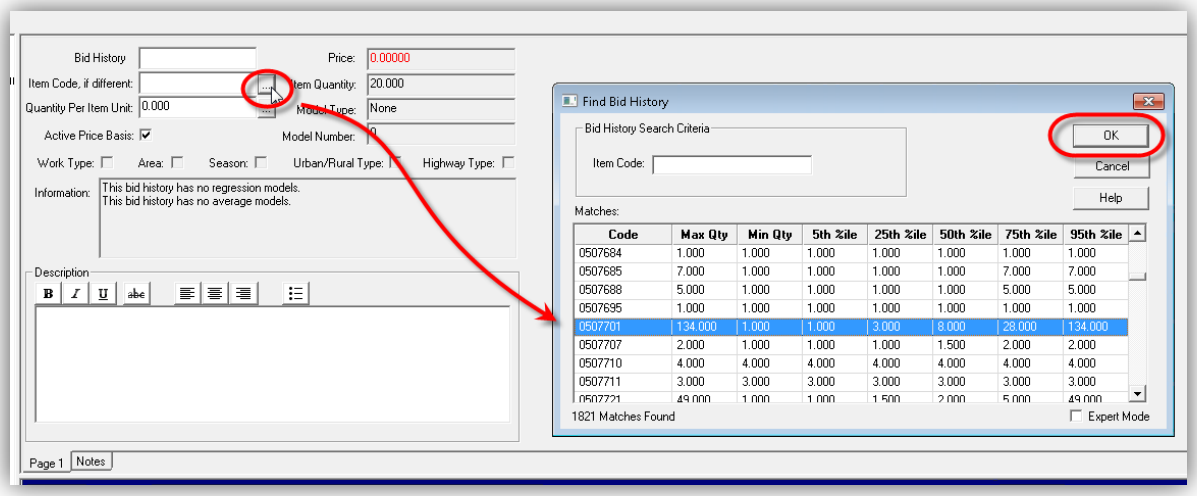


Figure 73. Associating Bid Histories

Ensure that the Quantity Per Item Unit is set to 1:

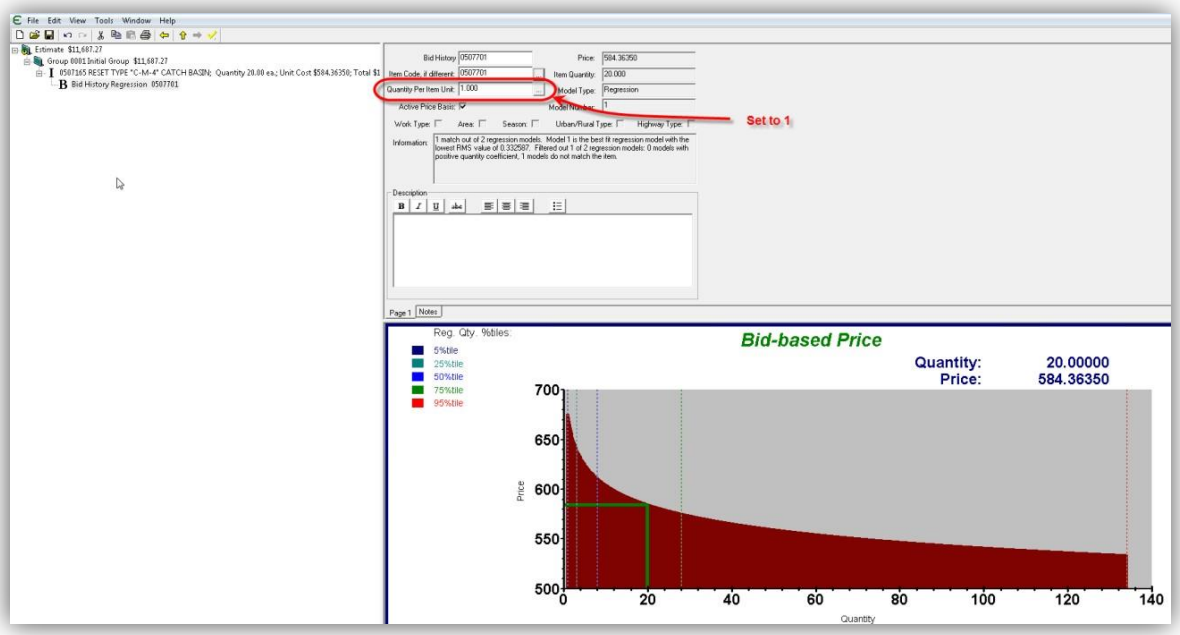


Figure 74. Quantity Per Unit Item

The bid history of “0507701 RESET TYPE ''C'' CATCH BASIN “is now associated with “0507165 RESET TYPE "C-M-4" CATCH BASIN”.

4.7.3 Update Price Information

Sometimes it may be desirable to use the most up-to-date cost sheet and bid history data in an existing estimate. Estimator is able to update prices in estimates if bid histories, rate catalog, or cost sheet information changes. Re-pricing can be done at the item level, group level, or estimate level, whichever is selected in the tree view. Select the desired element to be updated and select Update Price Information from the Edit menu.

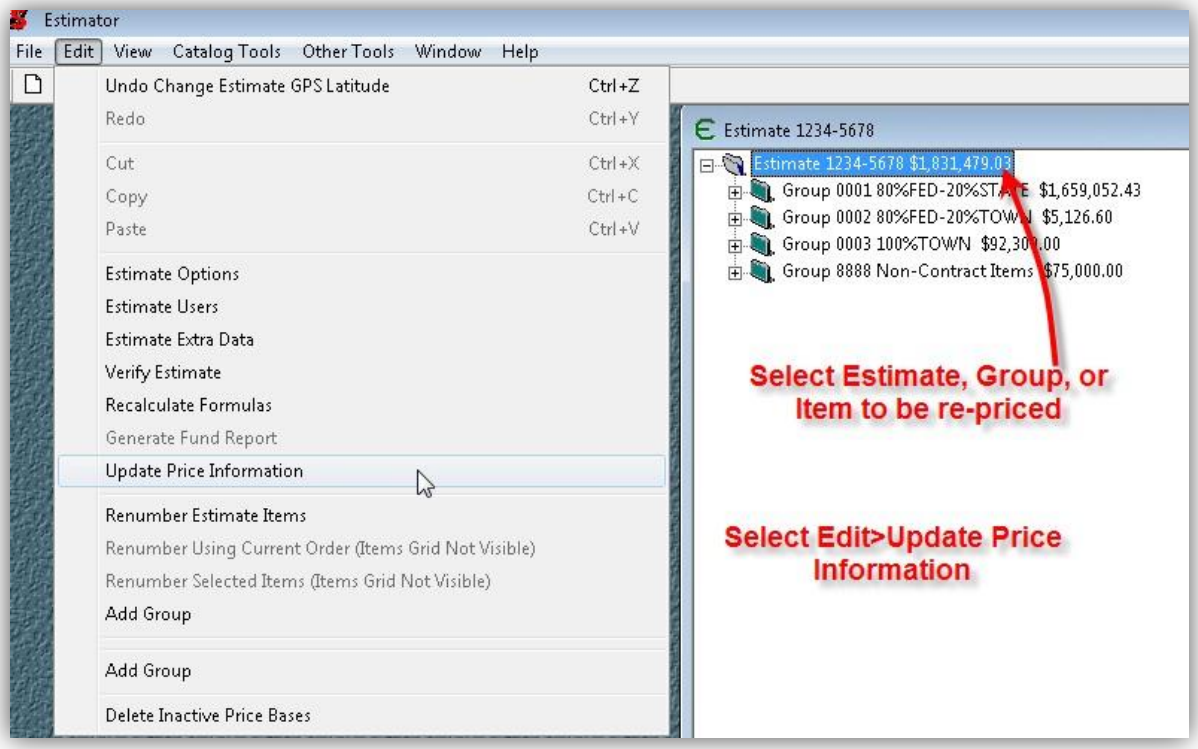


Figure 75. Update Price Information

***Note**: Re-pricing an estimate may cause you to lose any price modifications you have made to estimate.

Re-price estimates to reconcile an imported estimate with bid histories and cost sheets in the current catalog. You use this command most often when you import an estimate from another system. You can also use is to re-estimate items when an updated catalog is available.

Update the entire estimate by selecting the estimate header before updating the price information. You can update specific price bases by selecting them in either the tree or grid area. If an item is selected, then only the price bases for that item are updated. If a group is selected then all price bases for each item in the group are updated. Whatever element is the active window is the only one updated.

***Note**: It is recommended that you save your estimate before updating the price information.

Once you select Update Price Information from the Edit menu, Estimator displays three updating choices as shown below:

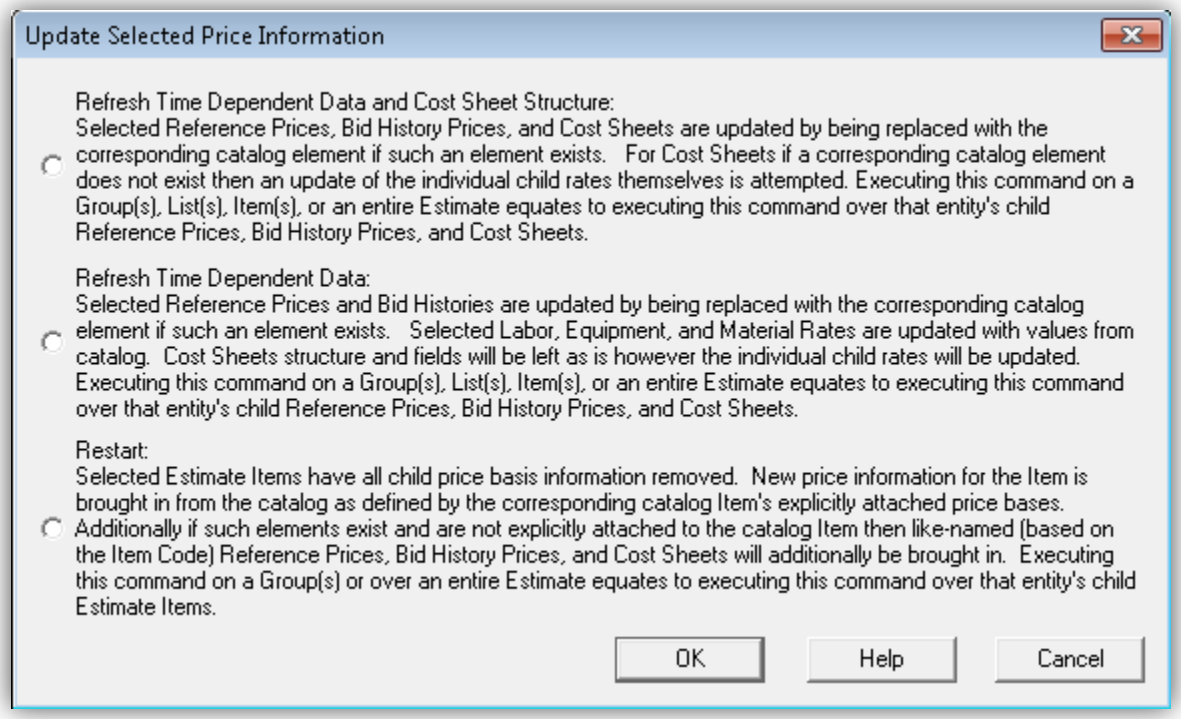


Figure 76. Update Selected Price Information Window

Choose which re-pricing option you wish to use and click OK, or click CANCEL to not re-price the estimate. The options are as follows:

Refresh Time Dependent Data and Cost Sheet Structure

After you create estimates, the price bases catalogs may occasionally be modified. For example, if a supplier changed his quote, then the reference price from the catalog may change. To reflect these changes in your estimates, you need to refresh time dependent estimate prices.

Select Refresh Time Dependent Data and Cost Sheet Structure to replace the existing price bases an estimate uses with the updated price bases catalogs. Estimator compares the selected price basis in the estimate to the catalogs and then modifies the estimate's price bases according to any new or changed information that exists in the catalog.

- If an estimate contains any items that have an Ad Hoc price basis, these items will not be re-priced. Re-pricing only tales effect on items that were originally priced using the other pricing methods.

- *Items that have an Ad Hoc price bases or .est items will <u>not</u> be re-priced using this option.*

Refresh Time Dependent Data

After you create estimates, the Reference Price Catalog, Bid History Catalog and Rate Catalogs may occasionally be modified. For example, if the minimum wage increased, the Labor Rate Catalog would need to be modified accordingly to reflect pay increases. If a supplier changed his quote, then the reference price would change. To reflect these changes in your estimates, you need to refresh time dependent estimate prices.

Select Refresh Time Dependent Data to replace the selected bid histories an estimate uses with bid histories from the Bid History Catalog and to replace the selected rates an estimate uses with rates from the Rate Catalogs. Estimator compares the selected items in the estimate to the catalogs and then modifies the estimate's selected bid histories or cost sheets according to any new or changed information that exists in the catalog. (It writes in any new bid histories, equipment, labor, or materials rates from the Bid History Catalog, Equipment Rate Catalog, Labor Rate Catalog, and Materials Rate Catalog, respectively.)

- If an estimate contains any items that have an Ad Hoc price basis, these items will not be re-priced. Re-pricing only takes effect on items that were originally priced using the other pricing methods.
- *Items that have an Ad Hoc price bases or .est items will <u>not</u> be re-priced using this option.*

Restart

Selecting Restart clears away all child options (pricing tasks) of the selected entity and replaces them with the corresponding information in the Current Catalog. This option can be used by a single item, by a group for all items in that group, or by the estimate for all items in the estimate.

Some notes about Restart:

- Items that did not get priced have no corresponding price basis in the catalog. You can set an ad hoc price on these items by entering the value directly into the Unit Price field of the grid view.
- Be careful when using this option as you are likely to lose pricing you have done previously.
- If an item was previously priced on an Ad Hoc bases, if there is not a sufficient bid history provide a Bid Regression price, the Ad Hoc price is retained.

Items that have an Ad Hoc price bases or .est items will <u>not</u> be re-priced using this method.
Items that have a reference price basis <u>will</u> have the reference price removed using this option. For example, if a percentage based reference price was added to a lump sum item, that price basis would be removed and the extended amount would become $0.

4.7.4 Verify the Estimate

Once your estimate is complete, you can make sure all the information contained in the estimate is valid by selecting Verify Estimate from the Edit menu. Estimator displays a list of required fields that were left blank or have invalid entries. You can also access the Verify Estimate window by clicking the yellow CHECKMARK ( ) on the Estimator toolbar.

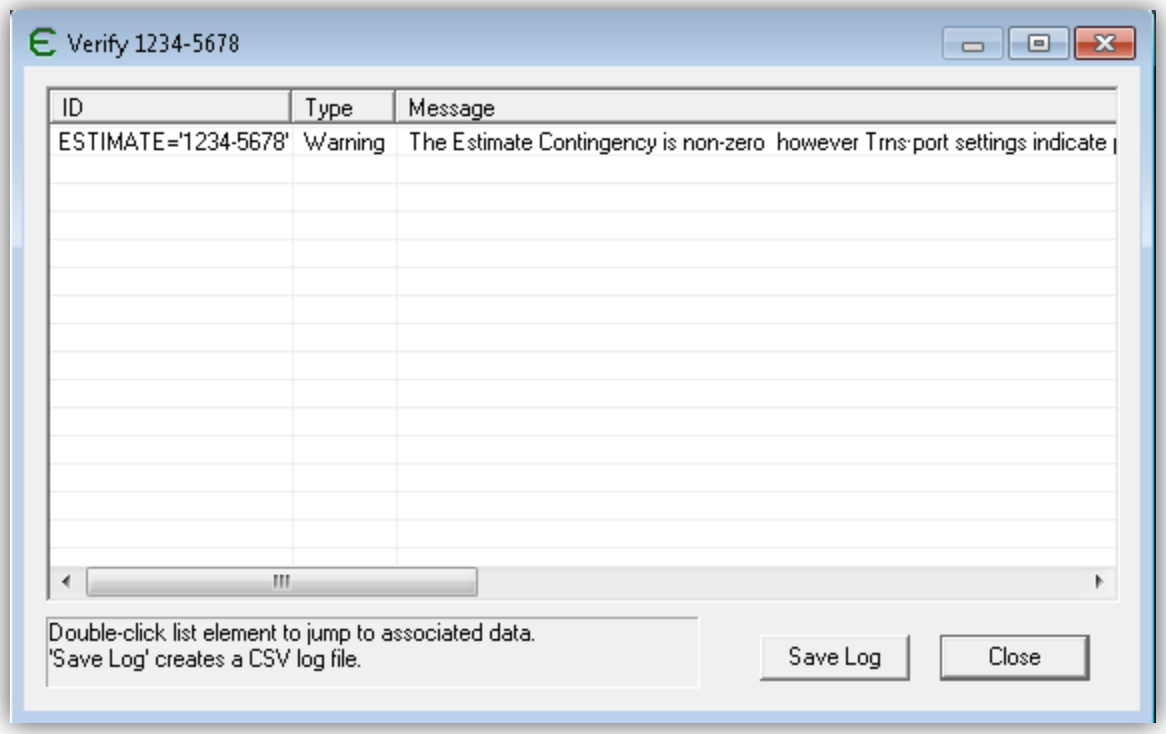


Figure 77. Verify Estimate Window

You can jump to a field that contains an error by double clicking on the ID. Enter the required information, and then verify your Estimate again. Save your estimate when you are finished.

*__Note__: Errors in your estimate are also identified by an exclamation point (!) next to the error in the tree area.

You can save the estimate verification by clicking save log. This creates a CSV file that can be viewed using spreadsheet software, such as Microsoft Excel. To exit this window, click close.

If a Contingency % was entered in the project header, Estimator will return a warning message when you use the Verify Estimate function stating

"The contingency % value will not be passed on to Trns•port Preconstruction: The Estimate Contingency is non-zero however Trns•port settings indicate possible intent to pass data to Trns•port Preconstruction. The data exchange between Preconstruction and Estimator does not support a non-zero Contingency value and differing totals will result".

This simply means that this data will not be passed to web Trns*port. CTDOT's Contract Development unit will enter the necessary contingencies, incidentals, and inflation rates as required into web Trns*port. **No action is required by the Estimator user.**

If your estimate has no errors, the Verify Estimate command displays a window stating no errors were found:

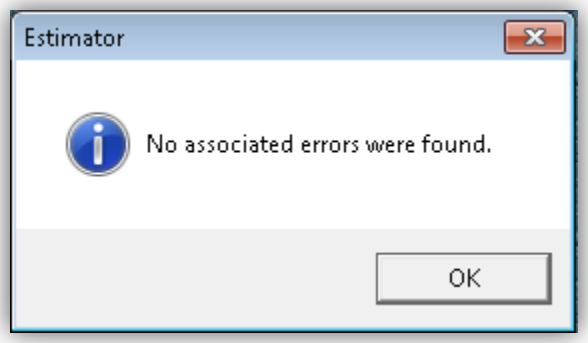


Figure 78. No Error Message

4.8 Delivery to Lead Engineer

4.8.1 Roll Up Items

The roll up items function allows you to total the quantities of an item across groups for use with bid-based pricing.

***Note:** If the same item appears in different funding groups, it does not need to be rolled up. Estimator will base the Bid History price on the total quantity of the item if the pricing was done through Estimator. If the prices are ad hoc, they must be checked by the engineer.

To roll up the quantity of an item, perform the following steps:

a) Locate the Estimate name in the Tree View and highlight it.

b) In the Grid View select the All Items tab.

c) Click on the Group Number column header in order to sort the items by Group Number.

d) Highlight the Group Number that you wish to combine items into and press CTRL-C.

e) Press CTRL-V to copy the number into each item.

f) Click on the Item Number column header to sort the items by Item Number.

g) Combine quantities for items that occur more than once and delete one occurrence of the items.

h) Make sure items are sorted by item number.

i) Locate the Estimate name in the Tree View and highlight it.

j) From the **Edit** menu, choose **Renumber Using Current Order**. Estimator makes the line numbers in every group increment by the number on the Global Options window, and changes the order of the numbers so that each line is sequential.

k) Forward the completed estimate to the lead engineer.

Section 5. More Information About Items

The information in this chapter covers different aspects of CTDOT estimate items. It explains various types of items and how they are handled, including: Biddable vs. Non-Biddable, Obsolete, Lump Sum, Special Provision ("A") items, Estimated items, and Alternate items.

5.1 Contract vs. Non-Contract Items

Most items in your estimates will be biddable (contract) items; that is, contractors will submit bids for these items when they are included in a bid proposal. There are some items, such as utility work, which do not appear in the list of proposal items of work, thus contractors do not bid on them. However, the cost of these items needs to be included in the estimate total.

Non-contract items are identified by Item Numbers that begin with a numeral greater than 2; for example, item 3000006, WORK BY STATE FORCES, or utility items such as 3100011, C.L. &POWER CO. (ELECTRICAL). Non-Contract items must be added to a separate group numbered 8888 and given the description on Non-Contract Items:

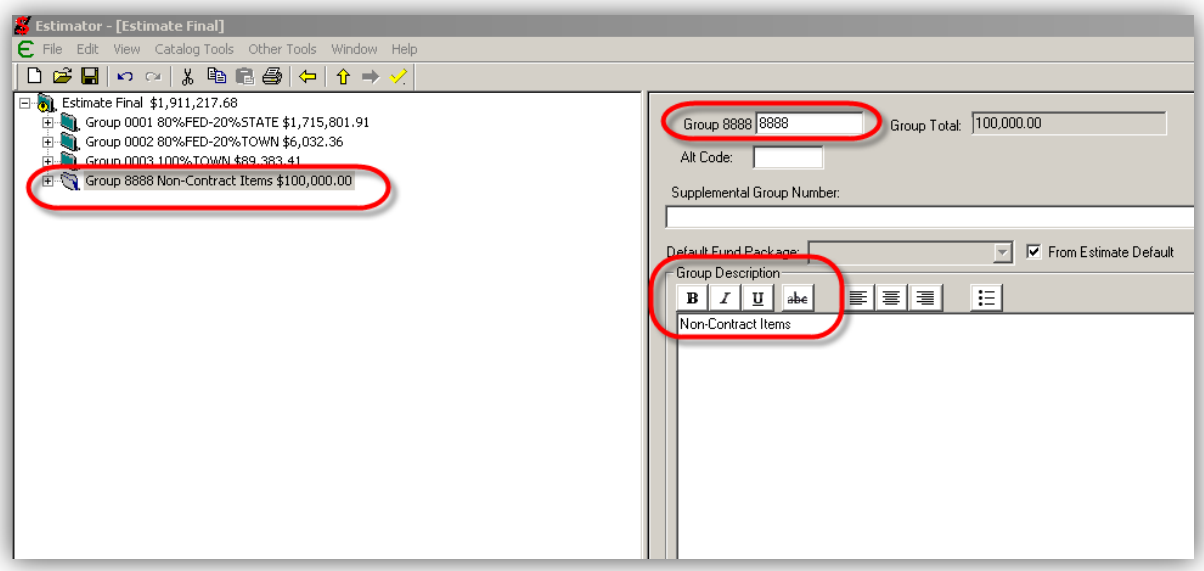


Figure 79. Non-contract Groups

The group description must be filled out as "Non-Contract Items".

These items will be automatically designated as Non-bid when they are imported into Trns•port Preconstruction.

However, you should select the check box for Exclude Item from Reference Price Calculations if you do not want the Non-bid items to contribute to percentage items such as TRAFFICMEN (STATE POLICE OFFICERS), as shown in ***Figure 83***.

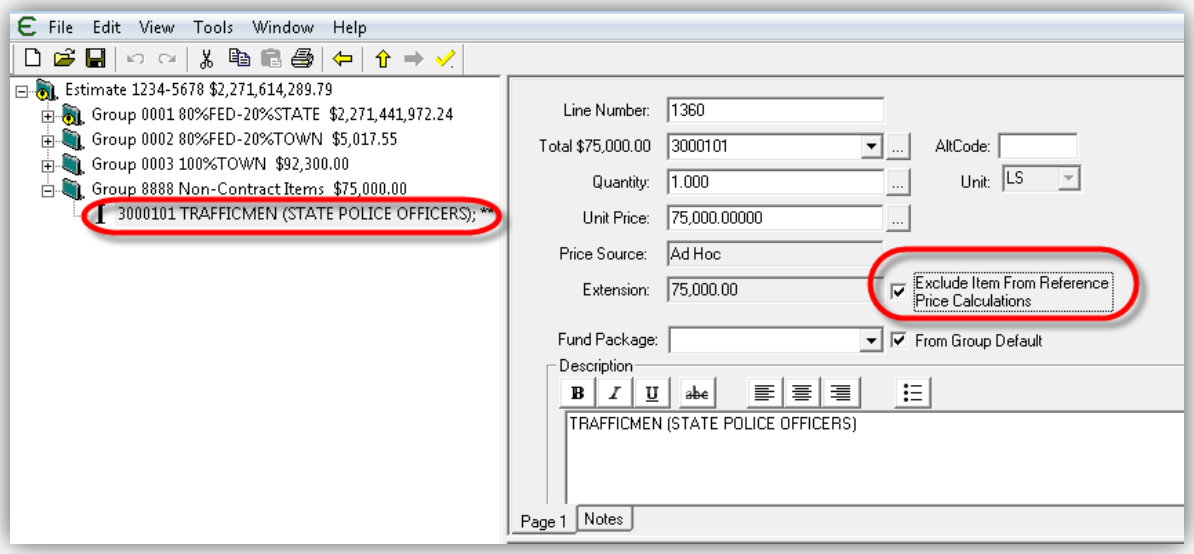


Figure 80. Exclude Item

5.2 Lump Sums

Non-contract Items Lump sum items are items that will always be bid with a quantity of 1. They are identified by aUnit code of LS. If there are multiple occurrences of the same lump sum item in a bid proposal, the system will always roll up the total quantity to 1; however multiple occurrences of the same lump sum item should be rolled up into one item.

Make sure that you always enter a quantity of for your lump sum items. Note this is different from the way lump sum items were handled in the mainframe BMIS system in the past.

***Note**: If the Update Price Information option is used:

- *Refresh Time Dependent Data and Cost Sheet Structure* option - any lump sum items will <u>not</u> be re-priced, unless a percentage based reference price was added to that item (new extended price based on percentage will be calculated).

- *Refresh Time Dependent Data* option - any lump sum items will <u>not</u> be re-priced, unless a percentage based reference price was added to that item(new extended price based on percentage will be calculated).

- *Restart* option ***- items that have a reference price basis <u>will</u> have the reference price removed using this option. If a percentage based reference price was added to a lump sum item, that price basis would be removed and the extended amount would become $0.***

5.3 Estimated Cost Items

Estimated Cost items, or Cost Plus items, are items that may have the price adjusted during the construction phase. In the bid proposal, Estimated Cost items have a fixed price, that is, the bidder is required to bid the same price as the estimated price. Estimated Cost items are identified by a Unit code of est. All estimated items have a reference price of $1 attached to them so that when an estimated item is selected, it automatically gets assigned a unit cost of $1,

Always enter a unit price of $1 and the quantity will be the estimated cost:

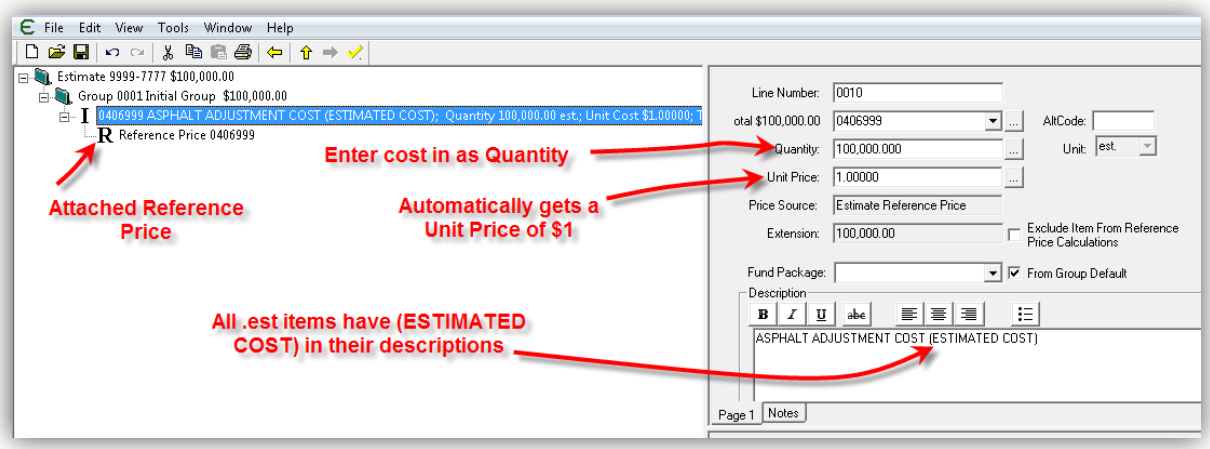


Figure 81. Estimated Cost Items

***Note**: Using the Update Price Information option will not affect .est items.

5.4 Quantity Based Items

The Department has discontinued the use of quantity-based item numbers. For example, under the previous system, the item numbers for "Earth Excavation" were quantity dependent. Under the current system, the same item number is used for all Earth Excavation, regardless of the quantity. All quantity based items are being consolidated into a single item number for each quantity based group. These new items will utilize the bid histories of all of the previous items so that the bid history regression prices provided by Estimator are accurate.

All projects with a Final design Plan (FDP) date of June 20, 2012 or later, will use the new, non-quantity based items. The obsolete quantity based items will no longer appear in the Estimator catalogs after the June 2012 update; the new consolidated single item number will also be in the June 2012 update.

5.5 New Item Request

On occasion there may be an instance where an item does not exist in the catalogs. The new item will need to be formally added to the catalogs by making a New Item Request. The link to perform the New Item Request is available at New Item Request .

Catalogs will be updated with new items on or about the first Wednesday of every month. **New item requests must be submitted six weeks prior to the Final Design Plan (FDP) delivery date**.

5.6 Obsolete Items

Over time, as improvements are made in construction methods and materials and other changes occur, some items in the Trns•port reference item list become outdated and will no longer be used in design or construction. These items are designated by the agency as Obsolete. Obsolete items cannot be used in an active project or proposal in Preconstruction or Estimator, and will not appear in the Estimator catalog.

It is possible to remove the obsolete status from an item so that it can be used again for the same purpose. If you think an item you need is no longer available, please follow the procedures for a new item request and specify that the item may already exist as obsolete. The Contract Development unit may direct you to use a different item, or they may choose to change the status of the existing obsolete item. Changes to an item's obsolete status will not take effect in the Estimator catalog until the catalog is updated on the first Wednesday of the following month.

5.7 Special Provision Items ("A" Items)

In the past, items requiring Special Provisions were identified by an "A" appended to the item number. This is no longer agency policy, except on the Detailed Estimate Sheet in the contract plans.

Now if an item in your estimate requires special provisions, you must paste the phrase

***** See Special Provisions *****

in the Supplemental Description field for the item. **It is important to use this exact syntax**

because the field will be validated when the estimate is imported into Trns•port Preconstruction.

If the same item appears multiple times in your estimate, verify that the Supplemental Description is consistently populated in all occurrences of the item.

The phrase ** See Special Provisions ** is available for users to copy from the Extra Data tabs. Note that the Extra Data fields are for display and copying only. There are three ways to get to this text:

***Note**: For consultants, also see Appendix Permanent Extra Data.

1. Estimate Detail

a) In the **Tree View** click on the Estimate ID.

b) Click on the EXTRA DATA tab at the bottom of the estimate detail area.

c) Find the text **** See Special Provisions **** and click on it to highlight it.

d) Press CTRL-C to copy the text.

e) Click on the ALL ITEMS tab to display all items.

f) Click in the **Supplemental Description** field to enter data.

g) Press CTRL -V to paste the text copied in Step d above.
****Note**: you can continue to paste the text into additional items without needing to copy it again.

2. Group Detail

a) In the **Tree View** click on a group.

b) Click on the EXTRA DATA tab at the bottom of the group detail area.

c) Find the text ****See Special Provisions**** and click on it to highlight it.

d) Press CTRL-C to copy the text.

e) Click on the ALL ITEMS tab to display all items.

f) Click in the **Supplemental Description** field to enter data.

g) Press CTRL -V to paste the text copied in Step d above.
****Note**: you can continue to paste the text into additional items without needing to copy it again.

3. Item Detail

a) Maximize your project on the screen.

b) In the Tree View click on the item or from the GRID VIEW GROUP tab click on the green GO button.

c) Click on the EXTRA DATA tab at the bottom of the item detail area.

d) Find the text ** See Special Provisions ** and click on it to highlight it.

e) Press CTRL-C to copy the text.

f) Click on the ALL ITEMS tab to display all items.

g) Click in the Supplemental Description field to enter data.

h) Press CTRL -V to paste the text copied in Step d above.

*__Note__: you can continue to paste the text into additional items without needing to copy it again.)

*__Note__: if you have imported your estimate from a spreadsheet, you may only be able to use option 1.

5.8 Alternate Items

Alternate items are handled differently in Estimator than in the mainframe BMIS system. For items where the bidder must select which variation of an item they wish to bid, such as Noise Barrier Walls, the estimator must add all variations of the item to the estimate, with an Alt Code assigned as follows.

The first two characters of the Alt Code must be alphabetic, such as BB. This links which items will be alternates of each other. The third character of the Alt Code must be numeric, such as 1, which identifies the separate choices.

The first two alphabetic characters of the code should not be AA, since this may cause confusion with the former "A" item designation for Special Provisions.

In the example shown below, the estimator has assigned Alternate Codes to each variation of the noise wall item, using Alt Codes BBl through BB5. Since there are varying prices, Estimator will select the lowest price item, BB5, to use in the total and ignore the others. If the user had priced all the items the same, Estimator would pick the first item to include in the total and ignored the others. Make sure you assign a price to all of the alternates so that Estimator includes a price in the total. Do not assign a price of $0 to any alternate items or Estimator will use $0 in the estimate total for that item.

The numbering convention for Alternate codes for CTDOT is for the first set of alternates in a project to begin with BB, the second set with CC, and so on.

	Item #	Description	Quantity	Unit	Extension	Alt Code	Unit Price
60	0916120	NOISE BARRIER WALL BARRIER WALL THE CONTRACTOR B	10,000.000	s.f.	2,000,000.00	BB1	200.00000
60	0916120-02	2. TIMBER NOISE BARRIER WALL T BARRIER WALL THE CONTRA CTOR	10,000.000	s.f.	1,750,000.00	BB2	175.00000
60	0916120-03	3. HARDWOOD NOISE BARRIER WALL T BARRIER WALL THE CONTRA CT	10,000.000	s.f.	1,500,000.00	BB3	150.00000
60	0916120-04	4. HARDWOOD NOISE BARRIER WALL T BARRIER WALL THE CONTRA CT	10,000.000	s.f.	1,250,000.00	BB4	125.00000
60	0916120-05	5. MASONRY NOISE BARRIER WALL BARRIER WALL THE CONTRACTOR B	10,000.000	s.f.	1,000,000.00	BB5	100.00000

Figure 82. Alternate Codes

When the contract goes out to bid, the bidder will see the note "THE CONTRACTOR MUST BASE THE BID ON ONLY ONE ALTERNATE." on any item that is designated as an alternate item. The contractor will only be allowed to bid on one alternate item.

> ***Note:** If you are adding alternate items to a group, do not make that group an alternate group. If you do, all items within that alternate group will be considered alternate items.

5.9 Alternate Groups

Occasionally there may be a need to assemble two or more groups of items which may be bid as alternates of each other; for example, a bridge could be constructed using a steel or using concrete alternates When the project is advertised for bid, bidders must select which variation they wish to bid. In Estimator, the user would add both groups of items to the estimate, with Alternate Codes assigned as follows.

The first two characters of the Alternate Code must be alphabetic, such as BB. This links which groups will be alternates of each other. The third character of the Alternate Code must be numeric, such as 1, which identifies the separate choices. (***Note:** that the individual items withinthe groups should not be assigned Alternate Codes unless you wish items within the group to be alternates of each other.)

In the example in ***Figure 86***, the estimator has assigned an Alternate Code to each group, using Alternate Codes BB1 and BB2. Since the group totals are different, Estimator selects the lowest cost group, BB1, to use in the project total and ignores the other alternate. If the user had priced all the alternates the same, Estimator would pick the first group to include in the total and ignored the others. Make sure you assign prices to items in all of the alternate groups so they may be used later to compare with the bid prices.

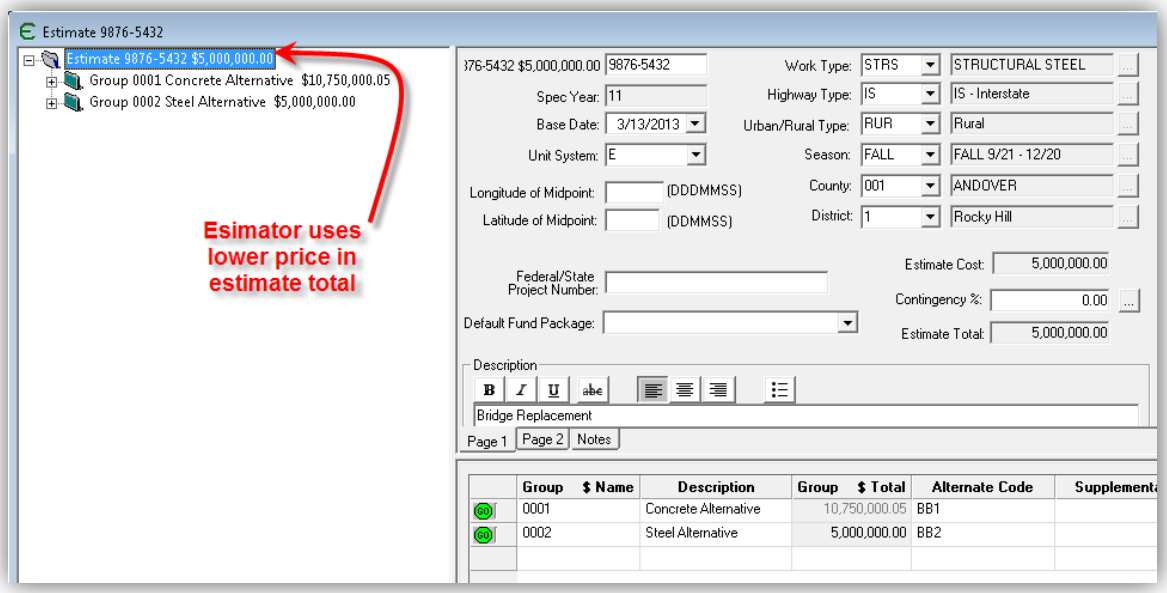


Figure 83. Alternate Group

Section 6. Using Estimator at Lead Level

The lead estimator will be responsible for compiling the estimates received from the discipline estimators in order to make one estimate for the project, with items grouped by funding source, and ensuring there are no duplicate items within the same funding group.

This may be done by combining estimates within the Estimator software. Another option is to export all contributing estimates to spreadsheets and combine within the Excel software, then import the final estimate into Estimator.

Since every group of estimates is different, rather than list out exact instructions for combining estimates, the various processes and commands you may use to manipulate the data are listed below.

6.1 Header Information

The lead estimator should review the data in the Estimator header to see if adjustments are required, in particular for the Work Type, Base Date, Season and Description. For detailed information on filling out the estimate header, see Header Information Page 1.

6.2 Combining Estimator Files

To move data from one estimate file to another within Estimator, open the two estimate files. From the View menu, select Tile Vertically or Tile Horizontally. This will allow you to use the commands described in the following sections to move the data from one estimate to another.

Figure 87 shows an example of two estimates tiled vertically.

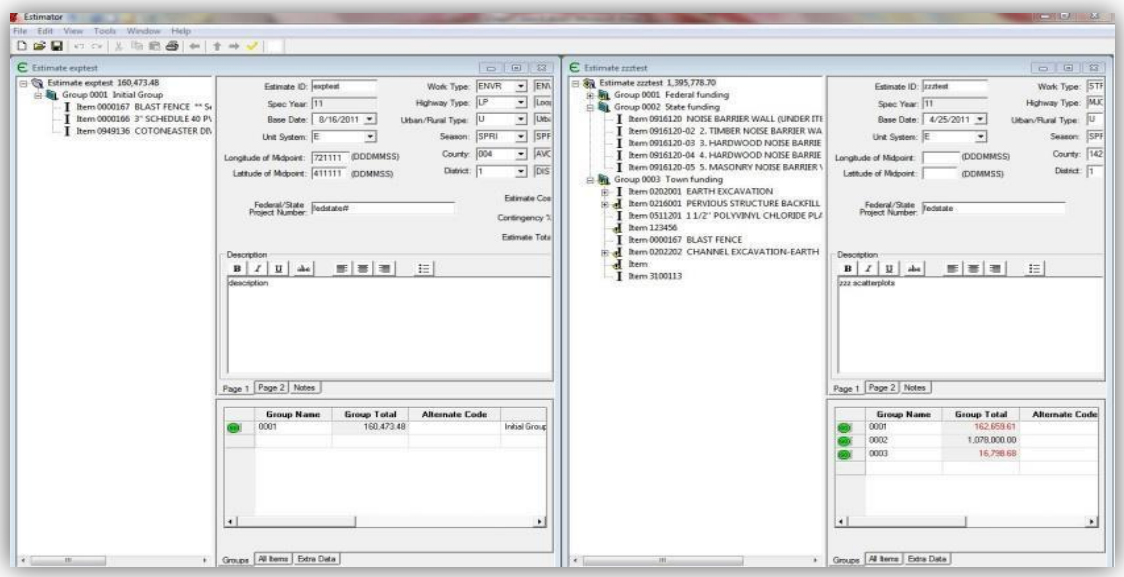


Figure 84. Windows Tiled Vertically

6.2.1 Sorting Items by Funding Source Groups

The Office of Construction has requested that all items be sorted by funding source or non-contract items.

Items in final estimates that are being submitted shall be classified into two types of groups:

1. Funding source

Examples of funding sources could be:

- 80% Federal 20% State
- 100% State
- 80% Federal 20% Town

The exact name of the funding source is not critical as long as the groups are separated by different sources. If the funding source is not known, place all of the items (except for non-bid items) into one group.

The group(s) for the individual funding sources will have the funding source type in the group description. **It is important that the group description be filled out or the estimate file will not pass to webTrns*port.**

2. Non-contract items

Non-contract items are in the 3000000 range of item numbers. Examples of non-contract items are:

- Work by State Forces
- Utility work by a utility company
- Trafficmen (State Police Officers)

The non-bid group will be given a group number of "8888" and a description of "Non-Contract Items". **It is important that all group description be filled out or the estimate file will not pass to webTrns*port.**

6.2.2 Manipulating Estimate Data

Cut, copy and paste are Estimator features that add flexibility when the need arises to move data within estimates. In terms of cut, copy, and paste, the *source* is defined as where the data comes from initially and the *destination* is defined as where the data is going. The cut, copy, and paste commands are context sensitive, which means the type of active window and number of selected items you want to use as the source determines where paste is enabled. The destination has to be capable of holding the source. The copy and paste commands do not delete selected items. In fact, if you have more than one item selected in a list, the paste command is disabled.

*__Note__: Pasting items into an estimate item list can cause the line numbering to be out of sequence. When you paste into an item list, you must renumber the items by selecting **Renumber Estimate Items** from the **Edit** menu. See 6.5 Line Re-numbering

6.2.3 Cut Command

The Cut command copies the currently selected items in a list window or the active window's content to the clipboard, then deletes them from their current location. To do this, the clipboard acts as temporary storage and holds the data to be pasted into another location. However, if you cut or copy something else before the previously cut data is pasted, the data is deleted from the clipboard and cannot be retrieved.

To use the Cut command, select the desired text and choose **Cut** from the **Edit** menu or "**Ctrl X**".

6.2.4 Copy Command

The Copy command copies the currently selected items in a list window or the active window's contents to the clipboard. For example, you might want to copy items from one list to another or an entire cost sheet into a different cost sheet. To do this, the clipboard acts as temporary storage and holds the information to be pasted into another location. However, if you cut or copy something else before the previously copied data is pasted, the data is deleted from the clipboard and you will have to copy it again if you want to use it elsewhere.

To use the Copy command, select the desired text and choose **Copy** from the **Edit** menu or "**Ctrl C**".

6.2.5 Paste Command

The Paste command copies the contents of the clipboard into the active list or window. Paste is enabled if the data from the source window logically fits into the destination window. For example, it makes no sense to copy a group into an item list.

*__Note__: Paste is disabled when multiple items are selected to prevent accidental overwriting of data.

To use the Paste command, select the desired text or field, and then select **Paste** from the **Edit** menu or "**Ctrl V**". Before using the Paste command, you must have first cut or copied the text. The information remains in the clipboard until something else is cut or copied.

6.2.6 Roll Up Items

Another step the lead estimator will be responsible for when compiling the estimates received from the discipline estimators is to perform the Roll-Up of Items in the estimate. Most items have a price and quantity relationship where the unit price lowers when a higher quantity of the item is used. If this option is selected, quantities of like items are rolled up and this combined quantity is used for the bid history pricing of the individual items. This emulates how a contractor would price items that occur multiple times on a contract. Normally this is desirable and thus it is a default setting.

Estimator only uses the combined quantities of an item that has more than one occurrence in an estimate for bid history pricing. It does not physically combine the item. *Any item that has more than one occurrence and the same funding source must be combined by the engineer*. To perform the Roll Up of items perform the following steps:

a) Locate the Estimate name in the **Tree View** and highlight it.

b) In the Grid View select the ALL ITEMS tab.

c) Click on the Group Number column header in order to sort the items by Group Number.

d) Highlight the Group Number that you wish to combine items into and press CTRL-C.

e) Press CTRL-V to copy the number into each item.

f) Click on the Item Number column header to sort the items by Item Number.

g) Manually combine quantities for items that occur more than once and delete occurrences of the duplicate items, leaving one instance only.

h) Make sure items are sorted by item number.

i) Locate the Estimate name in the Tree View and highlight it.

j) From the **Edit** menu, choose **Renumber Using Current Order**. Estimator makes the line numbers in every group increment by the number on the Global Options window, and changes the order of the numbers so that each line is sequential.

6.3 Check for Duplicate Items

Any items that are duplicates of one another and in different groups need to be checked to ensure that they have similar Supplemental Descriptions. If one item is marked as having a Special Provision, both items need to be marked as such.

6.4 Update Price Information

You may wish to apply your own price adjustments. For information on how to have Estimator automatically apply or update default prices, see Re-pricing Items in Modifying a Price Basis in an Estimate.

6.5 Line Re-numbering

Line numbers are used to help identify items in other downstream AASHTOWare systems. They are incremented by 10 to allow the insertion of additional items in Preconstruction. Before the estimate is verified, the item line numbers should be renumbered after sorting by item number to ensure they are in ascending order. To do this, highlight the estimate and select the ALL ITEMS. Sort the Item numbers by selecting the item column:

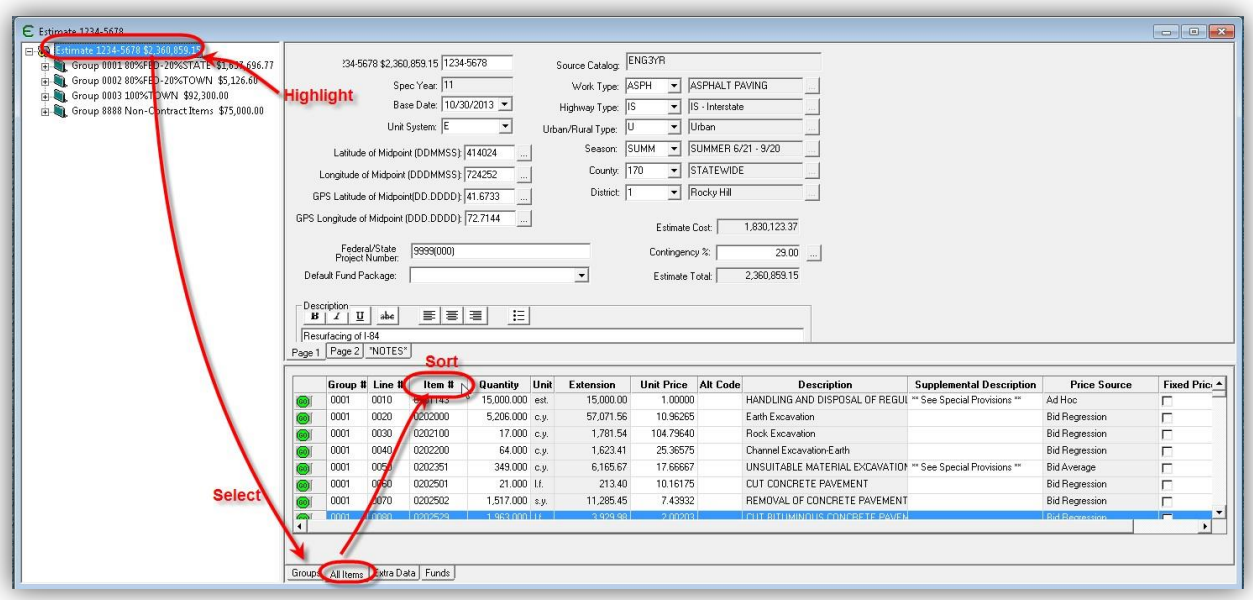


Figure 85. Sorting the Item Numbers

Then select **Renumber Using Current Order** from the **Edit** menu:

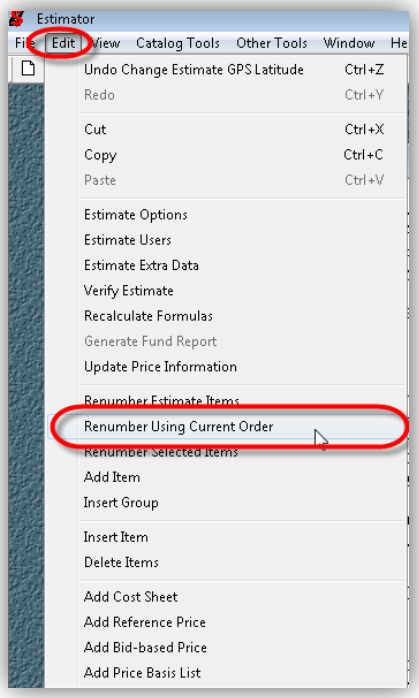


Figure 86. Renumber Using Current Order Option

Other Renumber Tools:

Renumber Estimate Items - If you select the Renumber Selected Items command from the Edit menu, Estimator keeps the line numbers in the same order as they were before the sort, but renumbers them so that they increment by the number on the Global Options window.

Renumber Selected Items - If you select the Renumber Selected Items command from the Edit menu, Estimator renumbers the selected items based on the starting number entered and the item increment on the Global Options tabbed folder window. Select the items to be renumbered in an item grid, either on the ALL ITEMS tab or by selecting a group in the tree area.

6.6 Verify Estimate

Once your estimate is complete, you can make sure all the information contained in the estimate is valid by selecting **Verify Estimate** from the **Edit** menu. Estimator displays a list of required fields that were left blank or have invalid entries. You can also access the Verify Estimate window by clicking the yellow checkmark ( ) on the Estimator toolbar.

See Section Verify the Estimate for more information on using the Verify Estimate function.

6.7 Exporting and Importing to Spreadsheets

Instead of combining estimates within the Estimator software, you can export all contributing estimates to spreadsheets and combine them within the Microsoft Excel software, then import back into Estimator.

To export to a spreadsheet, open an estimate in Estimator. From the File menu, select **Export**. Navigate to the location where you want to save the spreadsheet.

In the Save as Type dropdown box, choose Excel 97-2003 Workbook or Excel 2007 Workbook, as shown in ***Figure 90***.

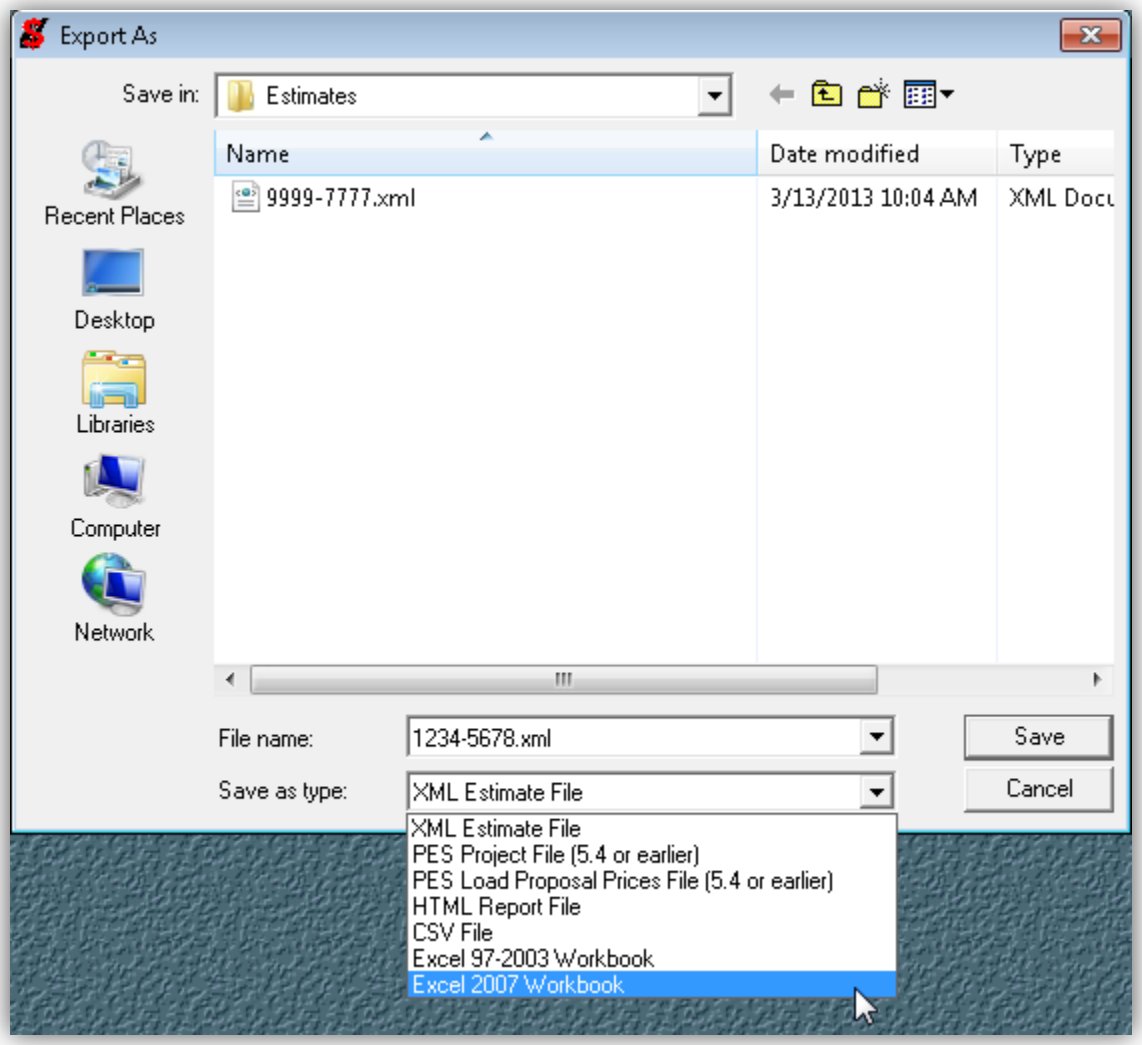


Figure 87. Select Workbook Type

Click **Save**. The exported spreadsheet will open in Microsoft Excel.

For detailed information on importing a Microsoft Excel spreadsheet into Estimator, please see Import from Excel Spreadsheet. After the import, the header, group names, line numbering and pricing should be verified.

6.8 Delivery of Final Estimate to Contract Development

6.8.1 Estimate Delivery

For the deliverables of the estimate at the following stages:

- Final Design Plans (FDP)
- Addenda that involve estimate modifications
- Revised estimates (if the project is re-let)

The estimate file with the *.est* extension will be delivered to the ProjectWise

240_Contract_Development folder for that project.

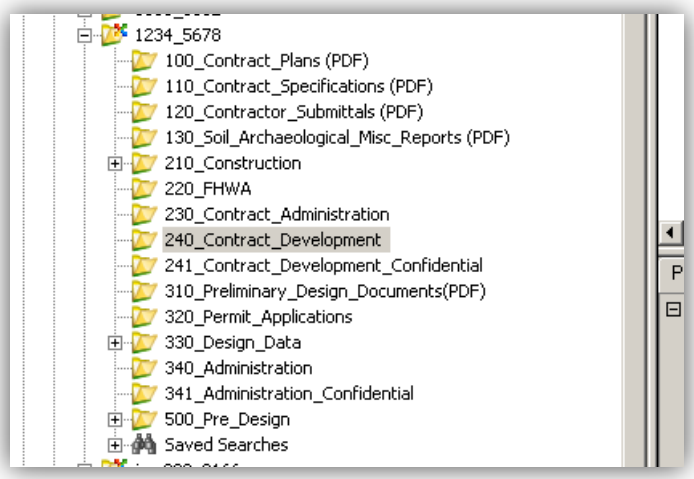


Figure 88. Estimate Save Location

The final estimate file must be dragged and dropped (not copied and pasted) from Windows Explorer. Once the file is dropped into the proper location in ProjectWise, a Document Creation Wizard dialog box will appear. This wizard defines the document properties for storage in ProjectWise. Select **Advanced Wizard** and click ok. This will bring up the Advanced Document Creation Wizard.

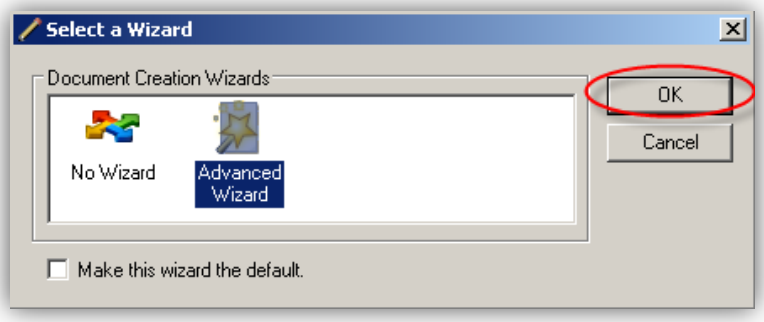


Figure 89. Wizard Selection

Click ok or next for the next three dialog boxes:

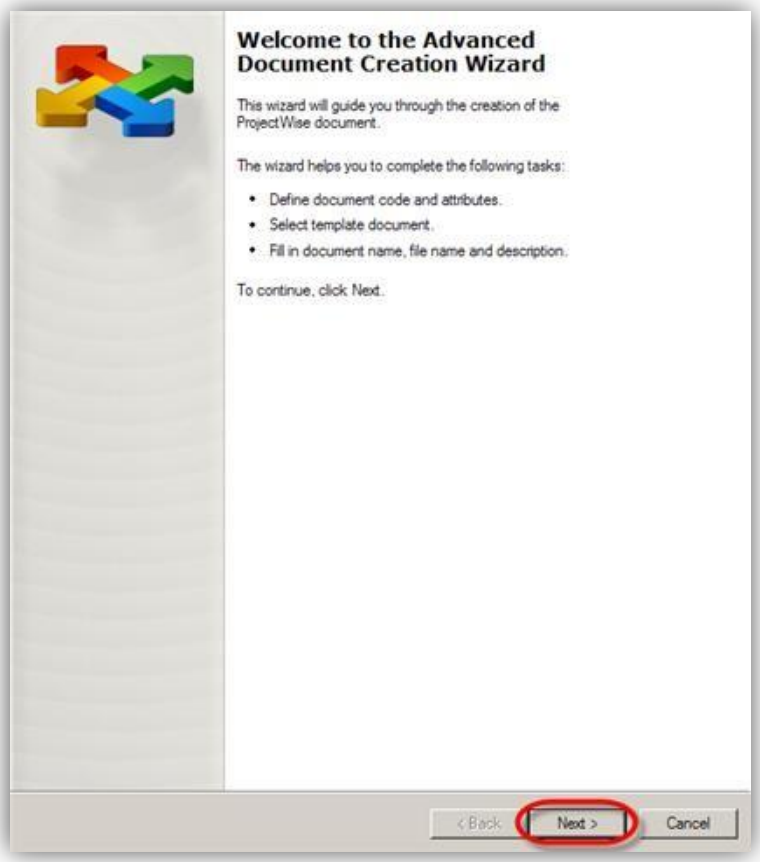


Figure 90. Document Creation Wizard

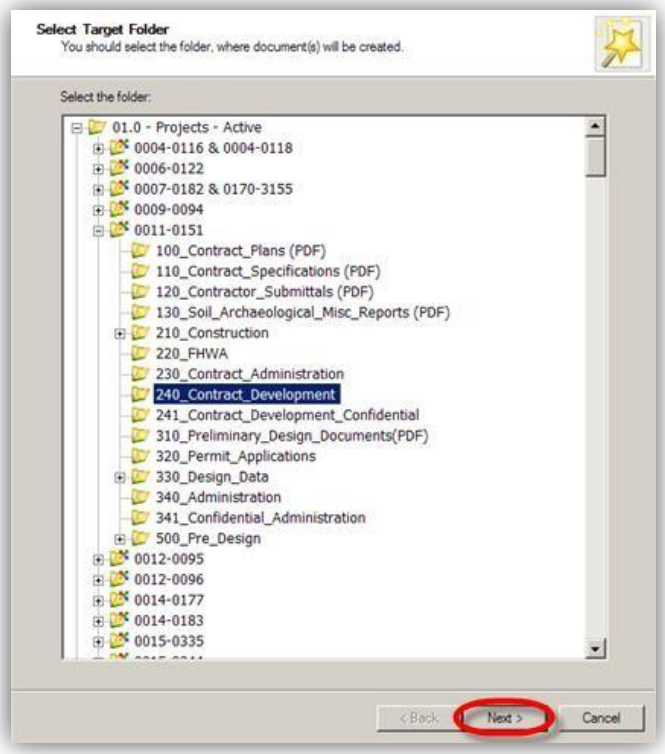


Figure 91. Select Target Folder

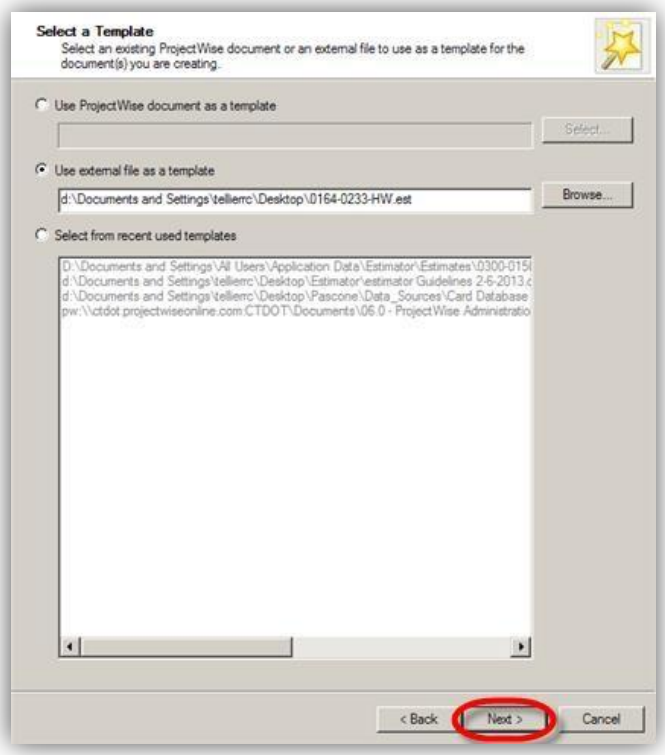


Figure 92. Select a Template

In the Define Document Attributes dialog box, there are three drop-down attributes that must be chosen and one user-defined attribute that must be filled in:

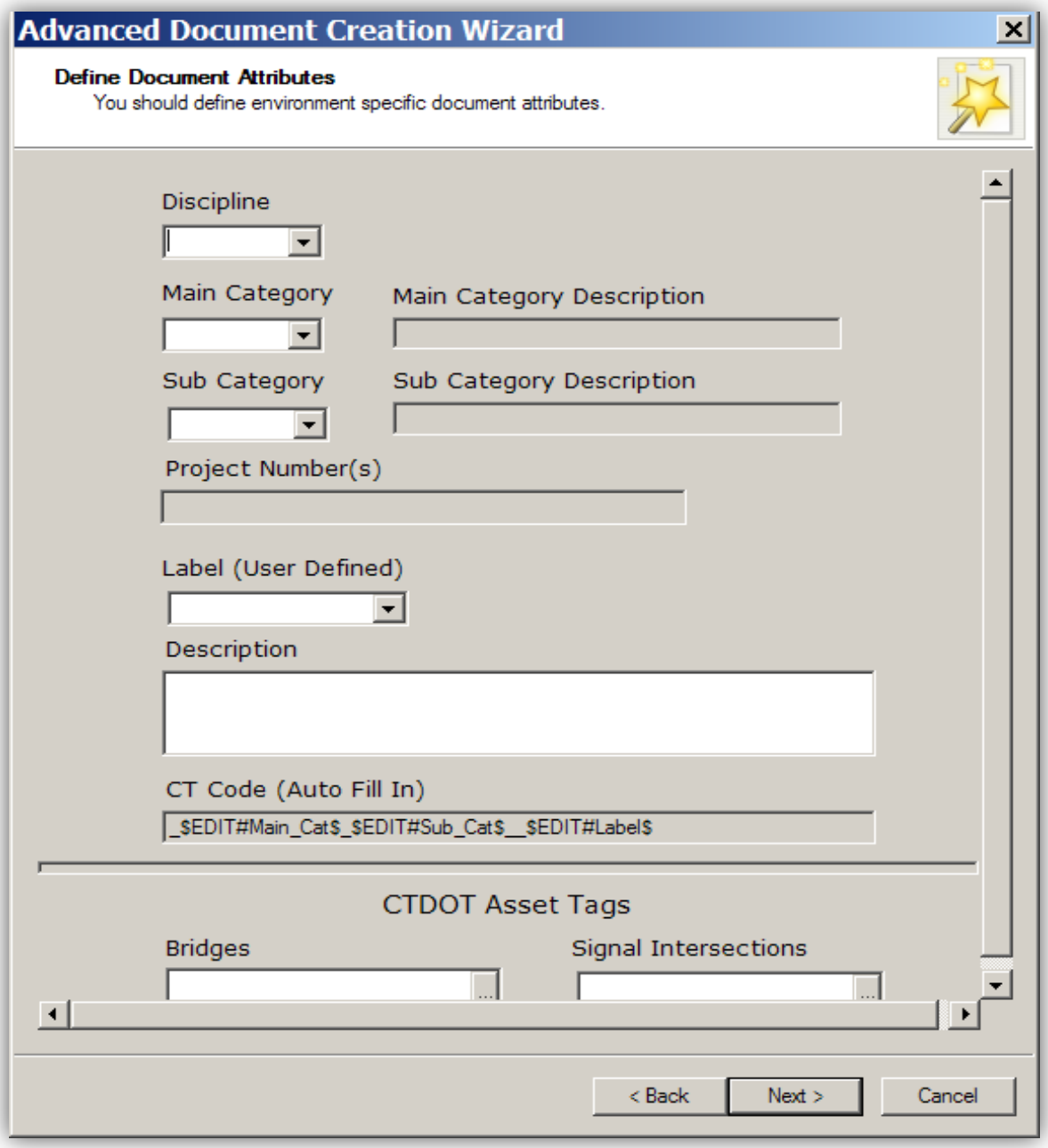


Figure 93. Select Attributes

Discipline: select CT - (CTDOT Plans, Specs, Stnd) Main
Category: select CALCS

Sub Category: select Estimates – (Estimate)

Label – (User Defined)

In the Label box, the user will type in what type of estimate is being submitted using the following format:

DE_FDP – (lead) Designers Estimate at FDPb
EE_FDP –Engineers (Processing) Estimate For
Addendums:

Designers Estimate – DE_Al, DE_A2, etc.
Engineers Estimate – EE_Al, EE_A2, etc.

For Change Orders:

Designers Estimate – DE_Cl, DE_C2, etc.
Engineers Estimate – EE_Cl, EE_C2, etc.For
Revised Estimates (Re-lettings) Designers
Estimate – DE_Rl, DE_R2, etc. Engineers
Estimate – EE_Rl, EE_R2, etc.

The Advanced Document Creation Wizard will automatically concatenate a document attribute of: CT_DAT_EST_XXXX_XXXX_Label

Where XXXX_XXXX is the project number where the estimate was placed and the Label and Description is what the user filled in:

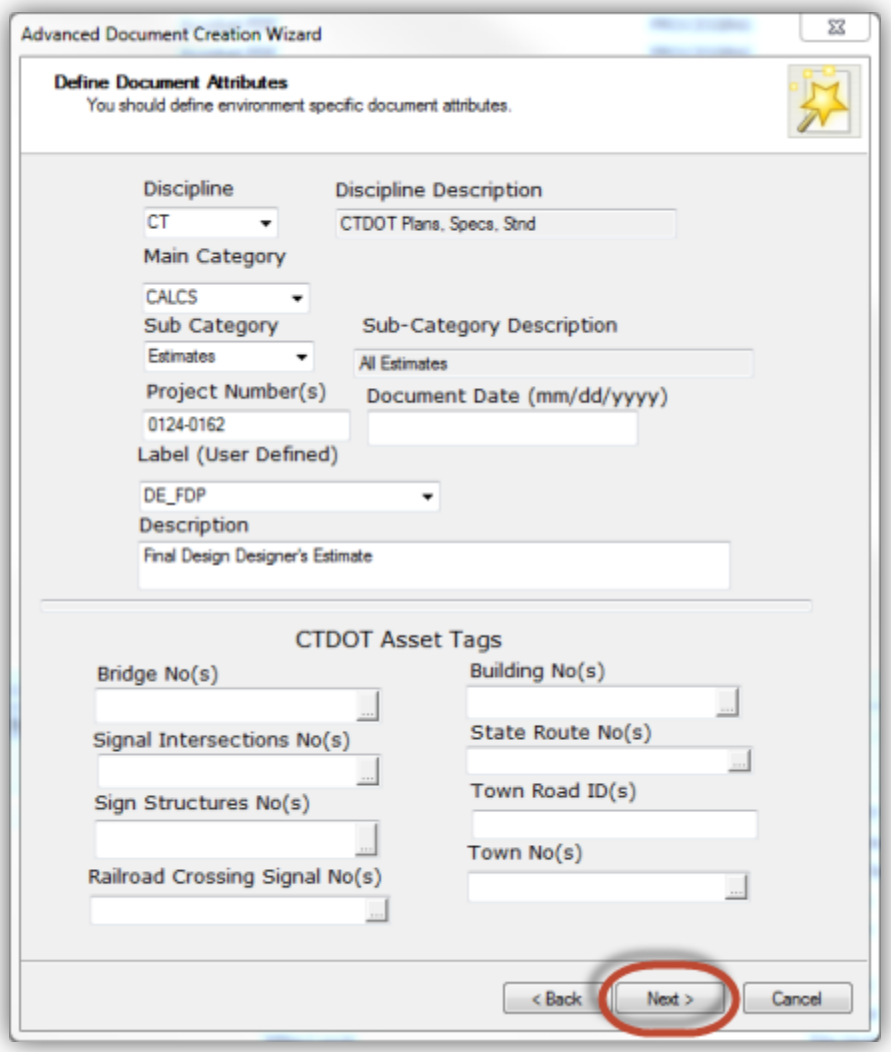


Figure 94. Document Attributes

Highlight the project number (do not highlight the .est extension) and paste the CT Code that was copied from the previous dialog box. Click next for the following dialog box and finish for the last box:

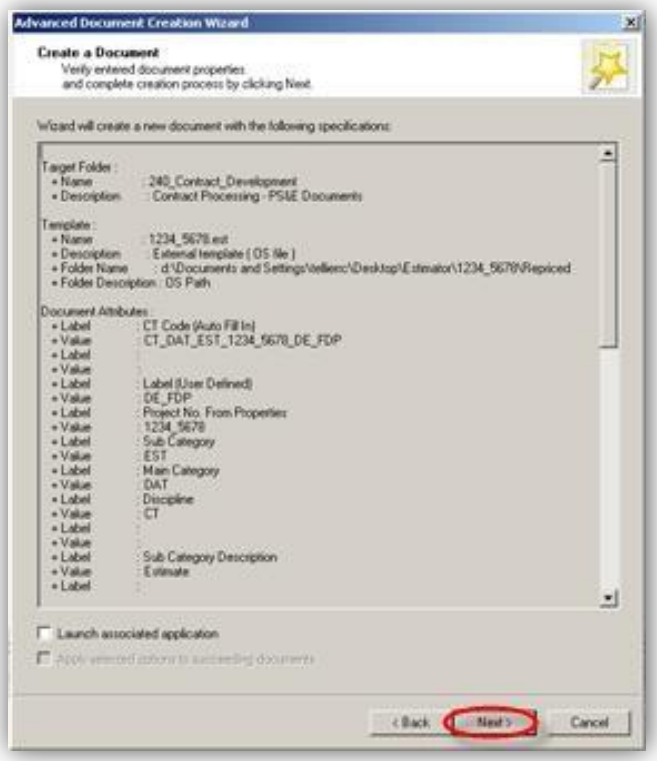


Figure 95. Completing Creation Wizard

Right click on the document and select **Send To** and **Mail Recipient As Link**:

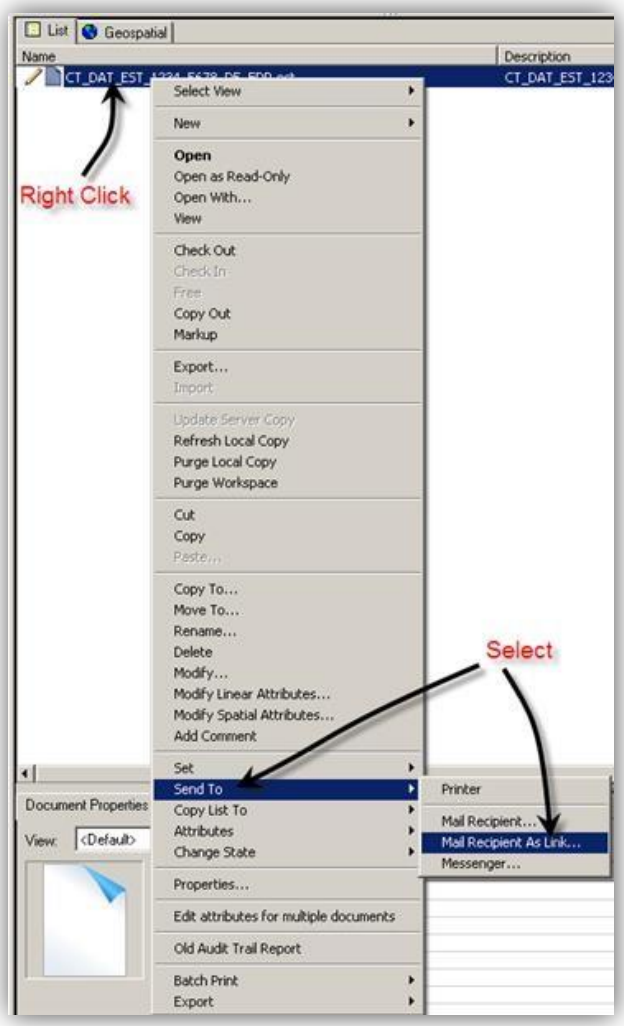


Figure 96. Document Mail Links

Fill out the appropriate information in the e-mail and click send.

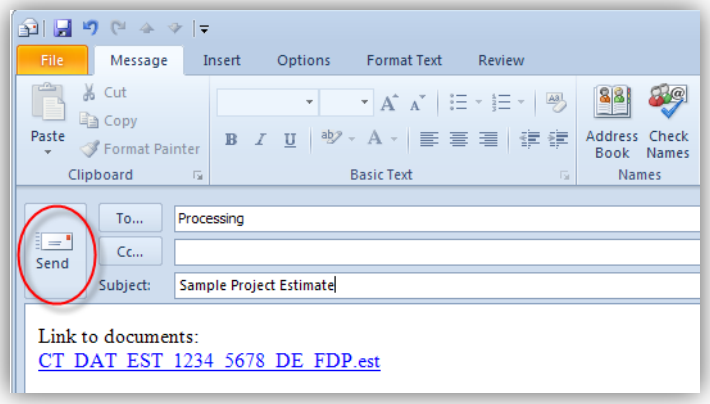


Figure 97. Send an E-mail

6.8.2 Estimator Checklist

The Estimator Checklist must be filled out, signed, and submitted along with the final estimate into ProjectWise at FDP. It should be attributed with CT_MISC_Final_*project no*_Checklist.

6.9 Reports

6.9.1 Printing Hardcopies

Estimator provides a basic report to print. Before printing, save your estimate. To print this report, select **Print** from the File menu. A dialog box displays showing the different printing options that are available:

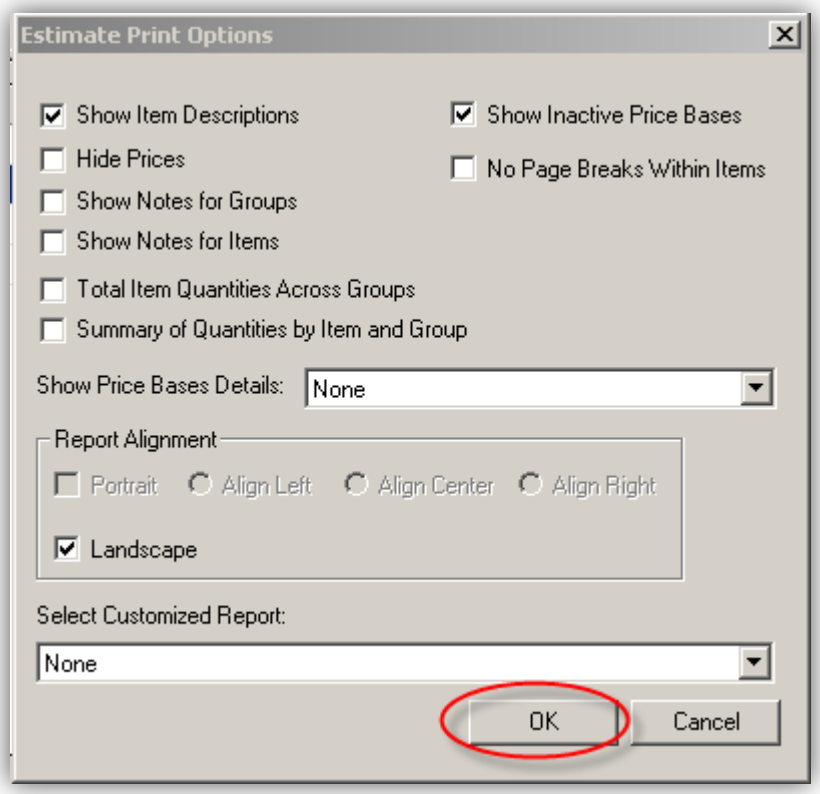


Figure 98. Estimate Print Options

6.9.2 Printing to a File

Estimator will print to a file only using the File>Print option. After choosing the options desired under the Estimator Print Options dialog box (see above) select OK. A windows Print Setup dialog box will appear. In the dropdown list for Name, select a PDF printer such as Bluebeam PDF and select OK:

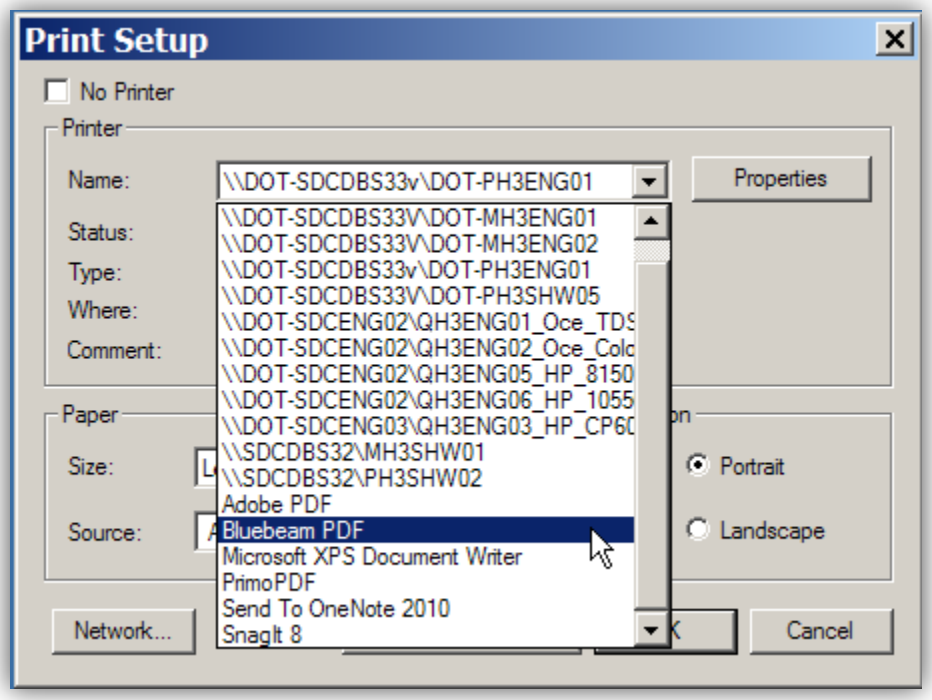


Figure 99. Printing to a File

***Note:** The Print Preview option will only allow the user to print to the default Windows printer.

6.10 Addenda

If there is an addendum that involves significant changes in items, pricing, or quantities, the estimate may need to be re-estimated at the designer's level. The designer should edit a copy of the estimate that was submitted at FDP. When it is finished, Contract Development will need to import the new estimate into web Trns•port Preconstruction and replace the existing project. For minor changes, editing can be done within web Trns•port.

6.11 Construction Change Orders

For change orders that involve a revised estimated at the designer's level, the designer must obtain the Contractor's bid prices from the Office of Construction or the consultant engineer liaison. If there are new items or the prices were renegotiated, the designer must also obtain the prices from the Office of Construction.

The new estimate for change orders should only contain items that had quantities modified or new items that were added to the contract. When completed, this estimate should be exported to an Excel spreadsheet and forwarded to the Office of Construction or the consultant engineer liaison with a description of the changes that were made.

Appendix A. Glossary

Active Price Basis	The price basis of an item that is used by Estimator to calculate the Unit Price of the item.
Active Estimate	The one open estimate (out of many) that will currently be affected by commands.
Active Window	The one open window that will currently be affected by commands.
Ad Hoc	A type of price basis that relies on the estimator's abilities to determine item prices.
Agency	Used as part of the brand to distinguish a group of Estimator users (see Brand, Location).
Ascending	The ordering of a list with the lowest value first and each successive value occurring later in the alphabet or number system. The list of numbers l0, 20, 40 and the list of codes A25, Cll, Z44 are in ascending order (see Descending).
Bid-based Price	Unit price for a work item that is derived in Estimator using one of three estimation methods, which, listed in order of priority, are regression, averages, and historical/reference price.
Brand	Used to distinguish the different agencies and locations using Estimator (see Agency, Location).
Catalog	A collection of commonly used elements stored by Estimator. Those with catalog edit or import access store and update inform ation in the catalogs. Elements in a catalog are not associated with a particular estimate and can be used in any estimate.
Code Table Catalogs	Catalogs that contain information used to fill in drop-down list options. These values can be entered manually or imported from another source by those with catalog edit and import privileges.
Check Box	A dialog box component that allows you to select options. Any number of these square boxes might be present and you might select none, some, or all of them (see Radio Button and List Box).
Click	The act of pressing and releasing one of the buttons on the mouse, generally the left mouse button.
Combo Box	A dialog component that contains a fixed list of choices. Only one of the choices can be active at a time. The combo box will have a scroll bar to aid in moving through the list (see Radio Button, Check Box, and List Box).

Control Menu	A menu in the upper-left corner of every window which contains commands that change the size of, move, or close the active window.
Cost Sheet	Utility used to tally the costs of the equipment, labor, and materials needed to complete an item. Cost sheets are only used for cost- based estimation.
Descending	The ordering of a list with the highest value first and each successive value occurring earlier in the alphabet or number system. The list of numbers 40, 20, l0 and the list of codes Z44, Cll, A25 are in descending order (see Ascending).
Dialog Box	A box displayed on the screen in which you enter information. It might contain text boxes, list boxes, radio buttons, and check boxes.
Double Clicking	The act of quickly pressing a mouse button twice in succession.
Drag and Drop	The act of using the mouse moves an element from one location to another. First, highlight the desired element. Next, press and hold down the left mouse button and move the cursor to the desired location for the element. Drop the element in that location by releasing the left mouse button.
Equipment	Any mechanical tool or contrivance that must be bought, rented, or leased.
Estimate	Estimates, which are made up of estimate header information and group and item lists, store the items used in a construction estimate, the price bases, and supporting information about the contract.
Estimator	A computer program designed to estimate the cost of a construction project with cost-based and bid-based estimation.
Extra Data	Information the user wishes to store in Estimator that has no designated place.
Expression Builder	Estimator function that allows the user to find a value for a numeric field by using a formula to derive that value.
File	An entity that stores all information associated with exactly one estimate or exactly one catalog and its elements.
Grid Area	Usually in the right pane of a catalog or estimate window, the grid area displays a list of the entity selected in the tree area.
Group	An overall heading for related items in an estimate.

Group List	A list displayed in the tree or grid area of an estimate of all the groups in that estimate.
Header Information	Header Information contains general information about the element with which it is associated. For an estimate, this includes the spec year, highway type, and county; for an item, this includes the unit price and system of measurement; for a catalog, this includes the name and description.
Highlight	To shade an area to give it emphasis. Can be performed with a mouse by pointing and clicking on the beginning of the area and dragging until the desired area is shaded.
Item	Stored in the Standard Item Catalog, items are the basic units of an estimate.
Item List	For an estimate, the item list is a list of all the items that comprise the estimate groups. For the Standard Item Catalog, it is a list of all the items in the catalog.
Labor	For costing purposes, labor is defined as work performed by people.
List	A collection of related elements found in a catalog or formed by an estimator using Estimator. Each list is associated with a specific catalog or estimate.
List Box	A dialog box component that contains a list of choices. Only one of the choices can be selected at a time. The list box will have a scroll bar to aid in moving through the list (see Radio Button, Check Box, and Combo Box).
Location	Used as part of the brand to distinguish groups of Estimator users (see Agency, Brand).
Material	Any quantifiable physical entity which is consumed in the performance of an item of work (excluding power or fuel for equipment).
Menu	A list of related commands that can be pulled down and viewed simultaneously.
None	A privilege level of None means that the user cannot access a new estimate.
Owner	A privilege level of Owner means that the user can edit a new estimate as well as change information on the estimate's User list.

Password	A code that Estimator uses to identify you. This code is used in conjunction with your username when you want to tell Estimator who you are. You must keep your password secret at all times to prevent other people from accessing your files without your knowledge.
Price Basis	A method used to determine an item's price. Price bases include one or more cost sheets, bid histories, and reference prices. Ad hoc is a different type of price basis that relies on the estimator's abilities to determine item prices.
Price Bases Catalogs	The Cost Sheet, Bid History, and Reference Price Catalogs, they comprise the bases of the ways the estimate can be estimated.
Privileges/ Permissions	The level of access to a new estimate. The access levels are owner, user, write, read, and none.
Production Rate	The number of units of an item generated in one day of work.
Radio Button	A dialog box component that allows you to select one option from a small group of related options. A circular button (see List Box and Check Box) represents each choice.
Rate Catalogs	The Equipment Rate, Labor Rate, and Material Rate Catalogs, used to comprise the information for the Cost Sheet Catalog.
Read	A privilege level of Read means that a user can access a new estimate, but not make any changes to it.
Reference Price	A price used as the basis for estimating an item’s cost. Reference prices may be stipulated directly or they may be derived from formulas.
Roll Up Quantity	A system management function on the general tab of the Global Options, it allows you to total the quantities of an item across groups for use with bid-based pricing.
Scroll Bar	A rectangular box that is present in list boxes or windows. The bar contains up and down scroll arrows and a scroll box. The scroll bar allows you to move through text to view sections that are not currently visible. To use the bar for scrolling, click on the scroll box and drag it up or down. Alternatively, you can click on the scroll arrows to produce the same results.
Scrolling	The up or down shifting of text that occurs when you move your cursor to see parts of the text that are not currently visible (see Scroll Bar).

Spec Year	A base year used for pricing purposes. The spec year is used to ensure that all pricing information within an estimate is correct for the time period encompassed by the estimate.
Super-User	A user granted special privileges. A super-user has automatic owner access to new estimates, can edit and import new catalogs, and can change fields for a user in the Users Table.
Text Box	A dialog box component that accepts input that is typed in or copied from an Estimator catalog.
Tree Area	Usually in the left pane of a catalog or estimate window, the tree area displays all the entities that comprise an estimate or catalog.
User	A privilege level of User means that a user can edit a new estimate and make changes to the estimate's User list, but not change any fields for a user designated as an Owner.
Users List	For Estimator, it is a list of all users, their real names, and new estimate and catalog access permission. For an estimate, it is a list of all users with privileges to at least read the estimate.
User Permission	A user's right to view and edit the information in an estimate. Each estimate can have one or more people listed as users. User permission differs from owner permission in that someone with user permission cannot view or edit the User List for the estimate.
Username	The name by which Estimator knows you. Estimator uses your name and password to verify who you are so that you can work on Estimator estimates for which your username is listed as an authorized user.
Web Services	An option set by the System Manager to allow parts of estimates or catalogs to view information over the Internet set up by the transportation agency.
Wild Card	A character that can substitute for one or more characters. The asterisk wild card (*) can substitute for one or more characters whereas the question mark wild card (?) can substitute for only a single character. For example, the wild card in the name l989?.est can substitute for l989A. est, l989X. est, or l989!. est. Estimatoruses wild cards in file names and user security permission codes.
Write	A privilege level of Write means that a user can edit a new estimate.

Appendix B. Consultant Engineers Initial Setup

B.1. Consultant Installation

Consultants working for CTDOT will need to license Estimator from Info Tech, Inc., install the application on a workstation at their office, and configure it to access the latest metric and English catalogs available for download from CTDOT's website link. Go to: Estimator

B.1.1. Contact Info Tech Via Info Tech Web Link

Consultants may license the Estimator application software from Info Tech, Inc. by navigating to the Info Tech website at: Estimator Software .

On the Estimator software page locate the **New Customers** and **Current Customer**s links along the left hand side. You may also use the **Pricing** link. Click on one of the links.

Consultants may also get to the Info Tech Estimator software ordering page by navigating to the CTDOT website: Estimator.

On the Estimator Page under **Consultant Information** there is a link called: **How to Purchase Estimator**. Click this link to get to the Info Tech software ordering website.

Consultants working with CTDOT will purchase a license for Estimator 2.l2a. You will be taken through a series of screens that enable you to perform a credit card transaction to obtain the license and download access to the software.

If you have any difficulty with obtaining the license, software download access, or installing the software, you may use the Contact links on the left-hand side of the Estimator software webpage.

B.1.2. Link to Catalog Download

CTDOT will provide a link to obtain the latest metric and English catalogs for estimation work. Consultants may find the latest CTDOT catalogs by navigating through the CTDOT website Estimator.

On the Estimator Page under **Estimator Catalogs** there are links for the English 3 year, English 5 year and metric 5 year versions of the catalogs containing the Itemlist and Bid Histories.

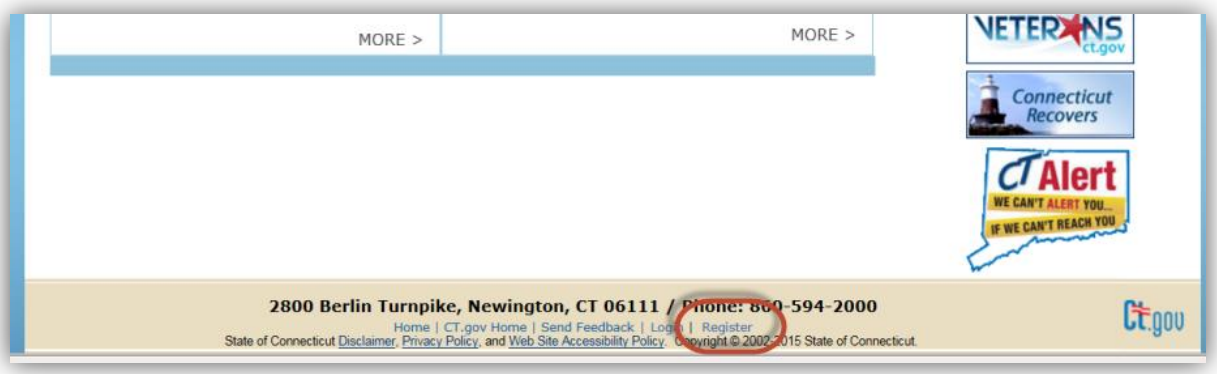
Please follow the instructions on the site for downloading new catalogs or downloading and applying monthly catalog updates.

***Note:** The English 5 Year Catalog is available for reference only to investigate prices on English items that do not have a sufficient 3 year bid history. **Do not use this catalog to obtain prices for the entire estimate!**

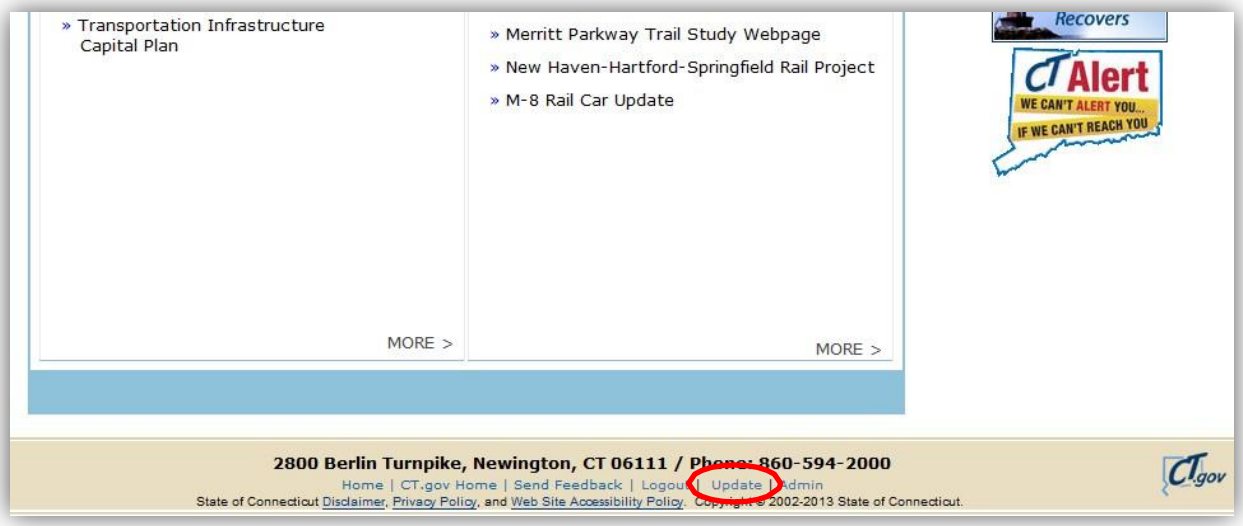
B.1.3. Sign up for E-Alerts

When you sign up for E-alerts an e-mail will be sent to you when the monthly catalog updates are completed.

To receive notifications as when catalog updates are available, got to the CTDOT website . If you do not have a CTDOT User/ID, select register at the bottom of the page and create an account:

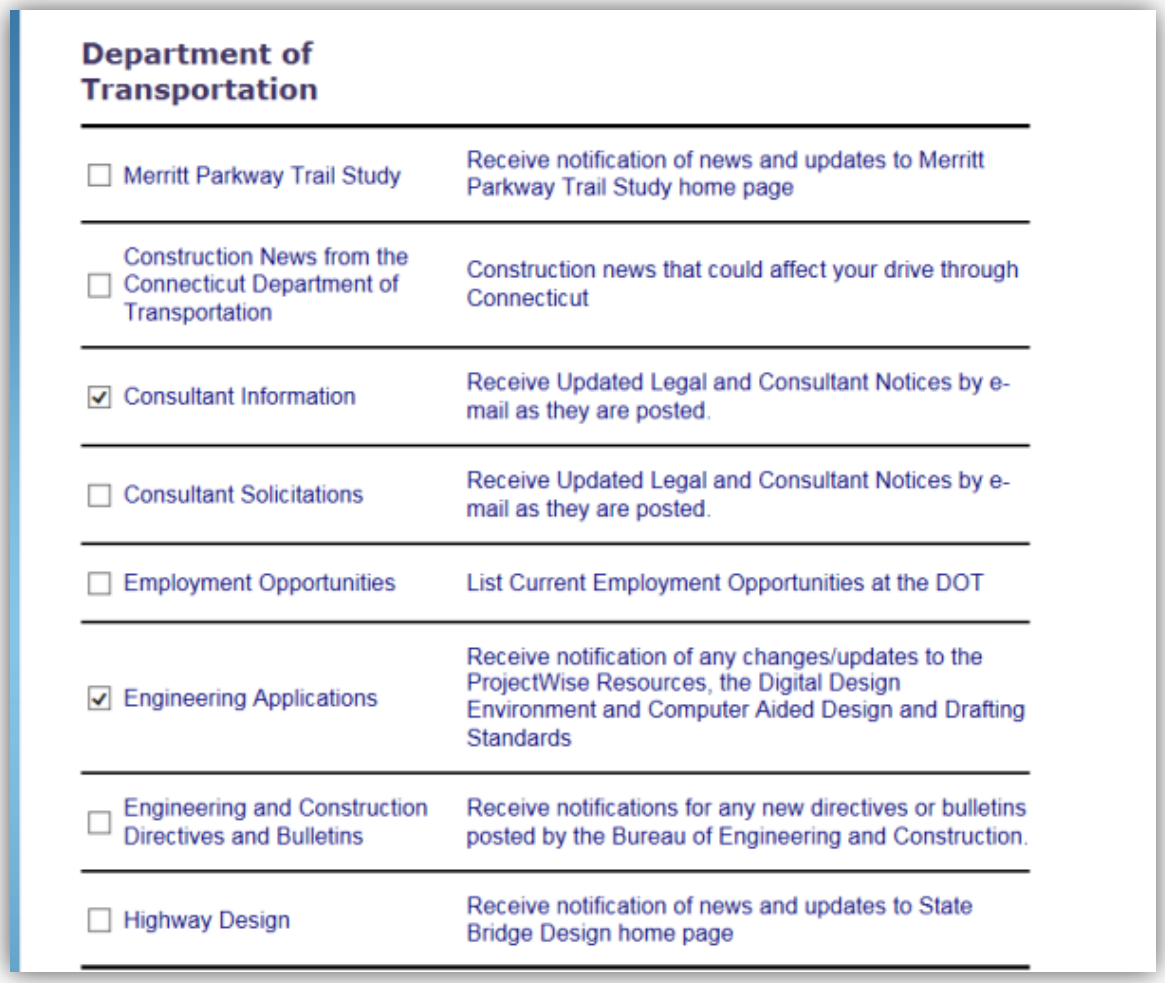


After logging in, select **Update** at the bottom of the page:



Select You may also change your eAlert subscriptions here:

Check **Engineering Applications** and **Consultant Information**



Department of Transportation

☐ Merritt Parkway Trail Study	Receive notification of news and updates to Merritt Parkway Trail Study home page
☐ Construction News from the Connecticut Department of Transportation	Construction news that could affect your drive through Connecticut
☑ Consultant Information	Receive Updated Legal and Consultant Notices by e-mail as they are posted.
☐ Consultant Solicitations	Receive Updated Legal and Consultant Notices by e-mail as they are posted.
☐ Employment Opportunities	List Current Employment Opportunities at the DOT
☑ Engineering Applications	Receive notification of any changes/updates to the ProjectWise Resources, the Digital Design Environment and Computer Aided Design and Drafting Standards
☐ Engineering and Construction Directives and Bulletins	Receive notifications for any new directives or bulletins posted by the Bureau of Engineering and Construction.
☐ Highway Design	Receive notification of news and updates to State Bridge Design home page

and then select Subscribe.

B.2. Setting Global Options

Open estimator, but do not open an estimate, Go to Other Tools>Global Options:

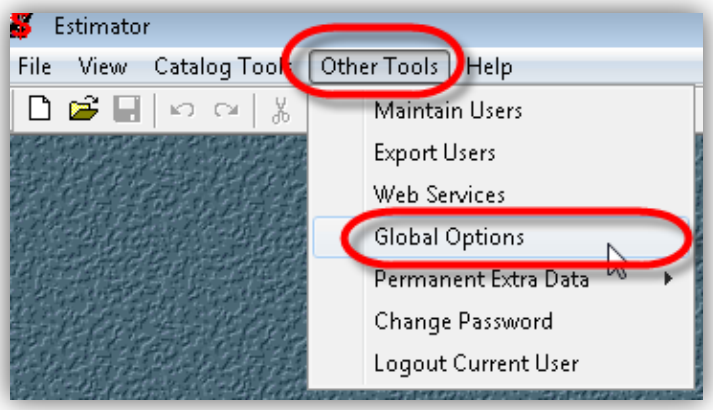


Figure 100. Global Options

B.2.1. The General Tab

The GENERAL tab depicted in ***Figure 104*** sets the options for the estimate archive and auto-save functions. It also allows you to enter the agency's name and use out of range bid history prices.

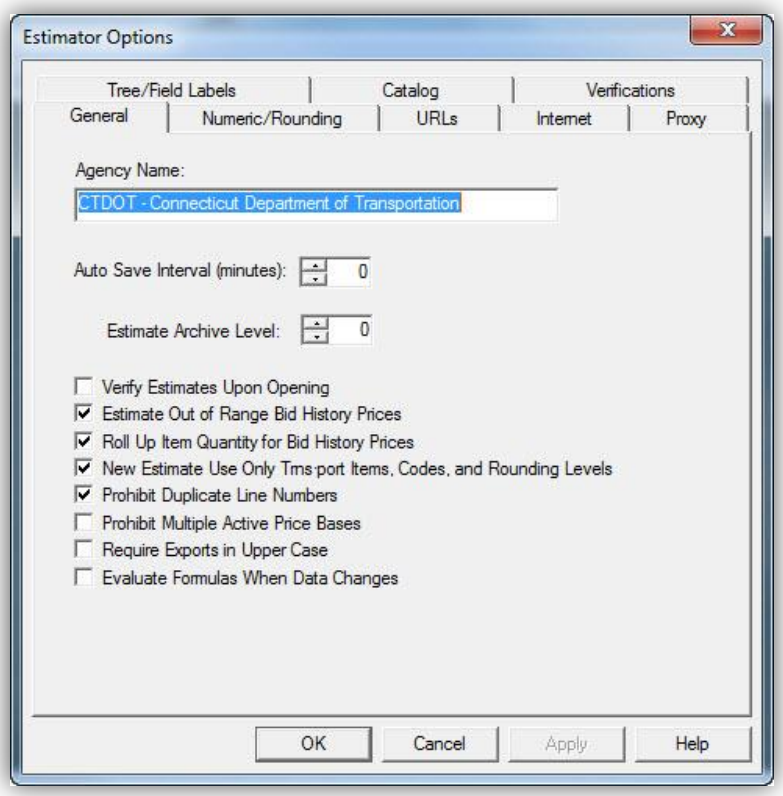


Figure 101. The Global Options Window - General Tab

These are the options available on the general tab:

Agency Name	The agency brand for this copy of Estimator. This name appears on printed estimates. Only the system manager can change this option. **ENTER: CTDOT – Connecticut Department of Transportation**
Auto Save Interval (minutes)	Estimator has an auto-save feature that automatically saves every open window after the designated time has elapsed. These saved files can then be accessed in case of a power-outage, or if Estimator is shut down in an unconventional way. The Auto Save function is turned off if you set the Auto Save Level to 0. **Enter: 0**

Archive Level	When you save your estimate, Estimator keeps the former estimate intact in an archive. You can archive up to nine levels. These files can be accessed in the directory where the estimator.exe file is kept. The Archive function is turned off if you set the Archive Level to 0. **ENTER: 0**
Verify Estimates Upon Opening	If this box is selected, the Estimator software runs a verification check on an estimate when it is opened. A message displays only if there are errors in the estimate. **UNCHECK**
Estimate Out of Range Bid History Prices	Usually when using a bid history, the outliers of an item occurrence or quantity entered into an estimate (that is, any number that falls below the 5th percentile or above the 95th percentile) are not used in calculating the bid history price. If this option is selected, then the bid history will use all of the item's occurrences. Only the system manager can change this option. **CHECK** ***Note:** Quantities that are out of range will have a note in the Bid History Regression tree label. This is an indicator that the estimator should investigation this item closely.
Roll Up Item Quantity for Bid History Prices	When bid-based prices are used, the cost of the item usually lowers when a high quantity of an item is purchased. Using a bid-based item price across multiple groups does not give you the advantage of a high quantity purchase. When bid history items share an estimate item code and both items are priced with a single bid history record that matches the same item code, you should *roll up* the quantities. Only the system manager can set this option. **CHECK** ***Note:** When using the Roll Up Item Quantity for Bid History Prices feature, the application enforces a safety permutation limit to prevent Estimator from responding slowly when the estimate contains numerous alternate items. This safety limit can be modified in the estimator.ini file.
New Estimate Use only Trns•port items and codes	When adding items and code table values to your estimate, only ones that are compatible with Trns•port applications will be available in the catalogs when this option is selected. Only the system manager can set this option. **CHECK**

Prohibit Duplicate Line Numbers	When copying items from one group to another, if this global option is disabled, the target items will have the same line numbers as the source. Enabling this option forces the target items' line numbers to increment based upon the agency's defined line number increment setting. **CHECK**
Prohibit Multiple Active Price Bases	When this option is enabled, a user may have only one active price basis for an estimate item. If an active price basis already exists and a user adds a new price basis, the first will be toggled inactive and the newly added price basis will become active. **UNCHECK**
Require Exports in Upper Case	When this option is selected, any exported data will use entirely upper-cased lettering for compatibility with systems that support it. Mixed casing is still used within the AASHTOWare Estimator application. **UNCHECK**
Evaluate Formulas When Data Changes	Numeric fields are now automatically recalculated when a field value is changed. **CHECK**

B.2.2. Numeric/Rounding Tab

The NUMERIC/ROUNDING tab depicted in ***Figure 105*** sets how you want the estimate toround its prices, extended amounts, and quantity. It also sets the line and group number starts and increments. Only the system manager can change options on this tab. ** Default now set to wT Preconstruction settings. Therefore, no initial modifications necessary.

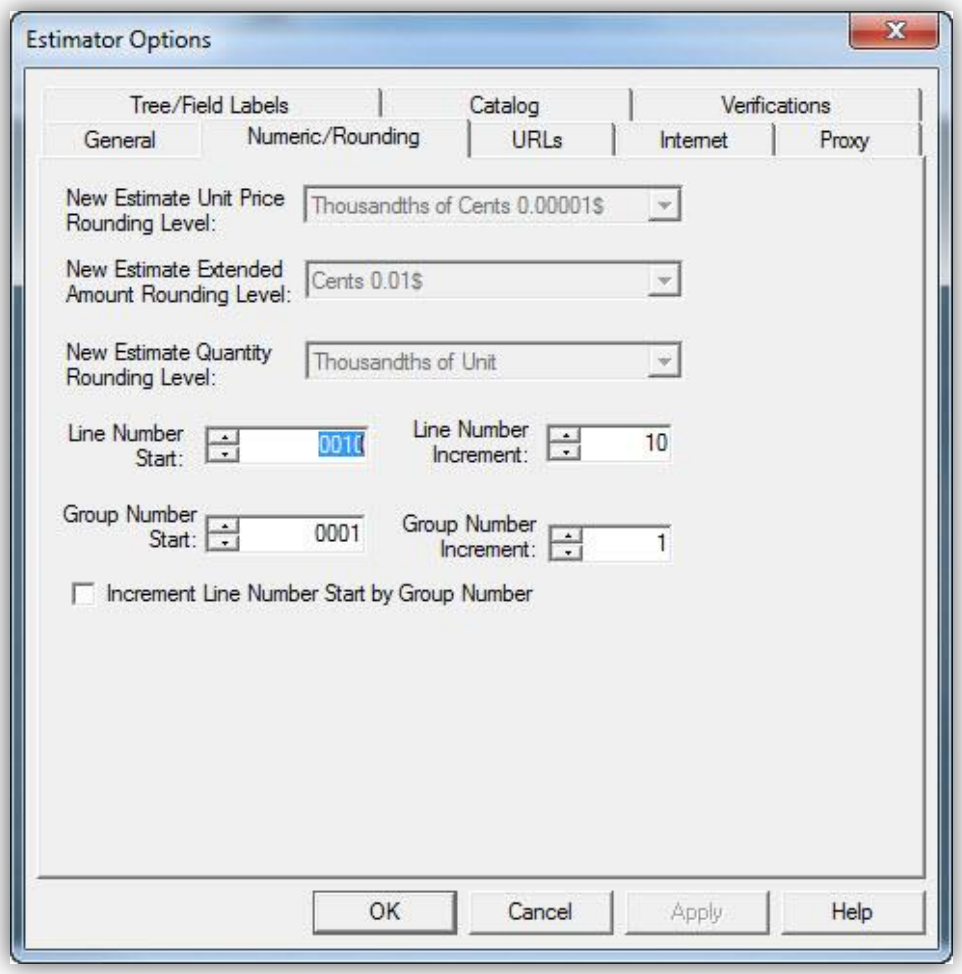


Figure 102. The Global Options Window – Numeric/Rounding Tab

These are the options available on the numeric/rounding tab:

New Estimate Unit	You can choose to round estimate unit prices from between one
Price Rounding Level	dollar ($l.00) to thousandths of cents ($0.0000l). **ENTER: Cents 0.01$**
New Estimate Extended Amount Rounding Level	You can choose to round an estimate's extended amount from between one dollar ($l.00) to thousandths of cents ($0.0000l). **ENTER: Cents 0.01$**
New Estimate Quantity Rounding Level	You can choose to round estimate quantities from between one unit to thousandths of unit. **ENTER: Thousandths of Unit**
Line Number Start	This is the line number that appears when a new item is added to an estimate. **ENTER: 0010**
Line Number Increment	This is the amount the line numbers increment when new items are added to an estimate. **ENTER: 10**
Group Number Start	The first group in an estimate is given this number when it is created. **ENTER: 0001**
Group Number Increment	Each successive group is numbered in this increment from the first group. **ENTER: 1**
Increment Line Number Start by Group Number	Each item is numbered according to the group number, though incrementing accordingly within the group. **UNCHECK**

B.2.3. URLs Tab

The URLS tab depicted in ***Figure 106*** contains the paths for your catalog, estimate, template, custom print reports, and cache folders.

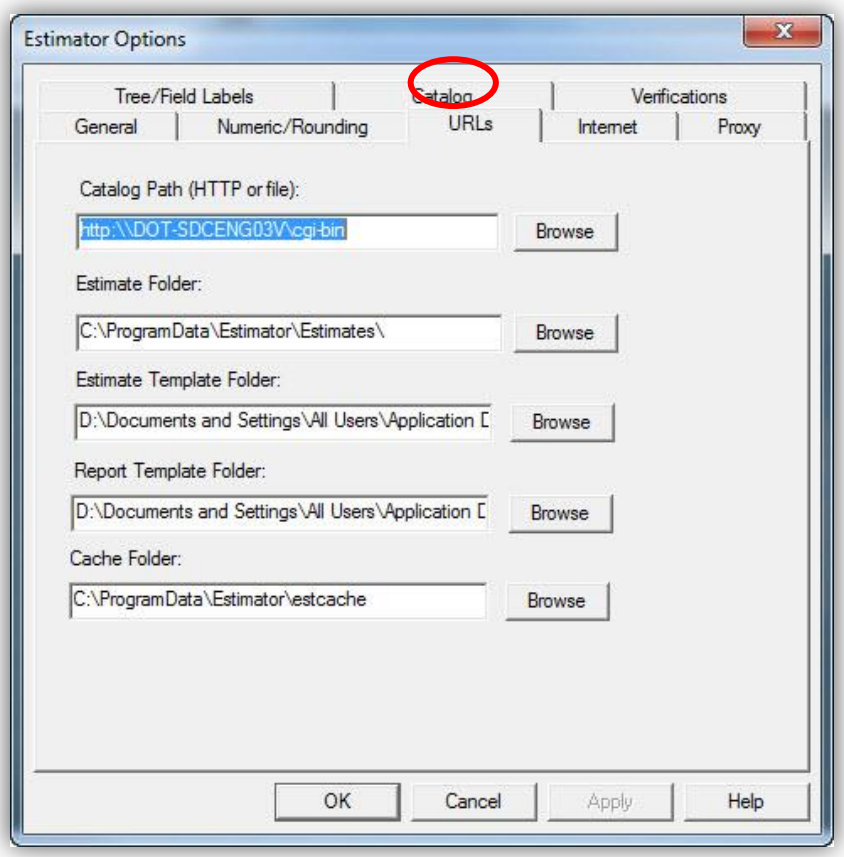


Figure 103. The Global Options Window - URLs Tab

Here are the options available on the URLS tab:

Catalog Path (HTTP or file)	This field displays the location of the Estimator catalogs. This is the directory Estimator displays when you select Switch Catalog from the Tools menu. **Default: C:\ProgramData\Estimator\catalogs**
Estimate Folder	This is the directory to which new estimates are saved. **Default: C:\ProgramData\Estimator\Estimates**
Estimate Template Folder	This is the directory where estimate templates are kept. Only the system manager can change this option. **Default: C:\ProgramData\Estimator\Templates**
Reports Template Folder	This is the directory where customized print report templates for estimates are kept. Only the system manager can change this option. Optional report templates can be created with the full version of the Crystal Reports® software and placed in the directory specified in this field. These reports will be available in the Print Options window when you print an estimate. **Default: C:\ProgramData\Estimator\Reports**
Cache Folder	This is the local directory that Estimator uses for file download when your user table or catalogs are stored on a web server. **Default: C:\ProgramData\Estimator\estcache**

Only the system manager can change the Template path and the Reports Template path on this tab.

B.2.4. Internet Tab

The INTERNET tab depicted in ***Figure 107*** allows Estimator to connect to a web server and look for catalog updates, and download them into the Current Catalog. Any user can change the options on this tab.

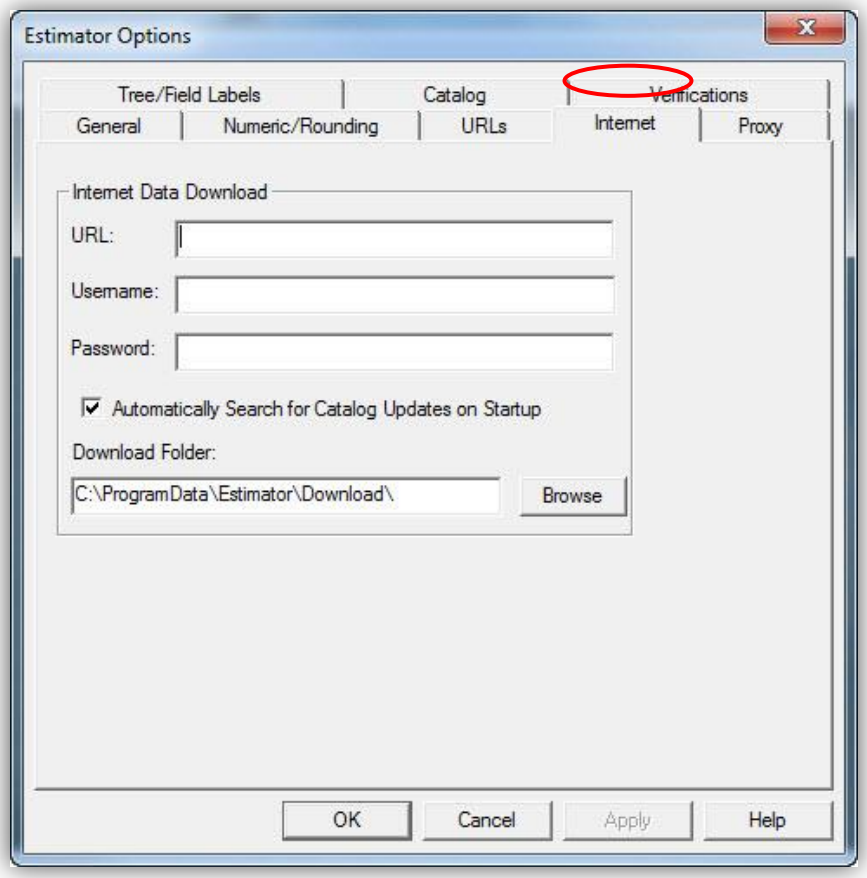


Figure 104. The Global Options Window - Internet Tab

These are the options available on the internet tab:

URL	The Internet site designated by the transportation agency where the catalog updates are located. **BLANK**
Username	If the Internet site is secured, the username that will allow you to access the site. **BLANK**
Password	If the Internet site is secured, the password that will allow you to access the site. **BLANK**
Automatically Search for Catalog on Startup	This option tells Estimator to look for catalog updates each time you start the program. You can also search for catalog updates by selecting **Check for Catalog Updates** from the **Tools** menu. **UNCHECK**
Download Folder	The Download Folder field displays the local directory that Estimator uses for file downloads when you run the Catalog Update command. **Default: C:\ProgramData\Estimator\Download**

B.2.5. Proxy Tab

The PROXY tab depicted in ***Figure 108*** controls the way Estimator connects to the Internet. Any user can change the options on this tab.

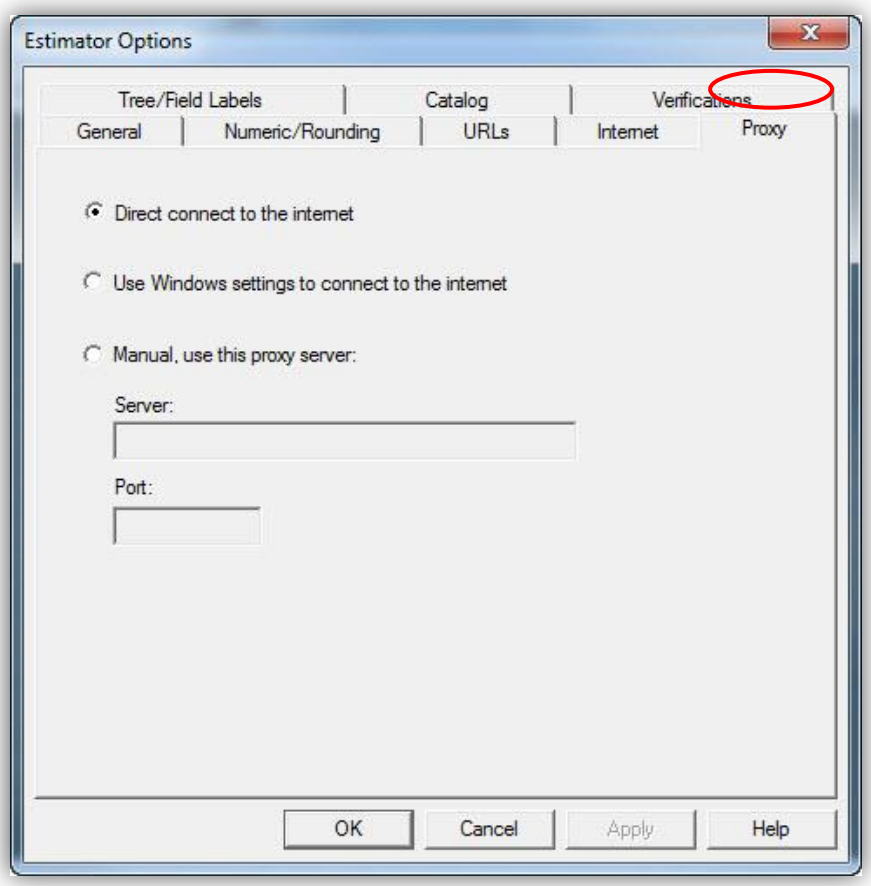


Figure 105. The Global Options Window - Proxy Tab

These are the options available on the proxy tab:

Direct Connect to the	This indicates that your computer does not need to go through
Internet	a proxy server to access the Internet. **CHECK**
Use Windows settings to connect to the Internet	This tells Estimator to check the Windows settings when connecting to the Internet and to use the same settings. **UNCHECK**
Manual, use this proxy server	Use this option to have Estimator use a proxy server not indicated by your Windows settings. Fill in the proxy server name in the Server field and the port number in the Port field. **UNCHECK**

B.2.6. Tree Labels Tab

The TREE LABELS tab depicted in ***Figure 109*** allows you to label the different parts of the estimate in the tree view. The labels appear for each element of an estimate. Only the system manager can change these options.

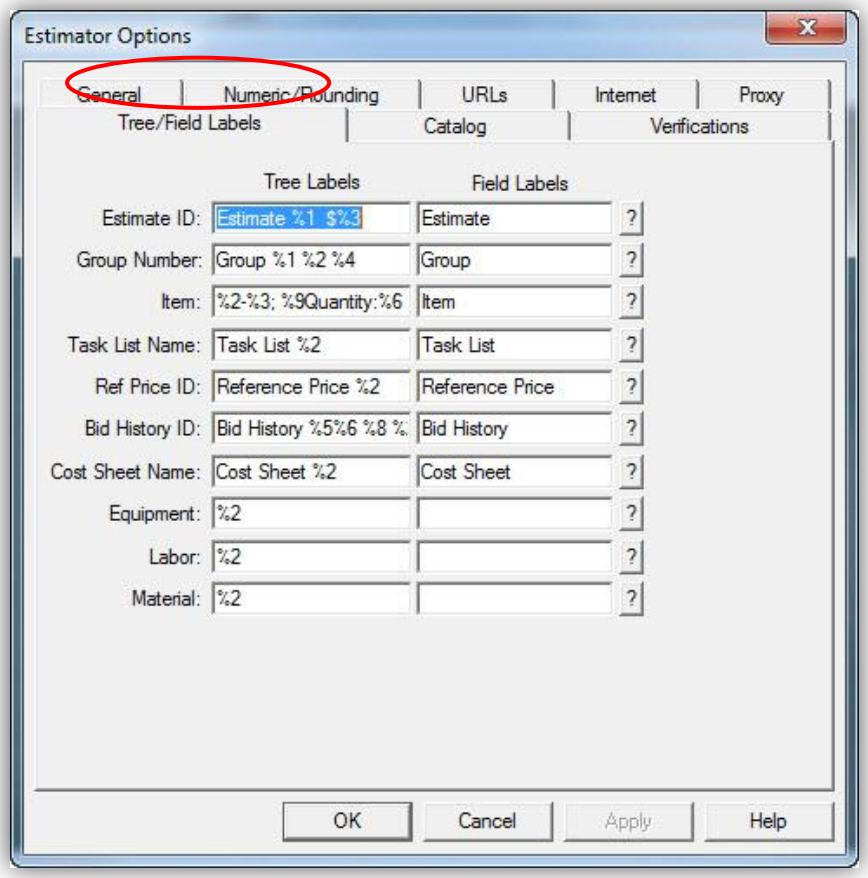


Figure 106. The Global Options Window – Tree Labels Tab

These are the options available on the TREE LABELS tab. For consistency, cut and paste the following labels into the appropriate fields:

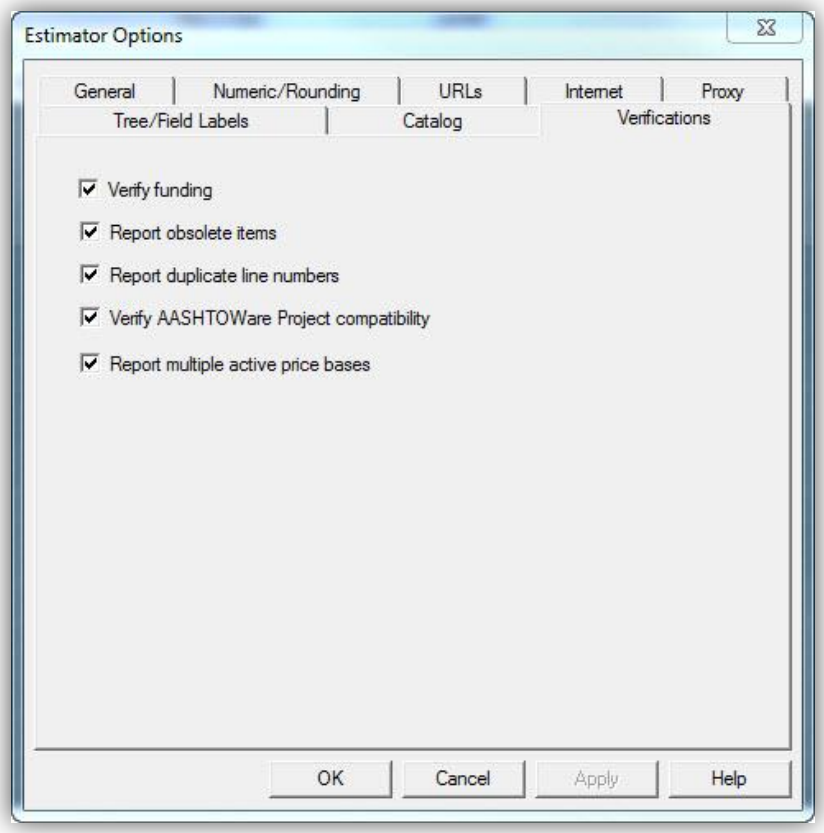
Estimate	The label of the estimate. **ENTER: Estimate %1 $%3**
Group	The label of the group. **ENTER: Group %1 %2 %4**
Item	The label of the item. **ENTER: %2-%3; %9Quantity:%6 %4; Unit Cost $%7; Total $%8**
Task List	The label of the Task List. **ENTER: Task List %2**
Ref Price	The label of the Reference Price. **ENTER: Reference Price %2**
Bid History	The label of the Bid History. **ENTER: Bid History %5%6 %8 %2**
Cost Sheet	The label of the Cost Sheet. **ENTER: Cost Sheet %2**
Equipment	The label of the equipment. **ENTER: %2**
Labor	The label of the labor. **ENTER: %2**
Material	The label of the material. **ENTER: %2**
Enable Concatenated Data for Trees	Concatenates additional information for labels. **UNCHECK**

The "Tree Labels" tab in the global options was changed to "Tree/Field Labels". The fields under the Field Labels column on that tab will now be used for both tree labels and detail labels (the new feature). Tree Label Append labels, if enabled in the checkbox at the bottom of that tab, will be concatenated onto the tree labels, allowing users to have more detail in their tree labels than their detail labels. At this time CTDOT is not adding any detail labels to the tree label fields.

The question mark (?) box next to each field contains the list of the fields after which the label can be named. For example, for the Estimate field, if you select %l, then the label will be based on the Estimate ID field. If you do not include a %, then the field will always be named after the text.

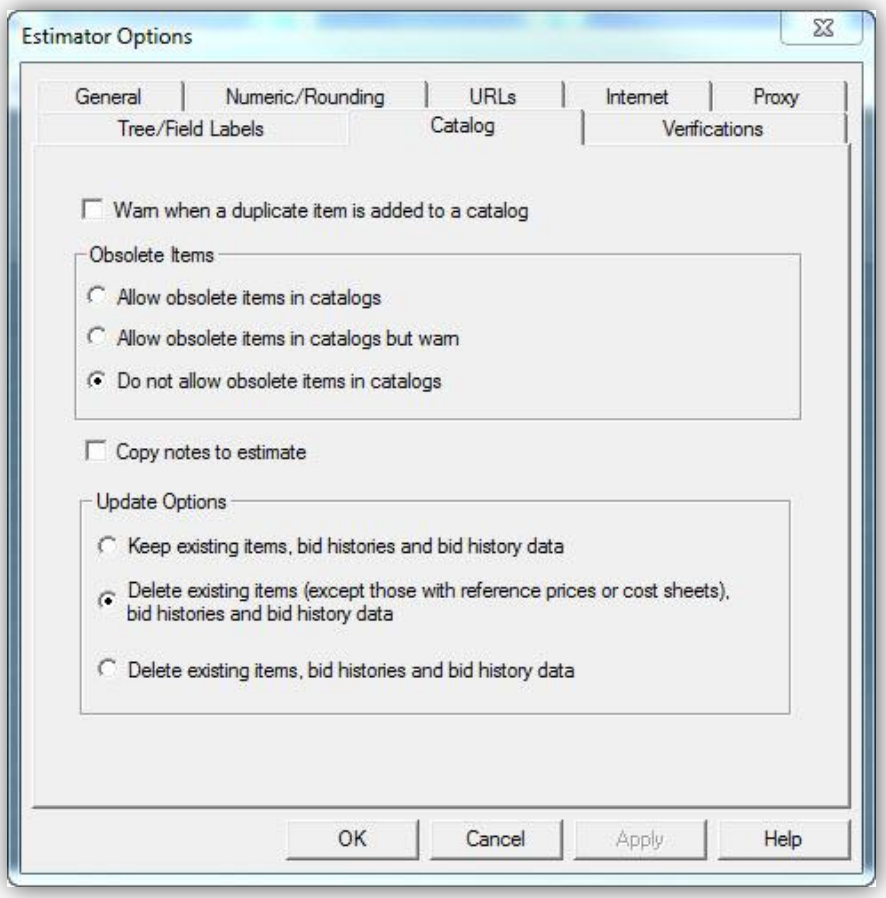
B.2.7. Verifications Tab (New)

The VERIFICATIONS tab depicted below is self-explanatory



B.2.8. Catalog Tab (New)

The CATALOG tab depicted below is self-explanatory



Appendix C. Troubleshooting/Support

C.1. Generating a Support Request

The Generate Support Request command displays a support request form. Enter all the necessary information and save the file, then attach it to an e-mail and send it to DOT.TrnsPortEstimator@ct.gov

Information on this form is used to help solve Estimator problems. You can also suggest future enhancements you would like added to Estimator. When you choose Generate Support Request from the Help menu, Estimator displays the Generate Support Request dialog box (see ***Figure 110***).

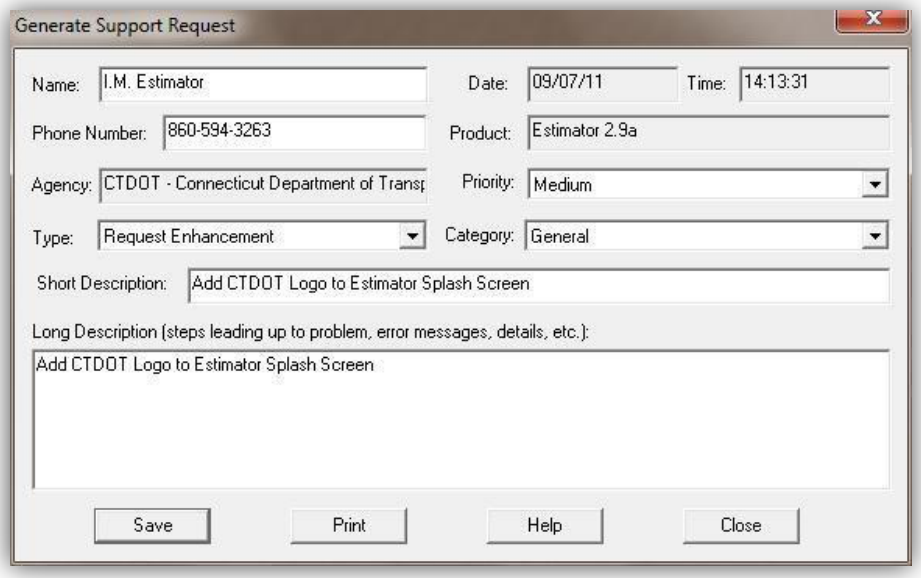


Figure 107. Support Request Dialog Box

Enter your name and telephone number in the appropriate fields.

In the Type field, click the down arrow and choose the type of request you are generating from the selection list.

In the Priority field, click the down arrow and choose a priority level according to the importance of your request.

In the Category field, select the type of problem you are having.

In the Short Description field, give a brief description of the problem or comment. In the Long Description field, give a detailed description of the problem or comment.

When you finish entering information for the request, click on save.

Save the support request as a text file, and then e-mail it to Info Tech.

The Priority field has several options from which to choose. Use the following descriptions to help you choose the right one.

Low	Problem is a nuisance to business functions.
Medium	Problem is a definite issue that causes a minor inconvenience but does not prevent business functions from being completed.
High – Important	Problem is a major inconvenience but does not prevent critical business functions from being completed.
Critical – Very Important	Problem prevents implementation or upgrade of Trns•port from being completed. This classification is for use by licensees that are not in production use of the release and needs to include a date by which the fix is needed. This classification should only be used on errors that would be considered Urgent if the licensee was in production use of the software.
Urgent – Very Important	Problem stops the ability to perform a critical business function. This classification is for use by licensees that are in production use of the release.

C.2 Non-Zero Contingency Warning

If a value is entered in the Contingency % field in the project header, the following warning will be displayed when the Verify tool is applied:

"The Estimate Contingency is non-zero however Trns•port settings indicate possible intent to pass data to Trns•port PES. The data exchange between PES and Estimator does not support a non-zero Contingency value and differing totals will result"

This is simply a warning stating that the contingency percent will not be passed to Preconstruction; Contract Development is aware of this. **No action is required by the Estimator user.**

C.3 Permission Error

If the user gets the following error:

Figure 108. Permission Error

This message indicates that the estimate was created prior to the user obtaining their login/password. To fix this, the owner of the document must open the estimate and go to **Edit>Estimate Users** and add the person's Estimator login name, select **Owner** and **Apply**:

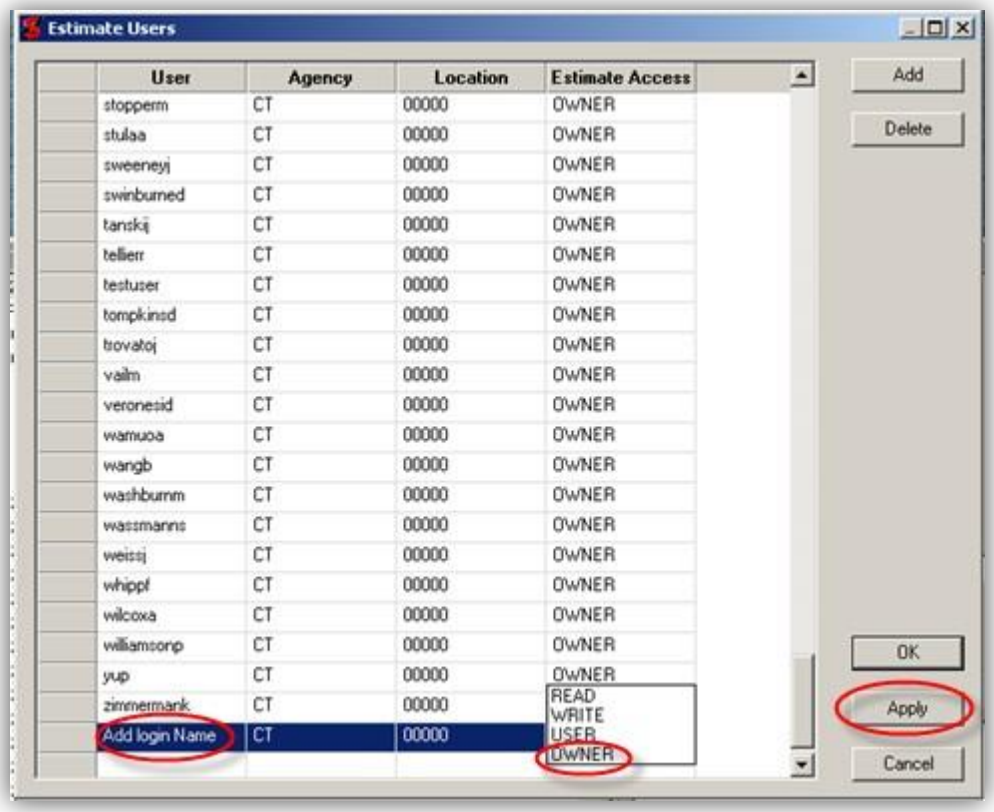


Figure 109. Adding Estimate User

***Note:** To get a list of owners, create a new estimate and go to Edit>Estimate Users.

Anyone on this list with owner access will most likely be able to add a new user as an owner.

C.4. Drop Down Lists are Blank

Go to **Catalog Tools**>**Close Catalog** and then close the catalog. Go to **Catalog Tools**>**Open Catalog** and open the catalog. If drop down lists are still not available, go to Edit>Estimate Options and choose a catalog:

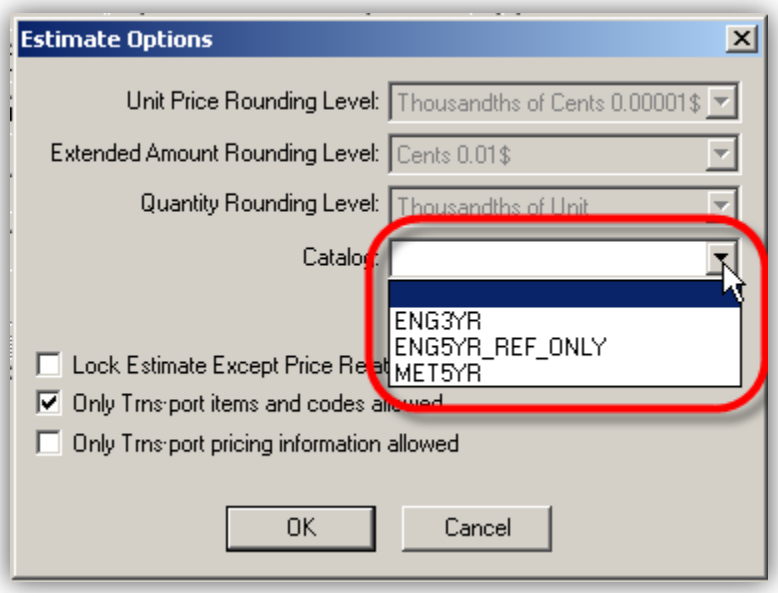


Figure 110. Estimate Options

C.5. Http catalog access did not succeed Error

The first time you open Estimator, you may get the following message:

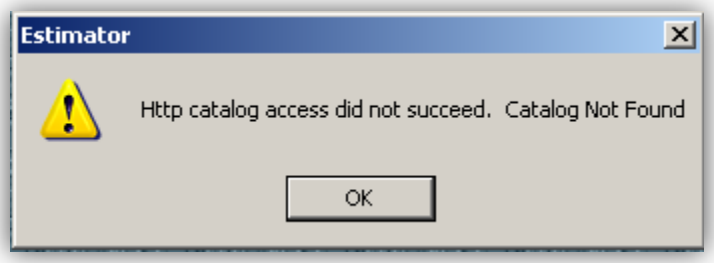


Figure 111. Catalog Error Message

Simply select OK and open a catalog as described in Catalog Basics. If you get the message (the file location may be different):

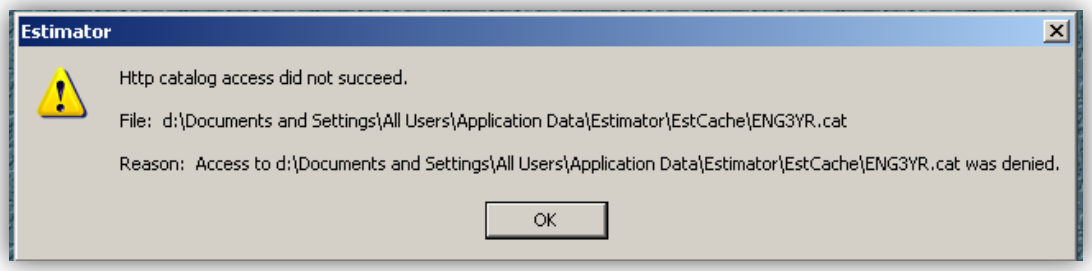


Figure 112. Catalog Access Denied

- Ensure that the user is logged into the workstation as themselves. If not, login as yourself and see if the problem persists.

The locally cached copy of the catalog may have permissions on it that were inherited from a previous user, preventing you from opening it. To fix this (you may need computer administrative permissions to do so, if so contact your IT representative):

- Ensure that Windows Explorer has "Show hidden files and folders" enabled. Open Windows Explorer and go to ***Tools>Folder Options***, select the ***View Tab*** and check ***Show hidden files and folders***:

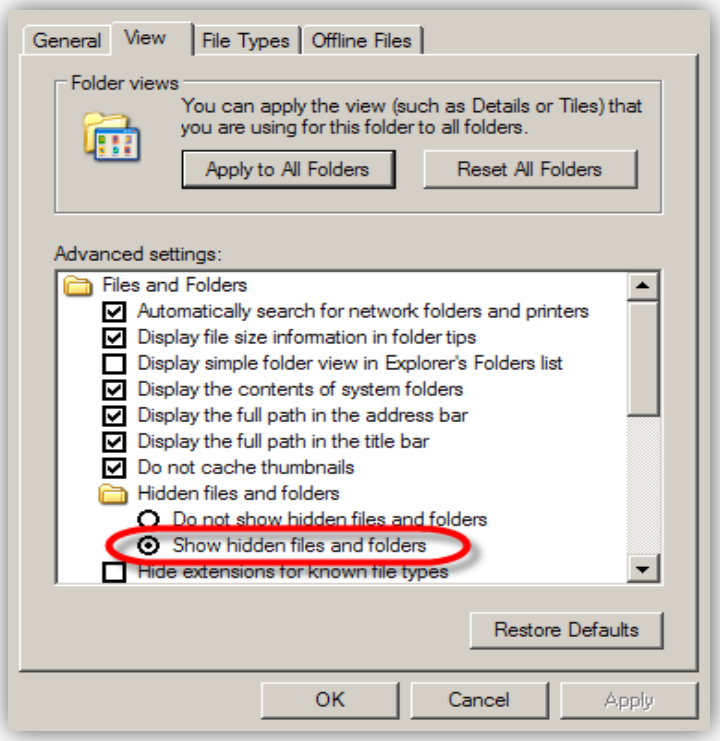


Figure 113. Showing Hidden Files and Folders

- Go to ***:\ProgramData\Estimator\estcache*** (* = C or D drive) and delete any catalogs that are in this folder:

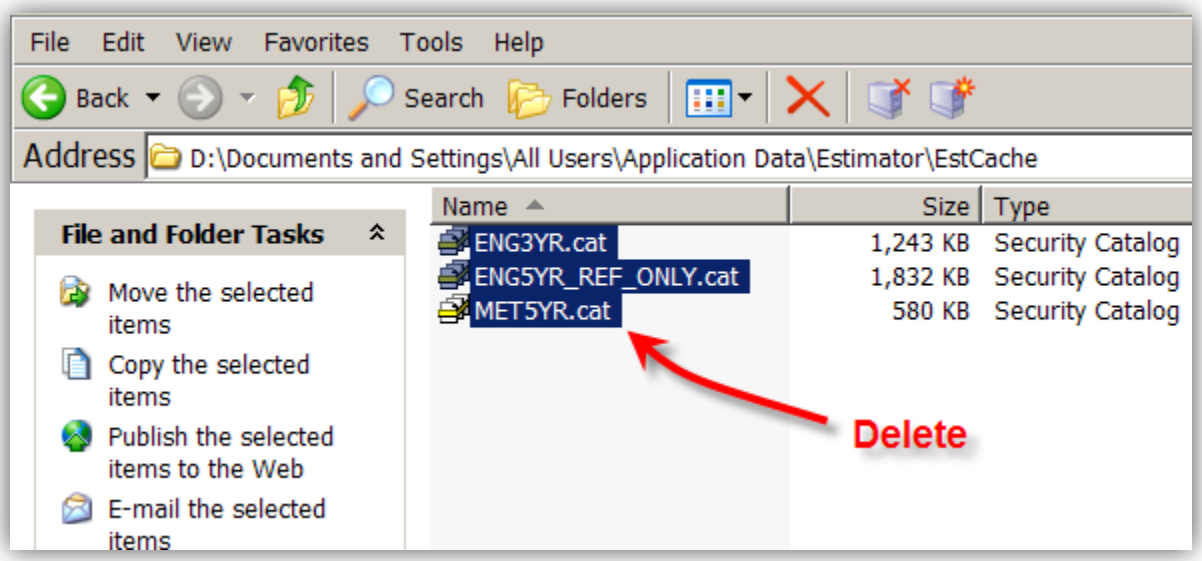


Figure 114. Delete Old Catalogs

- Open Estimator, go to ***Catalog Tools>Open A Catalog*** and select the catalog you wish to use.

C.6. Runtime Error for Printing Reports

Estimator requires Crystal Reports be installed in order to generate a report. This should have been done during installation of the Estimator software. If Crystal Reports was not installed, you will get an error message when you try to print:

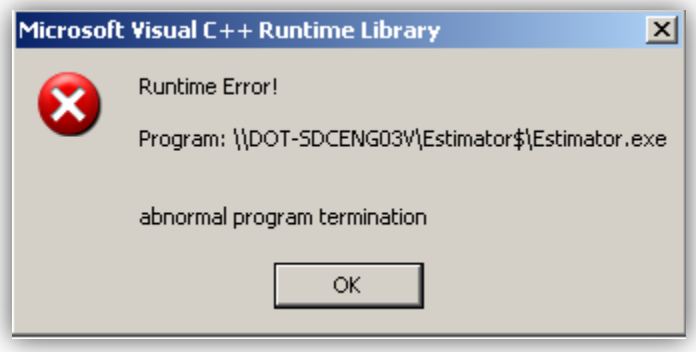


Figure 115. Crystal Reports Print Error

Estimator will terminate, and you will lose any unsaved data. If you receive this error message, contact your Estimator Administrator and have Crystal Reports installed.

C.7. Estimate Spec Year is blank

If you get the message “The Estimate Spec Year is blank. This field is set by assigning this estimate's catalog.” after verifying your estimate:

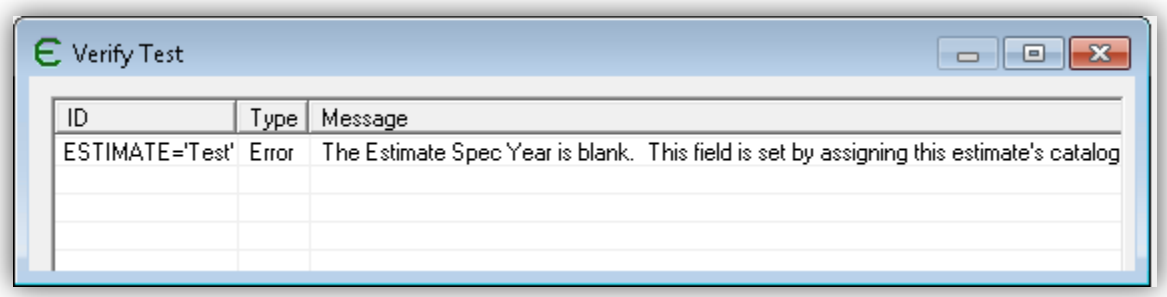


Figure 116. Spec Year Field Blank Error Message

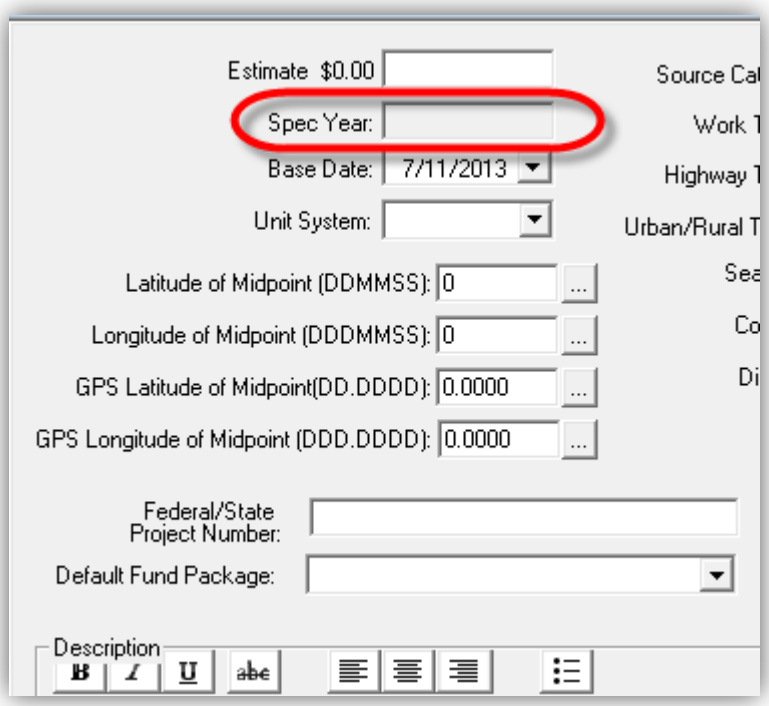


Figure 117. Spec Year Field Blank

Go to **Edit**>**Estimate Options**, select the correct catalog and select **OK**:

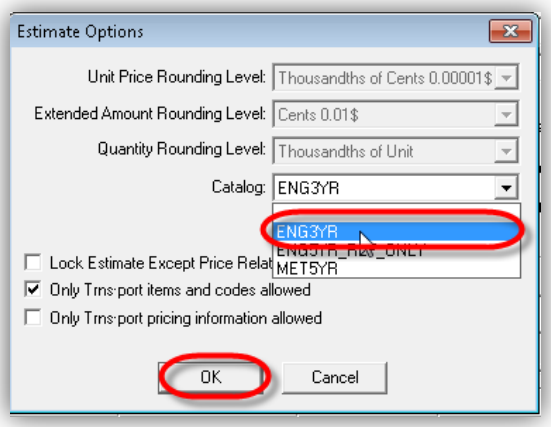


Figure 118. Selecting Correct Catalog

***Note:** You may have to select another catalog, select OK and then go back in and select the correct catalog. If after trying these fixes the spec year field is still blank, ensure that the catalog is named correctly.

C.8 Windows can't open this file

If you get the message "Windows can't open this file" while trying to open an estimate on the network:

Select “Select a program from a list of installed programs”

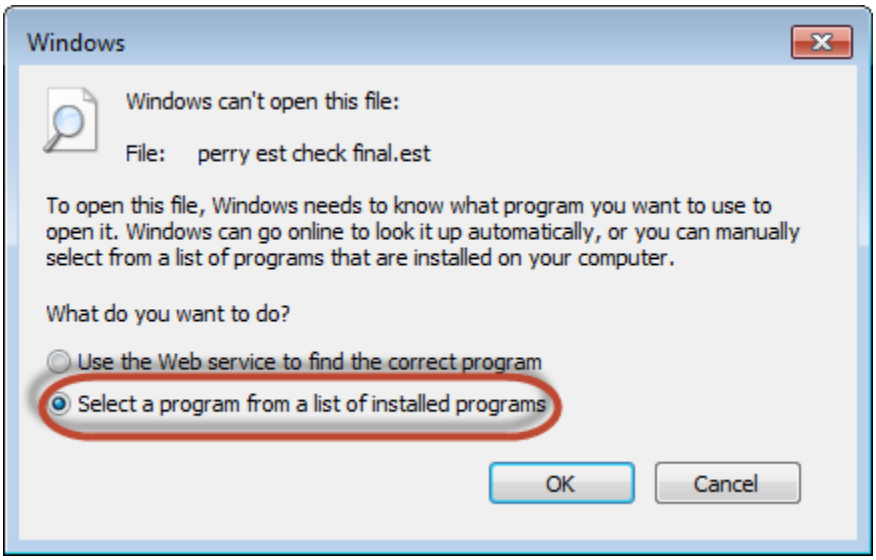


Figure 119. Open a Program

Select **Always use the selected program to open this kind of file** and **Browse**

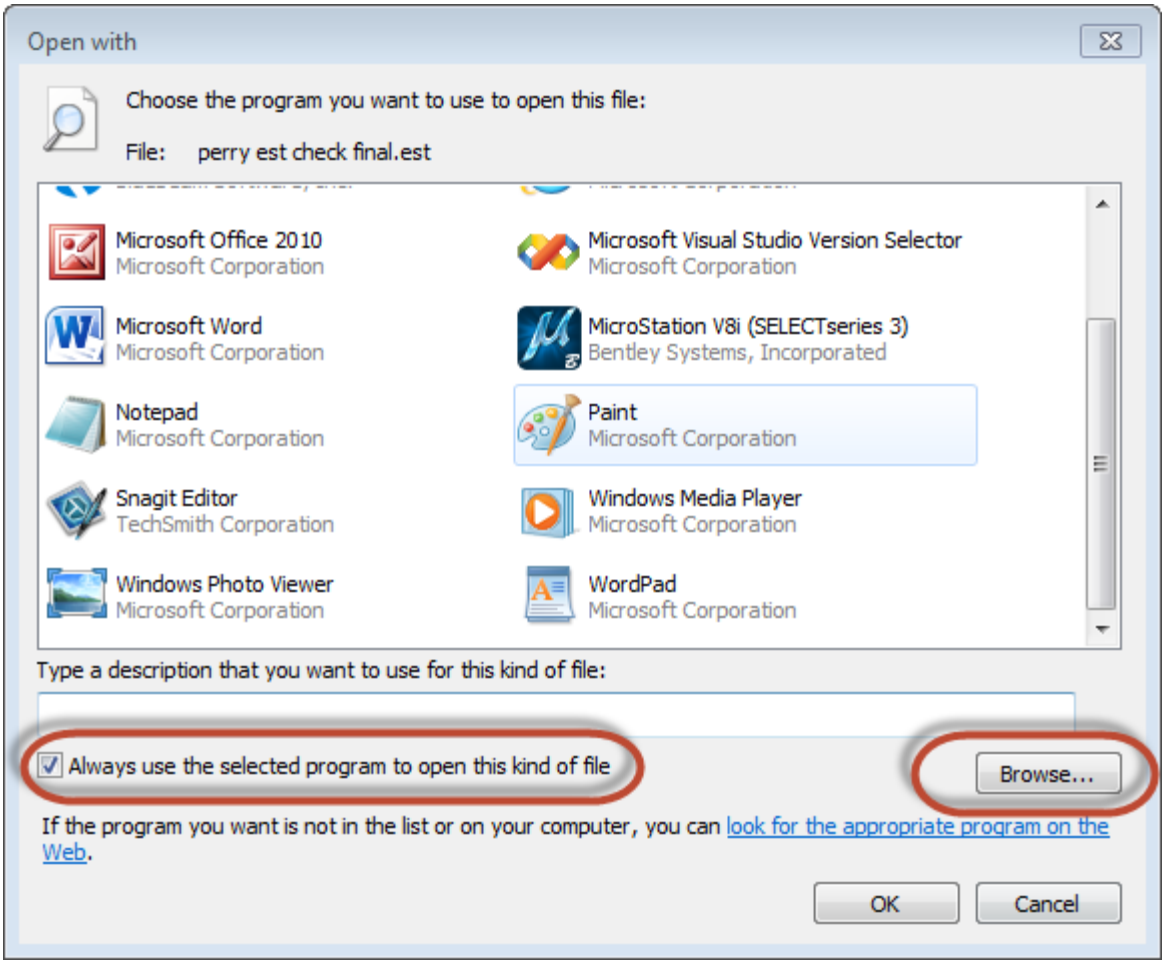
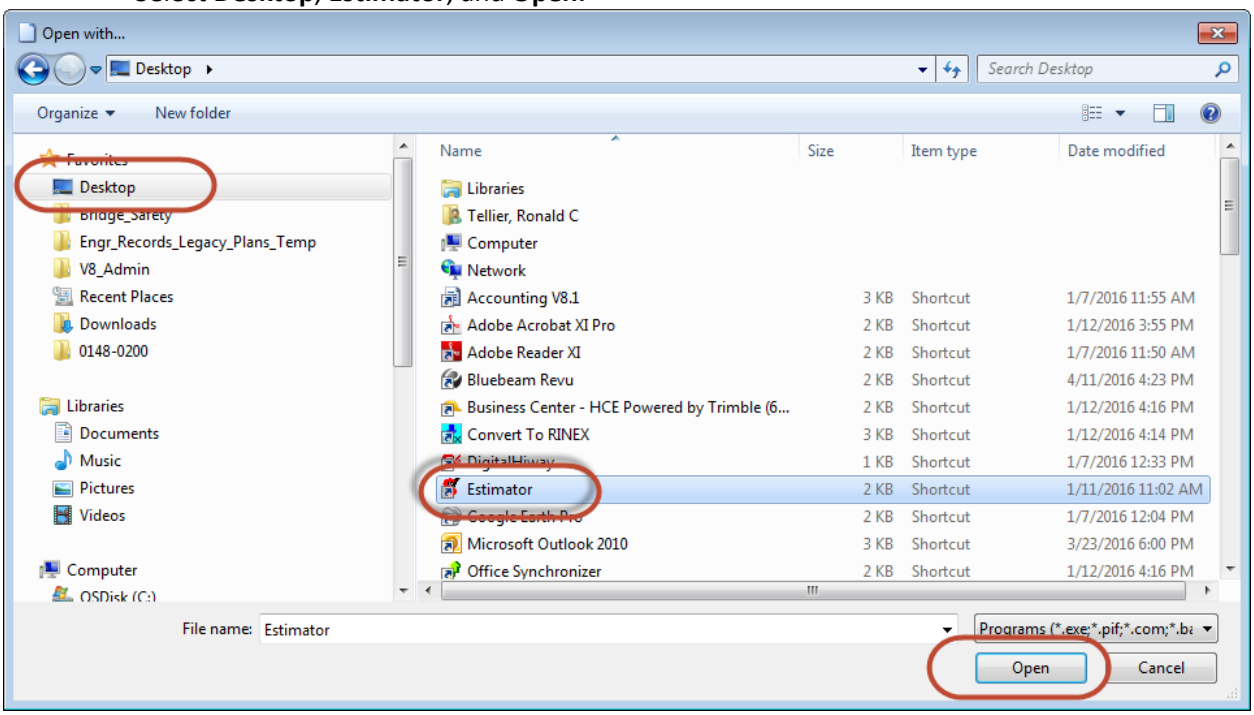


Figure 120. Browse

Select **Desktop**, **Estimator**, and **Open:**



Appendix D. Locating Midpoint Latitude and Longitude

The correct geographical location of a project is needed in Estimator so prices can be calculated correctly (this is one of the fields used by the bid history). To locate the midpoint of a project:

1. Open Google Earth: Select Programs from the Start menu and choose Google Earth. Choose Google Earth again, or use the desktop shortcut

Figure 121. Google Earth

2. In the search box type a known address or intersection that is within the project limits and select Search. This should bring you to a close proximity of the project.

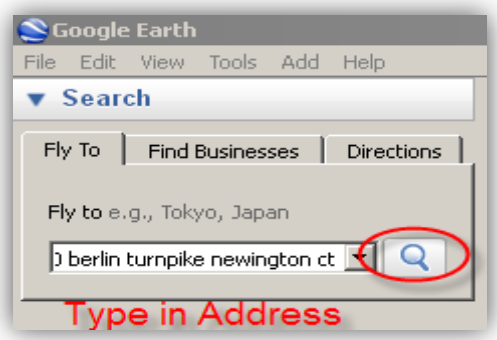


Figure 122. Google Earth Search

3. Add a place mark by selecting the Add Placemark icon.

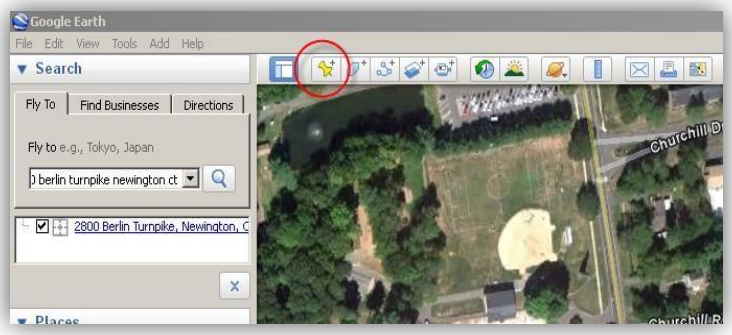


Figure 123. Add Placemark Icon

4. Center the place mark within the project limits. In the New Placemark window, note the Latitude and Longitude of the midpoint of the project.

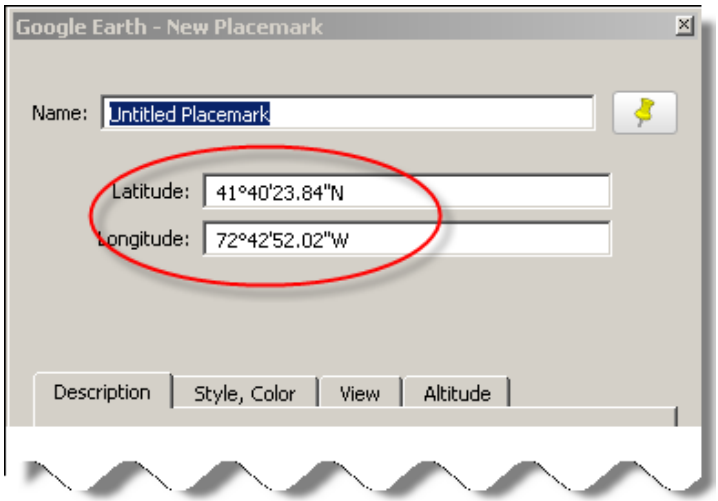


Figure 124. Latitude and Longitude of Project

5. In the Longitude and Latitude field in the project header in Estimator, enter the information in a DDMMSS format, rounding to the nearest second. In the above example, the location would be entered as:

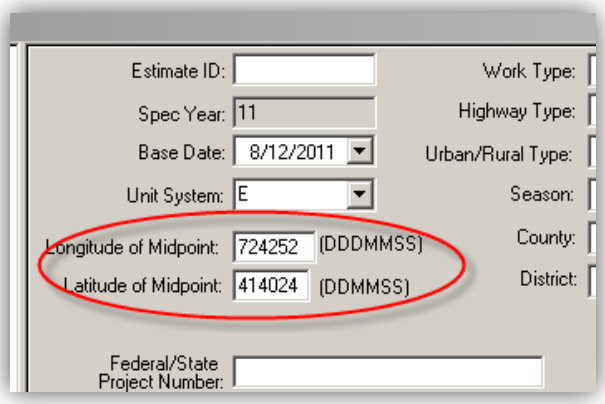


Figure 125. Estimator Latitude and Longitude Fields

It should be noted that for all locations in Connecticut the degrees will be between:

41°-42°N and 71°-73°W

For Connecticut longitude will be from a maximum value of **73°** and a minimum value of **72°** in (DDDMMSS format). Latitude will be from a maximum value of **42°** and a minimum value of **40°** in (DDMMSS format).

Appendix E. Revisions

DATE	REVISION	Page No.
04/19/2016	Clarified instructions for importing estimates from Excel	37
04/19/2016	Appendix C.8 Added	150