Roadway Design

PES Transport

October 2008

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Introduction

The North Carolina Department of Transportation (NCDOT) has selected the American Association of State Highway and Transportation Officials (AASHTO) Transportation Software Management Solution (Trns•port) to manage their highway proposal activities. NCDOT Trns•port is a client/server-based application with several levels of security. Access to different screens in a module is based on the user ID and password. For this reason, a user will only have access to their part of the project.

Trns•port is comprised of four modules. Below is a description of each module.

Trns•port Module	Description
Proposal and Estimates System (PES)	This module is used to produce estimates and prepare proposals for prospective bidders.
Letting and Awards System (LAS)	This module is used to process and advertise proposals, process bid information and make award decisions.
Bid Analysis Management System/Decision Support System (BAMS/DSS)	This module contains a historical database and analysis models designed to provide decision support in bid monitoring and evaluation.
Expedite	This module allows bidders to submit line item bids in a secure, machine-readable form.

The NCDOT Specifications, Proposals, Estimates and Contracts System (SPECS) includes two other applications: SAPW (Stand Alone Project Worksheet) and an Order Processing System. These applications are used to enable consulting engineers to add pay items and quantities to a project and allow vendors to order plans.

Tech Support

If you need assistance with any of the SPECS applications contact the Help Desk at (919) 861-3840.

About This Guide

The Quantity Estimator's Guide is designed to serve as a supplemental textbook during training and as a reference guide after training. This guide gives instructions on how to use the SPECS application. It is divided into six sections.

Chapter	General Description
Introduction	Introduces the Guide and business rules.
Getting Started	Explains Trns•port basic functions.
Entering Project Information	Explains the process for entering pay items and quantities.
Reports	Explains how to generate reports.
Transferring Projects	Explains how to transfer project to Final Estimator.
Appendices	Contains the Glossary and Supp. Description chart.

Business Rules

Unit	New Process
Design Squads Roadway, Utilities	Can use D&C output to import items & quantities in Trns*port. Once complete, turn in plans to Plan Checking.
Consultant Designers	Enter items & quantities into SAPW. Deliver file with plans to NCDOT.
Contract Times Officer	Enter contract times information into Trns•port.
Contracts Office Bidding Contractors	Bid Files and Expedite bidding software will be available via the web.
All Engineering Units BAMS/DSS	Pay Item List maintained in Trns•port. It will include generic items.
All Units	Assigning Contract Numbers will be done with the 12 Month Let List. This means that they will be included on all reports (including pre-letting). It also means that the contracts in a letting will not have all contract numbers in sequence (due to proposals being moved between lettings).

Unit	New Process
Contracts Office Design Squads	Letting Administrator will set up projects and categories from the Tentative Letting Schedule, and will email Design Engineers to receive project and category information when it is available. This will occur earlier in the process. Utilities and Structures will set up their own categories.
All Units	Design Engineers who estimate items and quantities for a project will be responsible for entering this information into Trns•port.
Roadway Plan Checking	Proposal Setup will be done later in the process (when Plan Checking requests it). Until the proposal is set up, Roadway may run a report combining items from all desired projects.
All Users	Each user will have the ability to run his own reports.
All Units except Structures & Utilities	Final Estimators in the Contracts Office will enter all cost estimation. Of course, final estimators will seek assistance from engineering units for specialized items.
Final Estimation	Final Estimators will enter their cost estimates into Trns•port and will have the ability to run all required reports: DBE, %Run, Engineers Estimate, Federal Aid Report.

Setting Up Projects

The Letting Administrator is responsible for setting up projects for each engineering unit. The projects will have the following naming conventions CXXXXXX-XX. Numbers before the dash indicate the contract number. The letters after the dash (suffix) identify the engineering unit. For example, **C200804** is the Contract number for project C200804-RW. The **RW** suffix represents the Roadway Design unit. Below is a list of engineering units and their suffixes.

Suffix	Engineering Unit
SI	Signing
TC	Traffic Control, Marking & Delineation
EC	Soil & Water Engineering
ST	Structure Design Unit
PL	Vegetation Management
RW	Roadway Design Unit
SG	Signals & Geometrics

Suffix	Engineering Unit
UT	Project Services - Utilities
RA	Rest Area
LI	Project Services - Lighting
FE	Ferry Division

The Letting Administrator will:

1. Notify engineering units if additional information is need to set up projects.
2. Create a base project.
3. Make copies of the base project adding the appropriate suffixes.
4. Transfer the project to quantity estimators.

Quantity Estimators will only have access to projects with their engineering unit's suffix.

Getting Started

Always use capital letters when entering information in Trns•port.

This chapter provides basic information that all users of Trns•port need to know. Quantity estimators will use the PES module. The PES module is used to project cost estimation and prepare proposals for prospective bidders.

Each Trns•port user will be assigned a user ID and password. This will allow them to access projects within their area of responsibility. The first time you enter Trns•port, you will use a generic password. This password should be changed immediately after entering Trns•port. The procedure for changing your password is on the next page.

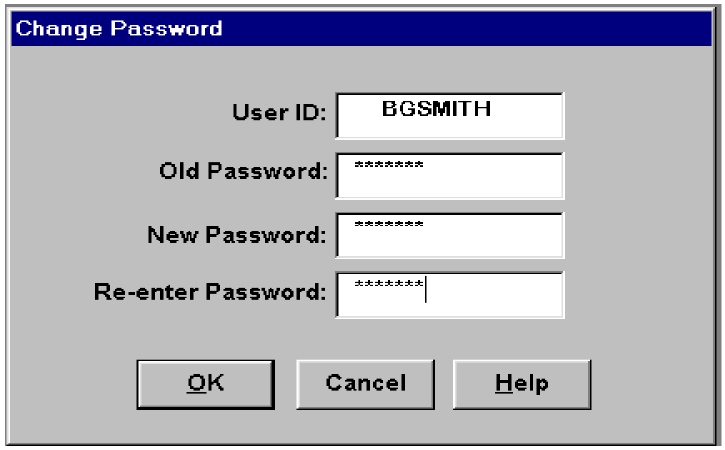
Entering Trns•port

1. Click the Start button 

on the Windows Task Bar.
2. Highlight **Programs**.
3. Highlight **AASHTO Client-Server Trns•port**.
4. Click **PES (Current version 5.9c)**
5. Type your user ID.
6. Then Password.

Changing Your Password

The first time you enter Trns•port you must change the generic password. A password must be between six and thirteen characters. To change your password, follow the steps below.



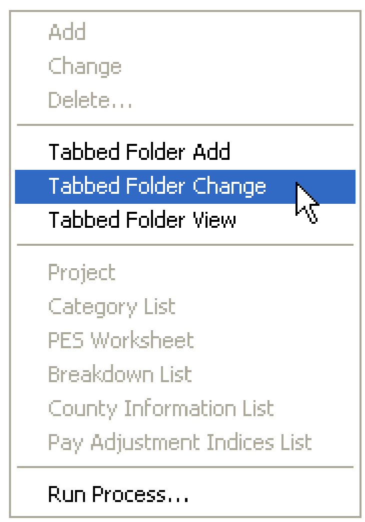
1. Open the **Utilities** menu.
2. Select **Change Password…**
3. Type your old password in the **Old Password** box.
4. Press the **Tab** key.
5. Type your new password in the **New Password** box.
6. Press the **Tab** key.
7. Re-enter your new password in the Re-enter Password box.
8. Click the OK button.

Reminder: *Keep your password confidential.*

HINT***:*** *If you set a Default User ID, you will not need to type your User ID each time you log into Trns*port. To set the Default User ID, click the Utilities menu and select Options. A dialog box will appear. Type your ID into the Default User ID box and click OK*

Opening A Project

Before you can update a project, you must open the project.



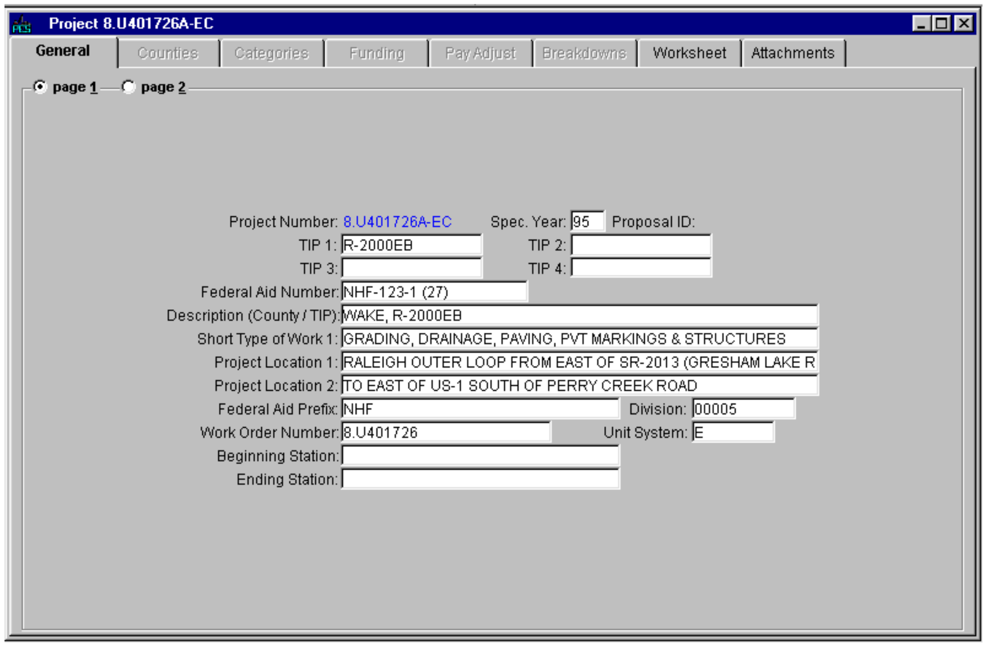
Click the Projects icon  on Trns•port **PES** Button Bar.

Double click on the appropriate Project Number.

OR

Right-click on the appropriate Project Number and select the **Tabbed Folder Change** option.

The PES Tabbed Window will appear. The title of the project you have opened is on the title bar.



Entering Project Information

Pay items are grouped by categories. Quantity Estimators will enter items and quantities needed to complete a project in the appropriate category**.**

Hiding Columns

Before entering pay items on a Worksheet, it is suggested that you hide the columns that you do not use. This action will be specific to your personal computer (PC). Every user should hide the certain columns. **(Please use PES Guide to show only columns needed in Roadway, last page)**

The steps to hide columns are:

1. Open a Project.
2. Click the **Worksheet** tab.
3. Click **Edit** on the menu bar.
4. Select **Hide Columns**.
5. Click the name of the columns you want to hide.
6. Click the **OK** button.

Displaying Hidden Columns

If you want to display hidden columns:

1. Open a Project.
2. Click the **Worksheet** tab.
3. Click **Edit** on the menu bar.

4. Select **Hide** Columns.
5. Click the **Show All** button.

The previously hidden columns will be displayed at the end of the worksheet.

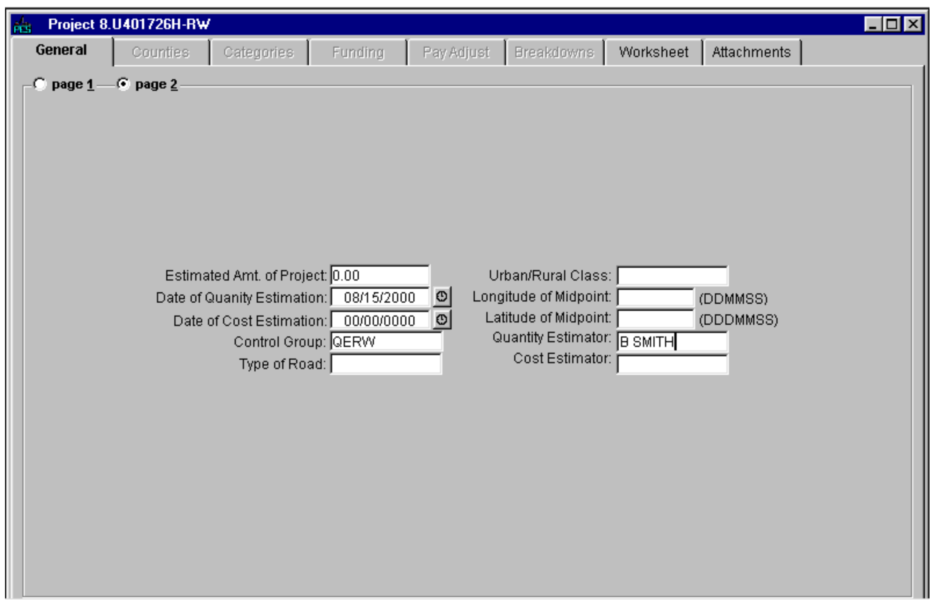
Moving Columns

You can rearrange the Worksheet columns on your workstation. In order to do this, click the column header and drag the column. As you drag the column, a line will appear to the left of the column. When you release the mouse button, the column will appear to the right of the line. A recommended arrangement of columns is shown on your PES Guide sheet:

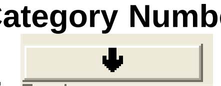
Entering Pay Items

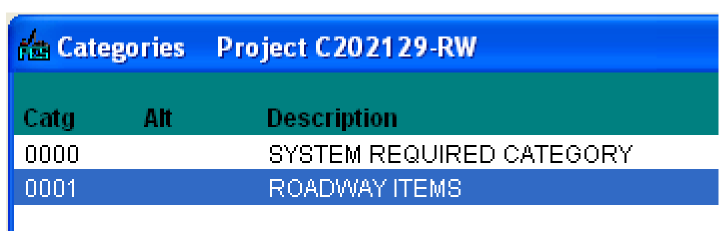
Below are the steps for entering line items and quantities.

1. Click the **Page 2** radio button on the **General** tab.
2. Enter your first initial and last name in the Quantity Estimator box.
3. Enter the current date in the **Date of Quantity Estimation** box.
4. Click on Save.
5. Click **Worksheet** Tab.
6. Right-click on the **Worksheet** window.
7. Select **Add**.



(This adds a row to the **Worksheet** tab.)

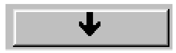
8. Click on the **Category Number** arrow on bottom left. 
9. Select 0001 from the drop-down menu.



10. Click in the **Item Number** box.
11. Enter the item number. (or use arrow on bottom right to select item numbers)

Reminder: *After entering the item number, the system fills in the Units, Description, Combine Flag, State Material Flag, Price Source, Price Lock Flag, and Fixed Price fields (some of these columns might be hidden).*

Another Option for Entering the Item Number

1. Add a row to the **Worksheet** tab.
2. Click the **Item** button  at the bottom of the screen.

Note: *You may filter the items in this window. See page 12 in this guide. You can hold down the **Ctrl** key and select multiple items. This allows you to add more than one item at a time.*

3. Select the item you need to enter.
4. Click the **OK** button.

If you receive the error message **Field 'Item Number' contains an invalid value,** one of two instances have occurred:

1. You have a typo error in your item number entry, correct and retype.
2. The item you have chosen has been deleted due to changes in business rules on payment of items. In this case, inquire about the changes and use the new appropriate pay item.

12. Click in the **Breakdown Item Quantity** field.
13. Enter the quantity needed.

Reminder: *This quantity field displays the whole number and three digits right of the decimal.*

14. If you need to add a supplemental description, click inside the **Supplemental Description** field for the item and enter the supplemental description. (See Appendix B for the proper way to enter the supplemental description.)

You will see a column named "Supplemental Description Required". If the item you are entering has a check mark in this box, you will be required to add a supplemental description for the item. Generic and Skeleton pay items are entered in this manner to fully describe the item and this allows fewer pay items to be maintained in the system. Enter your additional information in the **Supplemental Description** field. The **Supplemental Description** field can contain up to forty (40) characters. If you need to further identify the line item, use the **Supplemental Description Part Two** field. For example, Item number 6680000000-E description is GENERIC PLANTING ITEM (CY). GENERIC PLANTING ITEM (CY) can now be further identified by placing TURKEY LITTER COMPOST in the Supplemental Description field for that item.

15. If you need to add an additional description, click inside the **Supplemental Description Part Two** field for the item and enter the rest of the description.

Editing Line Items

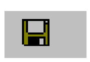
On the **Worksheet** tab, you can edit black text on a white background. Simply click inside the field and type, delete or select the new text. For example, to change the **Breakdown Item Quantity**, click inside the Breakdown Item Quantity field, type the new quantity and tab to the next field. You can not change blue text on a gray background.

Adding Multiple Entries

You are not required to enter all pay items at one time. You may enter a few pay items at a time; but you must always assign Breakdown Ids, Project Item Line Numbers and Breakdown Item Line Numbers to each pay item before saving the project.

1. Click in the first row of the **Breakdown Id** column.
2. Enter **001**. Click the **Breakdown Id** column header.

This selects the column. Click **Edit** on the menu bar.

3. Highlight **Range Fill**. Select **Fill Down**.
4. Click **Edit** on the menu bar. Highlight **Assign Line Numbers**.
5. Select **Breakdown Items**. Click **Edit** on the menu bar.
6. Highlight **Assign Line Numbers**. Select **Project Items**.
7. Click the **Save**  icon.

Inserting Rows on the Worksheet

To insert line items on a worksheet:

1. Sign on to **PES** using your Quantity Estimator ID and password.
2. Click the **Projects** icon.
3. Right-click on the project number for your project.
4. Select **Tabbed Folder Change**.
5. Click the **Worksheet** tab.
6. Right-click on a row.
7. Select **Insert Row** or **Add Row to End**.
8. Follow the instructions for adding an item. (See Page 8.)
9. Sort project items in ascending order by **Item Number**.

Only add one item at a time when inserting rows.

Deleting Rows from the Worksheet

Follow the steps below to delete pay items.

1. Sign on to **PES** using your Quantity Estimator ID and password.
2. Click the **Projects** icon.
3. Right-click on the project number for your project.
4. Select **Tabbed Folder Change**.
5. Click the **Worksheet** tab.
6. Right-click the row you want to delete.
7. Select **Delete**.

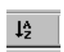
The **Delete Rows** dialog box will appear. Click the **Yes** button.

8. Click the **Save** icon.

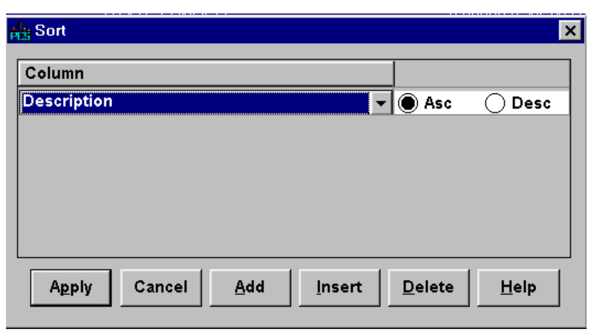
Sorting Data

Information can be sorted in ascending or descending order within a window.

To sort the information:

1. Click the **Sort** button  on the tool bar.
2. Select the column to base your sort on from the **Column** drop-down box.
3. Select the type of sort.

Reminder: *"**Asc**" sorts data in ascending order. "**Desc**" sorts data in descending order.*



4. Click the **Apply** button.

Sort Dialog Box	
APPLY	sorts the rows in the order you specify.
CANCEL	returns to the list window without sorting the list window.

ADD	adds another row to the sort criteria.
INSERT	inserts another row to the sort criteria before the currently selected row.
DELETE	deletes the currently selected row from the sort criteria.

Sorting Information on the Worksheet Tab

Another method of sorting information on the Trns•port **Worksheet** tab is to double-click the header of the column you would like to base your sort on. This will sort the information on the Worksheet based on that header. If you double-click the header again, it will reverse the sort order.

Projects should always be sorted by Item Number in ascending order.

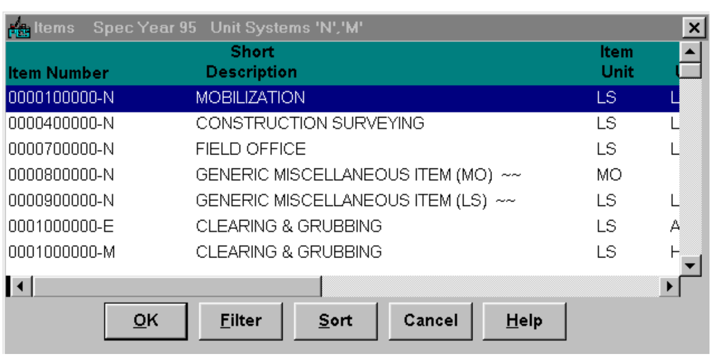
Filtering Data

When you click the **Items** button on the **Worksheet** tab, you will notice that a default filter has been established which lists items for your unit in order by Item Number. If you would like to find a filter based on the Short Description follow the steps below. To return to the Default filter, you must follow the steps in the **Advance Filter** section of this document found on the next page.

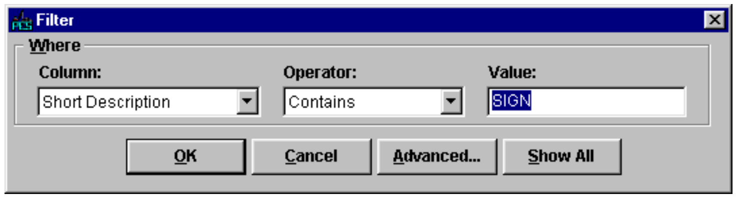
We do not recommend filtering the items on the **Worksheet** tab. Use the **Filter** function when searching for an Item Number. **Do not use the Filter on the Worksheet tab.**

1. Click the **Worksheet** tab.

2. Click the **Items** button  at the bottom of the screen.



3. Click the **Filter** button on the **Items** dialog box.



4. Select **Short Description** from the **Column** drop-down box.
5. Select **Contains** from the **Operator** drop-down box.
6. Type the filter value in the **Value** box.

Reminder: Trns•port is case sensitive. Make sure **CapsLock** is on.

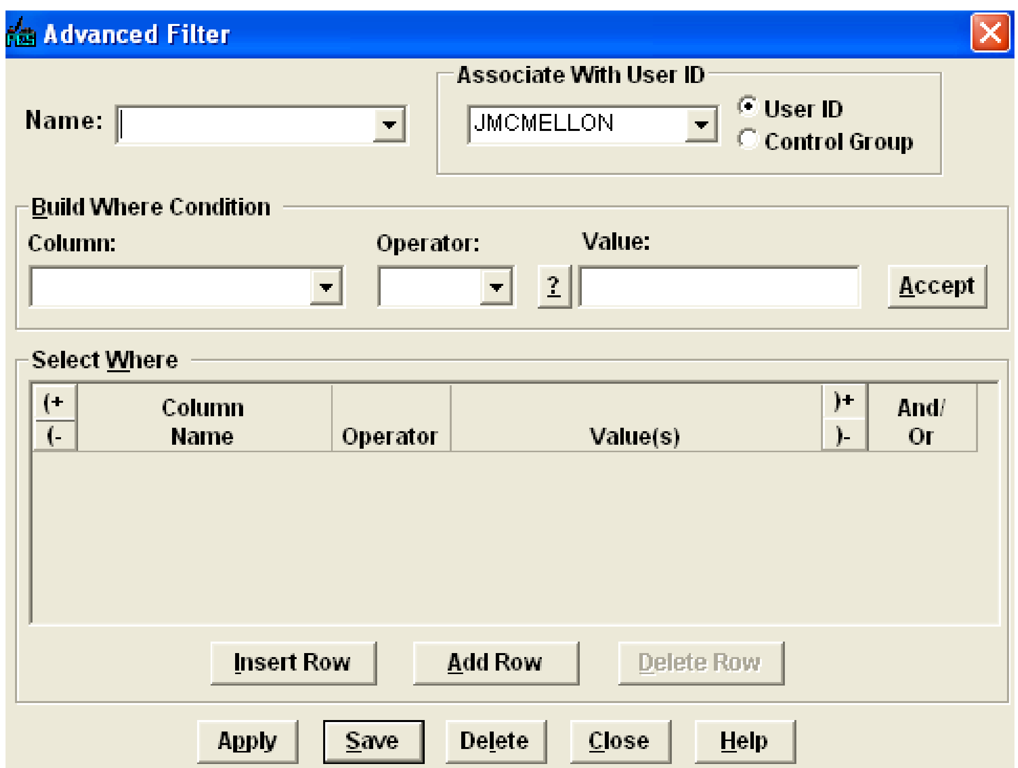
7. Click the **OK** button.

Using the Advanced Filter

You can use the Advanced Filter to create or execute saved filters. To return to the Default filter that show your unit's pay items follow the steps in the **Using Saved Filters** sections**.**

To create a filter you can use again:

1. Click the **Worksheet** tab.
2. Click the **Items** button  at the bottom of the screen.



3. Click the **Filter** button on the **Items** dialog box.
4. Click the **Advance** button on the **Filter** dialog box.
5. Type a name for the filter in the**Name** box.
6. Select the column you want to base your filter on from the **Column** drop-down box.
7. Select the operator you want to base your filter on from the **Operator** drop-down box.

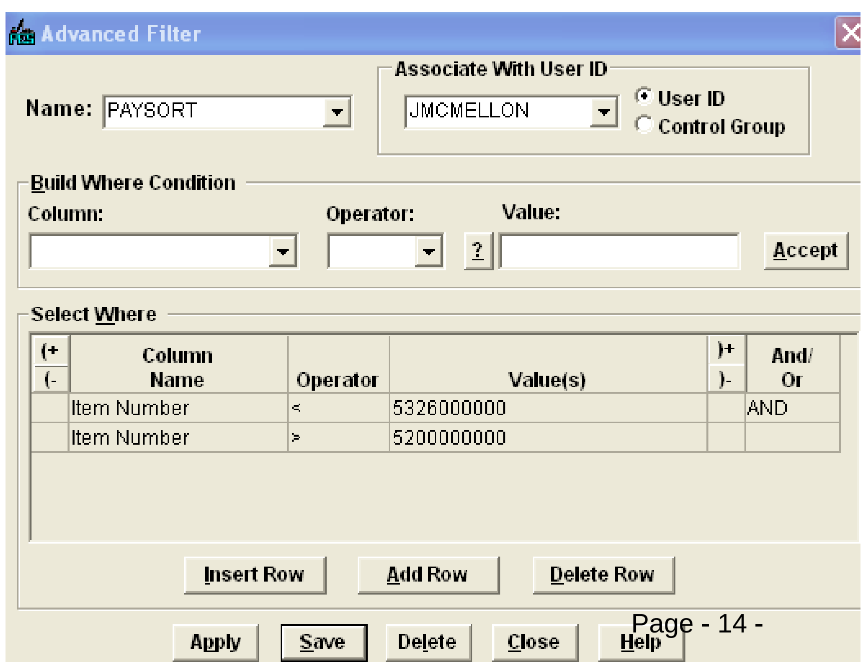
Operator	Description
<	Less than the value.
<=	Less than or equal to the value.
<>	Not equal to the value.
=	Equal to the value.
>	Greater than the value.
>=	Greater than or equal to the value.
Contains	Contains the value.
Does Not Contain	Does not contain the value.
Like	Sounds like.
Not Like	Does not sound like.

8. Type the filter value in the **Value** box.
9. Click the **Accept** button.
10. Click the **Save** button.
11. Click the **Apply** button.

A dialog box will appear asking you if you would like to save changes. Click the **Yes** button to save the filter. Click the **No** button to run the filter one time.

Creating a Filter with Multiple Conditions

1. Click the **Worksheet** tab.
2. Click the **Items** button  at the bottom of the screen.
3. Click the **Filter** button on the **Items** dialog box.
4. Click the **Advance** button on the **Filter** dialog box.
5. Type a name for the filter in the **Name** box.
6. Select the column you want to base your filter on from the **Column** drop-down box.
7. Select the operator you want to base your filter on from the **Operator** drop-down box. (See the Operator Table on page 15.)



8. Type the filter value in the **Value** box.
9. Click the **Accept** button.
10. Select **And** or **Or** from the **Select Where** section **And/Or** column in the **Advanced Filter** window.
11. Click the **Add Row** button.

Another row will appear below the selected row. If you click the **Insert Row** button, a row will appear above the selected row.

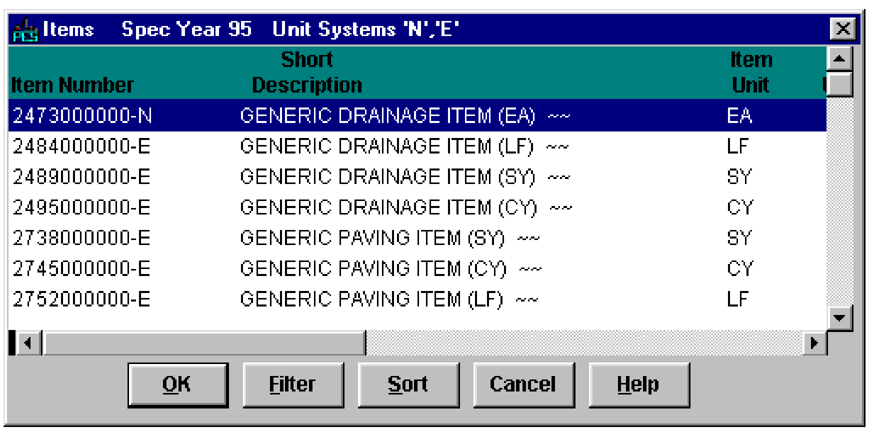
12. Select another column to base your filter on from the **Column** drop-down box.
13. Select another operator to base your filter on from the **Operator** drop-down box.
14. Type another filter value in the **Value** box.
15. Click the **Accept** button.

The second sort criteria will appear in the **Select Where** section of the **Advance Filter** window. If you need to add another filter criteria follow steps 11 through 15.

16. Click the **Apply** button.

A dialog box will appear asking you if you would like to save changes. Click the **Yes** button to save the filter. Click the **No** button to run the filter one time.

The **Items** window will appear with items containing your multiple sort criteria.



Using Saved Filters

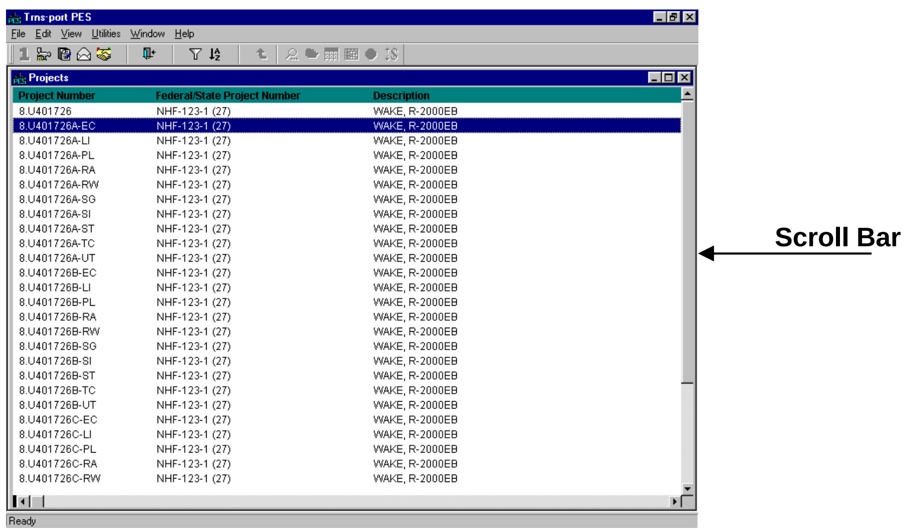
Use these steps to return to your default filter. Also, you can use filters you have saved by following these steps.

1. Click the **Items** button.
2. Click the **Filter** button.
3. Click the **Advanced** button.

4. Select the filter name from the **Name** drop-down box.
5. Click the **Apply** button.

Closing A Project

Select the **Close** command in the **File** menu. If you have saved the project, the project number will appear at the top of the **Projects** window. If you need to view a project number above this project, you must close the **Projects** window and then open the **Projects** window again. All the projects assigned to your unit will be available for you to view. You can use the scroll bar to view all project numbers.



Entering Alternate Items

In certain situations, contractors are given the option of selecting from alternate items. This section covers Alternate Items.

The **Alternate Code** is used to differentiate between groups of alternates and alternates within a group. The first two characters identify the alternate group and the third character identifies the alternate number. For example, to define two Roadway items as alternates for one another, the user would enter "AA1" in the **Alt Code** field for one item. Then enter AA2 in the Alt Code field for the second Roadway alternate item. The fact that both codes begin with "AA" tells Trns•port that a bidder should choose among them.

Item Number Example (Single)	**Roadway Alternate Code Example**
0312000000-E	AA1
0315000000-E	AA2

Item Number Example (Group)	Roadway Alternate Code Example
0315000000-E 0316000000-E	AB1 AB1
0376000000-E 0377000000-E	AB2 AB2

To code an item as an alternate, follow the coding conventions below.

Engineering Unit	Alternate Items Assigned Codes
Roadway	AA1 through AZ9
Signing	BA1 through BZ9
Traffic Control, Marking & Delineation	CA1 through CZ9
Utilities & Lighting	DA1 through DZ9
Soil & Water Engineering	EA1 through EZ9
Vegetation Management	FA1 through FZ9
Rest Area	GA1 through GZ9
Signals	HA1 through HZ9
Structures	IA1 through IZ9
Ferries	JA1 through JZ9

1. Enter Pay Item information.
2. Enter an alternate code in the **Alt Code** field.

Reports

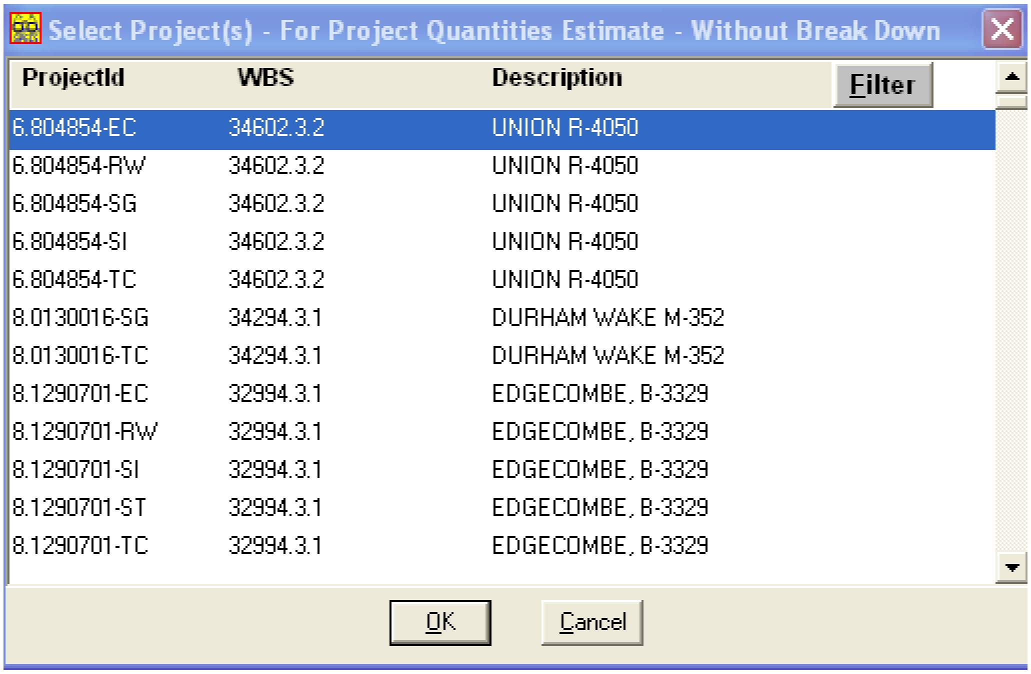
Quantity Estimators will run two reports – the **Project Quantities Estimate Report with Break Down** and the **Project Quantities Estimate Report without Break Down**. The **Project Quantities Estimate Report with and without Breakdown** and related engineering plans are submitted to the engineering units for review and compilation.

To produce the Project Quantities Estimate Report with Break Down

1. Sign on to **PES** using your Quantity Estimator ID and password.
2. Click the Project's icon.
3. Right-click on the project number for your project.
4. Select **Tabbed Folder Change**.

5. Click the **Attachments** tab
6. Double-click on the report that has "**Project Quantities Estimate Report with Break Down**" in the **Description** field.

The **Select Project(s)** window will display.



7. Select project number.

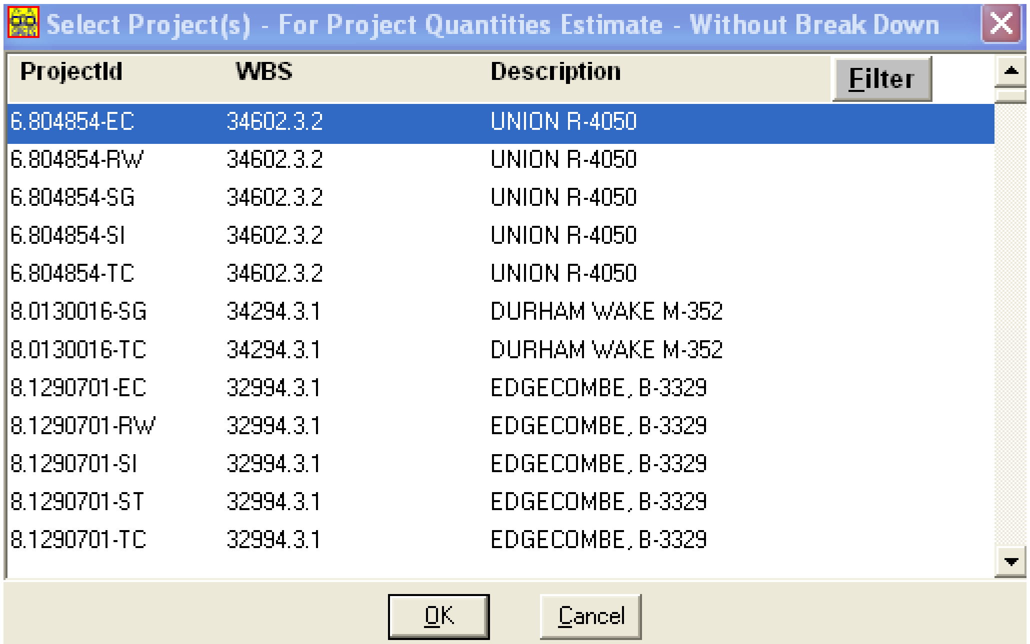
This option generates one report with combined totals and individual breakouts of all selected projects.

8. Click the **OK** button.
9. Click the **Print** icon to print the document **(Use a post script print queue).**
10. Save the report if necessary.

To produce the Project Quantities Estimate Report without Break Down

1. Sign on to **PES** using your Quantity Estimator user's ID and password.
2. Click the **Projects** icon.
3. Right-click on the project number for your project.
4. Select **Tabbed Folder Change**.
5. Click the **Attachments** tab
6. Double-click on the report that has "**Project Quantities Estimate Report without Break Down**" in the **Description** field.

The **Select Project(s)** window will display.



7. Select project number.

Reminder: *You can select more than one project number in the* ***Select Project(s)*** *window and generate one report of totals for all selected projects.*

8. Click the **OK** button.
9. Click the **Print** icon to print the document.
10. Save the report if necessary.

Saving a Report

After creating a report, you can save the report by:

1. Clicking **File** on the menu bar.
2. Select the **SAVE AS** command.
3. Navigate to the folder where you saved your report.
4. Type the name of the file in the **File name** box.
5. Click **OK**.

Opening a Saved Report

To open a saved report:

1. Open a Project.
2. Click the **Attachments** tab.
3. Double-click the **To View Saved Reports** row.

4. Navigate to where the report was saved.
5. Select the report.
6. Click the **Open** button.

Transferring Projects

After you have entered all pay items for a project, you must reassign the project. You will transfer control of your projects to the Final Estimator.

To reassign a project:

1. Sign on to **PES** using your Quantity Estimator ID and password.
2. Click the Project's icon.
3. Right-click on the project number for your project.
4. Select **Tabbed Folder Change**.
5. Click the **Page 2** option on the **General** tab.
6. Click in the **Control Group** field.
7. Click the down arrow and select the **FEST** control group.
8. Click the **Save** icon.

> After you have changed the control group, saved and closed the project, quantity estimators will not have access to the project.

9. Close the Project.
10. Forward plans and printed estimates from all units to Plan Checking.

Appendix A - GLOSSARY

Alternate Line Items — Multiple line items specified in proposal items sheets, requiring the contractors to make a choice of materials.

Breakdowns — Used in defining the various ways in which project costs may be summarized. This is a category in Trns•port.

Contractor — Any business entity who may receive proposals and plans for projects advertised by the contracts office.

Project Services Project — The specific section of the highway together with all appurtenances and construction to be performed thereon under the contract.

Project Services Proposal — The form provided by the Department of Transportation on which the offer of the bidder to perform the work at designated bid prices is submitted.

Engineer's Estimate — A summary report showing estimated cost for each project in a letting.

Federal Aid Number	An identifier used by Federal Aid Administration to track federal funding associated with a specific project.
Force Account Items	Force account items represent costs of items in a project that will be performed by a third party, such as a railroad contractor. These items are not included in the contract and any associated costs are directly reimbursed to the third party by the state.
Generic Items	Non-standard items that provide flexibility in identifying an item selected by type of work and unit of measure.
Line Items	Pay items associated with a project.
Lump Sum Quantity Items	Pay items that have been classified as lump sum items for bidding in the master pay item list, but for which quantities estimators may specify quantities to assist in the cost estimation process.
Master Pay Item List	A listing of all standard pay items, specifying a description code for each item.
Non-Participating Agency	Any entity excluding NC DOT sharing in the total cost of a project.
Non-Participating Costs	Portion of line item cost assigned to a non-participating agency.
Pay Item	A master pay item is a single, identifiable unit that includes all materials and services necessary to install that item. Synonymous with "contract item".
Quantities Estimate	Estimate listing the number of units of each line item that will be required to complete a project.
Skeleton Items	Master pay items containing place holders allowing users to specify defining characteristics for the item. Asterisks are used as place holders in pay item descriptions on the master pay item list.
Trns•port Project	Represents pay items associated with all a particular engineering group and work order number required for construction.
Trns•port Proposal	The entities presented to potential contractors for bidding. Projects from all engineering groups are combined to form a proposal. This is the final product that will be Let.
Work Order Number	Identifier used by the fiscal section of the Department of Transportation to track funds.

Appendix B - SUPPLEMENTAL DESCRIPTIONS

Below is the format for entering Supplemental Descriptions.

PAY ITEM DESCRIPTION	SUPPLEMENTAL DESCRIPTION EXAMPLE
REINFORCED BRIDGE APPROACH FILL, STATION ************	(327+38.34)
**" PLAIN CONC PIPE CULVERTS	(15")
***MM PLAIN CONC PIPE CULVERTS	(350MM)
" RC PIPE CULVERTS, CLASS **	(15", IV)
****MM RC PIPE CULVERTS, CLASS ***	(350MM, IV)
**" X **" X **" RC PIPE TEES, CLASS III	(12" X 12" X 12")
*** X *** X ***MM RC PIPE TEES CLASS III	(350MM X 350MM X 350MM)
"X **"X **" CS PIPE TEES, ***" THICK	(12" X 12" X 12", 0.064")
*** X *** X ***MM CS PIPE TEES ****MM THICK	(350MM X 350MM X 350MM, 1.63MM)
MILLING ASPHALT PAVEMENT, ***"DEPTH	(1-1/2")
MILLING ASPHALT PAVEMENT, **MMDEPTH	(55MM)
MILLING ASPHALT PAVEMENT, ***"TO ******" DEPTH	(0" TO 1-1/2")
MILLING ASPHALT PAVEMENT, *** TO ***MM DEPTH	(0MM TO 55MM)
FRAME WITH GRATE, DETAIL 840.*****	(840.29)
FRAME WITH GRATE & HOOD, STD 840.03, TYPE **	(E)
**"X **" CONCRETE CURB	(8" X 12")
*** X ***MM CONCRETE CURB	(200MM X 450MM)
GENERIC PAVING ITEM	ULTRATHIN HOT MIX ASPHALT
GUARDRAIL ANCHOR UNITS, TYPE ************	(M-350)
OVERHEAD SIGN ASSEMBLY **	(A)
FOUNDATION CONDITIONING MATERIAL,	(III)

PAY ITEM DESCRIPTION	SUPPLEMENTAL DESCRIPTION EXAMPLE
UTILITIES CLASS ********	
" DI WATER PIPE, CLASS **********	(12", IV)
"X"X**" PERFORATED CS PIPETEE RISER, 0.064"THICK	(18" X 18" X 18")
XX***MM PERFORATED CS PIPE TEE RISER, 1.63MM THICK	(450MM X 450MM X 450MM)
PEDESTRIAN SIGNAL HEAD (**", ** SECTION)	(12", 3)
PEDESTRIAN SIGNAL HEAD (***MM,** SECTION)	(450MM, 3)
PREFORMED INDUCTIVE LOOP (**'X**') WITH *'TAIL SECTION	(6' X 30', 5')
PREFORMED LOOP (***M X ***M) WITH ***M TAIL SECTION	(15M X 7.5M, 12M)
COMMUNICATIONS CABLE (**FIBER)	(3)
REMOVAL OF EXISTING STRUCTURE AT STATION ************	(27+38.234-L-)
FOUNDATION EXCAVATION FOR END BENT ** AT STATION ***********	(2, 27+38.234-L-)

Trnsprt PES Worksheet

- You may use this list to make sure you have all the columns properly filled.
- Always use capital letters when entering information in PES.
- Only columns that need to be displayed and their order.

1. Category Number
2. Breakdown ID
3. Item Number
4. Description
5. Breakdown Item Quantity
6. Units
7. Lump Sum Units
8. Supplemental Description Required
9. Supplemental Description (up to 40 characters)
10. Supplemental Description Part Two (up to 40 characters)
11. Breakdown Item Line Number
12. Project Item Line Number
13. Alt Code

- The user **MUST** always assign Category Numbers (0001) and Breakdown Ids (001). You may highlight column and select “Range Fill Down” from the edit menu if you have filled in the top item with the number.
- Sort in ascending order by Item Number once you have entered all the pay items.
- Then assign Breakdown Item Line Numbers and Project Item Line Numbers with the Trns*port>Edit>Assign Line Numbers options.
- Please refer to PES Manual for information on creating filters for pay items, re-arranging the columns and other neat little tricks.