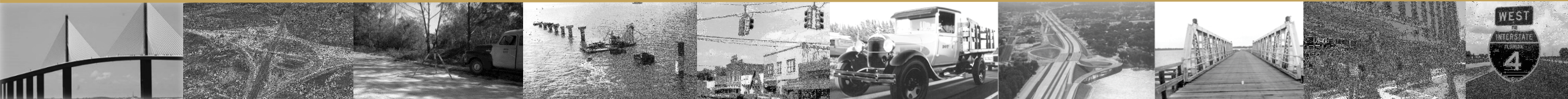




FDOT Quantities From Design to Quantity Manager

*Denise J Broom
Engineering CADD Systems Office*



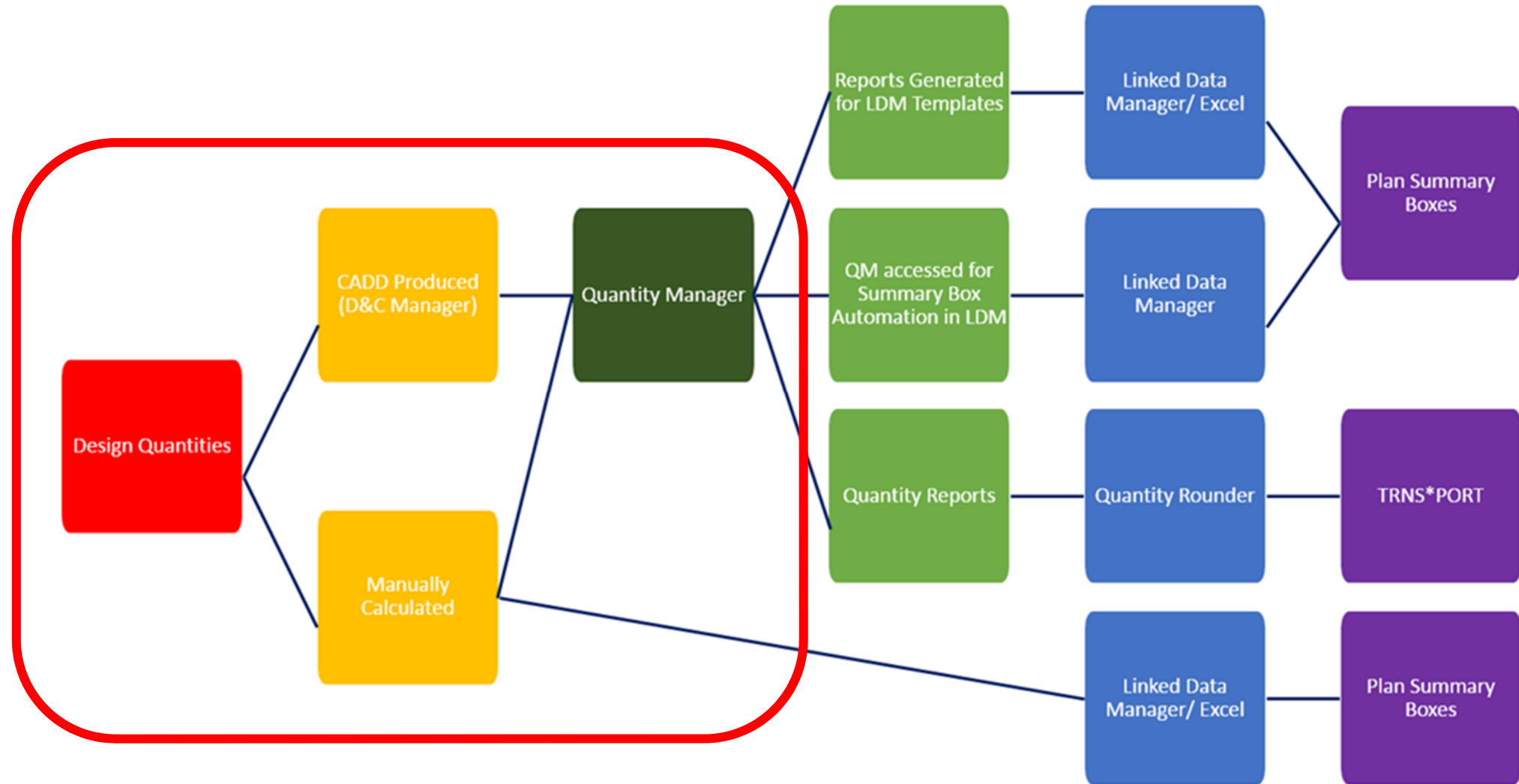
Celebrating 100 Years of Innovation, Mobility and Economic Development

Objectives

- *Cover the workflow for developing and recording/managing quantities for FDOT projects using tools and resources in the FDOTSS4 workspace for MicroStation/GEOPAK or PowerGEOPAK.*
 - *FDOT Standards/Resources*
 - *Calculate Quantities with D&C Manager*
 - *Export to Quantity Manager Database*
 - *Label Areas*
 - *Add Quantities in Quantity Manager*



Quantities Workflow



- Recommended by the ECSO

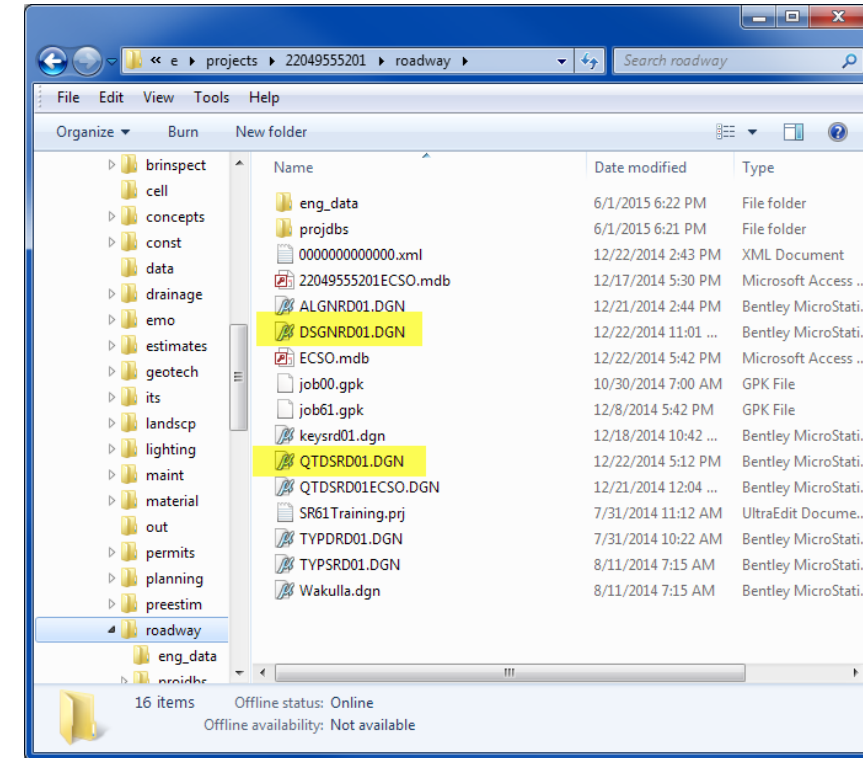
FDOT Standards

- *Basis of Estimates Manual*
 - *Master Pay Item List*
 - *Pay Item Computation Methods*
 - *Chapter 8, Plan Summary Boxes*
- *Plans Preparation Manual*
- *CADD Manual (formerly CPCH)*
 - *D&C Manager*



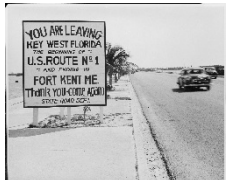
FDOT Standards

- *Files*
 - *DSGN***
 - *Linear and Each items*
 - *QTDSRD***
 - *Area/Tonnage/Cubic Yard items*
- *Quantity Design Files are to be located in the appropriate Discipline directory of the project. This also applies to the Quantity Manager *.mdb file.*
- *Create with the Create File/Project tool to insure correct locations and seed files.*



Linear/Each Features

- *Most linear and each quantity features are included in the plan view and therefore drawn in the DSGN** file.*
- *These elements can be drawn using:*
 - *D&C Manager in the Design mode*
 - *Using Civil Features*
 - *Many of the FDOT Features are set up to use "Native Style". This means that in the background it is using the D&C settings to define the element. With most of the Civil Tools, this will include the adhoc attributes.*
 - *CHECK the adhocs set on the elements*
 - *No ability to modify the default values when placing with Civil Tools. Do they need to be modified?*
 - *Use the 3pc AdHoc Attribute tool to make changes*
 - *Or Set using the D&C Manager*

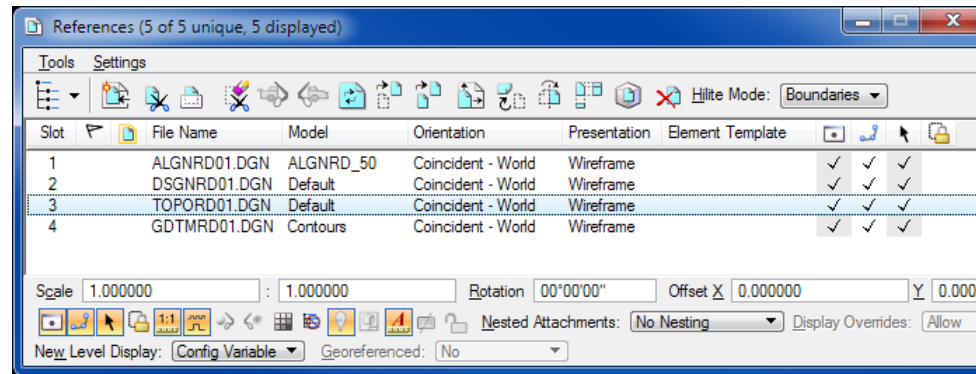


Area Quantities

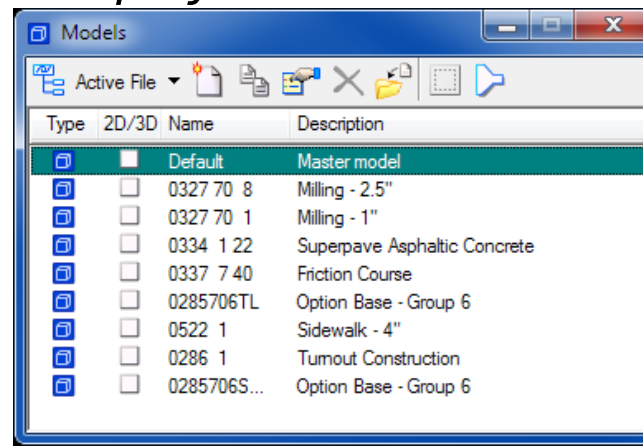
QTDSRD** Set Up

- *Recommend...*

- *Setting up the Default model with all the reference files attached that may be needed for calculations.*

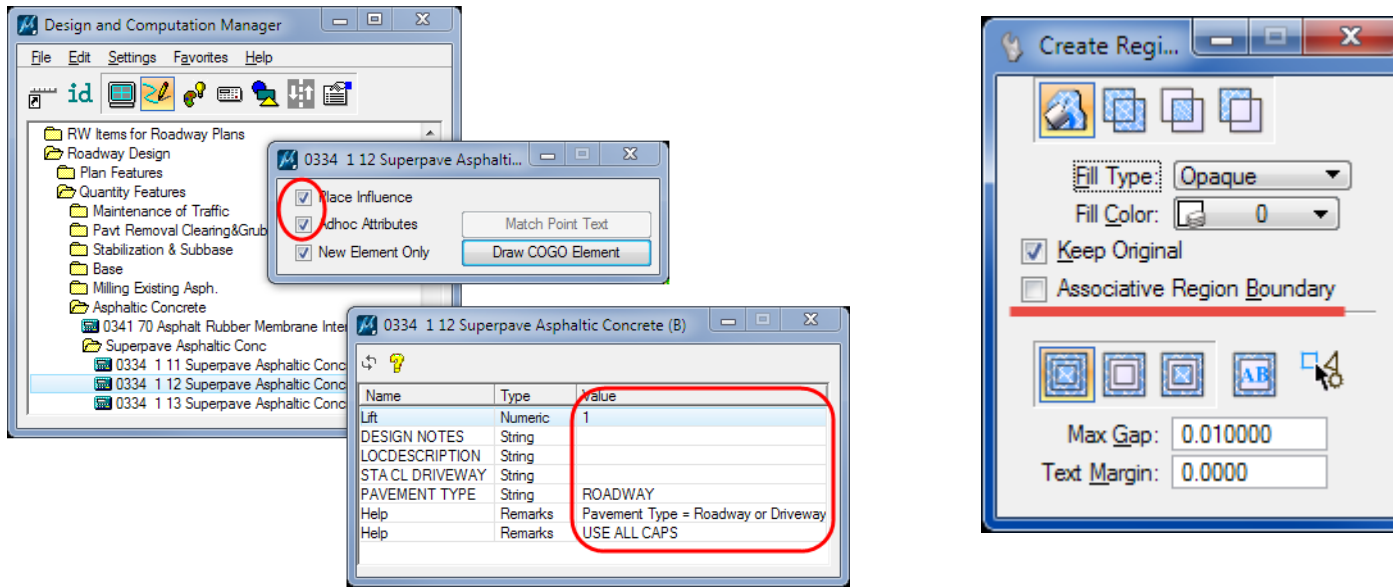


- *Copy the set up Default model to create the models for individual quantities/pay items.*



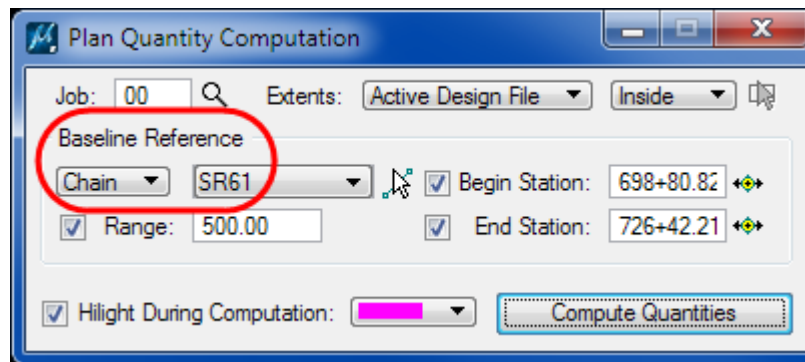
Area Quantities

- Recommend using the Create Region tool to create area shapes with Place Influence from the D&C Manager
 - D&C Manager Shape tool does NOT “play well” with Civil Elements.
 - Make sure to toggle off the setting for Associative Region Boundary. D&C will NOT recognize the shape if you toggle this option on!!!
 - Adjust the Adhoc Values before creating the shapes.



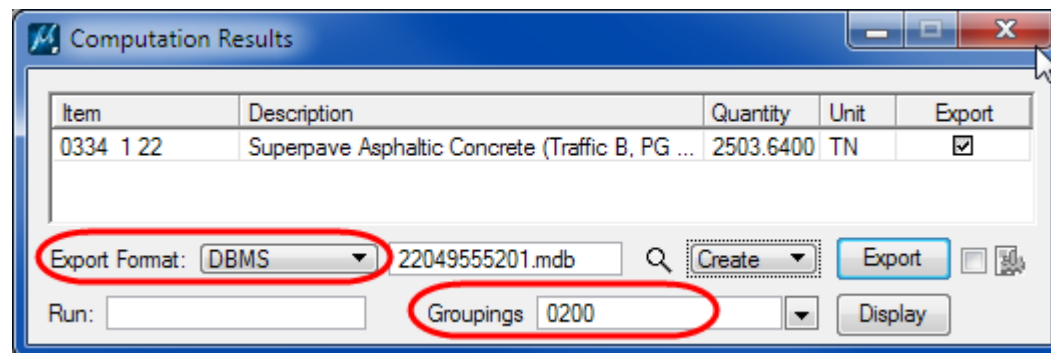
Calculate Quantities

- Use the D&C Manager
- Can calculate by single item, Category or Collection Set
- Make sure to use the option for Chain
 - Automated quantities must have a station associated with the quantity for LDM to include in the summary box.



Export Quantities

- *Computation Results dialog allows the option to Export the quantities in multiple formats*
 - *To export to Quantity Manager the Export Format needs to be set to DBMS*
 - *Make sure to modify the Groupings to the correct Web Trns*port Preconstruction (wT) category. (See BOE Chapter 9)*



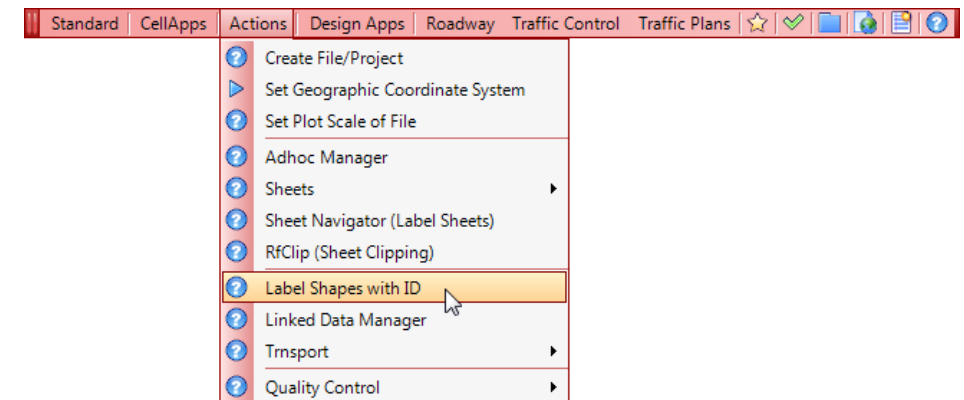
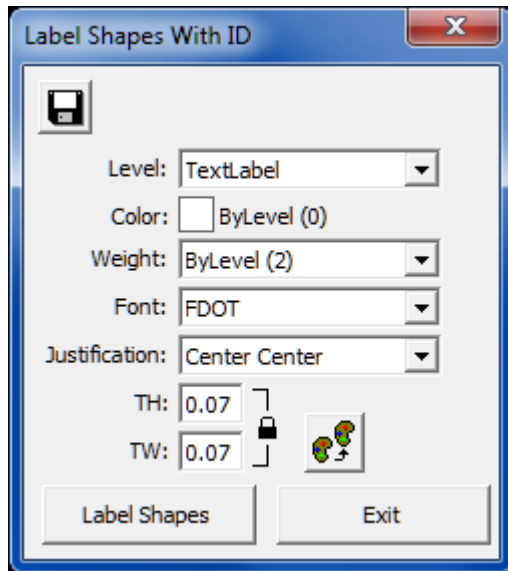
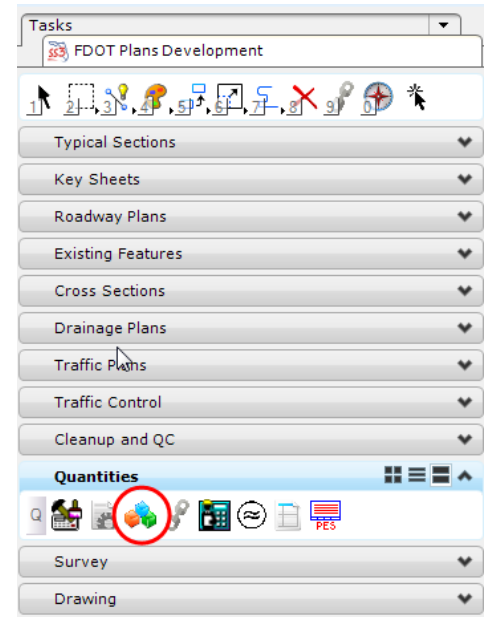
Items are categorized by pay item range:

Item Numbers (Specification Sections)	SUBJECT/GROUP	TRNS*PORT Category / Design Group/ Plans
100-102	MOT	0200 Roadway
103	Temporary Structures	
104	Erosion Drainage Control Environmental	
106-108	Environmental Coordinator Water/Erosion Control Air Quality Decontamination/Hazardous Materials	
109	Field Office	
110-199	"Dirt" Earthwork Roadway Erosion Control Topsoil/Vegetation	
200-299	Base Courses	
300-399 except 346-347	Surface Courses, Concrete Pavement Concrete	0100 Structures or 0200 Roadway
400-499 except 425-449	Structures Drainage Structures	0100 Structures 0200 Roadway
500-515	Incidental Construction- Structures	0100 Structures
516-559	Incidental Construction- Roadway Items	0200 Roadway
560-569	Incidental Construction- Structural Paint	0100 Structures
570-599	Incidental Construction- Turf & Landscaping	0200 Roadway or 0600 Landscaping
600-699	Traffic Control Devices (Signals)	0500 Signals
700-714	Traffic Control	0300 Signing
715	Traffic Control- Lighting	0400 Lighting
720-740	Incidental Construction- Other	0200 Roadway
741-749	Incidental Construction- Traffic Monitoring (TMS)	
750-770	Incidental Construction- Other	
780-789	Intelligent Transportation Systems (ITS)	0550 ITS
800-899	Mass Transit (Railroad)	0900 Mass Transit
1000-1999	Utilities	0100 Structures

NOTE: While pay item ranges are generally grouped by category, some items may be used in multiple categories. Refer to the specific items for details.

Label Area ID's

- *Labeling Area ID's is REQUIRED.*
- *Use the VBA to label these areas*
 - *Found on the FDOT Plans Development > Quantities Task Menu*
 - *OR – on the FDOT Menu under Actions > Label Shapes with ID*

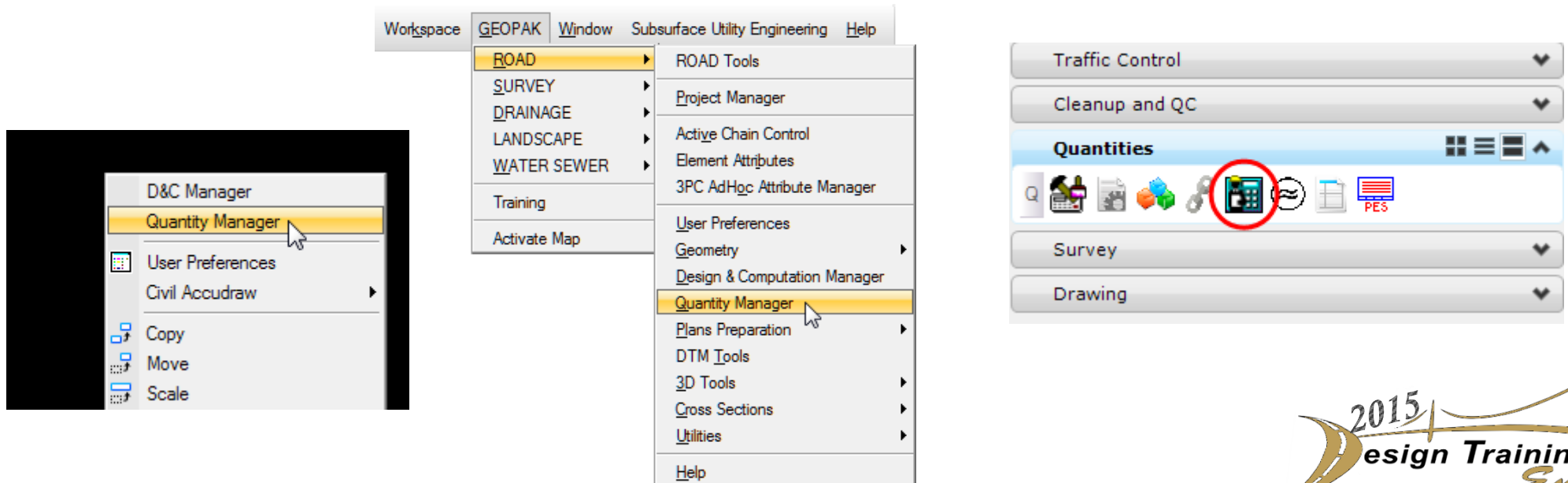


- *Create a selection set & then click Label Shapes.*



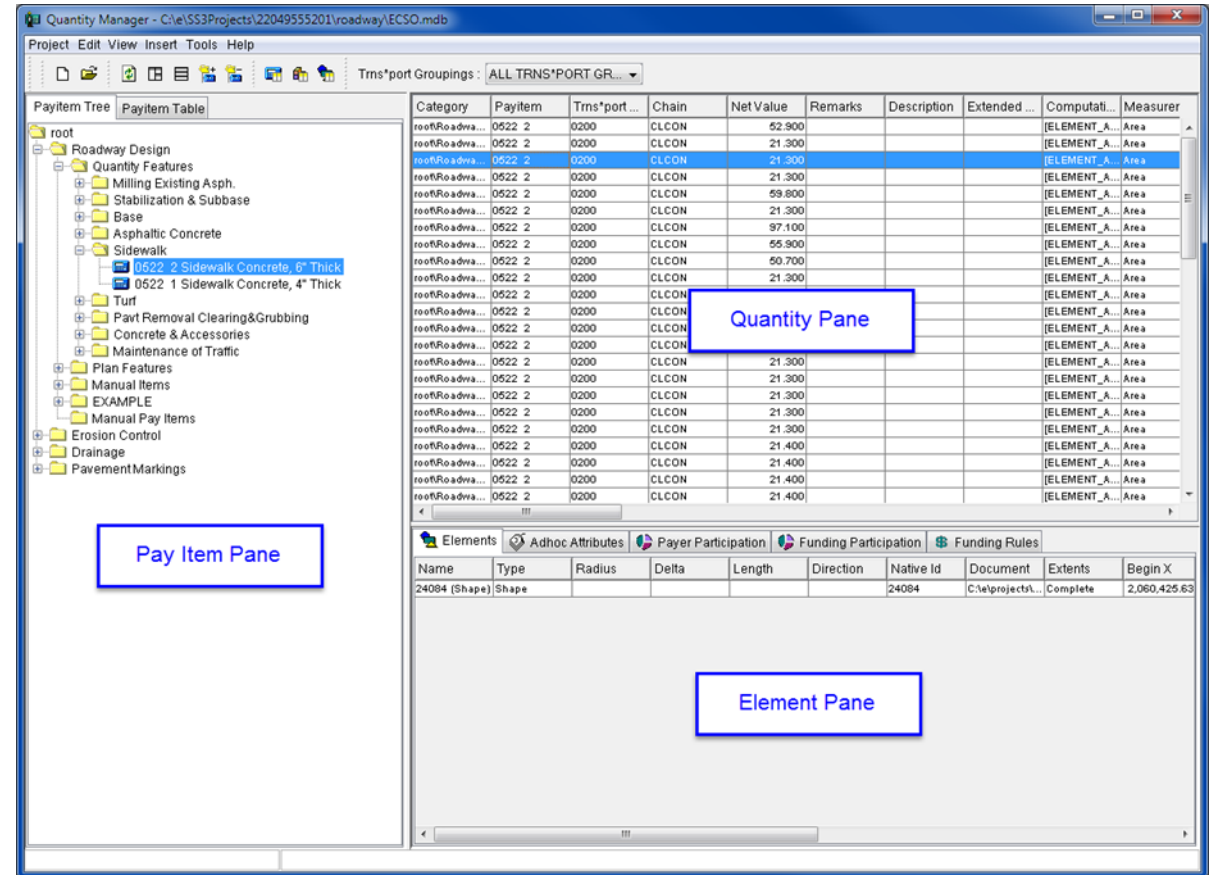
Quantity Manager

- *GEOPAK application used to manage quantities.*
- *Access options:*
 - *Right click in the MicroStation window and select Quantity Manager from the pop up menu*
 - *Select GEOPAK > ROAD > Quantity Manager from the MicroStation menu*
 - *Select the Quantity Manager icon on the FDOT Plans Development > Quantities Task Menu*



Quantity Manager

- Right click on the Quantity or Element Pane headers to change the column options
- Right click in the Pay Item Pane to get context sensitive menu options to add, edit and delete categories, items and quantities



Quantity Manager

- *New Quantity Properties dialog box*

New Quantity Properties - For Payitem: 0327 70 1

General Location Adhoc Attributes

Measurement Basis: Each

Measurement Value: 0.000

Computed Quantity: 0.000

Rounded Quantity: 0.000

Deduction Quantity: 0.000

Net Quantity: 0.000

Boundary Type: None

Boundary Name: Boundary

Run Name:

Trns*port Groupings: 0200 Trns*port Gr...

Date / Time: 2014-12-22 16:45:56 Set Current

Remarks:

Description:

Extended Description:

Create Close

New Quantity Properties - For Payitem: 0327 70 1

General Location Adhoc Attributes

Baseline Chain:

Minimum Station

Station: Region:

Offset:

Maximum Station

Station: Region:

Offset:

VERY IMPORTANT TO
INCLUDE FOR AUTOMATION

Create Close

New Quantity Properties - For Payitem: 0327 70 5

General Location Adhoc Attributes

Name	Type	Value	Source	Dirty
------	------	-------	--------	-------

Create Close





Questions???

Thank-you for joining today's session.

Need some HELP? Contact me...

(850) 414-4751

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OR: ecso.support@dot.state.fl.us

<http://www.dot.state.fl.us/ecso>

FDOT CADD Support Forum On-line

http://communities.bentley.com/communities/user_communities/fdot_cadd_support/default.aspx

