

Automated Quantities in MicroStation for Plan Summary Boxes



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WELCOME

- Please turn off/silence your cell phones.
- Questions???
- Please feel free to ask questions as we go...



Objectives

- To review the workflow for generating and reporting quantities.
 - Learn what the ECSO has developed to assist the designers to automate the calculation of quantities using D&C Manager and Quantity Manager.

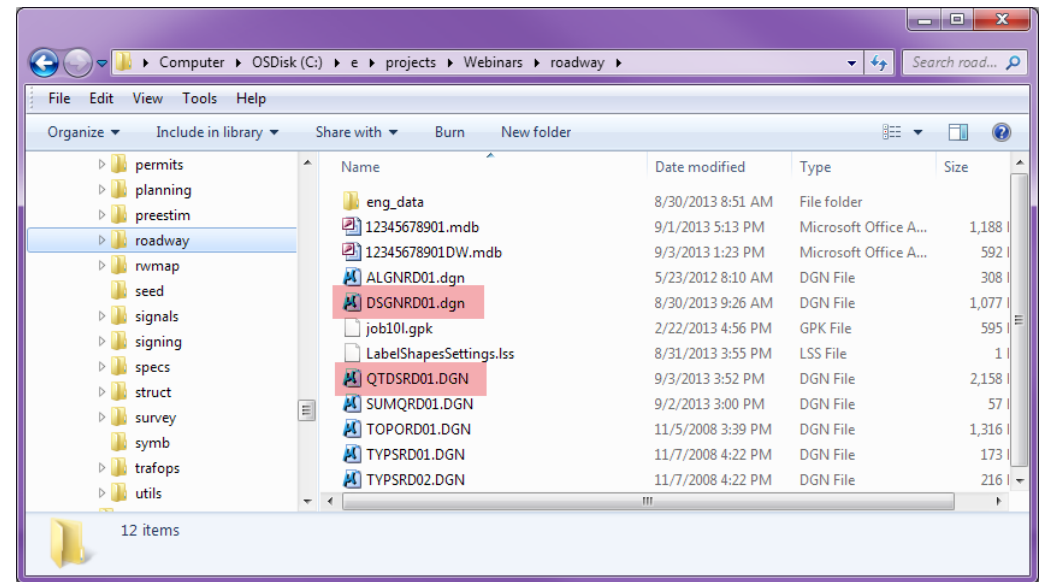
Overview

- Calculate Quantities with D&C Manager
- Export to Quantity Manager Database
- Label Areas
- Add Quantities in Quantity Manager

Standard Files

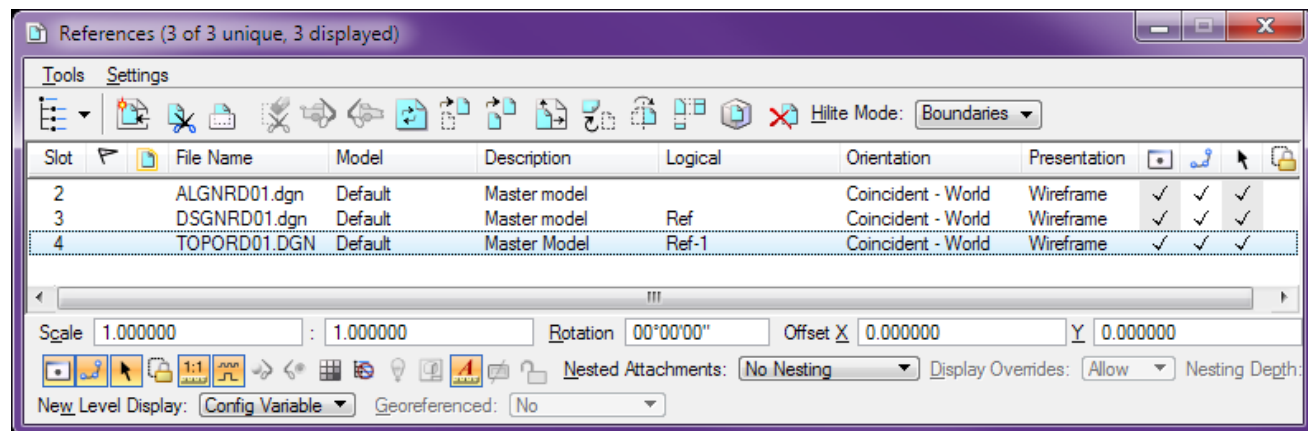
- Files to use...
 - Linear/Each Features
 - DSGN**
 - Area/Tonnage/Cubic Yard Features
 - QTDSRD

*Located in the
discipline
folder*



Standard Files

- QTDSRD File
 - Recommend separate models for each pay item.
 - Set up the default model with needed references & then use to copy as needed.



Calculate Quantities

- Recommend using the D&C Manager where possible
 - AdHocs added for use with automation (SS2 MR1)
 - Pavement Location Description and Design Notes
 - Permanent Crash Cushions
 - CL Station for Driveways

0339 1 Asphalt Pavement Miscellaneous (100lb/sy)

Name	Type	Value
THICKNESS	Numeric	1
DESIGN NOTES	String	
FUNCTION	String	UNDER GUARDRAIL
Help 1	Remarks	Function= Under Guardrail, Bicycle Path,
Help 2	Remarks	Median Pavement, Temporary Sidewalk, or Other

**Adhocs must be on
the elements
BEFORE exporting to
QM**

0544 75 1 Crash Cushion

Name	Type	Value
System CBW	String	
System Guardrail	String	
Design Speed	Numeric	
CRASH TEST LEVEL	String	
HAZARD WIDTH	Numeric	
LENGTH RESTRICTION	Numeric	
DESIGN NOTES	String	
Design Length	String	

0522 2 Sidewalk Concrete, 6" Thick

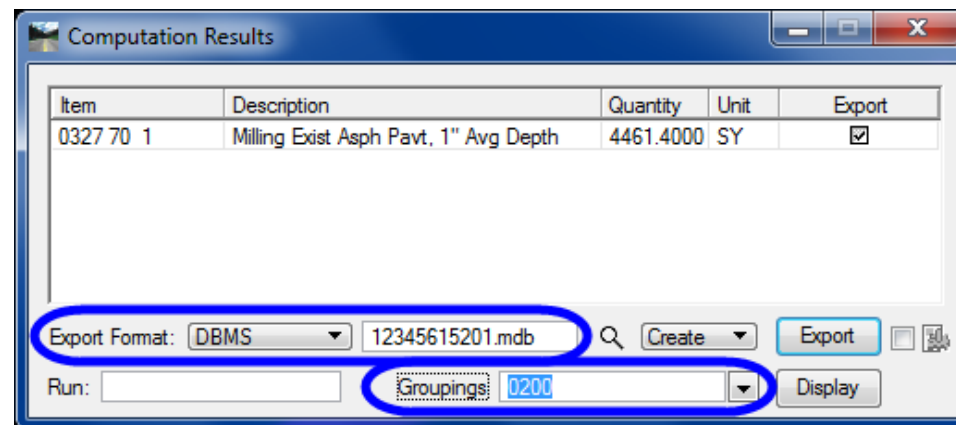
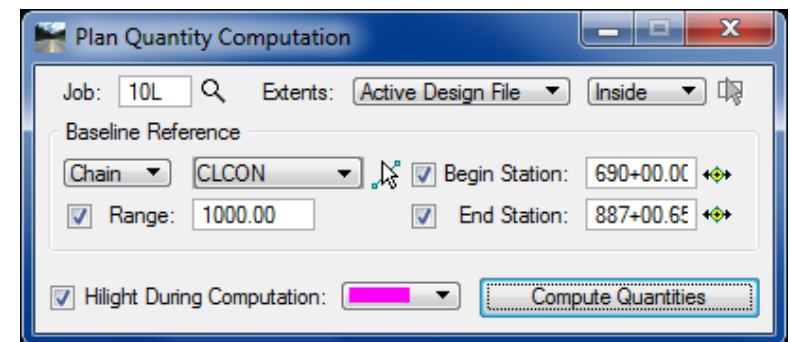
Name	Type	Value
DESIGN NOTES	String	
STA CL DRIVEWAY	String	
SW TYPE	String	SIDEWALK
Help	Remarks	SW Type = Sidewalk or Driveway

0334 1 11 Superpave Asphaltic Concrete (A)

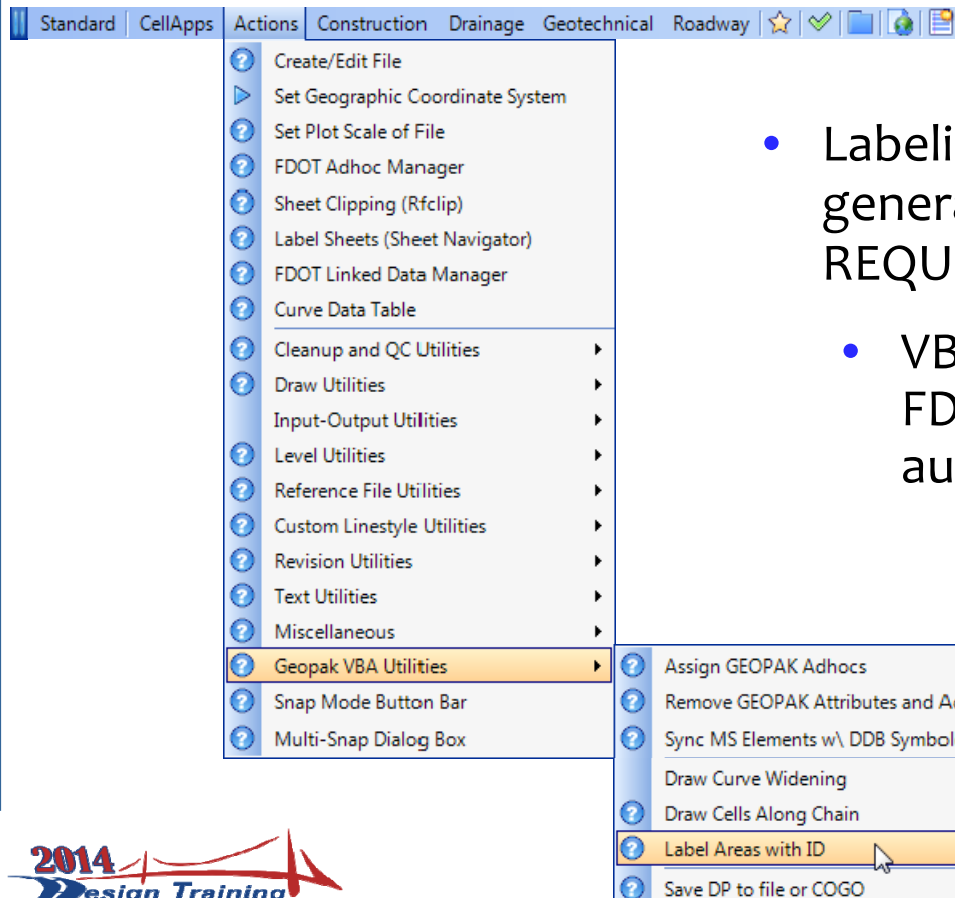
Name	Type	Value
Lift	Numeric	1
DESIGN NOTES	String	
LOCDESCRIPTION	String	
STA CL DRIVEWAY	String	
PAVEMENT TYPE	String	ROADWAY
Help	Remarks	Pavement Type = Roadway or Driveway

Export to Quantity Manager Database

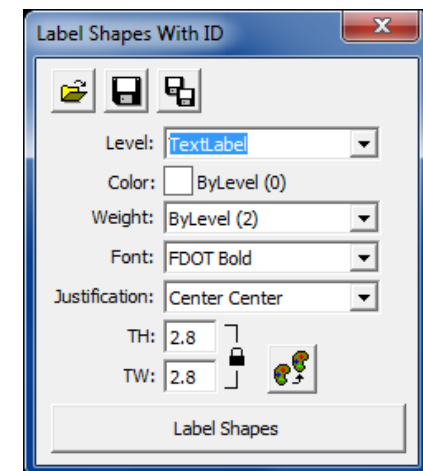
- Recommend using DBMS option to export quantities to Quantity Manager.
 - Generates report to upload quantities to Trns*port.
 - Database will be used for automation.



Label Areas

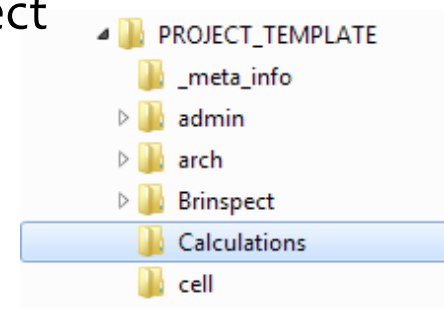


- Labeling the areas used to generate quantities is **REQUIRED**.
- VBA available on the FDOT Menu to automate labels.



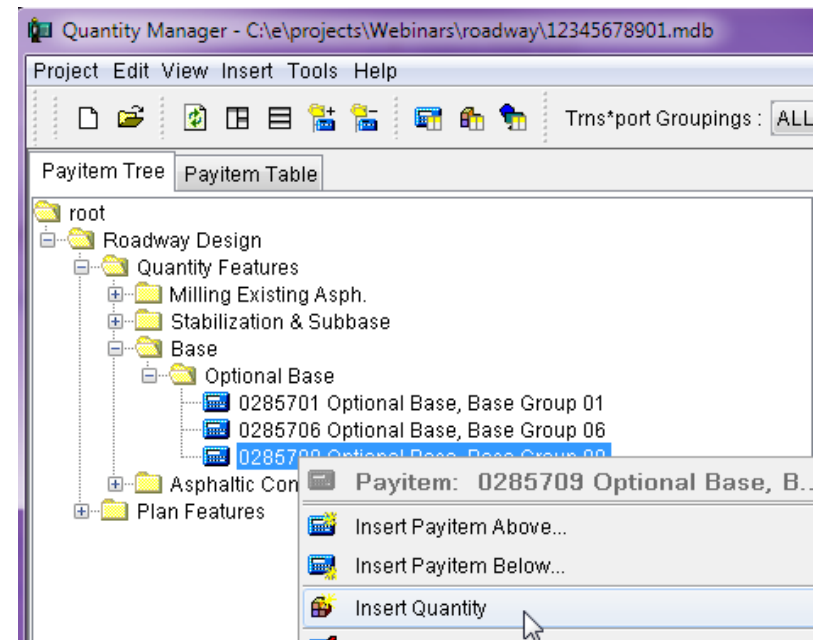
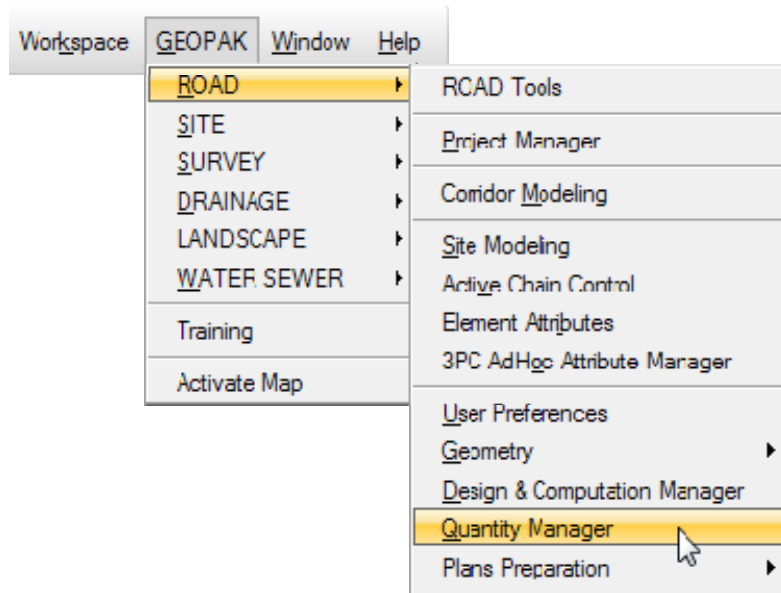
Backup Documentation

- If the information to back up the quantity is in the GEOPAK gpk file, it is **NOT** required to be printed out.
- Formulas can be included in the Summary Boxes in the Design Notes column, if desired.
- Formulas or notes can be stored in the Back Up spreadsheet available in all of the Summary Box Excel files.
- All Excel files or other files (pdf or output from other programs) shall be kept in a folder named “Calculations” under the Project Directory.



Add Quantities in Quantity Manager

- Quantities can be manually added in QM



Add Quantities in Quantity Manager

- Quantities can be manually added in QM
 - General Tab
 - Input Quantity Information

New Quantity Properties - For Payitem: 0285709

General Location Adhoc Attributes

Measurement Basis: Area

Measurement Value: 500.000

Computed Quantity: 500.000

Rounded Quantity: 500.000

Deduction Quantity: 0.000

Net Quantity: 500.000

Boundary Type: None

Boundary Name: Boundary

Run Name:

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

Date / Time: 2013-09-03 18:39:18 Set Current

Remarks:

Description:

Extended Description:

Create Close

Add Quantities in Quantity Manager

- Quantities can be manually added in QM
 - Location Tab
 - Input Baseline and Station Information

The screenshot shows a software window titled "New Quantity Properties - For Payitem: 0285709". It has three tabs: "General", "Location", and "Adhoc Attributes". The "Location" tab is active. It contains the following fields:

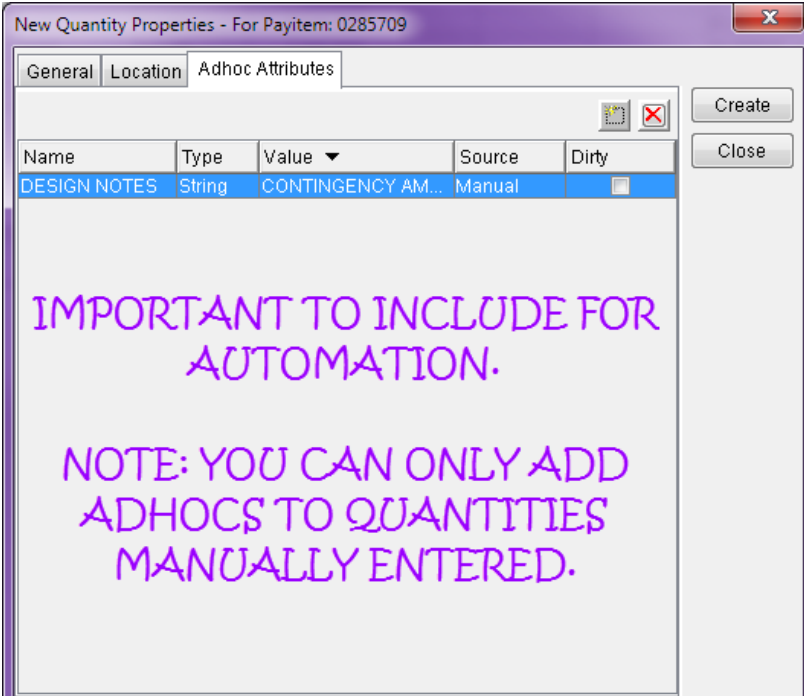
- Baseline Chain:** A dropdown menu showing "CLCON (JOB10L.GPK)".
- Minimum Station:**
 - Station:** A text box containing "690+00.00".
 - Region:** A dropdown menu showing "1".
 - Offset:** An empty text box.
- Maximum Station:**
 - Station:** A text box containing "887+00.65".
 - Region:** A dropdown menu showing "1".
 - Offset:** An empty text box.

On the right side of the dialog, there are two buttons: "Create" and "Close".

VERY IMPORTANT TO
INCLUDE FOR AUTOMATION

Add Quantities in Quantity Manager

- Quantities can be manually added in QM
 - Adhoc Attributes Tab
 - Add adhoc - They must match what's in the D&C for LDM to use during automation.



The screenshot shows a software window titled "New Quantity Properties - For Payitem: 0285709". It has three tabs: "General", "Location", and "Adhoc Attributes", with the last one being active. Below the tabs is a table with the following data:

Name	Type	Value	Source	Dirty
DESIGN NOTES	String	CONTINGENCY AM...	Manual	

Below the table, there is a large text area containing the following purple text:

IMPORTANT TO INCLUDE FOR
AUTOMATION.

NOTE: YOU CAN ONLY ADD
ADHOC'S TO QUANTITIES
MANUALLY ENTERED.

On the right side of the dialog, there are "Create" and "Close" buttons.

Questions???

Thank-you for joining today's session.

Need some HELP? Contact me...

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<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

