

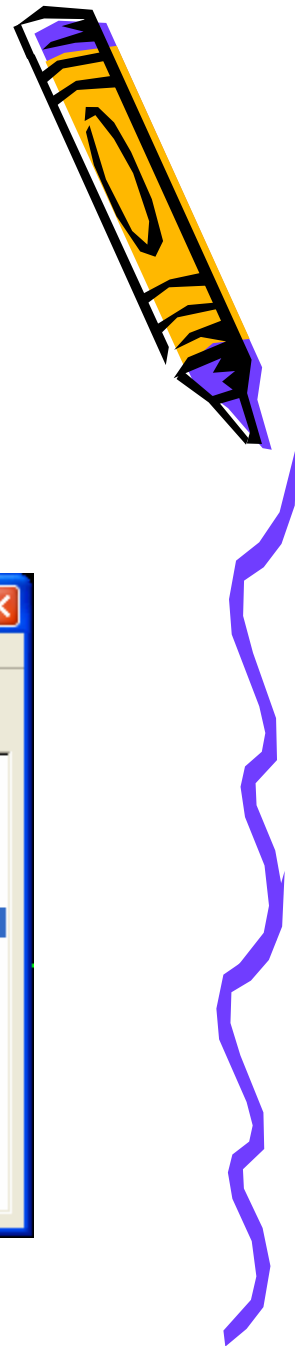
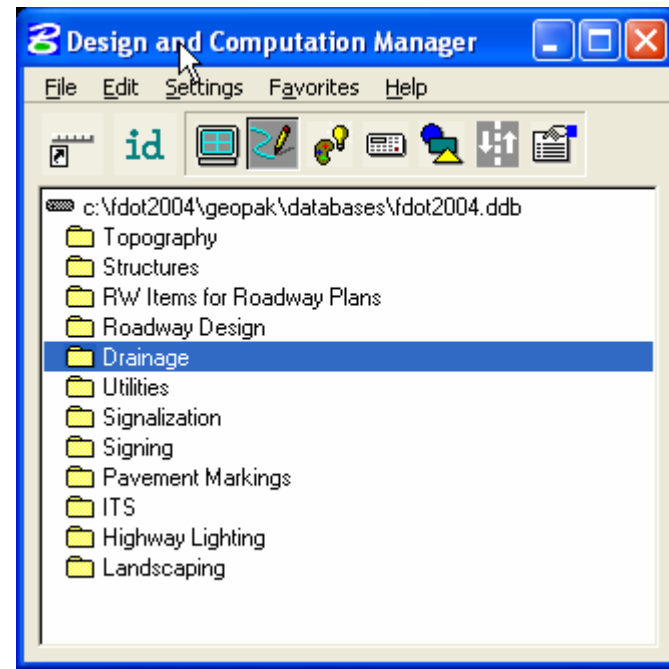
Using the FDOT Design and Computation Manager Database

FLUG - June 2006

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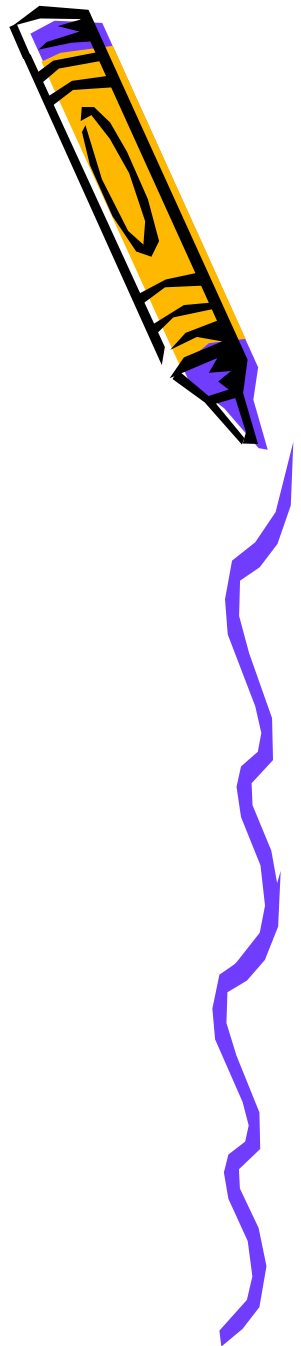
FDOT 2004 D&C Manager

- What's New
- Tools
- Helpful Hints
- Trns*port??



What's New

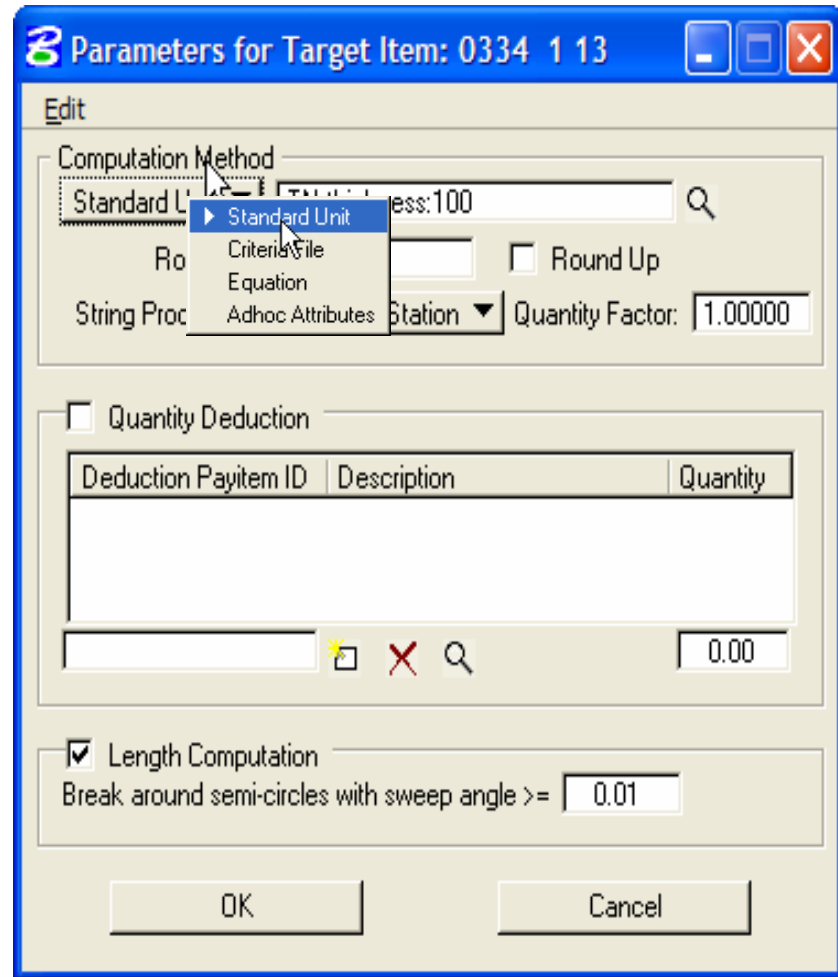
- Look for new pay item structures developed
 - Pavement Markings
 - Performance Dirt and Turf Items
- New structures coming for the 07 spec year



What's New



- Additional Computation Methods
- Units csv file located in the GEOPAK bin directory

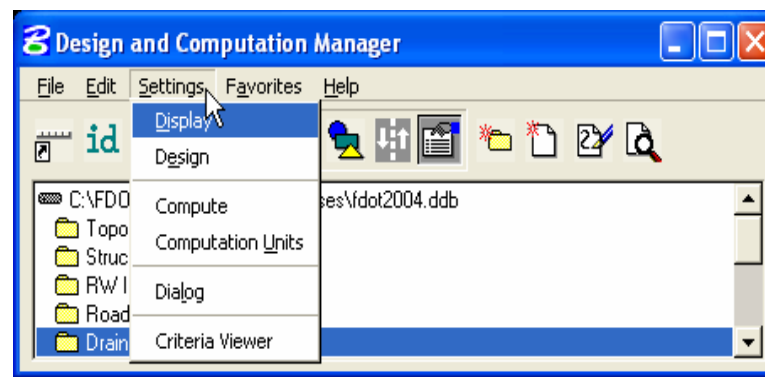
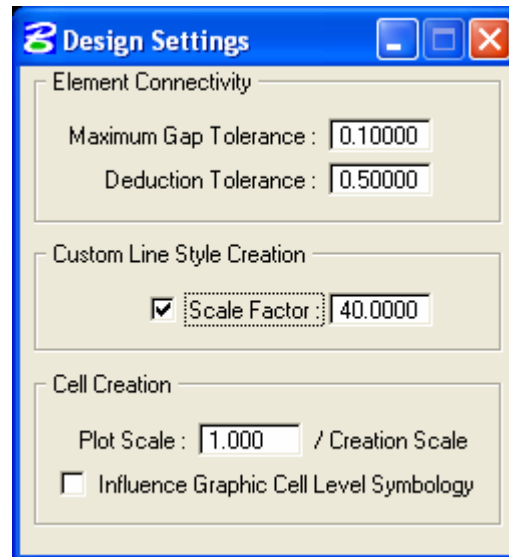


Settings

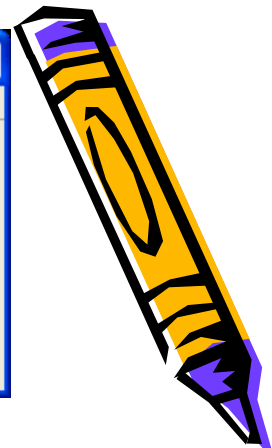
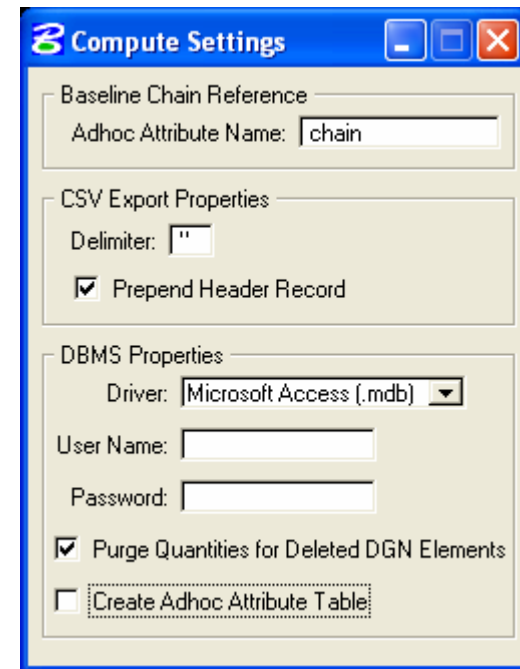
- Display



- Design



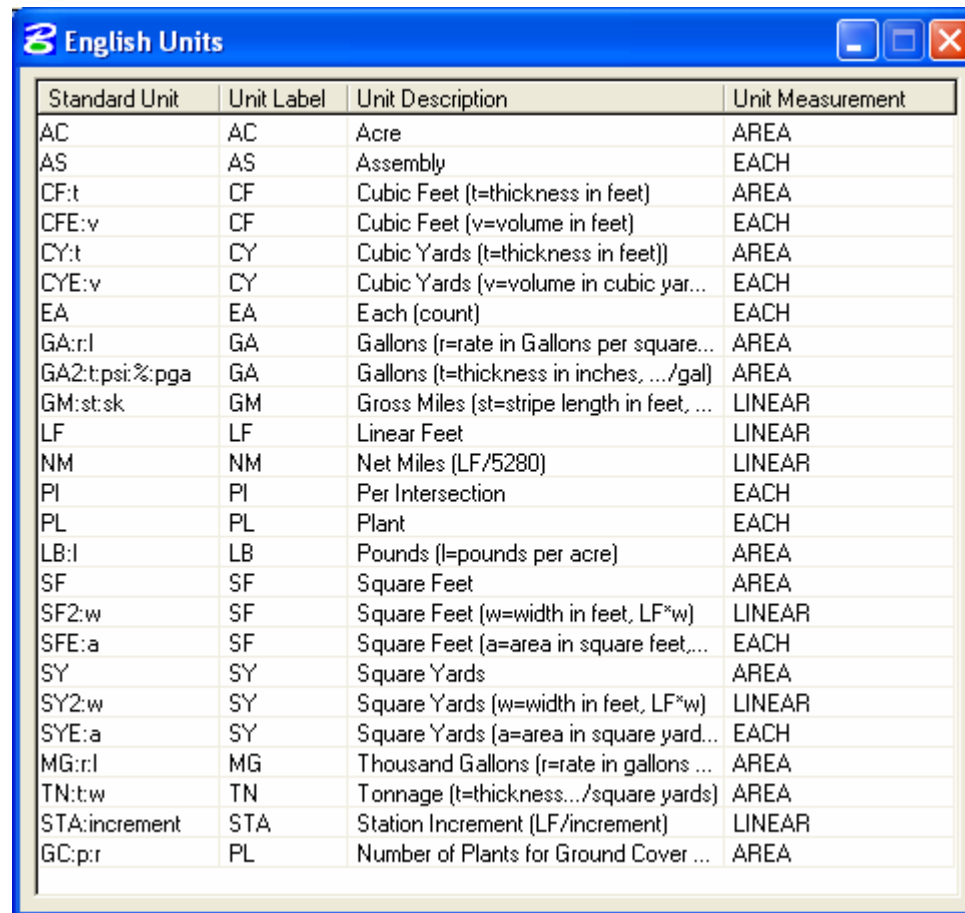
- Compute



Settings



- Computation Units



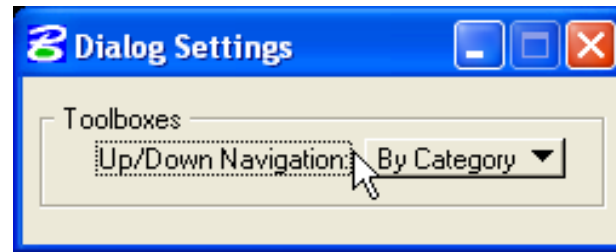
Standard Unit	Unit Label	Unit Description	Unit Measurement
AC	AC	Acre	AREA
AS	AS	Assembly	EACH
CF:t	CF	Cubic Feet (t=thickness in feet)	AREA
CFE:v	CF	Cubic Feet (v=volume in feet)	EACH
CY:t	CY	Cubic Yards (t=thickness in feet)	AREA
CYE:v	CY	Cubic Yards (v=volume in cubic yar...	EACH
EA	EA	Each (count)	EACH
GA:r:l	GA	Gallons (r=rate in Gallons per square...	AREA
GA2:t:psi:‰:pga	GA	Gallons (t=thickness in inches, .../gal)	AREA
GM:st:sk	GM	Gross Miles (st=stripe length in feet, ...	LINEAR
LF	LF	Linear Feet	LINEAR
NM	NM	Net Miles (LF/5280)	LINEAR
PI	PI	Per Intersection	EACH
PL	PL	Plant	EACH
LB:l	LB	Pounds (l=pounds per acre)	AREA
SF	SF	Square Feet	AREA
SF2:w	SF	Square Feet (w=width in feet, LF*w)	LINEAR
SFE:a	SF	Square Feet (a=area in square feet,...	EACH
SY	SY	Square Yards	AREA
SY2:w	SY	Square Yards (w=width in feet, LF*w)	LINEAR
SYE:a	SY	Square Yards (a=area in square yard...	EACH
MG:r:l	MG	Thousand Gallons (r=rate in gallons ...	AREA
TN:t:w	TN	Tonnage (t=thickness.../square yards)	AREA
STA:increment	STA	Station Increment (LF/increment)	LINEAR
GC:p:r	PL	Number of Plants for Ground Cover ...	AREA



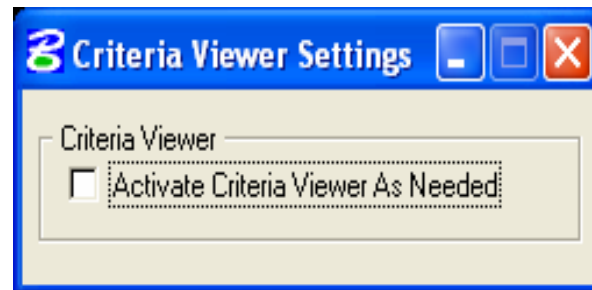
Settings



- Dialog

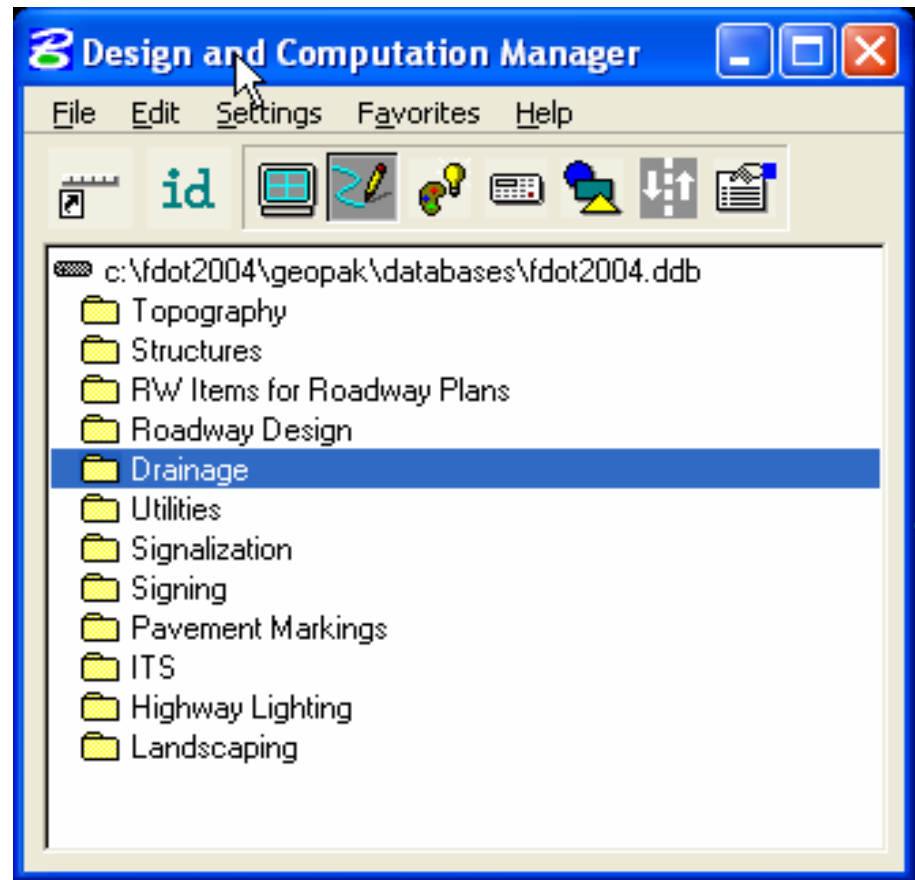


- Criteria Viewer



Tools

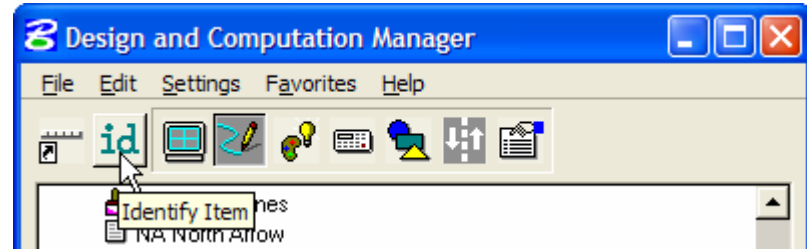
- Tool Overview
 - Identify Item
 - Display
 - Design
 - Set
 - Compute
 - Shape
 - Pavement Markings
 - Preferences



Identify Item

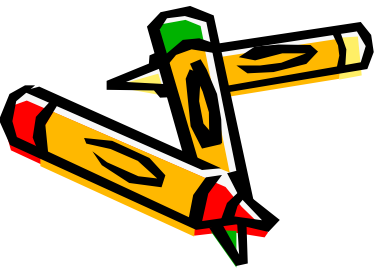


- Tool is used to identify elements in design file.
- If the element does not match any items within the database it will return the message - "No matching database item."

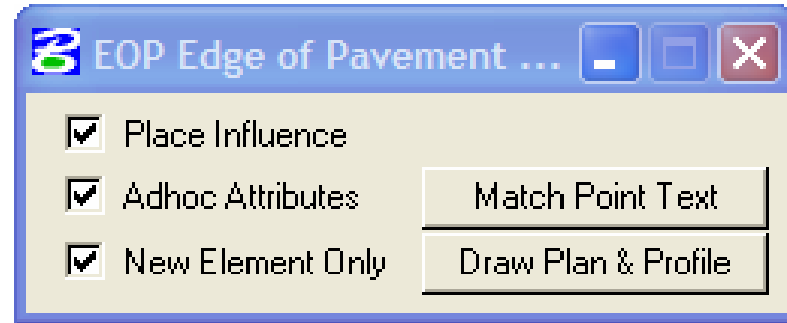


Display

- Normal Display
- Highlight Selection
- Hide Selection
- Display Only Selection

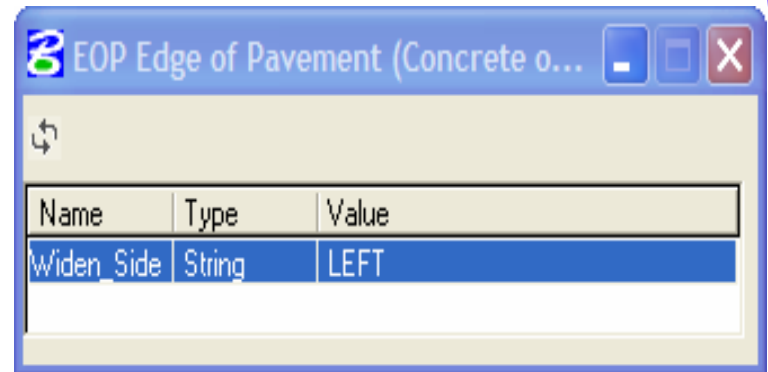


Design



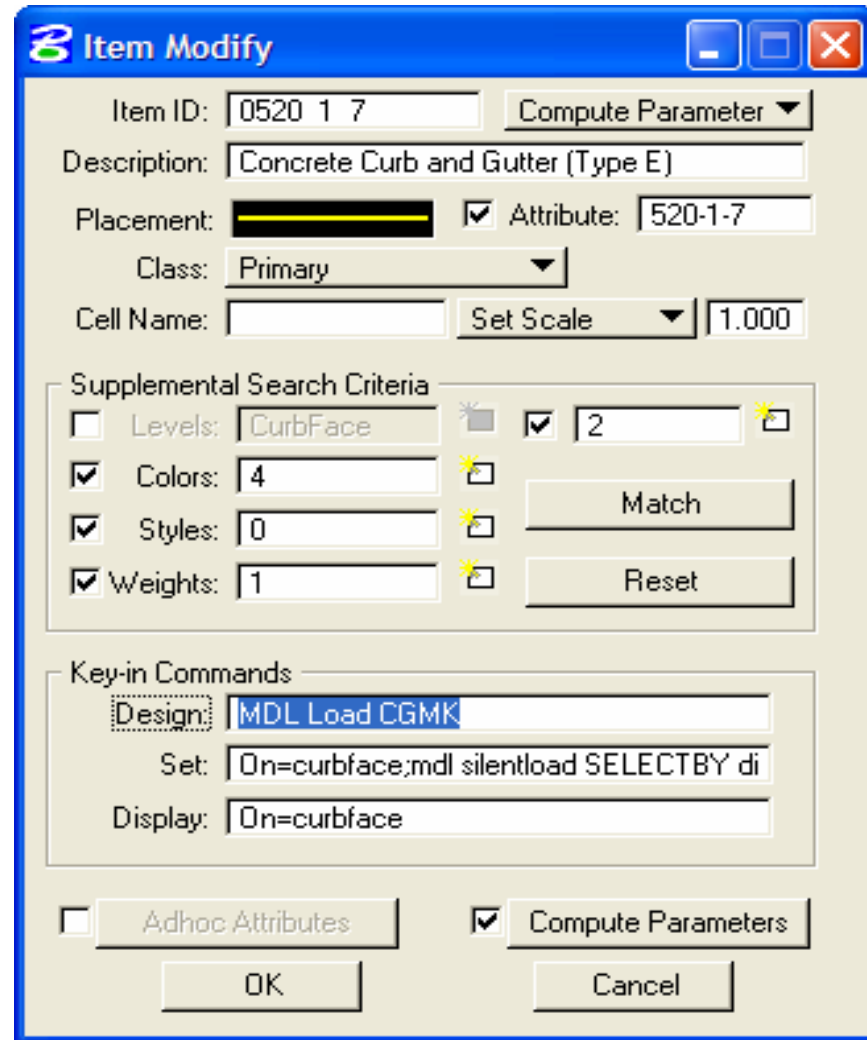
- Set Drafting Standards and place attribute tags using Place Influence
- Plot COGO Elements
- Attach Adhoc Attributes to elements drawn
- New Element Only

toggle



Design


- Uses customizable Key-in Commands



Item Modify

Item ID: 0520 1 7 Compute Parameter ▾

Description: Concrete Curb and Gutter (Type E)

Placement:  Attribute: 520-1-7

Class: Primary ▾

Cell Name: Set Scale ▾ 1.000

Supplemental Search Criteria

Levels: CurbFace 2

Colors: 4

Styles: 0 Match

Weights: 1 Reset

Key-in Commands

Design: MDL Load CGMK

Set: On=curbface;mdl silentload SELECTBY di

Display: On=curbface

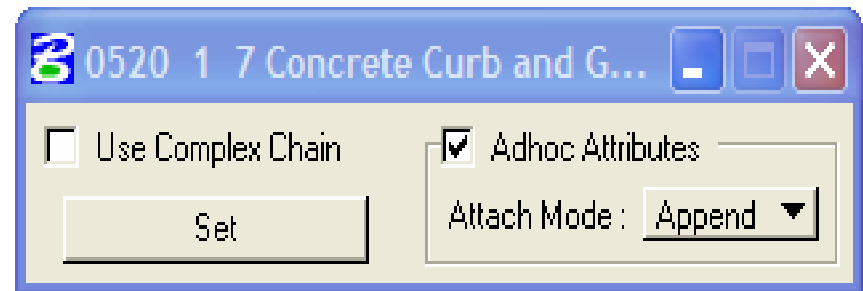
Adhoc Attributes Compute Parameters

OK Cancel

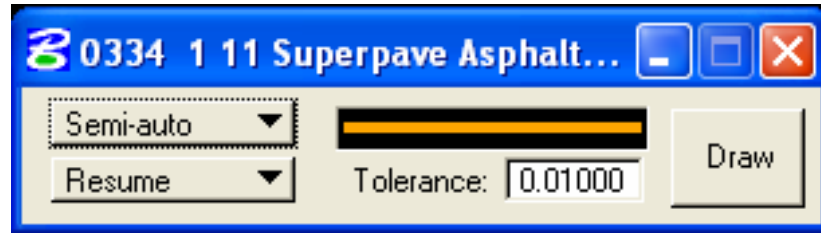


Set

- Valuable tool to set symbology, attribute tags, and adhoc attribute tags to existing elements
- Attach Mode will Append or Replace adhoc attribute tags
- Can set multiple elements at once using selection sets



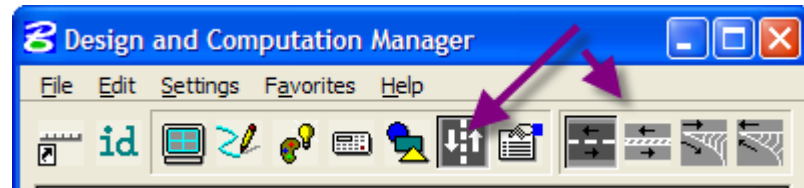
Shapes



- Creates shapes to quantify area items
- Shape mode does not append adhoc attributes at this time
- For items using adhoc attributes in the calculation of quantities, the set command must be used after creating the shape - example: asphalt



Pavement Markings



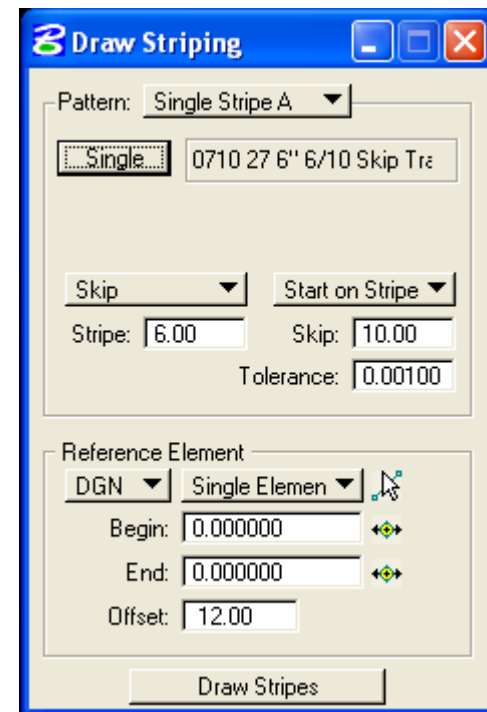
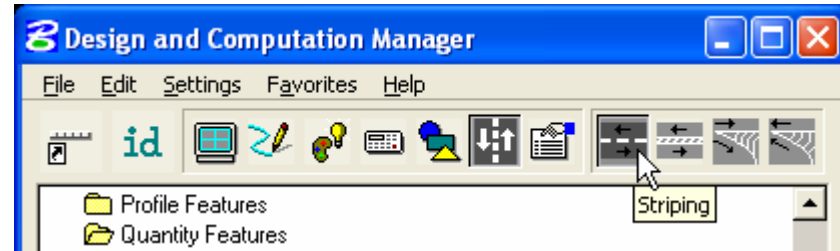
- Draws Striping, Separations, Chevron Diverge and Chevron Merge
- Tools to place cells are no longer included in the D&C. GEOPAK has new tools to draw cells - Draw Cell by Feature and Draw Cell Group by Feature.



Striping Tools



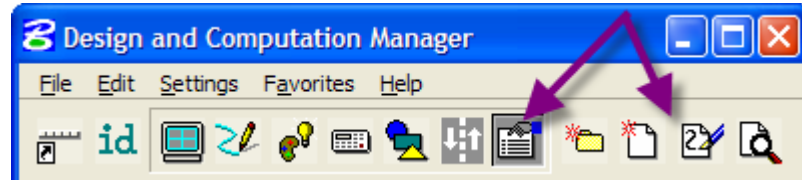
- Pattern options allows saving different striping options for faster design.



Demonstration.....



Preferences



- Provides tools to quickly modify/review the database



Design Process



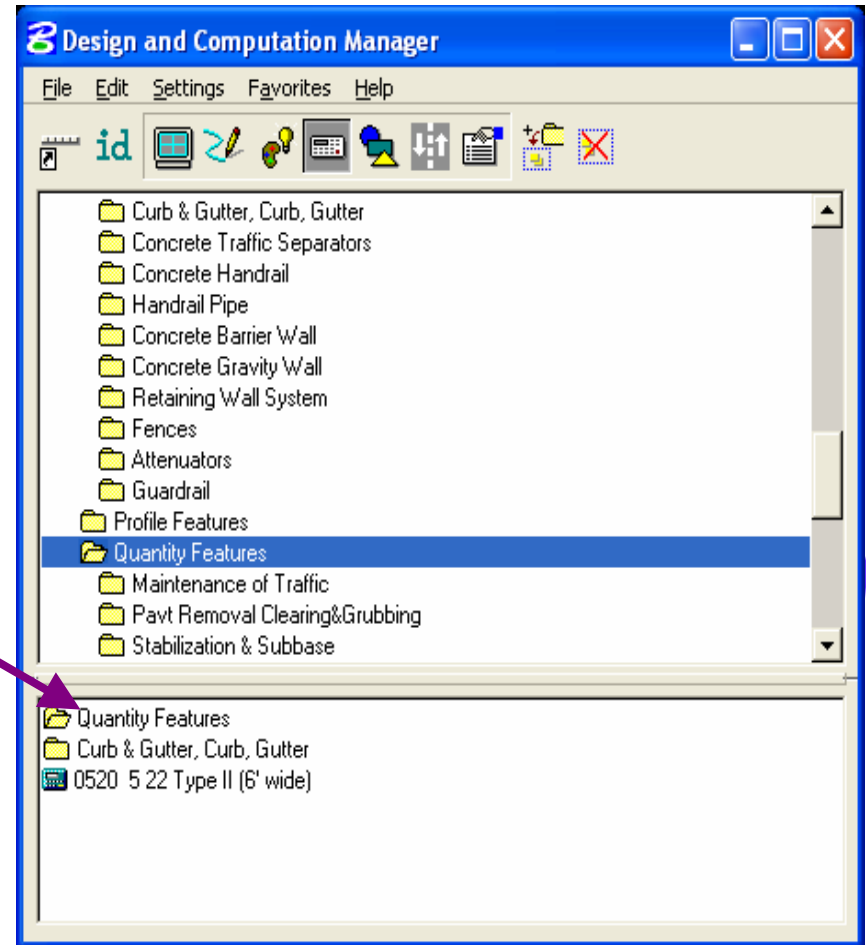
- Draw elements using the Design & Computation Manager
- Set pre-existing elements with the set tool
- Create shapes for area quantities
- Set Adhoc Attributes to shapes



Generate Quantities



- Select the Compute Mode of the Design and Computation Manager
- Create a selection set of all the items to be quantified
- Specify by item or by category



Generate Quantities



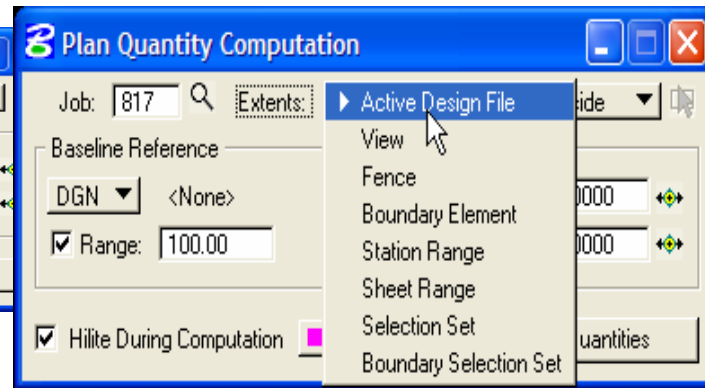
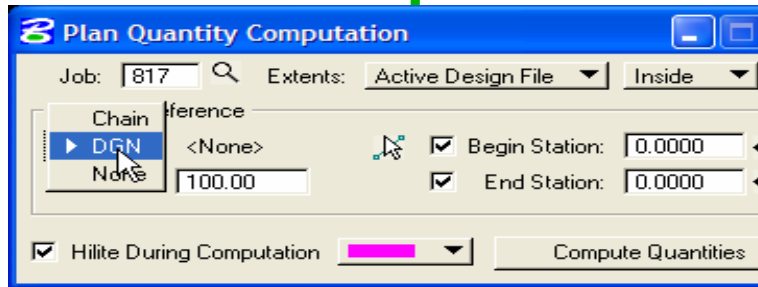
- Tip:
 - Some items are quantified using 3pc files. It is best to quantify these items separately instead of using the categories. Examples of these items are Pavement Messages, Directional Arrows and Pipes.



Generate Quantities



- Fill out dialog
- More options



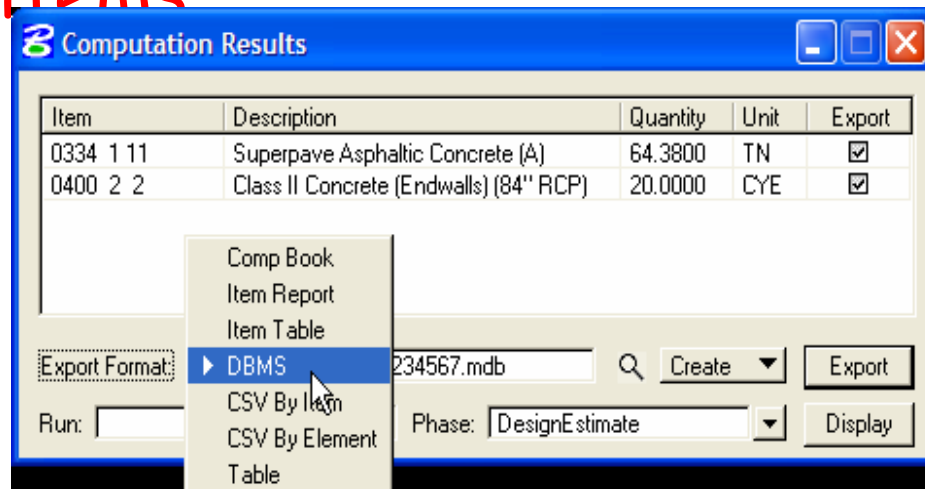
- Click Compute Quantities



Generate Quantities

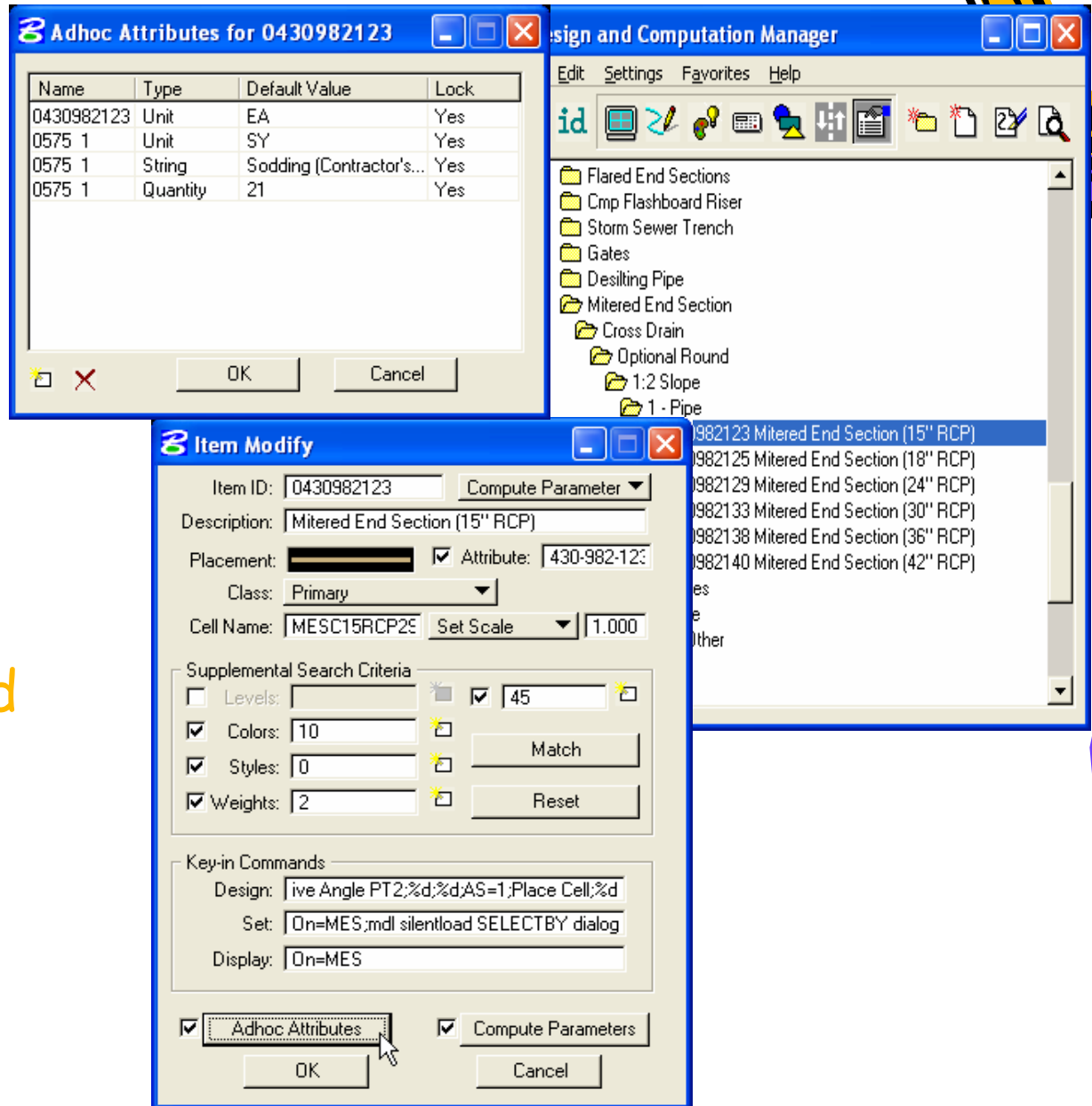


- Select items to export
- Select DBMS format to export to Quantity Manager
- First time choose to create - thereafter select append
- Run - groups items



Additions

- Some items in the ddb have adhoc attribute tags already set up for your use. One example is the Mitered End sections.



The image shows a software interface with three windows. The top-left window, titled 'Adhoc Attributes for 0430982123', contains a table with the following data:

Name	Type	Default Value	Lock
0430982123	Unit	EA	Yes
0575 1	Unit	SY	Yes
0575 1	String	Sodding (Contractor's...	Yes
0575 1	Quantity	21	Yes

The top-right window, titled 'Design and Computation Manager', shows a tree view of project components including 'Flared End Sections', 'Mitered End Section', and '1 - Pipe'. The bottom window, titled 'Item Modify', shows settings for 'Mitered End Section (15" RCP)'. It includes fields for Item ID, Description, Placement, Class, Cell Name, and Supplemental Search Criteria (Levels, Colors, Styles, Weights). The 'Adhoc Attributes' checkbox is checked and highlighted by a mouse cursor.



Additions

- Another example is the Concrete Endwalls. These items have a calculated quantity included in the Design Standards. For these large endwalls compute with criteria file option for the concrete quantity, then switch to adhoc option for the reinforcing steel quantity.



The screenshot displays the Bentley Design and Computation Manager interface. The main window shows a tree view of 'Proposed Structure Features' with items like 'TDS Text Drainage Structure', 'Class I Concrete (Endwalls)', and 'Class II Concrete (Endwalls)'. A list of items is shown below, including '0400 2 2 Class II Concrete (Endwalls) (60" RCP)'. A 'Parameters for Target Item: 0400 2 2' dialog box is open, showing the 'Adhoc Attribute' option selected. The 'Quantity Factor' is set to 1.00000. A table of 'Adhoc Attributes for 0400 2 2' is also visible, listing attributes for Unit, Quantity, and String.

Name	Type	Default Value	Lock
0415 1 1	Unit	LB	Yes
0415 1 1	Quantity	695	Yes
0415 1 1	String	Reinforcing Steel (R...	Yes

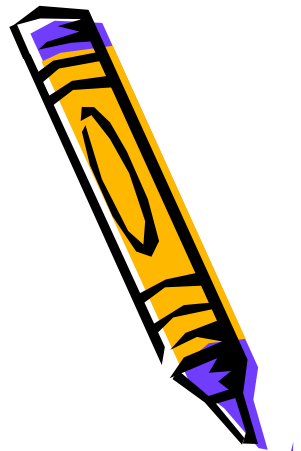
NEW - QM Enhancement



- There is now a new feature in Trns*Port using the Designer Interface. The ability to upload quantities exported from Quantity Manager into Trns*Port is now available.



Questions????



Thank-you