



Bentley Building Datasets The 'I' in BIM

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Topics

- Dataset Overview
 - Purpose of BIM
 - Outputs from BIM
 - Inputs into BIM
- Dataset Customization
 - Project Datasets
 - Company Datasets
 - Special-purpose Dataset Extensions

Dataset Overview

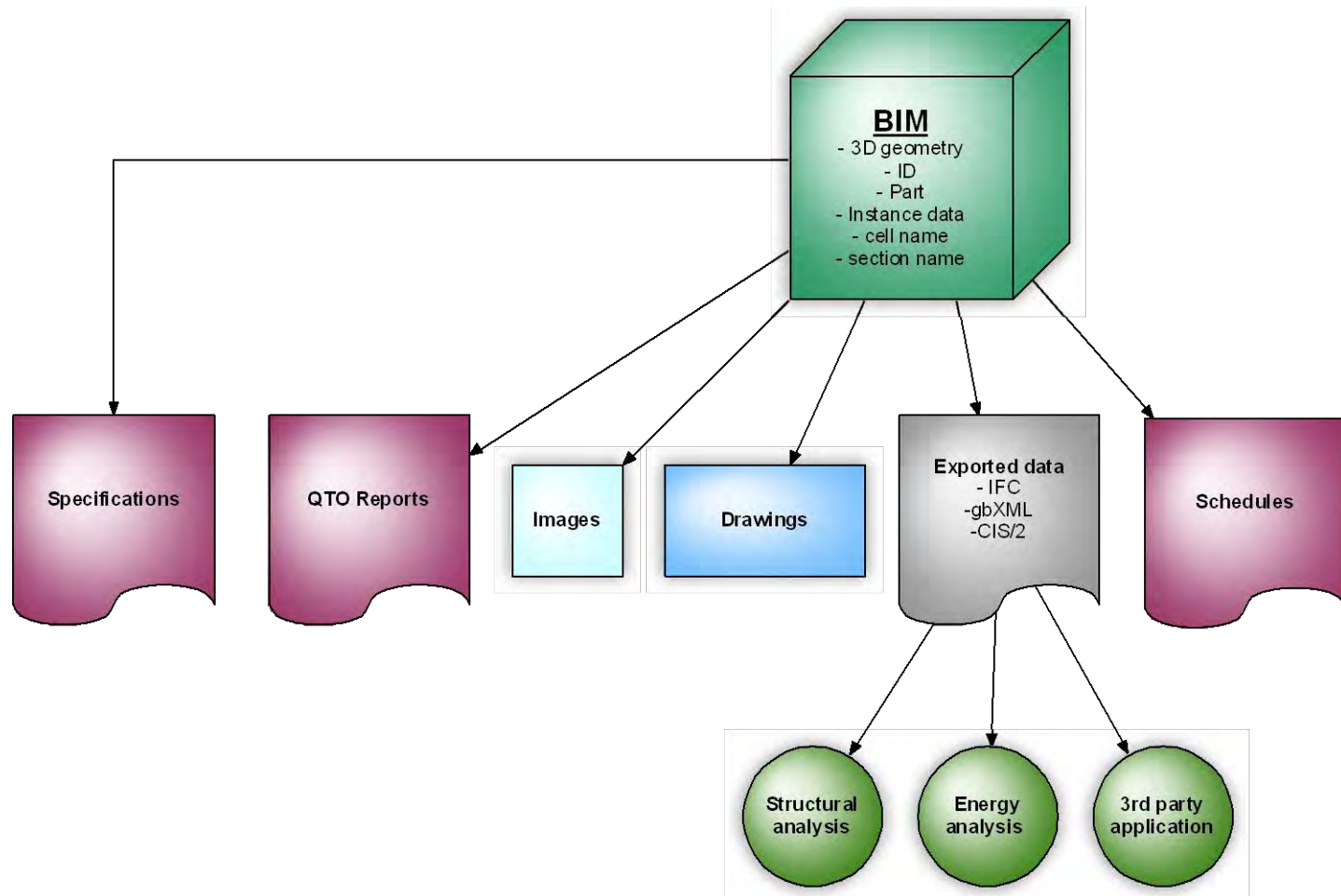
Purpose of BIM (1 of 2)

- modelling of buildings and information
- design
conceptual design, design development, design, as builds, ...
- creation/generation of drawings
floor plans, sections, elevations, details, ...
- generation of quantity takeoff reports and schedules
- design visualization and creation of images and animations

Purpose of BIM(2 of 2)

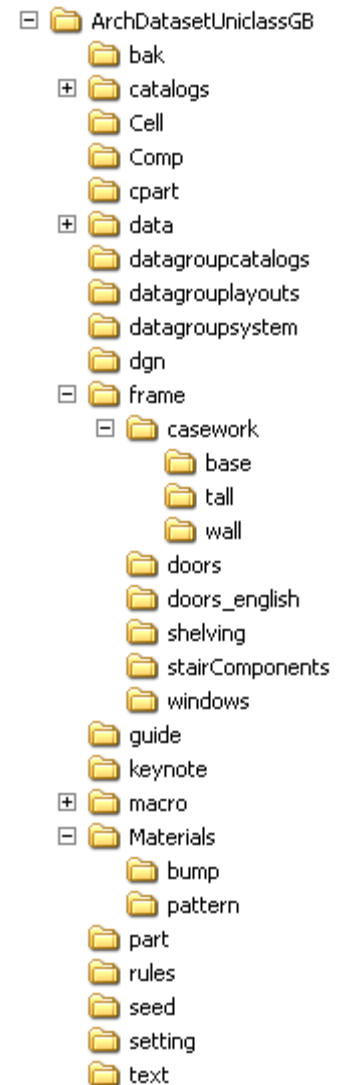
- coordination with other disciplines
- interoperability with analysis applications
energy, structural, costs, ...
- clash detection/interference management
- schedule simulation
- fabrication
- ...

Outputs from BIM/Deliverables

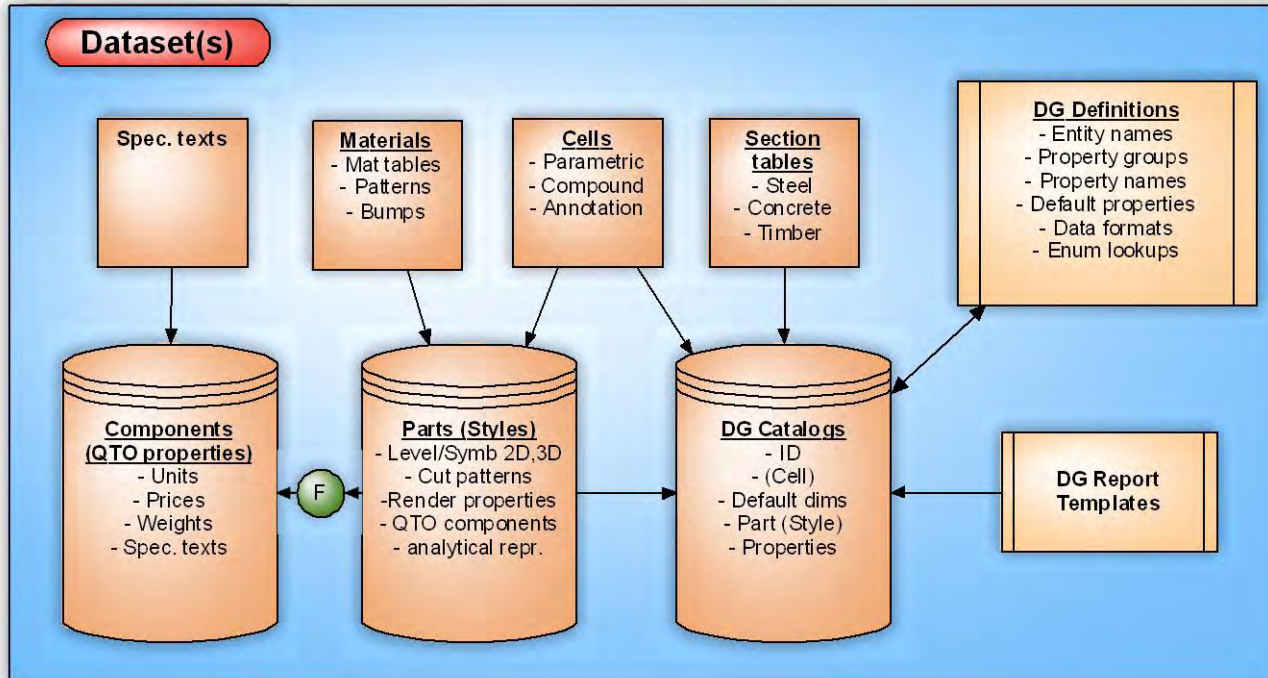


Inputs into BIM

- content
parts, compound parts, components, parametric and non-parametric cell, DataGroup catalogs, section tables, annotation and other symbols, **palettes, materials, ...**
- DataGroup definitions (schema)
property names, data formats, lists values (**enumerations**), **display names, ...**
- settings and seed files,
schedule templates, macros, ...



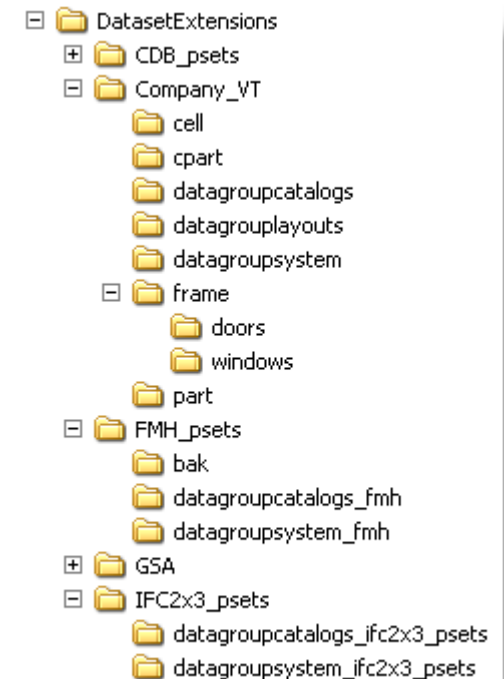
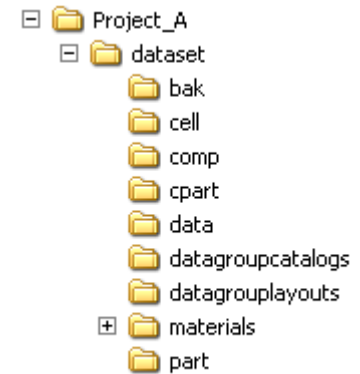
Inputs into BIM



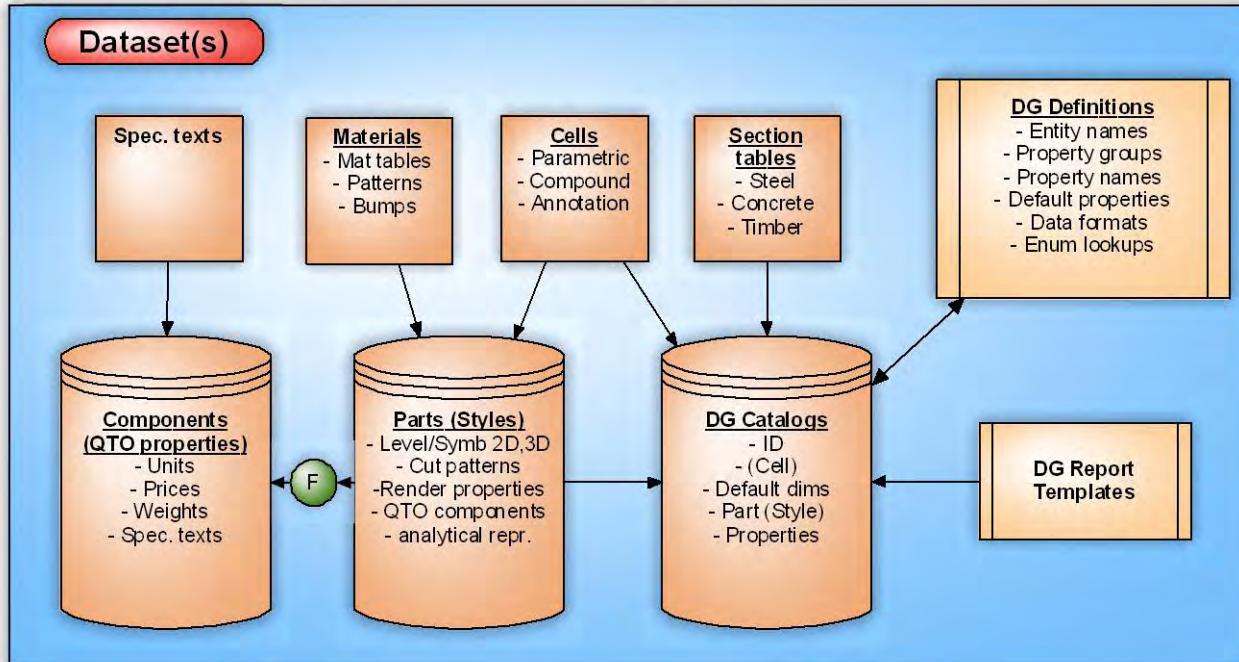
- [-] ArchDatasetUniclassGB
 - [-] bak
 - [+] catalogs
 - [-] Cell
 - [-] Comp
 - [-] cpart
 - [+] data
 - [-] datagrouppcatalogs
 - [-] datagrouplayouts
 - [-] datagroupssystem
 - [-] dgn
 - [-] frame
 - [-] casework
 - [-] base
 - [-] tall
 - [-] wall
 - [-] doors
 - [-] doors_english
 - [-] shelving
 - [-] stairComponents
 - [-] windows
 - [-] guide
 - [-] keynote
 - [+] macro
 - [-] Materials
 - [-] bump
 - [-] pattern
 - [-] part
 - [-] rules
 - [-] seed
 - [-] setting
 - [-] text

Inputs into BIM

- optional dataset extensions
 - project datasets
 - company datasets
 - special-purpose datasets

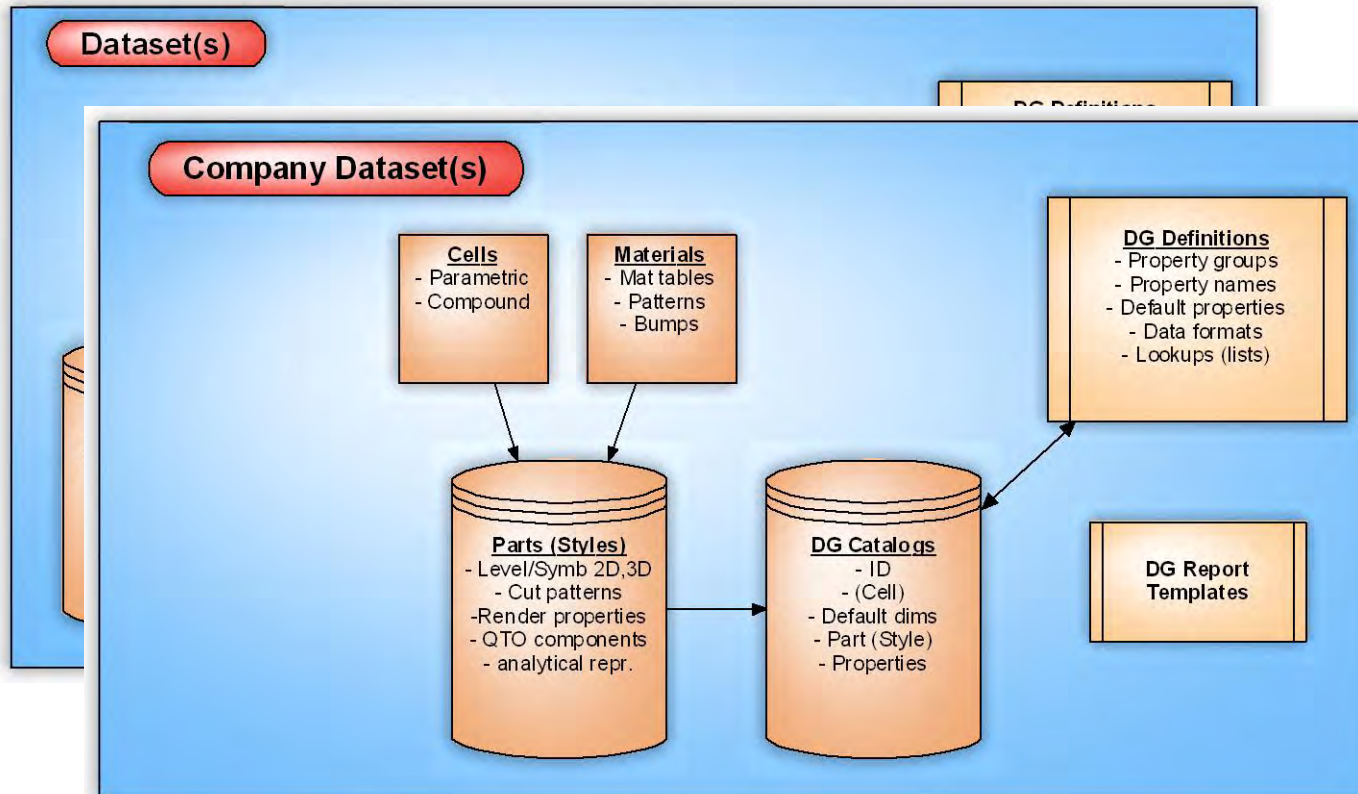


Inputs into BIM

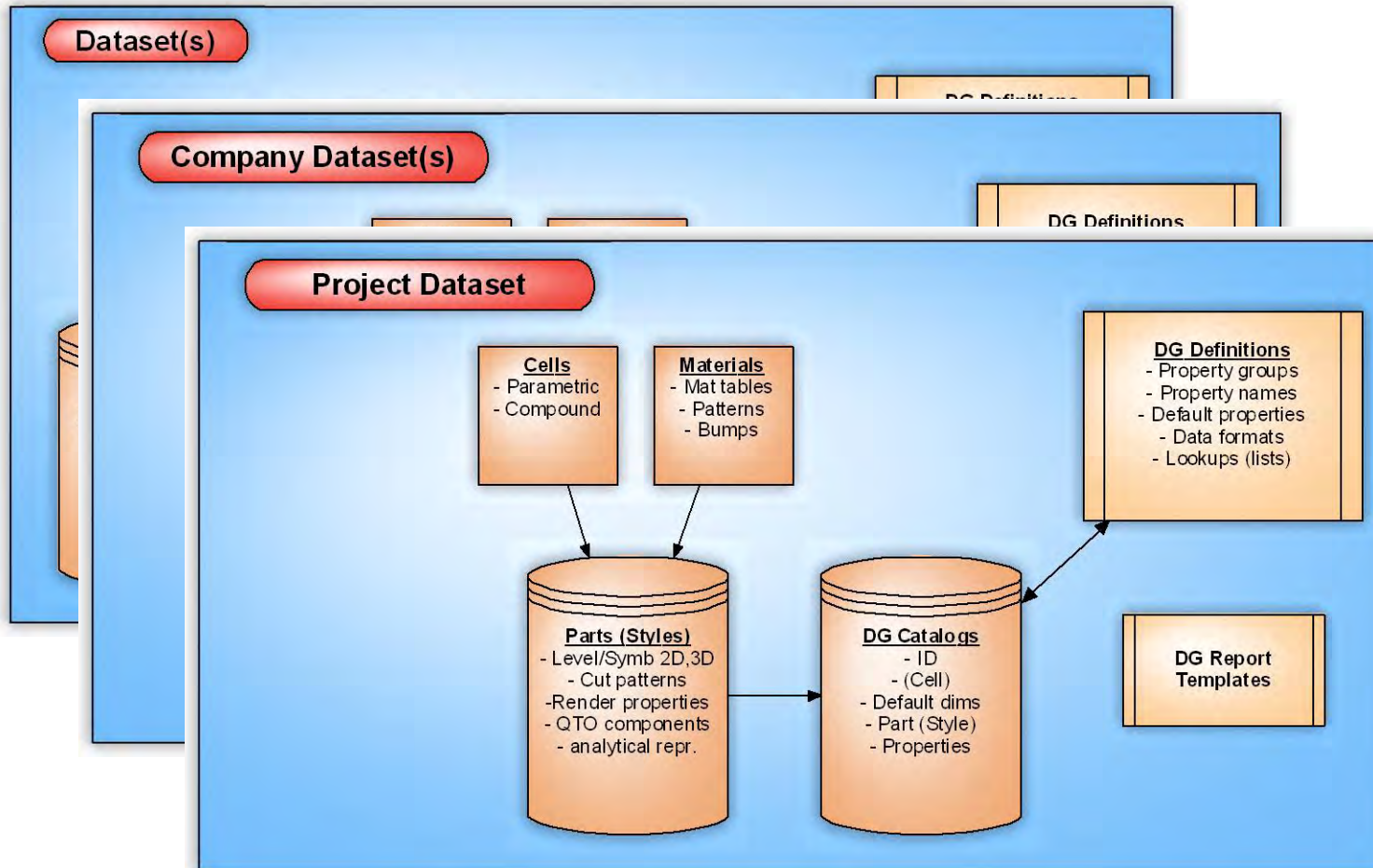


country classification and level standards

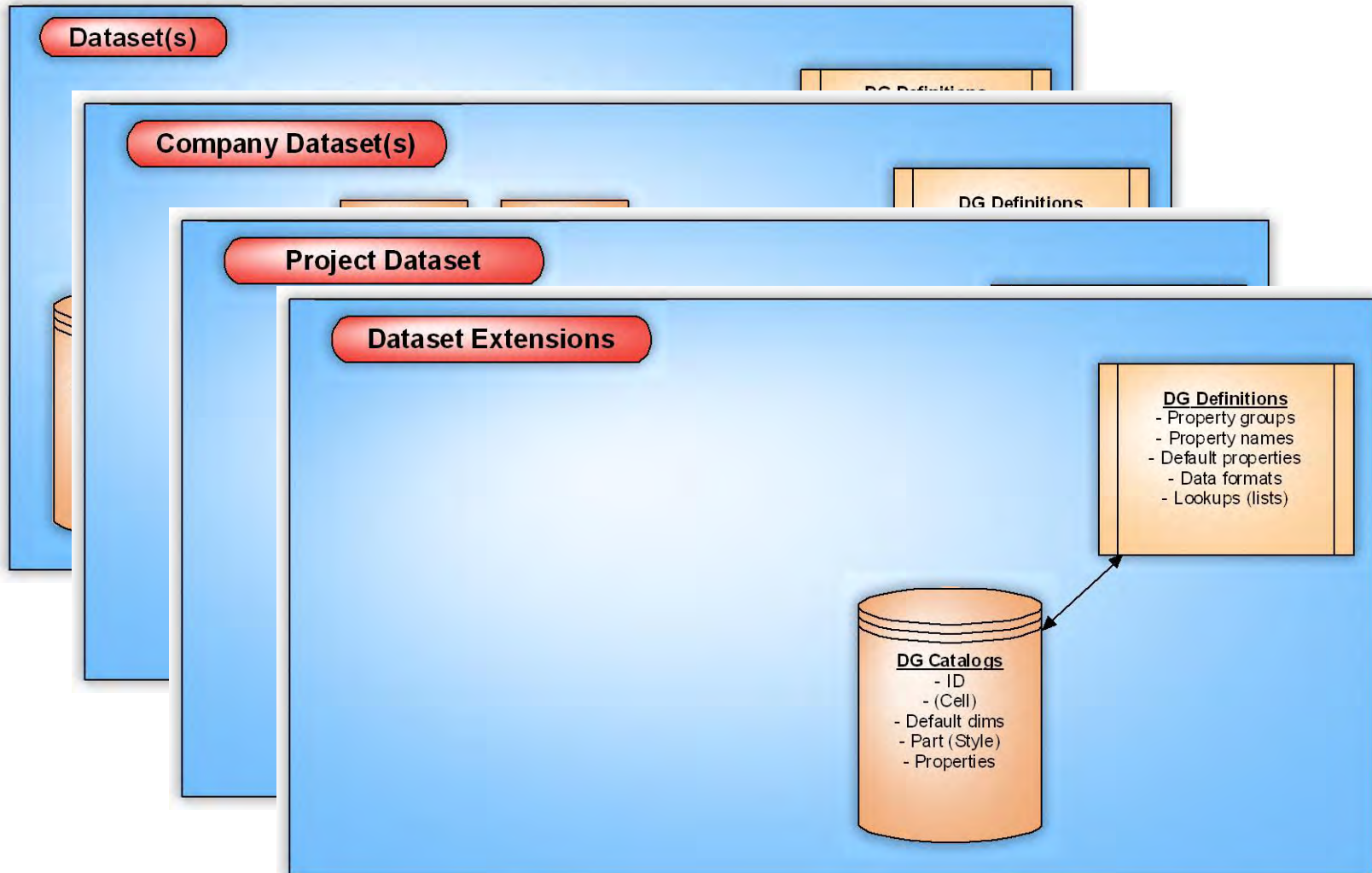
Inputs into BIM

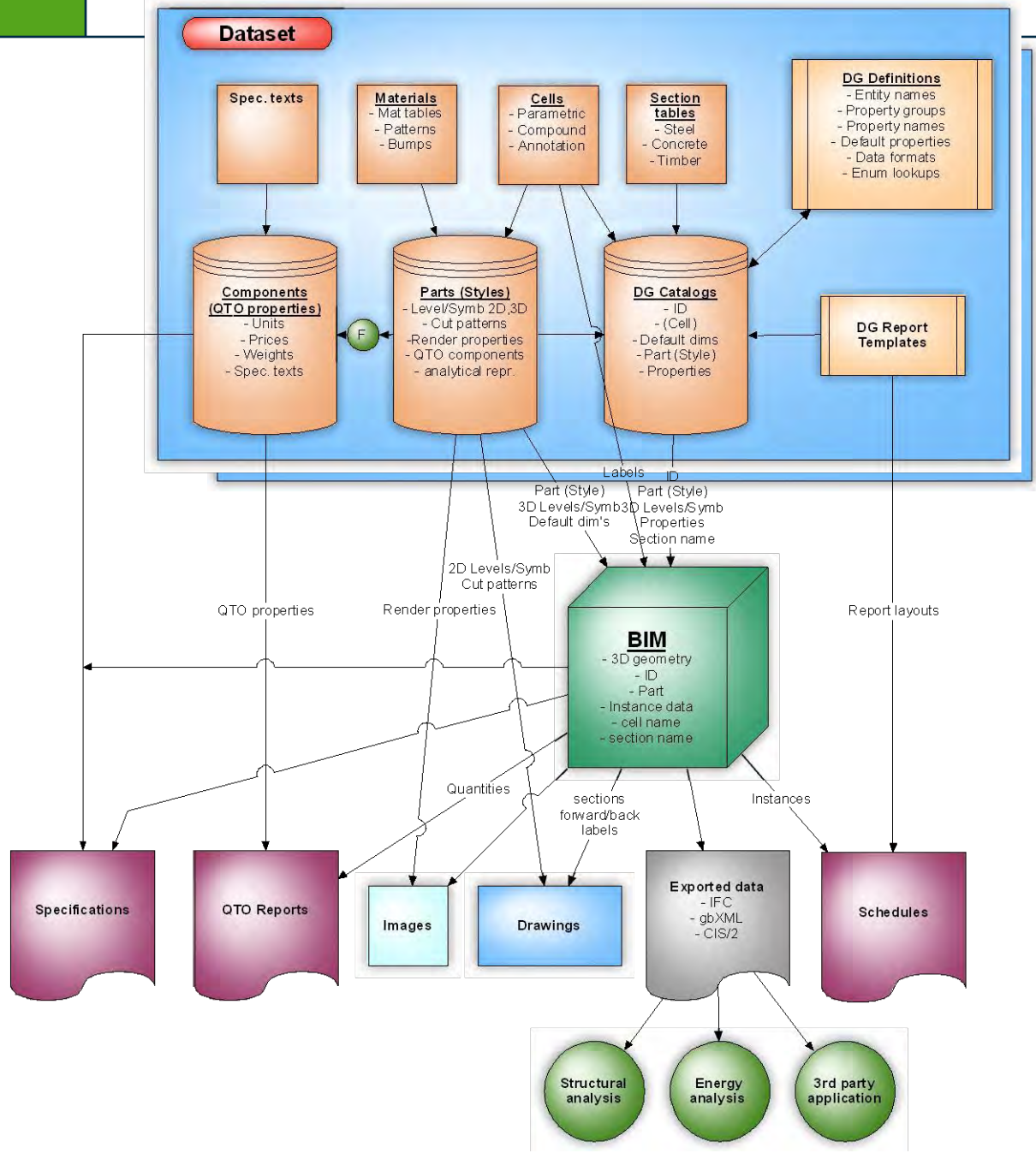


Inputs into BIM



Inputs into BIM





Do not edit
delivered dataset
files!

Dataset Customization

- Project
- Company
- Special-purpose

Project Datasets

Project Datasets

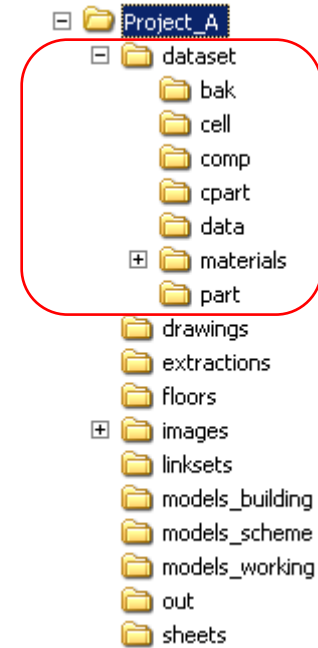
- installed in ProjectTemplate

Configuration Variables in PCF-file

```
#-----  
# Append search path for project-level dataset portions  
#-----
```

```
PROJ_DATASET = $(_USTN_PROJECTDATA)dataset/
```

```
TFDIR_PART < $(PROJ_DATASET)part/  
TFDIR_CELL < $(PROJ_DATASET)cell/  
TFDIR_COMP < $(PROJ_DATASET)comp/  
TFDIR_CPART < $(PROJ_DATASET)cpart/  
MS_CELLLIST < $(PROJ_DATASET)cell/*.*  
MS_MATERIAL < $(PROJ_DATASET)materials/  
MS_BACKUP < $(PROJ_DATASET)bak/  
MS_PATTERN < $(PROJ_DATASET)materials/pattern/  
MS_BUMP < $(PROJ_DATASET)materials/bump/  
DG_CATALOGS_PATH > $(PROJ_DATASET)datagroupcatalogs/  
DG_SCHEDULE_LAYOUT_PATH < $(PROJ_DATASET)datagrouplayouts/
```



Project Datasets

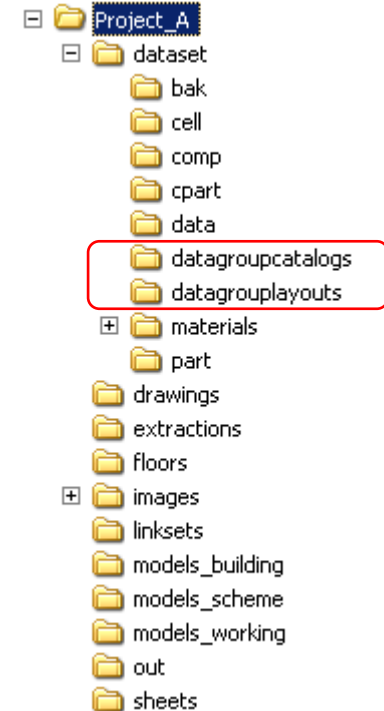
- installed in ProjectTemplate
- additional folders

Configuration Variables in PCF-file

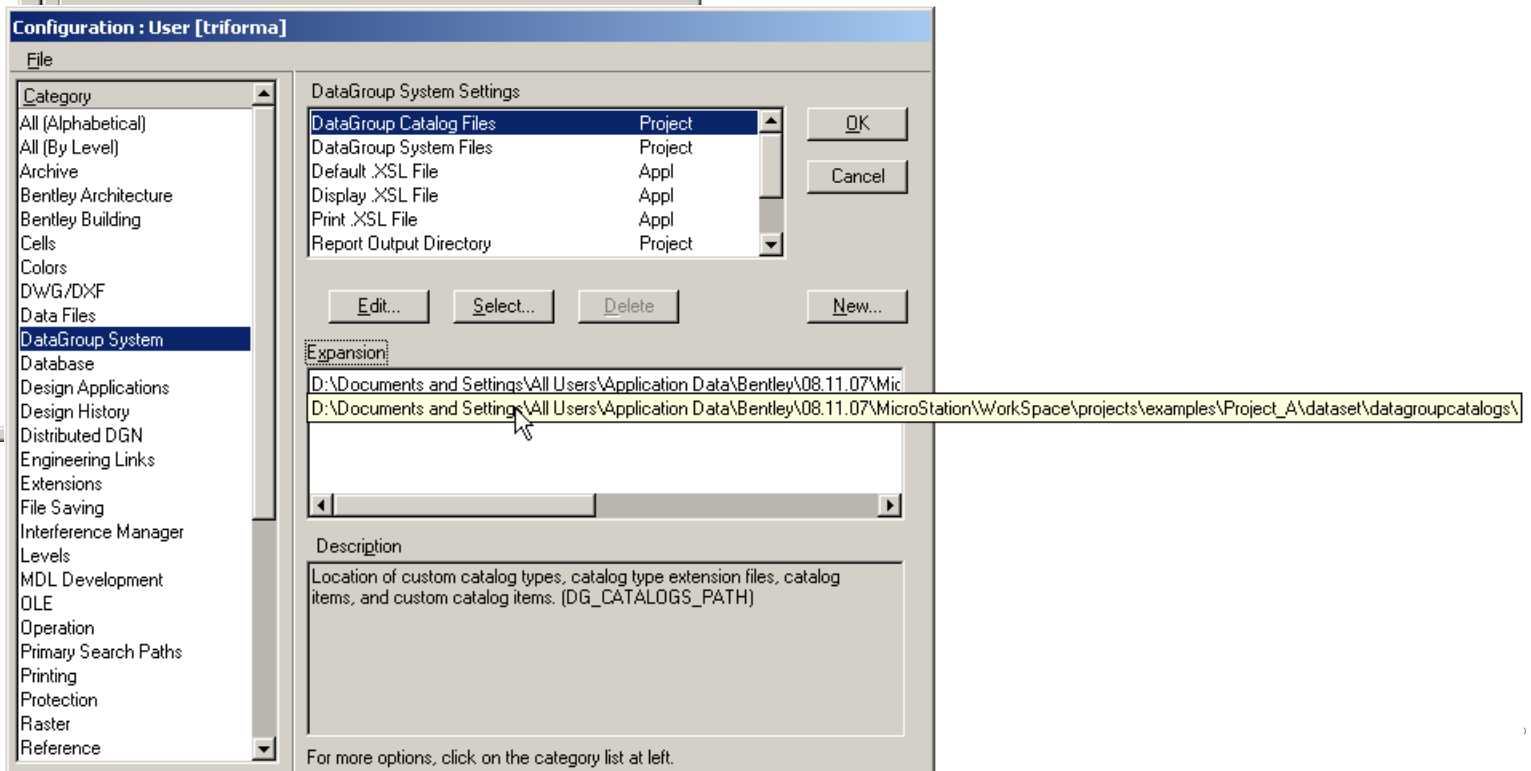
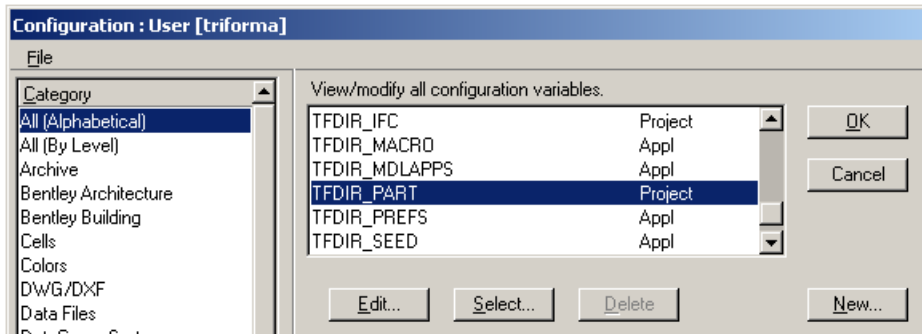
```
#-----  
# Append search path for project-level dataset portions  
#-----
```

```
PROJ_DATASET = $_(USTN_PROJECTDATA)dataset/
```

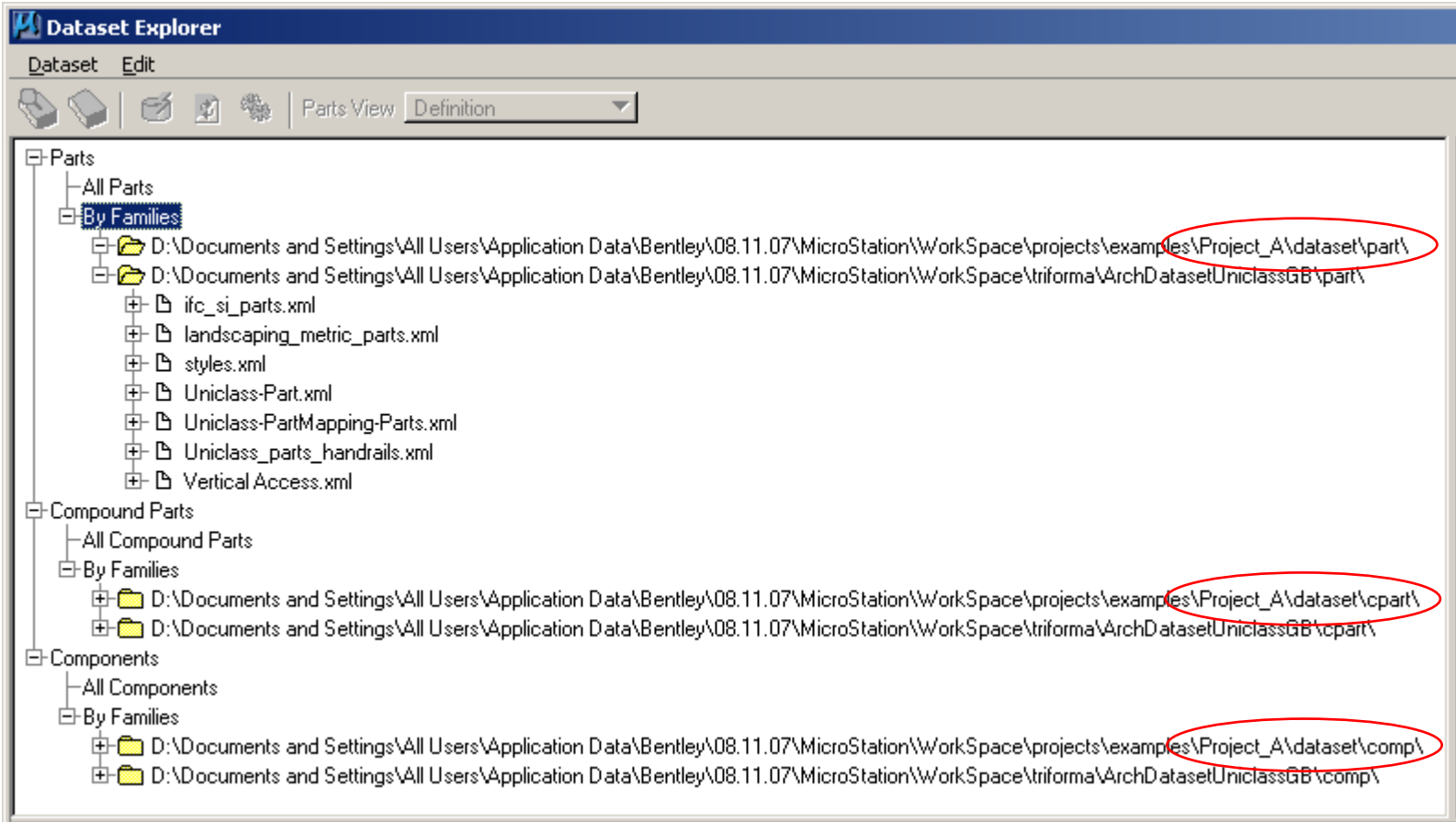
```
TFDIR_PART < $_(PROJ_DATASET)part/  
TFDIR_CELL < $_(PROJ_DATASET)cell/  
TFDIR_COMP < $_(PROJ_DATASET)comp/  
TFDIR_CPART < $_(PROJ_DATASET)cpart/  
MS_CELLLIST < $_(PROJ_DATASET)cell/*.*  
MS_MATERIAL < $_(PROJ_DATASET)materials/  
MS_BACKUP < $_(PROJ_DATASET)bak/  
MS_PATTERN < $_(PROJ_DATASET)materials/pattern/  
MS_BUMP < $_(PROJ_DATASET)materials/bump/  
DG_CATALOGS_PATH > $_(PROJ_DATASET)datagroupcatalogs/  
DG_SCHEDULE_LAYOUT_PATH < $_(PROJ_DATASET)datagrouplayouts/
```



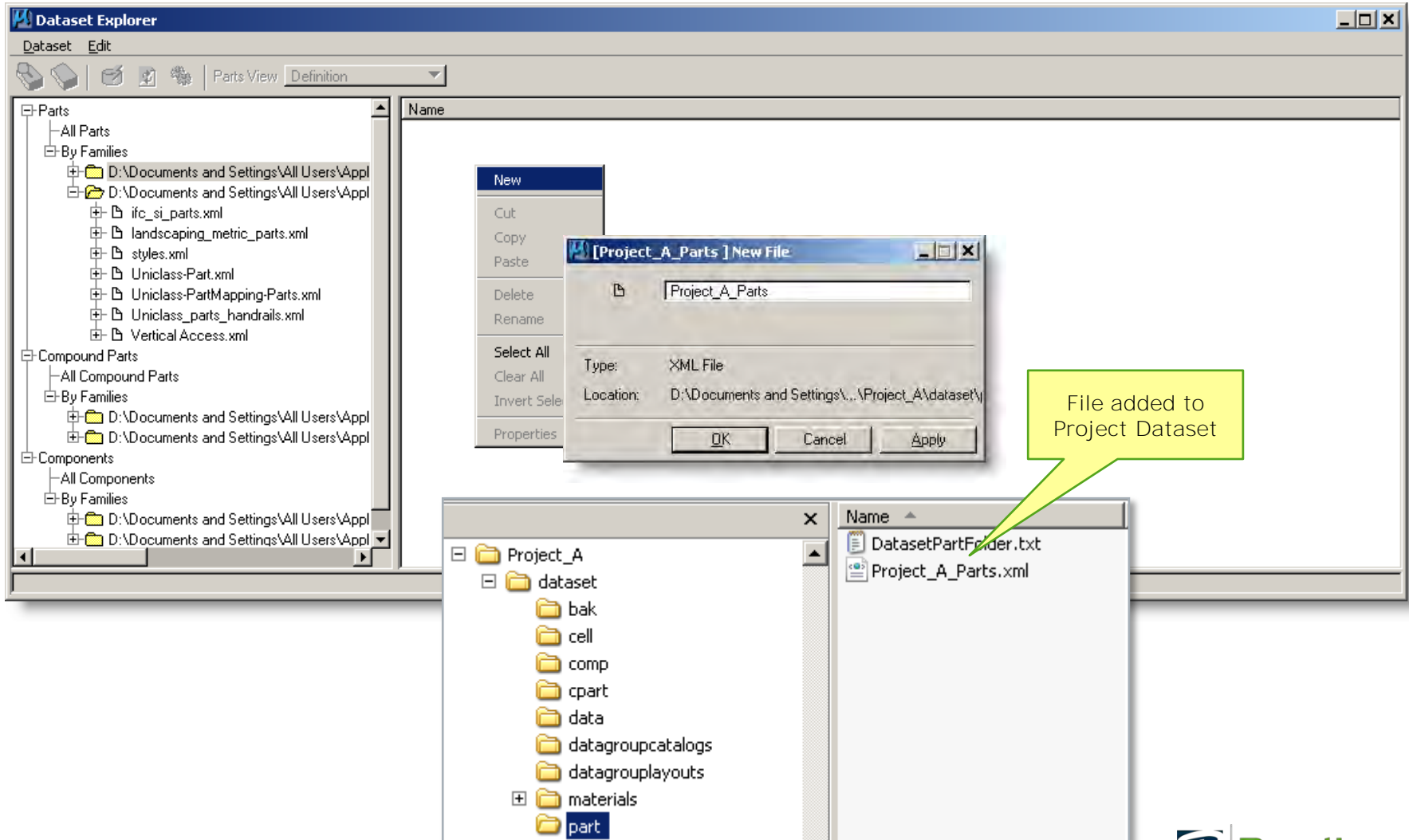
Configuration Variables



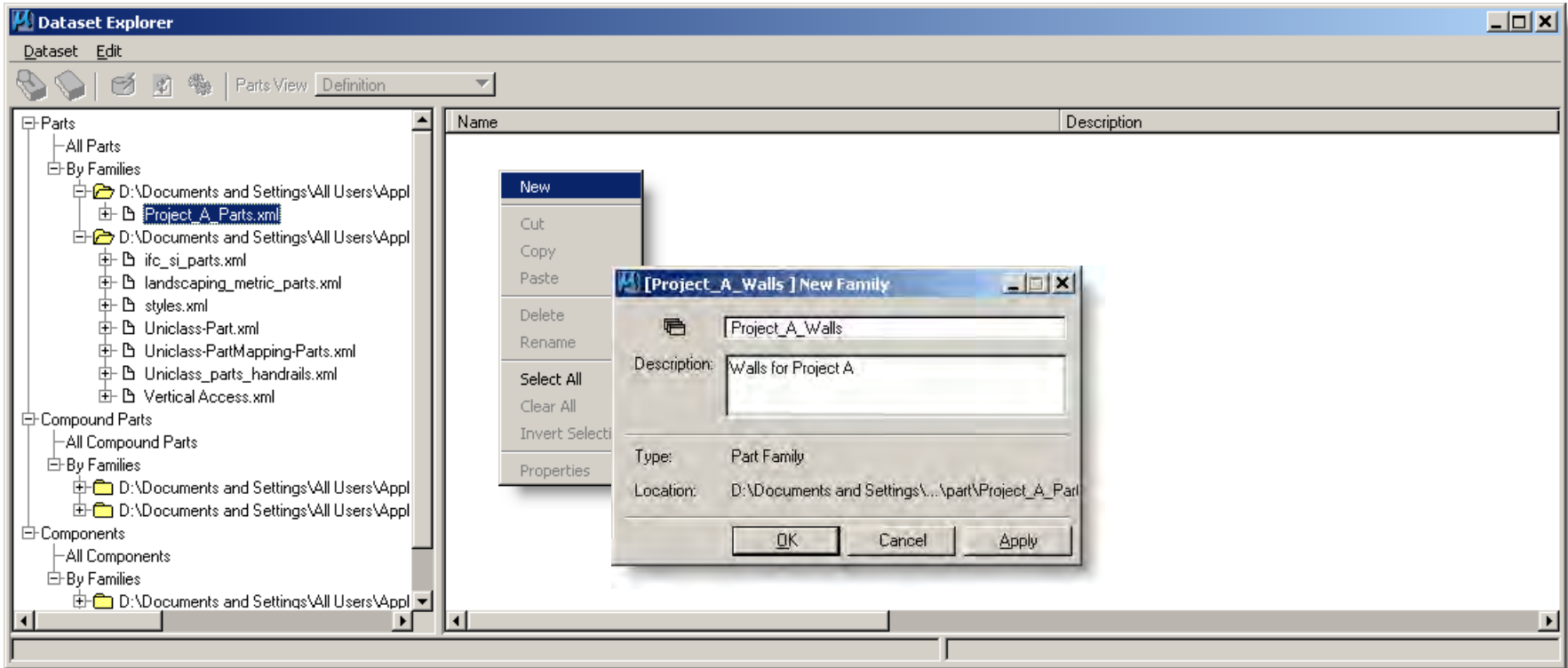
Project: Families & Parts



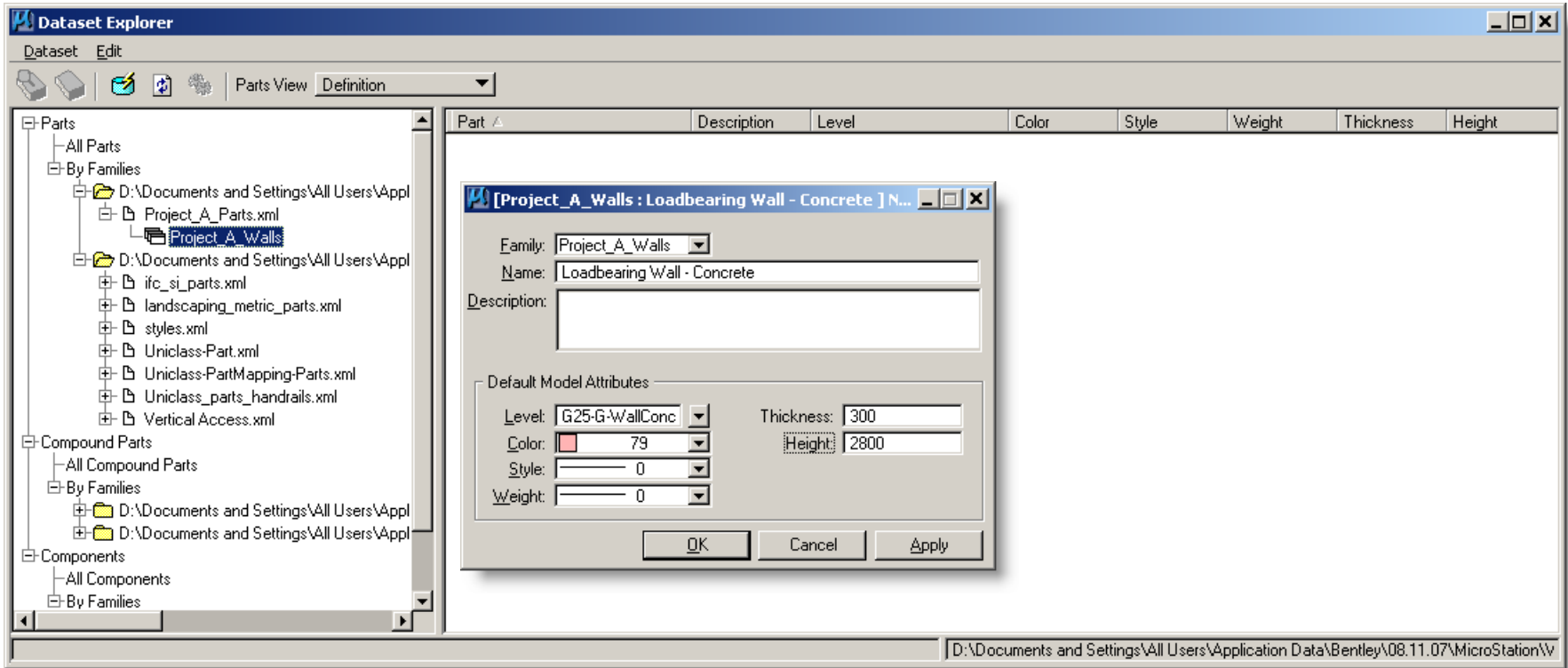
Add Part File



Add Part Family



Add Part



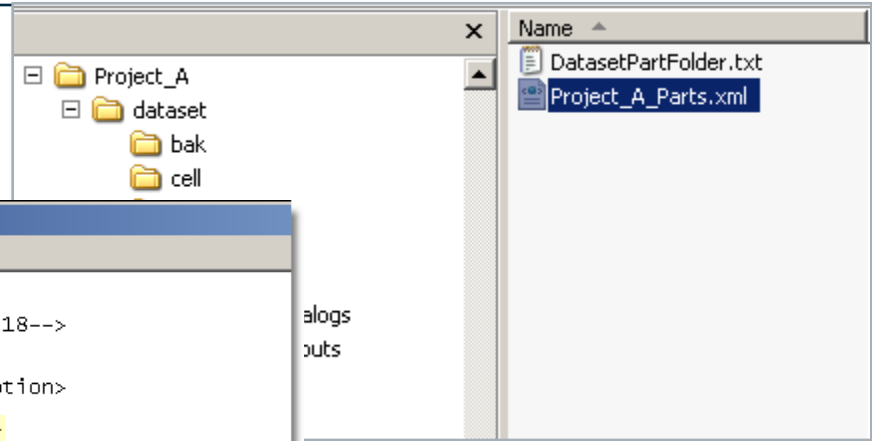
Add Part

The screenshot shows the 'Dataset Explorer' application window. The left pane displays a tree view under 'All Parts' with a sub-section 'By Families'. The tree includes folders for 'D:\Documents and Settings\All Users\Appl' and 'D:\Documents and Settings\All Users\Appl', with sub-items like 'Project_A_Parts.xml', 'Project_A_Walls', 'ifc_si_parts.xml', 'landscaping_metric_parts.xml', 'styles.xml', and 'Uniclass-Part.xml'. Under 'Uniclass-Part.xml', there are sub-items 'F' through 'G3'. The right pane shows a table with the following data:

Part	Description	Level	Color	Style	Weight	Thickness	Height
Loadbearing Wall - Concrete		A-G25-G-WallConc	79	0	0	300	2800

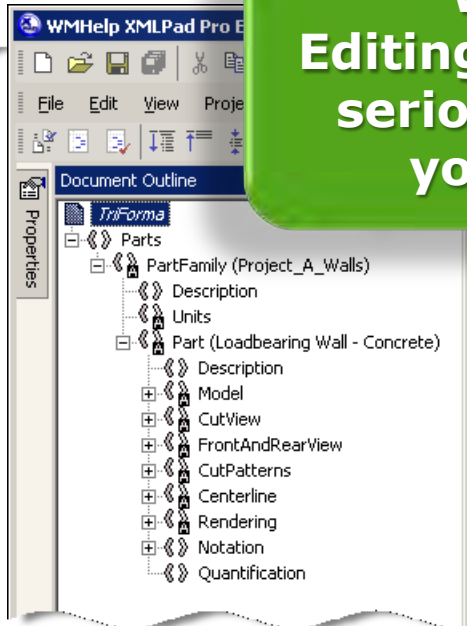
A yellow callout box with the text 'Part added to Family' points to the 'Loadbearing Wall - Concrete' row in the table.

Add Part



```
Project_A_Parts.xml - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="windows-1252"?>
<TriForma>
  <!--Generated By MicroStation TriForma, version 08.11.17.18-->
  <Parts>
    <PartFamily name="Project_A_walls" version="B1">
      <Description>walls for Project A</Description>
      <Units master="mm" sub="mm"/>
      <Part name="Loadbearing Wall - Concrete">
        <Description/>
        <Model thickness="300" height="2800">
          <Level>A-G25-G-wallConc</Level>
          <Symbology color="79" style="0" weight="0"/>
        </Model>
        <Cutview activate="true" cutInCompoundCells="false">
          <Level>Level 60</Level>
          <Symbology color="0" style="0" weight="0"/>
        </Cutview>
      </Part>
    </PartFamily>
  </Parts>
</TriForma>
```

**Warning:
Editing xml-files can
seriously damage
your health!**



```
... encoding="Windows-1252"?>
<TriForma>
  <!--Generated By MicroStation TriForma, version 08.11.17.18-->
  <Parts>
    <PartFamily name="Project_A_Walls" version="B1">
      <Description>Walls for Project A</Description>
      <Units master="mm" sub="mm"/>
      <Part name="Loadbearing Wall - Concrete">
        <Description/>
        <Model thickness="300" height="2800">
          <Level>A-G25-G-WallConc</Level>
          <Symbology color="79" style="0" weight="0"/>
        </Model>
        <CutView activate="true" cutInCompoundCells="false">
          <Level>Level 60</Level>
        </CutView>
      </Part>
    </PartFamily>
  </Parts>
</TriForma>
```

Copy Part

The screenshot shows the Bentley Dataset Explorer interface. On the left, a tree view shows a folder structure under 'By Families' with 'Uniclass-Part.xml' expanded to show sub-items F through G3. The main area displays a table of parts with a context menu open over the 'G25 Walls (Concrete)' row. The 'Copy' option is selected in the menu.

Part	Description	Level	Color	Style	Weight	Thickness	Height
G21 Foundations	Foundations	A-G21-G-Fndn	By Level	0	0	450	600
G22 Floors	Floors	A-G22-G-Flor	By Level	0	0	300	300
G23 Balustrade	Balustrades to...	A-G23-G-Bstr	By Level	0	0	50	1100
G23 Ramps	Ramps	A-G23-G-Ramp	By Level	0	0	200	200
G23 Stairs	Stairs	A-G23-G-Strs	By Level	0	0	200	1500
G24 Roofs	Roofs	A-G24-G-Roof	By Level	0	0	200	200
G25 Walls	Walls	A-G25-G-Wall	By Level	0	0	100	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 75mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	75	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	90	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	140	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	190	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	215	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	65	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	215	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	100	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	300	3000

Paste Part

The screenshot shows the Bentley Dataset Explorer interface. On the left, a tree view displays a hierarchy of parts under 'By Families'. The 'Project_A_Walls' folder is expanded, showing a list of parts from F to G3. A context menu is open over the table, with 'Paste' highlighted. The table below shows the details of the selected part.

Part	Description	Level	Color	Style	Weight	Thickness	Height
Loadbearing Wall - Concrete		A-G25-G-WallConc	79	0	0	300	2800

Paste Part

The screenshot shows the 'Dataset Explorer' window with a 'Parts View' and 'Definition' tab. The left pane shows a tree view of folders, including 'Project_A_Parts.xml' and 'Project_A_Walls'. The right pane shows a table of parts with the following data:

Part	Description	Level	Color	Style	Weight	Thickness	Height
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
Loadbearing Wall - Concrete		A-G25-G-WallConc	79	0	0	300	2800

A yellow callout box points to the 'Loadbearing Wall - Concrete' row with the text: Copied Part in Project Dataset

Dataset Explorer

Dataset Edit

Parts View Definition Model: Section: F/R View:

All Parts

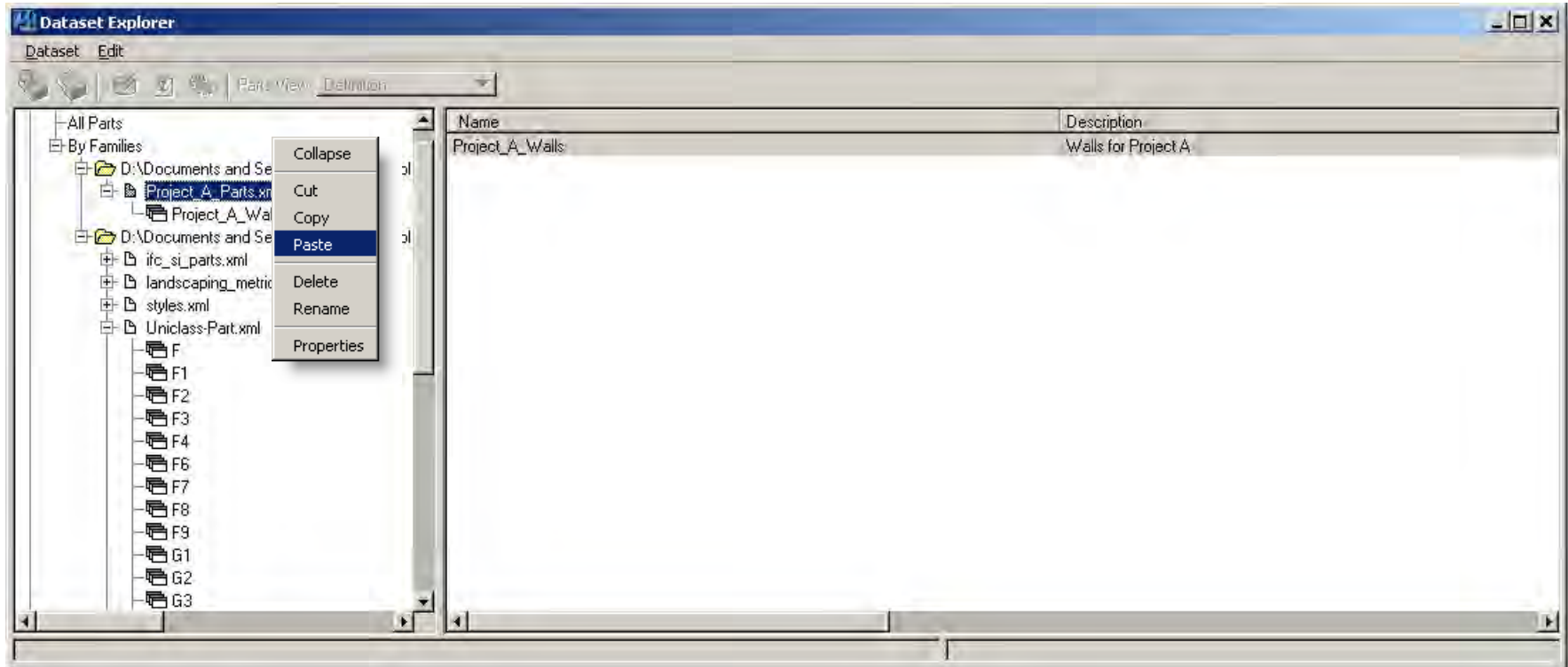
- By Families
 - D:\Documents and Settings\All Users\Appl
 - Project_A_Parts.xml
 - Project_A_Walls
 - D:\Documents and Settings\All Users\Appl
 - ifc_si_parts.xml
 - landscaping_metric_parts.xml
 - styles.xml
 - Uniclass-Part.xml
 - F
 - F1
 - F2
 - F3
 - F4
 - F6
 - F7
 - F8
 - F9
 - G1
 - G2
 - G3

Context Menu:

- Cut
- Copy
- Paste
- Delete
- Rename
- Properties

Part	Description	Level	Color	Style	Weight	Thickness	Height
G21 Foundations	Foundations	A-G21-G-Fndn	By Level	0	0	450	600
G22 Floors	Floors	A-G22-G-Flor	By Level	0	0	300	300
G23 Balustrade	Balustrades to...	A-G23-G-Bstr	By Level	0	0	50	1100
G23 Ramps	Ramps	A-G23-G-Ramp	By Level	0	0	200	200
G23 Stairs	Stairs	A-G23-G-Strs	By Level	0	0	200	1500
G24 Roofs	Roofs	A-G24-G-Roof	By Level	0	0	200	200
G25 Walls	Walls	A-G25-G-Wall	By Level	0	0	100	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 75mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	75	3000
G25 Walls (Block) 90mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	90	3000
G25 Walls (Block) 100mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 140mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	140	3000
G25 Walls (Block) 190mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	190	3000
G25 Walls (Block) 215mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	215	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 65mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	65	3000
G25 Walls (Brick) 102.5mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 215mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	215	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 100mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	100	3000
G25 Walls (Concrete) 200mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 300mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	300	3000

Paste Family



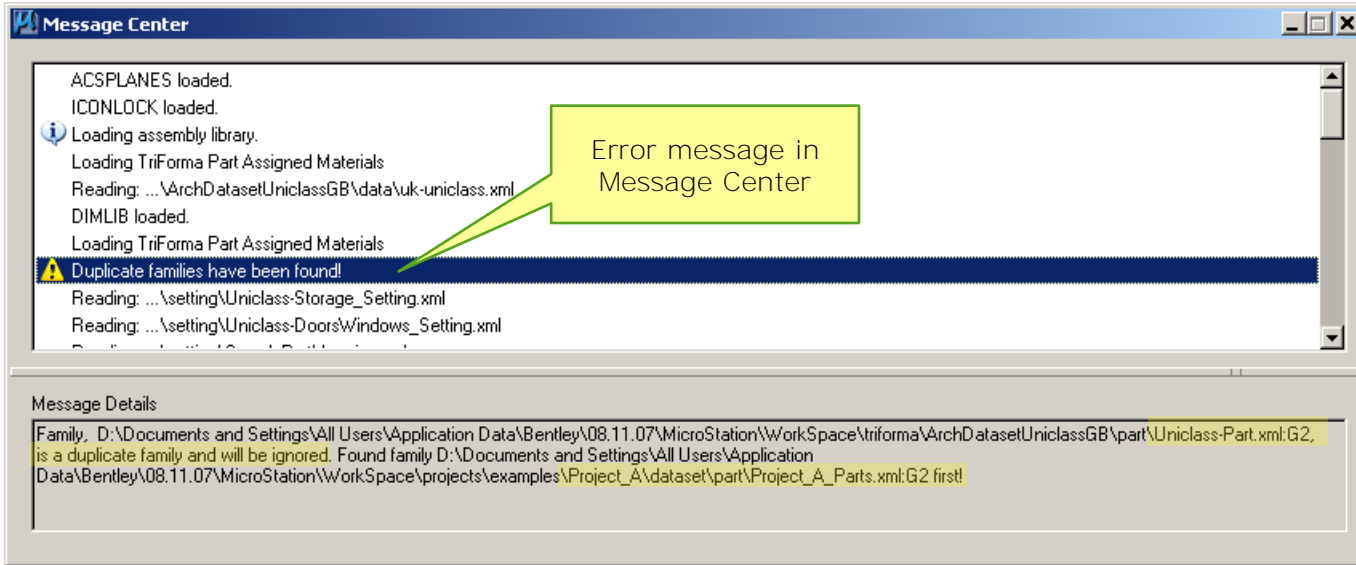
Paste Family

Copied Family in Project Dataset

Part	Description	Level	Color	Style	Weight	Thickness	Height
G21 Foundations	Foundations	A-G21-G-Fndn	By Level	0	0	450	600
G22 Floors	Floors	A-G22-G-Flor	By Level	0	0	300	300
G23 Balustrade	Balustrades to...	A-G23-G-Bstr	By Level	0	0	50	1100
G23 Ramps	Ramps	A-G23-G-Ramp	By Level	0	0	200	200
G23 Stairs	Stairs	A-G23-G-Strs	By Level	0	0	200	1500
G24 Roofs	Roofs	A-G24-G-Roof	By Level	0	0	200	200
G25 Walls	Walls	A-G25-G-Wall	By Level	0	0	100	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 75mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	75	3000
G25 Walls (Block) 90mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	90	3000
G25 Walls (Block) 100mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 140mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	140	3000
G25 Walls (Block) 190mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	190	3000
G25 Walls (Block) 215mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	215	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 65mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	65	3000
G25 Walls (Brick) 102.5mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 215mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	215	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 100mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	100	3000
G25 Walls (Concrete) 200mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 300mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	300	3000

D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\

TFDATASET_SHOWDUPLICATEFAMILIES=1



TFDATASET_SHOWDUPLICATEFAMILIES=1

The image shows two overlapping windows from the Bentley MicroStation software interface.

Message Center: This window displays a list of messages. A warning message is highlighted in blue: "Duplicate families have been found!". Below this, a "Message Details" section shows a message: "Family, D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\WorkSpace\projects\examples\Project_A\dataset\part\Project_A is a duplicate family and will be ignored. Found family D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\WorkSpace\projects\examples\Project_A\dataset\part\Project_A".

Configuration : User [triforma]: This dialog box is used to view and modify configuration variables. It features a "File" list on the left and a table of variables on the right.

Category	Variable Name	Type
All (Alphabetical)	TFCELL_EXTENSION	Appl
All (By Level)	TFDATASET_COMP_NOAUTOLOAD	Appl
Archive	TFDATASET_CPART_NOAUTOLOAD	Appl
Bentley Architecture	TFDATASET_SHOWDUPLICATEFAMILIES	Appl
Bentley Building	TFDIR	Appl
Cells	TFDIR_ASSEMBLIES	Appl
Colors		
DWG/DXF		
Data Files		
DataGroup System		
Database		
Design Applications		
Design History		
Distributed DGN		
Engineering Links		
Extensions		
File Saving		
Interference Manager		
Levels		
MDL Development		
OLE		
Operation		
Primary Search Paths		
Printing		
Protection		
Raster		
Reference		

The "TFDATASET_SHOWDUPLICATEFAMILIES" variable is currently set to "1". The "Expansion" section shows "1" selected. The "Description" section states: "Enables Parts & Family concatenation, first part defined is the one that will be used. (TFDATASET_SHOWDUPLICATEFAMILIES)".

TFDATASET_SHOWDUPLICATEFAMILIES=1

Dataset Explorer

Dataset Edit

Parts View Definition Model: Section: F/R View:

By Families

- D:\Documents and Settings\All Users\Appl
 - Project_A_Parts.xml
 - G2
 - Project_A_Walls
 - D:\Documents and Settings\All Users\Appl
 - ifc_si_parts.xml
 - landscaping_metric_parts.xml
 - styles.xml
 - Uniclass-Part.xml
 - F
 - F1
 - F2
 - F3
 - F4
 - F6
 - F7
 - F8
 - F9
 - G1
 - G2
 - G3

Part	Description	Level	Color	Style	Weight	Thickness	Height
G21 Foundations	Foundations	A-G21-G-Fndn	By Level	0	0	450	600
G22 Floors	Floors	A-G22-G-Flor	By Level	0	0	300	300
G23 Balustrade	Balustrades to...	A-G23-G-Bstr	By Level	0	0	50	1100
G23 Ramps	Ramps	A-G23-G-Ramp	By Level	0	0	200	200
G23 Stairs	Stairs	A-G23-G-Strs	By Level	0	0	200	1500
G24 Roofs	Roofs	A-G24-G-Roof	By Level	0	0	200	200
G25 Walls	Walls	A-G25-G-Wall	By Level	0	0	100	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 75mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	75	3000
G25 Walls (Block) 90mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	90	3000
G25 Walls (Block) 100mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Block) 140mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	140	3000
G25 Walls (Block) 190mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	190	3000
G25 Walls (Block) 215mm	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	215	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 65mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	65	3000
G25 Walls (Brick) 102.5mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Brick) 215mm	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	215	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 100mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	100	3000
G25 Walls (Concrete) 200mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G25 Walls (Concrete) 300mm	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	300	3000

D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\W

TFDATASET_SHOWDUPLICATEFAMILIES=1

Dataset Explorer

Dataset Edit

Parts View Definition

Part	Description	Level	Color	Style	Weight	Thickness	Height
G25 Walls	Walls	A-G25-G-Wall	By Level	0	0	100	3000
G25 Walls (Block)	Walls (Block)	A-G25-G-WallBlck	By Level	0	0	100	3000
G25 Walls (Brick)	Walls (Brick)	A-G25-G-WallBrck	By Level	0	0	103	3000
G25 Walls (Concrete)	Walls (Concrete)	A-G25-G-WallConc	By Level	0	0	200	3000
G251 External walls	External walls	A-G251-G-WallExtl	By Level	0	0	140	3000
G252 External Walls (Concrete)	External walls ...	A-G251-G-WallExtl	By Level	0	0	200	3000
G252 Internal Walls (Concrete)	Internal walls ...	A-G252-G-WallIntl	By Level	0	0	100	3000
G252 Internal walls and partitions	Internal walls	A-G252-G-WallIntl	By Level	0	0	100	3000

Dataset Explorer

Dataset Edit

Parts View Definition

Model: Section: F/R View:

Part	Description	Level	Color
G21 Foundations	Foundations	A-G21-G-Fndn	By Level
G22 Floors	Floors	A-G22-G-Flor	By Level
G23 Balustrade	Balustrades to...	A-G23-G-Bstr	By Level
G23 Ramps	Ramps	A-G23-G-Ramp	By Level
G23 Stairs	Stairs	A-G23-G-Strs	By Level
G24 Roofs	Roofs	A-G24-G-Roof	By Level
G25 Walls	Walls		
G25 Walls (Block)	Walls (Block)		
G25 Walls (Block) 75mm	Walls (Block)		
G25 Walls (Block) 90mm	Walls (Block)		
G25 Walls (Block) 100mm	Walls (Block)		
G25 Walls (Block) 140mm	Walls (Block)		
G25 Walls (Block) 190mm	Walls (Block)		
G25 Walls (Block) 215mm	Walls (Block)		
G25 Walls (Brick)	Walls (Brick)		
G25 Walls (Brick) 65mm	Walls (Brick)		
G25 Walls (Brick) 102.5mm	Walls (Brick)		
G25 Walls (Brick) 215mm	Walls (Brick)		
G25 Walls (Concrete)	Walls (Concrete)		
G25 Walls (Concrete) 100mm	Walls (Concrete)		
G25 Walls (Concrete) 200mm	Walls (Concrete)		
G25 Walls (Concrete) 300mm	Walls (Concrete)		

Parts in duplicated Family displayed in Part pull-down list

Part Level Part C

Part

Description

G21 Foundations

G22 Floors

G23 Balustrade

G23 Ramps

G23 Stairs

G24 Roofs

G25 Walls

G25 Walls (Block)

G25 Walls (Block) 100mm

G25 Walls (Block) 140mm

G25 Walls (Block) 190mm

G25 Walls (Block) 215mm

D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\W

TFDATASET_SHOWDUPLICATEFAMILIES=0

The image shows a MicroStation interface with a configuration window and a Notepad window. The configuration window displays variables like TFCELL_EXTENSION and TFDATASET_COMP_NOAUTOLOAD. The Notepad window shows the configuration file content, including the variable TFDATASET_SHOWDUPLICATEFAMILIES = 0. A callout box points to this line, stating 'Configuration Variable added to triform.ucf (disable as required)'. Another callout box points to the part list in the software, stating 'Parts in duplicated Family not displayed in Part pull-down list'. A third callout box points to a family (G1) in the list, stating 'Duplicated Family not listed'. An inset window shows a part list with a pull-down menu open, displaying a list of part families and their descriptions.

Configuration Variable added to triform.ucf (disable as required)

Parts in duplicated Family not displayed in Part pull-down list

Duplicated Family not listed

Part	Description
G25 Walls	Walls
G25 Walls (Block)	Walls (Block)
G25 Walls (Brick)	Walls (Brick)
G25 Walls (Concrete)	Walls (Concrete)
G251 External walls	External walls
G252 External Walls (Concrete)	External walls (concrete)
G252 Internal Walls (Concrete)	Internal walls (concrete)
G252 Internal walls and partitions	Internal walls

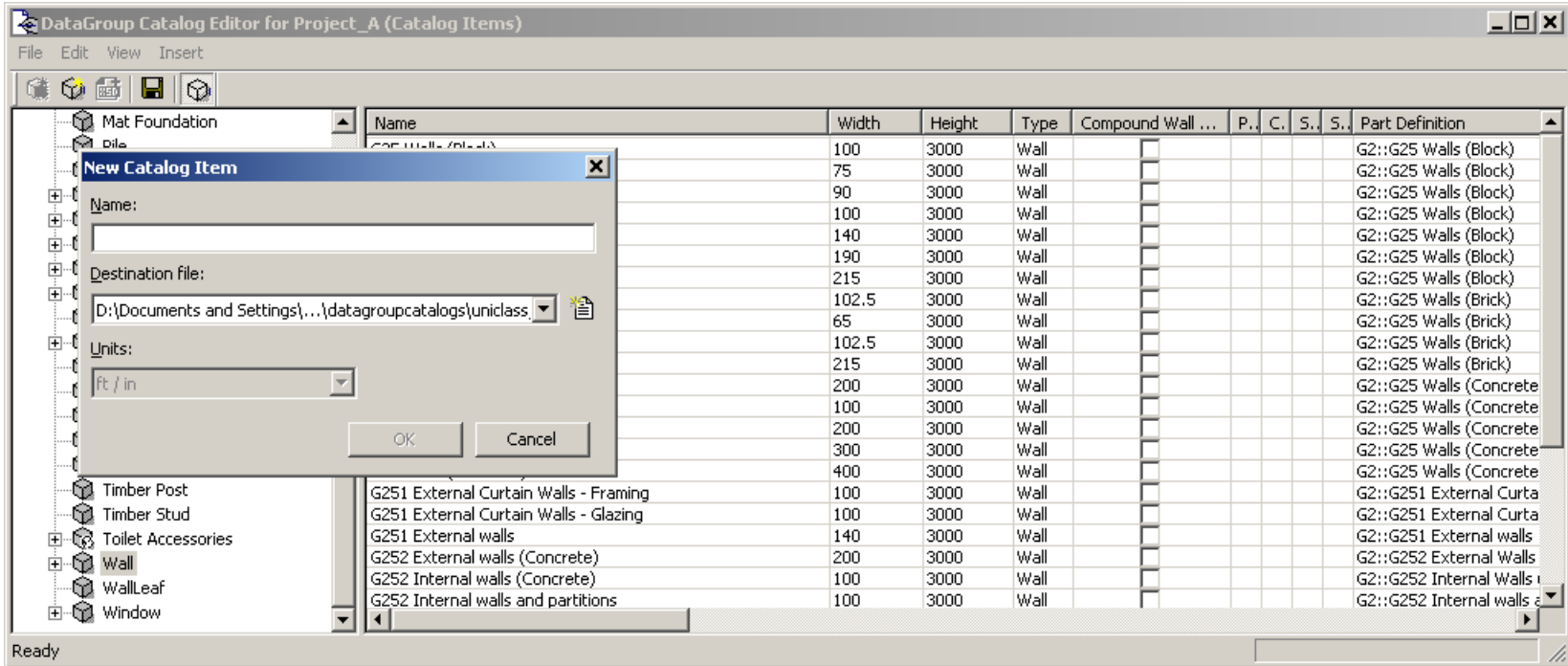
Add Catalog Items

Add Catalog Item

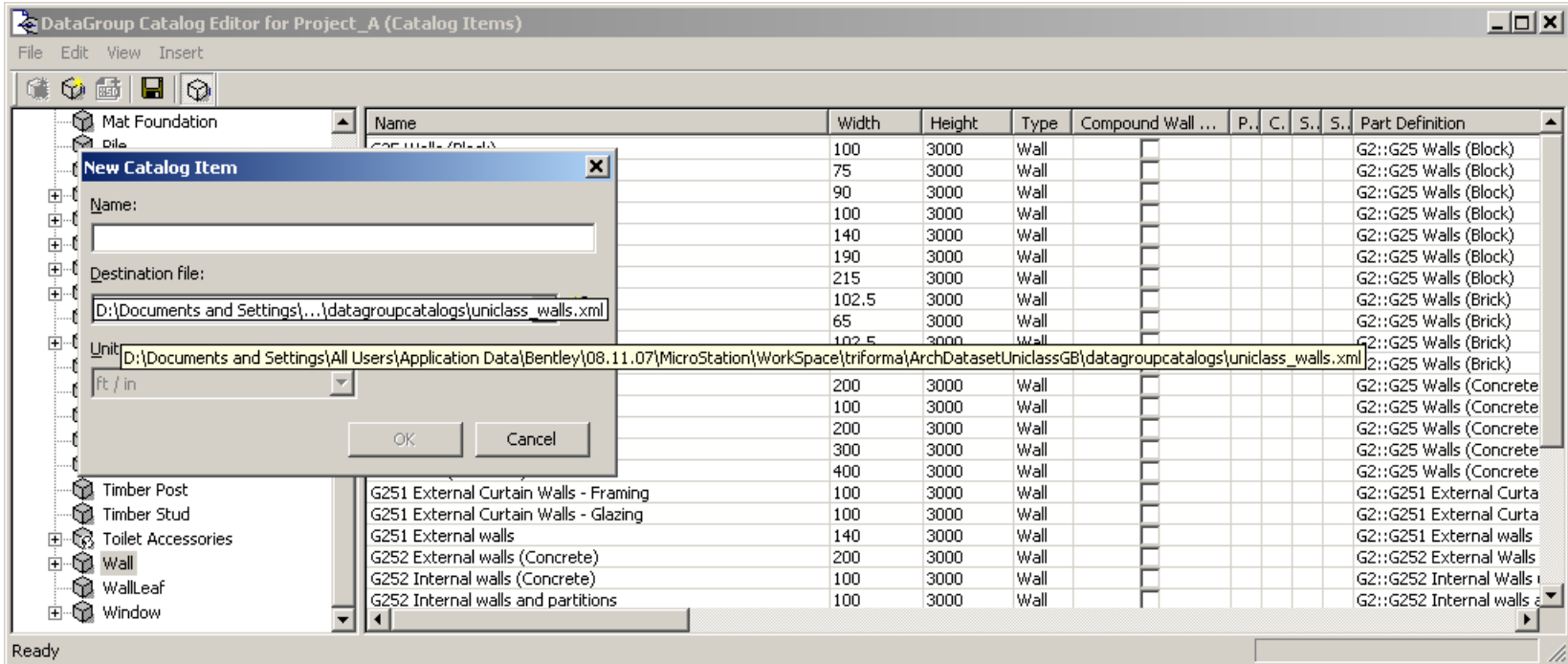
The screenshot shows the 'DataGroup Catalog Editor for Project_A (Catalog Items)' window. The left pane displays a tree view of catalog categories, with 'Wall' selected. A context menu is open over the 'Wall' item, showing options: 'New Catalog Type', 'New Catalog Item', 'Attach Definition', 'Detach Definition', 'Copy', 'Rename', 'Delete', and 'Properties'. The main pane displays a table of catalog items.

Name	Width	Height	Type	Compound Wall ...	P..	C.	S..	S..	Part Definition
G25 Walls (Block)	100	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 75mm	75	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 90mm	90	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 100mm	100	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 140mm	140	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 190mm	190	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Block) 215mm	215	3000	Wall						G2::G25 Walls (Block)
G25 Walls (Brick)	102.5	3000	Wall						G2::G25 Walls (Brick)
G25 Walls (Brick) 65mm	65	3000	Wall						G2::G25 Walls (Brick)
G25 Walls (Brick) 102.5mm	102.5	3000	Wall						G2::G25 Walls (Brick)
G25 Walls (Brick) 215mm	215	3000	Wall						G2::G25 Walls (Brick)
G25 Walls (Concrete)	200	3000	Wall						G2::G25 Walls (Concrete)
G25 Walls (Concrete) 100mm	100	3000	Wall						G2::G25 Walls (Concrete)
G25 Walls (Concrete) 200mm	200	3000	Wall						G2::G25 Walls (Concrete)
G25 Walls (Concrete) 300mm	300	3000	Wall						G2::G25 Walls (Concrete)
G25 Walls (Concrete) 400mm	400	3000	Wall						G2::G25 Walls (Concrete)
G251 External Curtain Walls - Framing	100	3000	Wall						G2::G251 External Curta
G251 External Curtain Walls - Glazing	100	3000	Wall						G2::G251 External Curta
External walls	140	3000	Wall						G2::G251 External walls
External walls (Concrete)	200	3000	Wall						G2::G252 External Walls
Internal walls (Concrete)	100	3000	Wall						G2::G252 Internal walls
Internal walls and partitions	100	3000	Wall						G2::G252 Internal walls

Add Catalog Item



Add Catalog Item

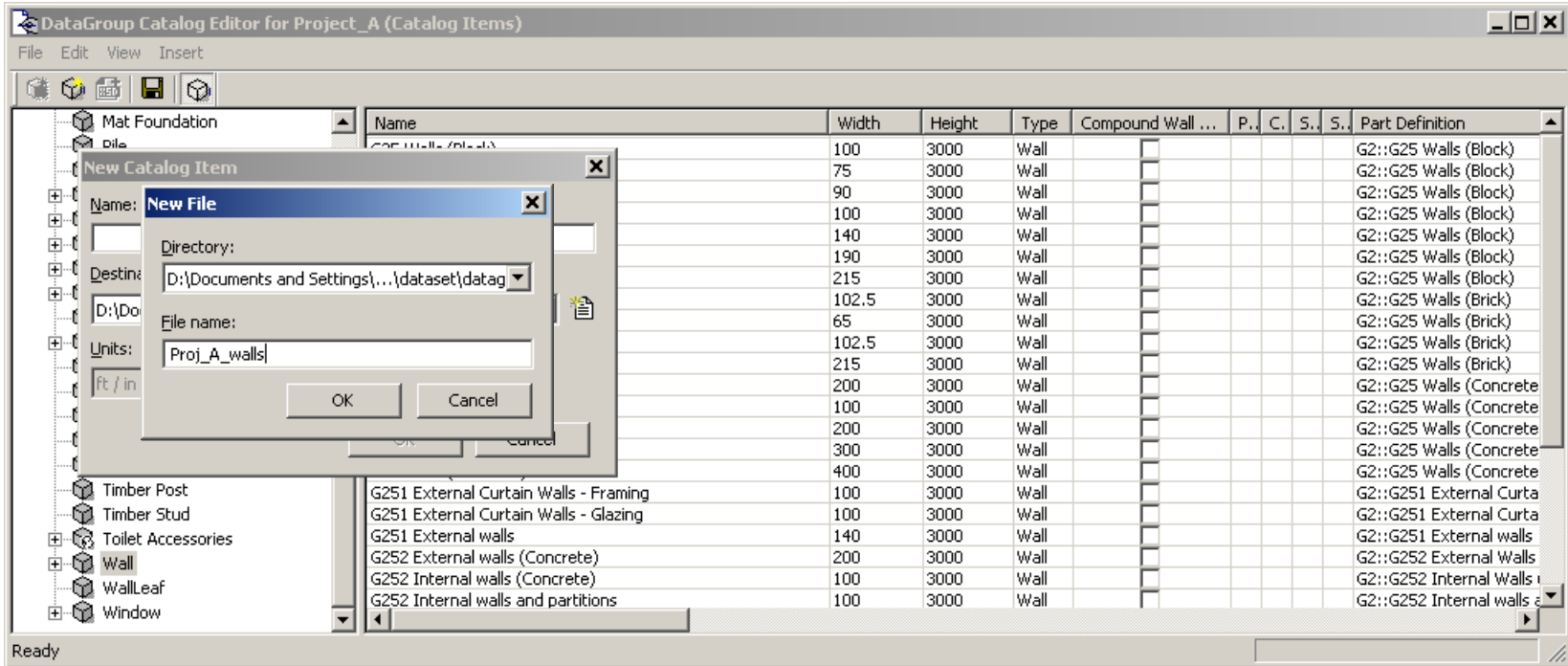


Add Catalog Item

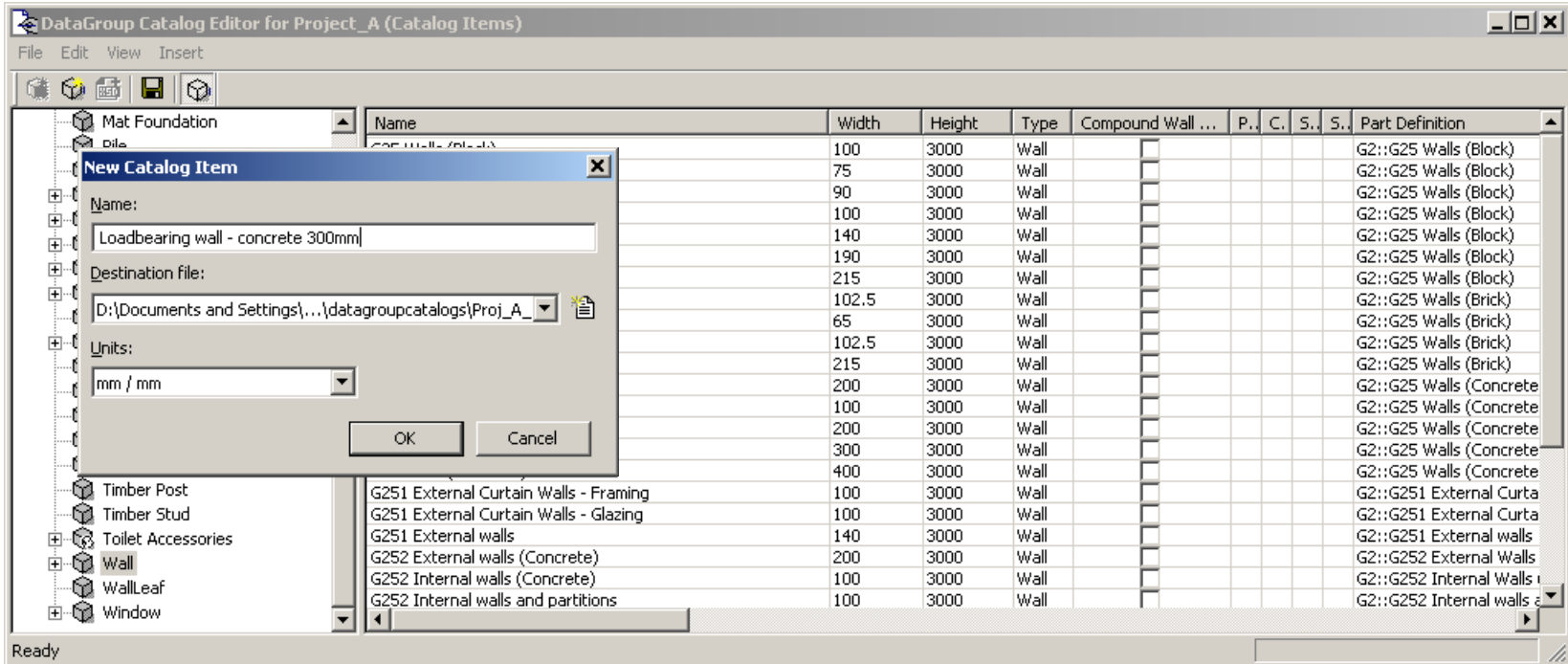
The screenshot shows the 'DataGroup Catalog Editor for Project_A (Catalog Items)' window. The main window displays a table of catalog items with columns for Name, Width, Height, Type, Compound Wall, and Part Definition. A 'New Catalog Item' dialog box is open, showing a 'Name' field set to 'New File' and a 'Directory' field containing the path: 'D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\Workspace\projects\examples\Project_A\dataset\datagroupcatalogs\'. A callout bubble points to this path with the text: 'File for catalog items to be created in Project Dataset folder!'.

Name	Width	Height	Type	Compound Wall ...	P...	C	S	S	Part Definition
G25 Walls (Block)	100	3000	Wall						
	75	3000	Wall						
	90	3000	Wall						
	100	3000	Wall						
	140	3000	Wall						
	190	3000	Wall						
	215	3000	Wall						
	102.5	3000	Wall						
	102.5	3000	Wall						
	215	3000	Wall						
	200	3000	Wall						
	100	3000	Wall						
	200	3000	Wall						
	300	3000	Wall						
	400	3000	Wall						
G251 External Curtain Walls - Framing	100	3000	Wall						G2::G251 External Curta
G251 External Curtain Walls - Glazing	100	3000	Wall						G2::G251 External Curta
G251 External walls	140	3000	Wall						G2::G251 External walls
G252 External walls (Concrete)	200	3000	Wall						G2::G252 External Walls
G252 Internal walls (Concrete)	100	3000	Wall						G2::G252 Internal walls
G252 Internal walls and partitions	100	3000	Wall						G2::G252 Internal walls

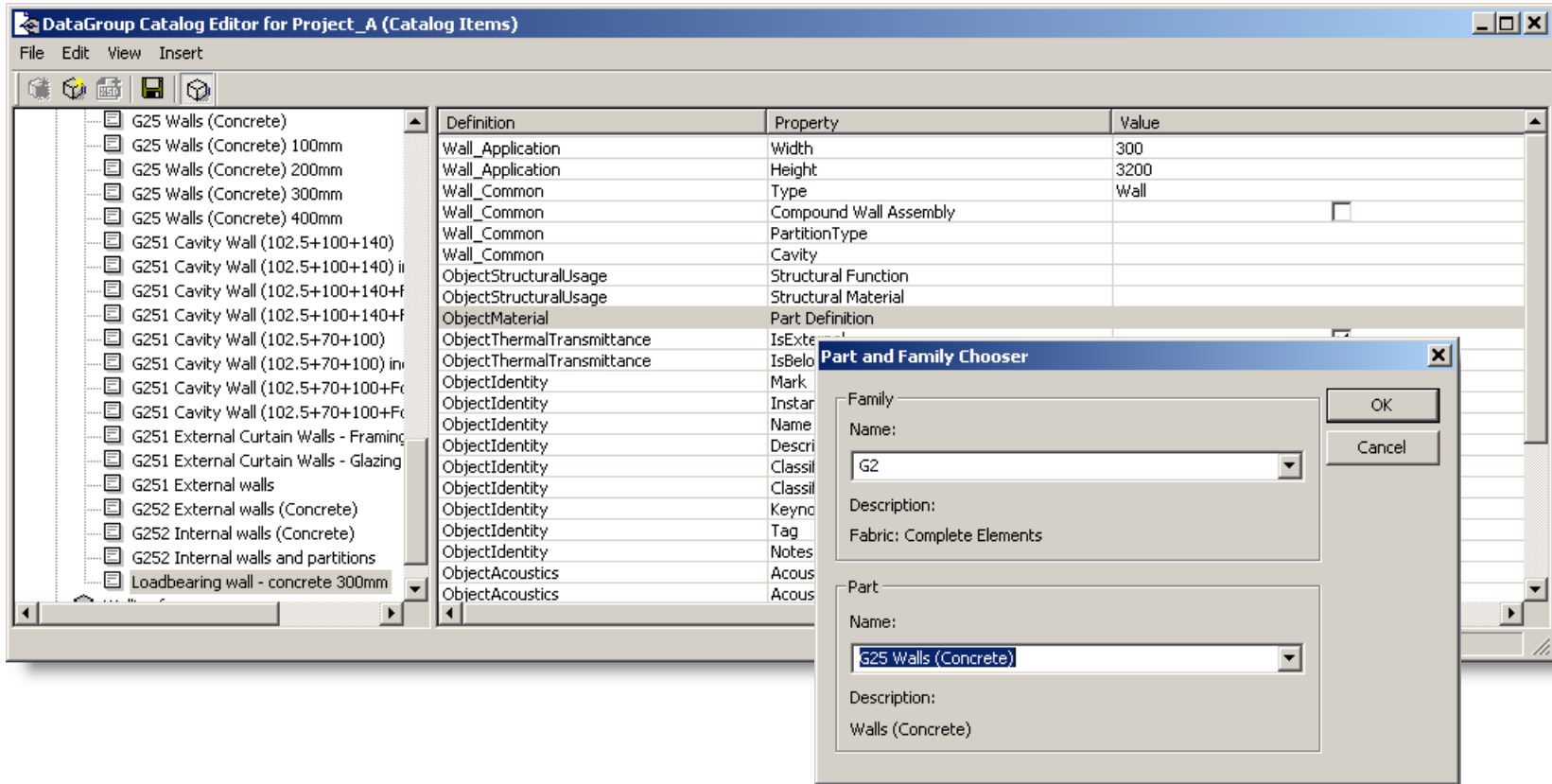
Add Catalog Item



Add Catalog Item



Add Catalog Item

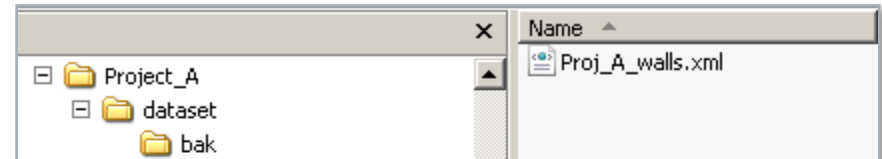


Add Catalog Item

The screenshot shows the 'DataGroup Catalog Editor for Project_A (Catalog Items)' window. The left pane displays a tree view of catalog items, with 'Loadbearing wall - concrete 300mm' selected. A yellow callout bubble points to this item with the text 'New catalog item'. The right pane shows a table of properties for the selected item.

Property	Value	
Wall_Application	Width	300
Wall_Application	Height	3200
Wall_Common	Type	Wall
Wall_Common	Compound Wall Assembly	<input type="checkbox"/>
Wall_Common	PartitionType	
Wall_Common	Cavity	
ObjectStructuralUsage	Structural Function	
ObjectStructuralUsage	Structural Material	RC Concrete
ObjectMaterial	Part Definition	G2::G25 Walls (Concrete)
ObjectThermalTransmittance	IsExternal	<input checked="" type="checkbox"/>
ObjectThermalTransmittance	IsBelowGrade	<input type="checkbox"/>
ObjectIdentity	Mark	
ObjectIdentity	Instance Mark	
ObjectIdentity	Name (Alternate)	
ObjectIdentity	Description	Loadbearing concrete wall
ObjectIdentity	Classification Description	
ObjectIdentity	Classification Code	
ObjectIdentity	Keynote	
ObjectIdentity	Tag	
ObjectIdentity	Notes	
ObjectAcoustics	Acoustical Rating (STC)	
ObjectAcoustics	Acoustical Test Reference No.	

Add Catalog Item



```
Proj_A_walls.xml - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="windows-1252"?>
<DataGroupSystem>
  <Version major="1" minor="0"/>
  <Units master="mm" sub="mm"/>
  <CatalogItems>
    <CatalogItem type="wall" name="Loadbearing wall - concrete 300mm">
      <Defaults>
        <Property definition="wall_Application" name="wall_Application/@width" value="300"/>
        <Property definition="wall_Application" name="wall_Application/@Height" value="3200"/>
        <Property definition="ObjectThermalTransmittance" name="ObjectThermalTransmittance/@IsExternal" value="true"/>
        <Property definition="ObjectMaterial" name="ObjectMaterial/@PartDefinition" value="G2::G25 walls (Concrete)"/>
        <Property definition="ObjectIdentity" name="ObjectIdentity/@Description" value="Loadbearing concrete wall"/>
        <Property definition="ObjectStructuralUsage" name="ObjectStructuralUsage/@StructuralMaterial" value="RC concrete"/>
      </Defaults>
    </CatalogItem>
  </CatalogItems>
</DataGroupSystem>
```

**Warning:
Editing xml-files can
seriously damage
your health!**



Add Catalog Item

- can't create duplicate DataGroup items

A catalog item with the name you entered already exists. Please enter a unique name.

- if created 'manually', then error message

Validation Report

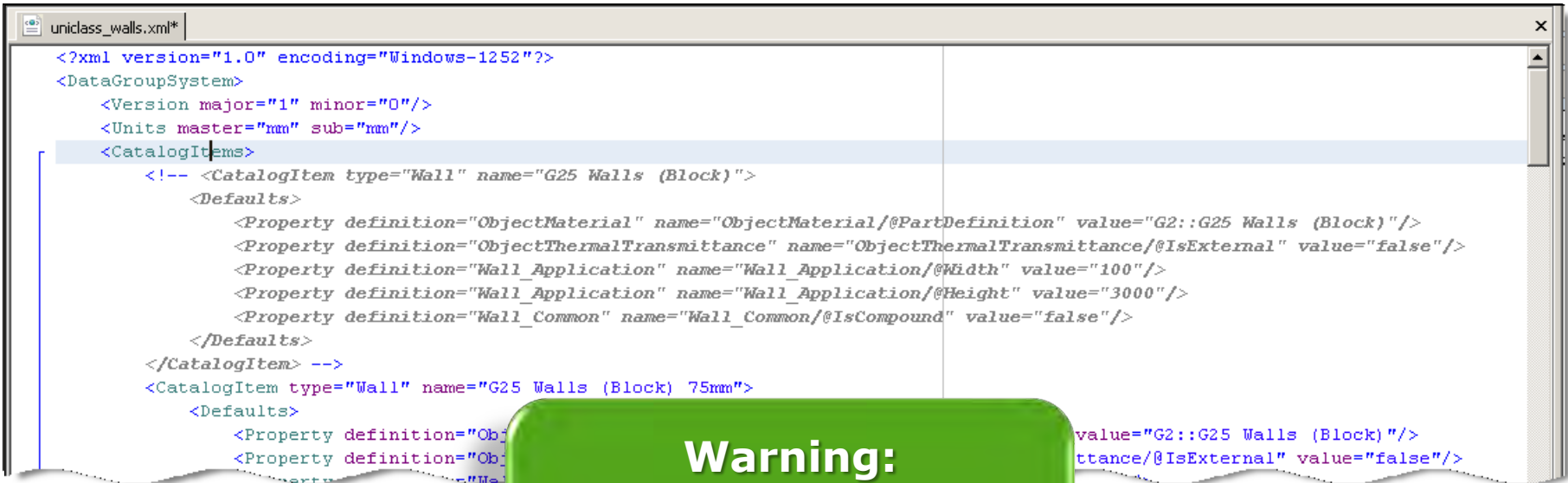
February 24, 2010 - 1:39:01PM

System Checks

Status	Description		
!	1 duplicate Catalog Item was found	Help	Details
!	Duplicate Catalog Type: 'Wall', Catalog Item: 'G25 Walls (Block)', was found in file 'D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\Workspace\triforma\ArchDatasetUniclassGB\datagroupcatalogs\uniclass_walls.xml'		
✓	All required configuration variables exist		Details
✓	All configuration variables are valid		Details

Hiding Catalog Items

- enclose the entire item with `<!--` and `-->`



```
<?xml version="1.0" encoding="Windows-1252"?>
<DataGroupSystem>
  <Version major="1" minor="0"/>
  <Units master="mm" sub="mm"/>
  <CatalogItems>
    <!-- <CatalogItem type="Wall" name="G25 Walls (Block)">
      <Defaults>
        <Property definition="ObjectMaterial" name="ObjectMaterial/@PartDefinition" value="G2::G25 Walls (Block)"/>
        <Property definition="ObjectThermalTransmittance" name="ObjectThermalTransmittance/@IsExternal" value="false"/>
        <Property definition="Wall_Application" name="Wall_Application/@Width" value="100"/>
        <Property definition="Wall_Application" name="Wall_Application/@Height" value="3000"/>
        <Property definition="Wall_Common" name="Wall_Common/@IsCompound" value="false"/>
      </Defaults>
    </CatalogItem -->
    <CatalogItem type="Wall" name="G25 Walls (Block) 75mm">
      <Defaults>
        <Property definition="Ob value="G2::G25 Walls (Block)"/>
        <Property definition="Ob tance/@IsExternal" value="false"/>
      </Defaults>
    </CatalogItem>
  </CatalogItems>
</DataGroupSystem>
```

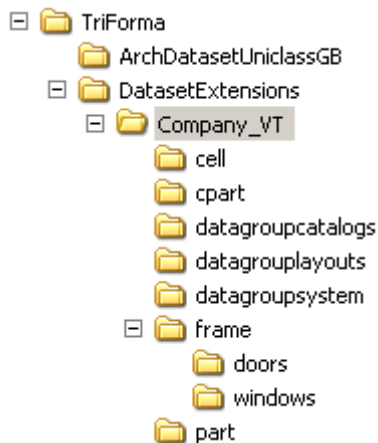
Warning:
Editing xml-files can
seriously damage
your health!

Company Datasets

Company Datasets

- add folder 'DatasetExtensions'
- add folder and subfolders
- create configuration variable to folder in PCF-file
- append search paths to subfolders

Configuration Variables in PCF-file

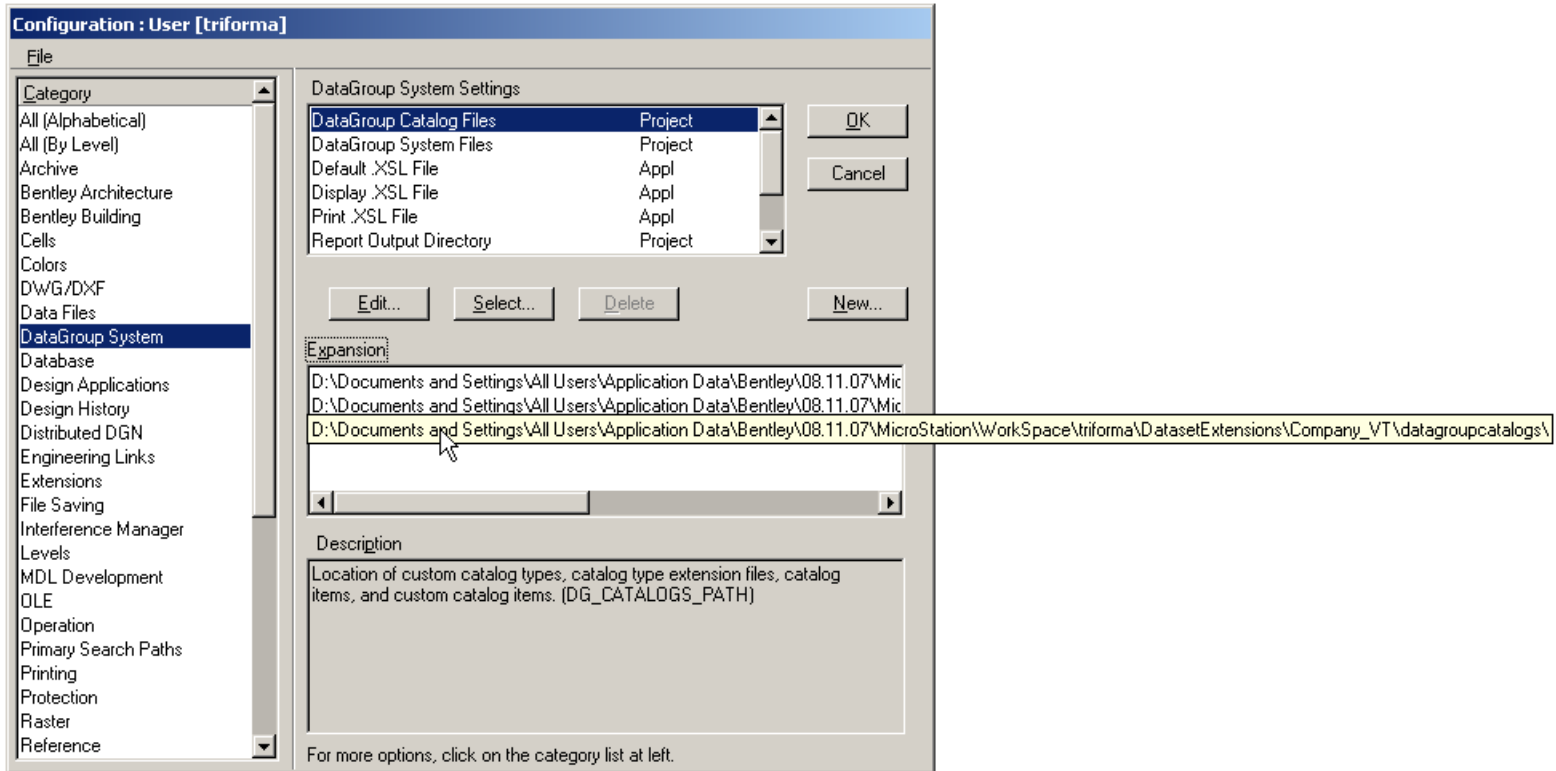


```

#-----
# Append search paths for company-level dataset portions
#-----
COMP_DATASET = $(TF_DATASETS)DatasetExtensions/Company_VT/

TFDIR_PART < $(COMP_DATASET)part/
TFDIR_CELL < $(COMP_DATASET)cell/
TFDIR_COMP < $(COMP_DATASET)comp/
TFDIR_CPART < $(COMP_DATASET)cpart/
TFDIR_FRAME < $(COMP_DATASET)frame/
ATFDIR_Window < $(COMP_DATASET)frame/windows/
ATFDIR_Door < $(COMP_DATASET)frame/doors/
MS_MATERIAL < $(COMP_DATASET)materials/
MS_PATTERN < $(COMP_DATASET)materials/pattern/
MS_BUMP < $(COMP_DATASET)materials/bump/
DG_CATALOGS_PATH > $(COMP_DATASET)datagroupcatalogs/
DG_SCHEDULE_LAYOUT_PATH < $(COMP_DATASET)datagrouplayouts/
DG_PATH < $(COMP_DATASET)datagroupsystem/
    
```

Configuration Variables



Configuration Variables

The screenshot displays the 'Configuration: User [triforma]' dialog box. The 'Category' list on the left is expanded to 'DataGroup System'. The main area shows a list of configuration variables with their associated application types:

Variable Name	Application Type
TFDIR_IFC	Project
TFDIR_MACRO	Appl
TFDIR_MDLAPPS	Appl
TFDIR_PART	Project
TFDIR_PREFS	Appl
TFDIR_SEED	Appl

The 'Expansion' field for the selected 'TFDIR_PART' variable shows the following path:

```
D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\WorkSpace\triforma\Dataset\Extensions\Company_VT\part\
```

The 'Description' field for 'TFDIR_PART' reads: 'Location of TriForma Parts libraries. (TFDIR_PART)'. At the bottom, it states: 'For more options, click on the category list at left.'

Configuration Variables

The image displays three overlapping screenshots of the Bentley Configuration dialog boxes, illustrating the process of configuring variables.

Top Dialog: Configuration : User [triforma]
Category: DataGroup System Settings
DataGroup Catalog Files (Project) [OK]

Middle Dialog: Configuration : User [triforma]
View/modify all configuration variables.
TFDIR_IFC (Project) [OK]

Bottom Dialog: Configuration : User [triforma]
Bentley Architecture Application Settings
Frame Files for Base Cabinets (Appl) [OK]
Frame Files for Casework (Appl) [Cancel]
Frame Files for Doors (Project) [OK]
Frame Files for Shelving (Appl)
Frame Files for Tall Cabinets (Appl)
Frame Files for Wall Cabinets (Appl) [New...]

Expansion:
D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\MicroStation\WorkSpace\triforma\Dataset\Extensions\Company_VT\frame\doors\
D:\Documents and Settings\All Users\Application Data\Bentley\08.11.07\Mic

Description:
Location of door frame files. By default this variable is based on ATFDIR_FRAME. (ATFDIR_DOOR)

For more options, click on the category list at left.

Company Family & Parts

add Families and Parts to Company dataset as for Project dataset

Description	Level	Color	Style	Weight	Thickness	Height
Alu Windows - a...	A-G321-G-Wndw	31	0	0	1200	1200
G321 Windows - Awning Wood	A-G321-G-Wndw	143	0	0	1200	1200
G321 Windows - Glazing Type 1	A-G321-G-Wndw	111	0	0	1200	1200
G321 Windows - Glazing Type 2	A-G321-G-Wndw	175	0	0	1200	1200
G321 Windows - PVC	A-G321-G-Wndw	0	0	0	1200	1200
G321 Windows Metal Type 1	A-G321-G-Wndw	139	0	0	1200	1200
G321 Windows Metal Type 2	A-G321-G-Wndw	60	0	0	1200	1200
G321 Windows Metal Type 3	A-G321-G-Wndw	171	0	0	1200	1200
G321 Windows Wood Type 1	A-G321-G-Wndw	143	0	0	1200	1200
G322 Doors	A-G322-G-Door	By Level	0	0	100	2100
G322 Doors - Glazing	A-G322-G-Door	111	0	0	100	2100
G322 Doors - Metal Type 1	A-G322-G-Door	139	0	0	100	2100
G322 Doors - Metal Type 2	A-G322-G-Door	60	0	0	100	2100
G322 Doors - Metal Type 3	A-G322-G-Door	171	0	0	100	2100
G322 Doors - PVC	A-G322-G-Door	0	0	0	100	2100
G322 Doors - Wood Type 1	A-G322-G-Door	143	0	0	100	2100
G322 Doors - Wood Type 2	A-G322-G-Door	136	0	0	100	2100

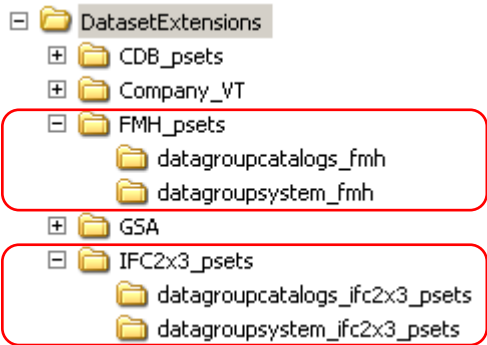
Special-purpose dataset extensions

IFC2x3 psets, IFC MVDs, etc.

Dataset Extensions

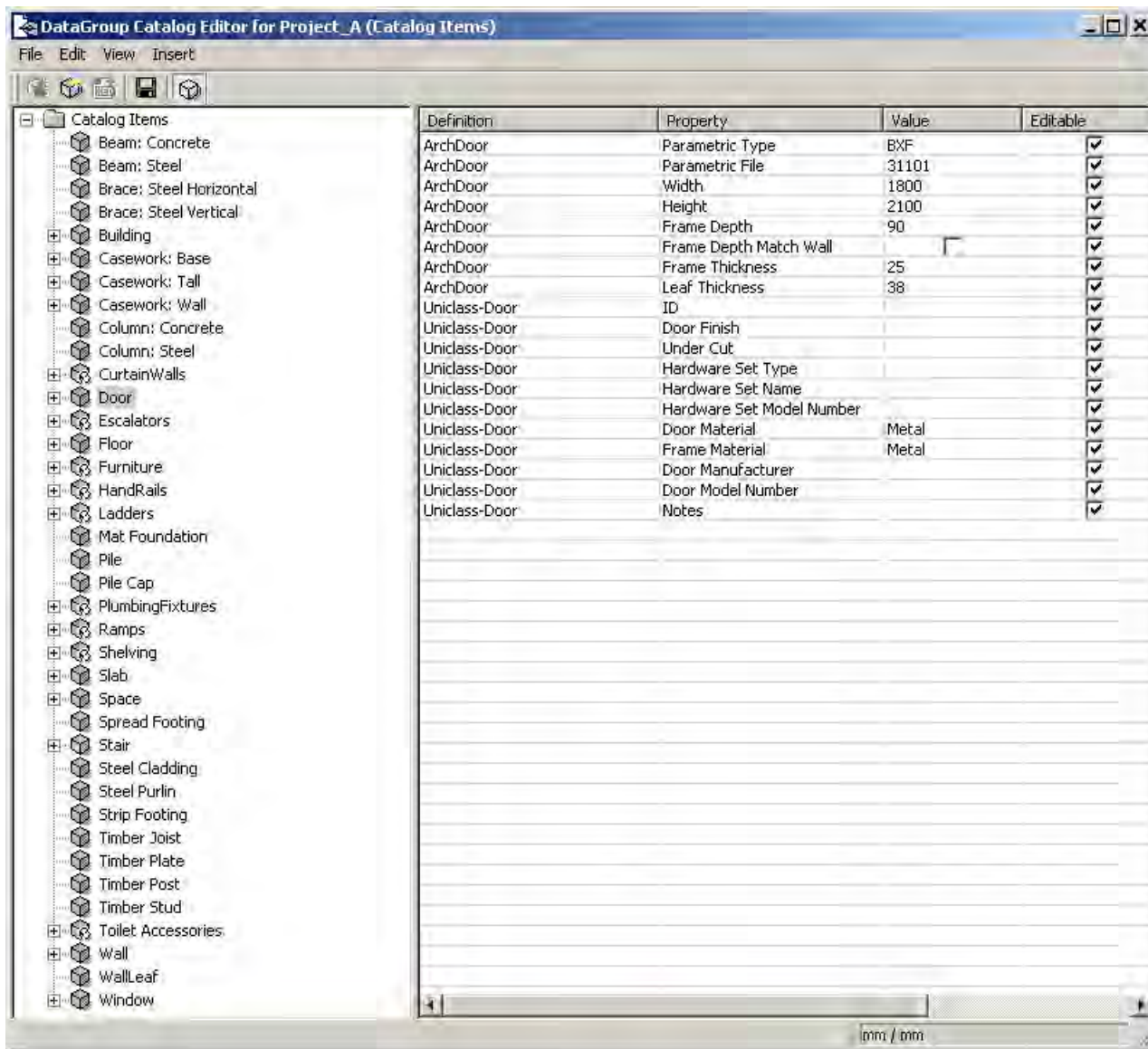
- add folders and subfolders (if necessary)
- create configuration variable to folders in PCF-file
- append search paths to subfolders

Configuration Variables in PCF-file



```
#-----
# Append search paths to support the IFC 'FM Handover (COBie2)' Model View Definition
# (folders and files created by unzipping DatasetExtensions_FMHandover.zip
# in ...\Workspace\Triforma with create folder option on)
#-----
FMH_DATASET = $(TF_DATASETS)DatasetExtensions/FMH_psets/
DG_CATALOGS_PATH > $(FMH_DATASET)datagroupcatalogs_fmh/
DG_PATH < $(FMH_DATASET)datagroupsystem_fmh/

IFC_Psets = $(TF_DATASETS)DatasetExtensions/IFC2x3_psets/
DG_CATALOGS_PATH > $(IFC_Psets)datagroupcatalogs_fmh
DG_PATH < $(IFC_Psets)datagroupsystem_ifc2x3_psets/
```

Before

DataGroup Catalog Editor for Project_A (Catalog Items)

File Edit View Insert

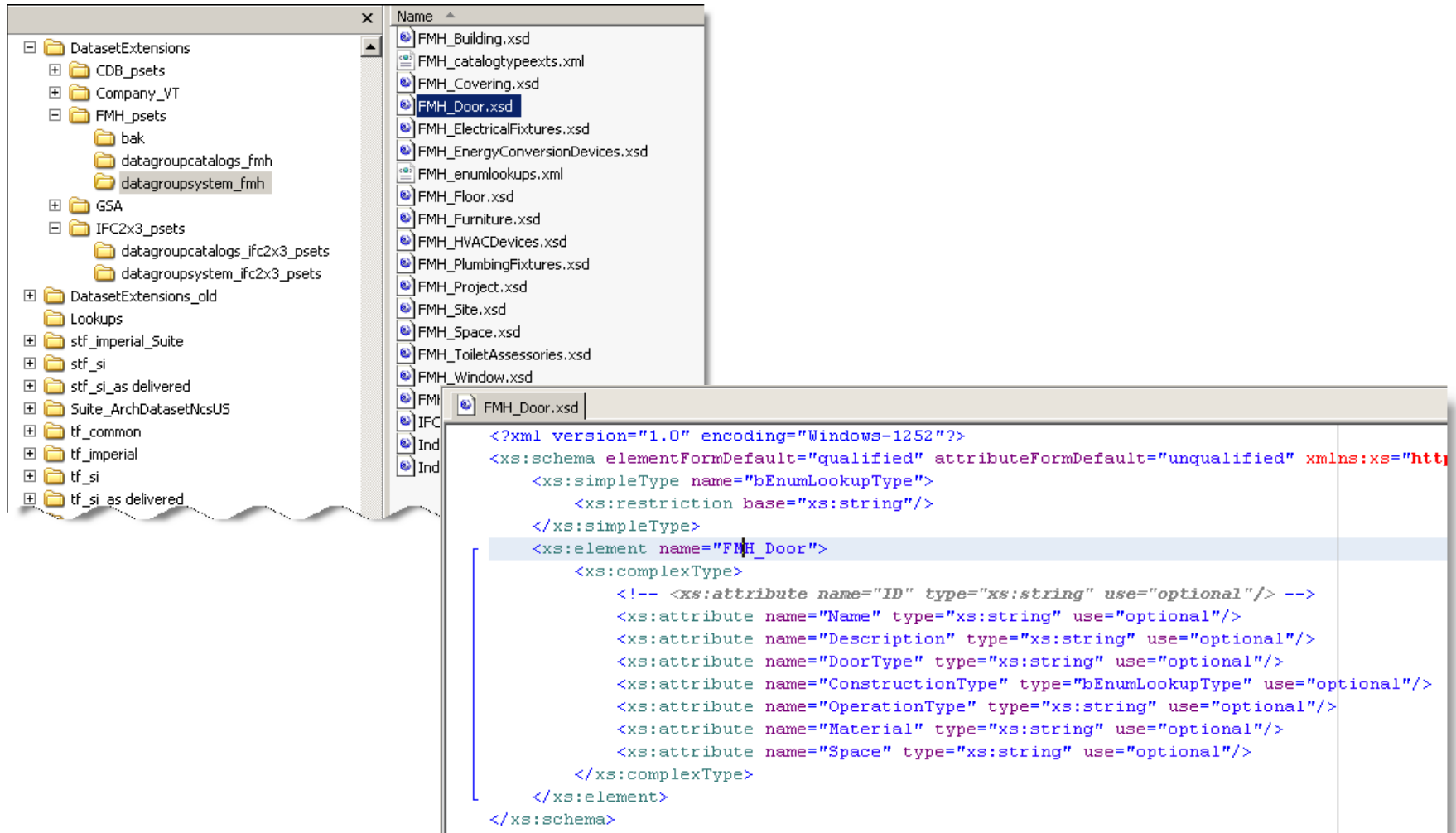
Catalog Items

- Beam
 - Beam: Concrete
 - Beam: Steel
- Brace: Steel Horizontal
- Brace: Steel Vertical
- Building
- Casework: Base
- Casework: Tall
- Casework: Wall
- Ceiling
- Column
 - Column: Concrete
 - Column: Steel
- Covering
- CurtainWalls
- Door
- Energy Conversion Device
- Escalators
- Floor
- Flooring
- Footing
- Furniture
- HandRails
- HVAC Device
- IndustryClassificationSystem
- Ladders
- Mat Foundation
- Member
- Opening
- Pile
- Pile Cap
- PlumbingFixtures
- Project
- Ramp
- Ramps
- Roof
- Shelving
- Site
- Slab
- Space
- Spread Footing
- Stair
- Stairs
- Steel Cladding
- Steel Purlin
- Strip Footing
- Timber Joist

Definition	Property	Value	Editable
ArchDoor	Parametric Type	BXF	
ArchDoor	Parametric File	31101	
ArchDoor	Width	1800	
ArchDoor	Height	2100	
ArchDoor	Frame Depth	90	
ArchDoor	Frame Depth Match Wall	<input type="checkbox"/>	
ArchDoor	Frame Thickness	25	
ArchDoor	Leaf Thickness	38	
FMH_Door	Name		
FMH_Door	Description		
FMH_Door	Door Type		
FMH_Door	ConstructionType		
FMH_Door	OperationType		
FMH_Door	Material		
FMH_Door	Space		
IndustryClassification	ClassificationSystem		
IndustryClassification	ClassificationReference		
IndustryClassification	ClassificationName		
pset_doorcommon	Reference		
pset_doorcommon	FireRating		
pset_doorcommon	AcousticRating		
pset_doorcommon	SecurityRating		
pset_doorcommon	IsExternal	<input type="checkbox"/>	
pset_doorcommon	Infiltration		0
pset_doorcommon	ThermalTransmittance		0
pset_doorcommon	GlazingAreaFraction		0
pset_doorcommon	HandicapAccessible	<input type="checkbox"/>	
pset_doorcommon	FireExit	<input type="checkbox"/>	
pset_doorcommon	SelfClosing	<input type="checkbox"/>	
pset_doorcommon	SmokeStop	<input type="checkbox"/>	
pset_doorwindowglazingtype	GlassLayers		0
pset_doorwindowglazingtype	GlassThickness1		0
pset_doorwindowglazingtype	GlassThickness2		0
pset_doorwindowglazingtype	GlassThickness3		0
pset_doorwindowglazingtype	FillGas		
pset_doorwindowglazingtype	GlassColor		
pset_doorwindowglazingtype	IsTempered	<input type="checkbox"/>	
pset_doorwindowglazingtype	IsLaminated	<input type="checkbox"/>	
pset_doorwindowglazingtype	IsCoated	<input type="checkbox"/>	
pset_doorwindowglazingtype	IsWired	<input type="checkbox"/>	
pset_doorwindowglazingtype	Translucency		0
pset_doorwindowglazingtype	Reflectivity		0
pset_doorwindowglazingtype	BeamRadiationTransmittance		0
pset_doorwindowglazingtype	SolarHeatGainTransmittance		0
pset_doorwindowglazingtype	ThermalTransmittanceSummer		0
pset_doorwindowglazingtype	ThermalTransmittanceWinter		0
pset_doorwindowshadingtype	ExternalShadingCoefficient		0
pset_doorwindowshadingtype	InternalShadingCoefficient		0
pset_doorwindowshadingtype	InsetShadingCoefficient		0
pset_fireratingproperties	FireResistanceRating		
pset_fireratingproperties	SurfaceSpreadOfFlame		
pset_fireratingproperties	IsCombustible	<input type="checkbox"/>	
pset_manufacturertypcommon	ArticleNumber		
pset_manufacturertypcommon	ModelReference		

After

Special-purpose DataGroup Definitions



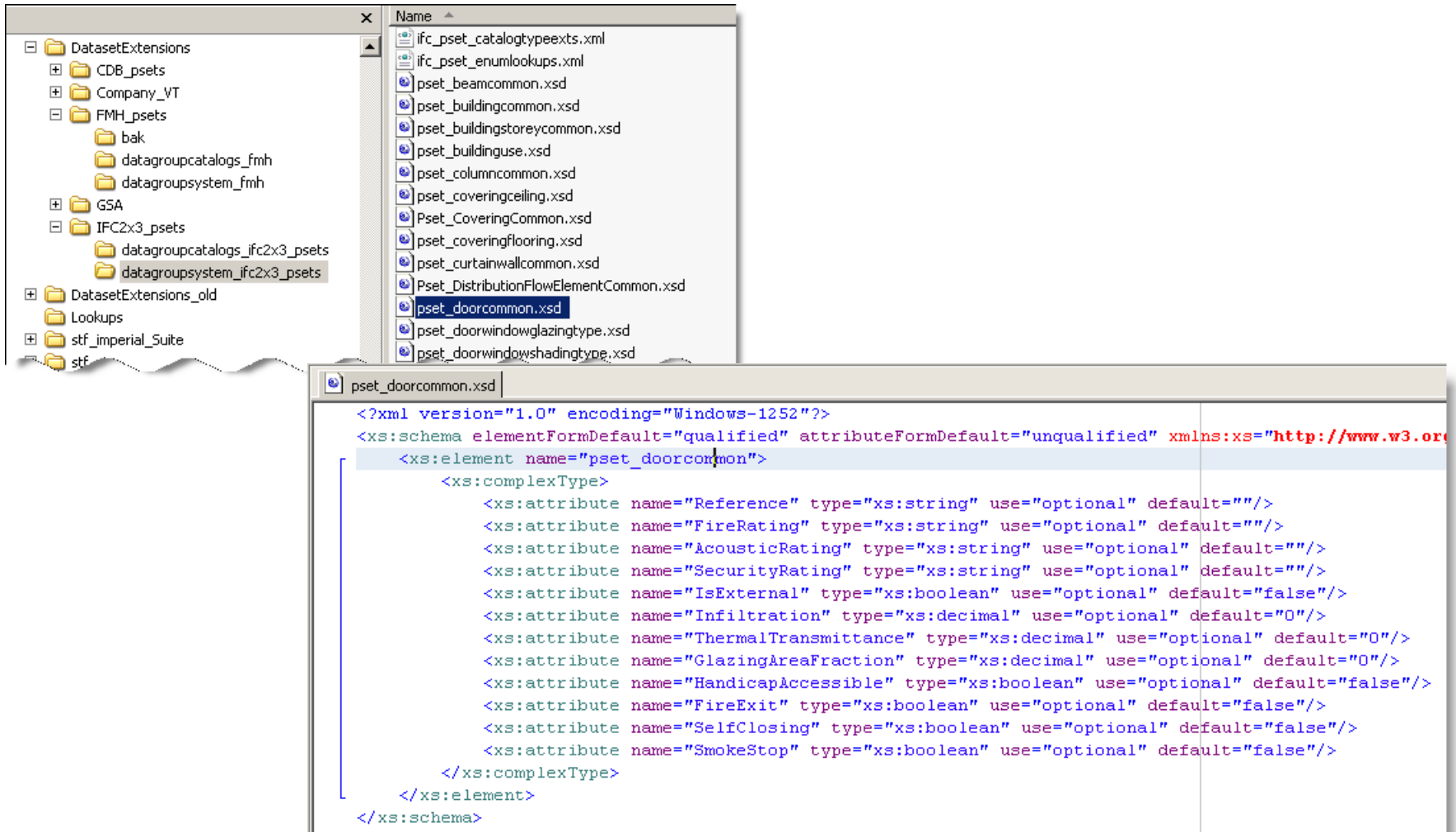
The screenshot displays a software interface with two main windows. The left window is a file explorer showing a hierarchical tree of folders and files. The right window is an XML editor displaying the content of the selected file, 'FMH_door.xsd'.

File Explorer Structure:

- DatasetExtensions
 - CDB_psets
 - Company_VT
 - FMH_psets
 - bak
 - datagroupcatalogs_fmh
 - datagroupsystem_fmh
 - GSA
 - IFC2x3_psets
 - datagroupcatalogs_ifc2x3_psets
 - datagroupsystem_ifc2x3_psets
- DatasetExtensions_old
- Lookups
- stf_imperial_Suite
- stf_si
- stf_si_as delivered
- Suite_ArchDatasetNcsUS
- tf_common
- tf_imperial
- tf_si
- tf_si_as delivered

XML Editor Content (FMH_door.xsd):`<?xml version="1.0" encoding="Windows-1252"?>
<xs:schema elementFormDefault="qualified" attributeFormDefault="unqualified" xmlns:xs="http://www.w3.org/2001/XMLSchema-instance">
 <xs:simpleType name="bEnumLookupType">
 <xs:restriction base="xs:string"/>
 </xs:simpleType>
 <xs:element name="FMH_Door">
 <xs:complexType>
 <!-- <xs:attribute name="ID" type="xs:string" use="optional"/> -->
 <xs:attribute name="Name" type="xs:string" use="optional"/>
 <xs:attribute name="Description" type="xs:string" use="optional"/>
 <xs:attribute name="DoorType" type="xs:string" use="optional"/>
 <xs:attribute name="ConstructionType" type="bEnumLookupType" use="optional"/>
 <xs:attribute name="OperationType" type="xs:string" use="optional"/>
 <xs:attribute name="Material" type="xs:string" use="optional"/>
 <xs:attribute name="Space" type="xs:string" use="optional"/>
 </xs:complexType>
 </xs:element>
</xs:schema>`

Special-purpose DataGroup Definitions



The screenshot displays a software interface with two main windows. The top window is a file explorer showing a directory structure. The bottom window is an XML editor displaying the content of the selected file, 'pset_doorcommon.xsd'.

File Explorer Structure:

- DatasetExtensions
 - CDB_psets
 - Company_VT
 - FMH_psets
 - bak
 - datagroupcatalogs_fmh
 - datagroupsystem_fmh
 - GSA
 - IFC2x3_psets
 - datagroupcatalogs_ifc2x3_psets
 - datagroupsystem_ifc2x3_psets
- DatasetExtensions_old
- Lookups
- stf_imperial_Suite
- stf

XML Editor Content (pset_doorcommon.xsd):

```
<?xml version="1.0" encoding="Windows-1252"?>
<xs:schema elementFormDefault="qualified" attributeFormDefault="unqualified" xmlns:xs="http://www.w3.org/2001/XMLSchema#">
  <xs:element name="pset_doorcommon">
    <xs:complexType>
      <xs:attribute name="Reference" type="xs:string" use="optional" default=""/>
      <xs:attribute name="FireRating" type="xs:string" use="optional" default=""/>
      <xs:attribute name="AcousticRating" type="xs:string" use="optional" default=""/>
      <xs:attribute name="SecurityRating" type="xs:string" use="optional" default=""/>
      <xs:attribute name="IsExternal" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="Infiltration" type="xs:decimal" use="optional" default="0"/>
      <xs:attribute name="ThermalTransmittance" type="xs:decimal" use="optional" default="0"/>
      <xs:attribute name="GlazingAreaFraction" type="xs:decimal" use="optional" default="0"/>
      <xs:attribute name="HandicapAccessible" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="FireExit" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="SelfClosing" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="SmokeStop" type="xs:boolean" use="optional" default="false"/>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Dataset Key Features

- pre-defined geometry, symbology & properties
 - **default geometry (width, height, thickness, ...)**
 - level and symbology in models
 - level, symbology, material hatching/patterning in drawings
 - rendering properties
 - properties for quantity takeoff and cost calculation
 - specification texts
 - user attributes for schedules
 - schedule templates
- libraries of parametric and non-parametric cells

Dataset Key Benefits

- enforce country, company, project standards
 - naming, level, symbology, hatching, rendering, **quantification**, ...
- consistency of models, drawings, schedules, renderings
- geometry and attribute edits to single/multiple building elements
- query model by attributes/create selection sets
- facilitate downstream tasks
interference detection, schedule simulation, analyses, ...
- interoperability with other applications via IFC export

Dataset Overview

Bentley
Sustaining Infrastructure

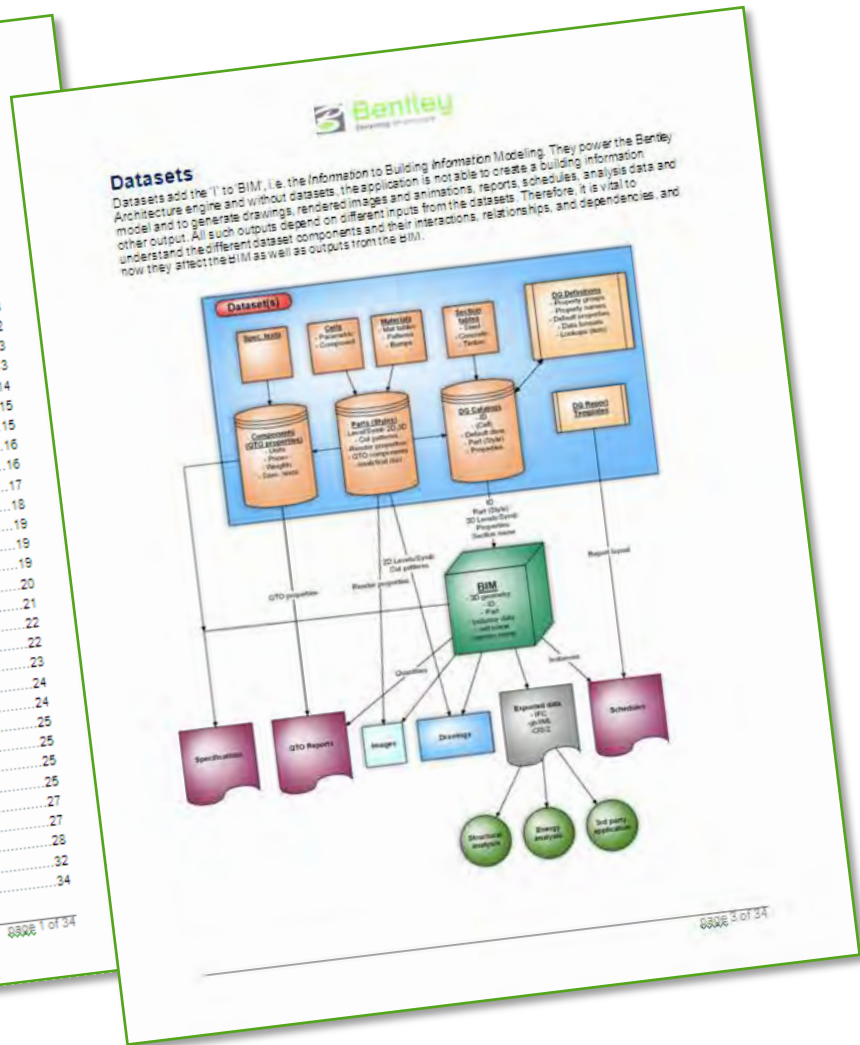
Bentley Architecture Dataset Overview

68006 11 Dec 2009 - 11:07 AM

Table of Contents

Datasets	3
Application dataset	4
Project datasets	4
Company datasets	8
Localized datasets	12
Family/Part system	13
Definitions	13
Drawing Symbology	14
Cut Pattern	15
Centerline Symbology	15
Rendering Properties	16
Report Components	16
Drawing Notation	17
Compound Part Library	17
Component Library	18
Definitions	18
Variable Prices	19
Specification Texts	19
Report generation	20
Parametric and non-parametric cells	20
Compound cells	21
PFB cells	21
Parametric Cell Studio cells	22
Section tables	22
Render materials	23
Material palettes	23
Patterns	24
Bumps	24
DataGroup system	25
DataGroup Definition	25
DataGroup Catalogs	27
DataGroup Reports	27
Revisions	28

68006 1 of 34





Bentley Building Datasets The 'I' in BIM

Thank you!