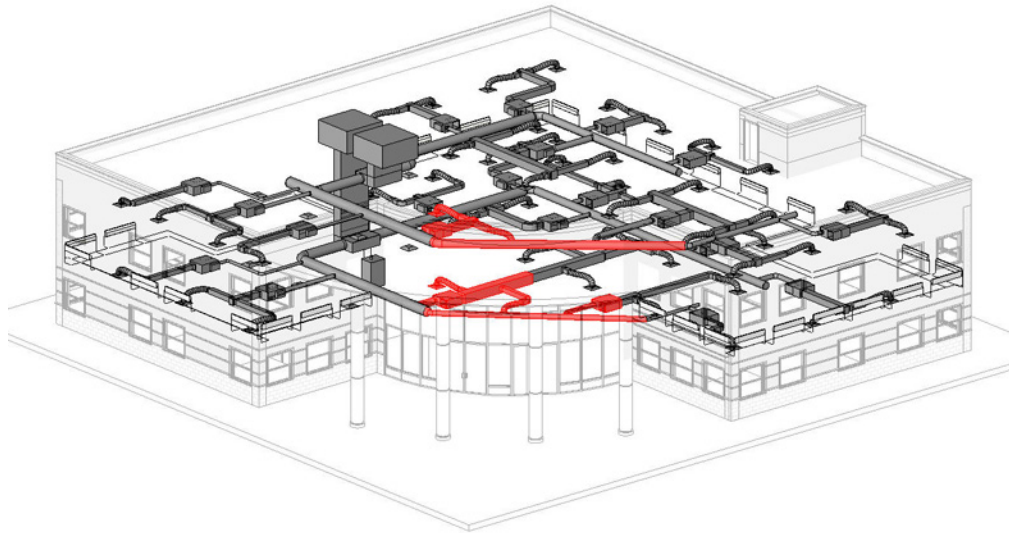


Using the COBie2 Add-in Demonstration Application for Autodesk Revit 2012



This document helps you get started using the Add-in application for COBie2 developed for use with Autodesk Revit 2012 software.

Autodesk's building information modeling (BIM) solutions help make facility lifecycle management practices easier, more efficient, and less costly. An Add-in application (small software program) has been developed using the Revit API software development toolkit, for use in Revit Architecture to accommodate project data management for the current COBie2 standard.

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1. Presenting the Revit COBie2 Add-in Demonstration Application

This add-in application is not a shrink-wrapped application to automate COBie2 production. (Construction Operations Building Information Exchange version 2, abbreviated COBie v2 or COBie2). It is a toolkit to assist project teams produce COBie2 deliverables in conjunction with their Revit model development. It does not provide automated data export/import from Revit to COBie2 spreadsheets, but does demonstrate and provide a functional means to accommodate COBie2 development and data transfer, albeit requiring some understanding of COBie2 on the part of the Revit project team.

The development of a data-rich model for eventual FM handover necessitates grounded discussions and planning amongst the project team. The realm of digital, non-graphic data development and delivery in the AEC process is new and developing, and will evolve and mature considerably in the next few years.

Projects utilizing COBie2 also must be aware that, although a Revit model can capture a broad range of data by employing customized object parameters, as included in this demonstration toolkit, much of this data is not known or available during the design process. The COBie2 framework can accept a wide range of data that is not practical or even possible to affiliate with Revit components in the early lifecycle of the model (e.g. the design phase).

A BIM execution plan for any project should detail the roles of the various team members in the process, including the owner, as well as outline the information that reasonably can be developed and accumulated for the project at hand. COBie2 is a general framework for data exchange or delivery. Each project must tailor its goals for the resources and requirements of the project, and for the continuing lifecycle needs and capabilities of the owner/operator.

All references to Revit herein are to the 2012 version of Revit Architecture, unless otherwise specified. All references to COBie are to version 2.

2. Overview of the Revit COBie2 Add-In Application

The Revit COBie2 Add-in application was not developed to be a fully automated data development and exchange application, but was designed to rely on base Revit functionality wherever possible. As a result, the export/import process between Revit and Excel is not automated.

The template is intended to jump-start Revit COBie2 project efforts, but is not intended to be an all-encompassing solution to COBie2 production. Knowledge and skill of both Revit and the COBie2 framework are required of the project team to ensure the best results for COBie2 data development.

An Introduction to COBie2

COBie (Construction Operations Building Information Exchange) is a framework for organizing data developed and accumulated during the course of a building project for delivery to facilities owners and operators involved in lifecycle management. COBie is evolving under the direction of the [Engineer Research and Development Center, U.S. Army, Corps of Engineers](#). The current version of COBie is v2 (also abbreviated COBie v2 or COBie2). All references to COBie in this document are to version 2. Similarly, references to Revit are to the 2012 version of Revit Architecture, unless otherwise specified.

Although COBie2 may eventually provide a structure for the seamless transfer of data from building information modeling applications (BIM) to facilities management data systems (IWMS, CAFM or CMMS systems), in today's practice, COBie2 relies on organizing data in a series of structured and related spreadsheets.

COBie2 information is compiled during different phases of a project by multiple participants - architects, engineers, constructors, specifiers, fabricators, and others.

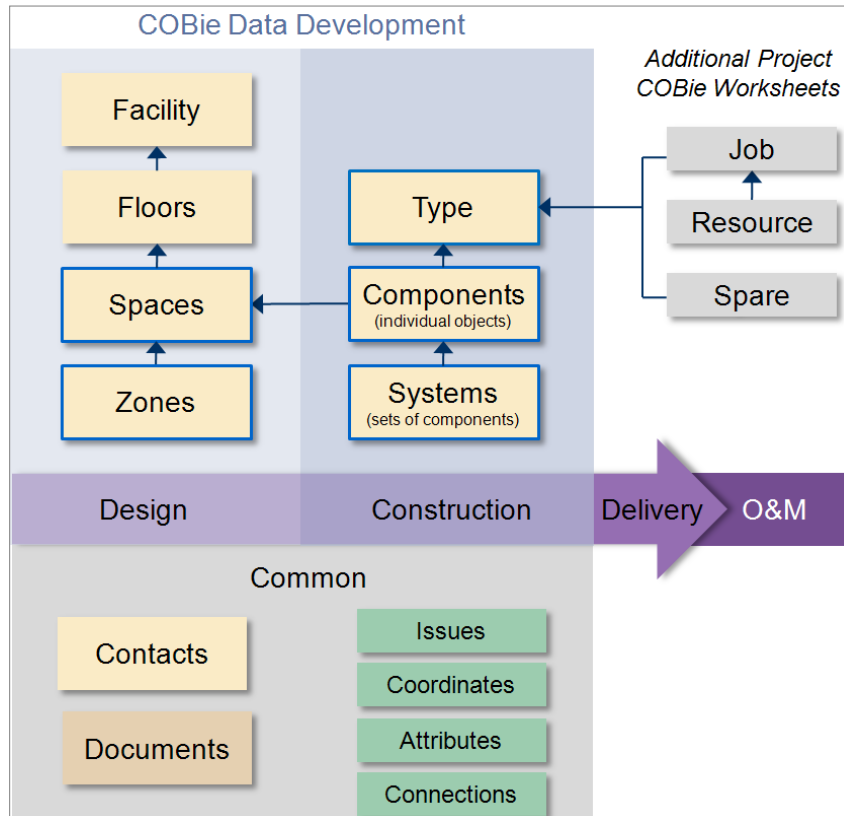


Figure 1: COBie organizational framework.

Only some of the data required in a typical COBie2 deliverable is, or can be, developed within Revit. Figure 1 illustrates the COBie2 spreadsheets. Those that will receive data exported from Revit are shown within the blue bordered boxes.

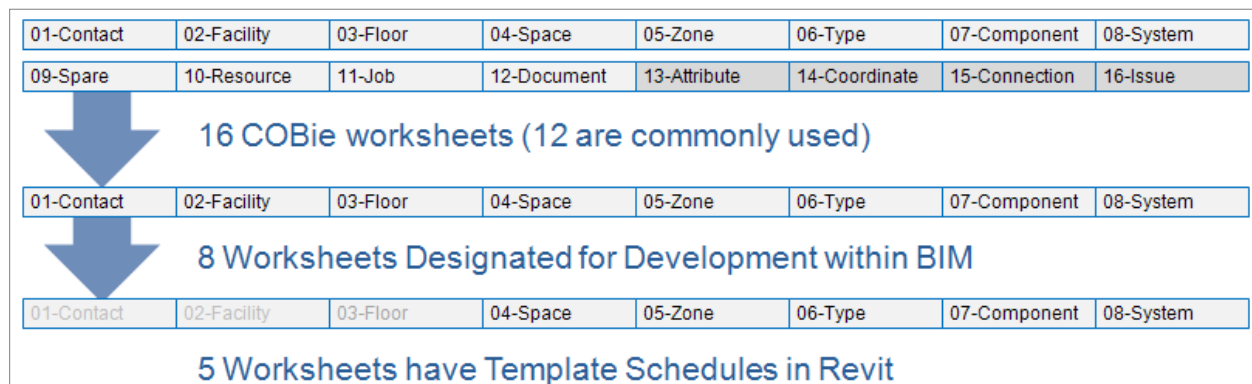


Figure 2: COBie spreadsheet - not all COBie data is, or can be, developed within the Revit model

For more background information on COBie, visit the Whole Building Design Guide website's section on COBie at: <http://www.wbdg.org/resources/cobie.php>.

The Revit COBie2 add-in provides Revit schedule views that echo COBie2 spreadsheets. Inserting these schedules into a project model will apply special parameters to Revit objects that will store COBie2 data.

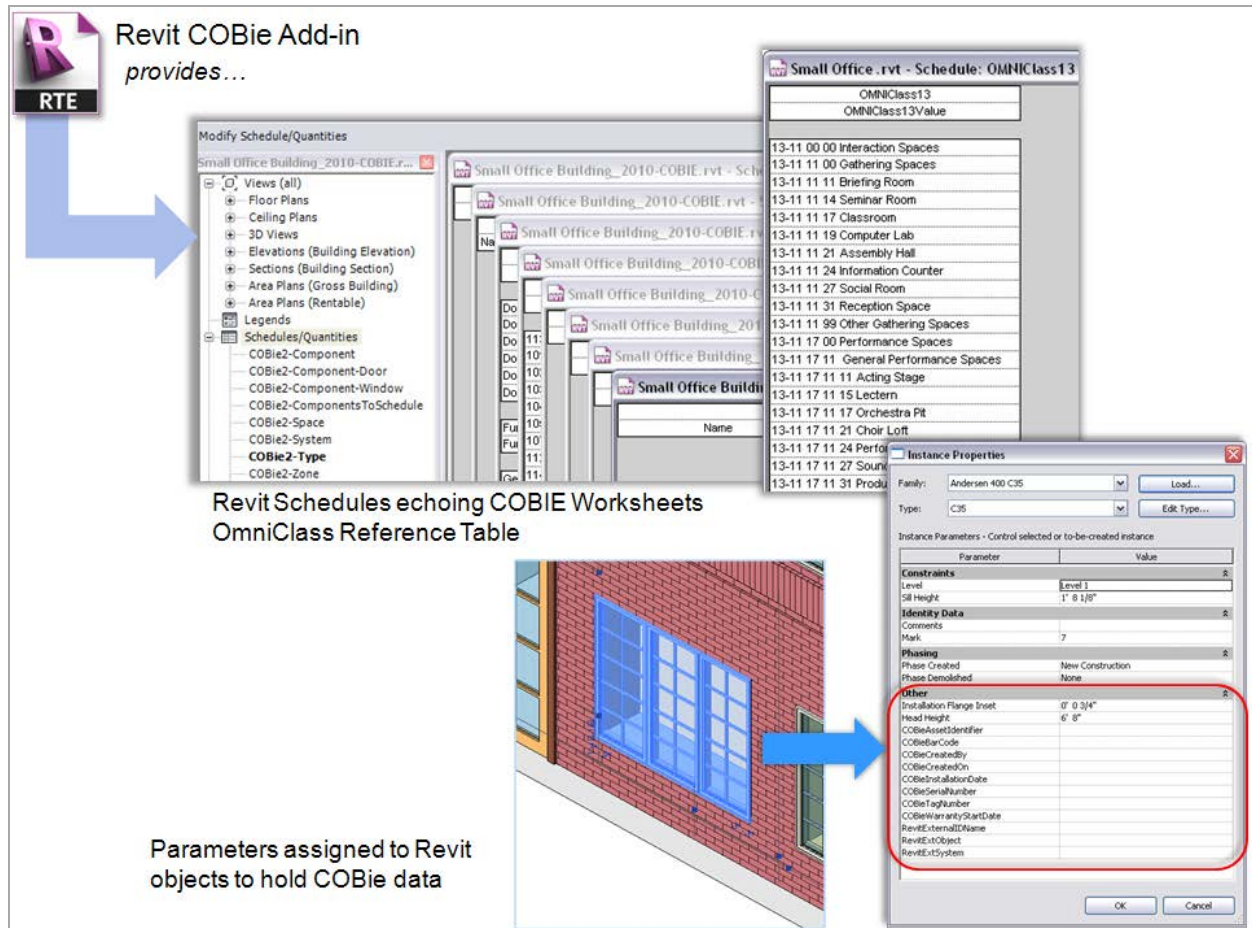


Figure 3: Revit COBie add-in creates schedule views echoing COBie worksheets, an OmniClass reference table, and assigns parameters for Revit objects to hold COBie specific data

As a project model is developed and components are added, users can enter COBie2 data in either the COBie2 schedule views, or on an object's Revit Properties palette.

This Revit COBie2 Add-in accommodates five COBie2 spreadsheets, as shown in Figure 4 below. Two COBie2 spreadsheets - System and Zone are not readily comparable to components typically modeled in Revit, thus are handled by the Revit COBie2 Add-in application in a special way (see Section 6).

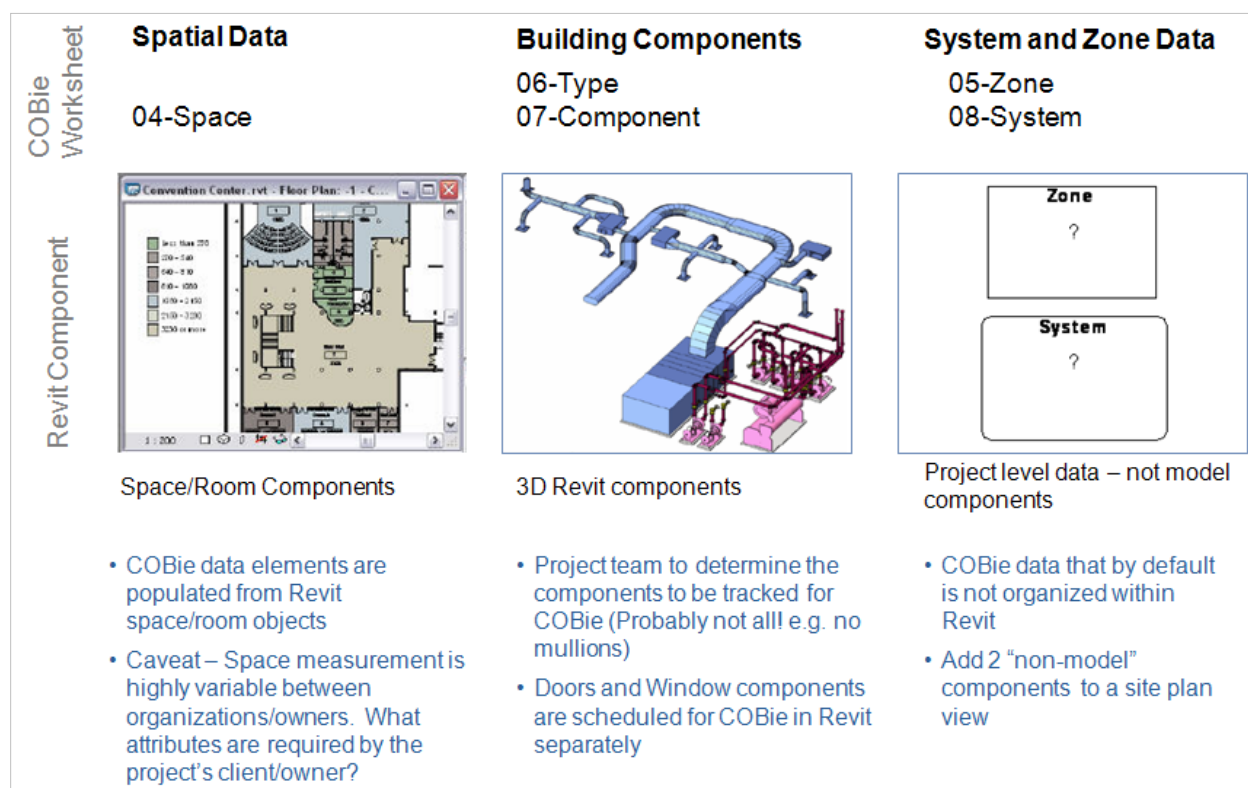


Figure 4: Revit components and the COBie worksheets.

Again it is important to note that data requirements will likely be different in each COBie2 project since owner/operators typically have diverse requirements for building lifecycle management. Hence the importance of having a COBie2 data development plan before initiating a project with COBie2 requirements.

3. Contents and Functionality of the Revit COBie2 Add-In Application Distribution File

All of the files needed for the Revit COBie2 Add-in installation and setup are contained in the downloadable distribution file. Users will employ either one of two installation files, either **SetupCOBieV2_30forRevit2012x86.zip** to install the add-in onto 32-bit PCs, or **SetupCOBieV2_30forRevit2012x64.zip** for 64-bit PC installations.

The zipped distribution file includes two files:

- **setup.exe** *Microsoft Windows executable file*
The user will run this executable file to start the installation process for the Revit COBie2 add-in application. This file can also be run to repair or remove the COBie2 add-in application.

- **SetupCOBieV2_30forRevit2012x86.msi** 32-bit Microsoft Windows installation file
- OR -
- **SetupCOBieV2_30forRevit2012x64.msi** 64-bit Microsoft Windows installation file

Running the **setup.exe** file will execute this.msi file which installs the Revit COBie2 Add-in application file, as well as copying support files onto the user's hard drive.






The setup program creates a new directory folder on the user's hard drive:

- **COBieV2_30UtilitiesforRevit2012x86** under the **C:\Program Files** directory (32-bit installations, or:
- **COBieV2_30UtilitiesforRevit2012x64** under the **C:\Program Files (x86)** (for 64-bit installations).

The installation process copies a number of COBie2 Add-in associated files to sub-directories in that folder, as noted below.

File Folders/Directories created for Revit COBie2 add-in:

Files installed:

	Blank Project	COBie2_30BlankProject2012.rvt
	Family	COBie2_30System.rfa, COBie2_30Zone.rfa
	Shared Parameters	COBie2SharedParams.txt
	Spreadsheets	COBie2_30_Candidate1_Template.xls COBieDoor&WindowReformatter.xls
	Template	COBie2_30.rte

UpdateRevitExternalIDName2012.dll

Description of the Revit COBie2 Add-in files installed or placed on the user's computer:

- **COBie2_30BlankProject2012.rvt** *Revit file*
This is a blank Revit project file that contains customized schedule views and parameters for COBie2. Users will employ this file (source) when “COBie2-enabling” an existing (target) Revit model. (The user will copy and paste the schedules from this file into the existing Revit project model).
- **COBie2_30System.rfa, COBie2_30Zone.rfa** *Revit family file*
Revit family file containing objects to anchor data for the COBie2 Systems and COBie2 Zone worksheets. Use only in those projects requiring systems or zone COBie2 deliverables.
- **COBie2SharedParams** *Text file*
A text file listing shared Revit parameters employed by the COBie2 Add-in application.
- **COBie2_30_Candidate1_Template.xls** *Microsoft Excel file*
An Excel spreadsheet file that has been configured according to the current COBie2 specification. Users will create their project’s COBie2 spreadsheet from this template file, and populate it from text (data) files that have been exported from Revit schedules.

- **COBieDoor&WindowReformatterPopulated.xls** *Microsoft Excel File*
An Excel spreadsheet file that is used to take door and window components schedules exported from Revit and reformat them for copying into the appropriate COBie2 Excel spreadsheet. (Additional explanation later, in Section 15 of this document).
- **COBie2_30.rte** *Revit template file*
Users can employ this Revit template when starting a **new** COBie2-enabled project. The file is pre-configured with COBie2 parameters that will be assigned to objects in the model. These parameters correspond to non-graphic data fields required by the COBie2 framework. This template also contains specially-formatted Revit schedule views that correspond to those in the COBie2 worksheets.
- **UpdateRevitExternalIDName2012.dll** *Microsoft Windows shared library file*
Windows library file that the computer system uses to execute Revit COBie2 Add-in software functions.

4. Setting Up the Revit COBie2 Add-in Application

Unzip the two files in zipped setup distribution file into a directory of your choice. Next, run the **setup.exe** file (double-click on it in the Windows file explorer). The setup program will install the COBie2 Add-in into Revit Architecture, and place the COBie2 support files described above on your computer.

5. Deploying the COBie2 Add-in in a Revit Worksession

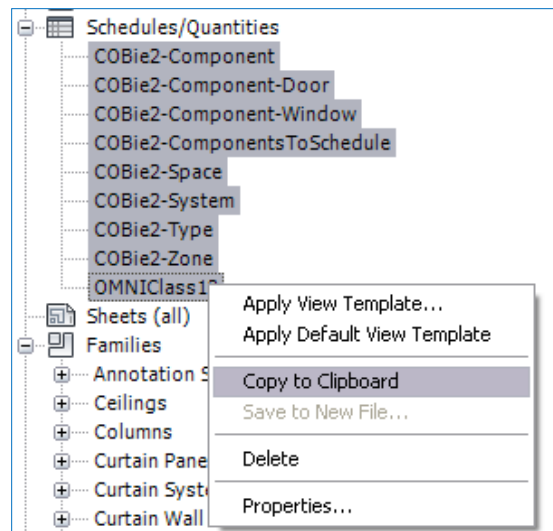
You should now be ready start developing COBie2 data within your model in a Revit worksession.

If you are beginning a **new** project, and not already using a specific template:

- Load the COBie2 template provided with the distribution, **COBie2_30.rte** and proceed to create your Revit project model, saving your work to a file name aligned with project requirements.

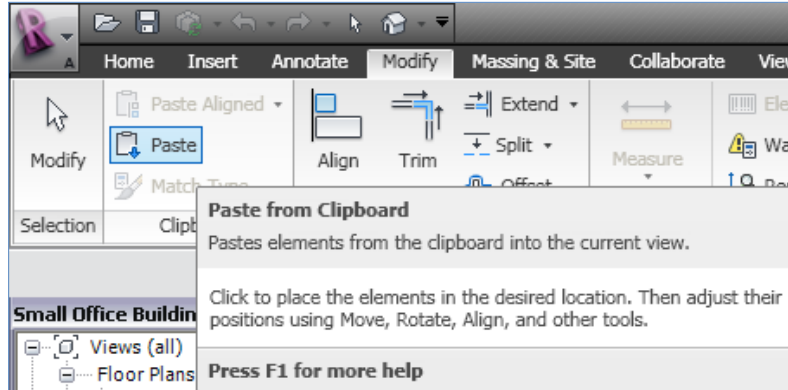
If you are adding COBie2 to an **existing** project model, in Revit:

- Open the **COBie2_30BlankProject.rvt** Revit file that was provided with the COBie2 download. Open your existing model file in Revit as well.
- Set the COBie2 blank project model (“source” model) as the active Revit workspace. Highlight the COBie2 schedules in the Revit Project browser, right click the mouse and select **Copy to Clipboard** (Figure 5):



- Set your existing Revit model (“target” model) to be the active workspace, and on the Revit **Modify** tab, select **Paste** ➤ **Paste from Clipboard** (Figure 6).

You may get a “Duplicate Types” message alerting you to the fact that certain data is being duplicated when copying in the template data. Take note of the renaming that Revit has executed, and click **OK** to proceed.



The special cases involving COBie2 Systems and Zones schedules is addressed separately in Section 6.

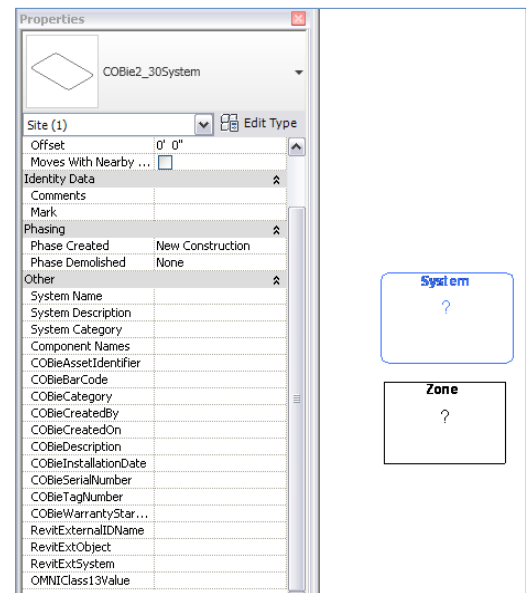
Figure 6 (left): Revit **Paste from Clipboard** command

6. Systems and Zones Schedules

Whereas the COBie2 worksheets for component, space, and type, easily correlate to Revit entities (objects, space/room objects, and family types), systems and zones do not have specific Revit definitions. The project team will need to define the scope of information to be defined and included in these schedule views if they are to be included in the COBie2 deliverable.

Figure 7 (right): System and Zone objects that have been added to a project's **Site Plan** view, and **Properties** dialog displaying parameters for a **System** object instance.

COBie Parameters are grouped under **Other** in the Revit Properties dialog



- If COBie2 Systems and Zones schedules are to be included in the project:
 - Using Revit **Load Family** command (on the **Insert** tab), load the **COBie2_30System.rfa** and **COBie2_30Zone.rfa** family objects into the project. (These are installed, as noted above, during the COBie2 setup process as described previously)

Figure 8 (near right): Revit Load Family command (on the Revit ribbon's **Insert** tab)

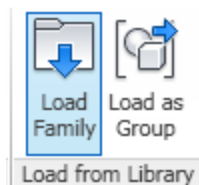
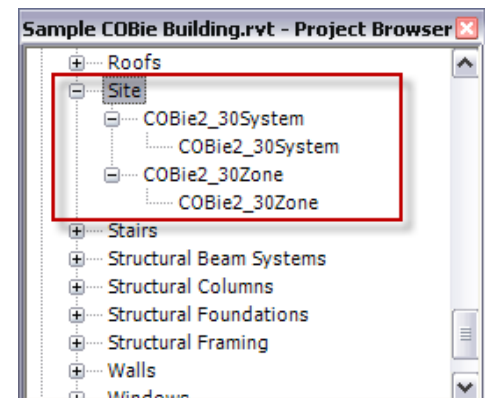


Figure 9 (far right): The objects are added as Site Families



- If your project doesn't have a site plan view, create one. (In brief, to do so: duplicate the first or ground floor plan and rename it "Site". Open the Site view, adjust the view range, and adjust visibility settings).
- On the site plan view, add the **COBie2-System** and **COBie2-Zone** objects in an out-of-the-way place. These objects are a means to provide data fields for those two COBie2 worksheets. By default, Revit does not organize model data that directly correlates to these two categories. Placing these site objects is a workaround to accumulate system and zone data in the Revit model.
- Run the **Update COBIE2 Parameters 2012** external tool from the Revit **Add-Ins** menu to set up your COBie2 project defaults (see Section 6 below).

7. Deploy All or Part of COBie2

Project teams may want to utilize the COBie2 framework in its entirety, or deploy only certain components of it. The template have been set up so that project teams can assign, track and export data from whatever objects are required for a particular COBie2 project delivery.

8. Using the Revit Schedule View - *ComponentsToSchedule*

This schedule view is included in the Revit COBie2 template to provide users with a means to select the components to include in COBie2 schedule views. The 3rd column in the schedule (Figure 10) contains a check box. Clicking the check box **ON** will specify component types to include in COBie2-Type schedules. By default, the box will appear grayed out (and checked), and the component will not be included in the Type schedule. Run this macro as new objects are added to the model that need to be included in the COBie2 components schedule.

COBie2-ComponentsToSchedule		
Category	Family and Type	COBieTypeSchedule
Air Terminals	Exhaust Air Grill: 24 x 24 Face 12 x 12 Connection	<input checked="" type="checkbox"/>
Air Terminals	Rectangular Diffuser - Round Connection: 24x24 - 8 Neck	<input checked="" type="checkbox"/>
Air Terminals	Return Air Diffuser: 24 x 24 Face 12 x 12 Connection	<input checked="" type="checkbox"/>
Casework	Restroom Cabinet 1: Restroom Cabinet 1	<input type="checkbox"/>
Casework	Restroom Cabinet 2: Restroom Cabinet 2	<input type="checkbox"/>
Casework	Restroom Cabinet 3: Restroom Cabinet 3	<input type="checkbox"/>
Casework	Restroom Cabinet 4: Restroom Cabinet 4	<input type="checkbox"/>
Doors	Dbl-Glass 1: 72" x 84"	<input checked="" type="checkbox"/>

Figure 10: Portion of a Revit **COBie2-ComponentsToSchedule** schedule view. User has selected to schedule Air Terminals in this example

9. Populating COBie2 Data in a Revit Model

Data from the objects toggled on in the **COBie2-ComponentsToSchedule** schedule view, will automatically display in the **COBie2-Component** schedule.

COBie2-Component								
Name	Level	CreatedBy	CreatedOn	TypeName	Space	Description	ExtSystem	
1	Level 1	marysmth@xyzarc	12/20/2010 11:58:58	Rectangular Diffuser - Round Connection: 24x24 - 8 Ne	3	Air Termina	Autodesk Revit Architectur	Autodesk.Revit.D
3	Level 1	marysmth@xyzarc	12/20/2010 11:58:58	Rectangular Diffuser - Round Connection: 24x24 - 8 Ne	4	Air Termina	Autodesk Revit Architectur	Autodesk.Revit.D
4	Level 1	marysmth@xyzarc	12/20/2010 11:58:58	Rectangular Diffuser - Round Connection: 24x24 - 8 Ne	5	Air Termina	Autodesk Revit Architectur	Autodesk.Revit.D

Figure 11: Left portion of a Revit **COBie2-Components** schedule view, displaying the Air Terminals selected in the COBie2-ComponentsToSchedule schedule view (Figure 10).

COBie2-Component										
Space	Description	ExtSystem	ExtObject	ExtIdentifier	SerialNumber	InstallationDate	WarrantyStar	TagNumber	BarCode	AssetIdentifier
3	Air Termina	Autodesk Revit Architectur	Autodesk Revit.DB.FamilyInstance	385552						
4	Air Termina	Autodesk Revit Architectur	Autodesk Revit.DB.FamilyInstance	385553						
5	Air Termina	Autodesk Revit Architectur	Autodesk Revit.DB.FamilyInstance	385554						

Figure 12: Right-side portion of a Revit **COBie2-Components** schedule view.

The schedule has several additional fields, which the user may populate with data, if that is required for the project's COBie2 deliverables.

Revit users may also enter data for a component in the Revit **Properties** palette.

COBie2 data fields are listed under the "Other" section of the palette (Figure 13).

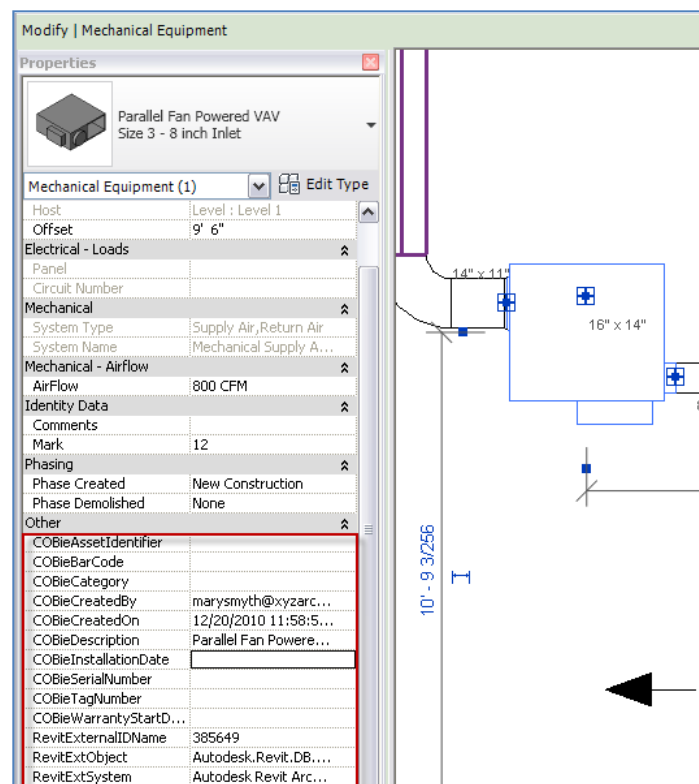
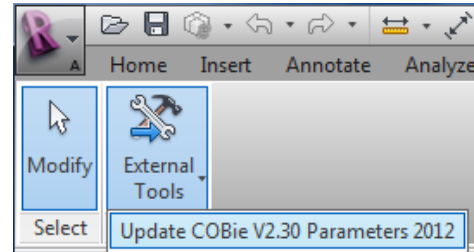


Figure 13: COBie2 data fields in the Property dialog for a selected component.

10. Using the Update COBie2 Parameters Macro

Installing the COBie2 template also adds the command **Update COBie V2.30 Parameters 2012** to Revit. It is accessed through Revit's **External Tools** drop-down menu located on the command ribbon's **Add-In** tab. This macro populates COBie2 data fields that can be set at a project level by an automated routine.

Figure 14: COBie2 command macro for updating parameter defaults

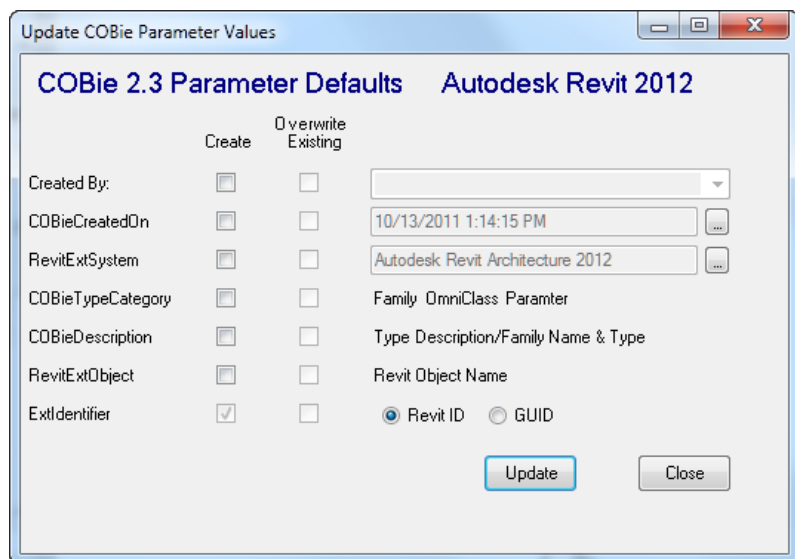


Running the **Update COBie V2.30 Parameters 2012** macro within Revit will display a multiple option dialog (**Update COBie Parameters**) through which, the user can specify a number of COBie2 data fields to globally populate with Revit and user specified data.

These are:

- | | |
|---------------------|--|
| • Created By | <i>User name (email address is the COBie2 preferred format)</i> |
| • COBieCreatedOn | <i>Date created</i> |
| • RevitExtSystem | <i>Software used (e.g. Autodesk Revit Architecture 2011)</i> |
| • COBieTypeCategory | <i>Family OmniClass Parameter (no user selection)</i> |
| • COBieDescription | <i>Type Description/Family Name and Type</i> |
| • RevitExtObject | <i>Revit Object Name</i> |
| • ExtIdentifier | ID field to attach a unique identifier to model objects.
Choices are <i>Revit ID</i> or <i>GUID (global universal ID)</i> |

Figure 15 - Revit COBie2 Add-in application's **Update COBie Parameter Values 2012** dialog box



The **Update COBie V2.30 Parameters 2012** macro will add data entered into these COBie2 fields to each object instance in the Revit model. Clicking a box in the **Create** column, will populate data fields in model objects, but will not overwrite existing data. To do so, check the desired boxes in the **Overwrite Existing** column on the dialog box. After the macro finishes, a green check mark will appear on the right side of the dialog box to connote that the fields were successfully updated.

The user should run this macro from time to time as the Revit model is changed. It is very important for COBie2 records to have a unique ID field - using either the Revit ID or a GUID will work, the choice depends on your project guidance. The macro should always be run before any COBie2 data is exported for review or delivery.

11. Window and Door Objects are Scheduled Separately

The COBie2 Component worksheet contains a data field, **SpaceNames**, to record the space that a component object resides in. Since doors and windows typically straddle two spaces, connoting two “parent” spaces for a component presents a difficulty to correlate within Revit, which can only employ a single column field within the COBie2 data view to contain data - not a concatenated formula combining reference to two spaces.

To overcome this limitation, the COBie2 template uses a “work-around” export process, in which COBie-schedules for Door and Windows are developed and exported from Revit separately and imported into Excel in a special manner which will concatenate rooms on both sides of the door/window object. (See Section 15, **Instructions on Importing Door and Window Data into Excel**, for how to do this in Excel).

12. Room and Space Schedules

Since data can be developed and scheduled by employing either Revit rooms or spaces, the COBie2 template supplies two distinct schedule views that can accommodate this information and facilitate exporting the data for inclusion in the COBie2 **Space** spreadsheet. Check with your specific project guidelines for which to employ in your work process and deliverables.

13. Exporting Schedule Data

With any of the schedule views active, select the command sequence:

Revit > Export > Reports > Schedule

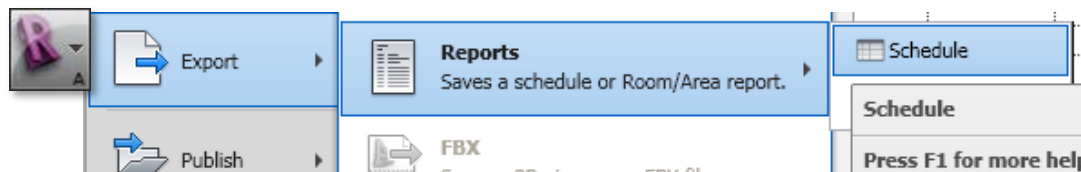
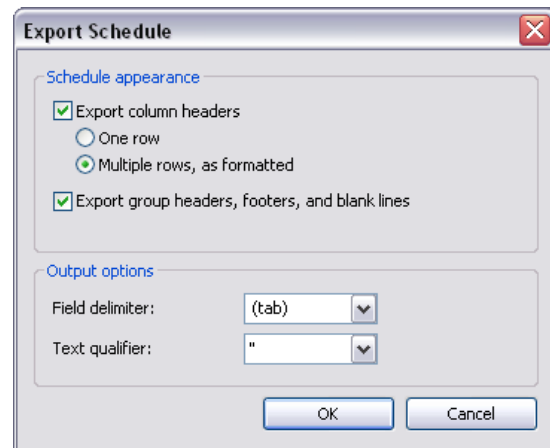


Figure 16 (above): Revit **Export Schedule** command sequence

- Type in a file name and select the location for the delimited text (.txt) file you are creating, and click on Save.
- On the **Export Schedule** dialog that is displayed next (Figure 16), select the default export choices and press OK.

Follow the same process with each of the schedules you wish to export.

Figure 17 (right): Default schedule appearance and output options for Revit schedule export.



14. Importing Data Into Microsoft Excel

- In an MS Excel worksession, load the COBie2-formatted worksheet created during the installation process (**COBie2_30_Candidate1_Template.xls**), or one that has been created from this template for your specific project, if that exists.
- Select the tab in the Excel file to access the schedule/worksheet you are going to import.
- Open the text file you just exported from Revit in a text editor, such as Notepad.

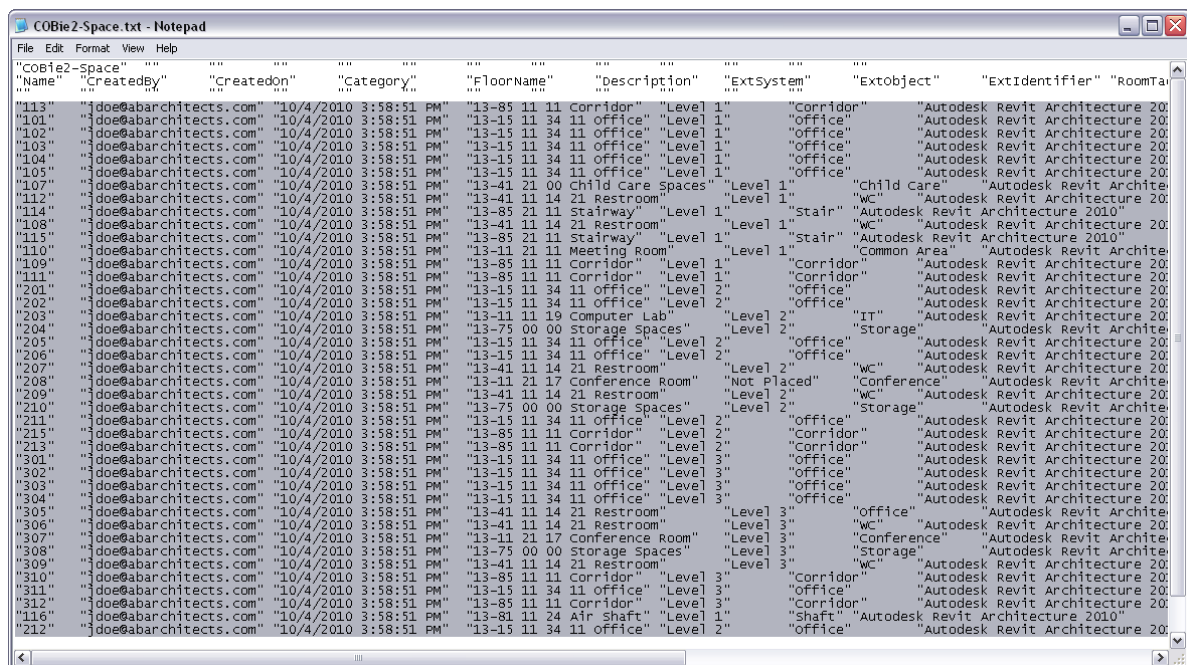


Figure 18 (above): Space schedule exported from Revit, displayed in a text editor, highlighting the data lines to be imported into Excel

- Highlight the data lines (not the headers) for each record you wish to import, and copy to the clipboard (press Ctrl C).

COBie2 for Autodesk® Revit® 2012

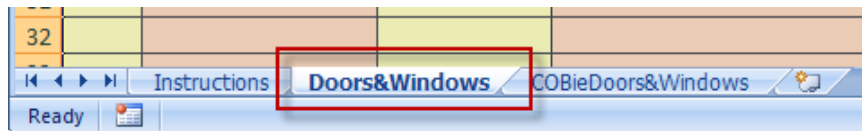
- In the Excel worksheet, place the cursor on the first cell of the first line that you want to place your imported data.
- Paste the data into the Excel worksheet (press Ctrl V) and save the file under a project specific name (to differentiate it from the Excel template file).

	A	B	C	D	E	F	G
	Name	CreatedBy	CreatedOn	Category	FloorName	Description	ExtSystem
1							
2	113	jdoe@abarchitects.com	10/4/2010 15:58	13-85 11 11 Corridor	Level 1	Corridor	Autodesk Revit Architecture 2010
3	101	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 1	Office	Autodesk Revit Architecture 2010
4	102	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 1	Office	Autodesk Revit Architecture 2010
5	103	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 1	Office	Autodesk Revit Architecture 2010
6	104	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 1	Office	Autodesk Revit Architecture 2010
7	105	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 1	Office	Autodesk Revit Architecture 2010
8	107	jdoe@abarchitects.com	10/4/2010 15:58	13-41 21 00 Child Care Spaces	Level 1	Child Care	Autodesk Revit Architecture 2010
9	112	jdoe@abarchitects.com	10/4/2010 15:58	13-41 11 14 21 Restroom	Level 1	WC	Autodesk Revit Architecture 2010
10	114	jdoe@abarchitects.com	10/4/2010 15:58	13-85 21 11 Stairway	Level 1	Stair	Autodesk Revit Architecture 2010
11	108	jdoe@abarchitects.com	10/4/2010 15:58	13-41 11 14 21 Restroom	Level 1	WC	Autodesk Revit Architecture 2010
12	115	jdoe@abarchitects.com	10/4/2010 15:58	13-85 21 11 Stairway	Level 1	Stair	Autodesk Revit Architecture 2010
13	110	jdoe@abarchitects.com	10/4/2010 15:58	13-11 21 11 Meeting Room	Level 1	Common Area	Autodesk Revit Architecture 2010
14	109	jdoe@abarchitects.com	10/4/2010 15:58	13-85 11 11 Corridor	Level 1	Corridor	Autodesk Revit Architecture 2010
15	111	jdoe@abarchitects.com	10/4/2010 15:58	13-85 11 11 Corridor	Level 1	Corridor	Autodesk Revit Architecture 2010
16	201	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 2	Office	Autodesk Revit Architecture 2010
17	202	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 2	Office	Autodesk Revit Architecture 2010
18	203	jdoe@abarchitects.com	10/4/2010 15:58	13-11 11 19 Computer Lab	Level 2	IT	Autodesk Revit Architecture 2010
19	204	jdoe@abarchitects.com	10/4/2010 15:58	13-75 00 00 Storage Spaces	Level 2	Storage	Autodesk Revit Architecture 2010
20	205	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 2	Office	Autodesk Revit Architecture 2010
21	206	jdoe@abarchitects.com	10/4/2010 15:58	13-15 11 34 11 Office	Level 2	Office	Autodesk Revit Architecture 2010
22	207	jdoe@abarchitects.com	10/4/2010 15:58	13-41 11 14 21 Restroom	Level 2	WC	Autodesk Revit Architecture 2010
23	208	jdoe@abarchitects.com	10/4/2010 15:58	13-11 21 17 Conference Room	Not Placed	nference	Autodesk Revit Architecture 2010
24	209	jdoe@abarchitects.com	10/4/2010 15:58	13-41 11 14 21 Restroom	Level 2	WC	Autodesk Revit Architecture 2010

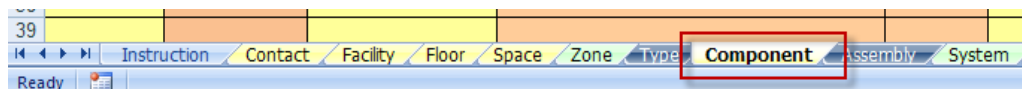
Figure 19: COBie-formatted Excel worksheet, populated with **Space** data that was exported from Revit

15. Instructions on Importing Door and Window Data into Excel

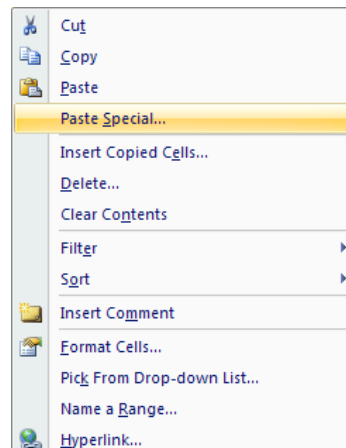
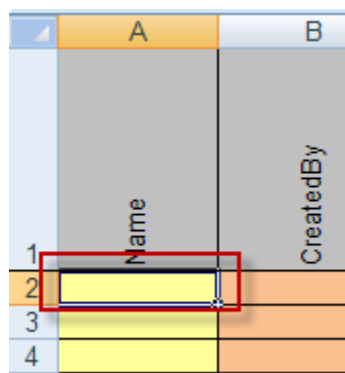
- In Revit:
 - With the **COBie2-Component-Door** schedule view active in your Revit worksession, execute the command: **Export** ➤ **Reports** ➤ **Schedule** and save the text file (as explained in the previous section).
 - Do the same with the **COBie2-Component-Window** schedule, if desired.
- With the exported schedule's text (.txt) file:
 - Open the text file in a text editor such as Notepad (similar to that shown in Figure 17)
 - Highlight the data lines (not the headers) for each record you wish to import to the COBie2 project spreadsheet, and copy (press Ctrl C).
- In the **COBieDoor&WindowReformatterPopulated.xls** Excel file:
 - Select the **Doors&Windows** worksheet (second tab)



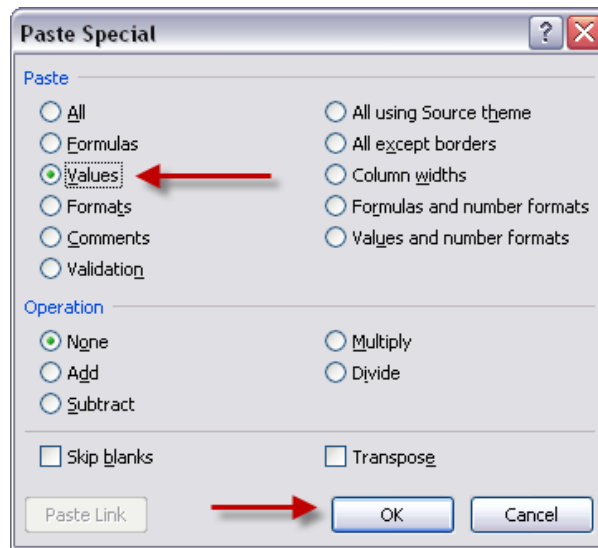
- Place the cursor on the first cell of the first line that you want to place your data into (cell A2 if you have not added any data to this spreadsheet yet)
 - Paste the data that you've just copied from the text file (press Ctrl V)
 - Now select the **COBieDoors&Windows** worksheet in that same Excel file (third tab)
 - Select all rows in that worksheet which contain data
 - Right click and copy the data (or press Ctrl C)
- In Excel, open the project's COBie2 spreadsheet (created from the Excel template file **COBie2_30_Candidate1_Template.xls**) and:
 - Select the **Component** worksheet



- Click in the first empty cell in the worksheet's **Column A** (the **Name** data column)
- Right click on the worksheet and select **Paste Special** from the Excel drop down menu




- The Excel Paste Special dialog will be displayed. Under the **Paste** section, select **Values** and click **OK**



16. Uninstalling the Add-in

To uninstall the COBie2 Add-in application, go to the Windows Control Panel, run “Uninstall or change a program” (Windows 7, shown below) or “Add or Remove Programs” (Windows XP) and select **COBieV2_30UtilitiesforRevit2012x64** (or COBieV2_30UtilitiesforRevit2012x86 for 32-bit PCs)

Name	Publisher	Installed On	Size	Version
 COBieV2_30UtilitiesforRevit2012x64	Autodesk	10/13/2011	17.5 MB	12.00.0000