New Features - Revit 2015
AB5016

Michael “Zee” Zeeveld, Assoc. AIA, ACI

Project Manager | AEC/BIM Senior Application Specialist

mbzeeveld

Welcome!

Glad you're a part of the lecture!

Purpose

- In this Lecture, you will learn about the exciting new features in Autodesk Revit Architecture 2015 software. Get introduced to new concepts of Building Information Modeling (BIM) and efficient, easy-to-use tools for parametric design and documentation.

Trivia

- USMA
- West Point
- Era 1900's

Objectives

At the end of this lecture, you will be able to:

- Describe the new features, concepts, and benefits of Building Information Modeling
- Explain the fundamental concepts and features of Autodesk Revit Architecture
- Use the parametric 3D design tools to start designing projects
- Develop an initial level of comfort and confidence with the new tools in Autodesk Revit

Topics

- New Features
- Platform
  - Architecture
  - MEP
  - Structure
- R2 - Architecture
- R2 - MDE
- Q&A

Timeline

- 90 minute presentation

About Me

“Zee”

Michael “Zee” Zeeveld, Assoc. AIA, ACI

- Project Manager | AEC/BIM Senior Application Specialist
- Training, Consulting and Implementation
- 20 years in the AEC industry and using software
- 10 years with Revit (Architecture and Architecture)
- 12 years using 3ds Max
- Started in AutoCAD DOS R11 using a tablet & puck
- Five time Autodesk University Presenter
- AUGI CAD Camp Presenter – multiple events
- Autodesk Training Center Instructor ID 26475
- Certified Autodesk Associate and Professional
- Certified Autodesk Consulting Specialist
- Certified Autodesk Fabrication Specialist
- Autodesk Certified Instructor - ACI

AUTODESK® REVIT® ARCHITECTURE 2015
CERTIFIED PROFESSIONAL

AUTODESK® AUTOCAD® 2015
CERTIFIED PROFESSIONAL

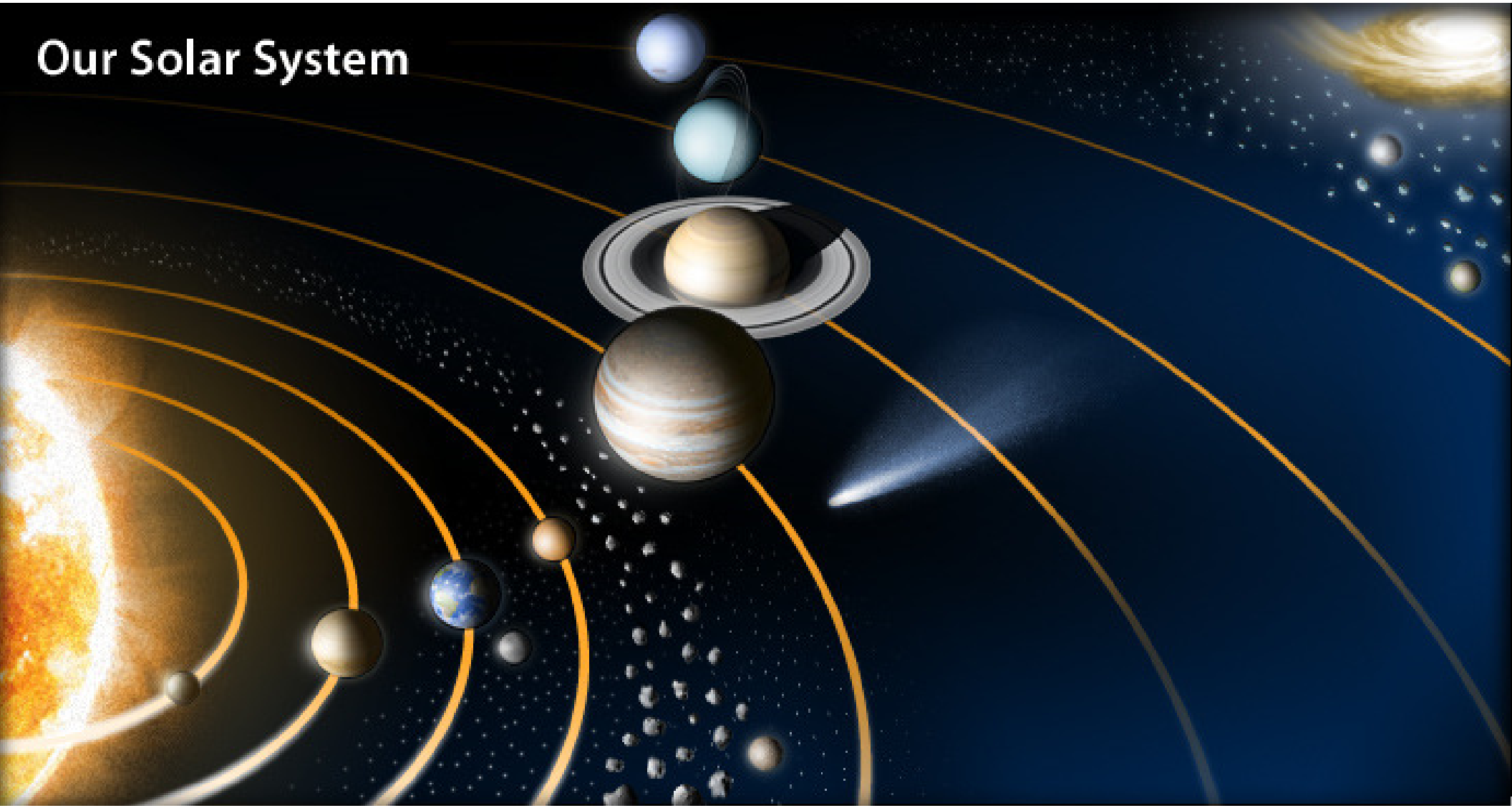
Autodesk®
Certified Instructor

Hello!

Housekeeping

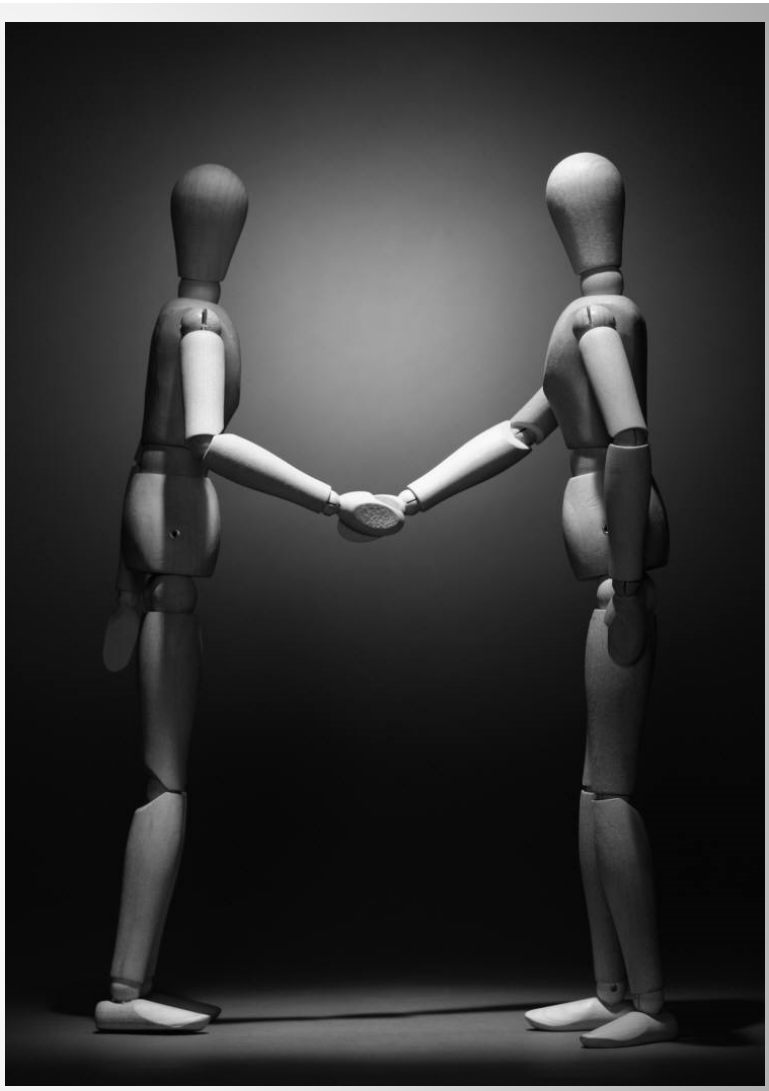
- Who is in the audience?
- Are you using Revit?
  - What version?

Our Solar System



Say Hello

- Meet your neighbor



General Information

- Turn off or silence any…
  - Cell phones
  - Flip-phones
  - Walkie-talkies
  - Pagers
  - Beepers
  - Short-wave radios
  - CB radios
  - Handheld devices
  - Or other electronic devices

General Information

- No video recording

New Features

New features and enhancements

Autodesk® Revit® 2015, Autodesk® Revit® Architecture 2015

Platform & architectural enhancements

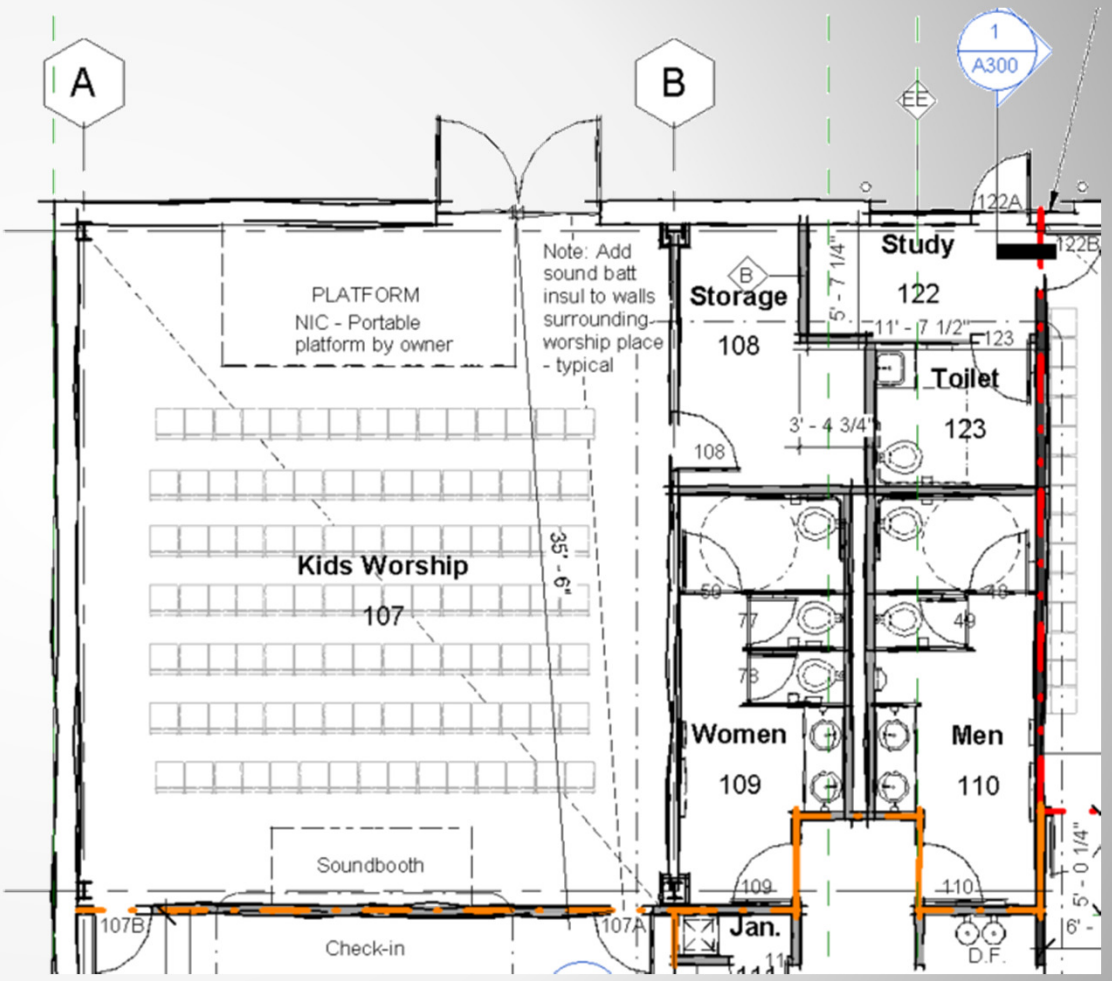
- Sketchy lines
- Anti-aliasing improvements
- Ray trace usability improvements
- Enhanced schedules/material takeoffs
- Views on sheets
- Duplicate views
- View references
- Assembly code settings
- IFC imports
- Keynoting settings
- Shared parameters in view titles
- Enhanced hidden lines
- Revision improvements
- Images in schedules
- Building element analysis
- IFC linking
- Manage links dialog
- Pinned element enhancements
- Family parameter order adjustments
- Tooltips for family parameters
- Tag improvements
- Assembly code setting

Platform & for architects

Architectural enhancements

Autodesk® Revit® 2015

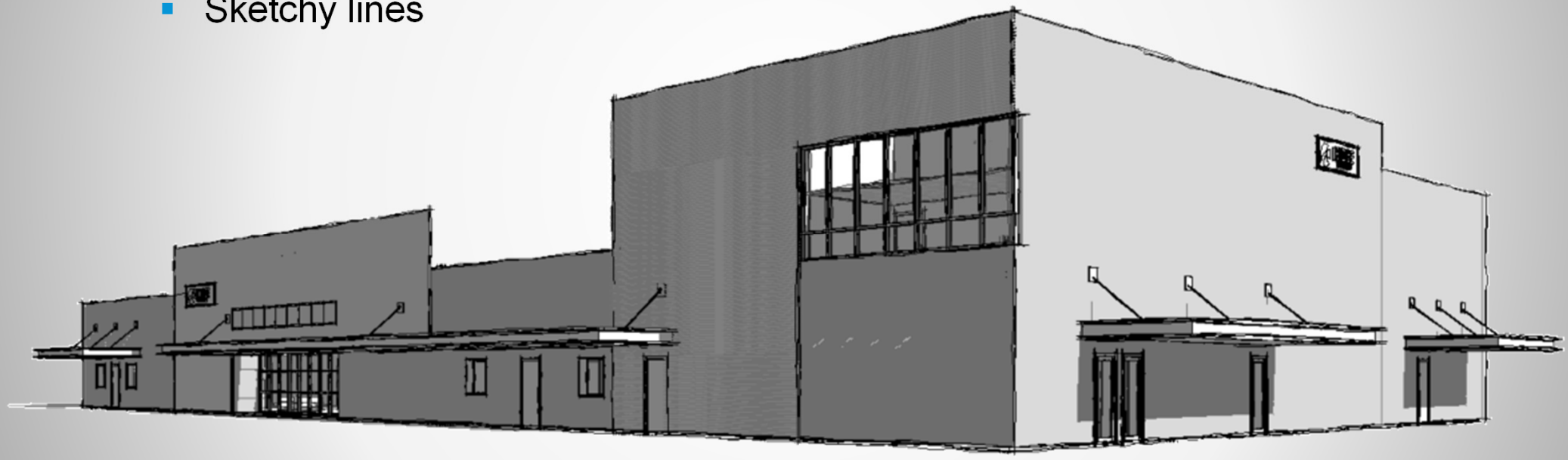
- Visualization tools
  - Sketchy lines



Architectural enhancements

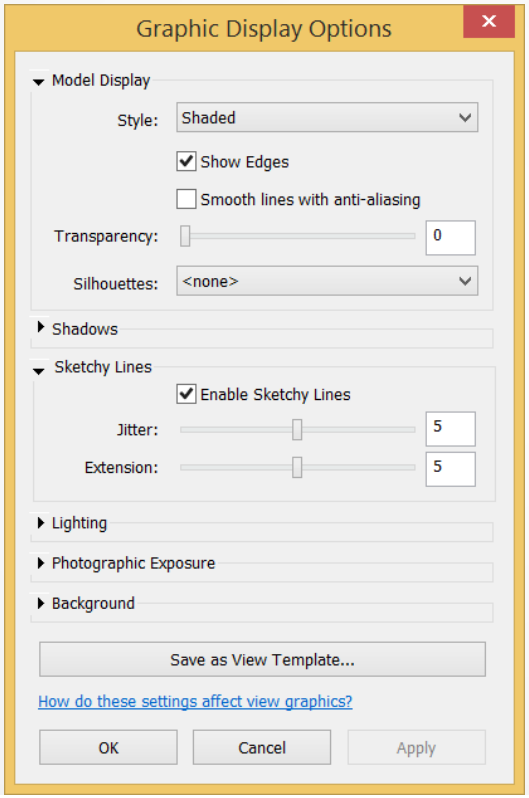
Autodesk® Revit® 2015

- Visualization tools
  - Sketchy lines



Architectural enhancements
Autodesk® Revit® 2015

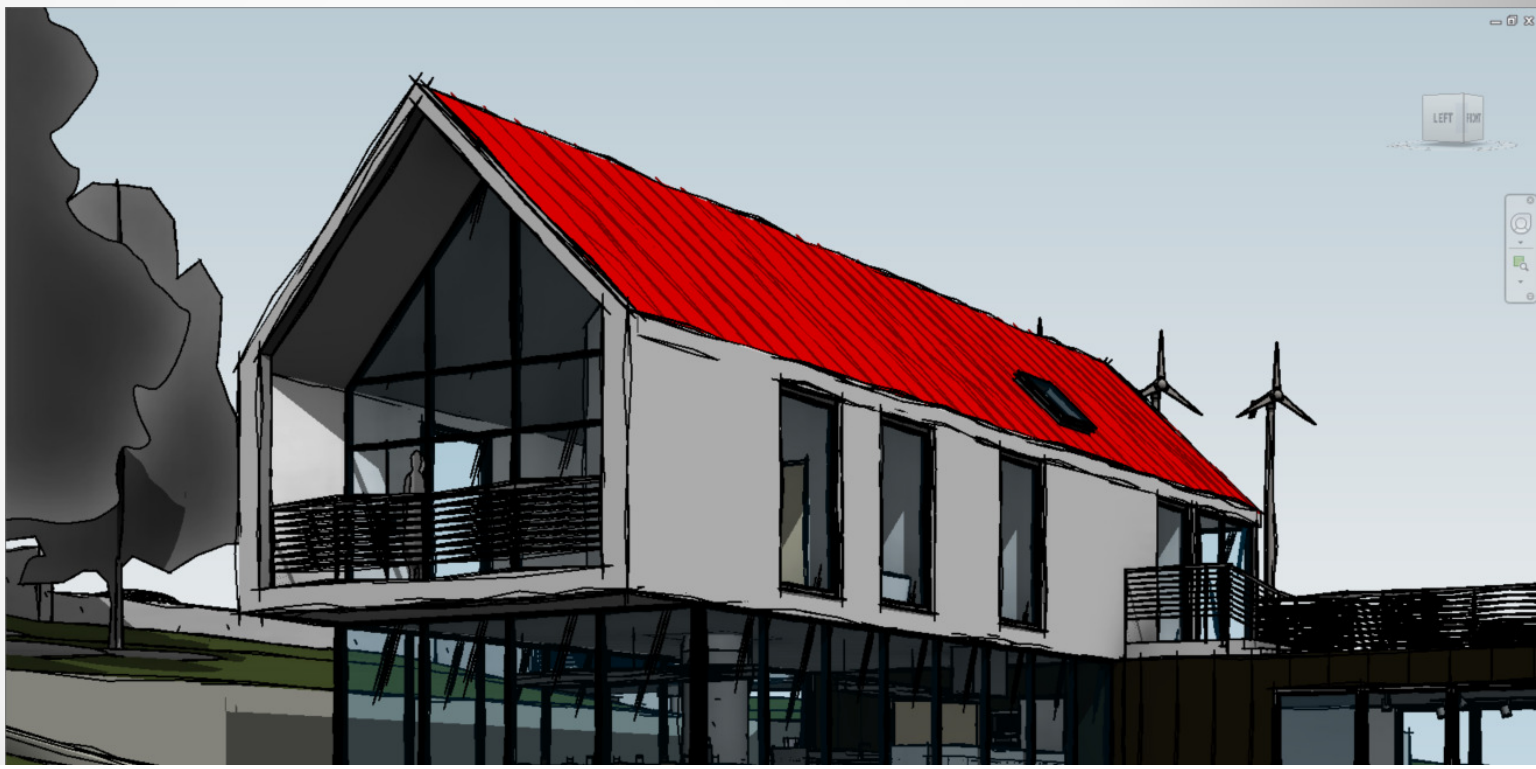
- Visualization tools
  - Sketchy lines
    - Jitter
    - Extension



Architectural enhancements

Autodesk® Revit® 2015

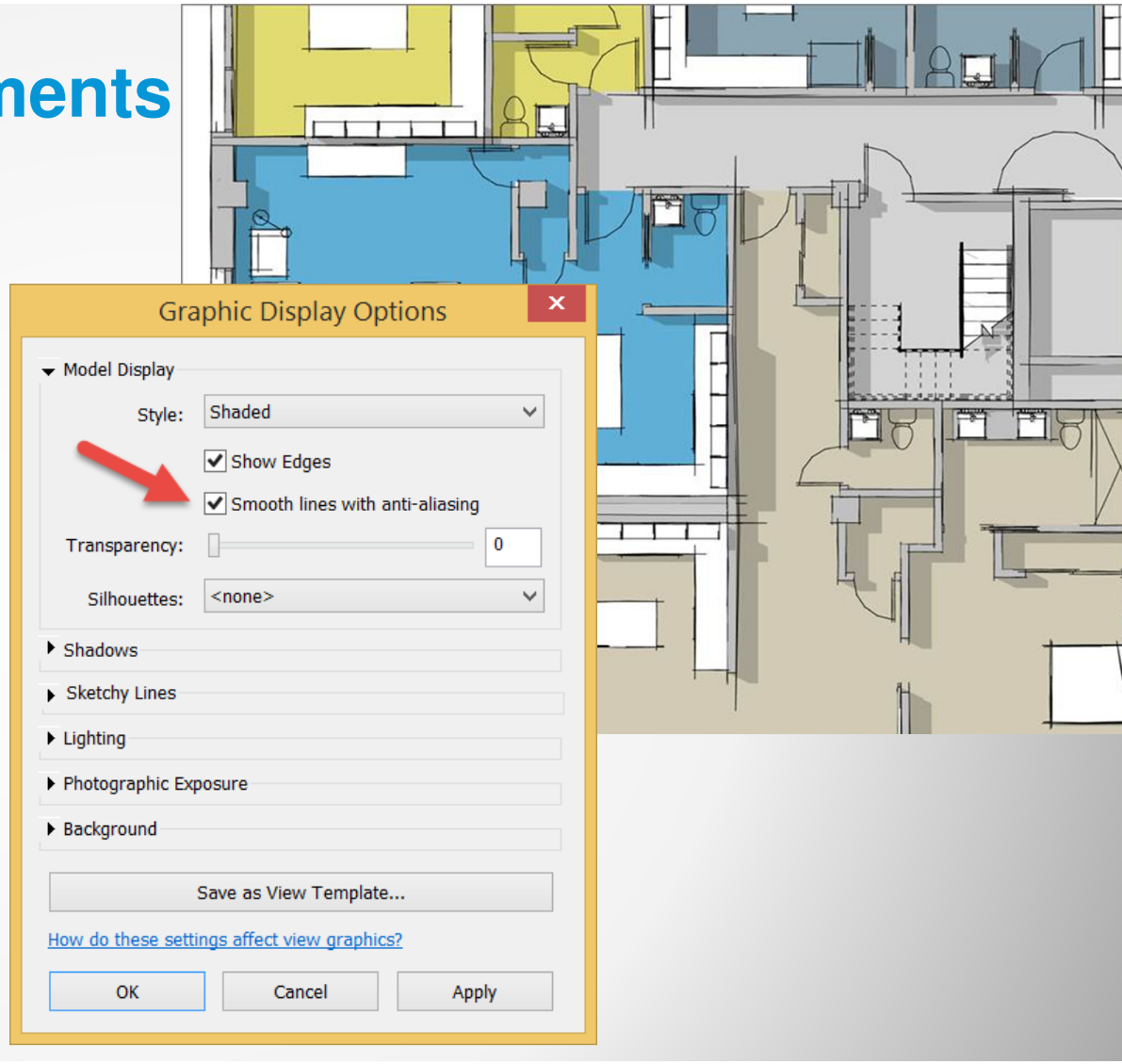
- Visualization tools
  - Sketchy lines
    - Jitter
    - Extension



Architectural enhancements

Autodesk® Revit® 2015

- Visualization tools
  - Anti-aliasing improvements



Architectural enhancements

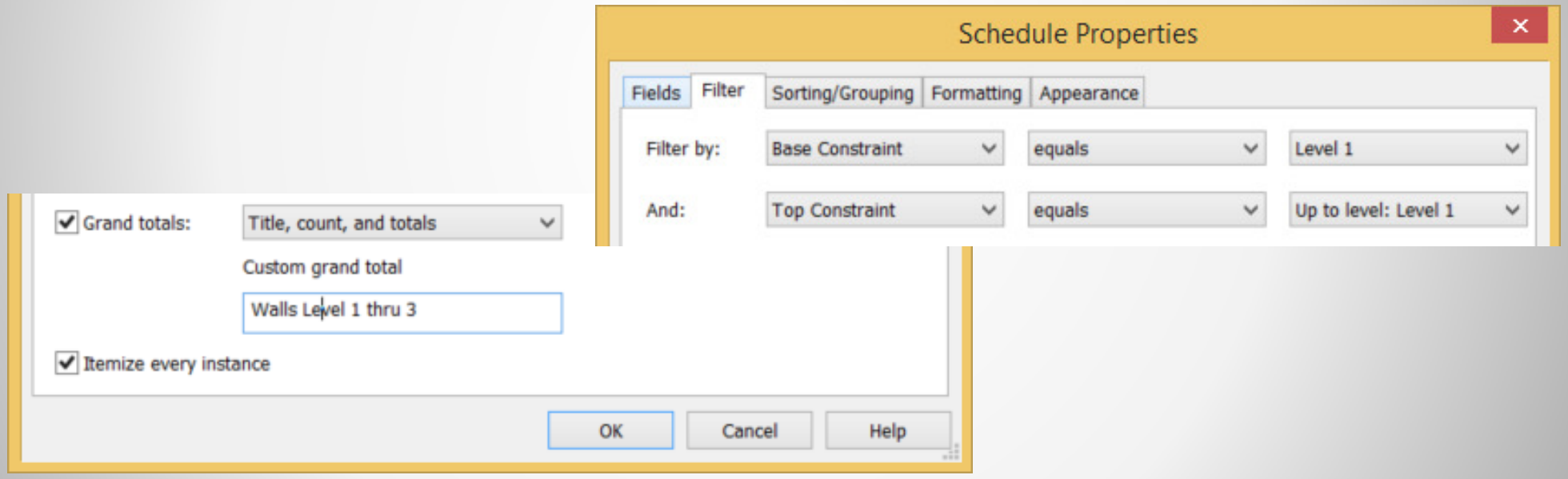
Autodesk® Revit® 2015

- Visualization tools
  - Ray Trace interactive rendering visual style

Platform enhancements

Autodesk® Revit® 2015

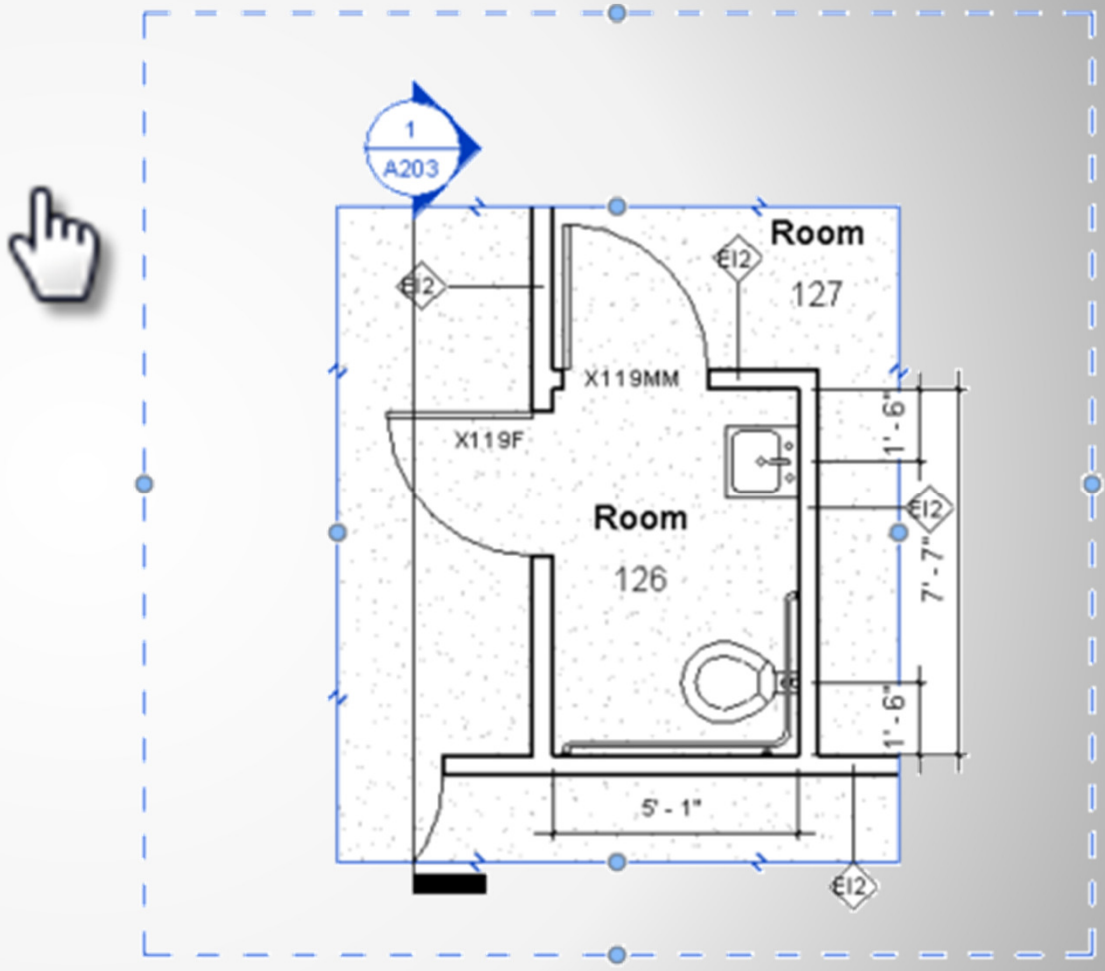
- Documentation tools
  - Enhanced schedules/material takeoffs



Platform enhancements

Autodesk® Revit® 2015

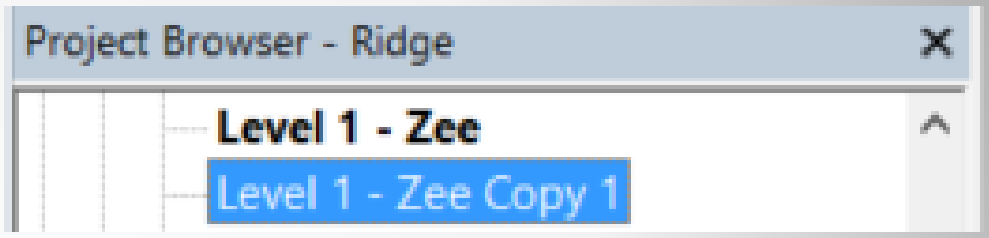
- Documentation tools
  - Views on sheets
    - double-click outside of the view to deactivate the view

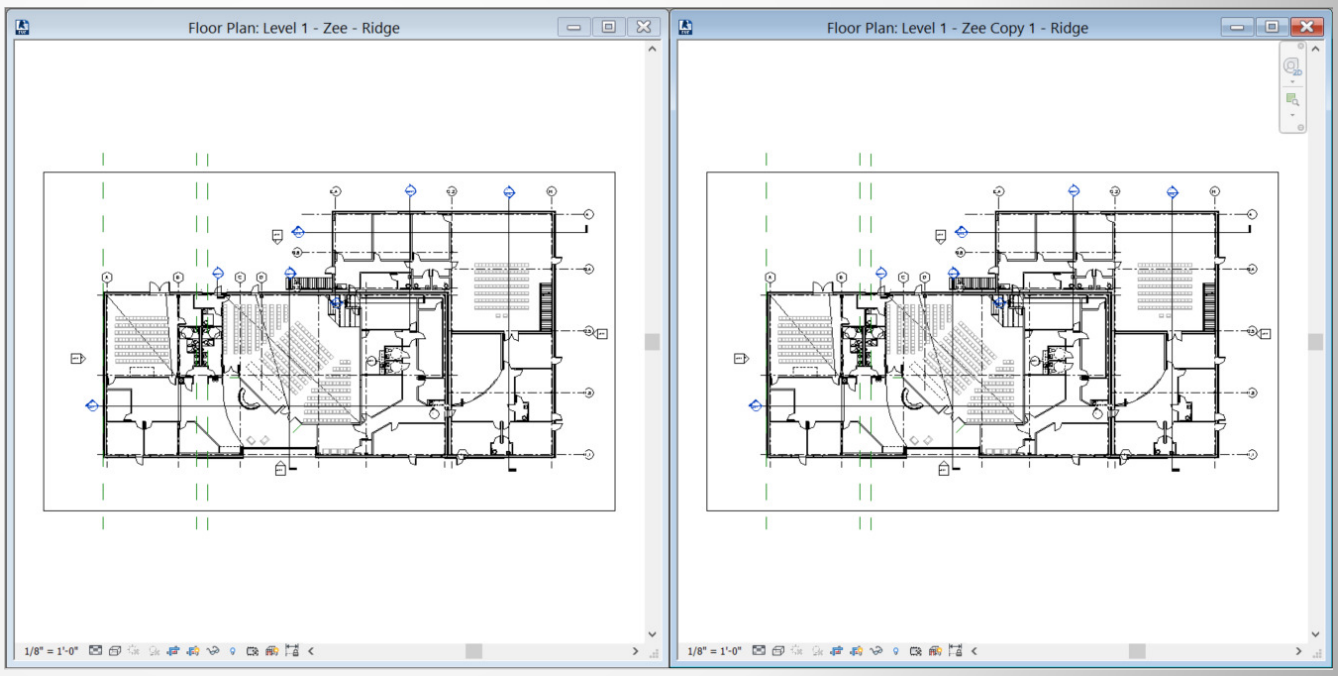


Platform enhancements

Autodesk® Revit® 2015

- Documentation tools
  - Duplicate views
    - “Copy 1”
    - “Dependent 1”

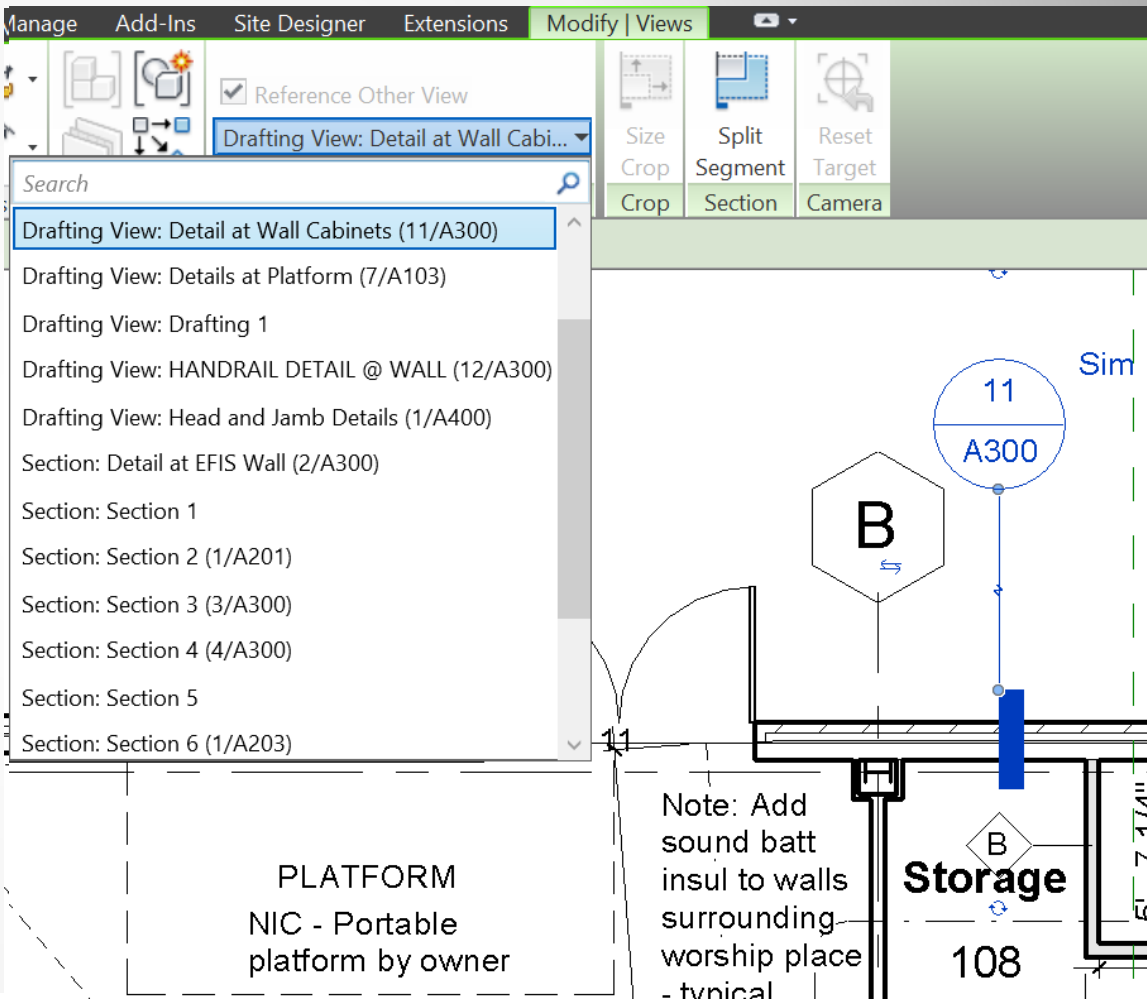




Platform enhancements

Autodesk® Revit® 2015

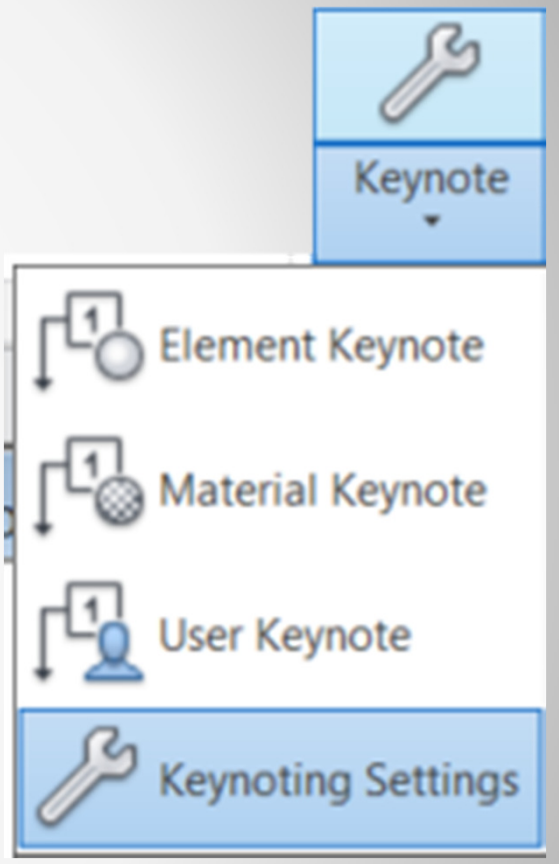
- Documentation tools
  - View references
  - Change after creation



Platform enhancements

Autodesk® Revit® 2015

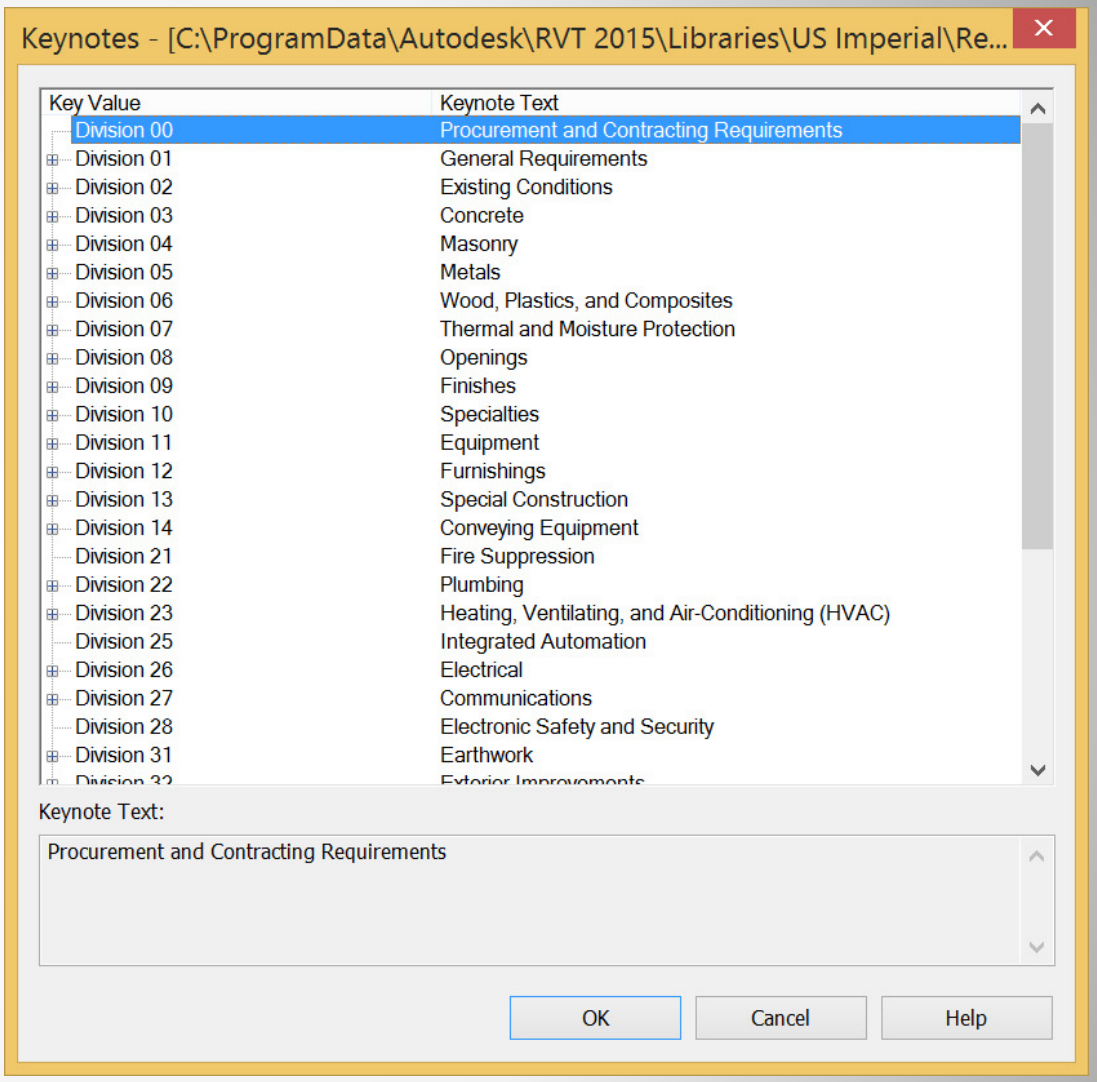
- Documentation tools
  - Keynoting Setting



Platform enhancements

Autodesk® Revit® 2015

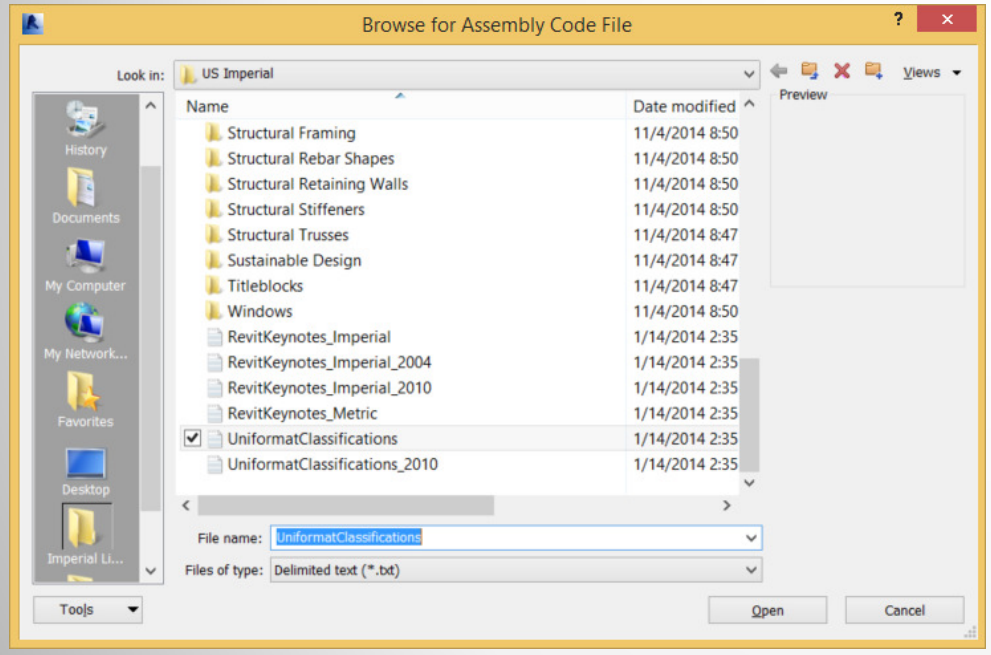
- Documentation tools
  - Keynoting settings
    - Local or server
    - Re/Loaded icon

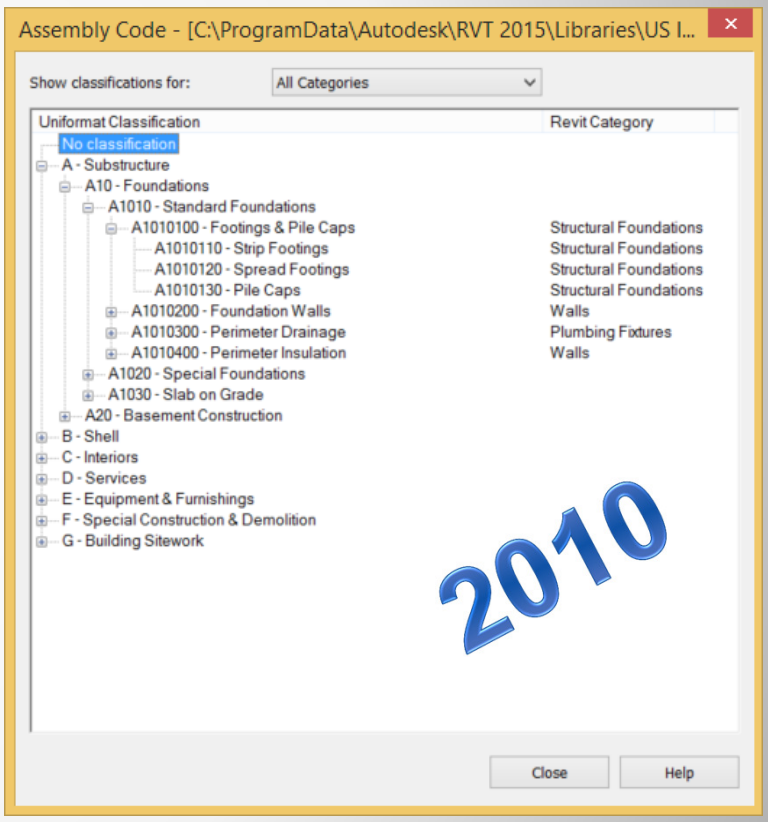


Platform enhancements

Autodesk® Revit® 2015

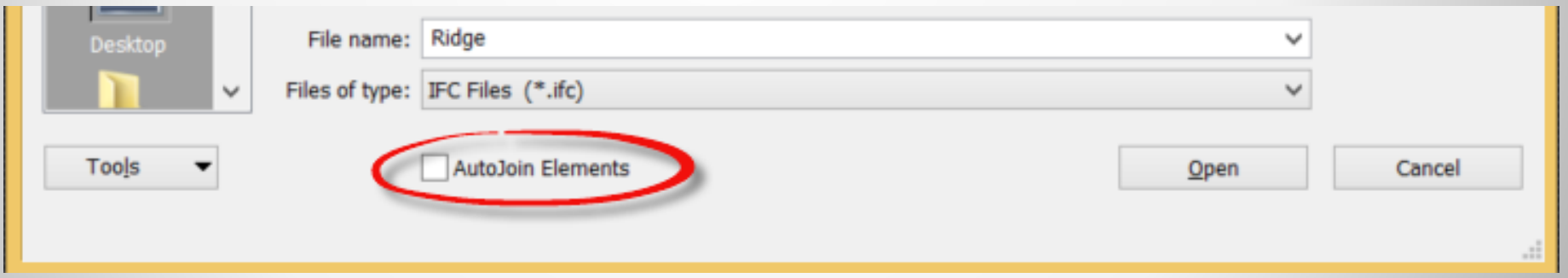
- Documentation tools
  - Assembly code settings





Platform enhancements
Autodesk® Revit® 2015

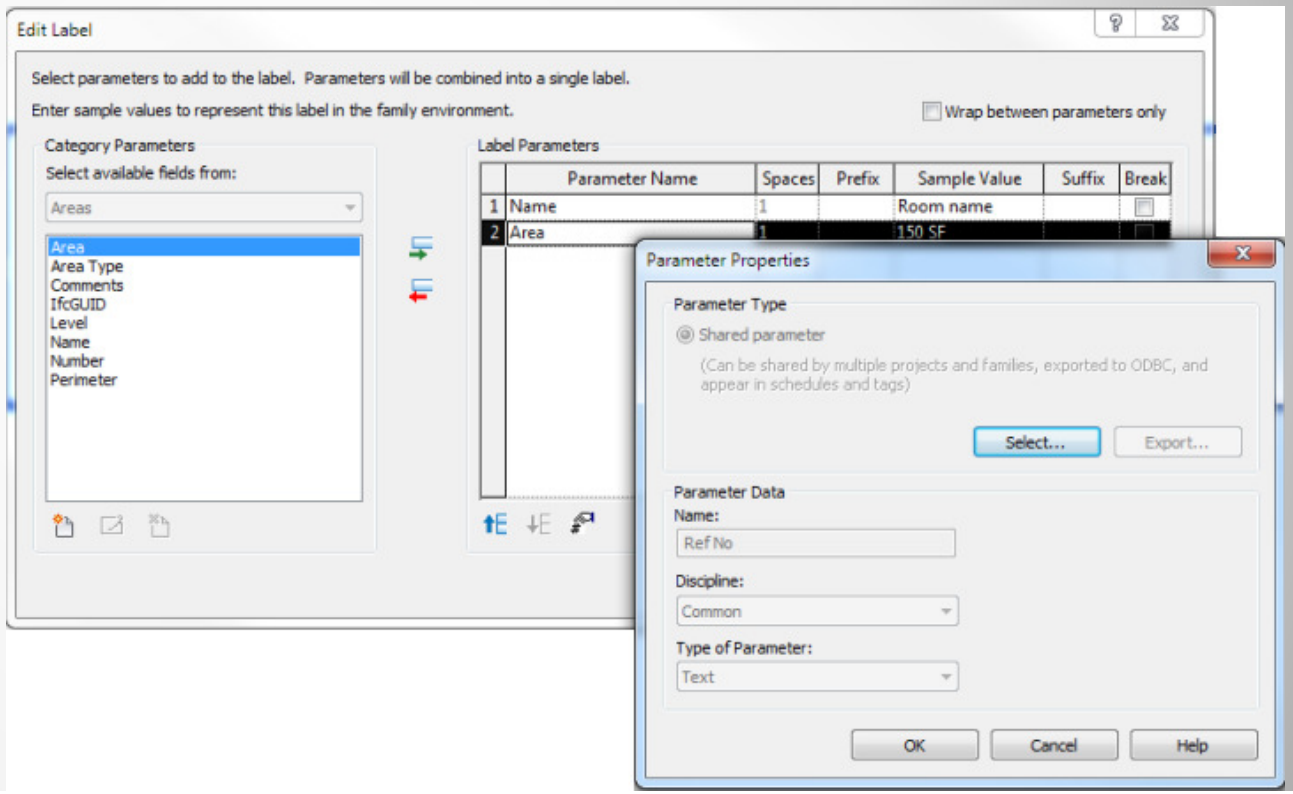
- Documentation tools
  - IFC imports/link



Platform enhancements

Autodesk® Revit® 2015

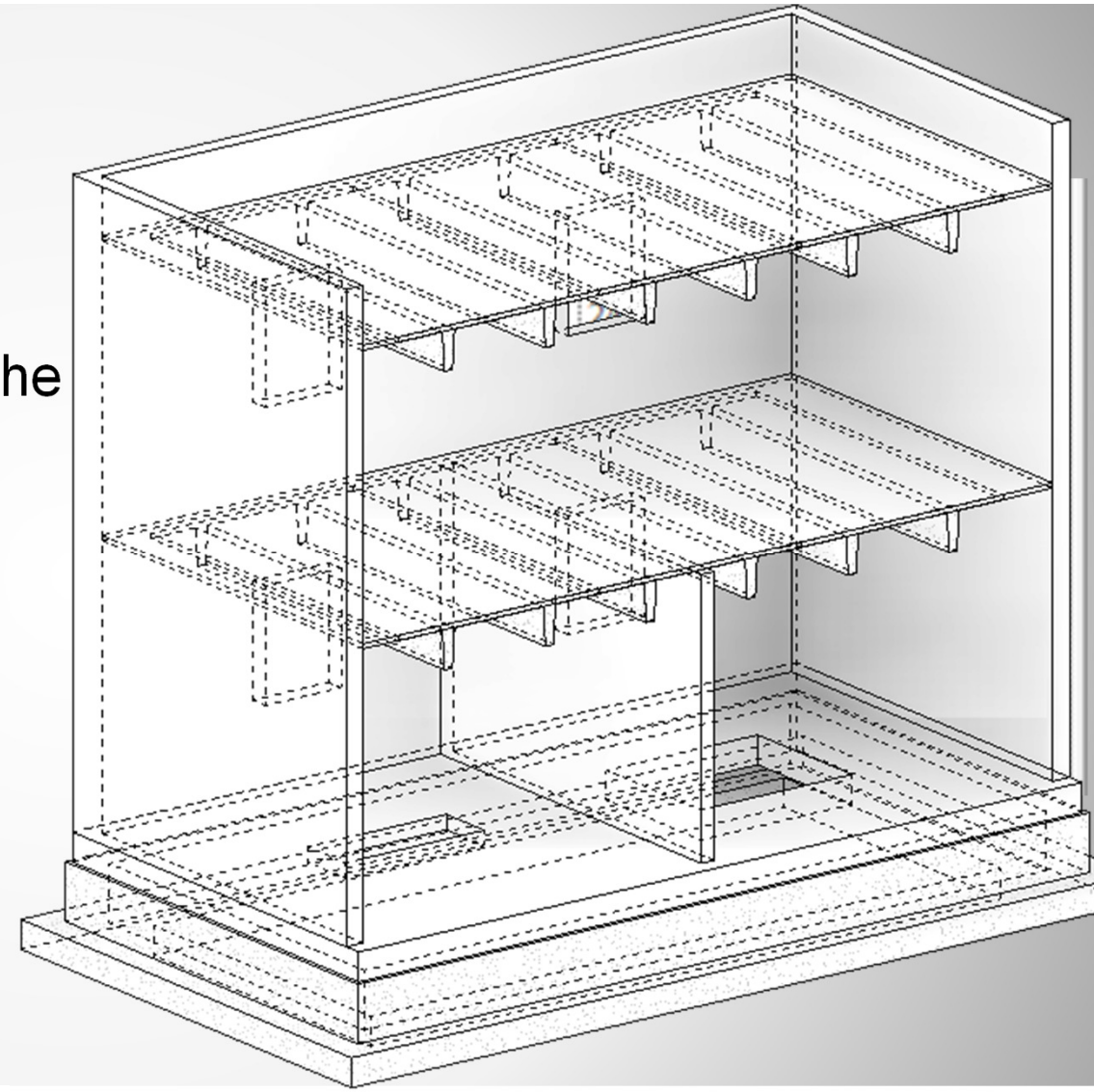
- Documentation tools
  - Shared parameters in view titles



Platform enhancements

Autodesk® Revit® 2015

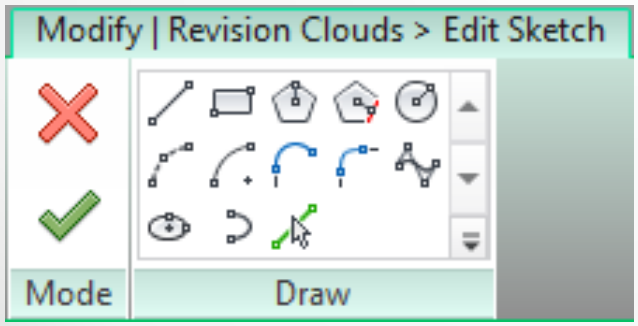
- Enhanced hidden lines
  - New parameter to control the visibility of hidden lines
  - Display all hidden lines automatically

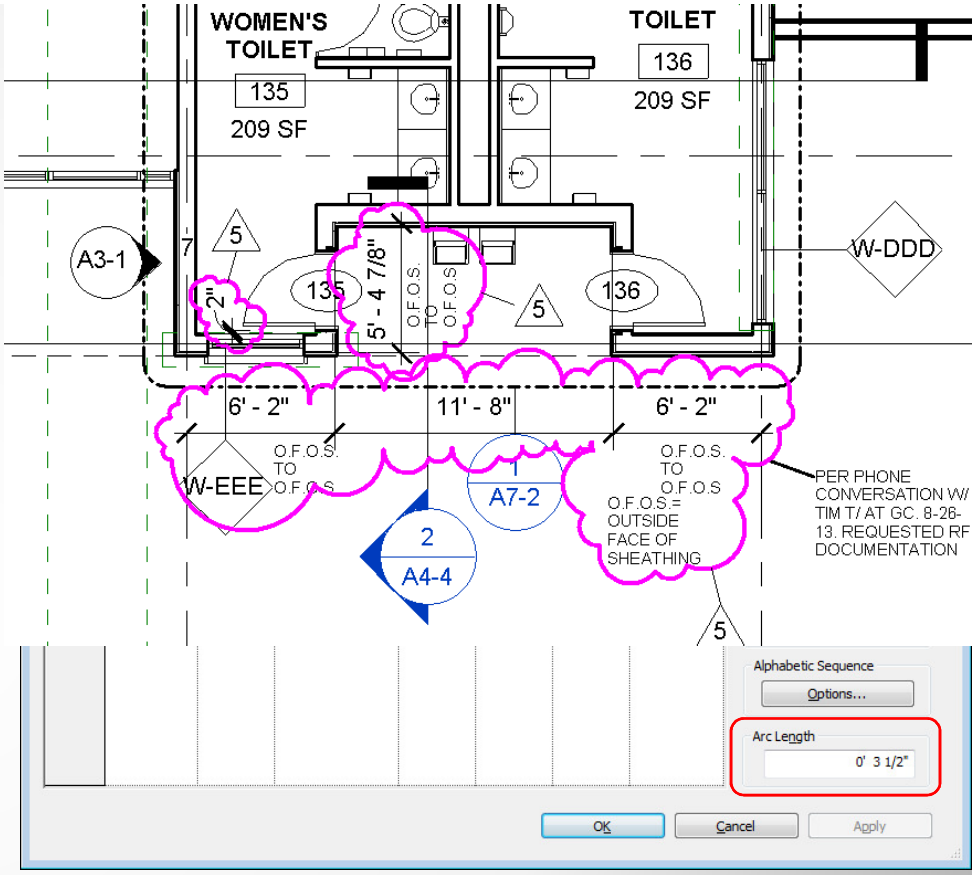


Platform enhancements

Autodesk® Revit® 2015

- Revision improvements
  - Deletion of revisions
  - More tools to sketch the revision cloud shape
  - Minimum arc length for revision clouds





Platform enhancements

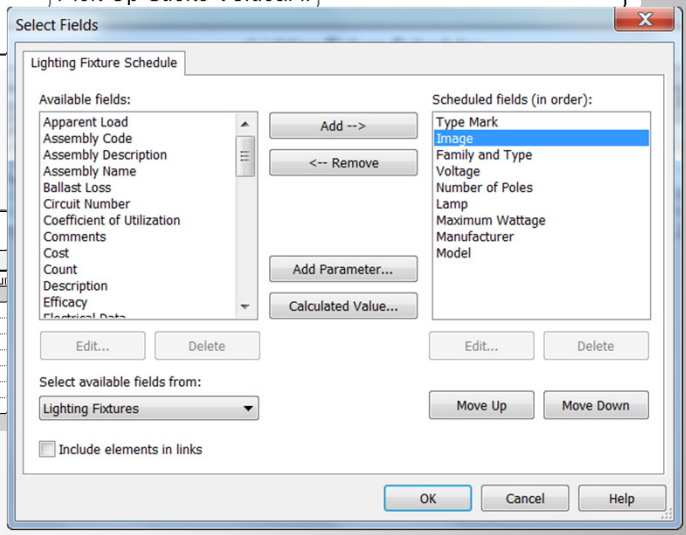
Autodesk® Revit® 2015

- Images in schedules
  - Image instance property
  - Type image type property

Lighting Fixture Schedule				
Type Mark	Type Image	Manufacturer	Model	Comments
A		Lightolier	40740SNC	
B		Lightolier	1101FDICMX1	
C		Lightolier	Luminosities ADA - Pick-Up-Sticks Vertical II	

<Lighting Fixture Schedule>

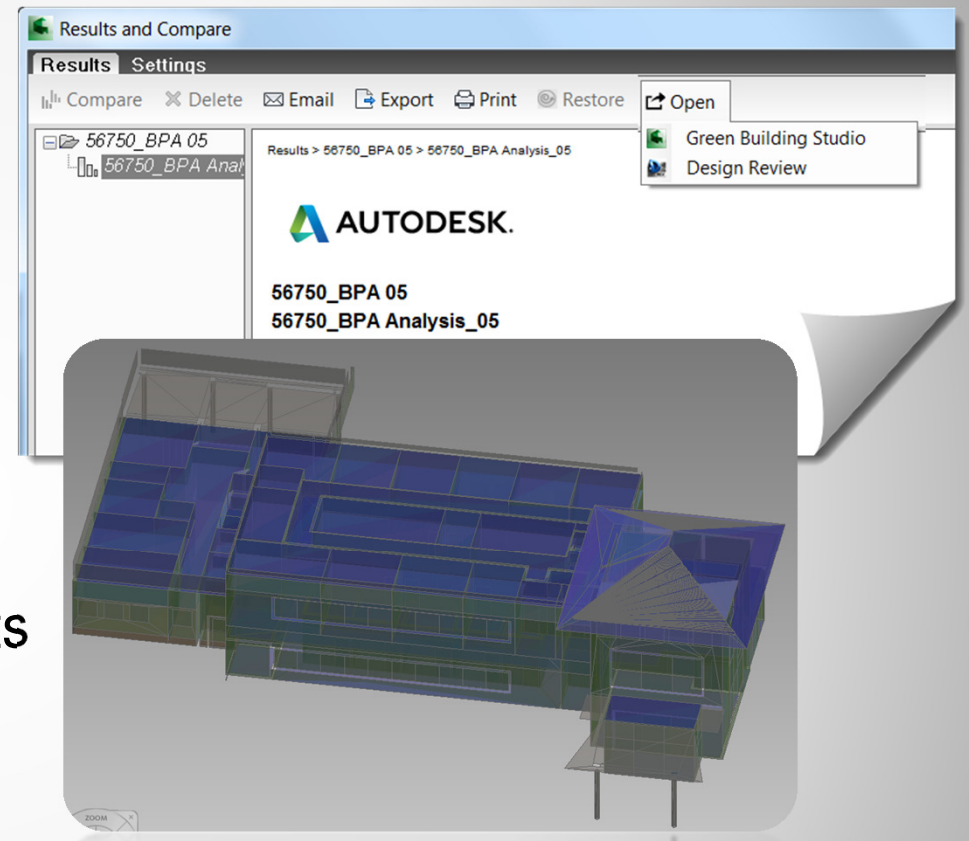
A	B	C	D	E	F	G	H
Type Mark	Image	Family and Type	Voltage	Number of Pole	Lamp	Maximum Watt	Manufactu
	Emergency Wal	Emergency Wall Light: 120V	120 V	1	A-19		
	Suspended Fluo	Suspended Fluorescent Strip - Non-Hosted: Exterior Strip Light 1	120 V	1	T8	64 W	
	Troffer Corner In	Troffer Corner Insert: 2x2 3 Lamp Emergency	120 V	1	T8		
	Wall Pack Light	Wall Pack Light - Exterior: 120V	120 V	1			
A1	Troffer Corner In	Troffer Corner Insert: 2x2 3Lamp	120 V	1	T8	93 W	
A2	<None>	Troffer Corner Insert: 2x2 3Lamp High Profile	120 V	1	T8	93 W	
B		Suspended Fluorescent Strip - Non-Hosted: Strip Light 1x4 - 120	120 V	1		32 W	
Grand total: 239							



Platform enhancements

Autodesk® Revit® 2015

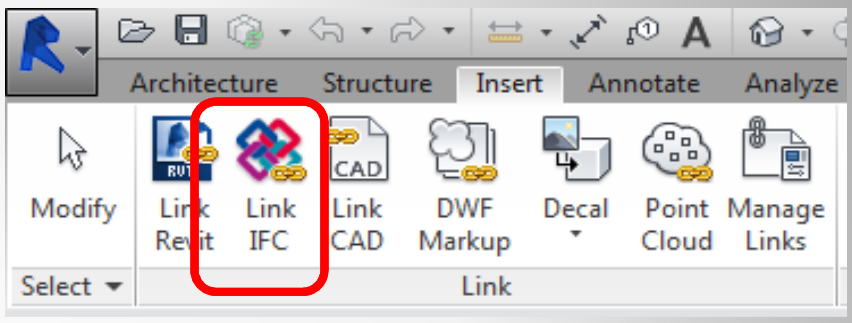
- Building element energy analysis*
  - Improved algorithm
  - Greater analytical surface precision
  - Better handling of Revit elements

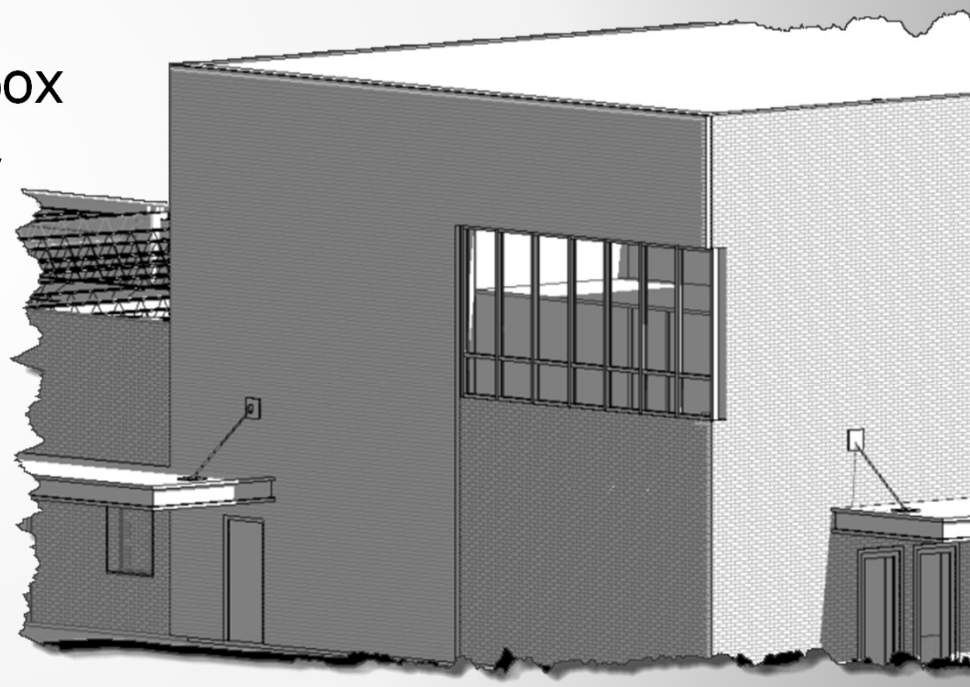


Platform enhancements

Autodesk® Revit® 2015

- IFC linking
  - New Link IFC tool
  - IFC tab in Manage Links dialog box
  - Ability to reference IFC geometry without overhead of conversion Revit
  - Improved geometry handling and performance

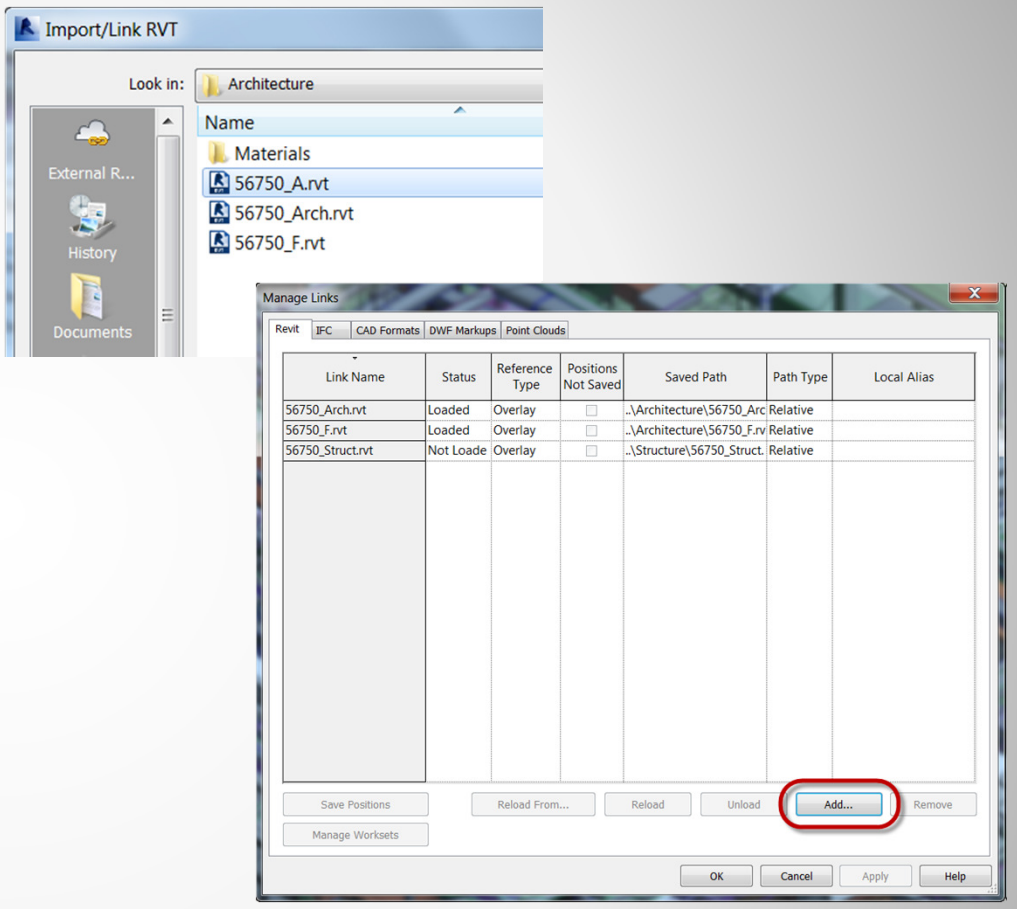




Platform enhancements

Autodesk® Revit® 2015

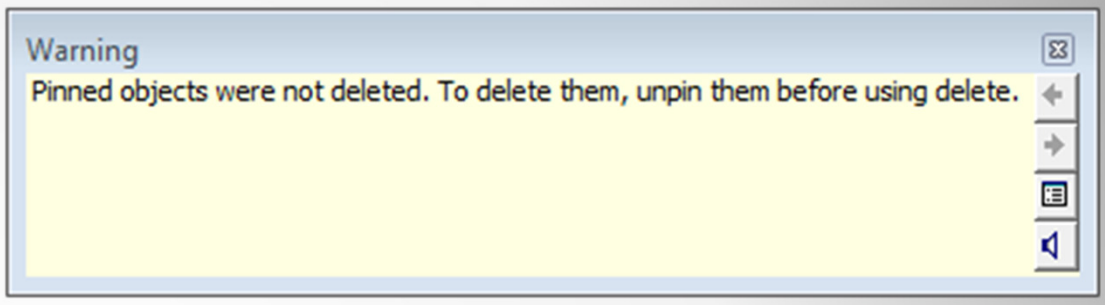
- Manage Links dialog box
  - Add from Manage Links
  - Revit models
  - CAD files
  - Point clouds

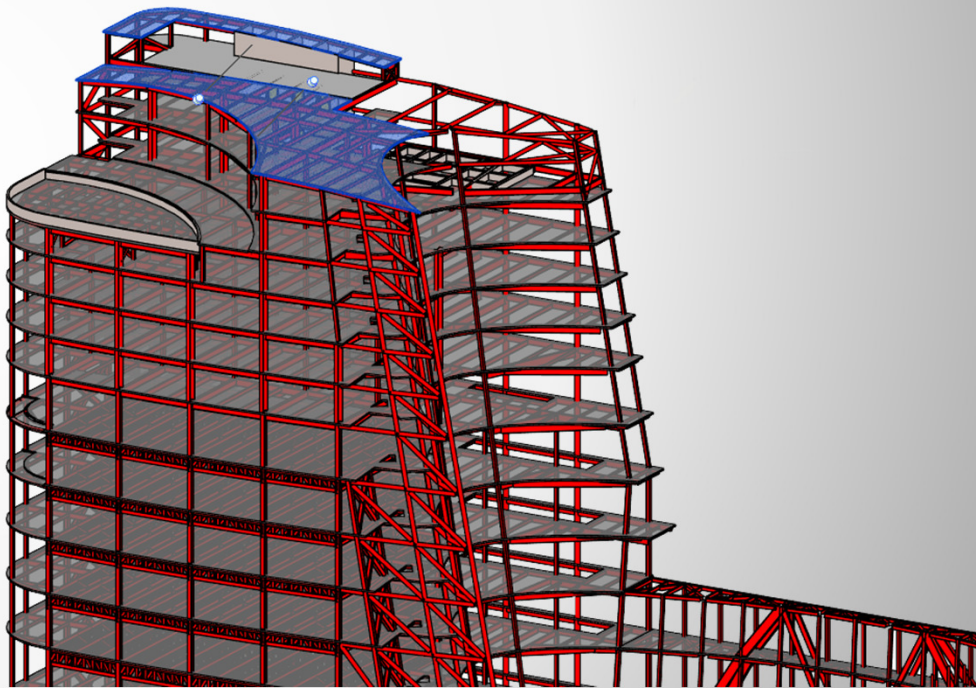


Platform enhancements

Autodesk® Revit® 2015

- Pinned elements enhancements
  - Prevent pinned elements from being deleted
  - Delete elements by unpinning them first
  - Delete objects in a non-graphical context

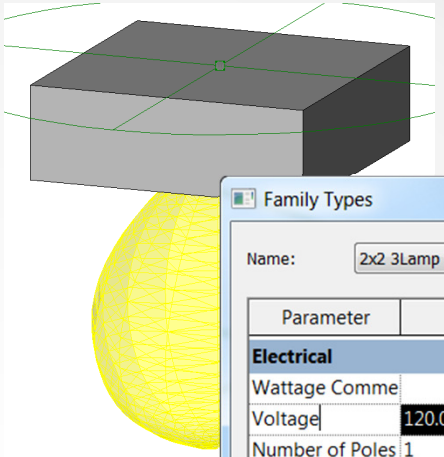


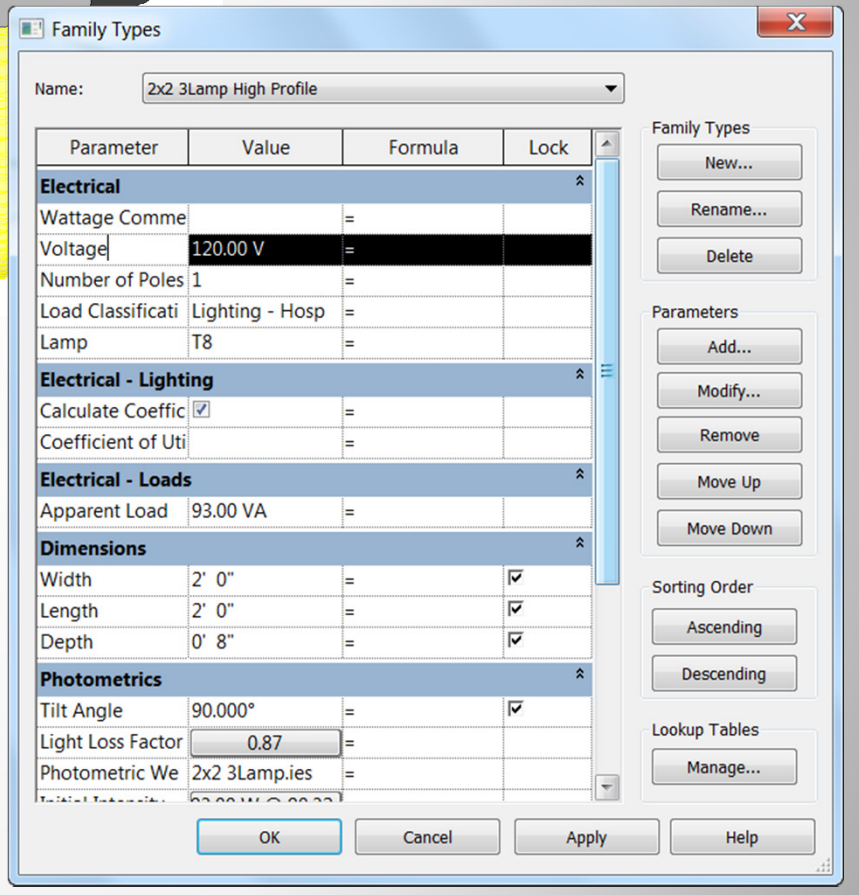


Platform enhancements

Autodesk® Revit® 2015

- Family parameter order adjustment
  - Move parameters within parameter group
  - New parameters added to end of group
  - Customer request

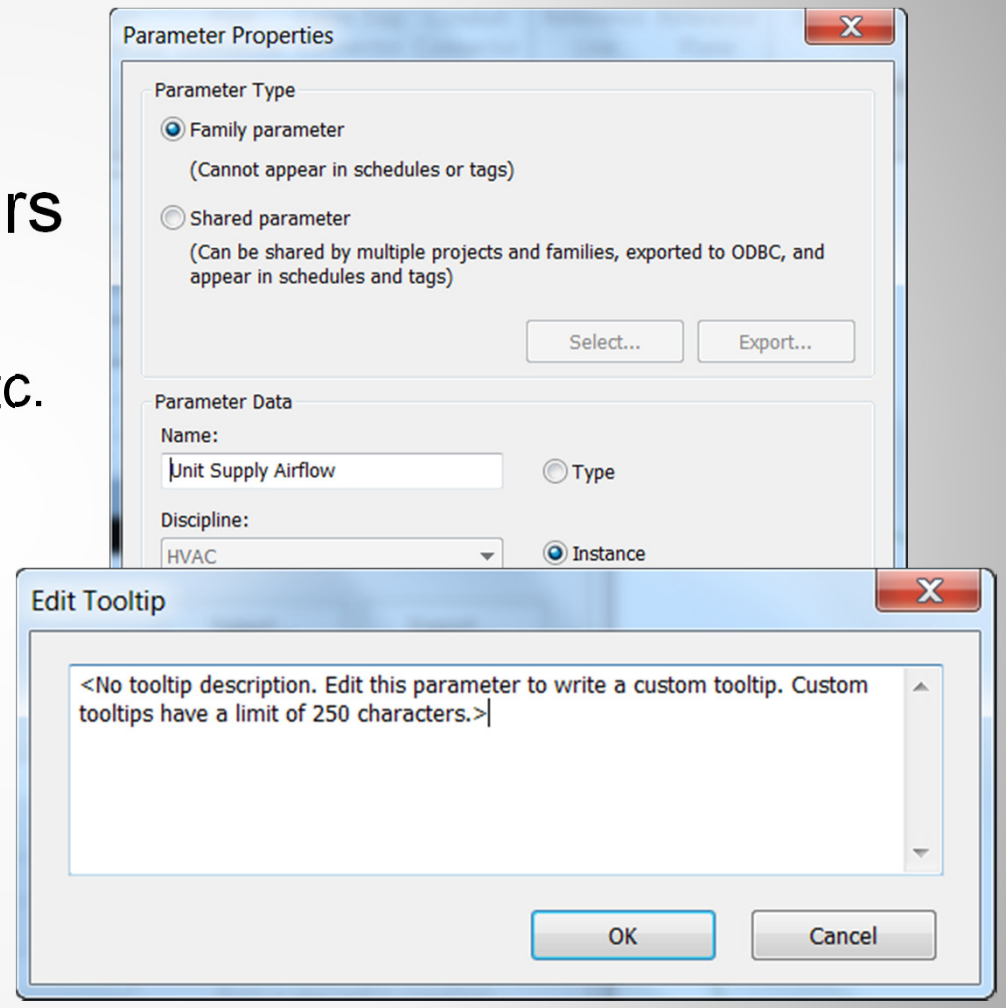




Platform enhancements

Autodesk® Revit® 2015

- Tooltips for family parameters
  - Customize tooltips
  - Write intended use, key info, etc.
  - 250 characters

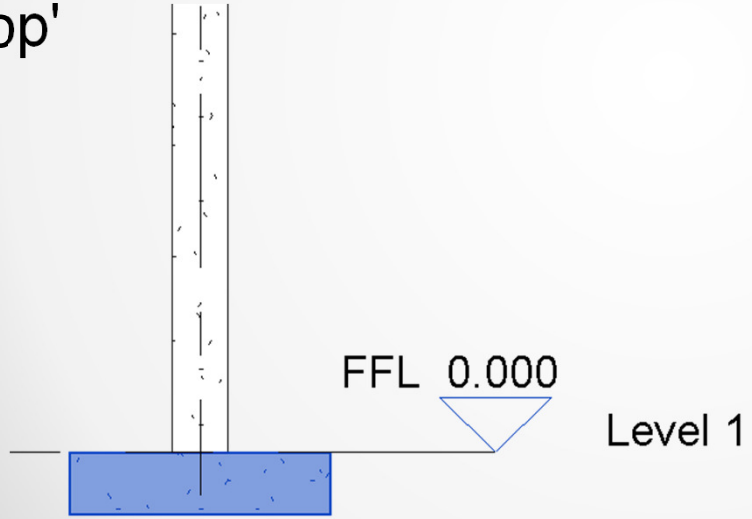


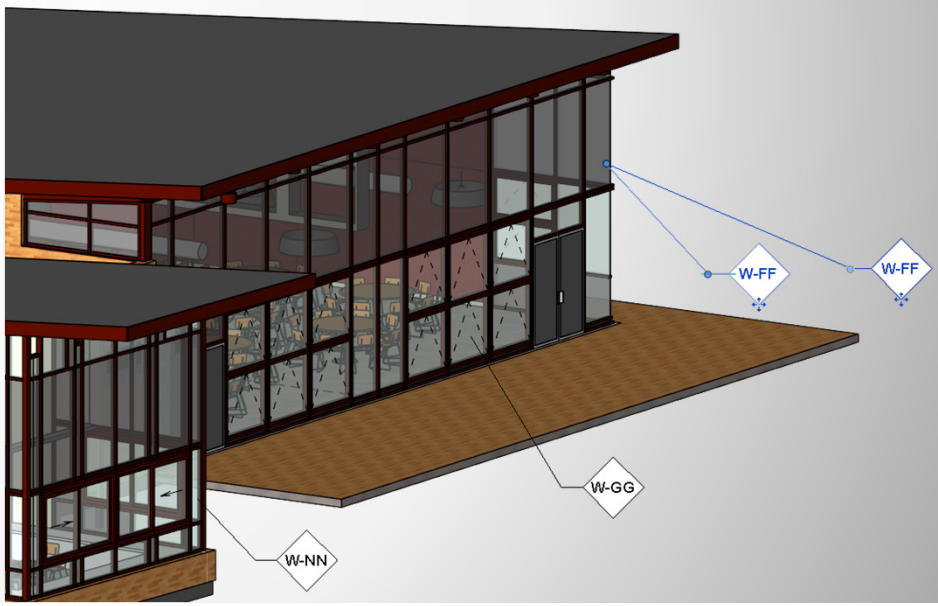
Platform enhancements

Autodesk® Revit® 2015

- Tag improvements
  - Consistency with text leaders
  - New parameter 'Elevation at Top'

Rebar Cover - Bottom F...	XD1\XC3/4 (C32/40,0....
Rebar Cover - Other Faces	XD1\XC3/4 (C32/40,0....
Estimated Reinforcemen...	3420.41 cm³
Dimensions	
Elevation at Top	0.0
Elevation at Bottom	-450.0
Identity Data	
Image	
Comments	
Mark	
Phasing	
Phase Created	New Construction
Phase Demolished	None





Stretch

- Get up and stretch out!

For structural engineers

New features and enhancements

Autodesk® Revit® Structure 2015, & Autodesk® Revit® MEP 2015

Structural engineering enhancements

- Enhanced analytical model
- Reinforcements for parts
- Reinforcement numbering
- Single fabric sheet placement
- Presentation rebar sets
- Enhanced multi-rebar annotation
- Greater accuracy of as-built model definition
- Structural section properties

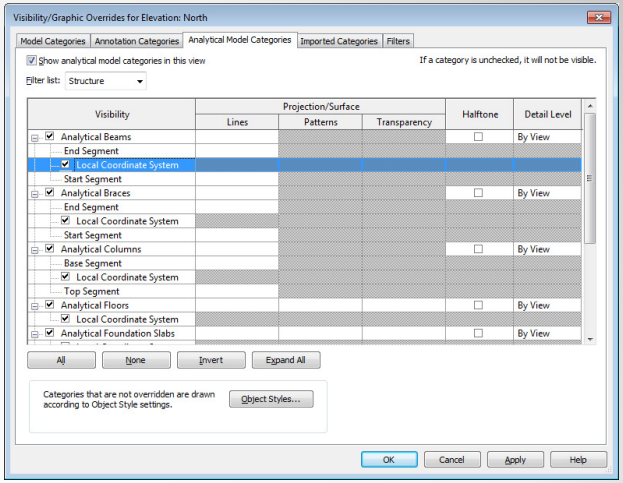
Mechanical, electrical, and plumbing (MEP) engineering enhancements

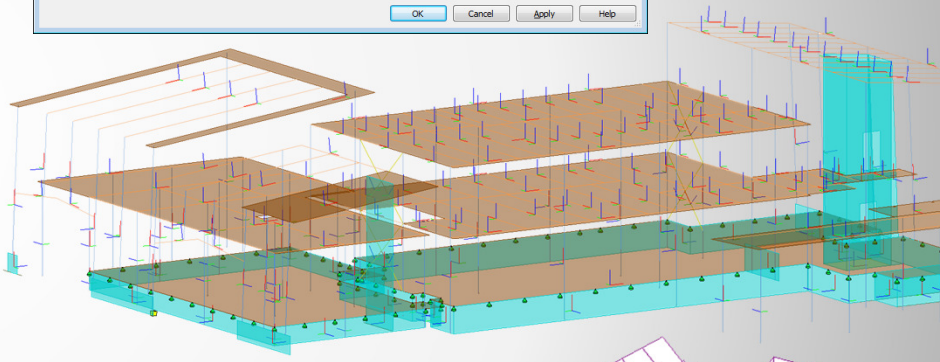
- Calculation methods for pressure drop
- Tapped duct and pipe tags
- Electrical API enhancements
- Japan Autodesk® Revit® MEP software electrical content
- US AWWA content

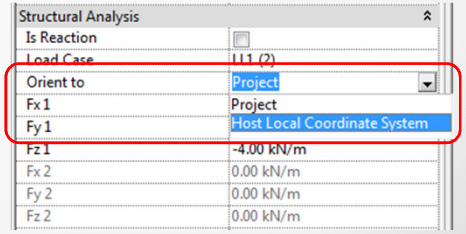
For structural engineers

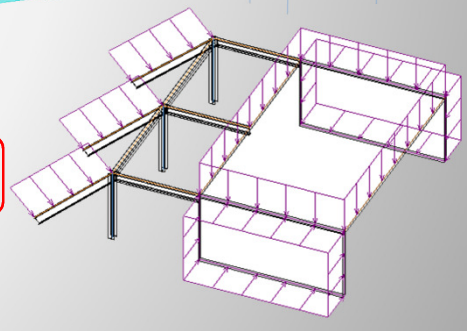
Autodesk® Revit® 2015

- Enhanced analytical model
  - Display local coordinate system (LCS) widgets
  - Loads and boundary conditions orientation according to LCS
  - Improved analytical links





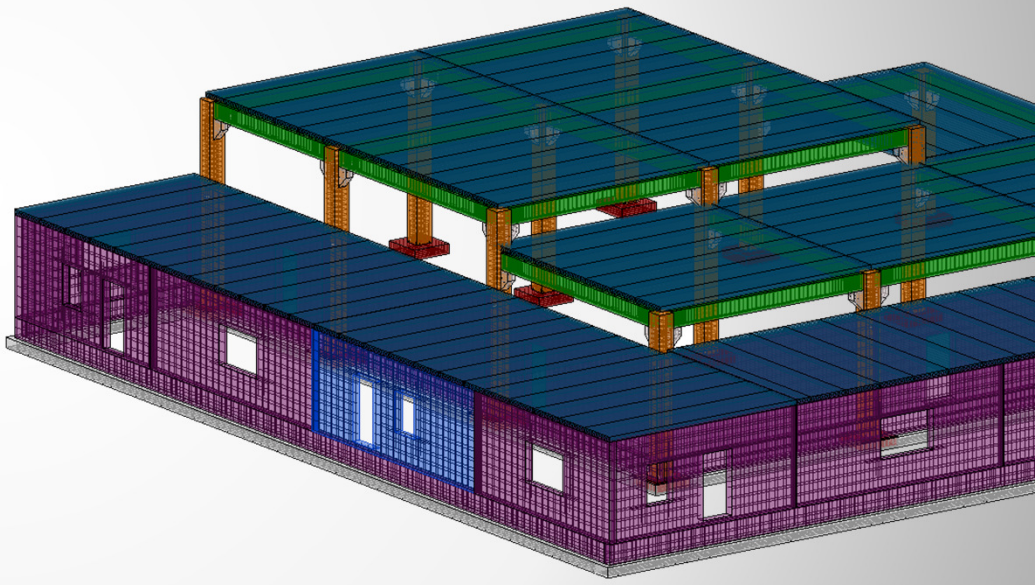




For structural engineers

Autodesk® Revit® 2015

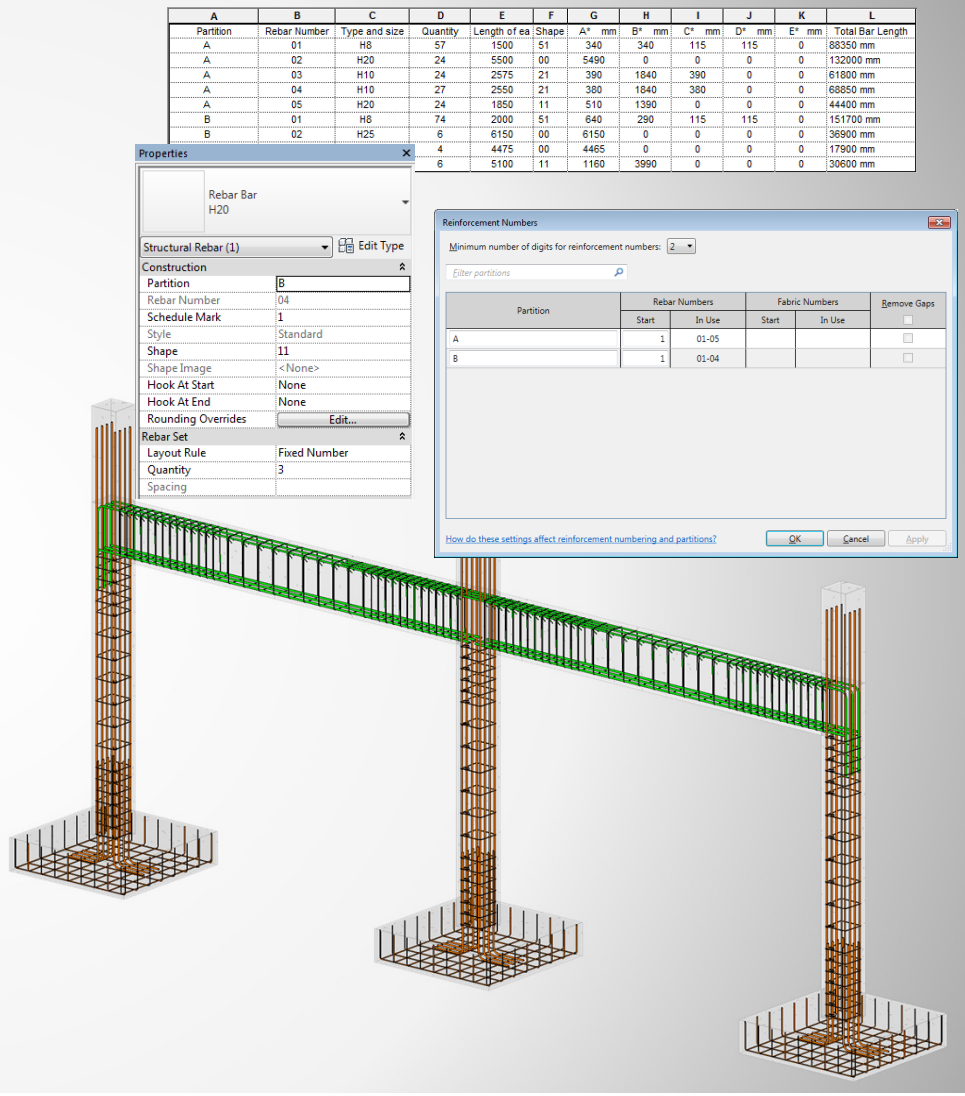
- Reinforcement for parts
  - Surface part elements can host rebar
  - Rebars follows parts' shapes and changes
  - New parameters 'Can-host-rebar' for parts and 'Host category' for reinforcement



For structural engineers

Autodesk® Revit® 2015

- Reinforcement numbering
  - Numbering automation & customization
  - Annotating for shop drawings
  - Rebar scheduling
  - Pouring sequencing

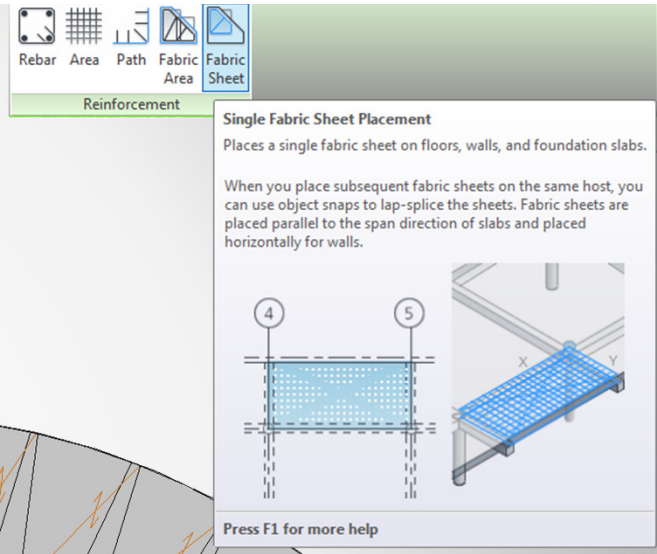


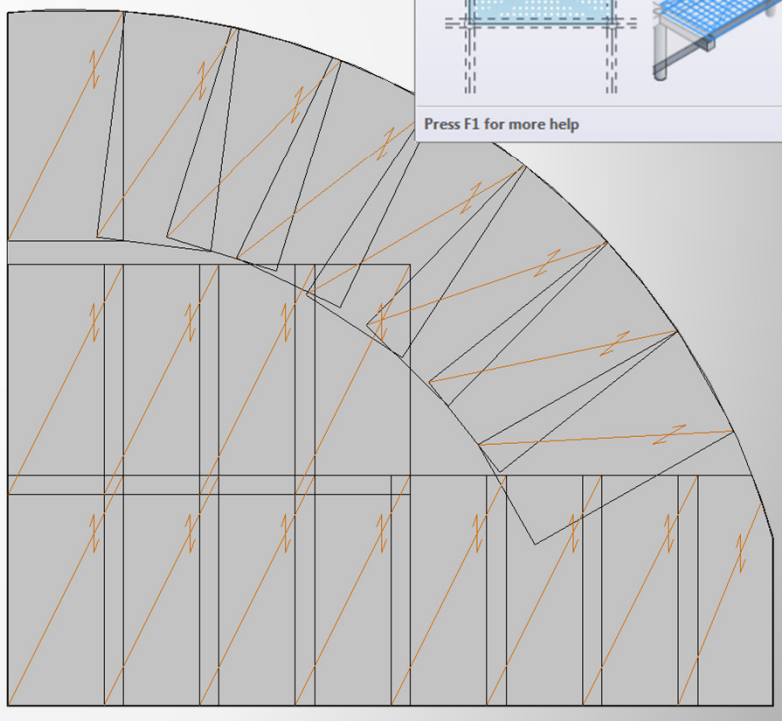
More accurate schedules and shop drawings

For structural engineers

Autodesk® Revit® 2015

- Single fabric sheet placement
  - New tool in the Reinforcement panel
  - Manual positioning
  - Ability to extend outside of the host cover and edges



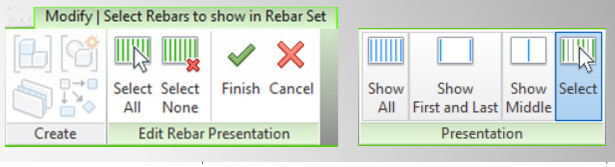


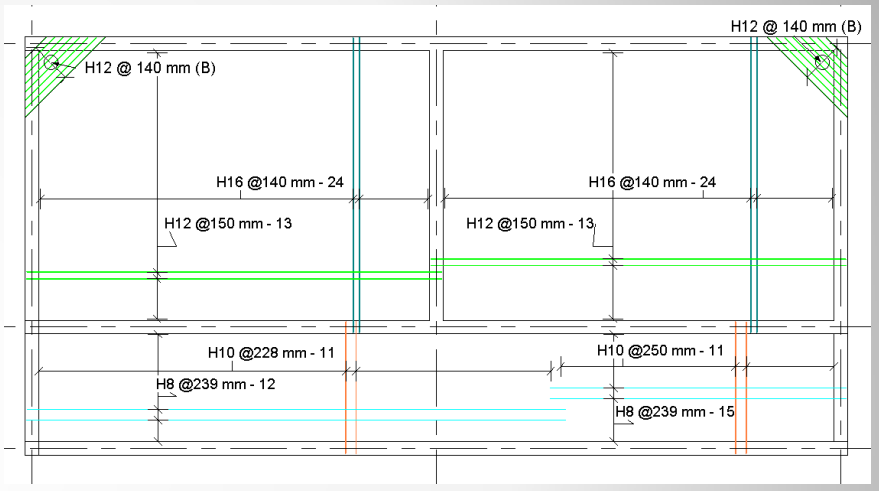
Greater flexibility in modeling and precise placement of reinforcement

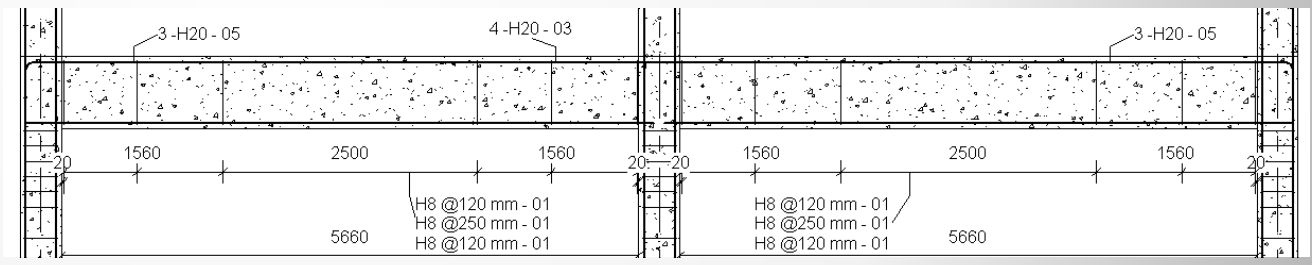
For structural engineers

Autodesk® Revit® 2015

- Presentation for rebar sets
  - Showing a representative subset
  - Diffent bar presentation for a rebar set in each separate view



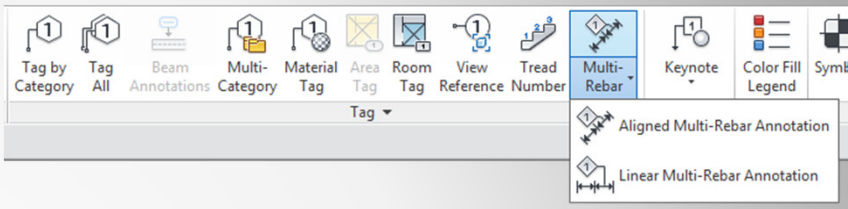




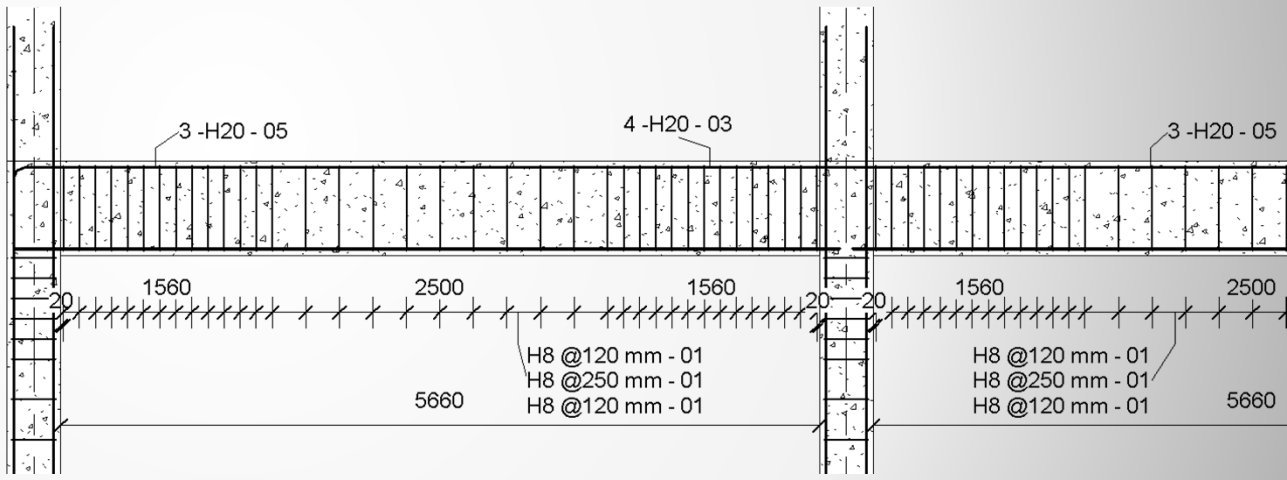
More accurate and readable reinforced concrete shop drawings

For structural engineers

Autodesk® Revit® 2015



- Enhanced multi-rebar annotation
  - Grouping and sorting
  - Annotaion update



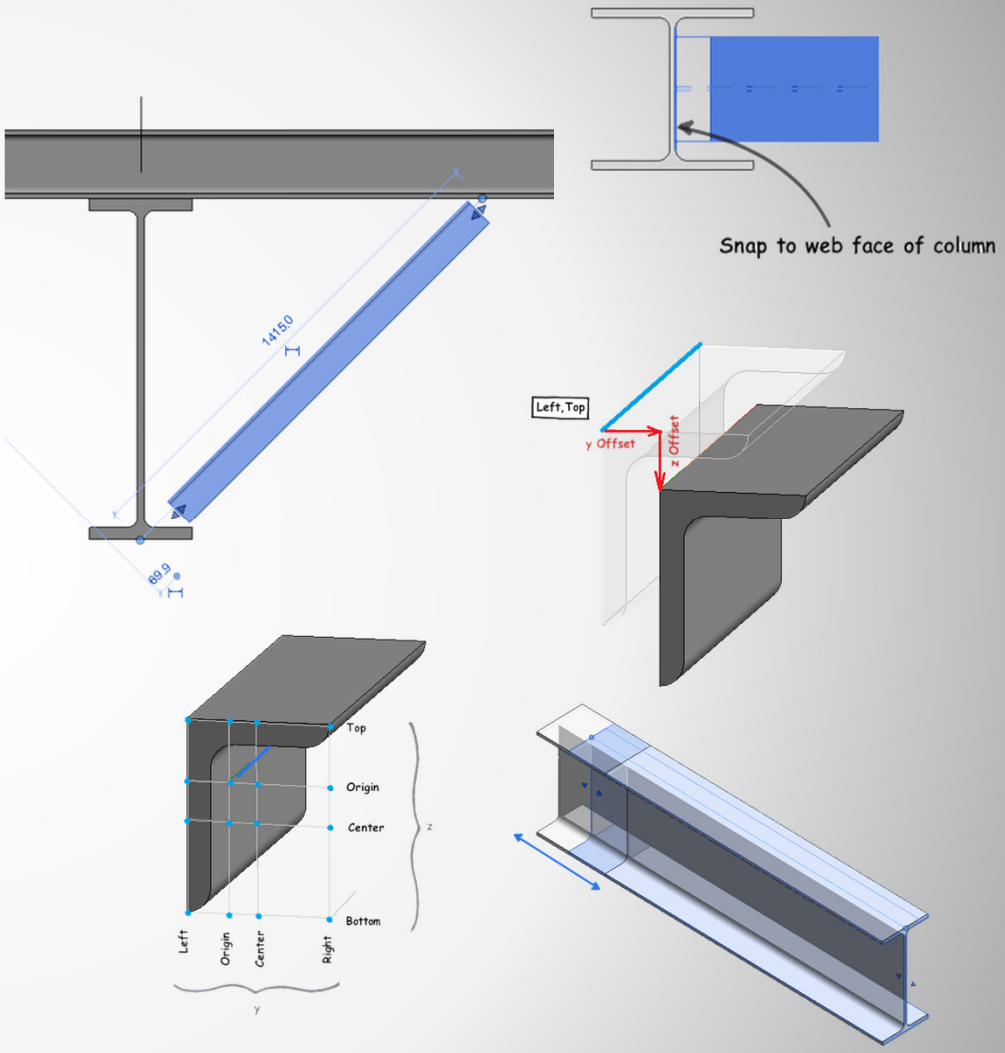
Greater support of reinforced concrete documentation

For structural engineers

Autodesk® Revit® 2015

- Greater accuracy of as-built model definition
  - Location line visibility
  - Graphical justification
  - Shape handles & snapping improvements
  - Setback improvements
  - Switching on/off Auto-Join

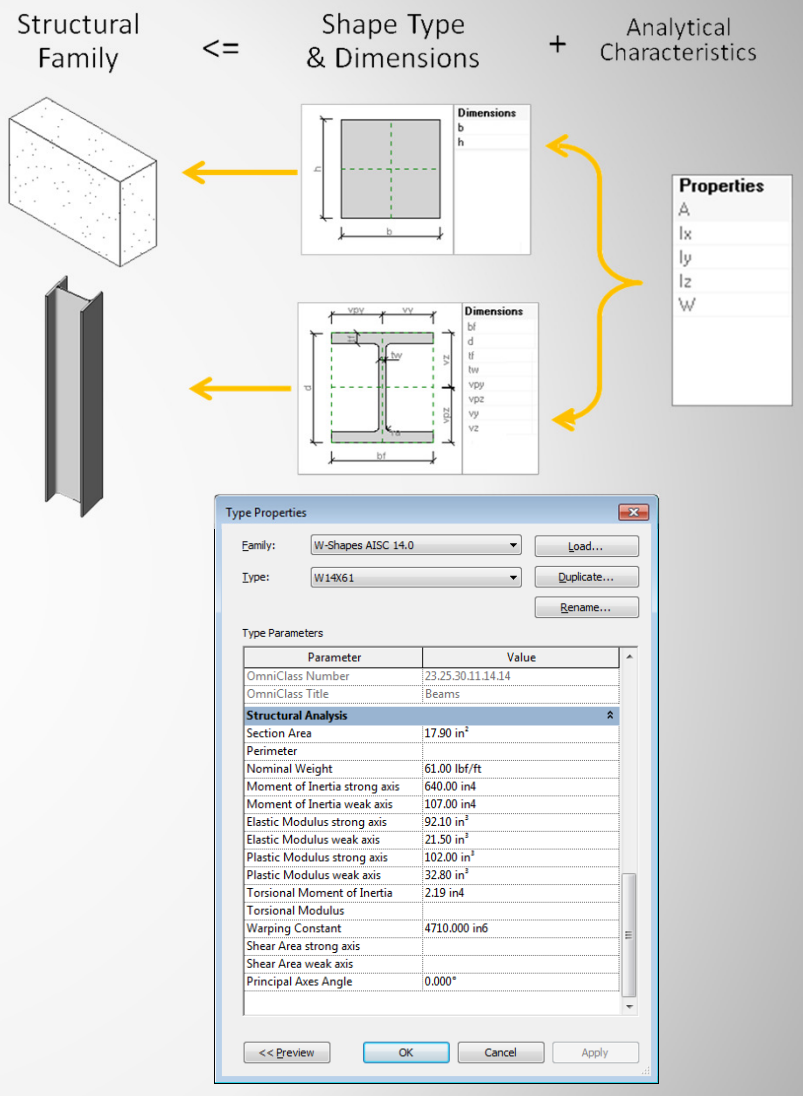
Better interoperability with steel detailing software



For structural engineers

Autodesk® Revit® 2015

- Structural section properties
  - Catalog profiles
  - More accurate quantities
  - Analysis and code check directly from Revit models



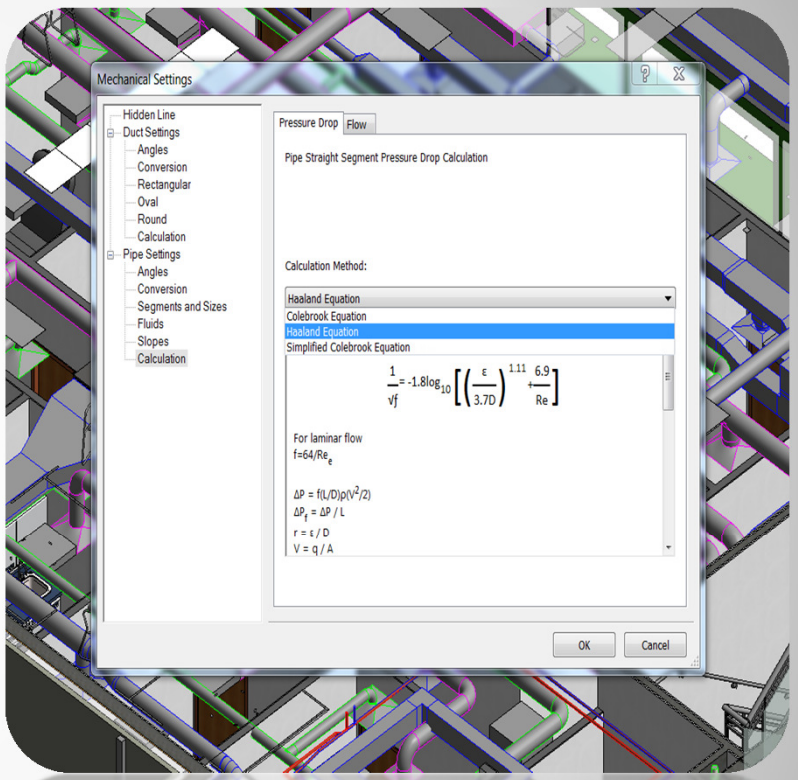
Improved integration of simulation products within BIM workflows

For MEP engineers

MEP engineering enhancements

Autodesk® Revit® 2015

- Calculation methods for pressure drop
  - Haaland equation
  - Colebrook equation
  - Duct and pipe
  - Specify calculation method

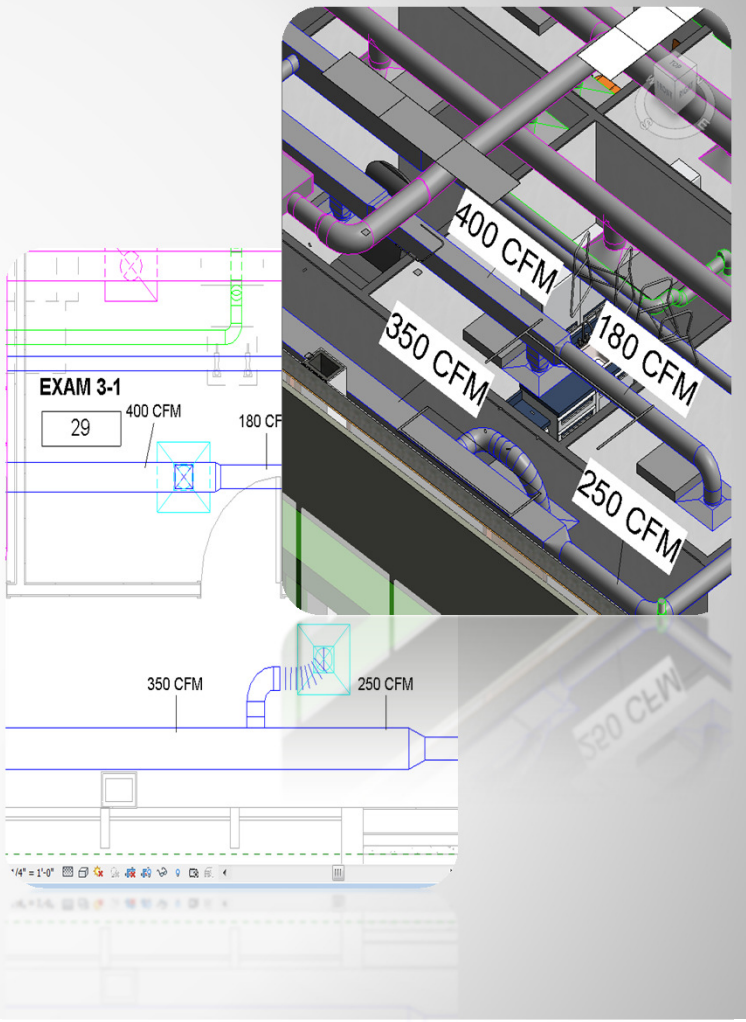


Promote greater accuracy when calculating pressure drop using Haaland or Colebrook equations

MEP engineering enhancements

Autodesk® Revit® 2015

- Tapped duct and pipe tags
  - Tag values before / after tap
  - Actual value based on location
  - Multiple values in tag

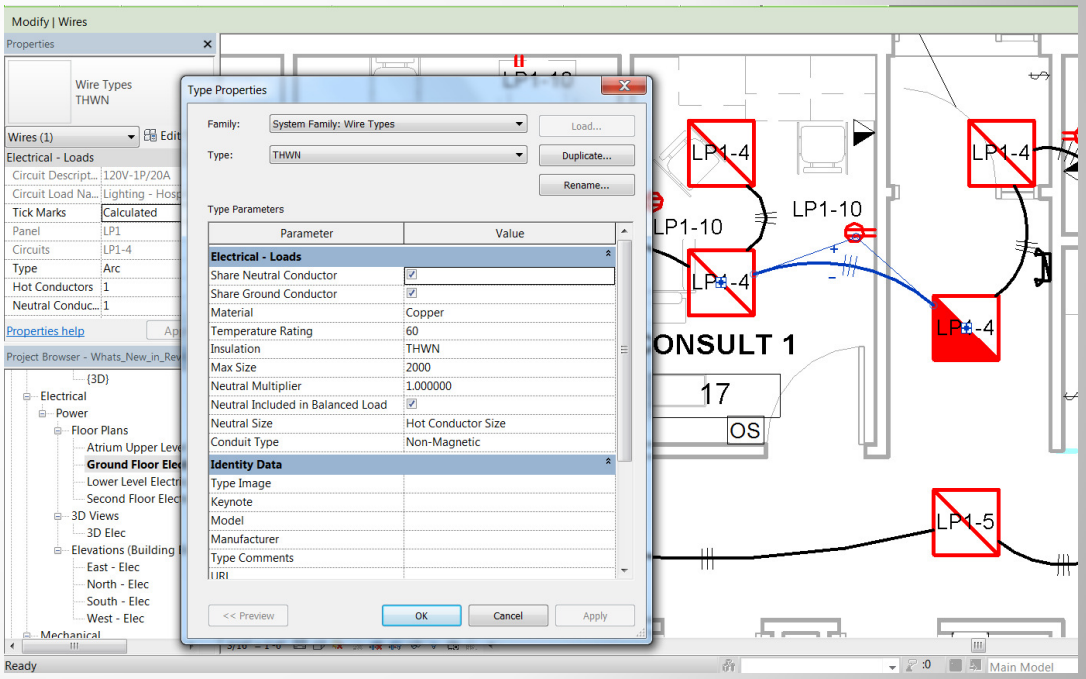


Tag duct or pipe with more accurate numerical values along length

MEP engineering enhancements

Autodesk® Revit® 2015

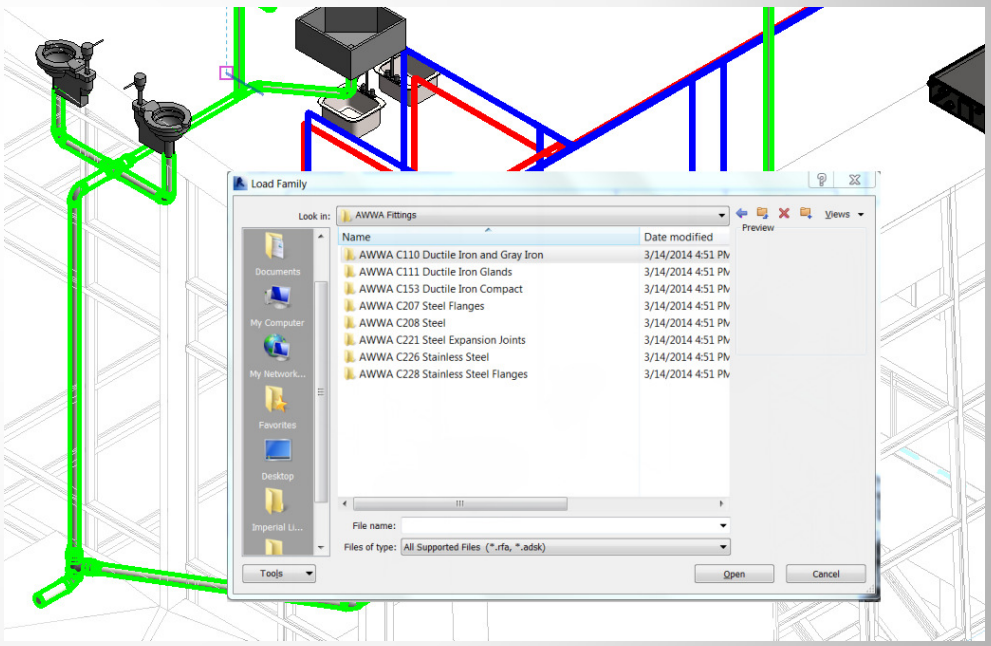
- Electrical API enhancements
  - Create wire shapes
  - Add/modify wire properties
  - Remove vertices



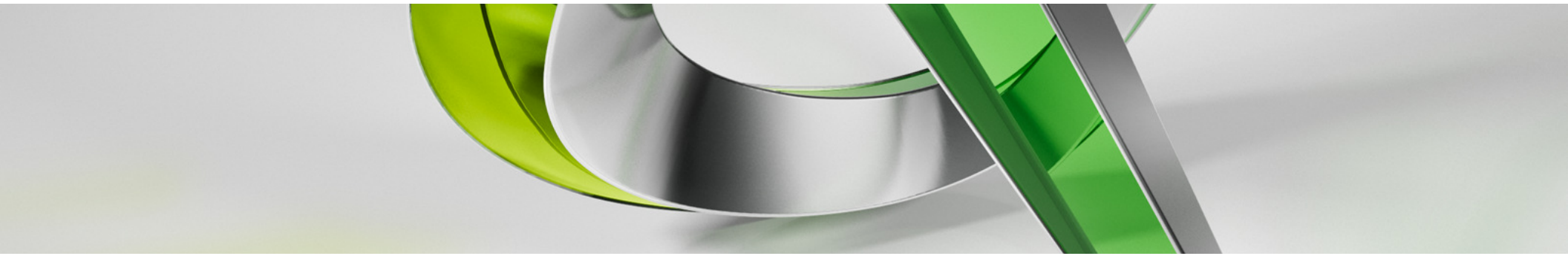
MEP engineering enhancements

Autodesk® Revit® 2015

- Additional country-specific content
  - US AWWA content
  - Japan MEP electrical content

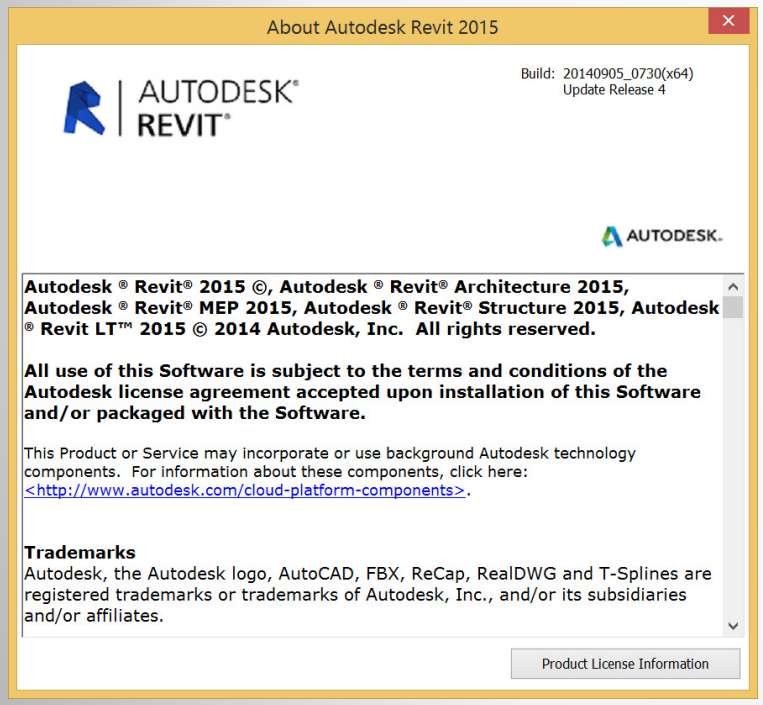


Revit 2015 - R2



Revit 2015 R2

- Update Release 4
- Build: 20140905_0730

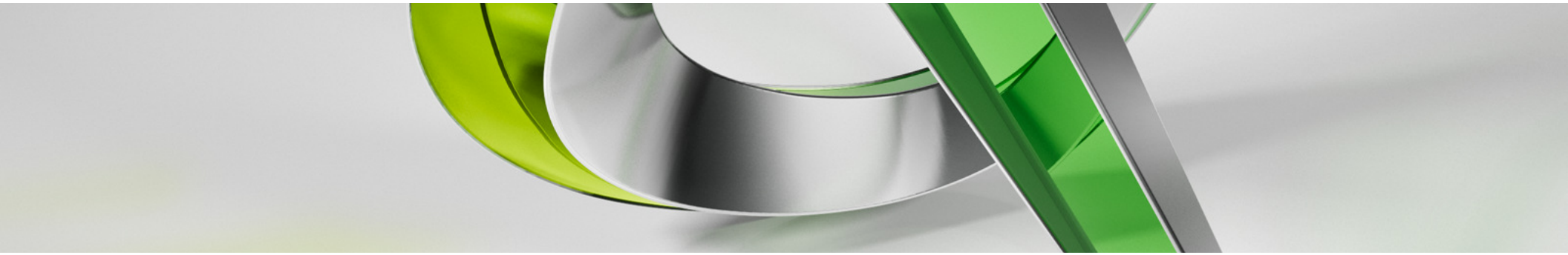


Revit 2015 R2

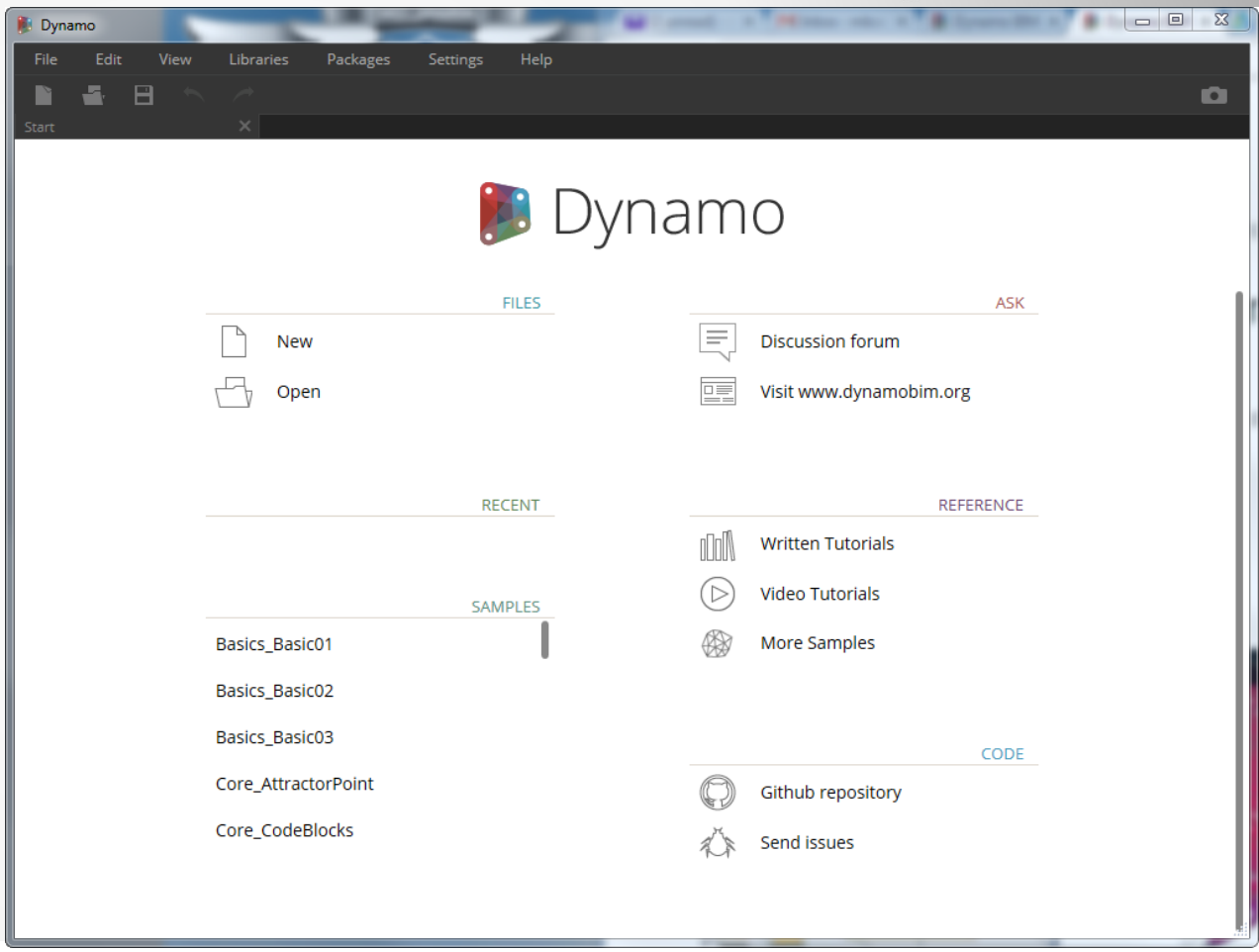
Architectural Enhancements

- Dynamo
- Solon Integration
- Energy Analysis
- Wall Joins
- IFC references
- Shaft Opening
- Site Design
- Select host Tags

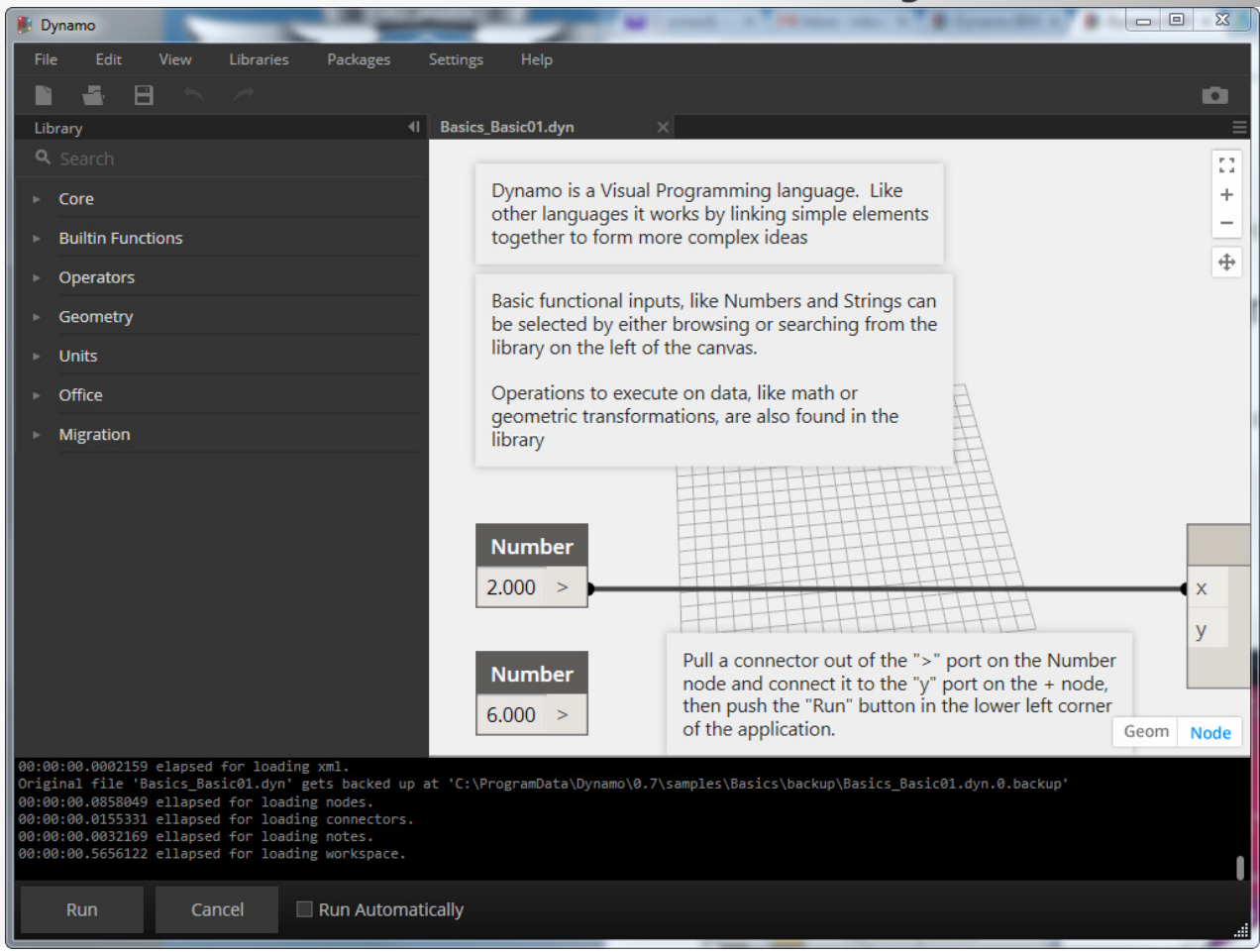
Dynamo



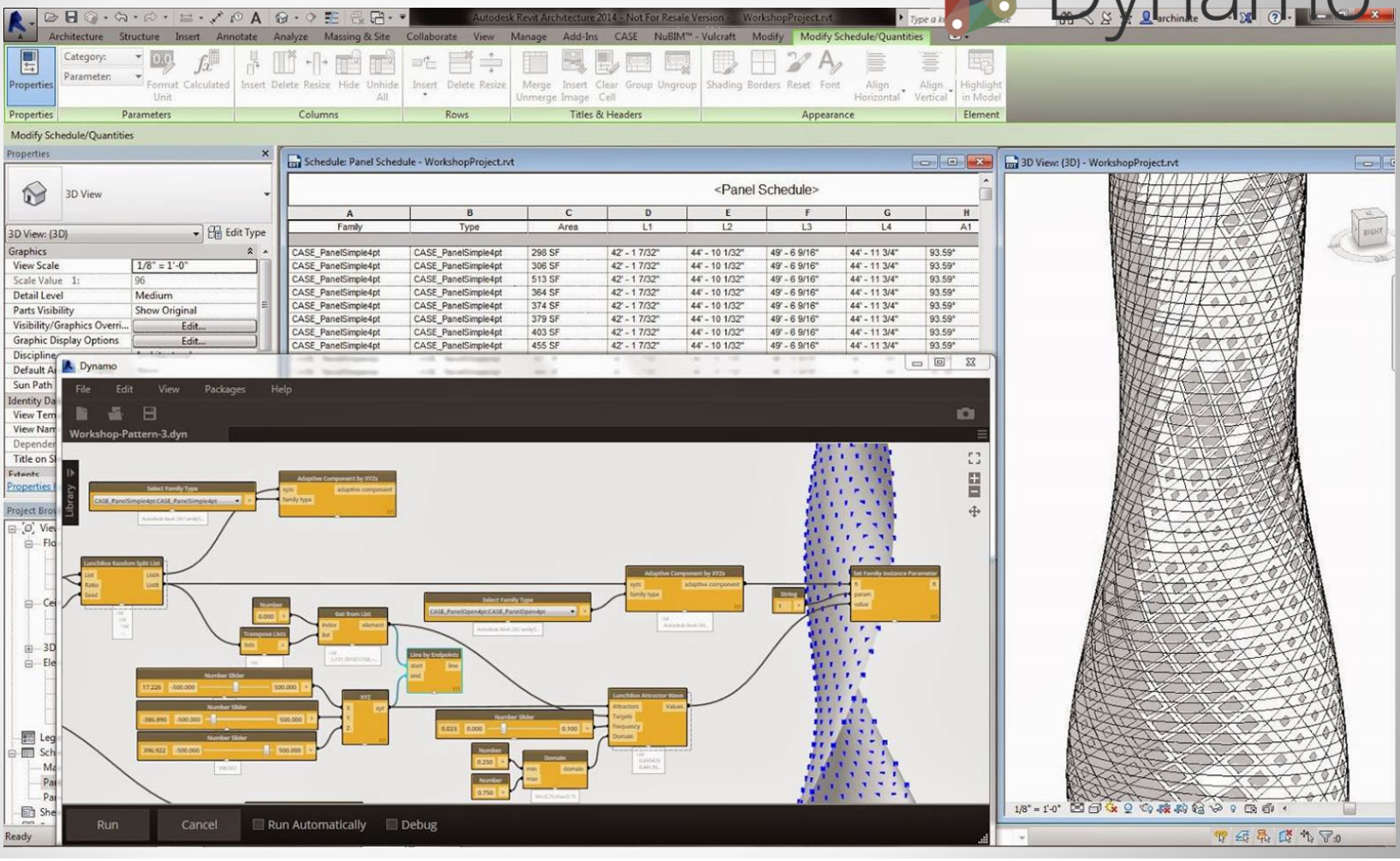
Dynamo


Dynamo
File
Edit
View
Libraries
Packages
Settings
Help
Start
Dynamo
FILES
New
Open
RECENT
SAMPLES
Basics_Basic01
Basics_Basic02
Basics_Basic03
Core_AttractorPoint
Core_CodeBlocks
ASK
Discussion forum
Visit www.dynamobim.org
REFERENCE
Written Tutorials
Video Tutorials
More Samples
CODE
Github repository
Send issues

Dynamo

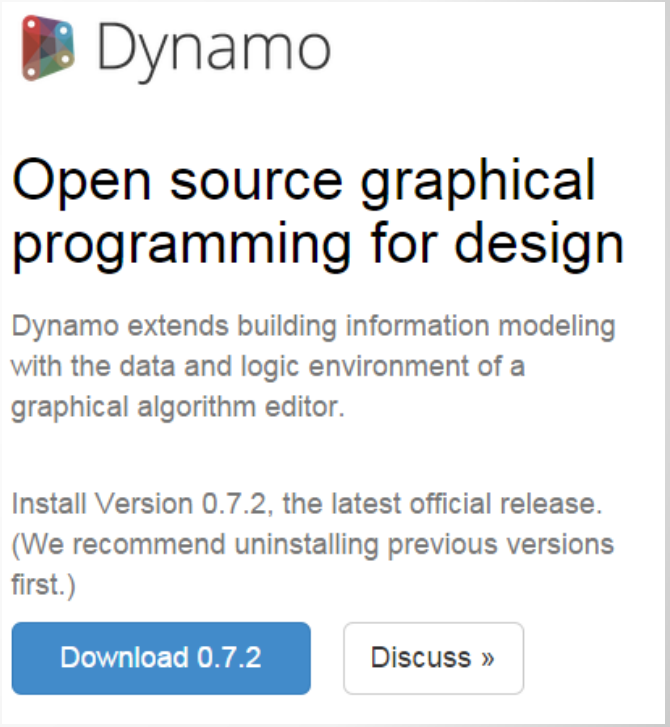

Dynamo
File
Edit
View
Libraries
Packages
Settings
Help
Library
Search
Core
Builtin Functions
Operators
Geometry
Units
Office
Migration
Basics_Basic01.dyn
Dynamo is a Visual Programming language. Like other languages it works by linking simple elements together to form more complex ideas
Basic functional inputs, like Numbers and Strings can be selected by either browsing or searching from the library on the left of the canvas.
Operations to execute on data, like math or geometric transformations, are also found in the library
Number
2.000
Number
6.000
x
y
Pull a connector out of the ">" port on the Number node and connect it to the "y" port on the + node, then push the "Run" button in the lower left corner of the application.
Geom
Node
00:00:00.0002159 elapsed for loading xml.
Original file 'Basics_Basic01.dyn' gets backed up at 'C:\ProgramData\Dynamo\0.7\samples\Basics\backup\Basics_Basic01.dyn.0.backup'
00:00:00.0858049 ellapsed for loading nodes.
00:00:00.0155331 ellapsed for loading connectors.
00:00:00.0032169 ellapsed for loading notes.
00:00:00.5656122 ellapsed for loading workspace.
Run
Cancel
Run Automatically

Dynamo

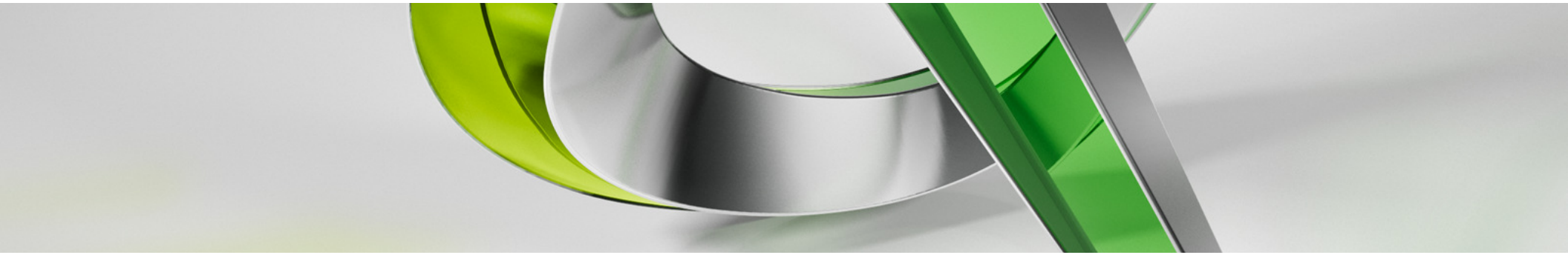

Dynamo
Modify Schedule/Quantities
Properties
3D View
Schedule: Panel Schedule - WorkshopProject.rvt
<Panel Schedule>
3D View: {3D} - WorkshopProject.rvt
Dynamo
File Edit View Packages Help
Workshop-Pattern-3.dyn
Run
Cancel
Run Automatically
Debug
Ready

Dynamo

- dynamobim.org/



Solon



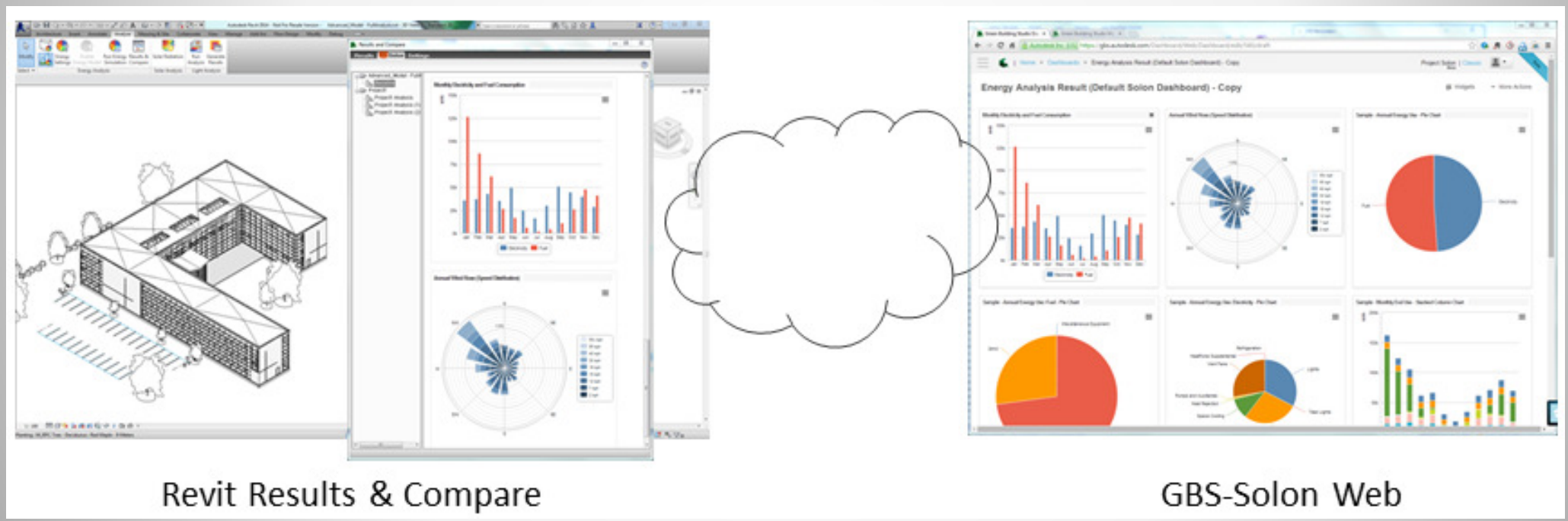
Solon

- Personalize Dashboards for Building performance analysis experience in Autodesk Revit® software by defining a dashboard with charts and results that are important to you.

Solon

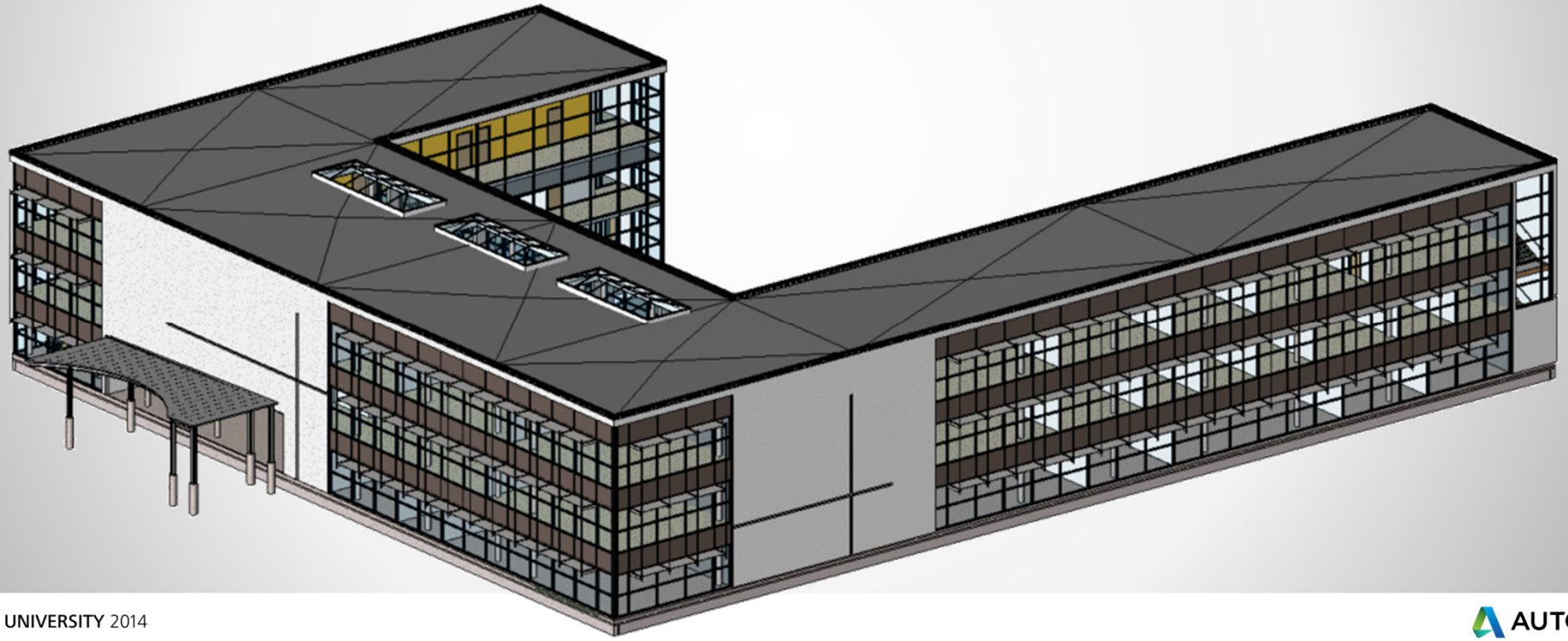
- The central web-based Solon management environment allows you to create charts and configure dashboards for all of your company Revit users from a central collaboration environment in Green Building Studio .

Solon


Energy Analysis Result (Default Solon Dashboard) - Copy
Revit Results & Compare
GBS-Solon Web

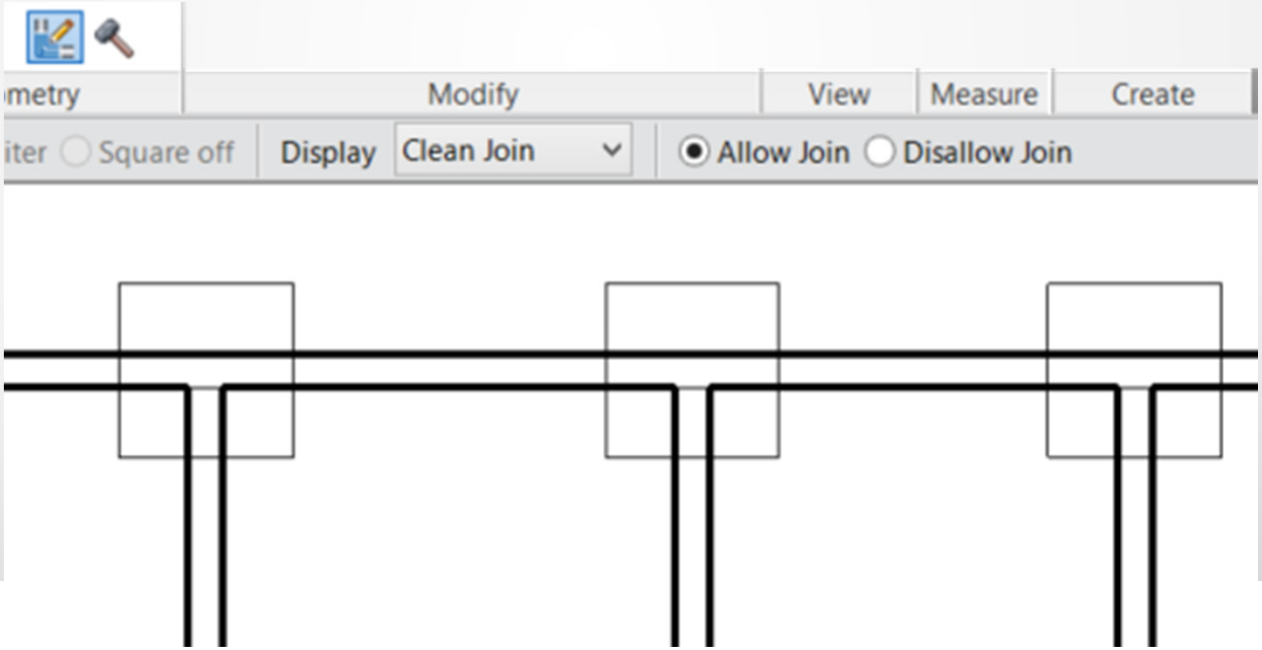
Energy analysis

- Large model support
  - Reduce memory usage



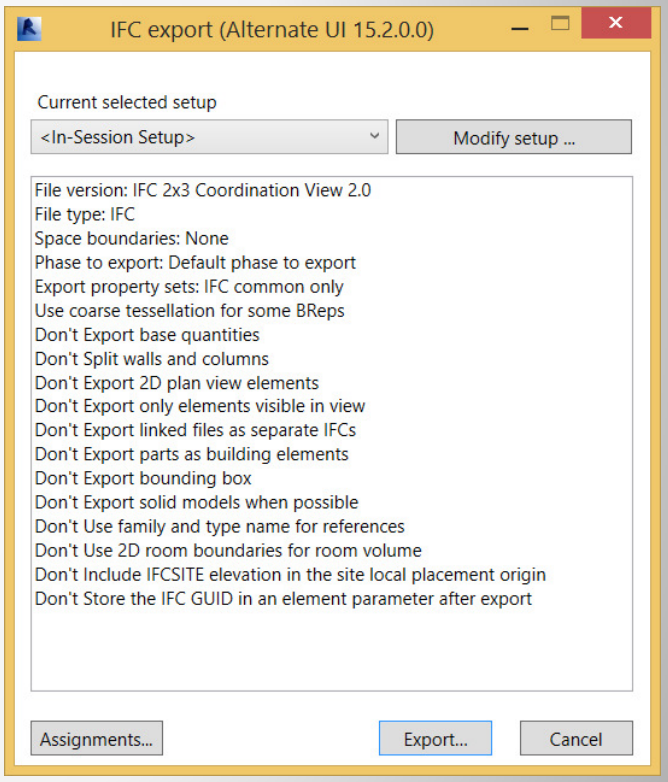
Wall joins

- Select multiple intersected wall joins with a single click, and choose to allow or disallow joins on all the selected walls with a single click

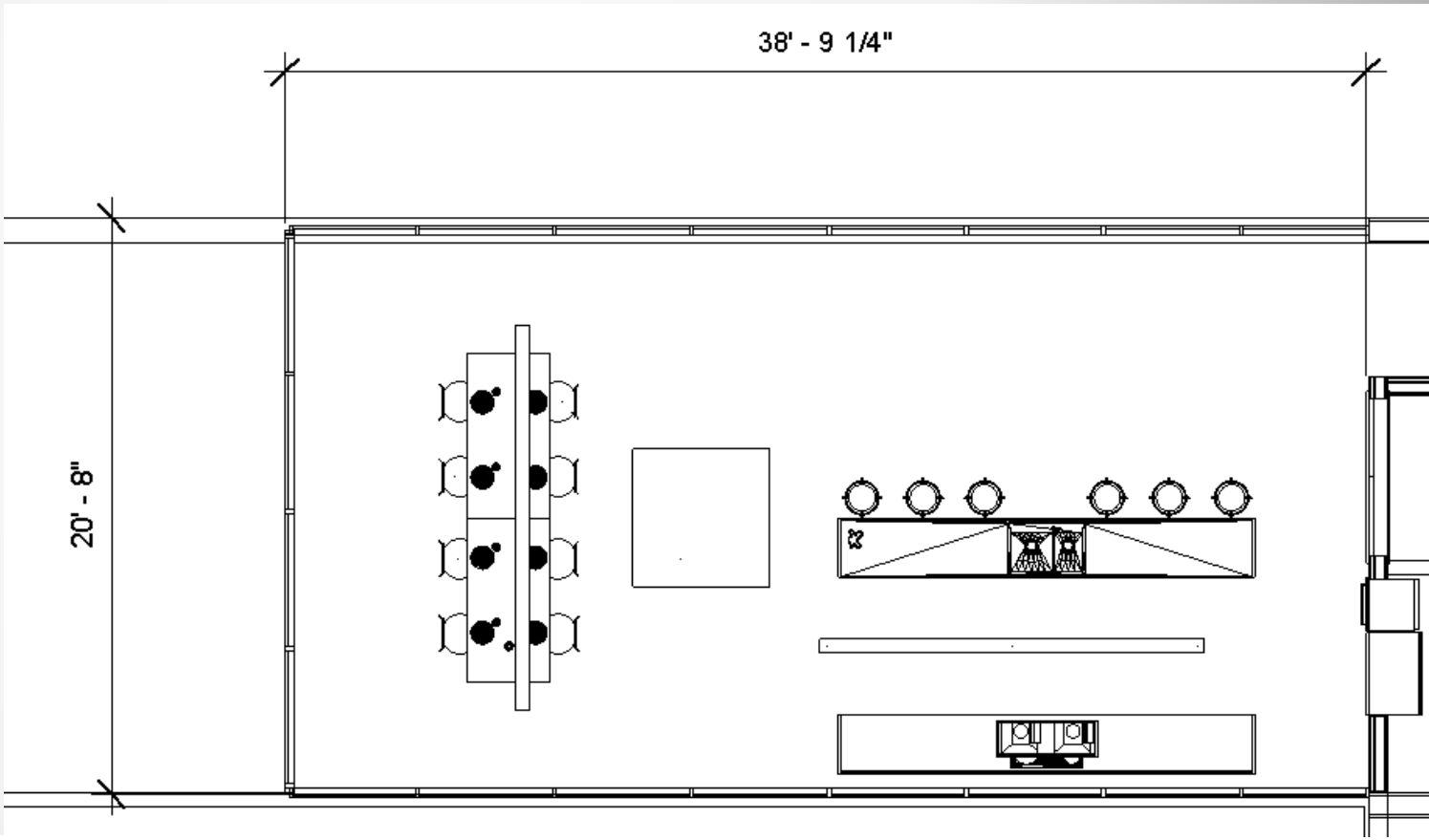


IFC references and phases

- Use existing geometry in a linked IFC model as references for dimensions, alignment, snapping, and hosting of some face-based families.

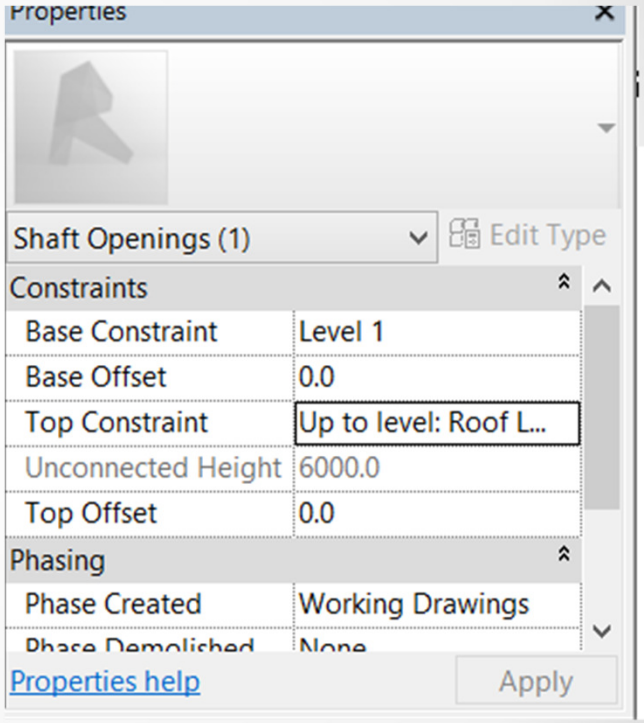


IFC references and phases



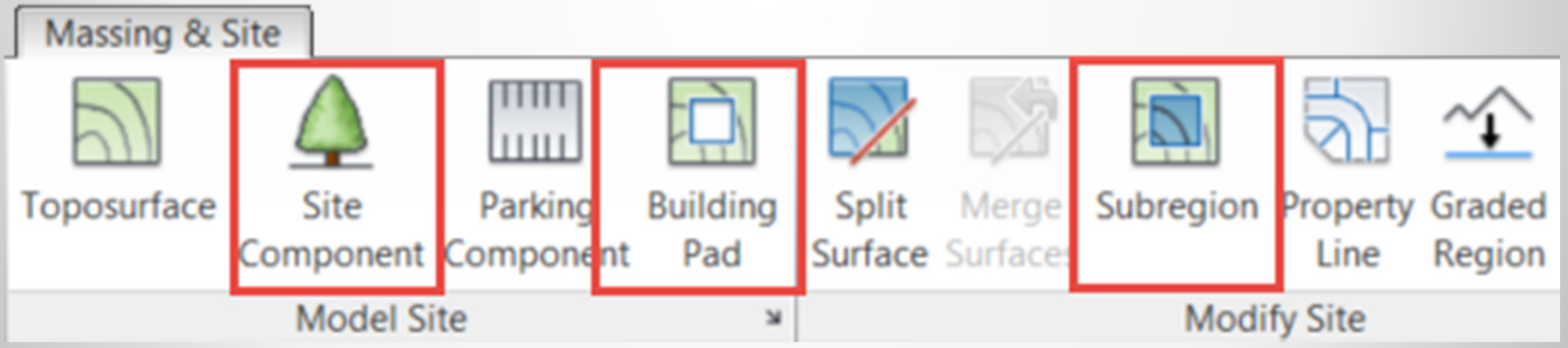
Shaft openings

- Base Constraint value now defaults to the level of the current activated plan view.
- Instance properties have been reordered to be consistent with families with similar properties



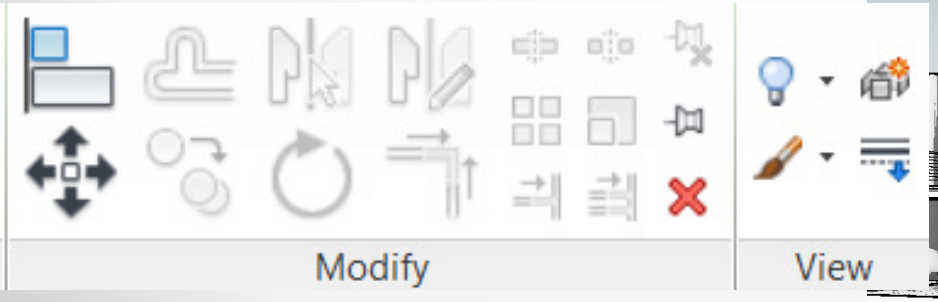
Site design

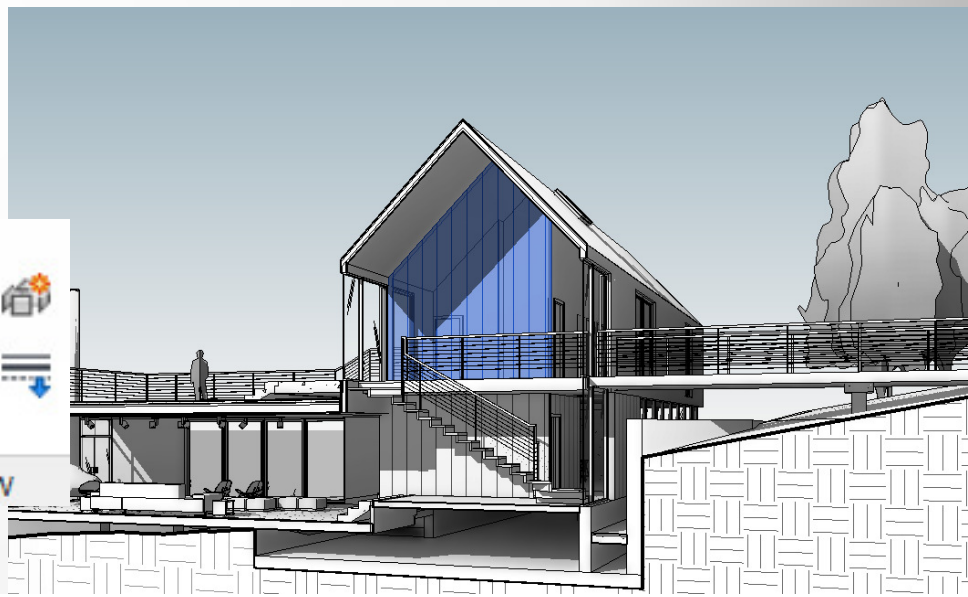
- Performance enhancements result in improved edit and regeneration times for complex toposurfaces, subregions, and building pads.



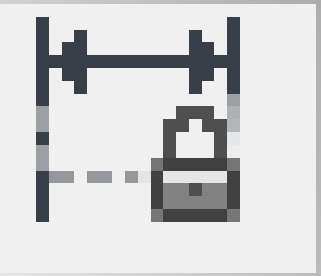
Perspective views

- Certain modeling capabilities are now available in perspective views
  - Editing tools: Move, Align, Pin, Unpin
  - Reset Target tool
  - Toggle between the perspective

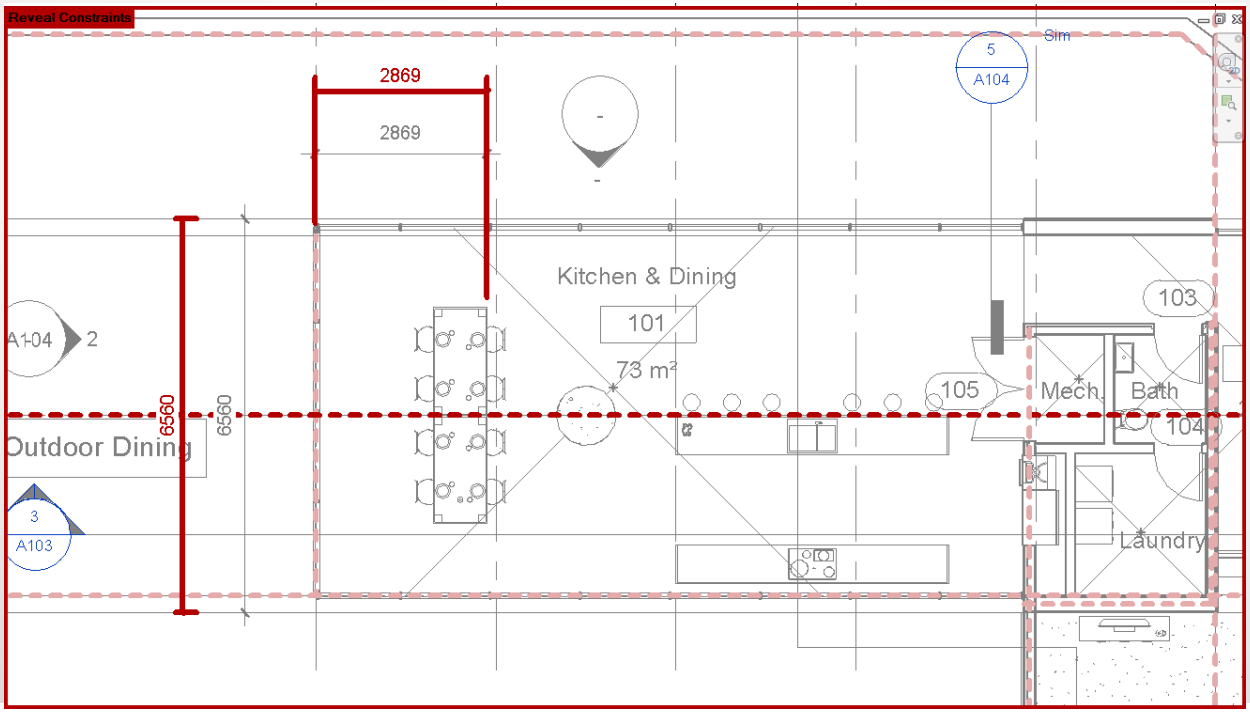




Reveal constraints

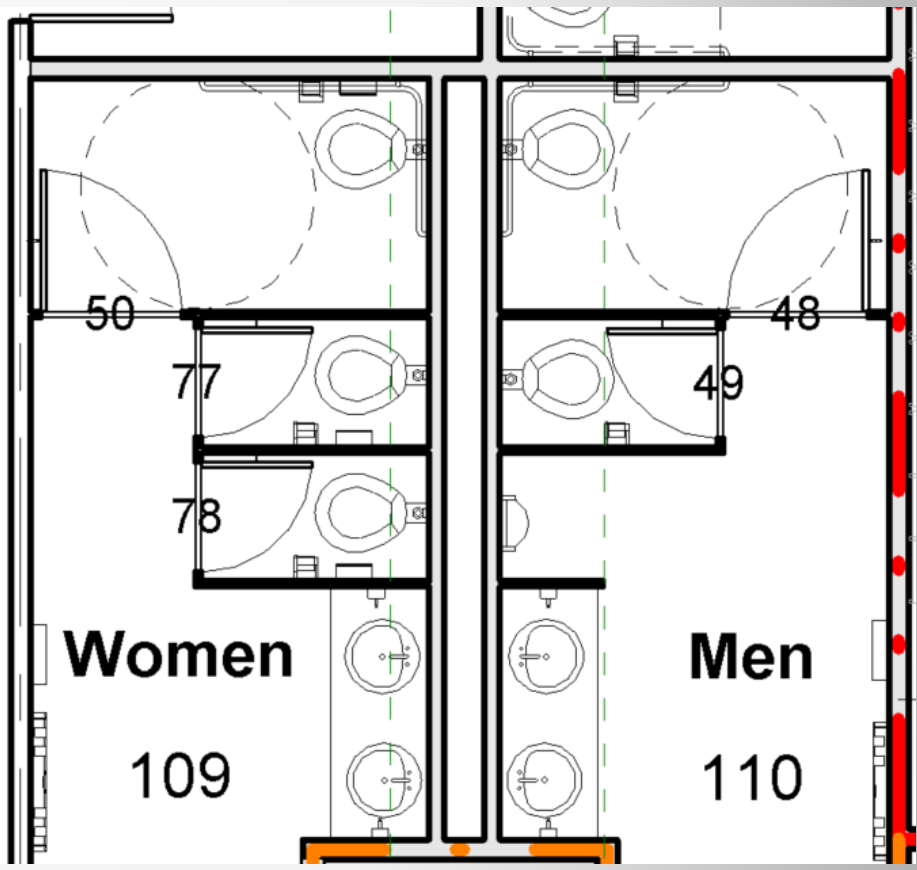


- See all dimension constraints and alignment constraints in a view



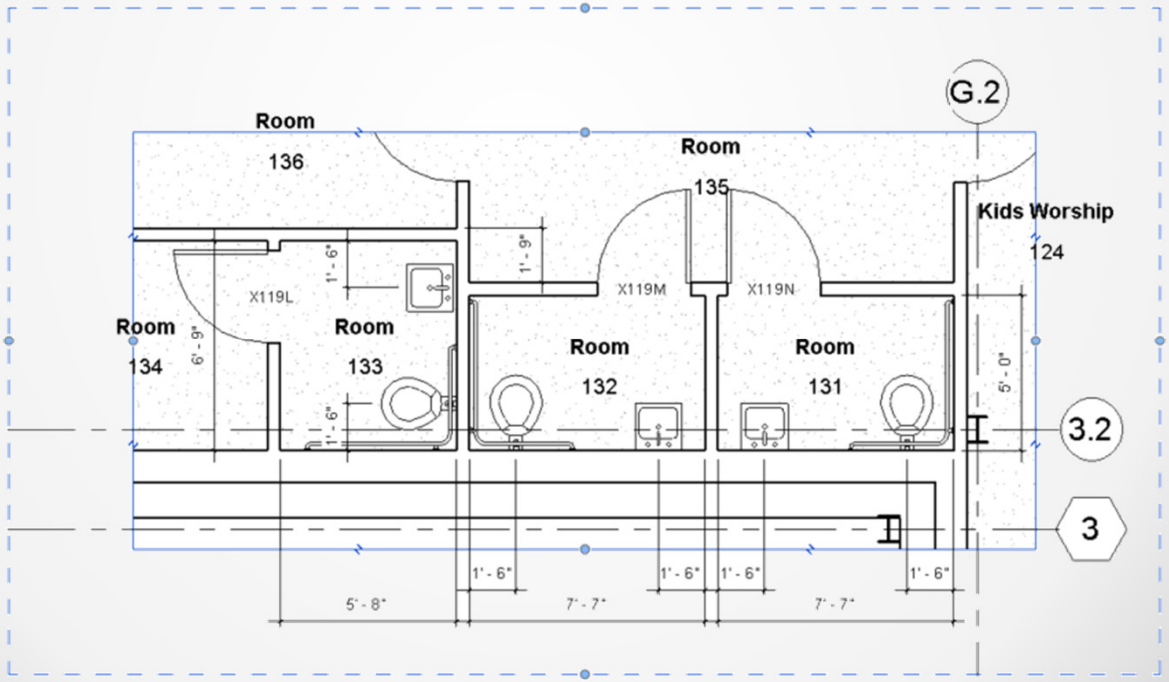
View updates

- Faster updates
  - Views with Multiple Instances of Families



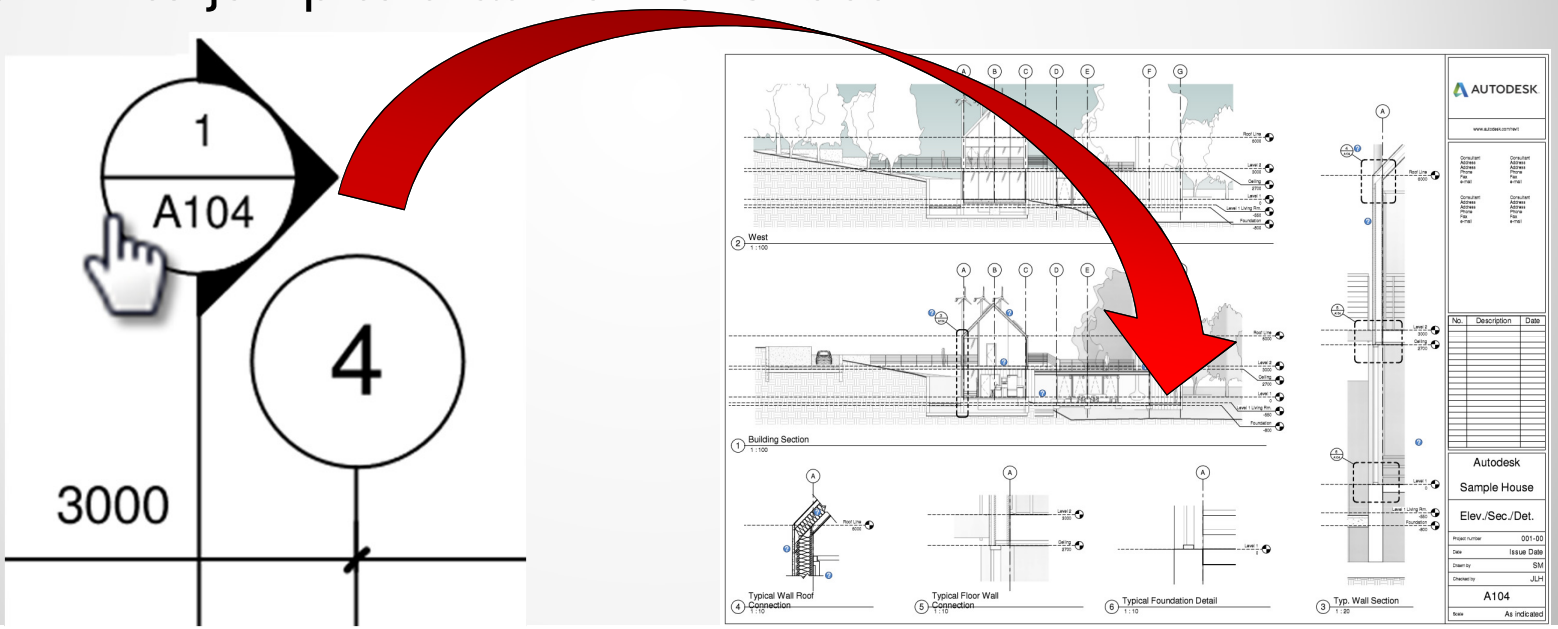
Revit links

- Improved performance for cases where Revit link instances are loaded but not visible in the view



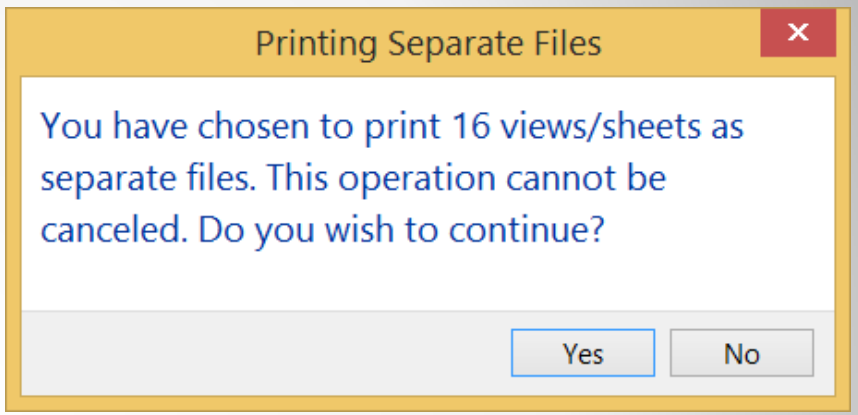
PDF Export enhancements

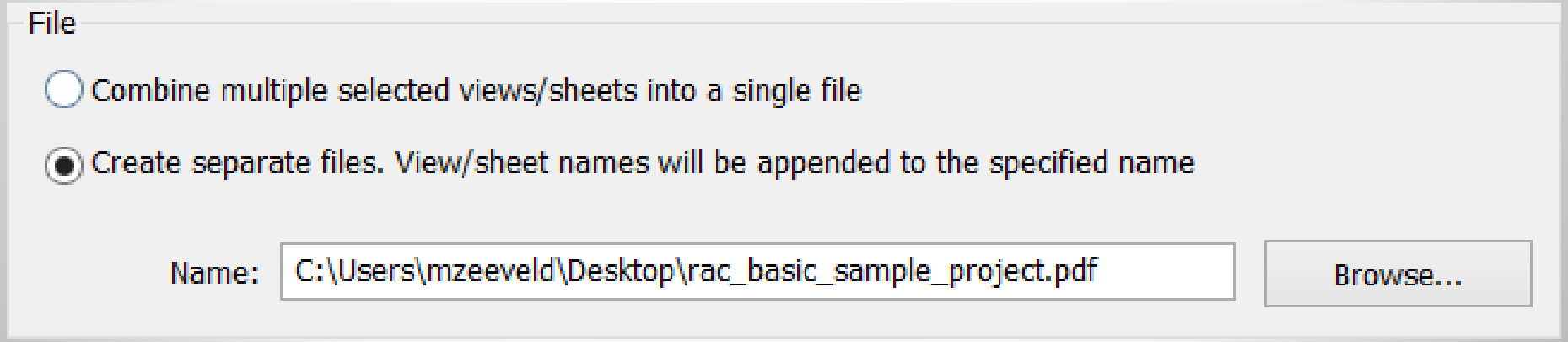
- Share designs as electronic PDF files with automatically linked views and sheets
  - Hyperlink to jump to that view or sheet



PDF Export enhancements

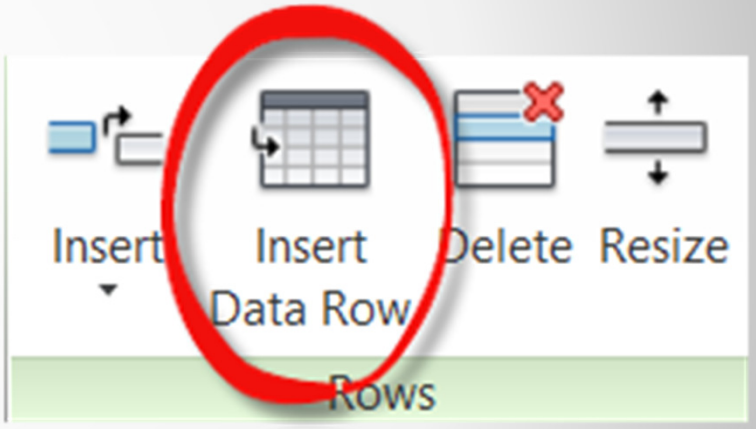
- Print Warning





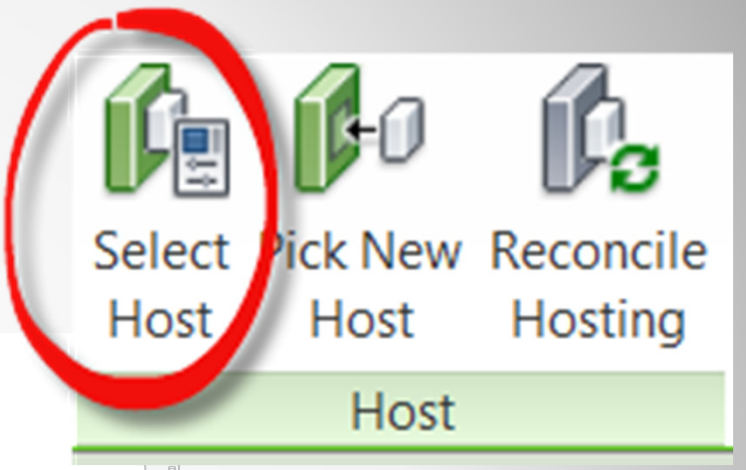
Schedules

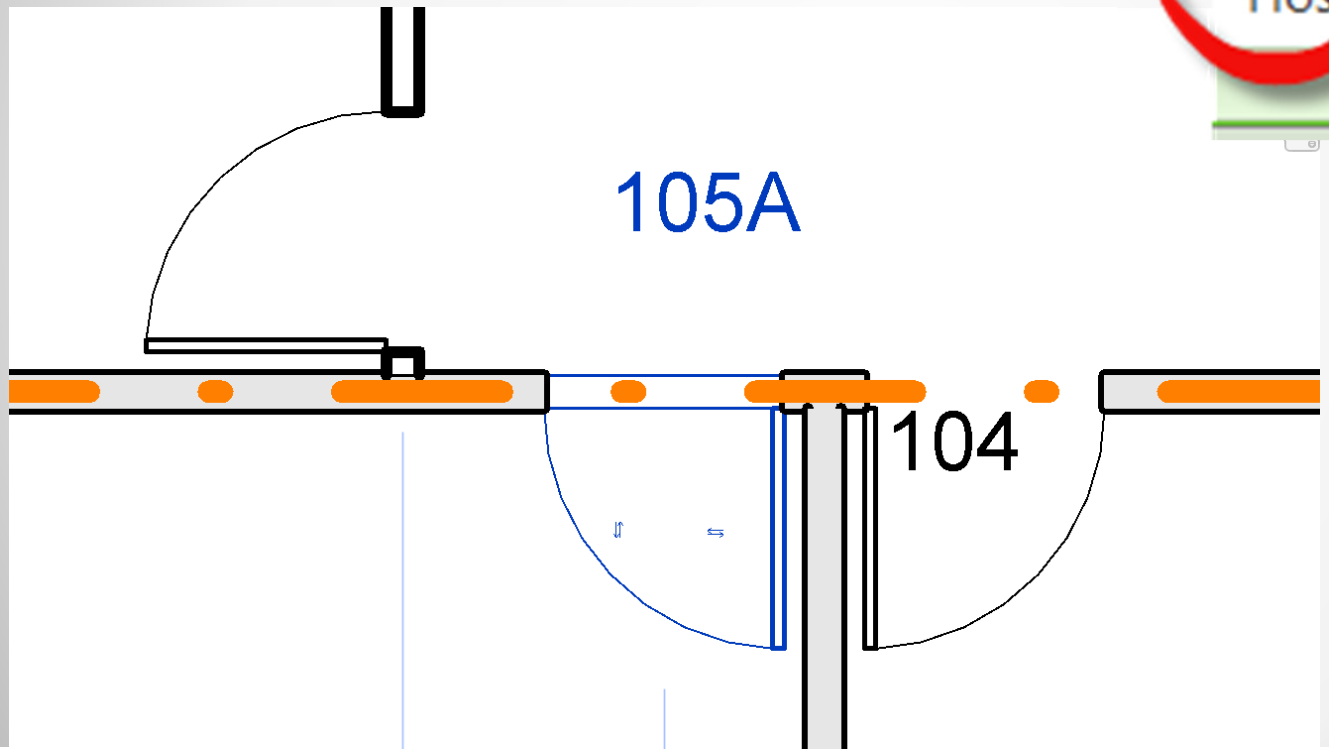
- Easily add a data row to a schedule



Select host for tags

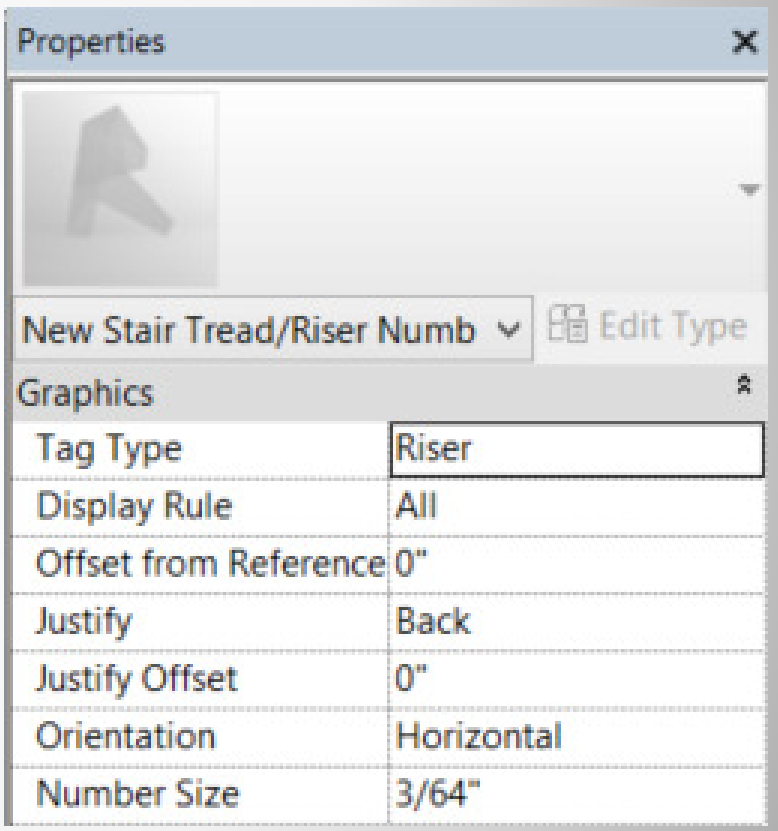
- Specify the host element for a tag



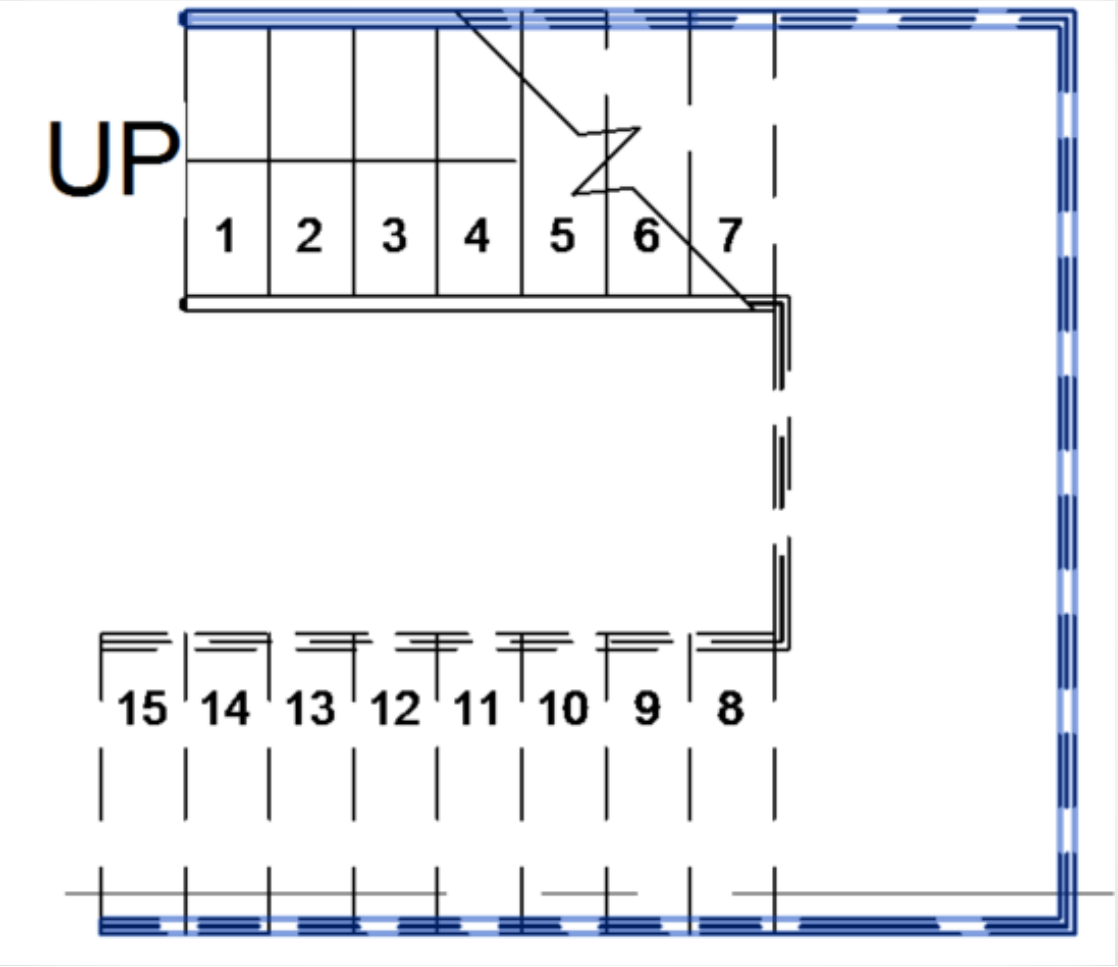


Annotate stair treads and risers

- Streamline the process of adding number annotations to treads or risers

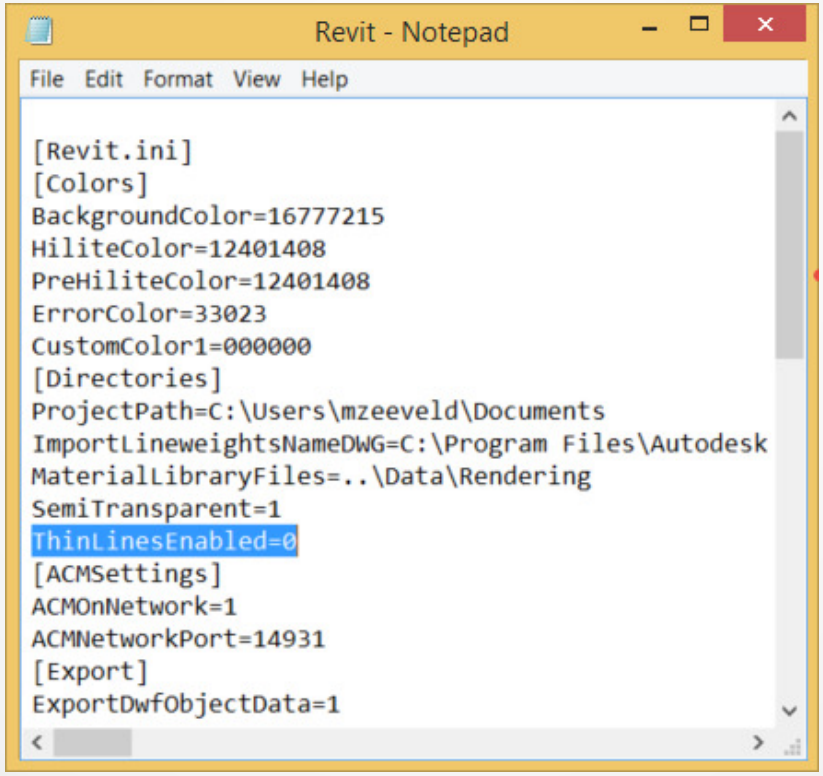


Annotate stair treads and risers



Thin lines

- Thin Lines tool setting now stored in the **Revit.ini** file



Revit.ini (The AutoCAD equivalent "Profile" for Revit)

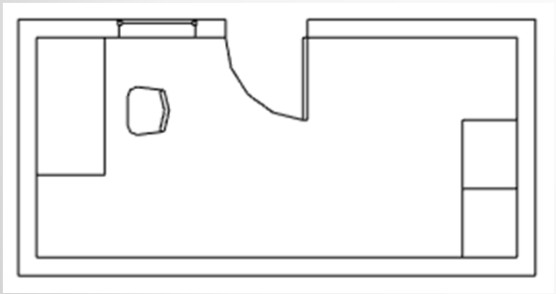
[Revit.ini]
[Colors]
BackgroundColor=16777215
HiliteColor=12401408
PreHiliteColor=12401408
ErrorColor=33023
CustomColor1=000000
CustomColor2=0000ff
CustomColor3=00ffff
[Directories]
ProjectPath=C:\Users\mzeeveld\Documents
ImportLineweightsNameDWG=C:\Program Files\Autodesk\Revit 2015\Data\importlineweights-dwg-default.txt
MaterialLibraryFiles=..\Data\Rendering
IESFileLocation=C:\ProgramData\Autodesk\RVT 2015\IES\
LookupTableLocation=C:\ProgramData\Autodesk\RVT 2015\Lookup Tables\
RootPathForPointClouds=C:\Users\mzeeveld\Documents\PointClouds
ExportToClassIFC=..\..\..\ProgramData\Autodesk\RVT 2015\exportlayers-ifc-IAI.txt
ExportLayersNameDGN=
ExternalParameters=..\..\..\Users\mzeeveld\Documents\LEEDParameters.txt
[DirectoriesENU]
FamilyTemplatePath=..\..\..\ProgramData\Autodesk\RVT 2015\Family Templates\English_I
DataLibraryLocations=Imperial Library=C:\ProgramData\Autodesk\RVT 2015\Libraries\US Imperial\,Imperial Detail Library=C:\ProgramData\Autodesk\RVT 2015\Libraries\US Imperial\Detail Items
DefaultTemplate=Architectural Template=..\..\..\ProgramData\Autodesk\RVT 2015\Templates\US Imperial\default.rte, Construction Template=..\..\..\ProgramData\Autodesk\RVT 2015\Templates\US Imperial\Construction-Default.rte, Structural Template=..\..\..\ProgramData\Autodesk\RVT 2015\Templates\US Imperial\Structural Analysis-Default.rte, Mechanical Template=..\..\..\ProgramData\Autodesk\RVT 2015\Templates\US Imperial\Mechanical-Default.rte
[UserInterface]
DisplayRecentFilesPage=1
CategoryDisciplineFilter=1
[Language]
Select=ENU
[Applications]
Mechanical=
Electrical=
Architectural=
Structural=
[InstallationSettings]
Language=ENU
Usage=All
[Install]
InstallGUID={44035366-D57E-42FB-A72B-194070F86D0A}
[ContentSearch]
Site=http://seek.autodesk.com
[Documentation]
UseHelpServer=1
HelpBrowser=0
HelpFileLocation=C:\Program Files\Autodesk\Revit Content 2015 English\Help\en-US\WBH\index.html
[Windows]
Maximized=1
[Misc]
SSOServer=0
[AutoCam]
ShowViewCube=1
SteeringWheelShowHUDMessages=1
SteeringWheelShowTooltips=1
SteeringWheelShowToolCursorText=1
BigSteeringWheelSize=1
BigSteeringWheelOpacity=1
MiniSteeringWheelSize=1
MiniSteeringWheelOpacity=1
SteeringWheelInvertVerticalAxis=0
SteeringWheelConstrainWalkAngleToGround=1
SteeringWheelSpeedFactor=30
SteeringWheelEnableIncrementalZoomIn=0
SteeringWheelKeepSceneUpright=1
[Messages]
SuppressForceRasterPrintingWarning=1
SuppressShowButtonMessage=0
[Partitions]
Username=michaelzeeveld
UserId=W29TJAHU47XX
WorksharingDisplayFrequency=5
[Spelling]
OptionFlagsSSCE=18
[AppFrame]
Theme=0
[Graphics]
OptimizedViewNavigation=1
Antialiasing=1
AntialiasingOptions=1
SemiTransparent=1

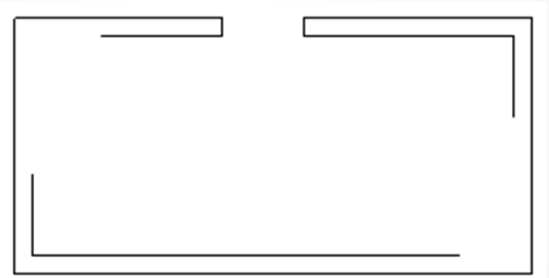
ThinLinesEnabled=0

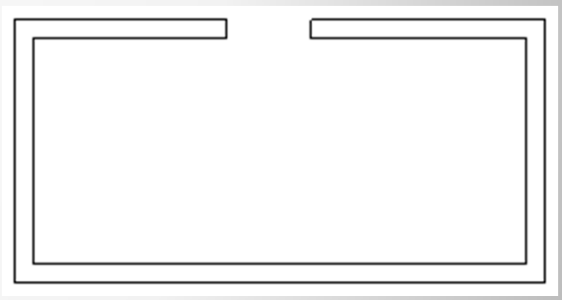
[ACMSettings]
ACMOnNetwork=1
ACMNetworkPort=14931
[Export]
ExportDwfObjectData=1
ExportDwfRoomData=0
[Recent File List]
File1=C:\Program Files\Autodesk\Revit 2015\Samples\rac_basic_sample_project.rvt
File2=C:\Users\mzeeveld\Desktop\CFA-DesignFiles\03532-Colerain Commons-Kitchen.rvt
File3=C:\Users\mzeeveld\Desktop\CFA-DesignFiles\Colerain_OH-2015.rvt
File4=C:\Users\mzeeveld\Desktop\MEP - J198 - BL195.rvt
File5=S:\Clients and Projects\Chick-fil-A\DesignFiles\03532-Colerain Commons-Kitchen.rvt
File6=C:\Users\mzeeveld\Desktop\CFA-DesignFiles\Z-Casework.rfa
File7=C:\Users\mzeeveld\Desktop\CFA-DesignFiles\Family1.rfa
File8=C:\Users\mzeeveld\Desktop\COBie2_30System.rfa
File9=C:\Users\mzeeveld\Desktop\2013 0109 COBie2_BCJC_2014.rvt
File10=C:\Users\mzeeveld\Dropbox\Zinc\ZincVIZ\2014\14-500_AbundantLife\Design\AbundantLife.rvt
File11=S:\Clients and Projects\Chick-fil-A\DesignFiles\Colerain_OH-2015.rvt
File12=C:\Users\mzeeveld\Desktop\Proto S08_V8 Equipment layout - Copy.rvt
File13=Z:_Zee\Zinc\2014\14-502_Ridge\Design\Ridge.rvt
File14=C:\Users\mzeeveld\Desktop\03532-Colerain Commons-Kitchen_Detached.rvt
File15=C:\Users\mzeeveld\Desktop\Colerain_OH-2015.rvt
[Recent Workset List]
Config3=All

Lines that Coincide

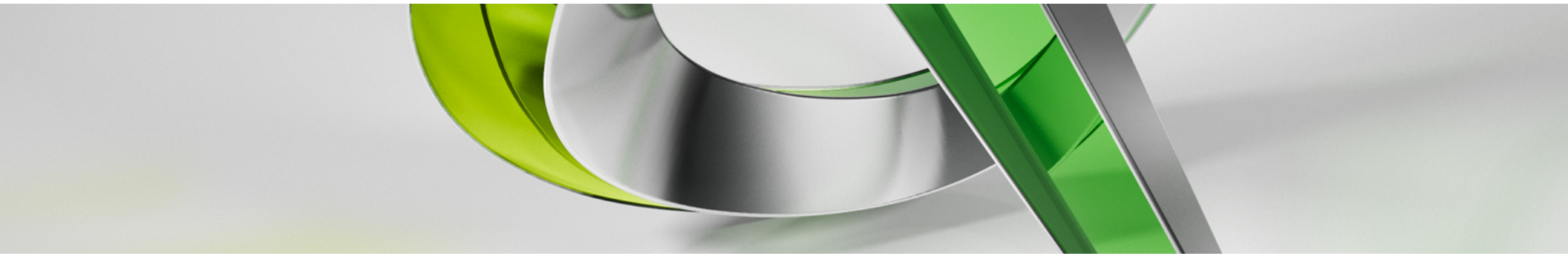
- Exporting to CAD
  - **Maintain** model lines that coincide with other lines in the same space







Revit 2015 - R2 MDE



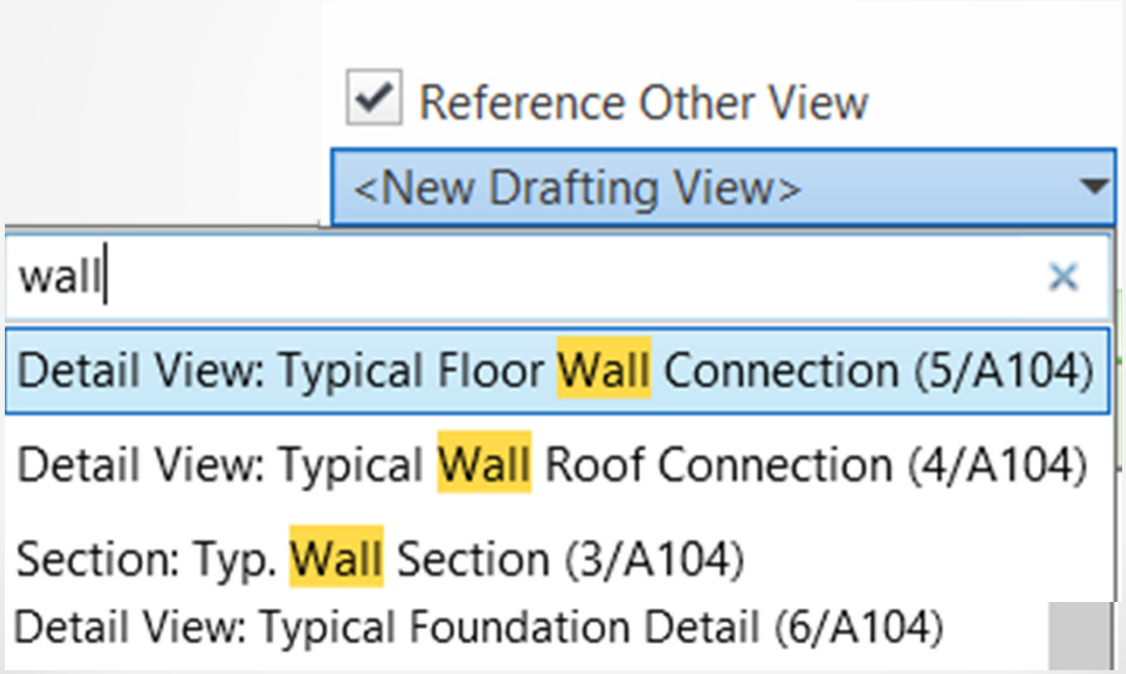
Revit 2015 R2

Multi-Disciplinary Enhancements (MDE)

- Search
- File upgrades
- Edit/load a family
- Properties palette
- Pin/Unpin icons
- Import/link position
- Revit link in a closed workset

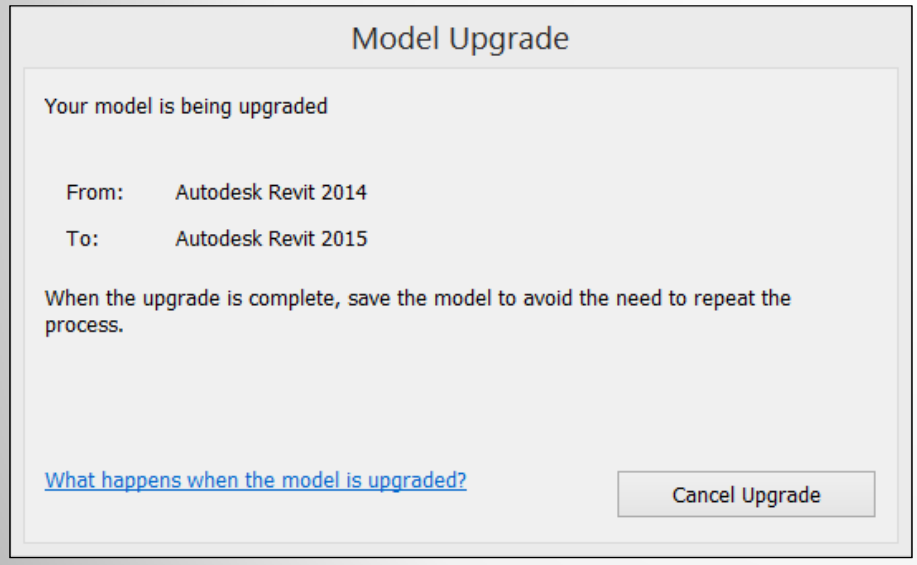
Reference other view

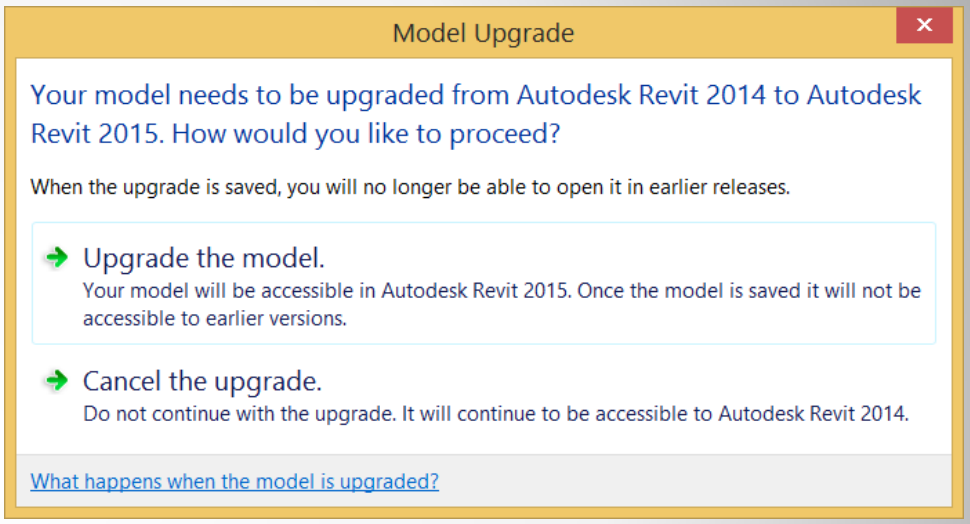
- “Search” the list of available views for reference
- Shows in Reference Panel vs. Options Bar



Model Upgrade

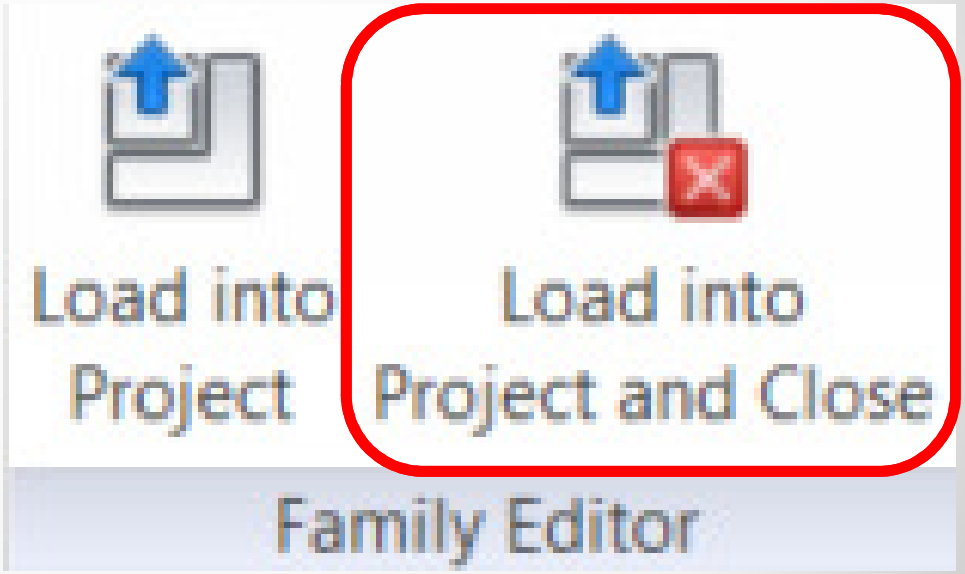
- “Hey FYI” we are upgrading





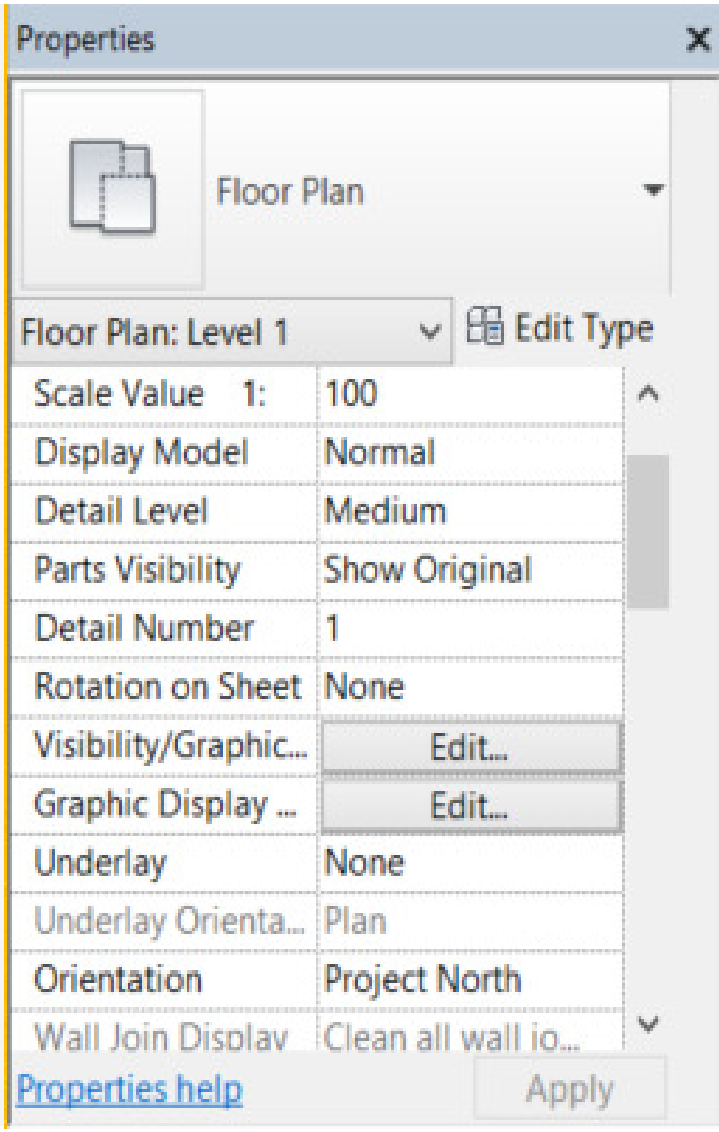
Edit/load a family

- Close a family automatically after it is loaded into a project



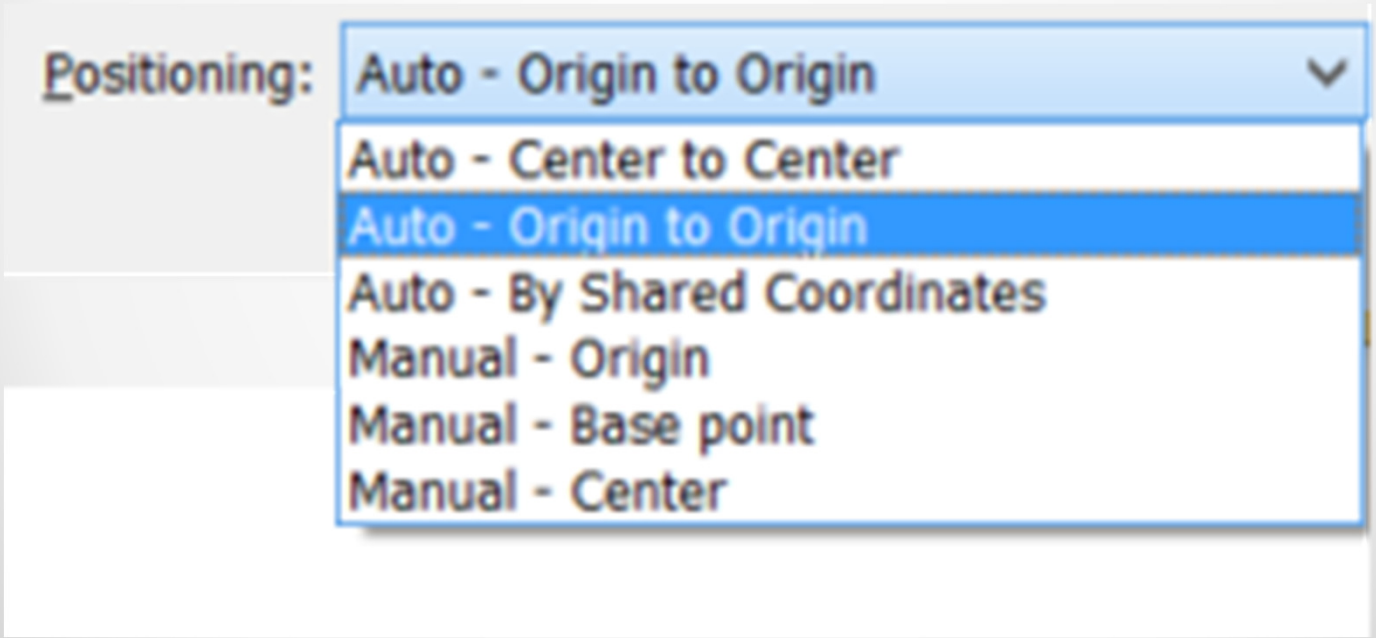
Properties palette

- Keep your context in the Properties palette when you scroll, select a property, and then click outside the palette
- *Revit Remembers the scroll location*



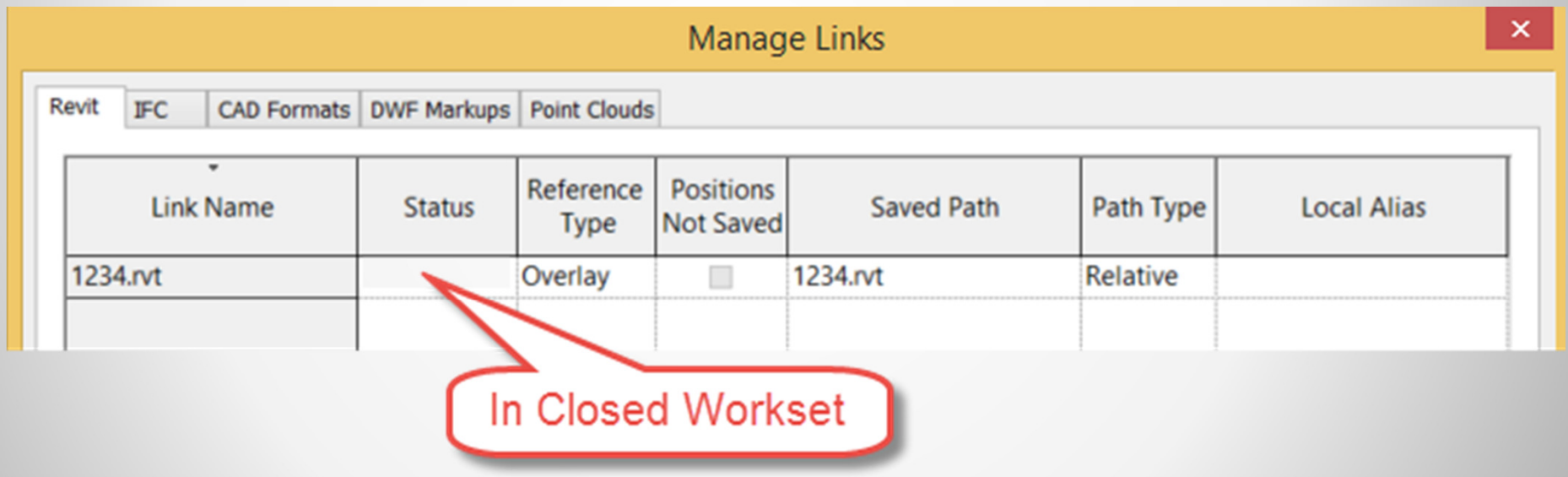
Import/link position

- **Default** positioning is now Auto - Origin to Origin
- Software remembers last used



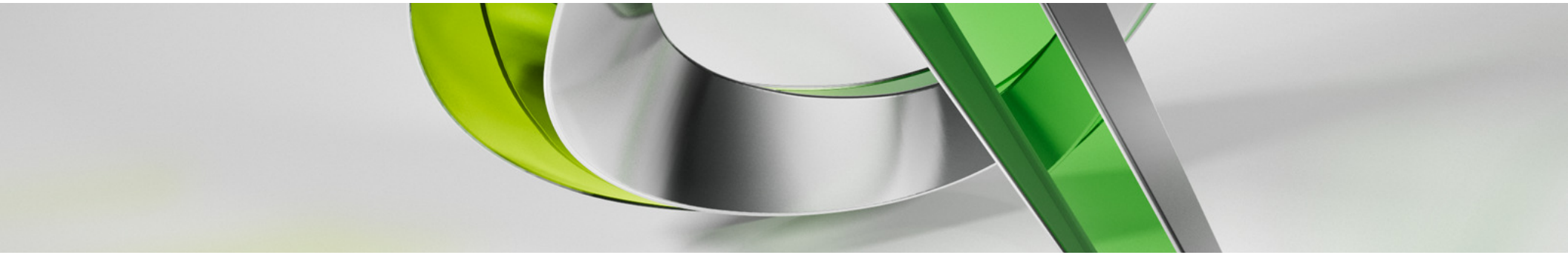
Revit link in a closed workset

- Status "**In Closed Workset**" now displays for a Revit link that is in a closed workset



Additional Features

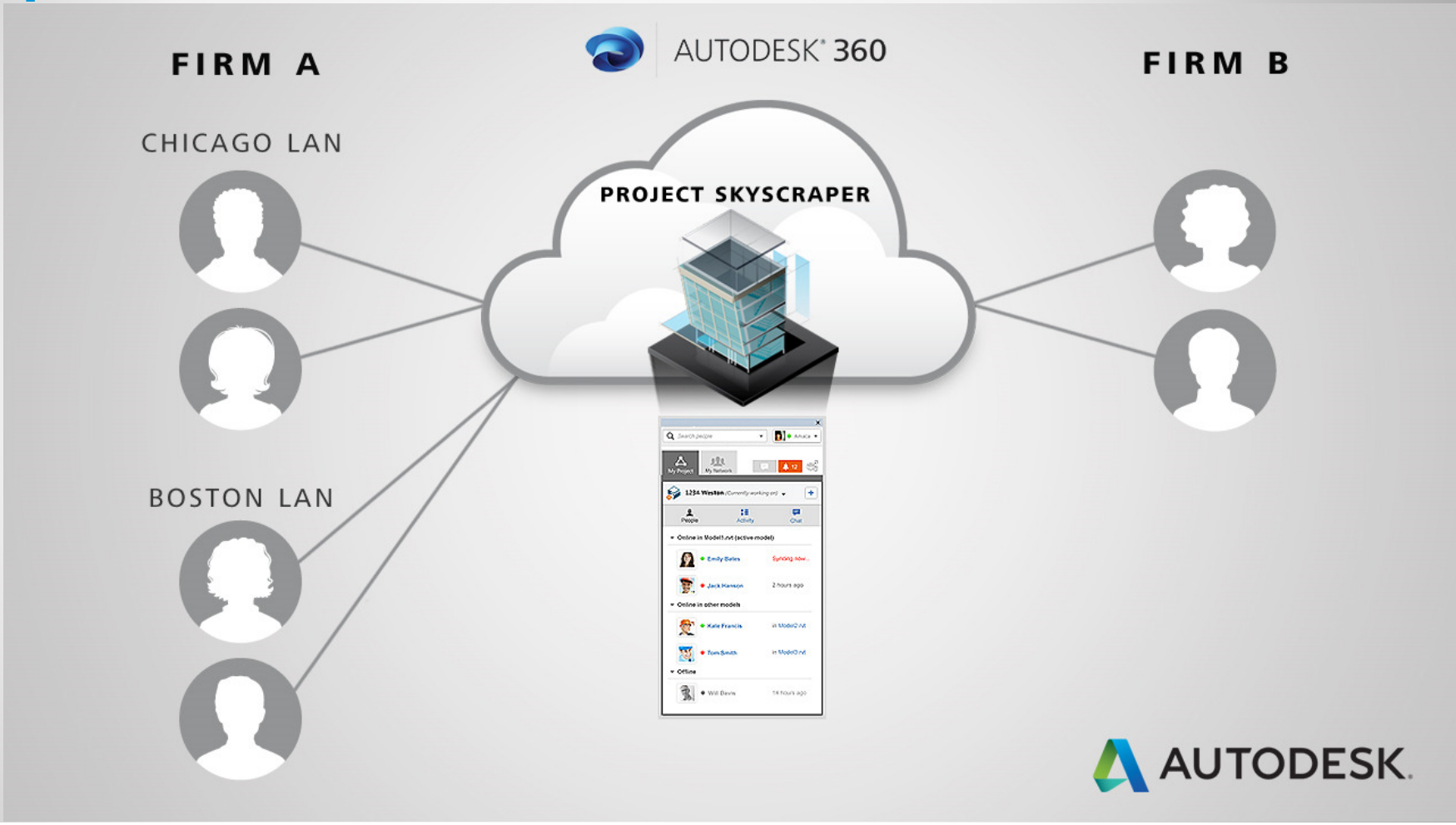
Skyscraper



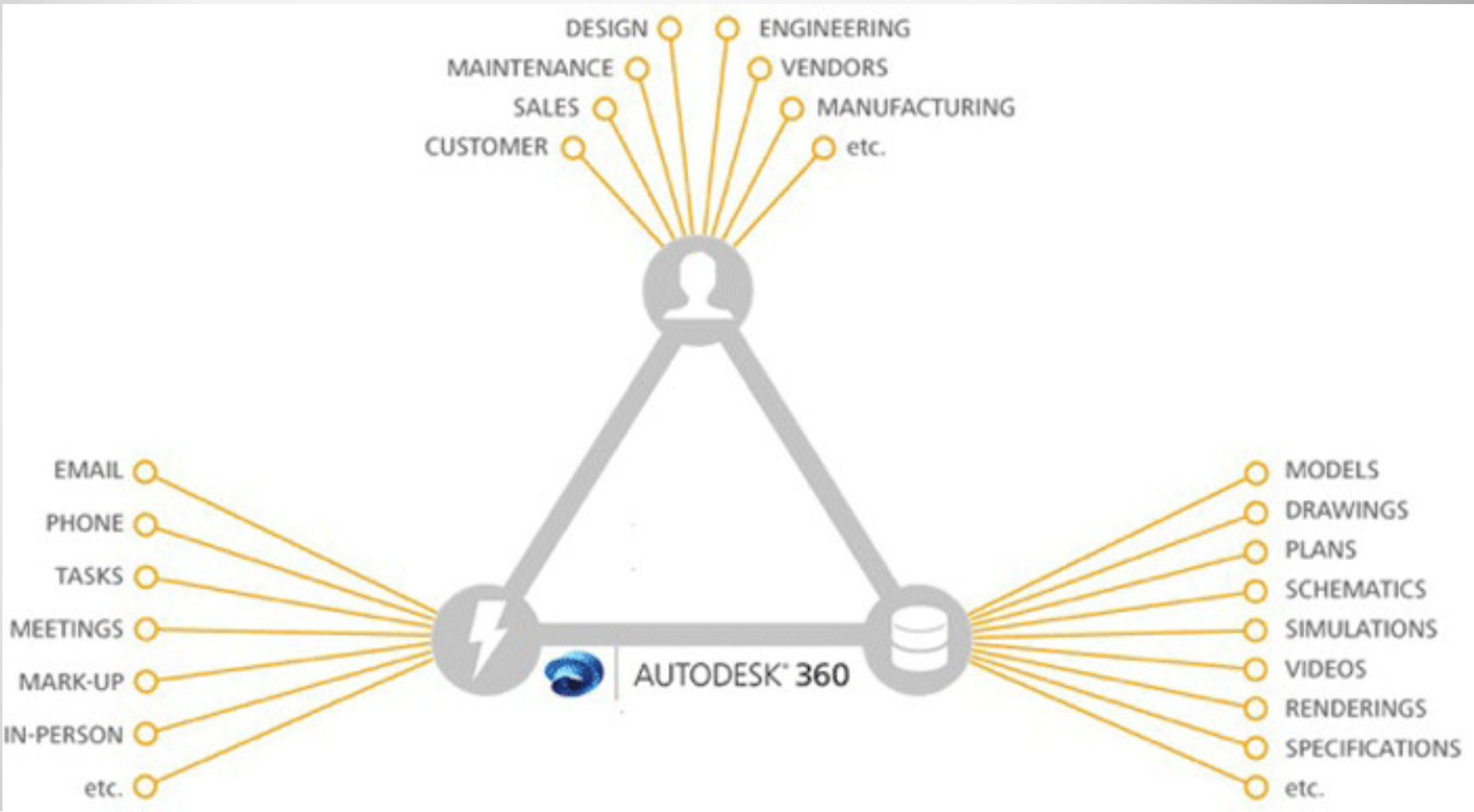
Labs

- Renamed: Revit Collaboration
- Available: Dec 7, 2014

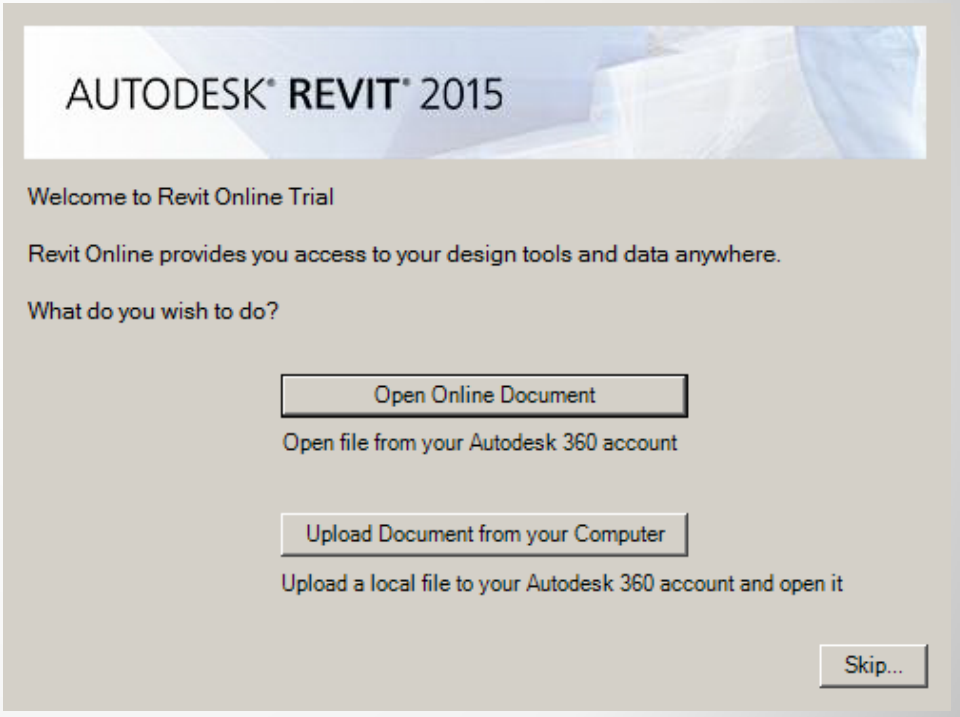
Skyscraper


FIRM A
AUTODESK 360
FIRM B
CHICAGO LAN
PROJECT SKYSCRAPER
BOSTON LAN
AUTODESK.

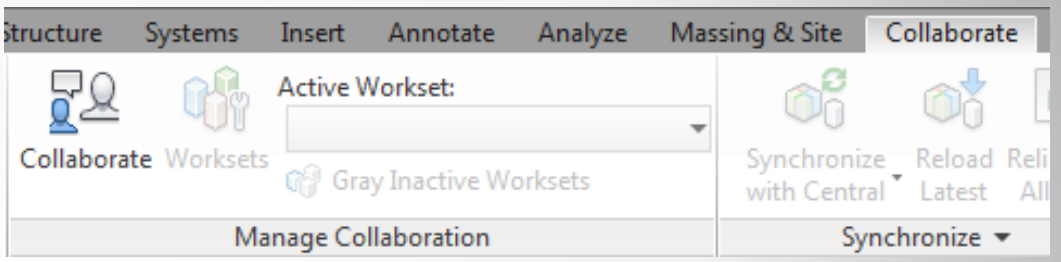
Skyscraper

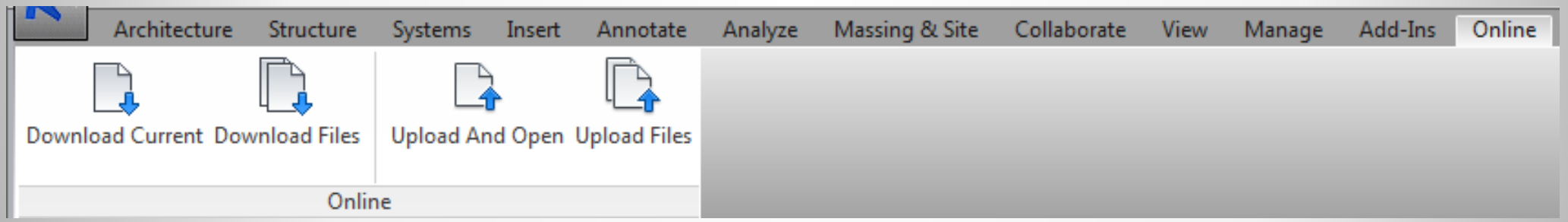

DESIGN
ENGINEERING
MAINTENANCE
VENDORS
SALES
MANUFACTURING
CUSTOMER
etc.
EMAIL
PHONE
TASKS
MEETINGS
MARK-UP
IN-PERSON
etc.
AUTODESK® 360
MODELS
DRAWINGS
PLANS
SCHEMATICS
SIMULATIONS
VIDEOS
RENDERINGS
SPECIFICATIONS
etc.

Skyscraper

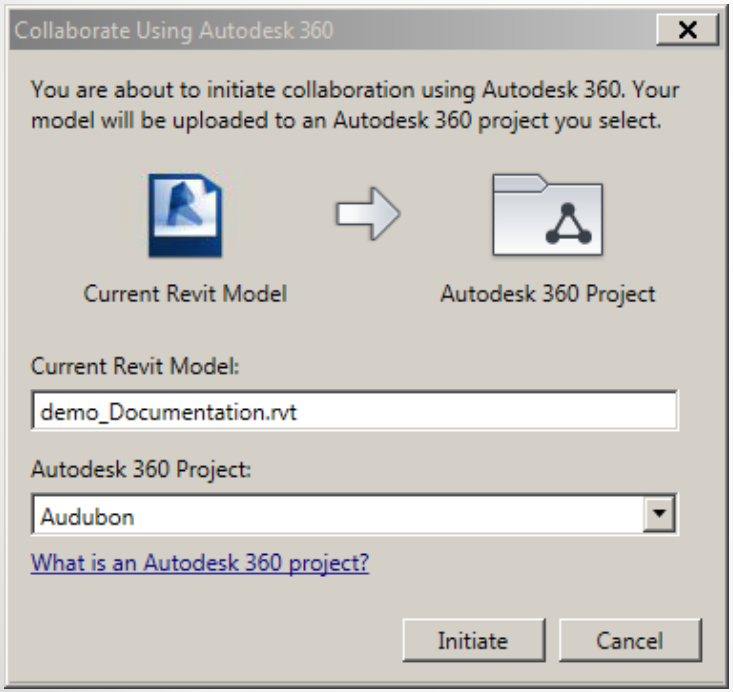

AUTODESK® REVIT® 2015
Welcome to Revit Online Trial
Revit Online provides you access to your design tools and data anywhere.
What do you wish to do?
Open Online Document
Open file from your Autodesk 360 account
Upload Document from your Computer
Upload a local file to your Autodesk 360 account and open it
Skip...

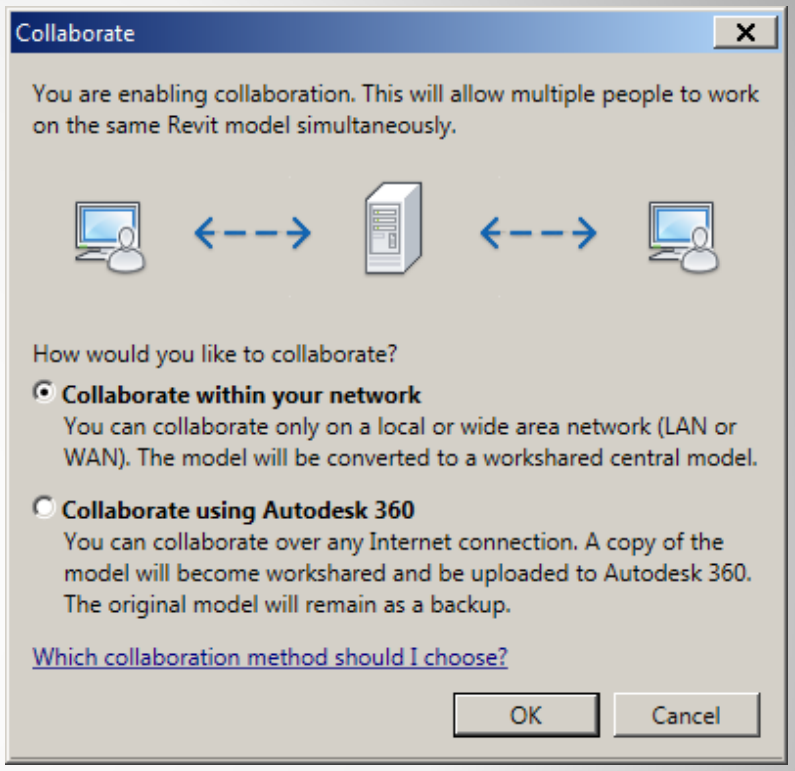
Skyscraper


Structure
Systems
Insert
Annotate
Analyze
Massing & Site
Collaborate
Collaborate
Worksets
Active Workset:
Gray Inactive Worksets
Synchronize with Central
Reload Latest
Manage Collaboration
Synchronize

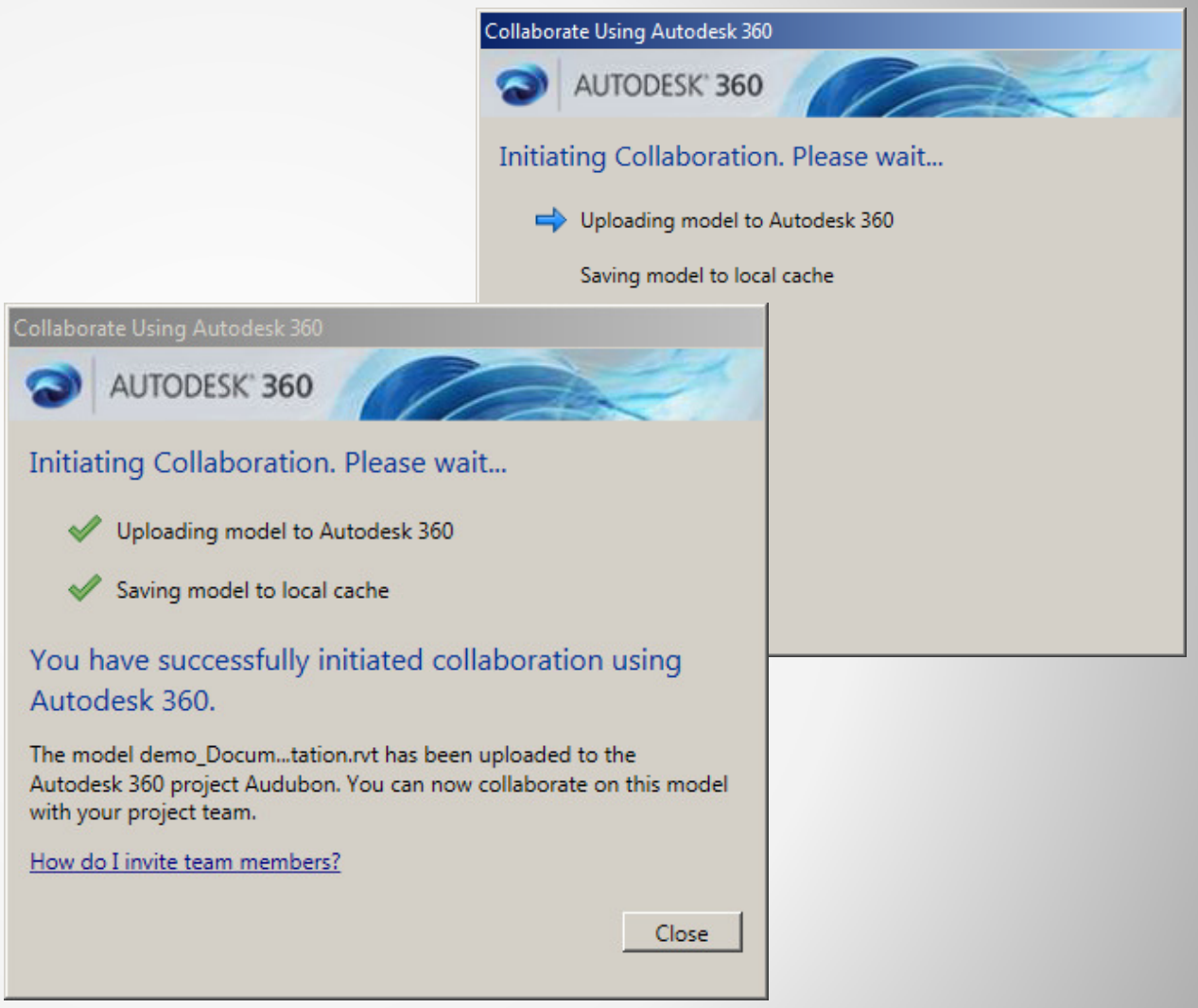

Architecture
Structure
Systems
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
Online
Download Current
Download Files
Upload And Open
Upload Files
Online

Skyscraper


Collaborate Using Autodesk 360
You are about to initiate collaboration using Autodesk 360. Your model will be uploaded to an Autodesk 360 project you select.
Current Revit Model
Autodesk 360 Project
Current Revit Model:
demo_Documentation.rvt
Autodesk 360 Project:
Audubon
What is an Autodesk 360 project?
Initiate
Cancel

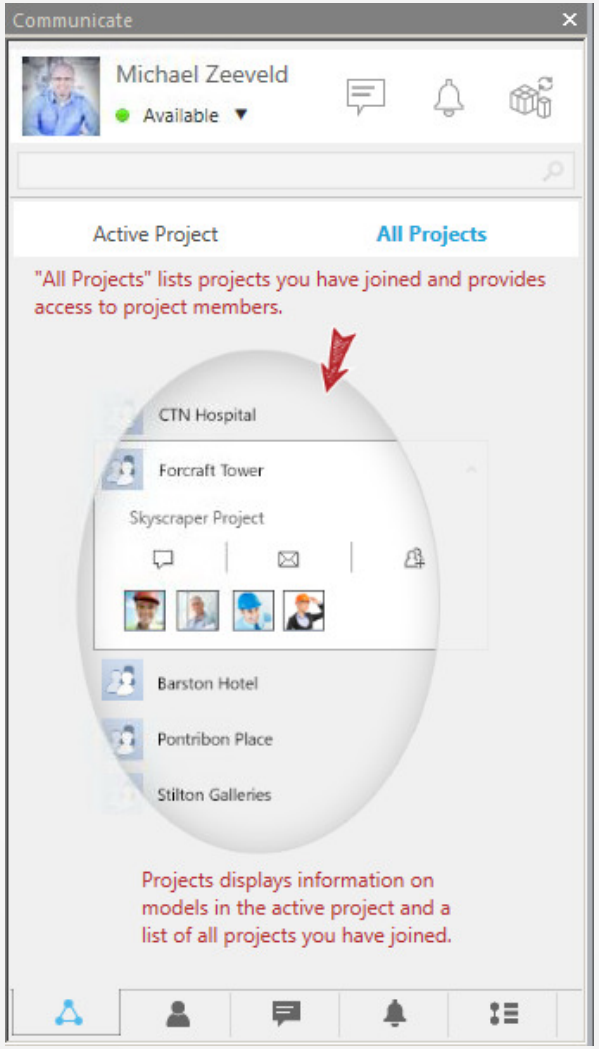

Collaborate
You are enabling collaboration. This will allow multiple people to work on the same Revit model simultaneously.
How would you like to collaborate?
Collaborate within your network
You can collaborate only on a local or wide area network (LAN or WAN). The model will be converted to a workshared central model.
Collaborate using Autodesk 360
You can collaborate over any Internet connection. A copy of the model will become workshared and be uploaded to Autodesk 360. The original model will remain as a backup.
Which collaboration method should I choose?
OK
Cancel

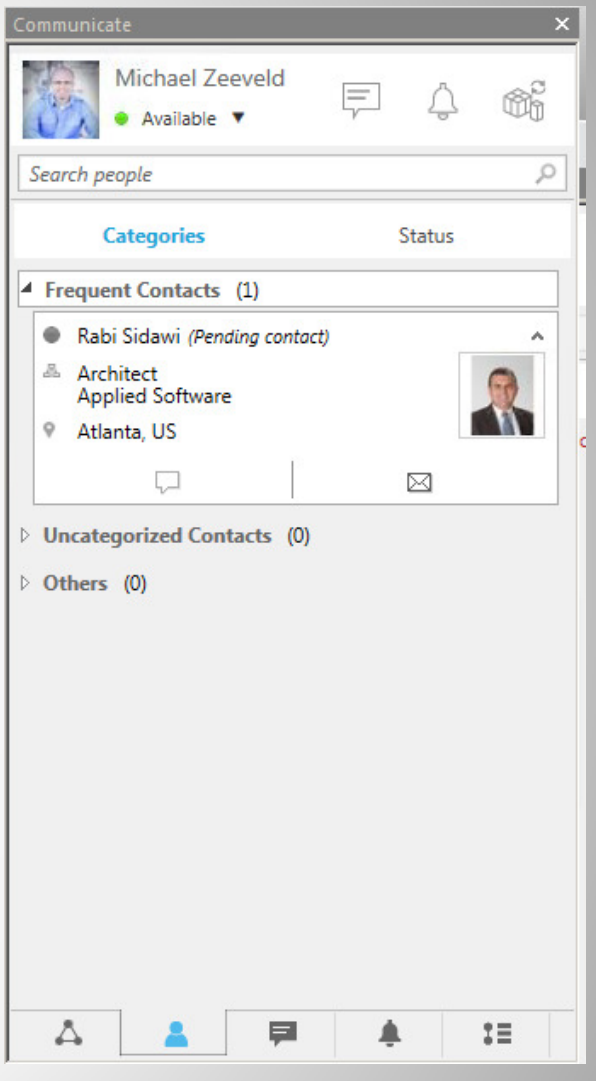
Skyscraper


Collaborate Using Autodesk 360
AUTODESK 360
Initiating Collaboration. Please wait...
Uploading model to Autodesk 360
Saving model to local cache
Collaborate Using Autodesk 360
AUTODESK 360
Initiating Collaboration. Please wait...
Uploading model to Autodesk 360
Saving model to local cache
You have successfully initiated collaboration using Autodesk 360.
The model demo_Docum...tation.rvt has been uploaded to the Autodesk 360 project Audubon. You can now collaborate on this model with your project team.
How do I invite team members?
Close

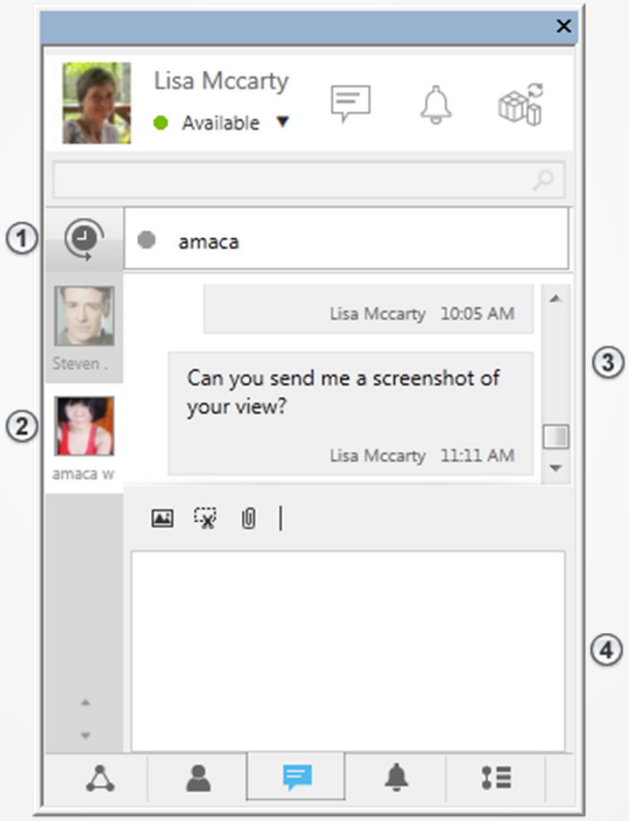
Skyscraper

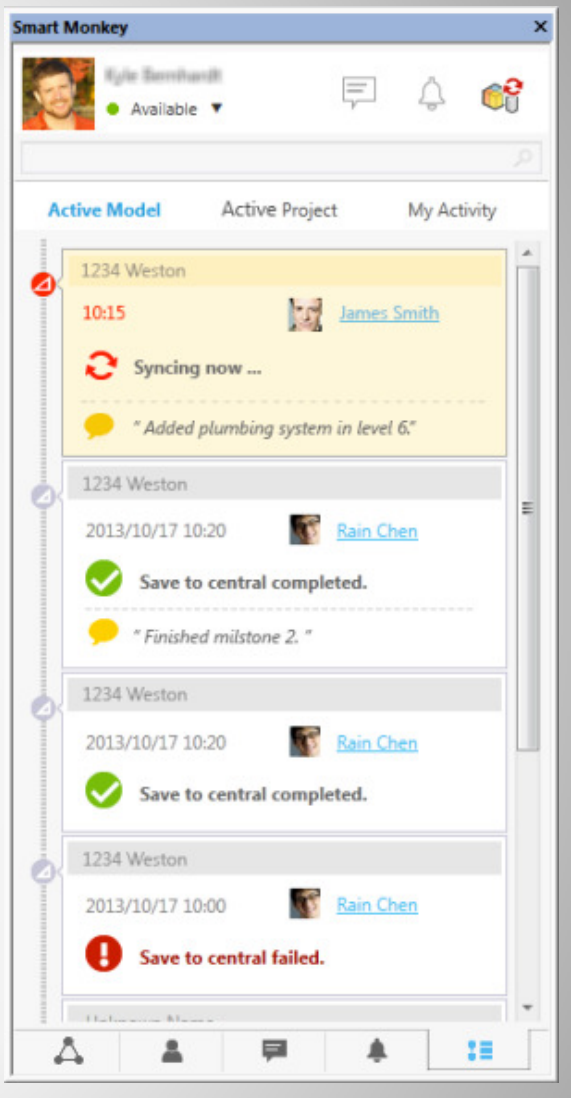
- Communicate



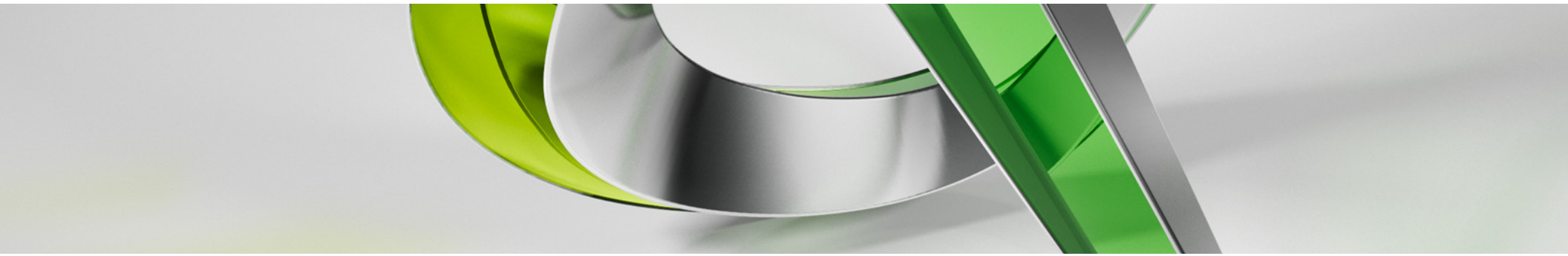


Skyscraper

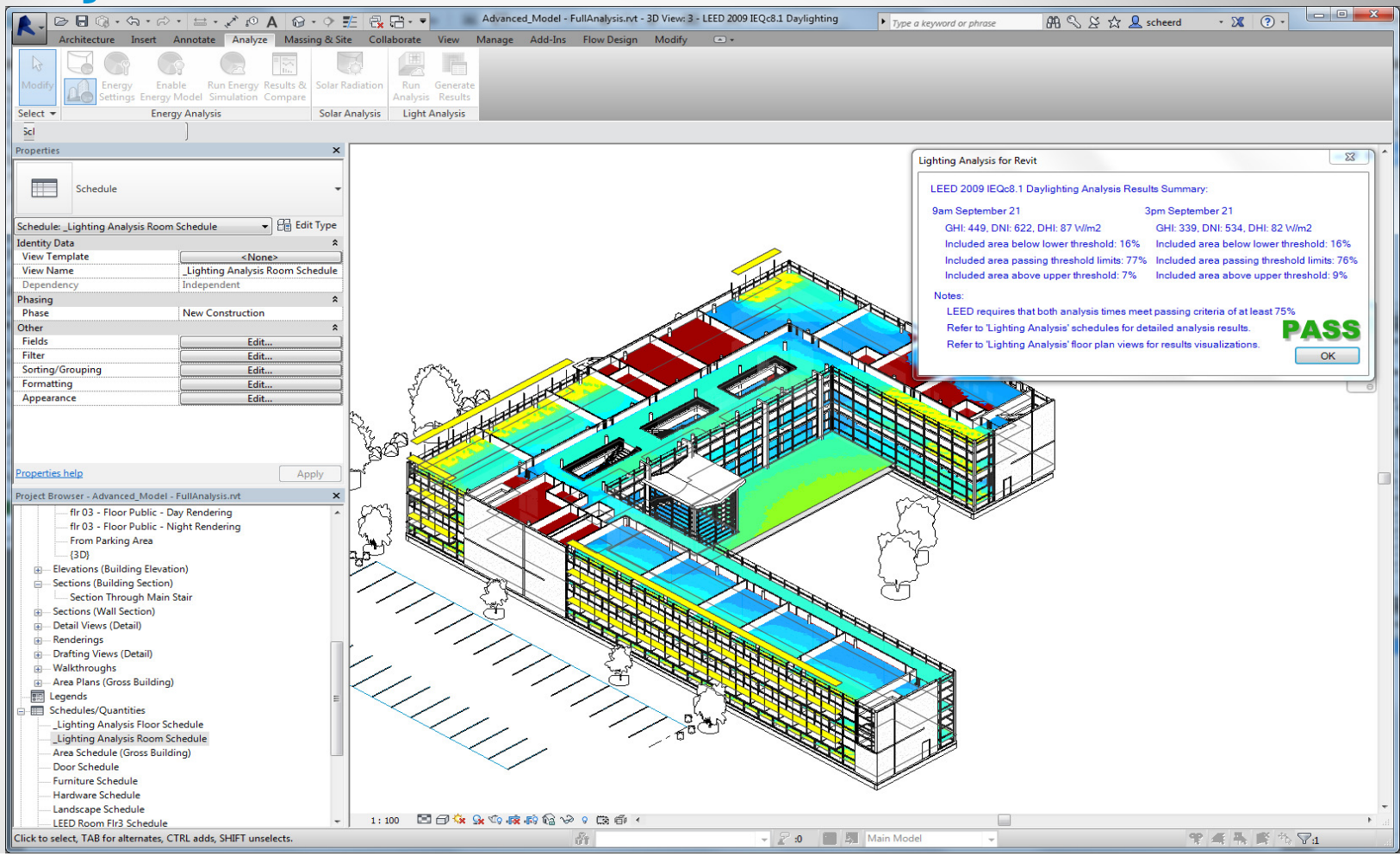

Lisa Mccarty
Available
amaca
Lisa Mccarty 10:05 AM
Steven .
Can you send me a screenshot of your view?
Lisa Mccarty 11:11 AM
amaca w
1
2
3
4


Smart Monkey
Available
Active Model
Active Project
My Activity
1234 Weston
10:15
James Smith
Syncing now ...
" Added plumbing system in level 6."
1234 Weston
2013/10/17 10:20
Rain Chen
Save to central completed.
" Finished milstone 2. "
1234 Weston
2013/10/17 10:20
Rain Chen
Save to central completed.
1234 Weston
2013/10/17 10:00
Rain Chen
Save to central failed.

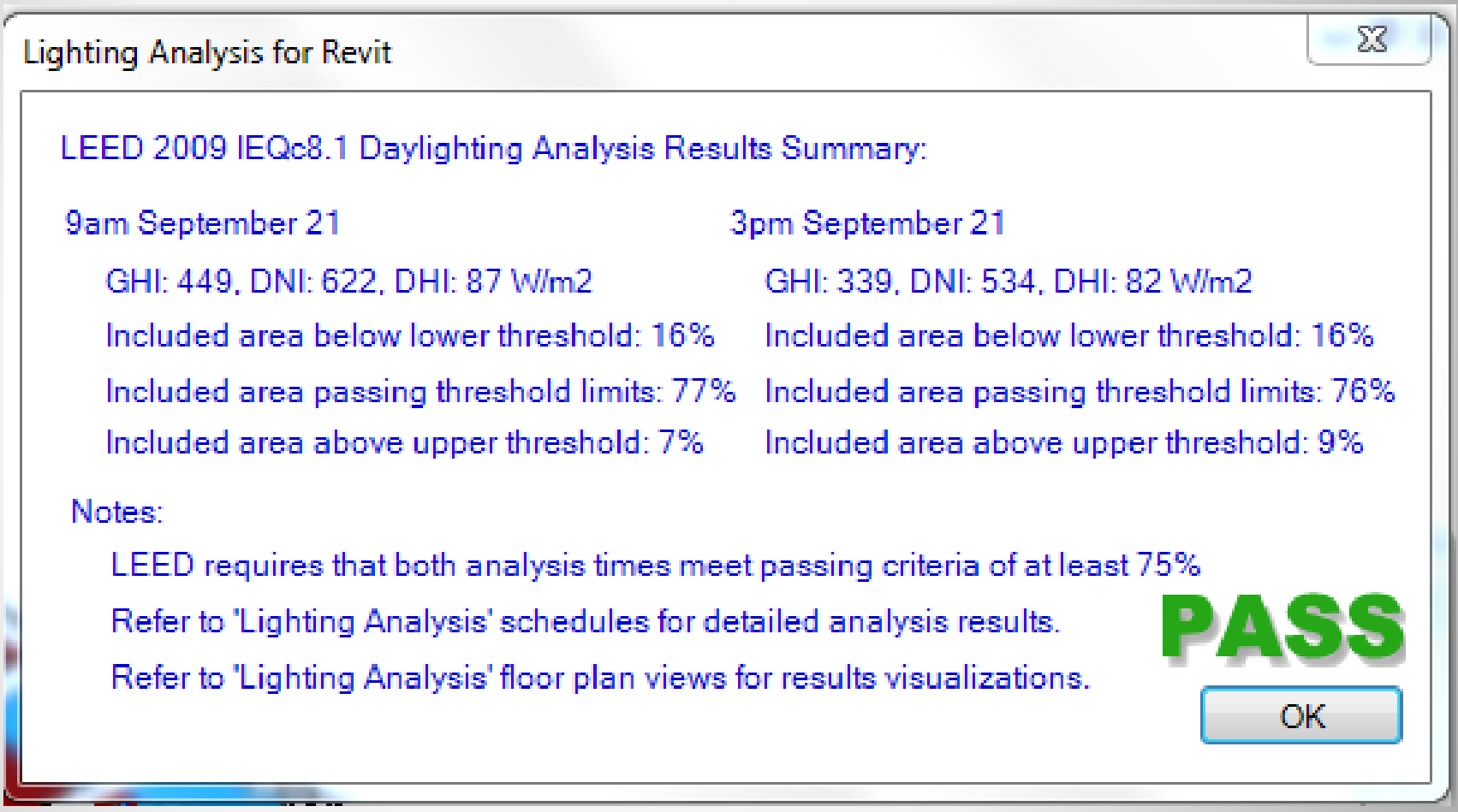
Lighting Analysis



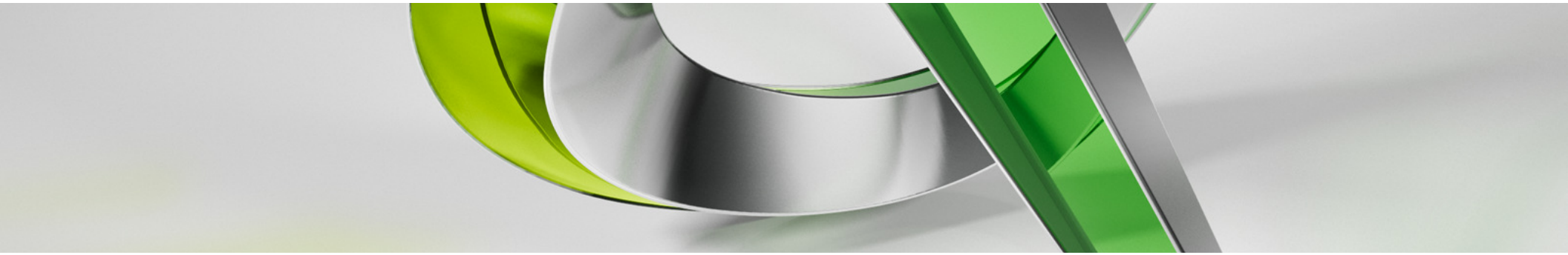
Lighting Analysis



Lighting Analysis

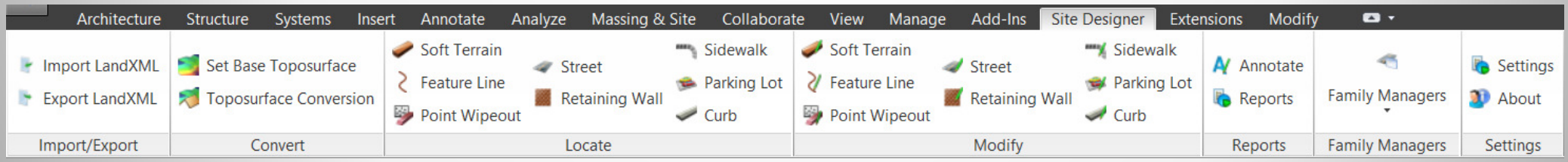


Site Designer - Extension



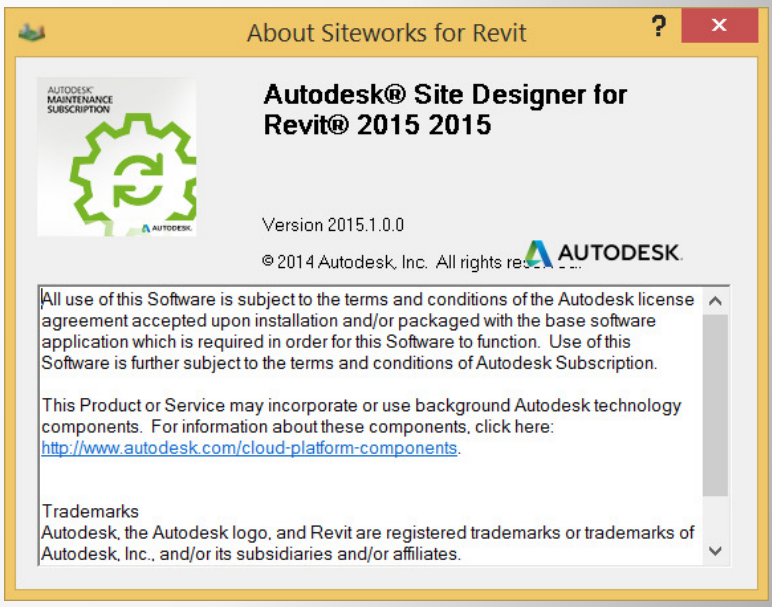
Site Designer - Extension

- Import/Export LandXML
- Convert Toposurface
- Locate
- Report
- Family Manager

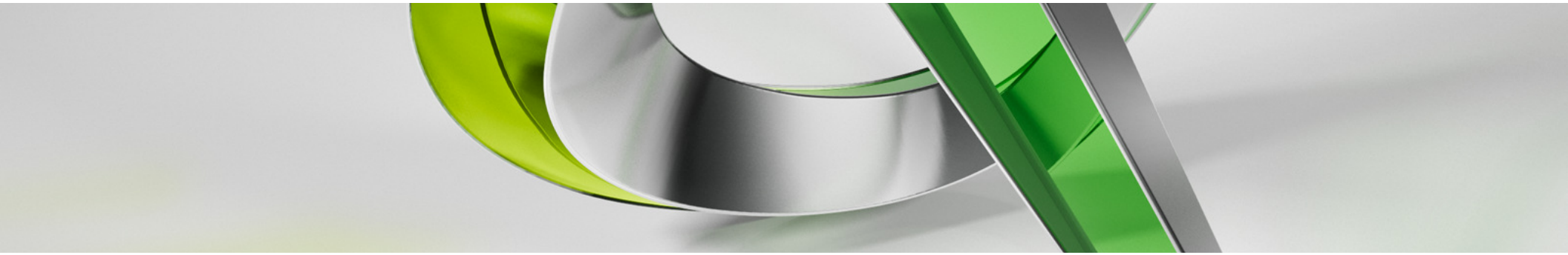


Site Designer - Extension

Site Designer - Extension



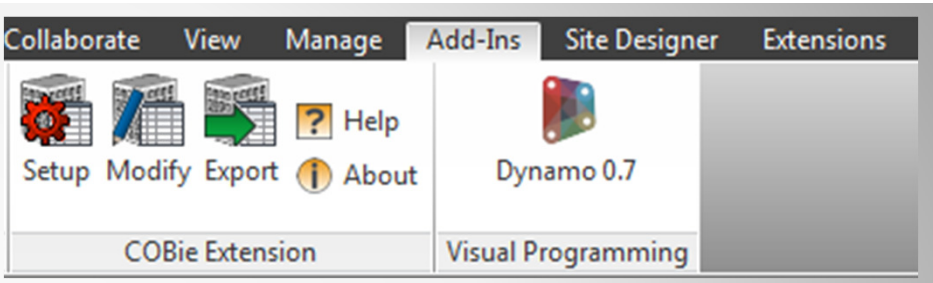
COBie



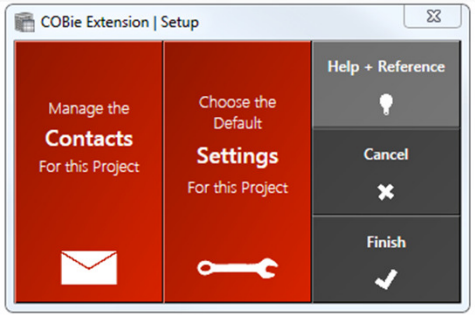
COBie

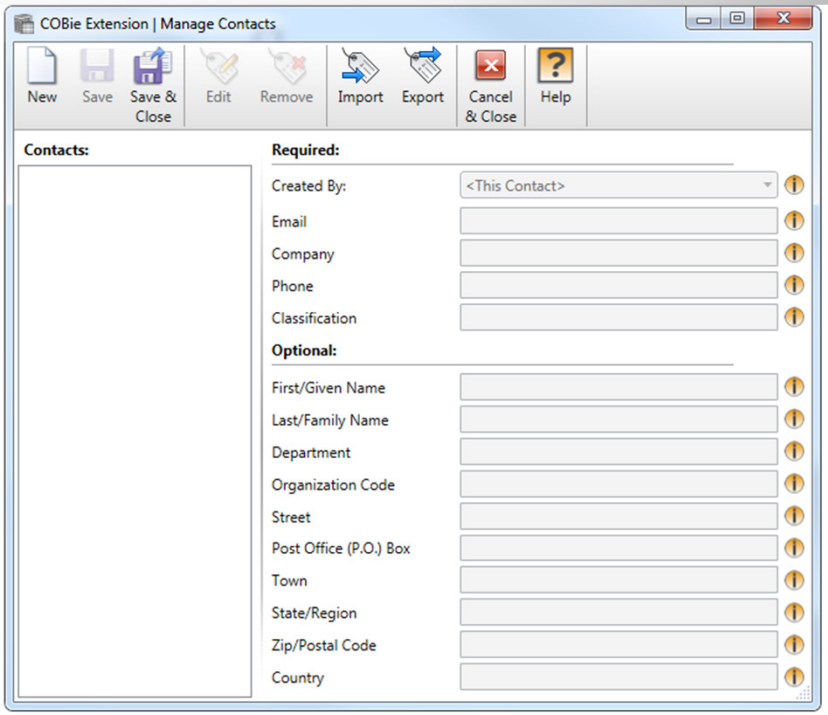
- The Construction Operations Building Information Exchange (COBie)
- …is a data exchange standard to allow information gathered during the building design and construction process easily transferred to the operations and maintenance (O&M) team.

COBie

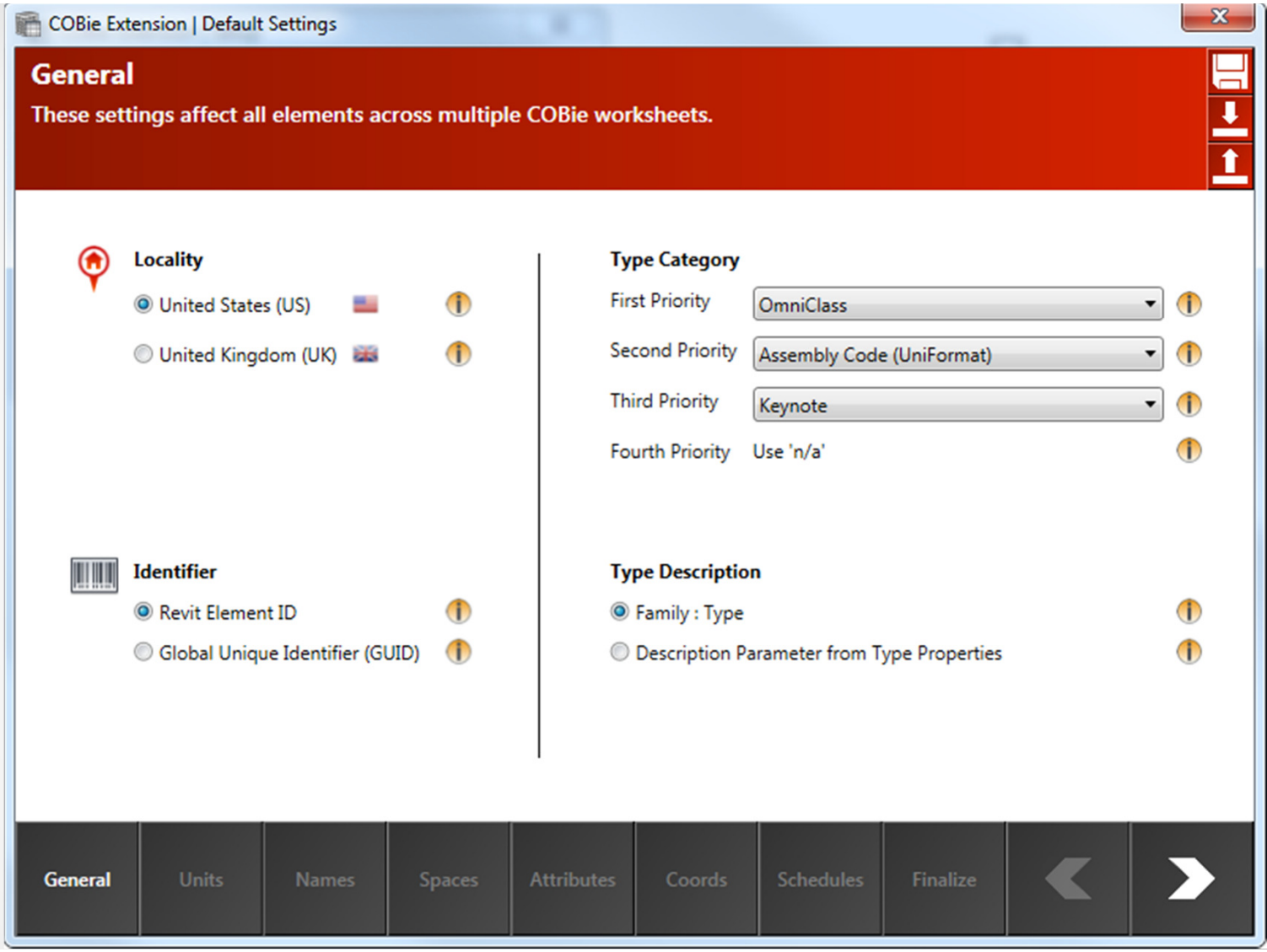


- COBie Extension
  - Revit Add-In

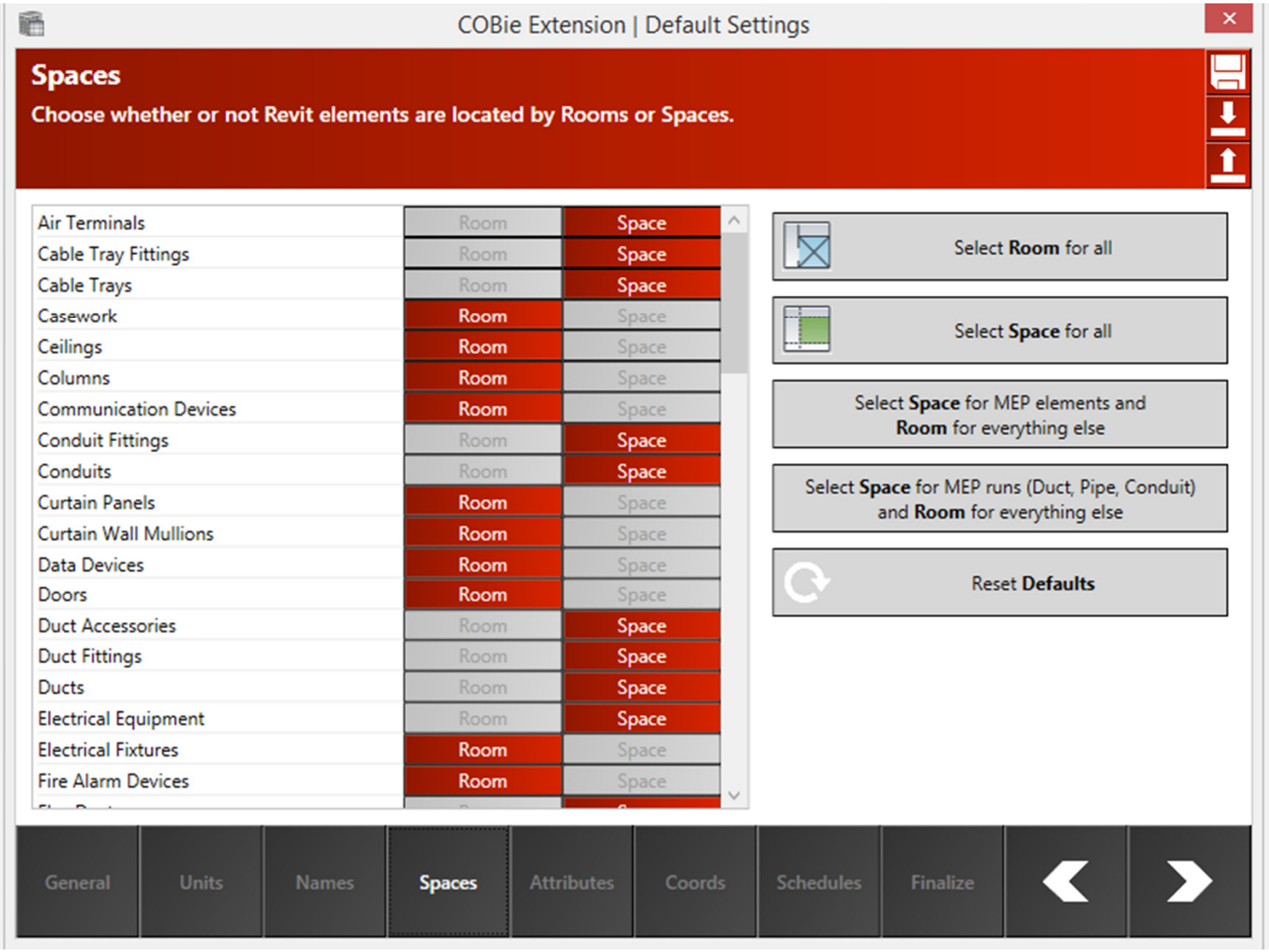




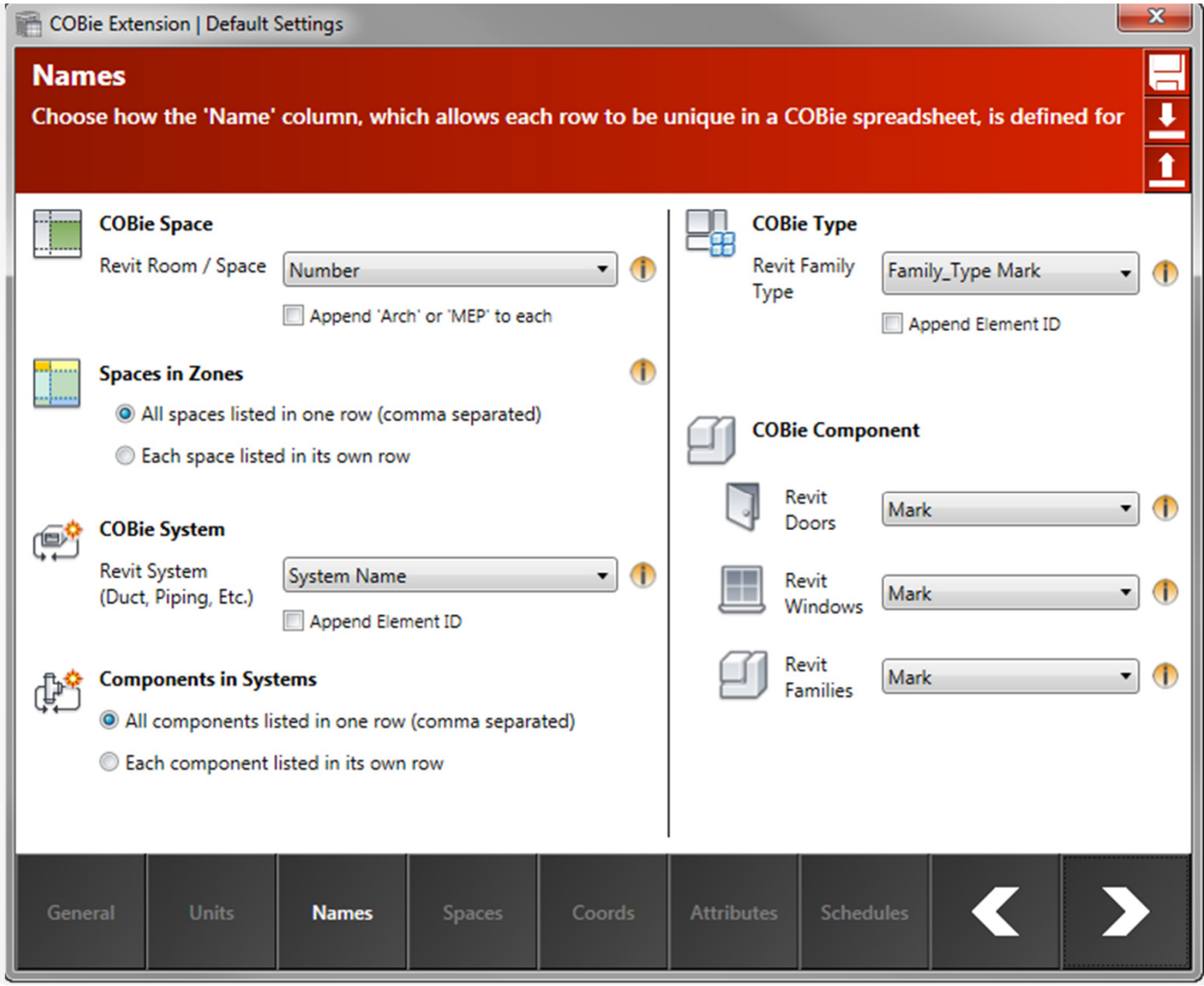
COBie


COBie Extension | Default Settings
General
These settings affect all elements across multiple COBie worksheets.
Locality
United States (US)
United Kingdom (UK)
Type Category
First Priority
OmniClass
Second Priority
Assembly Code (UniFormat)
Third Priority
Keynote
Fourth Priority
Use 'n/a'
Identifier
Revit Element ID
Global Unique Identifier (GUID)
Type Description
Family : Type
Description Parameter from Type Properties
General
Units
Names
Spaces
Attributes
Coords
Schedules
Finalize

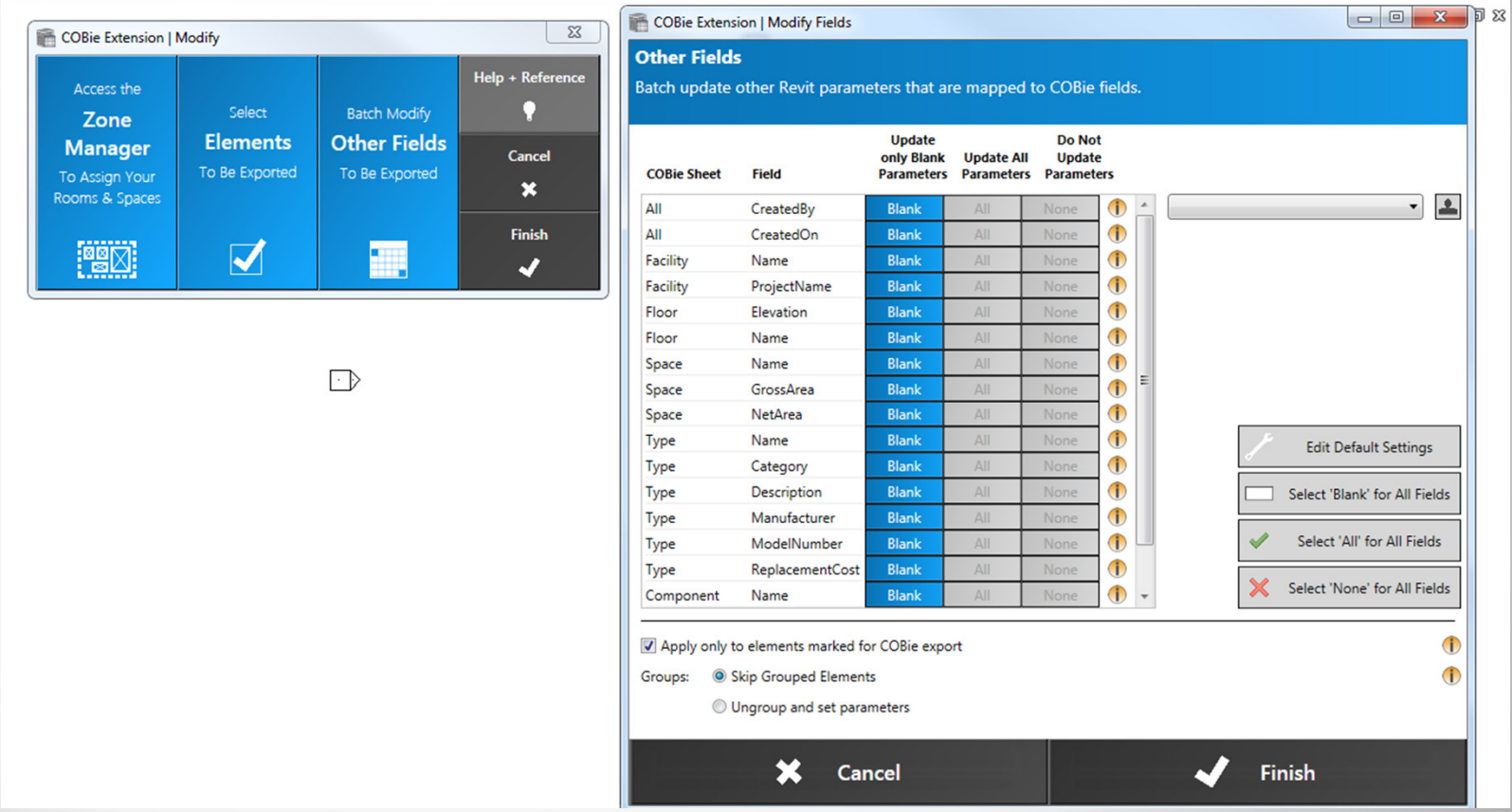
COBie


COBie Extension | Default Settings
Spaces
Choose whether or not Revit elements are located by Rooms or Spaces.
Air Terminals Room Space
Cable Tray Fittings Room Space
Cable Trays Room Space
Casework Room Space
Ceilings Room Space
Columns Room Space
Communication Devices Room Space
Conduit Fittings Room Space
Conduits Room Space
Curtain Panels Room Space
Curtain Wall Mullions Room Space
Data Devices Room Space
Doors Room Space
Duct Accessories Room Space
Duct Fittings Room Space
Ducts Room Space
Electrical Equipment Room Space
Electrical Fixtures Room Space
Fire Alarm Devices Room Space
Select Room for all
Select Space for all
Select Space for MEP elements and Room for everything else
Select Space for MEP runs (Duct, Pipe, Conduit) and Room for everything else
Reset Defaults
General
Units
Names
Spaces
Attributes
Coords
Schedules
Finalize

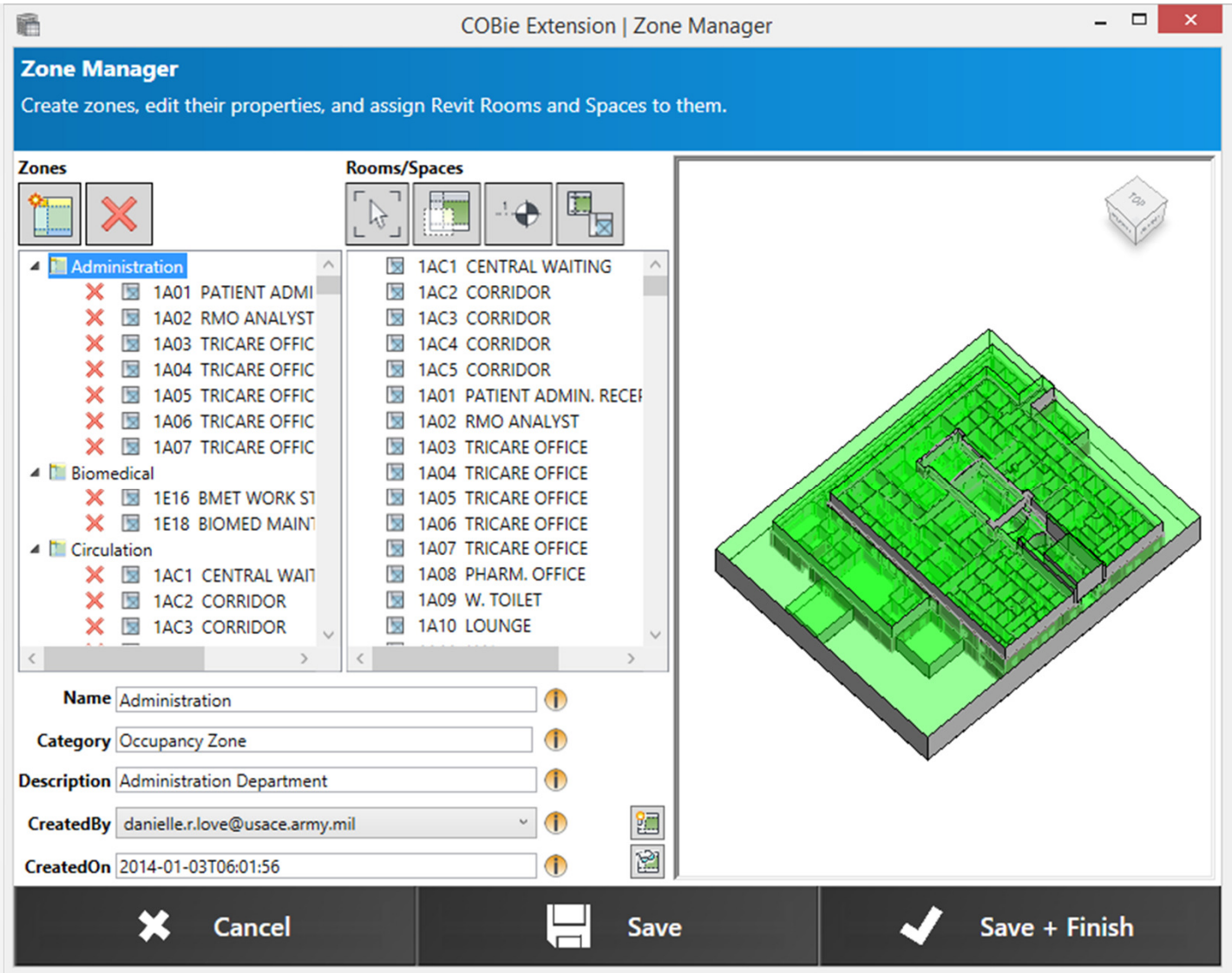
COBie


COBie Extension | Default Settings
Names
Choose how the 'Name' column, which allows each row to be unique in a COBie spreadsheet, is defined for
COBie Space
Revit Room / Space
Number
Append 'Arch' or 'MEP' to each
Spaces in Zones
All spaces listed in one row (comma separated)
Each space listed in its own row
COBie System
Revit System (Duct, Piping, Etc.)
System Name
Append Element ID
Components in Systems
All components listed in one row (comma separated)
Each component listed in its own row
COBie Type
Revit Family Type
Family_Type Mark
Append Element ID
COBie Component
Revit Doors
Mark
Revit Windows
Mark
Revit Families
Mark
General
Units
Names
Spaces
Coords
Attributes
Schedules

COBie

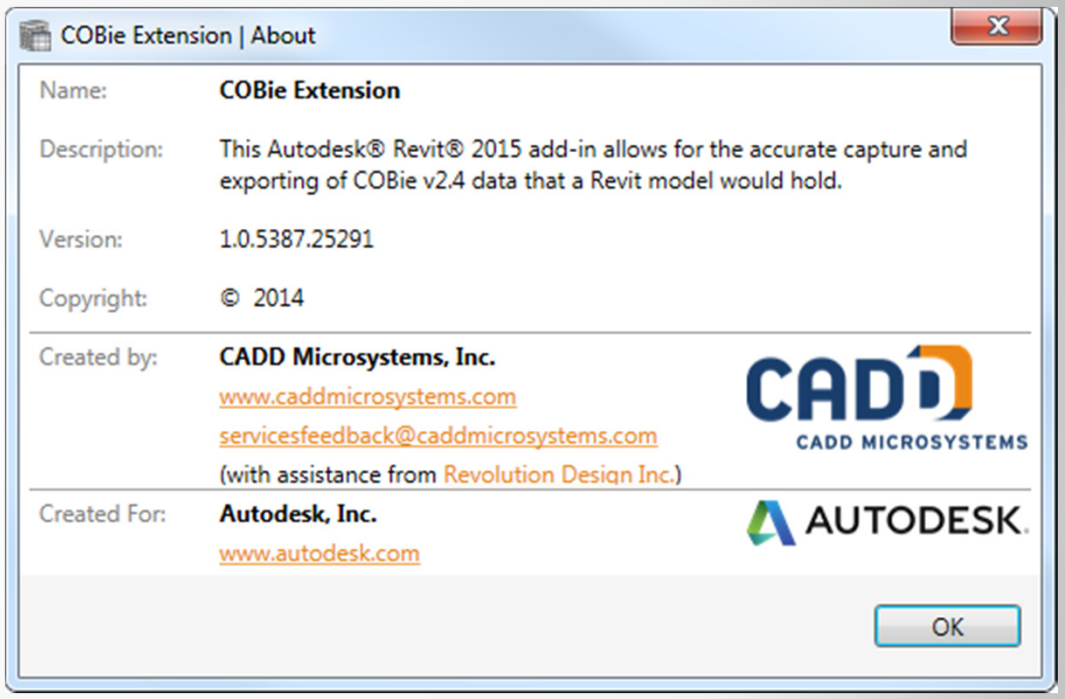

COBie Extension | Modify
Access the
Zone Manager
To Assign Your Rooms & Spaces
Select
Elements
To Be Exported
Batch Modify
Other Fields
To Be Exported
Help + Reference
Cancel
Finish
COBie Extension | Modify Fields
Other Fields
Batch update other Revit parameters that are mapped to COBie fields.
COBie Sheet
Field
Update only Blank Parameters
Update All Parameters
Do Not Update Parameters
All CreatedBy Blank All None
All CreatedOn Blank All None
Facility Name Blank All None
Facility ProjectName Blank All None
Floor Elevation Blank All None
Floor Name Blank All None
Space Name Blank All None
Space GrossArea Blank All None
Space NetArea Blank All None
Type Name Blank All None
Type Category Blank All None
Type Description Blank All None
Type Manufacturer Blank All None
Type ModelNumber Blank All None
Type ReplacementCost Blank All None
Component Name Blank All None
Edit Default Settings
Select 'Blank' for All Fields
Select 'All' for All Fields
Select 'None' for All Fields
Apply only to elements marked for COBie export
Groups:
Skip Grouped Elements
Ungroup and set parameters
Cancel
Finish

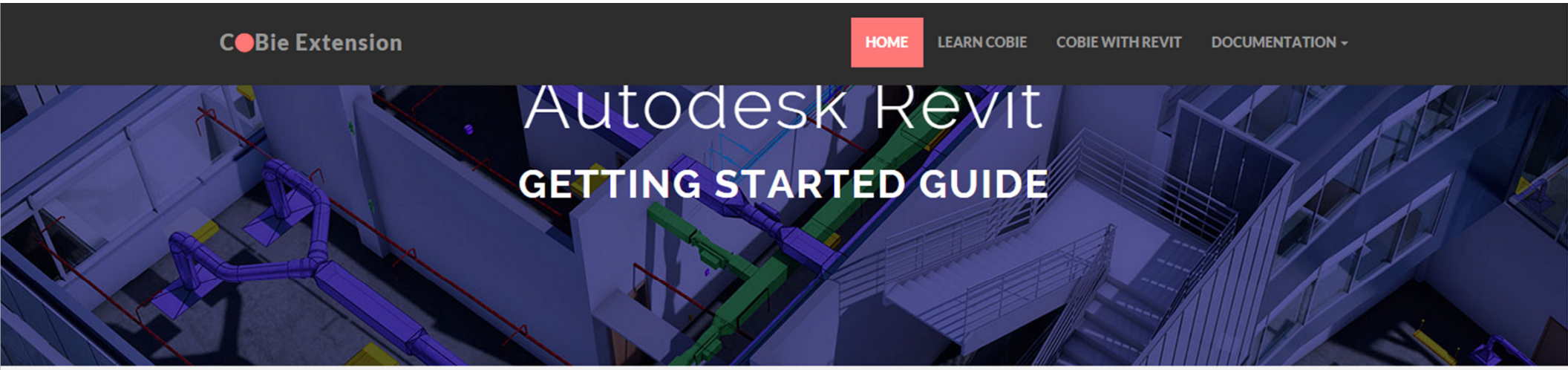
COBie


COBie Extension | Zone Manager
Zone Manager
Create zones, edit their properties, and assign Revit Rooms and Spaces to them.
Zones
Rooms/Spaces
Administration
1A01 PATIENT ADMI
1A02 RMO ANALYST
1A03 TRICARE OFFIC
1A04 TRICARE OFFIC
1A05 TRICARE OFFIC
1A06 TRICARE OFFIC
1A07 TRICARE OFFIC
Biomedical
1E16 BMET WORK ST
1E18 BIOMED MAINT
Circulation
1AC1 CENTRAL WAIT
1AC2 CORRIDOR
1AC3 CORRIDOR
1AC1 CENTRAL WAITING
1AC2 CORRIDOR
1AC3 CORRIDOR
1AC4 CORRIDOR
1AC5 CORRIDOR
1A01 PATIENT ADMIN. RECEI
1A02 RMO ANALYST
1A03 TRICARE OFFICE
1A04 TRICARE OFFICE
1A05 TRICARE OFFICE
1A06 TRICARE OFFICE
1A07 TRICARE OFFICE
1A08 PHARM. OFFICE
1A09 W. TOILET
1A10 LOUNGE
Name Administration
Category Occupancy Zone
Description Administration Department
CreatedBy danielle.r.love@usace.army.mil
CreatedOn 2014-01-03T06:01:56
Cancel
Save
Save + Finish

COBie

- CADD Microsystems





About COBie

Learn the basics about the COBie data exchange standard, including information about deliverables and the overall worksheet structure.

Learn More »

COBie with Revit

Discover how specific Autodesk Revit features align with the COBie data exchange format and what considerations should be made prior to exporting data from a model.

Learn More »

Documentation

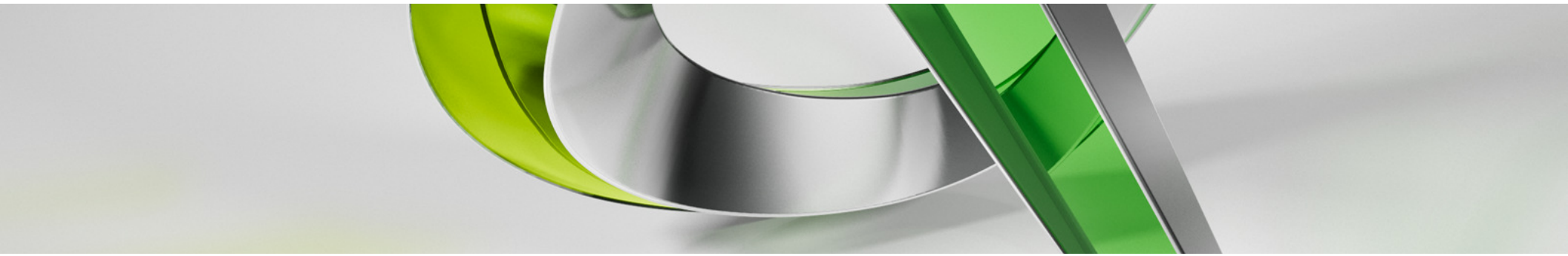
Procedurally outlines how to setup, configure, utilize, and export COBie data from Revit Models using the COBie Extension for Autodesk Revit.

Learn More »

Copyright © 2014 CADD Microsystems, Inc // All Rights Reserved

servicesfeedback@caddmicrosystems.com

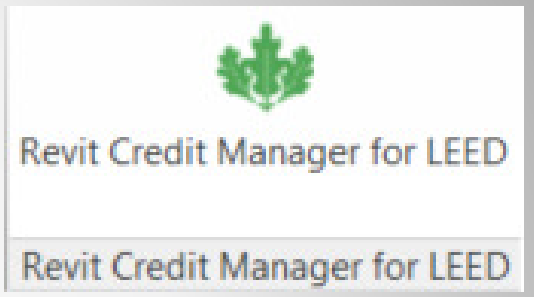
Revit Credit Manager



Labs

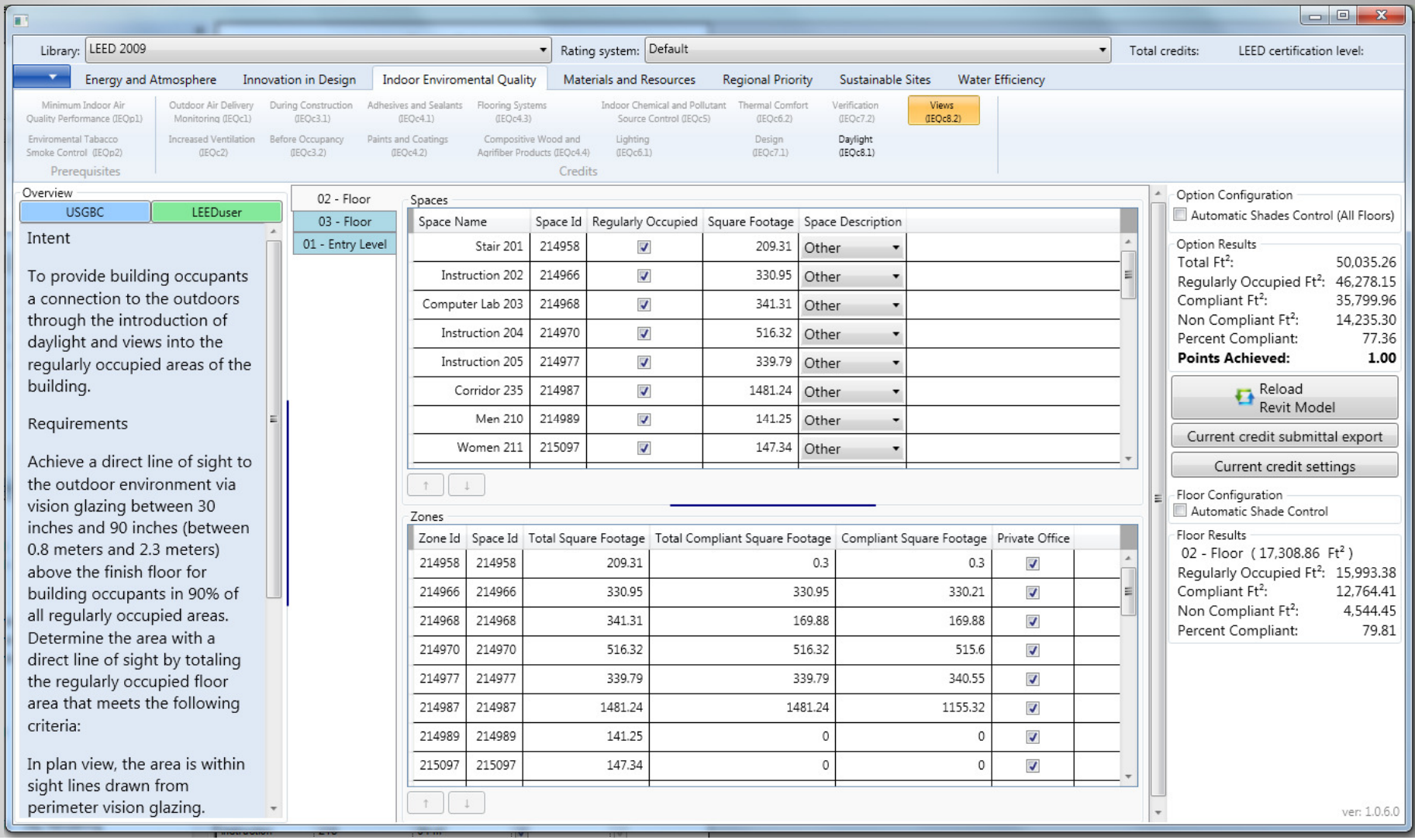
- Revit Credit Manager

Labs



- Revit Credit Manager
  - Automate calculations
  - Streamline the submittals conveniently from inside Revit® 2015 software for LEED 2009 credits:
    - Daylighting (IEQ 8.1 Option 1 and Option 2)
    - Views (IEQ8.2)
    - Water Use Reduction (WEp1, WEC3 for LEED NC or WEC2 in LEED CI)
    - Recycled Content (MRc4)

Labs


Library: LEED 2009
Rating system: Default
Total credits:
LEED certification level:
Energy and Atmosphere
Innovation in Design
Indoor Enviromental Quality
Materials and Resources
Regional Priority
Sustainable Sites
Water Efficiency
Minimum Indoor Air Quality Performance (IEQp1)
Enviromental Tabacco Smoke Control (IEQp2)
Prerequisites
Outdoor Air Delivery Monitoring (IEQc1)
Increased Ventilation (IEQc2)
During Construction (IEQc3.1)
Before Occupancy (IEQc3.2)
Adhesives and Sealants (IEQc4.1)
Paints and Coatings (IEQc4.2)
Flooring Systems (IEQc4.3)
Compositive Wood and Agrifiber Products (IEQc4.4)
Indoor Chemical and Pollutant Source Control (IEQc5)
Lighting (IEQc6.1)
Thermal Comfort (IEQc6.2)
Design (IEQc7.1)
Verification (IEQc7.2)
Daylight (IEQc8.1)
Views (IEQc8.2)
Credits
Overview
USGBC
LEEDuser
Intent
To provide building occupants a connection to the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.
Requirements
Achieve a direct line of sight to the outdoor environment via vision glazing between 30 inches and 90 inches (between 0.8 meters and 2.3 meters) above the finish floor for building occupants in 90% of all regularly occupied areas. Determine the area with a direct line of sight by totaling the regularly occupied floor area that meets the following criteria:
In plan view, the area is within sight lines drawn from perimeter vision glazing.
02 - Floor
03 - Floor
01 - Entry Level
Spaces
Space Name | Space Id | Regularly Occupied | Square Footage | Space Description
Stair 201 | 214958 | 209.31 | Other
Instruction 202 | 214966 | 330.95 | Other
Computer Lab 203 | 214968 | 341.31 | Other
Instruction 204 | 214970 | 516.32 | Other
Instruction 205 | 214977 | 339.79 | Other
Corridor 235 | 214987 | 1481.24 | Other
Men 210 | 214989 | 141.25 | Other
Women 211 | 215097 | 147.34 | Other
Zones
Zone Id | Space Id | Total Square Footage | Total Compliant Square Footage | Compliant Square Footage | Private Office
214958 | 214958 | 209.31 | 0.3 | 0.3
214966 | 214966 | 330.95 | 330.95 | 330.21
214968 | 214968 | 341.31 | 169.88 | 169.88
214970 | 214970 | 516.32 | 516.32 | 515.6
214977 | 214977 | 339.79 | 339.79 | 340.55
214987 | 214987 | 1481.24 | 1481.24 | 1155.32
214989 | 214989 | 141.25 | 0 | 0
215097 | 215097 | 147.34 | 0 | 0
Option Configuration
Automatic Shades Control (All Floors)
Option Results
Total Ft²: 50,035.26
Regularly Occupied Ft²: 46,278.15
Compliant Ft²: 35,799.96
Non Compliant Ft²: 14,235.30
Percent Compliant: 77.36
Points Achieved: 1.00
Reload Revit Model
Current credit submittal export
Current credit settings
Floor Configuration
Automatic Shade Control
Floor Results
02 - Floor (17,308.86 Ft²)
Regularly Occupied Ft²: 15,993.38
Compliant Ft²: 12,764.41
Non Compliant Ft²: 4,544.45
Percent Compliant: 79.81
ver: 1.0.6.0

Labs

SUMMARY (NC, NR, CS, CI & CR)

Note: All information on this tab is READ
information below to complete the form

Revit Credit Manager for LEED

Revit Credit Manager for LEED

Table IEQc8.1-1. Daylight Summary

Daylighted regularly occupied area, **Simulation** (sf)	0.00
Daylighted regularly occupied area, **Prescriptive** (sf)	14,904.03
Daylighted regularly occupied area, **Measurement** (sf)	0.00
Total daylighted regularly occupied area (sf)	14,904.03
Total regularly occupied area (sf)	46,278.15
Percentage of regularly occupied area that is daylighted	**32.21%**

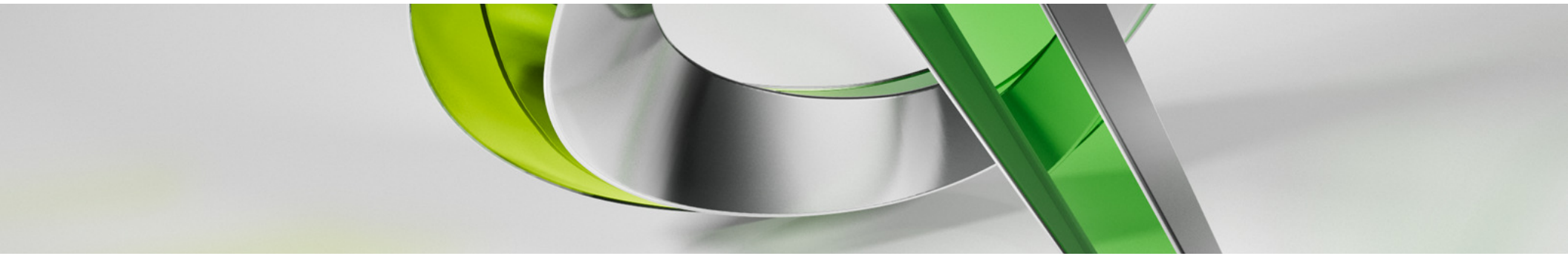
Table IEQc8.2-1. View Summary

Total regularly occupied area with access to views (sf)	0.00
Total regularly occupied area (sf)	46,278.15
Percentage of regularly occupied area with access to views	**0.00%**

Table IEQc8.2-EP. Views for Exemplary Performance

	Measure 1	Measure 2	Measure 3	Measure 4
Total regularly occupied area with access to exemplary performance views (sf)	0.00	0.00	0.00	0.00
Percentage of regularly occupied area with access to exemplary performance views	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Future and 2016



Future and 2016?

Future

- Bitsquid
  - new high-end game engine

Future

- Cloud based application
  - Beta and testing already in-place

Future

- 2 releases per year
  - Spring – speed and capabilities
  - Fall – user based tools, new features, user wishlist

Future

- 3d Holographic display ???

Future

- 3d Holographic display
  - zSpace
    - 3D Holographic Visualization
  - Supports Maya and Showcase

Future

- 3d Holographic display

Questions?

Summary

- We learned about the exciting new features in Autodesk Revit Architecture 2015 software. Introduced to new concepts of Building Information Modeling (BIM) and efficient, easy-to-use tools for parametric design and documentation.

Obtained Objectives

- Describe the new features, concepts, and benefits of Building Information Modeling
- Explain the fundamental concepts and features of Autodesk Revit Architecture
- Use the parametric 3D design tools to start designing projects
- Develop an initial level of comfort and confidence with the new tools in Autodesk Revit

Contact

- mzeeveld@asti.com
- 404.564.1837 office

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

Surveys

- Don’t forget to fill out your surveys

Students, educators, **and** ***schools*** **now have**

FREE access to Autodesk design software & apps.

Download at www.autodesk.com/education

Earn your professional Autodesk Certification at AU

Visit the AU Certification Lab

Happy Reviting!

Thank you!

Autodesk is a registered trademark of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document. © 2013 Autodesk, Inc. All rights reserved.