Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

http://aucache.autodesk.com/social/visualization.html

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.

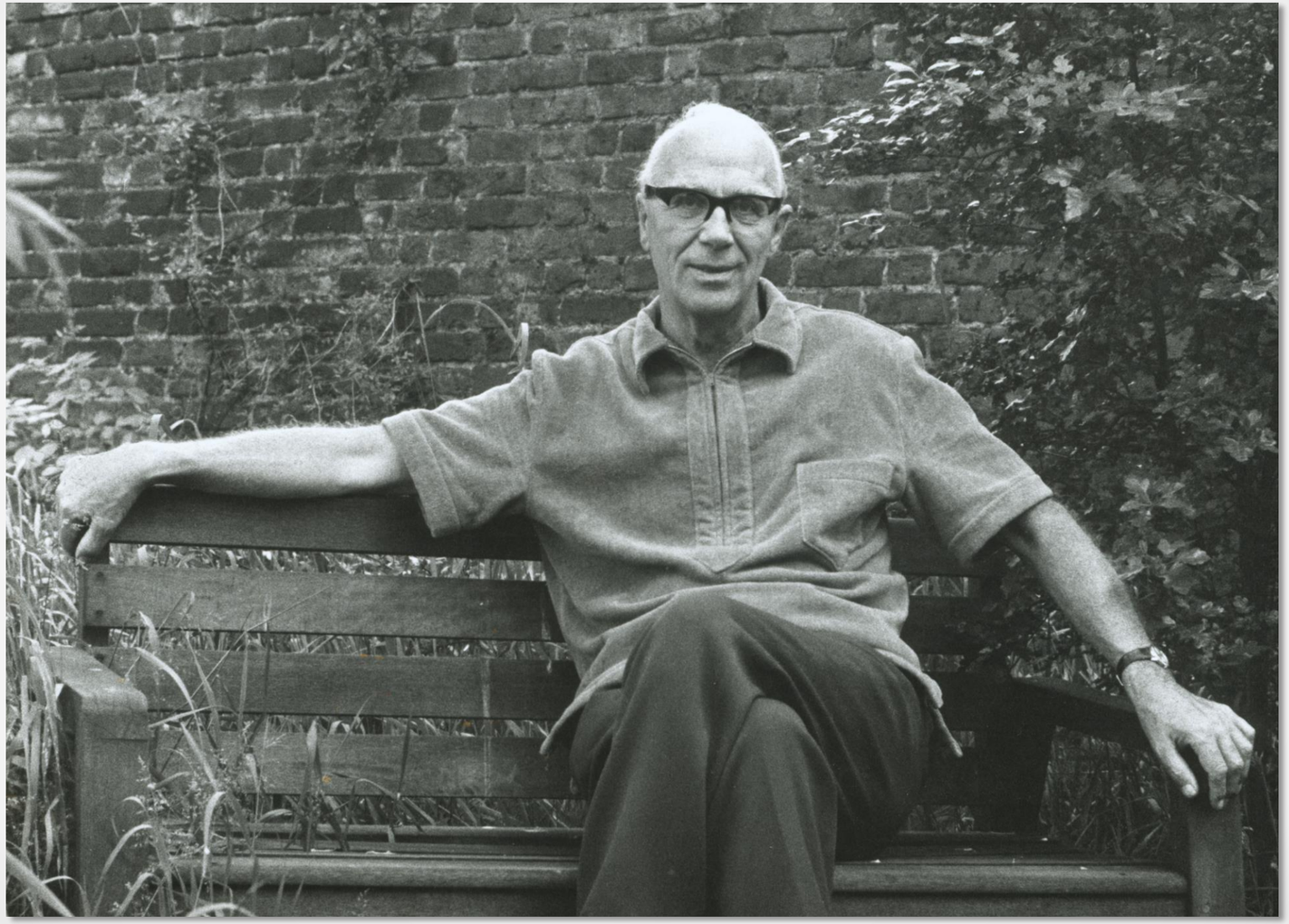
Everything Electrical for Revit MEP ®

Don Sarmiento
Senior CAD Technician

Geoff Gunn
Senior Engineer

ARUP

Introduction to Arup



Class Summary

The title of this class speaks for itself. You will learn everything you need to know about Revit MEP software, focusing entirely on the electrical side. Topics will include managing your project template; creating 2D annotation symbols and electrical families; creating more efficient diagrams; using filters for your electrical systems; and laying out fixtures. We'll also look at devices and equipment, circuiting, and scheduling. We will cover techniques for achieving better coordination between disciplines (mechanical, electrical, and plumbing) and making the most out of Revit MEP software and we will discuss some best practices. We will also share with you an actual project that implemented items discussed during this lecture.

Key Learning Objectives

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

- Learn different techniques for efficient diagrams and discover why it's better in Revit software—forget linked CAD files

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Key Learning Objectives

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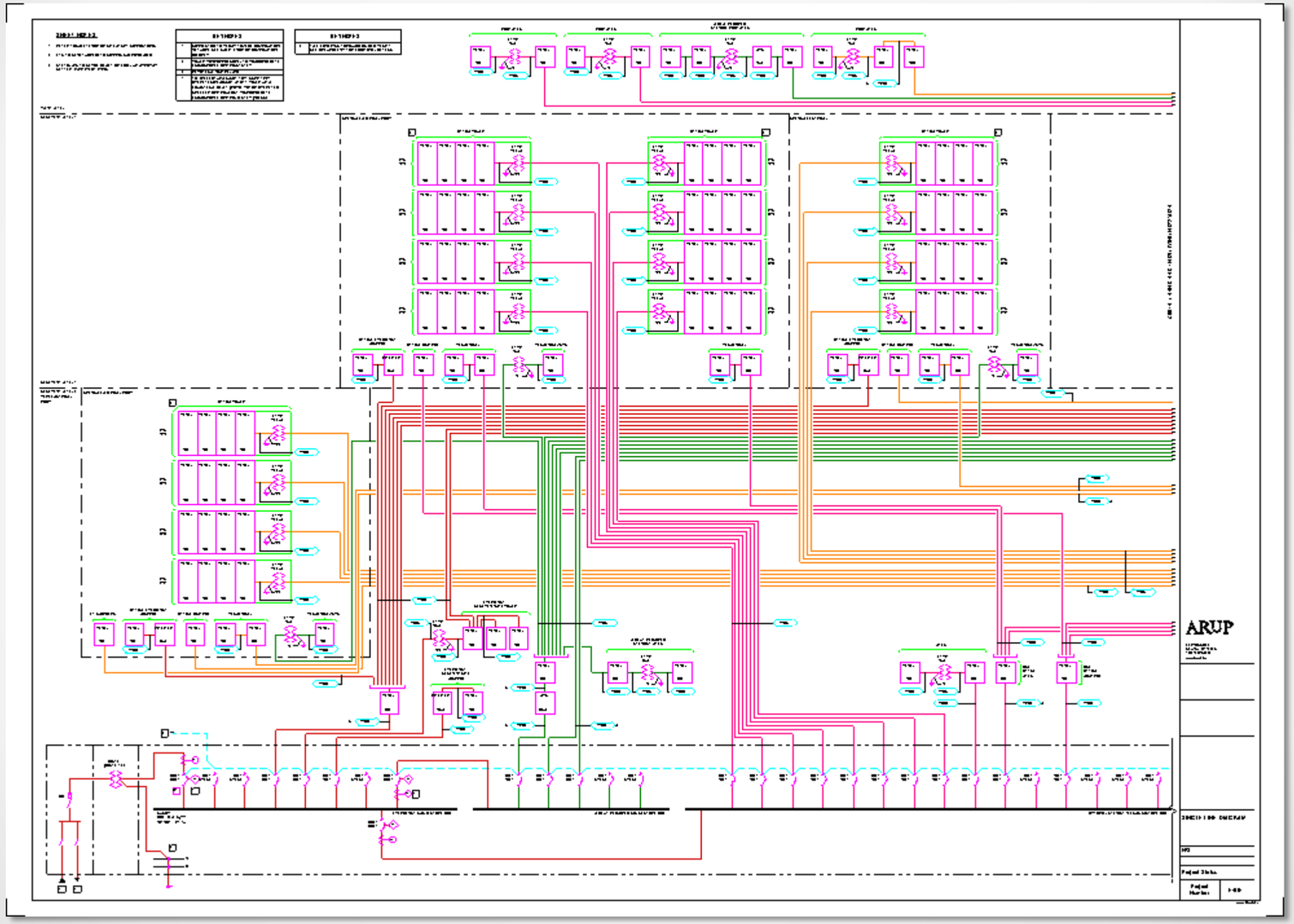
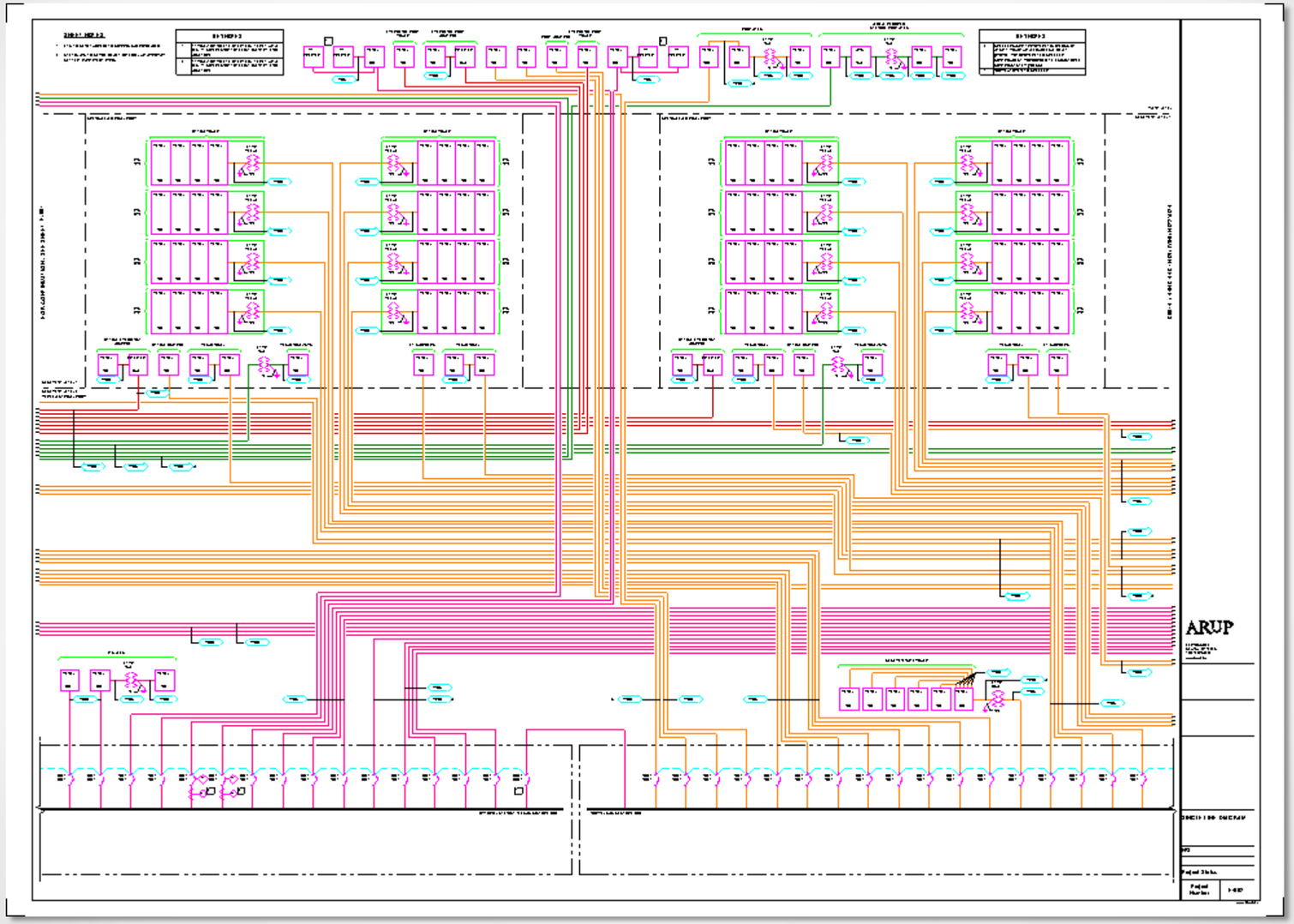
- Learn how to create efficient 2D annotations and electrical families and discover that it's not always about how they look, but how they work
- Using filters for better workflow. You'll be surprise what filters can do for you
- Learn about coordination practices between electrical and mechanical, plumbing, and lighting, and discuss how we could handle this

Techniques for Efficient Diagrams in Revit

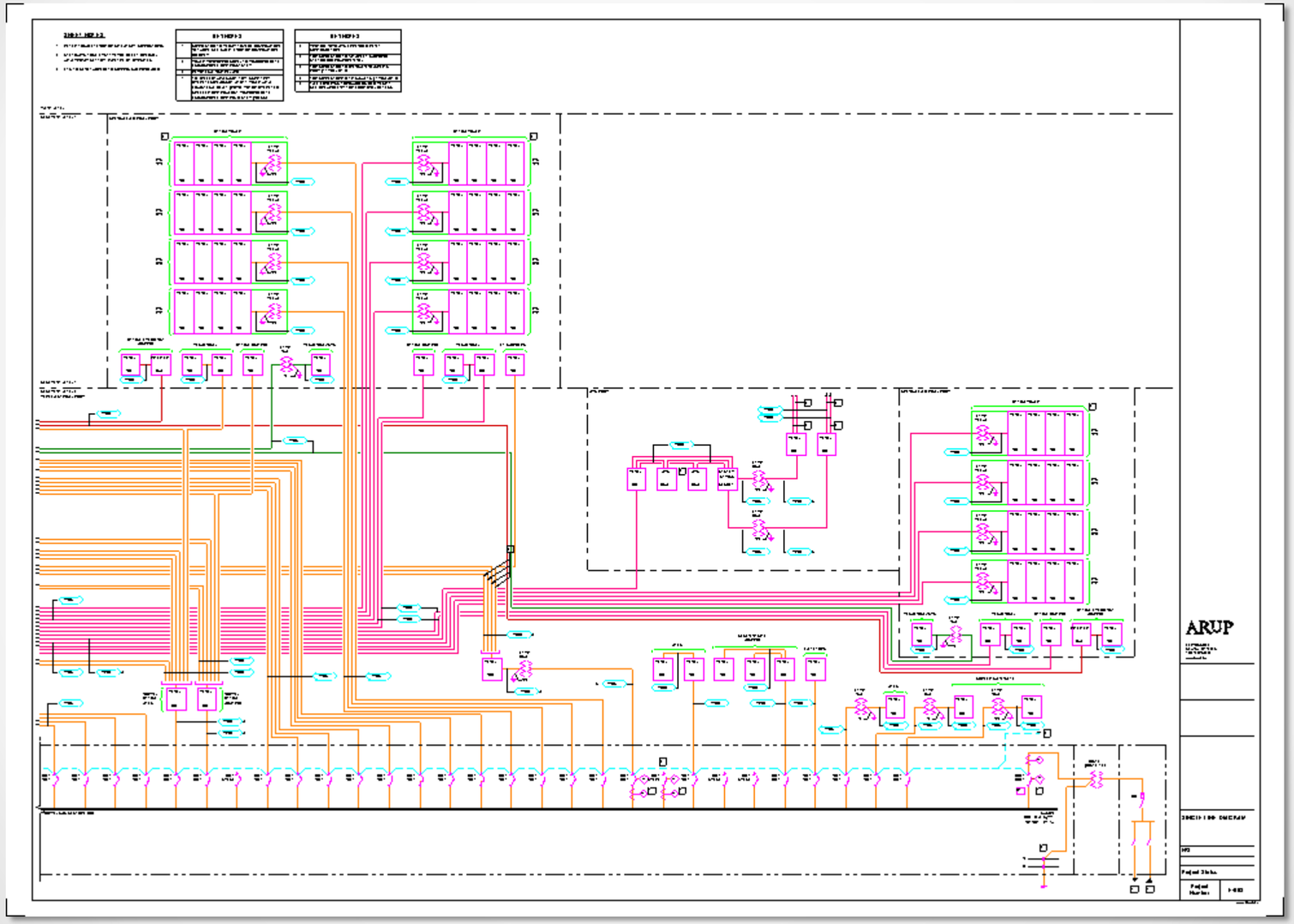
Techniques for Efficient Diagrams in Revit



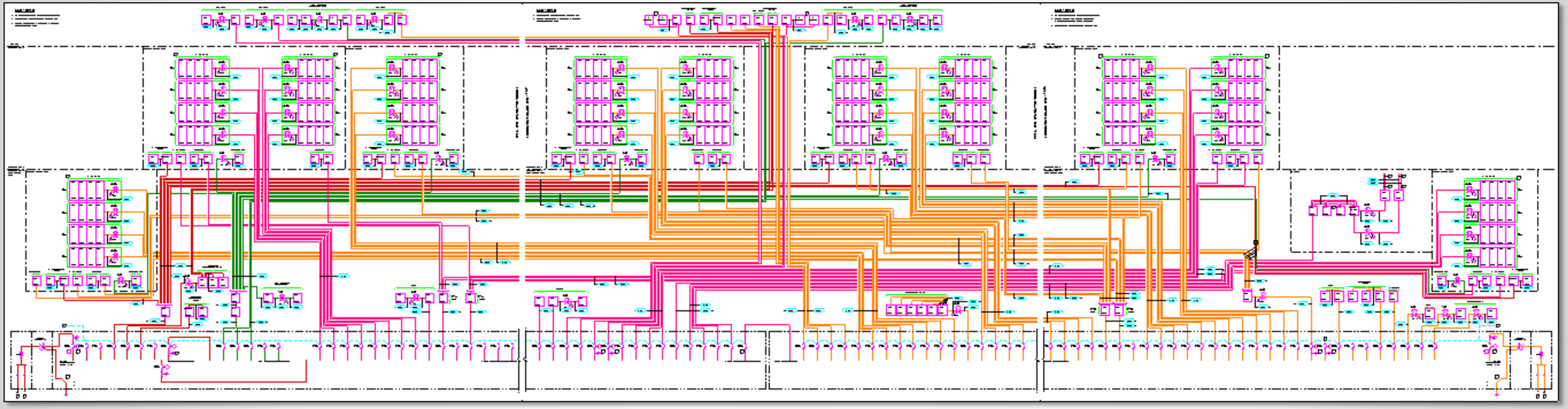
Techniques for Efficient Diagrams in Revit



Techniques for Efficient Diagrams in Revit

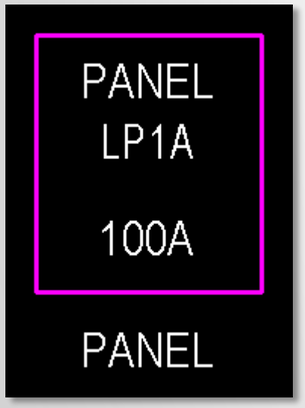


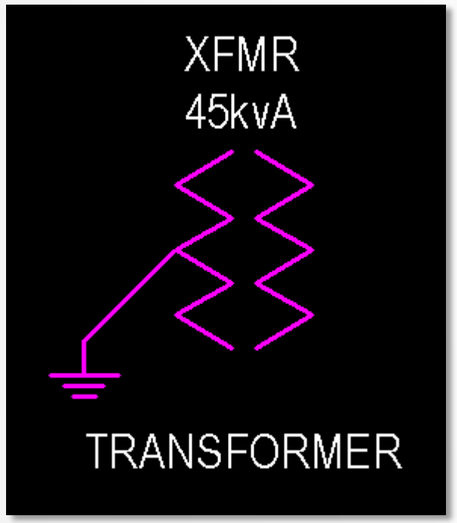
Techniques for Efficient Diagrams in Revit

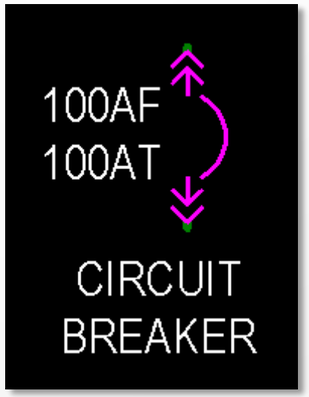


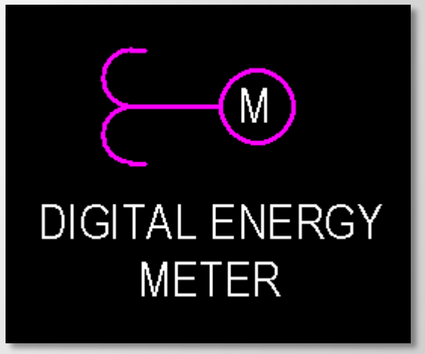
Techniques for Efficient Diagrams in Revit

- Create all your content



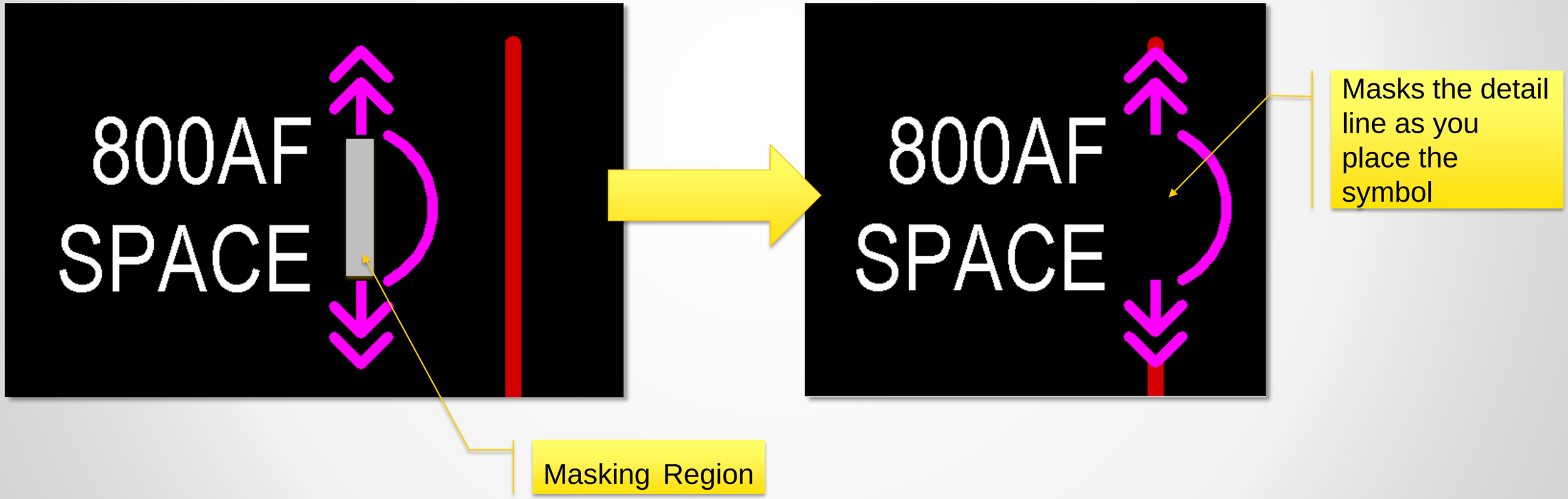


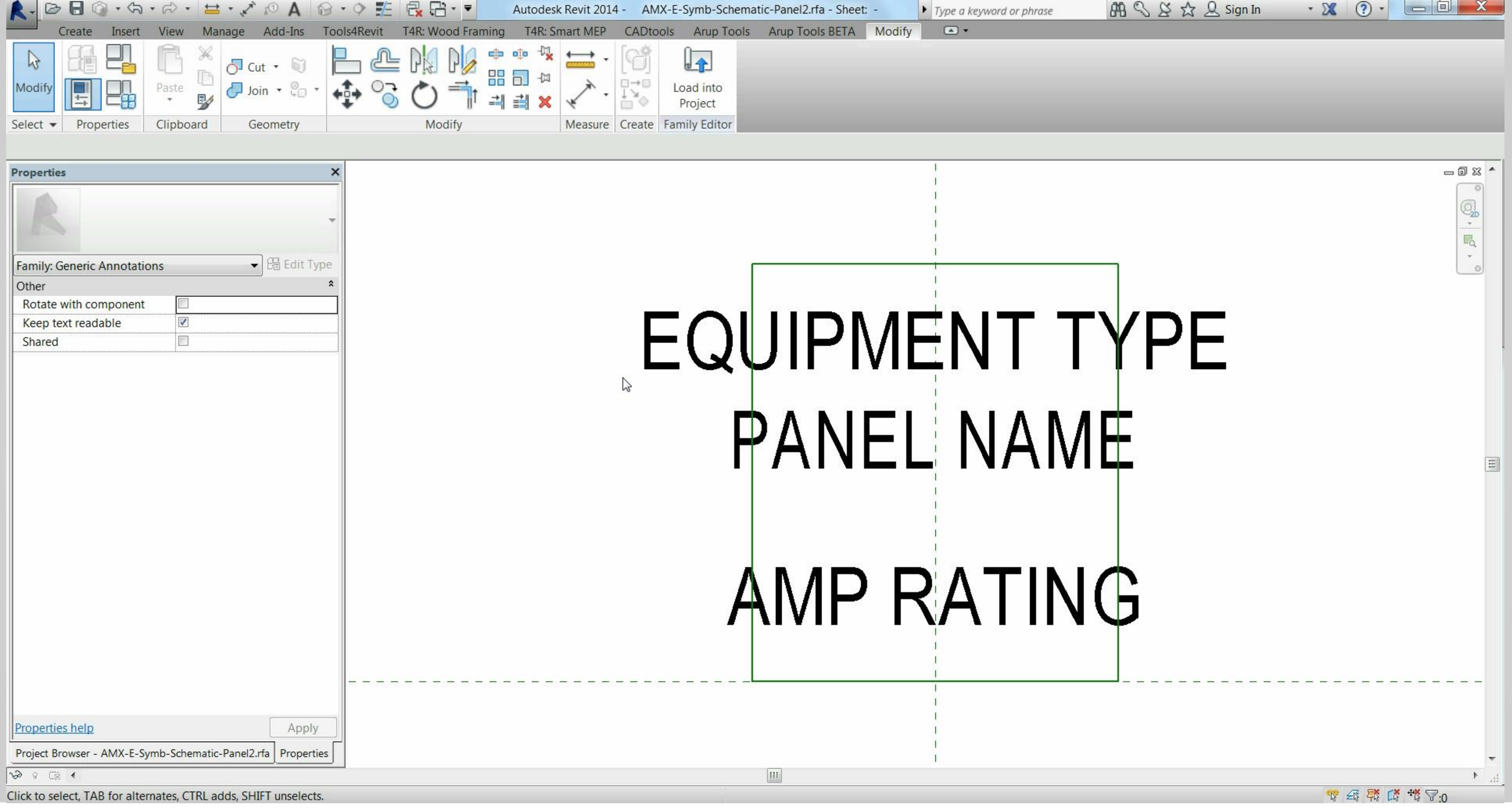




Techniques for Efficient Diagrams in Revit

- Make good use of masking region when creating content




Autodesk Revit 2014 - AMX-E-Symb-Schematic-Panel2.rfa - Sheet: -
Type a keyword or phrase
Sign In
Create Insert View Manage Add-Ins Tools4Revit T4R: Wood Framing T4R: Smart MEP CADtools Arup Tools Arup Tools BETA Modify
Modify
Cut
Join
Paste
Load into Project
Select
Properties
Clipboard
Geometry
Modify
Measure
Create
Family Editor
Properties
Family: Generic Annotations
Edit Type
Other
Rotate with component
Keep text readable
Shared
Properties help
Apply
Project Browser - AMX-E-Symb-Schematic-Panel2.rfa
Properties
EQUIPMENT TYPE
PANEL NAME
AMP RATING
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

Sample Project - Elec.rvt - Floor Plan: E300 - Diagram - Sheet 1

Architecture | Systems | Insert | Annotate | Analyze | Collaborate | View | Manage | Add-Ins | Tools4Revit | T4R: Wood Framing | T4R: Smart MEP | CADtools | Arup Tools | Arup Tools BETA | Modify

Modify | Aligned | Linear | Angular | Radial | Diameter | Arc Length | Spot Elevation | Spot Coordinate | Spot Slope | Detail Line | Region | Component | Revision Cloud | Detail Group | Insulation | Text | Check Spelling | Find/ Replace | Tag by Category | Tag All | Multi-Category | Material Tag | Area Tag | Room Tag | Space Tag | View Reference | Tread Number | Keynote | Duct Legend | Pipe Legend | Color Fill Legend | Symbol

Select | Dimension | Detail | Text | Tag | Color Fill | Symbol

Properties

Floor Plan
Power - Sheet

Floor Plan: E300 - Diagram - Sheet 1 | Edit Type

Graphics	
View Scale	12" = 1'-0"
Scale Value 1:	1
Display Model	Normal
Detail Level	Medium
Parts Visibility	Show Original
Visibility/Graphics Overrid...	Edit...
Graphic Display Options	Edit...
Underlay	None
Underlay Orientation	Plan
Orientation	Project North
Wall Join Display	Clean all wall joins
Discipline	Electrical
Color Scheme Location	Background
Color Scheme	<none>
System Color Schemes	Edit...
Default Analysis Display S...	None
Visible In Option	all
Sub-Discipline	Power - Sheet Views (sv)
Sun Path	
Identity Data	
View Template	<None>
View Name	E300 - Diagram - Sheet 1

Properties help | Apply

Project Browser - Sample Project - Elec.rvt | Properties

NTS

Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

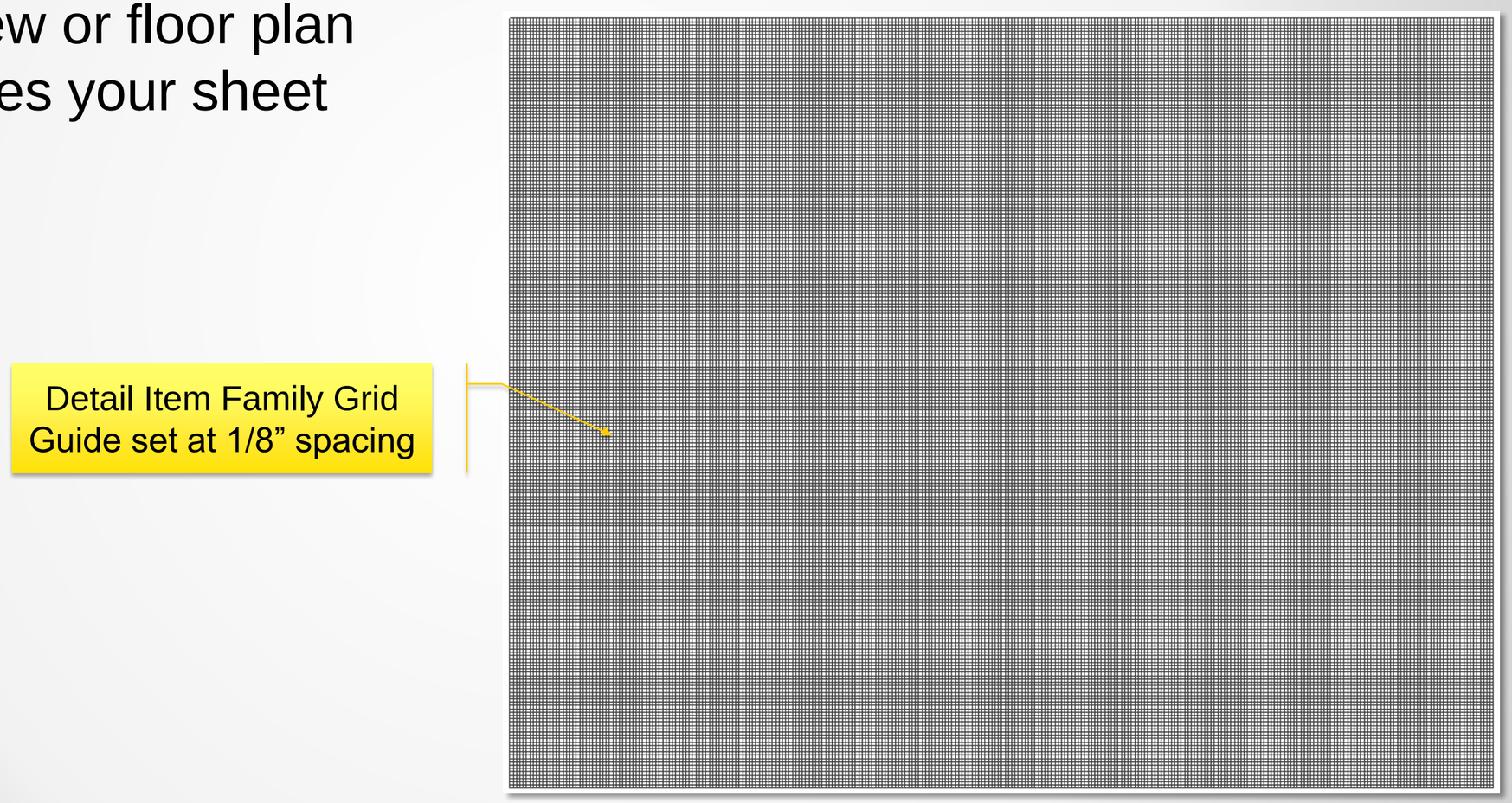
Main Model | Exclude Options

Techniques for Efficient Diagrams in Revit

- Determine your sheet limits

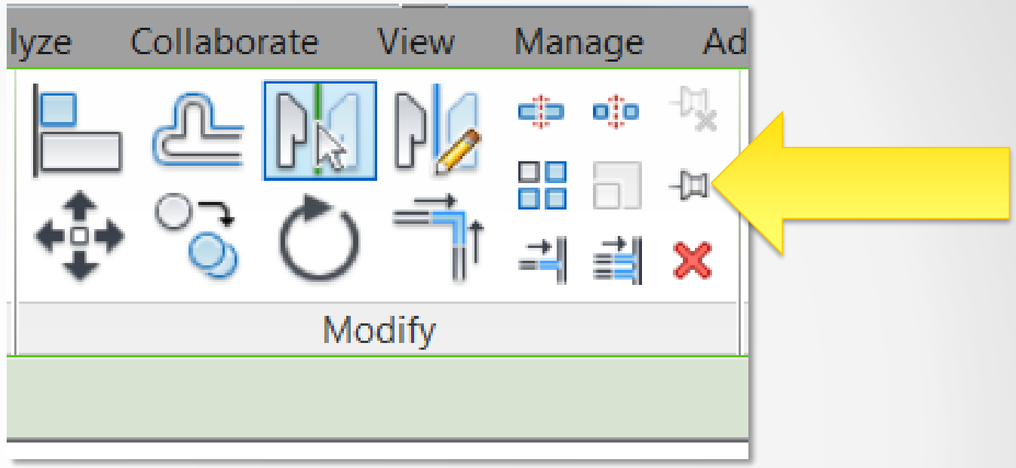
Techniques for Efficient Diagrams in Revit

- Create a grid guide in your drafting view or floor plan that matches your sheet limits



Techniques for Efficient Diagrams in Revit

- Pin the grid guide



Techniques for Efficient Diagrams in Revit

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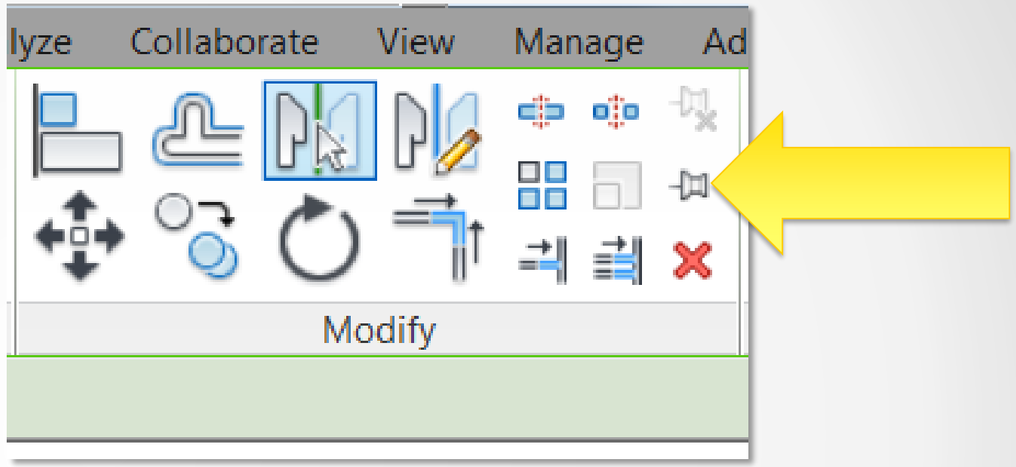
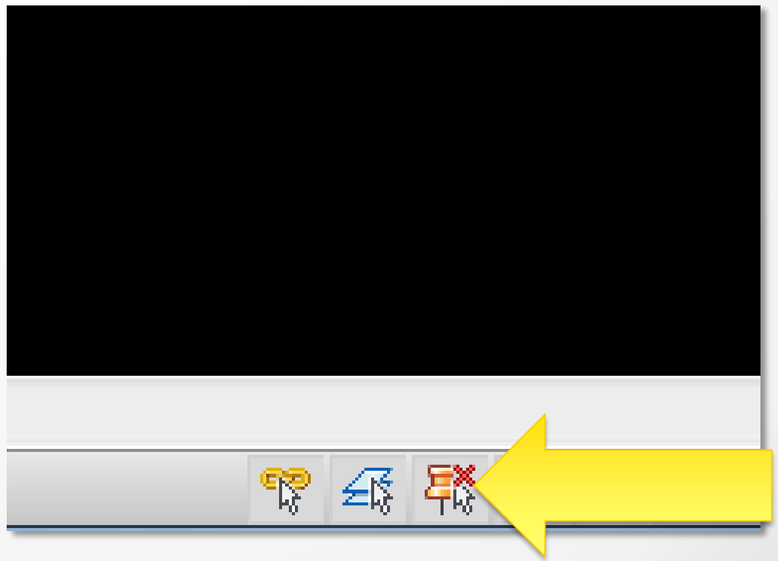


- Click on the “Select Pinned Element” icon



Sample Project - Elec.rvt - Floor Plan: E300 - Diagram - Sheet 1

Type a keyword or phrase

Sign In

Architecture | Systems | Insert | Annotate | Analyze | Collaborate | View | Manage | Add-Ins | Tools4Revit | T4R: Wood Framing | T4R: Smart MEP | CADtools | Arup Tools | Arup Tools BETA | Modify

Modify | Wall | Door | Window | Component | Column | Roof | Ceiling | Floor | Curtain System | Curtain Grid | Mullion | Railing | Ramp | Stair | Model Text | Model Line | Model Group | Room | Room Separator | Tag Room | Area | Area Boundary | Tag Area | By Face | Shaft | Wall | Vertical | Dormer | Level | Grid | Set | Show | Ref Plane | Viewer

Select | Build | Circulation | Model | Room & Area | Opening | Datum | Work Plane

Properties

Floor Plan
Power - Sheet

Floor Plan: E300 - Diagram - Sheet 1 | Edit Type

Graphics	
View Scale	12" = 1'-0"
Scale Value 1:	1
Display Model	Normal
Detail Level	Medium
Parts Visibility	Show Original
Visibility/Graphics Overr...	Edit...
Graphic Display Options	Edit...
Underlay	None
Underlay Orientation	Plan
Orientation	Project North
Wall Join Display	Clean all wall joins
Discipline	Electrical
Color Scheme Location	Background
Color Scheme	<none>
System Color Schemes	Edit...
Default Analysis Display...	None
Visible In Option	all
Sub-Discipline	Power - Sheet Views (sv)
Sun Path	
Identity Data	
View Template	<None>
View Name	E300 - Diagram - Sheet 1
Dependency	Primary

Properties help | Apply

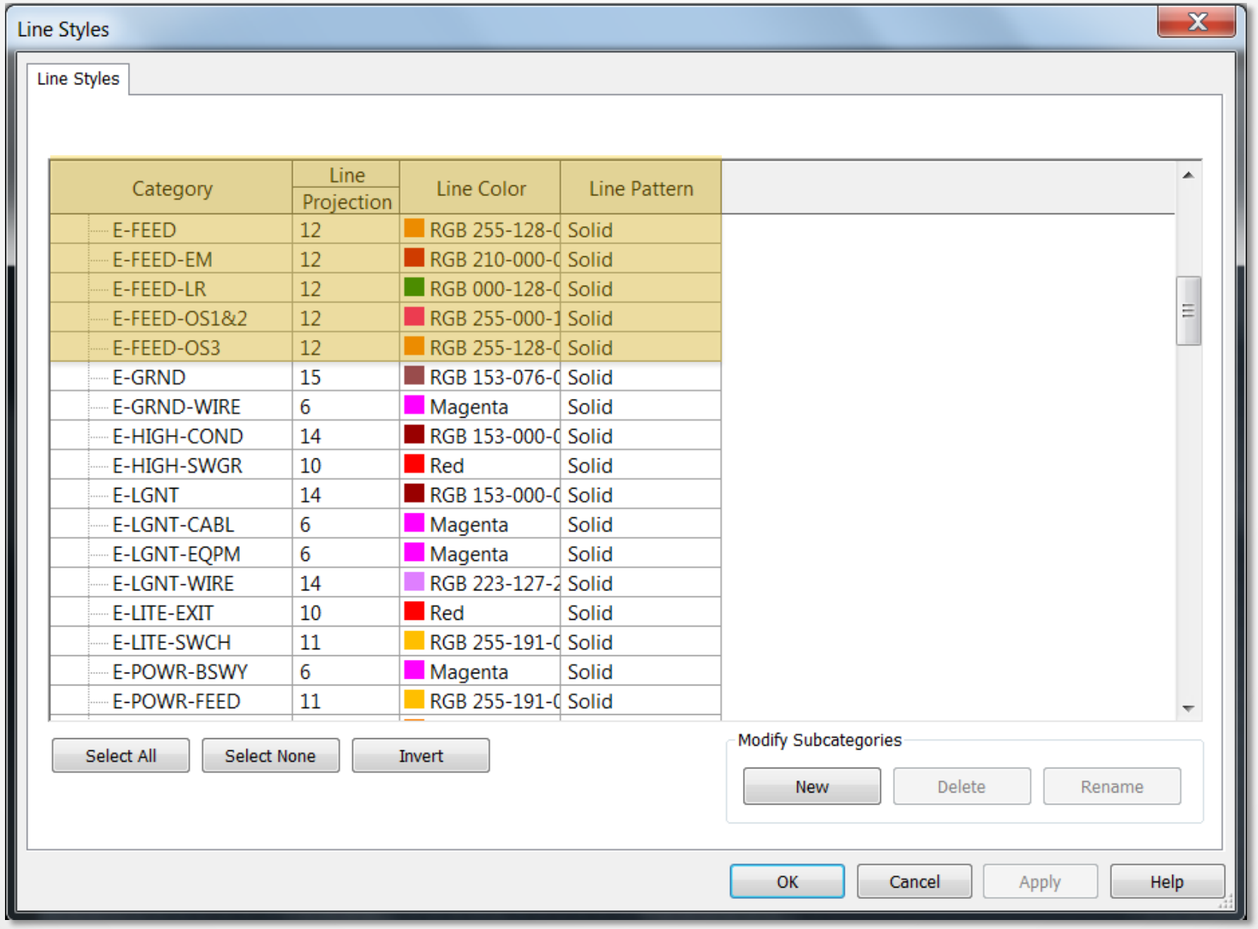
Project Browser - Sample Project - Elec.rvt | Properties

Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

:0 | Main Model | Exclude Options | :0

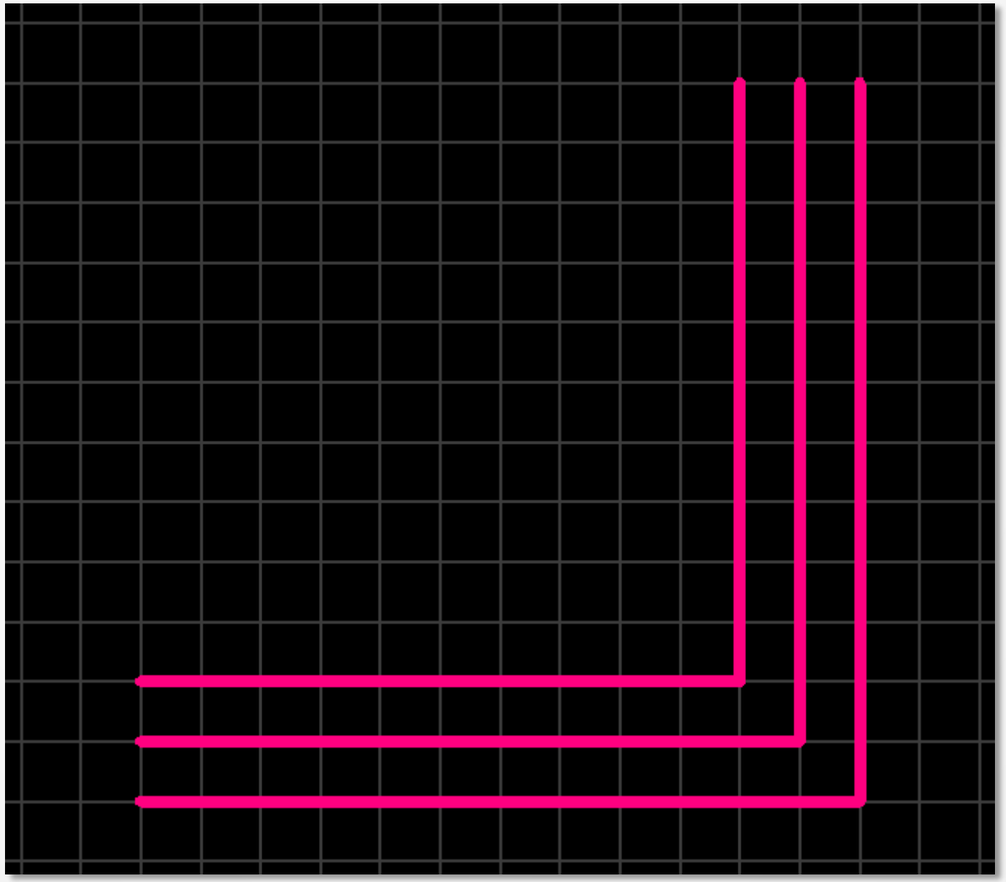
Techniques for Efficient Diagrams in Revit

- Create different line styles for each distribution branch



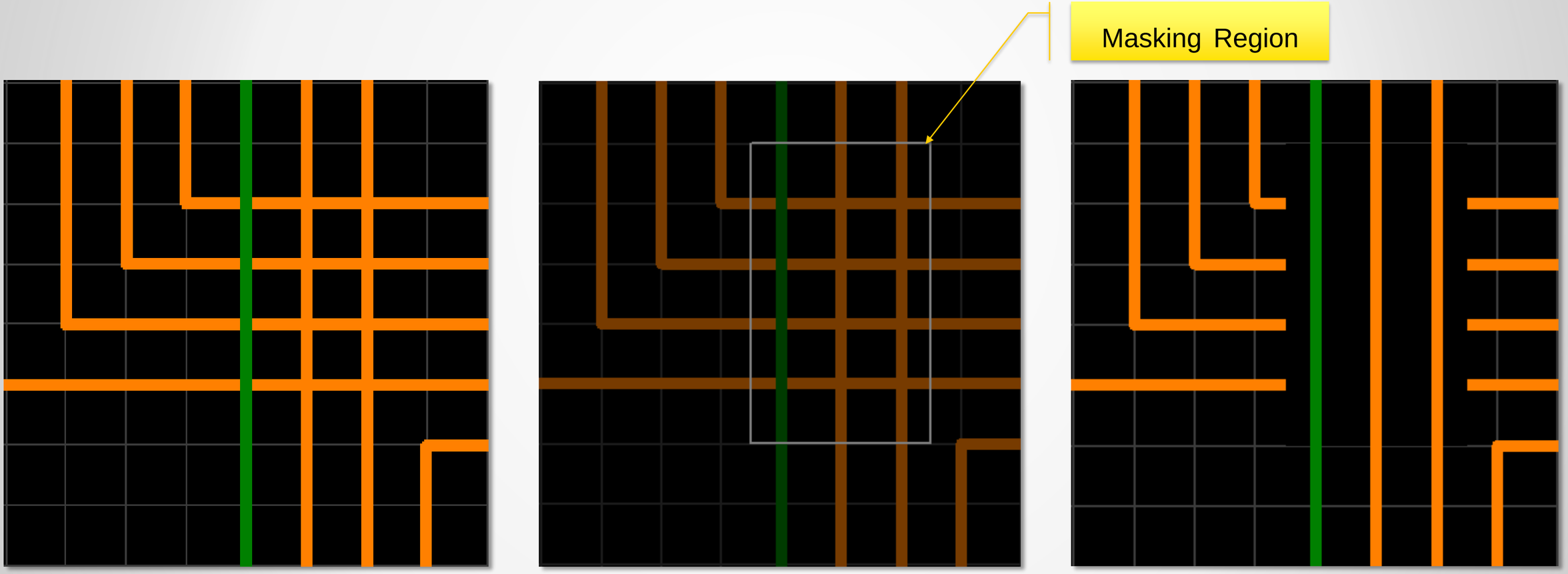
Techniques for Efficient Diagrams in Revit

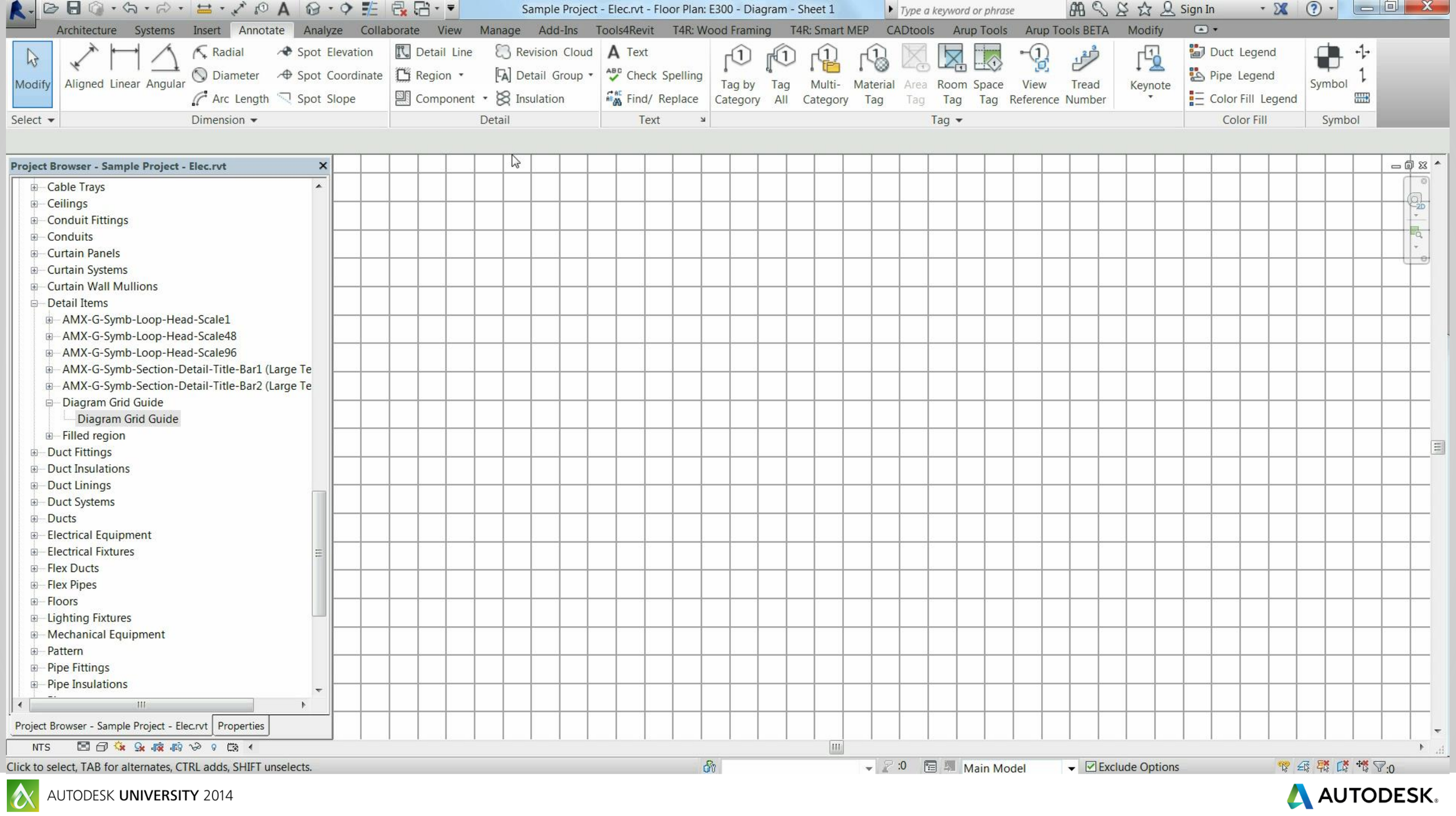
- Utilize the grid guide when drawing detail lines



Techniques for Efficient Diagrams in Revit

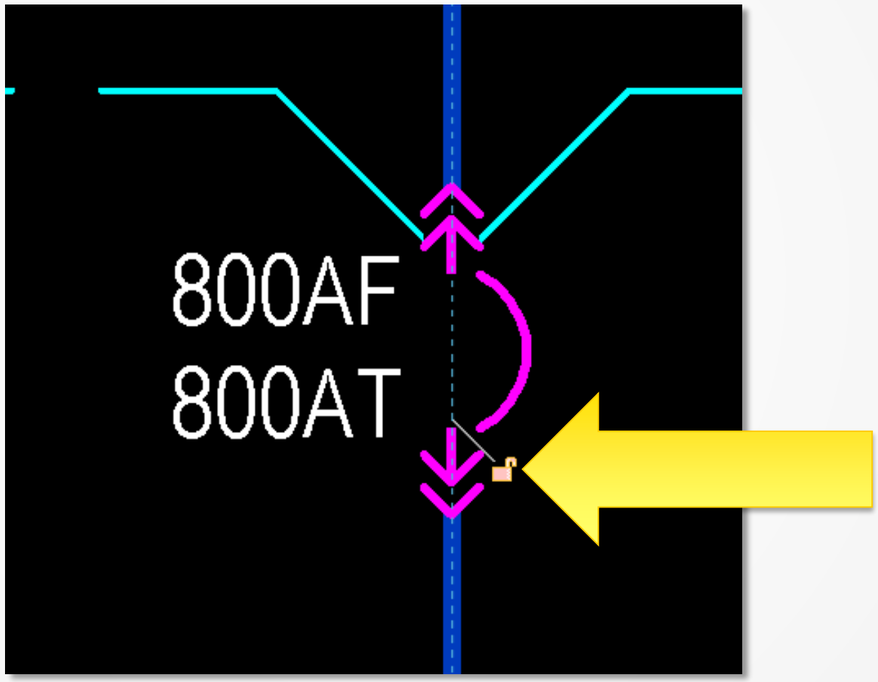
- Use masking region, instead of splitting when lines intersect

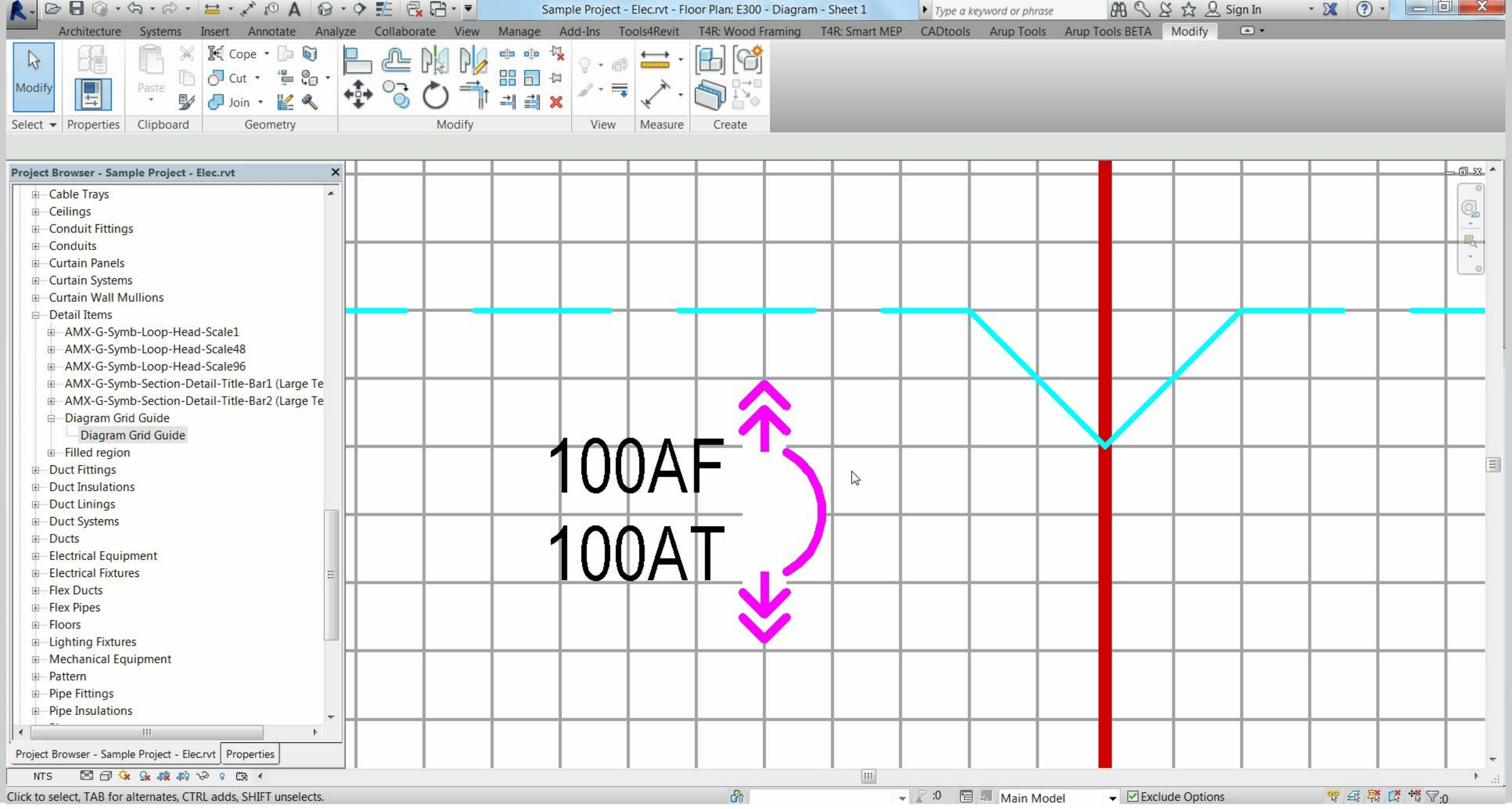



Sample Project - Elec.rvt - Floor Plan: E300 - Diagram - Sheet 1
Type a keyword or phrase
Sign In
Architecture Systems Insert Annotate Analyze Collaborate View Manage Add-Ins Tools4Revit T4R: Wood Framing T4R: Smart MEP CADtools Arup Tools Arup Tools BETA Modify
Modify
Aligned Linear Angular
Radial Diameter Arc Length
Spot Elevation Spot Coordinate Spot Slope
Detail Line Region Component
Revision Cloud Detail Group Insulation
Text Check Spelling Find/ Replace
Tag by Category Tag All Multi-Category Material Tag Area Tag Room Tag Space Tag View Reference Tread Number
Keynote
Duct Legend Pipe Legend Color Fill Legend
Symbol
Select
Dimension
Detail
Text
Tag
Color Fill
Symbol
Project Browser - Sample Project - Elec.rvt
Cable Trays
Ceilings
Conduit Fittings
Conduits
Curtain Panels
Curtain Systems
Curtain Wall Mullions
Detail Items
AMX-G-Symb-Loop-Head-Scale1
AMX-G-Symb-Loop-Head-Scale48
AMX-G-Symb-Loop-Head-Scale96
AMX-G-Symb-Section-Detail-Title-Bar1 (Large Te
AMX-G-Symb-Section-Detail-Title-Bar2 (Large Te
Diagram Grid Guide
Diagram Grid Guide
Filled region
Duct Fittings
Duct Insulations
Duct Linings
Duct Systems
Ducts
Electrical Equipment
Electrical Fixtures
Flex Ducts
Flex Pipes
Floors
Lighting Fixtures
Mechanical Equipment
Pattern
Pipe Fittings
Pipe Insulations
Project Browser - Sample Project - Elec.rvt
Properties
NTS
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Main Model
Exclude Options

Techniques for Efficient Diagrams in Revit

- Lock generic annotations (symbols) onto the detail lines




Sample Project - Elec.rvt - Floor Plan: E300 - Diagram - Sheet 1
Type a keyword or phrase
Sign In
Architecture
Systems
Insert
Annotate
Analyze
Collaborate
View
Manage
Add-Ins
Tools4Revit
T4R: Wood Framing
T4R: Smart MEP
CADtools
Arup Tools
Arup Tools BETA
Modify
Modify
Cope
Cut
Join
Paste
Select
Properties
Clipboard
Geometry
Modify
View
Measure
Create
Project Browser - Sample Project - Elec.rvt
Cable Trays
Ceilings
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Detail Items
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AMX-G-Symb-Section-Detail-Title-Bar1 (Large Te
AMX-G-Symb-Section-Detail-Title-Bar2 (Large Te
Diagram Grid Guide
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Filled region
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Duct Insulations
Duct Linings
Duct Systems
Ducts
Electrical Equipment
Electrical Fixtures
Flex Ducts
Flex Pipes
Floors
Lighting Fixtures
Mechanical Equipment
Pattern
Pipe Fittings
Pipe Insulations
100AF
100AT
Project Browser - Sample Project - Elec.rvt
Properties
NTS
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.
Main Model
Exclude Options

Techniques for Efficient Diagrams in Revit

- Turn off the grid guide through visibility graphics before you print

Efficient 2D Symbols and Modeled Families

Efficient 2D Symbols and Modeled Families

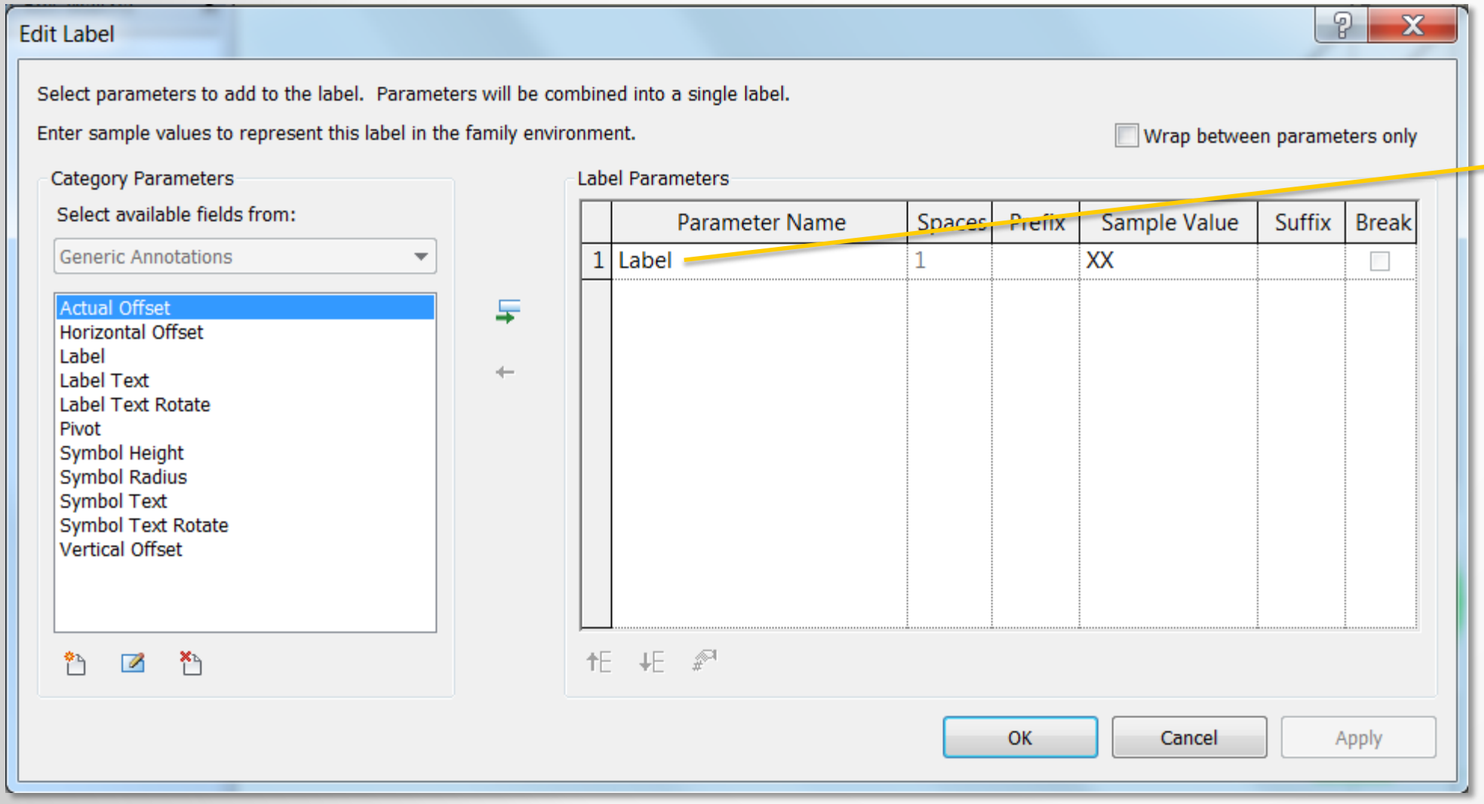
Plan ahead and develop a strategy prior to creating families and consider the following:

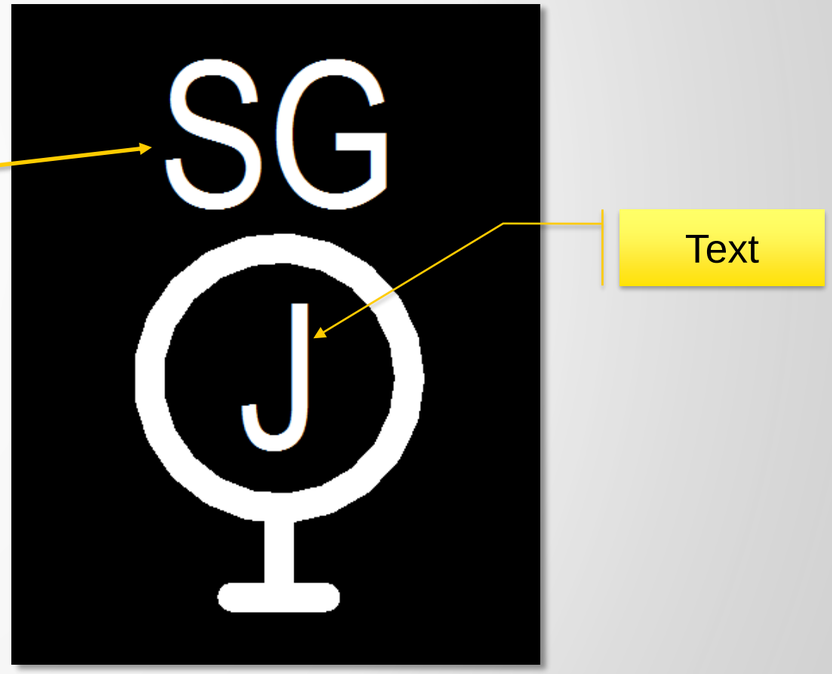
- Naming Standards
- Visibility
- Text
- Label
- Shared Parameters
- Formulas
- Type or Instance
- and many more…

Efficient 2D Symbols and Modeled Families

2D Generic Annotation Families

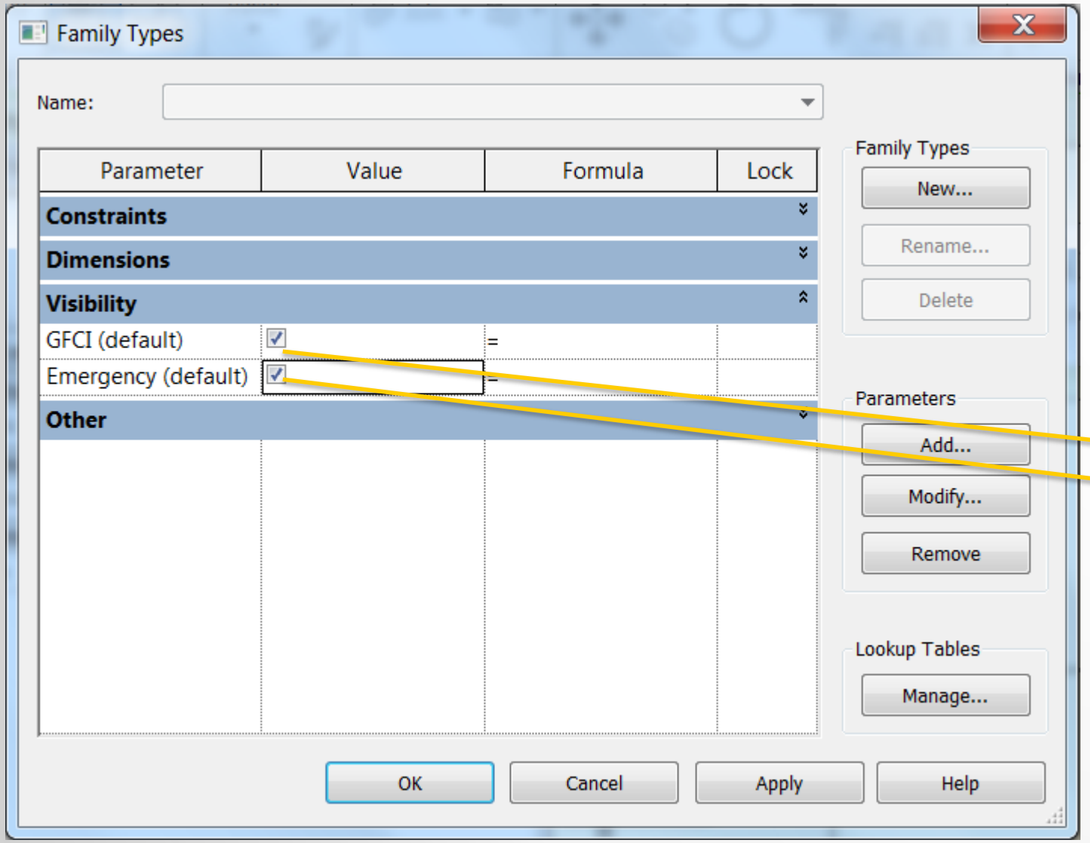
- Create all the labels and text as needed

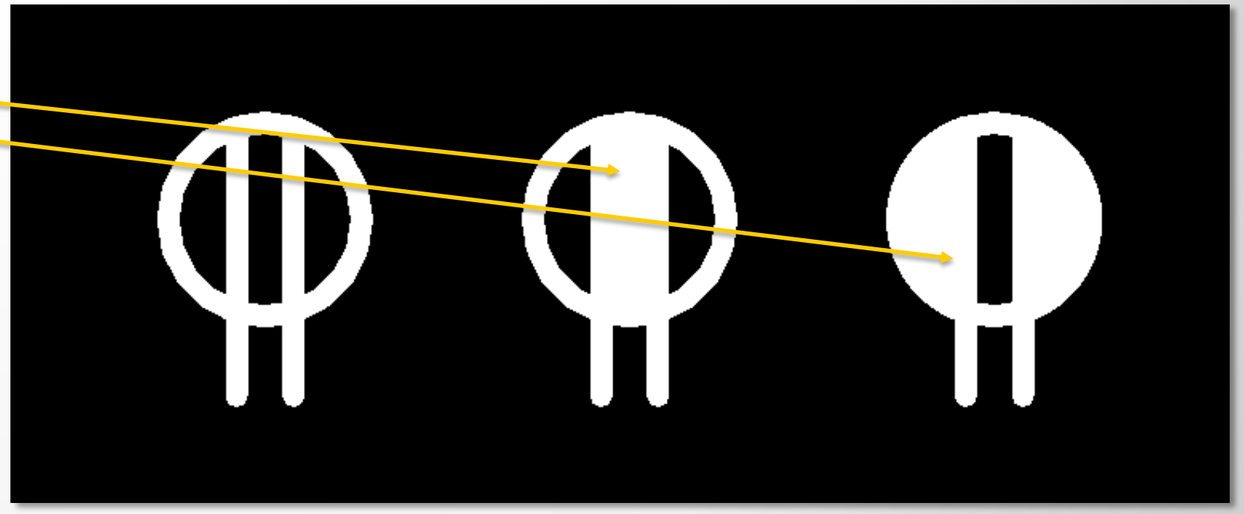




Efficient 2D Symbols and Modeled Families

- Visibility using a Yes/No Parameter

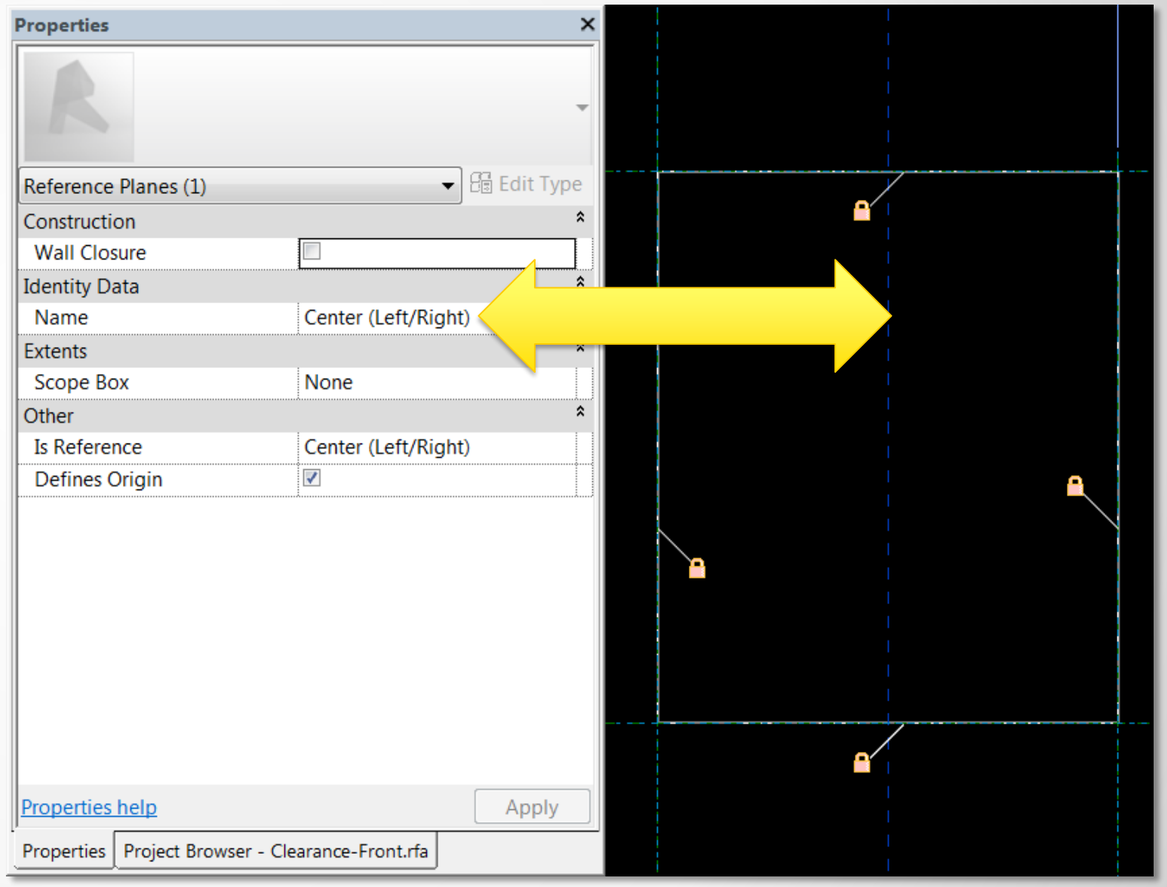




Efficient 2D Symbols and Modeled Families

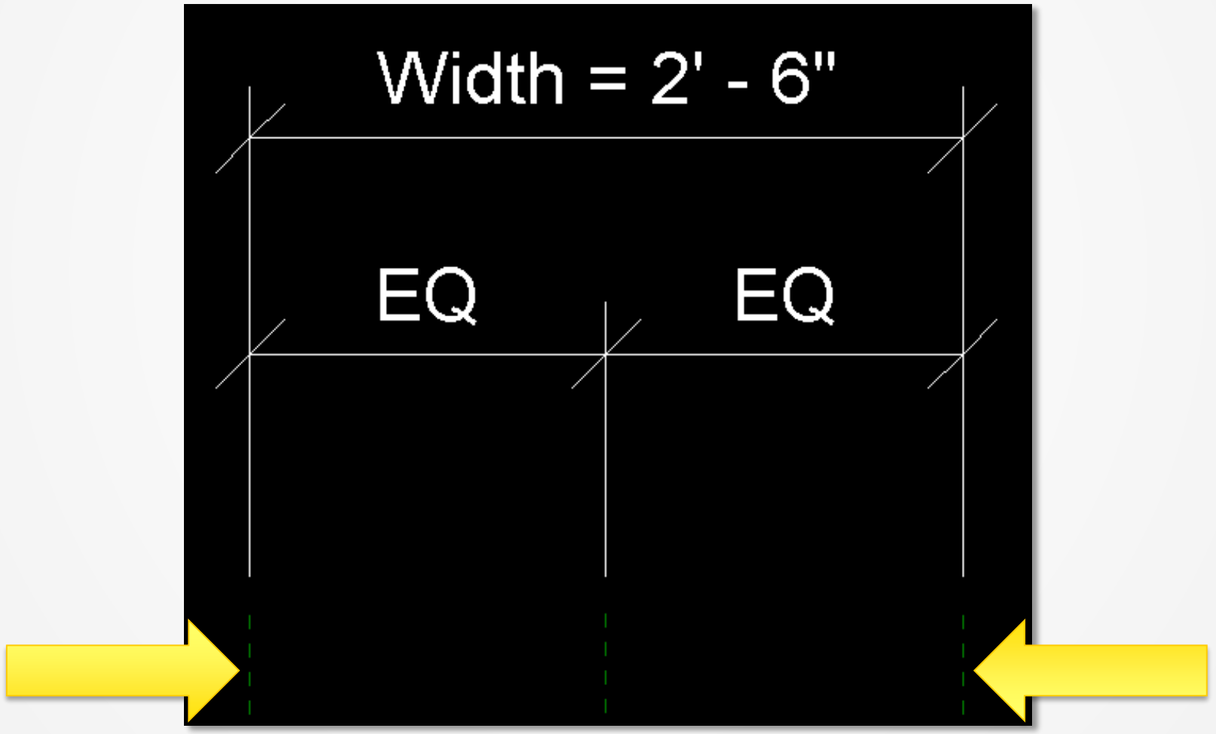
For Modeled Families

- Give your Reference Planes/Lines descriptive names



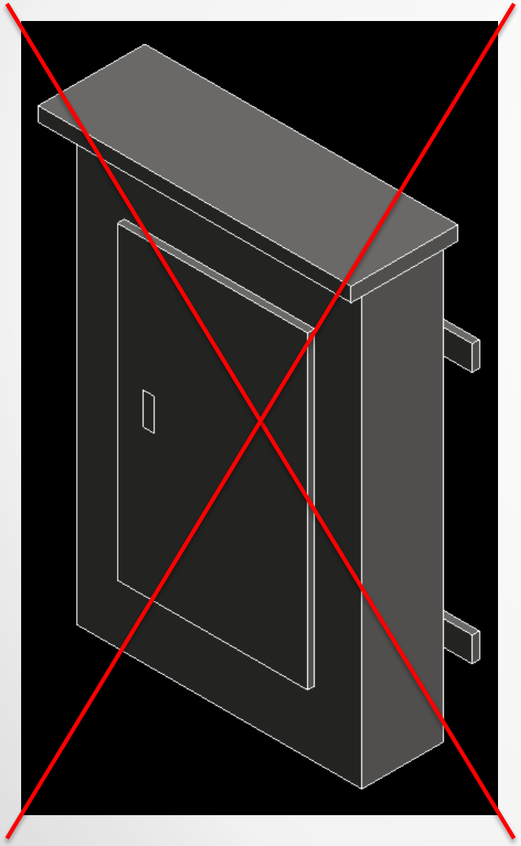
Efficient 2D Symbols and Modeled Families

- Set dimensions to reference planes or reference lines

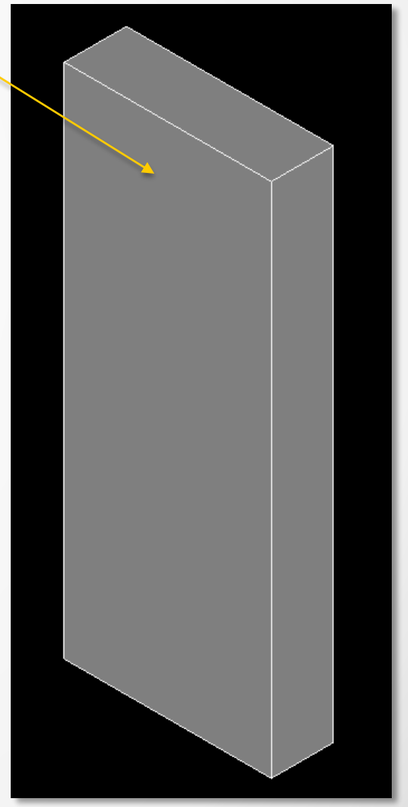


Efficient 2D Symbols and Modeled Families

- Keep the 3D Modeling simple

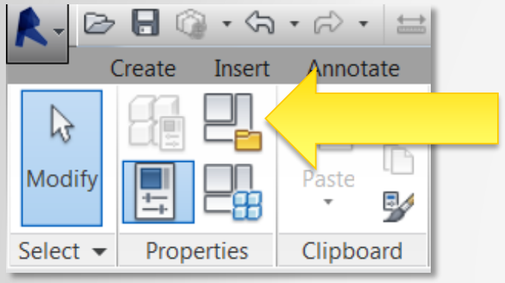


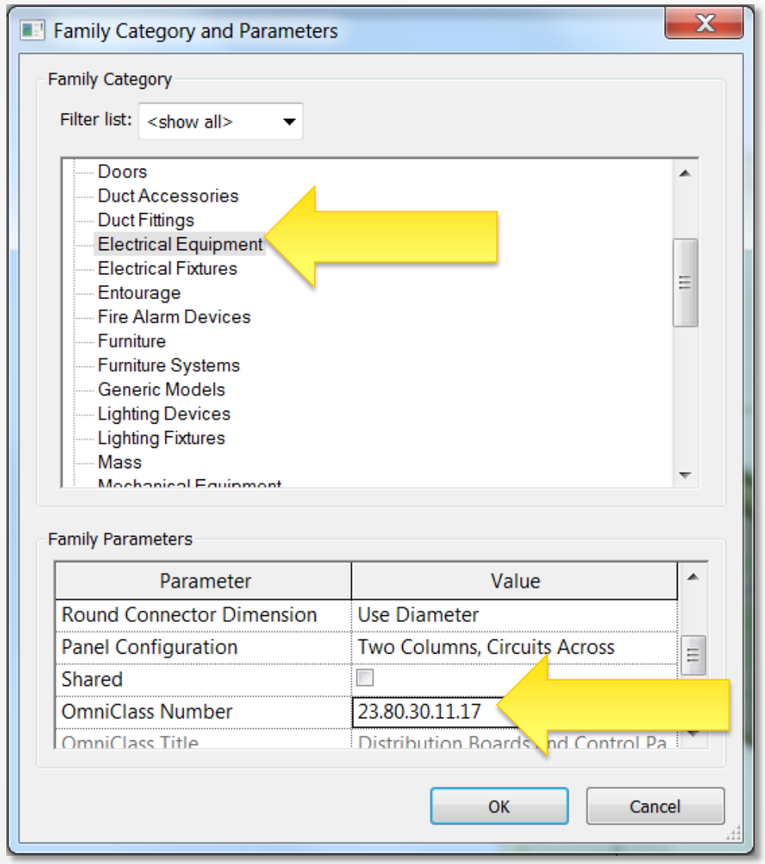
Panelboard shown in its overall dimension without the panel cover, mounting bracket, etc

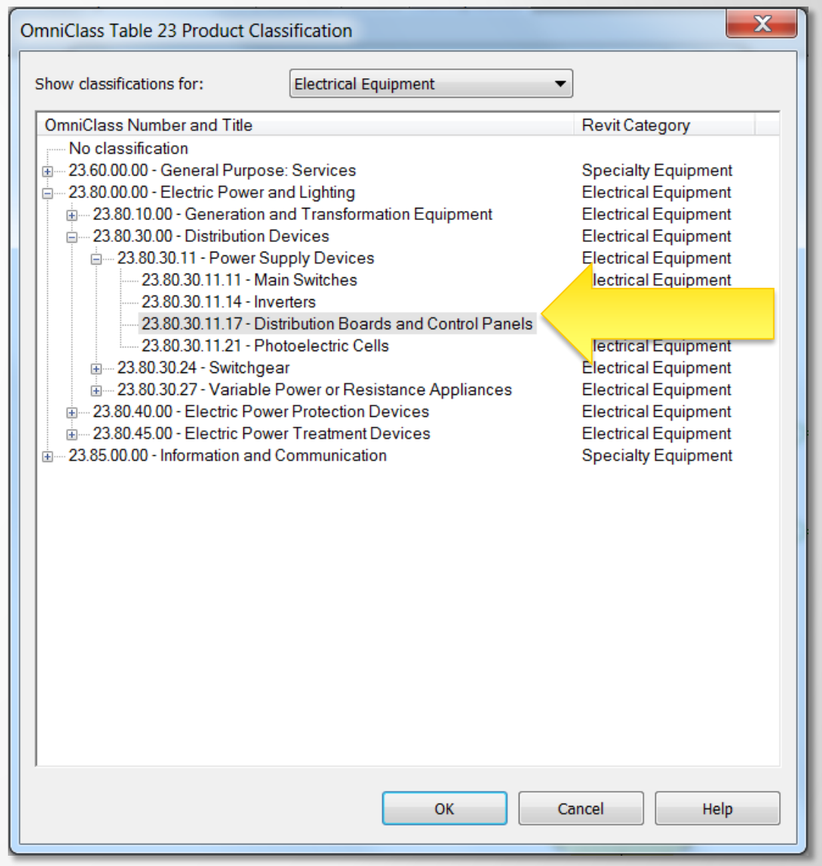


Efficient 2D Symbols and Modeled Families

- Family Category, Parameters and Omni Class Number

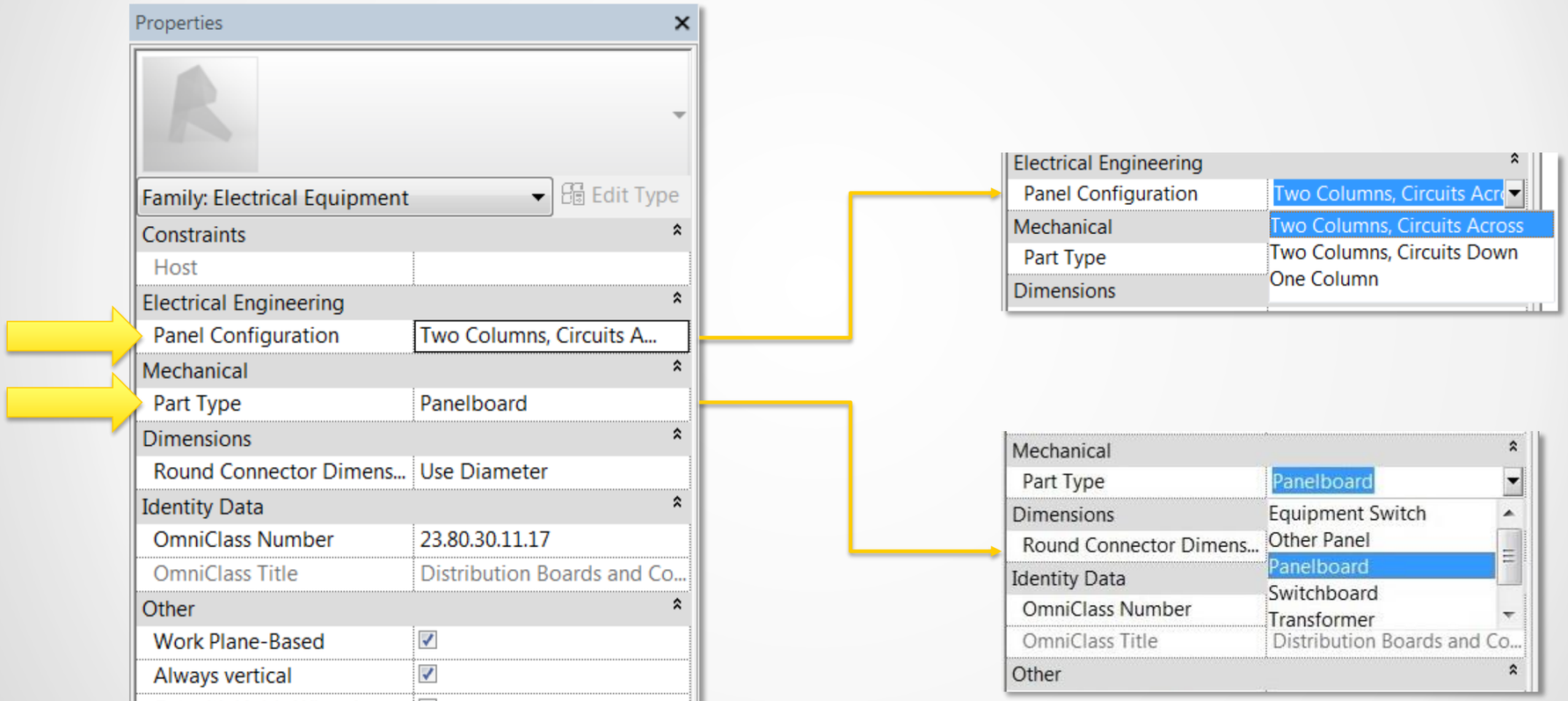






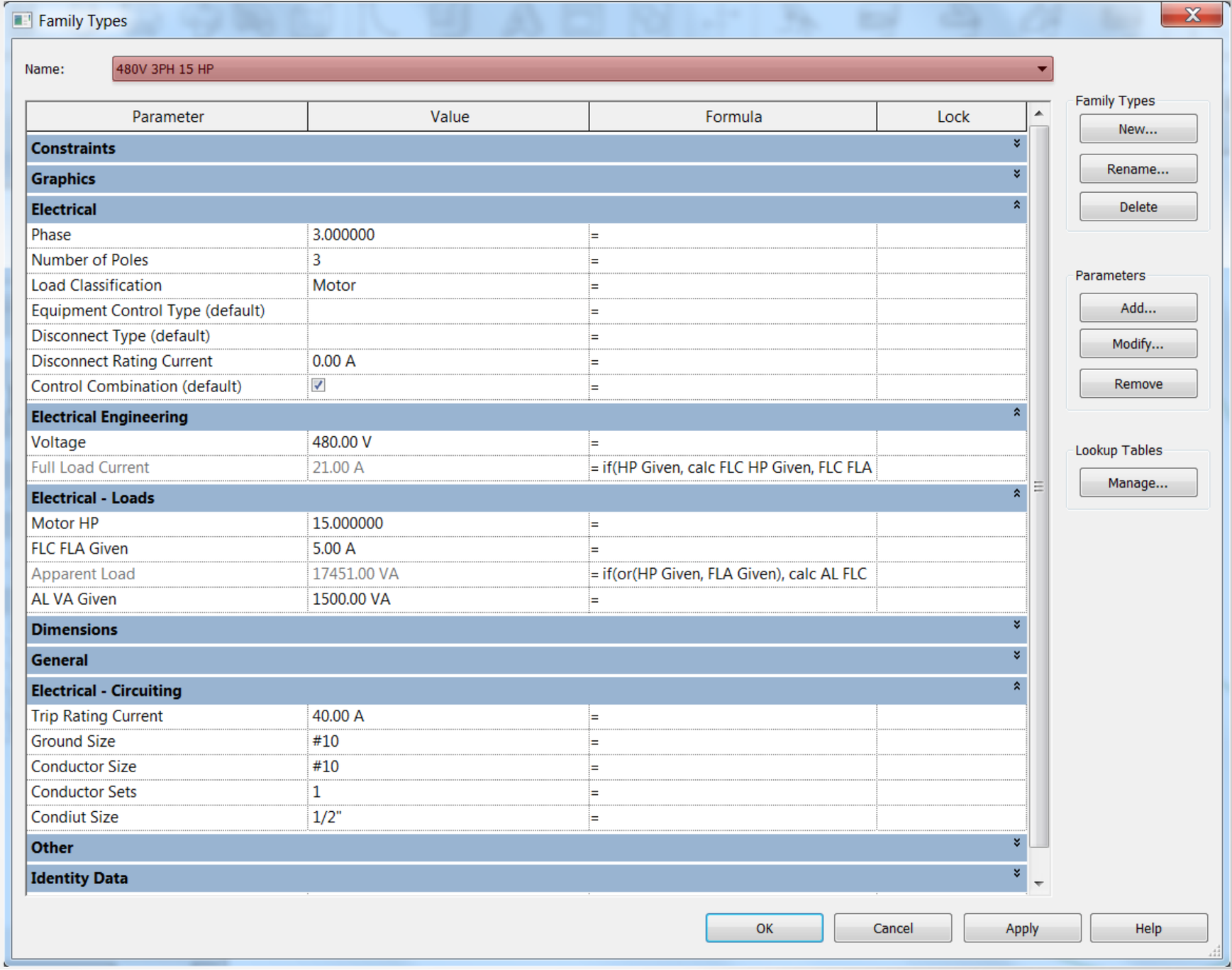
Efficient 2D Symbols and Modeled Families

- Part Type and Panel Configuration



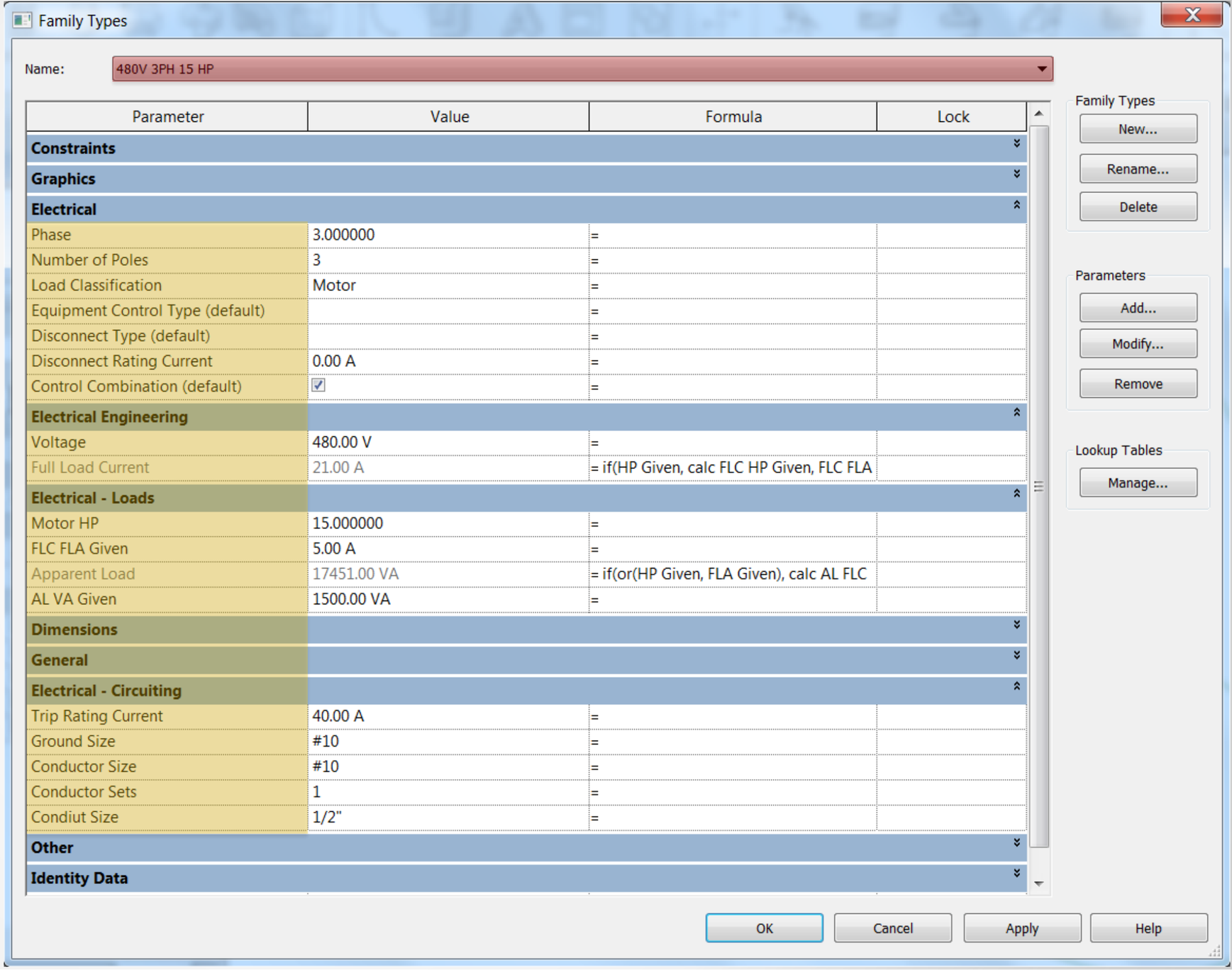
Efficient 2D Symbols and Modeled Families

- Family Types



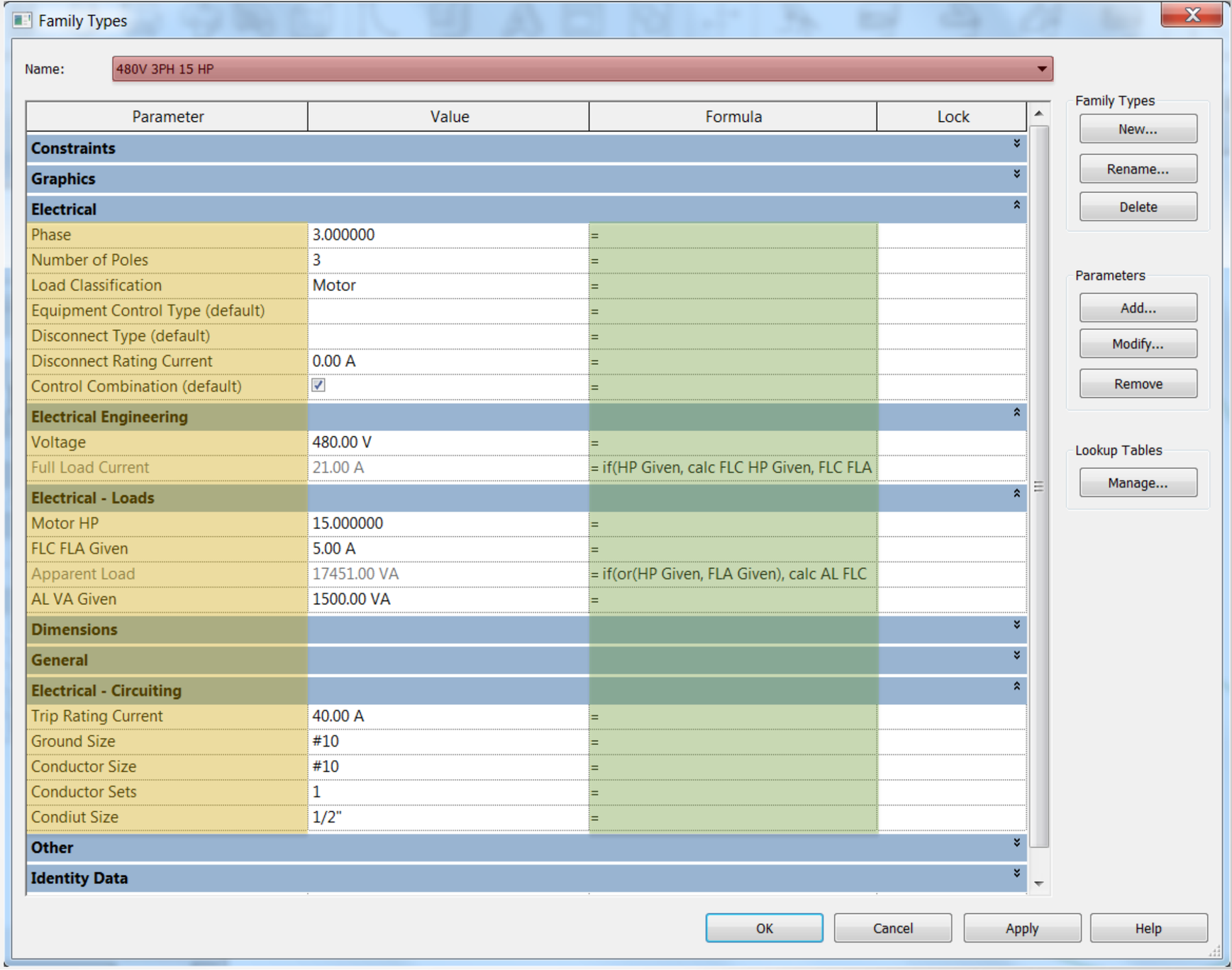
Efficient 2D Symbols and Modeled Families

- Family Types
- Parameters



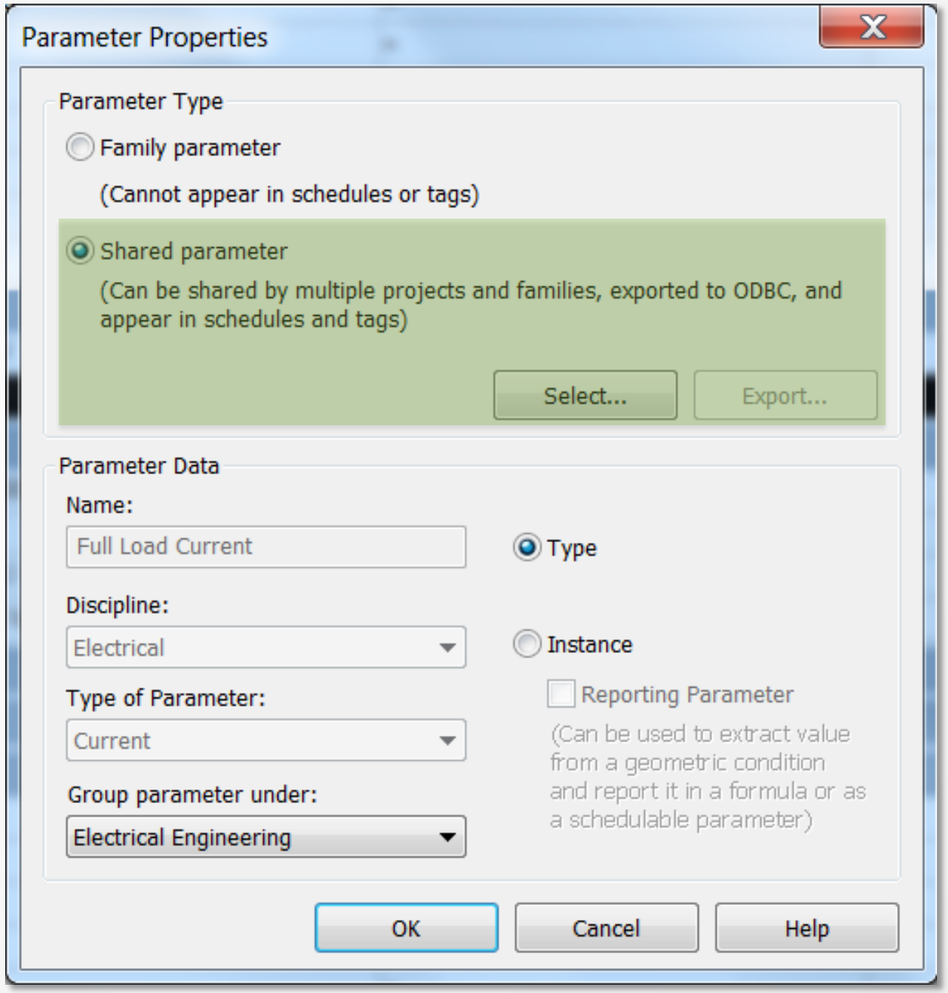
Efficient 2D Symbols and Modeled Families

- Family Types
- Parameters
- Formulas



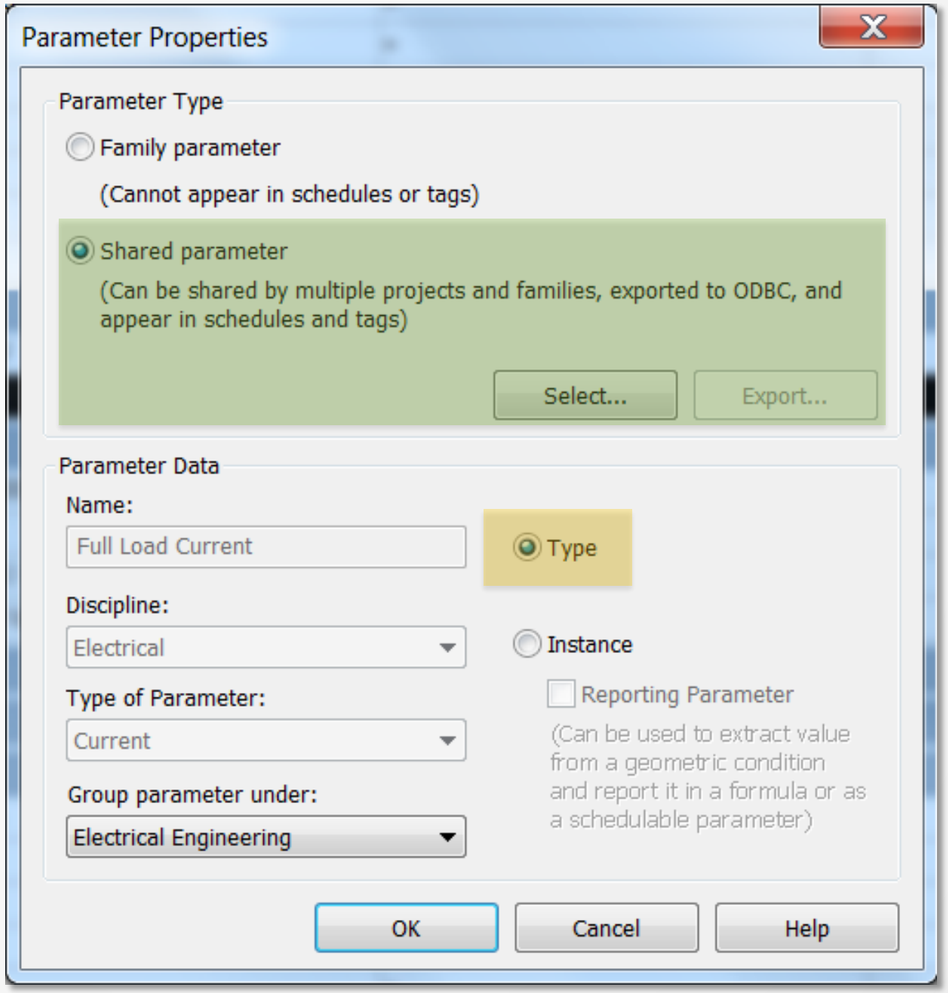
Efficient 2D Symbols and Modeled Families

- Scheduling



Efficient 2D Symbols and Modeled Families

- Scheduling
- Type



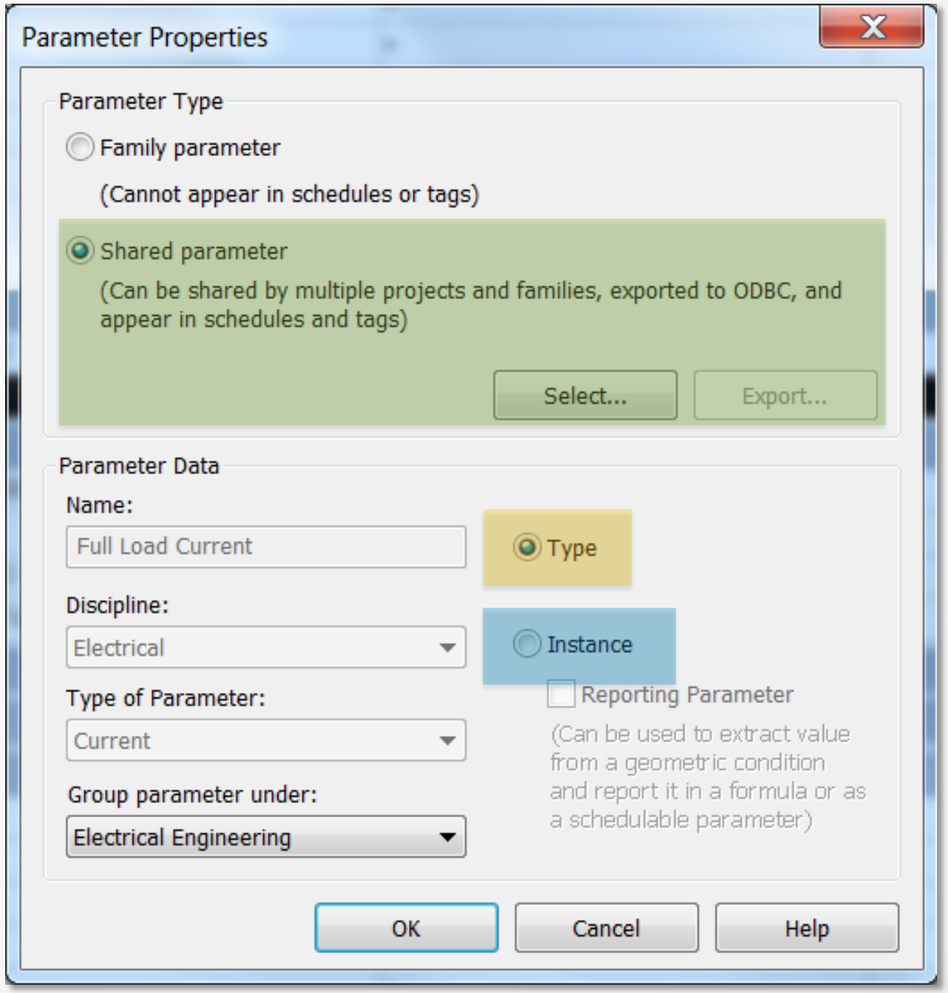
Efficient 2D Symbols and Modeled Families

- Scheduling

- Type

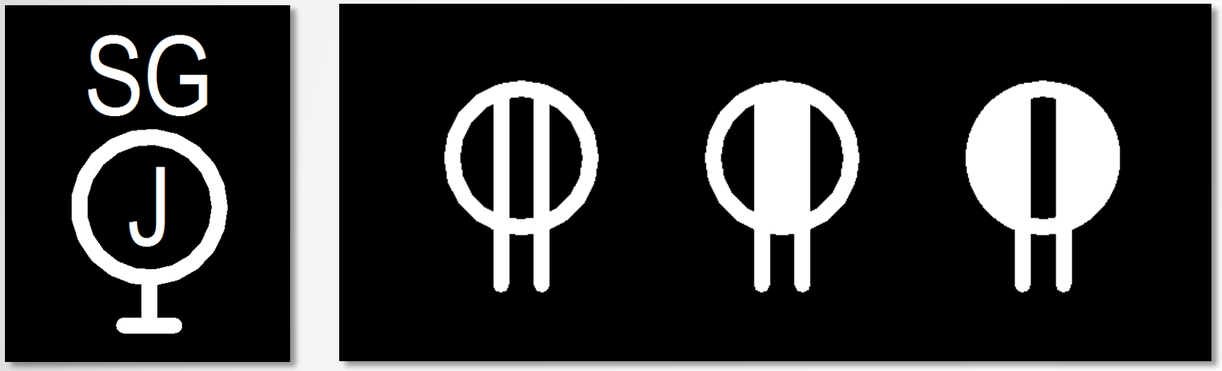
or

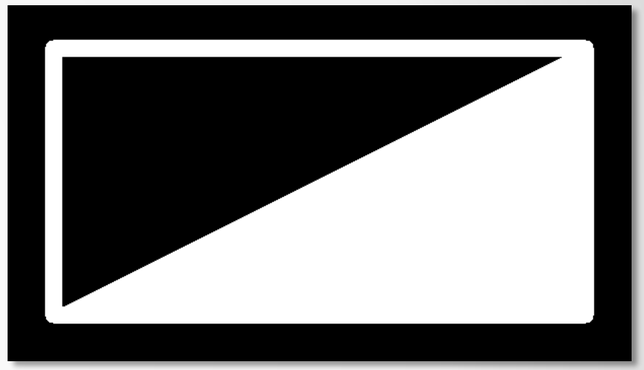
- Instance



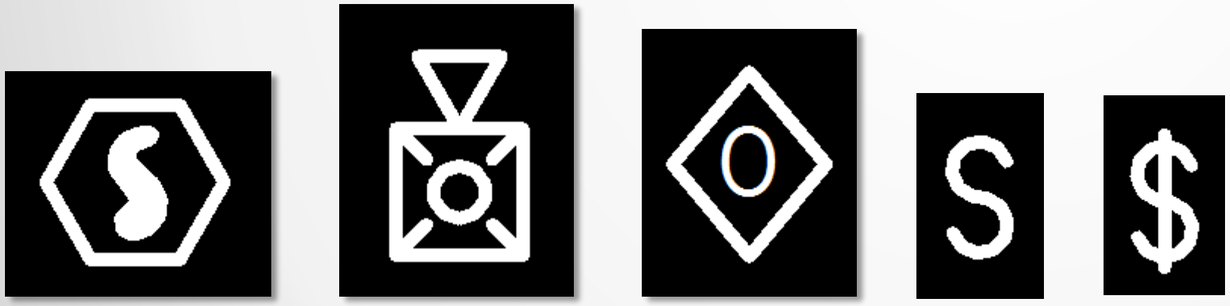
Efficient 2D Symbols and Modeled Families

- Annotation Symbols or Detail Items





DETAIL ITEM



ANNOTATION SYMBOLS

Efficient 2D Symbols and Modeled Families

- Annotation Symbols or Detail Items
  - Nest the Annotation Symbol/Detail Item families

Efficient 2D Symbols and Modeled Families

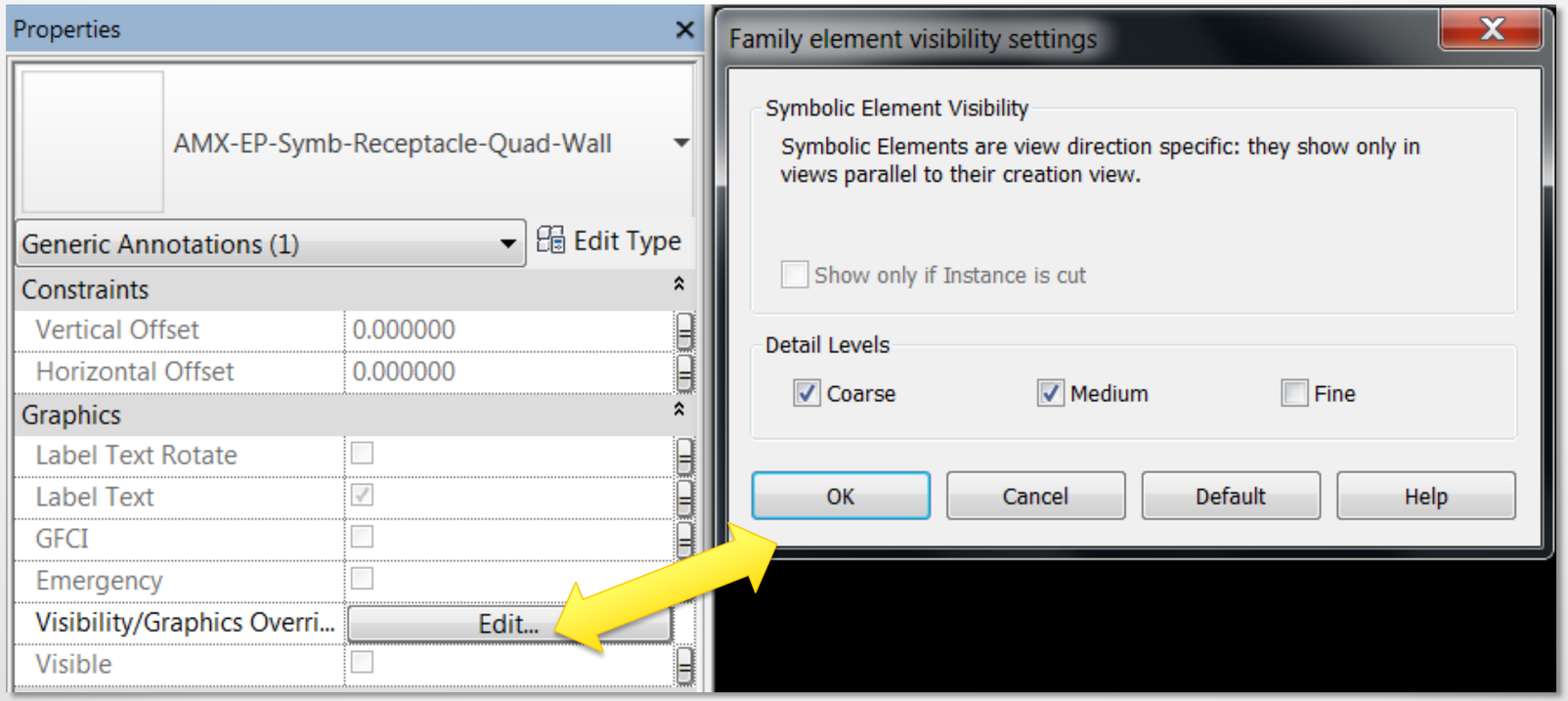
- Annotation Symbols or Detail Items
  - Nest the Annotation Symbol/Detail Item families
  - Make sure Symbols are per your firms standards

Efficient 2D Symbols and Modeled Families

- Annotation Symbols or Detail Items
  - Nest the Annotation Symbol/Detail Item families
  - Make sure Symbols are per your firms standards
  - Determine if the Symbol(s) requires a Visibility option to display the Symbol or not and set the visibility correctly with a Yes/No Parameter

Efficient 2D Symbols and Modeled Families

- Annotation Symbols or Detail Items
  - Set the Symbol(s) “Visibility/Graphics Overrides” to show only in Coarse and Medium Detail Level



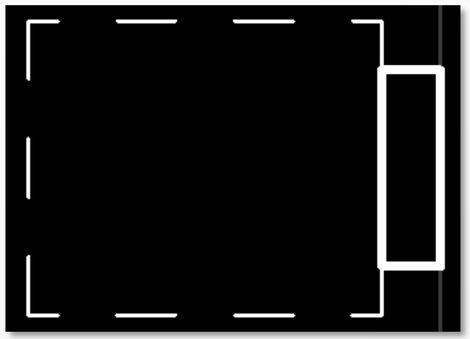
Efficient 2D Symbols and Modeled Families

- Clearance

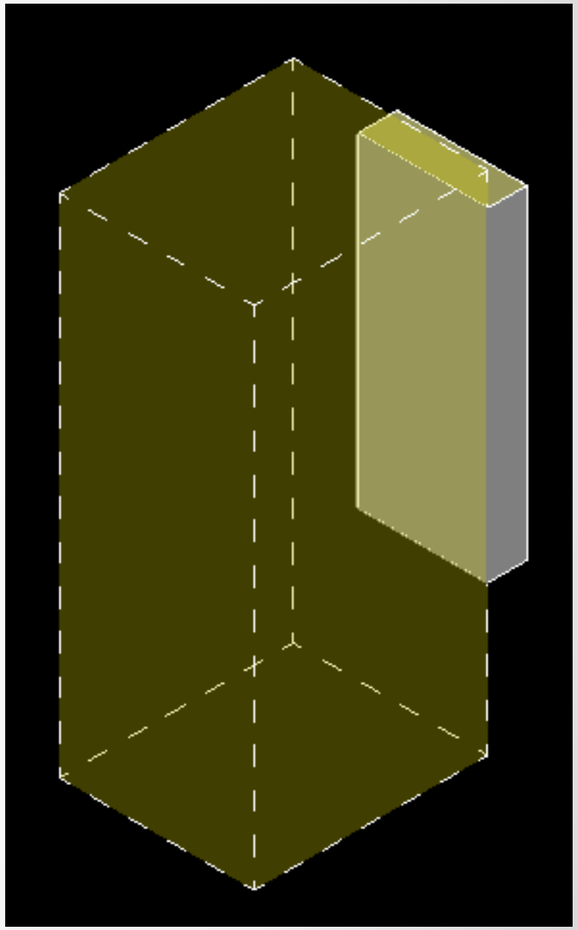
Constraints	
Working Space Condition 3 (default)	☑
Working Space Condition 2 (default)	☐
Working Space Condition 1 (default)	☐
Elevation (default)	4' 0"
Clearance Top Length (default)	6' 0"
Clearance Front Width (default)	2' 6"
Clearance Front Length (default)	3' 0"
Clearance Front Height (default)	6' 6"
Construction	
Materials and Finishes	
Electrical	
Number of Poles	3
Nominal Voltage to Ground	120.00 V
Load Classification	Other
Electrical Equipment Voltage	208.00 V

30” MINIMUN WIDTH

6’-6” MINIMUM HEIGHT



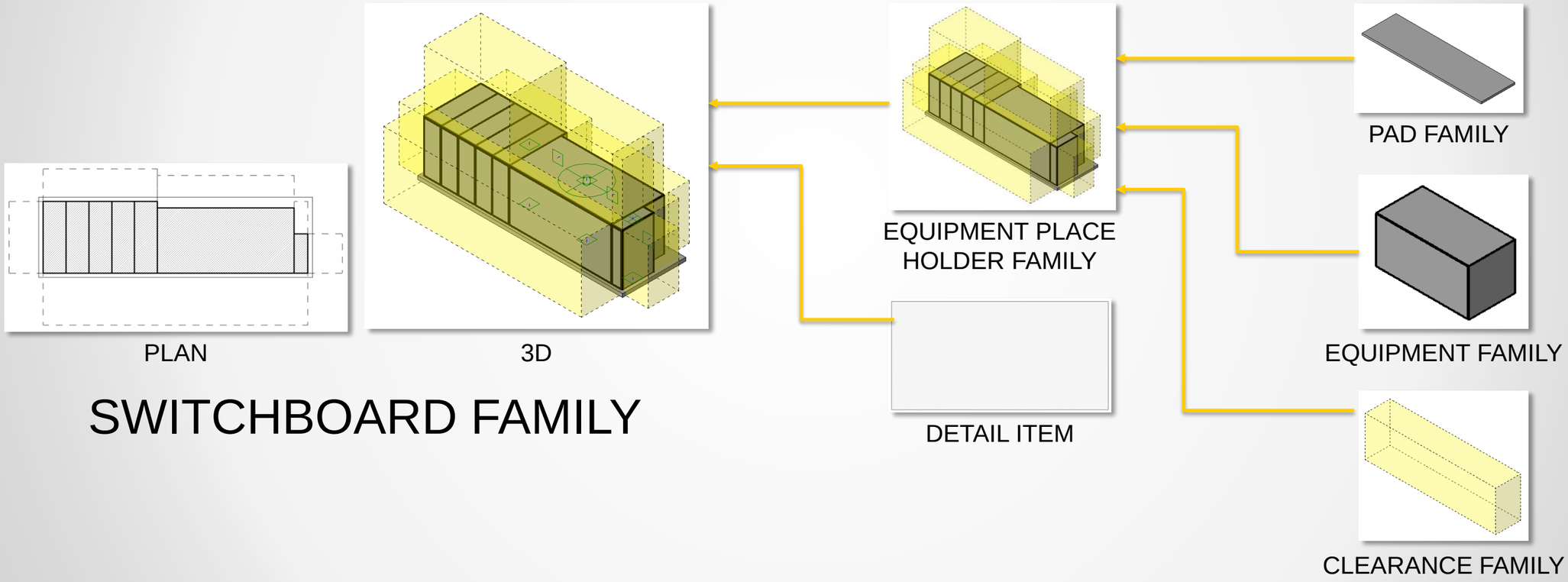
PLAN



3D

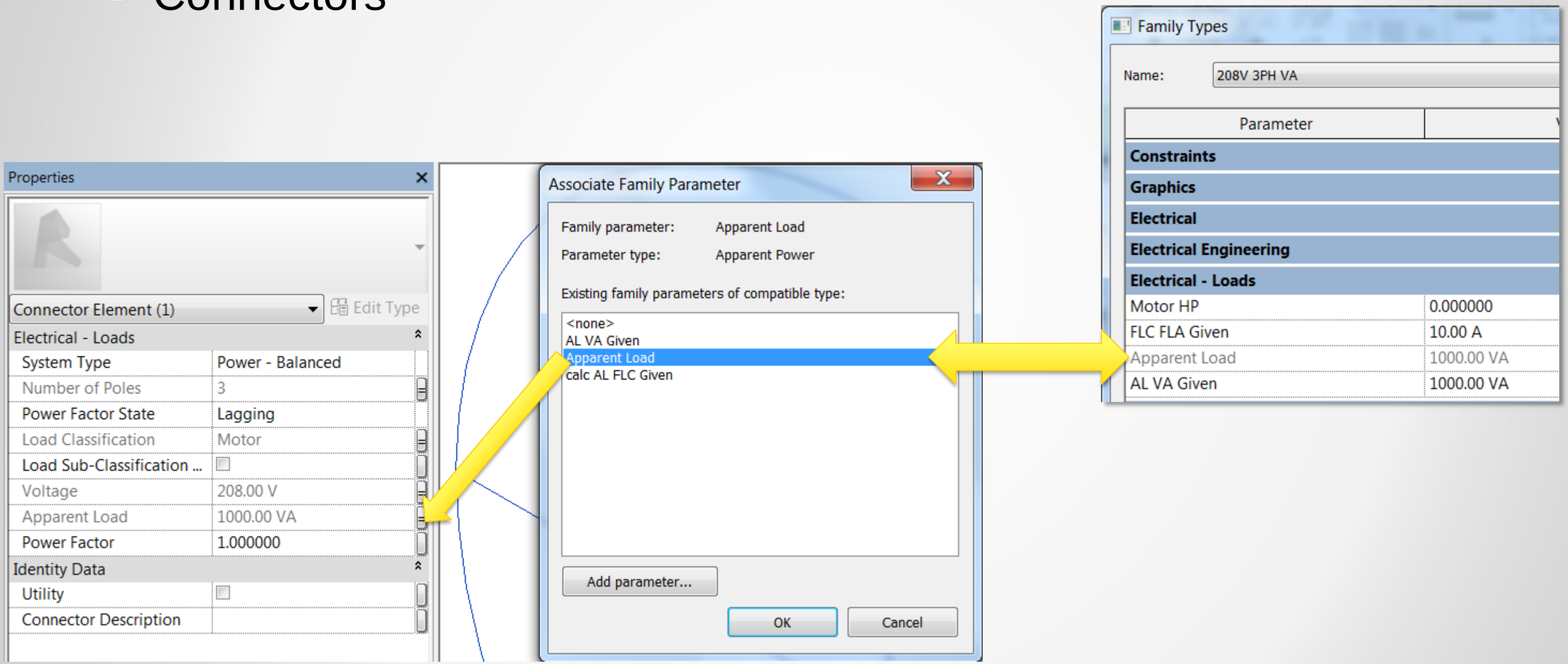
Efficient 2D Symbols and Modeled Families

- Nest the different components of the family



Efficient 2D Symbols and Modeled Families

- Connectors



Efficient 2D Symbols and Modeled Families

- Test your family

Autodesk Revit 2014 - Project1

Architecture | Systems | Insert | Annotate | Analyze | Collaborate | View | Manage | Add-Ins | Tools4Revit | T4R: Wood Framing | T4R: Smart MEP | CADtools | Arup Tools | Arup Tools BETA | Modify

Modify | View Templates | Visibility/ Graphics | Filters | Thin Lines | Show Hidden Lines | Remove Hidden Lines | Cut Profile | Render | Render in Cloud | Render Gallery | 3D View | Section | Callout | Plan Views | Elevation | Drafting View | Duplicate View | Legends | Schedules | Scope Box | Sheet | View | Title Block | Revisions | Guide Grid | Matchline | View Reference | Viewports | Switch Windows | Close Hidden | User Interface

Select | Graphics | Create | Sheet Composition | Windows

Properties

Floor Plan

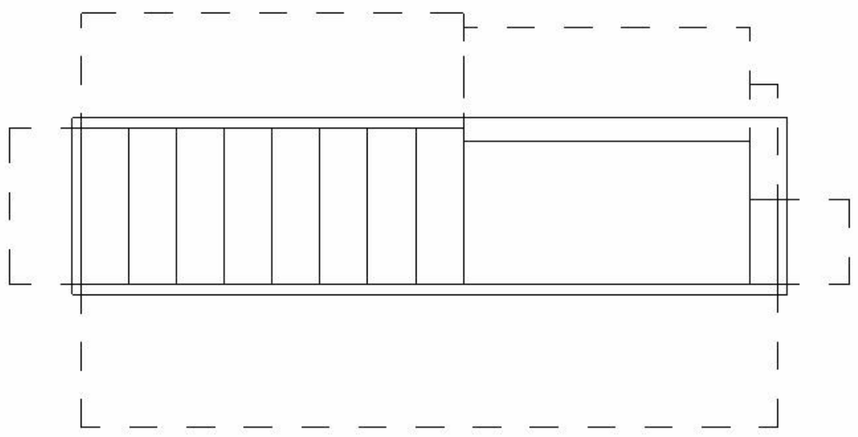
Floor Plan: Level 1 | Edit Type

View Scale	1/8" = 1'-0"
Scale Value 1:	96
Display Model	Normal
Detail Level	Medium
Parts Visibility	Show Original
Visibility/Graphics Overrid...	Edit...
Graphic Display Options	Edit...
Underlay	None
Underlay Orientation	Plan
Orientation	Project North
Wall Join Display	Clean all wall joins
Discipline	Electrical
Color Scheme Location	Background
Color Scheme	<none>
System Color Schemes	Edit...
Default Analysis Display S...	None
Sun Path	
Identity Data	
View Template	<None>
View Name	Level 1
Dependency	Independent
Title on Sheet	
Referencing Sheet	

Properties help | Apply

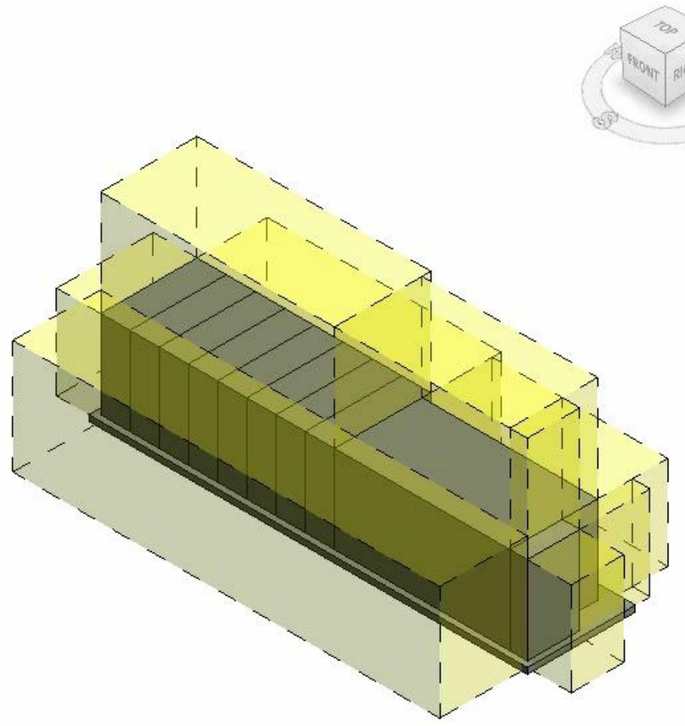
Project Browser - Project1 | Properties

Floor Plan: Level 1 - Project1



1/8" = 1'-0"

3D View: {3D} - Project1



1/8" = 1'-0"

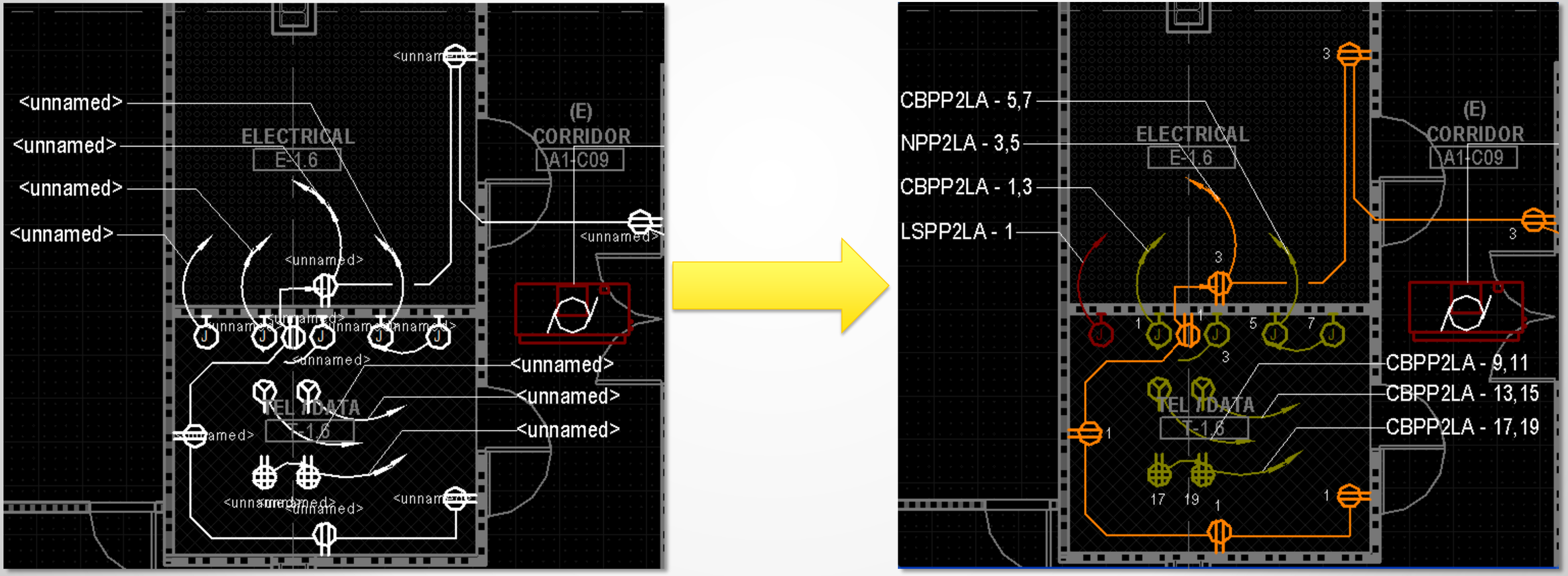
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

Main Model

Using Filters for Electrical Distribution Branch

Using Filters for Electrical Distribution Branch

Filters can be used to enhance readability of working drawings



Using Filters for Electrical Distribution Branch

Distribution Branches Non Hospital

- Normal = N
- Emergency = E
- Standby = SB
- Legally Required = LR

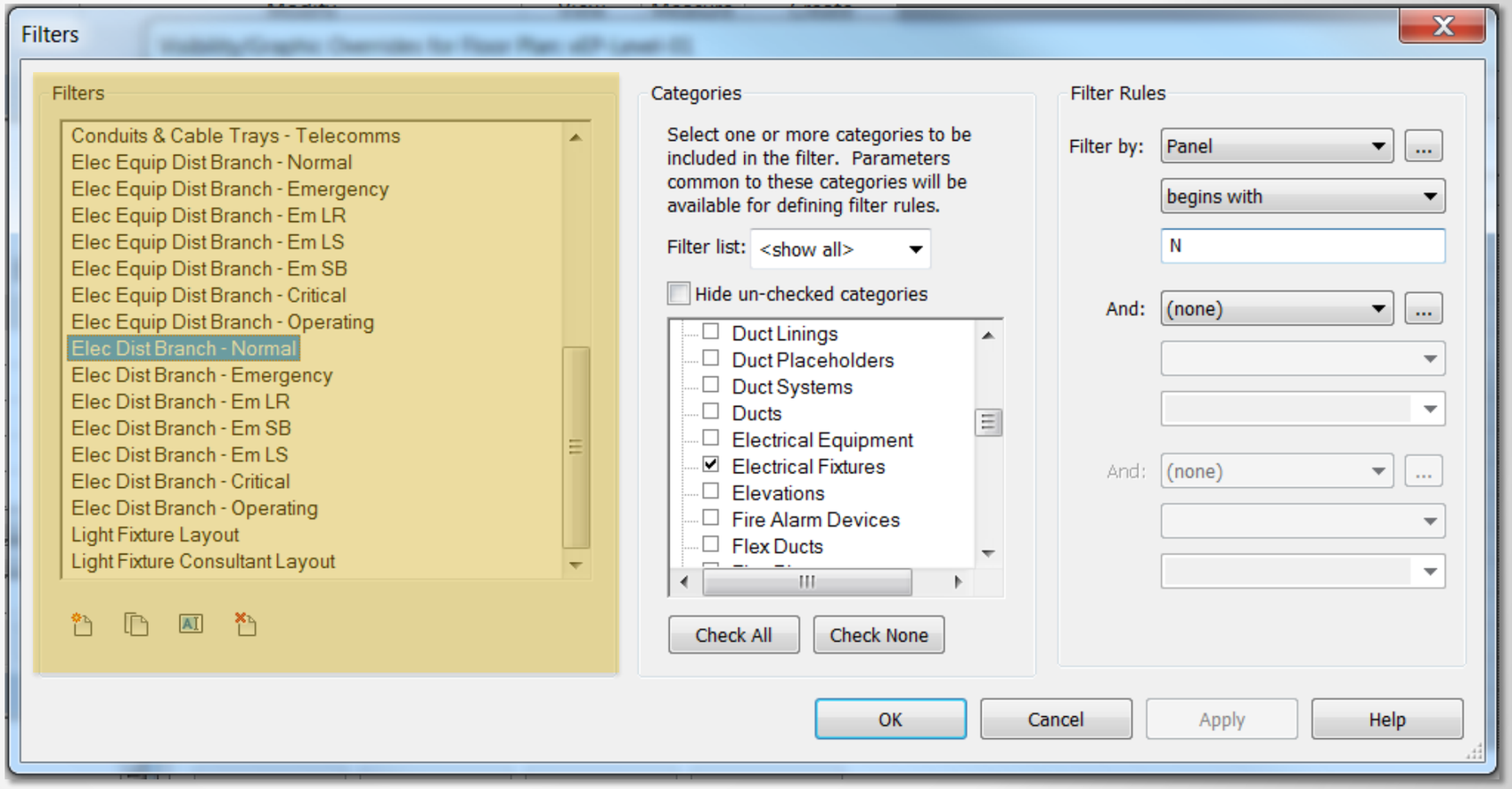
Distribution Branches Hospital (per OSHPD in California)

- Normal = N
- Critical = CR
- Life Safety = LS
- Standby = SB
- Equipment = Q

Using Filters for Electrical Distribution Branch

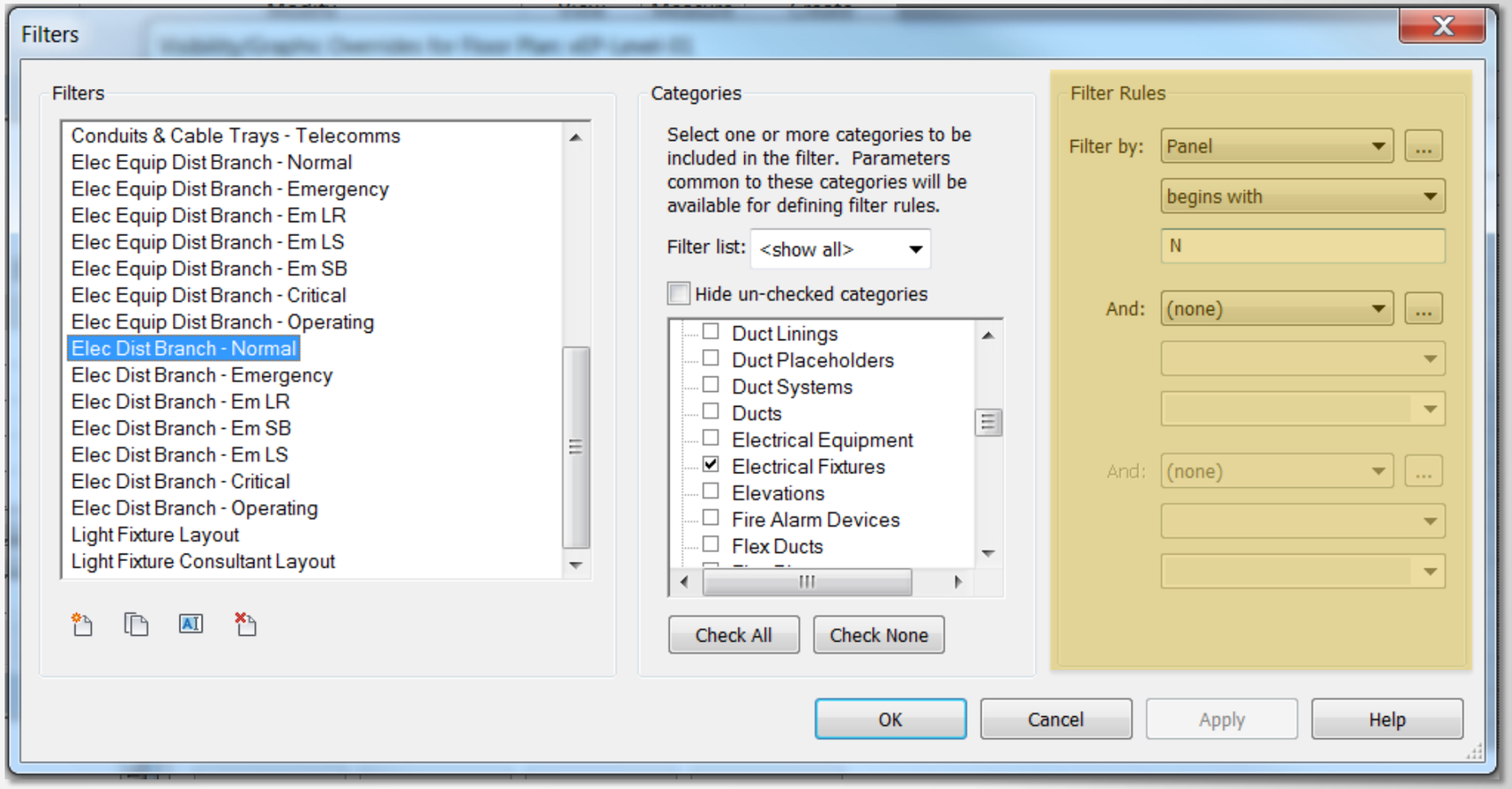
Items to Consider When Creating Filters

- Filter Name



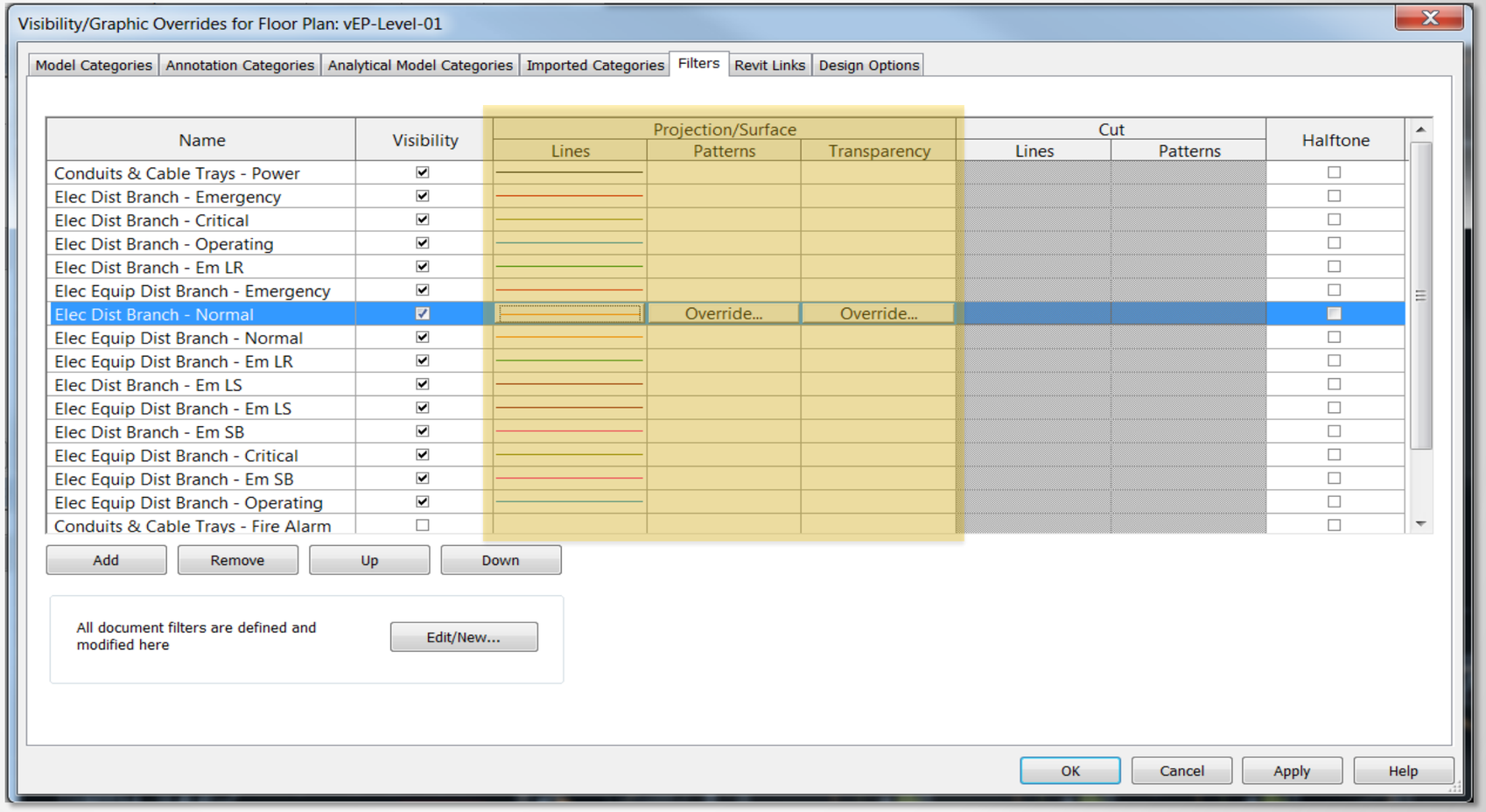
Using Filters for Electrical Distribution Branch

- Filter Rules



Using Filters for Electrical Distribution Branch

- Visibility and Projection/Surface Lines



Using Filters for Electrical Distribution Branch

Filters Created Based on the Different Distribution Branches

Electrical Equipment

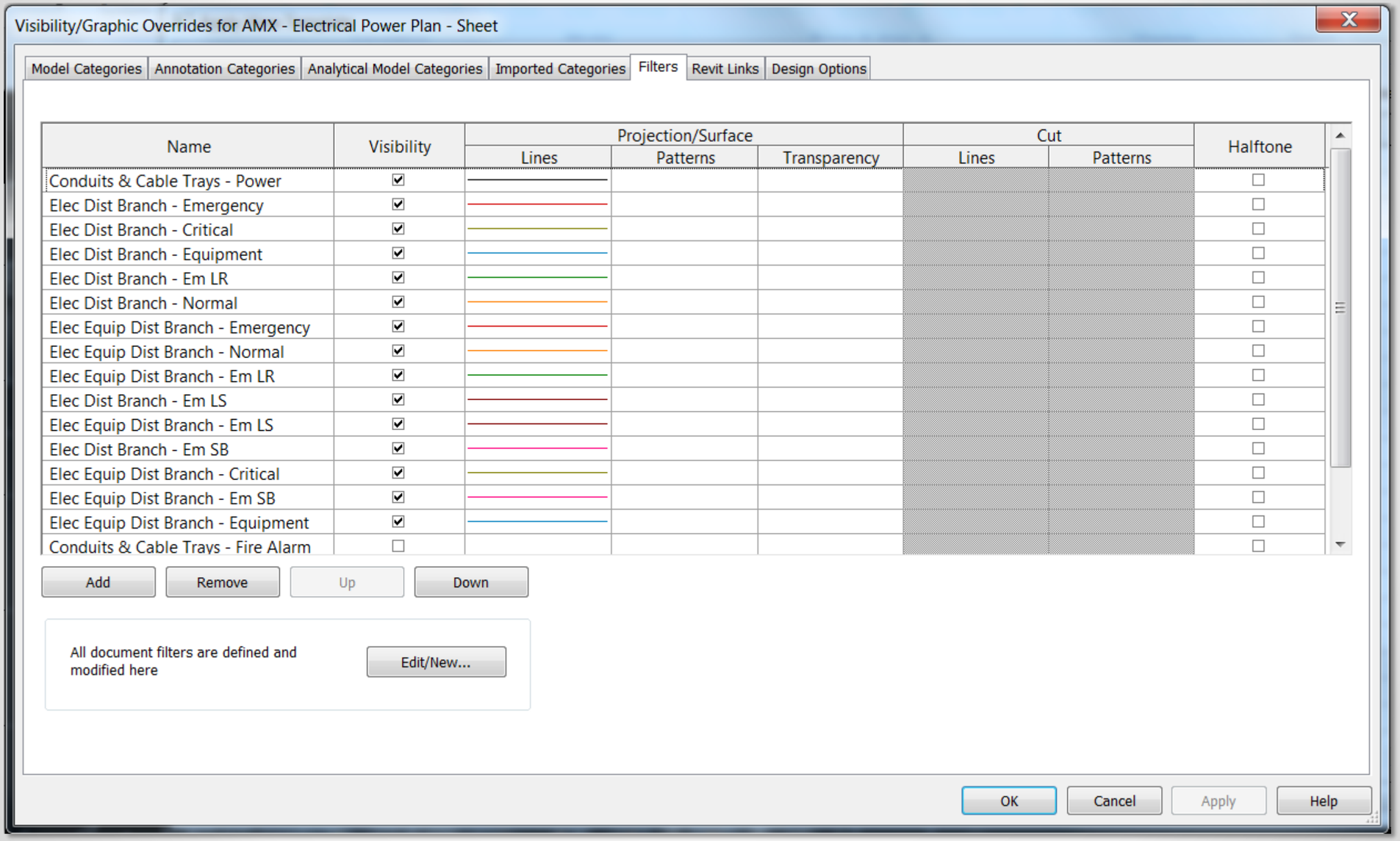
- The filter rule we applied here, is that an electrical equipment, is filtered by panel name, which begins with…

Electrical Devices and Wires

- The filter rule we applied here, is that an electrical device, is filtered by panel, which begins with…

We then matched the projection lines for both the electrical equipment and the electrical device and wires.

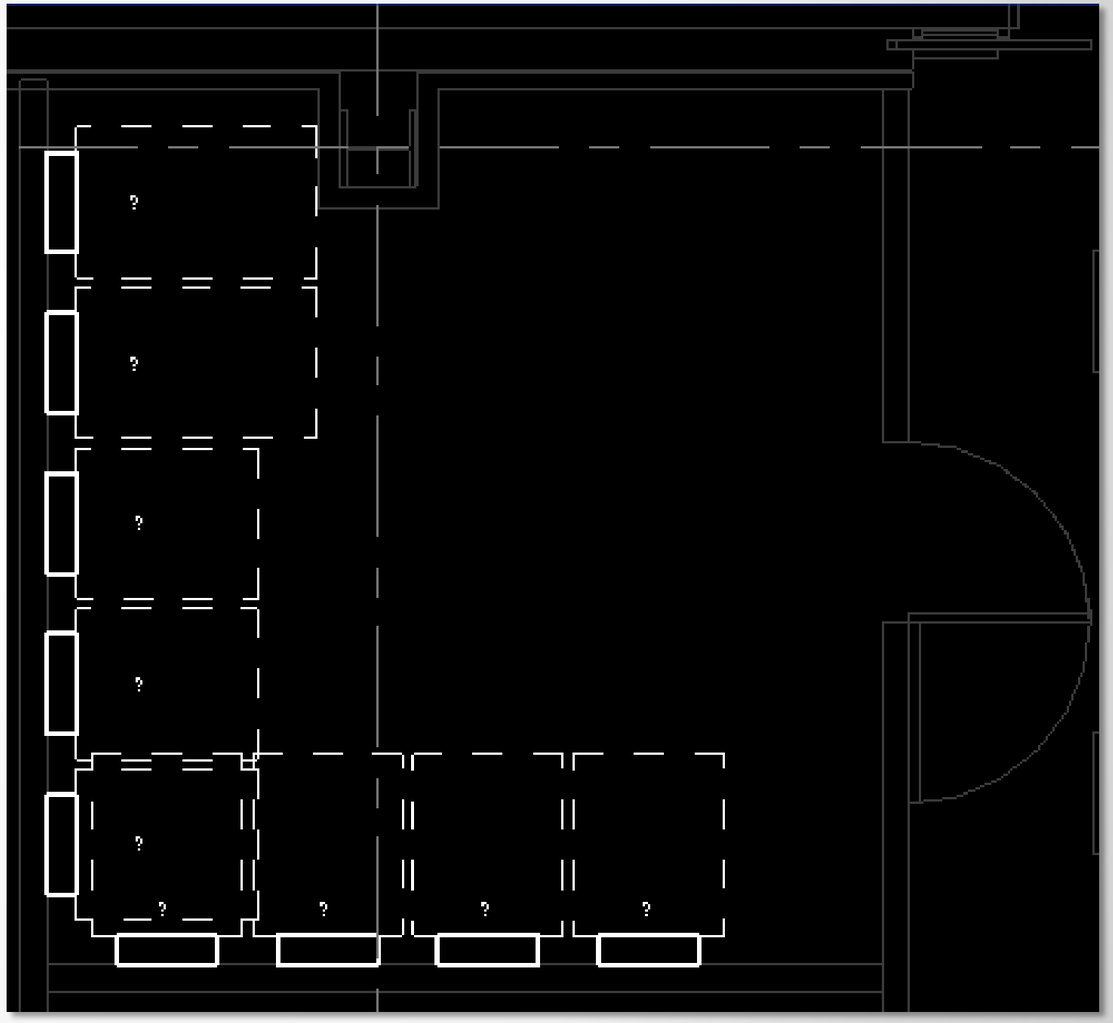
Using Filters for Electrical Distribution Branch



Using Filters for Electrical Distribution Branch

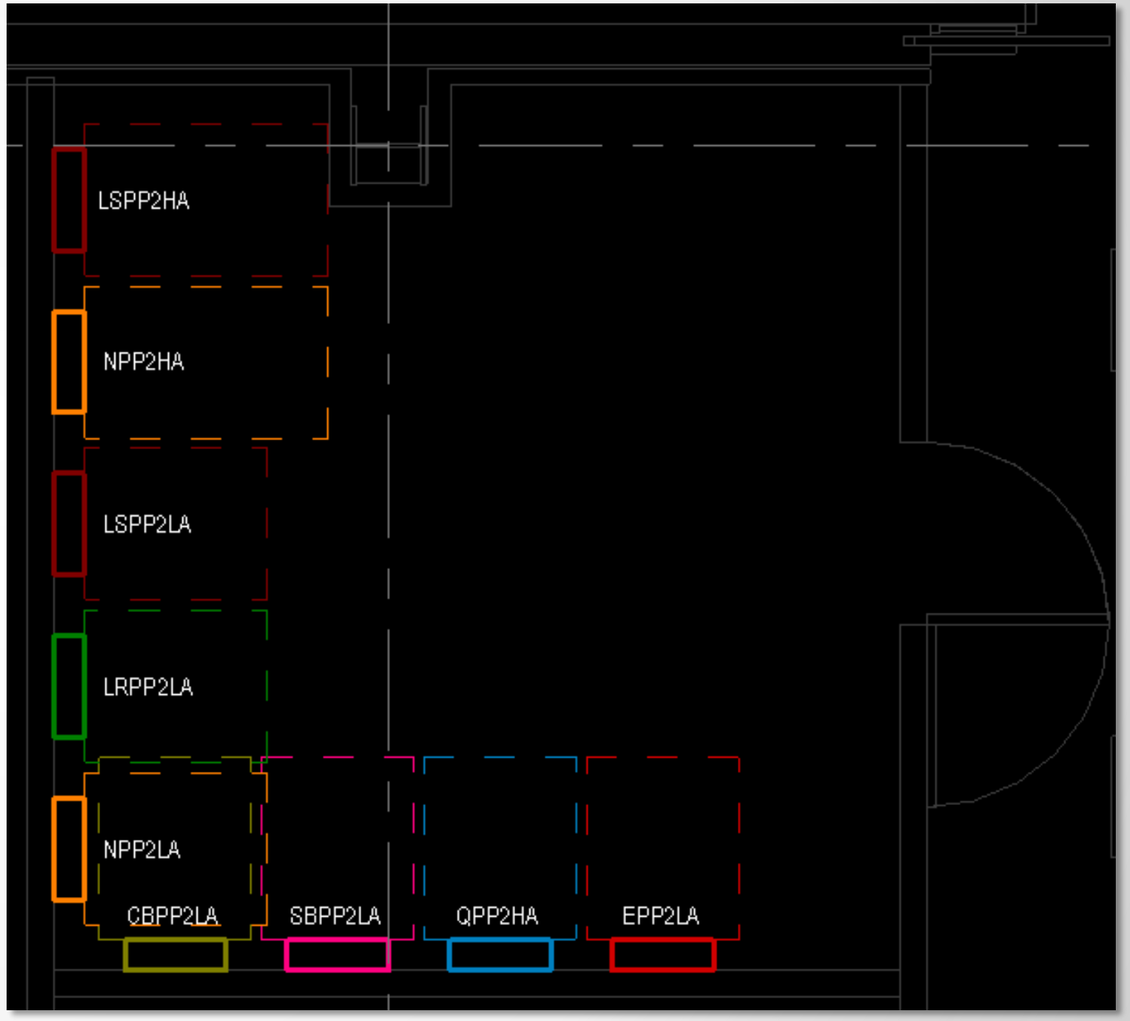
Here how it works:

- As an equipment is laid out, it'll come in as a default color, white.



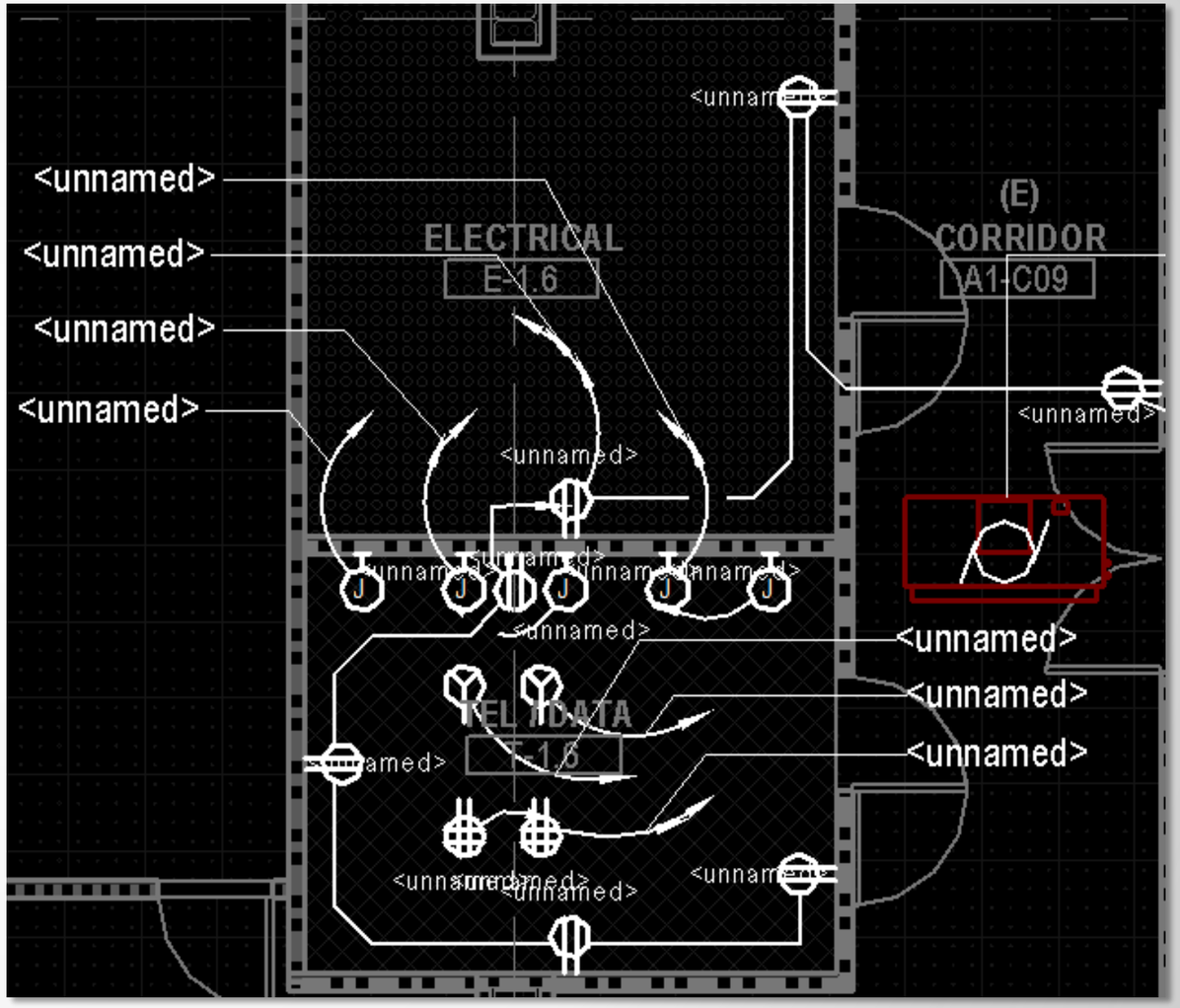
Using Filters for Electrical Distribution Branch

- As you name it, it changes color. This is based on the filter rule and projection lines that you've set.



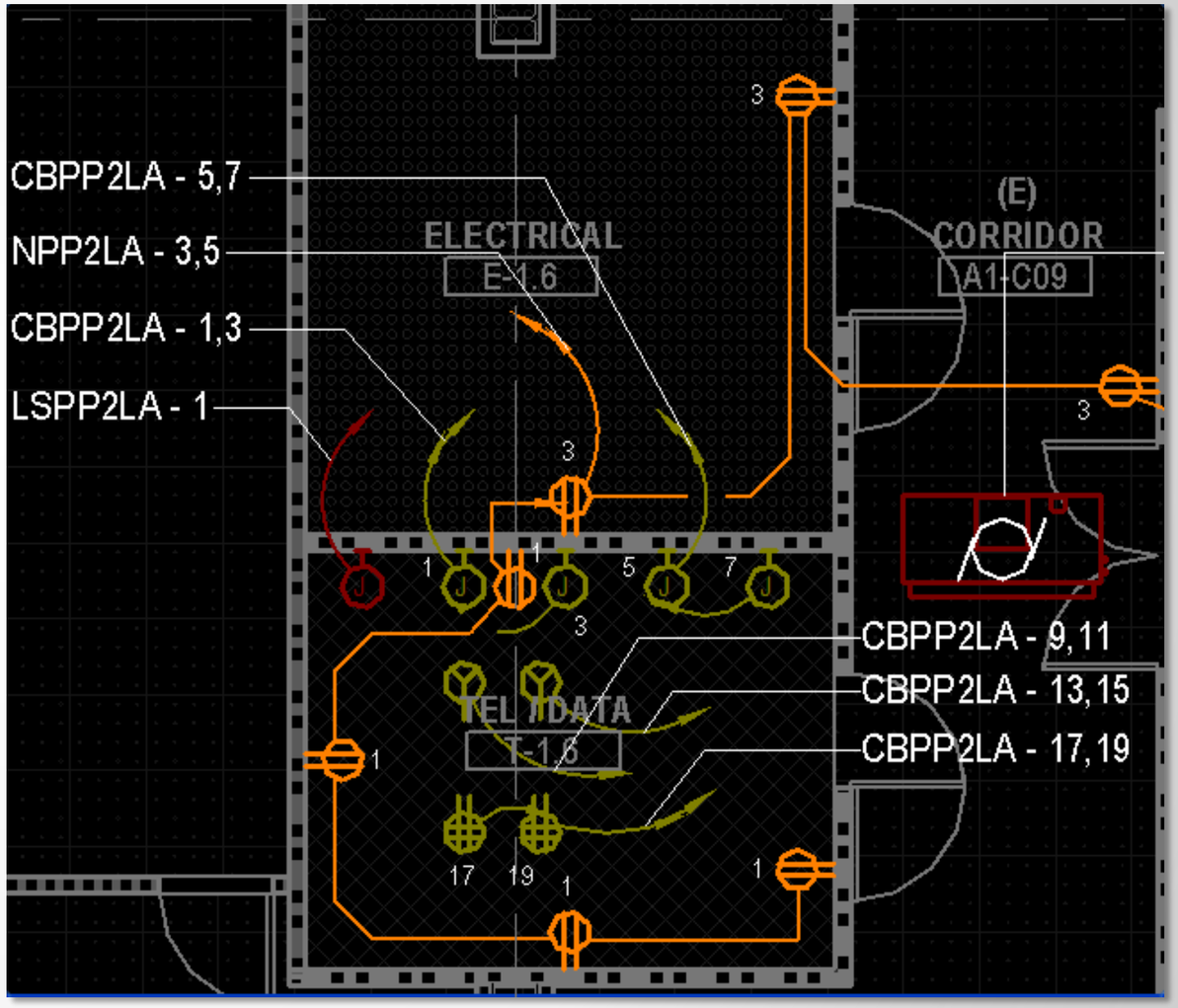
Using Filters for Electrical Distribution Branch

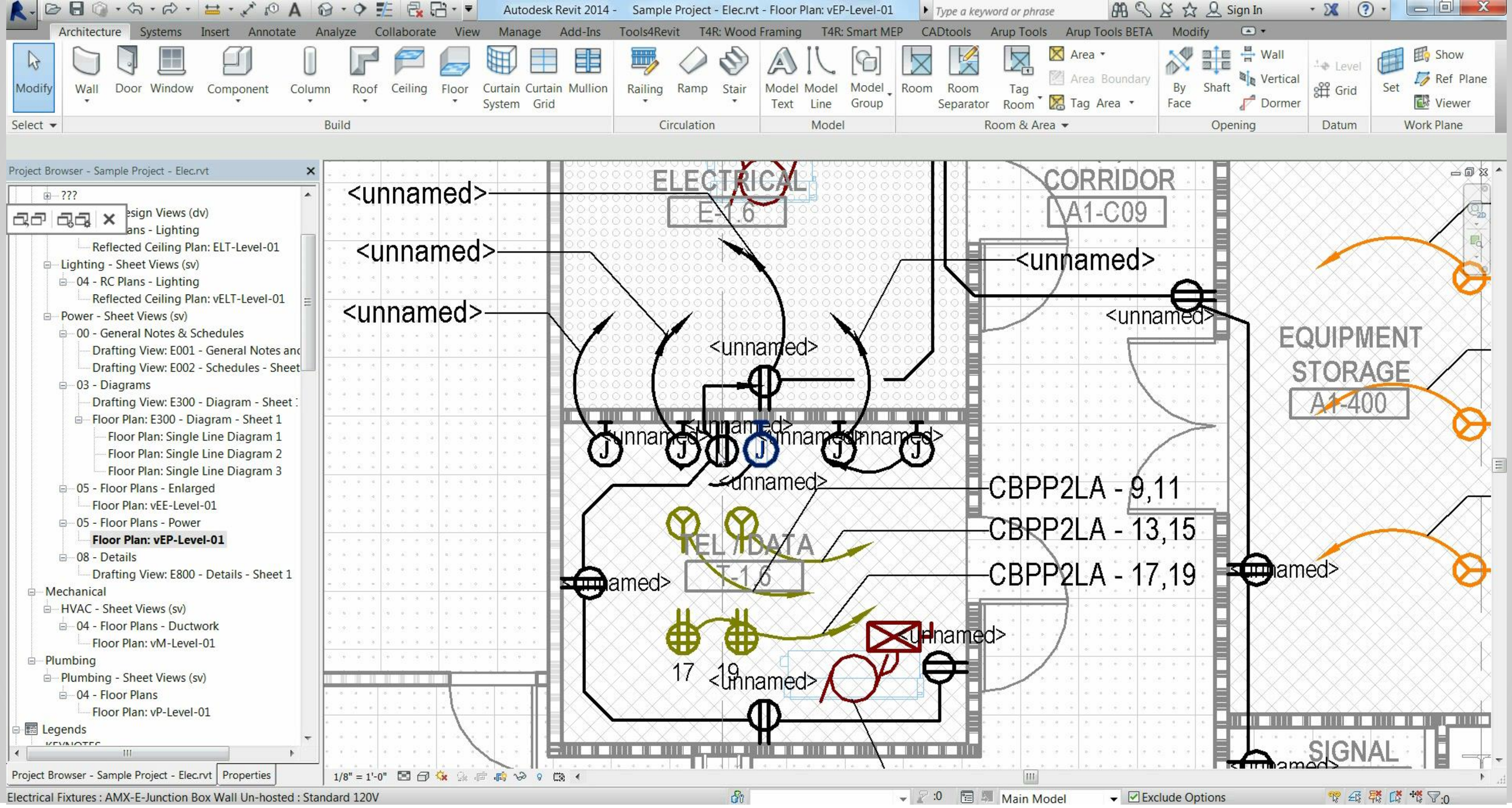
- As electrical devices and wires are laid out, they'll come in as a default color, white.



Using Filters for Electrical Distribution Branch

- As you power them to a panel, they change color. This is based on the filter rule and projection lines that you've set.




Autodesk Revit 2014 - Sample Project - Elec.rvt - Floor Plan: vEP-Level-01
Type a keyword or phrase
Sign In
Architecture
Systems
Insert
Annotate
Analyze
Collaborate
View
Manage
Add-Ins
Tools4Revit
T4R: Wood Framing
T4R: Smart MEP
CADtools
Arup Tools
Arup Tools BETA
Modify
Modify
Wall
Door
Window
Component
Column
Roof
Ceiling
Floor
Curtain System
Curtain Grid
Mullion
Railing
Ramp
Stair
Model Text
Model Line
Model Group
Room
Room Separator
Tag Room
Area
Area Boundary
Tag Area
By Face
Shaft
Wall
Vertical
Dormer
Level
Grid
Set
Show
Ref Plane
Viewer
Select
Build
Circulation
Model
Room & Area
Opening
Datum
Work Plane
Project Browser - Sample Project - Elec.rvt
Reflected Ceiling Plan: ELT-Level-01
Lighting - Sheet Views (sv)
04 - RC Plans - Lighting
Reflected Ceiling Plan: vELT-Level-01
Power - Sheet Views (sv)
00 - General Notes & Schedules
Drafting View: E001 - General Notes and
Drafting View: E002 - Schedules - Sheet
03 - Diagrams
Drafting View: E300 - Diagram - Sheet 1
Floor Plan: E300 - Diagram - Sheet 1
Floor Plan: Single Line Diagram 1
Floor Plan: Single Line Diagram 2
Floor Plan: Single Line Diagram 3
05 - Floor Plans - Enlarged
Floor Plan: vEE-Level-01
05 - Floor Plans - Power
Floor Plan: vEP-Level-01
08 - Details
Drafting View: E800 - Details - Sheet 1
Mechanical
HVAC - Sheet Views (sv)
04 - Floor Plans - Ductwork
Floor Plan: vM-Level-01
Plumbing
Plumbing - Sheet Views (sv)
04 - Floor Plans
Floor Plan: vP-Level-01
Legends
Project Browser - Sample Project - Elec.rvt
Properties
ELECTRICAL
E-1.6
CORRIDOR
A1-C09
EQUIPMENT
STORAGE
A1-400
TEL / DATA
T-1.6
SIGNAL
CBPP2LA - 9,11
CBPP2LA - 13,15
CBPP2LA - 17,19
17
19
1/8" = 1'-0"
Electrical Fixtures : AMX-E-Junction Box Wall Un-hosted : Standard 120V
Main Model
Exclude Options
AUTODESK UNIVERSITY 2014
AUTODESK.

Using Filters for Electrical Distribution Branch

Be Creative!!!!!!!!!

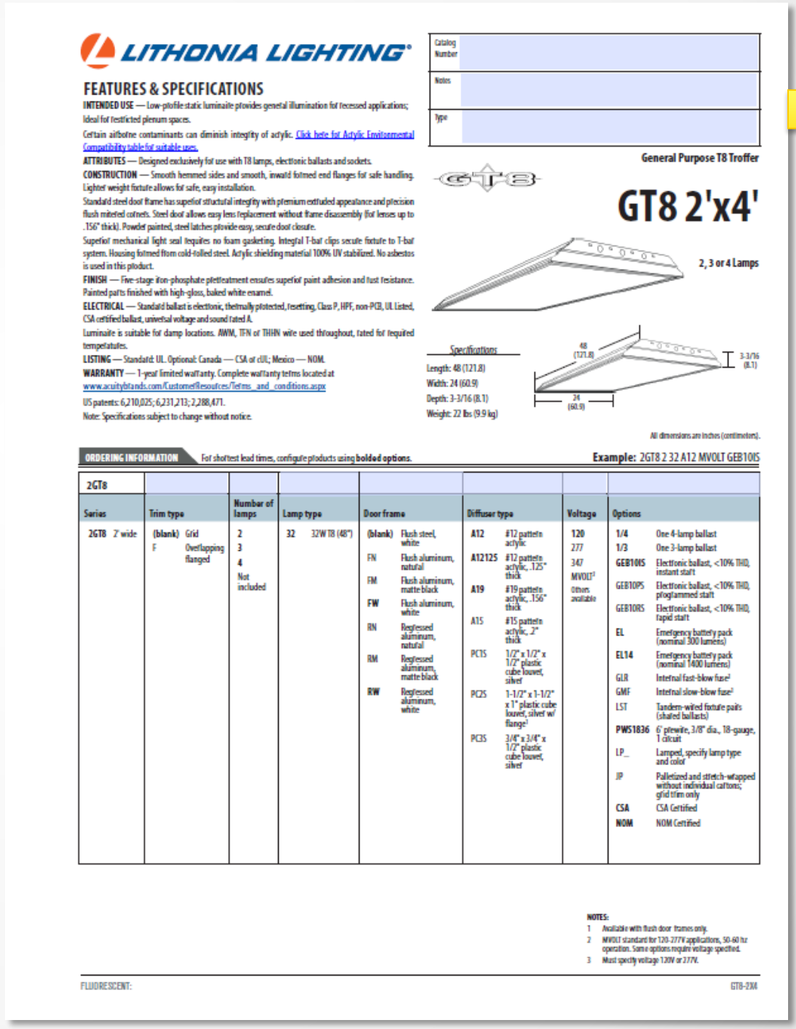
- Power Branch
- Circuited/Uncircuited
- Mechanical Equipment Visibility
- Interior/Exterior
- Light Fixture Layout Coordination
- Etc….

Coordination between Electrical and Other Disciplines

Coordination between Electrical and Other Disciplines

Lighting Coordination Process

- Coordinate your light fixture connector (families) with the architects/lighting designers schedule and/or specs focusing on dimensions, voltage, apparent load, and wattage



LITHONIA LIGHTING®

Catalog Number

Notes

Type

FEATURES & SPECIFICATIONS

INTENDED USE — Low-profile static luminaire provides general illumination for recessed applications; ideal for restricted plenum spaces.

Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

ATTRIBUTES — Designed exclusively for use with T8 lamps, electronic ballasts and sockets.

CONSTRUCTION — Smooth hemmed sides and smooth, inward formed end flanges for safe handling. Lighter weight fixture allows for safe, easy installation.

Standard steel door frame has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows easy lens replacement without frame disassembly (for lenses up to .156" thick). Powder painted, steel latches provide easy, secure door closure.

Superior mechanical light seal requires no foam gasketing. Integral T-bar clips secure fixture to T-bar system. Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

FINISH — Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

ELECTRICAL — Standard ballast is electronic, thermally protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast, universal voltage and sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTING — Standard: UL. Optional: Canada — CSA or cUL; Mexico — NOM.

WARRANTY — 1-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

US patents: 6,210,025; 6,231,213; 2,288,471.

Note: Specifications subject to change without notice.

General Purpose T8 Troffer

GT8 2'x4'

2, 3 or 4 Lamps

Specifications

Length: 48 (121.8)

Width: 24 (60.9)

Depth: 3-1/16 (8.1)

Weight: 22 lbs (9.9 kg)

48 (121.8)

24 (60.9)

3-1/16 (8.1)

All dimensions are inches (centimeters).

ORDERING INFORMATION For shortest lead times, configure products using **bolded options.**

Example: 2GT8 2 32 A12 MVOLT GEB10IS

2GT8							
Series	**Trim type**	**Number of lamps**	**Lamp type**	**Door frame**	**Diffuser type**	**Voltage**	**Options**
2GT8 2' wide	(blank) Grid F Overlapping flanged	2 3 4 Not included	32 32W T8 (48")	(blank) Flush steel, white FN Flush aluminum, natural FM Flush aluminum, matte black FW Flush aluminum, white RN Regressed aluminum, natural RM Regressed aluminum, matte black RW Regressed aluminum, white	A12 #12 pattern acrylic A12125 #12 pattern acrylic, .125" thick A19 #19 pattern acrylic, .156" thick A15 #15 pattern acrylic, .2" thick PC1S 1/2" x 1/2" x 1/2" plastic cube louvel, silver PC2S 1-1/2" x 1-1/2" x 1" plastic cube louvel, silver w/ flange PC3S 3/4" x 3/4" x 1/2" plastic cube louvel, silver	120 277 347 MVOLT[2] Others available	1/4 One 4-lamp ballast 1/3 One 3-lamp ballast GEB10IS Electronic ballast, <10% THD, instant start GEB10PS Electronic ballast, <10% THD, programmed start GEB10RS Electronic ballast, <10% THD, rapid start EL Emergency battery pack (nominal 300 lumens) EL14 Emergency battery pack (nominal 1400 lumens) GLR Internal fast-blow fuse[2] GMF Internal slow-blow fuse[2] LST Tandem-wired fixture pairs (shaded ballasts) PWS1836 6' pigtail, 3/8" dia., 18-gauge, 1 circuit LP... Lamped, specify lamp type and color JP Palletized and stretch-wrapped without individual cartons; grid trim only CSA CSA Certified NOM NOM Certified

NOTES:

1 Available with flush door frames only.

2 MVOLT standard for 120-277V applications, 50-60 hz operation. Some options require voltage specified.

3 Must specify voltage 120V or 277V.

FLUORESCENT: GT8-2X4

Coordination between Electrical and Other Disciplines

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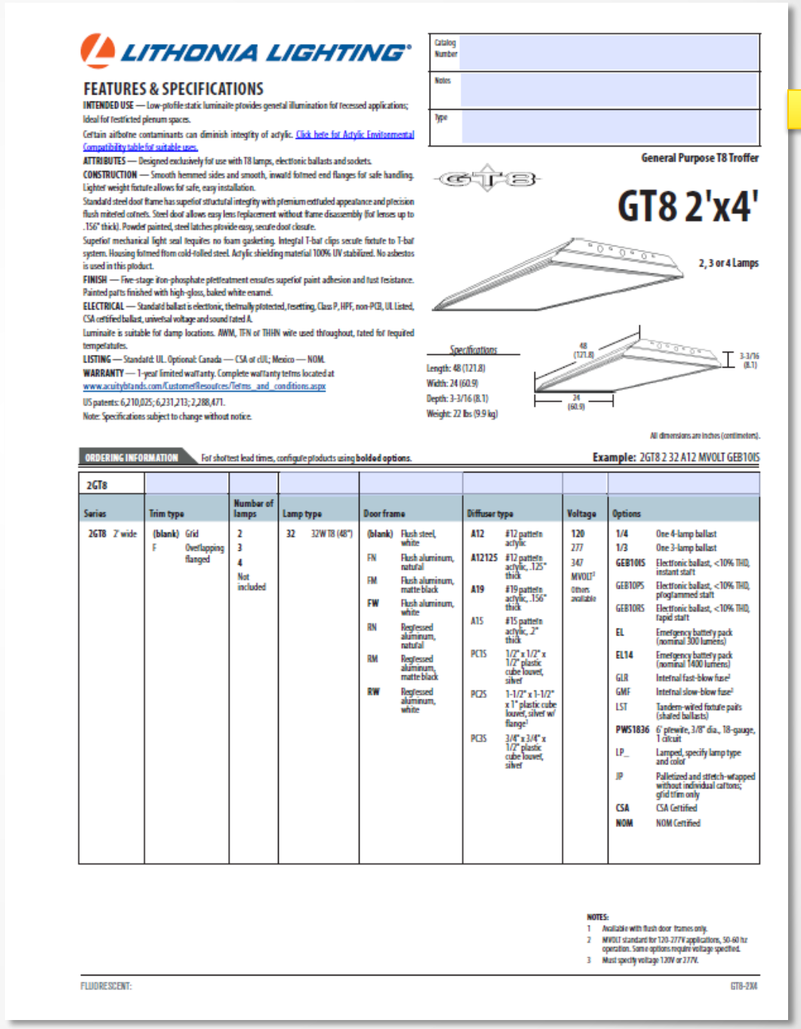
- Create a coordination view



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Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

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NOTES:

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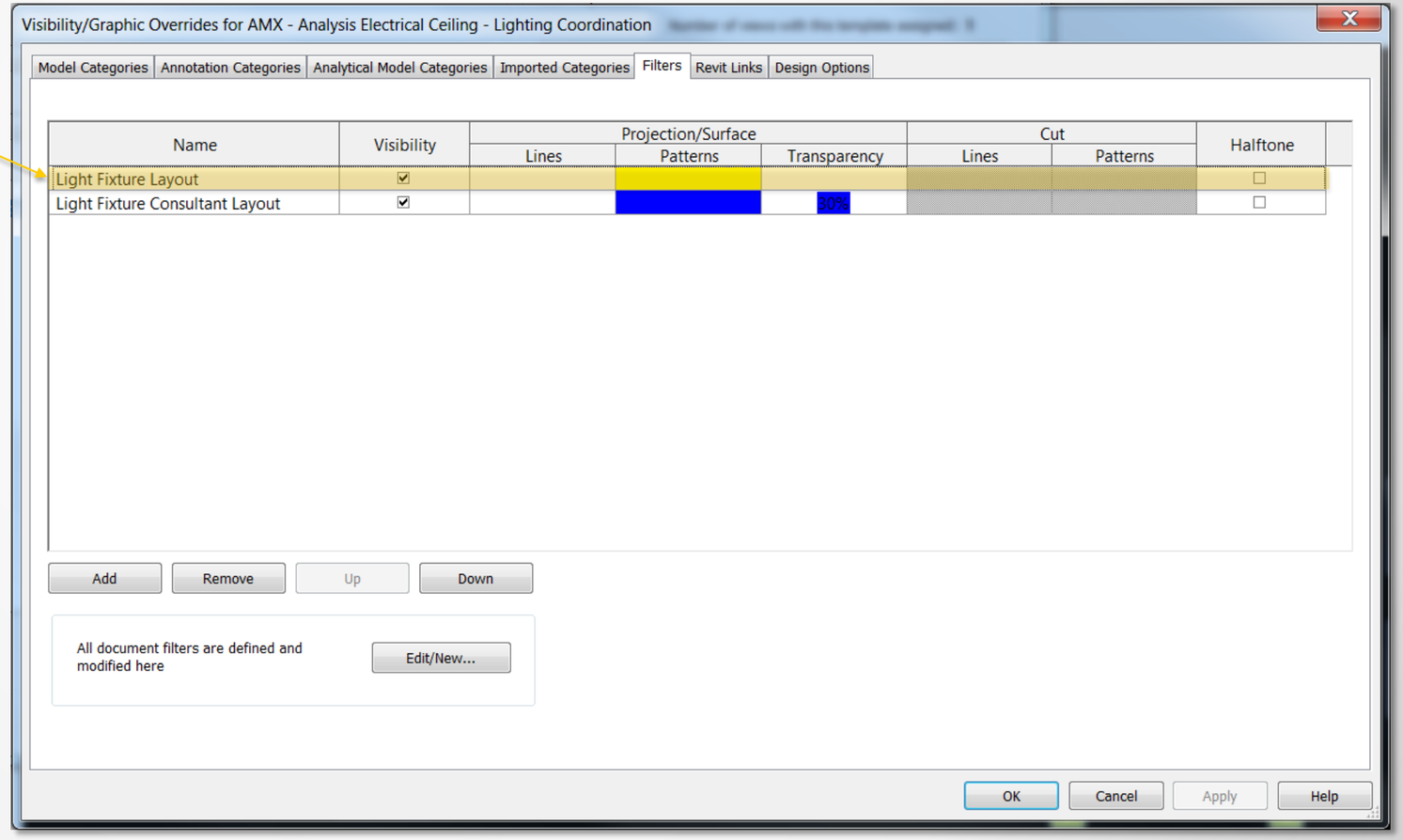
3 Must specify voltage 120V or 277V.

FLUORESCENT: GT8-2X4

Coordination between Electrical and Other Disciplines

- Set-up your filters in your view templates

Light Fixture Layout filtered by Family Name

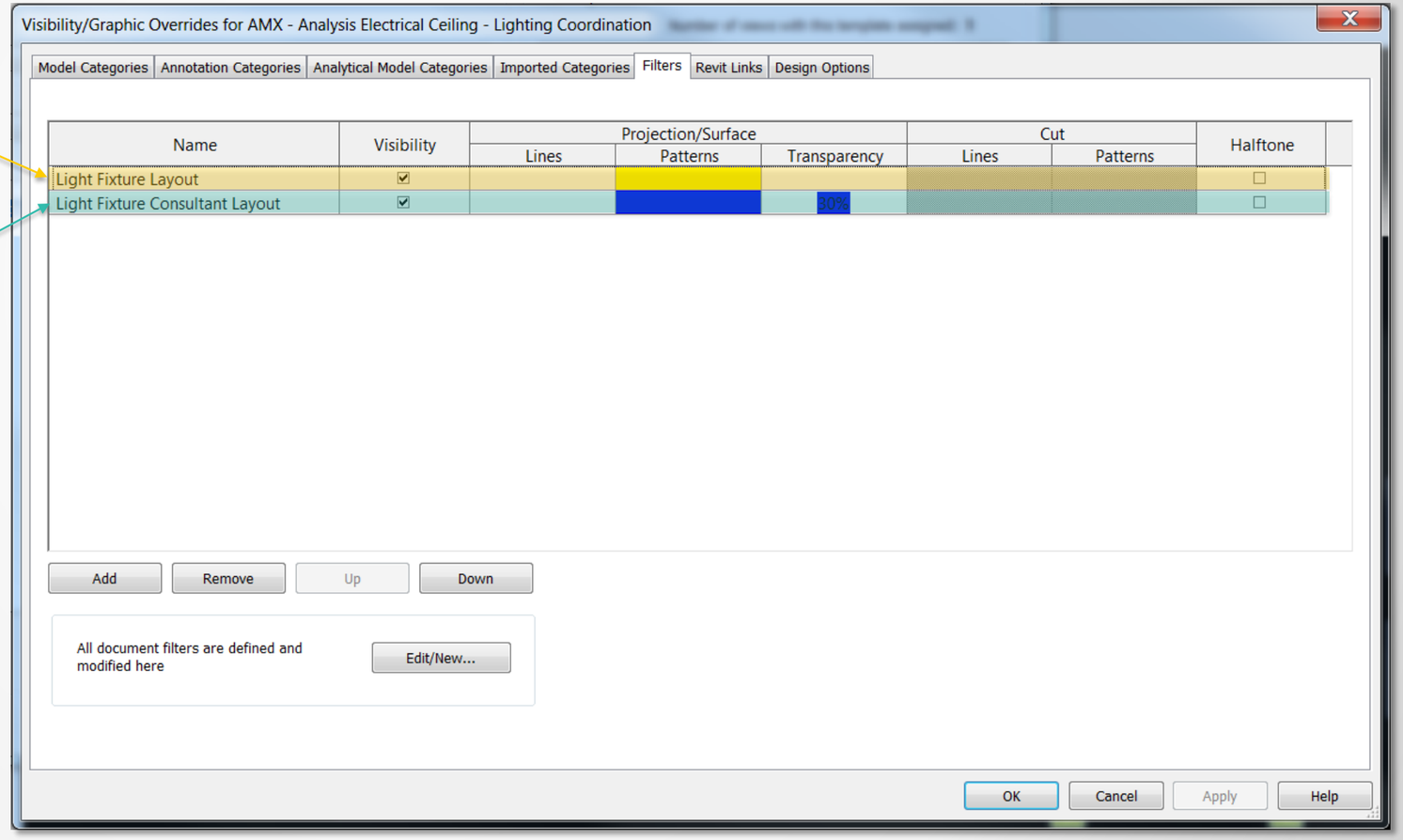


Coordination between Electrical and Other Disciplines

- Set-up your filters in your view templates

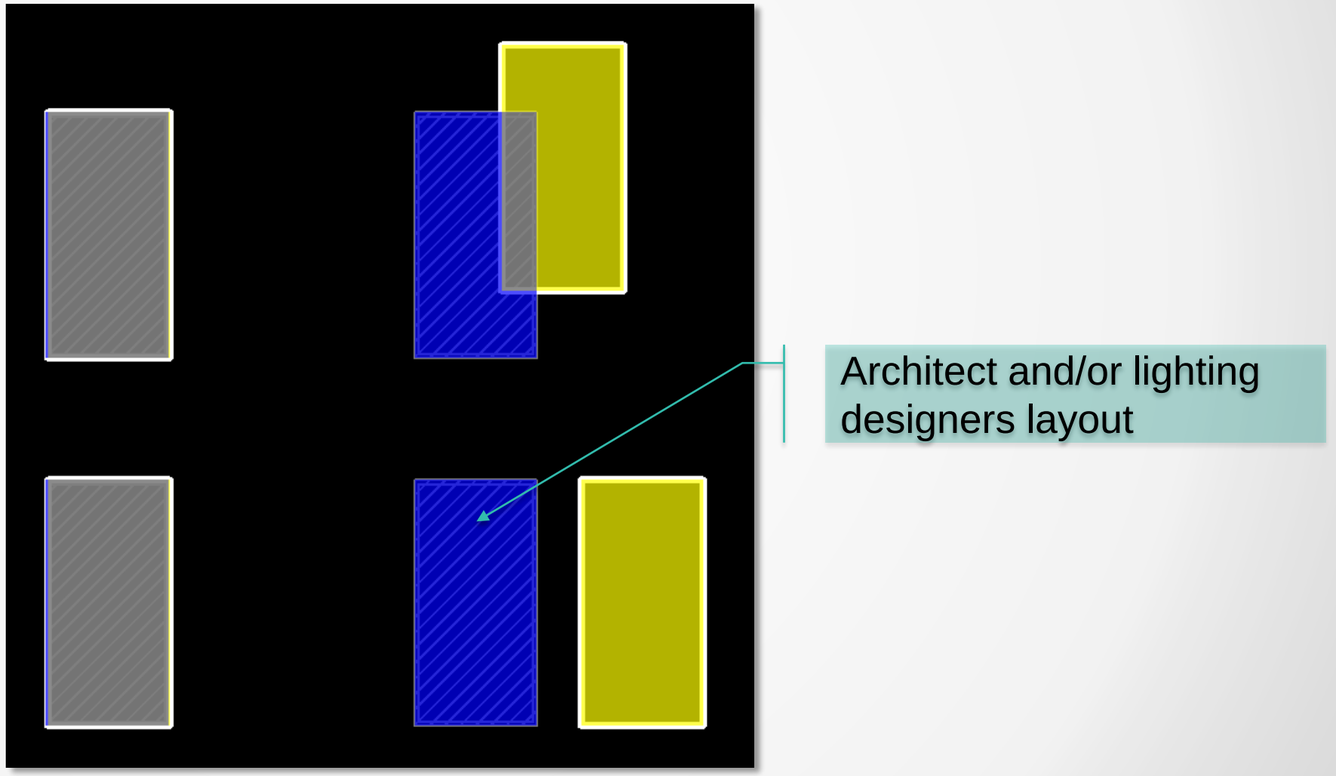
Light Fixture Layout filtered by Family Name

Light Fixture Consultant Layout filtered by None



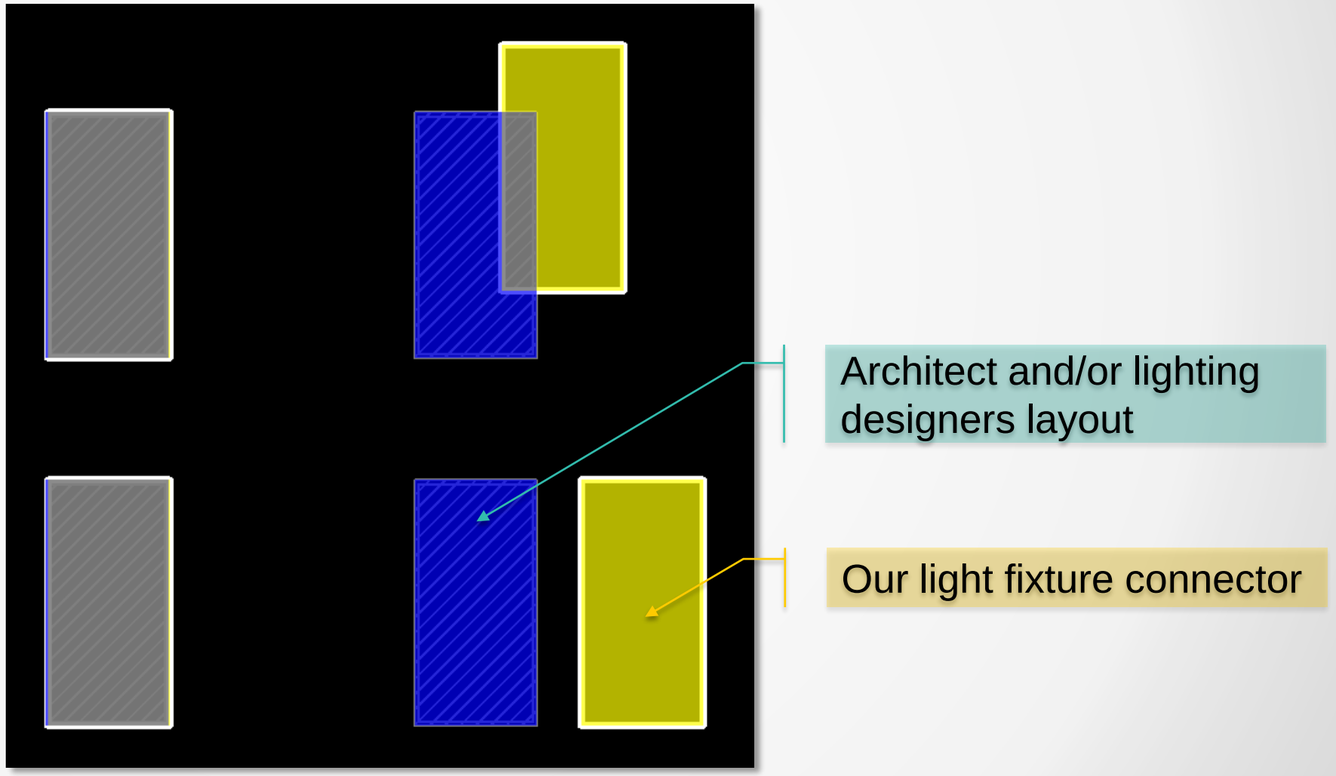
Coordination between Electrical and Other Disciplines

- Overlay your light fixtures with the architects/lighting designers



Coordination between Electrical and Other Disciplines

- Overlay your light fixtures with the architects/lighting designers



Coordination between Electrical and Other Disciplines

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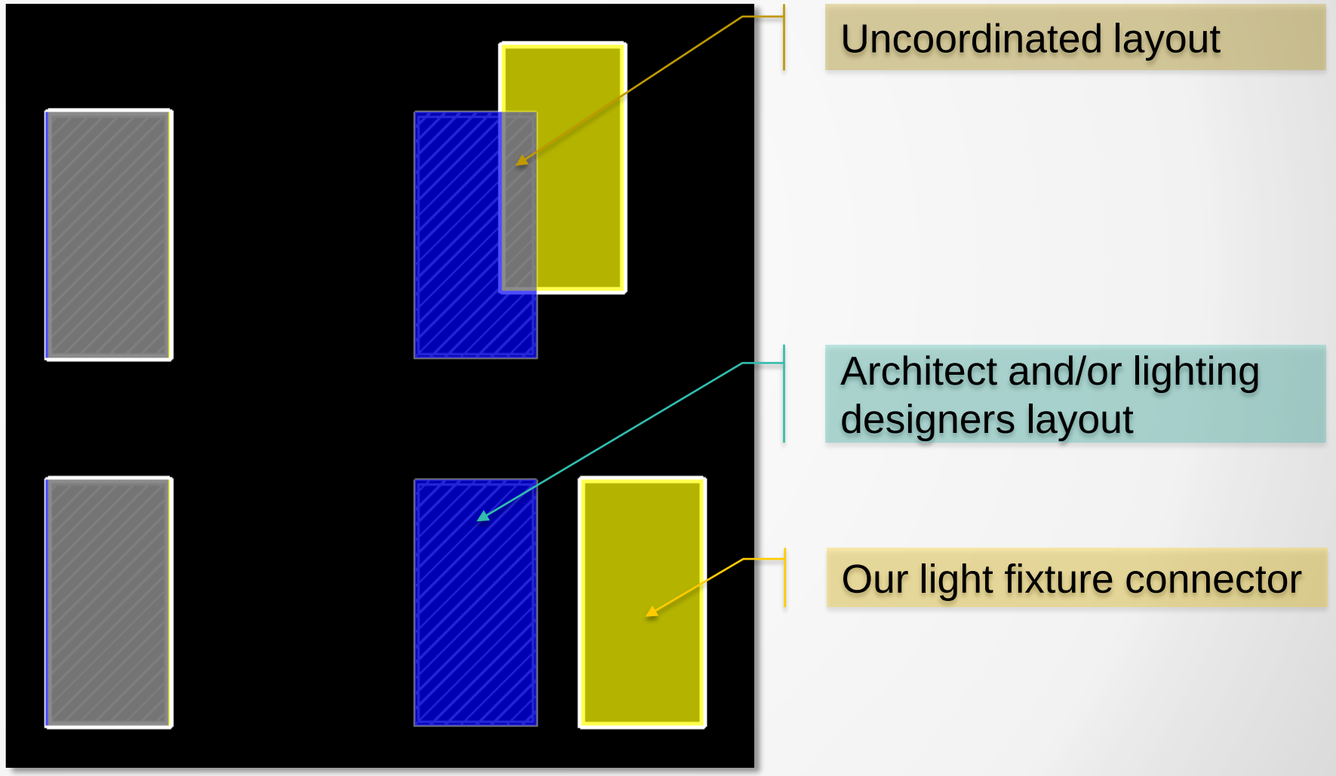
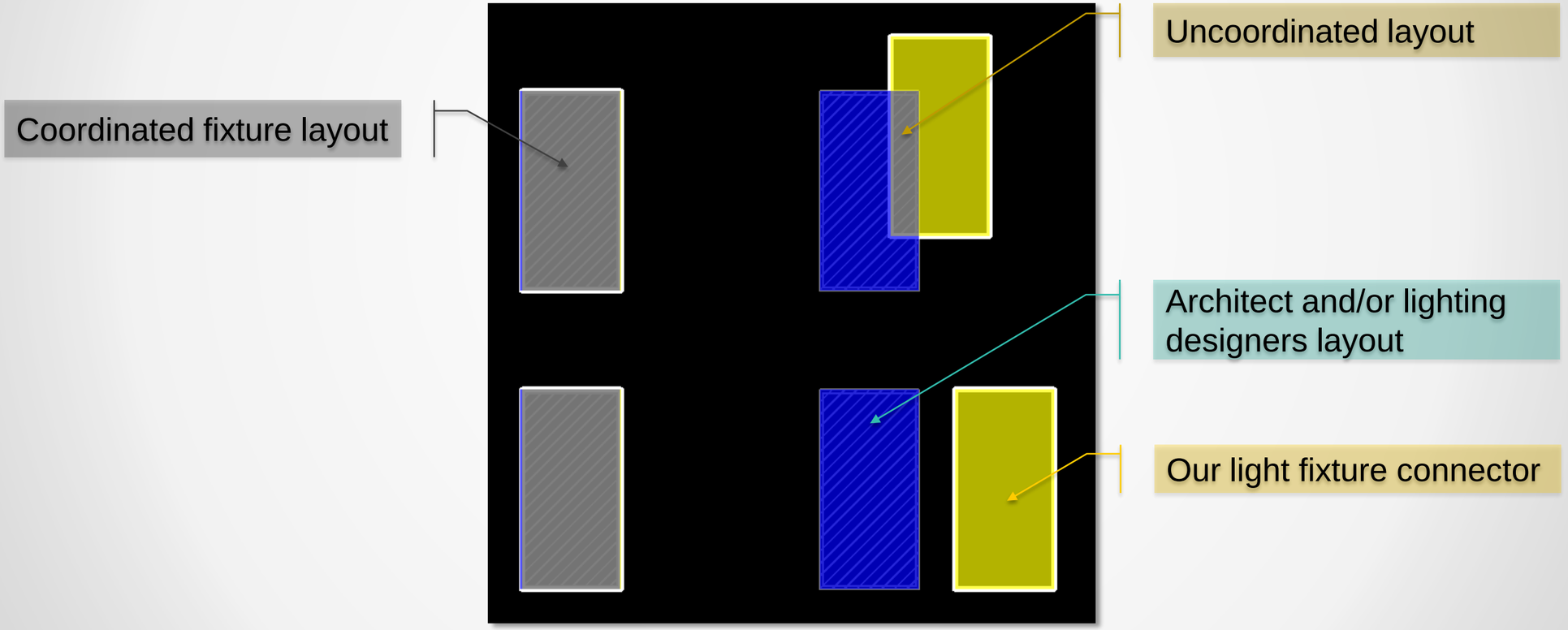


Coordination between Electrical and Other Disciplines

- Overlay your light fixtures with the architects/lighting designers



Sample Project - Elec.rvt - Reflected Ceiling Plan: ELT-Level-01

Type a keyword or phrase

Sign In

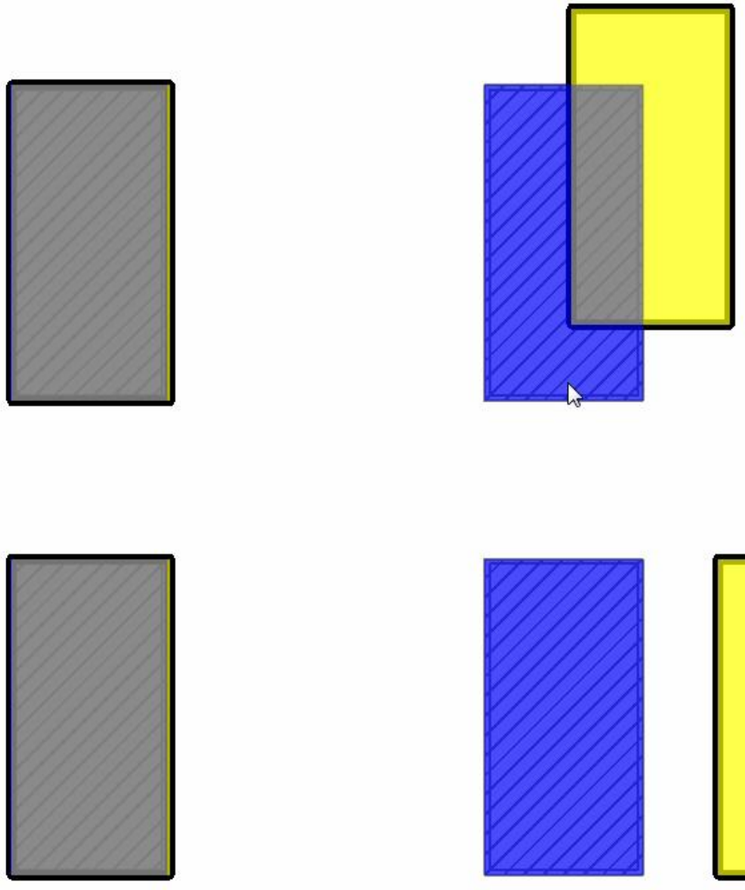
Architecture | Systems | Insert | Annotate | Analyze | Collaborate | View | Manage | Add-Ins | Tools4Revit | T4R: Wood Framing | T4R: Smart MEP | CADtools | Arup Tools | Arup Tools BETA | Modify

Modify | Wall | Door | Window | Component | Column | Roof | Ceiling | Floor | Curtain System | Curtain Grid | Mullion | Railing | Ramp | Stair | Model Text | Model Line | Model Group | Room | Room Separator | Tag Room | Area | Area Boundary | Tag Area | By Face | Shaft | Wall | Vertical | Dormer | Level | Grid | Set | Show | Ref Plane | Viewer

Select | Build | Circulation | Model | Room & Area | Opening | Datum | Work Plane

Project Browser - Sample Project - Elec.rvt

- Views (AMX Project Browser)
  - ...g View
  - Start View
    - Drafting View: OPEN/SAVE VIEW
    - Drafting View: OPEN/SAVE VIEW1
- Electrical
  - ???
  - Lighting - Design Views (dv)
    - 04 - RC Plans - Lighting
      - **Reflected Ceiling Plan: ELT-Level-01**
  - Lighting - Sheet Views (sv)
    - 04 - RC Plans - Lighting
      - Reflected Ceiling Plan: vELT-Level-01
  - Power - Sheet Views (sv)
    - 00 - General Notes & Schedules
      - Drafting View: E001 - General Notes and
      - Drafting View: E002 - Schedules - Sheet
    - 03 - Diagrams
      - Drafting View: E300 - Diagram - Sheet 1
      - Floor Plan: E300 - Diagram - Sheet 1
        - Floor Plan: Single Line Diagram 1
        - Floor Plan: Single Line Diagram 2
        - Floor Plan: Single Line Diagram 3
    - 05 - Floor Plans - Enlarged
      - Floor Plan: vEE-Level-01
    - 05 - Floor Plans - Power
      - Floor Plan: vEP-Level-01
    - 08 - Details
      - Drafting View: E800 - Details - Sheet 1
- Mechanical
  - HVAC - Sheet Views (sv)



Project Browser - Sample Project - Elec.rvt | Properties

1/8" = 1'-0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

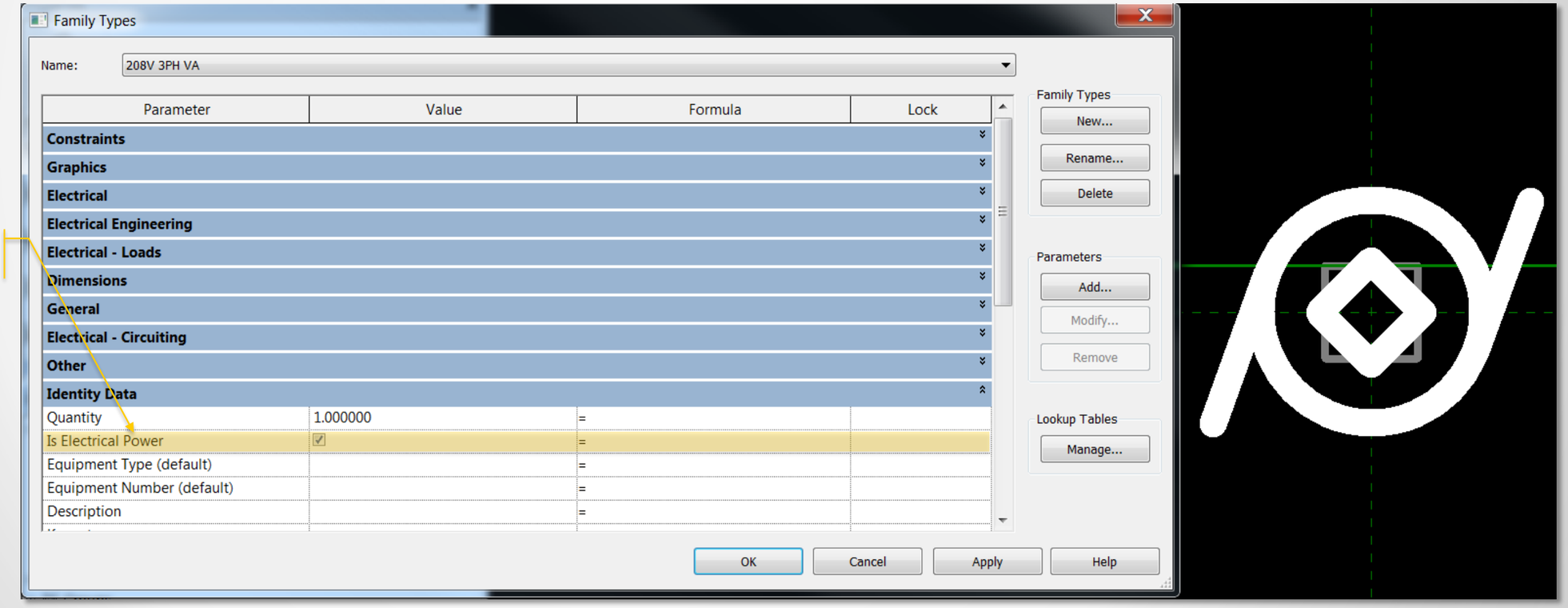
:0 | Main Model | Exclude Options | :0

Coordination between Electrical and Other Disciplines

Mechanical/Plumbing Equipment Coordination Process

- Create your motor connector family with Shared Parameters common with the mechanical equipment

Is Electrical Power



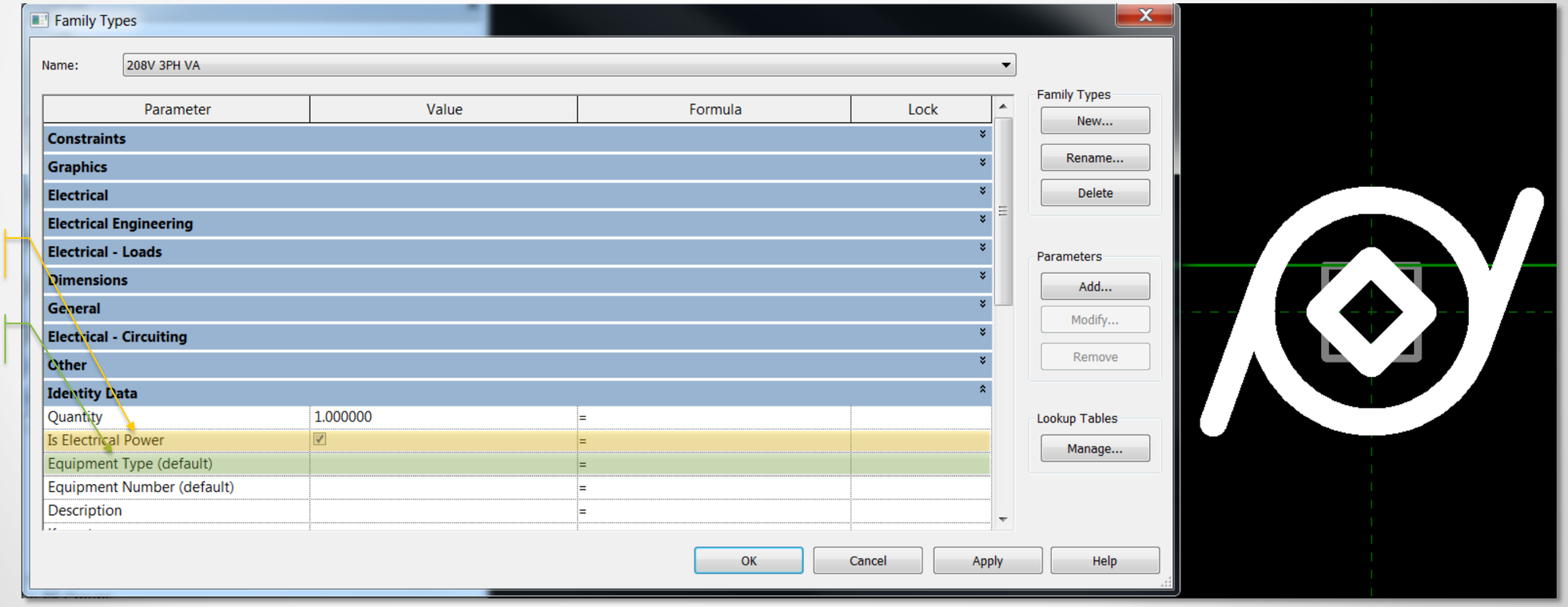
Coordination between Electrical and Other Disciplines

Mechanical/Plumbing Equipment Coordination Process

- Create your motor connector family with Shared Parameters common with the mechanical equipment

Is Electrical Power

Equipment Type



Coordination between Electrical and Other Disciplines

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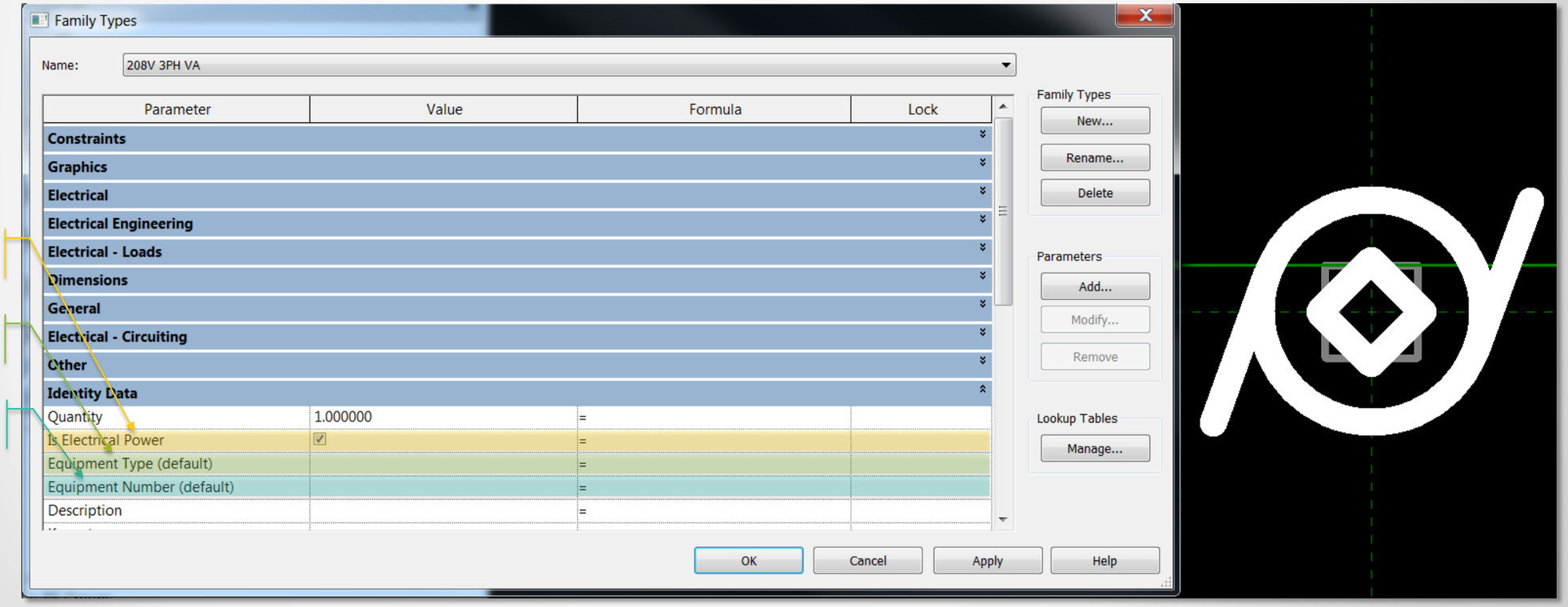
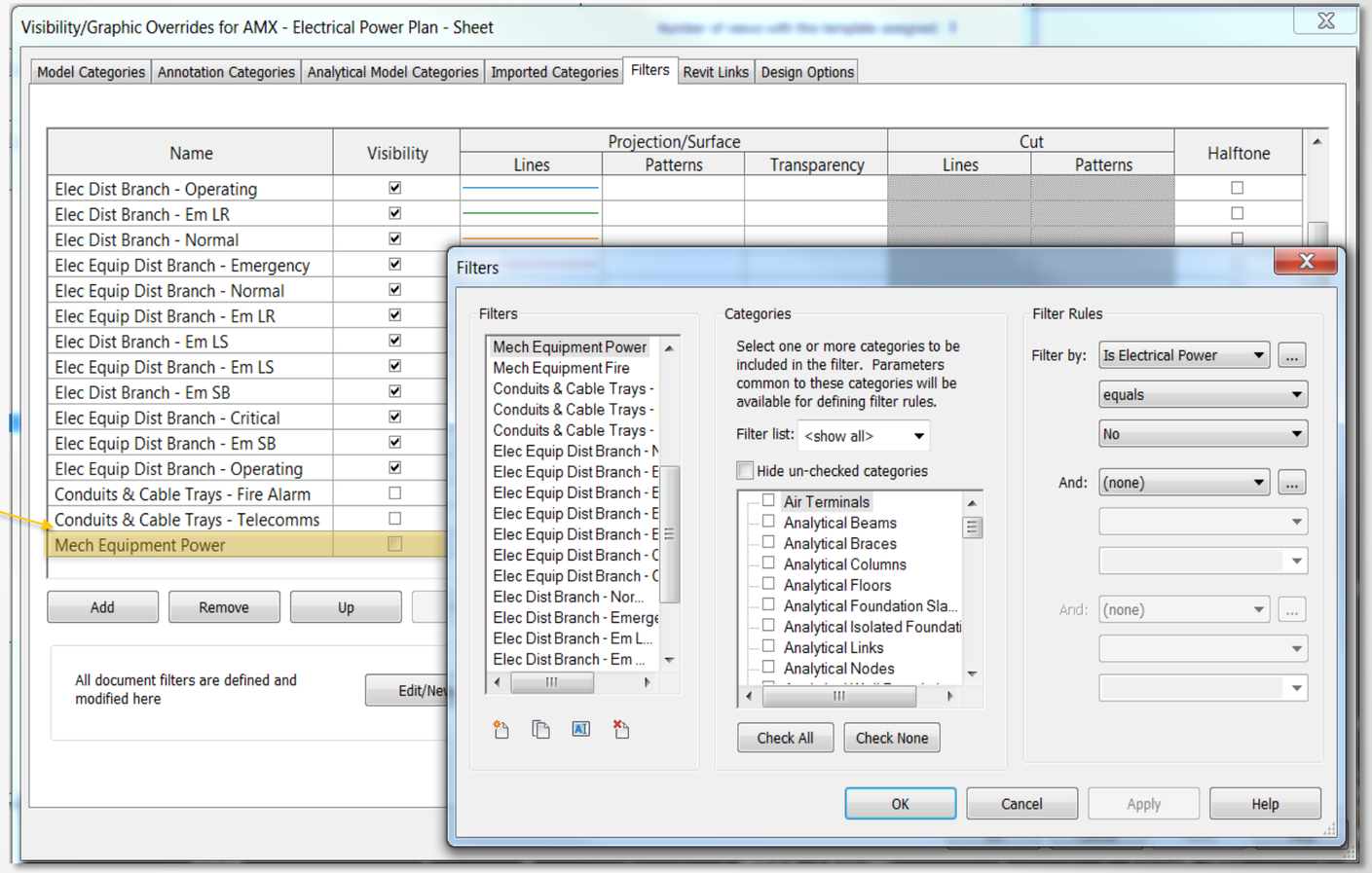


Coordination between Electrical and Other Disciplines

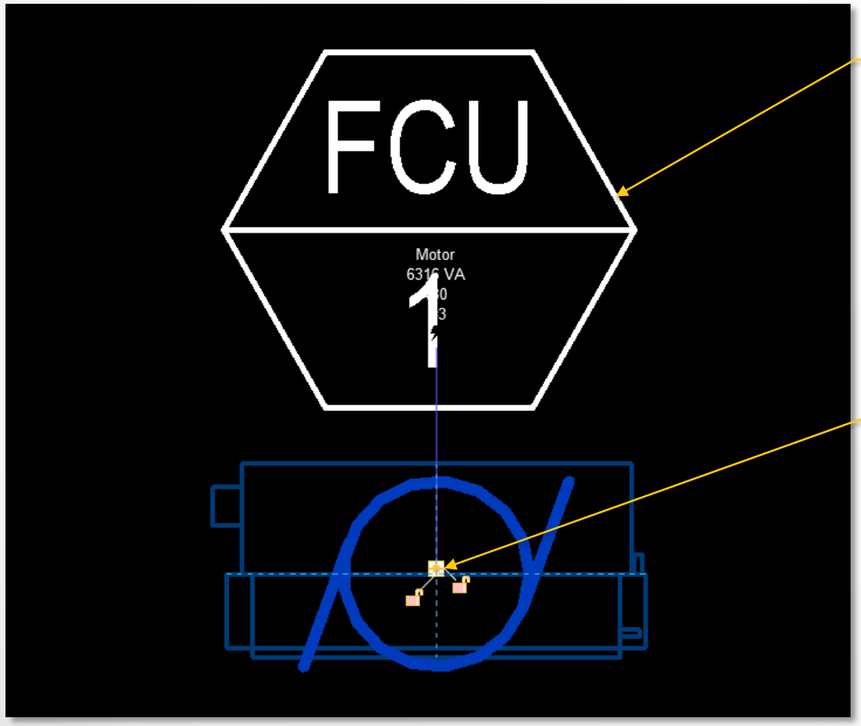
- Set-up your filters in your view templates

Mech Equipment Power



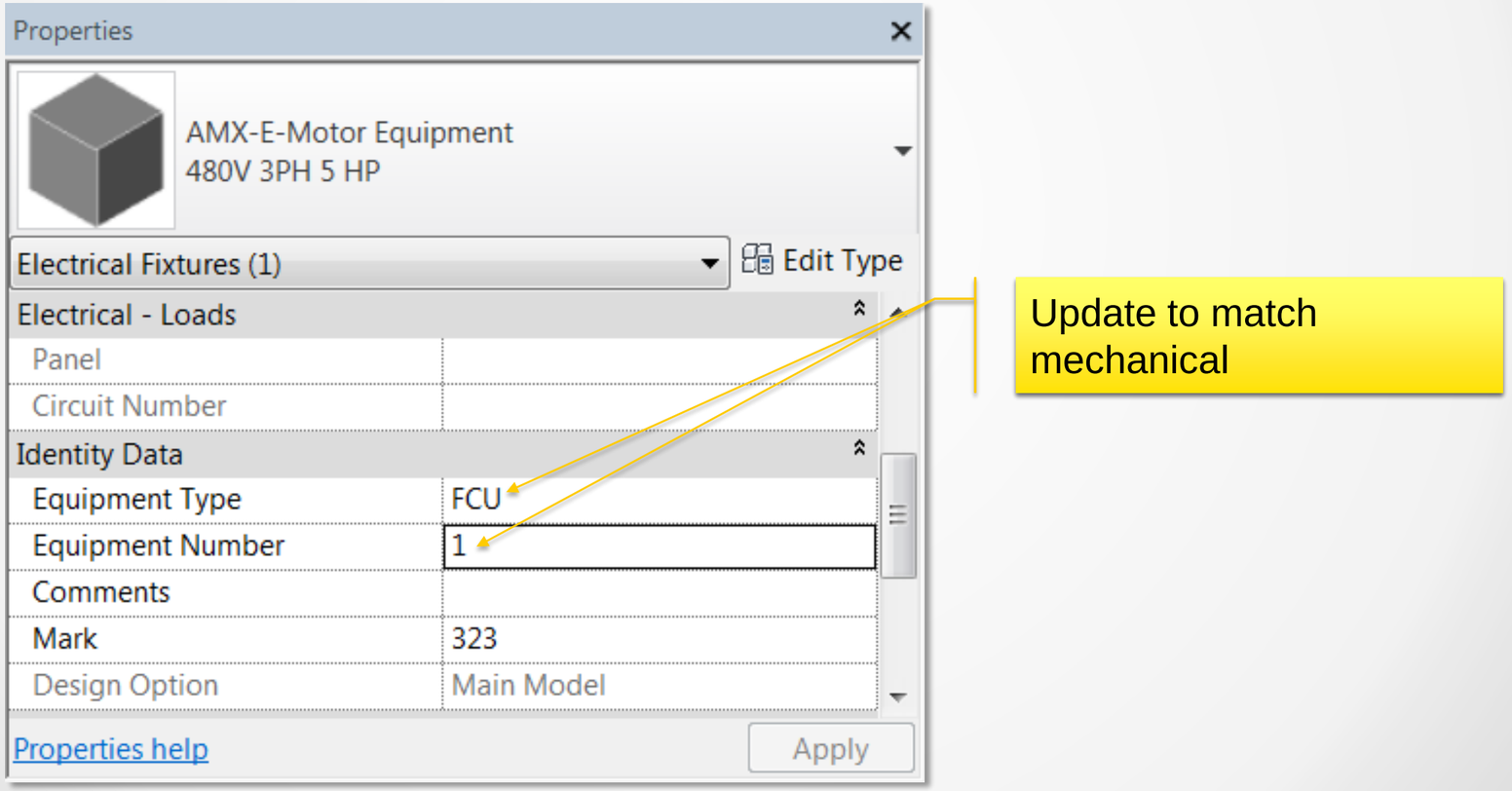
Coordination between Electrical and Other Disciplines

- Layout your motor connector to line up with the mechanical equipment then lock it onto the equipment and directly tag the mechanical equipment



Coordination between Electrical and Other Disciplines

- Update the Shared Parameter “Equipment Type” & “Equipment Number” to match mechanical



Autodesk Revit 2014 - Sample Project - Elec.rvt - Floor Plan: vEP-Level-01

Architecture | Systems | Insert | Annotate | Analyze | Collaborate | View | Manage | Add-Ins | Tools4Revit | T4R: Wood Framing | T4R: Smart MEP | CADtools | Arup Tools | Arup Tools BETA | Modify

Modify | Wire | Cable Tray | Conduit | Parallel Conduits | Cable Tray Fitting | Conduit Fitting | Electrical Equipment | Device | Lighting Fixture | Duct | Duct Placeholder | Duct Fitting | Duct Accessory | Convert to Flex Duct | Flex Duct | Air Terminal | Mechanical Equipment | Pipe | Pipe Placeholder | Parallel Pipes | Plumbing Fixture | Sprinkler | Component | Set

Select | Electrical | HVAC | Mechanical | Plumbing & Piping | Model | Work Plane

Properties

Floor Plan
Power - Sheet

Floor Plan: vEP-Level-01 | Edit Type

Graphics	
View Scale	1/8" = 1'-0"
Scale Value 1:	96
Display Model	Normal
Detail Level	Medium
Parts Visibility	Show Original
Visibility/Graphics Overr...	Edit...
Graphic Display Options	Edit...
Underlay	None
Underlay Orientation	Plan
Orientation	By Scope Box
Wall Join Display	Clean all wall joins
Discipline	Electrical
Color Scheme Location	Background
Color Scheme	<none>
System Color Schemes	Edit...
Default Analysis Display...	None
Visible In Option	all
Sub-Discipline	Power - Sheet Views (sv)
Sun Path	
Identity Data	
View Template	AMX - Electrical Power
View Name	vEP-Level-01
Dependency	Independent

Properties help | Apply

Project Browser - Sample Project - Elec.rvt | Properties

ELECTRICAL

E-1.6

1/8" = 1'-0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

Main Model | Exclude Options

Coordination between Electrical and Other Disciplines

- Create a multi-category schedule for coordination

<Electrical - Mechanical Coordination>

A	B	C	D	E	F	G	H	I
Type	Equipment		Is Electrical Power	Electrical Device		Voltage	Mechanical Equipment	
	Type	Number		Phase	HP		Phase	HP
480V 3PH 2 HP	FCU	1	☑	3	2	480		
FCU Horiz. (350-750 CFM)	FCU	1	☑			460	3	2.00
480V 3PH 5 HP	FCU	2	☑	3	5	480		
FCU Horiz. (550-1000 CFM)	FCU	2	☑			460	3	5.00

Shared parameters between elec and mech

Shared parameters between elec and mech

Coordination between Electrical and Other Disciplines

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From electrical connector

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Shared parameters between elec and mech

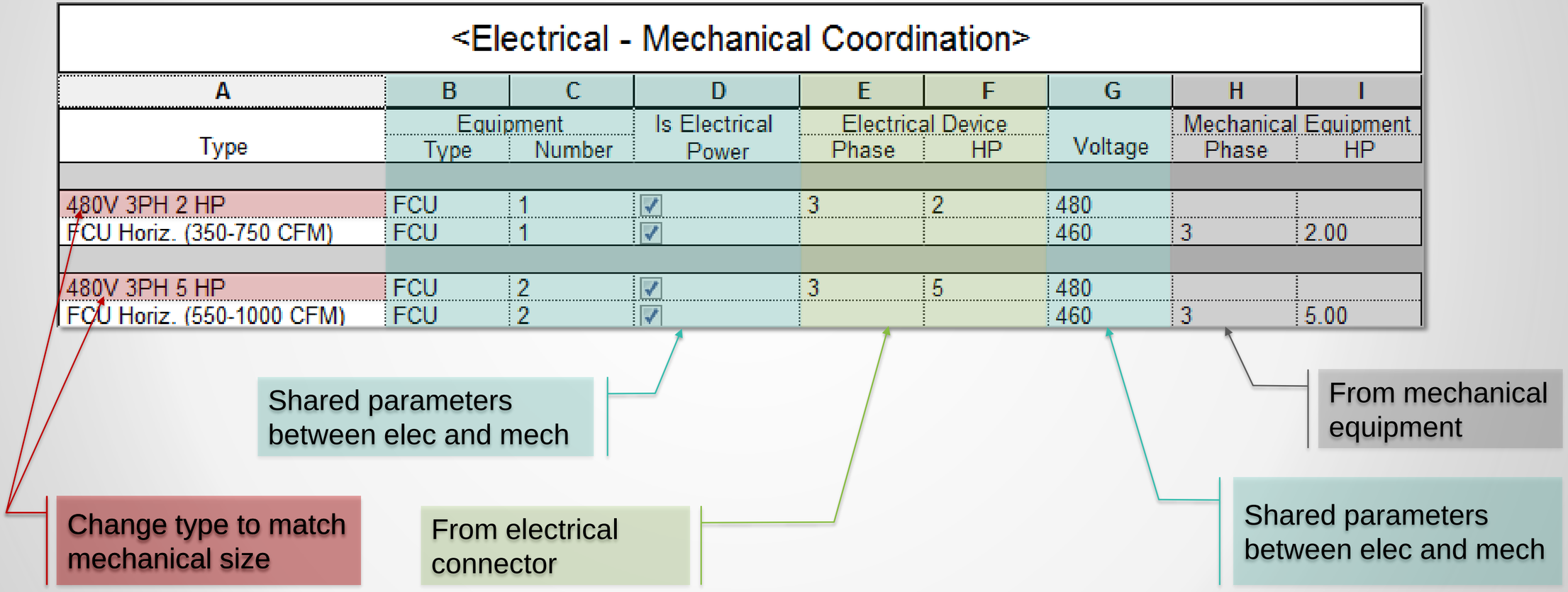
From mechanical equipment

From electrical connector

Shared parameters between elec and mech

Coordination between Electrical and Other Disciplines

- Create a multi-category schedule for coordination



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FCU Horiz. (550-1000 CFM)	FCU	2	☑			460	3	5.00

Coordination between Electrical and Other Disciplines

<MOTOR EQUIPMENT SCHEDULE>

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
EQUIPMENT							BRANCH CIRCUIT				BRANCH WIRING				CONTROLLER		REMOTE DISCONNECT		
TYPE	NO.	DESCRIPTION	VOLTAGE	HP	KVA	FLA	PANEL	CIRCUIT NUMBER	TRIP RATING	PHASE	CONDUCTOR SETS	CONDUCTOR QTY/SIZE	GROUND SIZE	CONDUIT SIZE	TYPE	COMBINATION (YES/NO)	TYPE	RATING	NOTES
FCU	1	FAN COIL UNIT	480	2	2.8	3	LSPP2HA	2,4,6	15	3	1	#12	#12	1/2"		☑		0 A	
FCU	2	FAN COIL UNIT	480	5	6.3	8	LSPP2HA	3,5,7	15	3	1	#12	#12	1/2"		☑		0 A	

Questions???

Thanks for attending!

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

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