Rockwell Standards

Project File Management

Introduction

This manual includes the Rockwell Group standards for folder structure, CAD and Rhino guidelines and naming conventions. Rockwell Group has established these guidelines with several goals in mind:

1. To allow more time to be spent on design work and less time on file management.
2. To allow any Rockwell Group employee to be able to find, view and print out a drawing, even if they do not usually work on the project or on CAD.
3. Efficiently record, coordinate, and exchange electronic drawing files with clients, consultants, and others.
4. To standardize the appearance of a drawing set done by several people
5. Avoid duplicating data to eliminate confusion.
6. Retrieving old projects will be quick and easy.
7. Ultimately increase efficiency of drawing production.

When projects are contractually required to follow standards other than ours, then the project manager is responsible for publishing a custom project manual with the required standards for that particular project, noting that the manual is not the Rockwell standard and customized for that particular project. The entire team, as well as the general CAD manager must receive a copy of the custom manual. In addition, a copy of the custom manual is to be saved in the project folder.

General Directory Structure

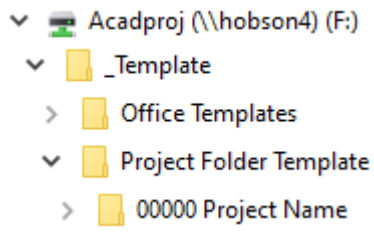
A consistent directory structure is necessary in the success of a project and to secure a comprehensive record set of drawings.

F: drive holds all the standard templates, current projects drawings and administrative files.

G: drive holds office wide support documents for all disciplines: CAD, 3D, Interiors, Graphics, etc.

K: drive holds completed projects (read-only)

F:_ Template



+ Office Templates

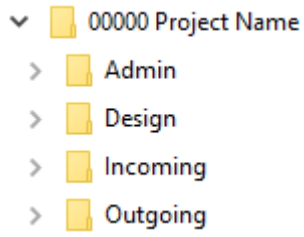
The Office Templates folder contains standardized office forms, logs and schedules to be utilized.

+ Project Folder Template

The Project Folder Template contains the sub-folder: 00000 Project Name, which is the template to be used for new project setups. Copy the ‘00000 Project Name’ and paste it into the appropriate **F:** drive sub-directory that is named by the job numbers. Then rename the newly pasted folder with the new job number and a description.

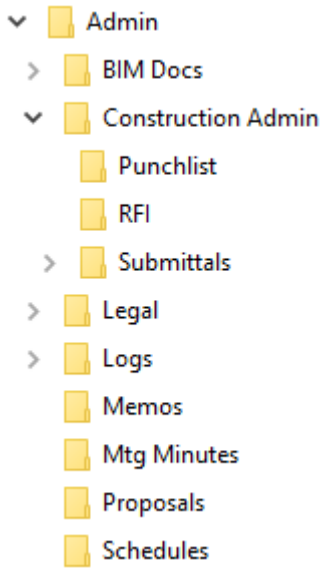
Project Folder Setup

Rockwell Project Folder Template is located under **F:_Template\Project Folder Template\00000 Project Name**
The Rockwell standard folder structure is broken down as follows:



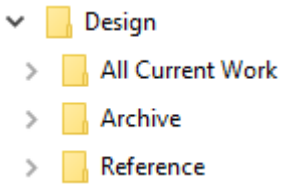
Admin

All the adminstrative documentation for a project belong in the **Admin** folder.
Rockwell Group has standard MSword and Excel templates to be utilized for documentation. These templates can be found under **F:_Template\Office Templates.**

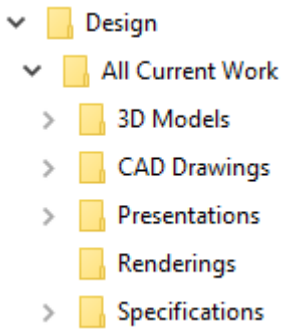


Design

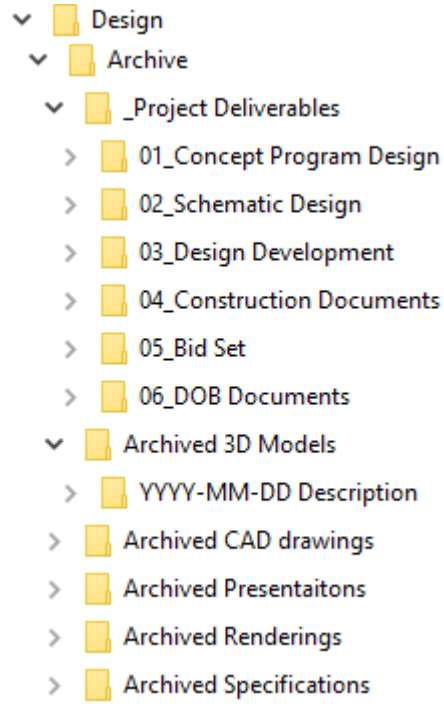
The **Design** folder is setup to include the design work across all disciplines. This folder and sub folders are not to be renamed or relocated.



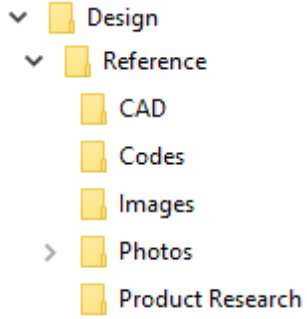
- **Design\All Current Work**
  This folder is divided into subfolders by discipline. The Presentation folder is the exception. Create a sub folder named with the presentation date and description. All files that are linked inside the Presentation file, across all disciplines, are to be saved in a links folder inside the Presentations folder.



- **Design\Archive**
  Contains issued sets, drawings and documentation. In addition, superceded sketches, layouts and options are archived here as well. Archiving often prevents clutter the All Current Work folder.

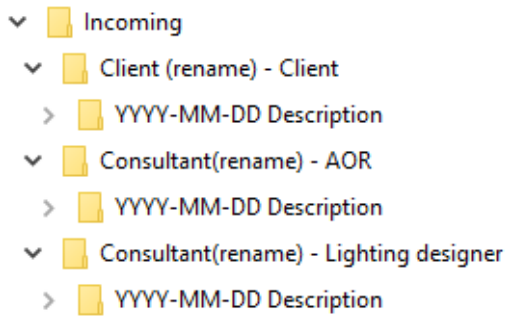


- **Design\Reference**
  Serves a the project ‘s library. All miscellanous items such as product and image research, photos, codes, project specific CAD blocks, etc are to be located here



Incoming

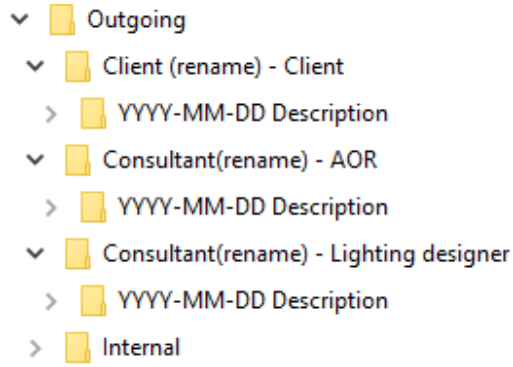
All original incoming documents received in a project are saved under the Incoming folder. Subfolders are to be created and labeled by consultants, client, vendor etc. Originals are to be saved in the sender's named folder, in a sub folder labeled with the date received and a description of the incoming documents.



Never link CAD backgrounds from the Incoming folder into the All Current Work folder, instead create a copy of the original and save it in the All Current Work\Architectura CAD drawings folder and rename the file to our RG standards. Incoming original documents are not to be modified. See naming format below.

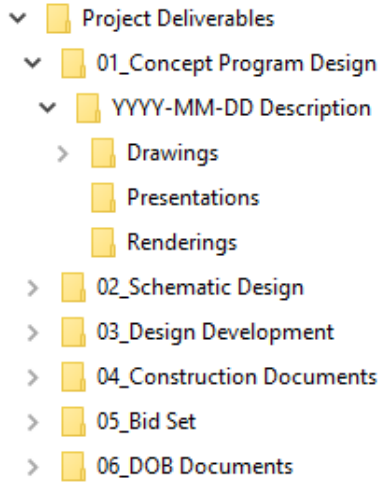
Outgoing

Maintain copies of all original Outgoing project documents sent out. Under the Outgoing folder, subfolders are to be created and labeled by consultants, client, vendor etc.. Below that save a copy of what you are sending out in a new folder named with the current date and full description. See naming format below.



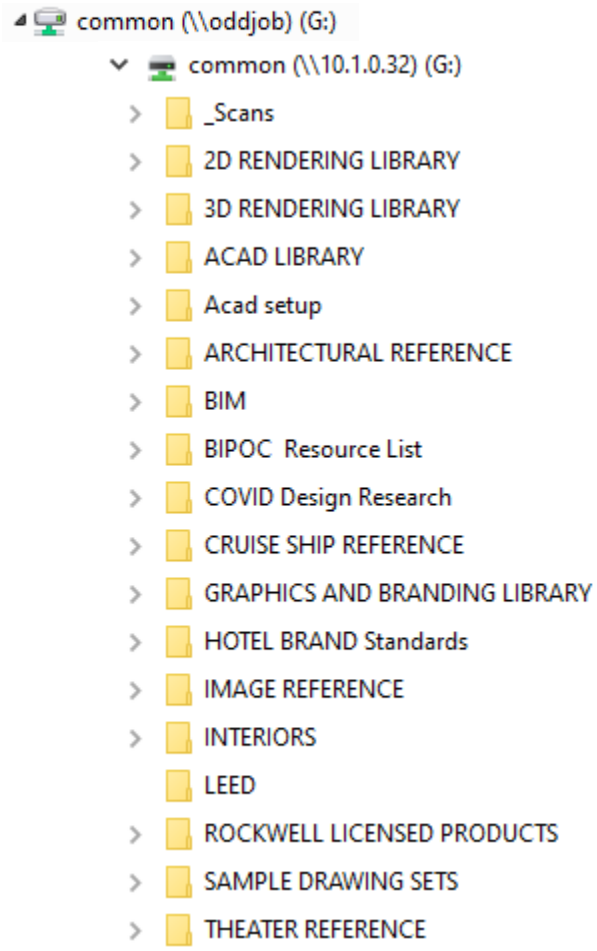
Project Deliverables

Record copies of all project documents delivered for the various contracted phases are to be saved under Project Deliverables. This folder is meant to provide easy access for any Rockwell Group employee to find, view and print out the project's deliverables.



G:\ Drive reference

The G:\ drive is an office wide reference source for all disiplines to utilize.



K:\ Drive

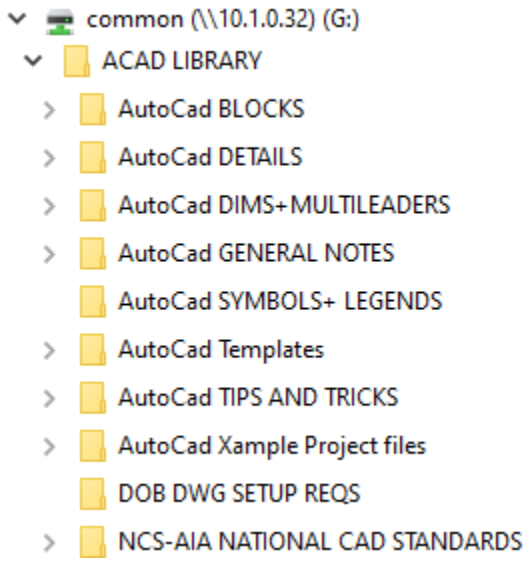
The K:\ drive contains completed/ closed out projects from previous years. The projects are orgainzed by year and job number. They are read-only record documents.

CAD Standards

CAD standards are key in coordinating the efforts of the design intent with the building process. A consistent CAD standard streamlines communication among design teams, not only in-house but also with our consultants, resulting in cost savings and greater efficiency in delivering to our clients.

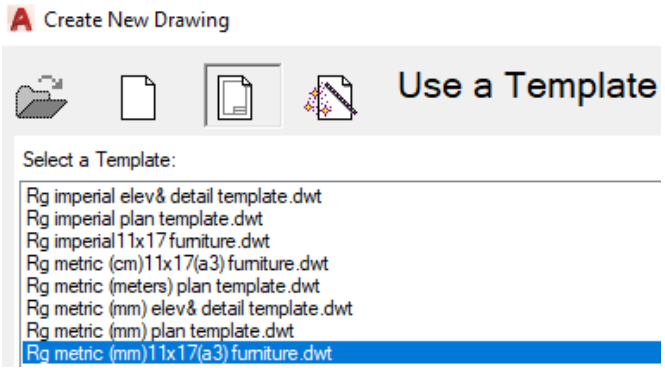
G:\ACAD LIBRARY

An office wide resource library for CAD templates, blocks, details, and tips and tricks can be found under:



CAD Drawing Template

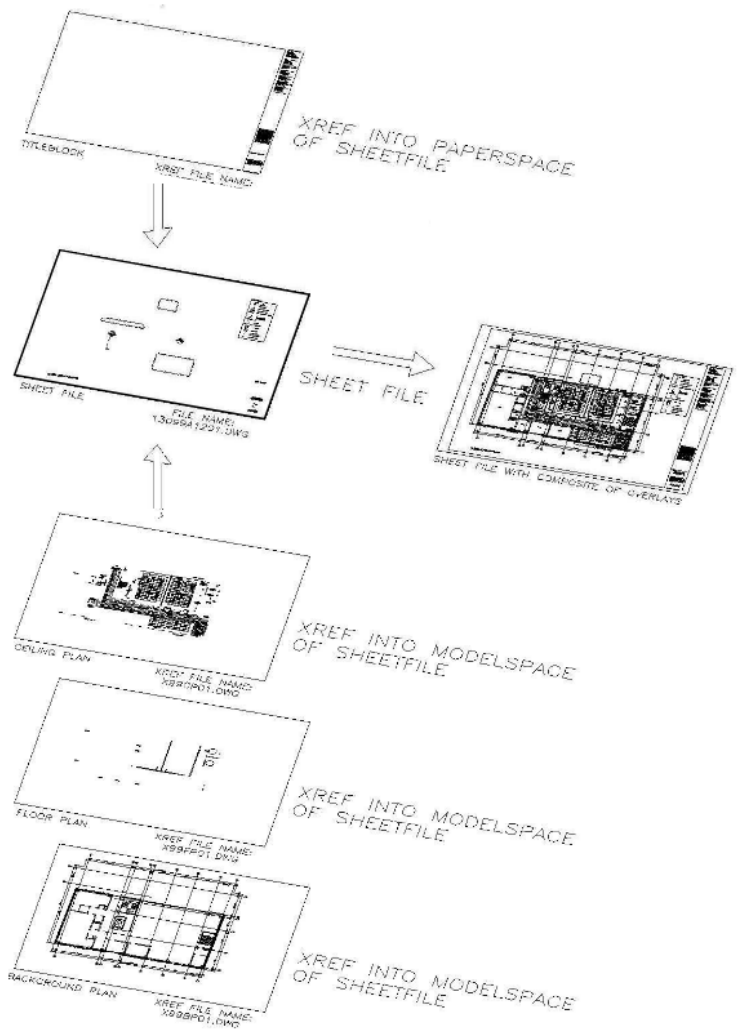
To start a new drawing, select a drawing template (.dwt) from G:\ ACAD LIBRARY. All standard Rockwell fonts, layers, dimension styles are embedded in these drawing templates. They give you the required Rockwell format to get started. To access these templates in Autocad, type: 'New' at the prompt., the dialogue box pops up:

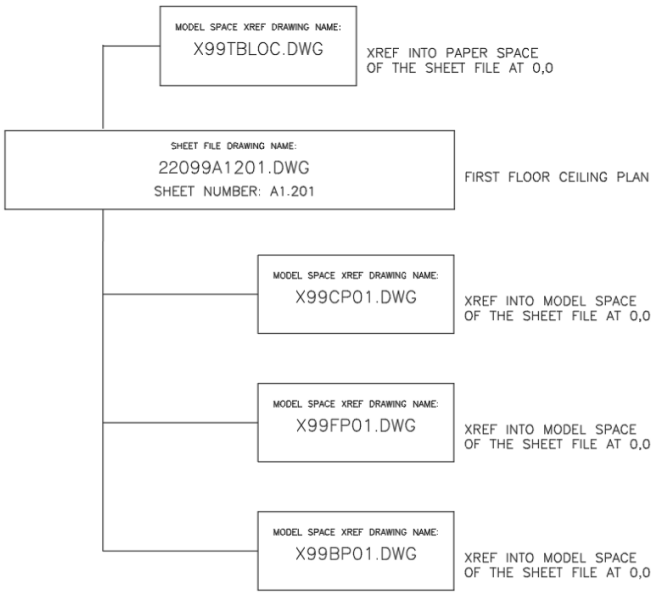


Sheet Structure Diagram

The diagram below illustrates the Rockwell standard method to assemble working drawings. There are two types of drawing files: **sheet files** and **external reference files (xrefs)**. Each sheet file is its' own drawing file. Multiple sheets shall not be created in a single drawing file. Sheet files are composed of xrefs. Creating sheets separate from the xrefs enable great flexibility for plot parameters, such as views, scales and layer visibility, without affecting the original referenced drawing. This practice allows a clear separation of scope and avoids duplication

Sheetfile assembly diagrams

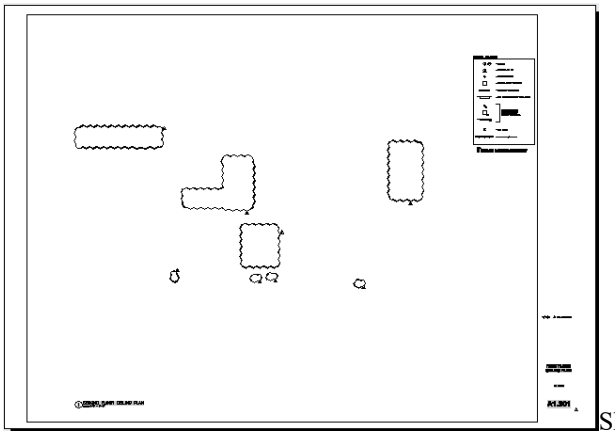




1/11/2024

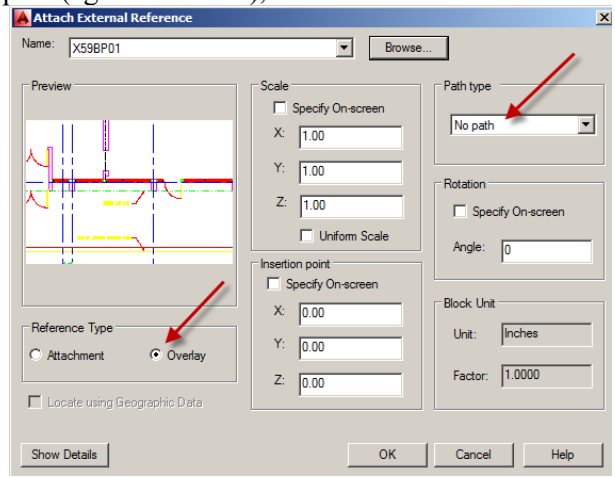
CAD Sheet file Templates for plotting at 1:1.

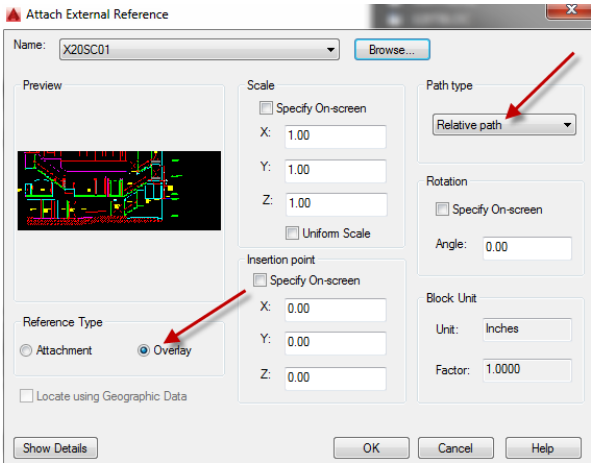
The purpose of sheet files is to layout scaled views (or viewports) of one or more xrefs**. Sheet files** open in paper space. Plot settings are saved and named in the Page Setup Manager. Viewports are arranged within the paper space border or title block (which is also an xref). **Sheet files** are never xref'd into other files. Design work is not drawn in the sheet, however, drawing titles and numbers, scales, legends, north arrows, callout and label blocks are placed into the paper space of the **Sheet file**. Dimensions and notes for construction plans are to be located in the model space of the sheet. This is done in order to keep the floor plan xref as a clean graphic plan to be referenced into multiple sheets. Eliminating notes and dimensions on the floor plan xref streamlines adjusting layer visibility in the **Sheet file** viewports. For elevations, sections and details: notes, tags and dimensions are placed in the XREF's model space.


Sheetfile with xrefs unloaded

External References

Files (xrefs) are full scale model space drawings. They can be referenced into other files. Xrefs are individually overlaid into the Sheet files. The reference type is always **Overlay**, in order to avoid nested drawings, **NEVER Attach** drawings and **NEVER Detach** them. Drawings can be **UNLOADED** as necessary. **NEVER** load the full path (eg.F:\22xxx\…), instead use **No Path** or the **Relative Path** if the drawing or image exists in another folder.





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Drawing File Naming Conventions:

- **Sheet File Naming Convention:** a sheet naming convention is necessary in order to locate drawing information easily. Sheet files always start with the full job number followed by the sheet number

5 DIGIT JOB NUMBER	+	SHEET NUMBER.	=	SHEET FILE NAME
22099		A101 (or ID101)		**22099A101.dwg (or 22099ID101.dwg)**

- **Xref File Naming Conventions:** All file names are to be typed in **ALL CAPS** and are limited to ONLY 8 characters in length. The only variables for xref file names are the drawing codes* and user defined areas. Xrefs should not deviate from this standard.

Floor Plans: the user defined field for plans is typically the called out as the floor number:

XREF	+ LAST 2 DIGITS OF JOB NO.	+ DWG CODE*	+ USER DEFINED	= **CAD FILE**
X	99	BP	01 (1st floor)	**X99BP01.dwg**
X	99	CP	01 (1st floor)	**X99CP01.dwg**
X	99	DP	01 (1st floor)	**X99DP01.dwg**
X	99	FP	01 (1st floor)	**X99FP01.dwg**
X	99	NP	01 (1st floor)	**X99NP01.dwg**
X	99	RP	01 (1st floor)	**X99RP01.dwg**
X	99	SP	01 (1st floor)	**X99SP01.dwg**

- **Elevations, Sections, and Details**: the user defined field is the sheet number the externally referenced drawing gets xref'd into:

XREF	+ LAST 2 DIGITS OF JOB NO.	+ DWG CODE*	+ USER DEFINED	= **CAD FILE**
X	99	EL	211 (sheet # A2.11)	**X99EL211.dwg**
X	99	SC	300 (sheet # A3.00)	**X99SC300.dwg**
X	99	DT	500 (sheet # A5.00)	**X99EL500.dwg**

- **Titleblocks:** found under: **G:\ACAD LIBRARY\AutoCAD\Templates\Templates Titleblocks.**

Save a copy the selected titleblock into your project folder with the naming convention below:

XREF	+ LAST 2 DIGITS OF JOB NO.	+ DWG CODE*	+ USER DEFINED	= **CAD FILE**
X	99		TBLOC	**X99TBLOC.dwg**

***Drawing codes** for naming plan files are taken from the AIA, ISO Drawing type codes:

BP -Base plan: No new work is drawn in this file because it is the 'background' or 'existing conditions' plan. The 'BP' file is a copy of the original drawing that resides in \Incoming.

CP -Ceiling plans communicate design intent: layouts, finishes, and any other ceiling design requirement. The 'CP' holds ceiling information including headers, coves, diffusers emergency lighting, exit signs and sprinklers. It requires BP and FP to create the final ceiling plan. This drawing is then coordinated with electrical engineers (and lighting consultants) who create separate lighting and electrical plans.

DP -Demo plan: existing conditions to be demolished. Use BP and DP to compose the Demo sheet. Items to be demolished go on a separate layer with the line type defined as dashed.

FP -Floor plan: elements such as new interior walls, stairs, handrails, millwork, doors, etc. are drawn here. The BP is overlaid as an xref to compose the final construction plan drawing. Demolition, furniture, floor finishes, and ceiling elements are not shown in this plan.

NP -Finish plans include floor patterns, in-floor carpet. It requires BP and FP to create the final finish plan drawing.

RP -Furniture plans illustrate furniture layouts for free standing furniture: tables, chairs, etc. It requires BP and FP to create the final furniture plan drawing.

SP -Site plan includes all site information as well as surrounding streets, buildings and area conditions. It usually requires the FP and BP to create the final site plan drawing.

Drawing code for naming vertical files

EL -Elevations include interior and exterior elevations including text and dimensions

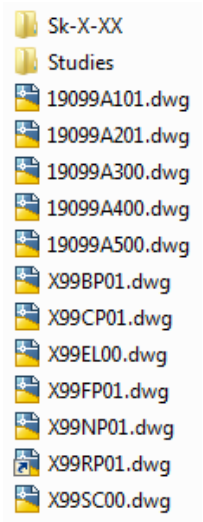
SC -Sections include interior and exterior sections including text and dimensions

DT -Details include details, enlarged sections and elevations of millwork and other misc areas. Text and dimensions are included

CAD Drawing Folder

All architectural drawings are created in the **Design\All Current Work Architecture CAD drawings** folder. All the sheets, sheet sets and externally referenced files reside in this same folder. Images and graphics that are referenced into the sheets drawing set reside in this folder as well. This format avoids missing paths and unreferenced drawings, PDF's and images.

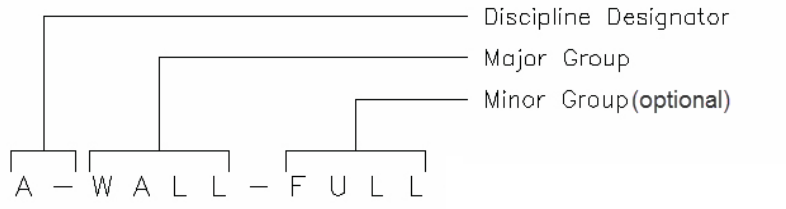
Example of an >Architecture CAD folder:



Layers

Layer management is the basic tool for managing graphic information in CAD. Entity color and line types are always BYLAYER. Do not manually change or force entity color or linetype.

The Rockwell standard layers for plans are based on the recommendations set forth in "AIA CAD Layer Guidelines" (AIA 2011). The layers are defined (standardized) by its name and its use:



Layer name for Plans	Color	Linetype	Description
0	7 (white)	CONTINUOUS	Create blocks on this layer
A-ANNO-CENT	5 (blue)	CENTER2	Center lines
A-ANNO-DIMS	2 (yellow)	CONTINUOUS	Dimensions
A-ANNO-SYMB	3 (green)	CONTINUOUS	Symbols
A-ANNO-TEXT	3 (green)	CONTINUOUS	Drawing notes
A-AREA	7 (white)	CONTINUOUS	Area calculation boundary lines
A-AREA-PATT	8 (gray), 1(red)	CONTINUOUS	Area cross hatching
A-CLNG	3 (green)	CONTINUOUS	Ceiling, soffits, canopies
A-CLNG-HVAC	3 (green)	CONTINUOUS	HVAC @ ceiling
A-CLNG-PATT	8 (gray)	CONTINUOUS	Ceiling patterns
A-COLS	3 (green)	CONTINUOUS	Columns, column enclosures
A-COLS-GRID	5 (blue)	CENTER2	Columns grid
A-COLS-IDEN	3 (green)	CONTINUOUS	Columns I.D. tags
A-DEMO	4 (cyan)	HIDDEN2	Demolition
A-DOOR	3 (green)	CONTINUOUS	Doors
A-DOOR-IDEN	3 (green)	CONTINUOUS	Doors I.D. tags
A-EQPM	3 (green)	CONTINUOUS	Equip.for rests/office/pantry/copy rooms
A-FIXT-PLBG	1 (red)	CONTINUOUS	Plumbing fixtures
A-FLOR-BELW	5 (blue)	HIDDEN2	Lower level items
A-FLOR-CASE	3 (green)	CONTINUOUS	Woodwork
A-FLOR-IDEN	3 (green)	CONTINUOUS	Room I.D. tags
A-FLOR-HRAL	3 (green)	CONTINUOUS	Handrails, guardrails
A-FLOR-LEVL	- (varies)	CONTINUOUS	Level changes, ramps, pits, slab edges
A-FLOR-OTLN	7 (white)	CONTINUOUS	Outline, mezzanine edge, floor openings
A-FLOR-OVHD	1 (red)	DASHED	Skylights, overhangs
A-FLOR-PATT	8 (gray), 1(red)	CONTINUOUS	Paving, tile, carpet patterns
A-FLOR-STRS	3 (green)	CONTINUOUS	Stair treads, escalators, ladders
A-FLOR-TPTN	3 (green)	CONTINUOUS	Toilet partitions
A-FURN	2 (yellow)	CONTINUOUS	Furniture
A-FURN-IDEN	3 (green)	CONTINUOUS	Furniture I.D. tags
A-FURN-PLNT	5 (blue)	CONTINUOUS	Furniture- plants
A-FURN-SYST	2 (yellow)	CONTINUOUS	Furniture: System panels
A-GLAZ	1 (red)	CONTINUOUS	Glazed openings, windows, walls
A-GLAZ-SILL	3 (green)	CONTINUOUS	Window sills
A-LITE	3 (green)	CONTINUOUS	Light fixtures
A-SITE	1 (red)	CONTINUOUS	Site, Landscape
A-WALL	4 (cyan)	CONTINUOUS	Full height walls that extend to slab above
A-WALL-HEAD	4 (cyan)	CONTINUOUS	Door headers for ceiling plans
A-WALL-PRHT	2 (yellow)	CONTINUOUS	Partial ht. walls DO NOT show in RCP

Layer names for Elevations, Section and Details are much simpler and so is our naming convention. All layers start with A-PN_. PN stands for PEN and the number represents the color number. The last field represents the line type.

Layer name for Elevs., Sects. and Details	Color	Linetype	Description
A-PN01	1 (red)	CONTINUOUS	For elevations & sections: thin solid line
A-PN01-HIDD	1 (red)	HIDDEN2	For elevations & sections: thin dashed line
A-PN01-PATT	1 (red)	CONTINUOUS	For elevations & sections: hatch
A-PN02	2 (yellow)	CONTINUOUS	For elevations & sections: medium line
A-PN03	3 (green)	CONTINUOUS	For elevations & sections: medium line
A-PN04	4 (cyan)	CONTINUOUS	For elevations & sections: heavy line
A-PN05	5 (blue)	CONTINUOUS	For elevations & sections: light line
A-PN06	6 (magenta)	CONTINUOUS	For elevations & sections: heavy line
A-PN07	7 (white)	CONTINUOUS	For elevations & sections: ex. heavy line
A-PN08	8 (gray)	CONTINUOUS	For elevations & sections: screened line
A-PN09	9 (lt. gray)	CONTINUOUS	For elevations & sections: screened line
DEFPOINTS	7 (white)	CONTINUOUS	drawing notes for CAD reference: no plot

Creating Blocks

The layer and insertion point on which a block is created affects its properties once it is inserted into a drawing. Blocks created on layer 0 with color and line type by layer have the properties of the layer it is inserted on. If a block is created on any layer other than 0, the layer on which you create a block determines the blocks properties not the layer you insert it on. It is useful to have a block take on the properties of the layer it is inserted on because it give you a visual clue to what layer you are working with. Setting the block's origin (0,0), also called the insertion point, to be the corner or midpoint of the block is very important in placing or replacing blocks.

For the creation of blocks follow these rules:

1. Blocks that only need one layer should be created on layer 0. (Blocks where everything in the block will always be one color, one layer and always be visible at the same time only require one layer and should be created on layer 0.)
2. In block drawings everything is drawn color by layer and line type by layer, no exceptions.
3. Every block must have something created on layer 0. The 0 layer will take on the properties of the layer it is inserted on.
4. Layers for general blocks (like furniture) that require more than one layer in order to turn on and off segments of the block, are similar to the layer names of sections and elevations: the block layers start with A- BL0_. 'BL' stands for block and the number represents the AutoCAD color number. The last field is optional and can be used to describe line type, etc. For example:
5. The block insertion point (0,0) must be located at the corner or midpoint of the block.

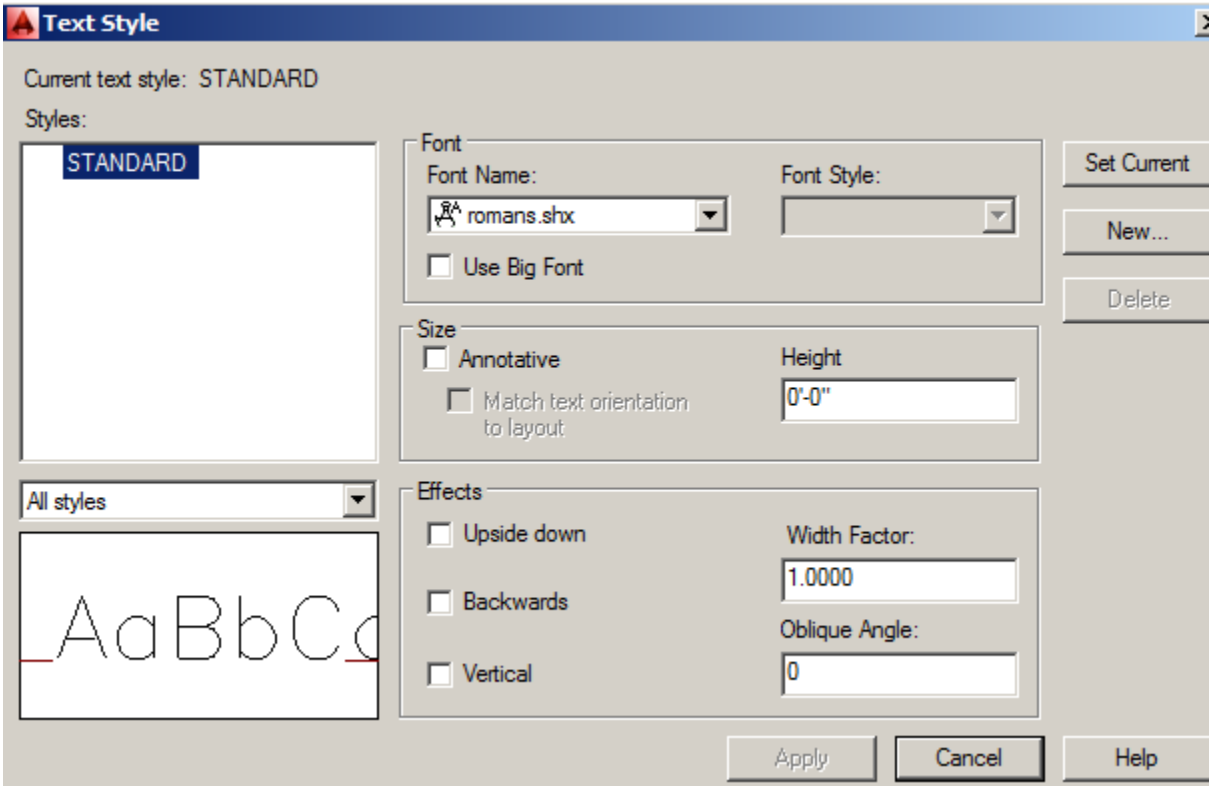
Block creation layers

Layer	Color	Linetype	Description
0	BYLAYER	BYLAYER	Primary layer for block creation
A-BL01	1 (red)	CONTINUOUS	Optional added layer for block creation
A-BL01-HIDD	1 (RED)	HIDDEN2	Optional added layer for block creation

Text Style

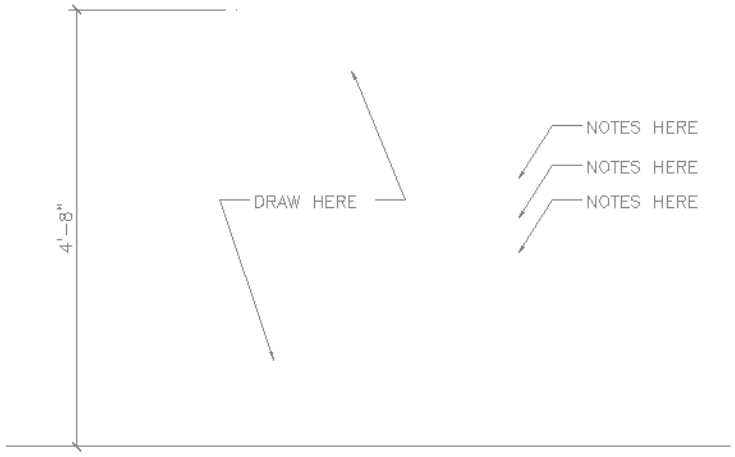
The Rockwell text style is defined as:

Style**: Standard** Font: **romans.shx** Height: **0’-0**” Width: **1.000**



Dimension Styles

Rockwell group has standardized dimension styles in both imperial and metric. The dimension styles consist of architectural ticks. The leaders are closed filled. The 3/32” plot size text set by default to paper space scaling. For example, ¼” scale dimensioning would be called STANDARD48 and text would be scaled at a factor of 48. Dimensions are always associative. The dimension styles are in **G:\ACAD LIBRARY\AutoCad Templates\Templates Dimensions**



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Rockwell Plot Styles:

Full scale: **RGHP-FINE.ctb**

Plot Style Table Editor - RGHP-FINE.ctb

General | Table View | Form View

Name	Color 1	Color 2	Color 3	Color 4	Color 5	Color 6	Color 7	Color 8	Color 9	Color 10
Description	Description_1	Description_2	Description_3	Description_4	Description_5	Description_6	Description_7	Description_8	Description_9	Description_10
Color	Black	Black	Black	Black	Black	Black	Black	128,128,128	220,220,220	Black
Enable dithering	Off	Off	Off	Off	On	Off	Off	On	On	On
Convert to grayscale	Off	Off	Off	Off	Off	Off	Off	On	On	Off
Use assigned pen #	7	7	7	7	7	7	7	8	9	10
Virtual pen #	7	7	7	7	7	7	7	8	9	10
Screening	100	100	100	100	80	100	100	45	75	100
Linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype
Adaptive adjustment	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Lineweight	0.0150 mm	0.1778 mm	0.2000 mm	0.2540 mm	0.0150 mm	0.3302 mm	0.3500 mm	0.0254 mm	0.0254 mm	0.0150 mm
Line End Style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style
Line Join style	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel
Fill Style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style

Full scale: **RGHP.ctb**

Plot Style Table Editor - RGHP.ctb

General | Table View | Form View

Name	Color 1	Color 2	Color 3	Color 4	Color 5	Color 6	Color 7	Color 8	Color 9	Color 10
Description										
Color	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Enable dithering	On	On	On	On	On	On	On	On	On	On
Convert to grayscale	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Use assigned pen #	7	7	7	7	7	7	7	7	7	7
Virtual pen #	7	7	7	7	7	7	7	7	7	7
Screening	100	100	100	100	100	100	100	45	40	100
Linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype
Adaptive adjustment	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Lineweight	0.0254 mm	0.1524 mm	0.2032 mm	0.3000 mm	0.0100 mm	0.3810 mm	0.4826 mm	0.0254 mm	0.0100 mm	0.3000 mm
Line End Style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style
Line Join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style	Use object join style
Fill Style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style

Add Style | Delete Style | Edit Lineweights... | Save As...

Save & Close | Cancel | Help

Half scale printing**: RGHALF.ctb**

Plot Style Table Editor - RGHP-FINE.ctb

General | Table View | Form View

Name	Color 1	Color 2	Color 3	Color 4	Color 5	Color 6	Color 7	Color 8	Color 9	Color 10
Description	Description_1	Description_2	Description_3	Description_4	Description_5	Description_6	Description_7	Description_8	Description_9	Description_10
Color	Black	Black	Black	Black	Black	Black	Black	128,128,128	Black	Black
Enable dithering	Off	Off	Off	Off	On	Off	Off	On	On	On
Convert to grayscale	Off	Off	Off	Off	Off	Off	Off	On	On	Off
Use assigned pen #	7	7	7	7	7	7	7	8	9	10
Virtual pen #	7	7	7	7	7	7	7	8	9	10
Screening	100	100	100	100	80	100	100	45	80	100
Linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype	Use object linetype
Adaptive adjustment	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Lineweight	0.0150 mm	0.1778 mm	0.2000 mm	0.2540 mm	0.0150 mm	0.3302 mm	0.3500 mm	0.0254 mm	0.0150 mm	0.0150 mm
Line End Style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style	Use object end style
Line Join style	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel	Bevel
Fill Style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style	Use object fill style

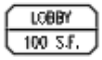
Add Style | Delete Style | Edit Lineweights... | Save As...

Save & Close | Cancel | Help

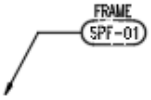
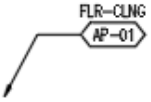
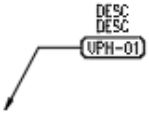
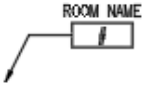
Rockwell Group Notation Blocks

G:\ACAD LIBRARY\AutoCad BLOCKS\0Notation Tags

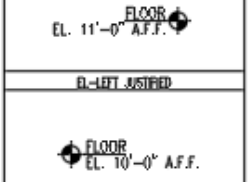
DYNAMIC BLOCKS TO BE INSERTED IN MODEL SPACE

FINISH SYMBOL (WALL & BASE)	FINISH SYMBOL (FLOOR & CEILING)	FURNITURE CODE SYMBOL	ROOM NAME/NUMBER SYMBOL	AREA LOCATION & CALCULATION
				
FIN-TAG	FIN-FLR	FURN-TAG	ROOM-NUM	AREA-TAG

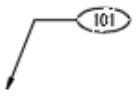
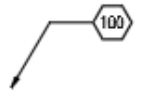
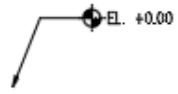
MULTILEADERS TO BE INSERTED IN MODEL SPACE

FINISH SYMBOL (WALL & BASE)	FINISH SYMBOL (FLOOR & CEILING)	FURNITURE CODE SYMBOL	ROOM NAME/NUMBER SYMBOL	AREA LOCATION & CALCULATION
				
FIN-TAG	FIN-FLRC	FURN-TAG	ROOM-NUM	AREA-TAG

DYNAMIC BLOCKS TO BE INSERTED IN MODEL SPACE

DOOR NUMBER SYMBOL	WINDOW NUMBER SYMBOL	ELEVATION SYMBOL		
				
DOOR-NUM	WIN-NUM	ELEV	EL-RIGHT JUSTIFIED	EXIT SIGN dyn

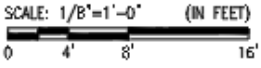
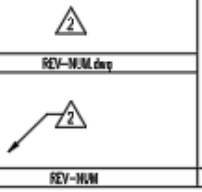
MULTILEADERS TO BE INSERTED IN MODEL SPACE

DOOR NUMBER SYMBOL	WINDOW NUMBER SYMBOL	ELEVATION SYMBOL	START POINT SYMBOL	
				
DOOR-NUM	WIN-NUM	ELEV	START POINT TAG	

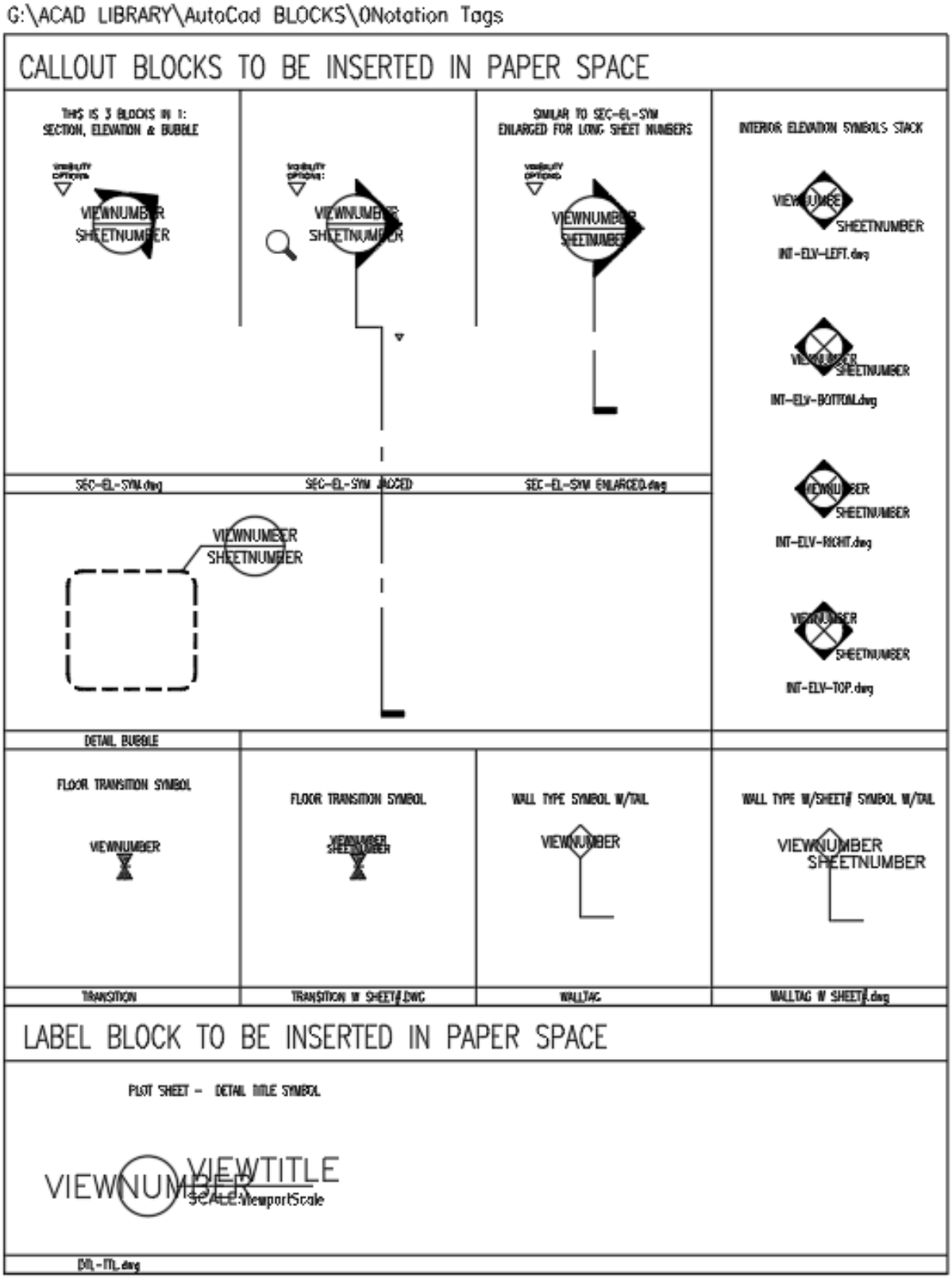
DYNAMIC BLOCKS TO BE INSERTED IN MODEL SPACE

		CENTERLINE SYMBOL	COLUMN BUBBLE	
				
BREAKLINE dyn	BREAKLINE DBL dyn	CENTR-LN dyn	COL-NUM + TAIL dyn	

MISC. BLOCKS TO BE INSERTED PAPER SPACE

NORTH ARROW rotates at 10 Deg. Incr		REVISION SYMBOL	INTERIOR ELEVATIONS (DO NOT USE WITH SHEET SET MANAGER)
			
N-ARROW.dwg	GRAPHIC SCALES DYN.dwg	REV-NUM	INT-ELEV

Rockwell Group Notation Blocks



Size of text and dimensions in Model Space

Most architectural plans and elevations for houses and small buildings are traditionally drawn at 1/4" = 1'-0" scale. Other buildings use 1/8" = 1'-0" scale. Details are drawn at 1 1/2" = 1'-0" or 3" = 1'-0" scale. Each of these drawing scales will need to have a corresponding text size and dimensioning scale (the "DIMSCALE") set. In other words, if you want the final text size on a plotted drawing to appear to be 1/4" in height, and you plot the drawing at 1/4" = 1'-0" scale, you will have to draw the actual text at a 12" height in AutoCAD. This is a difficult idea to get used to, but is a natural result of drawing everything at full size.

			Compare				
				Inches			
Metric scale		2.4mm		Imperial scale			3/32”
1:200	Text Height =	480mm		1:192	1/16”= 1’-0”	Text Height =	1’-6”
1:100	Text Height =	240mm		1:96	1/8”= 1’-0”	Text Height =	0’-9”
1:50	Text Height =	120mm		1:48	1/4”= 1’-0”	Text Height =	4 1/2”
1:25	Text Height =	60mm		1:24	1/2”= 1’-0”	Text Height =	2 1/4”
1:10	Text Height =	24mm		1:16	3/4”= 1’-0”	Text Height =	1 1/2”
1:5	Text Height =	12mm		1:8	1 1/2”= 1’-0”	Text Height =	3/4”
1:1	Text Height =	2.4mm		1:1	1’-0” = 1’-0”	Text Height =	3/32”

Size of sheet comparison

SHEET SIZES

ANSI		ISO		Architectural		
Mark	Size mm (inches)	Mark	Size mm (inches)	Mark	Size mm (inches)	Typical Uses
A	216 x 279 (8.5 x 11)	A4	210 x 297 (8.3 x 11.7)	A	229 x 305 (9 x 12)	Project book. Supplemental Drawings. Mock-up sheets.
B	279 x 432 (11 x 17)	A3	297 x 420 (11.7 x 16.5)	B	305 x 457 (12 x 18)	Reduced drawings from “D” size and “A1” originals. Supplemental Drawings. Mock-up sheets.
C	432 x 559 (17 x 22)	A2	420 x 594 (16.5 x 23.4)	C	457 x 610 (18 x 24)	Small projects accommodating preferred plan scale.
D	559 x 864 (22 x 34)	A1	594 x 841 (23.4 x 33.1)	D	610 x 914 (24 x 36)	Projects accommodating preferred plan scale. Government projects.
E	864 x 1118 (34 x 44)	A0	841 x 1189 (33.1 x 46.8)	E	914 x 1219 (36 x 48)	Large projects accommodating preferred plan scale. Mapping and GIS.
–	–	–	–	F	762 x 1067 (30 x 42)	Alternate size for projects accommodating preferred plan scale.

ANSI, ISO, and all but F of Architectural size sheets have a consistent sheet module within each system. The sheet size for each type of sheet is an equal module to the next larger sheet size.

CAD checklist

- **All drawing files shall undergo the following checks prior to submission:**

Submission Checks

1. All filenames comply with Rockwell Standards
2. Verify that all entities outside the drawing limits are deleted.
3. Ensure that all blocks, layers, attributes, etc., not referenced in the drawing are purged.
4. Verify that all xrefs are attached without drive or directory specifications.
5. All xref insertion points are 0,0,0
6. Scan all files for viruses.
7. Check that all unused layout tabs are deleted.
8. Check that all unused xrefs are removed from the drawings
9. All layer names comply with the Rockwell Layer Guidelines
10. All text is the Rockwell 'standard' style font.
11. All linetypes are bylayer
12. Line colors are bylayer
13. All dimensions comply with the Rockwell template and shall not be exploded.

Commands settings

1. **BASE**: Insertion base point (0,0,0)
2. **GRID**: Off
3. **LAYER**: Current layer is 0
4. **PSLTSCAL**E: Set to 1
5. **VISRETAIN**: Set to 1
6. **LIMITS Off**: drawing limits to drawing size
7. **LINETYPE**: linetype BYLAYER
8. **POINT:** Display mode 0, size 0.0
9. **XREF:** Overlay
10. **SNAP:** Off
11. **OSNAPZ:** SET TO 1
12. **TEXT:** Style STANDARD
13. **UCS**: Set UCS to world
14. **UCSICON**: Set UCSICON to noorigin
15. **ZOOM**: To drawing extents

Variables Settings

1. **BLIPMODE:** Off
2. **ISAVEPERCENT:** 0, ensures every SAVE is a full SAVE
3. **PDMODE**: 0, controls how point objects are displayed
4. **PDSIZE**: 0**,** sets the display size for point objects
5. **UNIT PRECISION SCALE**: Set to 1/16"

1/11/2024

RHINO STANDARDS

OVERVIEW:

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1. INTRODUCTION

This document aims to standardize the organizational structure within rhino. This is not intended to be a strict set of rules, but more of a framework for designers to utilize and adapt to their project's specific needs. Some goals of the document are:

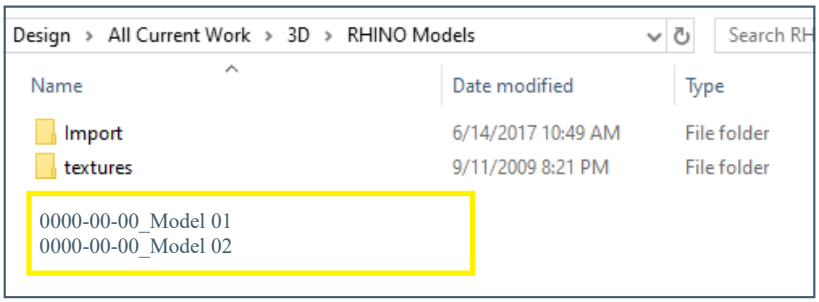
a) Standardize the naming and filing conventions of Rhino models.
(This should improve folder navigation and workflow while using "Worksessions".)

b) Introduce a layer structure and naming convention within Rhino models.
(This should improve file navigation and workflow of models that need to communicate with Revit.

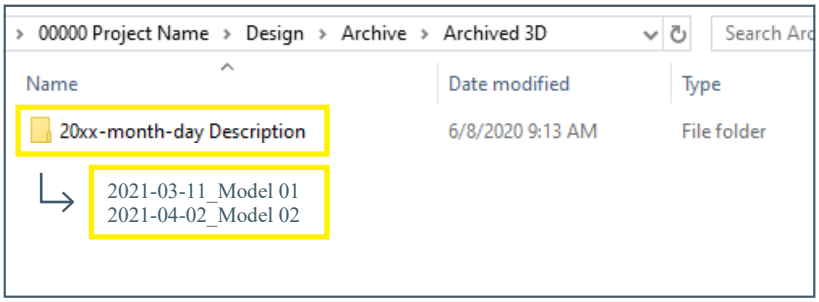
2. FILE MANAGEMENT

Only current Rhino models should be located in the "...\Design\All Current Work\3D\RHINO Models" folder. Current models should be named, "0000-00-00_File Name". Models that are not up to date should be moved to the "...\Design\Archive\Archived 3D" Folder, and given a date, i.e. "2021-03-11_Model 01". Aim to limit the number of Archived 3D folders by using general descriptions so multiple models can live in a folder.

CURRENT MODELS →



ARCHIVED MODELS →



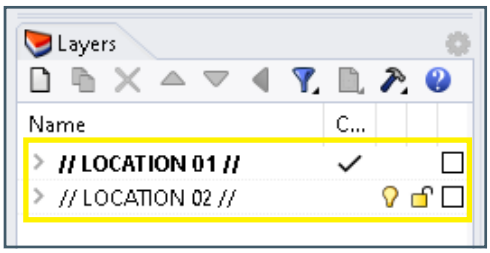
3. LAYER STRUCTURE

Layers should be organized using the 4 tiered system provided below. Each tier has a specific use, but all of them may not be required on every project. The tiers are organized as such:

1) PARENT LAYER – Describes the Location of elements.

Only add if model needs to be broken up by spaces.

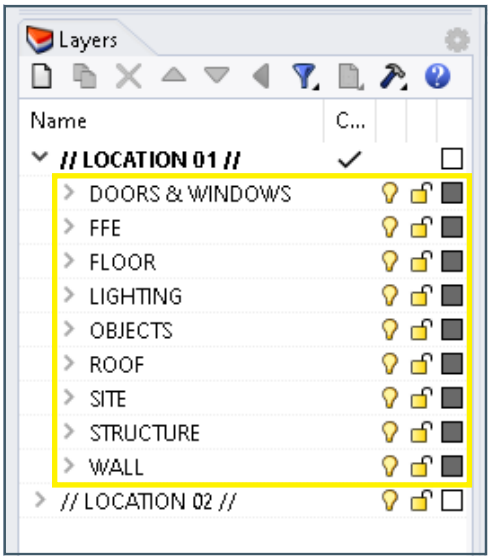
(No geometry on this layer.)



2) GENERAL LAYER – Describes the Categories/Types of elements.

For projects using Revit, names should resemble common building families like Wall, Floor, Roof, etc.. Rhino specific layers like Lighting and FFE can also be included. For projects not using Revit, naming should just be clear and simple. All models should contain General Layers.

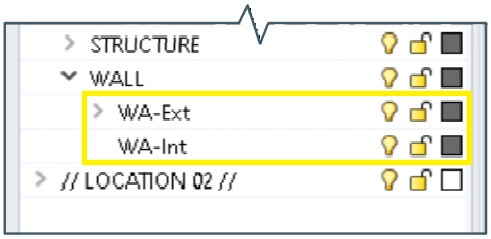
(No geometry on this layer.)



3) SUB-LAYER – Describes the Specific element.

Add the first two letters of General Layer to the front of the Sub-Layer name, i.e. "FL-Stone". All models should contain Sub-Layers, but aim to reduce the total number of Sub-Layers when possible.

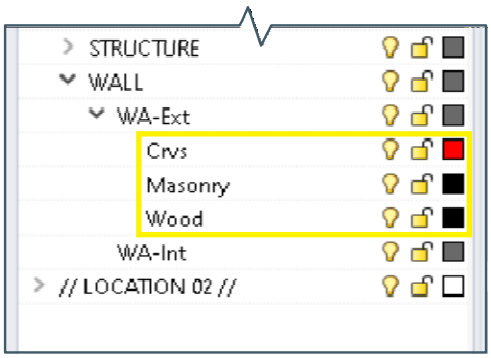
(Geometry goes here!)



4) DETAIL LAYER – Describes the Details of Sub-Layer.

Two examples of this would be adding multiple options to a Sub-Layer or more specific break down of elements/materials. Only add Detail Layers as needed.

(Geometry goes here too!)

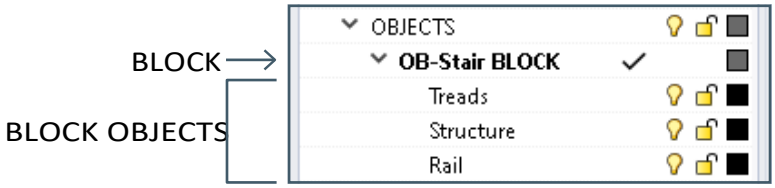


4. DO / DON'T

- DO... Refer to your Project Manager for your project's specific organizational needs. (All projects and their deliverables are different, i.e. a restaurant has a different set of priorities than a master- planning project. The PM will have the best understanding of how to organize one's rhino file to meet the needs of that project.)

- DO... Consider how materials are applied in your model, they can either be applied by Object or Layer. (Applying materials by Object can reduce the number of total layers in a model and materials applied to Objects can be selected via the material editor panel. Applying materials by Layer requires more Sub & Detail layers to separate elements with different materials. Both methods will require clear naming in your material editor. Consult your PM prior to choosing a method.)

- DO... Consider layer structure when creating Blocks. (One way to construct a Block would be to place all of the objects within a block on Detail Layers, and the Block on their Sub-Layer. This allows you to turn on/off or isolate all of the elements within that Block.)

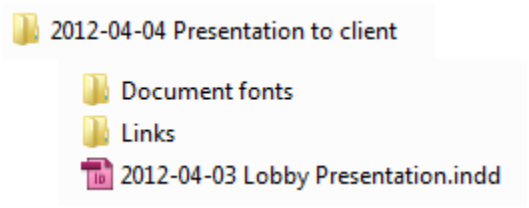


- DON'T... Import non-native models (Revit, CAD, etc.) into your project's rhino model. (Importing non-native models directly into your working file can bring in unwanted layers/blocks/hatches/etc. To avoid this, open these files in a new rhino model and either Worksession that saved file into project's rhino model or group the elements you need and copy/paste them into your model.)

Indesign

- **DO NOT** link files into InDesign from your desktop, USB key, etc.
    - All FONTS and IMAGES used in the project must be stored in the project folder. See below for an example of a project InDesign folder

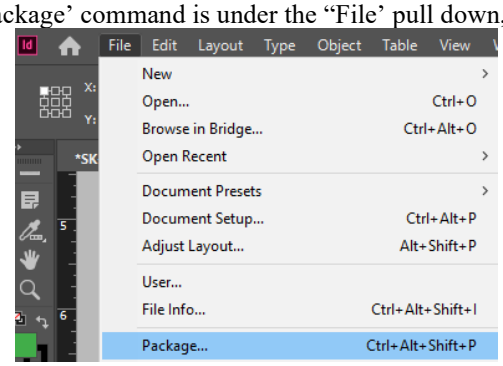
Final Presentations



Saving an InDesign document:

- InDesign documents must be packaged before closing. Use the 'Package' command before closing all final documents. This command automatically creates 2 subfolders (one for document fonts and another for links,). They are automatically located in the same folder as the .indd file.

The 'Package' command is under the "File' pull down, or Alt+Shift+Ctrl+P (on the PC)



InDesign record copy documentation:

- Create a final PDF in the same folder as the Indd file. A record copy in PDF format is essential.