Space Modeler User Guide **Preparing an input layout in Revit**

April 17, 2024

Workflow



Software requirements

1. Install Revit

2. Install WinZip

Install Revit



Older versions of Revit are ok if already installed!

https://www.autodesk.de/education/home

Revit requirements

Revit 2024

Minimum: Entry-Level Configuration

Operating System *	64-bit Microsoft® Windows® 10 or Windows 11. See Autodesk's <u>Product Support Lifecycle</u> for support information.
СРИ Туре	Intel® i-Series, Xeon®, AMD® Ryzen, Ryzen Threadripper PRO. 2.5 GHz or Higher.
	Highest CPU GHz recommended. Autodesk® Revit® software products will use multiple cores for many tasks.
Memory	 16-GB RAM Usually sufficient for a typical editing session for a single model up to approximately 300 MB on disk. This estimate is based on internal testing and customer reports. Individual models will vary in their use of computer resources and performance characteristics. Models created in previous versions of Revit software products may require more available memory for the one-time upgrade process.
Video Display Resolutions	Minimum: 1280 x 1024 with true color Maximum: UltraHigh (4k) Definition Monitor
Video Adapter	Basic Graphics: Display adapter capable of 24-bit color Advanced Graphics: DirectX® 11 capable graphics card with Shader Model 5 and a minimum of 4 GB of video memory
Disk Space	30 GB free disk space
Pointing Device	MS-Mouse or 3Dconnexion® compliant device
.NET Framework	.NET Framework Version 4.8 or later.
Browser	Chrome, Edge, or Firefox
Connectivity	Internet connection for license registration and prerequisite component download

https://www.autodesk.com/support/technical/article/caas/sfdcarticles/sfdcarticles/System-requirements-for-Revit-2024-products.html

Software requirements

- 1. Install Revit
- 2. Install 7-Zip Used to set up project files and create 'input_layout.zip' archives

Download 7-Zip (https://www.7-zip.org/download.html)

			Download		
vnload 7-Zip 19.	00 (2019-02-21) for Windows:			
Link Type	Windows	Descript	tion		
wnload .exe	32-bit x86	7-Zip for 32-bit Windows		Ν	
wnload .exe	64-bit x64	7-Zip for 64-bit Windows x64 (Intel 64 o	r AMD64)	13	62
wnload .7z	x86 / x64	7-Zip Extra: standalone console version,	7z DLL, Plugin for Far Manager		
wnload .7z	Any	7-Zip Source code			
wnload .7z	Any / x86 / x64	LZMA SDK: (C, C++, C#, Java)			
wnload .msi	32-bit x86	(alternative MCI installer) 7 7in for 32 hi			
		(alternative PISE Installer) 7-Zip for 32-bi	it Windows		
wnload .msi	64-bit x64	(alternative MSI installer) 7-Zip for 64-bi	it Windows it Windows x64 (Intel 64 or AMD64)		
ad .msi ad 7-Zip 21. Type	64-bit x64 01 (2021-03-09 System	(alternative MSI installer) 7-Zip for 64-bi	it Windows it Windows x64 (Intel 64 or AMD64)		
nload .msi nload 7-Zip 21. nk Type nload .exe	64-bit x64 01 (2021-03-09 System 64-bit Windows	(alternative MSI installer) 7-Zip for 64-bi (alternative MSI installer) 7-Zip for 64-bi): Description x64	it Windows it Windows x64 (Intel 64 or AMD64)		
wnload .msi wnload 7-Zip 21. Link Type wnload .exe wnload .exe	64-bit x64 01 (2021-03-09 System 64-bit Windows 32-bit Windows	(alternative MSI installer) 7-Zip for 32-00 (alternative MSI installer) 7-Zip for 64-bi): <u>Description</u> x64 x86 7-Zip for Windows	it Windows it Windows x64 (Intel 64 or AMD64)		
wnload .msi wnload -Zip 21. Link Type wnload .exe wnload .exe wnload .exe	64-bit windows 64-bit Windows 32-bit Windows 64-bit Windows	(alternative MSI installer) 7-Zip for 32-bi (alternative MSI installer) 7-Zip for 64-bi x64 x86 arm64 7-Zip for Windows	it Windows x64 (Intel 64 or AMD64)		
wnload .msi wnload Zip 21. Link Type wnload .exe wnload .exe wnload .exe wnload .tar.xz	64-bit X64 01 (2021-03-09 System 64-bit Windows 32-bit Windows 64-bit Windows 64-bit Linux X80	(alternative MSI installer) 7-Zip for 32-bi (alternative MSI installer) 7-Zip for 64-bi (alternative MSI insta	it Windows x64 (Intel 64 or AMD64)		

Download .msi 64-bit x64 (alternative MSI installer) 7-Zip for 64-bit Windows x64 (Intel 64 or AMD64)

(alternative MSI installer) 7-Zip for 32-bit Windows

Any / x86 / x64 LZMA SDK: (C, C++, C#, Java)

Download 7-Zip 9.20 (2010-11-18) for Windows:

Download

Download

.7z

.msi

32-bit x86

Run 7-Zip installer

Ez 7-Zip 19.00 (x64) Setup ×	Conv path to installation directory for
Destination folder:	later use
C:\Program Files\7-Zip\ Install Cancel	<pre> Initer use Init</pre>
	I
	Ln 1, Col 1 100% Windows (CRLF) UTF-8

Windows: Add path to 7-Zip directory to Environment Variables



Windows: Add path to 7-Zip directory to Environment Variables

Variable	Value	,
A3DT	C:\Spatial\ACIS_2019.1.0.2	
ARCH	NT_VC14_64_DLLD	1
BOOST_DIR	C:\BOOST\boost_1_59_0	
BOOST_INCLUDEDIR	C:\BOOST\boost_1_59_0	
BOOST_LIBRARY	C:\BOOST\boost_1_59_0\lib64-msvc-14.0	
BOOST_LIBRARYDIR	C:\BOOST\boost_1_59_0\lib64-msvc-14.0	
BOOST ROOT	C:\BOOST\boost 1 59 0	1
stem variables Variable	Value	,
stem variables Variable NUMBER_OF_PROCESSORS	Value 8	,
stem variables Variable NUMBER_OF_PROCESSORS	Value 8	-
stem variables Variable NUMBER_OF_PROCESSORS CS Path	Value 8 ***********************************	,
stem variables Variable NUMBER_OF_PROCESSORS CS Path PATHEXT	Value 8 %PATH%;C:\Program Files\CMake\bin;C:\BOOST\boost_1_59_0;C:\ .COM: FXF: BAT: CMD: VRS: VRF: IS: JSE: WSF: WSH: MSC	,
stem variables Variable NUMBER_OF_PROCESSORS CS Path PATHEXT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_IEVEL	Value 8 ***********************************	,
stem variables Variable NUMBER_OF_PROCESSORS CS Path PATHEXT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER PROCESSOR_LEVEL	Value 8 %PATH%;C:\Program Files\CMake\bin;C:\BOOST\boost_1_59_0;C:\ COM: FXF: RAT: CMD: VRS: VRF: IS: ISE: WSF: WSH: MSC AMD64 Intel64 Family 6 Model 94 Stepping 3, GenuineIntel 6	,

Windows: Add path to 7-Zip directory to Environment Variables



Restart your computer



Steps

1. Set up project

- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create building elements
- 6. Create windows
- 7. Create horizontal external elements
- 8. Create geocoordinates
- 9. Generate space model

_template_space_modeler_project.zip > WinZip > Unzip to here



Open 'input_layout_rvt' folder



2

Make a copy of '_template_input_layout.rvt' (or rename it to 'input_layout.rvt')

📜 🖸 🧵 🖛 in	put_layout_rvt						— [- X
File Home	Share View	t						~ 🕐
Navigation Details	w pane III Ex s pane Elis	tra large icons 属 edium icons 👬 t	Large icons Small icons Details	÷ ▼ Sort by ▼	Group by • Add columns • Size all columns to fit	 ☐ Item check boxes ✓ File name extens ✓ Hidden items 	s ions Hide selected items	Options •
Panes		Layou	ut		Current view	Shov	v/hide	
← → ~ ↑ 🖡	« hous > in	put_layo	۶ 5 🗸	Search i	nput_layout_rvt			
Name	^		Date modified		Туре	Size		
Lemplate_input	t_layout.rvt		3/31/2021 12:32	PM	Autodesk Revit Project	18,328 KB		
Caportioyers ife	In the second		8/6/2020 9:55 AN	Л	TXT File	25 KB		
Jage space_modeler_	_ifc_export_setup	json	3/29/2021 12:06	AM	JSON File	2 KB		
		Empty input l	template for ayout					

3 items 1 item selected 17.8 MB



Open 'input_layout.rvt'

📕 🛃 📜 🖛 input_lay	out_rvt								- 🗆	\times
File Home Share	View									<u>∧ (?</u>
Navigation Details pane	Extra large icons	Large icons	Details	 ↓ ✓ Sort by ▼ 	Group by • Add columns • Size all column	is to fit	☐ Item✓ File r✓ Hidd	check boxes name extensions Hide selected items	Options	
$\leftarrow \rightarrow \checkmark \uparrow \blacksquare \ll h$	ousing kaden klingbe	il berlin revit ifc tu	utorial > input lay	out rvt	Current view	U	ρ	Search input layout rvt		
Name	^	Date mod	dified	Туре	Si	ize				
exportlavers-ifc-IALtx	t	8/6/2020	9:55 AM	TXT File			25 KB			
input_layout.rvt		3/9/2021	5:24 PM	Autodesk	Revit Project	15,4	24 KB			
	port_setup.json	1/30/202	1 6:43 PM	JSON File			2 KB			

B

3 items 1 item selected 15.0 MB

'input_layout.rvt'



Steps

1. Set up project

2. Import pdf of original floor plan

- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Insert > Link > Link PDF



Insert > Link > Link PDF



Insert > Link > Link PDF



Scale pdf



Enable Snaps to lines in PDF



Pin to lock pdf



Pin to lock pdf



View > Visibility / Graphics



Uncheck 'Raster Images' to hide pdf

	◇問児母・▼	Autode	sk Revit 2021 - input_la	vout.rvt - Floor Plan: Lev	el 1		• 🕅 👤 geor	g.suter@t* 🔓	• •
ile Architecture Structure Steel Precast Systems Inse	rt Annotate Analyze Massing & Site C	ollaborate View Man	age Add-Ins BIM	nteroperability Tools	NBS Modify Rast	er Images 💿 🔹			
) n° 🖼	🔶 Draftir	ig View 📰 Schedu	iles 🔹 📇 Sheet 🗔	Title Block [] Matchlin	e 📑		
Indify View Visibility/ Filters Thin Show Remove	Cut Render Render 3D Se	r Callout Blan	Flevation Flevation	ate View ▼ o∯ Scope	Box By View C	* Revisions 🏻 💮 View Ref	erence Switz	h Close Tab	Tile Lle
Templates Graphics Lines Hidden Lines Hidden Lines	es Profile in Cloud Gallery View	Views	* Legen	ds. *		Guide Grid 🖾 Viewport	s • Windo	ws Inactive Views	Views Interf
lect 🕶 Graphics	Visibility/Graphic Overrides for Floor Plan: Level	1							×
odify Raster Images	N LIS C								
operties	Model Categories Annotation Categories Analyti	cal Model Categories Import	ed Categories Filters						1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
	Show model categories in this view					1	If a category is unc	hecked, it will not be v	/isible.
PDF image	Filter list: <show all=""> ~</show>								
housing_kaden_klingbeil_berlin.pdf - 1 (3)					1	-		1	
	Visibility		Projection/Surface			Cut	Halftone	Detail Level	^
ster Images (1) v 🖯 Edit Type		Lines	Patterns	Transparency	Lines	Patterns			4
nensions 🏾 🖈	Parking							By View	-
idth 47.9989	Parts					-		By View	_
eight 65.9977	Piers						<u> </u>	By View	_
orizontal Scale 200.000000	Pipe Accessories							By View	
rtical Scale 200.000000	Pipe Fittings						<u> </u>	By View	
ck Proportions 🔽	Pipe Insulations						<u> </u>	By View	-
able Snaps 🗹	Pipe Placeholders						<u> </u>	By View	-
er 🎗	I I Pipes						<u> </u>	By View	
aw Layer Background	Planting						<u> </u>	By View	
	Plumbing Fixtures						<u> </u>	By View	_
	Railings						<u> </u>	By View	-
					1			By View	-
	Kaster images							By View	_
							<u> </u>	By View	-
14 A A	Roots						<u> </u>	By View	
Apply Apply	Convite Davies	_					<u> </u>	Dy View	
ject Browser - input_layout.rvt	Shaft Openings							Dy View	-
[0] Views (all)	Site							By View	-
- Floor Plans								By View	-
um Level 1	Specialty Equipment							By View	
Level 2	Sprinklers							By View	-
Site	Staire							By View	-
庄 — Ceiling Plans	Structural Area Reinforcement	-					<u> </u>	By View	-
	Structural Beam Systems						<u> </u>	By View	-
Elevations (Building Elevation)	Structural Columns							By View	-
East	Structural Connections							By View	-
North	Structural Fabric Areas						H	By View	-
South	Structural Fabric Reinforcement							By View	
West	Structural Foundations							By View	
E Sections (Building Section)	Structural Framing							By View	~
Section 1	All None Tour	Expand All				Override Host Layers			
Egends		CXpariu Ali				Cut Line Styles		Edit	
Schedules/Quantities (all)	Coherentian that are not asserted as an damage								-
Room Schedule	according to Object Style settings.	Object Styles							
Sheets (all)									
믠 Families									
🖬 — Analytical Links									
- Annotation Symbols									
dv						OK	Cancel	APRIV	

Uncheck 'Raster Images' to hide pdf

R 🖬 🗁 🔒 🎯 • 🖘 •	🕫 • 🖨 😫 • 🖍 🕫 A	0.0	: 🏗 🖫 🖪 •	• -		Autodesk Revit 2	021 - input_layout.rvt - F	Floor Plan: Level 1		4 AA	👤 georg.suter@t+ 🔭 (?· _ ₽ ×
File Architecture Struct	ure Steel Precast Syste	ms Insert	Annotate A	Analyze Massing &	Site Collaborate V	liew Manage Ac	Id-Ins BIM Interopera	bility Tools NBS	Modify 💽 🔹			
Modify Select Visual Graphic	V Filters Thin Show s Lines Hidden Lines Graphics	Remove Hidden Lines	Cut Profile ¥	Render Render in Cloud Gallery Presentation	3D Section Callout	Plan Elevation Views Creat	☐ Drafting View ☐ Drafting View ☐ Duplicate View ☐ Legends ▼ e	■ Schedules * * o ² Scope Box	P Sheet ☐ Title Bloc → View g ^A Revisions ∰ Guide Gr Sheet Cor	ck [] Matchline • • View Reference rid I Viewports • nposition	Switch Windows Inactive Views V Windows	Tile User Jiews Interface
roperties		×	🗎 Level 1	×								
Floor Plan		•										
Floor Plan: Level 1	く日	Edit Type										Eq
Graphics	100	2 4										-
View Scale	1:100	-î ê										
Scale Value 1:	100											
Display Model	Normal											
Detail Level	Coarse											
Parts Visibility	Show Original											
Visibility/Graphics Overrides	Edit											
Graphic Display Options	Edit											
Orientation	Project North											
Wall Join Display	Clean all wall joins											
Discipline	Architectural											
Show Hidden Lines	By Discipline											
Color Scheme Location	Background											
Color Scheme	<none></none>											
Surtem Color Schemer	E Jit											
Properties help		Apply										
Project Browser - input_layout.rv	t	×										
∃_[0] Views (all)		^										
- Floor Plans		100										
Level 1												
Level 2												
Site												
Ceiling Plans												
B 3D Views												
Elevations (Building Elev	ation)											
East												
North												
South												
West	121			\otimes								
Sections (Building Section	n)											
Section I										R.	-	
Schodulor/Ouantities /-!!	(7)									. 0		
Boom Schedule	4											
Sheets (all)												
Analytical Links												
- Annotation Symbols		10.000	_	a* • +	· · · · · ·							~
T		~	1:100	D × × × • • • • •	≈ ⊽ L3 #87 1-4 <							>
Click to select, TAB for alternates,	CTRL adds, SHIFT unselects.				đĩ		🗸 🖉 :0 🛛 🔚 🚑	Main Model	~		🚏 🖧 🛼 🕻	* ℃ ♥:0

Alternative: Hide in View > Elements (or Category)



Alternative: Reveal Hidden Elements



Alternative: Reveal Hidden Elements



Alternative: Unhide view > Category



Alternative: Close Reveal Hidden Elements



Steps

- 1. Set up project
- 2. Import pdf of original floor plan

3. Set floor-to-floor height

- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Original pdf document: determine floor-to-floor height


Set elevation of Level 2



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height

4. Determine internal and external spaces

- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Determine internal and external spaces

Internal spaces

• Fully or partially separated by building enclosure from exterior

External spaces

- Model a building's immediate surroundings
- Required for spatial evaluation, e.g., of 'Natural lighting' or 'Orientation zones' views

External space geometries must be created in the input layout in Revit!

Determine internal and external spaces



Space Modeler User Guide – Preparing an input layout in Revit

Determine internal and external spaces







Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces

5. Create walls

- 6. Create doors and openings
- 7. Create windows
- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Measure wall thickness



Project Browser > Walls > Basic Walls > Duplicate an existing wall type



Type properties...



Type properties > Structure > Edit...

REB		20A 8.9 E 30	<u>}</u>	Autodesk Revit 2021 - input_layout.rvt - Floor Plan: Level 1	🖣 🛱 👤 georg.s	uter@t+ 🦙 📀 + 🗕 🗗 🗙
File Archi	tecture Structure Steel Pre	cast Systems Insert Annotate	Analyze Massing & Site Collaborate Vie	w Manage Add-Ins BIM Interoperability Tools NB	S Modify 🛋 +	
18 C) (V 🛄 🕗)					
Modify Wa	II Door Window Component	Column Roof Ceiling Floor	Curtain Curtain Mullion Railing Ramp Sta	r Model Model Room Room Tag Ar	ea Area Tan Ru Shaft Wall Vertical Dormer	evel Grid Set Show Ref Viewer
Salact -		Dotal	Type Properties		Facether (Design Mark)	×
Select +		Bulla	l l		Family: "Basic Wall"	
			Family: System Family: Basic Wall		Tunou (Conorio 200mm)	V Load
Properties		Level 1	Type: Generic - 360mm		Type: Generic – 360mm	V Duplicate
			ourierie boomin			
Ba	sic Wall	-				Rename
	eneric - Soonini		Type Parameters			
Walle (1)		Ra Edit Type		Parameter	Value	=
Construction		* *	C			
Structure	Ed	it	Structure		Edit N	
Wrapping at In	serts Do not wrap		Wrapping at Inserts		Do not wrap	
Wrapping at Er	nds None		Wrapping at Ends		None	
Width	0.3000		Width		0.3000	
Function	Exterior		Function		Exterior	
Graphics		*	Graphics			\$
Coarse Scale Fi	II Pattern		Coarse Scale Fill Pattern			
Coarse Scale Fi	II Color Black		Coarse Scale Fill Color		Black	
Materials and Fi	nishes	^	Materials and Finishes			*
Analytical Prop	chai [Sby Category/		Structural Material		<by category=""></by>	
Analytical Prope	ines .	^^ ×	Analytical Properties			*
Properties neip		Apply	Heat Transfer Coefficient (U)			
Project Browser	- input_layout.rvt		Thermal Resistance (R)			
	Exterior - Brick on Mtl. Stud	^	Thermal Mass			
	Exterior - Render on Brick on Block		Absorptance		0.700000	
	Foundation - 300mm Concrete		Roughness		3	
	Generic - 50mm		Identity Data			Â
	Generic - 90mm		lype Image			
	Generic - 125mm		Model			
	Generic - 140mm Masonny		Manufacturer			
	Generic - 200mm		Type Comments			
	Generic - 200mm - Filled		URL			
	Generic - 225mm		Description			
	Generic - 225mm Masonry		Assembly Description			
	Generic - 300mm		Assembly Code			
	Generic - 360mm		Type Mark			
	Generic - 380mm		Fire Rating			
	Interior - 79mm Partition (1-hr)		Lost			
	Interior - 135mm Partition (2-hr)		IFC Parameters			*
	Interior - ISomm Partition (I-hr)		IFCExportAs			U
	Interior - Blockwork 140					
	Interior - Blockwork 190		1			
	Retaining - 300mm Concrete		What do these properties do?			
	tain Wall					
- Stac	ked Wall	✓ 1:100	C << Preview		C	K Cancel Apply
Ready						12

Set layer thickness

	R 🖬 (> 🗌 🕥 • ¢	·☆·⊜ ≡•,	NOA 0	• • 🖭 🖏				Autodesk Revit 2021 - input_	ayout.rvt - Floor Plan: Lev	vel 1		🖣 👫 👤 georg.sute	r@t+ 🦙 ? +	_ & ×
	File	Architecture St	ructure Steel Preca	st Systems	Insert Annotate	e Analyze I	Massing &	k Site Collaborate View	Manage Add-Ins BIN	I Interoperability Tools	NBS Modify	•			
beet * build	G Modify	Wall Door V	Vindow Component	Column Roo	f Ceiling Floor	Curtain Curt	ain Mulli	n Railing Ramp Stair	Model Model Ro	om Room Tag	Area Area	Tag By Shaft	Wall Vertical Dormer Lev	el Grid Set Show	Ref Viewer
 transmit transmit transmit 	Select 💌	*		• •		Syst Edit As	embly								×
	server			build		Family	:	Basic Wall							
Sector Mall Image: Mall	Properties				Level 1	Type: Total t Resist	hickness: ance (R):	Generic - 360mm 0.3000 0.0000 (m²·K)/W						Sample Height: 6.	0000
<pre>Meth 10</pre>		Basic Wall Generic - 360m	ım		-	Therm	al Mass: rs	0.00 kJ/K		FY					
centration Image: Central Market	Walls (1)			U 🗄 Edit Ty	pe			Function	1	Material	ALKIOK SIDE	Thickness	Wraps	Structural Materia	al
Structure in the one weight of the structure in th	Constructi	on		*	^	1	Cor	e Boundary	Layers Above \	Vrap	0.0000				
Wrapping at locati. Do not wave Wrapping at locati. Book Genetic - Shore Hore Genetic - Shore Horok:	Structure		Edit.			2	Stru	cture [1]	<by category=""></by>		0.3600				
Wagbing at for is a wagted for interview inter	Wrapping	at Inserts	Do not wrap			3	Cor	e Boundary	Layers Below V	Irap	Lassa	9			
With Discontract Multiple Control Multip	Wrapping	at Ends	None												
Function	Width		0.3000												
righting find the set of the set	Function		Exterior												
Lande Schell Huterin Genetic Schell Huterin Genetic Solomin Genetic Solomin Huterio Solomin Genetic Solomin Huterio Sol	Graphics			^	1										
Concert and Color of an Color	Coarse Sc	ale Fill Pattern				_									
Walk back of Materia matrixed Materia Material Materia Material Materia Material Materia Material Materia Material Materia Material Materia Material Material Material Material	Coarse SC	ale Fill Color													
matylad Properties Totoritisk lade Totoritisk lade Tot	Structural	Material	Ry Category	î		_									
tradictic Market State regient Borware - input_ligout/At Exterior - Brick con Block Generic - S0mm Generic - S0mm Generic - S0mm Generic - 200mm Filled Generic - 200mm Generic - 200mm Generic - 200mm Generic - 200mm Generic - 200mm Hether - Thin Masony Generic - 200mm Generic - 200mm Generic - 200mm Generic - 200mm Hether - Thin Masony Generic - 200mm Hether - State Mark 104 Hether - State Mark 104	Analytical	Properties	1.07.0003017								l Wa	II has sing	le laver		
rrijet Browser - input Jayout M Exterior - Brick on Mil. Stud Generic - Somm Generic - Somm Generic - Somm Generic - 200mm Filed Generic - 200mm Generic	roperties	help		Apply							Ent	or lover th	, icknoss		
Control F. Exterior - Brick on ML: Stud Exterior - Somm Genetic - 30mm Genetic - 30mm Genetic - 135mm Genetic - 135mm Genetic - 200mm - Filed Genetic - 225mm Masony Genetic - 235mm Partition (1-hr) Interior - 13mm Partition (1-hr) Interior - 13mm Partition (1-hr) Interior - 13mm Partition (1-hr) Hodfy Vertical Structure (Sectom Preview only) Modfy Werkel Mall V 1: 100 C Vertical Structure (Sectom Preview only) Modfy	Project Bro	wser - input lavo	uted									er layer til	lickness		
Curcio Sendero Bick on Bick and Bick - Foundation - Block - Foundation - Block on Bick and Bick - Foundation - Block on Bick and - Foundation - Block on Bick and - Generic - Shorm - Generic - 225mm Masony - Generic - Shorm - Generic	-ioject bio	Exterior - Bri	ck on Mtl. Stud												
- Foundation - 300mm Concrete - Genetic - 90mm - Genetic - 90mm Brick - Genetic - 135mm - Genetic - 135mm - Genetic - 200mm - Filled - Genetic - 225mm - Genetic - 300mm - Genetic - 230mm - Genetic - 230mm - Genetic - 300mm - Genetic - 30		Exterior - Re	nder on Brick on Block		617 - C										
Generic - 90mm Brick Generic - 90mm Brick Generic - 90mm Brick Generic - 200mm Srick Generic - 200mm Masony Generic - 225mm Masony Generic - 255mm Masony Mathematics - 158mm Partition (1-hr) Interior - 158mm		Foundation	- 300mm Concrete			_									
Generic - 90mm Generic - 90mm Britki Generic - 135mm Generic - 200mm - Filled Generic - 200mm - Filled Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Herritor - 136mm Hinterior - 136mm Partition (1-hn) Interior - 79mm Partition (1-hn) Interior - 136mm Partition (1-hn) Interior - 8lockwork 190 Retaining - 300mm Concrete Concel Help		Generic - 50	mm												
Generic - 135mm Generic - 140mm Masony Generic - 200mm Generic - 200mm Generic - 225mm Generic - 230mm Interior - 79mm Partition (1-hr) Interior - 79mm Partition (2-hr) Interior - 79mm Partition (2-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (2-hr) Interior - 8lockwork 100 Interior - 8lockwork 100 Interior - 8lockwork 100 Retaining - 300mm Generic - 300mm Concrete Generic - 300mm Concrete Generic - 300mm Concrete Generic - 300mm Concrete Generic - 300mm Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete Concrete C		Generic - 90	mm												
Generic - 135mm Generic - 200mm - Filled Generic - 200mm - Filled Generic - 225mm Generic - 225mm Generic - 225mm Generic - 300mm Generic - 380mm Generic - 380mm Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 136mm Partition (1-hr) Interior - 136kwork 100 Retaining - 300mm Concrete Concet Wall Concet Help		Generic - 90	mm Brick												
Generic - 140mm Masony Generic - 200mm Generic - 200mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 380mm Generic - 380mm Generic - 380mm Generic - 380mm Interior - 79mm Partition (1-hr) Interior - 79mm Partition (2-hr) Interior - 138mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - Blockwork 100 Interior - Blockwork 190 Retaining - 300mm Concrete Gorciatin Wall v 1: 10 Cencel Verview Cencel		Generic - 13	5mm												
Generic - 200mm - Filled Generic - 225mm Masony Generic - 225mm Masony Generic - 300mm Generic - 300mm Generic - 300mm Generic - 300mm Interior - 136mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - 18lockwork 100 Interior - 8lockwork 100 Interior - 8lockwork 190 Statisming - 300mm Concrete Curtain Wall Stacked Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curtain Wall Concel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel Curcel C		Generic - 14	0mm Masonry												
Generic - 225mm Masony Generic - 225mm Masony Generic - 360mm Generic - 360mm Generic - 360mm Interior - 79mm Partition (1-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (2-hr) Interior - 136xwork 140 Interior - Blockwork 140 Interior - Blockwork 190 Interior - Blockwork 100 Interior		Generic - 20	0mm												
Generic - 225mm Generic - 225mm Generic - 225mm Generic - 225mm Generic - 300mm Generic - 360mm Interior - 380mm Interior - 79mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - Blockwork 100 Interior - Blockwork 140 Interior - Blockwork 190 Retaining - 300mm Concrete B Curtain Wall Cancel Help		Generic - 20	0mm - Filled			_		INTERIOR SIDE							
Generic - 225mm Masonry Generic - 300mm Generic - 380mm Generic - 380mm Interior - 79mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - 135mm Partition (1-hr) Interior - Blockwork 100 Interior - Blockwork 100 Retaining - 300mm Concrete Curtain Wall Starkerd Wall V 1: 100 C << Preview		Generic - 22	5mm				Insert	Delete	Un Down						
Generic - 300mm Generic - 380mm Interior - 79mm Partition (1-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - 138mm Partition (1-hr) Interior - Blockwork 100		Generic - 22	5mm Masonry					2.000							
Generic - 380mm Interior - 79mm Partition (1-hr) Interior - 138mm Partition (2-hr) Interior - 138mm Partition (1-hr) Interior - Blockwork 100 Interior - Blockwork 190 Retaining - 300mm Concrete Curtain Wall Starkerd Wall		Generic - 30	Omm			Defa	ult Wrapp	ng							
Octavity Interior - 79mm Partition (1-hr) Interior - 135mm Partition (2-hr) Interior - 135mm Partition (1-hr) Interior - 138mm Partition (1-hr) Modify Vertical Structure (Section Preview only) Interior - Blockwork 100 Modify Interior - Blockwork 190 Assign Layers Retaining - 300mm Concrete Split Region Retaining - 300mm Concrete Stackerd Wall 1 : 100		Generic - 38	Omm			At Ir	serts:	At E	nds:						
Interior - 135mm Partition (2-hr) Interior - 135mm Partition (1-hr) Interior - 138mm Partition (1-hr) Modify Vertical Structure (Section Preview only) Interior - Blockwork 100 Modify Interior - Blockwork 190 Modify Vertical Structure (Section Preview only) Retaining - 300mm Concrete Assign Layers Split Region Reveals Curtain Wall 1 : 100 Stackert Wall 1 : 100		Interior - 79	mm Partition (1-hr)			Do	not wrap	✓ None	2 ×						
Interior - 138mm Partition (1-hr) Interior - Blockwork 100 Interior - Blockwork 140 Retaining - 300mm Concrete Curtain Wall Starkert Wall V 1: 100 C <td></td> <td>Interior - 13</td> <td>5mm Partition (2-hr)</td> <td></td>		Interior - 13	5mm Partition (2-hr)												
Interior - Blockwork 100 Interior - Blockwork 190 Retaining - 300mm Concrete B - Curtain Wall - Starker Wall		Interior - 13	8mm Partition (1-hr)			Mod	Ty Vertical	Structure (Section Preview only)	182						
Interior - Blockwork 140 Interior - Blockwork 190 Retaining - 300mm Concrete B Curtain Wall v 1: 100 C << Preview		Interior - Blo	ockwork 100				Modify	Merge Regions	Sweeps						
Interior - Blockwork 190 Retaining - 300mm Concrete Curtain Wall V 1: 100 C		Interior - Blo	ckwork 140						2000.00						
Retaining - 300mm Concrete Curtain Wall Cancel Help Cancel Help Cancel Help		Interior - Blo	ckwork 190				Assign Lay	ers Split Region	Reveals						
Curtain Wall V 1:100 Cancel Help Cancel Help		Retaining - 3	300mm Concrete			L.,									
Starker Wall		Curtain Wall			1 100		Dent						ОК	Cancel	нер
	і і ф.	Stacked Wall			4 1,100		review						45		

Create Instance



Constraints > Location Line > Finish Face Exterior



Draw wall segment



Set wall orientation, if necessary

🦹 🖬 🗁 🔒 🎯 • ¢	a • 🗟 • 😫 😾 • 🖍	10 A 🔂 • 🕈 🕽	E 📴 🕂 🔻		Autodesk Revit 2021 - input_	layout.rvt - Floor Plan: Level 1		🕯 🛱 👤 georg.suter@t* 🔓 📀 +	_ & ×
File Architecture St	tructure Steel Precast	Systems Insert /	Annotate Analyze Massing & S	ite Collaborate View	Manage Add-Ins BI	A Interoperability Tools NBS	Modify Walls		
Modify Select a Presentice (1)	te				Edit Reset Wall Profile Profile Opening	Attach Detach Top/Base Top/Base			
Select + Properties Cil	pooard Geometry		wied view	Ivieasure Create	Iviode	woodry wan			
Modify Walls									
Properties		× 🖻	Level 1 X 🔲 Room Sched	ule					-
Basic Wall Generic - 360n	nm	-				1 1			
Walls (1)	~	Edit Type				1 1	1		R.
Constraints		* ^				1 1	1		
Location Line	Finish Face: Exterior					1 1	1		
Base Constraint	Level 1					1 1	1		
Base Offset	0.0000					1 1	1		
Base is Attached						-			
Base Extension Distance	0.0000								
Top Constraint	Unconnected								
Unconnected Height	4.0000			-					
Top Offset	0.0000								
Top is Attached	0.0000			-					
Top Extension Distance	0.0000								
Properties help					1				
rioperaes neip		Арріу	í.		2.5098				
Project Browser - input_layo	ut.rvt	×	*						
Exterior - Bri	ick on Mtl. Stud	^			 				
Exterior - Re	nder on Brick on Block		-						
Foundation	- 300mm Concrete								
Generic - 50	imm								
Generic - 90	Imm Brick								
Generic - 13	5mm								
Generic - 14	0mm Masonry								
Generic - 20	l0mm								
Generic - 20	0mm - Filled								
Generic - 22	5mm								
Generic - 22	5mm Masonry								
Generic - 30	10mm								
Generic - 36	i0mm								
Generic - 38	0mm								
Interior - 79	mm Partition (1-hr)								
Interior - 13	Smm Partition (2-nr)								
Interior - Ric	onin Farmon (1-ni)								
Interior - Blo	ockwork 140								
Interior - Blo	ockwork 190								
Retaining -	300mm Concrete								
🕀 Curtain Wall								L	~
Stacked Wall		v 1	1:100 🗆 🗗 🛠 💁 👘 🖓	9 🛱 🏭 🖾 <					ان. <
Raster Images : PDF image : I	housing_kaden_klingbeil_ber	in.pdf - 1 (3)		d'i	· 🖉 :0	🔚 🚛 Main Model	~	🤨 🖧 🛼 🕻 🏠 🖓 🖓	1

Set wall orientation, if necessary



Check if all walls are modeled



Check correct wall elevations and heights



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls

6. Create doors and openings

- 7. Create windows
- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Select a wall > Override Graphics in View > By Category...



Open the Visibility Graphics dialog...



Set 'Transparency' value and 'Lines' color

		・ 今 龍 段 倍・ =	Autod	esk Revit 2021 - input_l	ayout.rvt - Floor Plan: Le	vel 1		🕈 🗛 👤 geor	g.suter@t* 🦙 ?) +
e Architecture Structu	ure Steel Precast Systems	Insert Annotate Analyze Massing & Site	Collaborate View Mar	age Add-Ins BIN	Interoperability Tools	NBS Modify Wall	s 🛋 *			
	💥 🔣 Cope + 🗗 🕤 📃	1 DA DA	. [A] [c# f	1 14 三						
	🎦 Cut 📲 🐉 📲									
odify			1. A	dit Reset Wall	Attach Detach					
et a Decention Clinker				the Frome opening	Top/base Top/base					
ect • Properties Clipboa	rd Geometry	Visibility/Graphic Overrides for Floor Plan: Lev	el 1							×
dify Walls		Model Categories Apportation Categories Apa	utical Model Categories - Impor	ted Categories Eilters						
perties		Annotation Categories Ana	yucai model categories impor	ted categories miters				62 N N		
		Show model categories in this view						If a category is unc	hecked, it will not be visible	e.
Basic Wall		Filter list: <show all=""> ~</show>								
Generic - 380mm				D : .:		T	<u></u>			
		Visibility		Projection/Surface			Cut	Halftone	Detail Level	`
ls (1)	✓ 🖓 Edit Ty	pe	Lines	Patterns	Transparency	Lines	Patterns			
straints	*	▲ Roads			-			<u> </u>	By View	
tion Line	Finish Face: Exterior	Roofs						<u> </u>	By View	
Constraint	Level 1	Rooms							By View	
Offset	0.0000	Security Devices							By View	
is Attached		Sta							Dy View	
Extension Distance	0.0000								By View	
Constraint	Up to level: Level 2	Spaces							By View	
onnected Height	3.1200	Sprinklers							By View	
Offset	0.0000	Stairs							By View	
Attached		Structural Area Reinforcement							By View	
xtension Distance	0.0000	Structural Beam Systems							By View	
n Bounding		· ✓ Structural Columns							By View	
o to Mass	Washingl	Structural Connections							By View	
-section		✓ Structural Fabric Areas							By View	
ties help	Apply	😥 🗹 Structural Fabric Reinforcement							By View	l l l
		🕀 🗹 Structural Foundations							By View	
t Browser - input_layout.rvi	1	🕀 🗹 Structural Framing							By View	
Detail Items		Structural Path Reinforcement							By View	
Division Profiles		🚊 🗹 Structural Rebar							By View	
M Single Fluch		💿 🗹 Structural Rebar Couplers							By View	
0762 x 2022mm		Structural Stiffeners							By View	
0762 x 2134mm		Structural Tendons							By View	
0813 x 2134mm		Structural Trusses							By View	
0864 x 2032mm		Telephone Devices							By View	
0864 x 2134mm		l lopography						<u> </u>	By View	
0915 x 2032mm		Vibration Management	Override	Override	500/	-	Override		By View	
0915 x 2134mm		Windows	Overnde	Overnde	50%		Overnde		By View	
B NBS_EclisseUK_SIdDr	setSym_SyntesisLineSingle_Standard	Wirec							By View	
Duct Systems		The values							by view	
Ducts							Override Host La	yers		
Flex Ducts		All None Ir	Expand All				Cut Line Style	S	Edit	
Flex Pipes		Coherentian that are not associated as and the						N		
Floors		Categories that are not overridden are dra according to Object Style settings.	Object Styles					63		
Furniture										L
Generic Models										
Parking										

Set 'Transparency' value and 'Lines' color



Measure door width



Original pdf document: measure door height



Type Properties > Set 'Height' and 'Width'

REB	$\bigcirc \cdot \Leftrightarrow \cdot \rhd \cdot \ominus \ \boxminus \cdot \checkmark \bowtie \land \land \ \bigcirc \bullet \land \blacksquare$	≣ 🖫 🗄 • ₹		Autodesk Revit 2021 -	input_layout.rvt - Floor	Plan: Level 1	🖣 👭 👤 georg.suter@t	• 🔓 🕐 •	_ & >
File Architec	ture Structure Steel Precast Systems Insert A	Annotate Analy	/ze Massing & Site Collaborate Vi	iew Manage Add-In:	s BIM Interoperability	Tools NBS Modify	•		
				DAL R				Ë 🗐 E	
Modify Wal	Type Properties								×
Select 👻	[^	Family: M. Single-Flush					~ 1	Load
		DALK							Loddin
Description		anch	Type: 1060 x 2550mm					~	Duplicate
Properties								1	Rename
M_1		പ	Type Parameters						b
106		~ @	,	Parameter			Value		
			Construction	Parameter			Value		
Doors (1)		-4	Function			Interior			- î
Construction			Wall Closure			By host			
Wall Closure			Construction Type						
Construction Tv			Materials and Finishes						*
Materials and Fin			Door Material			Door - Panel			
Door Material			Frame Material			Door - Frame			
Frame Material			Dimensions						*
Dimensions			Thickness						
Thickness			Height			2.5500			
Trim Projection			Trim Projection Int			0.0250			
Trim Projection			Trim Width						
Trim Width			Width			1.0600			
Width			Rough Width						
Rough Width			Rough Height						
Properties neip			Analytical Properties						*
Project Browser			Define Thermal Properties by			Schematic Type	e		
Detail Ite			Visual Light Transmittance			0.000000	•		
Division			Thermal Resistance (R)			0.2701 (m ⁻ ·K)/V	N		
			Heat Transfer Coefficient (1)			3 7021 W/(m ² .k	0		
			Analytic Construction			Metal	<u>×</u>		
			Identity Data			1			*
q			Keynote						
q			Model						
			Manufacturer						
			Type Comments						
			Type Image						
IT NBS			Description						
- Duct Sys			Assembly Code						
Ducts		~	Fire Rating						
	<	>	Cost						
Flex Pipe						1			
+ Floors			What do these properties do?						
Generic	Manual Transformer	Manu 1	Preview				0/5	Cancel	Anoly
Parking	View: 30 View:	VIEW 1						Culler	CHPU I
	× 1							N. WWW	
Ready			dit .	~	2:0 M	lain Model	· · · · · · · · · · · · · · · · · · ·		0: 8:0

Create Instance



Change orientation, if necessary



Change orientation, if necessary



Openings

Issue

 Accessible openings are not interpreted as separating 2 rooms by Revit's space generation method

Solution

- Model openings as doors
- Label doors as openings (see User Guide 'Labeling a space model')



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings

7. Create windows

- 8. Create rooms
- 9. Create circulation elements
- 10. Create horizontal external elements
- **11. Create furnishing elements**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Type Properties > Set 'Height', 'Default Sill Height', and 'Width' values

File Architecture Structure Steele Precast Systems Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Bill Interoperability Tools NBS Modify Image Modify Mype Properties Family: M_Fixed Image Image<	_ 8 >
Nodify Type Properties Select Family: Marked Image: Select Family: Marked Type: 2500 x 2550mm Properties Image: Select Microsition Construction Type Parameter Construction Type Parameter Materials and Finishes Image: Select Frame Exterior Material Sash	
Modify Wa Select Family: Minister Properties Minister Windows (1) Construction Windows (1) Minister Materials and Finishes Frame Exterior Materials and Finishes Frame Exterior Sash	5 B
Selet Family: M_Fixed Properties Properties M_Tage Margia and Findes Construction Windows(1) Construction Materials Fame Exterior Fame Extreror Fame Extrero	×
Implie Implie Implie <t< td=""><td>Load</td></t<>	Load
Properties Properties Vindows (1) Windows (1) Wall Closure Construction Wall Closure Construction Type Materials and Finishes Frame Exterior Material	
R Vision Parameters Windows (1) Parameters Windows (1) Onstruction Windows (1) Onstruction Wall Closure By host Construction Type Materials and Finishes Materials and Fin Frame Exterior Material Sash Frame Exterior Frame Interior Material Sash Frame Exterior Sash Sash	uplicate
Matrials and Fr Type Parameters Vindows (1) Parameters Vindows (1) Construction Vindows (1) Value <	ename
Vindows (1) Construction Vall Closure By host Vindows (1) Vall Closure By host Construction (1) Vall Closure By host Vall Closure Construction (1) Materials and Finishes Materials and Fin Frame Exterior Material Sash Frame Exterior (1) Frame Interior (1) Sash Frame Interior Material Sash	
Windows (1) Construction Vall Closure By host Construction Type By host Vall Closure By host Construction Type By host Materials and Fire Frame Exterior Material Frame Exterior Frame Interior Material Frame Exterior Sash Frame Interior Material Sash Frame Interior Material Sash	
Construction Construction Type Wall Closure Construction Type Materials and Fire Frame Exterior Material Frame Exterior Frame Interior Material Sash	- î
Wall Closure Materials and Finishes Construction Ty Materials and Finishes Materials and Finishes Sash Frame Exterior Frame Interior Material Sash Sash	
Konstruction rg Frame Exterior Frame Exterior Sash Frame Exterior Frame Interior Material Sash	\$
Frame Interior Material Sash	
Glarr Dane Material	
Frame Interior N Glass Fore Walenah	
Glass Pane Maty Sash Sash	
Sash Dimensions	*
Dimensions Height 2.5500	
Height Default Sill Height 0.0000	
Default Sill Heig Vidth 2.5000	
Width Window Inset	
Window Inset Rough Width	
Rough Width Rough Height	
Properties Analytical Properties	*
Define Thermal Properties by Schematic Type	
Project Browser Visual Light Transmittance 0,90000 0	
De Structura I Inermal Resistance (k) De Structura I Inermal Re	
B - Structure Boot Free Coals Coefficient (II)	
- Structure near transmer Coenticient (0) - Structure near transmer Coenticient (0) - Well - Analytic Coentruction - Unit in Structure - Instruction	
Wends Aniya Consudation Wonds Aniya Consudation	
keynole	
mode Manifecturer	
Type Comments	
ype constants	
- ¢ URL	
Q Description	
Assembly Code	
- Cost	
Assembly Description	
Type Mark 38	~
	- Alternal
what do these properties do?	
	Apoly
	Арріу
The construction of the second of the seco	√ :0

Create Instance



Create Instance



Check correct window elevations and heights



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows

8. Create circulation elements

- 9. Create horizontal external elements
- **10. Create furnishing elements**
- **11. Create rooms**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**
Measure stair width



Architecture > Stair



Set 'Location Line', 'Offset', 'Actual Run Width' values



Set 'Base Level' and 'Top Level' values



Check if stair starts at Level 1 and ends at Level 2



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements

9. Create horizontal external elements

- **10. Create furnishing elements**
- **11. Create rooms**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Architecture > Floor



Draw boundary lines



Check level



Finish edit mode



Floor element should be colored if its creation is successful



Check correct elevations of horizontal external elements

			Autodesk Revit 2021	- input lavout rvt - 3D View: 3D Ortho 1		4 88 0		- V
	A B A		Autoucsk field 2021	input_byounter 55 view.55 oraio i		* 848 🗶 georg.suter@t* ⊮	• - •	- ~
File Architecture Structure Steel	Precast Systems Insert	Annotate Analyze Massing & Site	Collaborate View Manage Add-	ns BIM Interoperability Tools NBS	Modify Floors 💽 🔹 🗸			
Modify Image: Cope Select + Properties Clipboard			Ledit Ledit Sub Leasure Create Mode	Add Point Add Split Line Elements Pick Supports Shape Editing				
Modify Floors								
Properties	× II	☐ Level 1 (3D)	🚱 3D Ortho 1 🗙					Ŧ
Floor Generic 150mm	-						\sim	^
Floors (1)	V Pe Edit Type				\sim		Nº 1	
Constraints	2 4				<u>``</u>		Mul IEFT P	
Level Level 1					~		$(\langle \langle \rangle \rangle)$	
Height Offset From Level 0.0000					\sim	4	a LI	
Room Bounding				/ /	\sim \sim		No. Contraction of the second	
Related to Mass				/ /	>		_	
Structural								0
Structural	- î l							QI.
Enable Analytical Model						<u>\</u>		-
	•		12 -			~	1	
Slope	î.		Level			\sim		-4
Designator 17.2640			3			Š. 1		
10 100 m ²						\	_	
Area 10,100 m			lavel 1					
Volume 1.510 m		(~ ~		
Elevation at Top		•						
Properties help	Apply							
Desired Deserves lines & level 4 at	×	Sector Se						
Project Browser - Input_layout.rvt	<u>^</u>				X	>	~	
E D Views (all)	<u>^</u>							
E Floor Plans				N				
Level 1							~	
Level 2		X					× .	
i Site		×						
Ceiling Plans								
🚊 3D Views								
3D Ortho 1								
(3D)								
Elevations (Building Elevation)			**					
East								
North								
South								
West								
Sections (Building Section)			4					
Section 1								
- 📰 Legends								
Schedules/Quantities (all)								
Door Schedule								
Room Schedule								
Wall Schedule		1:100 🕅 🗇 😧 🗣 🎲 ា 🖄	201086614					>
Click to select TAB for alternator CTRL adds SH	FT unselects		Ro.	🖉 🔊 🖪 🕅 Main Model		10 /¥ 🗟 🖒	× + ~ ¬.1	.11
click to select, the for alternates, CTRL adds, SHI	i i unselects.		CIV .	V III AN INIAIN WODE	×	-vs =vs =vs +vs Li	18 18 18:1	

Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements

10. Create furnishing elements

- **11. Create rooms**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Measure cabinet dimensions



Set desk type property values

ecture Structure Steel Precast Systems Insert Annotate Analyze Massing & Site Collaborate		and a georg.sater@t* 😸 🛈 *
	View Manage Add-Ins BIM Interoperability Tools NBS Modify 🛋 +	
ype Properties		neste - 142 - 17 - 17 dest dir 19464 et. 143e SA - 4 - 4
Family: M Desk		× 10
•		
lype: 1500 x 600 x 860mm		↓ Dup
		Ren
Type Parameters		
Parameter	Value	
Constraints		
Default Elevation	0.0000	
Materials and Finishes		
Body Material	Laminate, Ivory, Matte	
Handle/Leg Material	Steel, Chrome Plated	
Top Material	Cherry	
Dimensions		
Depth	0.6000	
Height	0.8600	
Leg Height	0.1520	
Width	1.000	
Identity Data		
Assembly Code		
Keynote		
Maufacturer		
Tune Comments		
Type lmage		
URL		
Description		
Cost		
Assembly Description		
Type Mark		
OmniClass Number	23.40.20.24.31	
OmniClass Title	Desk	
Code Name		
IFC Parameters		
IFCExportAs		

Create Instance



Online resources for generic and manufacturer BIM objects: e.g. National BIM library (UK, <u>https://www.nationalbimlibrary.com/</u>)



Online resources for generic and manufacturer BIM objects: e.g. National BIM library (UK, <u>https://www.nationalbimlibrary.com/</u>)

NBS National BIM Library	For Manufacturers Find BIM objects BIM tools and guides My NBS Sign out
All Categories Search for manufacturers or products	Q Image: Second secon
NBS Plug-in fo	or Autodesk® Revit® v3.8 update is available. <u>Learn more</u> > ¥
You have 1 object in your bundle	
Coloct filo format/c) ○ Dijects are not available in all formation ■ Revit (1) ■ Prepare download Empty bundle	ts.
	Bundle History
	11/03/2021 11:49 (1 objects) Download again
Jasper Morrison 40 cm Handrinse R	
Remove	
Quick links More sites	Corporate information Change region

.rfa: format for Revit family definitions

	🌗 🗢 NBS.Bundle.195194 - WinZip Pro				– 🗆 ×
File Unzip	/Share Edit Backup Tools Settings View	v Help			^ @
A Folder name:	NBS.Bundle.195194	All Files	Q	🖂 🕰 📮 🛼 💕 📸 😤	
Location:	\housing_kaden_klingbeil_berlin_revit_ifc_tutori 1-click Unzip •	O Selected Files	Search	Email Social Instant What to Zip and Snap and Scan and Media Messaging Share Share Share	
	Unzip	Files to Unzip		Share WinZip Express	

N

NBS.Bundle.195194.zip

<u>A</u>	Name
	्रा विद्या Standard Divi OSER GOIDE.pdi ISI_IdealStandard_WallHungHandRinseBasins_JasperMorrison_E6180.rfa

Туре	Modified	Si
Adobe PDF Files	2/9/2016 3:59 PM	5,511,33
Autodesk Revit Family	2/9/2016 3:56 PM	1,441,79

.rfa: format for Revit family definitions



Insert > Load Family



Insert > Load Family



Insert > Load Family



Type data

REBB	み・ <i>☆</i> ・島 =	↓・ / @ A @ • ? 肥 !!! 品 品・=	Au	utodesk Revit 2021 - input_layout.rvt - Floor Plan: Level 1	• 🛱 👤 georg.suter@t+ 🦙 ? +	_ & ×
File Architecture	Structure Steel	Precast Systems Insert Annotate Analyze Ma	ssing & Site Collaborate View	Manage Add-Ins BIM Interoperability Tools NBS Modify		
Modify Link Link I Revit IFC (Link Link	Type Properties	a hanan ta tanan sanas		×	
Select 👻		Family: ISI IdealStandard WallHungHandRinseBasins	JasperMorrison E6180		V Load	
		Type: E618001 - Jasper Morrison 40cm hand rinse W	ashbasin, 1 Taphole		V Duplicate	
Properties					Bename	
ISI_IdealStand	lard_WallHungHandF				Renaule	° ^
son_E6180		Type Parameters				Q
Taphole	per Morrison 40cm r	Parar	neter	Value	= ^	
Diversities First rate (3)		Constraints			*	Eq.
Plumbing Pixtures (1)		Default Elevation		0.8000		-
Default Elevation	0 0000	Dimensions			*	6
Deradit Lievation	0.0000	OutletLength		0.1980		
OutletLength	0 1980	Mechanical		กลากการการการการการการใจการการการการการการการการการการการการการก		
Mechanical	louisoo	WEU		0.000000		
WFU	0.000000	HWFU		0.000000		
HWFU	0.000000	CWFU		0.000000		
CWFU	0.000000	Identity Data			*	
dentity Data		URL		www.idealspec.co.uk		
URL	www.idealsp	Type Comments		n/a		
Type Comments	n/a	Model		E618001		
Model	E618001	Manufacturer		Productinfo@thebluebook.co.uk		
Manufacturer	Productinfo	Description		Jasper morrison 40 cm hand rinse washbasin, 1 taphole		
Description	Jasper morris	Assembly Code		C1030200		
Accembly Code	1020200	Type Image				
roperues neip		Keynote				
Project Browser - input_lay	out.rvt	Cost				
Plumbing Fixtures		Assembly Description		Bath & Toilet Accessories		
ASH_BottleTrap	_MultiProduct_BIM_	Type Mark				
⊞ IS_Ancillary_E0	079_3DPL_GB_BIM	OmniClass Number		23.45.05.14.14		
IS_ConceptAir_	E0772_BIM_GB	OmniClass Title		Sinks/Lavatories		
IS_ConceptAir_	E0781_BIM_GB	Code Name				
	BIM_GB	IFC Parameters			*	
IS_Unitux_E310 IS Unitux_E310 IS Unitux E210	A DIM CD	WashHandBasinType		HandRinse		
ISI IdealStanda	rd Baths Concept	WashHandBasinMounting		waii hung		
ISI_IdealStanda	rd Bths Tesi T3605	Nominal Depth				
i ISI_IdealStanda	rd PedestalWashBasi	Incexport type				
ISI IdealStanda	rd WallHungHandRi	DrainSize		0.0318		
E618001 -	Jasper Morrison 40c	IECExportAs				
	rdMixerTaps_JasperN	Groop Ruilding Properties			· · · · · · · · · · · · · · · · · · ·	
B NBS_WshBsnA	ssmbly_HandRinse	WaterEfficientProduct				
	CPans_Turano-AquaE	WRAS				
	ultiproduct_BIM_GB	Line				
⊕ Profiles		What do these properties do?				
Railings						
🕀 Ramps		<< Preview			OK Cancel Apply	~
< n					E. 54	>
leady			34	V 2 .0 Main Model	9 4 4 5 5 0 5	2.0
			0.0		N - N 78 PF 4 1	u

Create Instance



Check if all furnishing elements have been placed correctly

R 🖪 🕞 🖯 🎧 • 🗠 •	ə - 🖨 🖴 - 🖍	ю А 🚱 •	🔶 🏗 🐘 🛱]• ₹			Autodesk F	levit 2021 - inp	ut_layout.rvt - Flo	oor Plan: Leve	el 1			* 8 8	Q georg.	suter@t+ 🦹	₹ ? •		- 🗗 🗙
File Architecture Structu	re Steel Precast	Systems Ins	ert Annotate	Analyze M	lassing & Site	Collaborate V	iew Manage	Add-Ins	BIM Interoperabi	ility Tools	NBS Modify	y 🔺							
Modify Select V	w Component C	olumn Roof Build	Ceiling Floor	Curtain Curtai System Grid	in Mullion	Railing Ramp St Circulation	air Model Ma Text Li	odel Model ne Group	Room Room Separato	Tag Tag r Room * Room &	Area Area Bound	Tag Tag Area	By Shaft Face	Wall Vertica	l Dormer	Level Grid	Set Sh	ow Ref V Plane	Viewer
Properties		×	Level 1	×	N														-
Floor Plan		✓ 🔓 Edit Type																	
Graphics		* ^																	
View Scale	1:100																		
Scale Value 1:	100																		
Display Model	Normal								T		<u> </u>	4							
Detail Level	Coarse Shaw Onininal						ſ	8		1 3									
Visibility/Graphics Overrides	Show Original]													
Graphic Display Ontions	Edit																		
Orientation	Project North							_											
Wall Join Display	Clean all wall joins																		
Discipline	Architectural							r e											
Show Hidden Lines	By Discipline										7								
Color Scheme Location	Background																		
Color Scheme	<none></none>							ſ											
System Color Schemer Properties help	Ealie	Annhu	1		F = J			\ <mark> </mark>											
rioperties neip		Apply			E=3			$P \square I$											
Project Browser - input_layout.rvt		×			k=4	2			1		Ye								
□ [0] Views (all)		^			EEE						70								
- Floor Plans					Ā		1												
Level 1					ÉĤ						إنسكار								
Site					UP				<u>,</u>		/ त								
E Ceiling Plans								L.						N+*-					
								100000			പ			43					
Elevations (Building Eleva	tion)			F							ď								
East											-0								
North								4_											
South						8	<u>L</u>												
West	101																		
Sections (Building Section)	1)		2.45																
Section I			\otimes																
Schedules (Quantities (all)																			
Door Schedule												1							
Room Schedule																			
Wall Schedule																			
Window Schedule				L								1							
Sheets (all)			1:100	A	10 v2 0														>
Click to select, TAB for alternates.	CTRL adds, SHIFT unsel	lects.						5	:0 🔚 🔳	Main Mode	1					T 28 2	· []* ++	0 7:0	
	CONTRACTOR OF THE OWNER							1004								0 10 10	A 0.0 00		

Check if all furnishing elements have been placed correctly



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements
- **10. Create furnishing elements**

11. Create rooms

- 12. Create geocoordinates
- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Architecture > Room & Area > Area and Volume Computations



Select 'Areas only (faster)' and 'At wall center' options



Architecture > Room & Area > Room



Place Rooms Automatically



Place Rooms Automatically



Rooms are tagged



Define section to check correct room elevations and heights

R 🖬 🖻 🖥 🎯 • 🆘 •		@•• ₩ 13 13 • ₹	Autodesk Revit 2021	- input_layout.rvt - Floor Plan: Le	evel 1	🕯 🏦 👤 georg.suter@t* 🔓 📀 *	_ & ×
File Architecture Structu	ure Steel Precast Systems	Insert Annotate Analyze Massing & Site C	Collaborate View Manage Add-I	ns BIM Interoperability Tools	NBS Modify 🖙 🛪		
			9 / A & &			※罪 🗄 🗤 🖉 🎌 辩 画 閧	<u>s</u> e
Modify Wall Door Wind	ow Component Column R	Roof Ceiling Floor Curtain Curtain Mullion Raili System Grid	ing Ramp Stair Model Model Mo Text Line Gri	odel Room Room Tag Separator Room	Area Area Tag Boundary Area I	By Shaft Wall Vertical Dormer Level Grid Set Shov Face	/ Ref Viewer Plane
Select 👻	Build	Visibility/Graphic Overrides for Floor Plan: Level	1			×	k Plane
		Model Categories Annotation Categories Analyt	ical Model Categories Imported Categories	Filters			
Properties		Show annotation categories in this view				If a category is unchecked, it will not be visible.	
Floor Plan		➡ Filter list: <pre><show all=""> </show></pre>					
		Visibility		Projection/Surface	Halftone	×	
Floor Plan: Level 1	✓ 🛱 Edit 1	t Type		Lines			EQ.
Graphics		A Pipe Color Fill					
View Scale	1:100	Pipe Color Fill Legends					
Scale Value 1:	100	Pipe Fitting lags				_	
Display Model	Normal	Pipe Insulation lags					
Detail Level	Coarse	Pipe lags				_	
Parts Visibility	Show Original						
Visibility/Graphics Overrides	Edit	Planting Tags				_	
Graphic Display Options	Edit	Plate Tags					
Orientation	Project North	Plumbing Fixture Tags					
Wall Join Display	Clean all wall joins	Point Load Tags					
Discipline	Architectural	Profile Tags					
Chave Hidden Lines	Pu Dissipline	Property Line Segment Tags					
Show Hidden Lines	By Discipline	Property Tags					
Color Scheme Location	Background	Railing Tags				_	
Color Scheme	<none></none>					_	
System Color Schemer	Edit	Reference Lines					
Properties help	App	oly Reference Planes				_	
Project Browser - input Javout.rv	t	Reference Points				_	
□_ [□] Views (all)	26	Revision Cloud lags					
Eleor Plans		Revision Clouds					
Lavel1		Roof Tags					
Lever		Room Tags					
Level 2		Schedule Graphics					
Site		Scone Boxes					
Ceiling Plans		Section Boxes					
ia − 3D Views		Sections					
3D Ortho 1		Security Device age					
{3D}		M Shoar Stud Jaar					
Elevations (Building Elev	ation)	Shear Studi lags				_	
East		Site lags				_	
North		Space lags				_	
South		Span Direction Symbol					
West		Snecialty Equinment Tags				~	
west		All None Inv	Sections sym	hols visihle in			
Sections (Building Section)	on)		Sections sym				
Section 1		T 144 14491 149	Loval 1 view				
Egends		Categories that are not overridden are drawn	Level 1 View				
🖃 📰 Schedules/Quantities (all)	10	according to Object Style settings.					
Door Schedule							
Room Schedule							
Wall Schedule							v
· · · · · · · ·		v				OK Cancel Apply Help	i. •
Ready							7:0

View > Section


Set section parameter values



New section is added in Project Browser > Sections



Project Browser > Sections > Section 1



Alternative: select Section symbol to open section view



View > Visibility / Graphics > Rooms

	◆ ≝ 및 ᢡ • ₹	Autoc	desk Revit 2021 - input_la	yout.rvt - Section: Section	11		🕈 🕅 👤 geor	rg.suter@t* 😿	? •	_ & ×
File Architecture Structure Steel Precast Systems Inse Modify View Visibility/ Filters Thin Show Remove Select ▼ Select ▼ Graphics Graphics Graphics Graphics	rt Annotate Analyze Massing & Site Cr Cut Render Render Render Profile in Cloud Gallery View Visibility/Graphic Overrides for Section: Section 1	ction Callout Plan Views	inage Add-Ins BIM	Interoperability Tools N ng View 🔲 Schedule cate View + 야금 Scope B ds +	NBS Modify C es • 🔁 Sheet 📄 Box 🚰 View 😋	Title Block [] Matchli Revisions * D View R Guide Grid [] Viewpo	ne eference ts • Windo	h Close Tab	Tile Views	User Interface
	Model Categories Apportation Categories Apalytic	ral Model Categories - Impo	orted Categories Eilters							
Properties Section Building Section	Show model categories in this view Elter list: (show all)						If a category is unc	checked, it will not be v	visible.	
	Visibility	-	Projection/Surface			Cut	Halftone	Detail Level	^	
Section: Section 1 v La Edit Type		Lines	Patterns	Iransparency	Lines	Patterns		0.10	- 1	-Q.
Graphics 💲 🔺	HVAC Zones		-					By View	-	
View Scale 1:100	Lighting Devices							By View	-	
Scale Value 1: 100	Lighting Fixtures						<u> </u>	By View	-	
Display Model Normal	Lines							By View	-	
Detail Level Coarse	H Mass							By View		
Parts Visibility Show Original	Mechanical Equipment						<u> </u>	By View	-	
Visibility/Graphics Overrides Edit	MEP Fabrication Containment		-				<u> </u>	By View	-	
Graphic Display Options Edit	MEP Fabrication Ductwork							By View	-	
Hide at scales coarser than 1 : 100	MEP Fabrication Hangers		-					By View		
Discipline Architectural	MEP Fabrication Pipework		-	·				By View	_	
Show Hidden Lines By Discipline	Nurse Call Devices							By View		
Color Scheme Location Background	Parking		I. (I I		1 (D - f			By View	_	
Color Scheme <none></none>	Parts		eck Interi	or Fill' and	a 'Ketere	nce		By View	_	
Default Analysis Display Style None	Piers							By View	_	
Sun Dath	Pipe Accessories							By View	_ 1	
Properties help Apply	Pipe Fittings							By View		
Design Proving input Involtant	Pipe Insulations							By View		
Project browser - input_layout.ivt	Pipe Placeholders							By View		
Eleer Diane	😥 🗹 Pipes							By View	_	
E ribor Plans	🖶 🗹 Planting							By View		
Level 1	🗄 🗹 Plumbing Fixtures							By View		
Level 2	🖶 🗹 Railings							By View		
Site	😥 🗹 Ramps							By View		
Celling Plans	Raster Images							By View		
E 3D Views	😥 🗹 Roads							By View		
3D Ortho 1	Roofe							By View		
{3D}	Rooms							By View		
Elevations (Building Elevation)	Color Fill									
East	- 🗹 Interior Fill									
North	Reference									
South	Security Devices							By View	~	
West	All None Inve	et Expand All	1			Override Host Laye	rs			
Sections (Building Section)	Ui Touc Tune					Cut Line Styles		Edit		
Section 1	Cohenering that are not a serididan are down							1976	_	
Egends	according to Object Style settings.	Object Styles								
Schedules/Quantities (all)										
Door Schedule										
Room Schedule	10									
Wall Schedule						-				
n na sa						OK	Cancel	Apply H	lelp	
Keady	L	200				100 Lot	100	15. TR. 10. P		1 10

R 🖬 🖻 🔒 🕥 • /5 • /	* 😫 😫 • 💉 i	• A 🛛 • 🤆	> 🏗 强 🖪 •	Ŧ		Autodesk Revit 2021	input_layout.rvt - Section: Sectio	on 1	4	🛱 👤 georg.suter@t* 🛱 ? *	_ & ×
File Architecture Structu	re Steel Precast	Systems Inser	t Annotate A	nalyze Massing & Site	Collaborate Vie	w Manage Add-In	BIM Interoperability Tools	NBS Modify Rooms	•		
Modify Select Y Properties Clipboar	 ✗ Cope → []= ☑ Cut → [™] ☑ Join → [™] ☑ Geometry 				Heasure Creat	Filter Selection	1				
Modify Rooms	· · · · · · · · · · · · · · · · · · ·										
Properties		×	En Level 1	(3D)	3D Ortho 1	Room Schedu	le 🗘 Section 1 X				Ŧ
					-	177777 C 1010 AND C 1010 AND A					• • • • • • • • • • • • • • • • • • •
Multiple Families Sel	lerted	-									a
multiple rainines de	iccicu										~_2D
		1.00									
Rooms (15)	~	Edit Type									
Constraints		* ^									
Level	Level 1										
Upper Limit	Level 2	<u>×</u>									
Page Official	Level 2										
Jimensions											
Area	1	Î									
Perimeter											
Unbounded Height	7,1200										
Volume	Not Computed										
Computation Height	0.0000										
dentity Data		*									
Number					-		100	1000	1995		
Name	Room	~								Level 2	
Properties help		Apply								3	
National Description of the second second						×	× ×		X		
roject Browser - input_layout.rvt		<u>^</u>									
West		^								Level 1	
Sections (Building Section	1)										
Section 1	10										
Egends					2						
🖃 🥅 Schedules/Quantities (all)											
Door Schedule											
Room Schedule											
Wall Schedule											
Sheets (all)											
= III Families											
Analytical Links											
Annotation Symbols											
Cable Trays											
Casework											
E Columns											
Conduits Contain R											
Curtain Paneis											~
H Curtain Systems		~	1:100	9 % % # # % %	Co 📾 🖬 <						, et
lick to select, TAB for alternates, G	CTRL adds, SHIFT unsele	cts.			din .		🛛 🛛 🔚 🖉 Main Mod	el		🃅 🛃 🛣 🏠	0 7:15

Set room constraints



Project Browser > Schedules/Quantities > Room Schedule

R 🖬 🖻 🖬 🕥 • // + />	$\cdot \ominus = \cdot \mathscr{A} \circ A \circ \cdot$	· ? 🏗 😫 🔁 • 🔻		Д	Autodesk Revit 2021 - inp	out_layout.rvt - Schedule	e: Room Schedule		• 88 2	georg.suter@t* 🔓	•	- 8 ×
File Architecture Structure	Steel Precast Systems In:	sert Annotate Analy	rze Massing & Site	Collaborate Vie	w Manage Add-In	s BIM Interoperability	y Tools NBS Modify	Modify Schedule/Qu	antities •			
Properties Rooms Construction C	fx I Insert	Delete Resize Hide Unit	ide Insert Insert II * Data Ro	Delete Resize N	Merge Insert Clear Gr merge Image Cell	roup Ungroup Freeze Header	Shading Borders Reset	Font Align Horizontal	Align Highlight ertical in Model	📄 Show 📄 Hide 😭 Isolate	Explain	
Properties Para	meters	Columns	Ro	ws	Titles & He	eaders	Ap	opearance	Element	Not Placed/Unenclosed	Error	
Modify Schedule/Quantities												
Properties	>	< 🗋 Level 1	🚱 (3D)	🔐 3D Ortho 1	Room Sched	ule 🗙 🗘 Section 1						Ŧ
Schedule			<room s<="" td=""><td>Schedule></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></room>	Schedule>								
	(A	B (C D	E							
Schedule: Room Schedule	Pile Edit Tyre	Area	unded Height Uppe	r Limit Level	Limit Offset							
dentify Data		1 m ² 3.12	Level 2	Level 1	0.00							
View Template	(None)	20 m² 3.12	Level 2	Level 1	0.00							
View Name	Room Schedule	3 m² 3.12	Level 2	Level 1	0.00							
Dependency	ndependent	14 m ² 3.12	Level 2	Level 1	0.00							
basing	nocpendent	21 m ⁴ 3.12	Level 2	Level 1	0.00							
Phase I	New Construction	19 m ² 3 12	Level 2	Level 1	0.00							
Ther		7 m² 3.12	Level 2	Level 1	0.00							
Fields	Edit	6 m² 3.12	Level 2	Level 1	0.00							
Filter	Edit	115 m ² 3.12	Level 2	Level 1	0.00							
Sorting/Grouping	Edit	45 m² 3.12	Level 2	Level 1	0.00							
Formatting	Edit		Level 2	Level 1	0.00							
Annearance	Edit	6 m ²	Level 2	Level 1	0.00							
Embedded Schedule	Edit	41 117 3.12	Level 2	Level 1	0.00							
	Colon			1201011								
Properties help	Apply											
Project Browser - input_layout.rvt	×	<										
South		N										
West								Ν				
Sections (Building Section)								63				
Section 1												
- Egends				•	Check if	areas ma	ke sense					
Schedules/Quantities (all)					CIICCKII	arcas ma	RC SCHSC					
Door Schedule					Thoyma	v ho too l	argo or to					
Room Schedule					пеуша	y be too i	arge of to	0				
Wall Schedule					بايتد المحمدة							
Window Schedule					small wr	ien the pl	roject s sca					
Sheets (all)												
- P Families					is incorre	ect						
Analytical Links												
Annotation Symbols												
Cable Trays												
Casework												
⊕ Ceilings												
Columns												
- Conduits												
Curtain Panels												
Curtain Systems												
· · · · · · · · · · · · · · · · · · ·		<	-			commits cannot					-	
oom in or out using the Ctrl + mous	e wheel or Ctrl + [+/-]. To reset to th	ne original zoom level (100	1%) press Ctrl + 0		× 2 .	0 Main M	odel	~		1 A A A A A A A A A A A A A A A A A A A	0	100%

Check if all rooms are tagged



View > Visibility / Graphics > Rooms

	R = B = @ • S • B • E = • 2 P A 8 • 9	> ᇎ ᇟ ᇛ. ᆕ	Auto	desk Revit 2021 - input_la	yout.rvt - Floor Plan: Level	11		🔹 🛱 👤 geor	g.suter@t* 🍃	? •	_ & ×
	File Architecture Structure Steel Precast Systems Inser	t Annotate Analyze Massing & Site C	ollaborate View Ma	inage Add-Ins BIM	Interoperability Tools N	VBS Modify	▲ *				
	Modify View Select Visibility/ Filters Thin Show Remove Graphics Graphics Show Graphics	Cut Render Render Render View in Cluud Gallery View Visibility/Graphic Overrides for Floor Plan: Level	Ction Callout Plan Views	Elevation	ng View Schedule cate View ≁ o∯ Scope B ids ≁	es • 🐴 Sheet 🕻 lox 🐴 View 👸	☐ Title Block [] Matchli A Revisions • ① View R Guide Grid [] Viewpo	ne ference Switc	h Close Tab	Tile Views	User Interface
Average											
Preprint leaf Preprint leaf Vability Vability <td>Properties Floor Plan</td> <td>Model Categories Annotation Categories Analyti Show model categories in this view Eilter list: show alla.com</td> <td>cal Model Categories Imp</td> <td>rted Categories Filters</td> <td></td> <td></td> <td></td> <td>If a category is und</td> <td>hecked, it will not be v</td> <td>visible.</td> <td>- Q_</td>	Properties Floor Plan	Model Categories Annotation Categories Analyti Show model categories in this view Eilter list: show alla.com	cal Model Categories Imp	rted Categories Filters				If a category is und	hecked, it will not be v	visible.	- Q_
Recribencies (and 1 to 100 to		Visibility		Projection/Surface			Cut	Halftone	Detail Level	^	
Graphics I 100 Uwe Scate II 100 Diple Model Name Scate Nut 1 100 Diple Model Name	Floor Plan: Level 1 🗸 🖓 Edit Type	Visionity	Lines	Patterns	Transparency	Lines	Patterns	Tiancone	Detair cever	_	La.
Versite Into Deck Model Normal Deck Model Kormal	Graphics A	🖶 🗹 Lines							By View		
Safe Yorks 1: 100 Deal Load Deal Load Dea	View Scale 1:100	🖶 🗆 Mass							By View		
Depter Model Worms Depter Model Care Depter Model Depter Model Care Depter Model Depter Mod	Scale Value 1: 100	😥 🗹 Mechanical Equipment							By View		
Detail or det Covers Detail or detail Street Vising/ Spect Vising/ Spect Noth By View Spect Noticy Option Gata Orientation Poject Noth Walking Option Calman Orientation Poject Noth Walking Stream Calman Orientation Poject Noth Orientation Poject No	Display Model Normal	😥 🗹 MEP Fabrication Containment							By View		
Part isolating Orientation Graphs Diplay Options Options <tr< td=""><td>Detail Level Coarse</td><td>MEP Fabrication Ductwork</td><td></td><td></td><td></td><td></td><td></td><td></td><td>By View</td><td></td><td></td></tr<>	Detail Level Coarse	MEP Fabrication Ductwork							By View		
Value Edit Image: Class of the Clas	Parts Visibility Show Original	MEP Fabrication Hangers							By View		
Gepter Digity Oneon Priget Main Operation Priget Main Operation Priget Main Stew Hidde Lines By Discipline Color Schem Location Baseling Stew Hidde Lines By Discipline Color Schem Location Baseling Priget Brasen Appet Hidgs Priget Brasen Prist Operation Prist Prist Prist Operation Prist Display Operation Prist Operation Prist Display Operation Prist Operation Prist Display Operation Prist Display Operation Prist Display Operaly Prist	Visibility/Graphics Overrides Edit	MEP Fabrication Pipework							By View		
Security (with the project leads) Project leads) Project leads) Project leads) Security (with the project leads) Project leads) Project leads) Project leads) Project leads) Security (with the project leads)	Granhic Display Ontions				8				By View		
Will im Diploy Clean at well print Discriptine Cohing Starticula Show Hidden Line: Sp Discriptine Coins Starts Chance Sp Discriptine Coins Starts Chance Sp Discriptine Coins Starts Chance Sp Discriptine Poet Stores: Sp Discriptine Discriptine Sp Discriptine <	Orientation Project North	😥 🗹 Parking							By View		
incorported Bown Hidden be by Drephale Cation Share Laction Background Cation Share Laction Background Cation Share Share Shar	Wall Join Disnlay Clean all wall joins	💮 🗆 Parts	Ch	eck 'Interi	or Fill' and	'Refere	nce'		By View		
Over Index Lines 9 Diricpline Coder Scheme Bertground Coder Scheme Bertground Coder Scheme Coder Scheme	Discipline Architectural	🛨 🗹 Piers							By View		
Address Lines Op Obscyclim Op Obscyclim <t< td=""><td>Show Hidden Lines By Discipline</td><td>Pipe Accessories</td><td></td><td></td><td></td><td></td><td></td><td></td><td>By View</td><td></td><td></td></t<>	Show Hidden Lines By Discipline	Pipe Accessories							By View		
Color Schere Concord By View Procesting held Apply Procesting held By View By View By	Color Scheme Location Packaround	🛨 🗹 Pipe Fittings							By View		
Cools Schwarz Cools Schwarz Cools Schwarz	Color Scheme Location Background	Pipe Insulations							By View		
Christerical Law Project Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser Point Bowser - input, Lyouturt Of Verser Of Verser <t< td=""><td>Color Scheme <none></none></td><td>Pipe Placeholders</td><td></td><td></td><td></td><td></td><td></td><td>Ē Ē</td><td>By View</td><td>-</td><td></td></t<>	Color Scheme <none></none>	Pipe Placeholders						Ē Ē	By View	-	
Understands Paper Popers Provers Popers </td <td>Properties help</td> <td>Pines</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>By View</td> <td></td> <td></td>	Properties help	Pines							By View		
Project Brower - Input Jayoutht Original Brower - Input Jayoutht O	крру	Planting						<u> </u>	By View		
Cy Views (all) Concrete Iabel Iab	Project Browser - input_layout.rvt	Plumbing Fixtures							By View		
Floor Plans Level 1 Level 2 Ste Genic plans Celve pla	⊡_[0] Views (all)								By View		
Level 1 Level 2 Site ■ Celling Plans ■ 30 Ortho 1 (30) ■ Elevations (Building Elevation) ■ Elevations (Building Elevation) ■ Elevations (Building Elevation) ■ Elevations (Building Elevation) ■ Elevations (Building Section) ■ Elevations (Building Section) ■ Sections	Eloor Plans	Pames							By View	-	
Level 2 Site Geling Plans 3 D Orbito 1 (3D) Beavations (Building Elevation) East North South Wett Begrands Schedule Walt Schedule Wett Begrands Canced Hone Bone Invert Egand All Categories that are not overidden are drawn Object Styles estings. Bone Invert Egand All Categories that are not overidden are drawn Object Styles. Canced Apply Help Canced Apply Help Canced Apply Help Schedule Walt Schedule	Level 1	Bester large							Dy View		
Site B Ceiling Plans B Othon 1 (3D) Bervations (Building Elevation) Esst North South West Section 1 Elevations (Building Section) Section 1 Capeerde Hoat Layers Cancel Apply Help Cancel Apply Help Cancel Apply Help Cancel Apply Help Cancel Apply Help	Level 2	Raster images			-				Dy View		
Celling Plans Jo Views Jo D'ethol Jo Jo D'ethol Jo Jo D'ethol Jo	Site	H Roads						<u> </u>	By View	- 383	
3D Vrevs 3D Ortho 1 (30) East North South West Section 1 Eserds Section 1 Eserds Categories that are not overridden are drawn according to Object Styles Ready	- Ceiling Plans	(I I I I							By view	-	
3D Ortho 1 (3D) Elevations (Building Elevation) Sast South West Sections (Building Section) Section 1 Elegends Schedule/Quantities (all) Door Schedule Wall Schedule Wall Schedule Wall Schedule	= 3D Views	Rooms	-						By View		
Interior Fill G3D Elevations (Building Elevation) East North South West Section (Building Section) Section 1 Elevations (Building Section) Section 1 Elevations (Builden Section) Section 1 Elevations (Builden Section) Section 1 Categories that are not overridden are drawn Object Style settings.	3D Ortho 1	Color Fill									
Elevations (Building Elevation) Est North South West Sections (Building Section) Section 1 Elegrads Schedules/Quantities (all) Door Schedule Wall Wall Schedule Wall Wall Wall Wall Wall Wall Wall Wall Wall Schedule Wall Wall Wall Wall Wall Wall		Interior Fill									
Categories that are not overridden are drawn Categories that are not overridden are drawn Cobject Style settings.	Elevations (Building Elevation)	Reference									
Cost South South West Sections (Building Section) Section 1 Legends Schedules/Quantities (all) Door Schedule Wall Schedule	Fact	Convite Davison							By View		
Non South West Section (Building Section) Section 1 Egends Schedules/Quantities (all) Door Schedule Wall Schedule	North	Shaft Openings							By View		
Section 1 Schedules/Quantities (all) Override Host Layers Edit Door Schedule Categories that are not overridden are drawn according to Object Styles settings. Qbject Styles Wall Schedule Cancel Apply Help	South	🗄 🗹 Site							By View	-	
All None Invert Expand All Categories that are not overridden are drawn Categories that are not overridden are	West	Lia♥ Snaces							By View	~	
Section (output) Section (Sections (Puilding Section)	All None Inve	ert Expand All				Override Host Laye	rs			
Legends Legends Schedules/Quantities (all) Door Schedule Wall Schedule Wall Schedule Ready Ready Ready Categories that are not overridden are drawn according to Object Styles Object Styles Object Styles Object Styles Categories that are not overridden are drawn according to Object Styles	Sections (building section)								Edit		
Integrads according to Object Style settings. Qbject Styles Image: Door Schedule Room Schedule Image: Cancel Apply Help Wall Schedule Cancel Apply Help Image: Cancel Apply Help	Section 1	Categories that are not overridden are drawn									
Ready		according to Object Style settings.	Object Styles								
Loor schedule - Wall Schedule Wall Schedule Ready Ready Help → at Cancel Apply Help	Schedules/Quantities (all)										
Koom Schedule Wall Schedule Ready Ready Koom Schedule Cancel Apply: Help Help ↓ □	Door Schedule										
Ready Vall Schedule Cancel Apply Help	Koom Schedule										~
Ready Help Help Help Help Help Help Help Help							D ¹¹	Grand	August 1	t-l-	>
	Ready						48	Cancer	Bhbia	neip	2 2.0

Check if room geometries are generated



Check if room geometries are generated



Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements
- **10. Create furnishing elements**
- **11. Create rooms**

12. Create geocoordinates

- 13. Export input layout
- 14. Create .zip archive
- **15. Generate space model**

Create geocoordinates

• Determine geocoordinates in Open Street Map

• Edit geocoordinates in Revit

Determine geocoordinates in Open Street Map

• Open Street Map (OSM):

- Determine geocoordinates based on building outlines ('features')
- Google Maps (GM):
 - Determine geocoordinates based on satellite images
- Discrepancies between OSM and GM coordinates
 - Model visualizations on GM typically do not match with maps or satellite images
 - OSM coordinates are used because they are easier to validate
- 2 geocoordinates are required
 - p1: locate the input layout in geo coordinate system
 - p2: orientation (direction) of the input layout in geocoordinate system
- Edit geocoordinates in Revit



Determine geocoordinates p1 and p2





Determine geocoordinates p1 and p2

Alternative selection of p1 and **p2**

p1' and p2' are easily located in the input layout

p1' does not need to be at the origin of the local coordinate system!



Geo coordinate system (OSM)

Local (input layout) coordinate system (Revit)



Text editor: set up file to paste geocoordinates

	*new 1 - Notepad++			_ 🗇 🗙
<u>File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?</u>				Х
_;	🛑 💽 💽 💽 🌉 🚟 🗟			
enew 1 🛛				
1 p1=				
$\frac{2}{3} p^2 = T$				
Normal text file	length : 10 lines : 3	Ln:2 Col:4 Sel:0 0	Windows (CR LF) UTF-8	INS

Open Street Map (www.openstreetmap.org)



Enter street name



Query features



Query features



Select feature



p1: select feature node (trial and error)



p1: copy geocoordinate of node



p1: paste to text editor



p2: select feature node (trial and error)



p2: copy geocoordinate of node



p2: Paste to text editor

	*new 1 - Notepad++			_ 🗇 🗙
<u>File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?</u>				Х
, , , , , , , , , , , , , , , , , , ,] 🕘 🔲 🕩 🝉 📑 🏁 🐱			
ew 1 🔀				
1 p1=52.5314983, 13.4310478				
2 p2=52.5316106, 13.4311705				
3				
I				
Normal text file er	ngth : 54 lines : 3	Ln:2 Col:26 Sel:0 0	Windows (CR LF)	UTF-8 INS

Create geocoordinates

- Determine geocoordinates in Open Street Map
- Edit geocoordinates in Revit

Annotate > Text



Text editor: copy p1

E			*new 1 - Notepad++	_ 🗇 🗙
<u>F</u> ile <u>E</u> dit <u>S</u> e	earch <u>V</u> iew E <u>n</u> coding <u>L</u> anguage Se <u>t</u> tings	T <u>o</u> ols <u>M</u> acro <u>R</u> un <u>P</u> lugins <u>W</u> indow	2	Х
🕞 📑 🗐 🖡	🖻 🗟 🕞 📥 🚜 🐚 🖿 ラ 🗲 🗰 🆢	🔍 🔫 🖼 🖼 🔜 1] 📰 🖉		
📙 new 1 🗵				
1 p 2 p	1=52.5314983, 13.43 2=52.5316106, 13.43	Cut		
3	· · ·	Paste		
		Delete		
		Select All		
		Begin/End Select		
		Style token		
		Remove style		
		Plugin commands		
		UPPERCASE		
		lowercase		
		Toggle Single Line Comment		
		Block Comment		
		Block Uncomment		
		Hide Lines		

Upper left corner of text element should coincide with chosen location



Text editor: copy p2

	*new 1 - Notepad++ _ 🗖 🗙
<u>File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?</u>	X
]]] [] [] []]]]]]]]]]]	
📙 new 1 🔀	
1 p1=52.5314983, 13.4310478	
2 p2=52.5316106, 13.4311705	
3 Cut	
Сору	
Paste Ng	
Select All	
Begin/End Select	
Style token	>
Remove style	
Plugin commands	
UPPERCASE	
lowercase	
Toggle Single Line Comment	
Block Comment	
Block Uncomment	
Hide Lines	

Upper left corner of text element should coincide with chosen location


Check if p1 and p2 are correctly positioned



View > Visibility / Graphics > Text Notes

R■₽■@・☆・☆・⊖ ≒・♪ ♡A @・	◆ 罰 □ ■ Auto	odesk Revit 2021 - input_layout.rvt - Floor Plan:	Level 1	1 🏭 👤 georg.suter@t* 🔓 (? *	- & ×
File Architecture Structure Steel Precast Systems In Modify Image: Structure Image: Structure <th>Sert Annotate Analyze Massing & Site Collaborate View M Elevation Image: Constraint of the second second</th> <th>anage Add-Ins BIM Interoperability Tools</th> <th>NBS Modify Area Tag *</th> <th>Ceynote Duct Legend Spipe Legend Color Fill Legend Symbol 1 Symbol 1 Stair Path X</th> <th>수 Area 같⁴⁴ Path [7] Fabric</th>	Sert Annotate Analyze Massing & Site Collaborate View M Elevation Image: Constraint of the second	anage Add-Ins BIM Interoperability Tools	NBS Modify Area Tag *	Ceynote Duct Legend Spipe Legend Color Fill Legend Symbol 1 Symbol 1 Stair Path X	수 Area 같 ⁴⁴ Path [7] Fabric
Properties	Model Categories Annotation Categories Analytical Model Categories Imp	orted Categories Filters		1948 M. K. N. S. S. S. M. M. M.	Ŧ
Floor Plan	✓ Show annotation categories in this view Filter list: 			If a category is unchecked, it will not be visible.	
Floor Plan: Level 1	Visibility	Projection/Surface Lines	Halftone	^	
	Structural Annotations				-
Graphics	Structural Area Reinforcement Symbols				
View Scale 1:100	Structural Area Reinforcement Tags				
Scale Value 1: 100	Structural Beam System Tags				
Display Model Normal	Structural Column Tree				
Detail Level Coarse	Structural Connection Texa				
Parts Visibility Show Original	Chryster Connection Tags				
Visibility/Graphics Overrides Edit	Structural Fabric Reinforcement Symbols				
Graphic Display Options Edit	Structural Fabric Reinforcement lags				
Orientation Project North	Structural Foundation lags		Check 'Text N	lotes'	
Wall Join Display Clean all wall joins	Structural Framing Tags				
Discipline Architectural	Structural Path Reinforcement Symbols		Otherwise th	ev are not exported	
Show Hidden Lines By Discipline	Structural Path Reinforcement Tags		Otherwise th	ey are not exported	
Color Scheme Location Background	Structural Rebar Coupler Tags				
Color Scheme (none)	Structural Rebar Tags				
System Color Schemer	 Structural Stiffener Tags 				
Properties help Apply	Structural Tendon Tags				
	Structural Truss Tags				
Project Browser - input_layout.rvt	System-Zone Tags				
⊡ [Ø] Views (all)	Leiphone Device Tags				
📄 Floor Plans	Taxt Notar				
Level 1	The Plante				
Level 2	HILE DIOCKS				
Site	violation bamper lags				
Ceiling Plans	Vibration Isolator lags				
2D Views	View Reference				
Elevations (Duilding Elevation)	View Titles				
Elevations (building clevation)	Wall Tags				
EdSt	Weld Tags				
North	Window Tags	1			
South	Wire Tags				
West	Zone Tags				
Sections (Building Section)		,		×	
Section 1					
Legends	All INONE INVERT Expand All				
Schedules/Quantities (all)					
Door Schedule	Categories that are not overridden are drawn				
Room Schedule	according to Object Style settings. Object Styles				
Wall Schedule					
Window Schedule				N	
Exclusion of the second				13	~
DI Sneets (all)	·		r.	OK Concol Apply Utah	ي. د
Ready			L	Cancer Appry Heip	₩.0
veauy					11.0

Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements
- **10. Create furnishing elements**
- **11. Create rooms**
- **12. Create geocoordinates**

13. Export input layout

- 14. Create .zip archive
- **15. Generate space model**

Export input layout

- Export to Industry Foundation Classes (IFC) format (.ifc)
- Export to Autocad drawing format (.dwg)

'input_layout.ifc' is processed by **Space Modeler**

File > Export > IFC



Select 'space_modeler_ifc_export_setup' from 'Current selected setup'

R 🗈 🕞 🕲 • ର • ନ • 😂 🖴 🖋 ଡ A 🐵 • 🕈 🗄	5% ₽• =	Autodesk Revit 2021 - input_layout.rvt - Floor Plan: Level 1		• 🛱 👤 georg.suter@t* 🔓 ? •	_ & ×
File Architecture Structure Steel Precast Systems Insert An	notate Analyze Massing & Site Coll	aborate View Manage Add-Ins BIM Interoperability Tools NB	S Modify		
Modify Aligned Linear Angular Radial Diameter Select •	Detail Line Revision Cloud Region • A Detail Group • Component • A Insulation Detail	A Text A [™] Check Spelling [™] Find/ Replace Text → [™] Text →	Tag ∰ Tread Number Tag ∰ Tread Number Tag ℣ Multi- Rebar •	Duct Legend Pipe Legend Color Fill Legend Color Fill Symbol	수 Area 같 Path I Fabric
Floor Plan	ret 1 X	Room			
Display Model Normal	Export IFC		×		
Detail Level Coarse Parts Visibility Show Original Visibility/Graphics Overrides Edit Graphic Display Ontrions Edit	File name:	C:\Users\georg\Dropbox\SpaceModeler\users_space_patterns	Browse		
Orientation Project North Orientation Clean all wall joins Discipline Architectural Show Hidden Lines By Discipline	Current selected setup: IFC Version:	<in-session setup=""> Mod <in-session setup=""> IFC2x3 Coordination View 2.0 IFC2x3 Coordination View</in-session></in-session>	lify setup		
Color Scheme Location Background Color Scheme v System Color Schemer Edia v	inputlayout	IFC2x3 GSA Concept Design BIM 2010 IFC2x3 Basic FM Handover View IFC2x2 Coordination View IFC2x2 Singapore BCA e-Plan Check			
roject Browser - input Jayoutrivt	How do I specify an export setup?	IFC2x3 COBie 2.4 Design Deliverable IFC4 Reference View Export space_modeler_ifc_export_setup	Cancel		
Site Site Site Solution Solution Sections (Building Elevation) Sections (Building Section) Sections (Building Section) Sections (Building Section) Section 1 Section 1 South South	8	Room 31 p2=52.5318108,13.4311705	p1=62.6314063,13.431	D478	
Sheets (all) v 1:	100 🗆 🗗 🔽 🔒 📭 👘 🖓 🤉 🖽 🖷				
lick to select, TAB for alternates, CTRL adds, SHIFT unselects.	- Ar	🗸 🖉 :0 👘 Main Model	×	常道県 降色の	8:0

Export



Export runs in the background



Check 'input_layout.ifc' in 'input_layout_rvt' folder



2

9 items

)== E

Troubleshooting: 'space_modeler_ifc_export_setup' is missing

		=· 2 0 A Q .	o #= 50 Pi+	Ŧ		Autodesk Revit 202	1 - input_layout.rvt - Flo	or Plan: Level 1			AA Q georg		7 (?) +	_ 72 >	×
	File Architecture Structure Steel	Precast Systems Ins	ert Annotate An	alyze Massing & Site	Collaborate V	/iew Manage Add	Ins BIM Interoperabi	lity Tools NBS	Modify 🔿	•					
	Modify Select	eent Column Roof Build	Ceiling Floor Syst	tain Curtain Mullion F	Railing Ramp St Circulation	tair Model Model M Text Line G Model	lodel Room Room Separato	Tag Room & Area	Area Tag Boundary Area	By Shaft Face	+ + + + + + + + + + + + + + + + + + +	Level Grid	Set Show I PI Work Pla	Ref Viewer Iane	
Novement Image Plane Plane There Plane 1 There Plane 1 <td></td>															
Por Para Control for the form Control	Properties		E Level 1	x											Ŧ
Tice rheu res 1 Tice rheu rheu rheu rheu rheu rheu rheu rhe	Floor Plan	Ţ	F				Q							() () () () () () () () () () () () () (^
Signetic Signe	Floor Plan: Level 1	V 🔠 Edit Type												R	
Color Scheme Location Background Topers Is a sport Topers Is a spo	View Scale 1: 100 Scale Value 1: 100 Display Model Normal Detail Level Coarse Parts Visibility Show Origin Visibility/Graphics Overrides Orientation Project Nort Wall Join Display Clean all wa Discipline Architectura Show Hidden Lines By Disciplin	al	Exp Fii Cu IFi	nort IFC le name: urrent selected setup: C Version:		C:\Users\georg\Dropbox <in-session setup=""> <in-session setup=""> IFC2x3 Coordination Vie IFC2x3 Coordination Vie</in-session></in-session>	\SpaceModeler\users\ s	pace_patterns Modify	Browse	<]]					
Celling Plans South So	Color Scheme Location Background Color Scheme Streener Color Schemer Properties help Project Browser - input Jayout.rvt -[0], Views (all) - Floor Plans - Level 1 - Level 1	<none> c.dia Apply</none>	Ho	ojects to export: inputlayout w do I specify an export s	etup?	IFC2x3 GSA Concept De IFC2x3 Basic FM Hando IFC2x2 Coordination Vie IFC2x2 Singapore BCA e IFC2x3 COBie 2.4 Design IFC4 Reference View IFC4 Design Transfer Vie	sign BIM 2010 ver View w -Plan Check I Deliverable w	Export	Cancel	Ĩ		Ō			
Window Schedule	Everel 2 Site Geiling Plans Geiling Plans Tork Elevations (Building Elevation) East North South South Gerean Sections (Building Section) Section 1 Elevado Sectoin 1 South South					8	0					0			
□□ Sheets (all) ↓ 1: 100 □□ 今 & 保護局づく ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	Window Schedule														Ļ
lick to select, TAB for alternates, CTRL adds, SHIFT unselects. 🐐 🗸 👫 🗳 🗘 🖓 👔 Main Model 🗸 🦉 着 👫 🗳 🗘 🖓 0	Sheets (all)	~	1:100	9 🐼 🙀 🙀 🖓 🖓	🛱 📾 K									>	.11
	Click to select, TAB for alternates, CTRL adds, SH	HIFT unselects.			<i>di</i> t		~ 🖉 :0 🔳 🛤	Main Model		¥		* 4 %	R 10 0 7	7: 0	

Troubleshooting: Modify setup > Import setup...

R 🗈 🕞 🕲 • ର • ନ • 😂 😑 • 🖍 🖉 • 9	> ᇎ □, □. =	Autodesk Revit 2021 - input_layout	t.rvt - Floor Plan: Level 1	・ 船 💄 georg.suter@t+ 🖙 ③ ・ 🛛 🗕 🗗 🗙
File Architecture Structure Steel Precast Systems Insert	t Annotate Analyze Massing & Site Co	Ilaborate View Manage Add-Ins BIM Inte	roperability Tools NBS Modify 📼 🔹	
Wodify Wall Door Window Component Column Roof Column Select + Build	eiling Floor Curtain Curtain Mullion System Grid	g Ramp Stair Model Model Model Text Line Group Circulation Model	Room Separator Room & Area Room & Area	Image: Wall Vertical Dormer Opening Datum Work Plane
Properties	🖻 Level 1 🛛 🗙			-
Floor Plan		O		
Floor Plan: Level 1				R
Graphics * ^	Modify Setup		×	
View Scale 1:100				
Scale Value 1: 100	<in-session setup=""></in-session>	General Additional Content Property Sets Level	of Detail Advanced	
Display Model Normal	<ifc2x3 2.0="" coordination="" setup="" view=""></ifc2x3>		IEC 2v2 Coordination View 2.0	
Detail Level Coarse	<ifc2x3 coordination="" setup="" view=""></ifc2x3>	IFC Version		
Visibility/Graphics Overrides Edit	<ifc2x3 2010="" bim="" concept="" design="" gsa="" setup=""></ifc2x3>	File type	IFC *	
Graphic Display Options Edit	<ifc2x3 basic="" fm="" handover="" setup="" view=""></ifc2x3>			
Orientation Project North	<ifc2x2 coordination="" setup="" view=""></ifc2x2>	Phase to export	Default phase to export v	
Wall Join Display Clean all wall joins	<ifc2x2 bca="" check="" e-plan="" setup="" singapore=""></ifc2x2>	- 780 I I R. N. M. M.	Tax	
Discipline Architectural	<ifc2x3 2.4="" cobie="" deliverable="" design="" setup=""></ifc2x3>	Space boundaries	None	
Show Hidden Lines By Discipline	<ifc4 reference="" setup="" view=""></ifc4>	Coordinate Base	Shared Coordinates *	
Color Scheme Location Background	<ifc4 design="" setup="" transfer="" view=""></ifc4>			
Sustem Color Schemer Edit		Split Walls, Columns, Ducts by Level		
Properties help Apply		✓ Include Steel Elements	8 <u></u>	
Project Browser - input Javout rvt			File Header Information	
□ [0] Views (all)			Desite a Address	
- Floor Plans	<>		Project Address	
Level 1	*			\circ
Level 2			OK Cancel	0
Site	import setup			
Ceiling Plans				
Elevations (Building Elevation)	1			
East				
North				
South				
West				
Section 1				
Schedules/Quantities (all)				
Door Schedule				
Room Schedule		Ó		
Wall Schedule		, -		
Window Schedule				~
·····································	1:100 🔲 🗇 🔽 🕵 🞼 🖓 🔗 🖽 በ	第14		نه د
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.	đ	r 🗸 🗸 :0	Main Model 🗸	* 4 長崎 た 0 7:0

Open 'space_modeler_ifc_export_setup.json' file in 'input_layout_rvt' folder

R 🖬 🖻 🖥 🕼 • 🗠 •	÷•⊜ ≡• ∕*	10 A 💮 •	• ≝ ಔಔ• ₹		Autodesk Revit 2021 - inpu	t_layout.rvt - Floor Plan: Level 1			▲ 위험 👤 georg.suter	@t* 🔓 ? •	- 8	×
File Architecture Structur	re Steel Precast	Systems Ins	ert Annotate Ana	yze Massing & Site Collaborate V	iew Manage Add-Ins E	IM Interoperability Tools NBS	Modify 💽	•				
Modify	w Component C	olumn Roof	Ceiling Floor Curta	n Curtain Mullion m Grid	air Model Model Model Text Line Group	Room Room Tag Separator Room	ea Area Tag Boundary Area	By Shaft Wall	Vertical Dormer Leve	st Grid Set S	how Ref Viewer Plane	
Select 🔻		Build		Circulation	Model	Room & Area	•	Oper	Jing D	atum \	Work Plane	
Properties			Level 1	•								• •
Floor Plan		•			Q						9	D
Floor Plan: Level 1		- Edit Type		R Open				×			E	E .
Sraphics	Lt 100	^ ^ ^	Modify Setup	← → × ↑ 📙 « housing_kaden.	_klingbeil_berlin_r input_la	yout_rvt → ✓ Ö	🔎 Search input	t_layout_rvt				
Scale Value 1:	100		<in-session setup=""></in-session>	Organize 🛪 New folder				- n 0				
Display Model	Normal		<ifc2x3 coordinati<="" td=""><td>Redishand A North</td><td>^</td><td>Data and King d</td><td></td><td></td><td></td><td></td><td></td><td></td></ifc2x3>	Redishand A North	^	Data and King d						
Detail Level Parts Visibility	Coarse Show Original		<ifc2x3 coordinati<="" td=""><td>Radionead & Name</td><td></td><td>Date modified</td><td>lype</td><td>Size</td><td></td><td></td><td></td><td></td></ifc2x3>	Radionead & Name		Date modified	lype	Size				
Visibility/Graphics Overrides	Edit		<ifc2x3 conce<="" gsa="" td=""><td>Randy Clawit</td><td>es</td><td>3/13/2021 11:04 PM</td><td>File folder</td><td></td><td></td><td></td><td></td><td></td></ifc2x3>	Randy Clawit	es	3/13/2021 11:04 PM	File folder					
Graphic Display Options	Edit		<ifc2x3 basic="" f<="" fm="" td=""><td></td><td></td><td>= 1/30/2021 6:43 PM</td><td>JSON File</td><td>2 KB</td><td></td><td></td><td></td><td></td></ifc2x3>			= 1/30/2021 6:43 PM	JSON File	2 KB				
Orientation	Project North		<ifc2x2 singapore<="" td=""><td>Ray Lamonta 🛩 🔛 space</td><td>_modeler_irc_export_setup.json</td><td>1/30/2021 0:43 PM</td><td>JSON FILE</td><td>2 KB</td><td></td><td></td><td></td><td></td></ifc2x2>	Ray Lamonta 🛩 🔛 space	_modeler_irc_export_setup.json	1/30/2021 0:43 PM	JSON FILE	2 KB				
Discipline	Clean all wall joins Architectural		<ifc2x3 2.4<="" cobie="" td=""><td>Re_jazz Feat. 1 🖈</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></ifc2x3>	Re_jazz Feat. 1 🖈								
Show Hidden Lines	By Discipline		<ifc4 reference="" td="" vi<=""><td>Re_jazz Feat. 1 🖈</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></ifc4>	Re_jazz Feat. 1 🖈								
Color Scheme Location	Background		<ifc4 design="" td="" trans<=""><td>📙 Richard Thon 🖈</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></ifc4>	📙 Richard Thon 🖈								
Color Scheme	<none></none>			📙 Rickie Lee Jor 🖈								
Properties help	E-li+	Apply		📙 Rita Coolidge 🖈								
Desired Descent in a few data		- 463	-									
Project Browser - input_layout.rvt		•		- owncloud								
- Floor Plans			<	😻 Dropbox								
Level 1			•> (5) (7) ×>						0			
Level 2				- Onebrive					\mathbf{v}			
Site				💻 This PC								
				3D Objects								
Elevations (Building Elevation)	tion)			Desktop								
East				🖹 Documents 🗸 <				>				
North												
South				File name: space_	modeler_ifc_export_setup.json	~	IFC Configuration	i (".json)				
Sections (Building Section	a.						Open	Cancel				
Section 1							45	al				
Egends												
Schedules/Quantities (all)												
Door Schedule					-							
Wall Schedule					C)						
Window Schedule												
Sheets (all)		1000	1,100									× .
		v.		See and and the set of the line in the set of the set		• • • • • • • • • • • • • • • • • • •	113		00	AC 11. 100 -10.	$\sim \Box$	·
LICK to select, TAB for alternates, C	TRL adds, SHIFT unsel	iects.		61	× 11	:U AM IVIAIN Wodel		×	1	and the set of	A:0	

Select 'space_modeler_ifc_export_setup' option

R = B = @ • \ · B = • / P A	◎・? 肥 児母・=	Autodesk Revit 2021 - input_layout	rvt - Floor Plan: Level 1	🖣 👫 👤 georg.si	uter@t+ 🔓 🕐 - 🗕 🗗 🗙
File Architecture Structure Steel Precast Systems	: Insert Annotate Analyze Massing & Site	Collaborate View Manage Add-Ins BIM Inter	operability Tools NBS Modify 💽 🛪		
Modify Select V	Roof Ceiling Floor Curtain Curtain Mullion System Grid	ing Ramp Stair Circulation Model Model Model Model Model Text Line Group Model	Room Tag Area Area Tag Boundary Area	By Shaft Wall Vertical Dormer L Opening	evel Grid Datum evel Work Plane
					_
Floor Plan		0			
Floor Plan: Level 1 V Re Edi	t Type				Eq
Graphics View Scale [1: 100 Scale Value 1: 100	Modify Setup			×	ē
Joing Jong Joing Jong Display Model Normal Detail Level Coarse Parts Visibility Show Original Visibility/Graphics Overrides Edit Graphic Display Options Edit Orientation Project North Wall Join Display Clean all wall Joins Discipline Architectural Show Hidden Lines By Discipline Color Scheme <none> Color Scheme <a>cutere Project Browser - input Jayout.rvt — Color Plans </none>	All Octavity Setup <	Centeral Additional Content Property Sets Level IFC version File type Phase to export Space boundaries Coordinate Base Split Walls, Columns, Ducts by Level Imclude Steel Elements	IFC 2x3 Coordination View 2.0 IFC Default phase to export 1st Level Shared Coordinates File Header Information Project Address	v v v Cancel)
So views Elevations (Building Elevation) East North South West Section 1 Egends Schedules/Quantities (all) Door Schedule Wall Schedule Window Schedule Window Schedule Sheets (all)	 1:100 口 (金 (金 (成 (応) や) の (二))) ه ه ر : ه <			بر «
Click to select, TAB for alternates, CTRL adds, SHIFT unselects.		ði 🗸 🖉 :0	Main Model 🗸 🗸		❤ 4 % ◎ 🖓 0

Export



Export input layout

- Export to Industry Foundation Classes (IFC) format (.ifc)
- Export to Autocad drawing format (.dwg)

Geocoordinates are saved here because they are not exported to IFC

Project Browser > Floor Plans > Level 1



File > Export > CAD Formats > DWG



Select 'space_modeler_dwg_export_setup' (if available)

	■ ひ目@・☆・☆・母目 は □・◇ @ A @・◇ 靴 № *	Autor	desk Revit 2024 - input_layout.rvt - Floor Plan: Level 1	• 🏦 💄 georg.suter@t* 🔓 🕐 • 📃 🗙
	File Architecture Structure Steel Precast Systems Insert Annotate Analyze Massir	g & Site Collaborate View Manage Add-Ins Mod	ify ••	
New York Image:	Modify Wall Door Window Component Column Roof Ceiling Floor Curtain Curtain Mu Select V Build	lion Railing Ramp State Circulation Model Model Model Group Model Model	Room & Area Room & Room & Area Room Area	t Show Ref Viewer Plane Work Plane
	Properties Ch. Lawlet Y			
	Floor Plan	Q		
 P. Week (all) F. Boor Plans J. Level 2 J. Stee Benations (fulliding Elevation) J. South J. S	Graphics Graphics Yew Scale 1: 100 Scale Value 1: 100 Display Model Normal Detail Level Coarse Parts Visibility Show Original Visibility/Grap Edit Graphic Displa Edit Orientation Project North Wall Join Disp Clean all wall joi Discipline Architectural Show Hidden By Discipline Color Scheme	DWG Export Space_modeler_dwg_export_setup Preview of Floor Plan: Level 1	? × Export: current view/sheet only> ™ X Include Type Name Floor Plan: Level 1 	
Ready	 ○ Views (all) Floor Plans □ Level 1 □ Level 2 □ Site + Ceiling Plans + 3D Views = Elevations (Building Elevation) □ East □ North □ South □ West - Section 1 □ Legends = Schedules/Quantities (all) □ Door Schedule □ Window Schedule > Window Schedule > 1:100 □ Prove Prove	•	Next Save Set & Close Cancel	v > ×
	Ready	4	🗠 🖉 🔲 🗐 Main Model 🗸 👻	°\$ #\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$:0

Alternative (if 'space_modeler_dwg_export_setup' unavailable): <in-session export setup> ...

■ □ □ □ □ □ □ · □ · □ · □ · □ □ □ □ · ○ · □ □ □ □	A	utodesk Revit 2024 - input_layout.rvt - Floor Plan: Level 1	• 🛱 👤 georg.suter@t• 🔓 🔞 • 🛛 🔺
File Architecture Structure Steel Precast Systems Insert Annotate Analyze	Massing & Site Collaborate View Manage Add-Ins N	Aodify 🔹 +	
Modify Wall Door Window Component Column Roof Ceiling Poor System Select - Build	train Mullion rid Circulation	som Room Separate Room & Area Tag Room & Area Chara Ch	Set Show Ref Viewer Plane
Li Level 1 X			÷
Floor Plan -	\bigcirc		
Floor Plan: Level 1 🛛 🕆 🕮 Edit Type			
Graphics * View Scale 1: 100 Scale Value 1: 100 Display Model Normal Detail Level Coarse Parts Visibility Show Original Visibility/Grap. Edit	DWG Export Select Export Setup <in-session export="" setup=""> Select Views And Sheets To Export Preview of Floor Plan: Level 1</in-session>	Export: <current only="" sheet="" view=""></current>	
Graphic Displa Edit Orientation Project North Wall Join Disp Clean all wall joi Discipline Architectural Show Hildden By Discipline Mondial	o ://WE Evenet Solution		
Color Scheme Background Color Scheme <a href="https://www.schemes.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.color.col.col.col.col</td> <td>t Setup n corport setup> Layers Lines Patterns Text & Fonts Colors Export layer options: E</td> <td>Solids Units & Coordinates General</td> <td></td>	t Setup n corport setup> Layers Lines Patterns Text & Fonts Colors Export layer options: E	Solids Units & Coordinates General	
Properties help Apply	Load layers from standards:	merican Institute of Architects Standard (AIA)	
Project Browser - input_layout.nvt	Category name search:		
Q Search	Projection	Cut	
- [J] Views (all)	Category Layer Color L	ayer Layer Color Layer	0
Level 1 Level 2 Site Ceiling Plans	Hodel cate Autr S-BRD 83 Air Ter M-HV 50 Areas A-AREA 32 Autr A-AVDV 13	S-BRD 83 A-AVDV 13	
+ 3D Views	Bearings S-BRD 152	S-BRD 152	
Elevations (Building Elevation) Elevations (Building Elevation) Elevations Elev	Bridge S-DEC 2 Bridge S-DEC 2 Bridge S-DBD 2 Cable T E-CAB 211 Cable T E-CAB 211 Cable T E-CAB 211	S-BEC 2 S-BRD 2	
Sections (Building Section) Section 1 Eegends Eschedules/Quantities (all) Door Schedule	Expand All Collapse All	Add/Edit Modifiers for All OK Cancel	
Wall Schedule			
Window Schedule			× .
Ready	•	🐝 🕹 🛃 Main Model 🗸	°\$ #\$ #\$ 4 ○ ¥:0

Alternative (if 'space_modeler_dwg_export_setup' unavailable): Units & Coordinates > One DWG unit is: > Meter

R 回 日 B @・☆・☆・母 回 耳 =・シ @ A @・? 靴 励 *	Aut	todesk Revit 2024 - input_layout.rvt - Floor Plan: Leve	el 1	• 🛱 👤 georg.suter@t• 🔓 🔞 •	_ 🗆 ×
File Architecture Structure Steel Precast Systems Insert Annotate Analyze Massi	g & Site Collaborate View Manage Add-Ins Mo	odify 🛋 *			
Modify Wall Door Window Component Column Roof Ceiling Roor Curtain Curtain M Select -	Railing Ramp Stair Circulation	orn Room Tag Area Room Area Room & Area	By Shaft Wall Vertical Dormer Face Opening Datum	t Show Ref Viewer Plane Work Plane	
Properties Level 1 X					±
Floor Plan 👻	Ŷ				
Floor Plan: Level 1 Y 🛱 Edit Type					
Graphics *	DWG Export		? ×		
View Scale 1:100	Select Export Setup				
Display Model Normal	<in-session export="" setup=""> ~</in-session>]			
Detail Level Coarse	Select Views And Sheets To Export				
Parts Visibility Show Original	Preview of Floor Plan: Level 1	Export: <pre><current only="" sheet="" view=""></current></pre>	×		
Graphic Displa Edit					
Orientation Project North		• • • • · · ·			
Wall Join Disp Clean all wall joi	0				
Discipline Architectural		Include Turne	Nama		
Color Scheme Background	port Setup		? ×		
Color Scheme <none> Select Export Setup</none>	Laware Lines Datterns Taxt & Fonts Colors C	Linits & Coordinates Control			
System Color Edit Space modeler, dw	etup>				
Default Analys None	One DWG unit is:				
Properties help Apply	() Foot				
Project Browser - input_layout.rvt	- Dich				
Q Search	Centimeter				
- Q. Views (all)	Millimeter				
- Floor Plans	Countrate Deve		O		
Level 1	Coordinate base:				
Level 2	Internal Origin				
t Coiling Plans	<u> </u>				
- + 3D Views					
Elevations (Building Elevation)					
East					
U North					
West					
- Sections (Building Section)					
🖸 Section 1	1				
I Legends					
Eschedules/Quantities (all)			OK Cancel		
Room Schedule	~ ~		122		
Wall Schedule					
🖳 🗍 Window Schedule 🗸 1 : 100 🔲 🗇 🎠 💁 📩 🛤 🛤 🖼					> .:
Ready		v ≥ 0 [🔲 📮 Main Model 🔍 🗸	8456405	y :0

Next...



Save as 'input_layout_geo.dwg' file to 'input_layout_dwg' folder



Check 'input_layout_geo.dwg' in 'input_layout_dwg' folder



2

2 items

Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements
- **10. Create furnishing elements**
- **11. Create rooms**
- **12. Create geocoordinates**
- 13. Export input layout

14. Create .zip archive

15. Generate space model

Run '_input_layout_zip.bat' script in project folder



28 items 1 item selected 255 bytes

Check if 'input_layout.zip' archive has been created

C:\WINDOWS\syst	tem32\cmd.exe	— —	×
Warning:	'layout_label_edits.csv' does not exist Recent label edits may not be included in layo	outs	,
Info:	Found 'input_layout_geo.dwg'	Only relevant for offline edits.	
Info:	Found 'input_layout_rvt\input_layout.ifc'	This message may be ignored in the first iteration.	
+++ Success:	Created 'input_layout.zip' file		

Press any key to continue . . .

V.

Check if 'input_layout.zip' archive has been created

Quick Copy Paste	Move to * Copy	New item ▼ 1 Easy access ▼ 1 Folder	Properties	Select all Select none
Clipboard	Organize	New	Open	Select
→ 👻 🛧 📙 « 0123456 > housing	_kaden_klingbeil_berlin_revit_ifc_tuto	rial 🗸 🗸	ට 🔎 Search ho	using_kaden_klingbeil_berlin_revit
ne	Date modified	Туре	Size	
batch	3/12/2021 6:05 PM	File folder		
css	3/12/2021 6:05 PM	File folder		
html	3/12/2021 6:05 PM	File folder		
input_layout	3/9/2021 4:52 PM	File folder		
input_layout_add	3/9/2021 4:52 PM	File folder		
input_layout_dwg	3/14/2021 2:59 PM	File folder		
input_layout_ifc	3/12/2021 6:05 PM	File folder		
input_layout_pdf	3/12/2021 6:05 PM	File folder		
nput_layout_pln	3/9/2021 4:30 PM	File folder		
input_layout_rvt	3/14/2021 2:19 PM	File folder		
nput_layout_stp	3/9/2021 4:35 PM	File folder		
nput_layout_svg	3/9/2021 4:52 PM	File folder		
s	3/12/2021 6:05 PM	File folder		
options	3/9/2021 7:02 PM	File folder		
output_layouts	3/9/2021 4:53 PM	File folder		
output_layouts_db	3/9/2021 4:31 PM	File folder		
output_layouts_dwg	3/12/2021 6:05 PM	File folder		
output_layouts_json	3/9/2021 4:31 PM	File folder		
output_layouts_owl	3/12/2021 6:05 PM	File folder		
output_layouts_pdf	3/9/2021 4:32 PM	File folder		
output_layouts_svg	3/9/2021 4:53 PM			
pdf	3/12/2021 6:22 PM	I his file w	nii be uploa	aed to the
python	3/9/2021 4:36 PM	SpacePatt	erns web ar	
scr	3/9/2021 4:36 PM			
_edit	11/14/2018 11:36 AM	Same	2 KB	
_input_layout_zip.bat	3/11/2021 10:47 PM	mindows Batch File	1 KB	N
_output_layouts_unzip.bat	21 TU:46 PM	Windows Batch File	1 KB	43
comproce_space_m deler_project	3/9/2021 9:36 PM	WinZip File	16,250 KB	
input_layout.zip	3/14/2021 5:02 PM	WinZip File	634 KB	
input lavout zin er	3/14/2021 5:02 PM	Error log	1 KB	
	3 (1 4 (2021 E-02 D) 4	LOCE	1.170	

31 items

Troubleshooting: Missing 'input_layout.ifc' (or 'input_layout.dwg')

C:\WINDOWS\system32\cmd.exe	25		×
\Users\georg\Dropbox\SpaceModeler\users_space_patterns_server\0123456\housing_kaden_klingbeil_ber] >cd batch	in_revit_	_ifc_tu	tori
\Users\georg\Dropbox\SpaceModeler\users_space_patterns_server\0123456\housing_kaden_klingbeil_berl \batch>input_layout_zip.bat	in_revit_	ifc_tu	tori
Warning: File 'input_layout_label_edits.csv' does not exist			
<pre>*** Error: Unable to create 'input_layout.zip' file *** Cause: File 'input_layout.ifc' or 'input_layout.dwg' must exist ess any key to continue</pre>			
			~

Troubleshooting: Check 'input_layout.ifc' file in 'input_layout_rvt' folder

📙 🛛 🔄 🧮 🗸 input_layout_rvt				– 🗆 X
File Home Share View				~
Pin to Quick Copy Paste Copy path Rest construct	ve Copy to to t	New item • The basy access • Folder	Properties	Select all Select none Invert selection
Clipboard	Organize	New	Open	Select
← → ~ ↑ 📙 « housing_kaden_klingbeil_k	perlin_revit_ifc_tutorial input	_layout_rvt v	ර 🔎 🔎 Search inpu	t_layout_rvt
Name	Date modified	Туре	Size	
📙 families	3/13/2021 11:04 PM	File folder		
🔐 exportlayers-ifc-IAI.txt	8/6/2020 9:55 AM	TXT File 'inp	ut_layout_rvt' fol	der
- space_modeler_ifc_export_	s 1/30/2021 6:43 PM	JSON File	- 110	
input_layout.ifc	3/14/2021 2:19 PM	IFC Files	3,134 KB	
	3/14/2021 2:19 PM	LOG File	2 KB	
🔜 input_layout.rvt	3/14/2021 1:57 PM	Autodesk Revit Project	18,616 KB	
📓 schema.log	3/14/2021 2:19 PM	LOG File	1 KB	
📓 simulexlog-msgs.log	3/13/2021 12:36 AM	LOG File	1 KB	
📓 space_modeler_ifc_export_setup.json	1/30/2021 6:43 PM	JSON File	2 KB	

Steps

- 1. Set up project
- 2. Import pdf of original floor plan
- 3. Set floor-to-floor height
- 4. Determine internal and external spaces
- 5. Create walls
- 6. Create doors and openings
- 7. Create windows
- 8. Create circulation elements
- 9. Create horizontal external elements
- **10. Create furnishing elements**
- **11. Create rooms**
- **12. Create geocoordinates**
- 13. Export input layout
- 14. Create .zip archive

15. Generate space model

See User Guide 'Generating a space model'