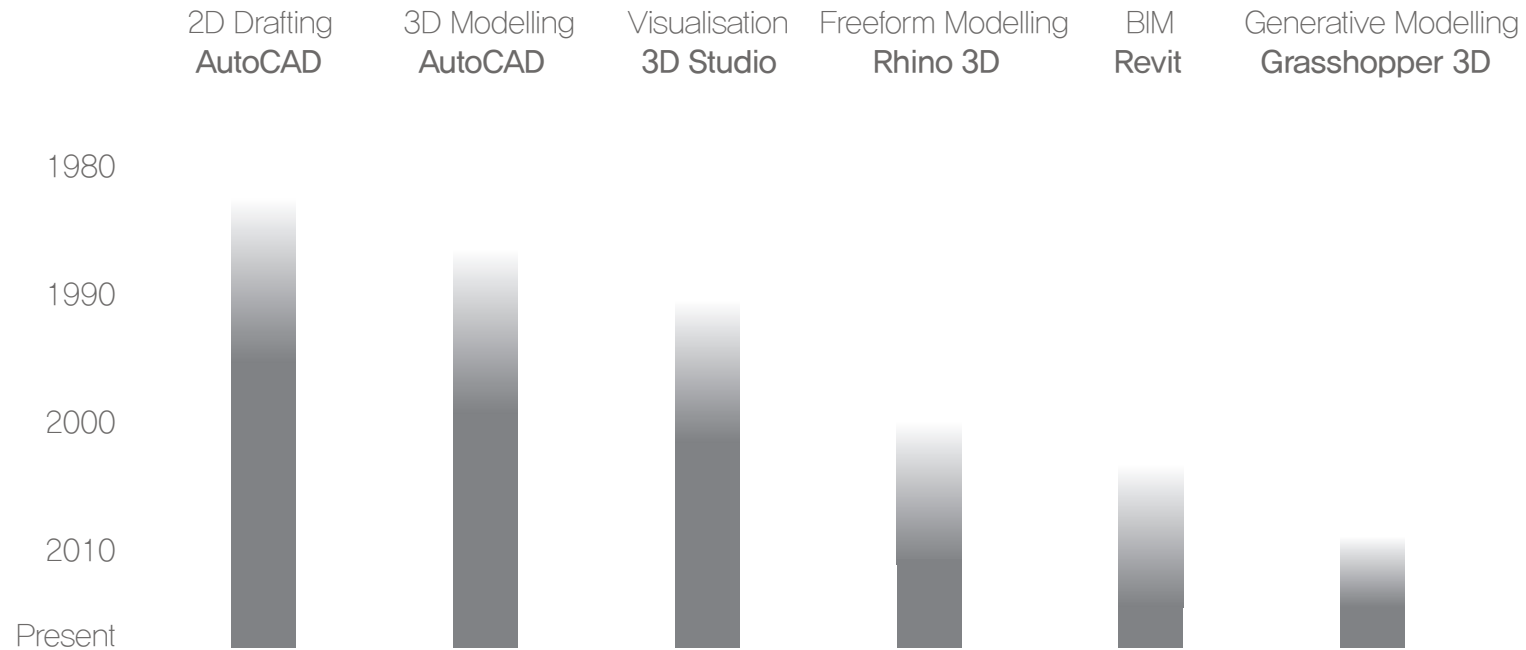


한국종합예술학교 미술원 건축과

Media Studio 3: Advanced Computer I

Introduction

COMPUTER AS A TOOL FOR ARCHITECTURE



Course Programme

Basic 3D Modelling – 2 weeks

Applied 3D Modelling – 3 weeks

Generative Algorithm Modelling – 2 weeks

Visualisation – 5 weeks

Presentation – 1 week

Softwares

Universal Drafting / Modelling Package

Universal Modelling / Visualisation Package

Architecture / Product Modelling Package

BIM Package

Renderer (plug-in / standalone)

Real-time Renderer + Scene Builder

Generative Modeller (plug-in)

Mechanics / Sculpting / Fabric Modeller

Softwares

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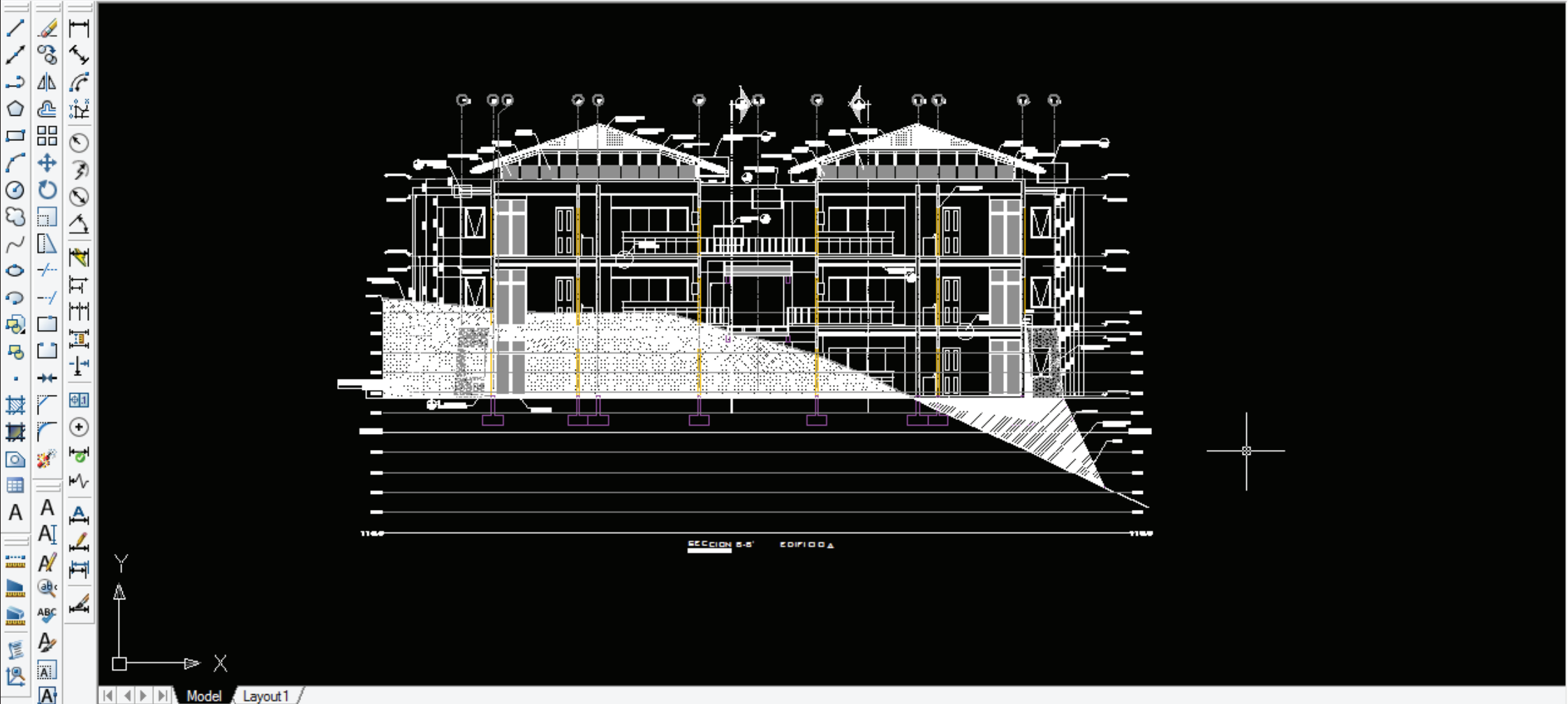
BIM Package

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Specify corner of window, enter a scale factor (nX or nXP), or
[All/Center/Dynamic/Extents/Previous/Scale/Window/Object] <real time>: a

Command:

38.3712, 9.6330, 0.0000 SNAP GRID ORTHO POLAR OSNAP OTRACK DUCS DYN LWT MODEL

Annotation Scale: 1:1

Tasks

View 1, default

compartimentering

hulplijnen en -vlakken

infrastructuur

multilines

plafonds

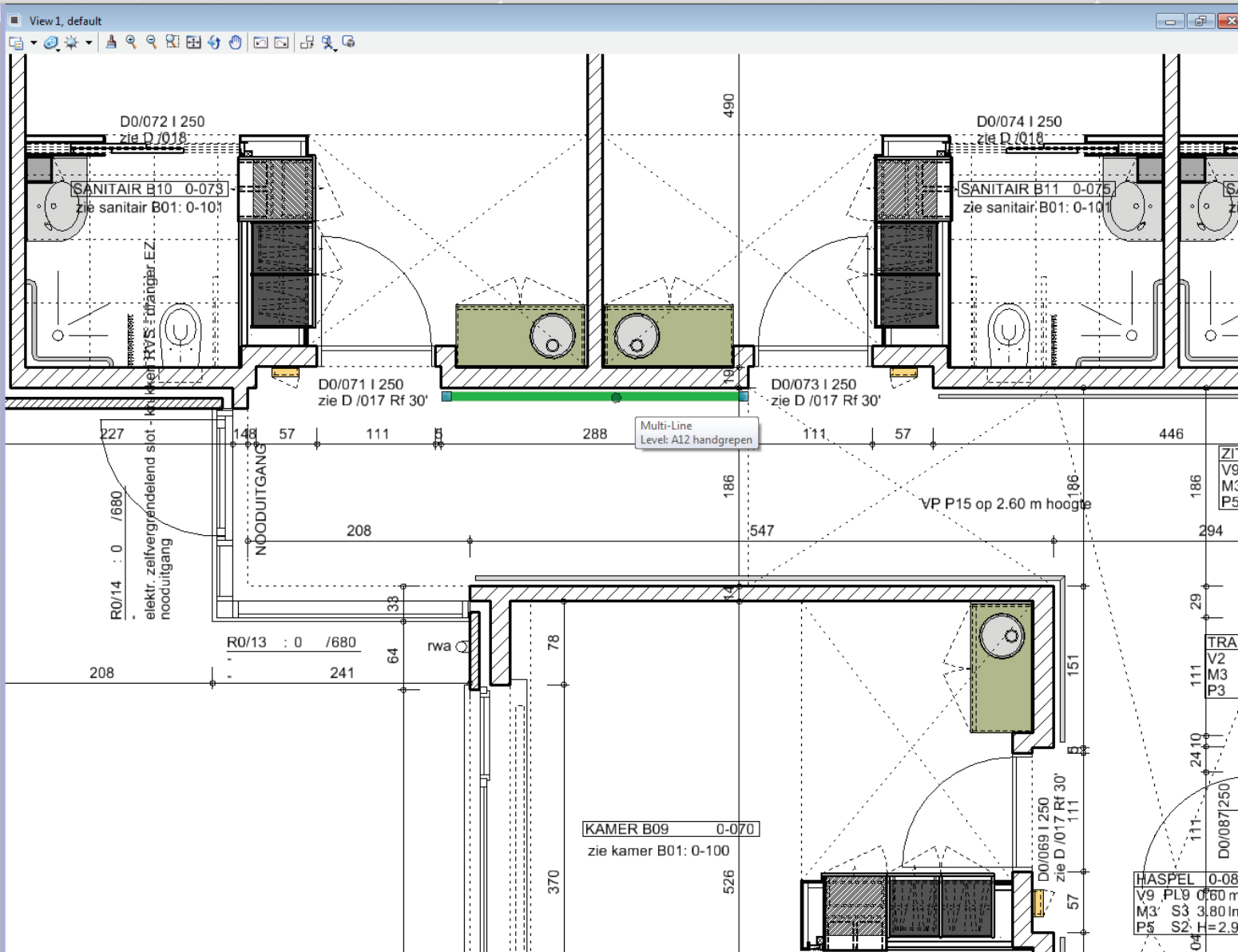
references

riolering en dakwaterafvoer

Drawing

Drawing Composition

Terrain Model



Element Information

Selection

Multi-Line

General

Description	Multi-Line
Level	A12 handgrepen
Color	ByLevel (0)
Line Style	ByLevel (0)
Weight	ByLevel (0)
Class	Primary
Template	grepenVg binnen
Transparency	U
Priority	0

Geometry

Start	-16789.80,-33403.41
End	-16762.07,-33126.80
Length	278.00
Direction	84.2742°
DeltaX	27.74
DeltaY	276.61
Total Length	278.00

Extended

Style	HA handgreep binnen
Profile Count	2
Profiles	
Start Cap	
End Cap	
Joints	
Model	default
Last Modified	27-02-2012 11:05
Snappable	Snappable
Modified	Modified
New	New
Locked	Unlocked
Line Style Param	
Display Style	From View

Raw Data

Element ID	247766
Size	208
File Position	4013867
Linkages	1
XAttributes	1

Material

Attached Material	(None)
Assigned Materia	(None)

Level Display... Element Infor...

Softwares

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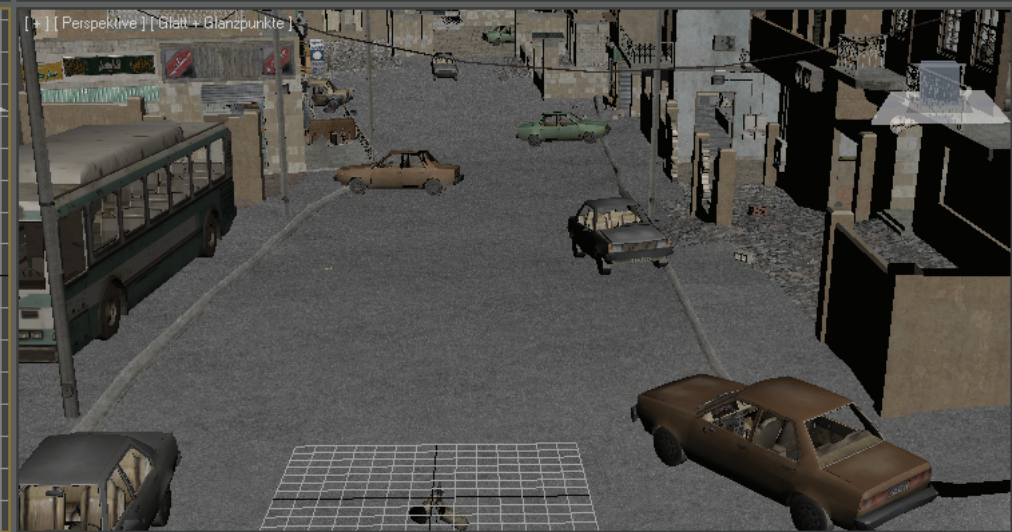
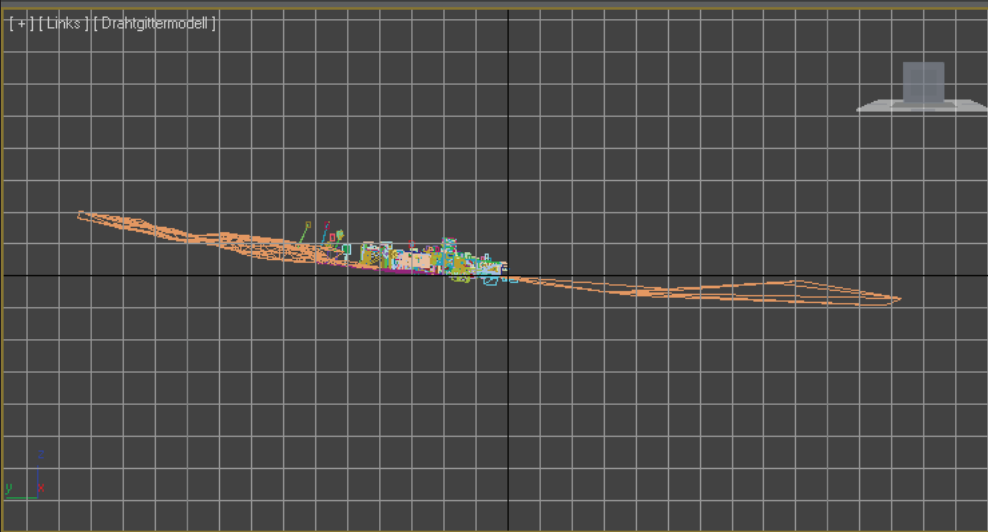
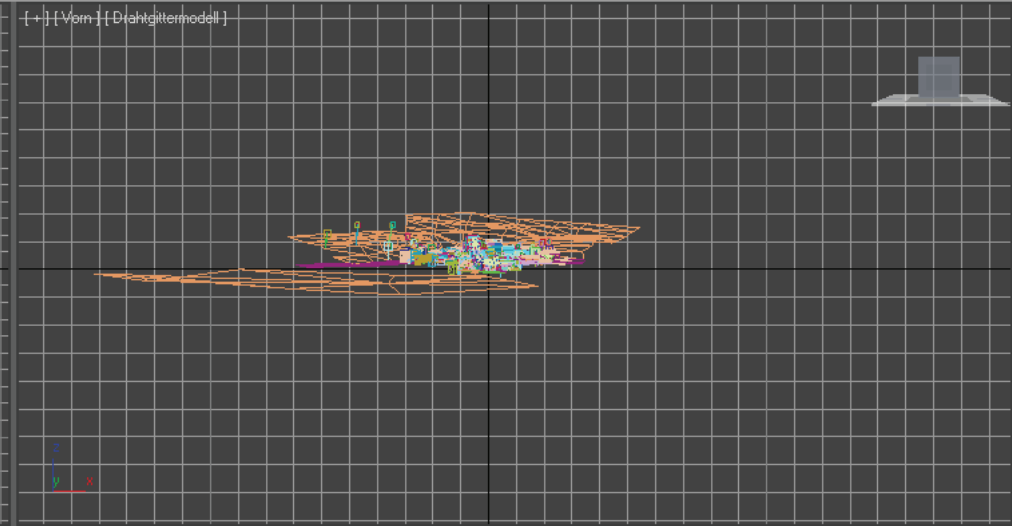
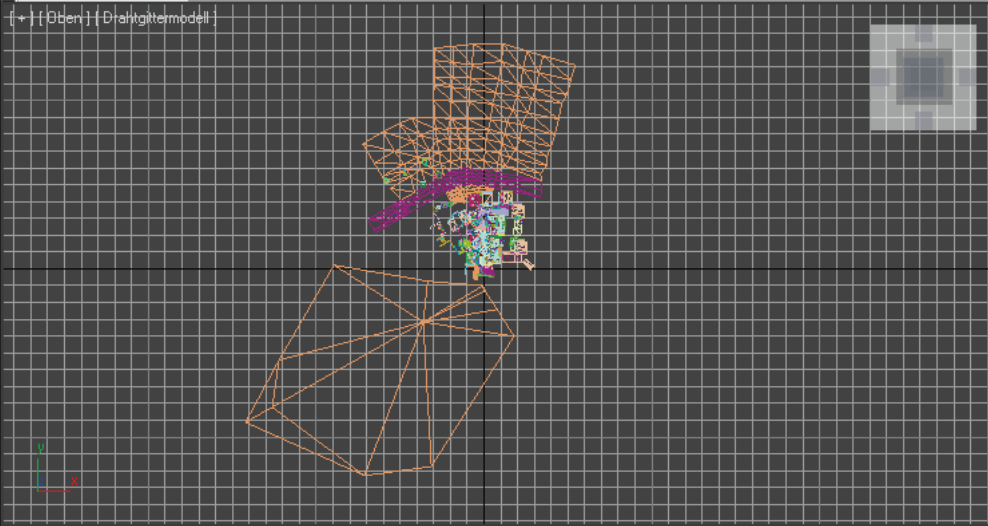
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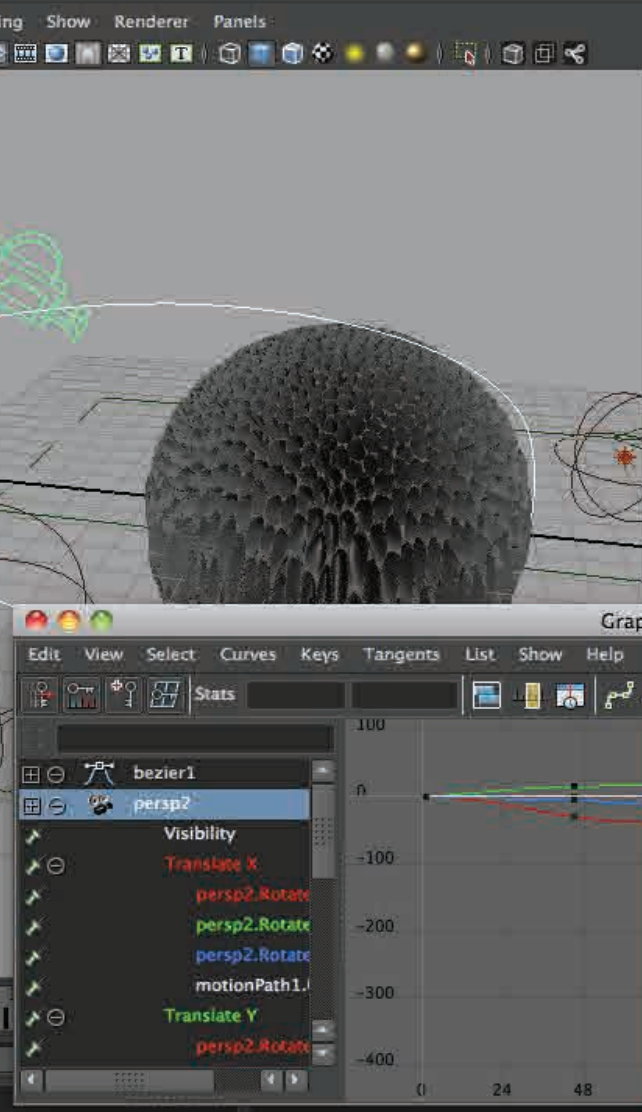
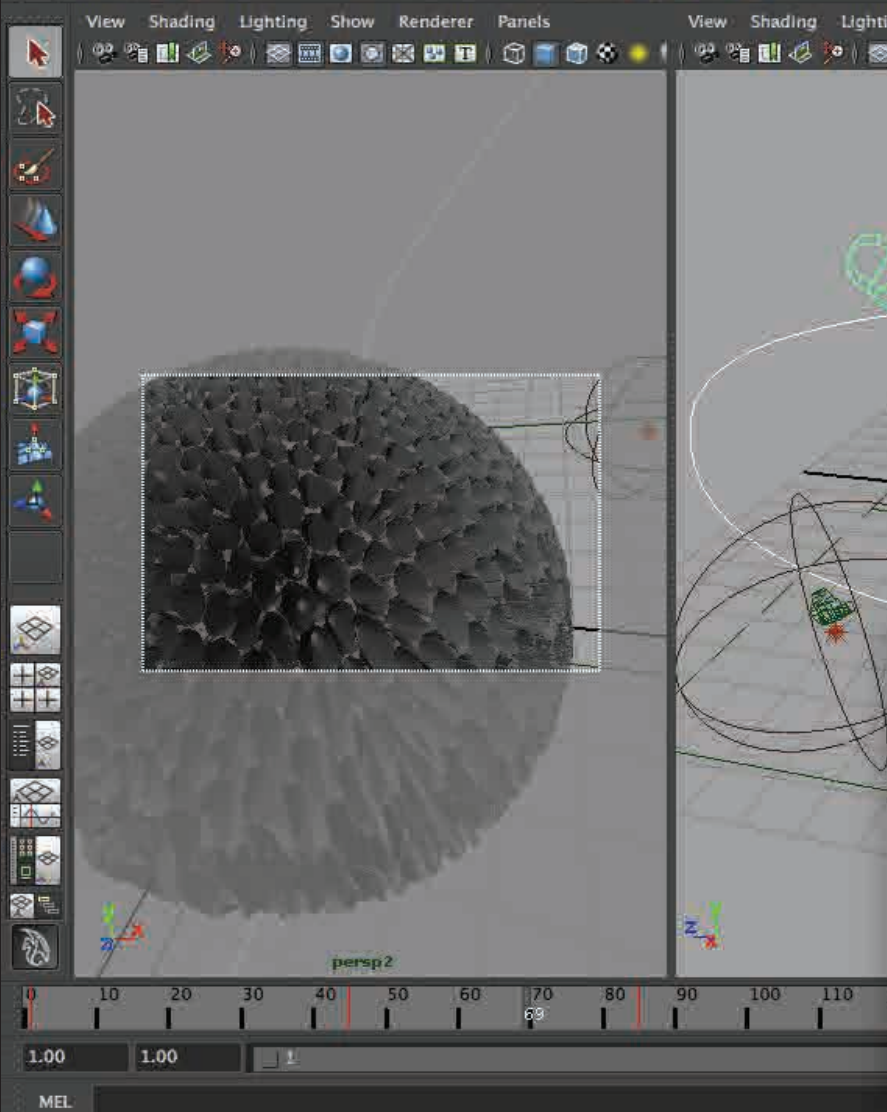
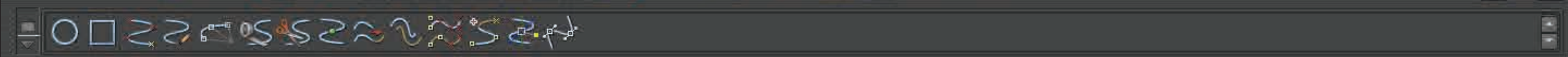


Standard-Grundkörper

Objektyp

- Automatisches Raster
- Quader
- Kegel
- Kugel
- Geosphäre
- Zylinder
- Rohr
- Torus
- Pyramide
- Teekanne
- Ebene

Name und Farbe



Attribute Editor

List Selected Focus Attributes Show Help

persp2 perspShape3 motionPath1

camera: perspShape3

Focus Presets Show Hide

Camera Sample

Camera Attributes

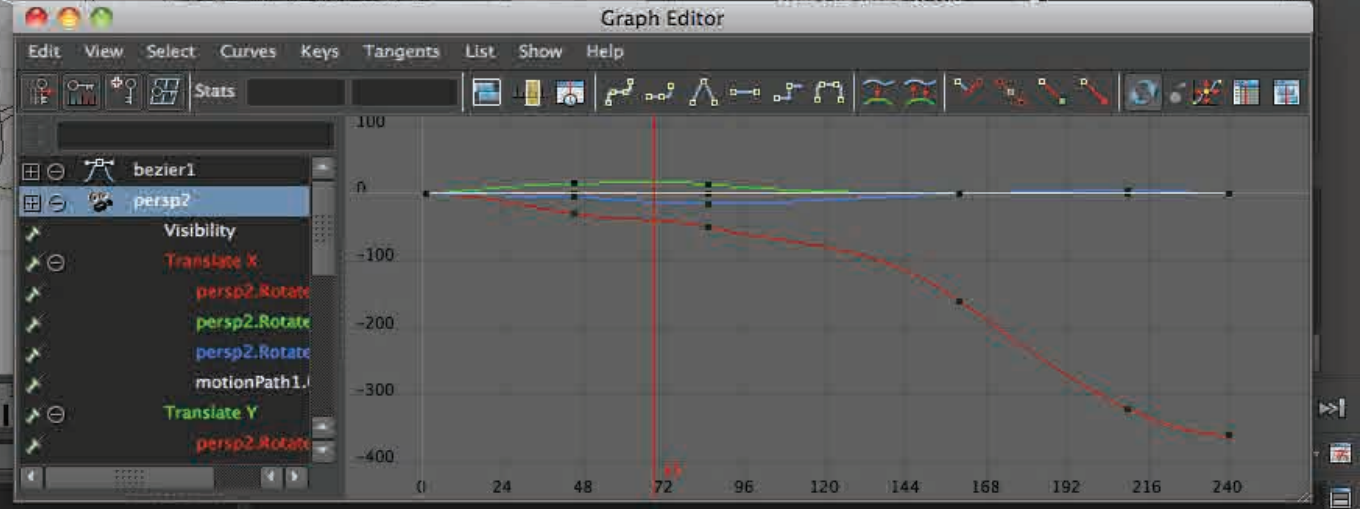
Controls Camera

Angle of View 54.43

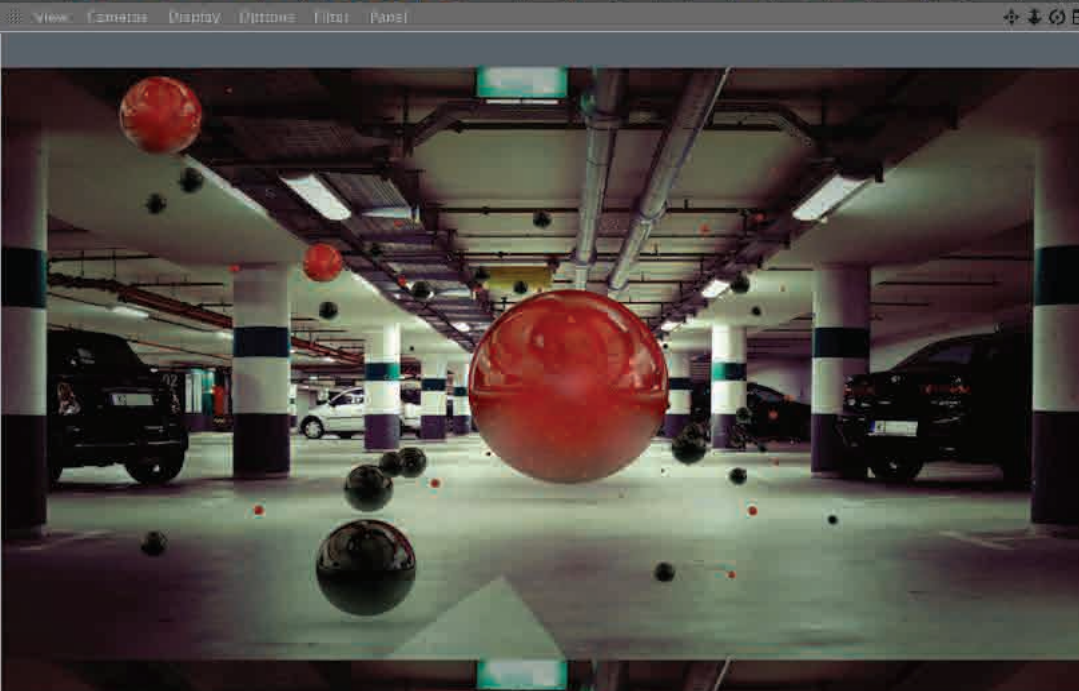
Focal Length 35.000

Camera Scale 1.000

Auto Render Clip Plane



MEL Specify startTime [endTime]



Objects

- Boole
- MoText
- big balls
- red balls
- black balls
- big red ball
- PolyFX
- lines
- Atom Array
- line ball
- dots
- Camera
- lights
- bg
- Background
- Sky
- Grid

Attributes

Mode Edit User Data

Project

Project Settings Info Dynamics Referencing

Project Settings

Project Scale: 1 Centimeters

FPS: 25 Project Time: 51 F

Minimum Time: 0 F Maximum Time: 175 F

Preview Min Time: 0 F Preview Max Time: 174 F

Level of Detail: 100% Render LOD in Editor

Use Animation: Use Expression:

Use Generators: Use Deformers:

Use Motion System:

Default Object Color: Gray-Blue

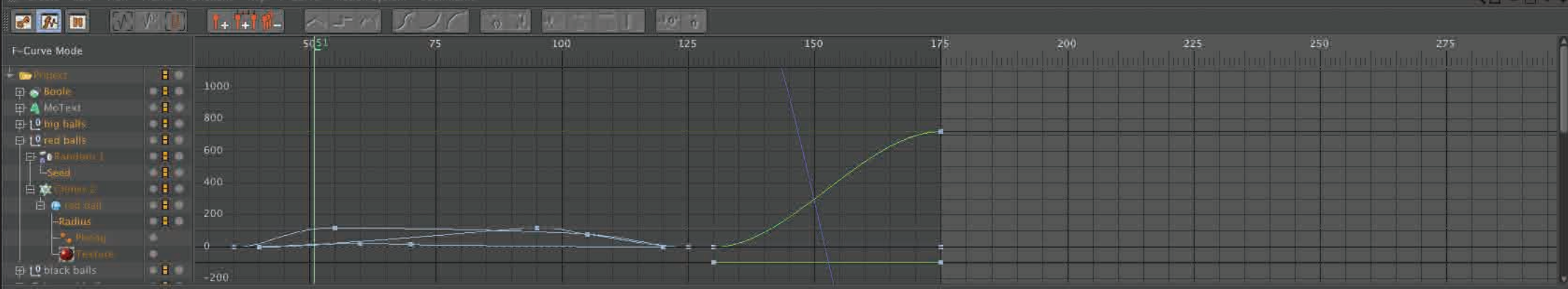
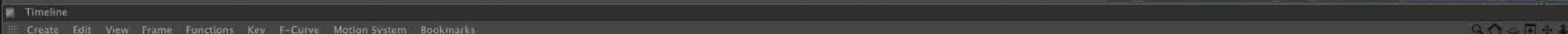
Color: [Color Picker]

View Clipping: Medium

Linear Workflow:

Input Color Profile: sRGB

Load Preset Save Preset



Current Frame: 51 Preview 0 -> 174

Use Point mode (hold CTRL to transfer active selection)

Blender 2.5 Beta 2.54.0 r31878

File Add Render Help Default Scene Blender Render Ve:8 | Fa:6 | Ob:1-3 | La:1 | Mem:3.98M (0.10M) | Cube

Object Tools

Transform:

- Translate
- Rotate
- Scale

Origin

Object:

- Duplicate
- Delete
- Join

Shading:

- Smooth
- Flat

Keyframes:

- Insert
- Remove

Repeat:

- Repeat Last
- History...

Grease Pencil:

- Draw
- Line
- Erase

Operator

Render

- Image
- Animation

Display: Image Editor

Layers

Dimensions

Render Presets

Resolution	Frame Range
X: 1920	Start: 1
Y: 1080	End: 250
50%	Step: 1
Aspect Ratio	Frame Rate
X: 1.000	FPS: 24
Y: 1.000	1.000

Anti-Aliasing

- 5 8 11 16 Mitchell-Netrav
- Full Sample Size 1.000

Full Sample Motion Blur

Shading

- Textures Ray Tracing
- Shadows Color Management
- Subsurface Scatt Alpha Sky
- Environment Ma

Output

View Select Object Object Mode Global

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250

View Frame Playback Start: 1 End: 250 1 No Sync

Blender 2.5 Beta

Interaction: Presets

Links

- Donations
- Release Log
- Manual
- Blender Website
- User Community
- Python API Reference

Recent

- momo_ogre.blend Ctrl O
- quit.blend Ctrl O
- Recover Last Session

(1) Cube

Softwares

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BIM Package

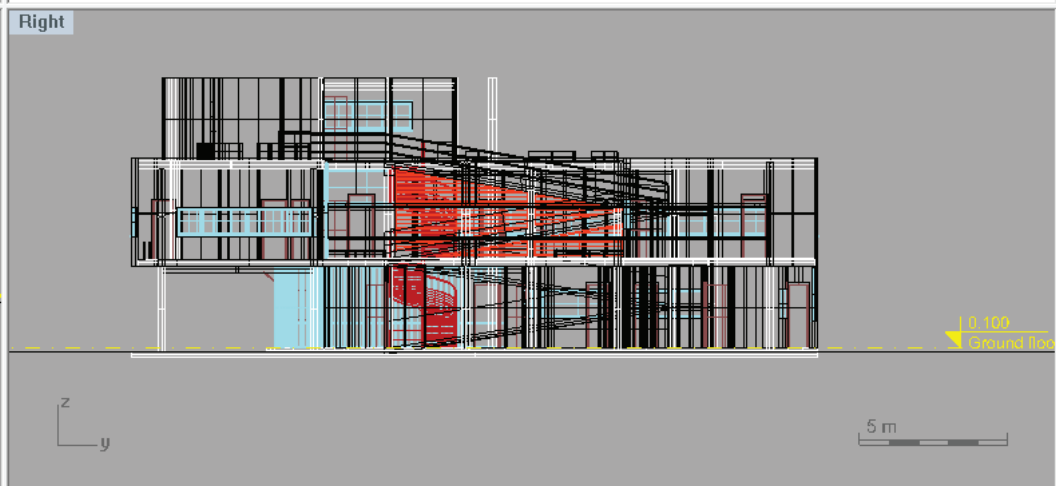
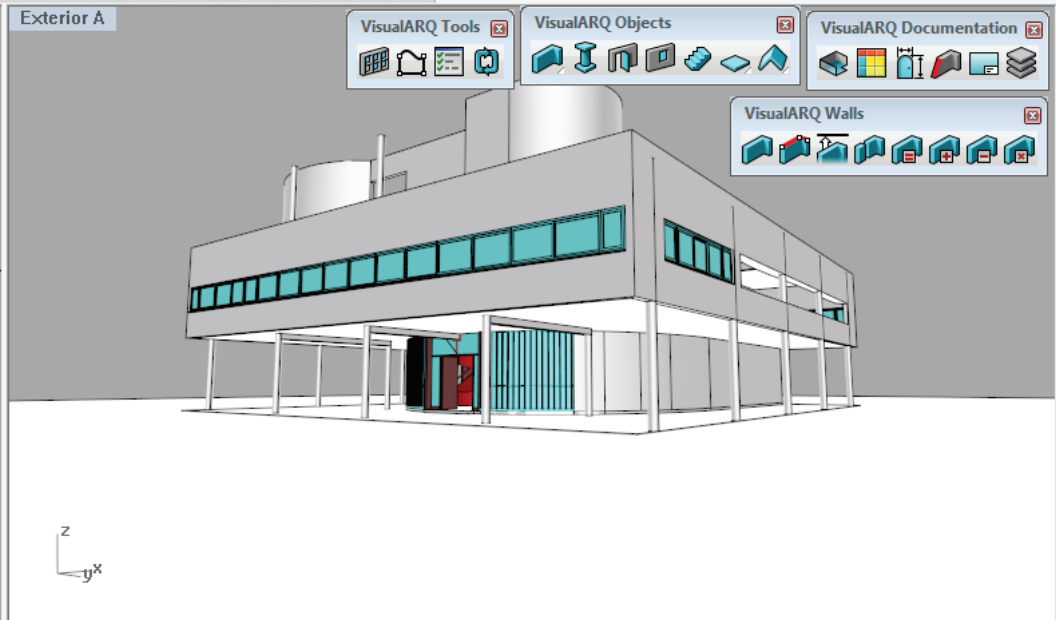
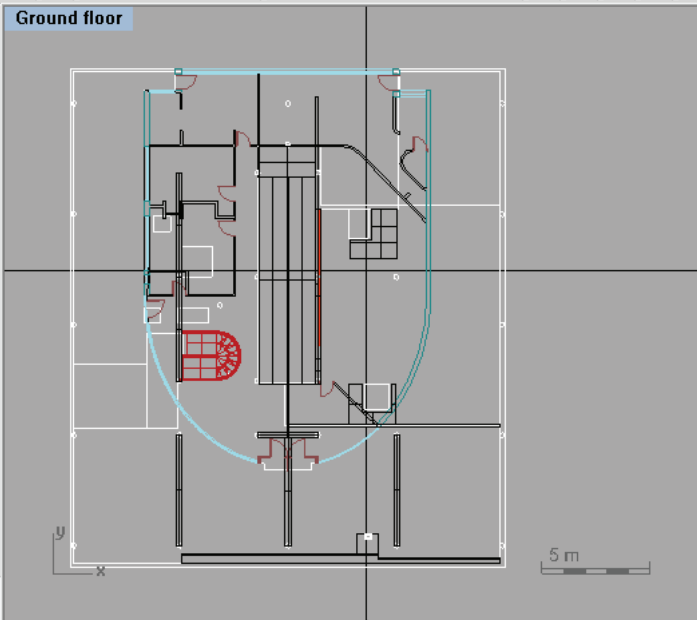
Renderer (plug-in / standalone)

Real-time Renderer + Scene Builder

Generative Modeller (plug-in)

Mechanics / Sculpting / Fabric Modeller

2 curves added to selection.
Command: _Hide
Command:



Layers - All Layers

Name	Mater...	Linetype
Defpoints		Continuous
Documen...		Continuous
Beams		Murs Continuous
Ramp		Murs Continuous
Dwg P0		Continuous
Dwg P1		Continuous
Dwg PT		Continuous
Facades		Continuous
Environm...		Continuous

Levels

Name	Elevation
Building	0.000
Terrace	6.400
First floor	3.100
Ground floor	0.100
Sub	-2.300

Properties

Viewport

Title	Ground floor
Width	518
Height	460
Projection	Parallel

Camera

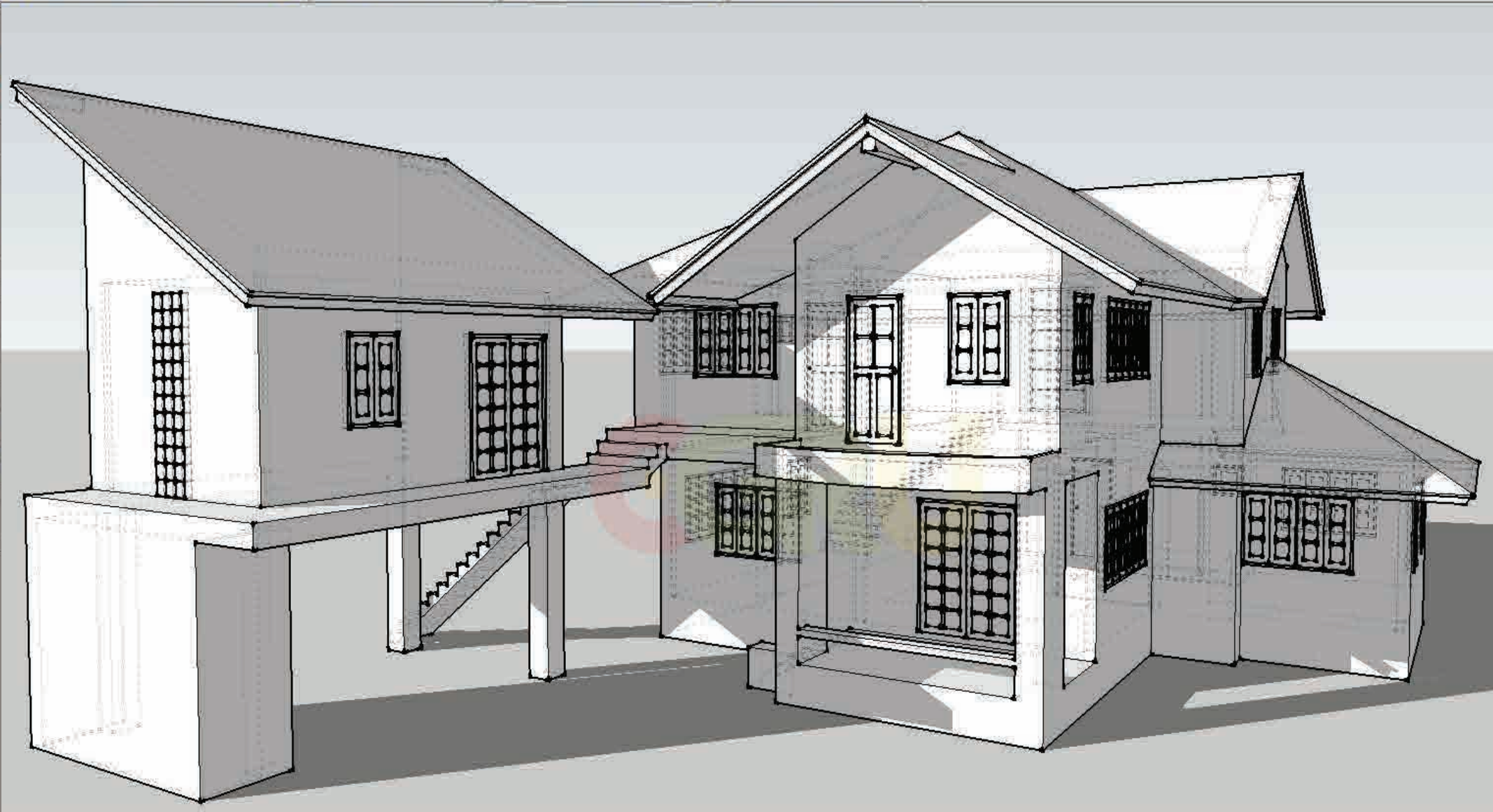
Lens Length	50.0
X Location	-206.178
Y Location	-249.817
Z Location	325.670
Location	Place...

Target

X Target	-206.178
Y Target	-249.817
Z Target	3.825
Location	Place...

End Near Point Mid Cen Int Perp Tan Quad Knot Project STrack Disable

World x -197.055 y -241.680 z 0.100 0.000 Lines Snap Ortho Planar Osnap Record History



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Home Insert Annotate Structure Massing & Site Collaborate View Manage Modify Views

Modify | Views

Select Properties Clipboard Geometry Modify View Measure Create Crop

Modify | Views

Properties

Elevation Building Elevation

Views (1) Edit Type

Graphics

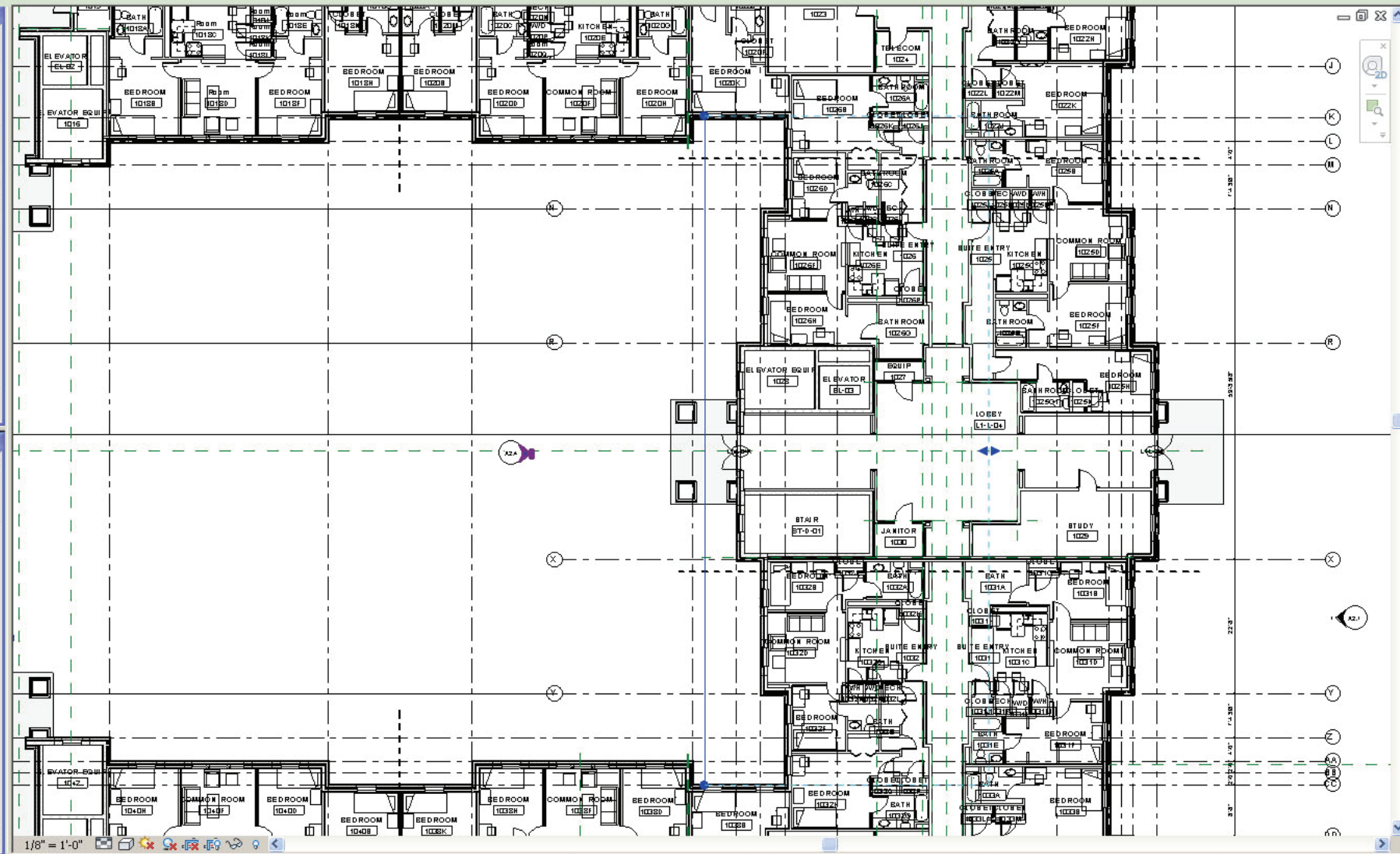
View Scale	1/8" = 1'-0"
Scale Value	96
Display Model	Normal
Detail Level	Coarse
Detail Number	5
Rotation on Sheet	None
Visibility/Graphics Overrides	Edit...
Visual Style	Hidden Line
Graphic Display Options	Edit...
Hide at scales coarser than	1" = 400'-0"
Discipline	Architectural
Color Scheme Location	Background
Color Scheme	<none>
Analysis Display Style	None
Reference Label	
Sun Path	<input type="checkbox"/>

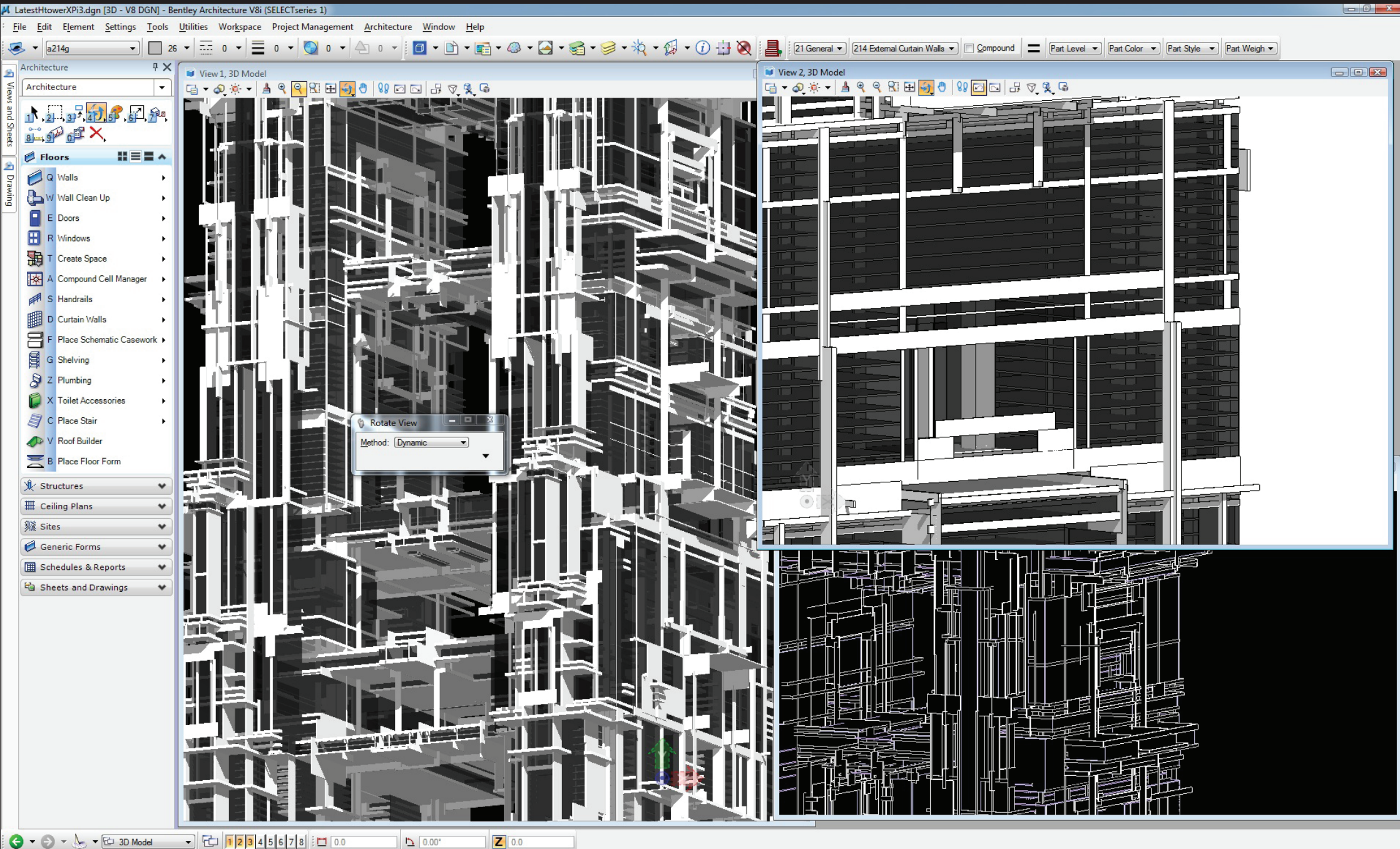
Identity Data

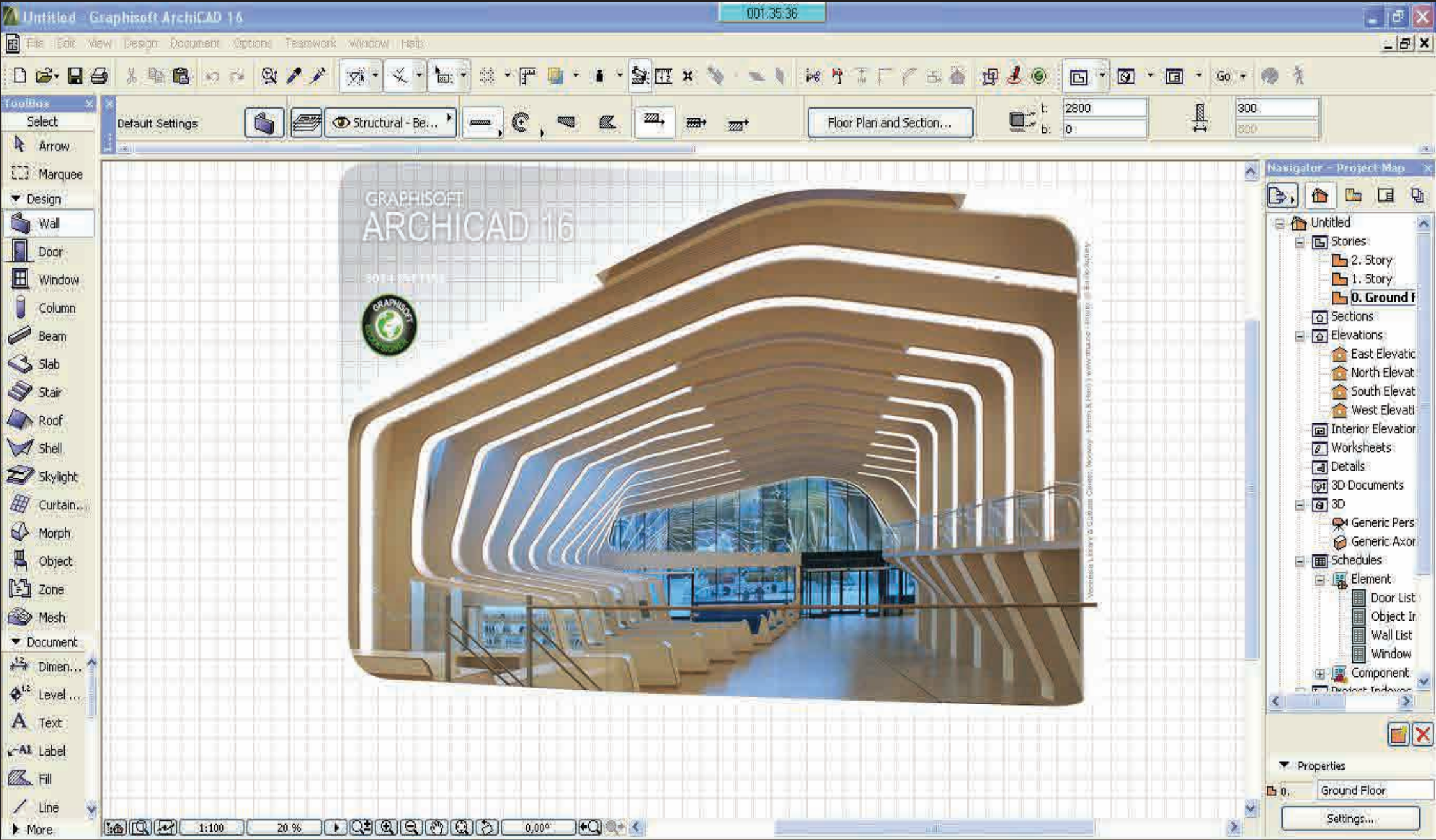
Properties help Apply

Rappahannock Hall JKM.rvt - Project Browser

- Floor Plans
 - ENLARGED PLAN (1/4")
 - GROUND FLOOR
 - SECOND FLOOR
 - THIRD FLOOR
 - FOURTH FLOOR
 - ATTIC FLOOR
 - INTERIORS
 - KEY PLAN (1/16")
 - GROUND FLOOR KEY PLAN
 - SECOND FLOOR KEY PLAN
 - THIRD FLOOR KEY PLAN
 - FOURTH FLOOR KEY PLAN
 - ATTIC KEY PLAN
 - LIFE SAFETY
 - Working (1/8")
 - GROUND FLOOR - working only**
 - SECOND FLOOR - working only
 - THIRD FLOOR - working only
 - FOURTH FLOOR - working only
 - ATTIC FLOOR - working only
 - Ceiling Plans
 - ???







Enter First Node of Wall. C: 77.8 GB 732.9 MB

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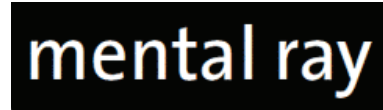
BIM Package

Renderer (plug-in / standalone)

Real-time Renderer + Scene Builder

Generative Modeller (plug-in)

Mechanics / Sculpting / Fabric Modeller



CPU Based / GPU Based
Biased / Unbiased
Plug-in / Standalone

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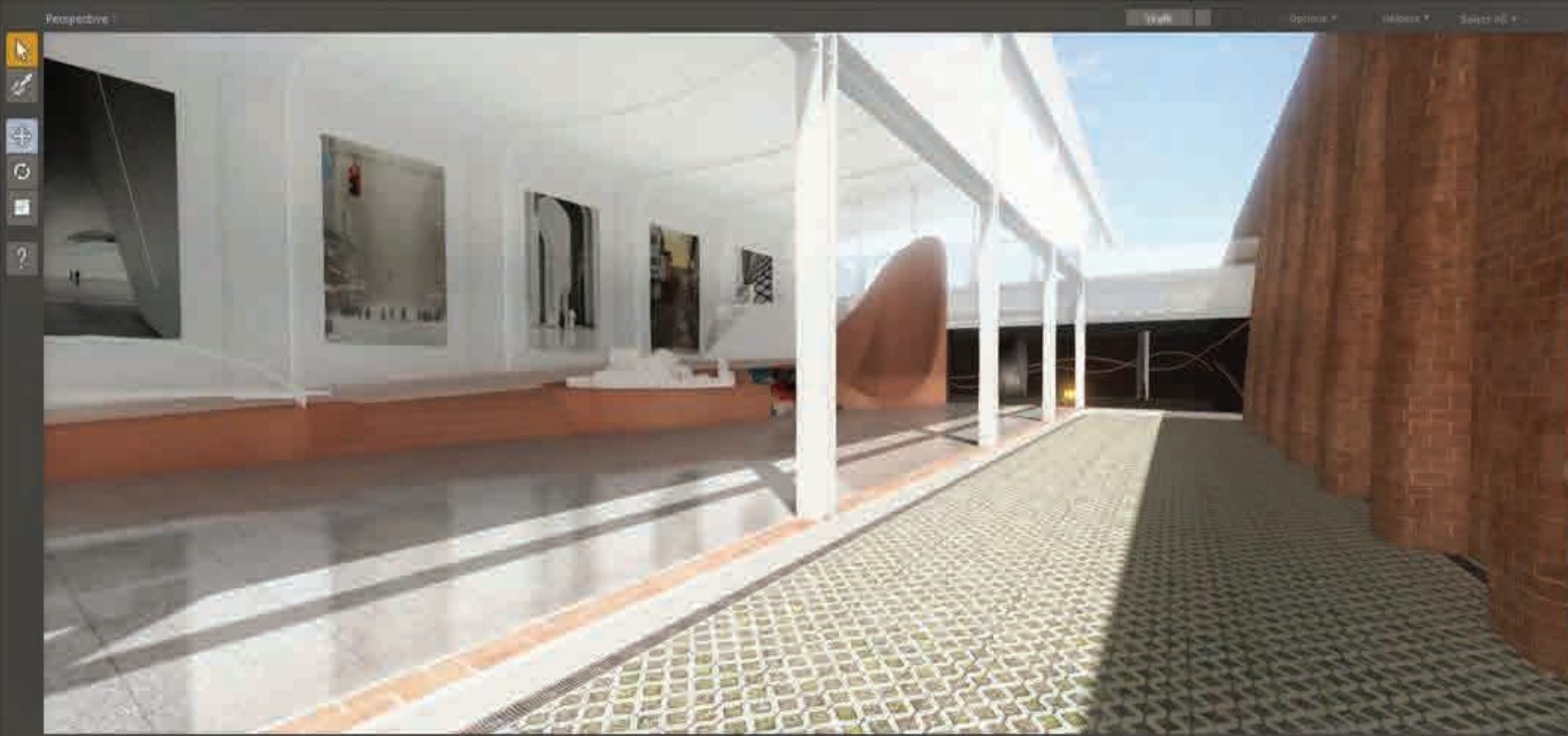
Generative Modeller (plug-in)

Mechanics / Sculpting / Fabric Modeller

Library

- Ferns
- Vegetation
- Characters
- Vehicles
- Items
- Materials
- Lights
- Visual FX
- Resources
- User materials (not models)
- Polka

- Chairs
- Tables
- Furniture
- Seating
- Street lights
- Equipment
- Street signs
- Buildings
- Particulate



IMPORT ENVIRONMENT SCENE MATERIALS LANDSCAPE POPULATE FOREST CAMERA & CLIP VISUAL EFFECTS OUTPUT

All materials

Material Properties Panel

- COLOR**: [Red color swatch]
- OPACITY**: 100%
- SPECULAR**: 0.5
- REFLECTION**: 0
- UV SCALE**: [Adjustable]



Inside 01



Render and Upload



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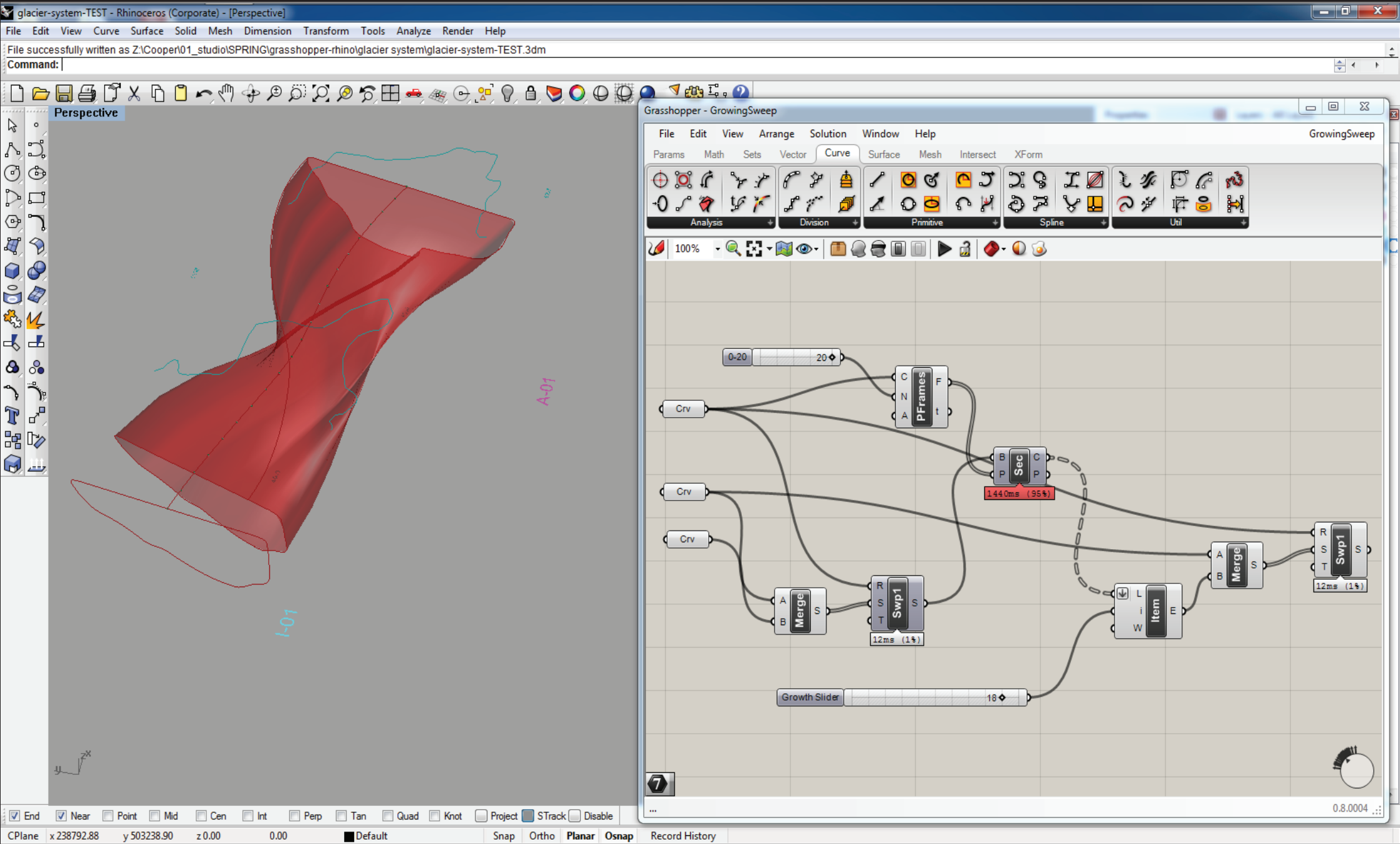
BIM Package

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ws casartarc POPULATE3 - GenerativeComponents V8 XM Edition

MicroStation | 3 4 5 6 7 8 | Default

ws casartarc POPULATE3 - GenerativeComponents

File Features Toggle Graph Tools Debug Help

baseCS.XVPlane

Transaction

1	Graph changed by user
2	Graph changed by user
3	Graph changed by user
4	Graph changed by user
5	Graph changed by user
6	Graph changed by user
7	Graph changed by user
8	Graph changed by user
9	Graph changed by user
10	Graph changed by user

CoordinateSystem
baseCS

Point
point01

Point
point02

Point
point03

BSplineCurve
splineCurve0

Point
point16

UPDATE 1

TransactionFile Console Variables

Softwares

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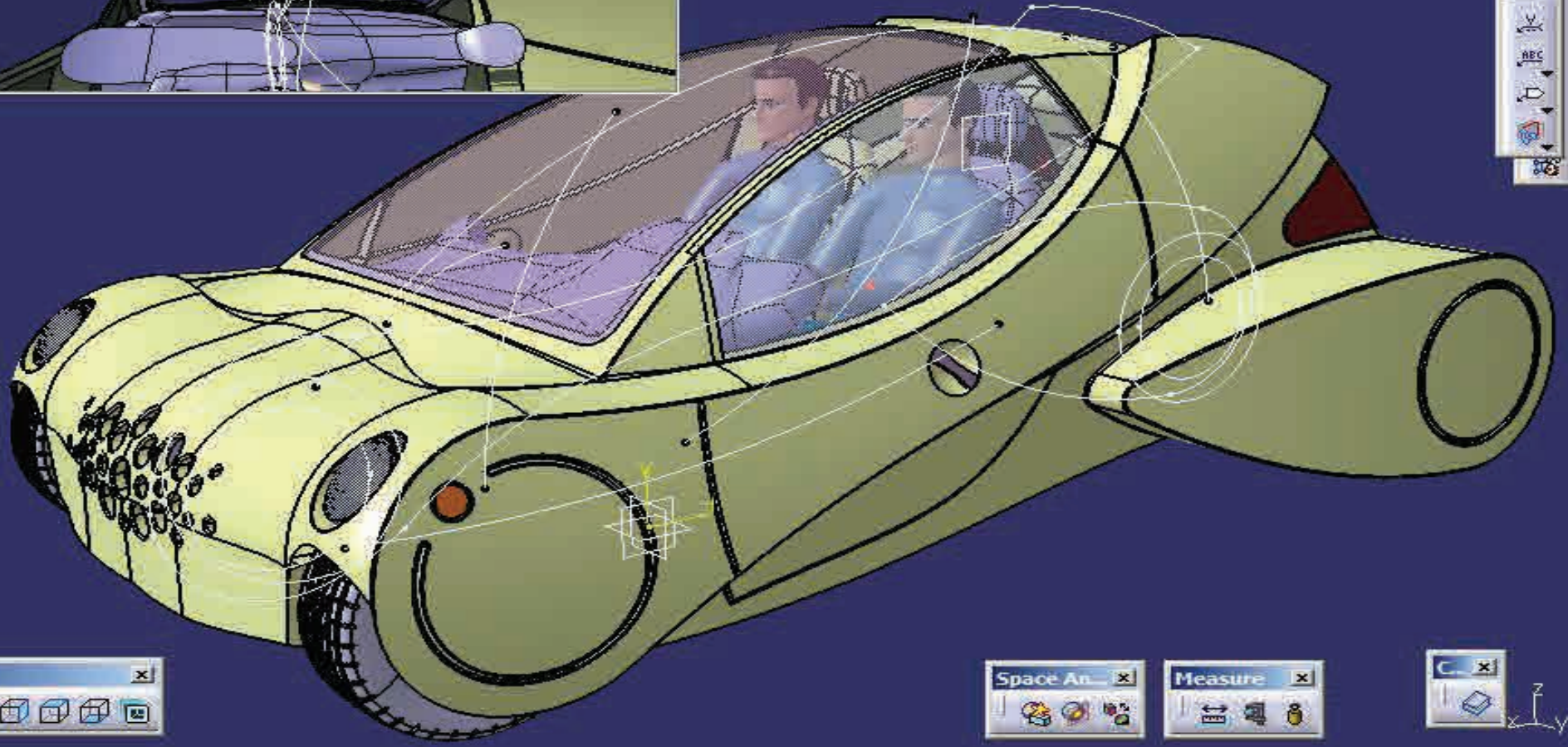
BIM Package

Renderer (plug-in / standalone)

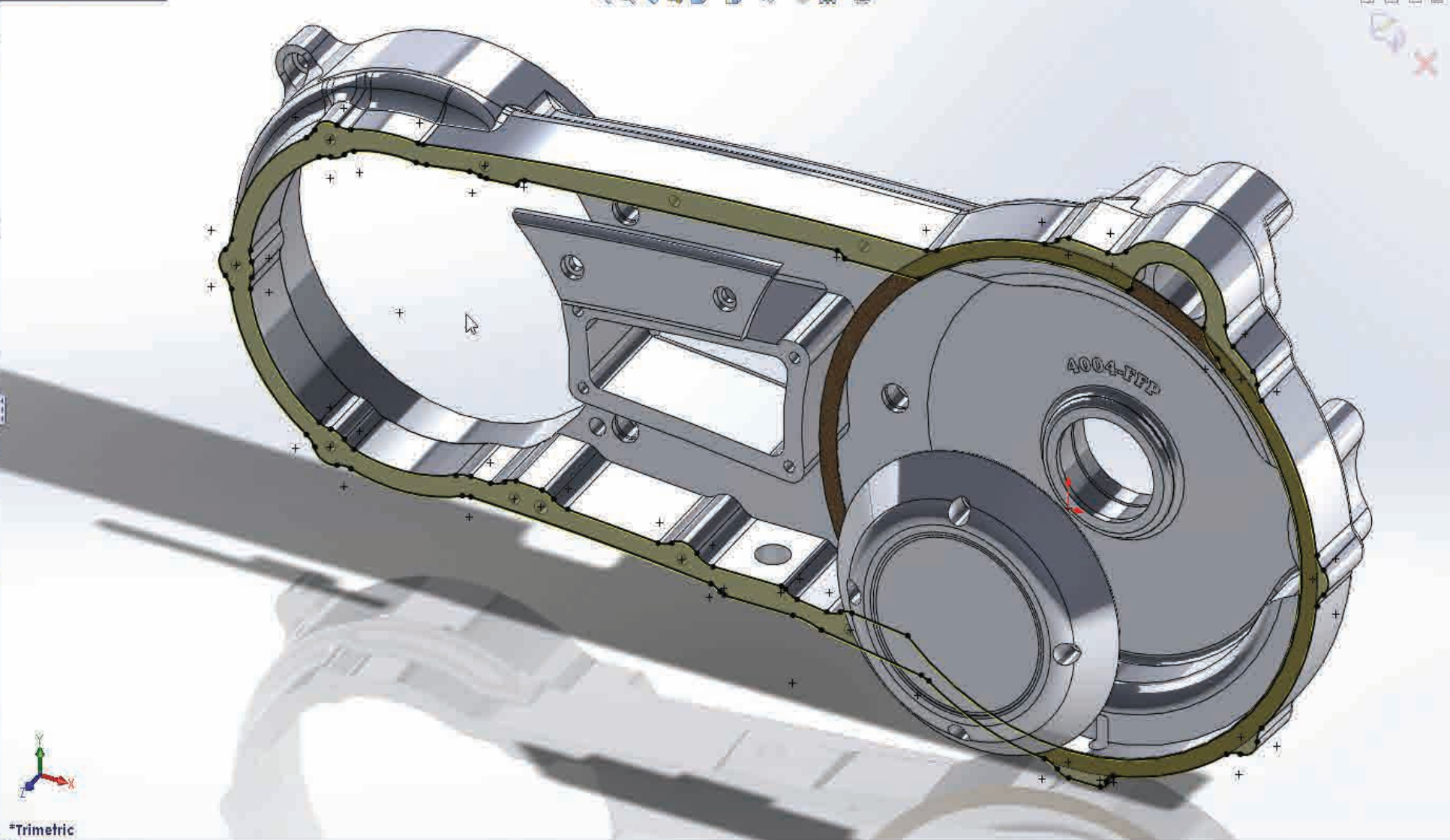
Real-time Renderer + Scene Builder

Generative Modeller (plug-in)

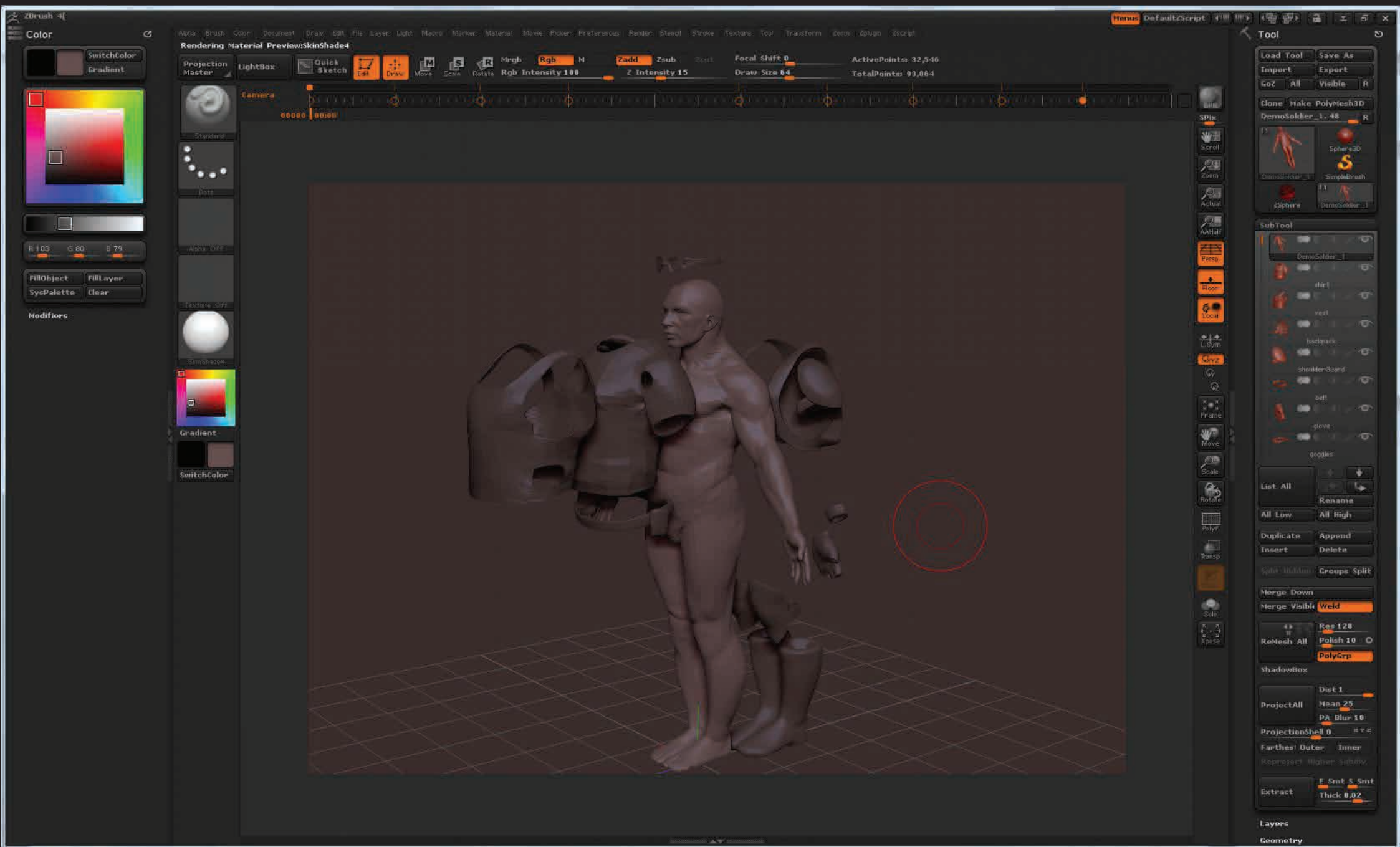
Mechanics / Sculpting / Fabric Modeller



- Gasket-Design (Default <Display>)
- Sensors
- Annotations
- Front Plane
- Top Plane
- Right Plane
- Origin
- (f) Rear Belt Cover<1> (Default <Display>)
- Front Belt Cover Assembly
- Mates in Assem1
- Front Plane
- Top Plane
- Right Plane
- Origin
- (-) 4003-FFP<1> (Default <Display>)
- (-) 4010-FFP<1> (Default <Display>)
- (-) 34091-85<1> (Default <Display>)
- (-) 4008-FFP<1> (Default <Display>)
- (-) O-RING<1> (9452K1)
- (-) O-RING<2> (9452K7)
- Mates
- Gasket<1> -> (Default <Display>)
- Mates in Assem1
- Sensors
- Annotations
- Material <not specified>
- Front Plane
- Top Plane
- Right Plane
- Origin
- Boss-Extrude1
- Boss-Extrude2 ->
- Mates



#Trimetric



Tools Sculpt/Paint

- Element Move
- Flex Tool
- Soft Move
- Soft Drag
- Shear
- Smooth
- Rotate Tools
- Twist
- Bend
- Vortex
- Swirl
- Scale Tools
- Push
- Sculpt
- Taper
- Bulge
- Item Deformers
- Add Inset
- Add Morph
- Add Weightmap Deformer

Transform

Position Offset X: 0 m, Y: 0 m, Z: 0 m

Scale Offset X: 100.0%, Y: 100.0%, Z: 100.0%

Haul Translate

Absolute M

Negative Sc

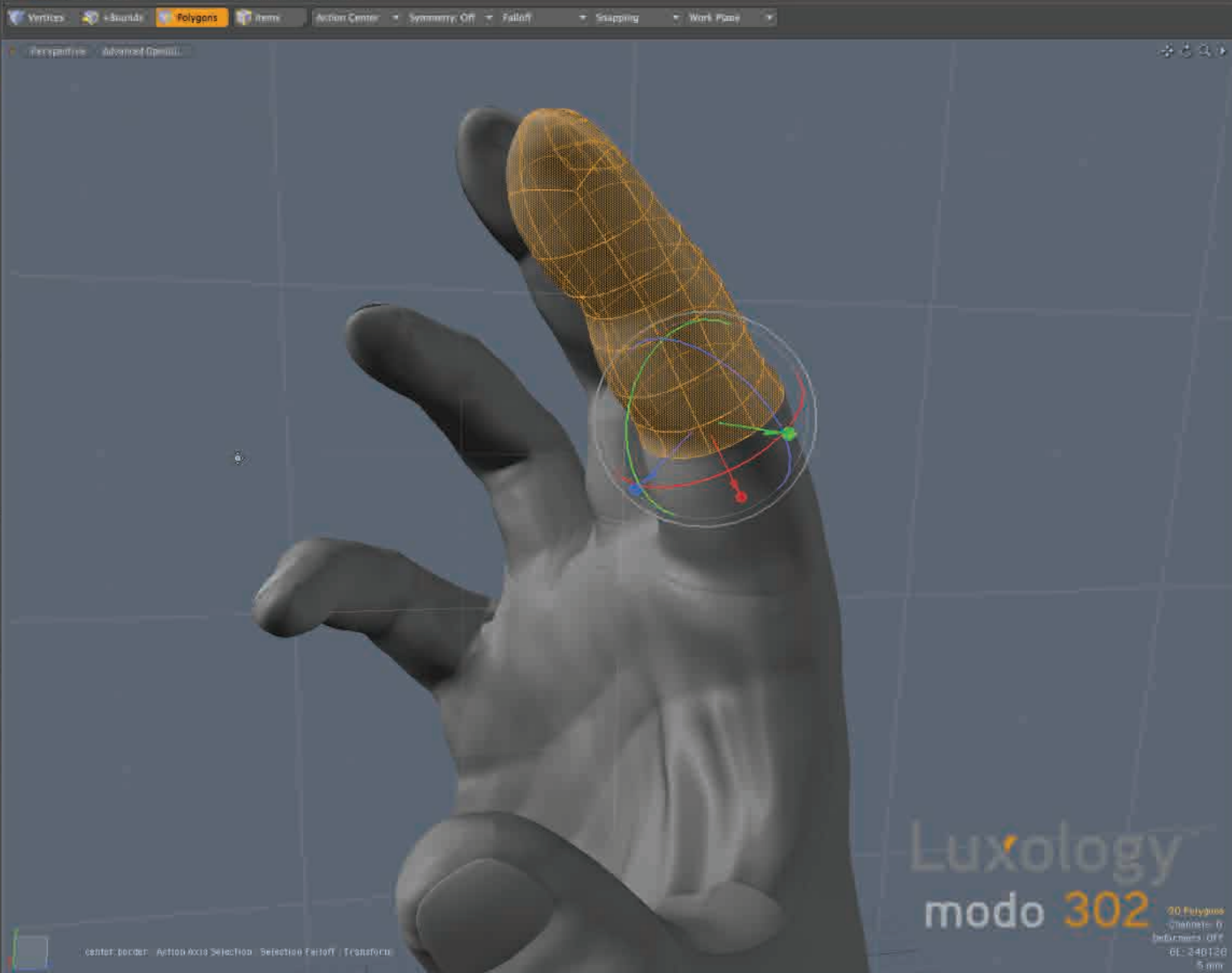
Selection Falloff

Steps: 1

Shape: Smooth

In: 0, Out: 0

Mix Mode: Multiply



Items Shader Tree Images Quick Tips

- Item
- IcebergWater.Ico
- Chicken.Ico
- Untitled
- Headphones.Ico
- Hand_Sculpt_Finished.Ico
- Camera
- Hand_Lowpoly
 - spotLight (1)
 - Texture: Image: Hand_Finished_Bake
 - Texture: Image: Hand_Finished_Bump

Lists Properties Channels Display

Weight Maps

UV Maps

Morph Maps

Other Maps

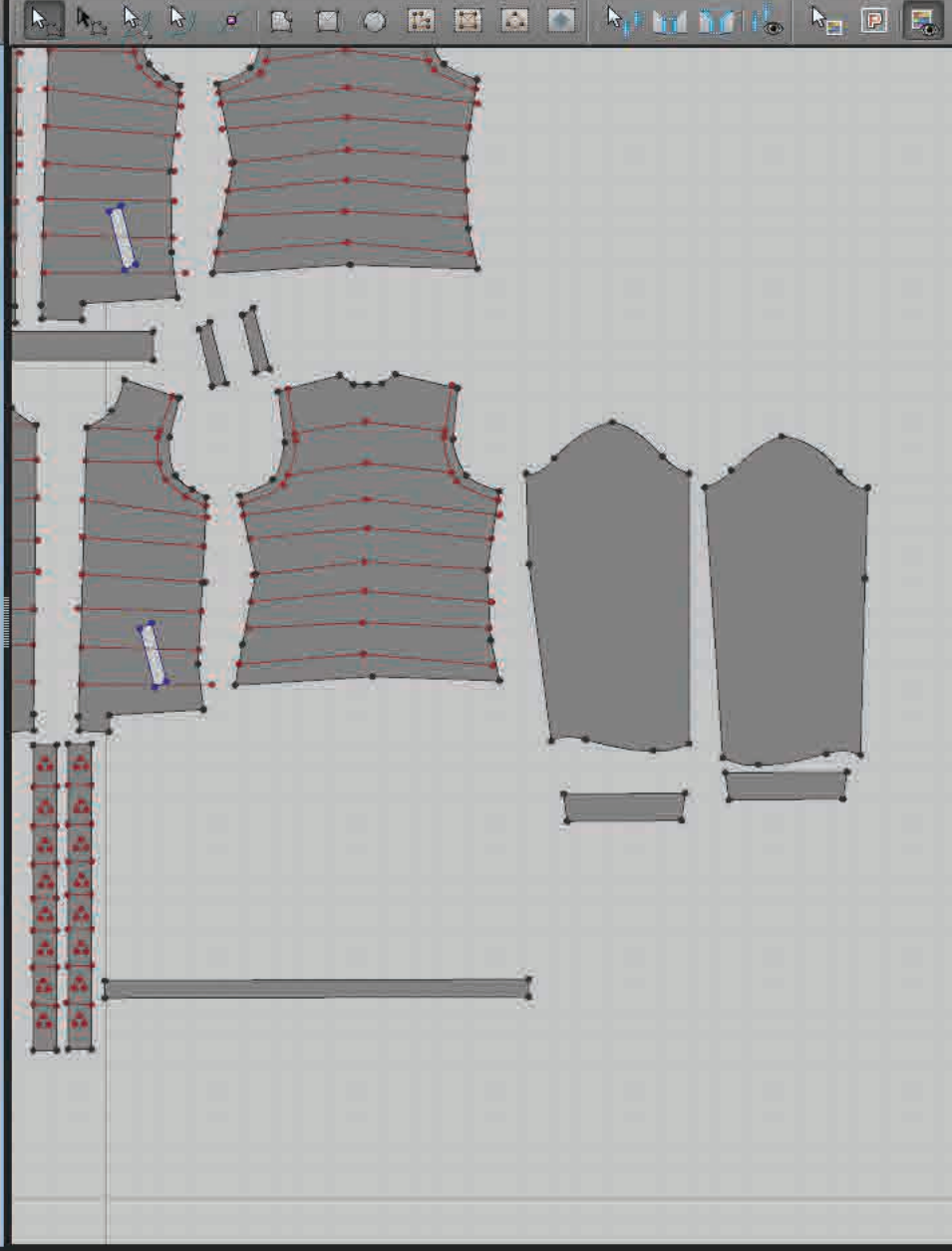
Pipeline

Name	Preview
a-center.border	Flex
a-Action Axis Selection	Flex
a-Selection Falloff	Flex
m-Transform	Flex

Statistics

Name	Value	Unit
Vertices	858	
Edges	1681	
Triangles	841	
Items	1	

0L: 240126
5 mm



Object Browser

- Scene
- Arrangement Point
- Arrangement Bv
- Name
- Pattern2D_27291
- Pattern2D_27291
- Pattern2D_28881
- Pattern2D_28881
- SeamLinePair_3674
- SeamLinePair_3677
- SeamLinePair_3680
- SeamLinePair_3683
- SeamLinePair_3686
- SeamLinePair_3689
- SeamLinePair_3692
- SeamLinePair_3695
- SeamLinePair_3698
- SeamLinePair_3701
- SeamLinePair_3704
- SeamLinePair_3707
- SeamLinePair_3710
- SeamLinePair_3713
- SeamLinePair_3716
- SeamLinePair_3719
- SeamLinePair_3722
- SeamLinePair_3725
- SeamLinePair_3728
- SeamLinePair_3731

Property Editor

Property	Value
Basic	
Fabric	

Workflow

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6, 7, 8...
Designing	Sketch	Sketch Revit	Sketch Revit	Sketch Rhino 3D	Sketch SketchUp	
Drafting	AutoCAD	Revit	Revit AutoCAD	Rhino 3D AutoCAD	AutoCAD	
Modelling	SketchUp	Revit	Revit	Rhino 3D	SketchUp	
Visualisation	SketchUp + V-Ray	Revit	3ds Max + V-Ray	3ds Max + V-Ray	Twinmotion	

Example Gallery

Personal Projects

Selections from **ronenbeckerman.com**

Selections from Previous Classes

Example Gallery

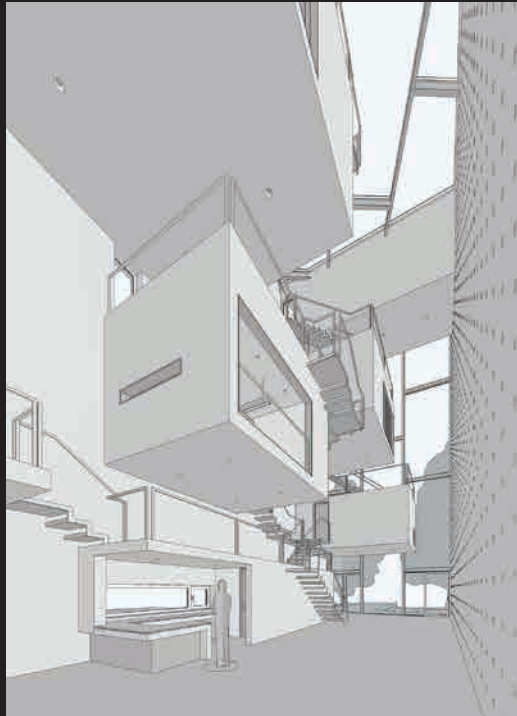
Personal Projects

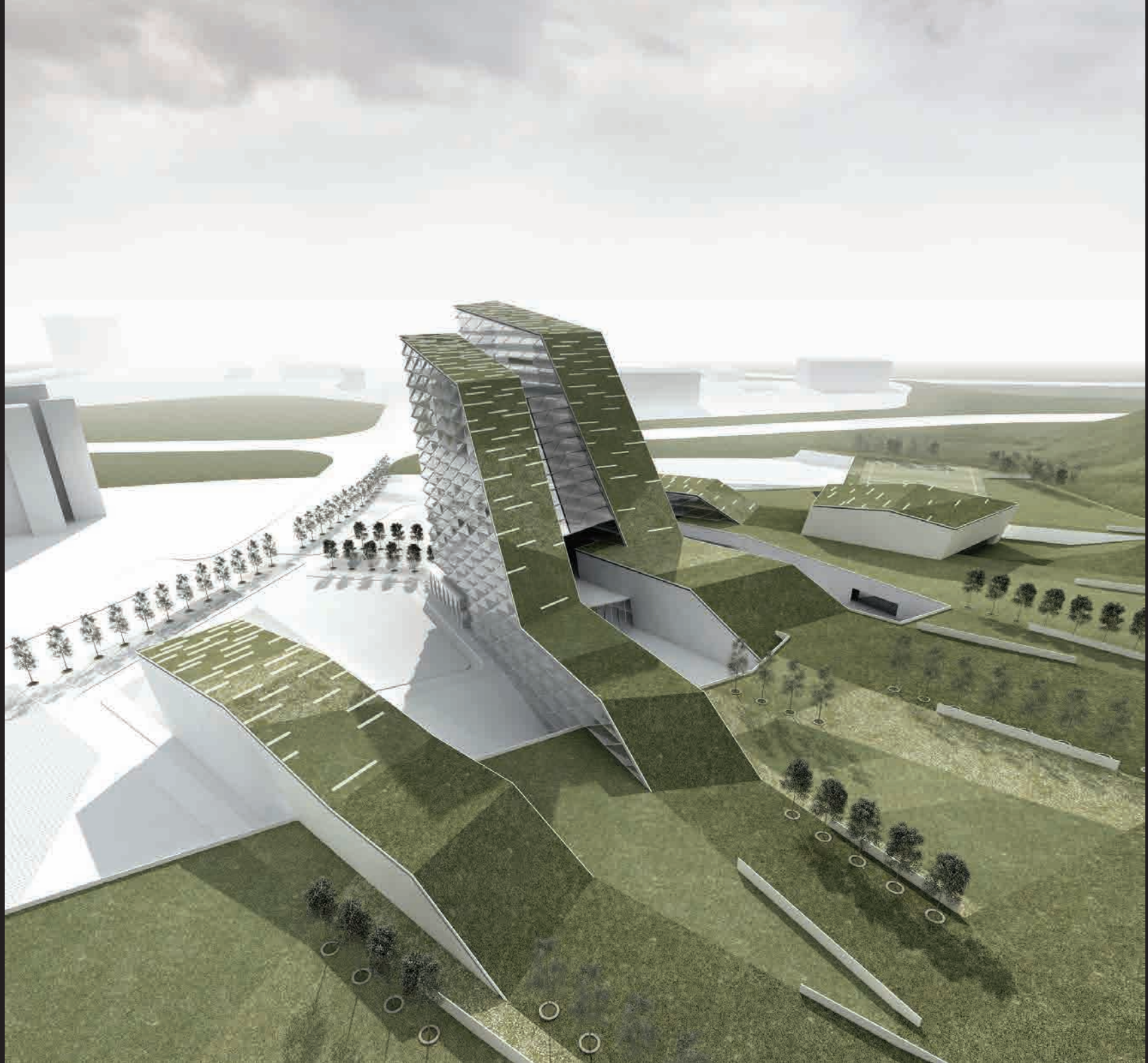
Selections from ronenbeckerman.com

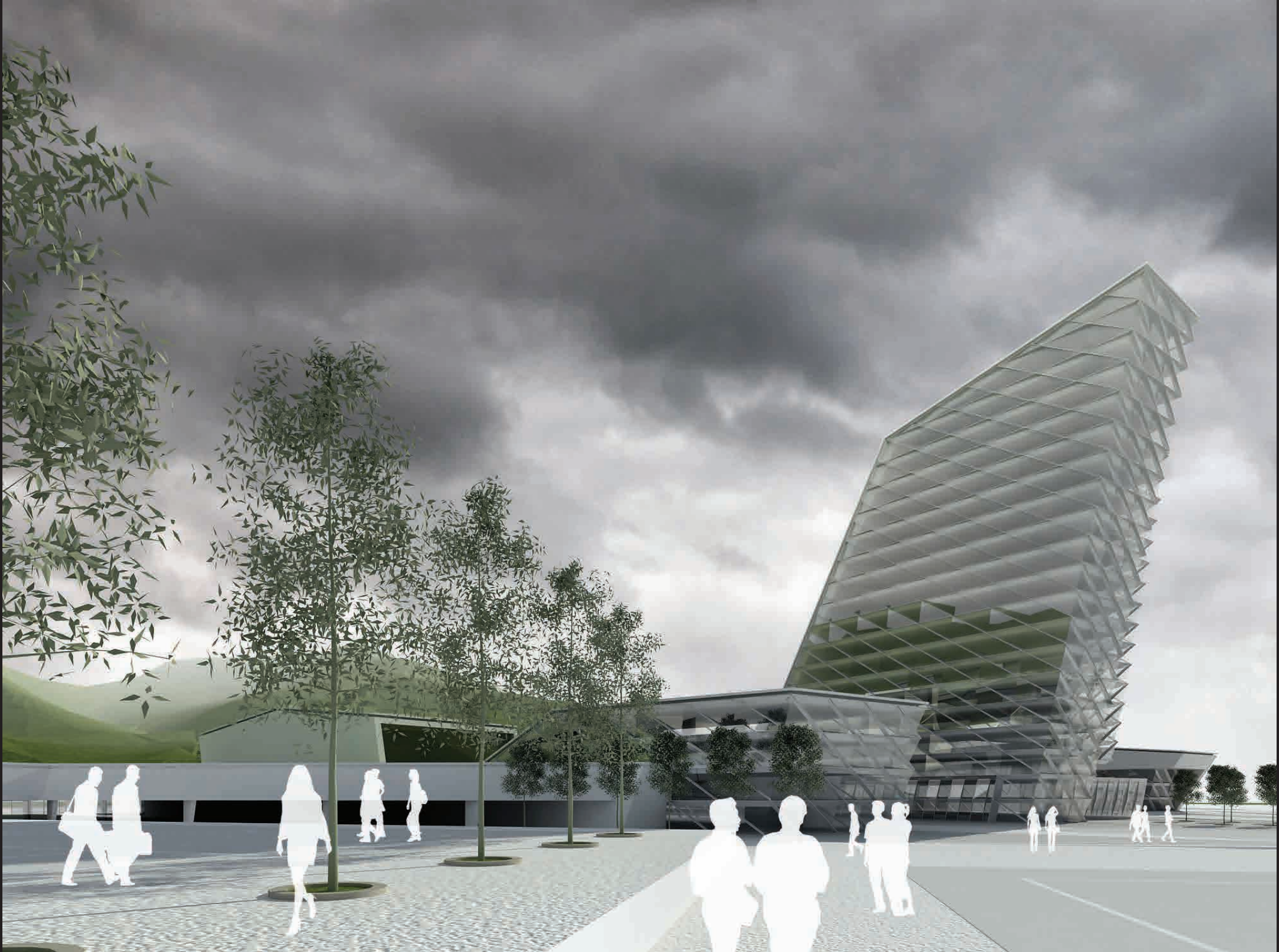
Selections from Previous Classes

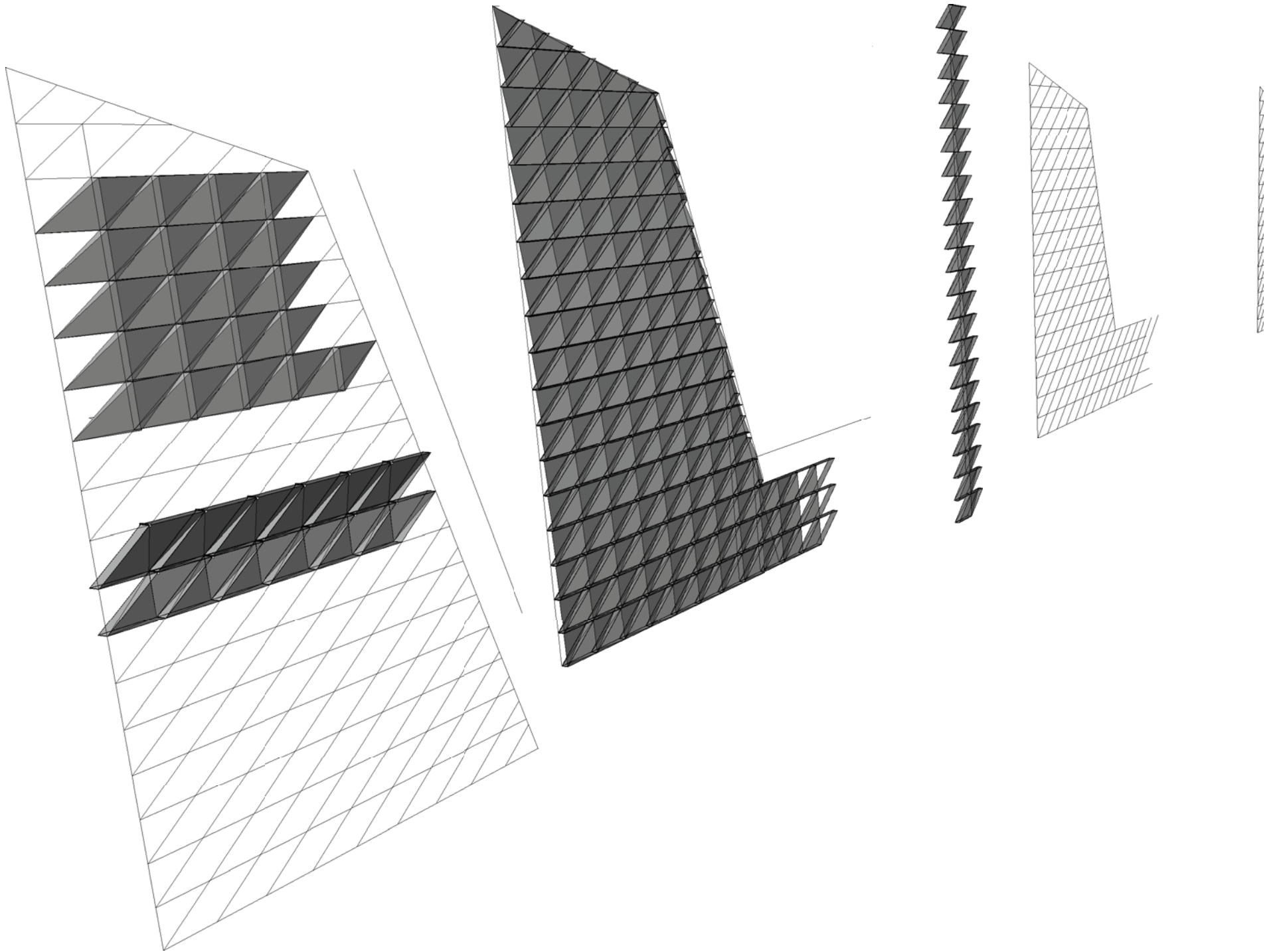


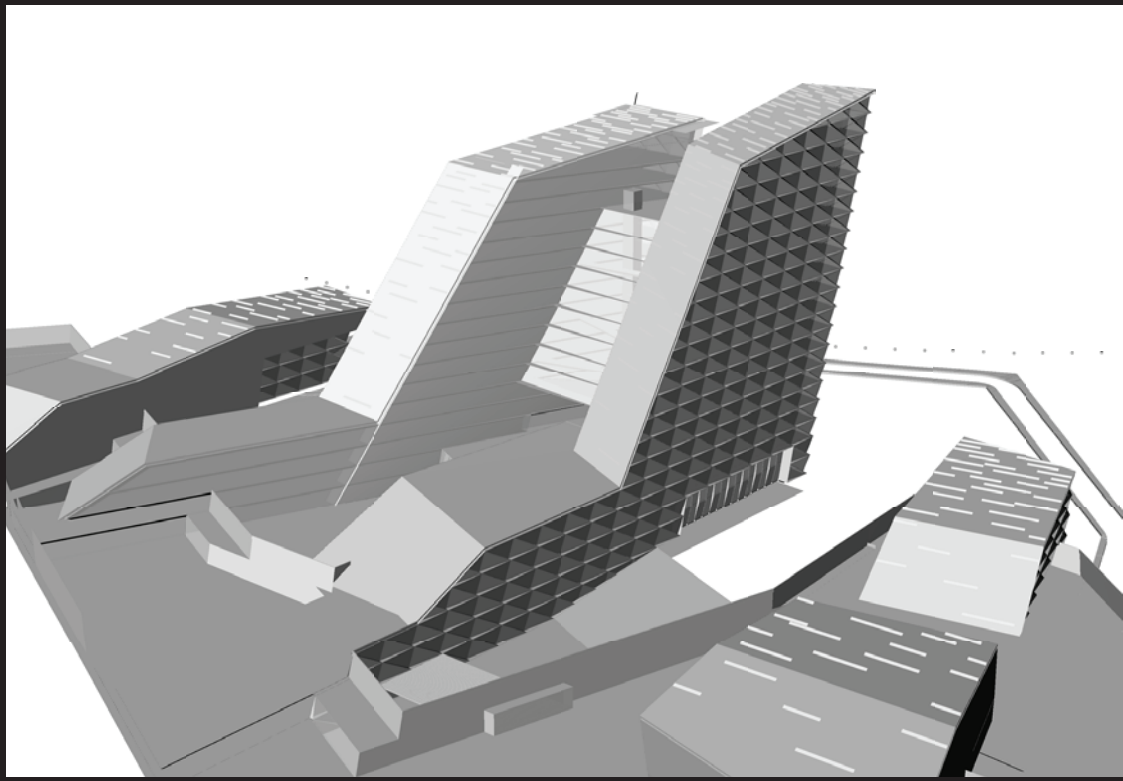
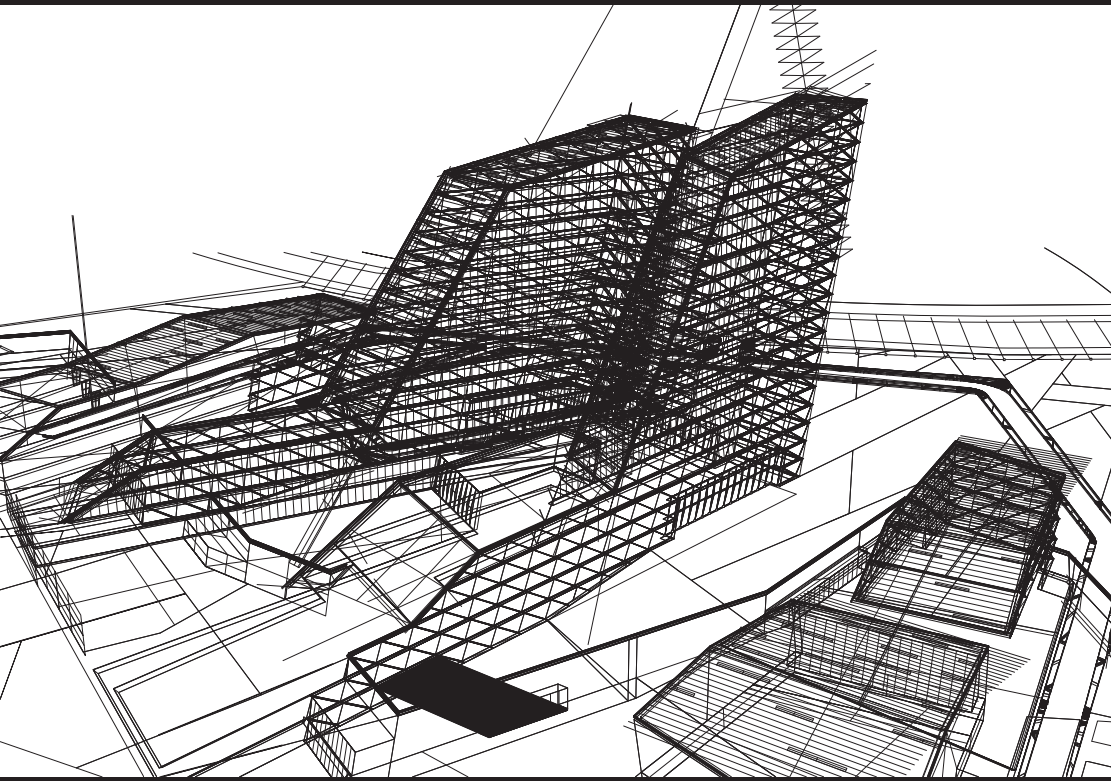






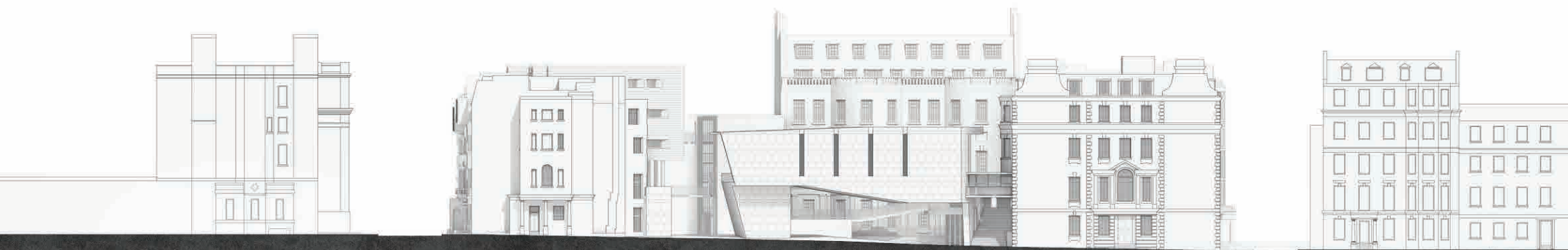




















Example Gallery

Personal Projects

Selections from **ronenbeckerman.com**

Selections from Previous Classes







1.000
Time: 0:00:00
FPS: 26.822

FloorGenerator

Size:
Length: 1000.0 (Max: 1000.0, Min: 0.0, Spread: 0.5)
Width: 70.0 (Max: 70.0, Min: 0.0, Spread: 0.5)
Gap Length: 0.2
Gap Width: 0.2

Variation Per Board:
Rotation: 0.0 (Max: 0.0, Min: 0.0, Spread: 0.5)
Offset X: 0.0 (Max: 0.0, Min: 0.0, Spread: 0.5)
Offset Y: 0.0 (Max: 0.0, Min: 0.0, Spread: 0.5)
Tilt: 0.0 (Max: 0.0, Min: 0.0, Spread: 0.5)
Max Overlap: 0.0

General:
Scale %: 100.0
Direction: 0.0
Row Offset %: 20.0
Seed: 12345
Offset X: 0.0
Offset Y: 0.0

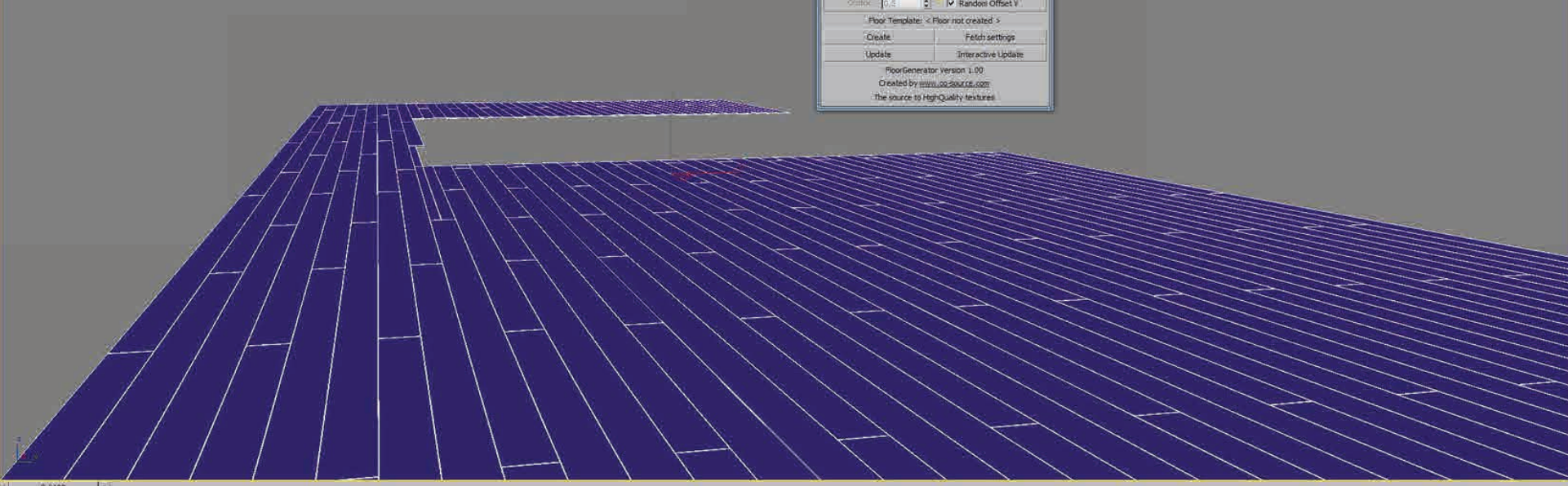
Extrude / Bevel / Weld / UV:
Weld Thr: 0.05
Extrude H: 1.8
Bevel H: 0.5
Random Flip Mapping U:
Random Flip Mapping V:
Random Offset U:
Random Offset V:
Create: 0.5

Floor Template: < Floor not created >

Create Fetch settings
Update Interactive Update

FloorGenerator Version 1.00
Created by www.go-source.com
The source to HighQuality textures!

Warning: Isolated Sele...
Exit Isolation Mode



Standard Primitives

Object Type

- Box
- Cone
- Sphere
- GeoSphere
- Cylinder
- Tube
- Torus
- Pyramid
- Teapot
- Plane

Name and Color

Creation Method

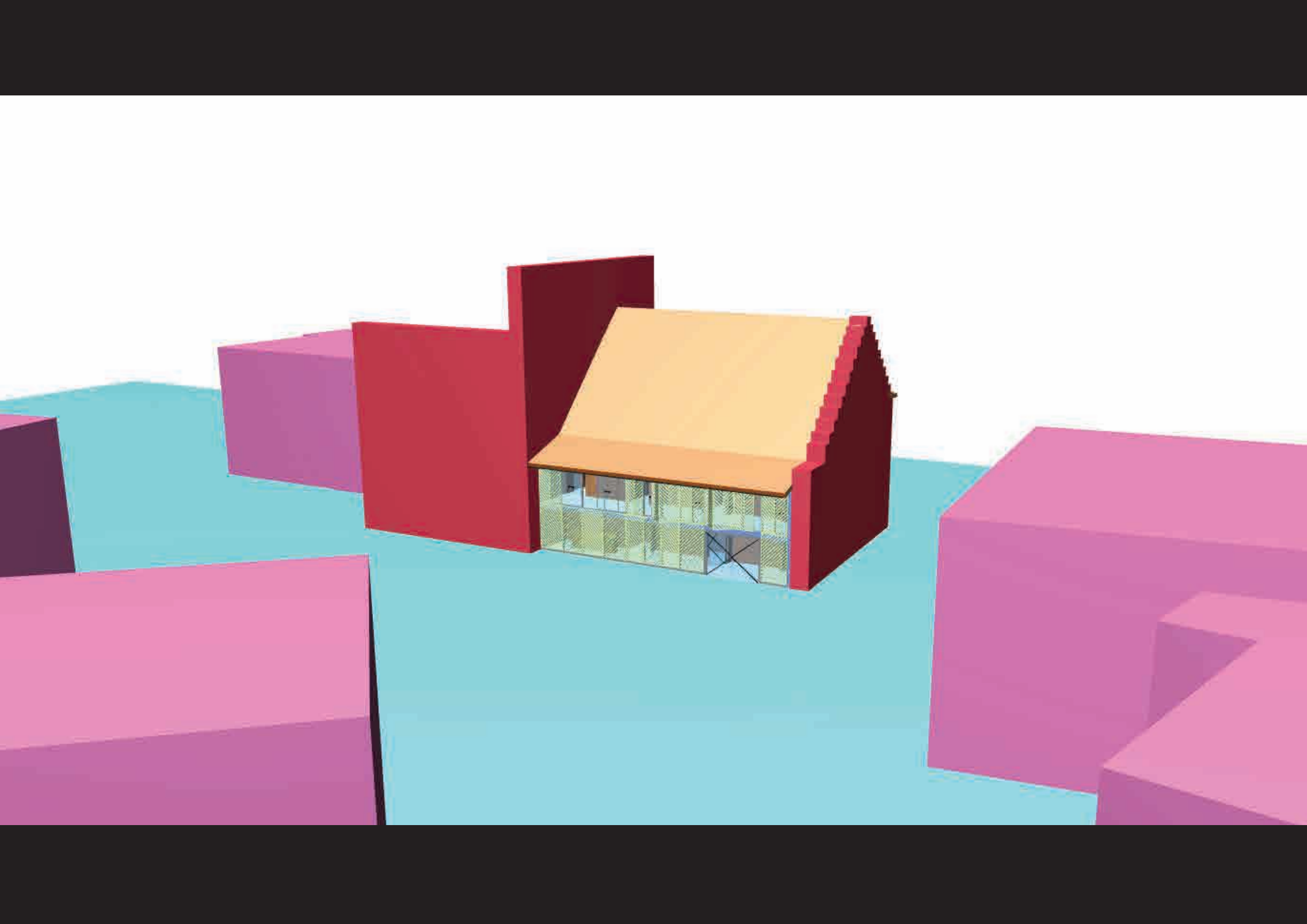
Keyboard Entry

Parameters

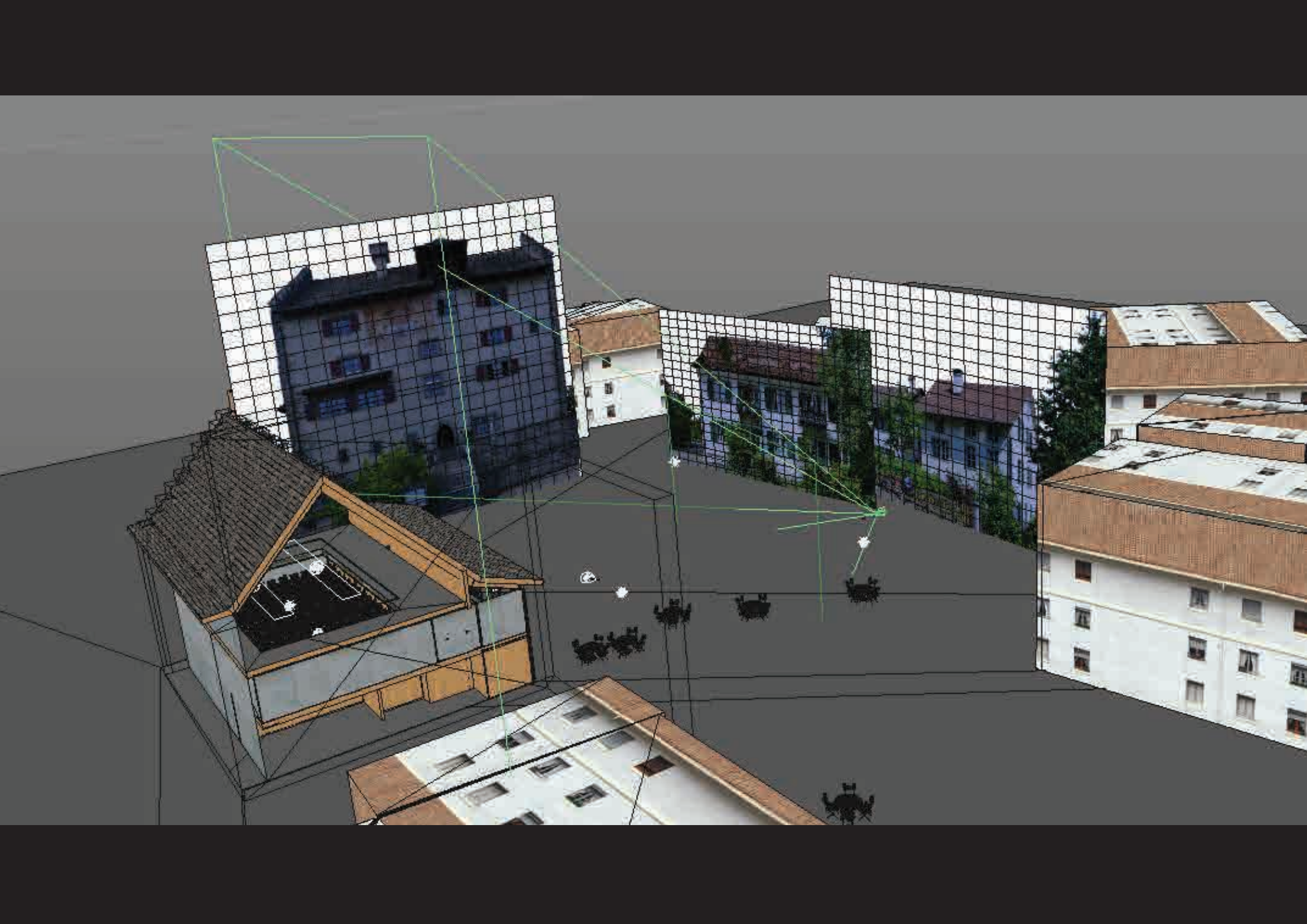
- Length: 0.0m
- Width: 0.0m
- Height: 0.0m
- Length Segs: 1
- Width Segs: 1
- Height Segs: 1
- Generate Mapping Coords.
- Real-World Map Size



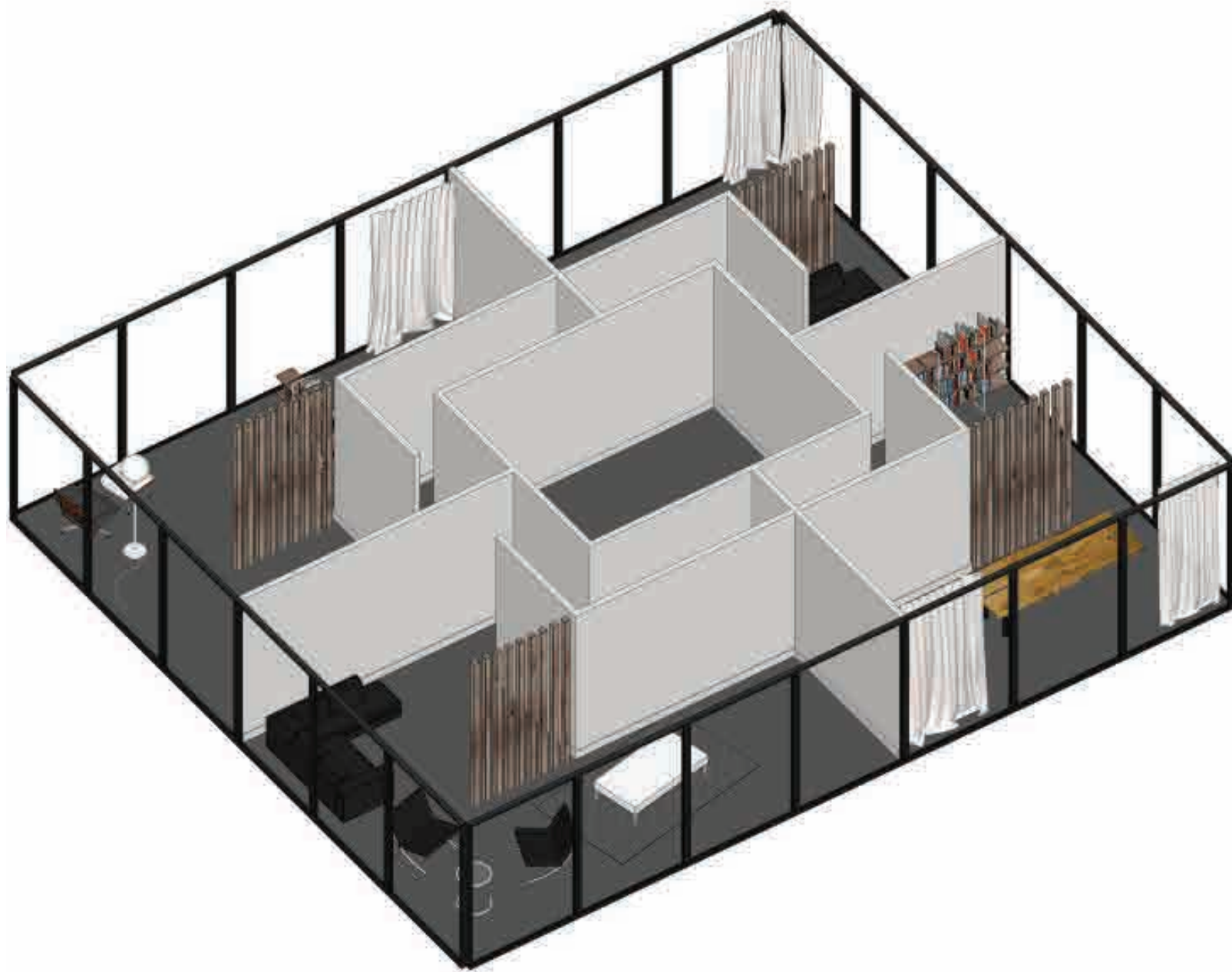


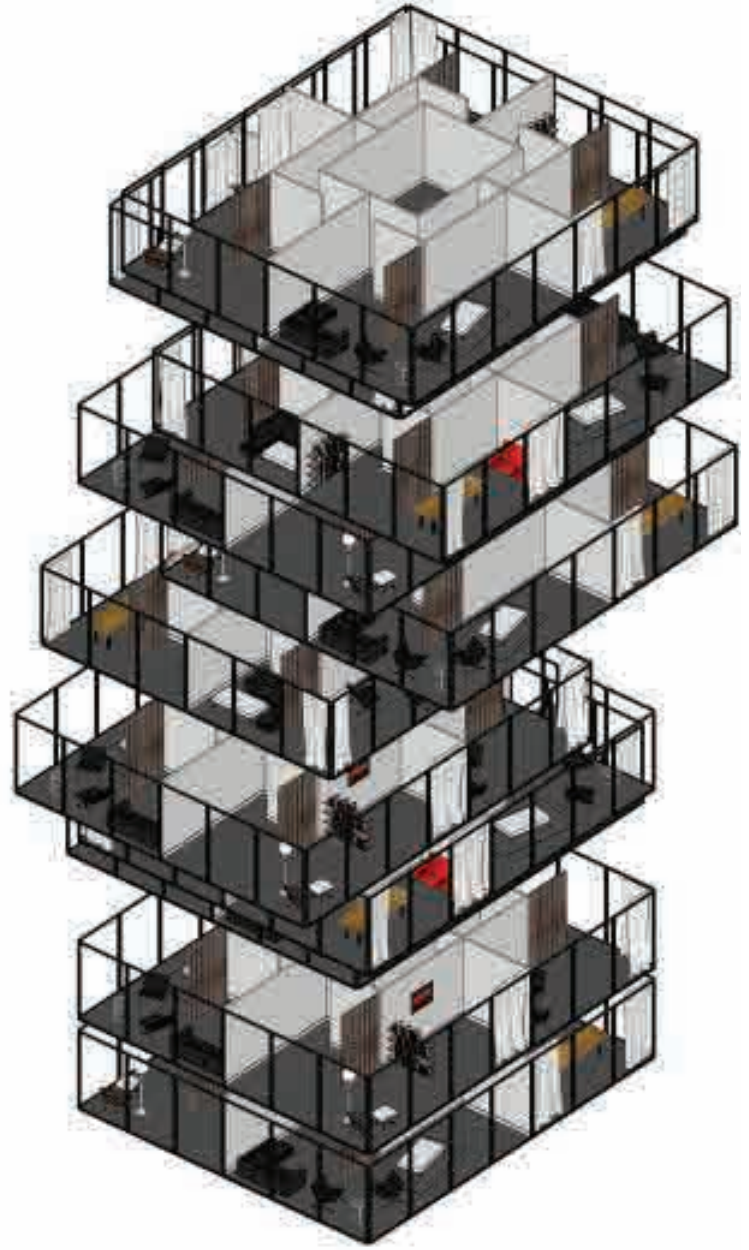
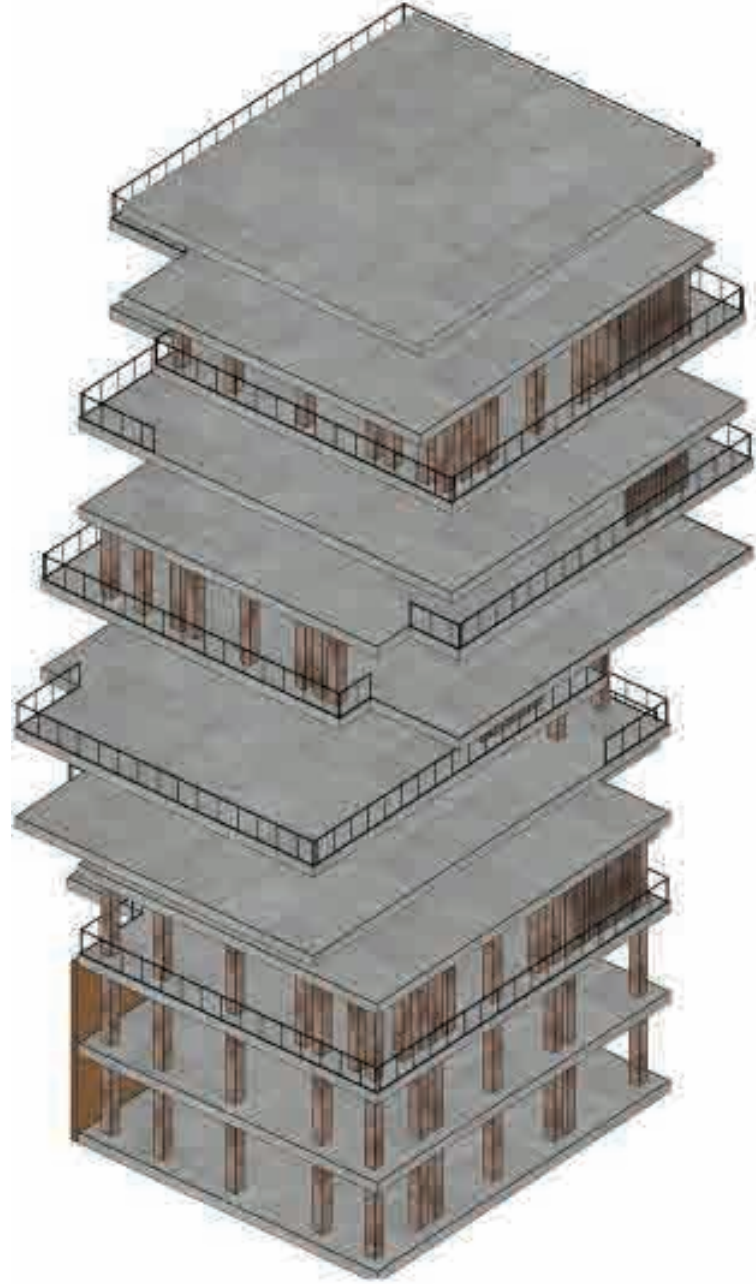
















Example Gallery

Personal Projects

Selections from ronenbeckerman.com

Selections from Previous Classes





View 2 / Rendered Image







