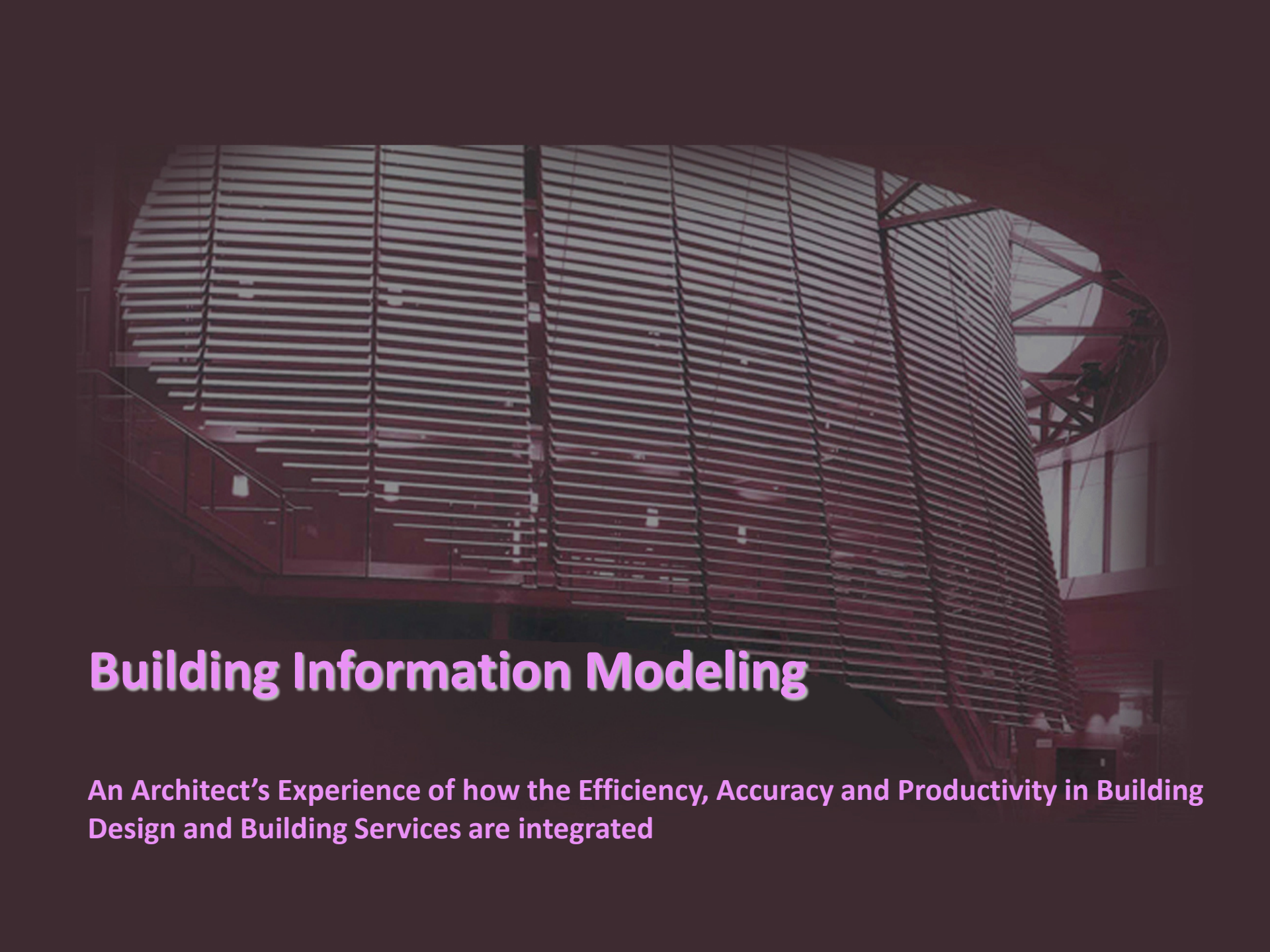
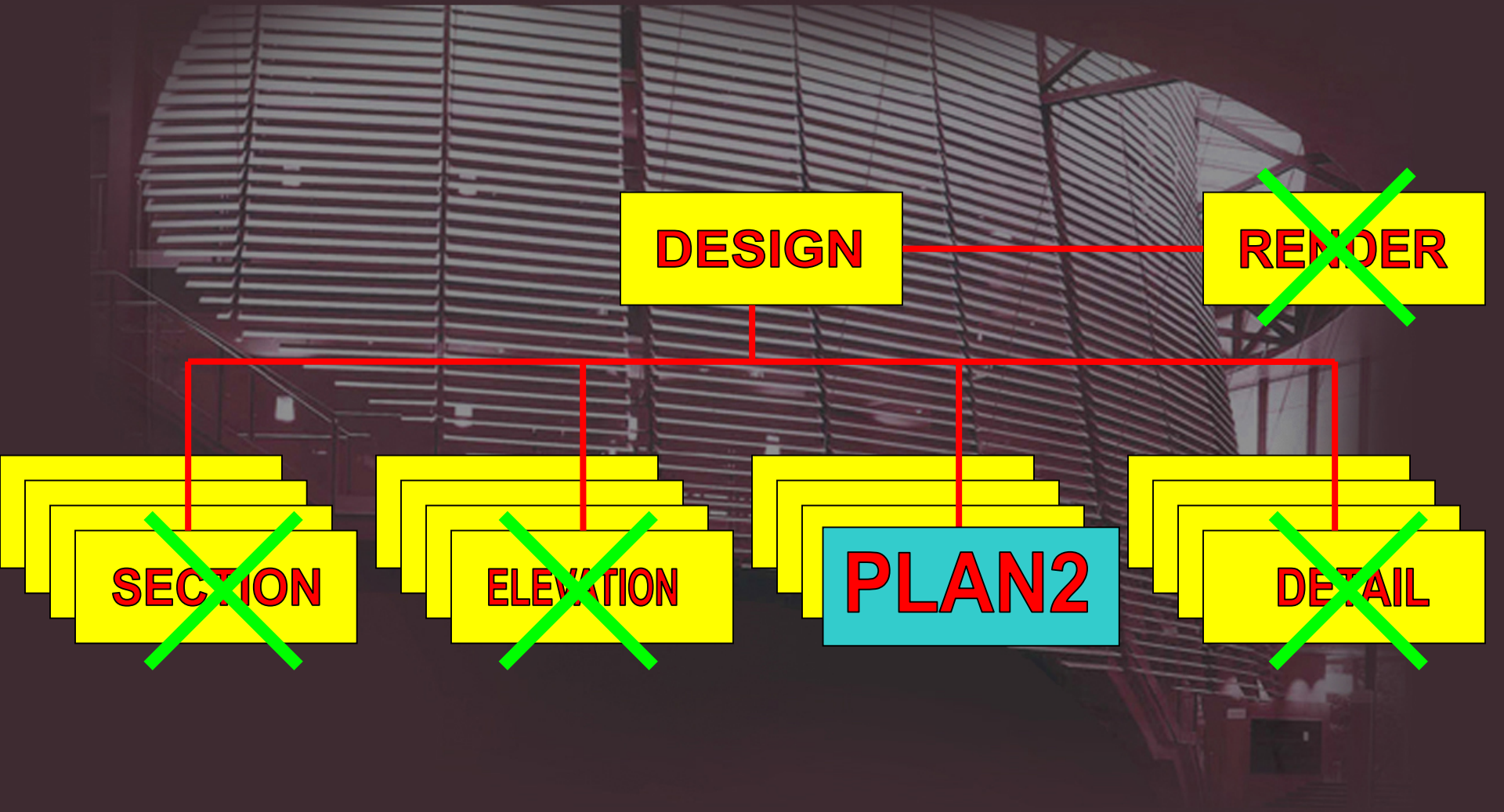


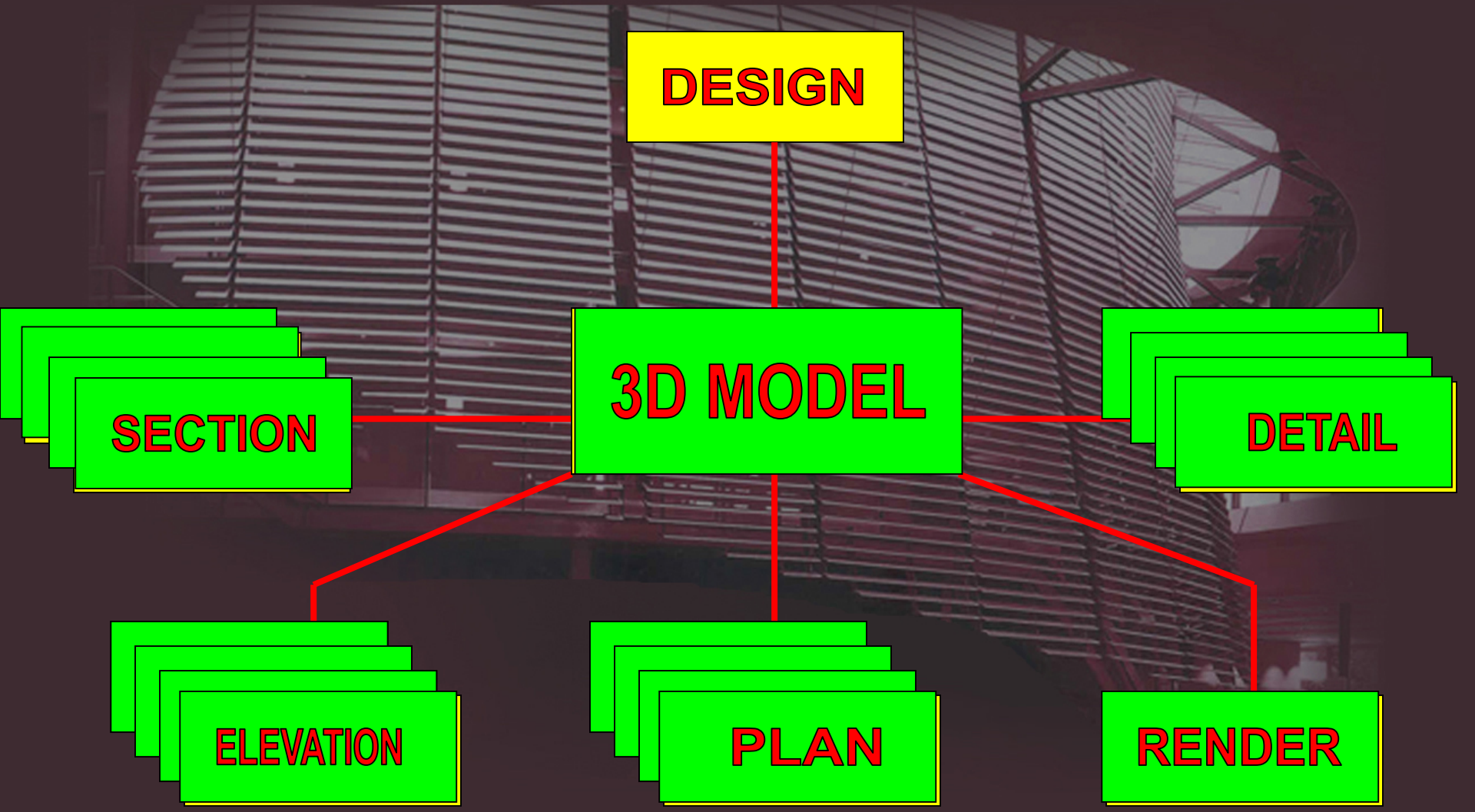
Building Information Modeling

An Architect's Experience of how the Efficiency, Accuracy and Productivity in Building Design and Building Services are integrated

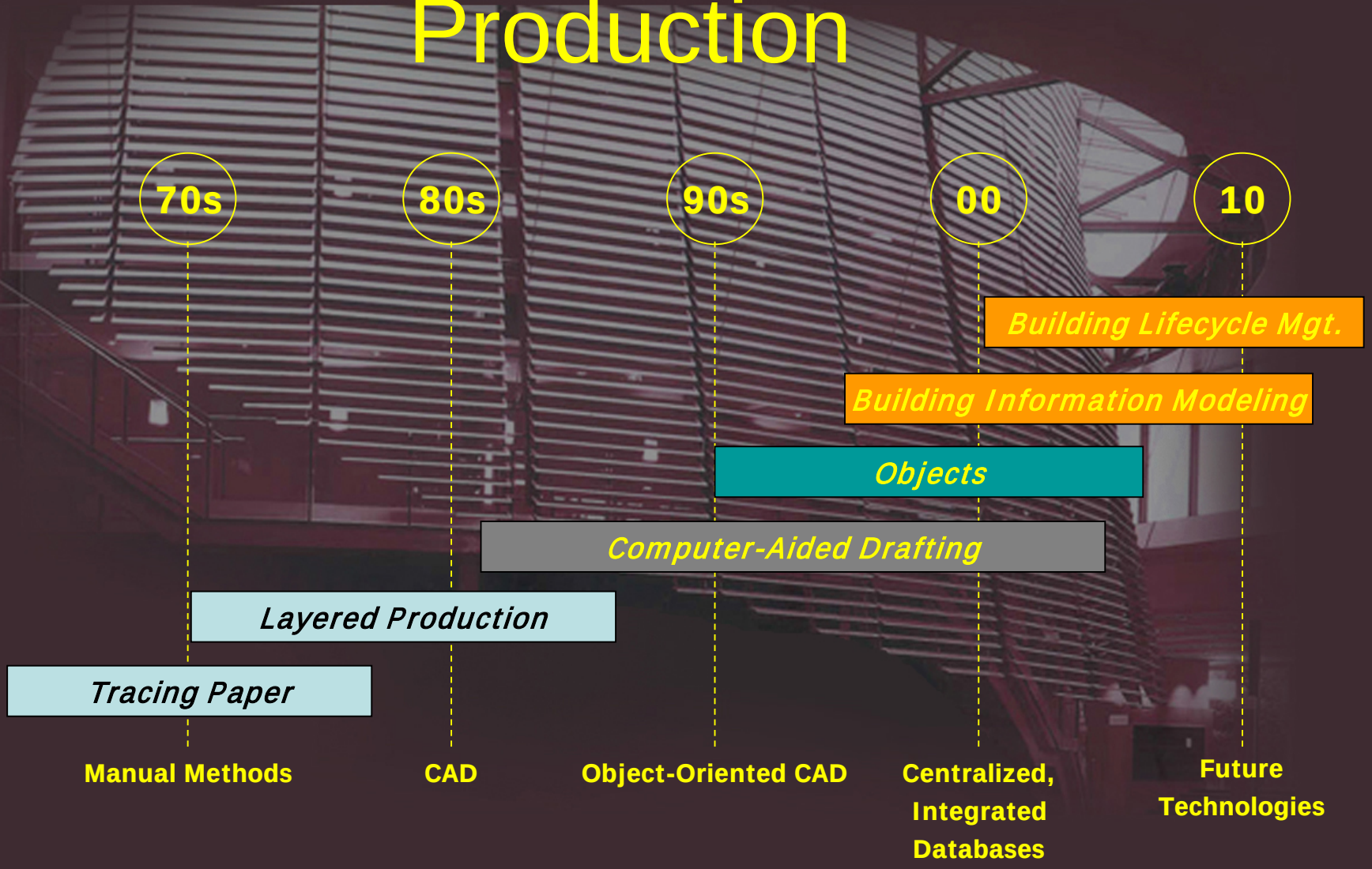
EXISTING DRAWING PRACTICE



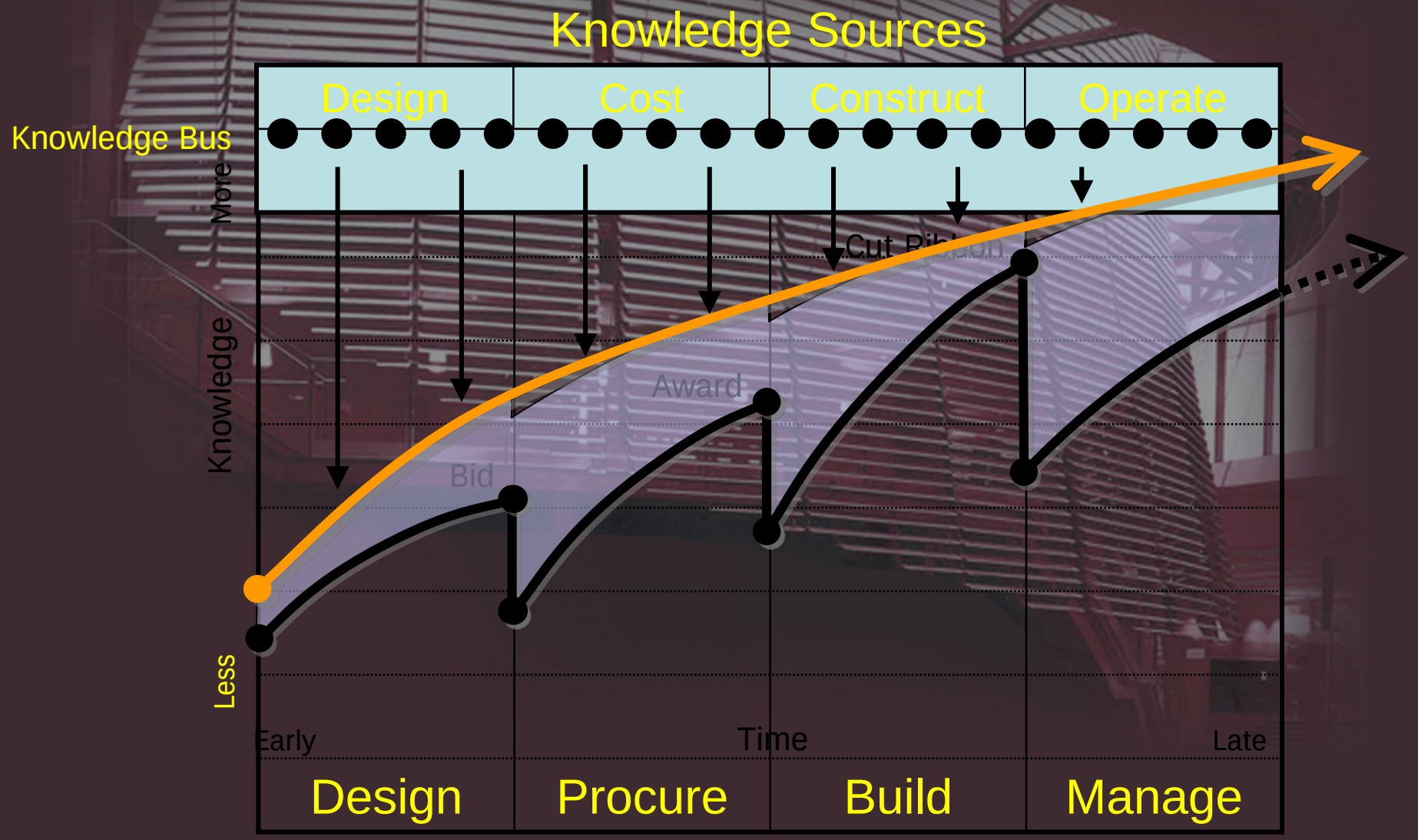
3D DRAWING CONCEPT



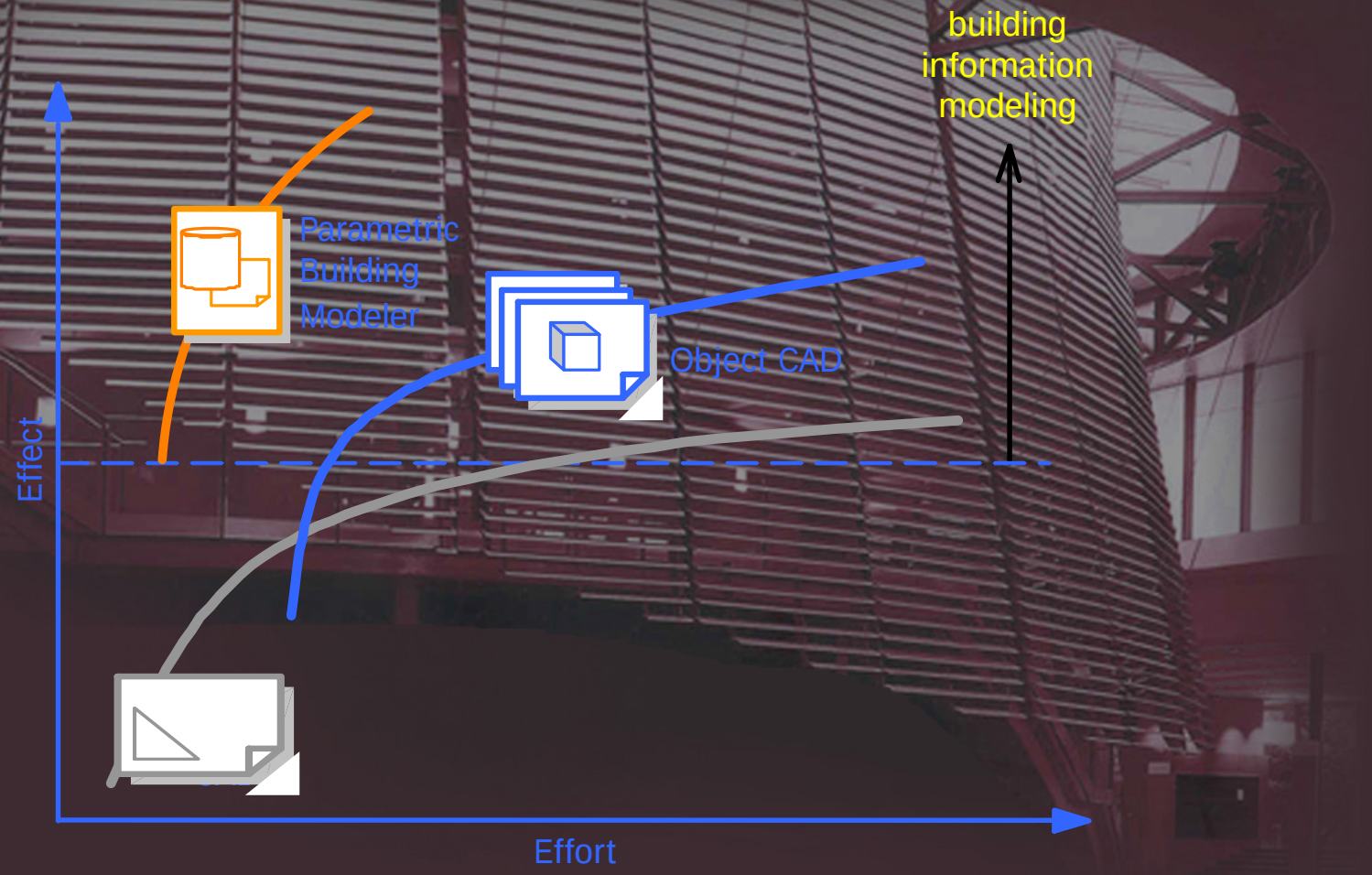
History of Methods of Production



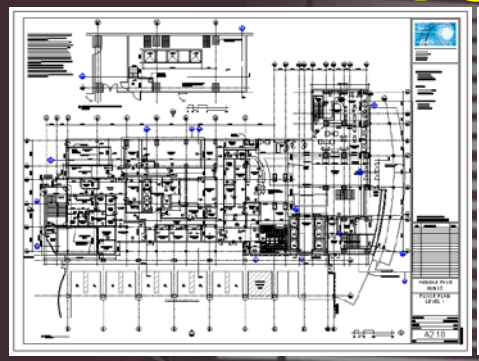
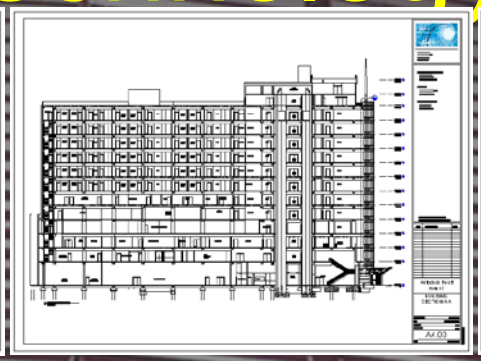
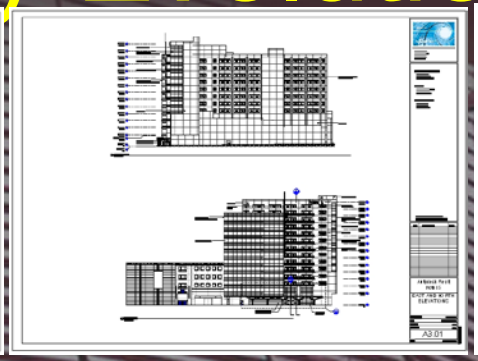
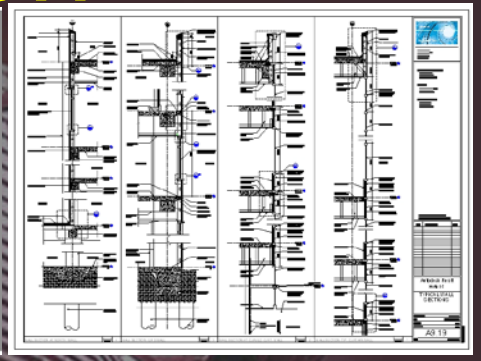
Information “Backflow”



BIM Evolution: Effort and Effect

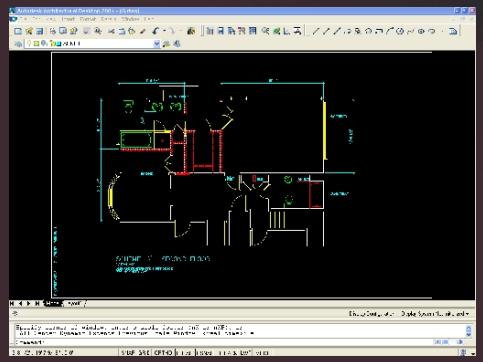


Technology Evolution

Graphics

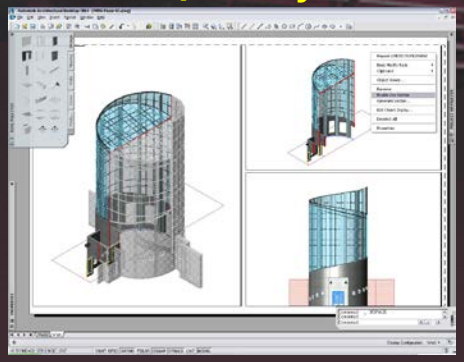
AutoCAD



Objects

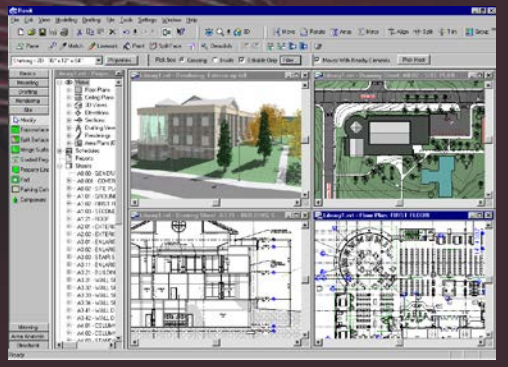
Architectural Desktop

Building Systems



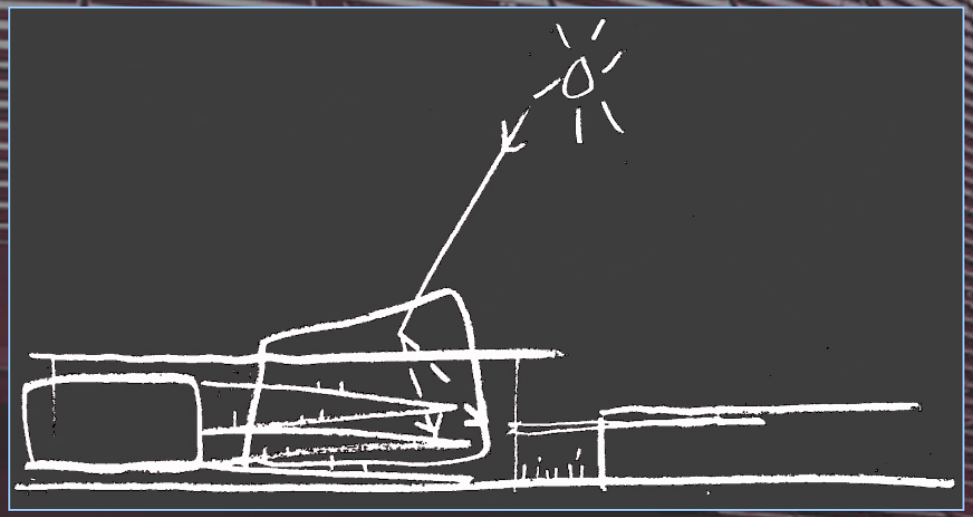
Parametric Building Model

Revit

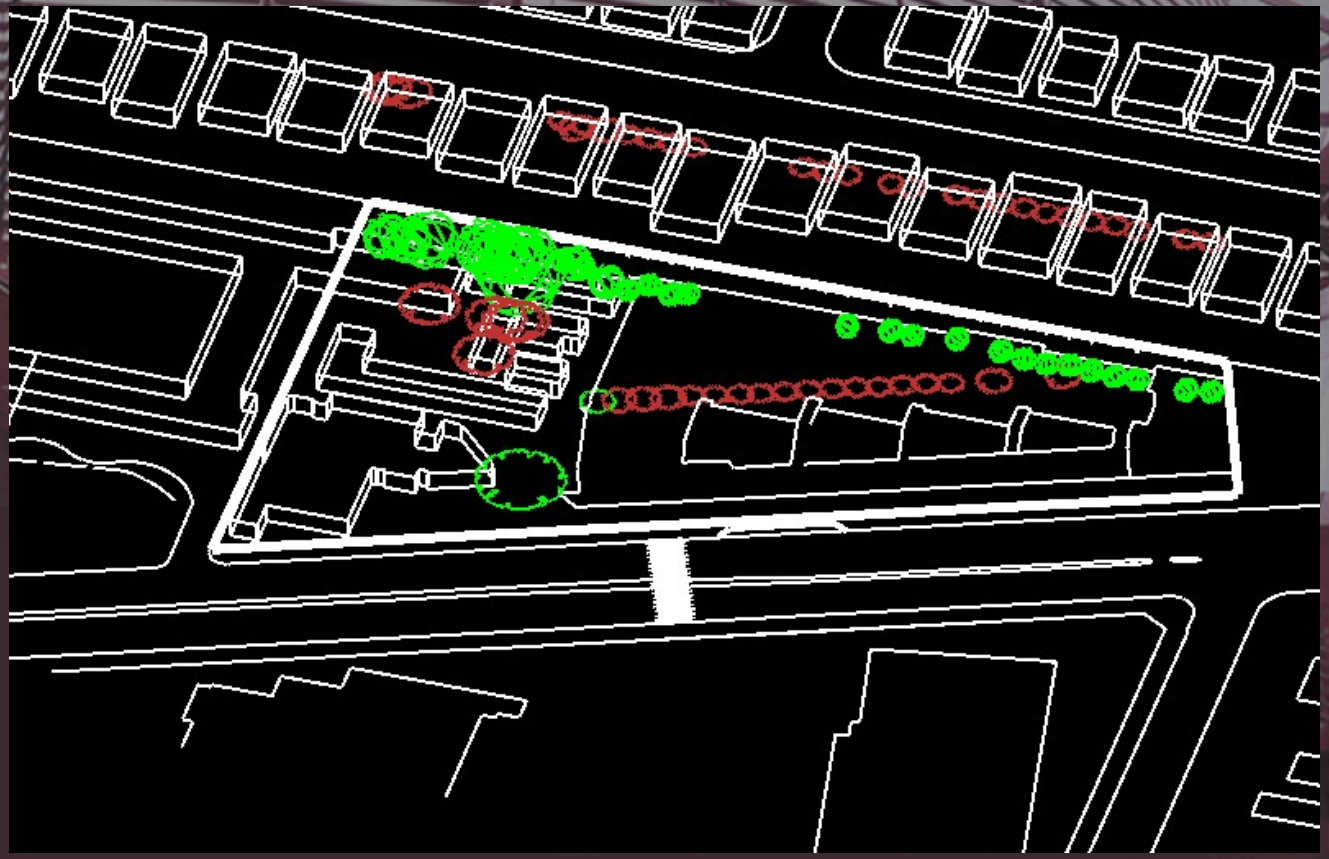


NATIONAL INSTITUTE OF DRAMATIC ARTS (NIDA)

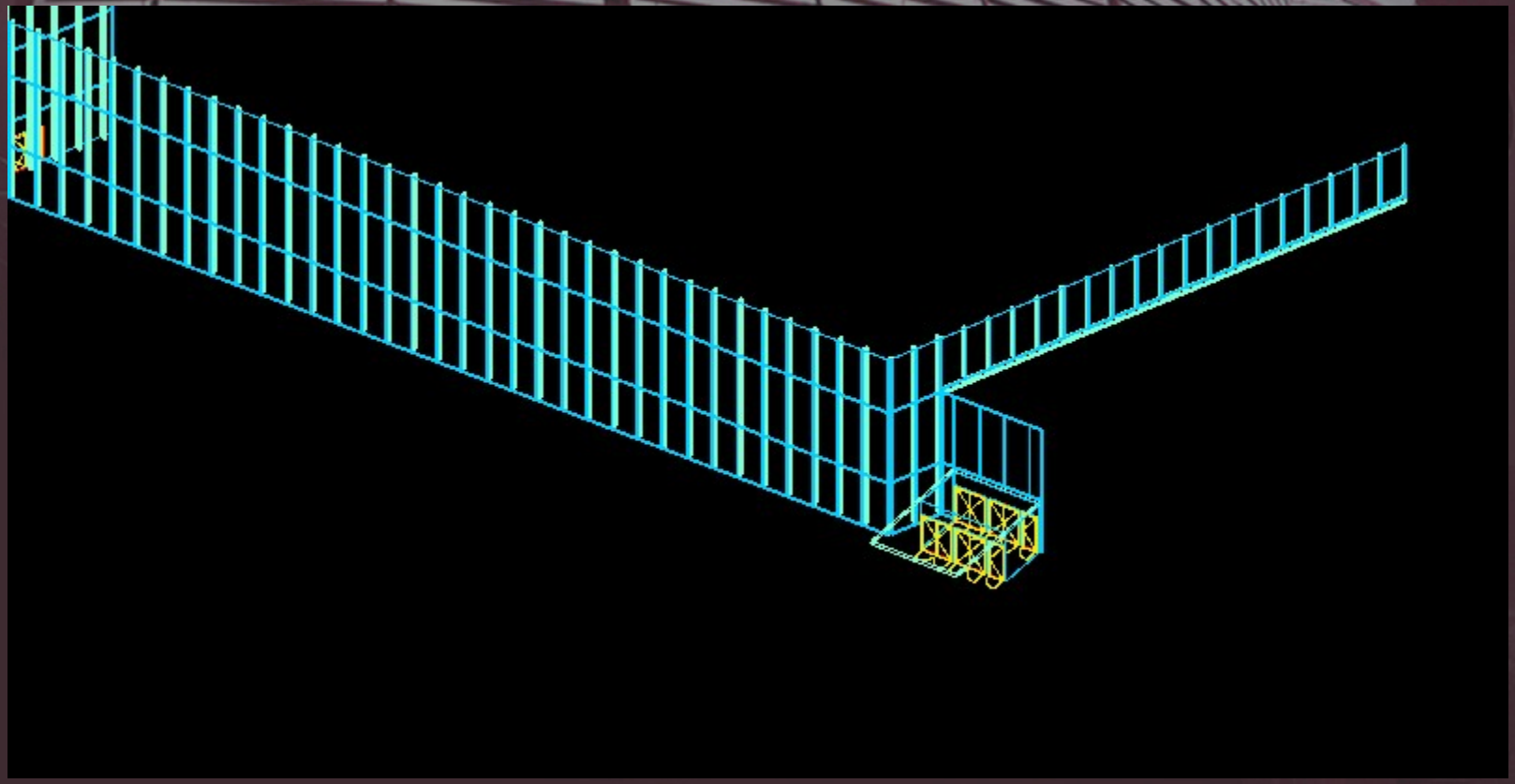
SYDNEY, AUSTRALIA



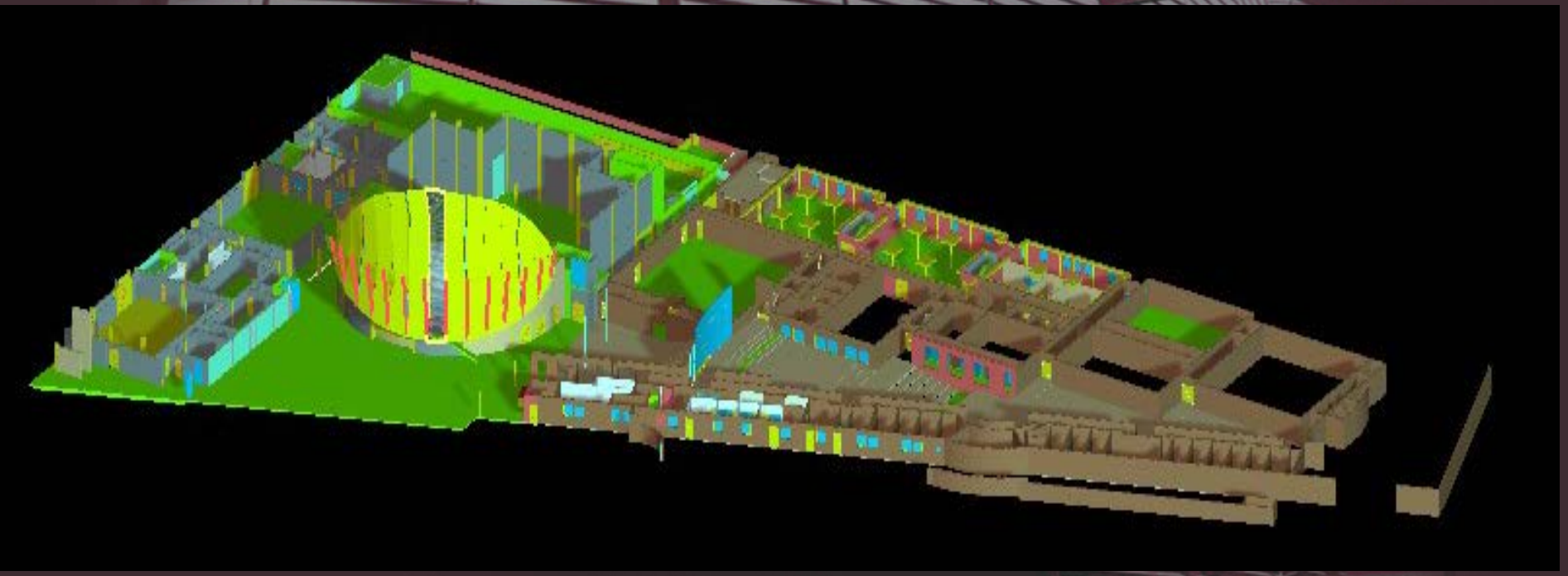
3D SITE



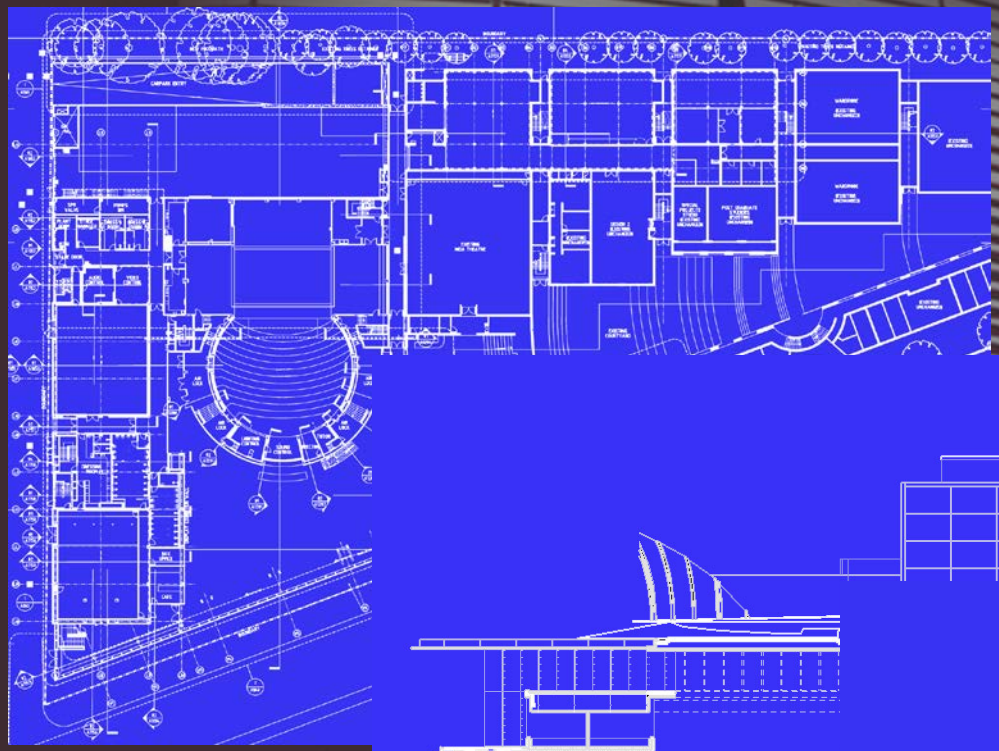
DESIGN IN 3D



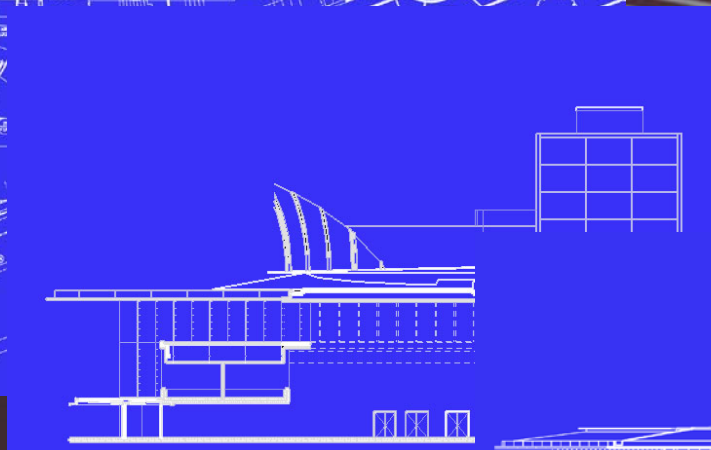
BUILDING 3D MODEL



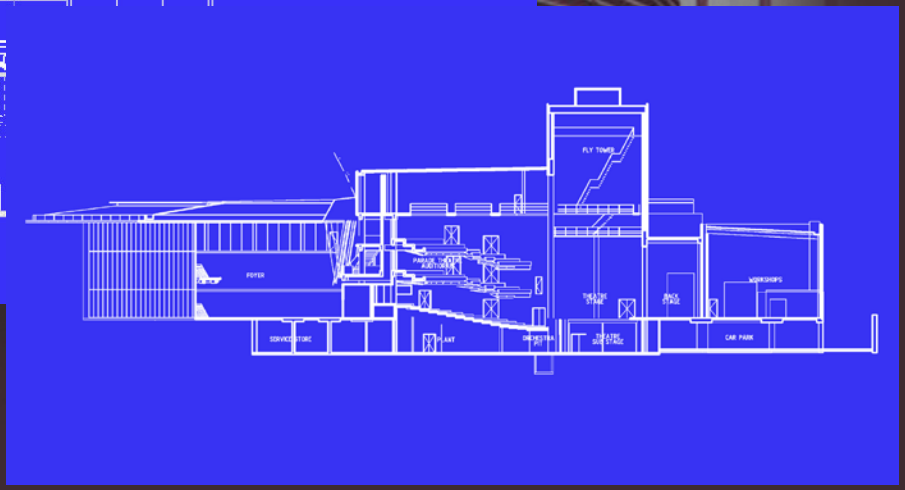
SELF-GENERATED …



PLANS

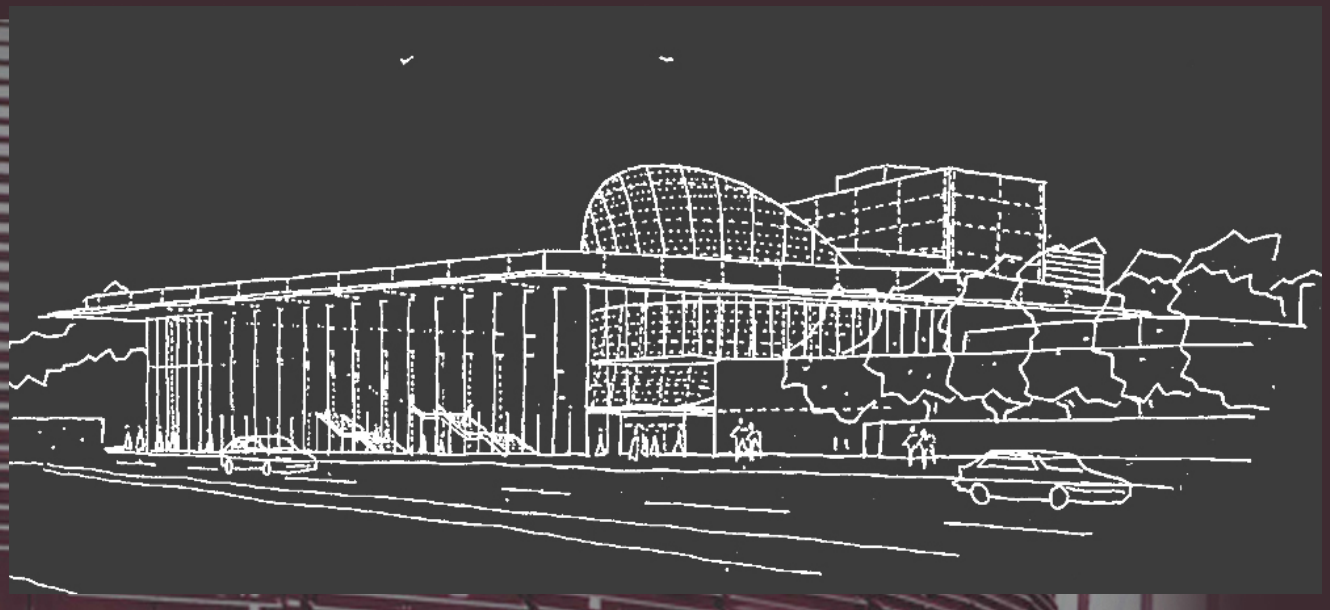


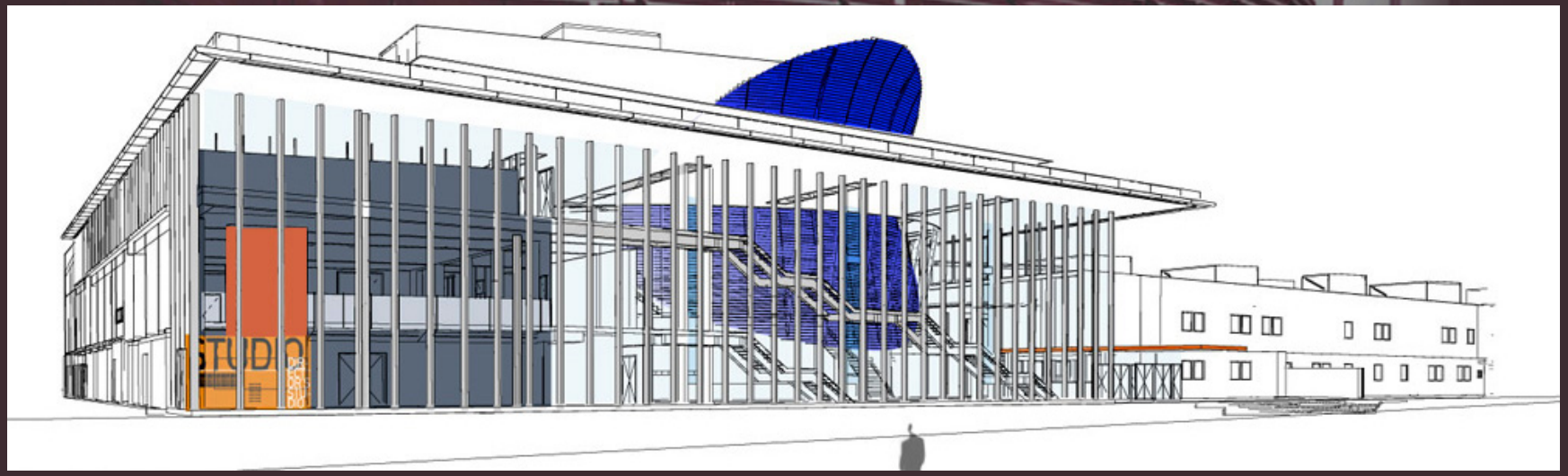
ELEVATIONS



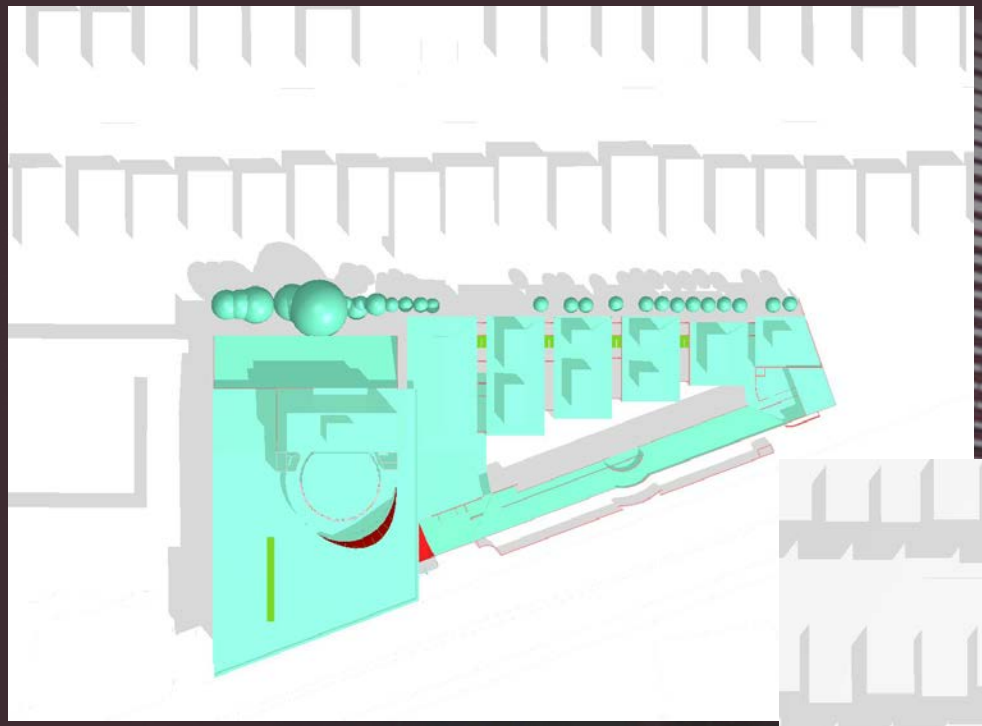
SECTIONS

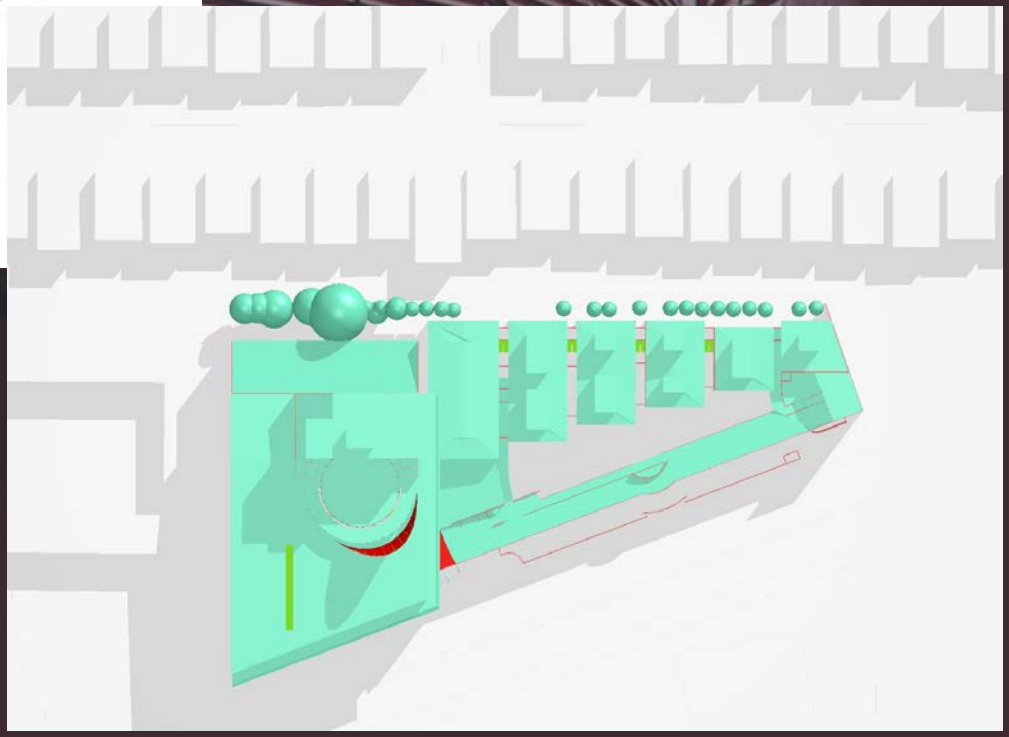
GENERATED PERSPECTIVES



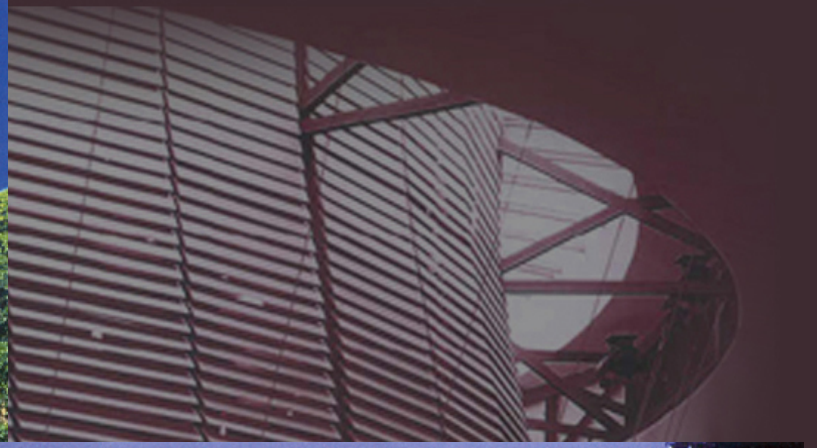


SHADOW ANALYSIS



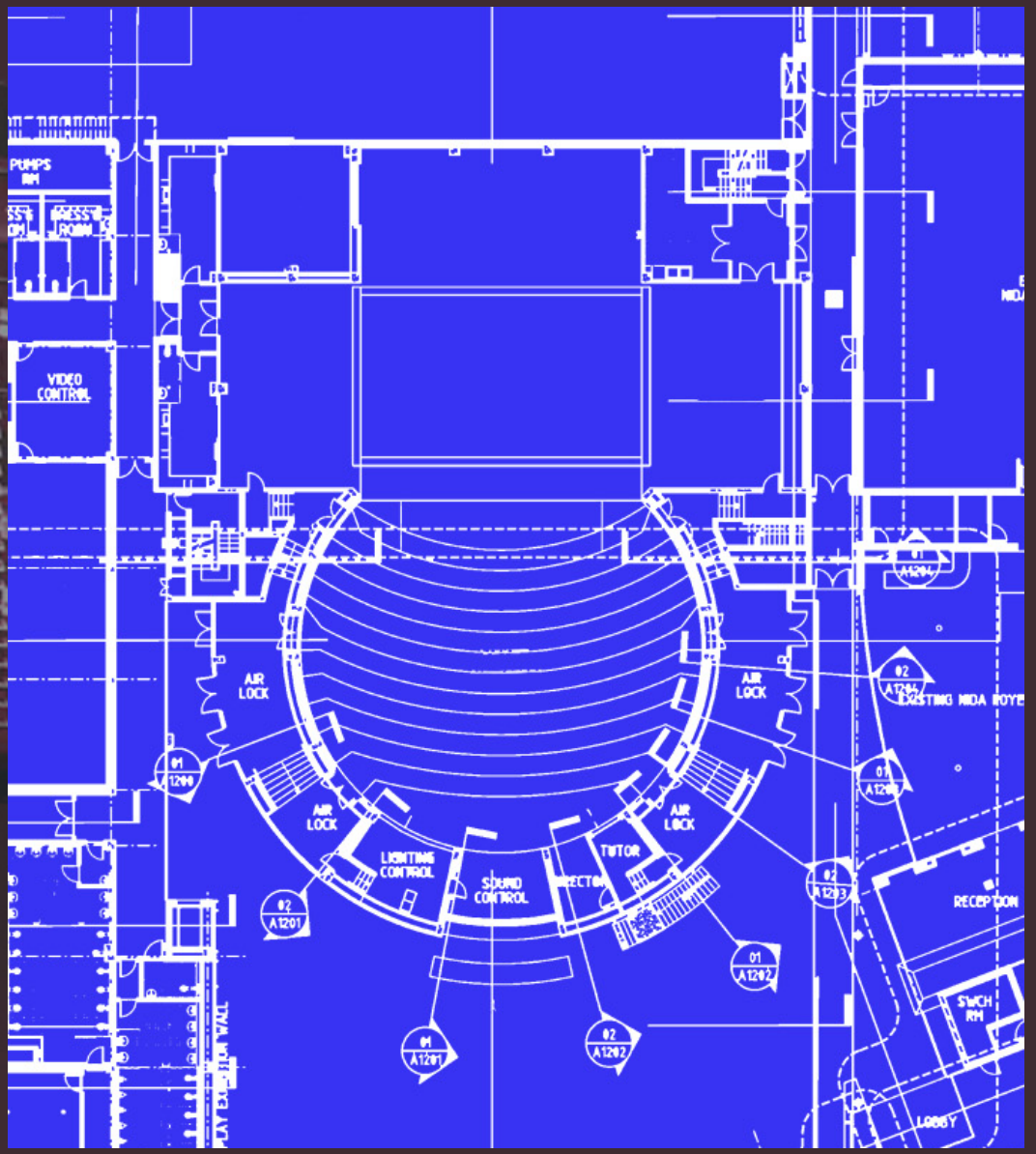


SAME MODEL RENDERING

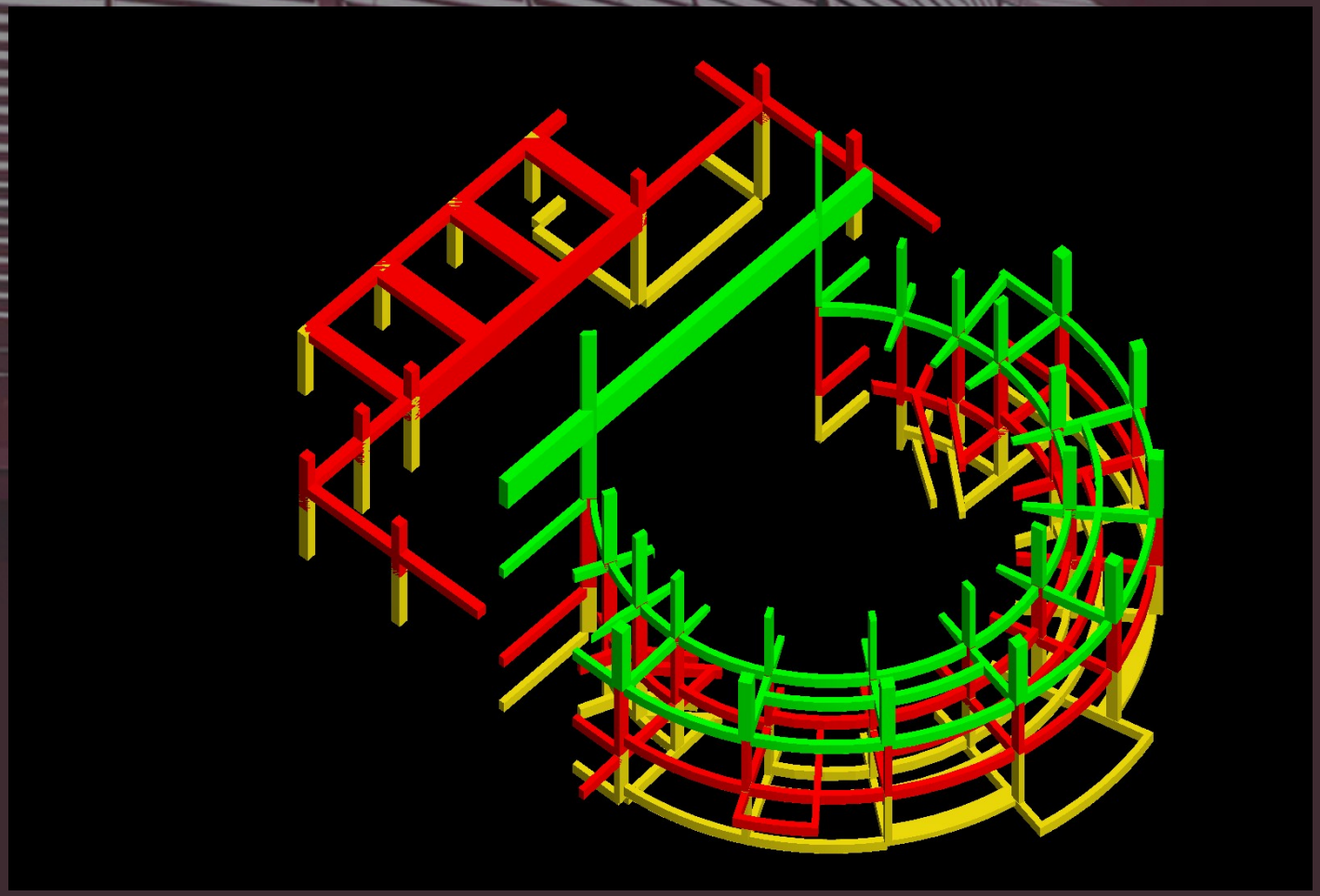


COMPLETED PROJECT

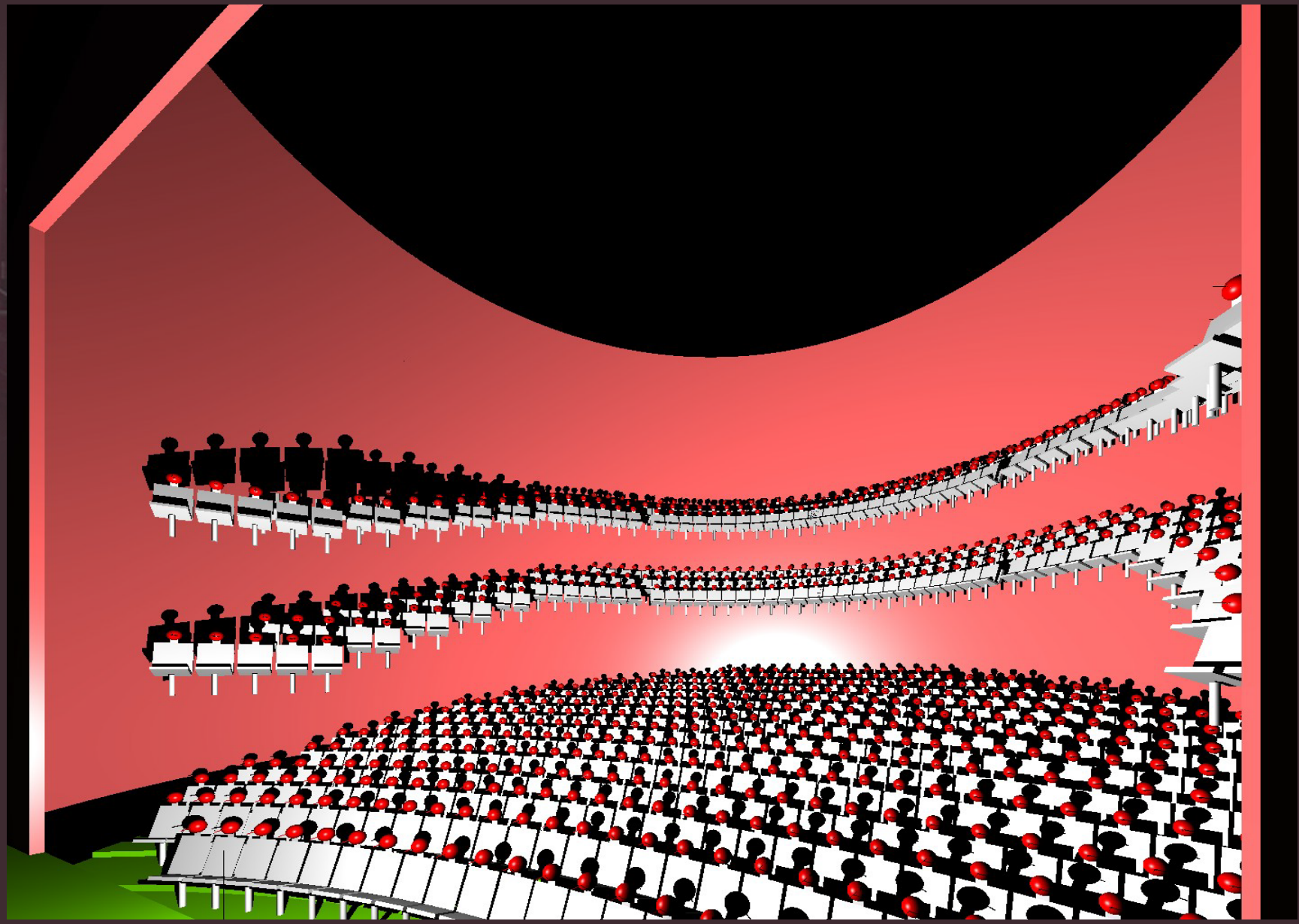
THEATRE DESIGN



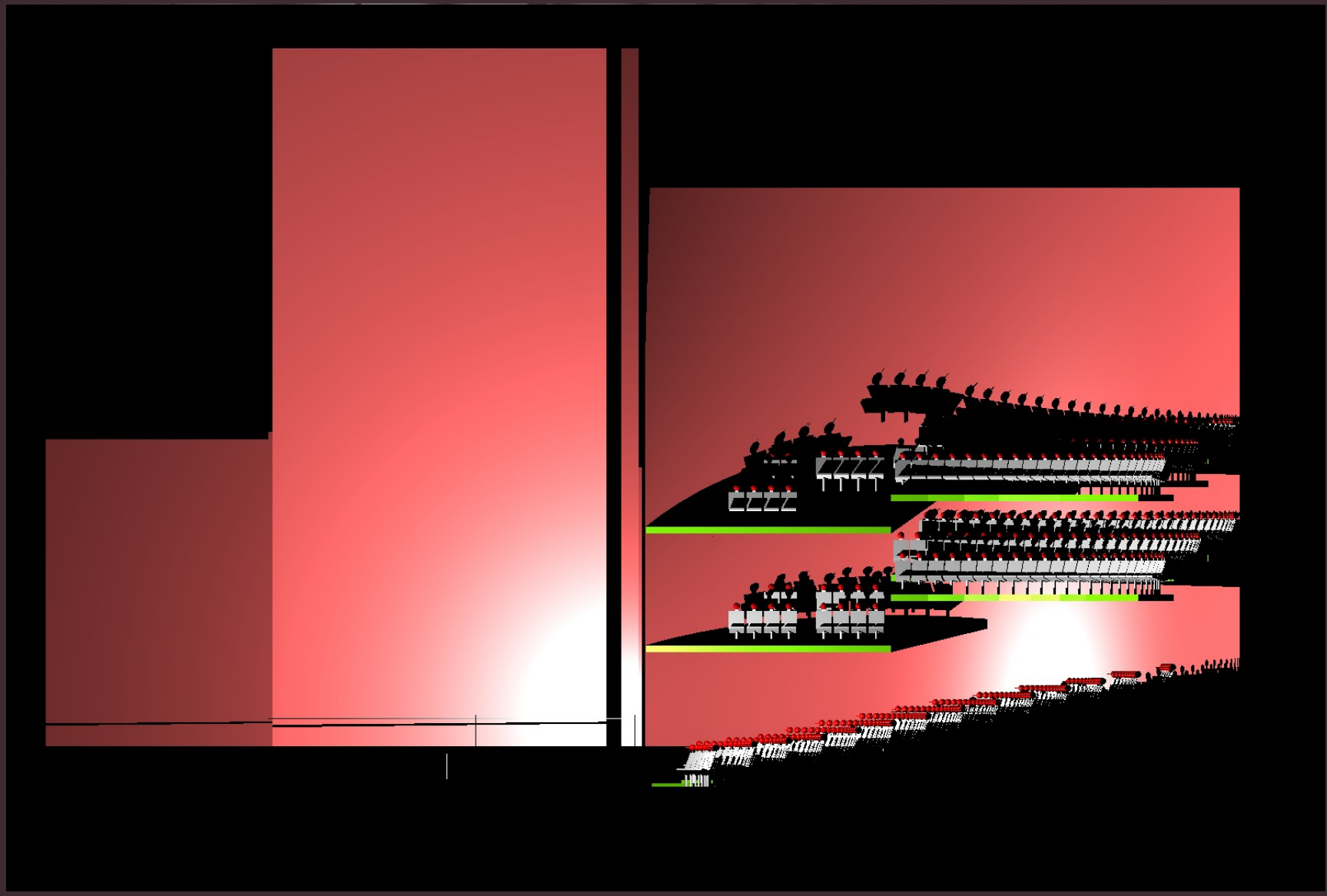
STRUCTURAL ANALYSIS



SIGHTLINE ANALYSIS



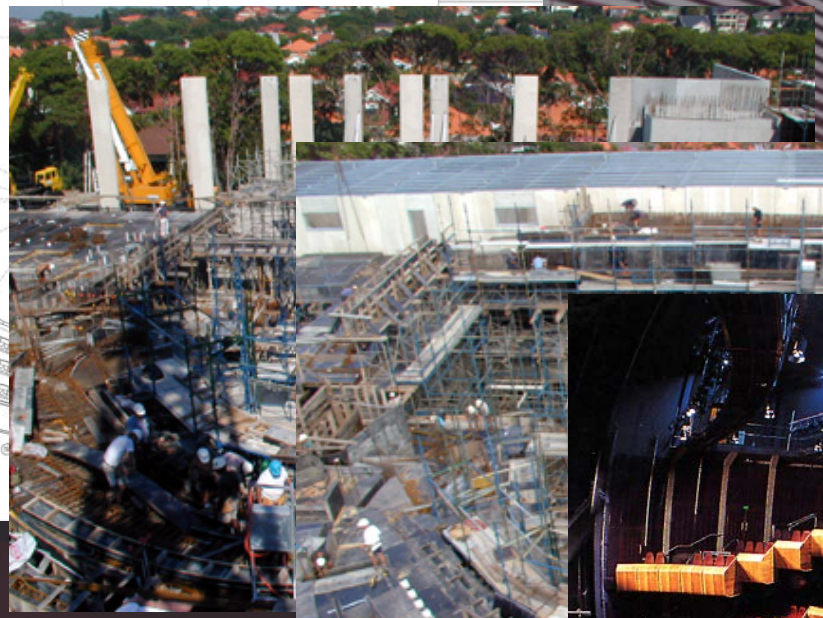
SIGHTLINE ANALYSIS



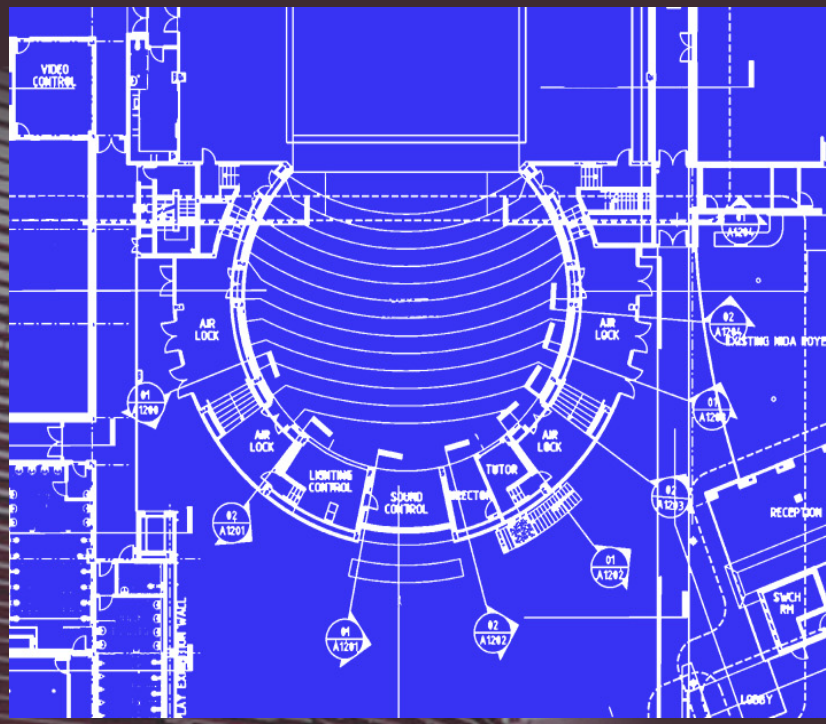
THEATRE

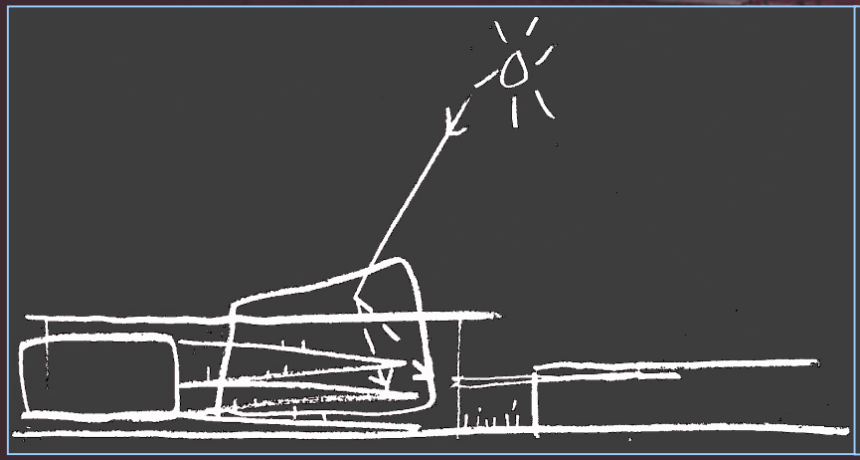
THEATRE

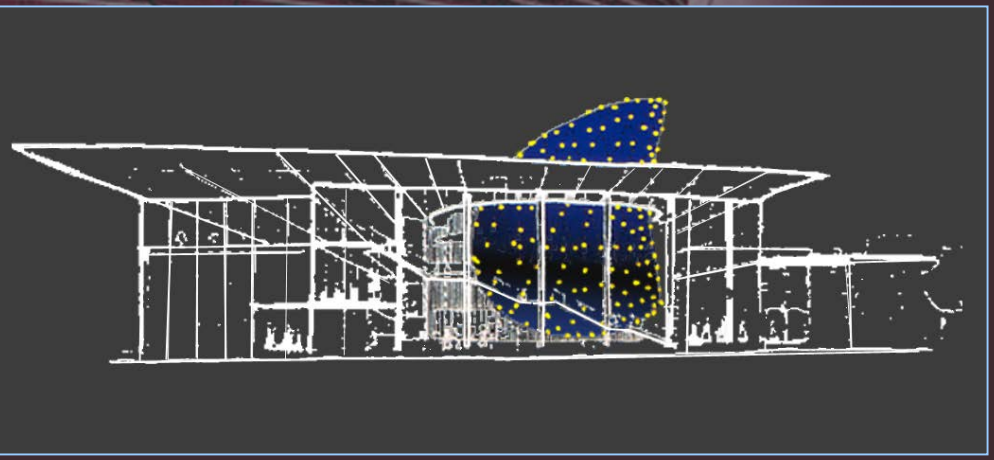
DESIGN – DOCUMENTATION – CONSTRUCTION



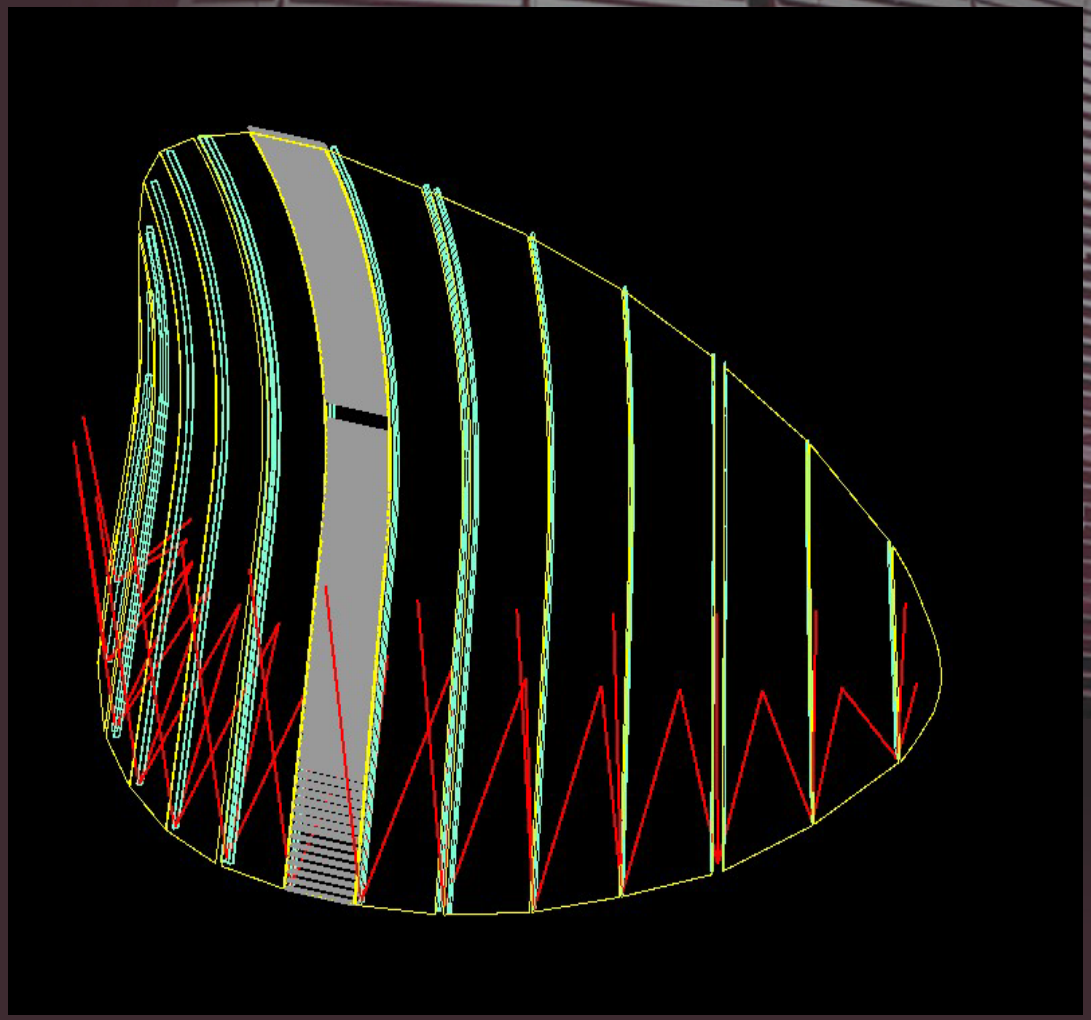
VEIL – SCIENTIFICALLY DERIVED CURVATURE

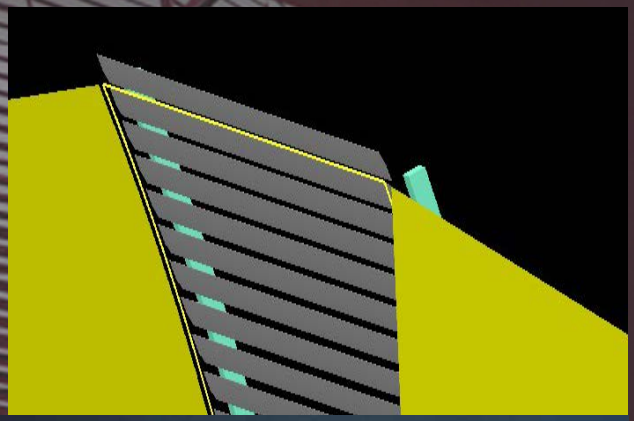


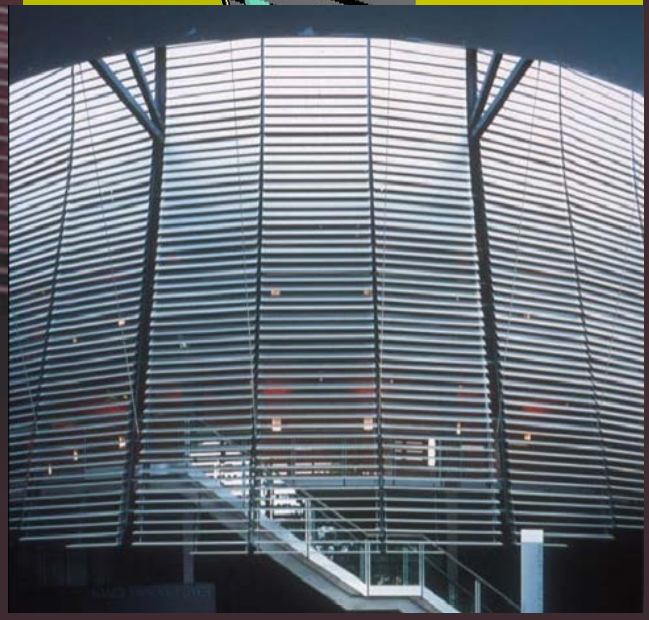


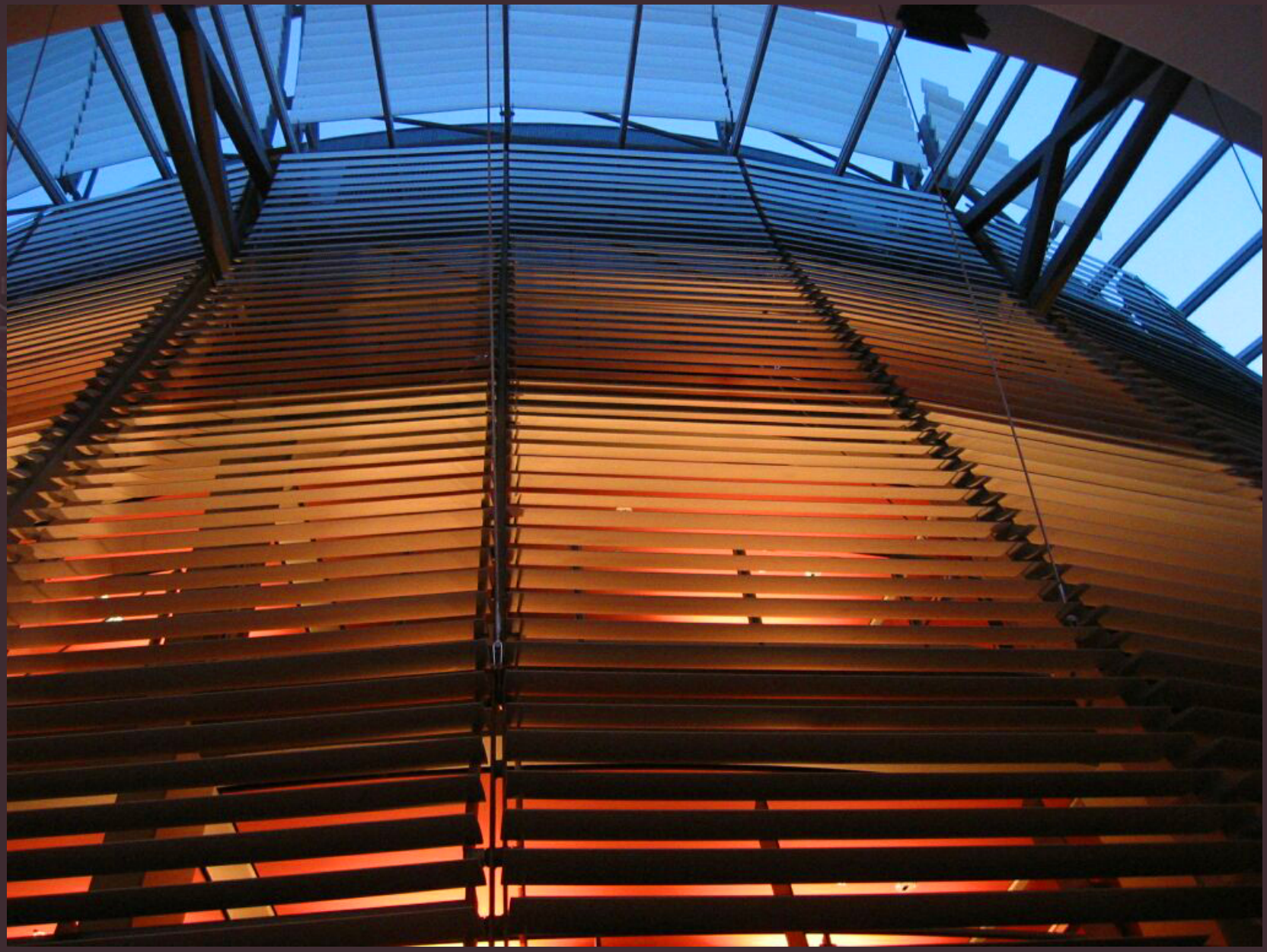


VEIL – COMPLICATED GEOMETRY



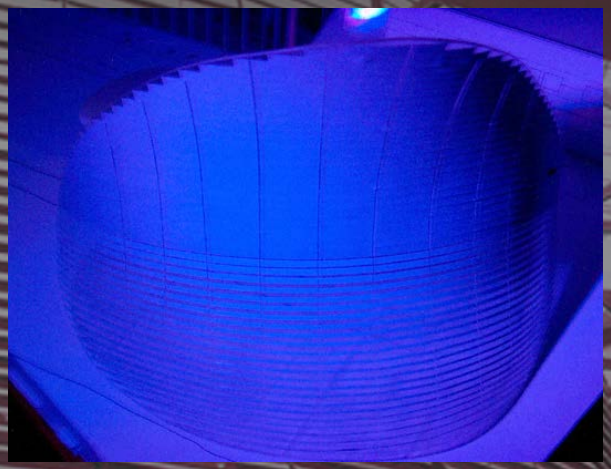




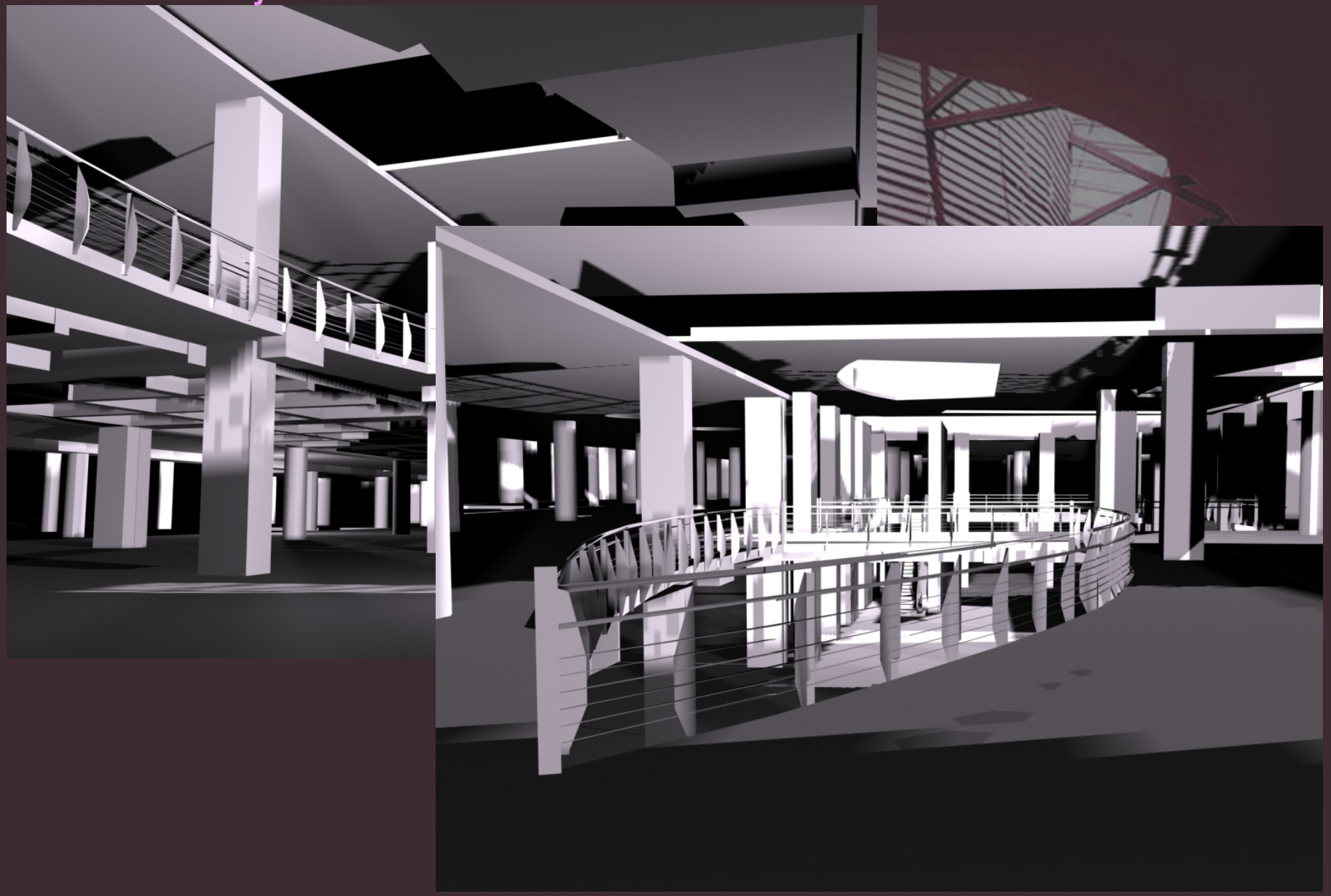


NANCY FAIRFAX FOYER

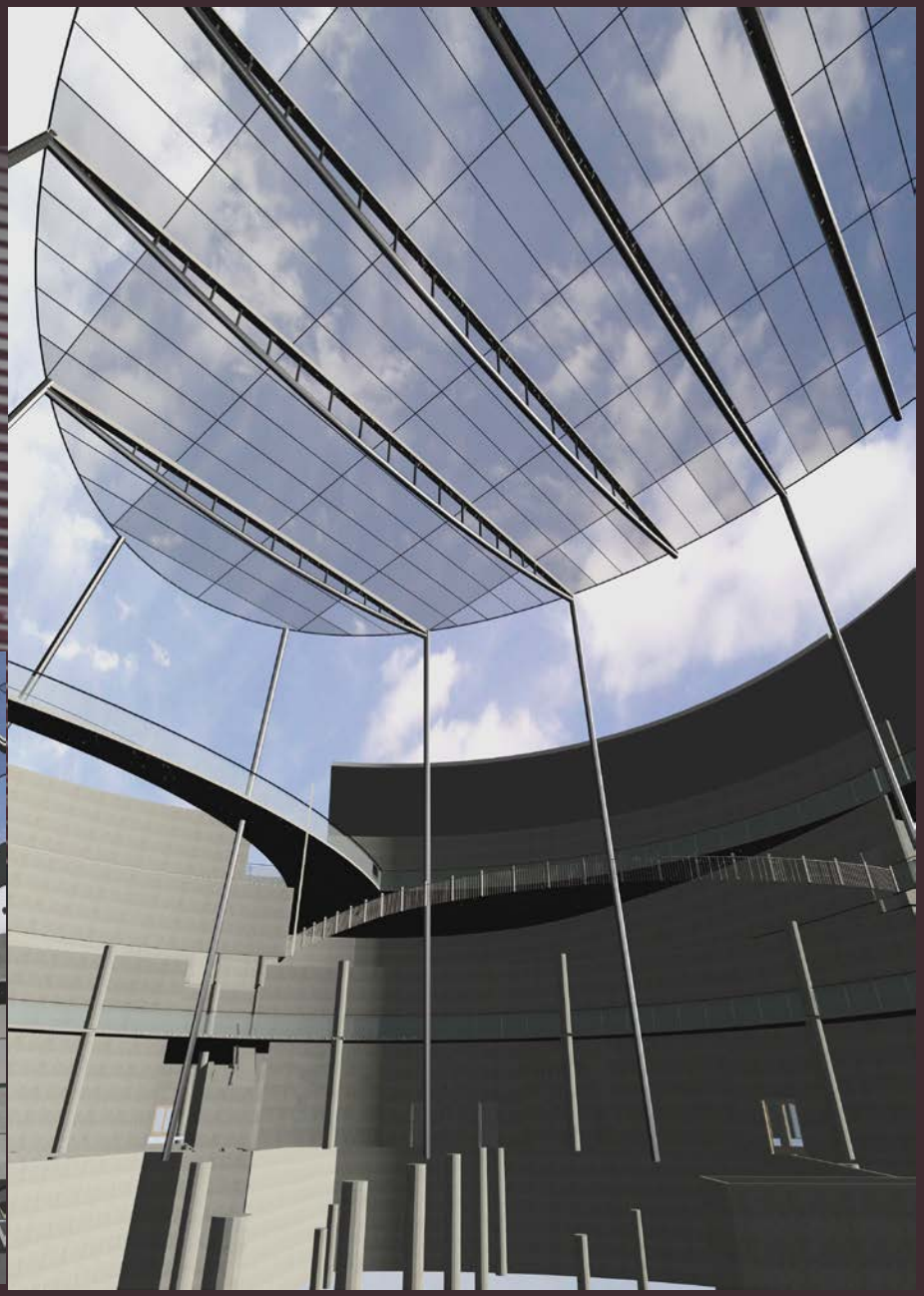
NIGHT SCENE



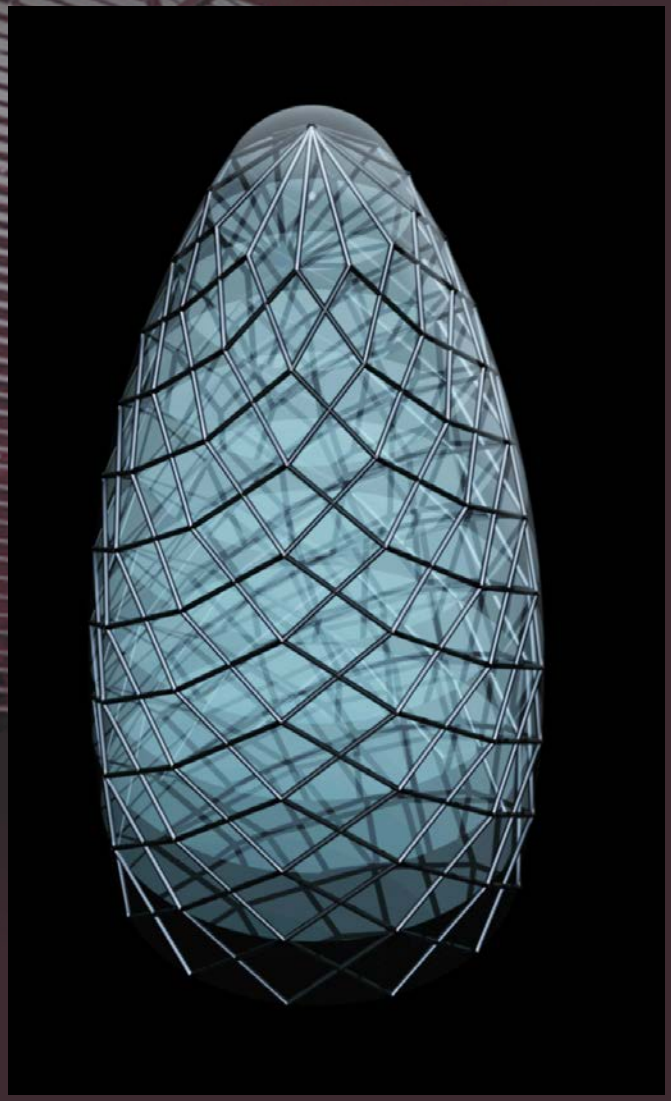
Other Projects



Other Projects

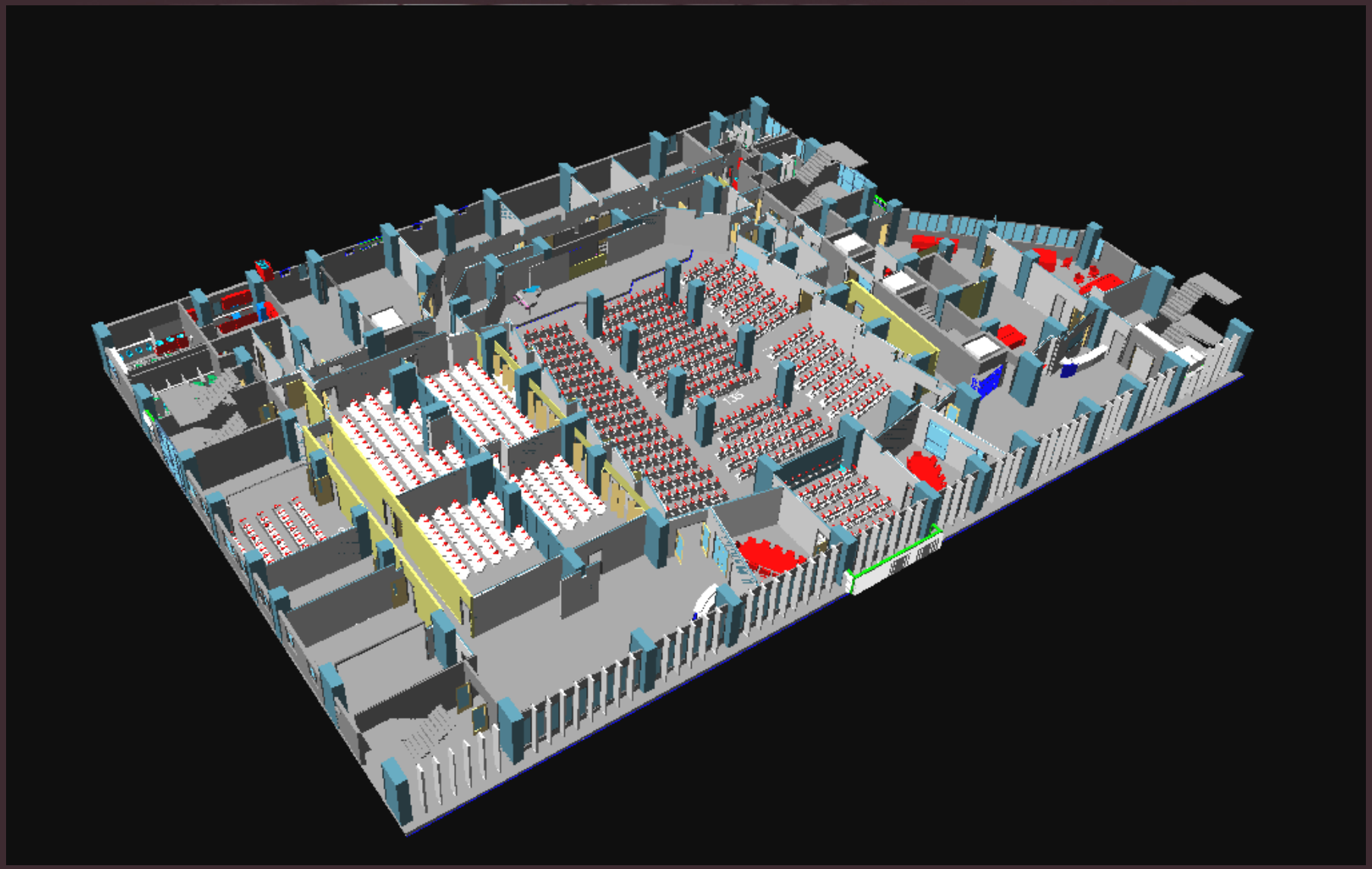


Other Projects

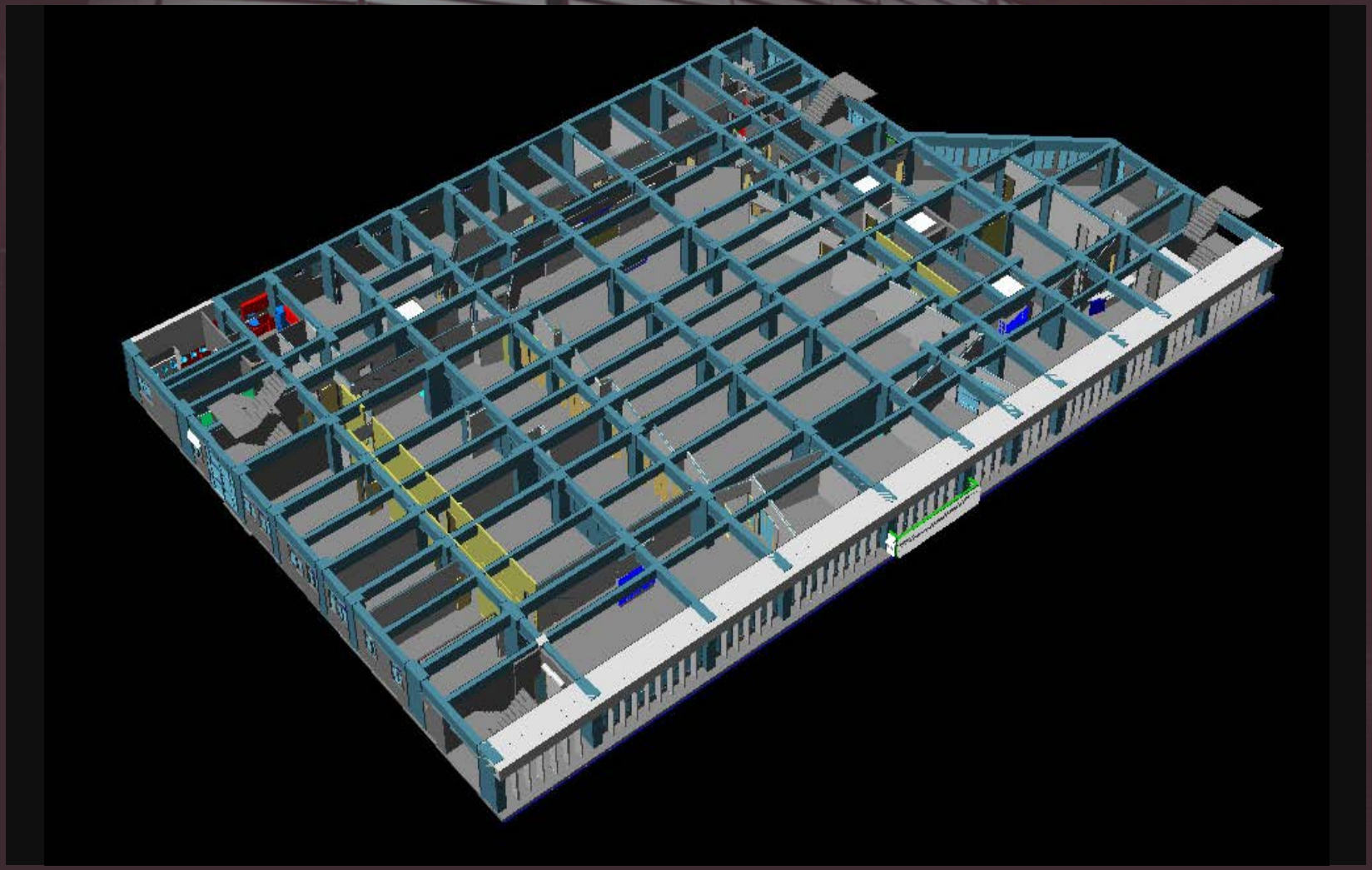


EVANGELICAL FREE CHURCH OF CHINA

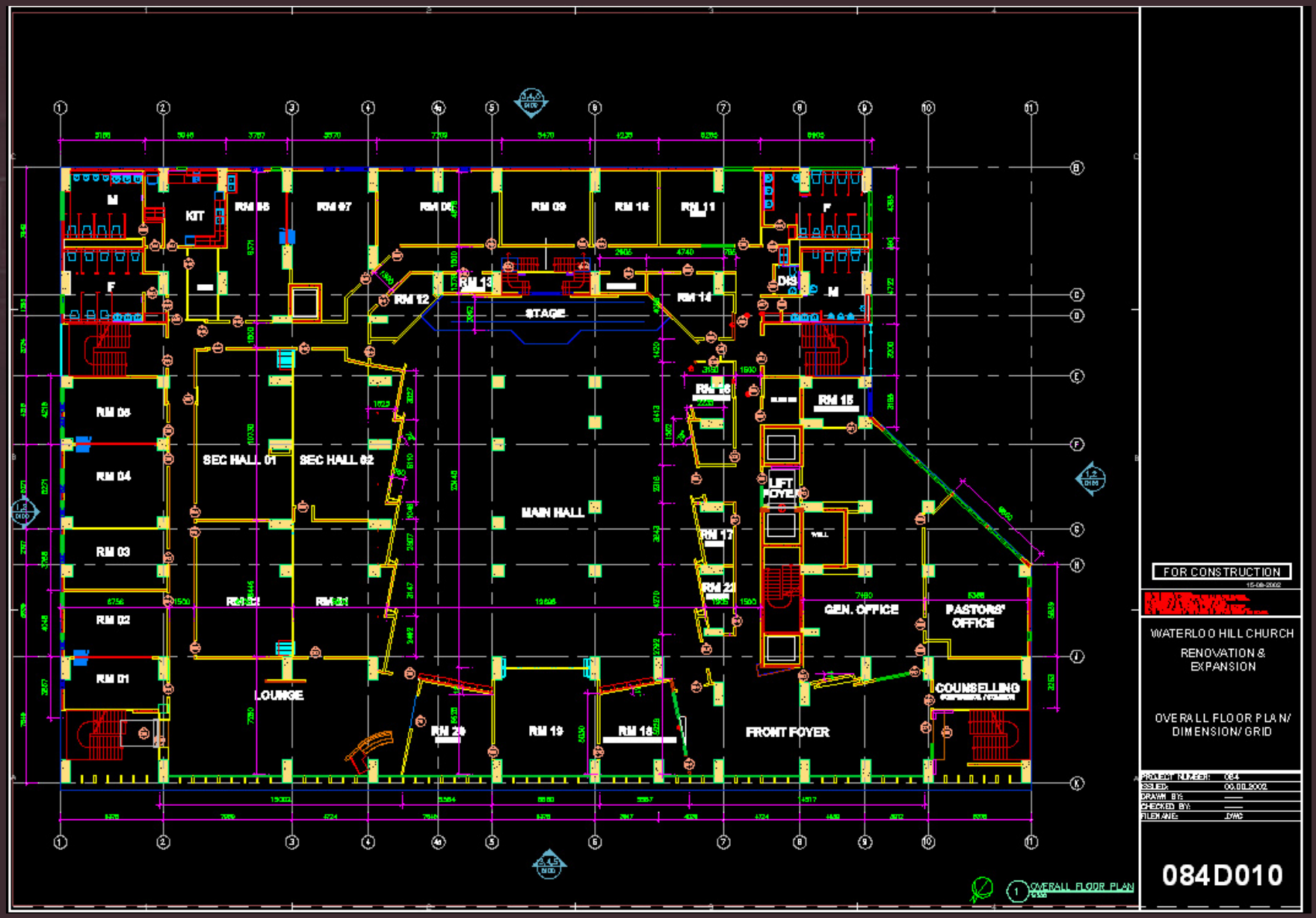
WATERLOO HILL CHURCH



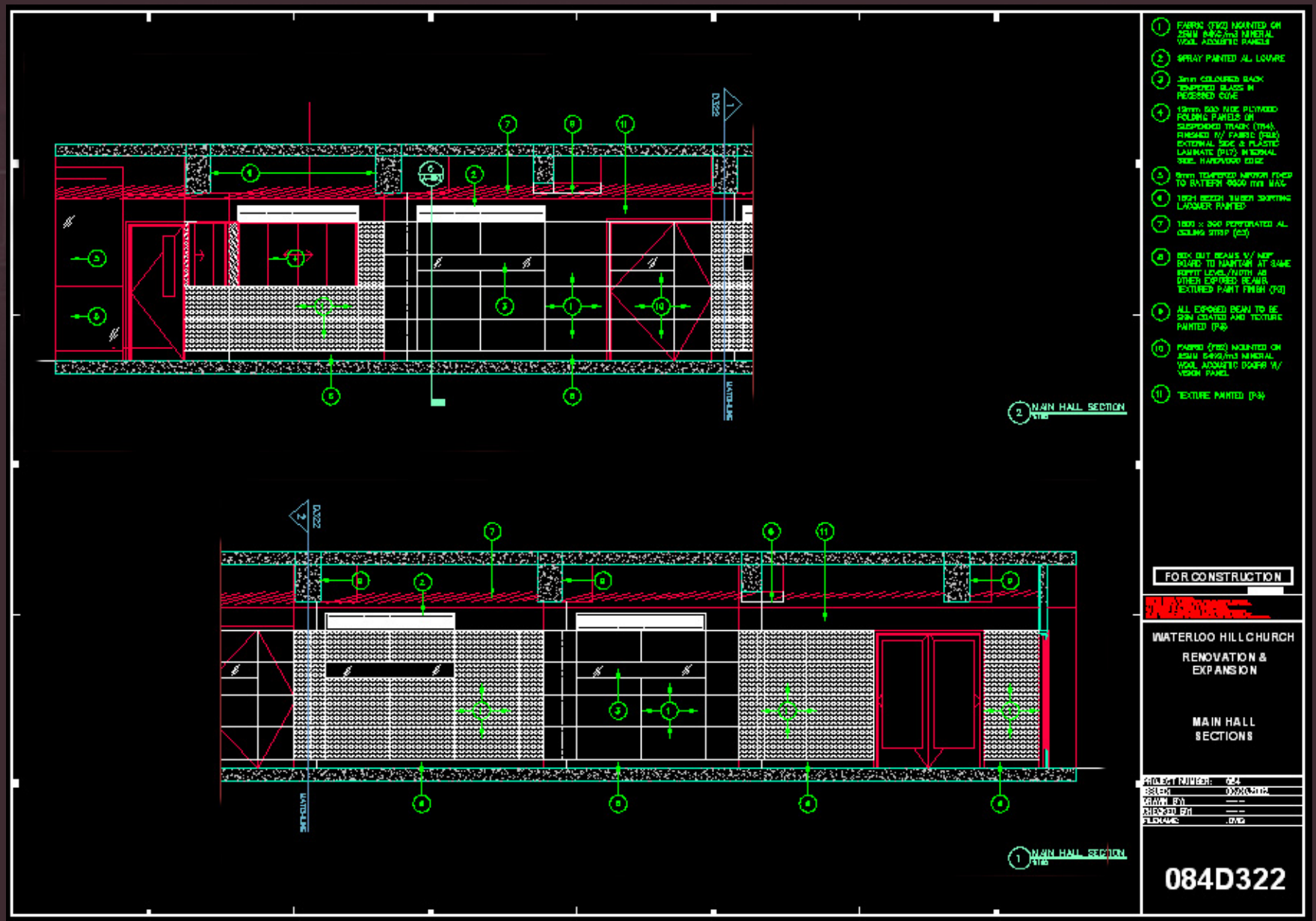
STRUCTURAL CONSTRAINTS



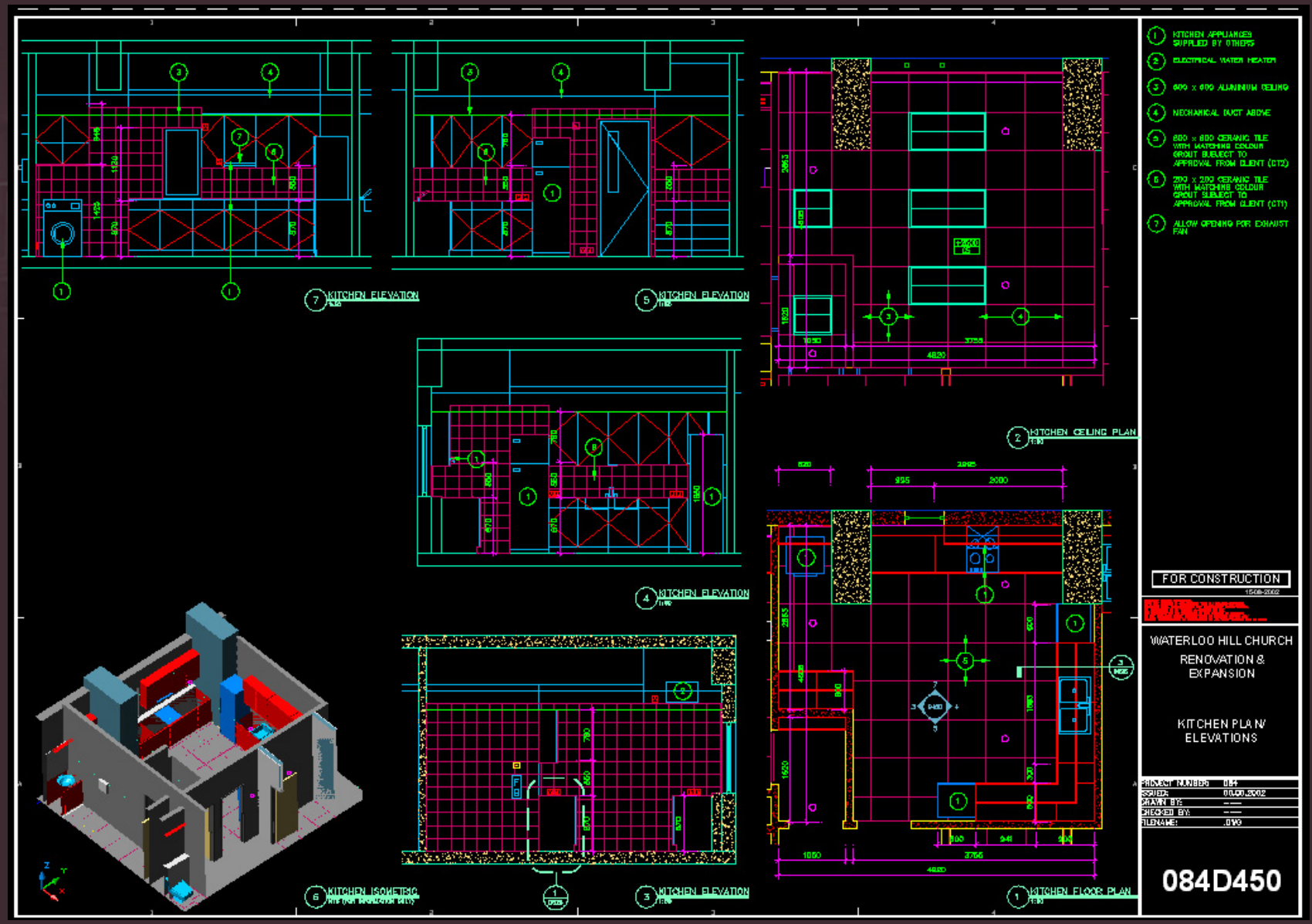
SELF GENERATED DOCUMENTATION – SIMPLE, VISUAL

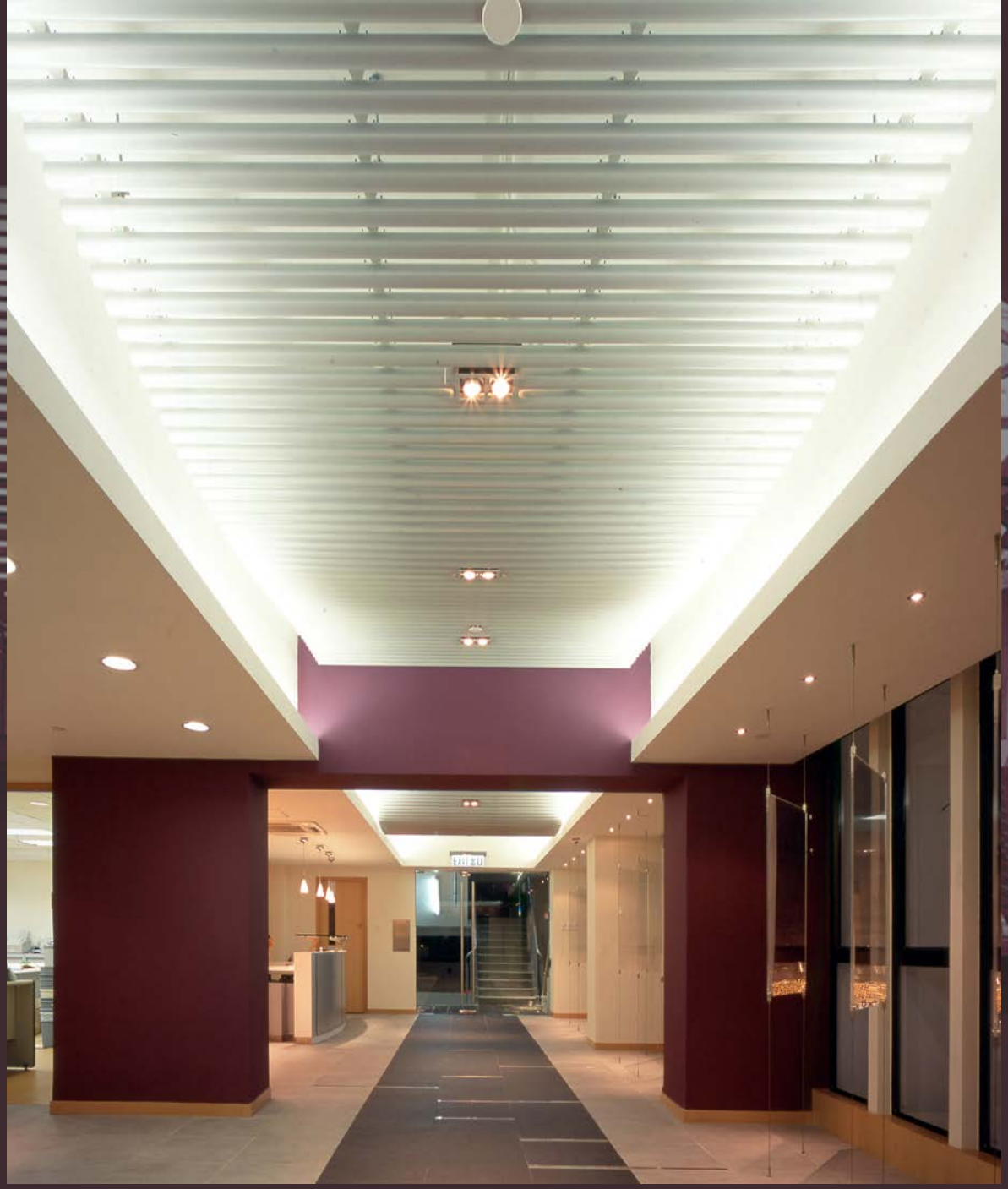


SELF GENERATED DOCUMENTATION – SIMPLE, VISUAL

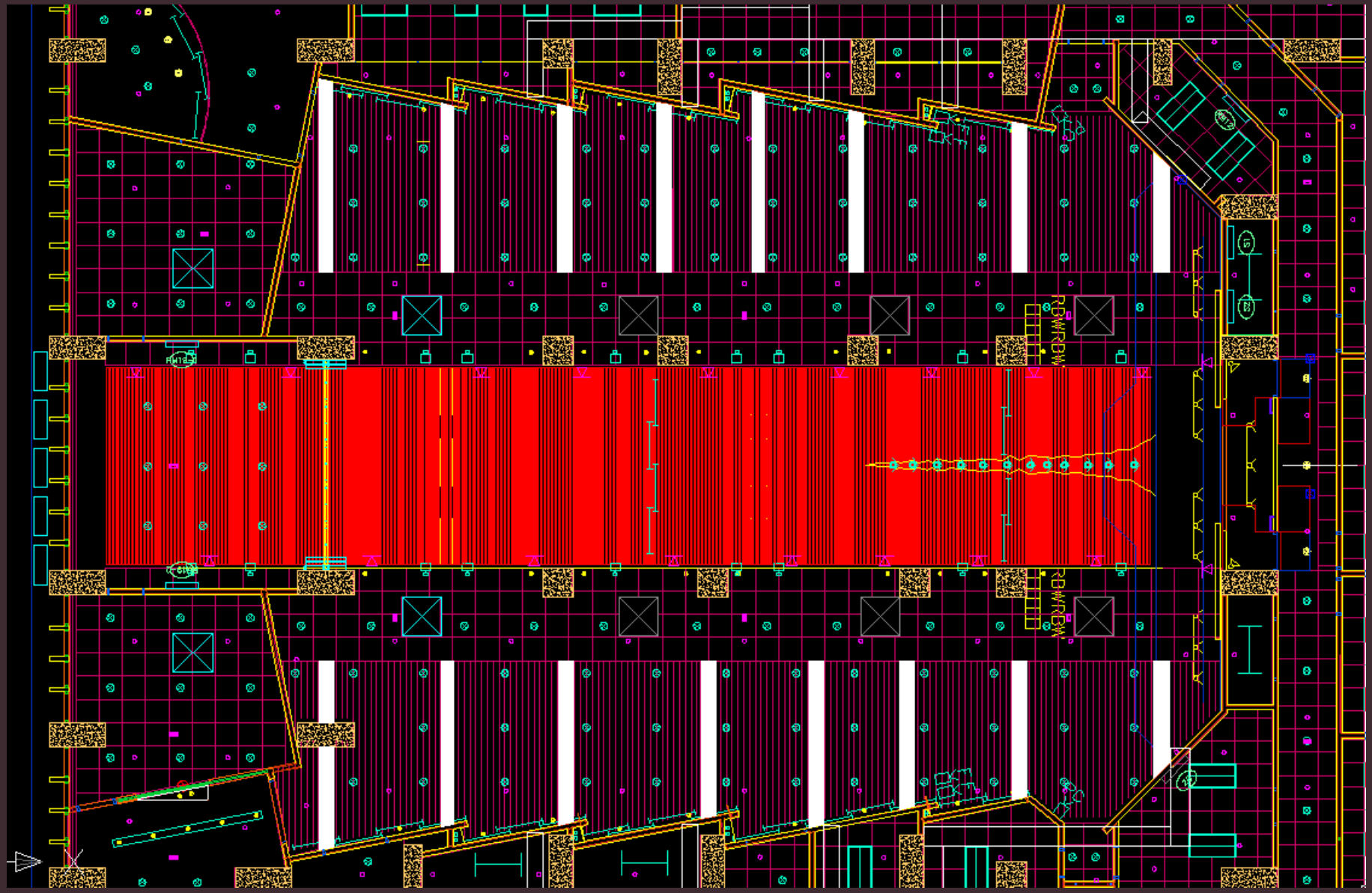


SELF GENERATED DOCUMENTATION – SIMPLE, VISUAL

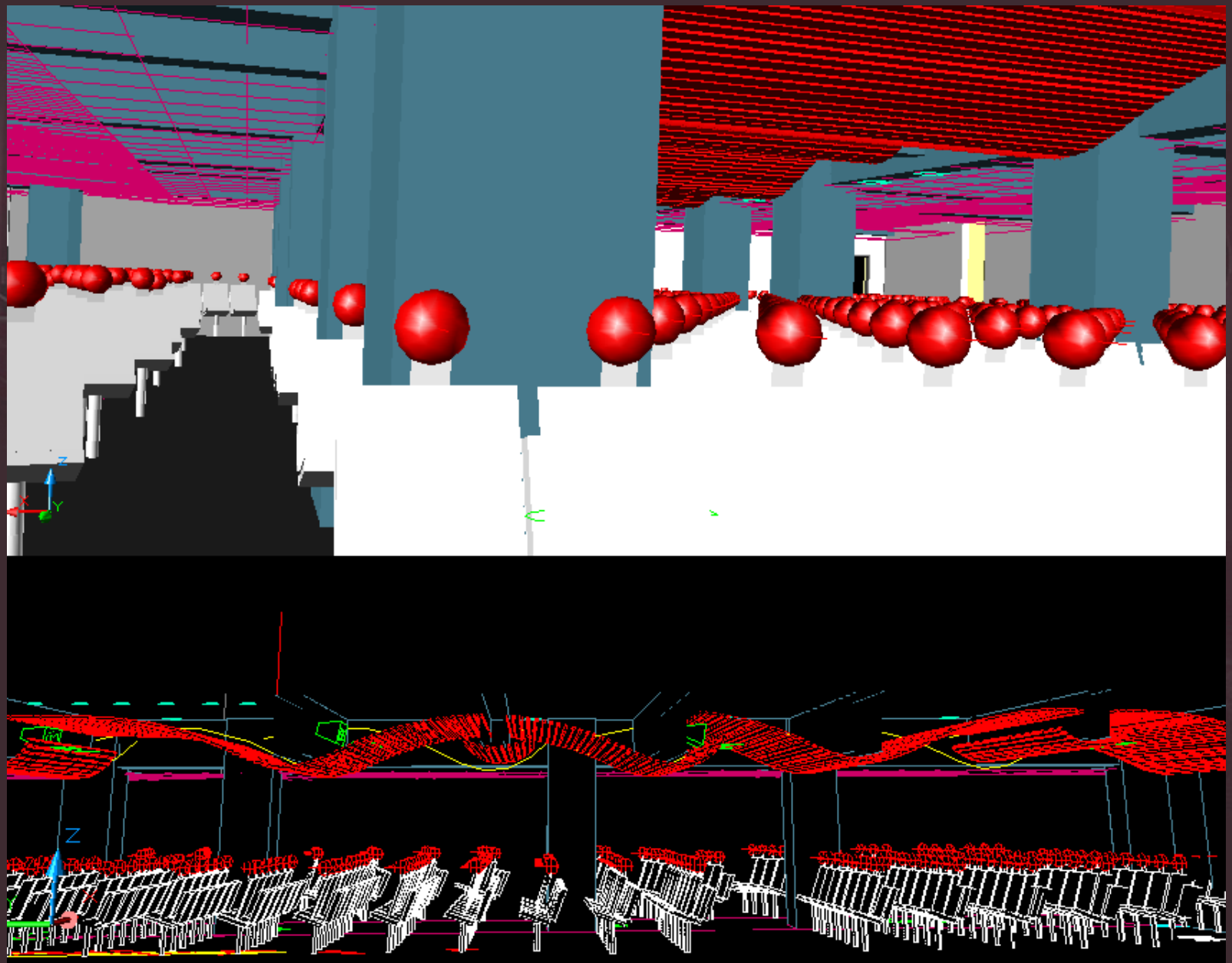




MAIN HALL DESIGN

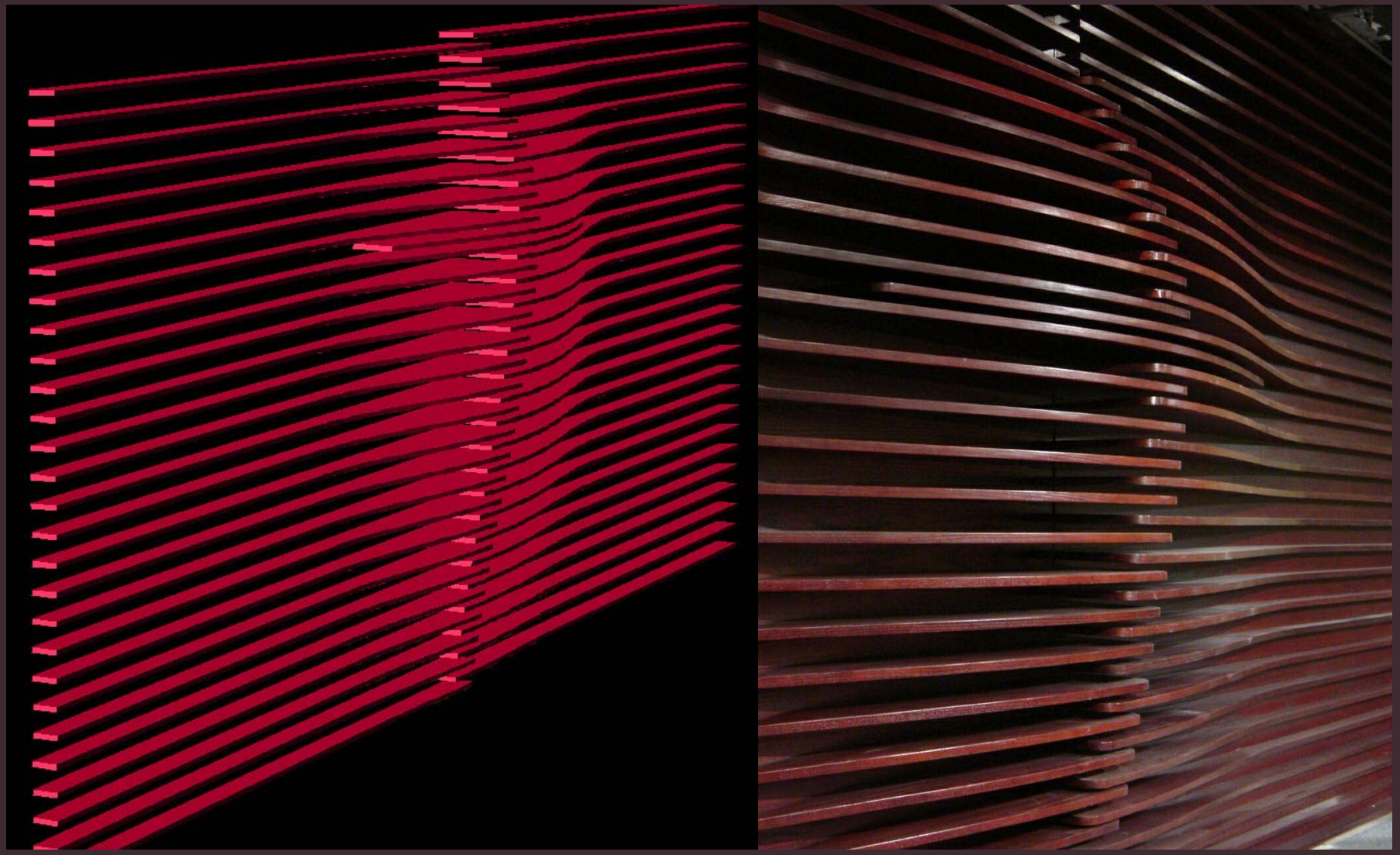


MAIN HALL DESIGN

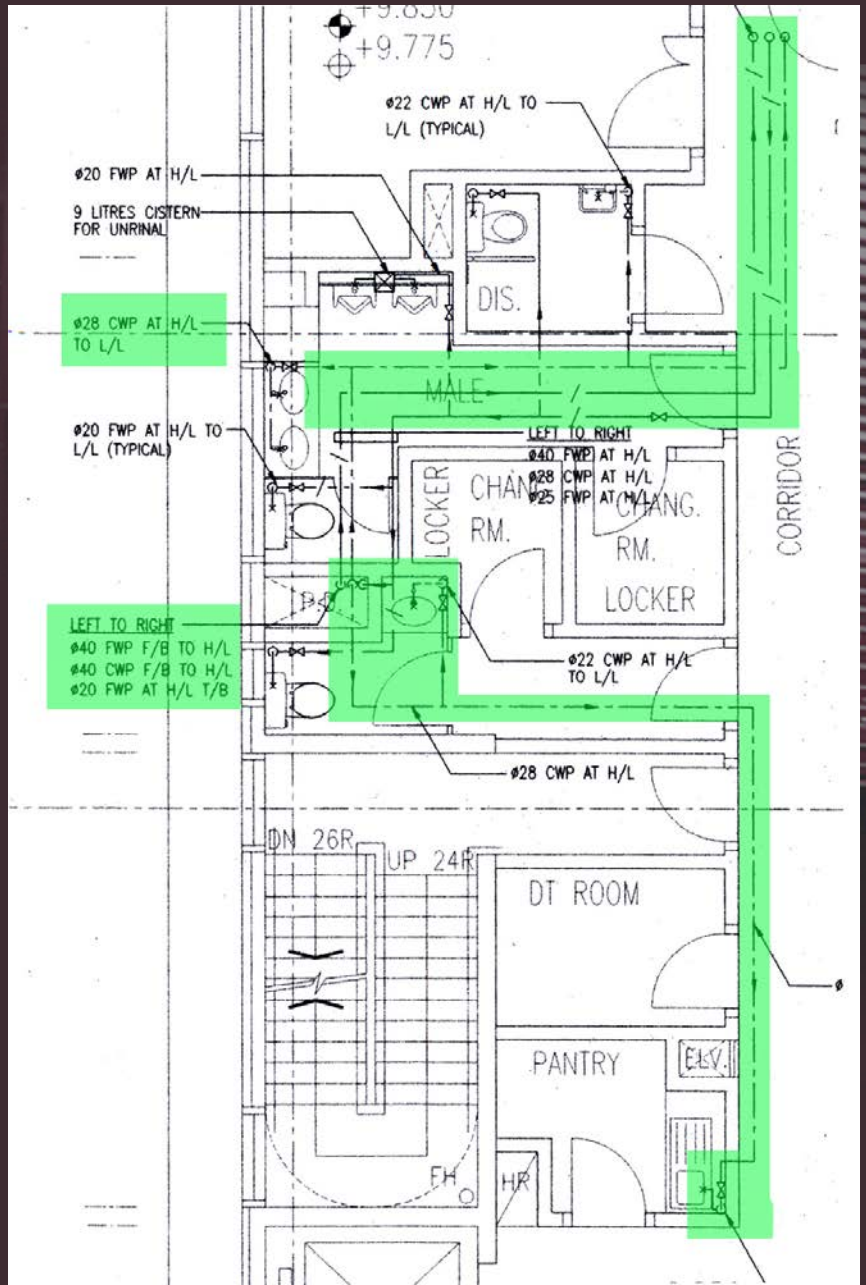


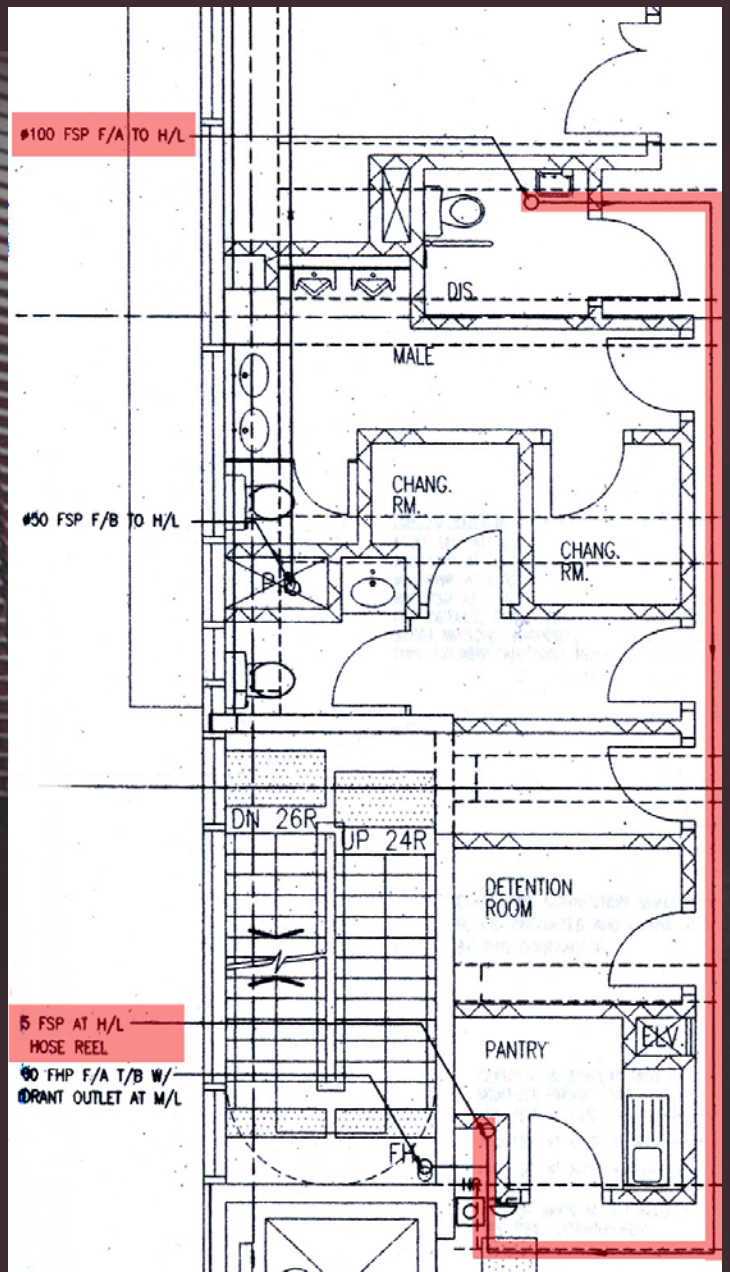
WYSIWYG – What You See Is What You Get

WYSIWYG – What You See Is What You Get

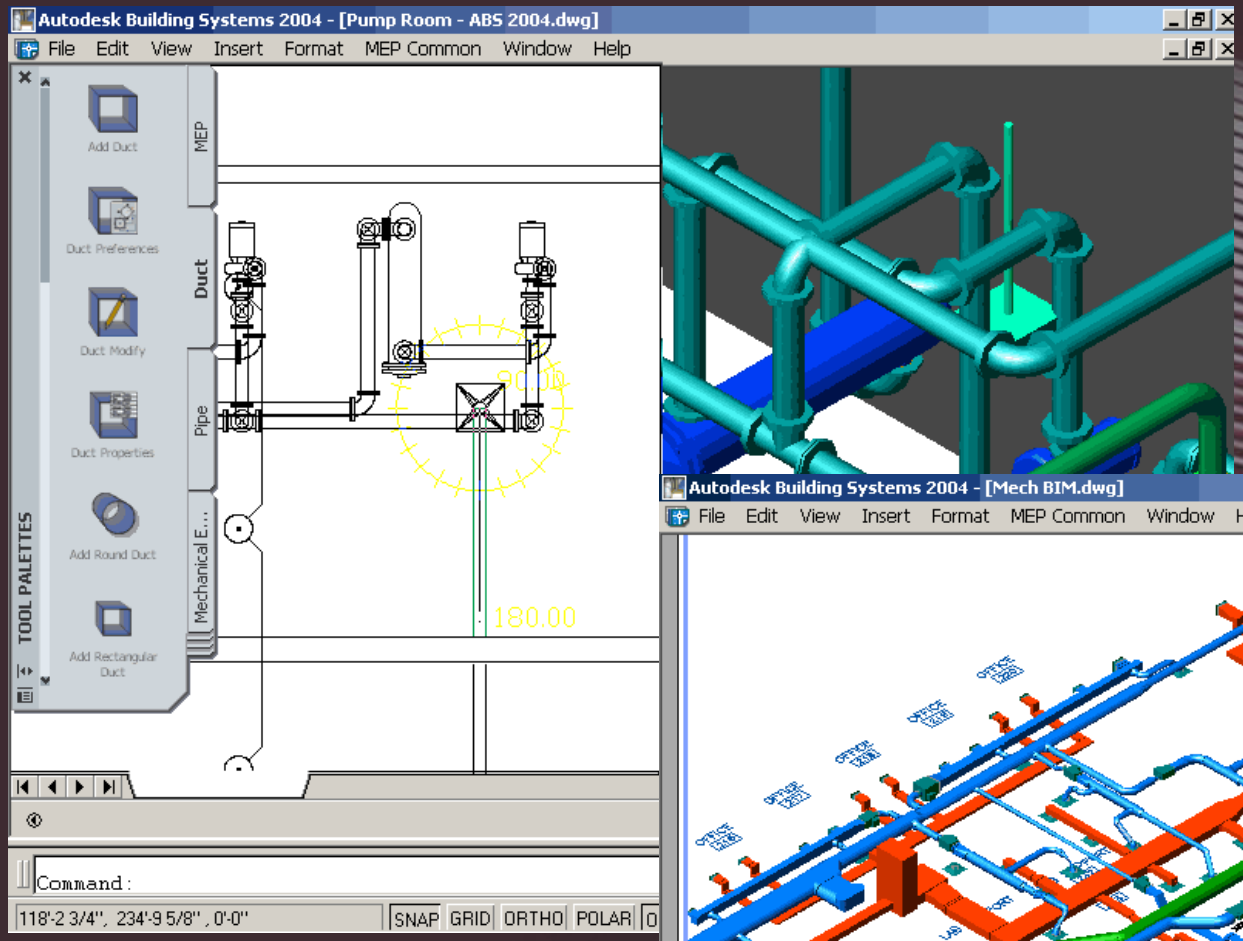


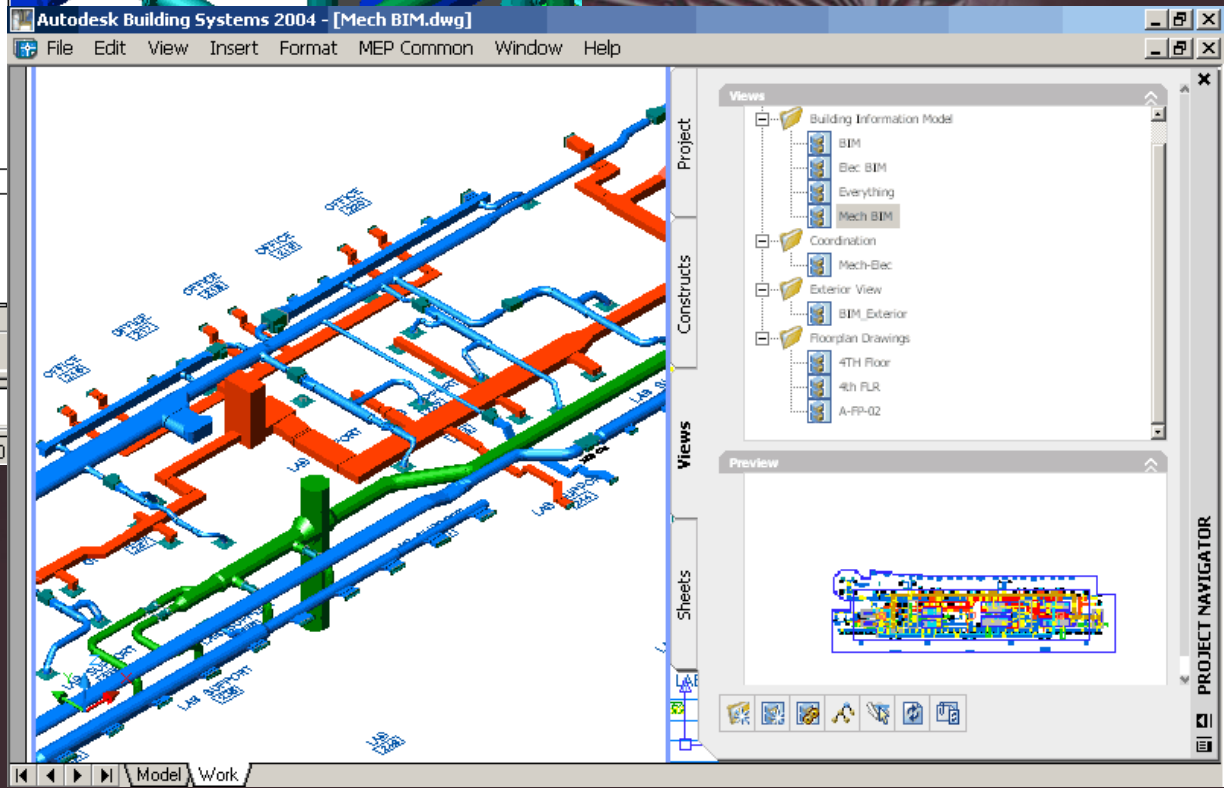
CO-ORDINATION OF SERVICES



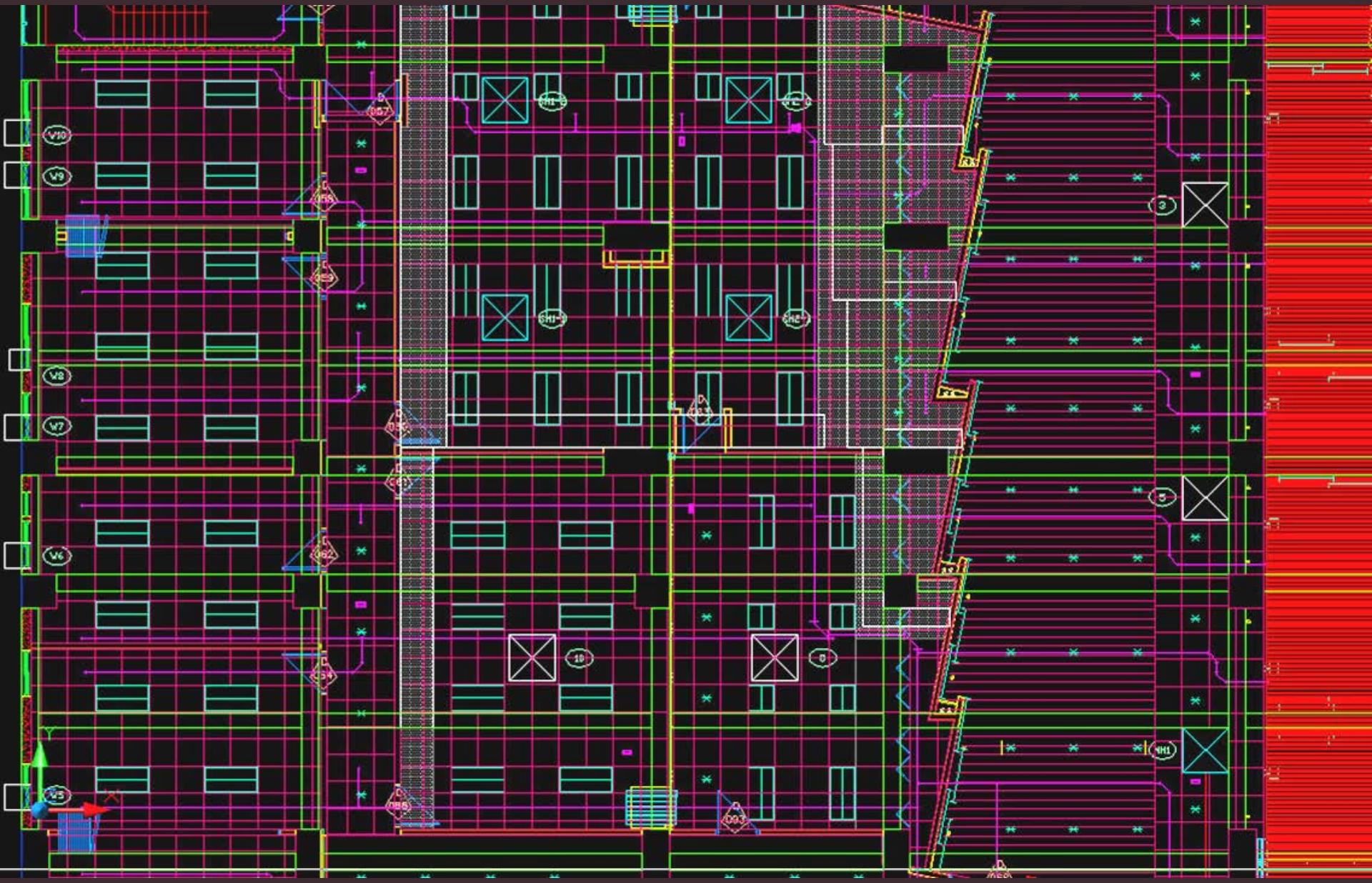


3D SERVICES CO-ORDINATION

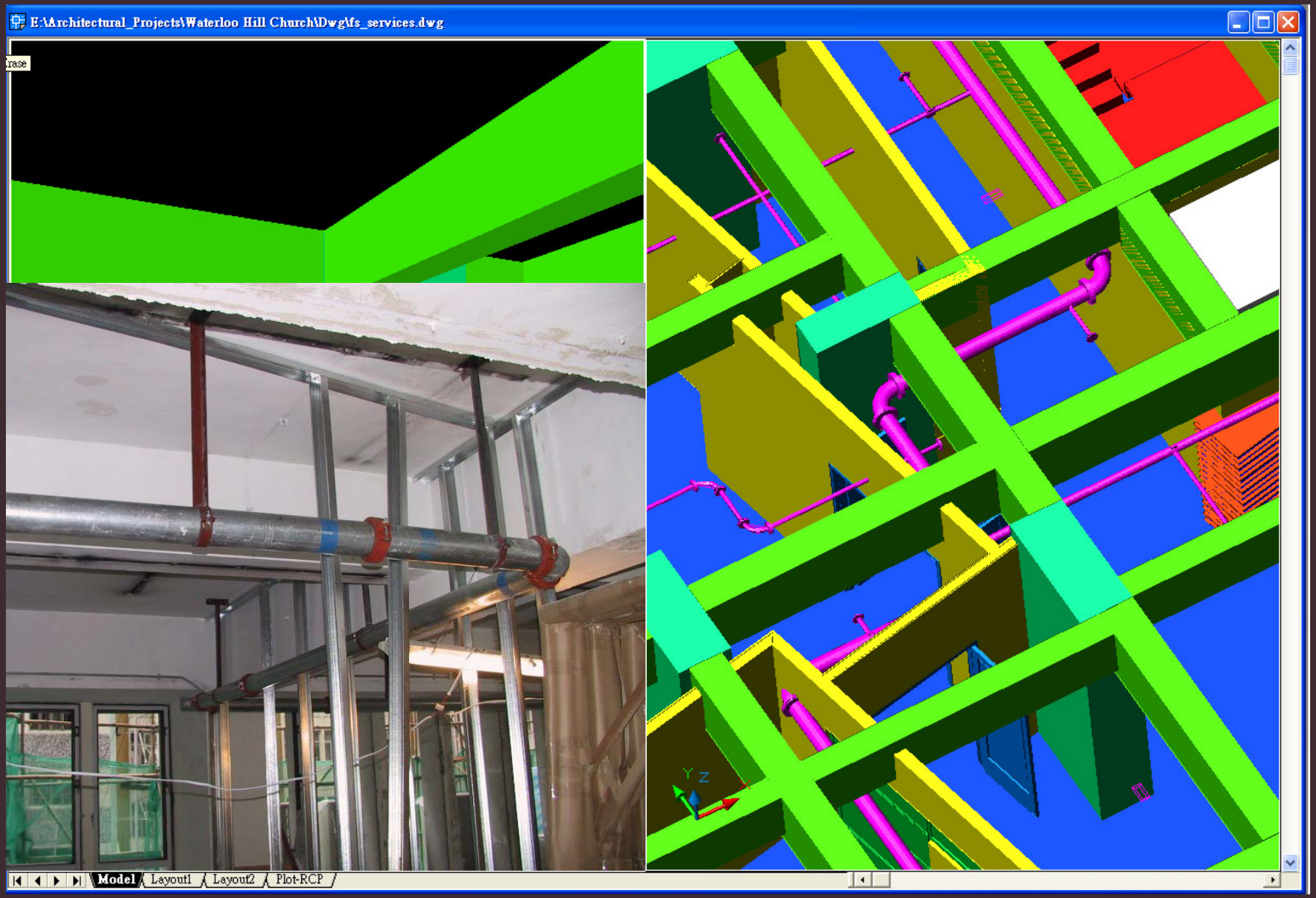




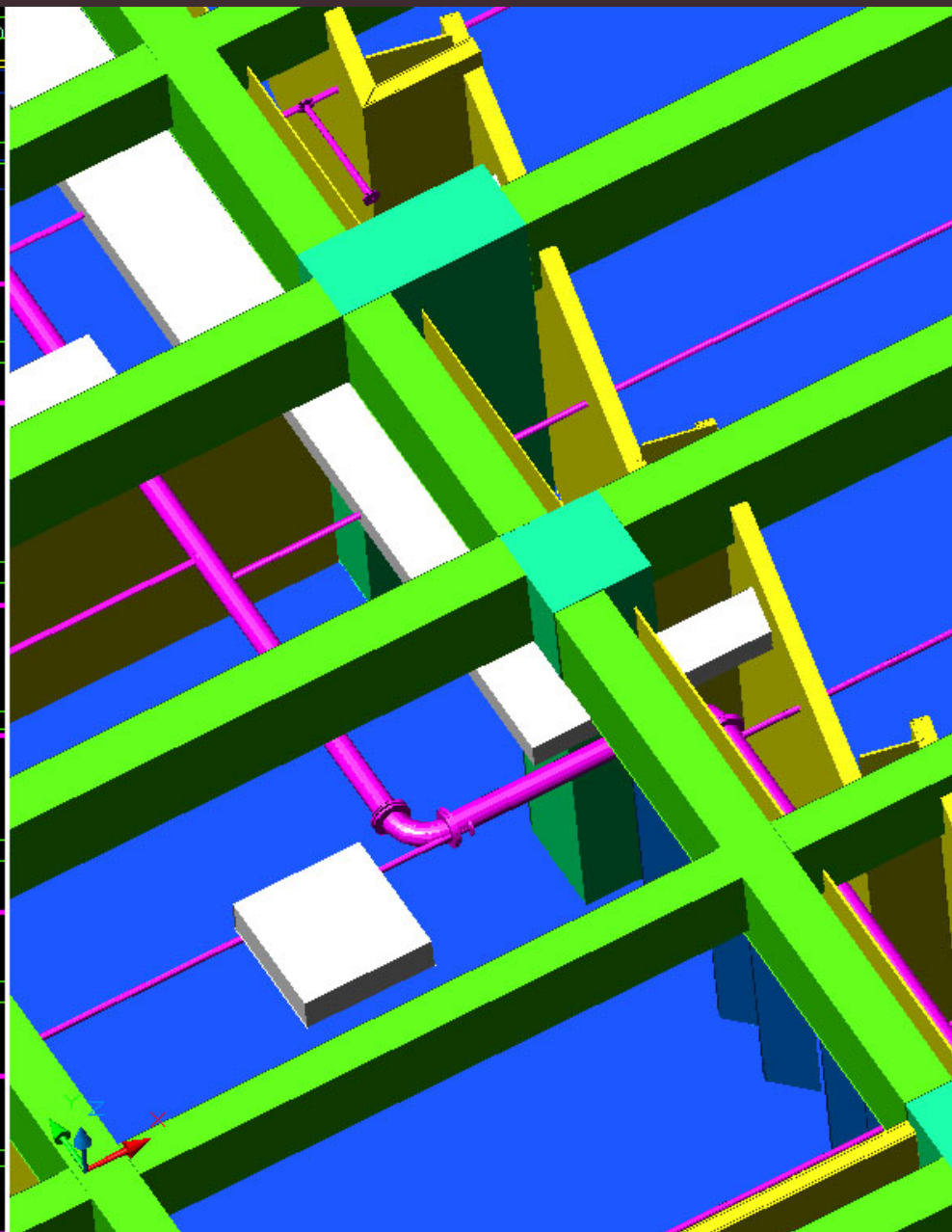
CO-ORDINATION OF SERVICES



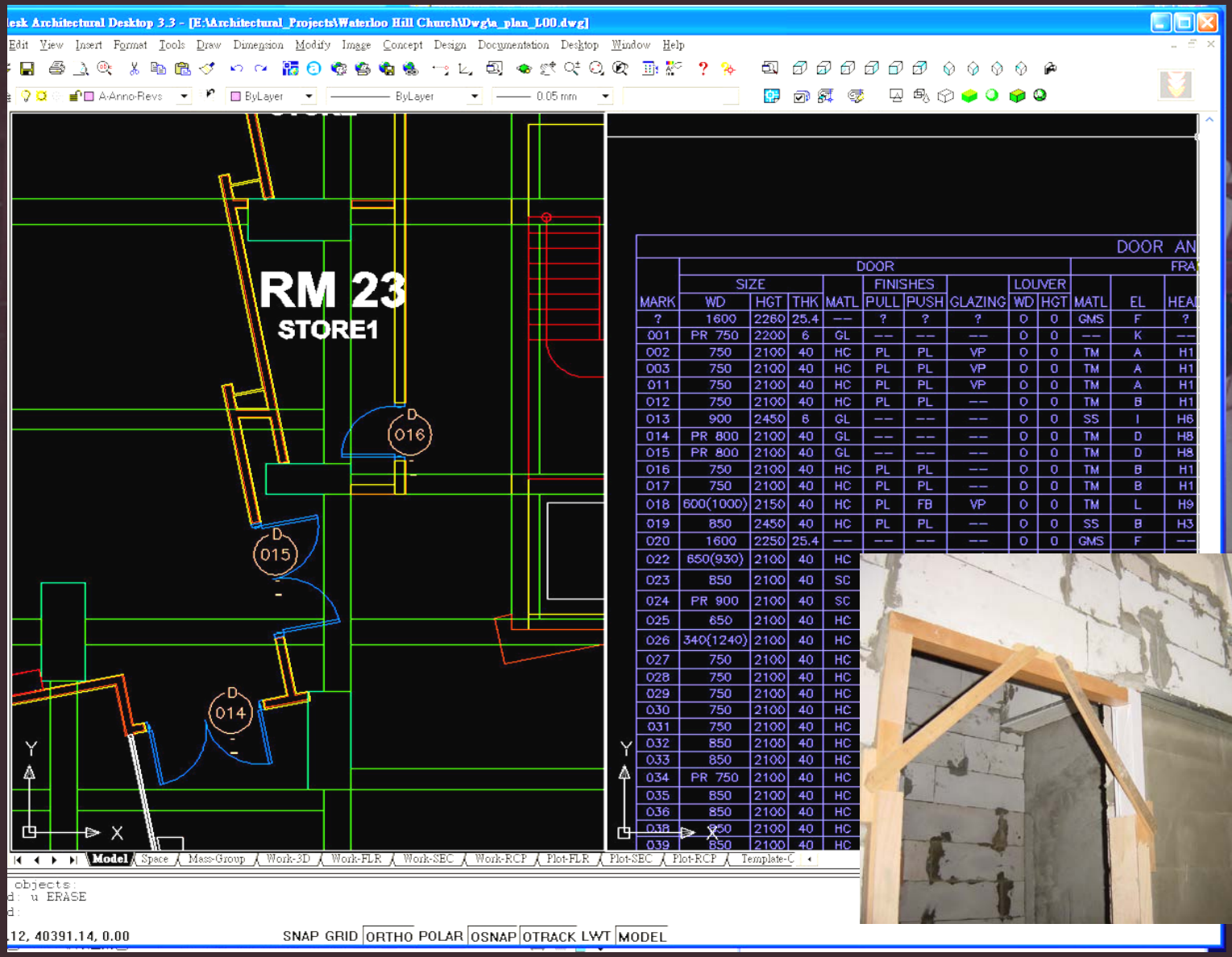
CO-ORDINATION OF SERVICES



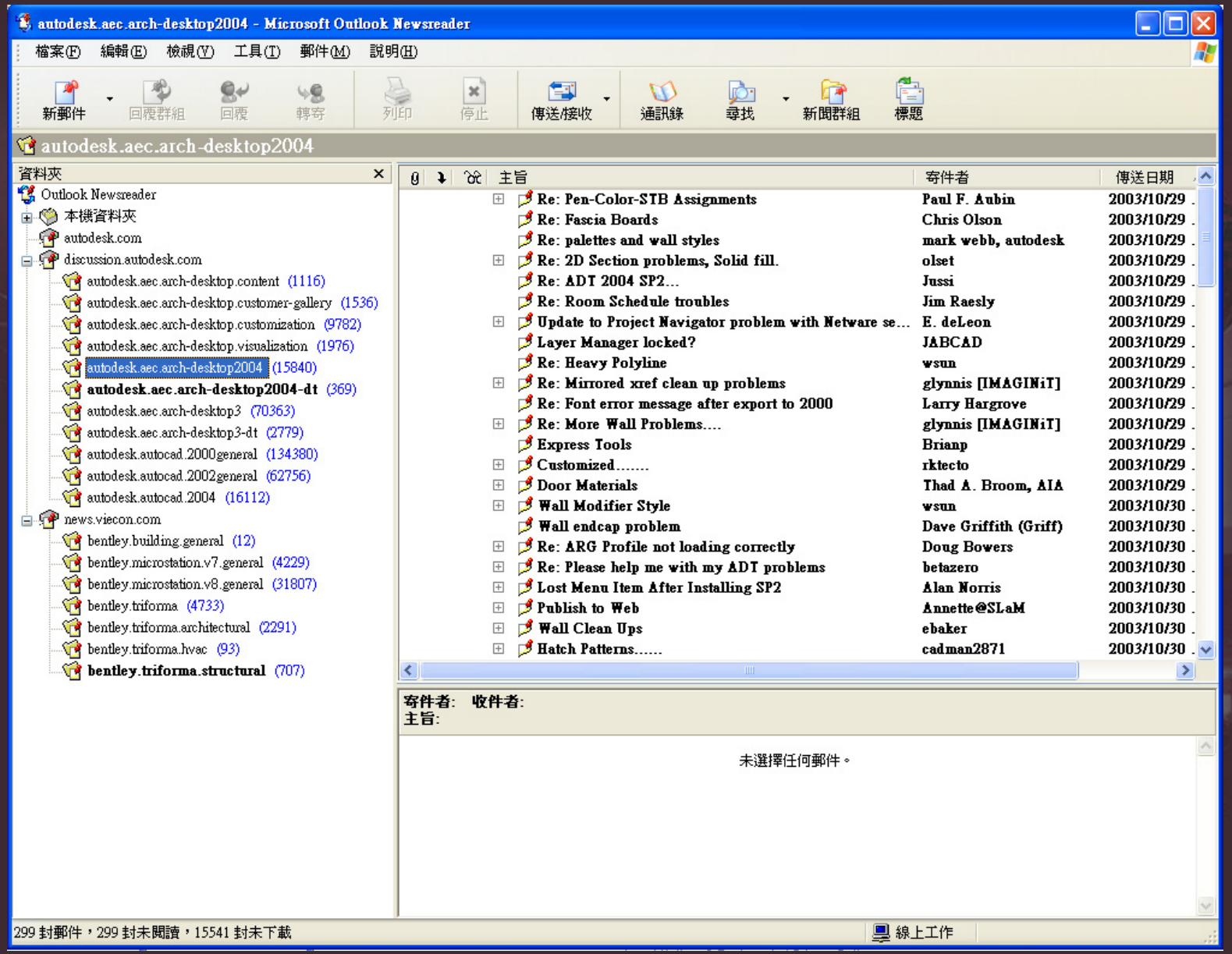
CO-ORDINATION OF SERVICES



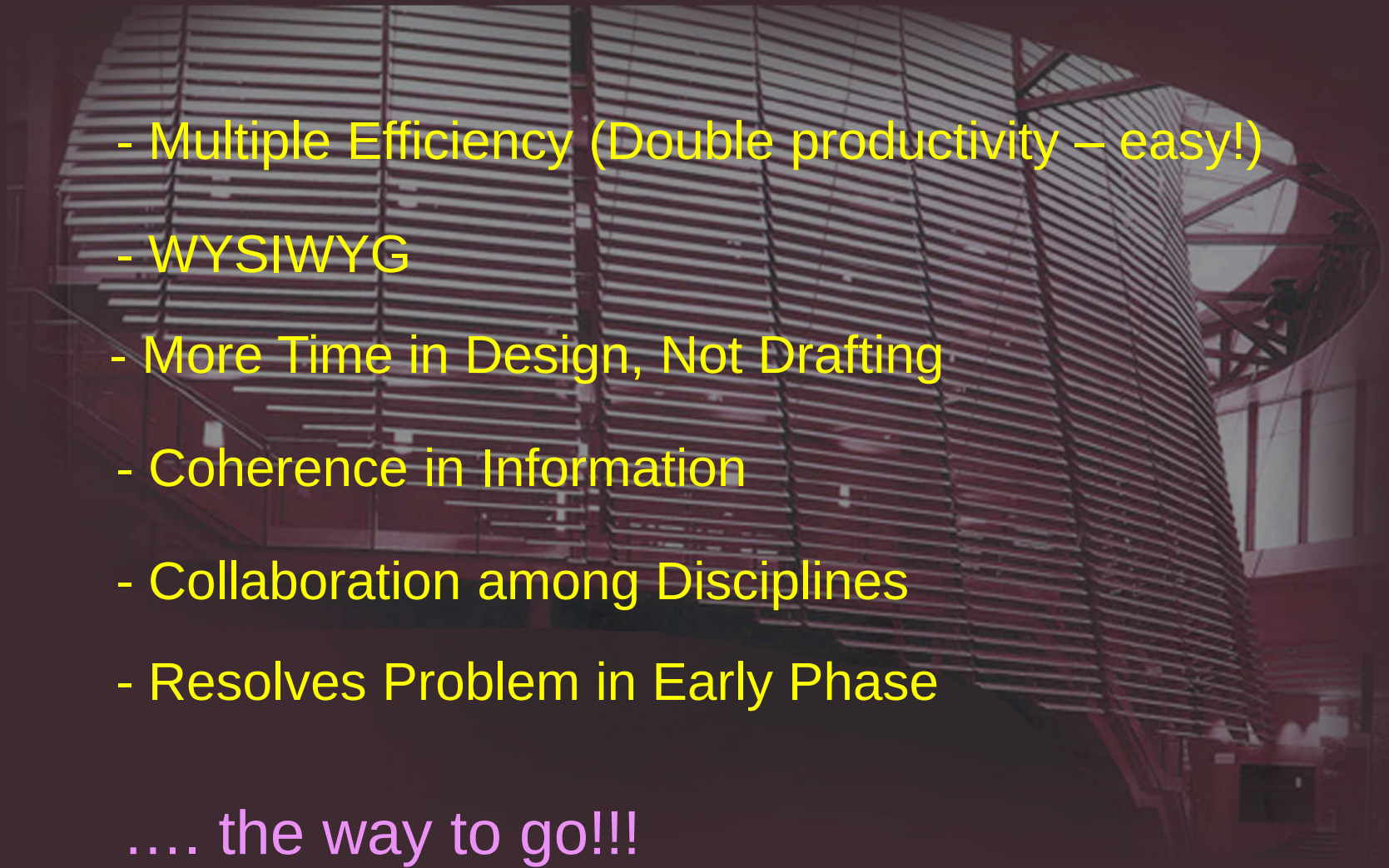
SCHEDULES


esk Architectural Desktop 3.3 - [E:\Architectural_Projects\Waterloo Hill Church\Dwg\a_plan_L00.dwg]
Edit View Insert Format Tools Draw Dimension Modify Image Concept Design Documentation Desktop Window Help
RM 23
STORE1
D
016
D
015
D
014
Y
X
DOOR AN
DOOR
SIZE
FINISHES
LOUVER
FRA
MARK WD HGT THK MATL PULL PUSH GLAZING WD HGT MATL EL HEA
? 1600 2260 25.4 -- ? ? ? 0 0 GMS F ?
001 PR 750 2200 6 GL -- -- -- 0 0 -- K --
002 750 2100 40 HC PL PL VP 0 0 TM A H1
003 750 2100 40 HC PL PL VP 0 0 TM A H1
011 750 2100 40 HC PL PL VP 0 0 TM A H1
012 750 2100 40 HC PL PL -- 0 0 TM B H1
013 900 2450 8 GL -- -- -- 0 0 SS I H6
014 PR 800 2100 40 GL -- -- -- 0 0 TM D H8
015 PR 800 2100 40 GL -- -- -- 0 0 TM D H8
016 750 2100 40 HC PL PL -- 0 0 TM B H1
017 750 2100 40 HC PL PL -- 0 0 TM B H1
018 600(1000) 2150 40 HC PL FB VP 0 0 TM L H9
019 850 2450 40 HC PL PL -- 0 0 SS B H3
020 1600 2250 25.4 -- -- -- -- 0 0 GMS F --
022 650(930) 2100 40 HC
023 850 2100 40 SC
024 PR 900 2100 40 SC
025 850 2100 40 HC
026 340(1240) 2100 40 HC
027 750 2100 40 HC
028 750 2100 40 HC
029 750 2100 40 HC
030 750 2100 40 HC
031 750 2100 40 HC
032 850 2100 40 HC
033 850 2100 40 HC
034 PR 750 2100 40 HC
035 850 2100 40 HC
036 850 2100 40 HC
038 850 2100 40 HC
039 850 2100 40 HC
Model Space Mass-Group Work-3D Work-FLR Work-SEC Work-RCP Plot-FLR Plot-SEC Plot-RCP Template-C
objects:
u ERASE
12, 40391.14, 0.00
SNAP GRID ORTHO POLAR OSNAP OTRACK LWT MODEL

WE ARE NOT ALONE!!!



3D MODELLING IN BUILDNG DESIGN IS……



- Multiple Efficiency (Double productivity – easy!)
- WYSIWYG
- More Time in Design, Not Drafting
- Coherence in Information
- Collaboration among Disciplines
- Resolves Problem in Early Phase

…. the way to go!!!