



in memoriam : 16 april 2007

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the requirements for the degree of :

master of architecture

Professor Hans Rott : Chairman

Professor Steve Thompson

Professor Markus Breitschmid

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keywords : monument avenue, confrontation,
extended, vierendeel, cantilever, wall

m a t t h e w d a v i d w a g n e r

a b s t r a c t

the richmond local arts museum is a vehicle to investigate a thesis concentrated on correcting the identity of a place that is lost in history. an intentional interruption to the "historic" context of richmond will transform the city. richmond's connection to the civil war will soon be diluted, as it will quickly gain recognition for its progressive actions, through the emergence of a new art and architecture.

richmond local arts museum

< 00 . 04 >

programme

< 01 . 01 >

site

< 02 . 01 >

system

< 03 . 01 >

vita

< 04 . 01 >

|| programme

< 01 . 01 >

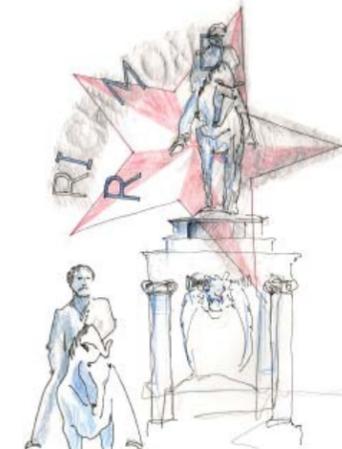
programme





context : the whole background or environment

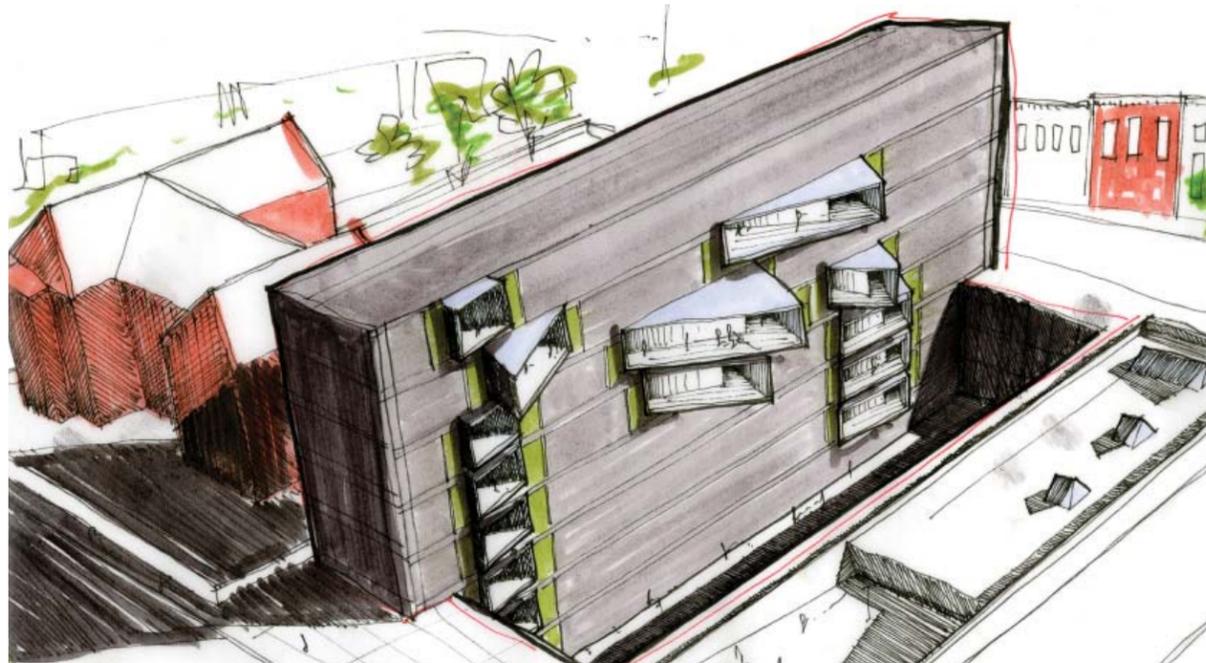
while the history of richmond is important, we must realize that our predecessor's way of life is far too outdated to savor.



interrupt : to make a break in the continuity of a political context, or a physical context

beneath the surface of richmond's identity, the local arts are on the rise.

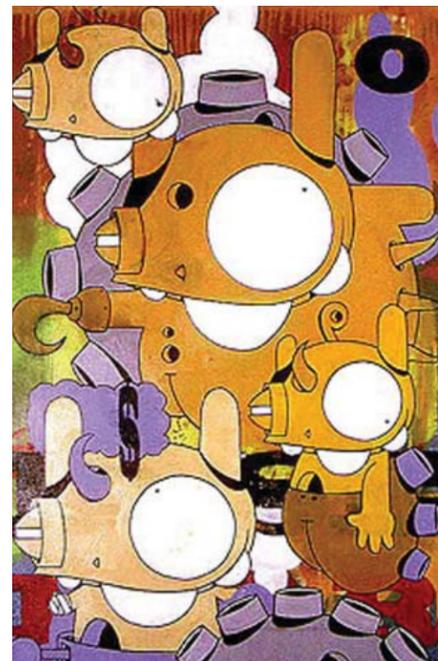
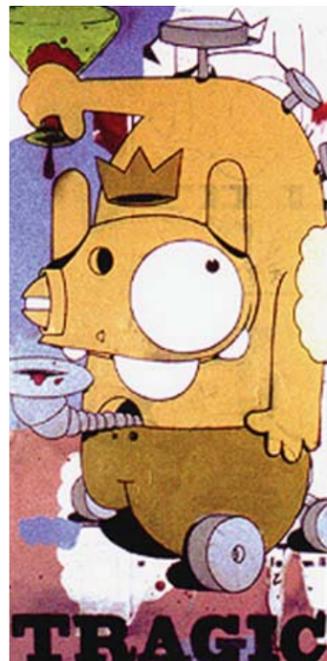




intervene : to come between to modify, settle, or hinder some action

a beacon for richmond's new generation must be established; through the richmond local arts museum, we will command a place where we can gather, intervene, and witness events.

< 01 . 04 >



emerge : to become visible or apparent

through the individual, this new habitat will embrace our society as a unique culture.



|||site

< 02 . 01 >

site

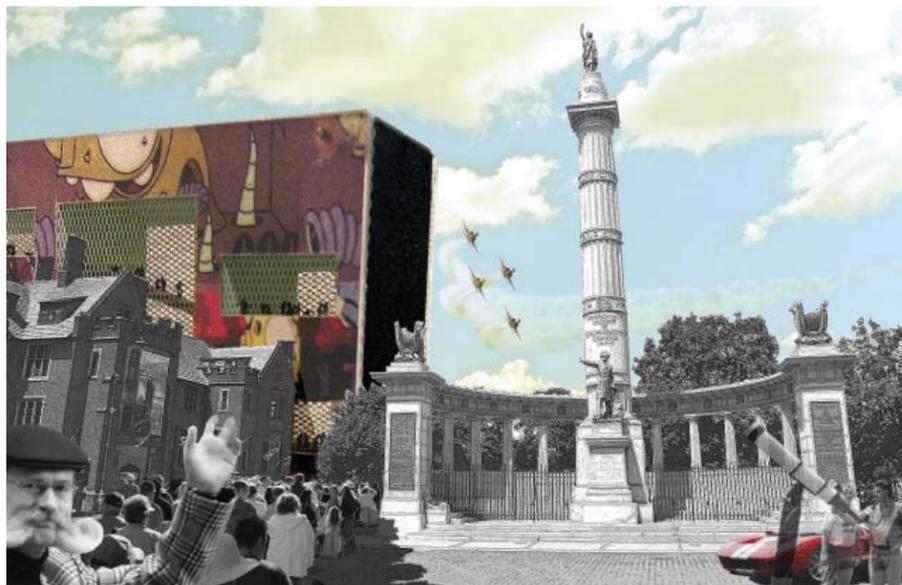




existing perspective



perspective schematic 01



perspective schematic 02



existing local site plan



the idea for the richmond local arts museum is not to blend in with its place, or to be friendly to its neighbors on monument avenue. it is more or less a revolt towards a specific society of the city. it is a confrontation, an intervention, and a window for our young generation of artists to be seen.

currently there is only one un-built lot on monument avenue. with the prestige of monument avenue in mind, it's association with heroes of the civil war, and it's attractive context, i decided to build my thesis on this un-built lot. the lot is directly adjacent to the virginia center for architecture (vca), formerly known as the branch house, designed by john russell pope, in 1919.



perspective schematic 03



proposed local site elevation

the richmond local arts museum is a "pilgrimage" destination; a reference to the ideals of a local artist. the orientation of the linear building is perpendicular to monument avenue. it is pushed to the northwestern boundary; by doing this it creates a space for a courtyard, or a ramp to the lower level, that will receive sunlight all day.

the building is situated in a bold confrontation towards its next door neighbor, the virginia center for architecture. although the vca is an organization that is an advocate of exhibiting works of modern architecture to the public, they are also preachers of the past. facilitated in what is considered one of richmond's most historic houses, the virginia center for architecture was able to influence me towards the creation of a thesis that will transform the city.

to realize this thesis to its fullest potential, i have proposed two sites. one site is localized; it focuses on the proposed building, and its adjacent neighbors. the second site is extended; it solidifies the project. it is a complete intervention of the context of monument avenue.



proposed local site plan



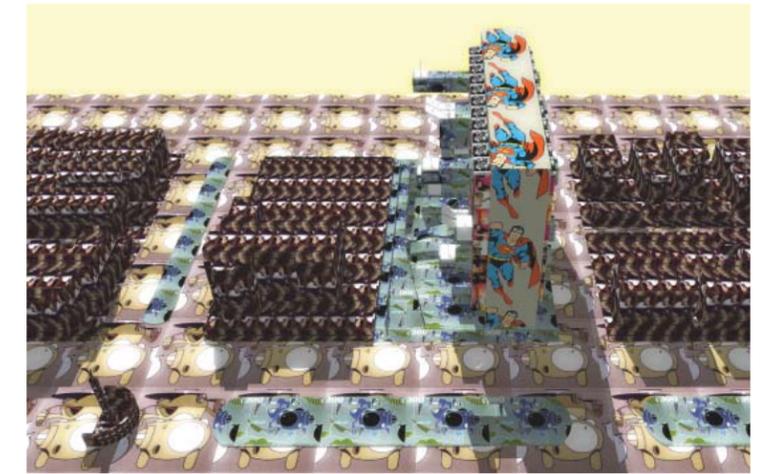


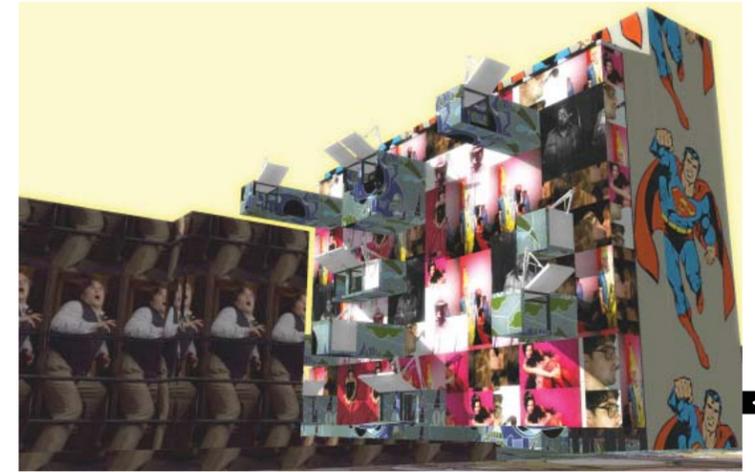
for a transformation to take place, an intervention must be initiated. the extended site will reach out among the extents of monument avenue. this intervention will interact with what exists. sculpture gardens and walls for graffiti or murals will interact with the monumental heroes.

this extended site leaves trace as evidence that what was before an unseen society is now a society on the rise. the art that is assimilated with monuments of civil war heroes will be equally important to the history and culture of our city. this marriage of richmond's proud heritage will now reflect a historic milestone; one which expresses a point in time when richmond became known for more than just it's history that it currently celebrates.

the extended site is, to a degree, an expanse of the richmond local arts museum. although the intervention on monument avenue and the new building are not under the same roof, they provide links to one another in celebrating an emergence at a specific point in time.

in comparison, the new composite of cultural foundations throughout monument avenue is a parallel to what is happening at the scale of the museum itself, and how it confronts the context of its place.





the two graphic images represent a heroic emergence of a new architectural intervention and the initial reaction of the historic neighborhood.

the images illustrate the relationship between the intervention on monument avenue and the extended gallery spaces which cantilever from the museum. it is through this dialogue that one can gain an idea of this projects extent.

the portraits of people who are represented on the richmond local arts museum are of those for whom this beacon is built. these are the citizens who occupy the streets of richmond; all with the exception of superman, who represents a heroic super structure. this building reflects their art, styles, ideas, mannerisms, and attitudes.

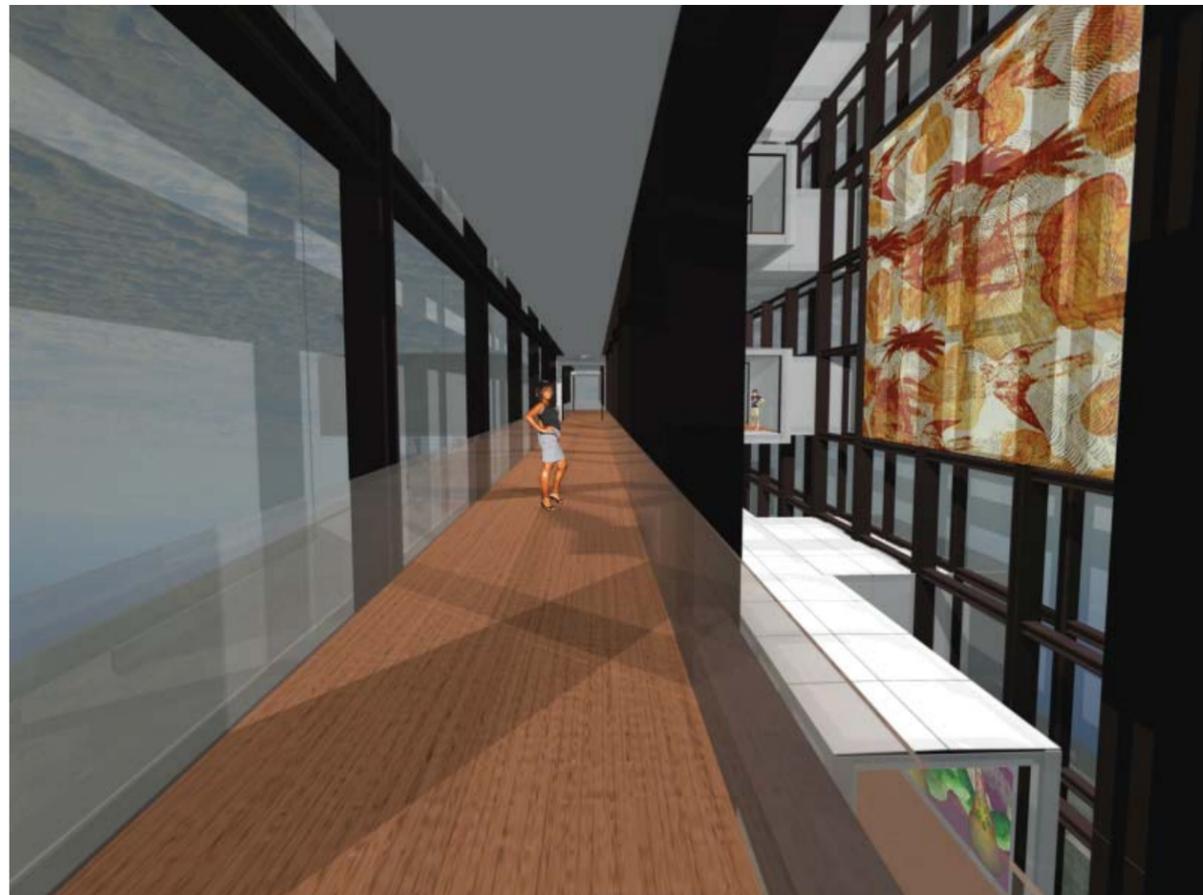
the offended character represents those who resist change. these are people who own property in this neighborhood and have no problem relating to the past. however, these people are quickly outnumbered, because the richmond local arts museum reflects richmond as we know it today.

||| system

< 03 . 01 >

system

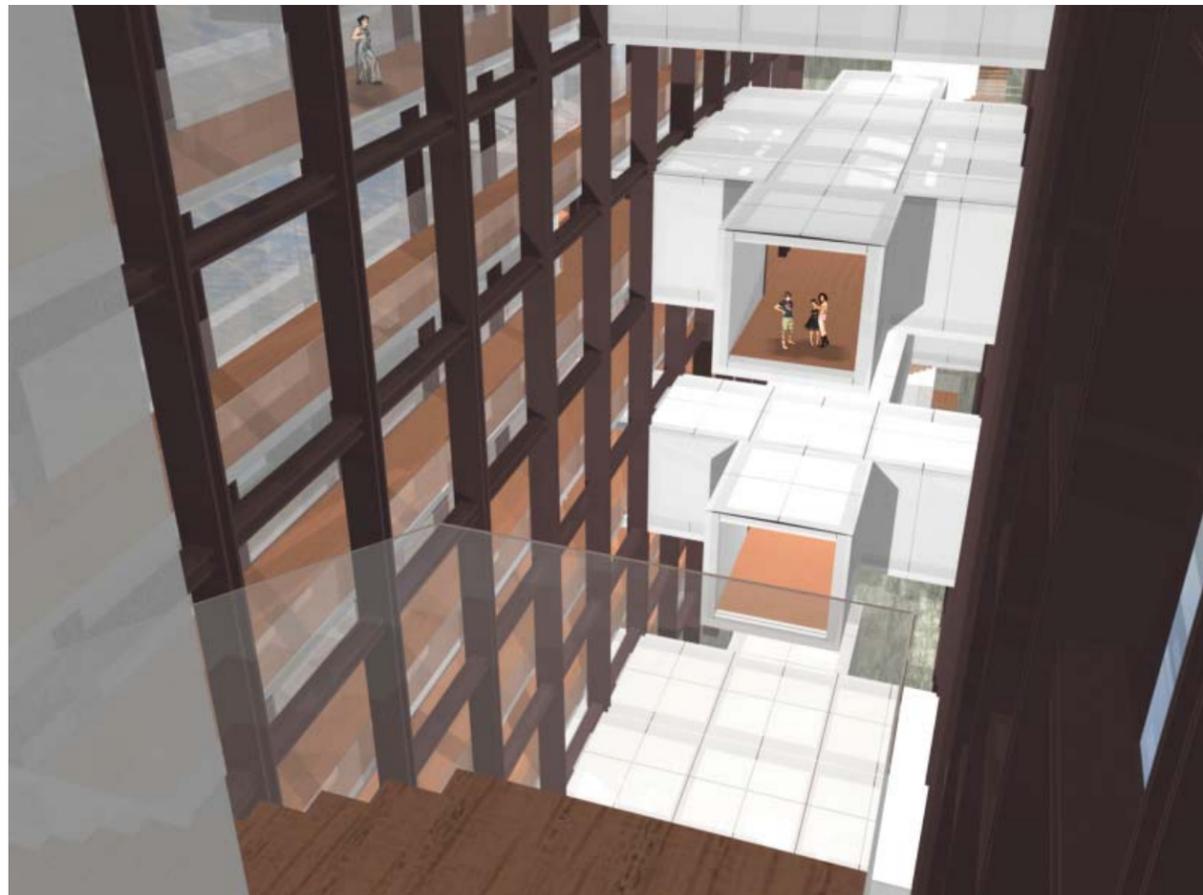
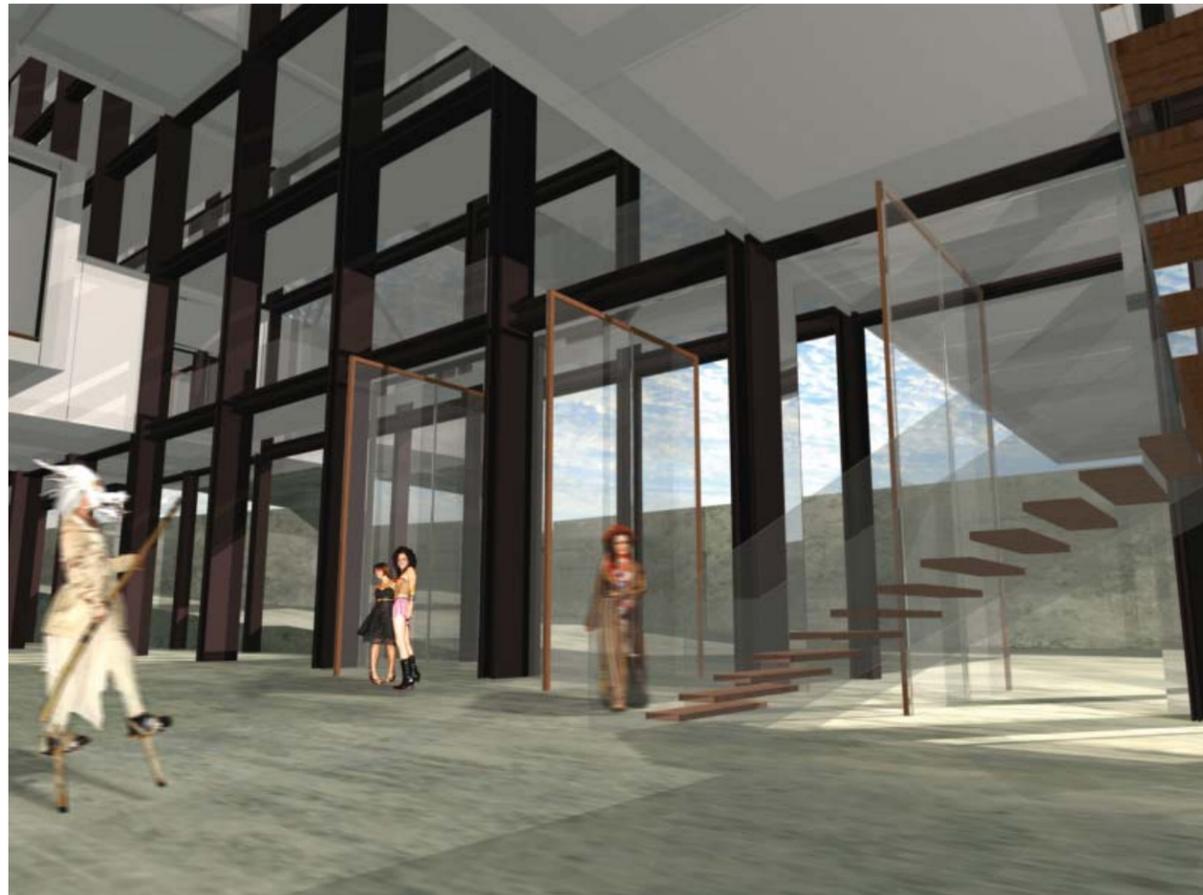




the dominant form of the building, derived from the form of a wall, represents the origin of the local art in richmond. charcoal gray screen printed glass is used to clad this dominant form. the dark glass is used not only to prevent a high percentage of ultra violet rays from entering the spatial volume, but also to mask the visitors within from the public outside. this reflects the concealed identity of graffiti artists, obviously in existence, however, unidentifiable.

the other aspect of this dominant form is to cause an intentional interruption in the context of this "historic" neighborhood. this heroic intervention reflects the emergence of a new architecture for the city of richmond. while richmond needs to gain recognition for its local art, i think the city needs to strive to be seen as being open to new architectural ideas.

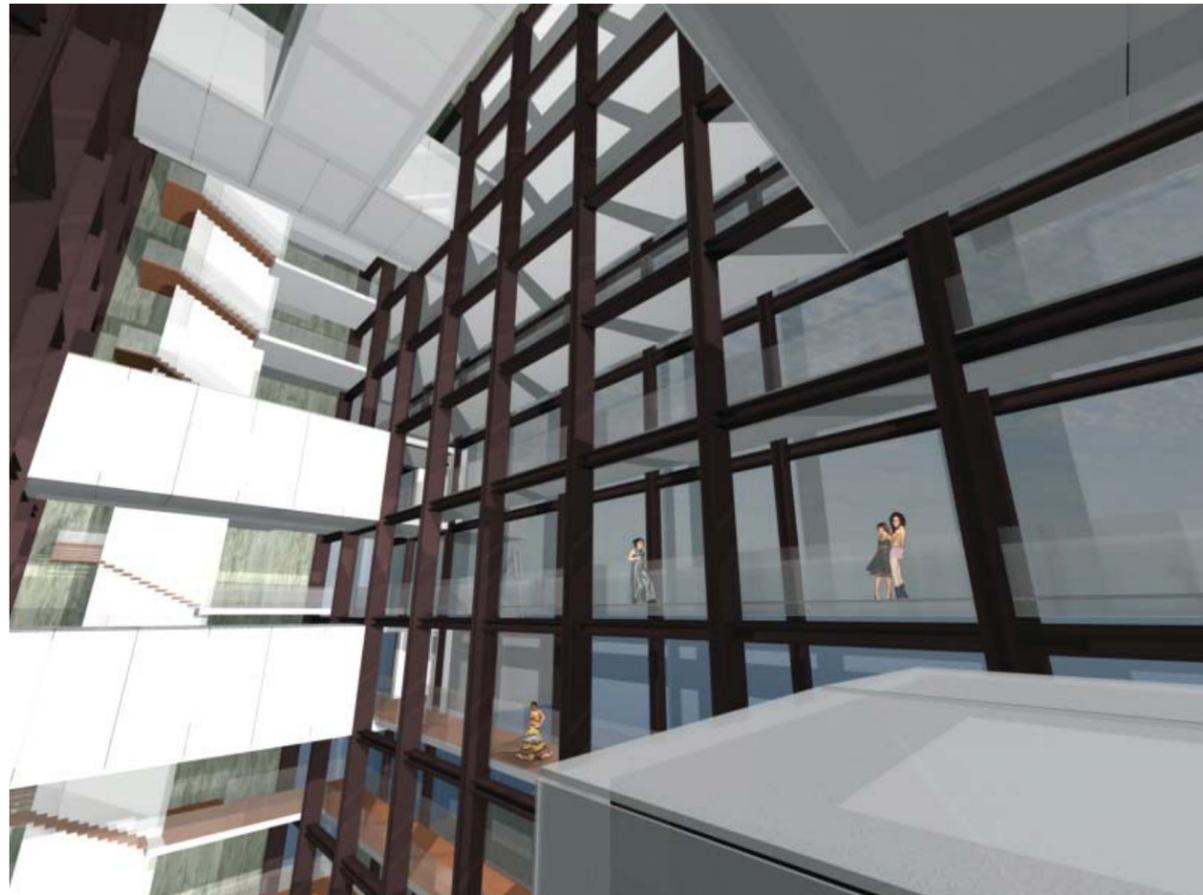
prominent cantilevers extend out from the dominant form of the building. clad in frosted white glass, these projections contain gallery spaces. these fearless forms represent the emergence of the gallery artist from the arresting wall. as the visitor approaches the end of each gallery space, or cantilever, they find themselves looking out over the city. this sense of achievement can also be seen by pedestrians as they glance up and see a familiar face in the opening of the cantilever.



when approaching the main entrance at the entry level, the visitor immediately passes into a cantilevered space. a simple program consisting of gallery spaces and installation spaces allows the visitor to wander and explore at their own will, with no obligation to follow any particular course.

upon descending the courtyard ramp nearly 20' below to the lower level, visitors enter through four large center pivot doors. as they move into the space they are in awe as they look up toward suspended and cantilevered gallery volumes. openings allow glances through the entire clear volume of the primary space, an impressive 155' expanse. this massive volume of clear space is capable of hanging works of art with as large as 72' x 36' x 88' cubic dimensions. the heavy structure and massive space will also facilitate hanging or climbing sculptural installations. two circulation plenums are found at each end of the building. from the lower level the visitor may ascend to any of the upper levels via stair or elevator.

a stage is set up at the entry level. while it reflects the concept of the building as an interruption to the historic neighborhood, it follows the ideals of the local artists and musicians of richmond. although the performer has three lcd screens at their disposal, they must supply their own speakers and equipment, much like any other local venue. the outdoor stage is an idea of a devious system. the sounds from this stage will be another reminder to the community of what society is emerging.



while the distinguished wall remains static in form, the cantilevers are dynamic. attitude, temperament, empathy, apathy, event, etc, are all emotions expressed through the face of the building that which is dictated by the artists themselves. behind the frosted white glass cladding are mounted light emitting diodes (led(s)). these lights enable the projections to be rendered any different color, or combination of colors. software also allows the led's to become dynamic as they can fade, flicker, strobe, etc. this provides the capability for each cantilever to be unique in its appearance at the exhibited artists discretion.

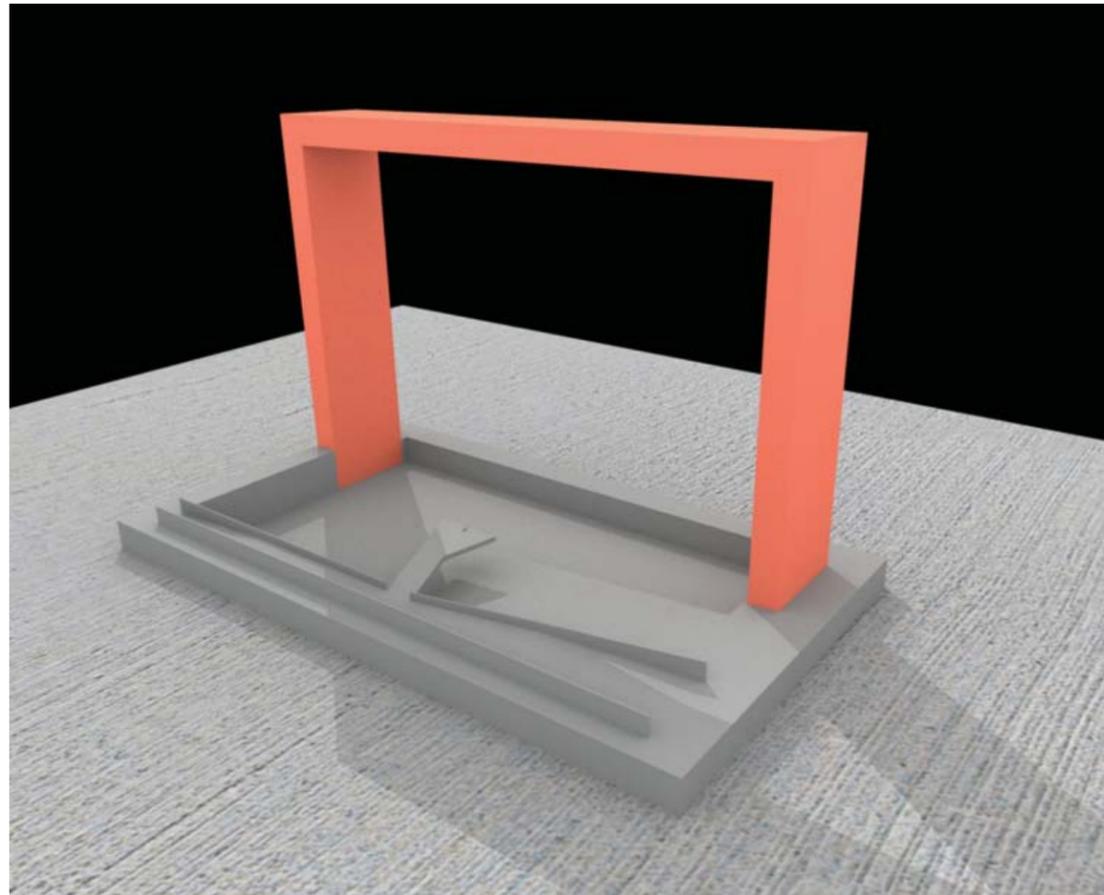
another dynamic quality is the hydraulic operated liquid crystal displays (lcd(s)). these massive 180" (15') lcd screens are mounted on the underside of operable doors. when open, the screens are used to communicate to the public what is happening inside the building. each screen will display a static image or a movie by the artist in the respected gallery space. when closed, the digital output on the lcd can be tuned to fit the exhibit of the interior gallery space. with the capability to blend the actions of the led, lcd, and hydraulic doors, one may conjure up an annual event attracting every citizen of the city to witness.



with an ordered sequence of structures, a design is organized that embraces a society of local artists who reside in a city celebrating the past. the method which i pursued enabled the creation of new and exciting spaces; those that extend out toward the city, are suspended high in the air, and are massive in their expansive clear volumes.

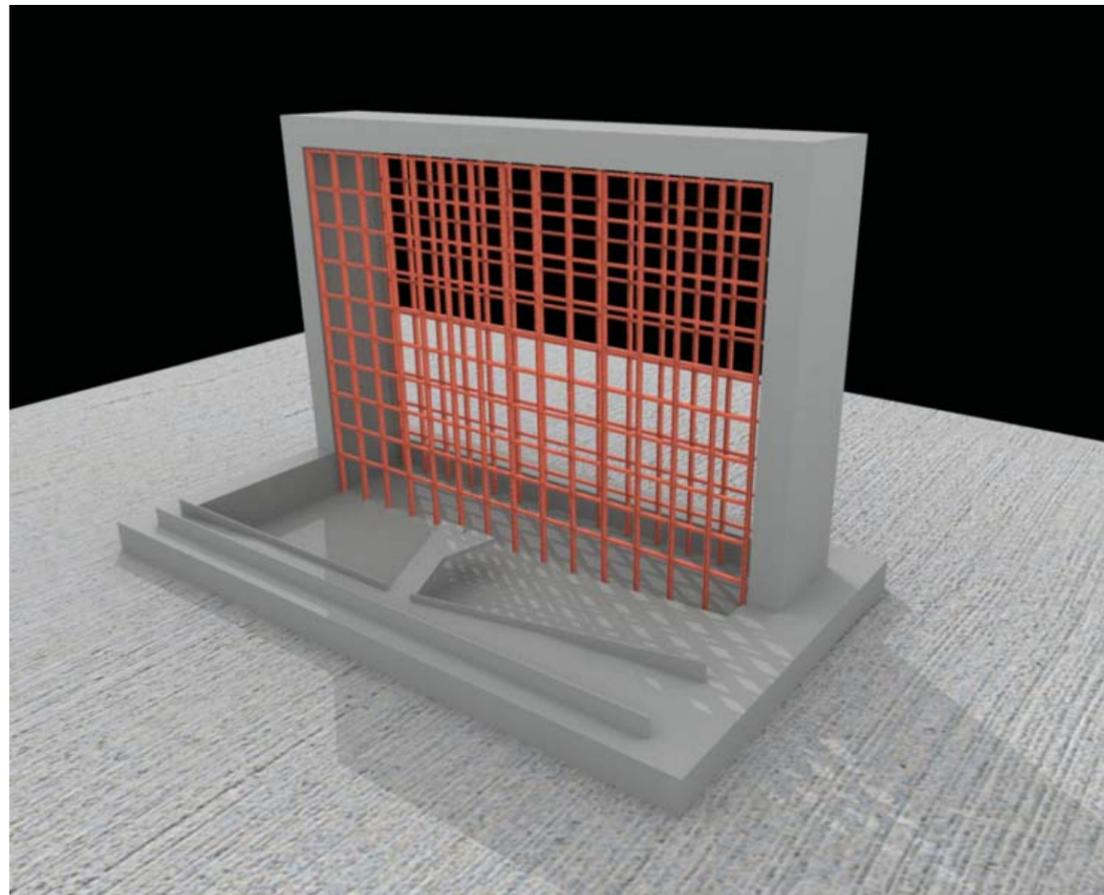
this to me is a parallel of what the local artists can do for the city. they hold in their imagination the ability to help richmond rise above all restraints, and be seen as something excellent.

through the development on how to make richmond a new place, i determined that i could not just preach an architecture with a description of a new building and its meaning. i think it is imperative that i prove my design through the demonstration of methodical construction techniques. in doing so, i have illustrated on the following pages, a process of construction that utilizes up to date and cutting edge materials, and building tectonics.



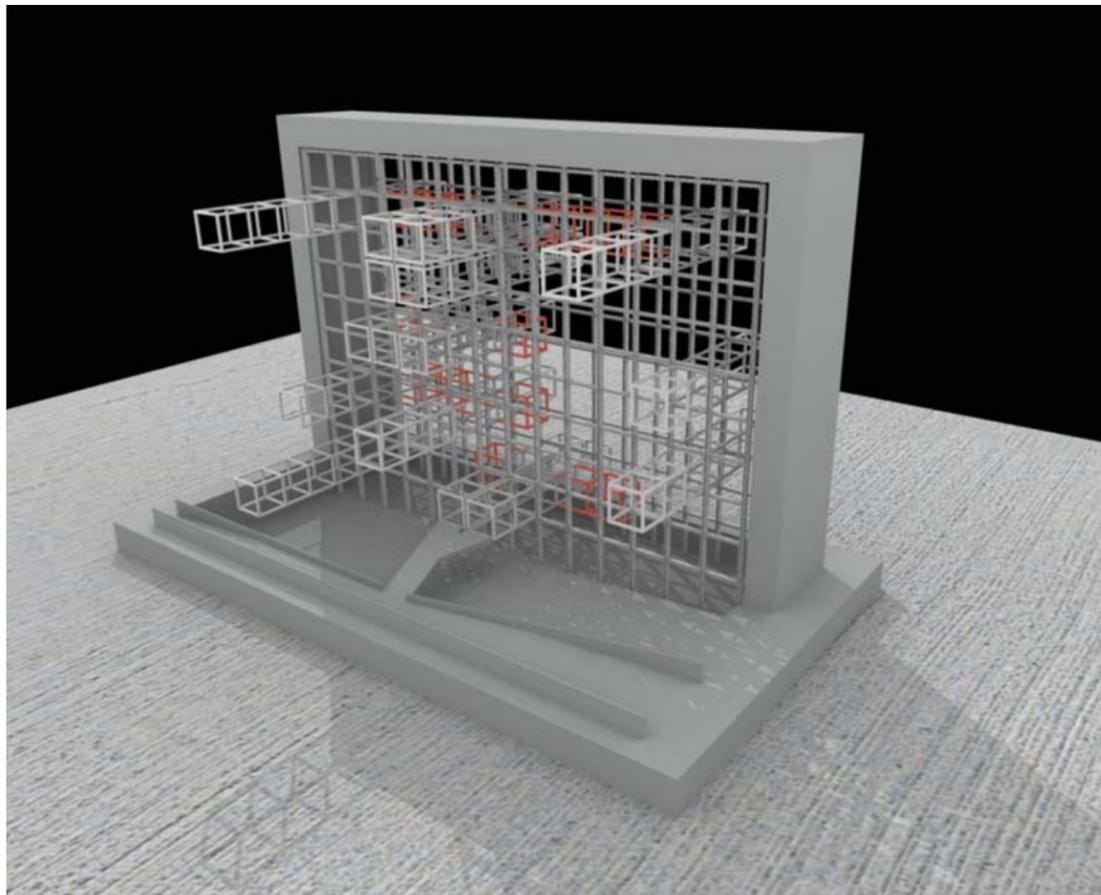
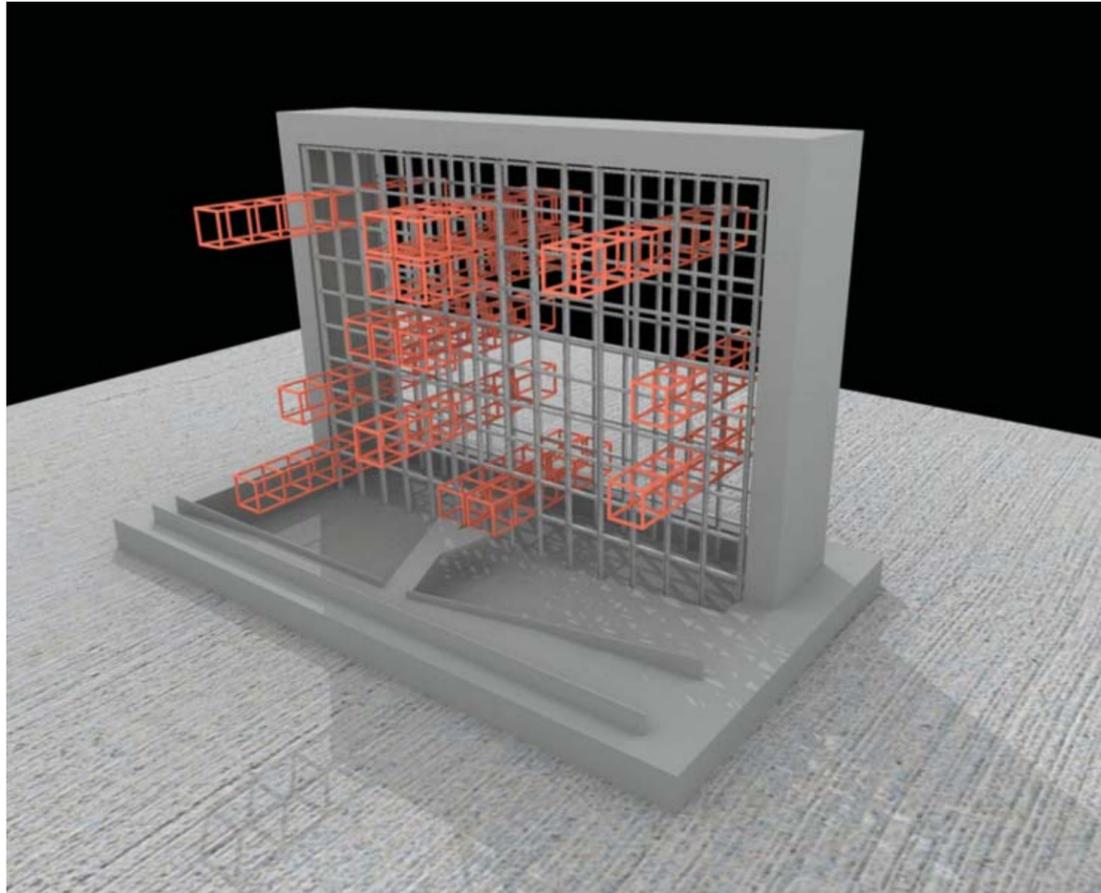
primary structure :

cast in place concrete. the two primary columns and beam are composed of structural elements. each primary column is comprised of two 12'x10' columns; the two 12'x10' columns are joined with two 1' thick walls and nine 3' thick floors, thus creating a segmented tube. the two walls, pushed to the outside face of each column, in combination with the floors, are used as rigid supports to prevent the two columns from racking. the same principle is used in the creation of the primary beam, which in addition, is post-tensioned.



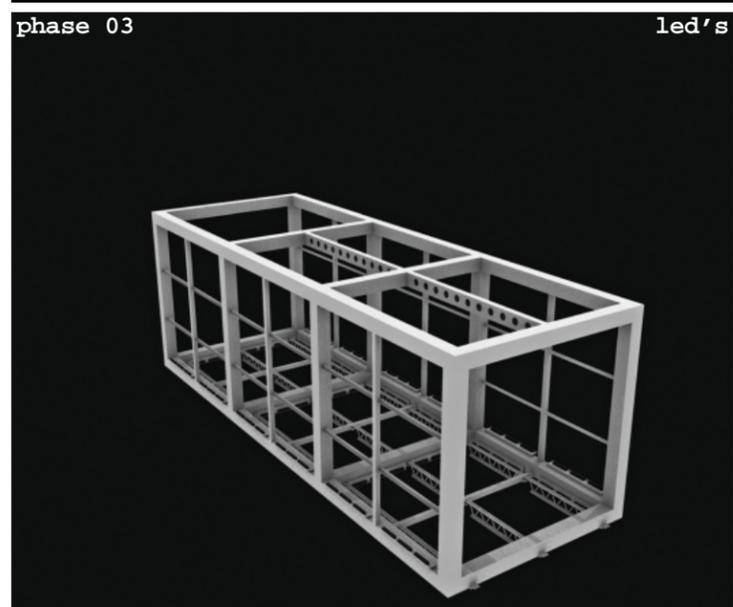
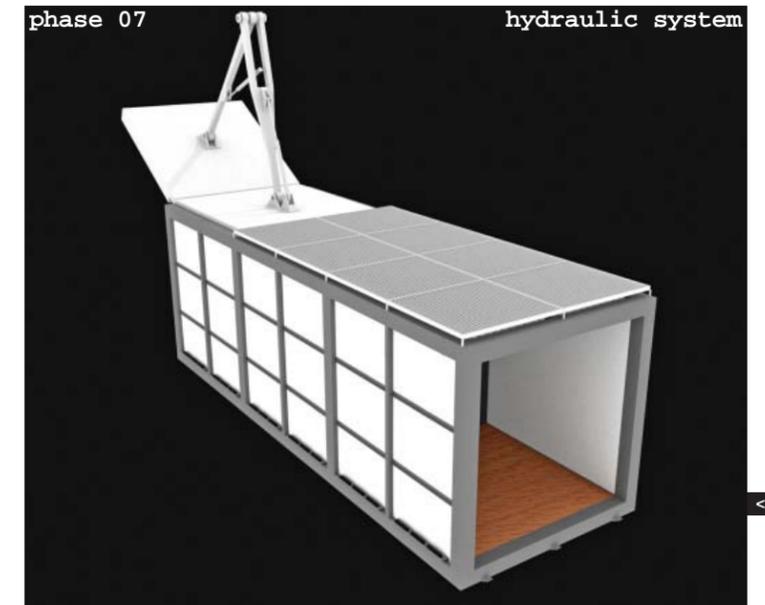
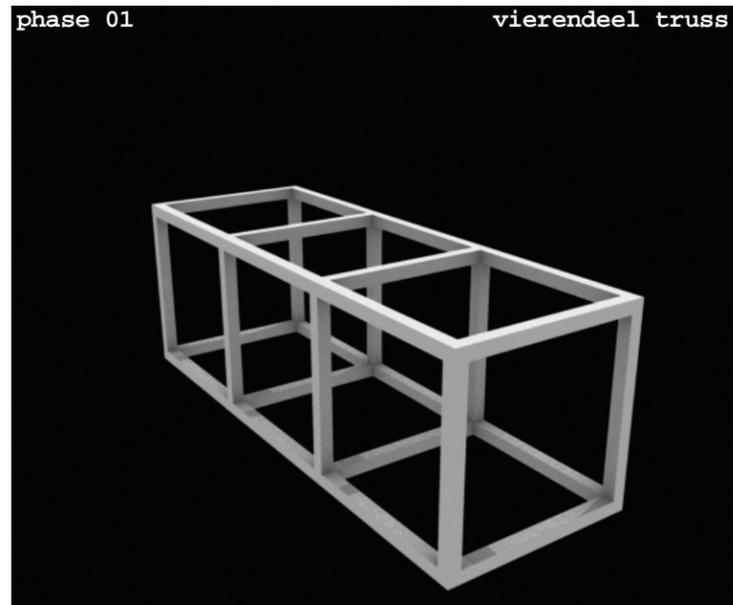
secondary structure :

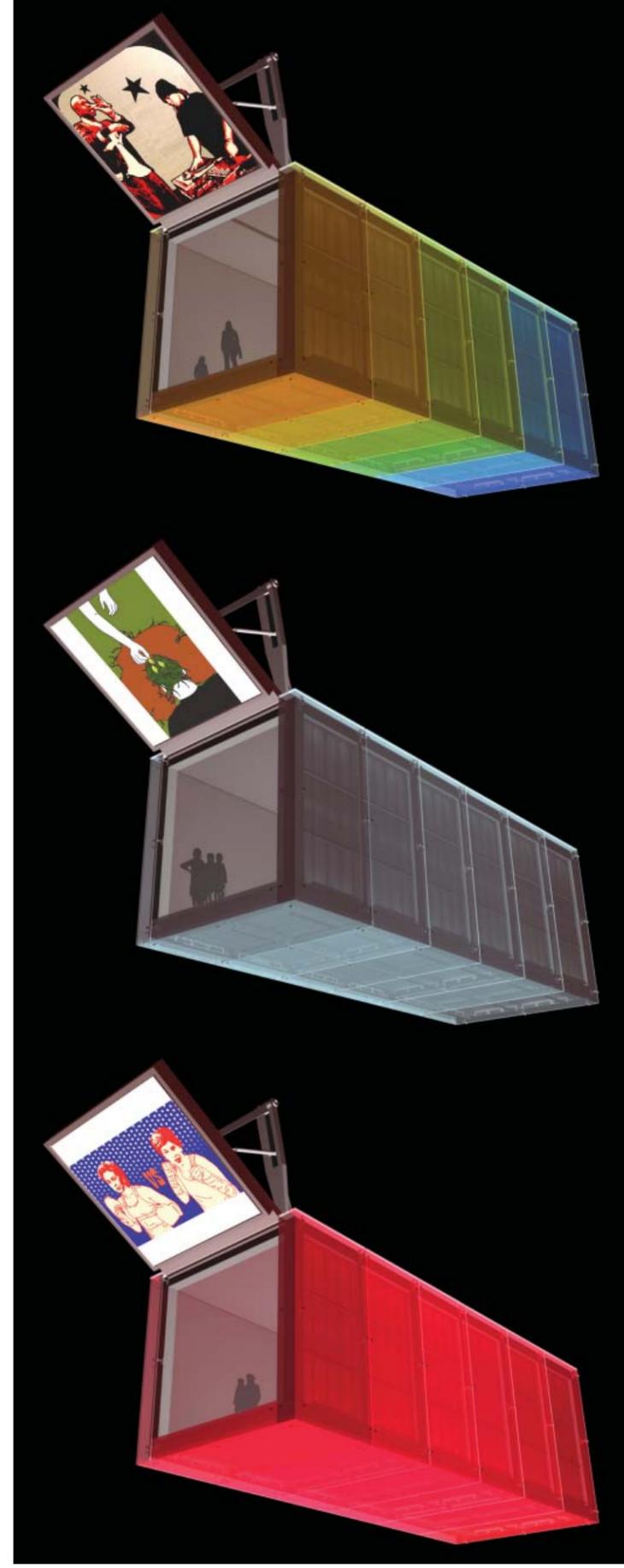
steel matrix. this matrix comprised of rigidly connected steel columns and girders stands separately from the primary structure. this is the load bearing structure : that which holds the tertiary structure in place.



tertiary structure :
steel vierendeel trusses. these structural elements are held in place with rigid connections at the secondary structure. the trusses cantilever out over the site. cantilevers range in span from 12'-8" to 64'-4". the vierendeel truss allows me to break openings into each volume, as necessary, since they don't need diagonal bracing.

quaternary structure :
steel vierendeel trusses. these structural elements share the same principle as the tertiary structure. encompassing the suspended interior volumes, these trusses are rigidly connected to the tertiary structure.





system : cantilever illumination & display



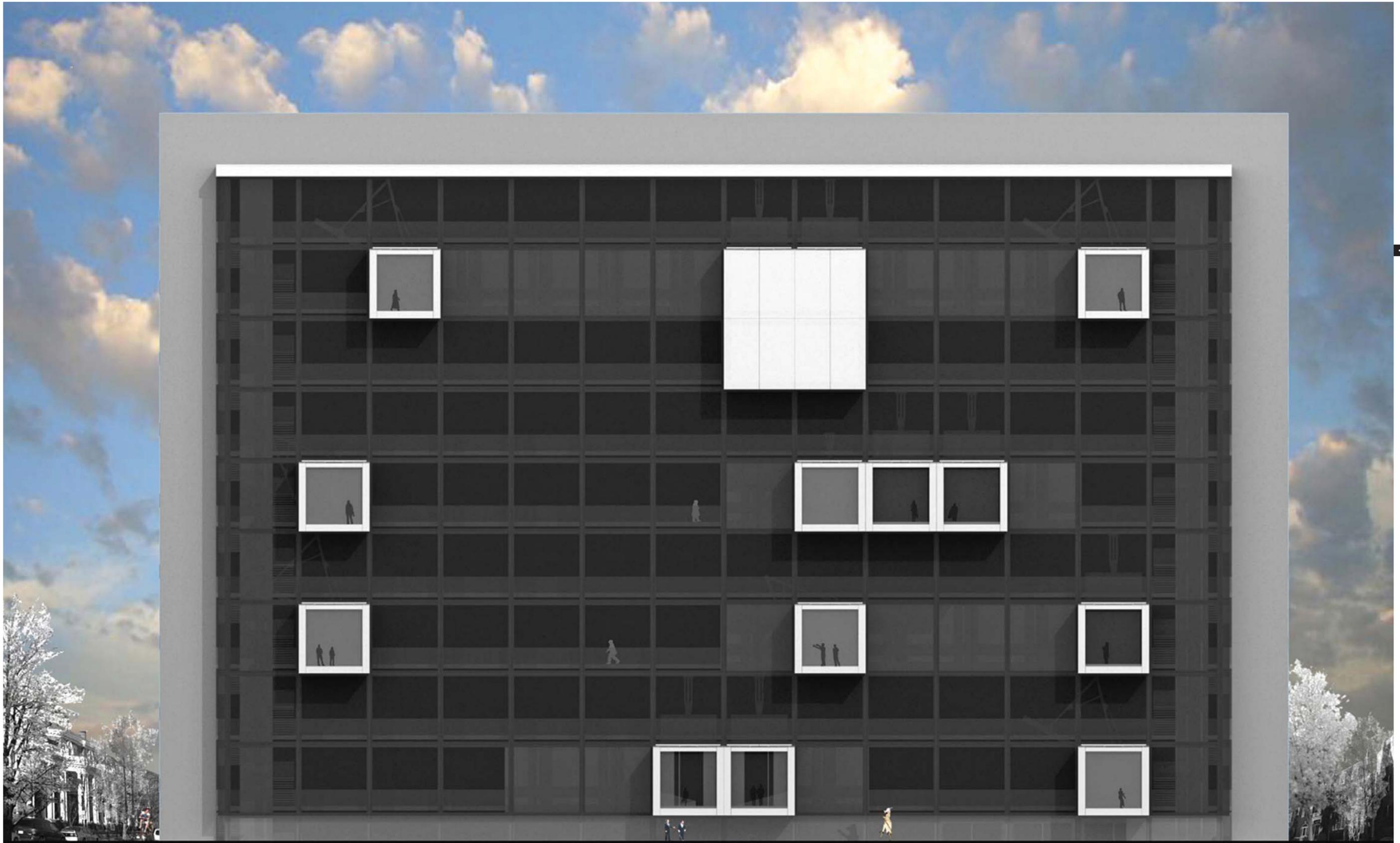
northeast elevation



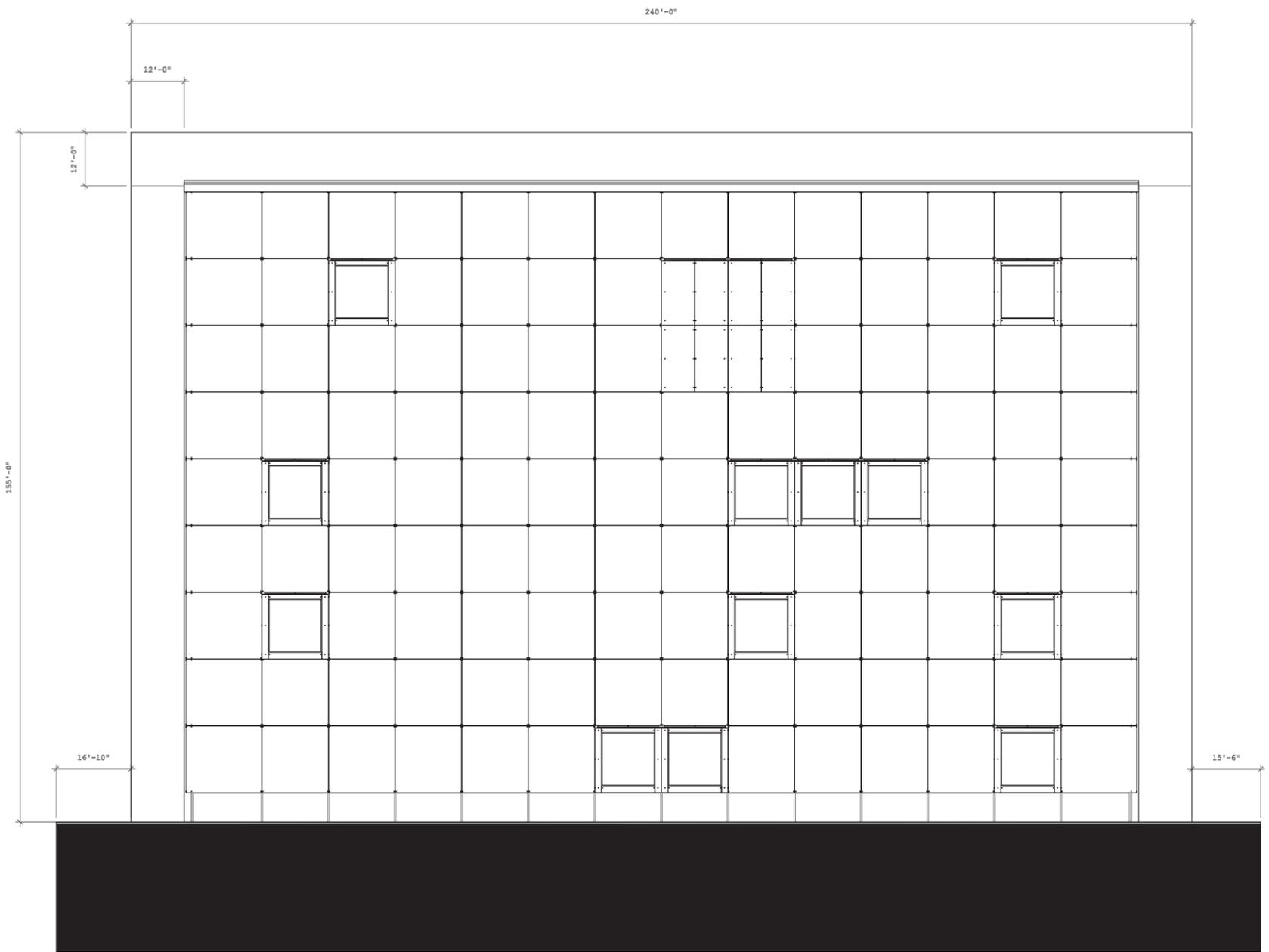
southeast elevation



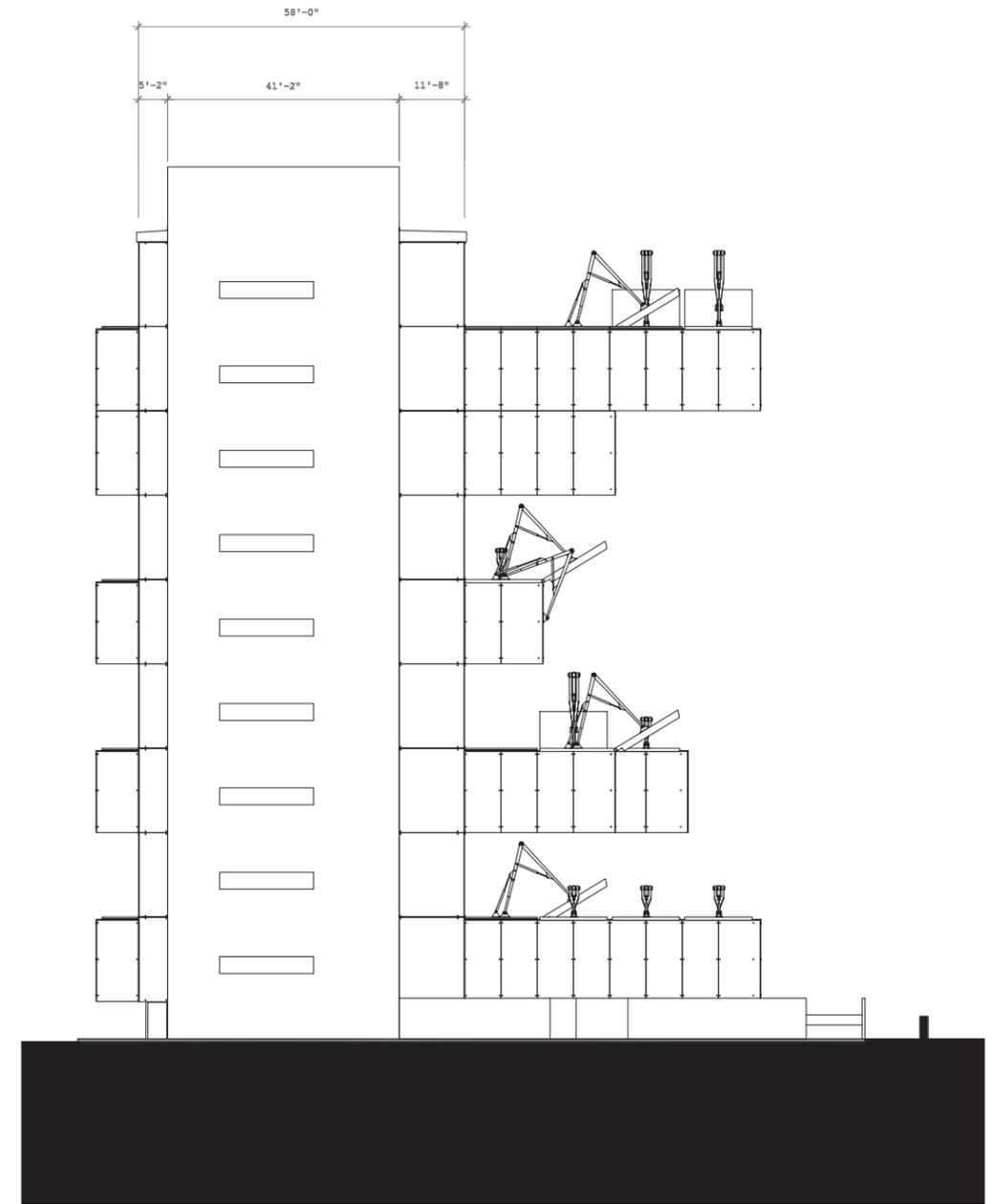
southwest elevation



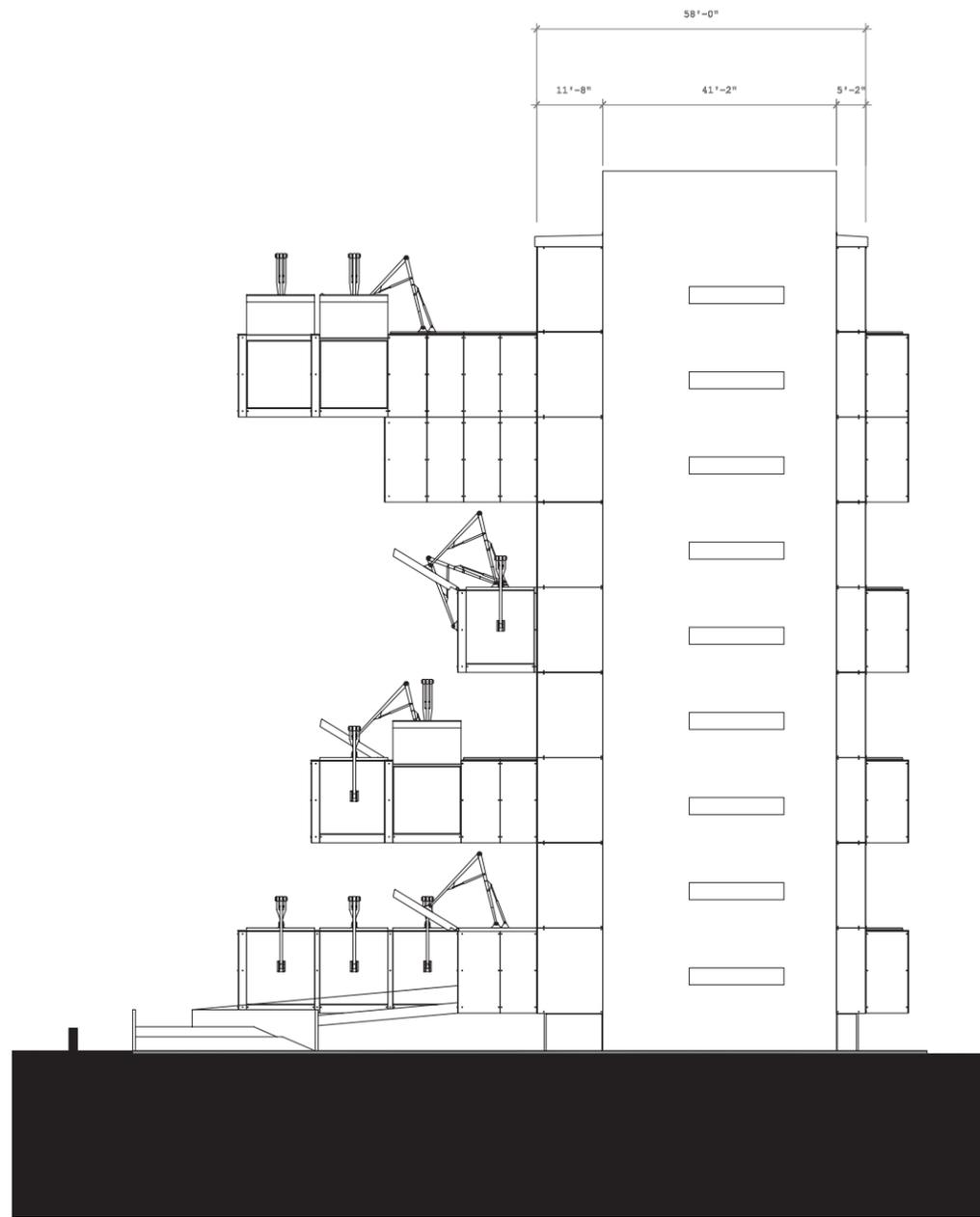
northwest elevation



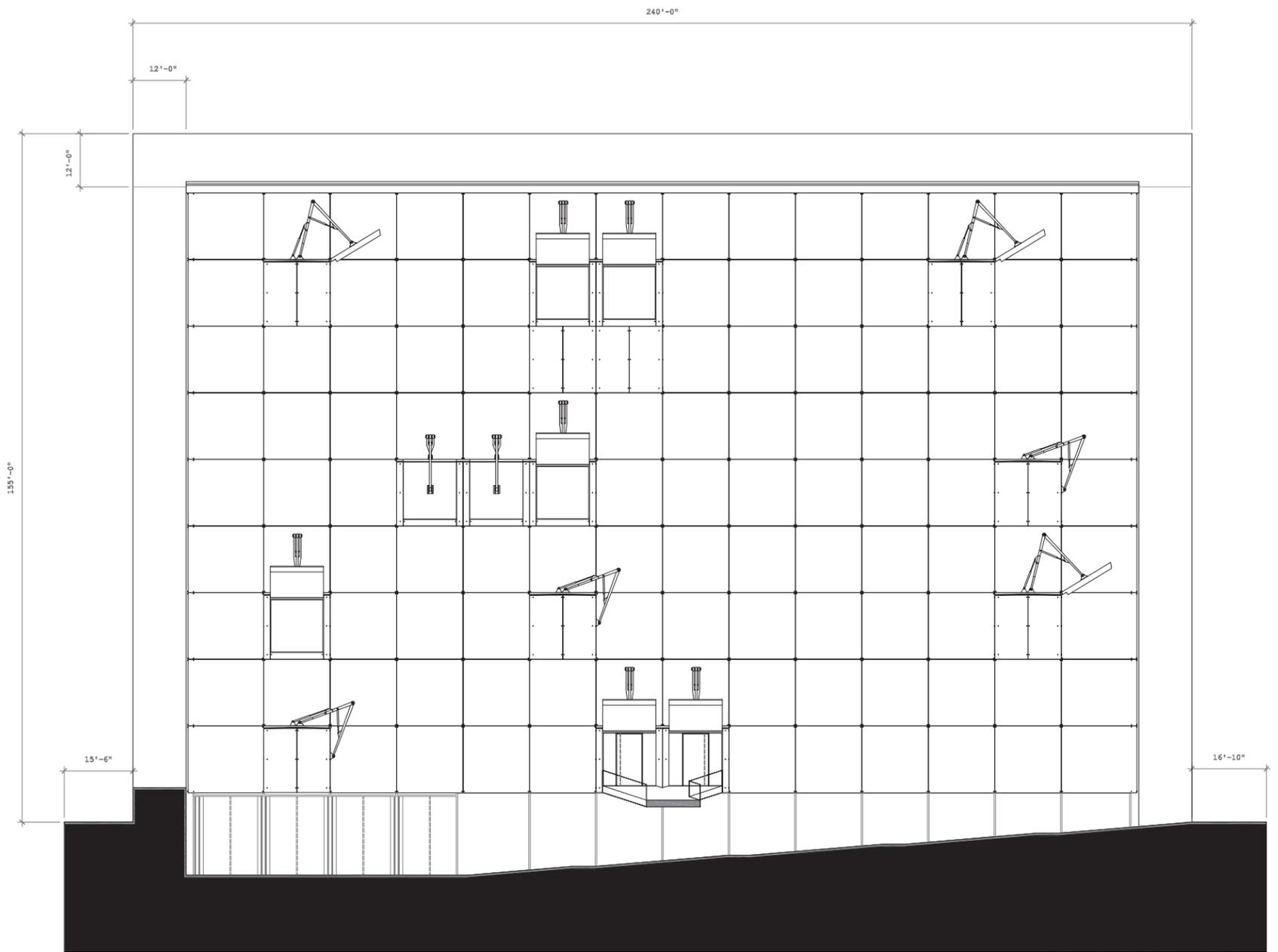
northwest elevation



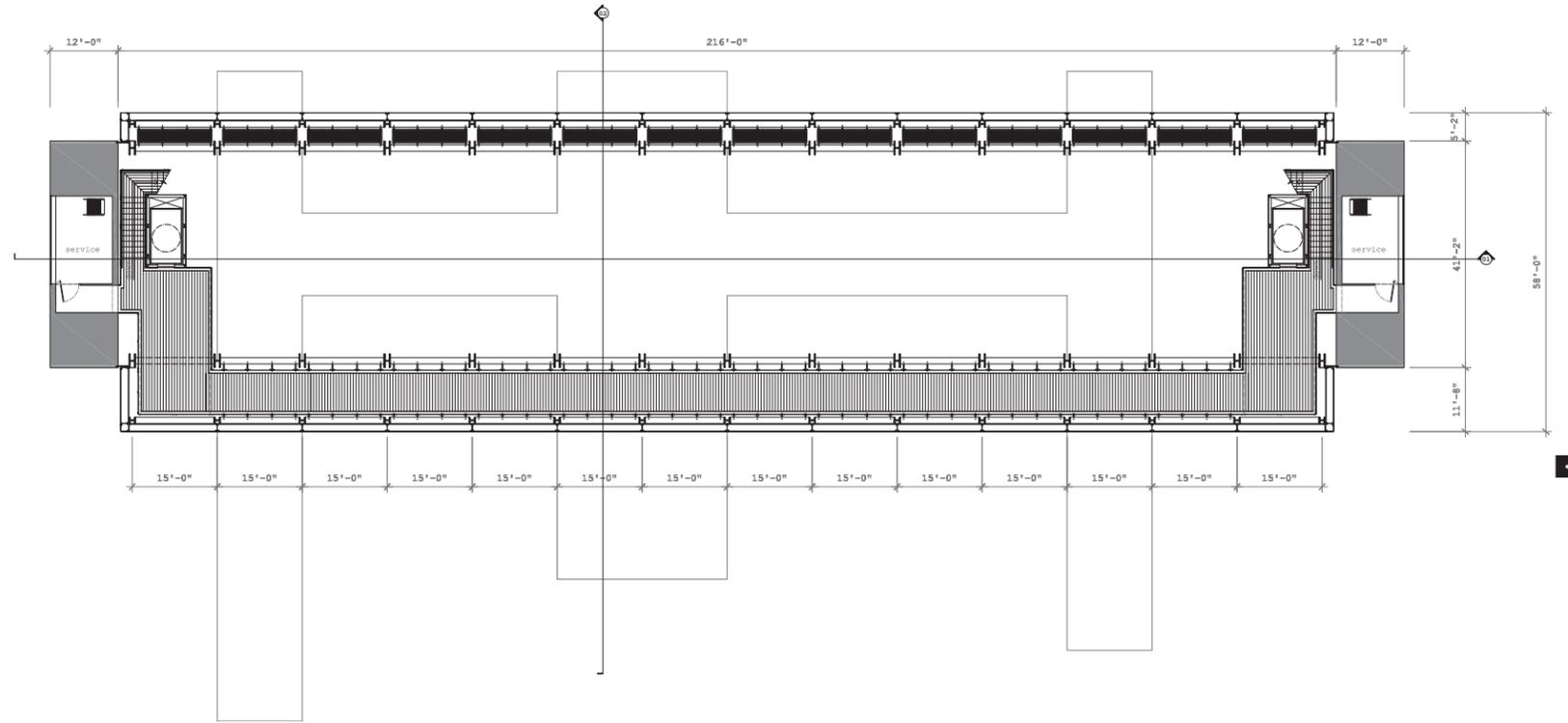
southwest elevation



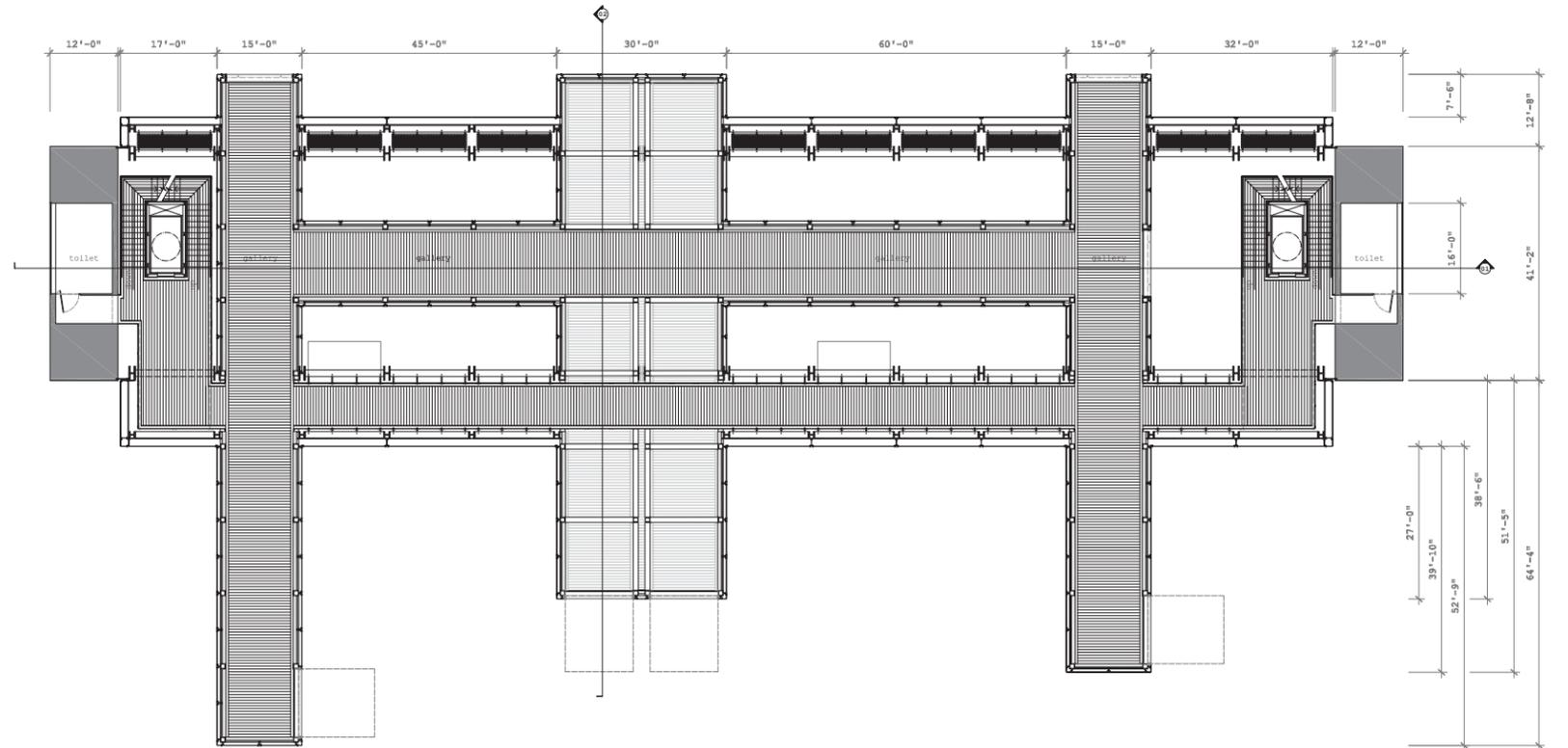
northeast elevation



southeast elevation

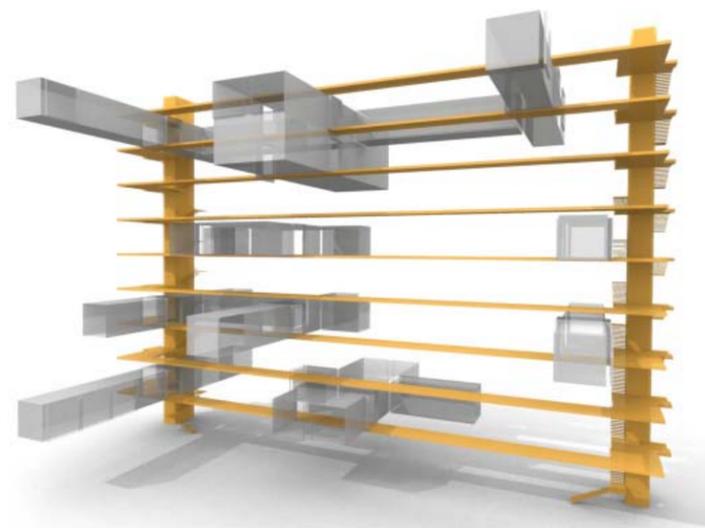


ninth level plan

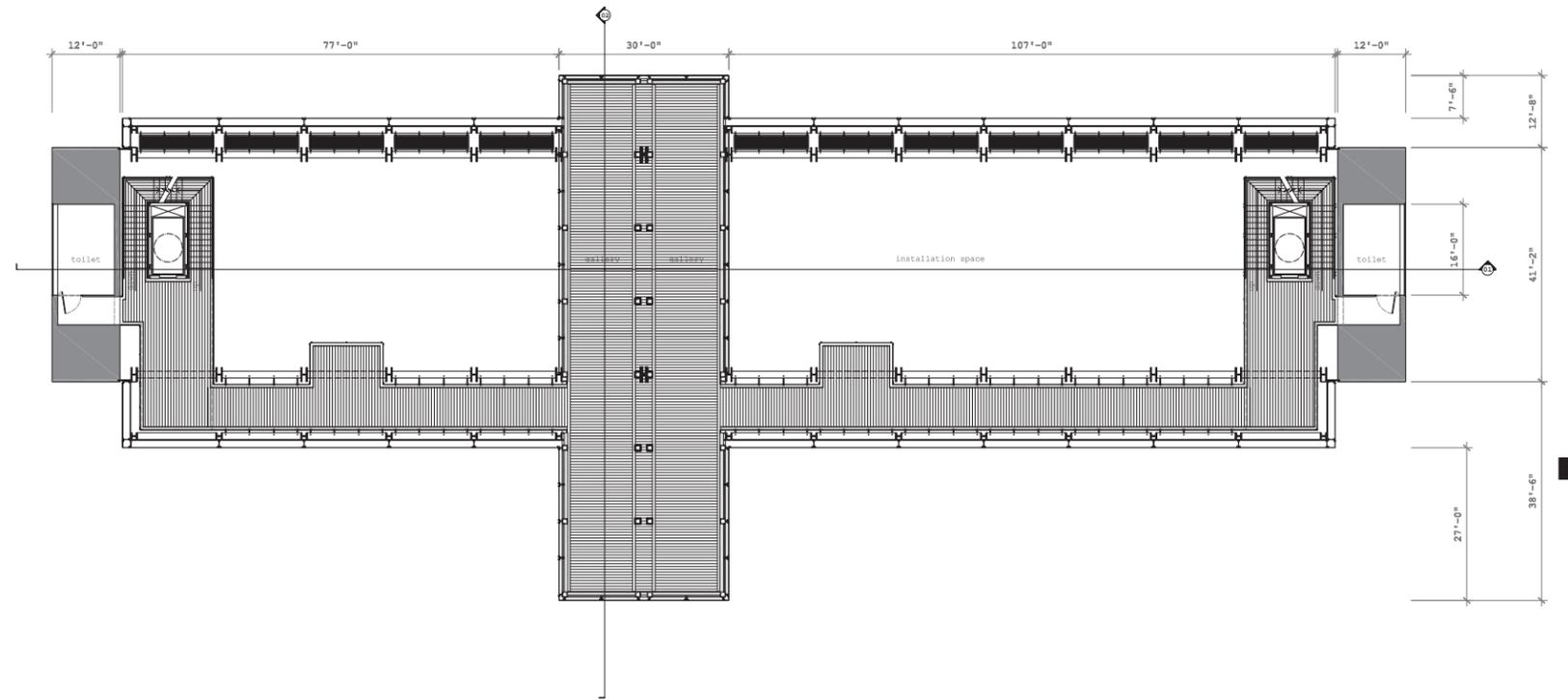


eighth level plan

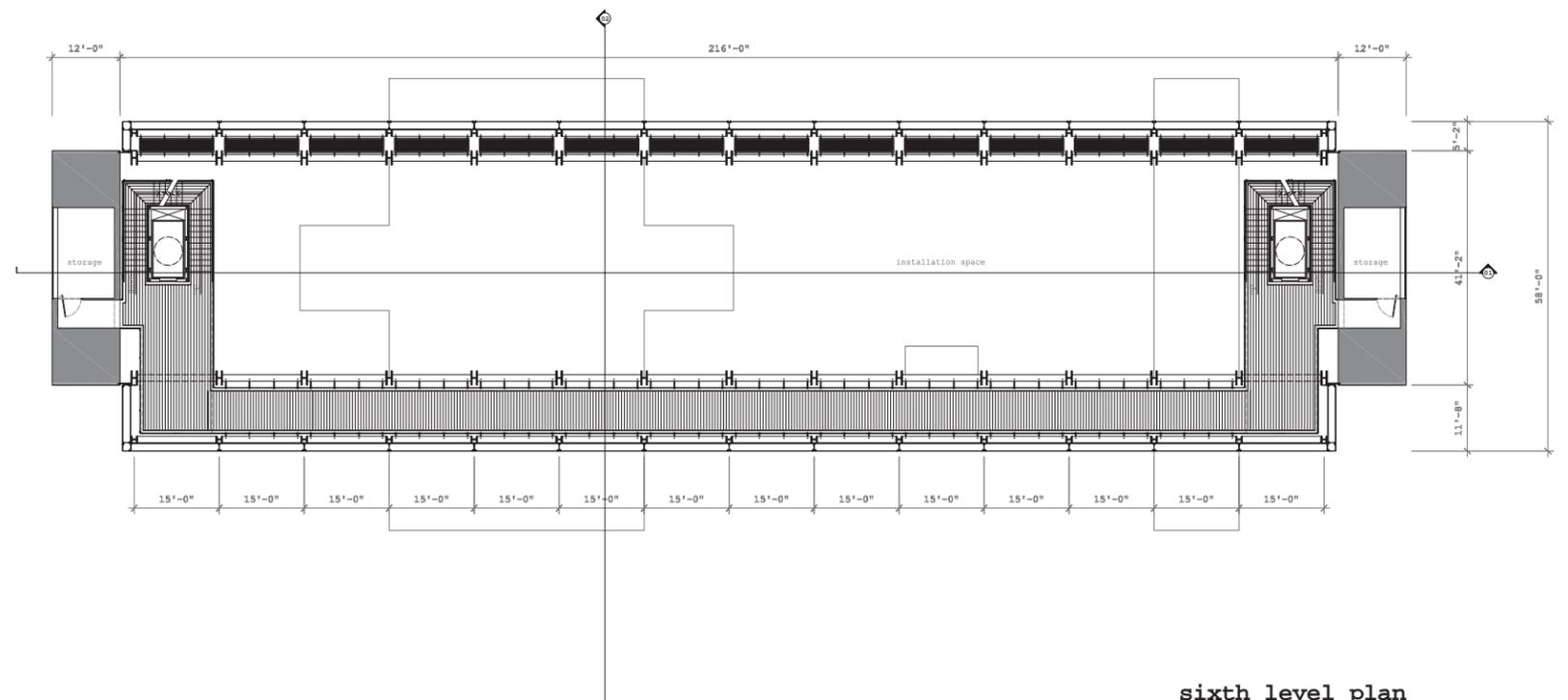




interior volume & circulation diagram 01

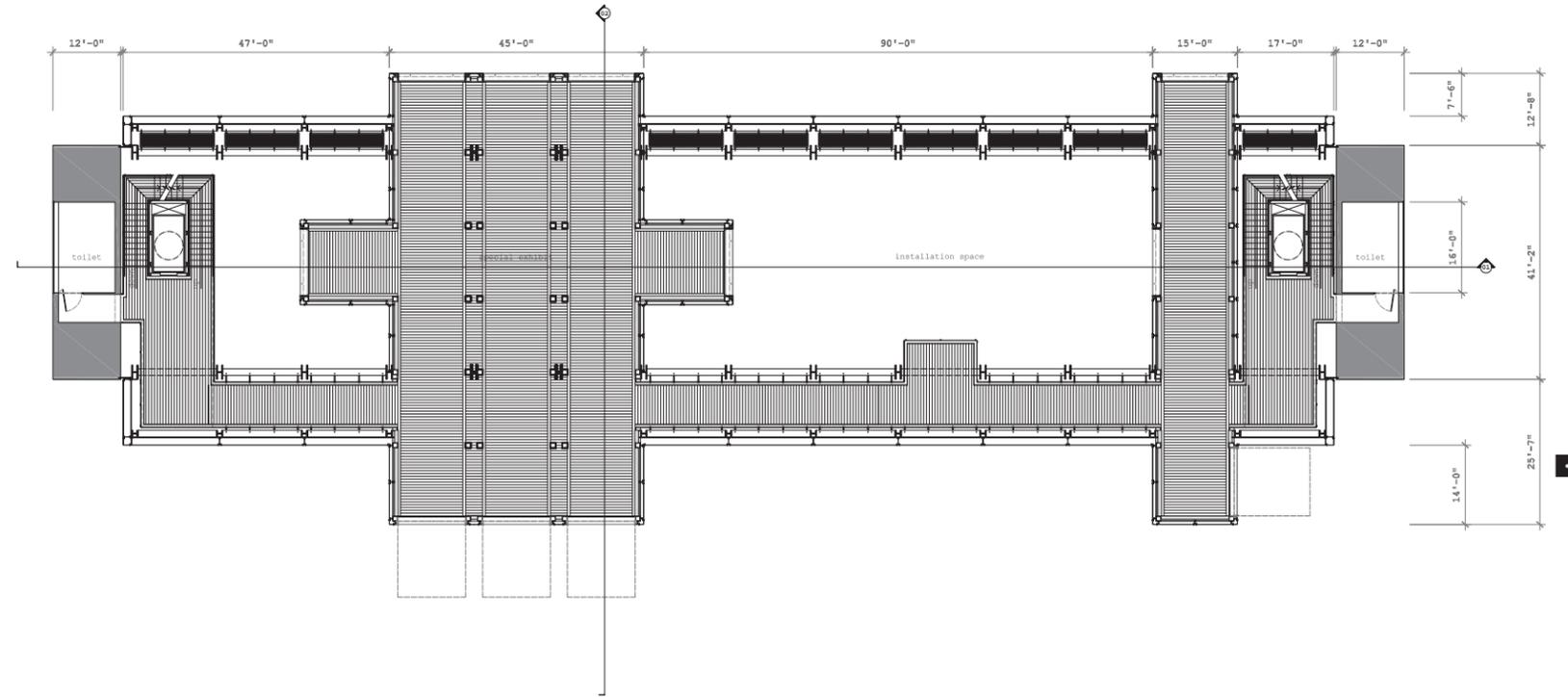


seventh level plan

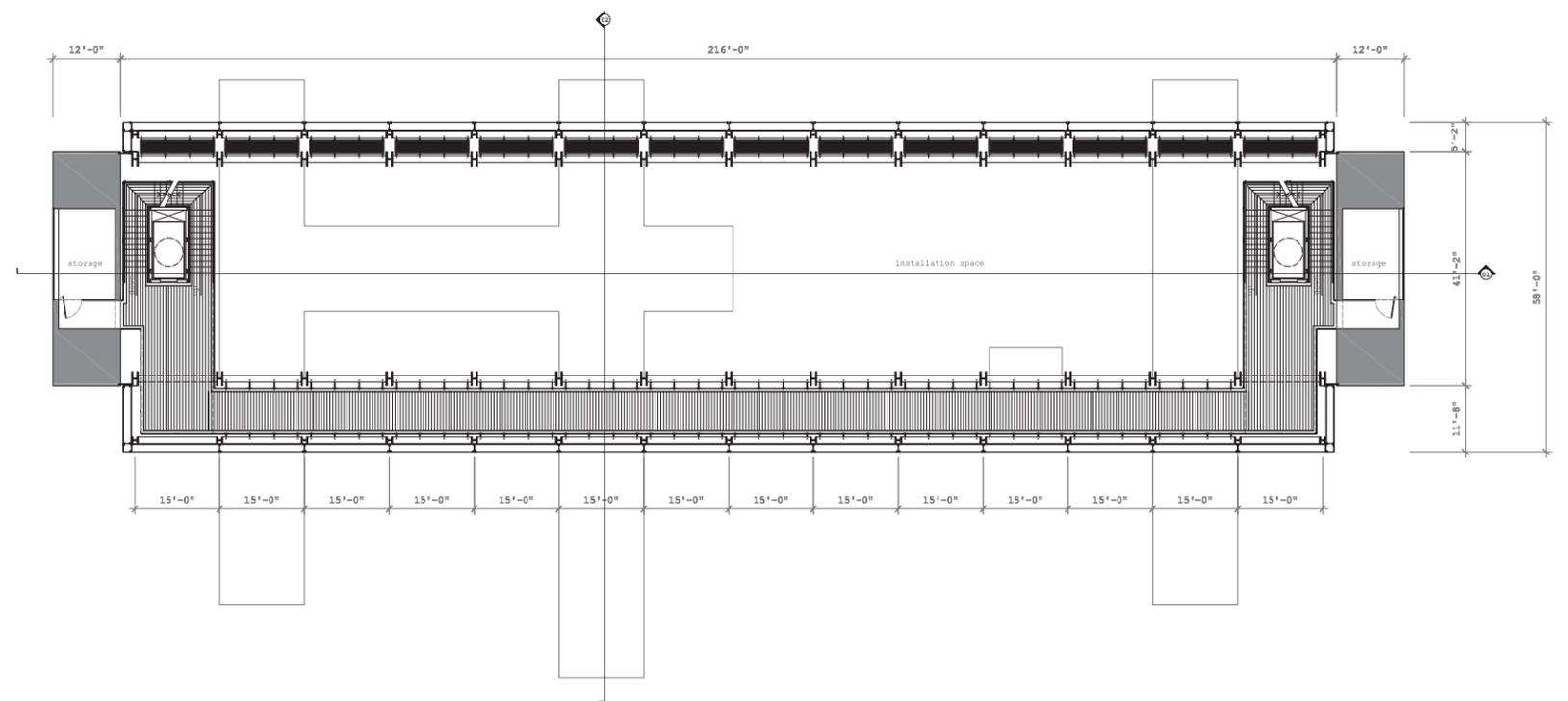


sixth level plan



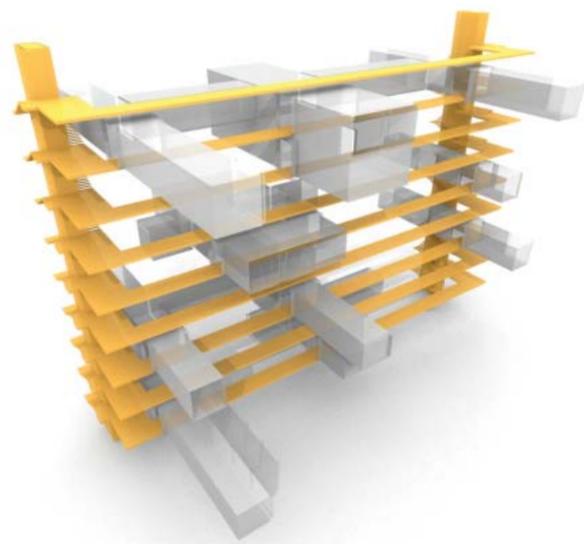


fifth level plan

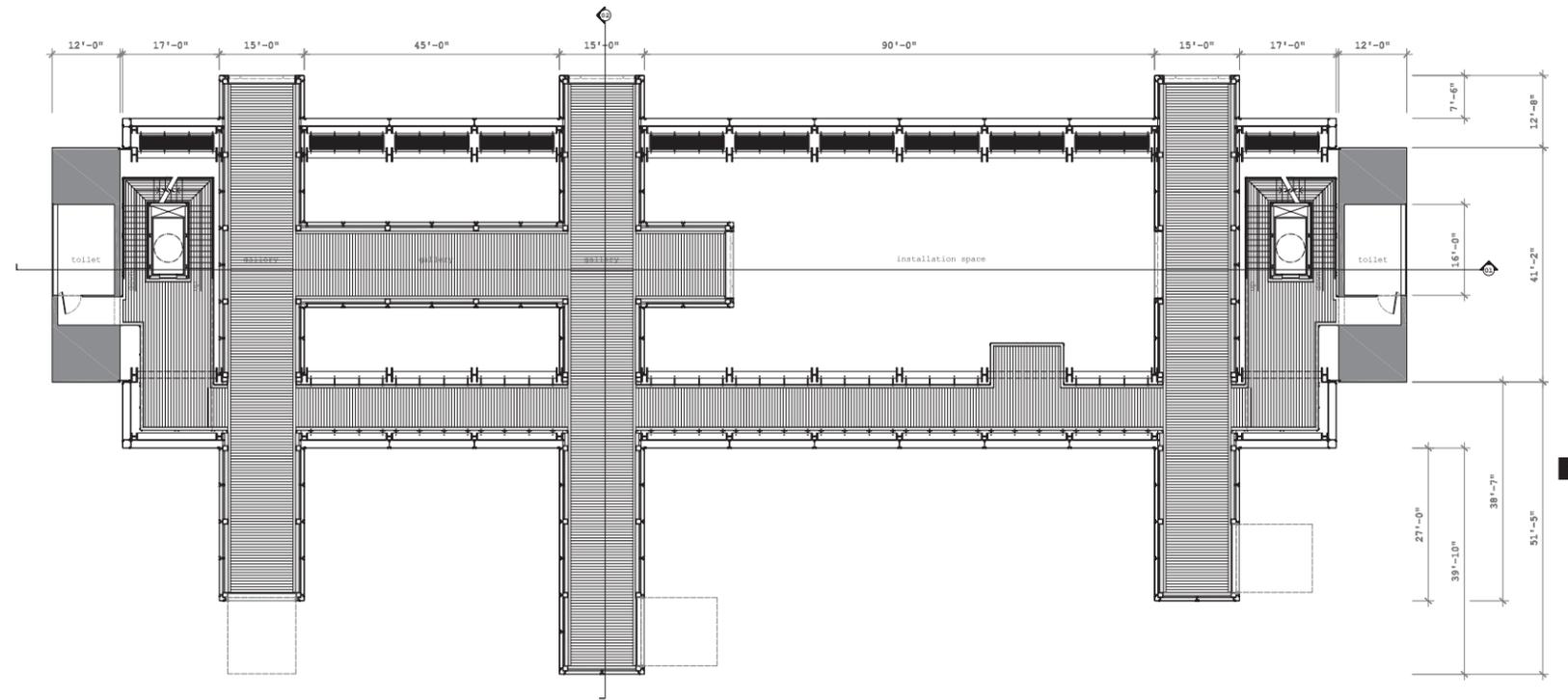


fourth level plan

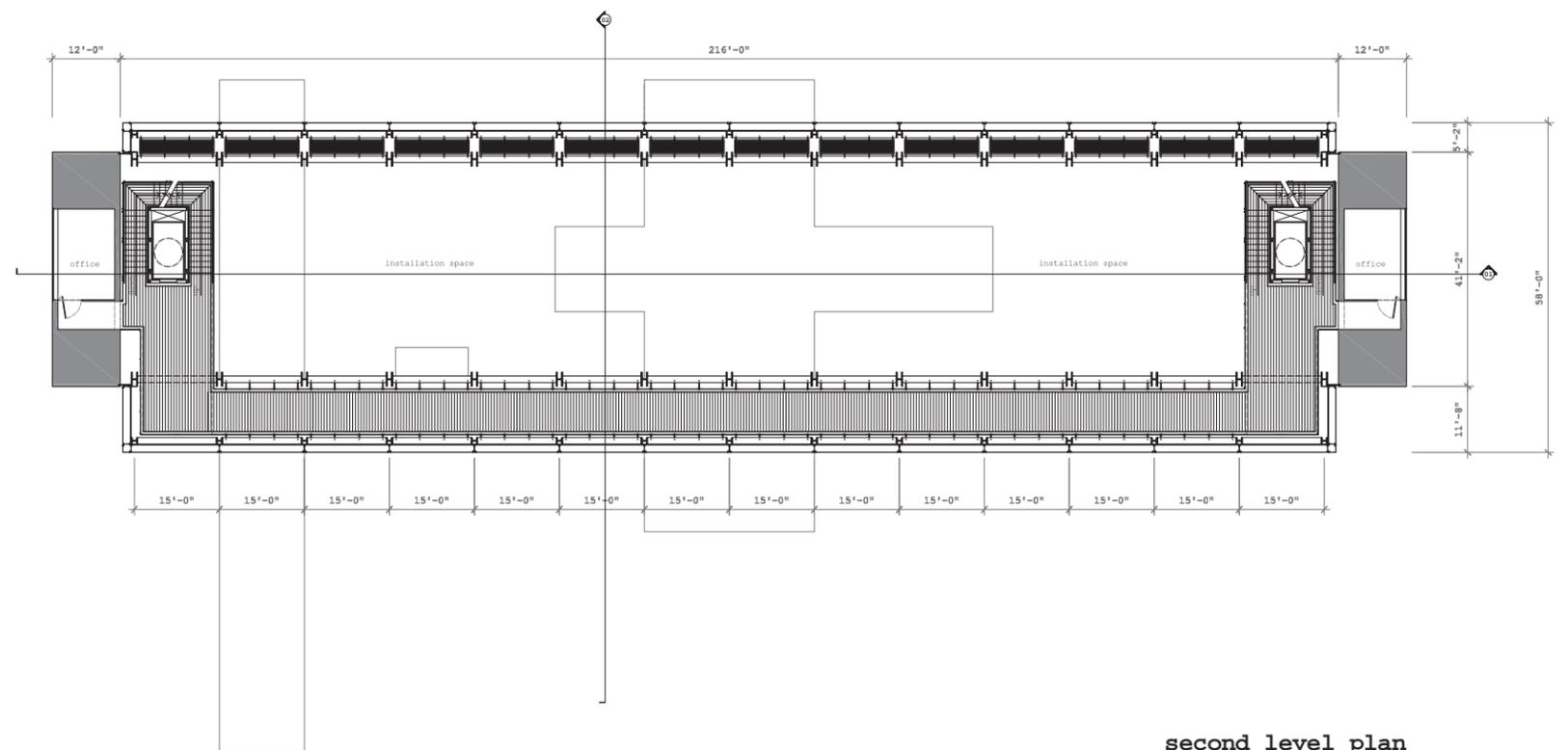




interior volume & circulation diagram 02

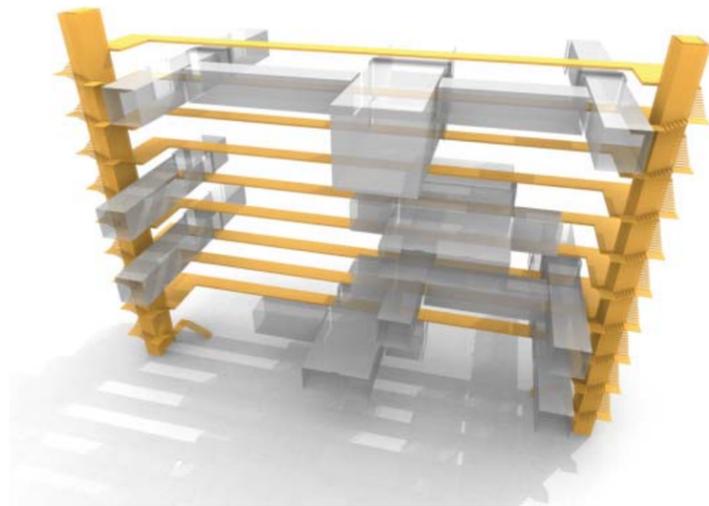


third level plan

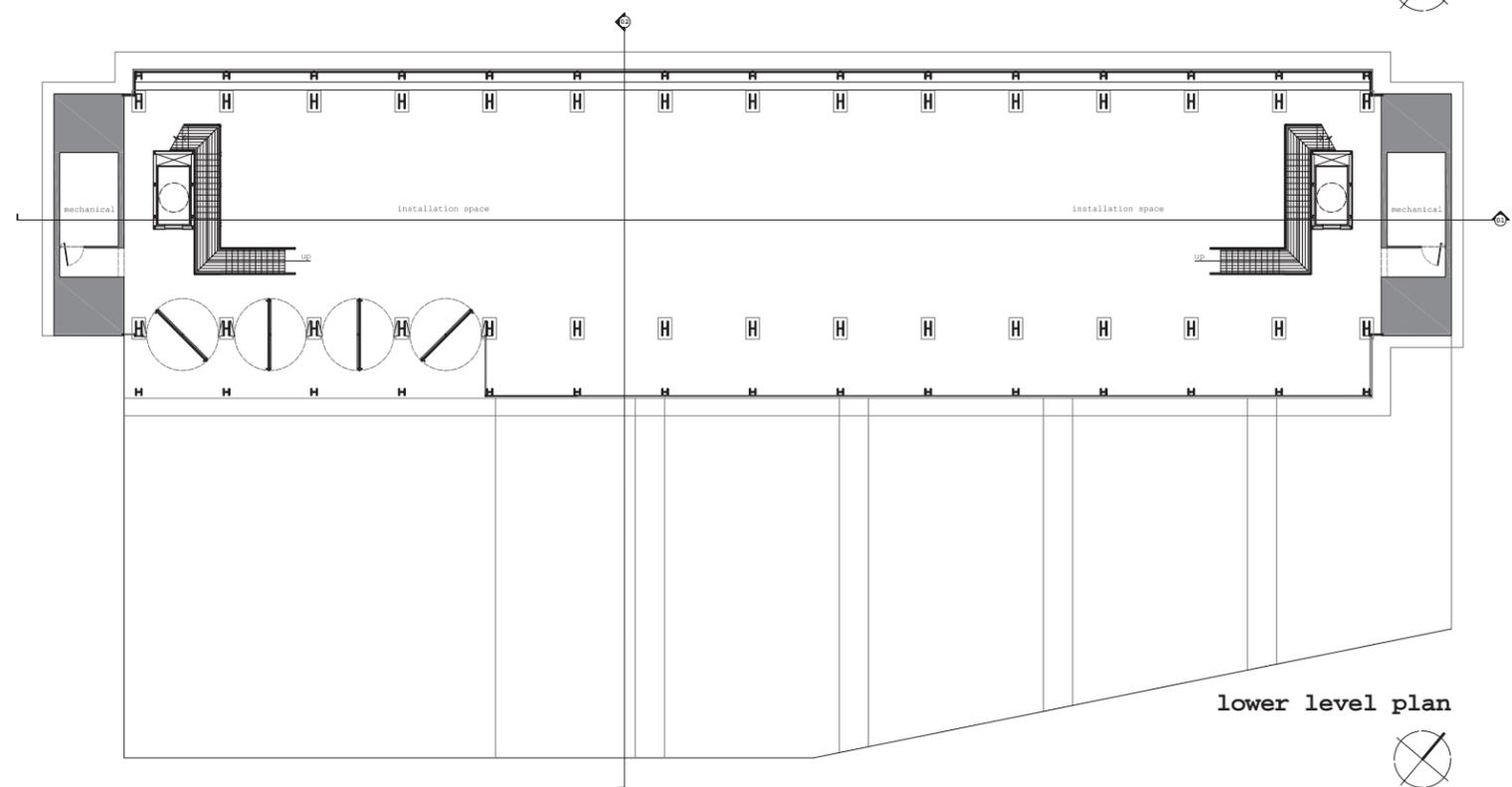
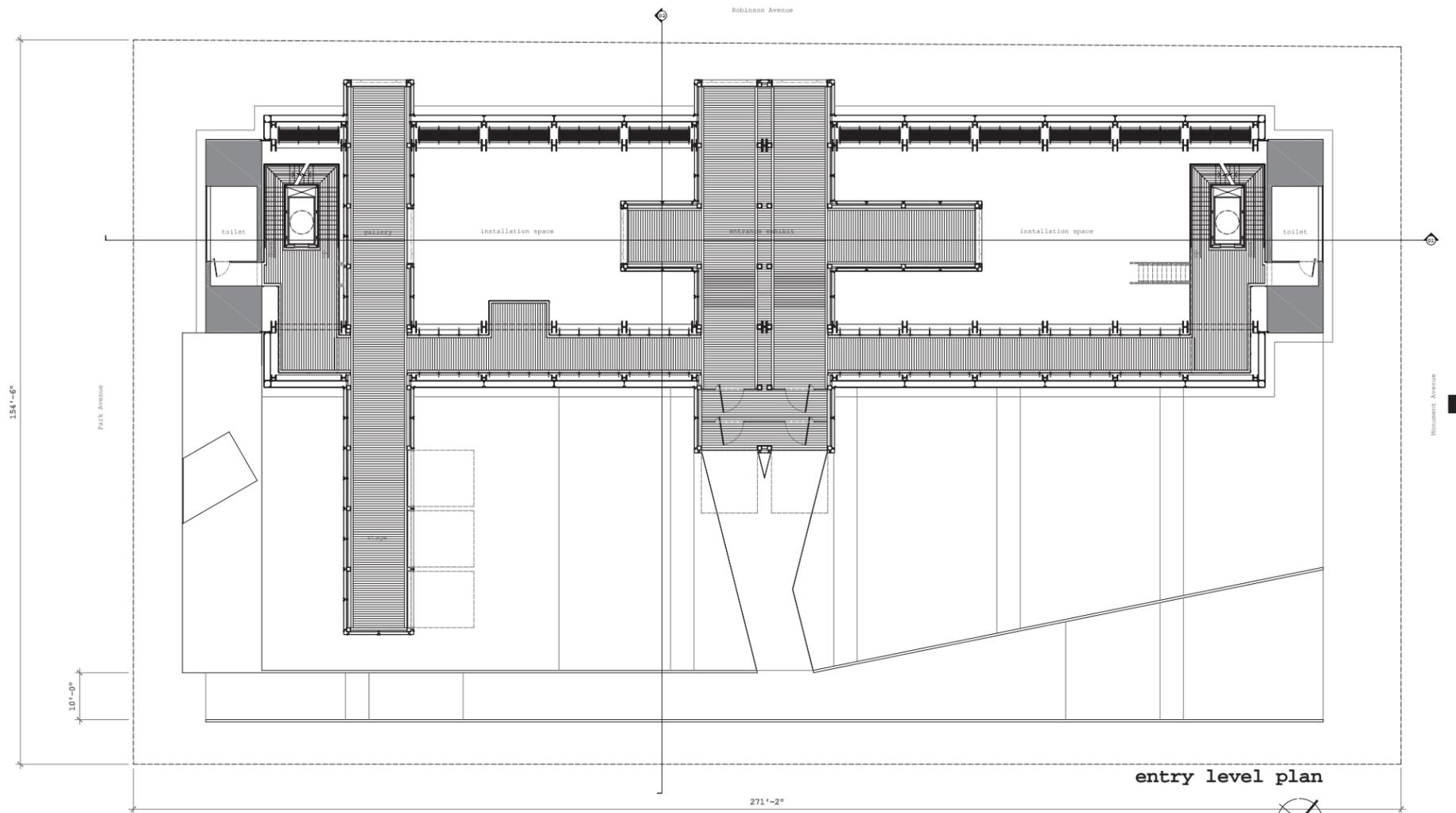


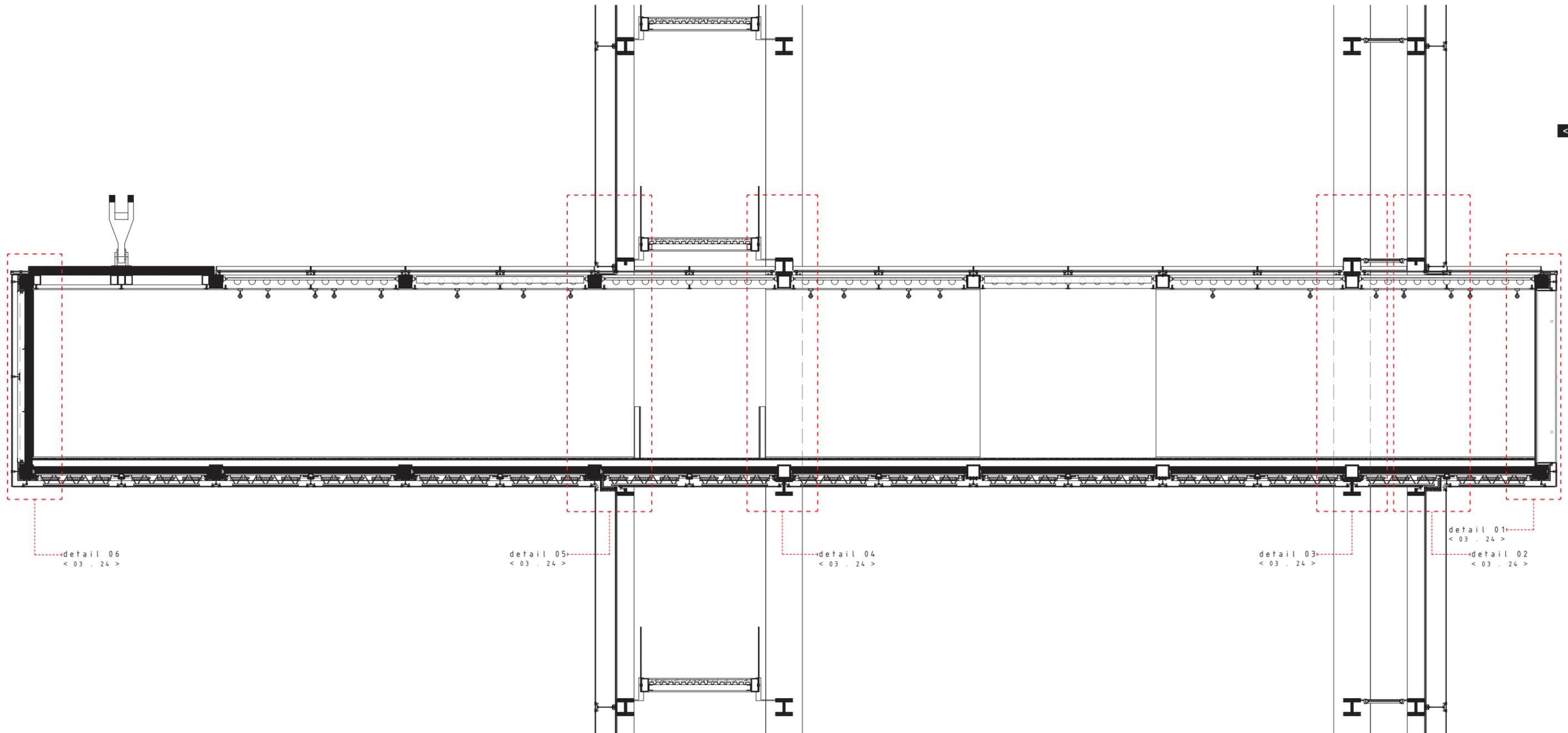
second level plan



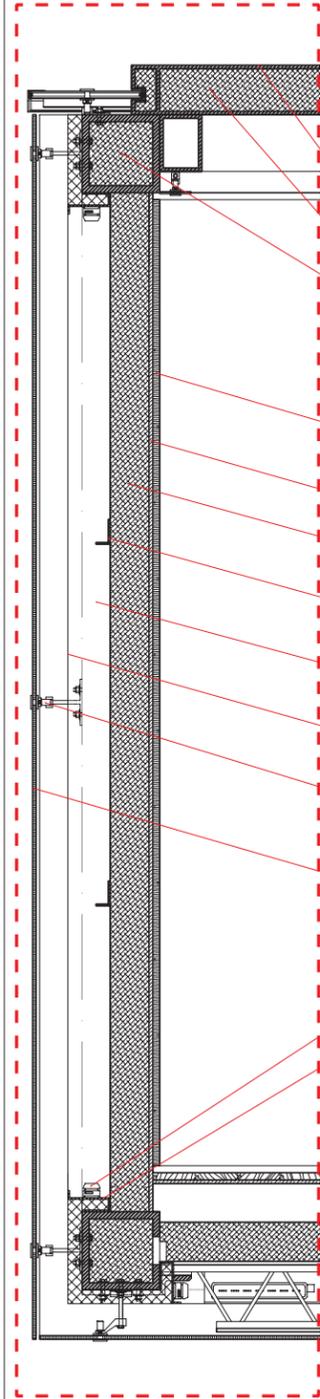


interior volume & circulation diagram 03

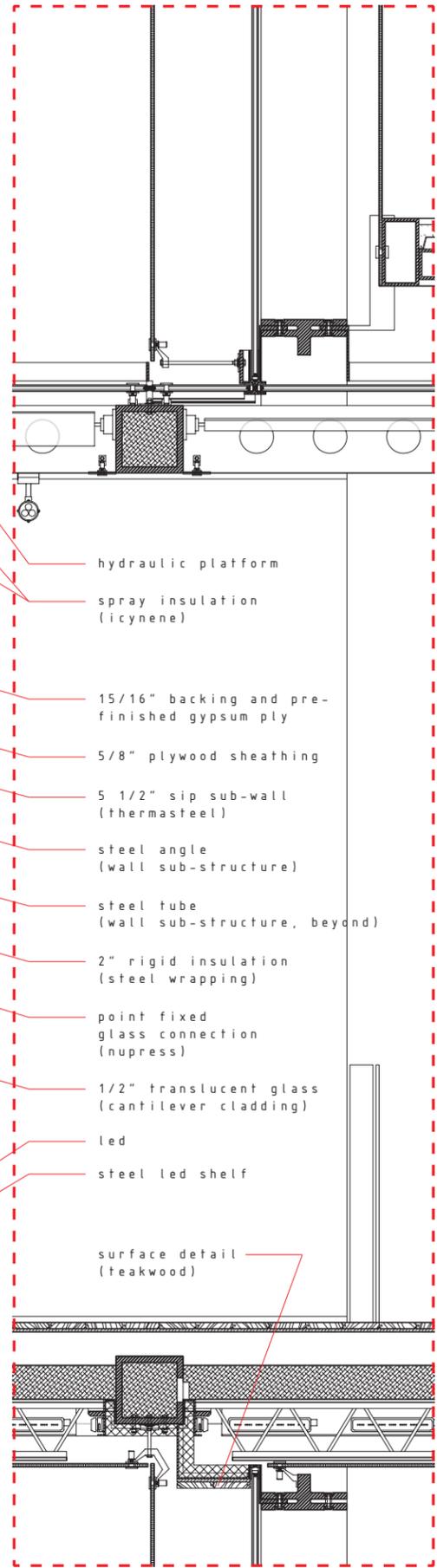




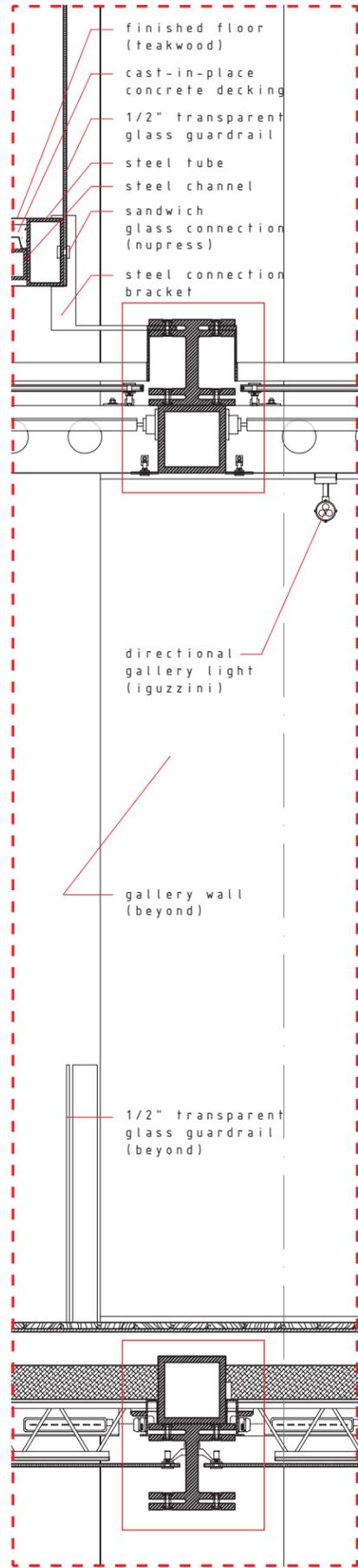
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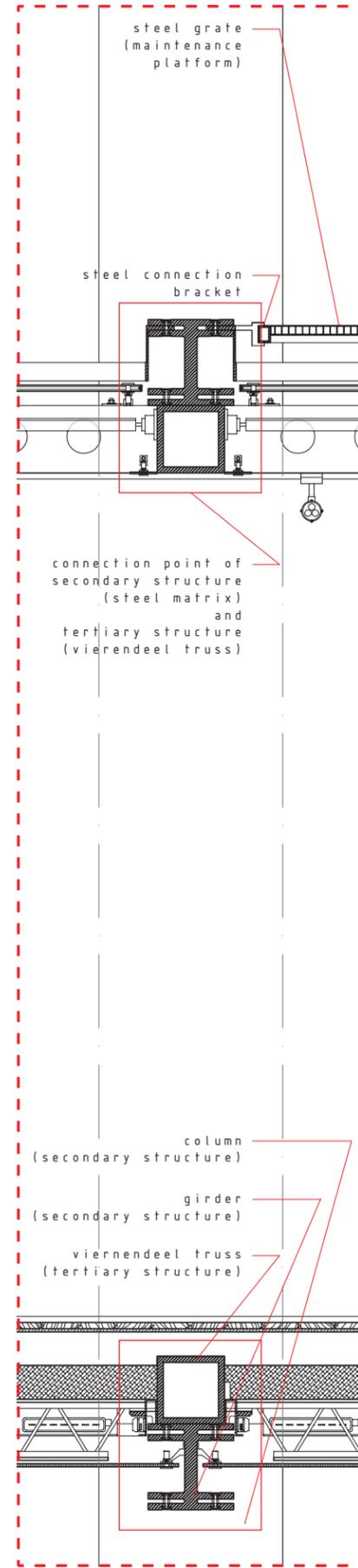
detail 06



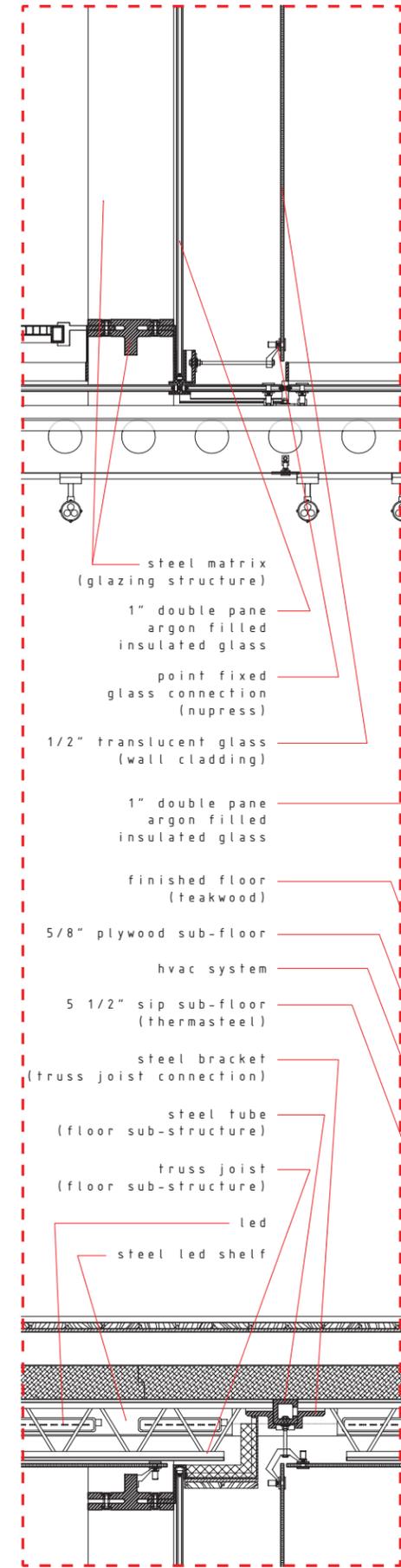
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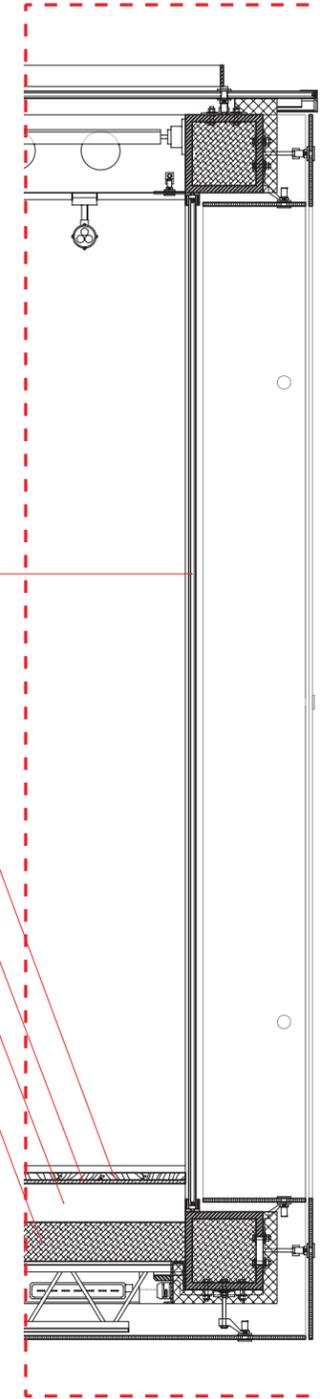
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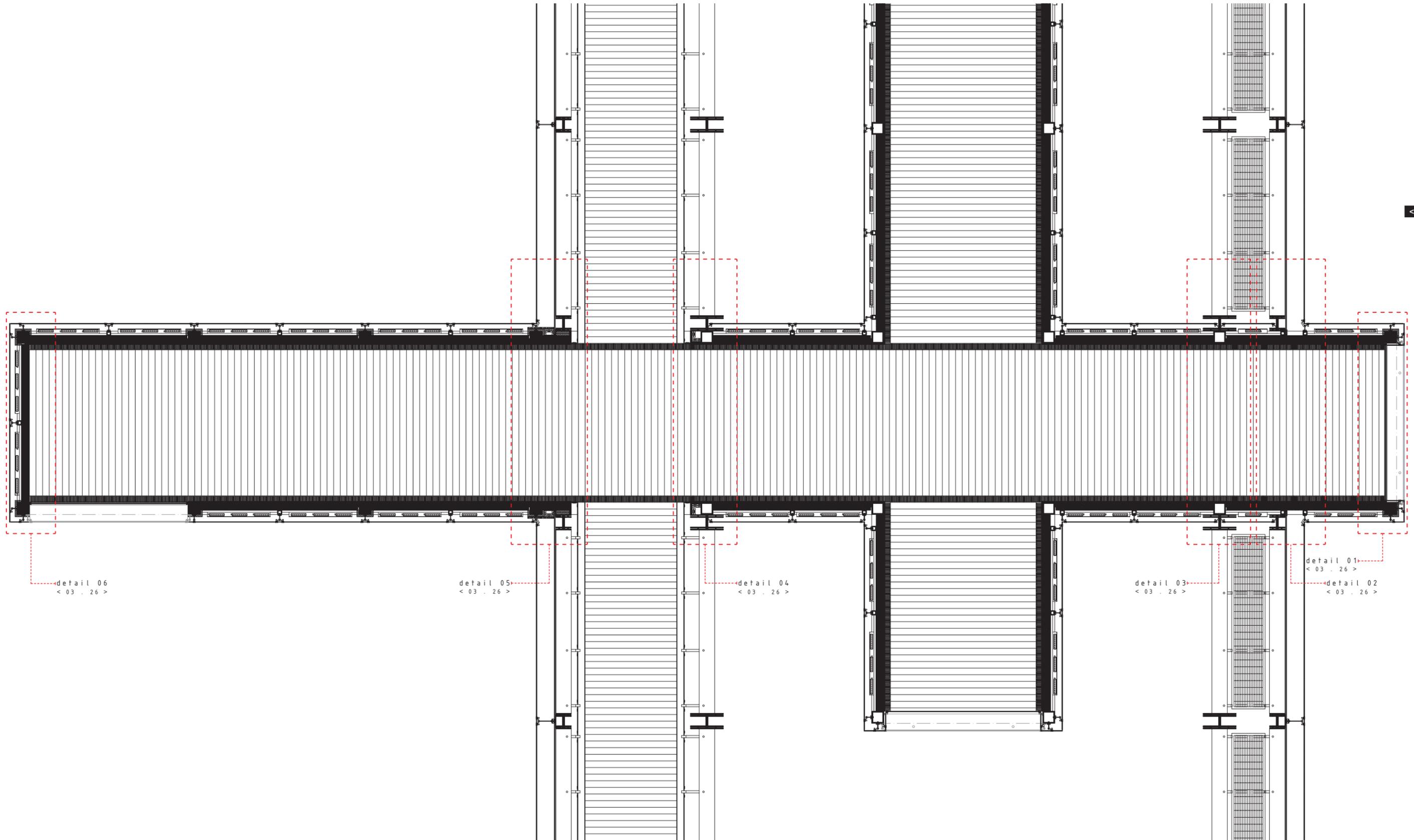
detail 03



detail 02



detail 01



detail 06
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detail 05
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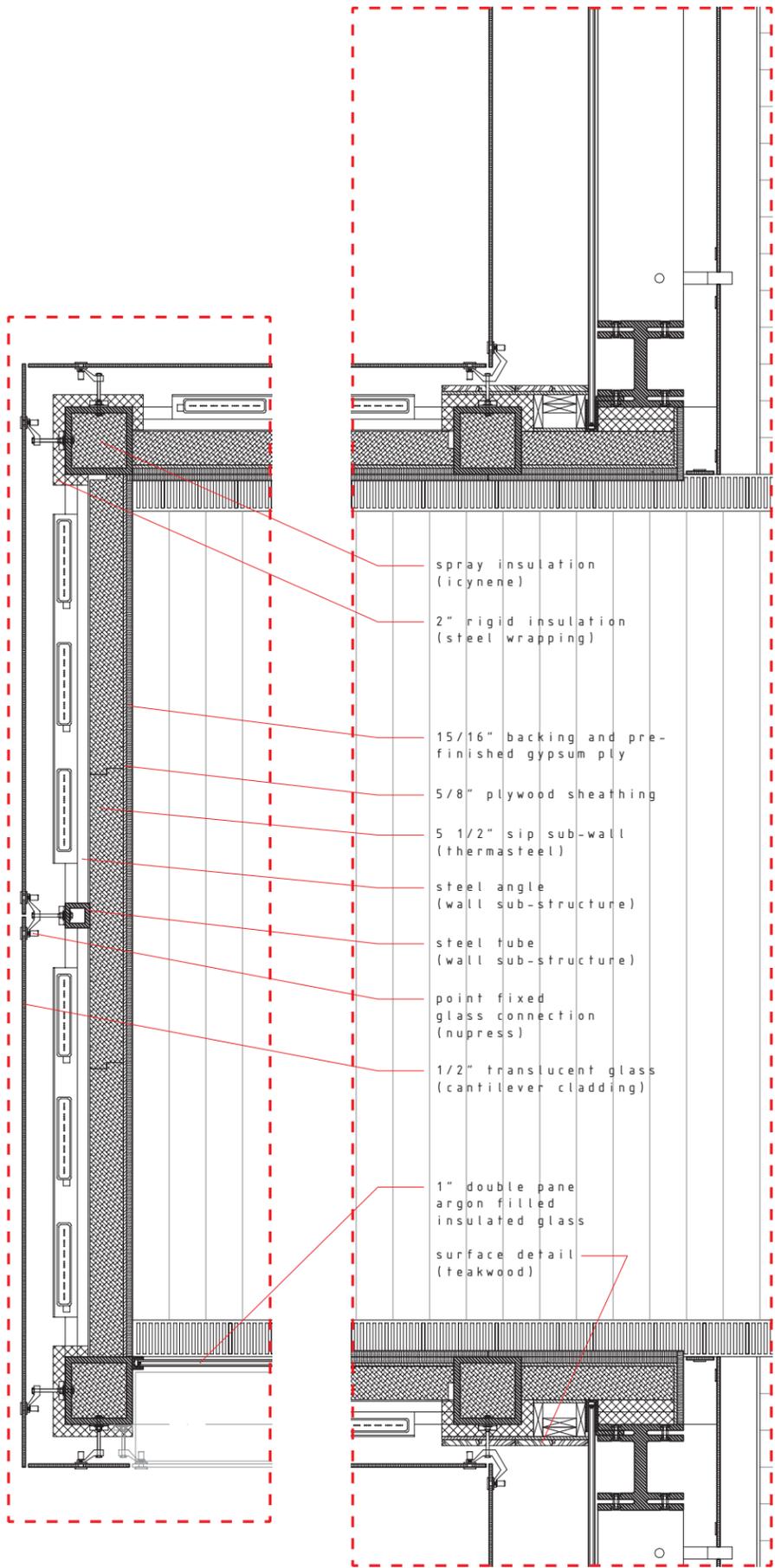
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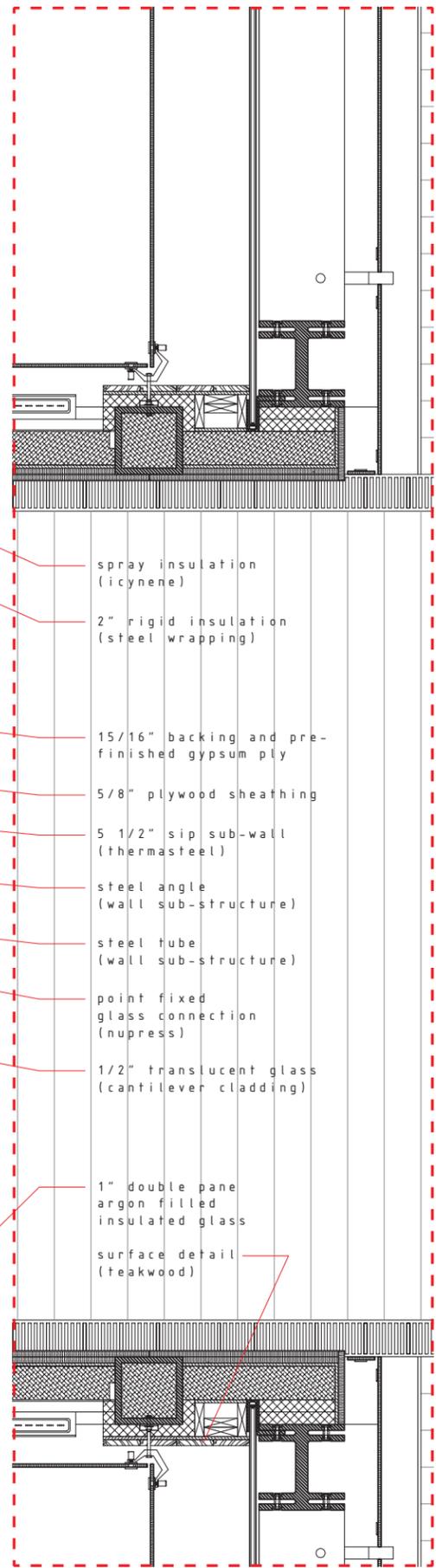
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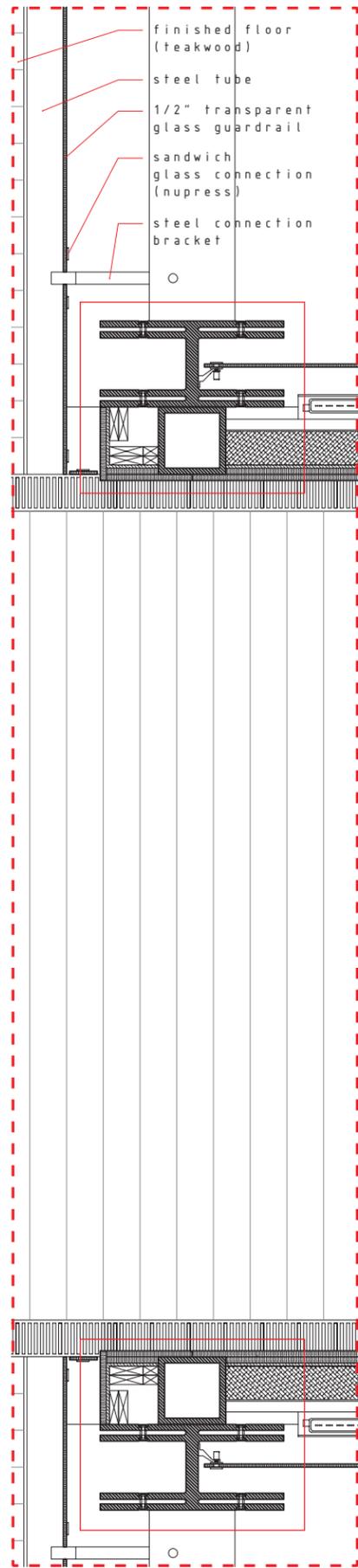
section-in-plan



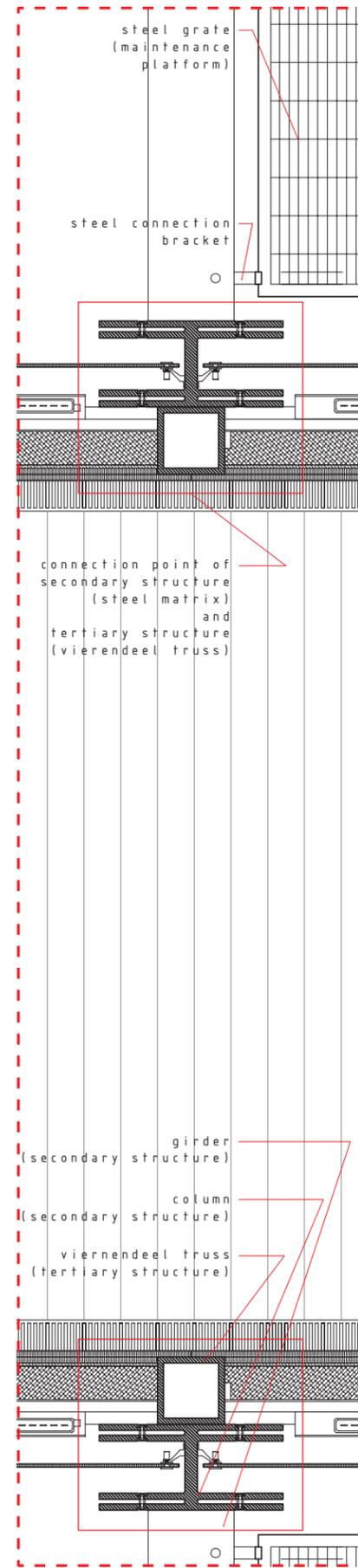
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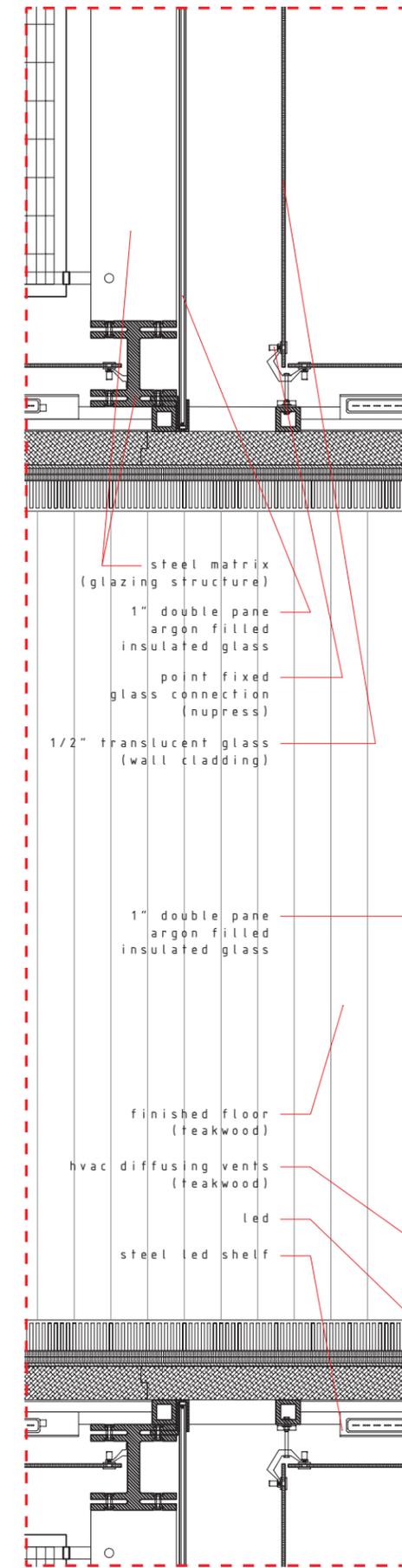
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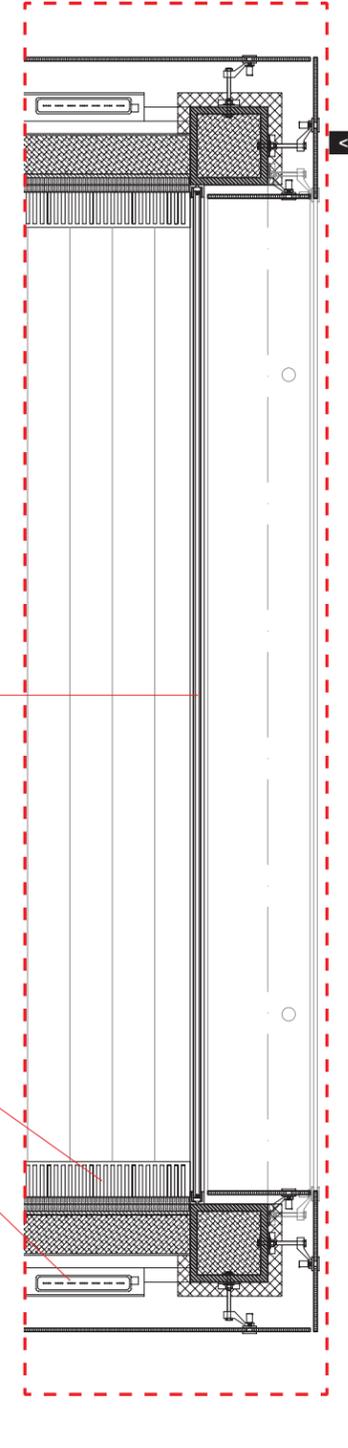
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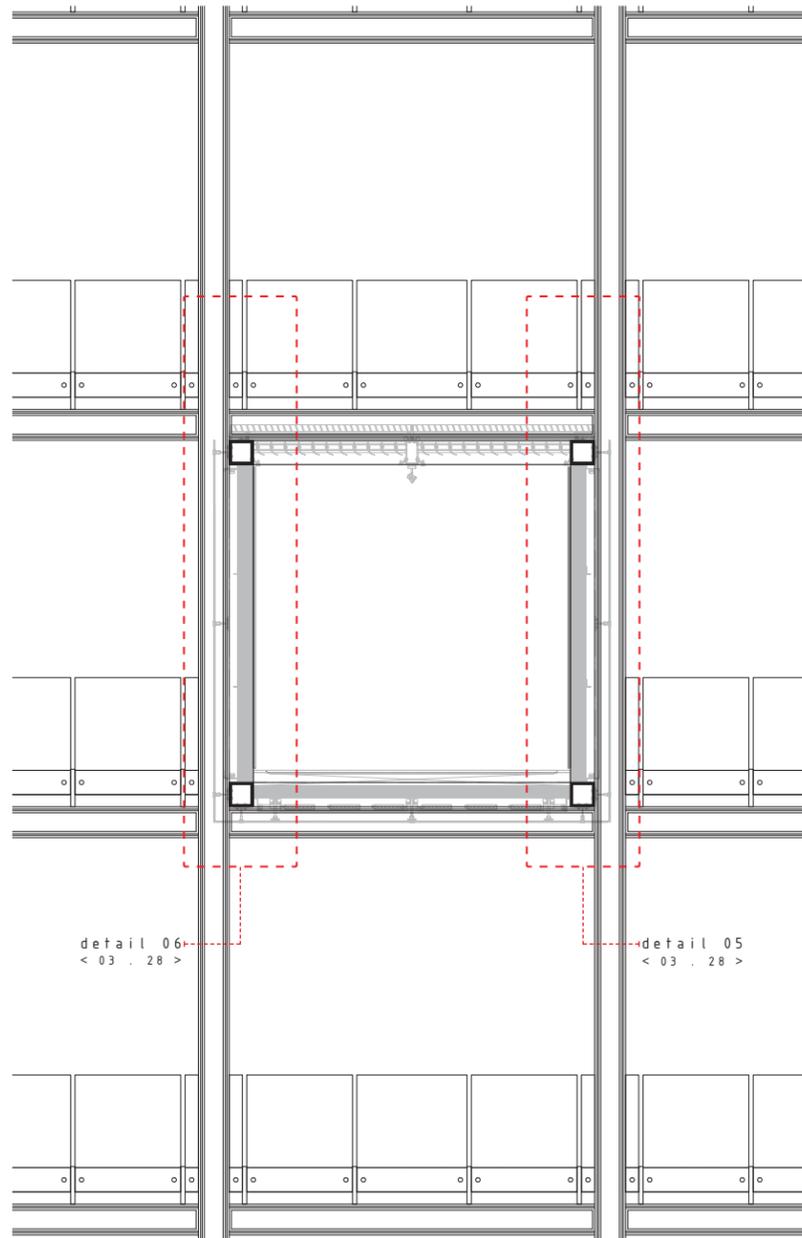
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detail 02



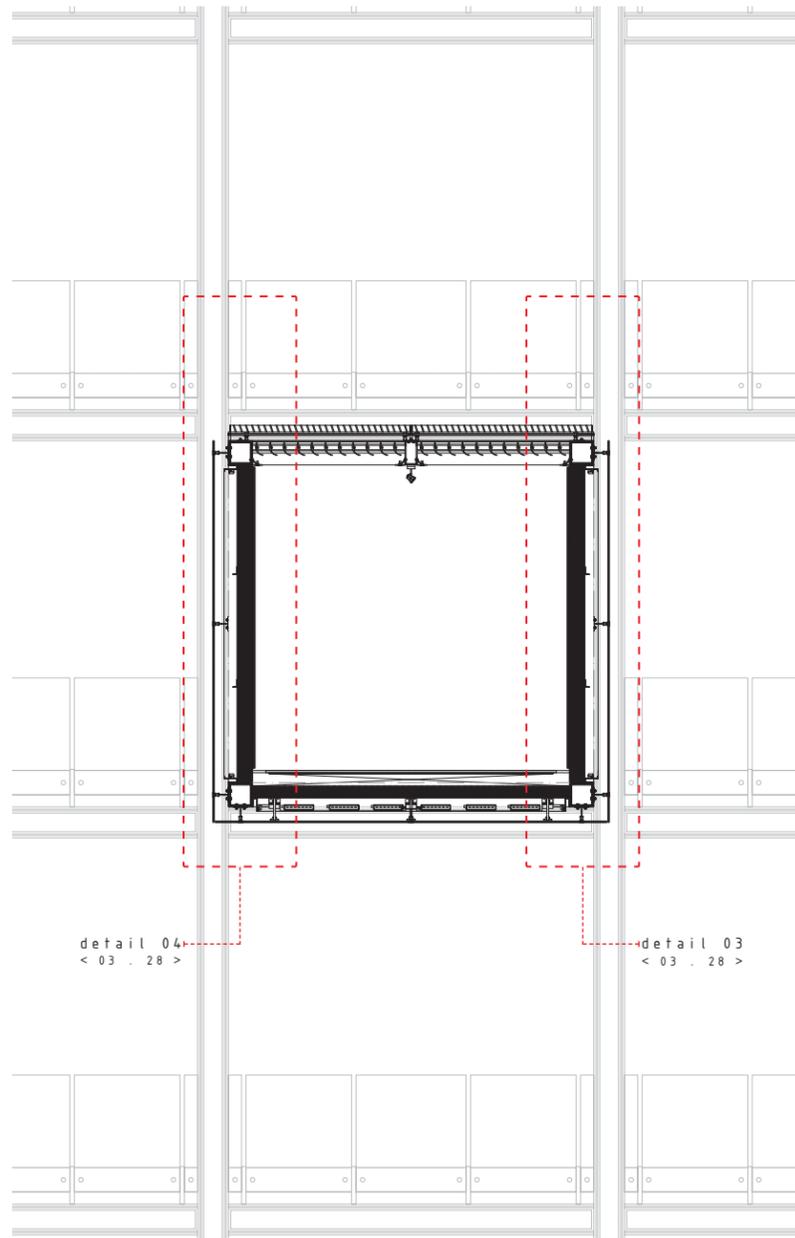
detail 01



detail 06
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detail 05
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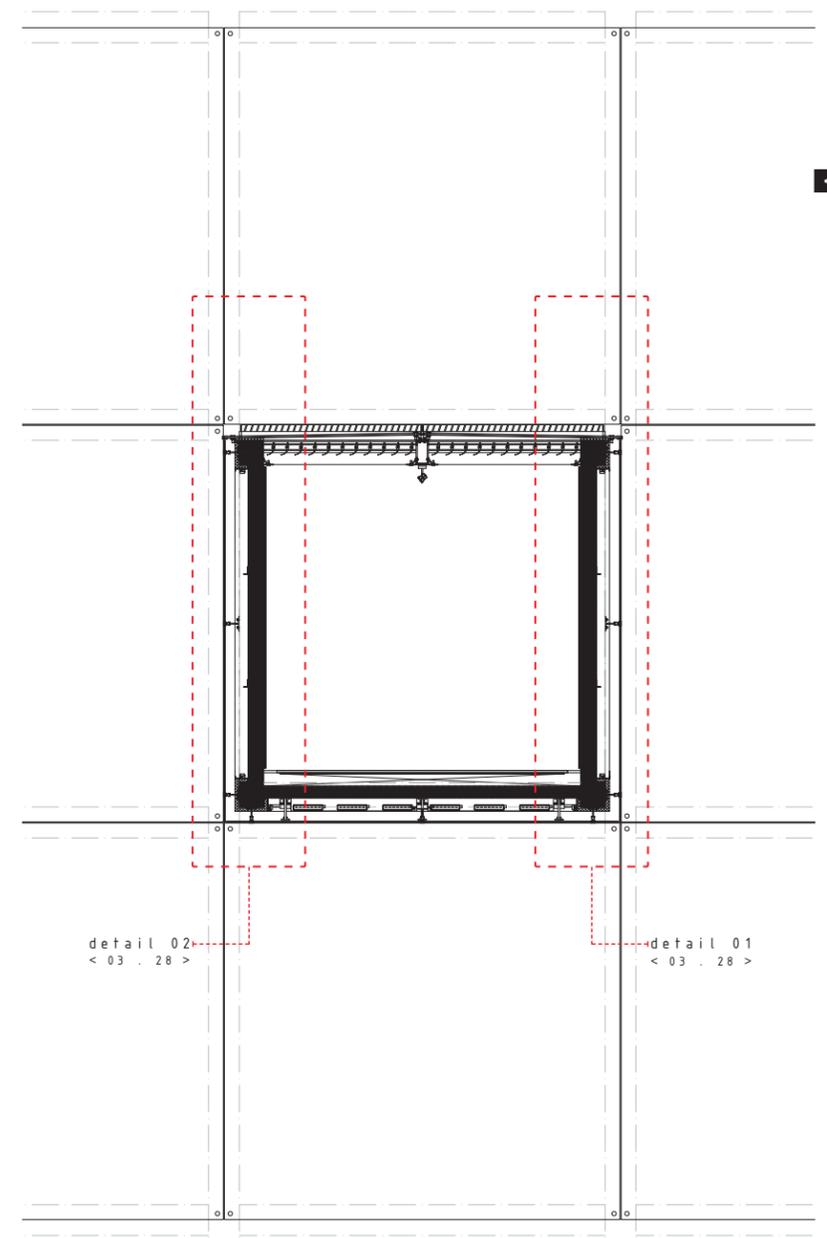
traverse section : @ structure



detail 04
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detail 03
< 03 . 28 >

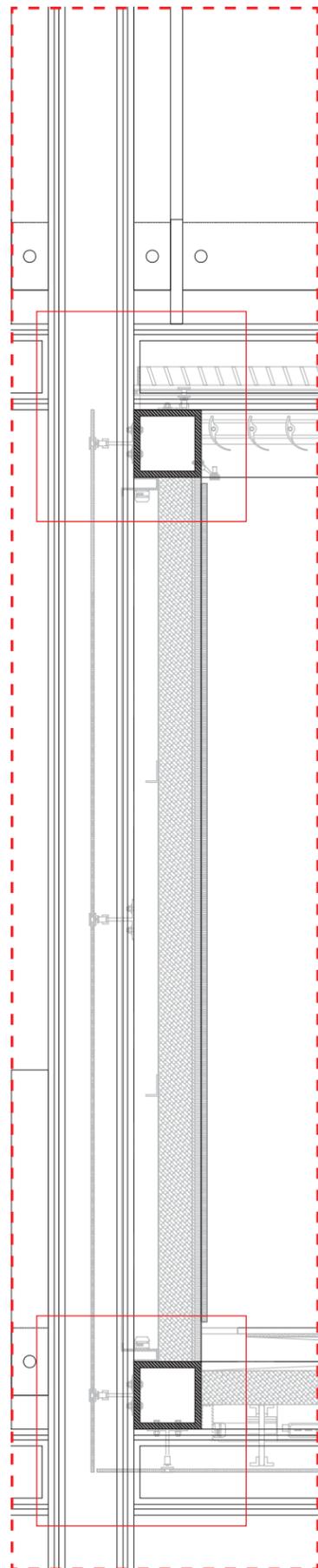
traverse section : interior



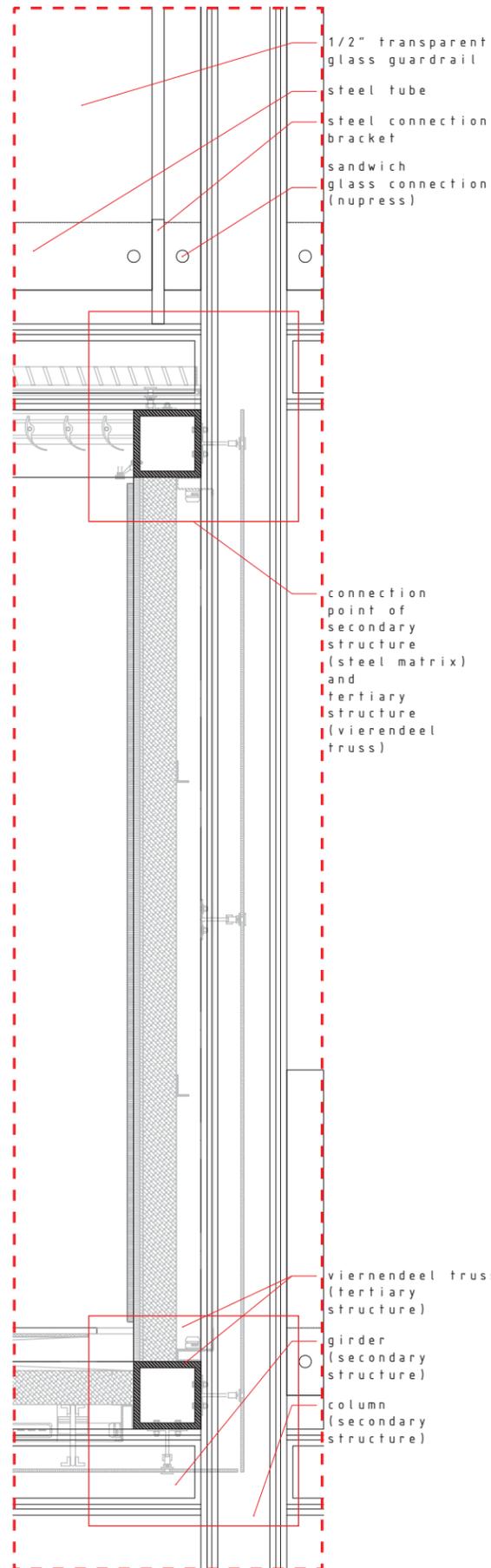
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detail 01
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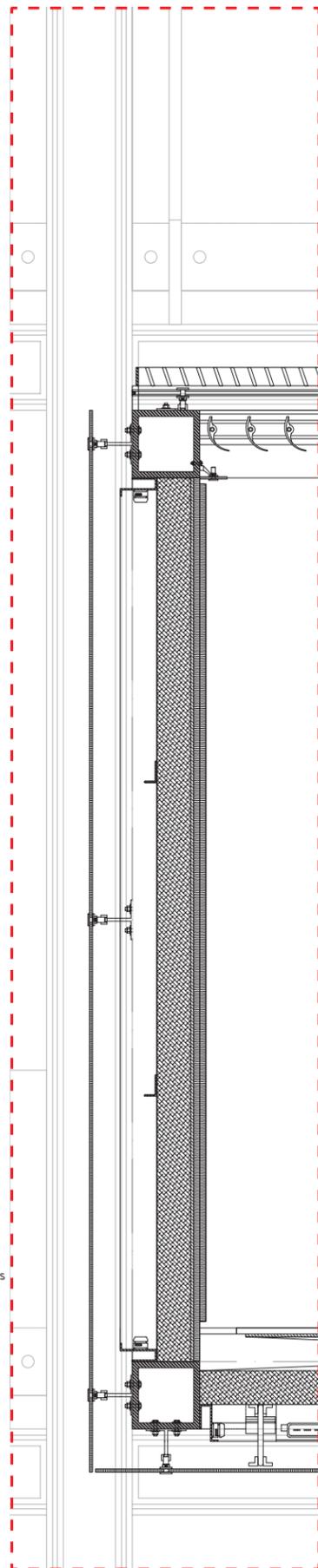
traverse section : exterior



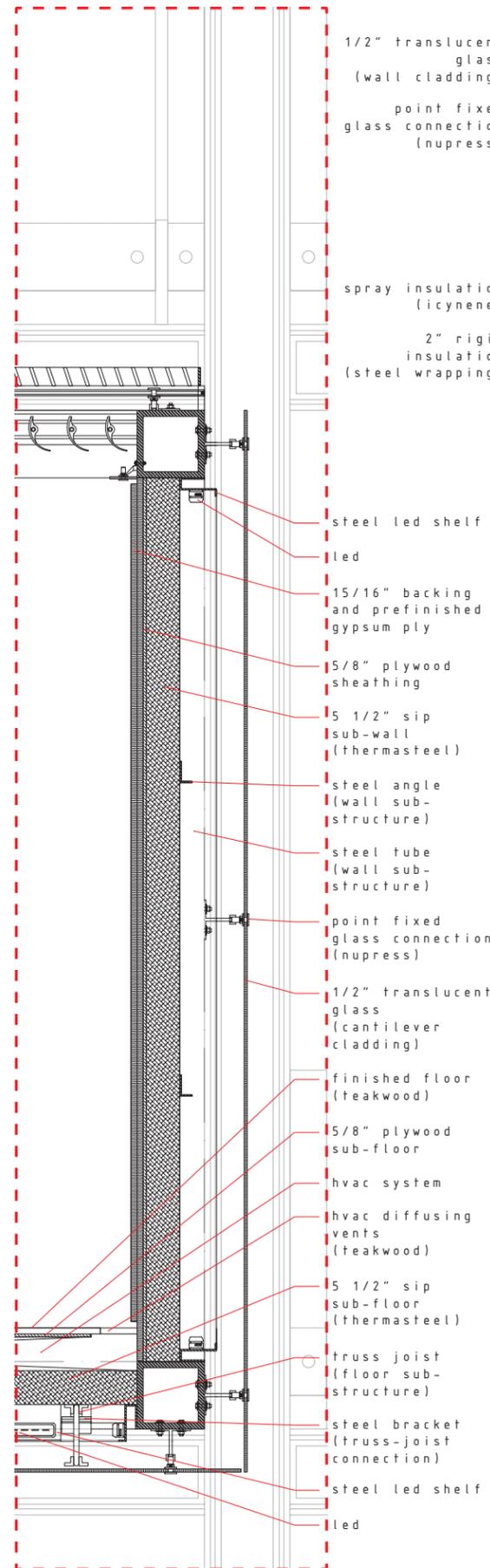
detail 06



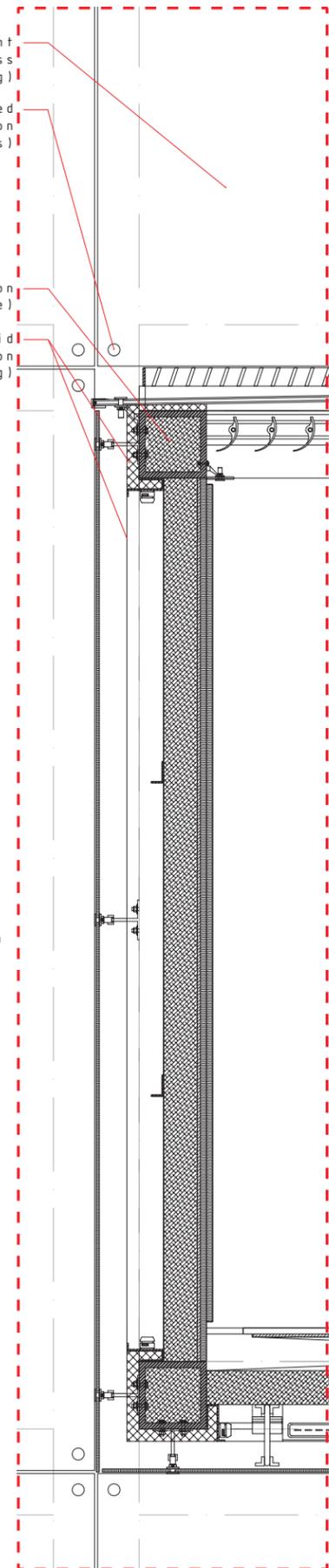
detail 05



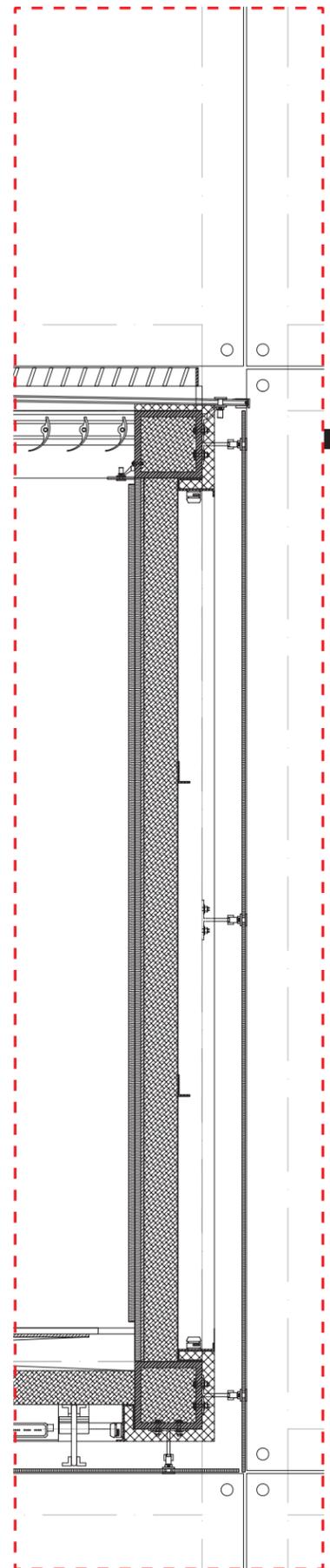
detail 04



detail 03



detail 02



detail 01

1/2" transparent glass guardrail
steel tube
steel connection bracket
sandwich glass connection (nupress)

connection point of secondary structure (steel matrix) and tertiary structure (vierendeel truss)

viernendeel truss (tertiary structure)
girder (secondary structure)
column (secondary structure)

1/2" translucent glass (wall cladding)
point fixed glass connection (nupress)

spray insulation (icynene)
2" rigid insulation (steel wrapping)

steel led shelf
led
15/16" backing and prefinished gypsum ply
5/8" plywood sheathing
5 1/2" sip sub-wall (thermasteel)

steel angle (wall sub-structure)
steel tube (wall sub-structure)
point fixed glass connection (nupress)

1/2" translucent glass (cantilever cladding)
finished floor (teakwood)

5/8" plywood sub-floor
hvac system
hvac diffusing vents (teakwood)

5 1/2" sip sub-floor (thermasteel)
truss joist (floor sub-structure)

steel bracket (truss-joist connection)
steel led shelf
led

vita

vita : **matthew david wagner**

education

2007 : 2004 **virginia polytechnic institute and state university**
master of architecture
school of architecture + design

2004 : 1999 **virginia commonwealth university**
bachelor of fine arts, interior design
school of the arts (sota)

professional experience

: 2007 **bam architects**
richmond, virginia

2005 : 2001 **art & architecture, inc.**
petersburg, virginia

2005 **virginia tech solar decathlon 2005 team**
(<http://vtsolar.arch.vt.edu>)

academic honors

2007 **outstanding thesis award**
caus annual school of architecture + design awards

2006 **phi beta delta international honor society**
gamma omega chapter of virginia tech

2005 **cesa scholarship**
(center for european studies and architecture)

2003 **vcu anderson gallery**
student exhibit

1999 **nahs scholarship**
(national art honor society)

extra curricular

2006 **caus european residency**
riva san vitale, switzerland

2004 : 1999 **virginia commonwealth university ice hockey club**
(www.vcuhockey.net)

2003 **bike for cancer prevention 2003**
(www.bikeforcancerprevention2003.4t.com)
proceeds go to vcu massy cancer center. missoula,
montana, to florence, oregon (828 miles, 10 days).



amy, no words can express my appreciation for your love and support. the time we have spent apart has been a true test to our vitality.