

The Architecture of the Transformation of Folding  
and the Design of an Alexandria Law Firm

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Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

Master of Architecture

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# The Architecture of the Transformation of Folding and the Design of an Alexandria Law Firm

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## ABSTRACT

Understanding architecture through a contemporary context of the transformations of art and technology was the springboard for this thesis. Identifying folding as a basic transformation became the focus for developing an Old town, Alexandria, Virginia law firm building. Folding is conceptually used in the spatial and inhabitable forms of the building as well as the materials, textures, and finishes of the walls, ceilings, and floors. Folding is structurally investigated by taking once planer and flimsy elements and creating folded, rigid, and load-bearing elements. Architectural concepts of day lighting, shading, rain runoff, partitioning, vertical circulation, horizontal circulation, library stacks, file storage, solar energy collection, gardening, building services, furnishings, reading, and inhabitation are all thought of in terms of folding. Designing a law firm for Old town, Alexandria, Virginia was chosen from a random number generating process cross referenced with the Alexandria, Virginia phone book. I interviewed a local law firm and based the programmatic spaces on their office needs and relationships.

## ACKNOWLEDGEMENTS

I present this book in consideration for the completion of my Masters of Architecture. I defended my thesis successfully on Wednesday, September 7, 2005 at the Washington Alexandria Architecture Center. Although defended successfully the project was given some criticism. In the time elapsed since my defense I have further developed the project in response to that last critique.

The critique asked whether the thesis was about the transformation of folding or unfolding. The critique asked me to further simplify the structure as diagrammatically represented in the transverse building section. I was asked to more develop the terraced garden at the rear, and I was questioned whether the front facade presented the correct expression to the street.

Thus, my thesis book is divided into three parts. The first part chronicles the projects development during my time at the Center concluding with the drawings presented at my defense. The second part illustrates the continuation of the building development and the investigations and explorations of the project in response to the defense criticism. It more favorably features the thesis, building, project, and my ideas. The third part concludes with a single-plate presentation that coherently illustrates the project using unified drawings.

Three and a half years have lapsed between my defense and this book submittal, and it seems like a great expanse of time when looking back, but it has also been full of revealing moments and architectural educational gains that have added details and better draftsmanship to the project's development and presentation. The three and a half years also contains owed apologies to those who supported me through my leaden process of composing this thesis book. I hope this book meets with acceptable review, and that I may finalize my Masters of Architecture degree.

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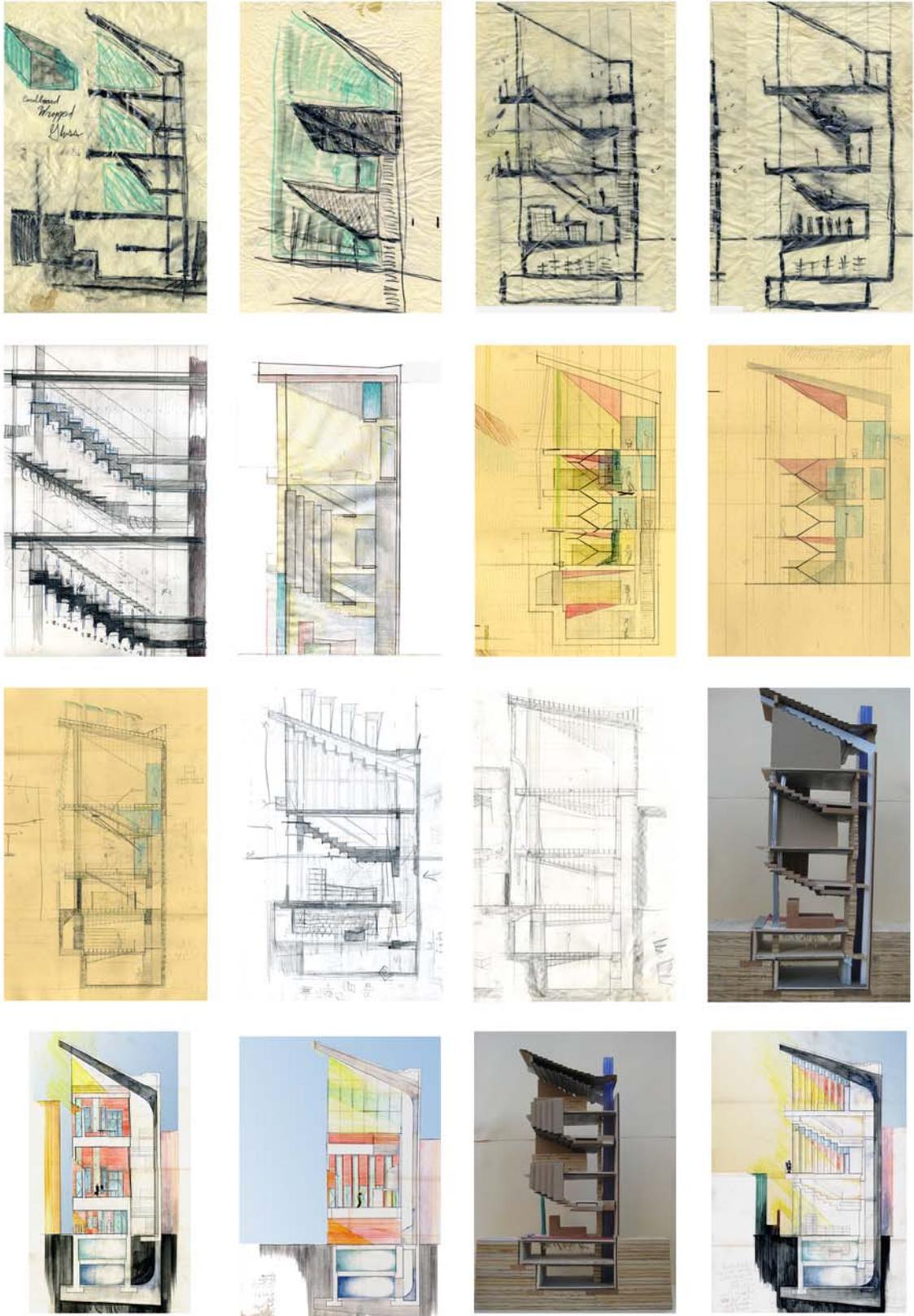
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**Part I**

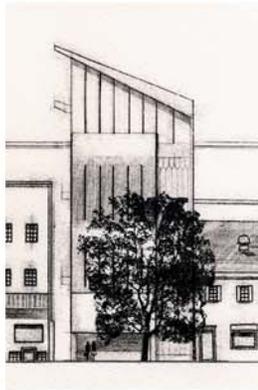
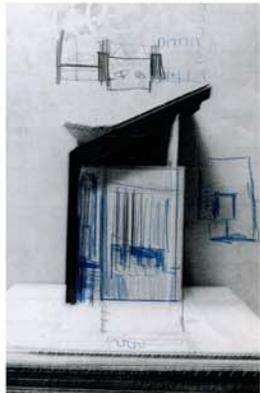
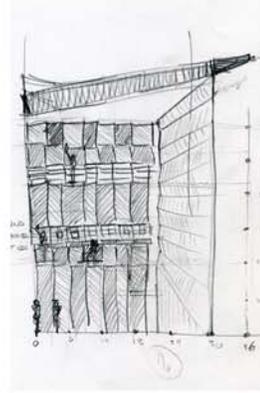
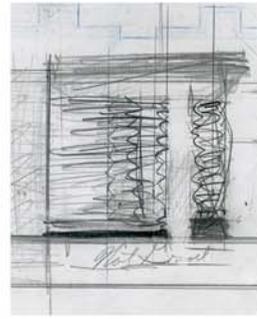
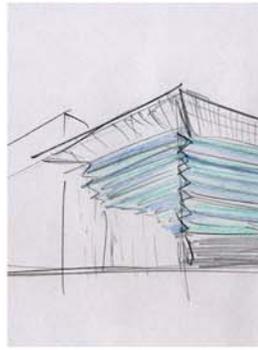
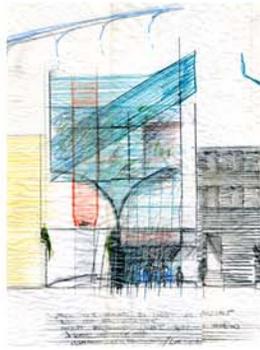
**August 23, 2004- September 7, 2005**

**Thesis Work completed at the Washington Alexandria Architecture Center**

**Creating this Thesis Book and sculpting Part I is a review, and a memoir. The assembly of this part has become a diary of illustrative thinking and investigative studies of the thesis journey. Each drawing's title and text description is the first context letting you in to understanding that drawing within the project's narrative.**



The transverse section diagrams this project and its development.



This series illustrates the development of the facade and its varying thesis with the concept of the project.



MAKE IT AS LIGHT AS POSSIBLE  
MAKE THE STRUCTURE  
ABOUT 20% OF LIGHT - REFLECT WINDOW  
A ROOM TO LIVE ON  
TRANSFORMS CONNECTION / COLLECT

MAKE FACADE / PERMEABILITY / POROSITY / ACTIVE  
PRISTINE WHITE AND COLOR  
CLEANLINESS NOT ARCHITECTURE  
Distances of GROUND

AS STAR CORNER SCAND LADY FIRM

This initial thesis sketch represents a building of transparency. Translucent linear building components change direction to create a facade composed of folding planes adding to the exposed visual depth. The building also attends to the needs of the street. The hyper materiality, shape, pattern, and color are qualities of architectural transformation.



1318 King Street, a semi-vacant, flat, blacktopped lot with a small one story building (to be demolished) constructed of concrete block at the rear of the site, abutting the alley.

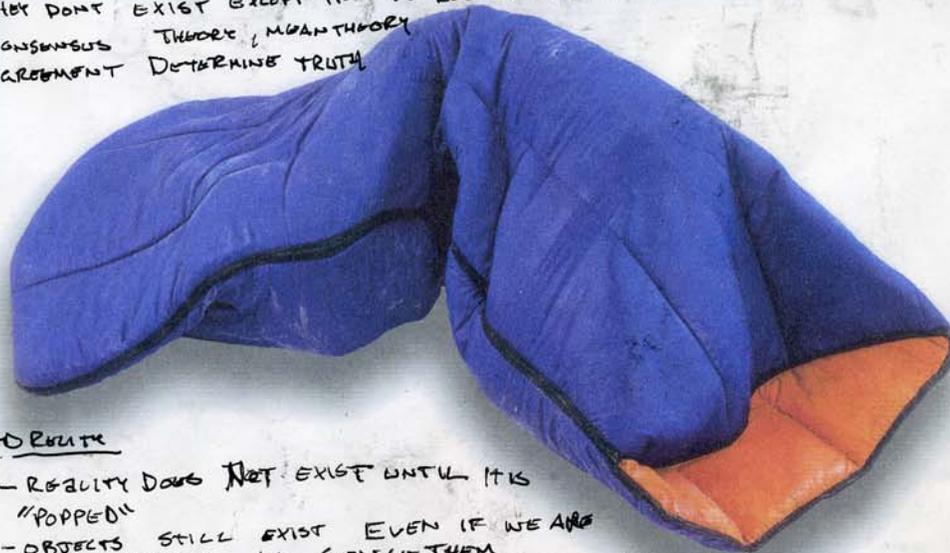


These photographs illustrate the project's site. The lot is currently occupied by a used-car dealership; the existing small block building is in the background of the lower photograph.

CONSTRUCTED REALITY

- A CONSTRUCTION FORMED AROUND TERM EX BOBY KNIGHT
- IT IS LIKE DIFFERENCE OF OPINION
- THEY DON'T EXIST EXCEPT HOW WE RECOGNIZE THEM.
- CONSENSUS THEORY; MEANTHOORY
- AGREEMENT DETERMINE TRUTH

Art



CREATED REALITY

- REALITY DOES NOT EXIST UNTIL IT IS "POPPED"
- OBJECTS STILL EXIST EVEN IF WE ARE NOT THERE TO SENSE THEM [TO DOWNFALL OF PERCEPTION]

Ex: CAT IT TAKES ONE HR TO KILL CAT WITH ONE ATOM OF RADIOACTIVE ATOM.

GAVIN TURK  
NOMAD, 2003  
painted bronze (lifesize)

1/2 CHANGES OF FINDING IN AN HOUR WOULD YOU HAVE A LIVE CAT OR DEAD 2 REALITY UNTIL

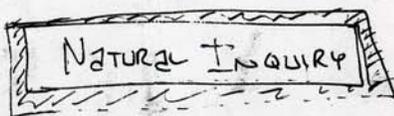
As well as making self-portraits, Turk also makes too-believable replicas of you common objects. Garbage bags and empty cardboard boxes, weightless POP trash cast in bronze and painted to look exactly like the real thing. Turk's high-art litter forces a reconsideration of beauty. Nomad, at first glance, is the fragile cocoon of a homeless person, one of dozens found camping near the artist's London studio. It's only its lack of occasional movement that suggests this isn't a person at all, but rather a block of metal; a trompe l'oeil of destitution cast in the media of immortality.

- POTENTIAL
- PERCEPTUAL UNIVERSE QUESTION

Cape, Jonathan. 100 The Work That Changed British Art, Random House, London; 2003.

BOTH THINK REALITY IS OUT THERE JUST WHAT CAN YOU KNOW ABOUT IT

The trompe l'oeil inhabited sleeping bag is made of solid bronze.



OBJECTIVE REALITY

ARL [HYPOTHETICAL REALISM  
NAIVE REALISM

- THERE IS REALITY AND EXPERIENCE WITH IT CAN RESULT IN KNOWING IT FULLY
- REALITY IS WHAT YOU CHANGE YOUR BELIEFS
- YOUR QUESTION START SOME AND MOVE TO SOME REALITY.
- THINK WE WILL ALL RISE TO GET IT TOGETHER

PERCEIVED REALITY

- YOU CAN NOT KNOW IT FULLY
- SEE IT THROUGH PERCEPTIONS.
- ALL HAVE PERCEPTIONS BUT TO EACH THEIR OWN
- WE CAN ONLY KNOW PARTS & NEVER KNOW ALL.

Cape, Jonathan. 100 The Work That Changed British Art, London: Random House, 2003.

ROUTE CHANGES OF  
PERCEPTION  
WHAT DOES REALITY,  
PERSPECTIVE HINGE PERCEPTION

YOU DON'T SEE BLIND  
SPOT

PERCEIVED  
HOW DO FILE WHAT DON'T KNOW

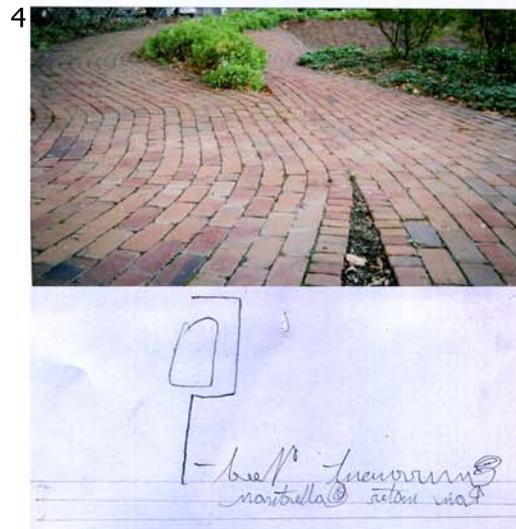
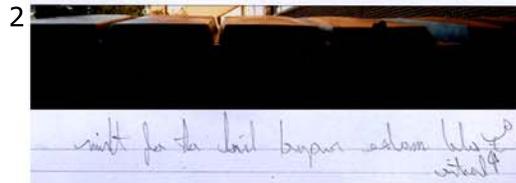


### George Washington Tree Cloned

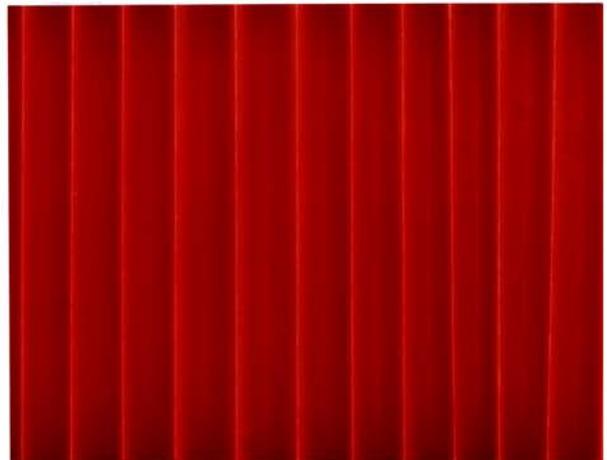
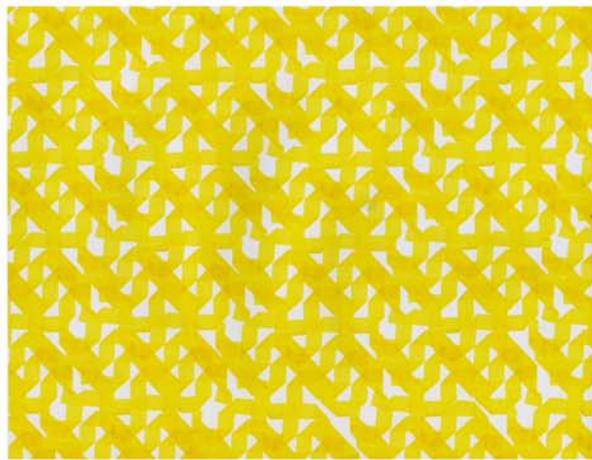
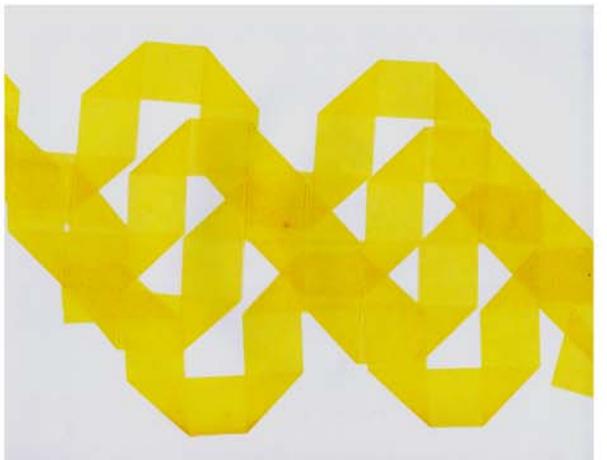
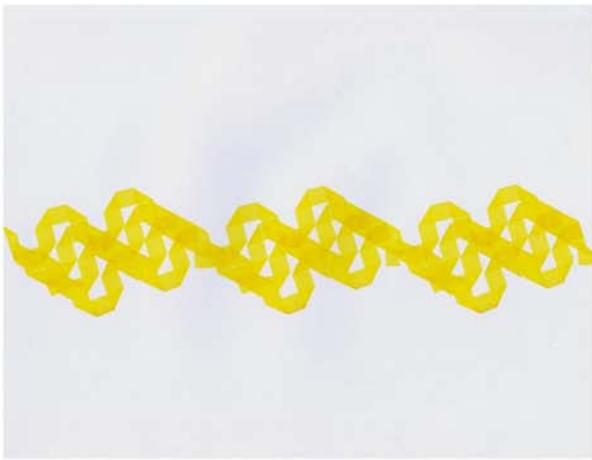
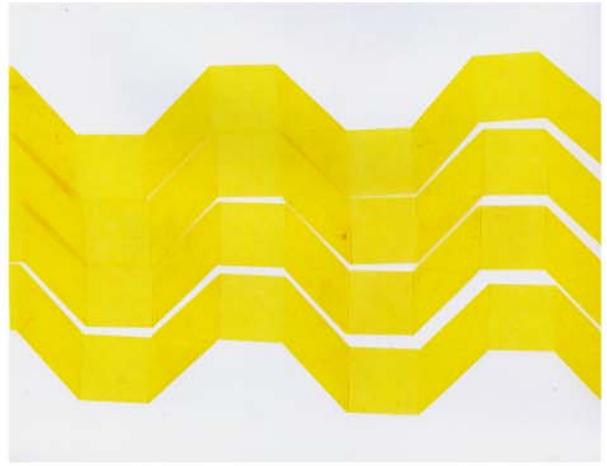
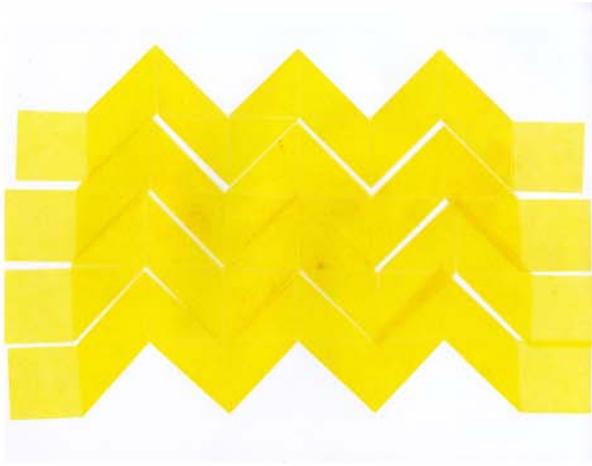
At Mount Vernon, George Washington's estate, a worker in a cherry picker collects genetic samples from a tree planted by the first U.S. President.

George Washington's trees will exist forever.

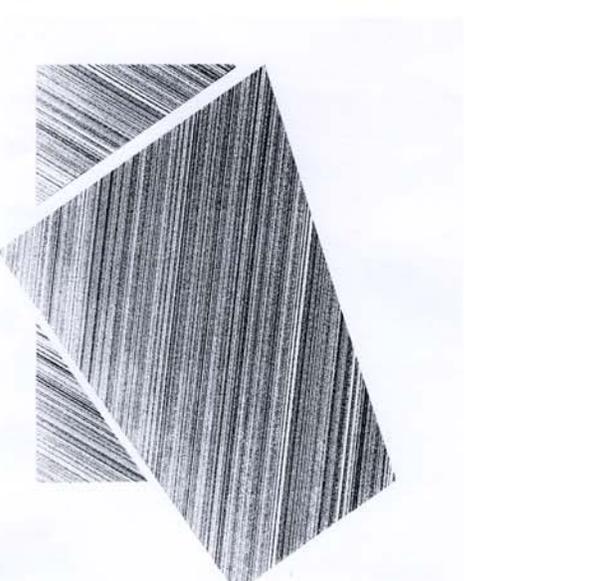
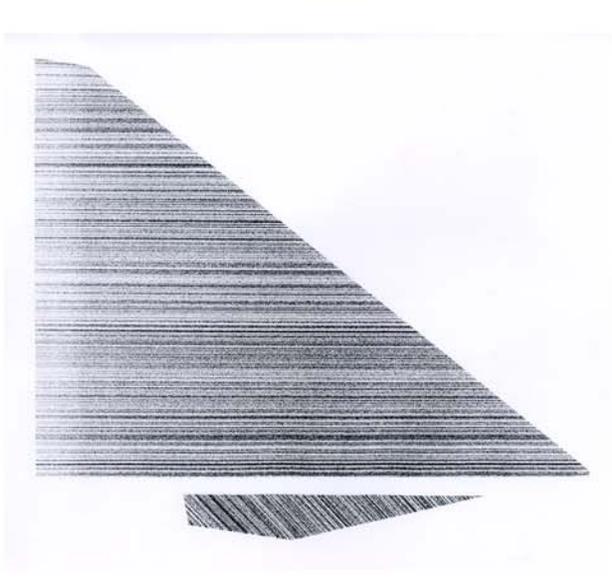
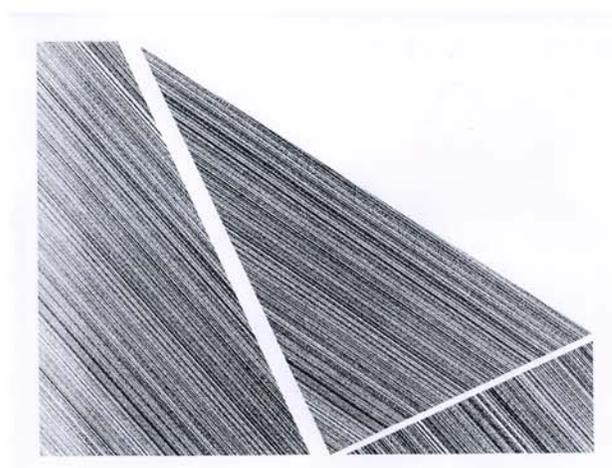
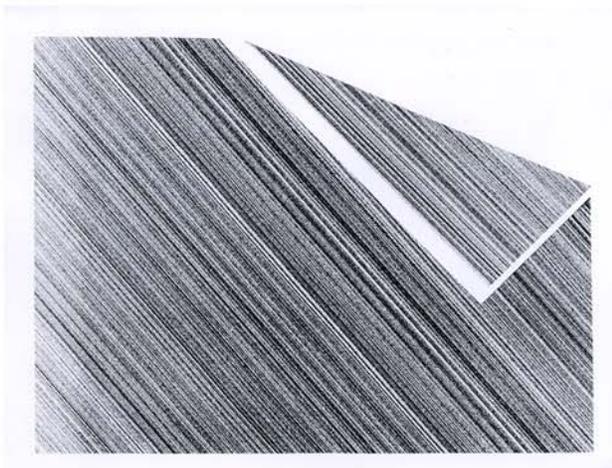
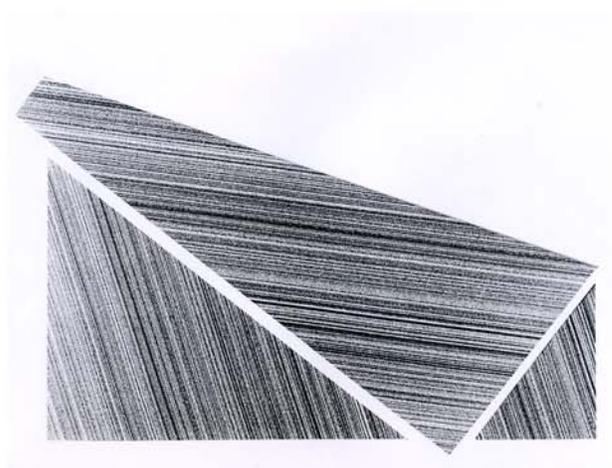
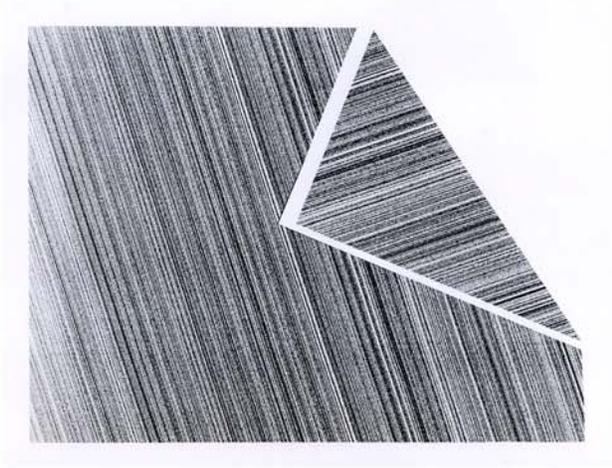
Roach, John. "George Washington Tree Cloned for Arbor Day Plantings." *National Geographic News* 29 April, 2004.  
<[http://news.nationalgeographic.com/news/2004/04/0427\\_040427\\_arboday.html](http://news.nationalgeographic.com/news/2004/04/0427_040427_arboday.html)>



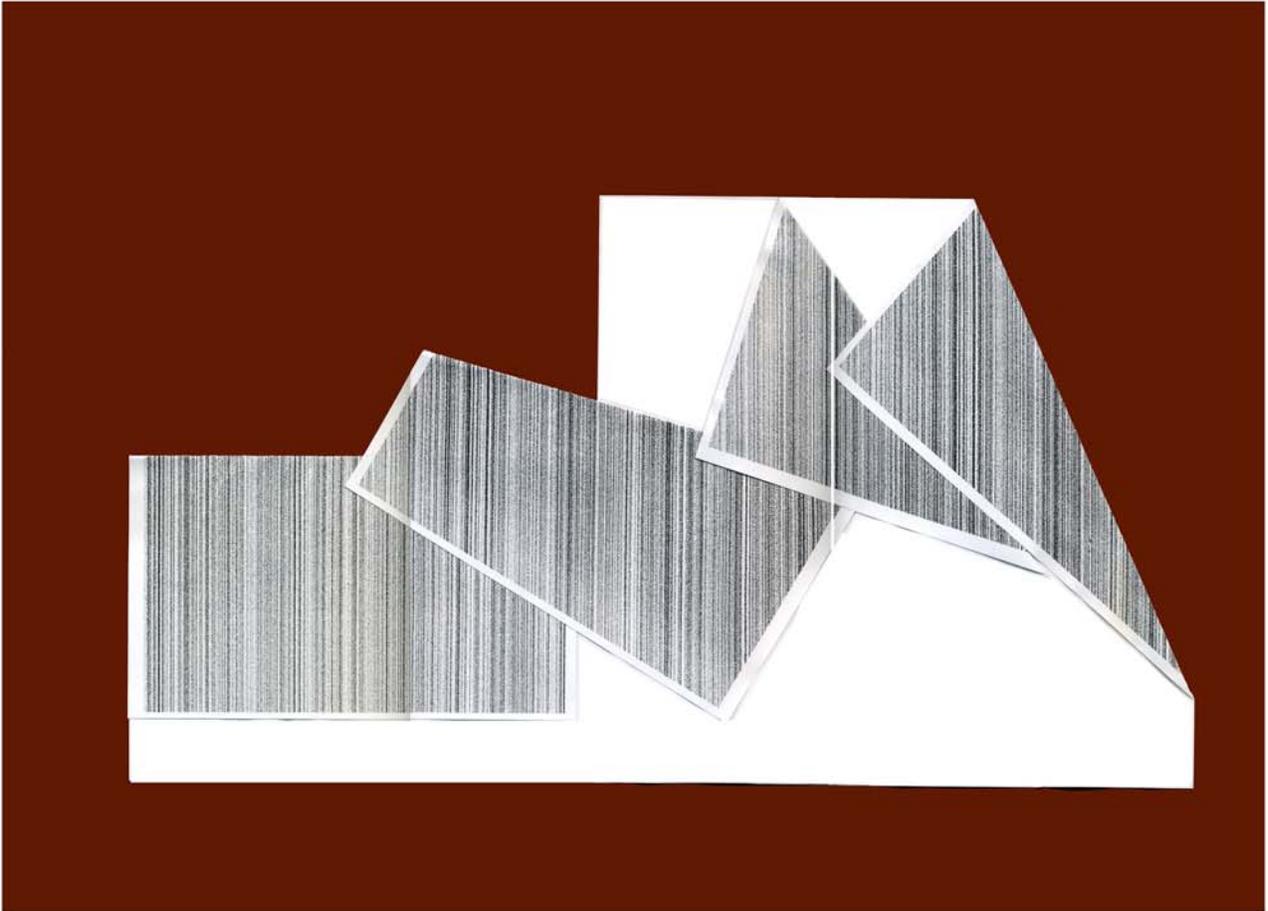
1) This is a conceptual photographic study of folding materials. The folding of the metal roof creates a rigidity and a texture juxtaposed against the more closely spaced folds of the vinyl soffit. 2) The folded shape of the dumpster lid is a structural rigid form capable of spanning the trash enclosure with minimal material. 3) When the highly reflective metal is folded rhythmically, variations of light, color, and imagery are perceived depending on the viewer's location. 4) A thoughtful folded ground plane directs rain runoff to designed locations.



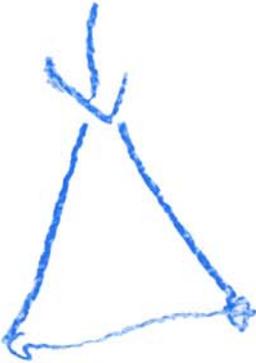
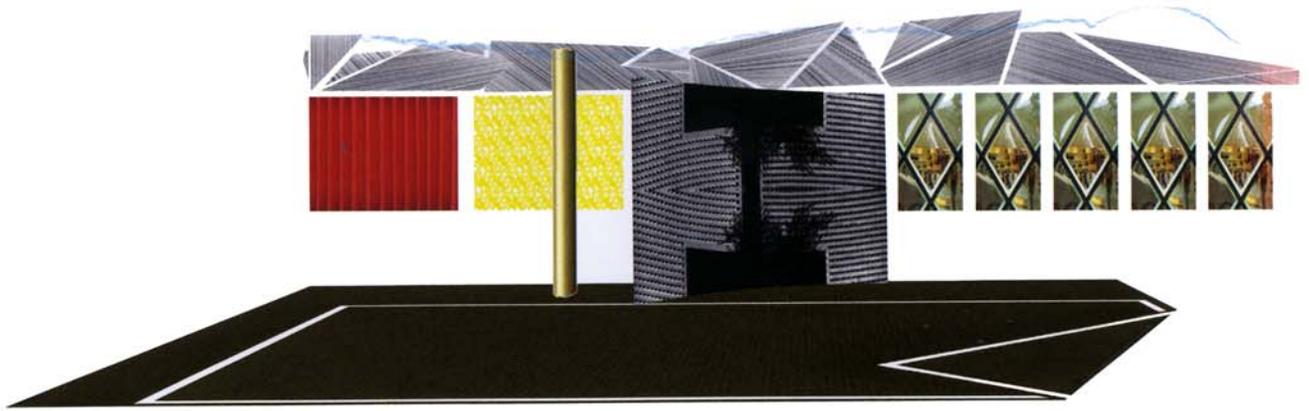
This conceptual material study explored translucent strips of yellow paper folded and arranged in adjacency patterns. The translucency at the folds reveals different color tones. The patterns created in each arrangement make allusions of folding in multiply intersecting directions or woven fabric.



This conceptual material study views simulated material striations at the object's fold. (The B side striation of object 3 nearly aligns with the A side despite the fold's acute angle.)

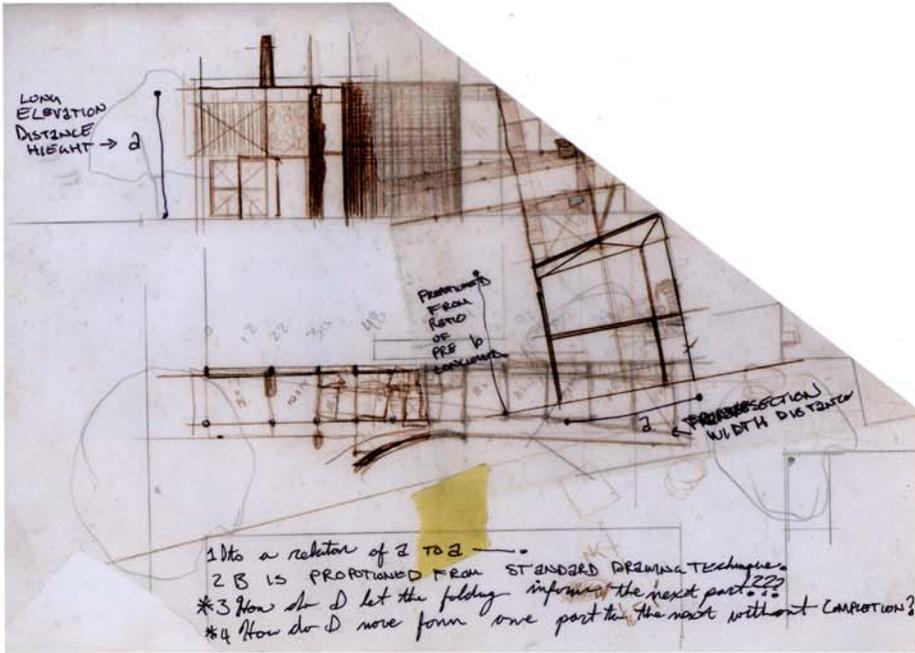


All striations are parallel although each fold is a different angle. The arrangement is a deliberate and architectural. The form of a building roof is imagined.

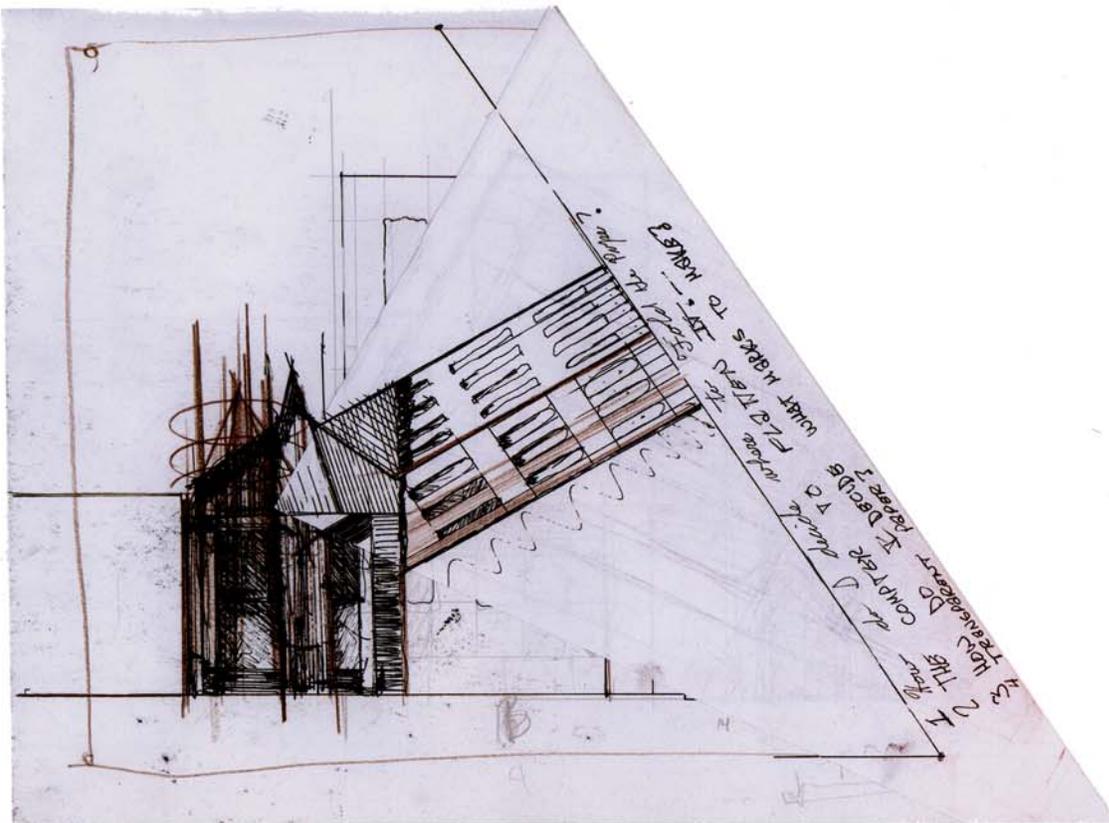


A collage of folded elements arranged in an architectural concept.

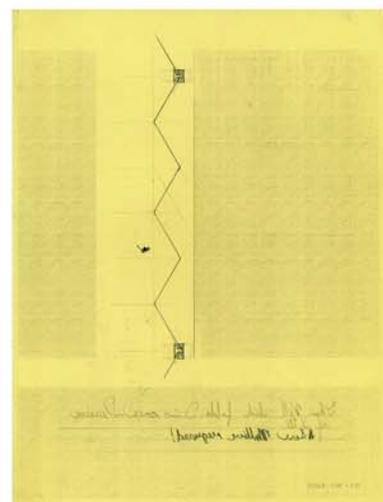
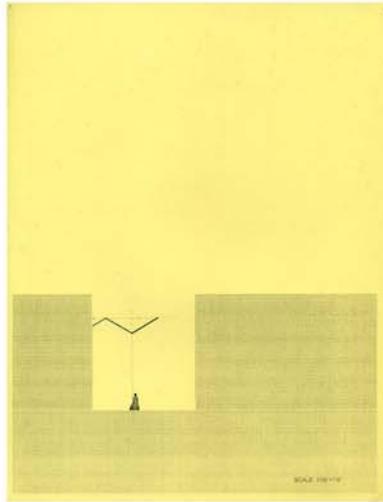
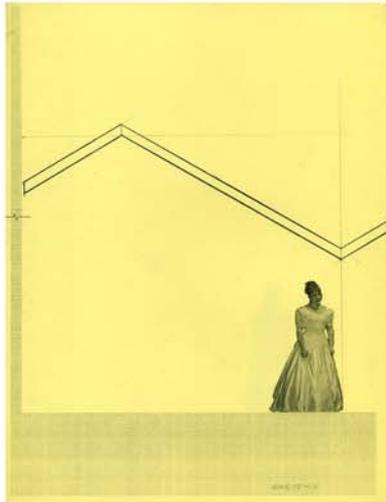
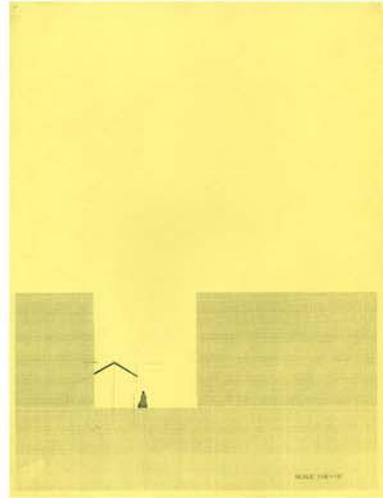
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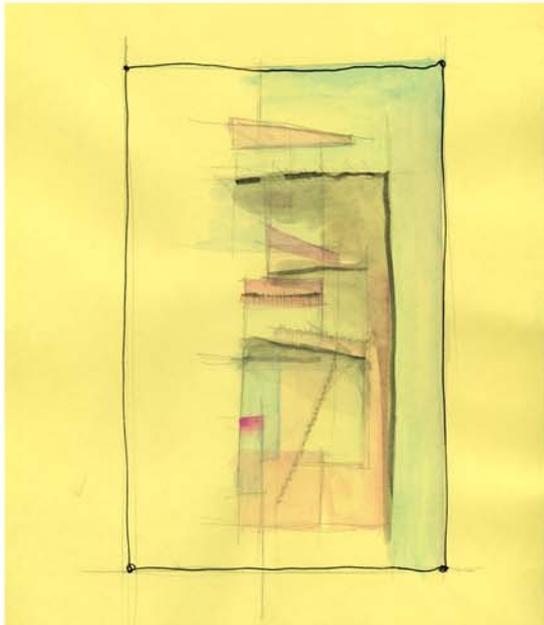
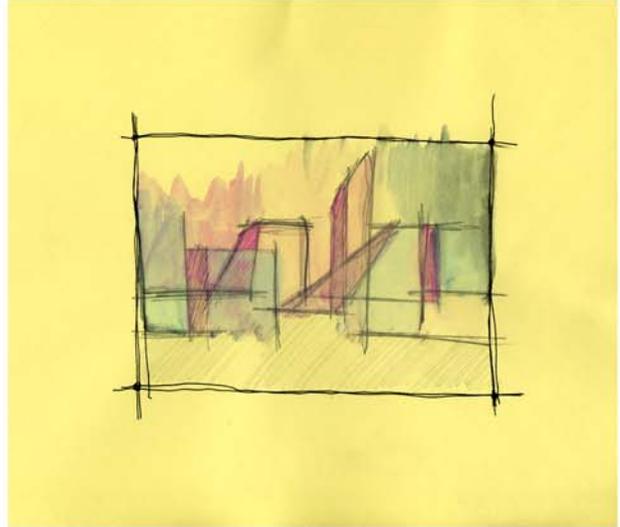
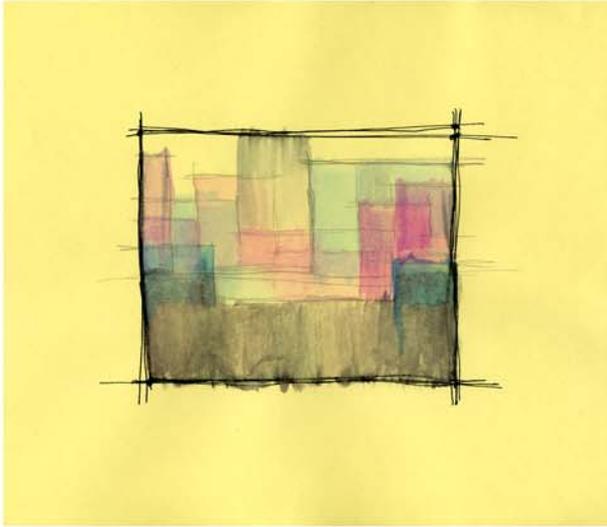
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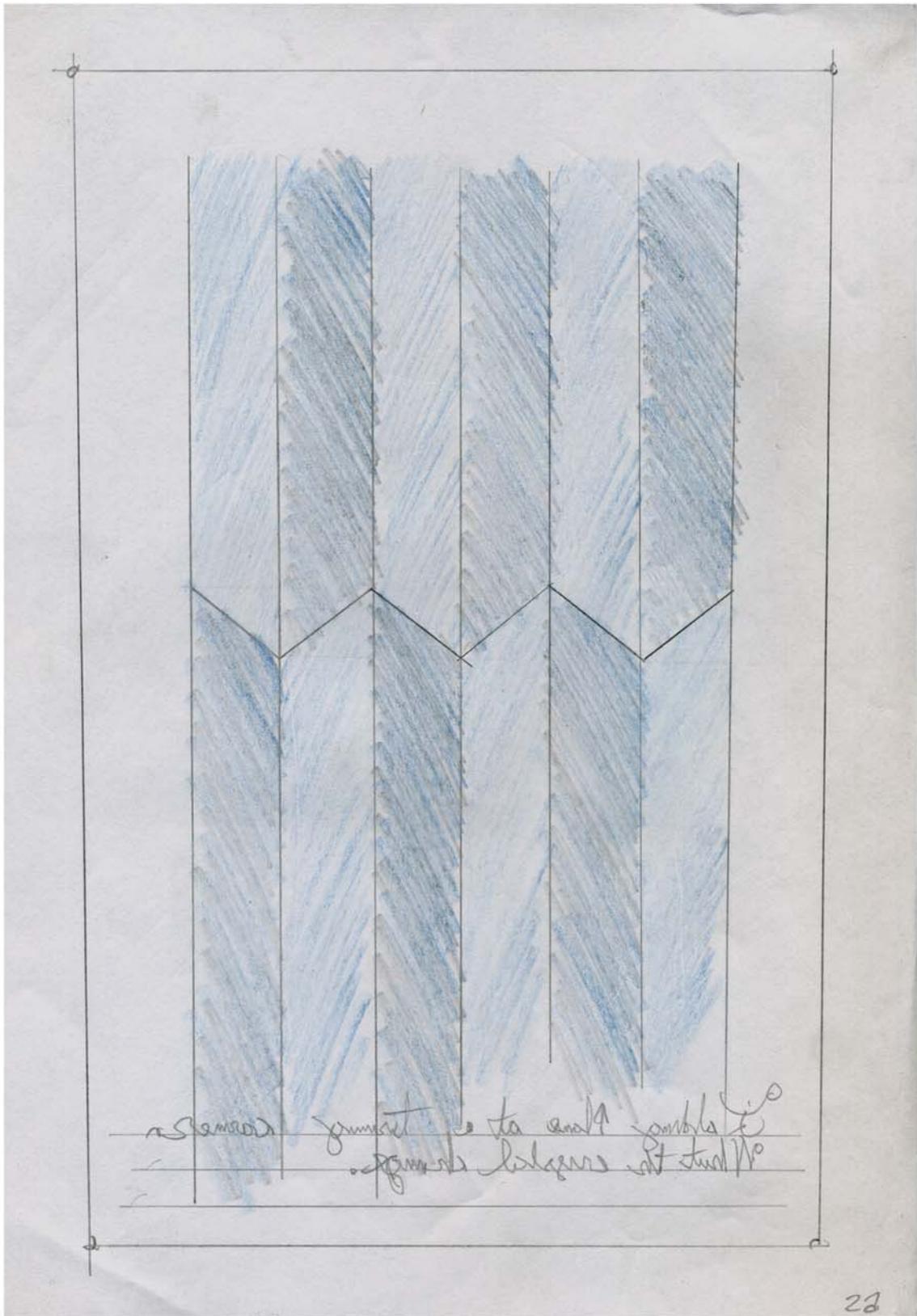
1) The paper of the first conceptual drawing is folded over and taped down, and the second drawing is made across the fold. The vertical section in the second drawing is in extruded relation to the folded plan section of the first drawing and the sum of all drawn parts reveal a third drawing. 2) Drawing away from the fold but across the edge of the paper.



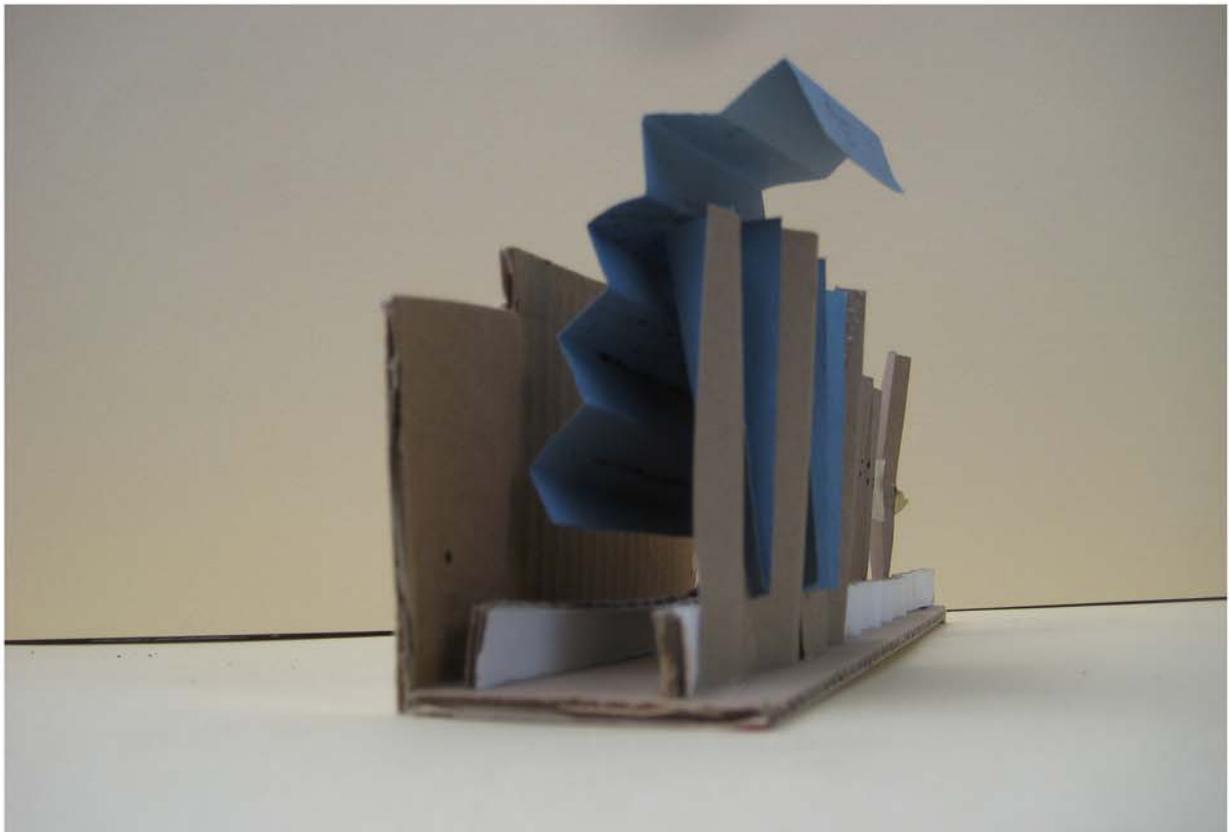
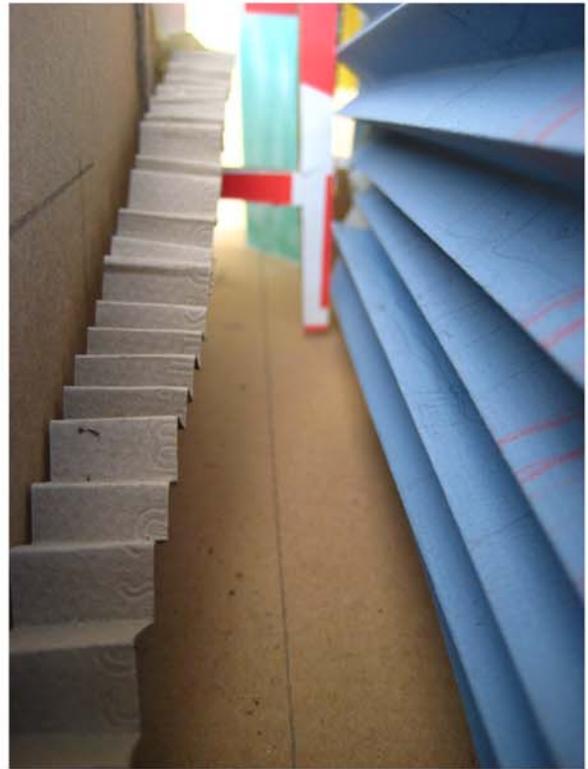
This graphic study investigates the scale and spatial relation of a folded building element to a human in the abstracted, existing site.



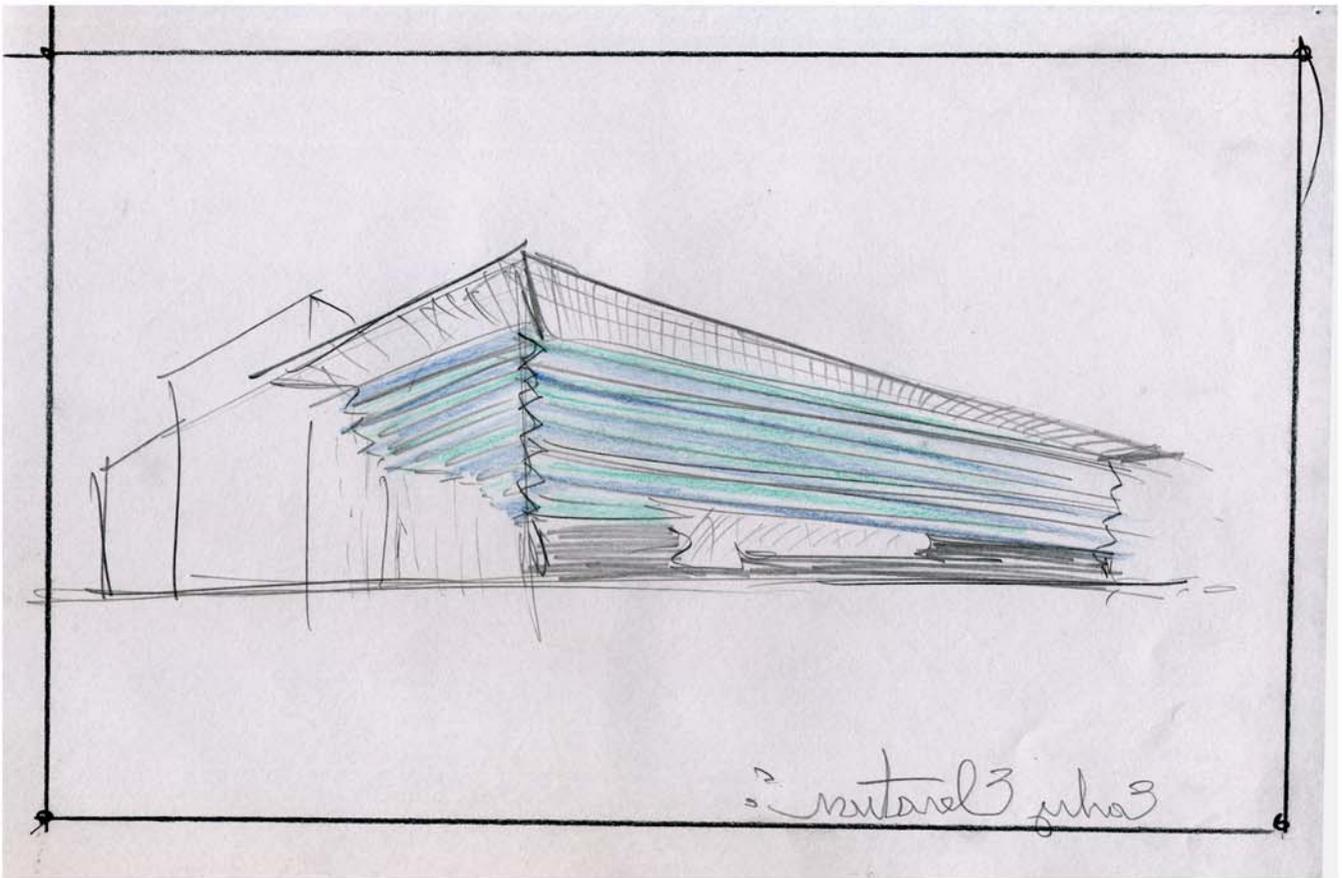
This conceptual series takes some of the forms established in the previous studies and composes possible spatial order of the building.



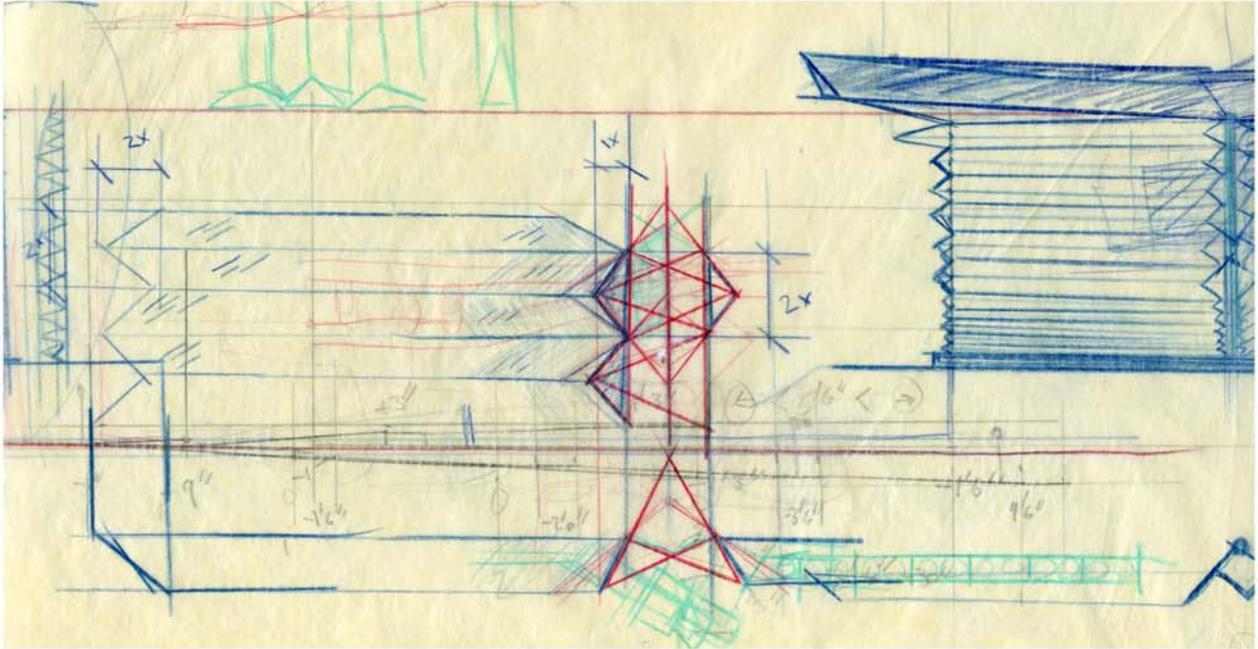
An idea of the shadows of undulating vertical planes or glass panels.



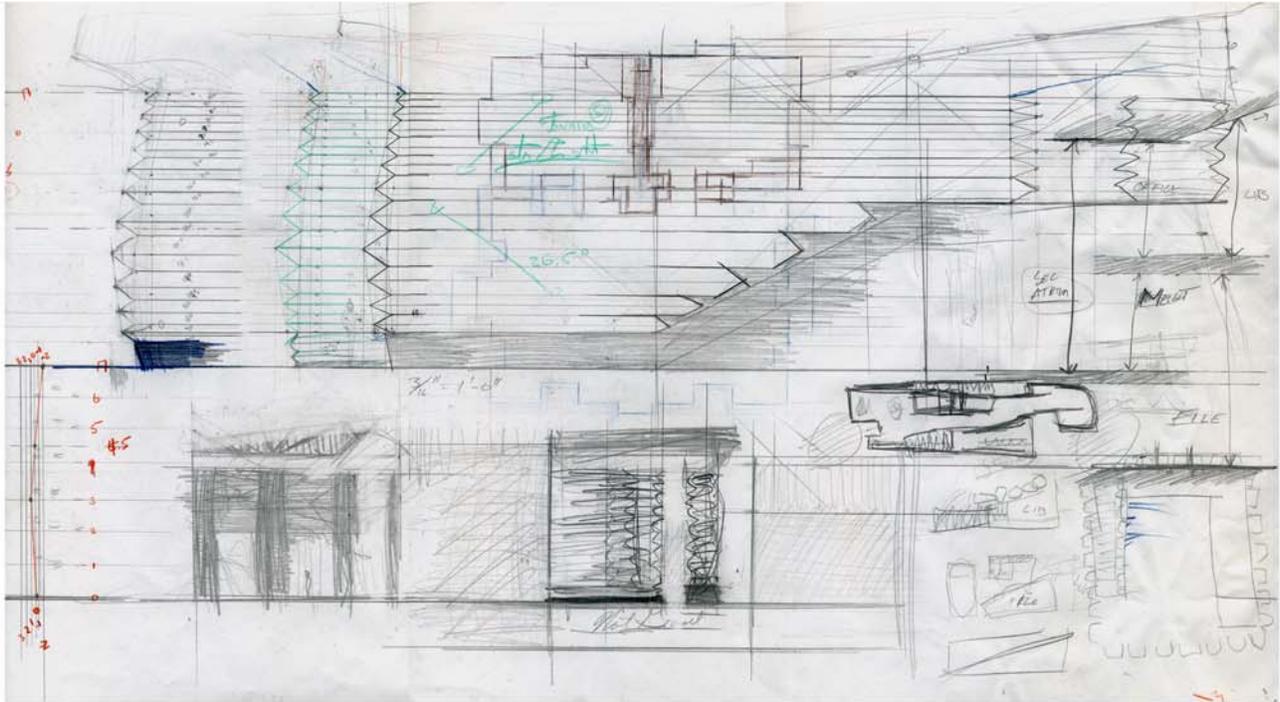
Early study models illustrating folded plans and interior and exterior spaces created as a result of them.



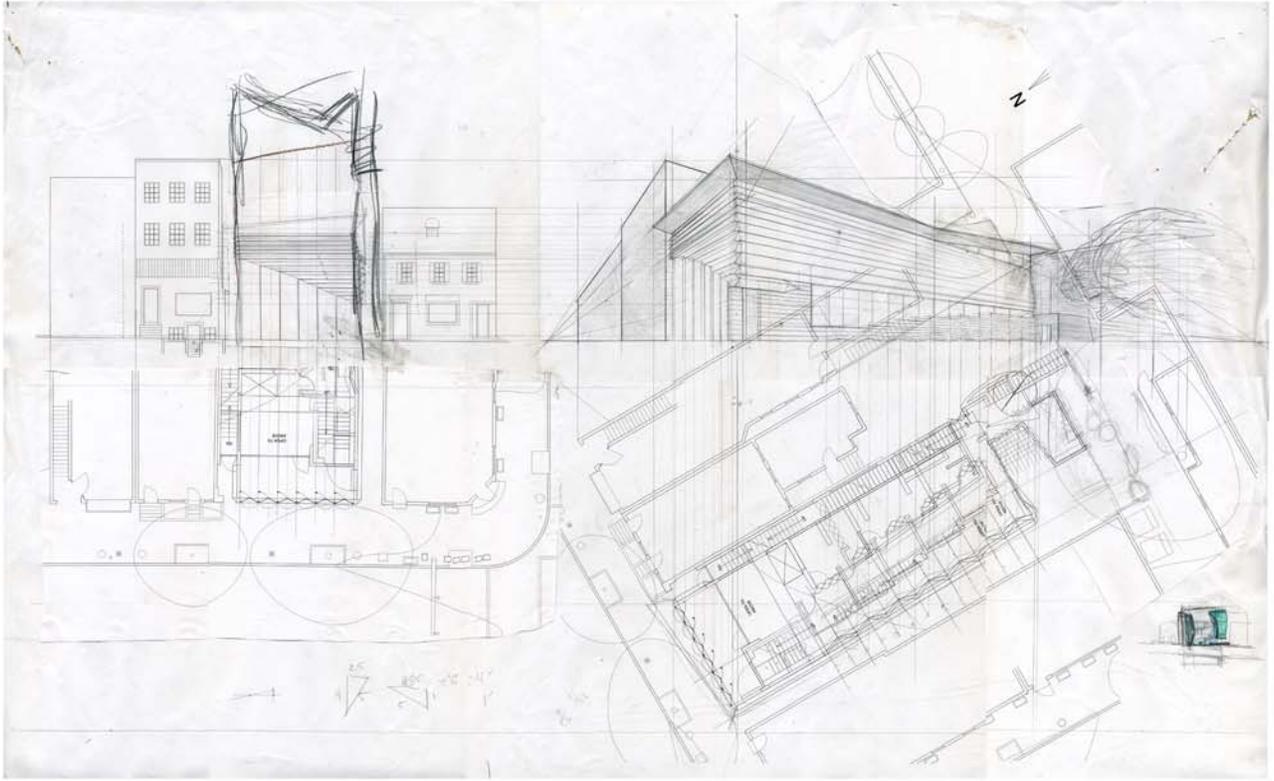
A preliminary sketch of the building. Horizontal undulating planes partially enclose the building and juxtapose the recessed vertical structural elements.



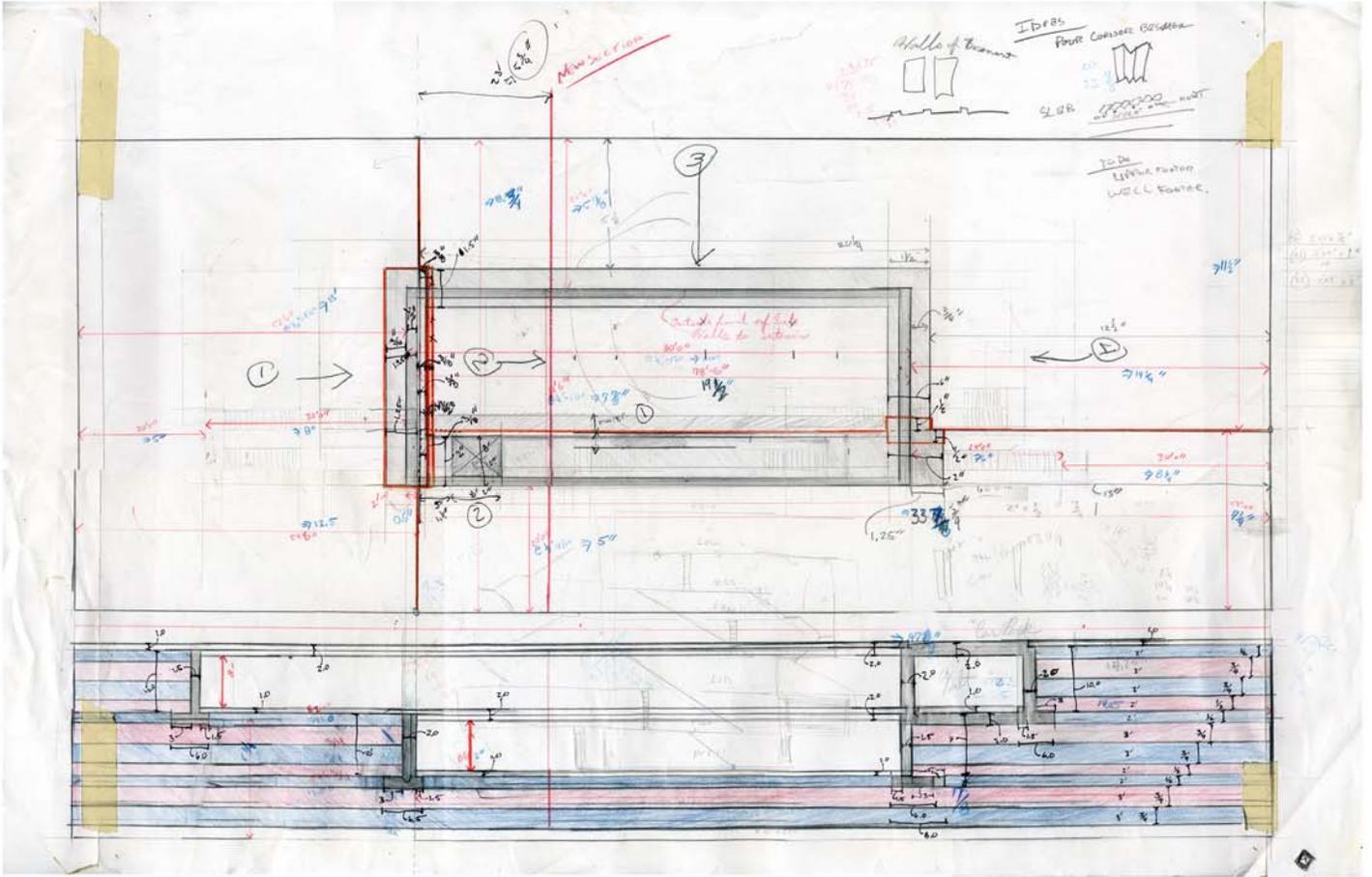
Structural, dimensional, and material realization and calculations of a building skin composed of horizontal undulating planes.



The vertices of the crystalline geometry of the exterior are to extend proportionally as defined by the edge of the entasis of a traditional column.

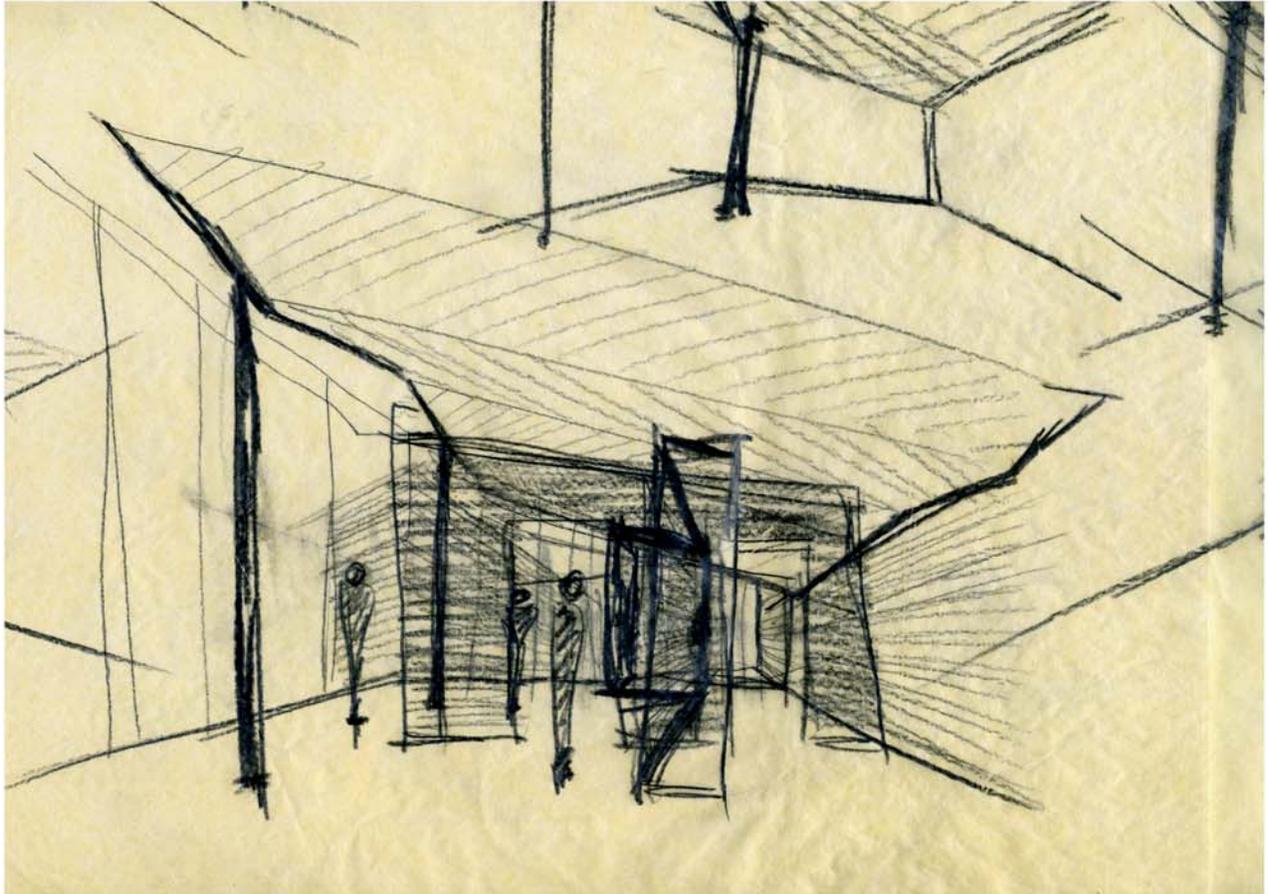


A sketch toward understanding the facade, enclosure, and programmatic spatial needs of the interior. Does the facade reflect structural or functional elements of the interior?

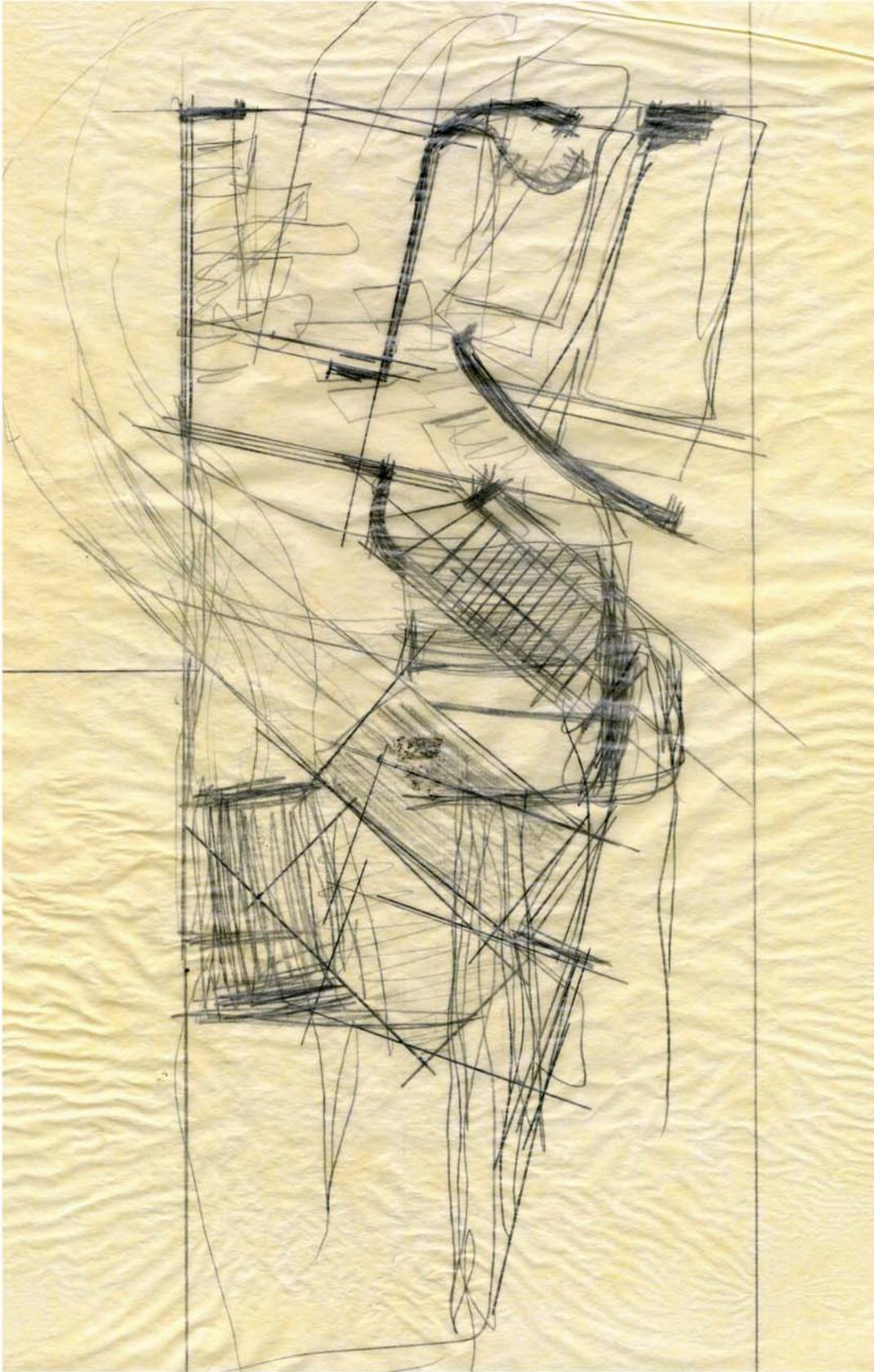


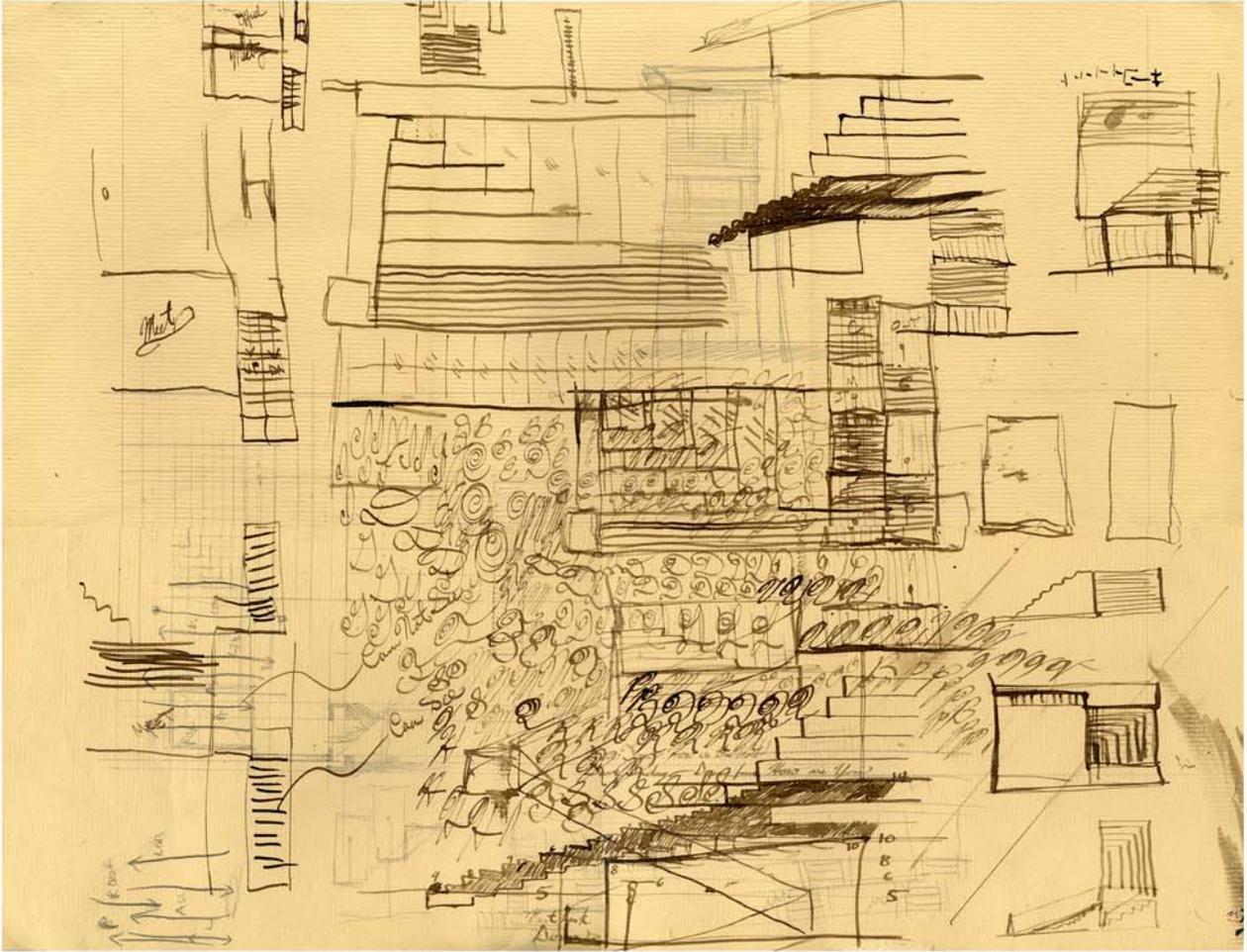


Early study models: 1) Model of the horizontal undulating crystalline planes turning the corner of the building. 2) Model illustrating the vertical slot window and the light falling on the descending stair to the basement file room. 3) Model with open view of the descending stairs to the basement file room.

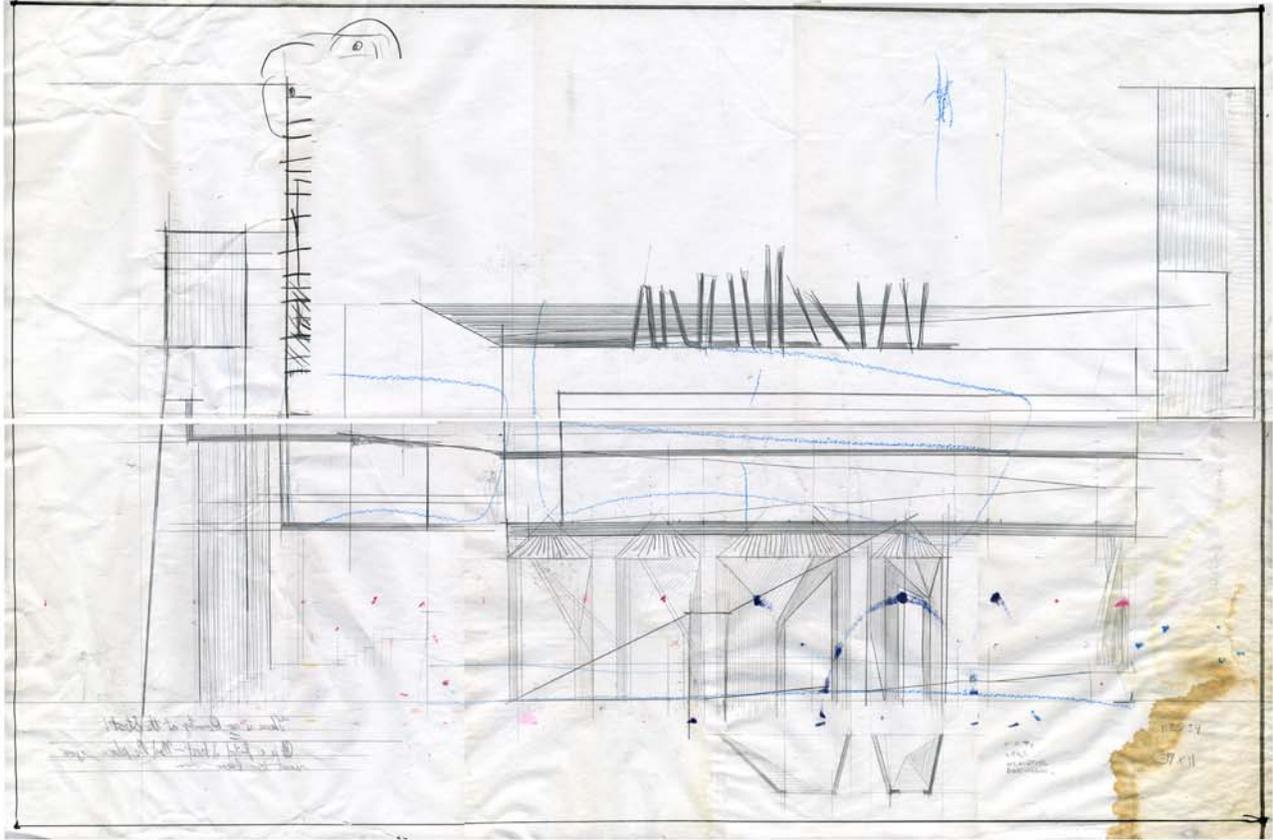


One identified architectural transformation, folding, grew out of a early investigation of the medium shaping architecture in 2003. Preliminary thesis notes identify architecture as being contextually located at the edge of contemporary culture, a culture where art and the buildings that house art are the global cultural summit. Art in this above described climate was / is making adjustments to the new art creations by digital means. This transformation becomes the springboard to look at other architecture transformations and create this thesis study.

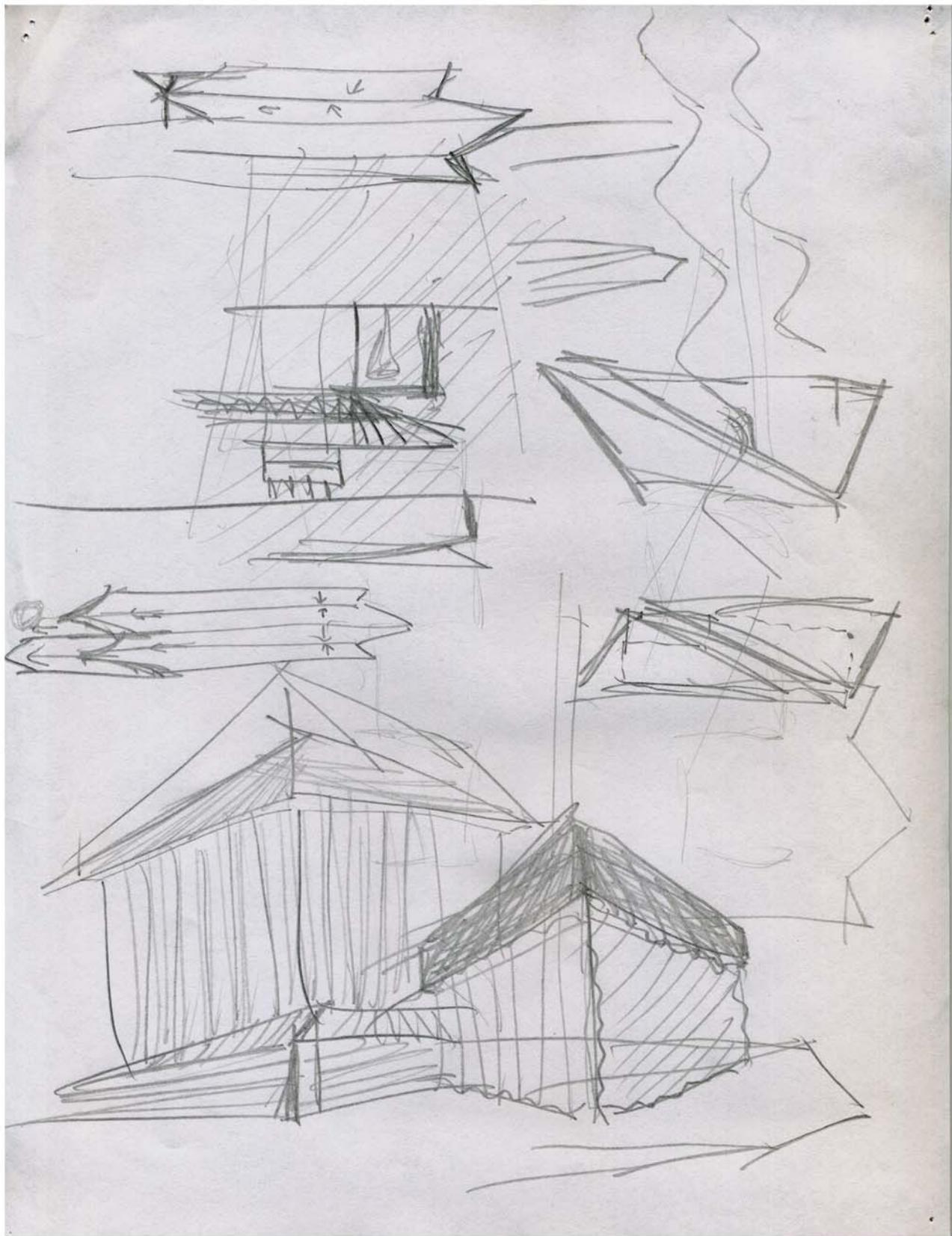




Illustrating folding.

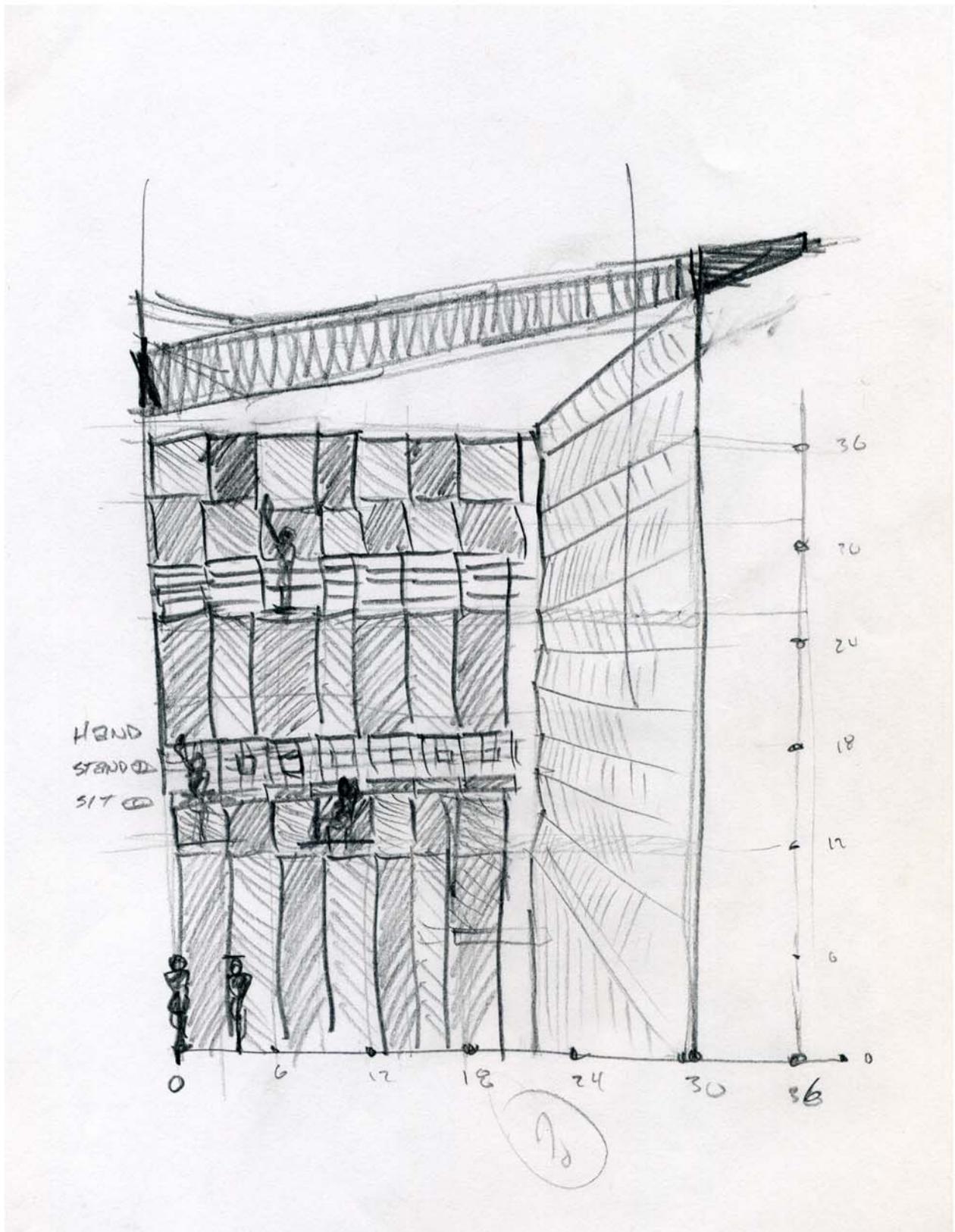


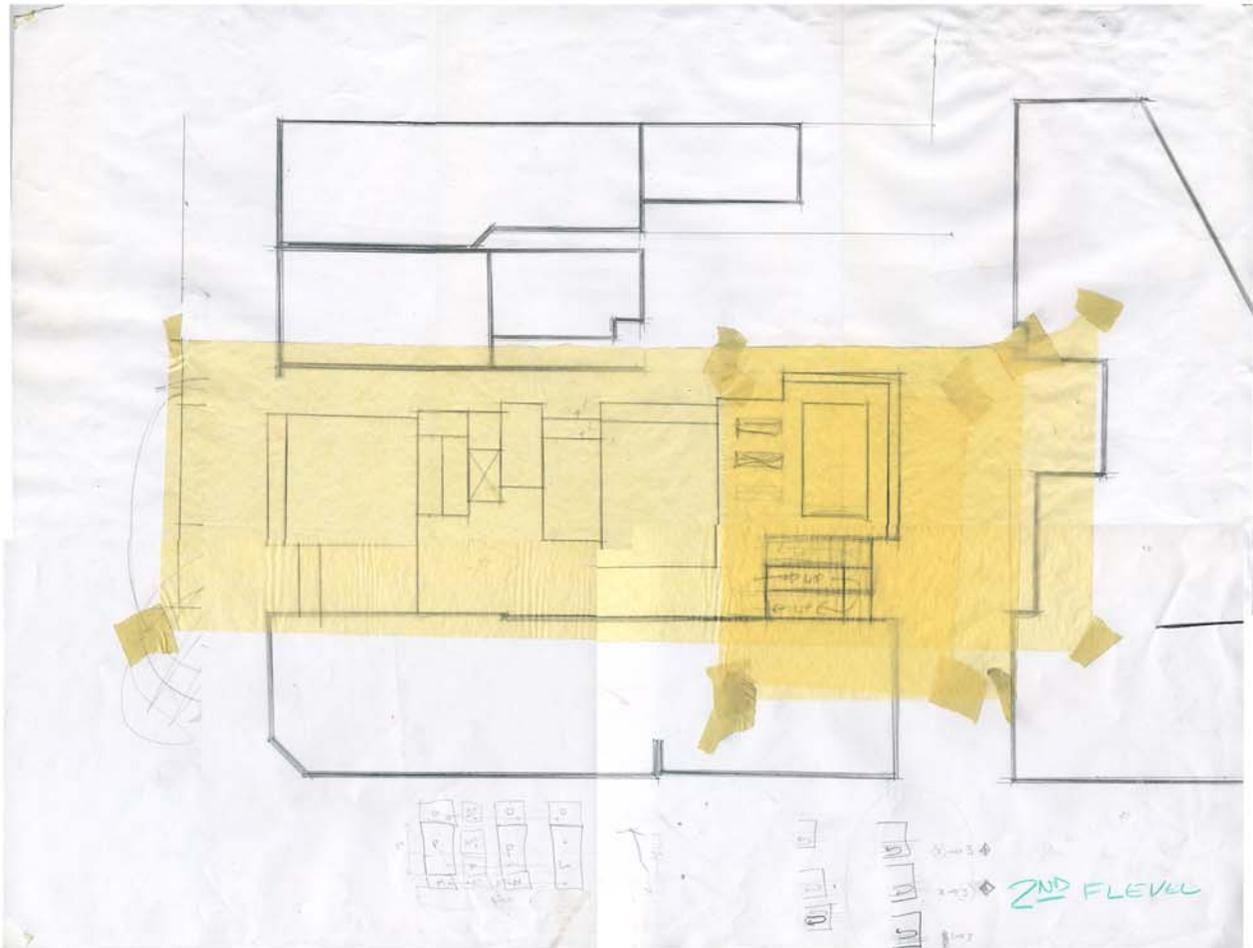
Design for folded concrete pavilions.



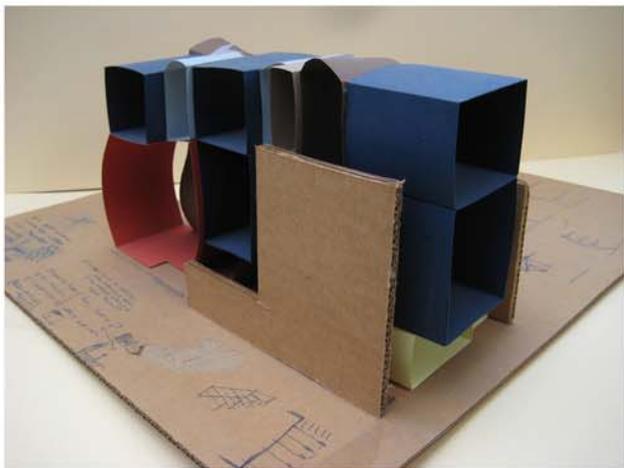
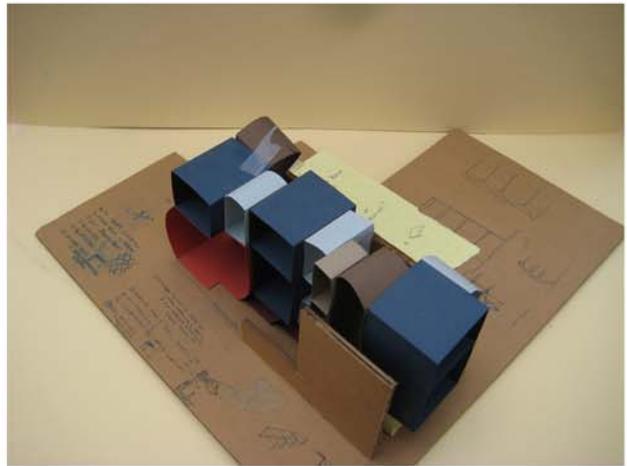


Invitation and entrance by way of linearity composition created at the vertices of the folded building elements.

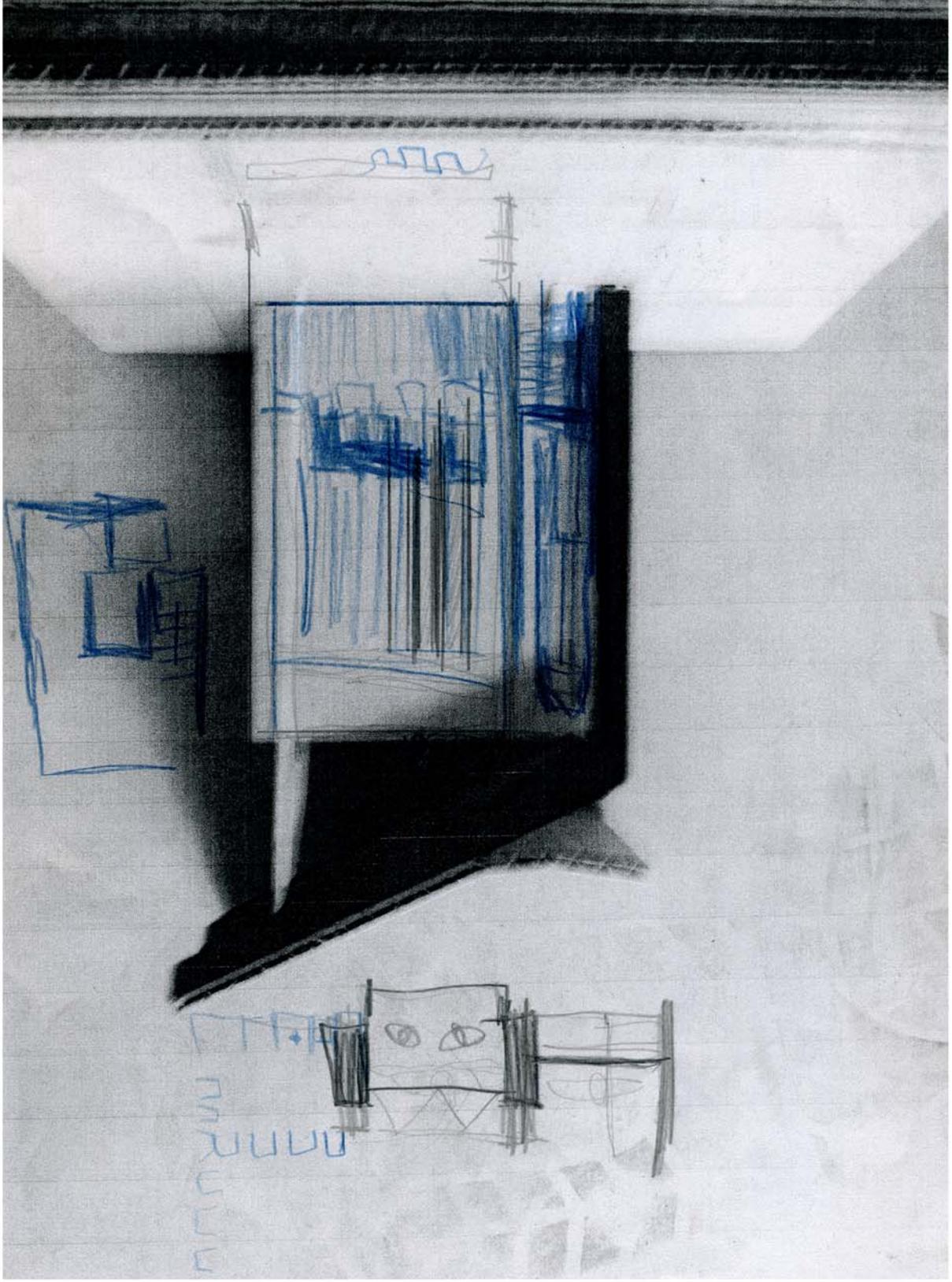


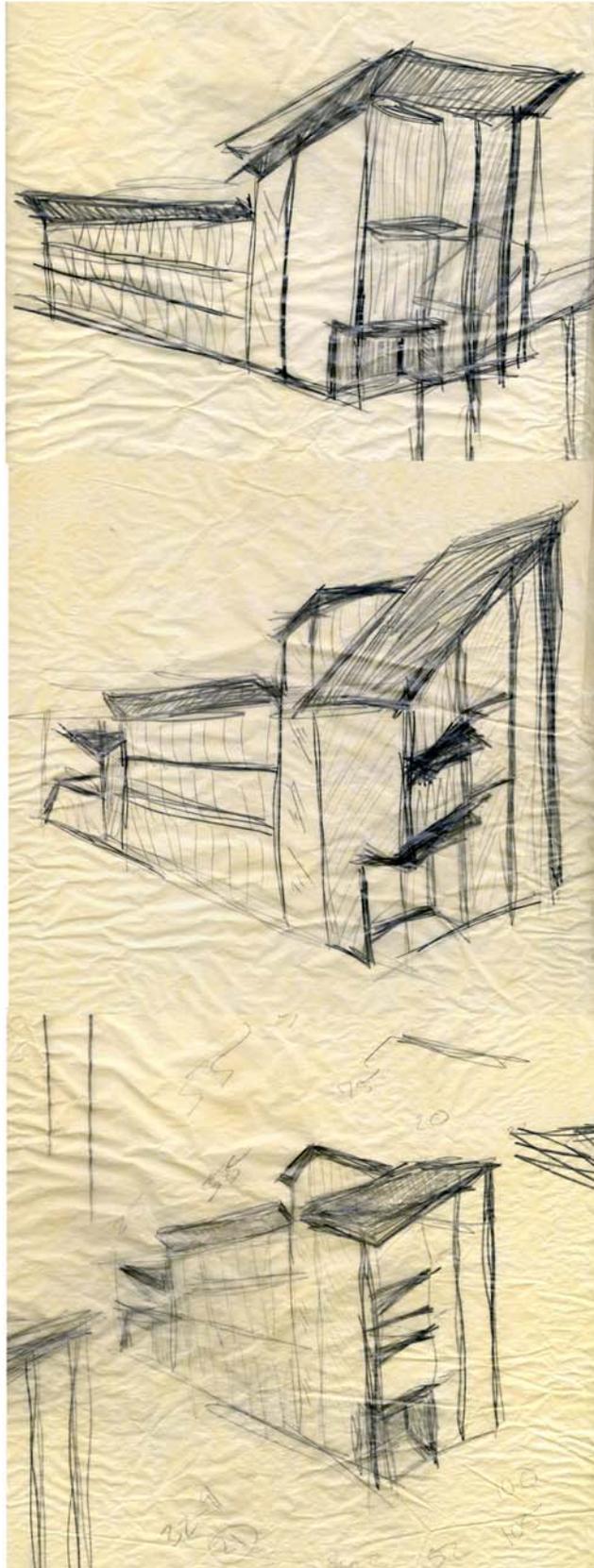


Identifying the program, spatial, and adjacency needs of a law firm. (Interview with employee of local Alexandria law firm, Grad, Logan, & Clewins, LLC.)

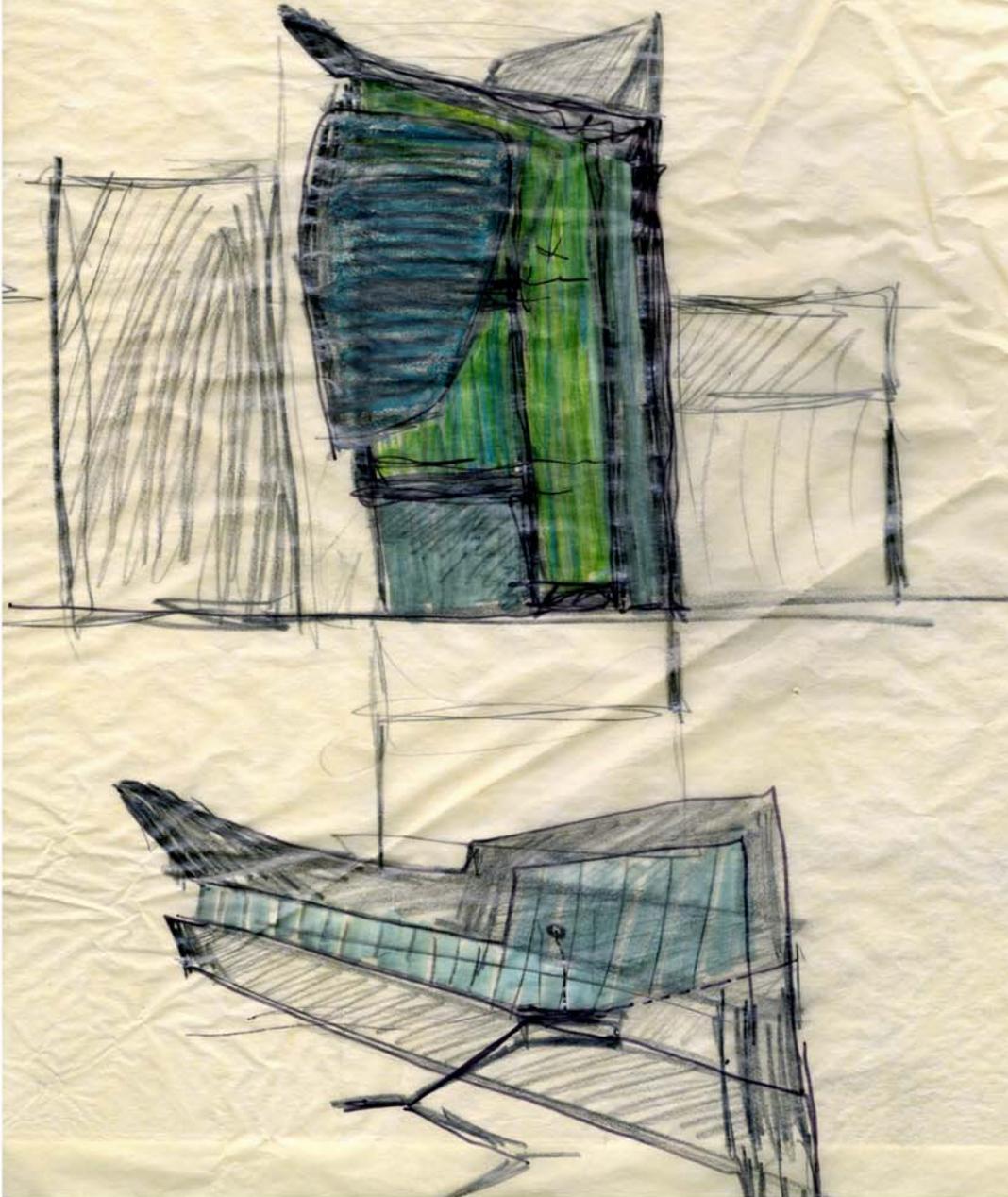


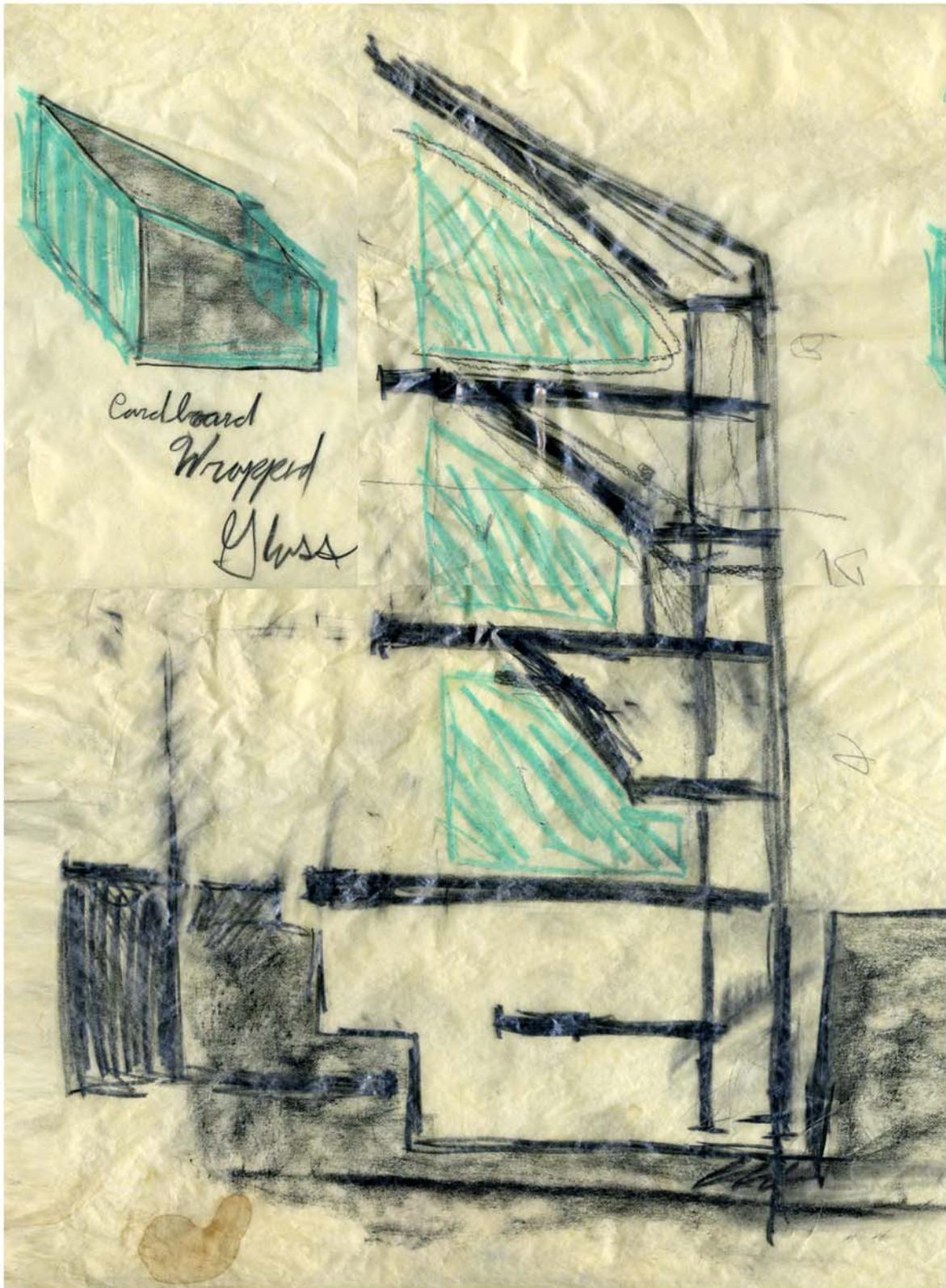
Paper study model examining the different spatial volumes by function and their adjacent relationships to each other and the site.



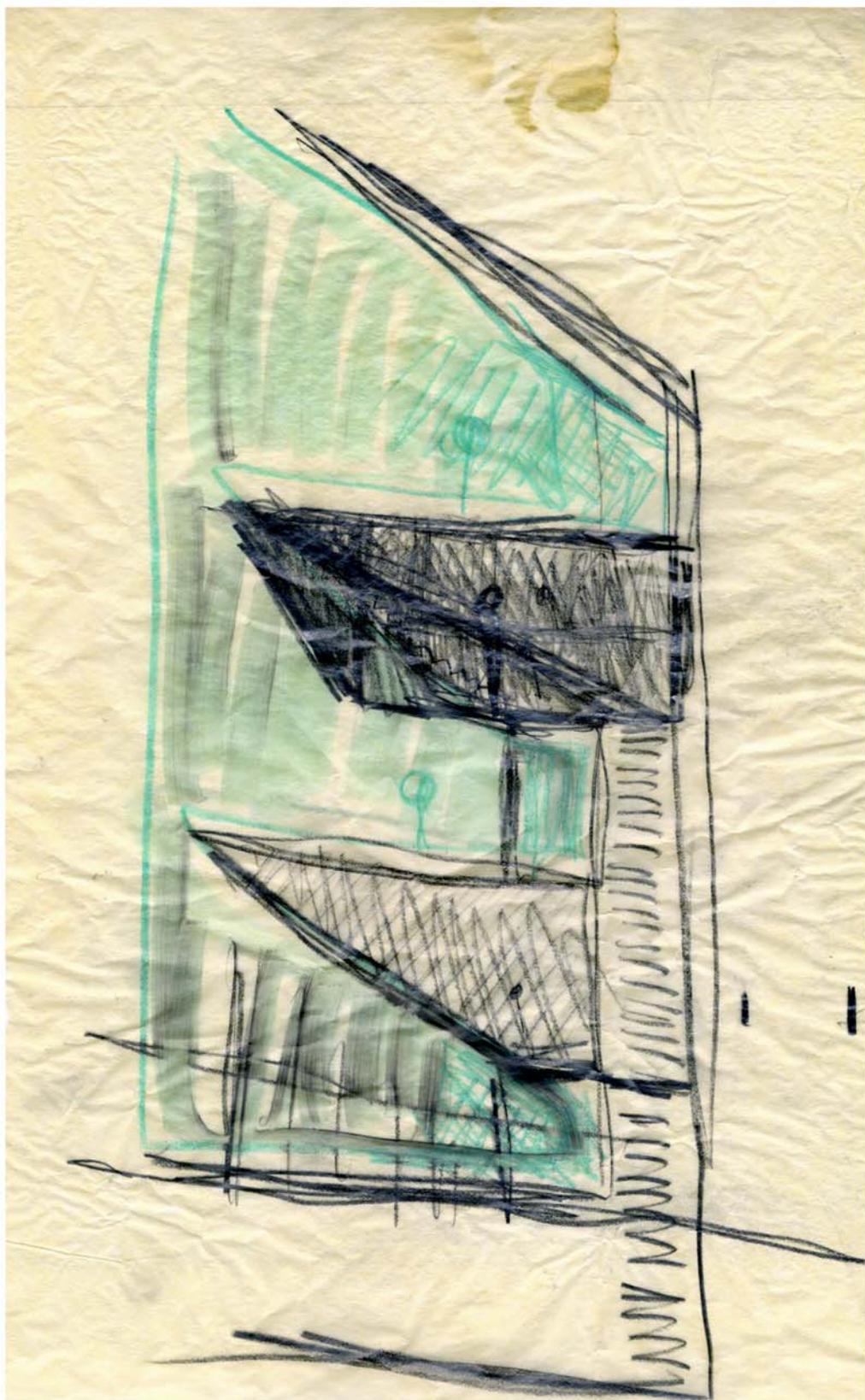


Roof Cross &  
Front Roof Superstru

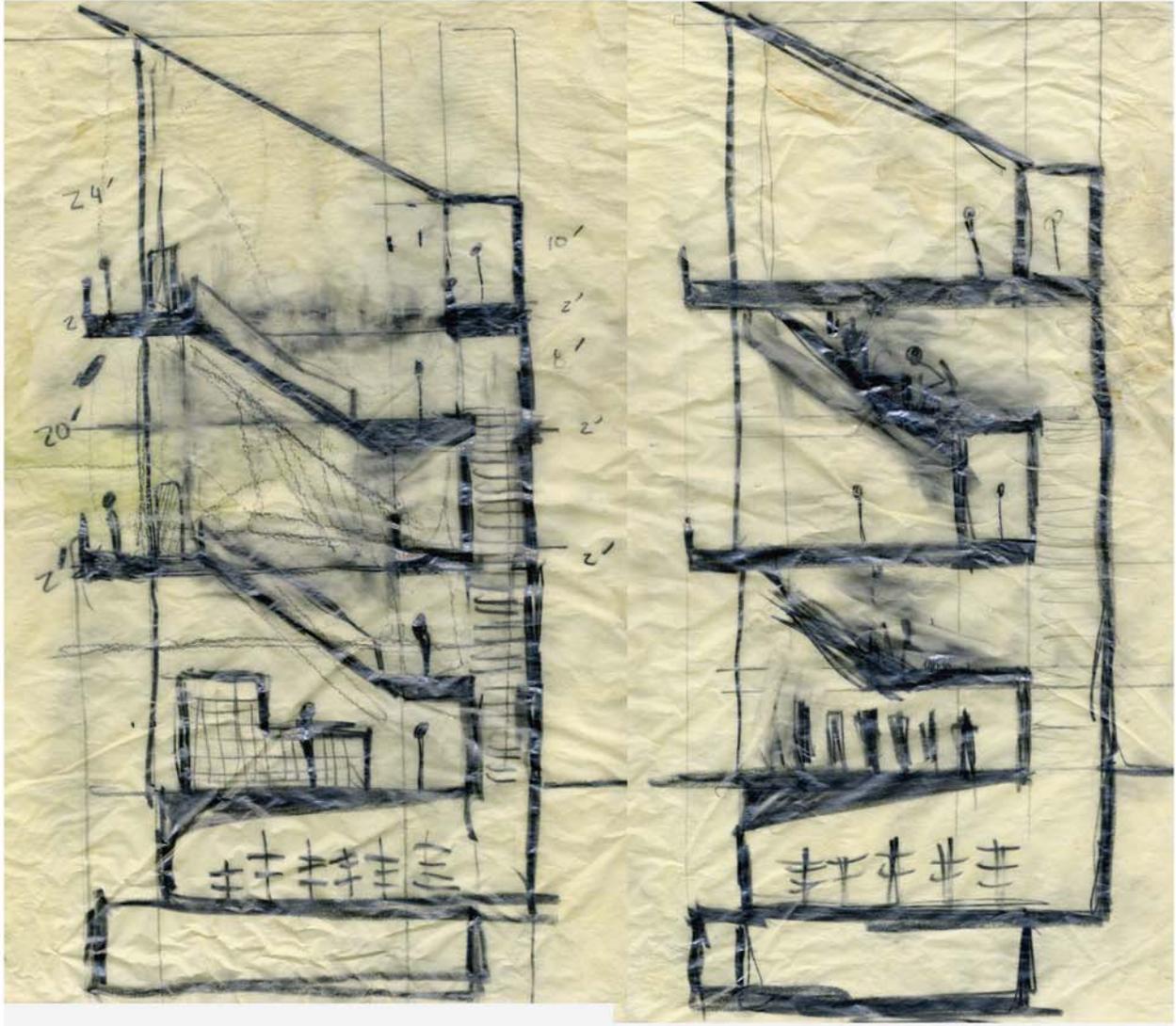




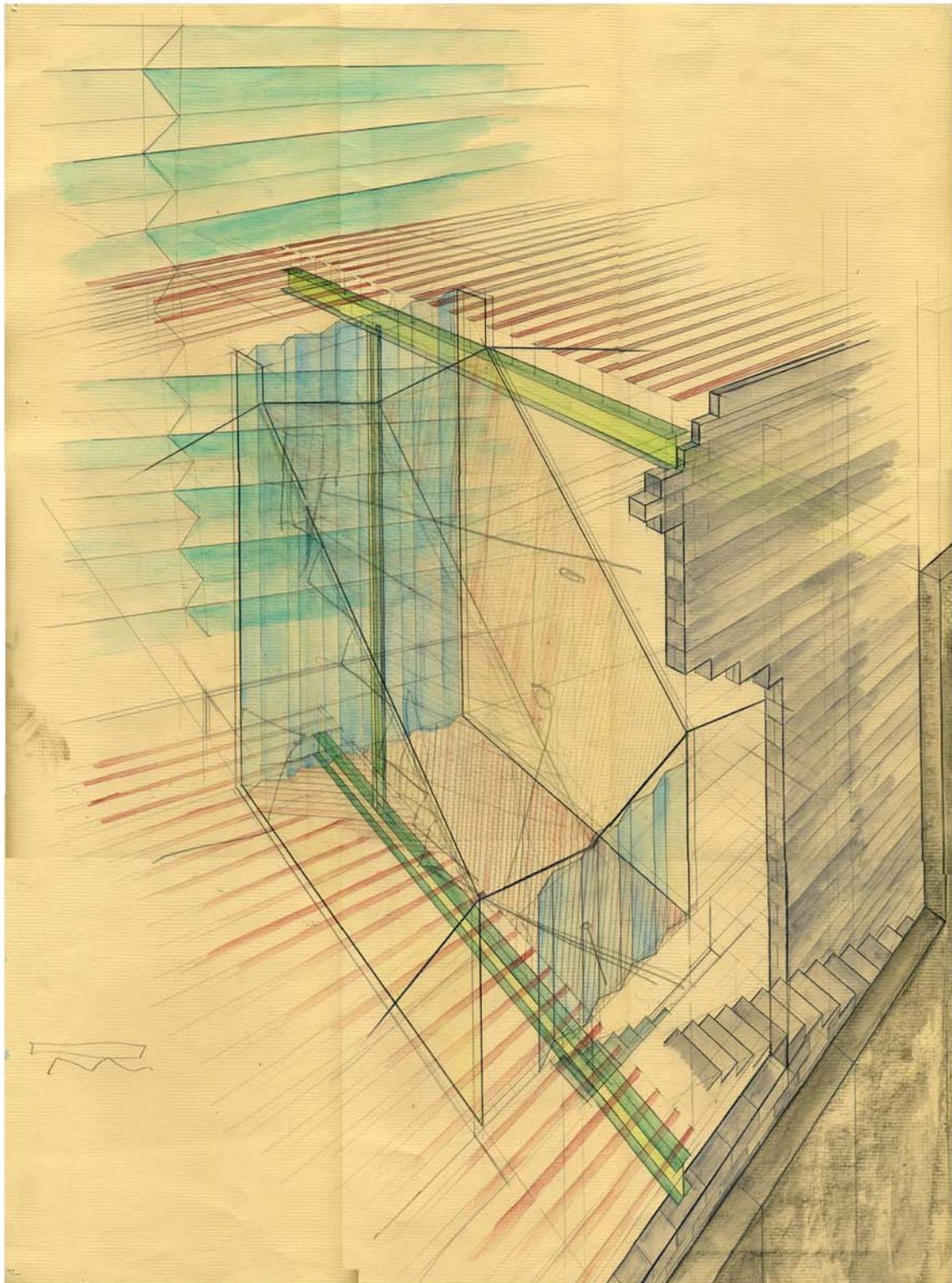
Diagrammatically understanding the hierarchy of lawyer to their assistants and a folded floor concept relative to this power hierarchy.



Light enters in.



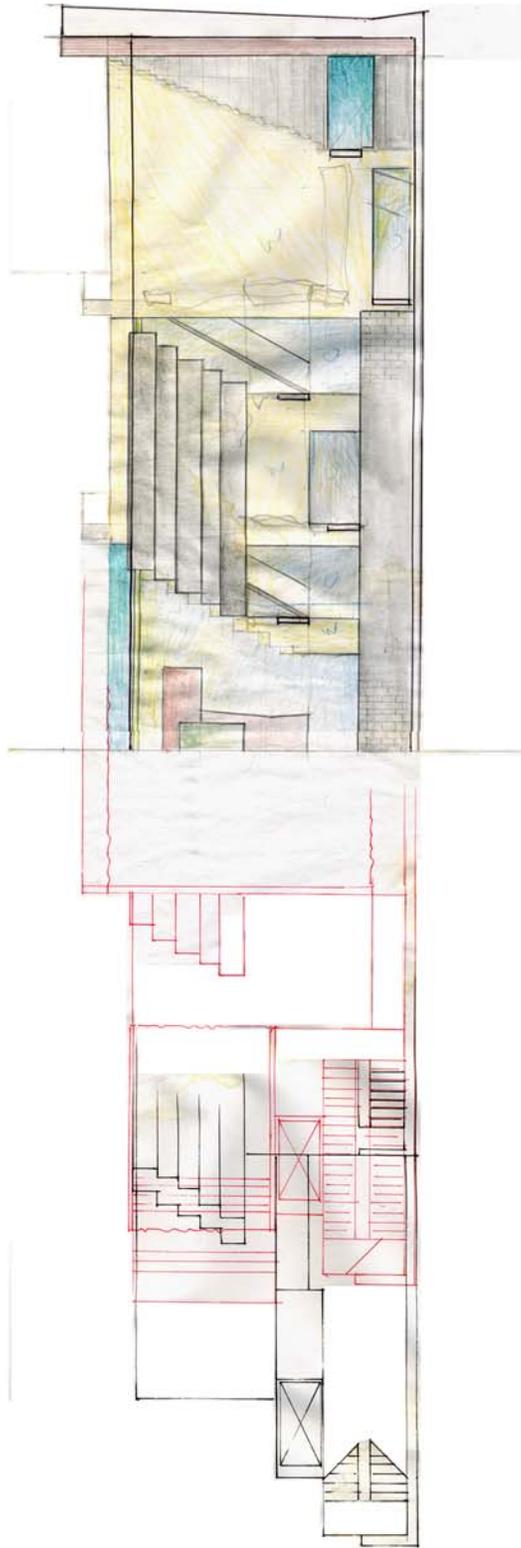




A structural sketch illustrating the anchoring of the structurally light and light filtering glazed east wall back into the heavy foundation concrete and masonry west walls. The exterior screens fold; the glazing folds; the interior wall folds, and the stair folds.



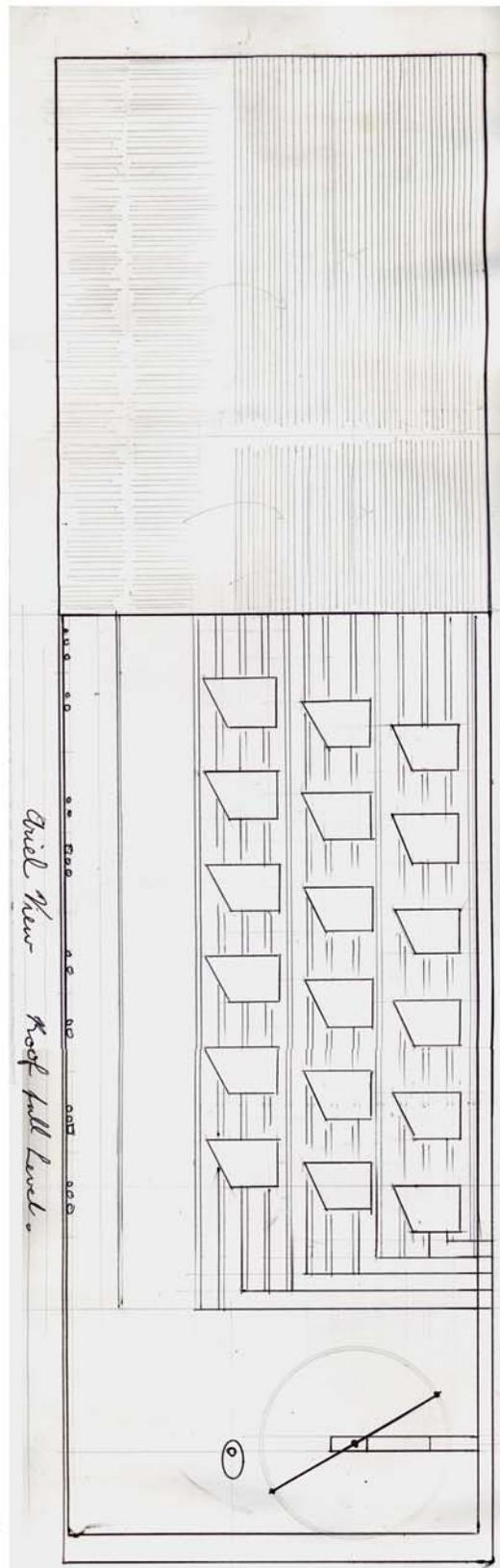
Early wood and glass model illustrating the accordion glass facade of the east and north faces.



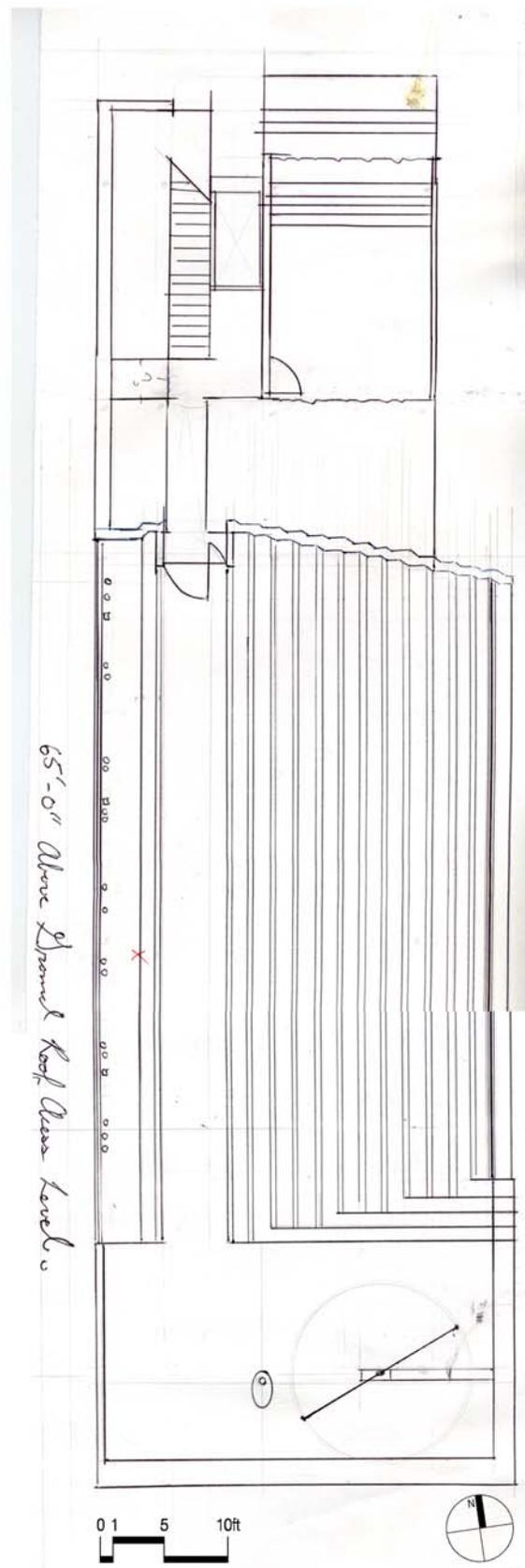
Understanding the interior facade of the great vertical lobby.



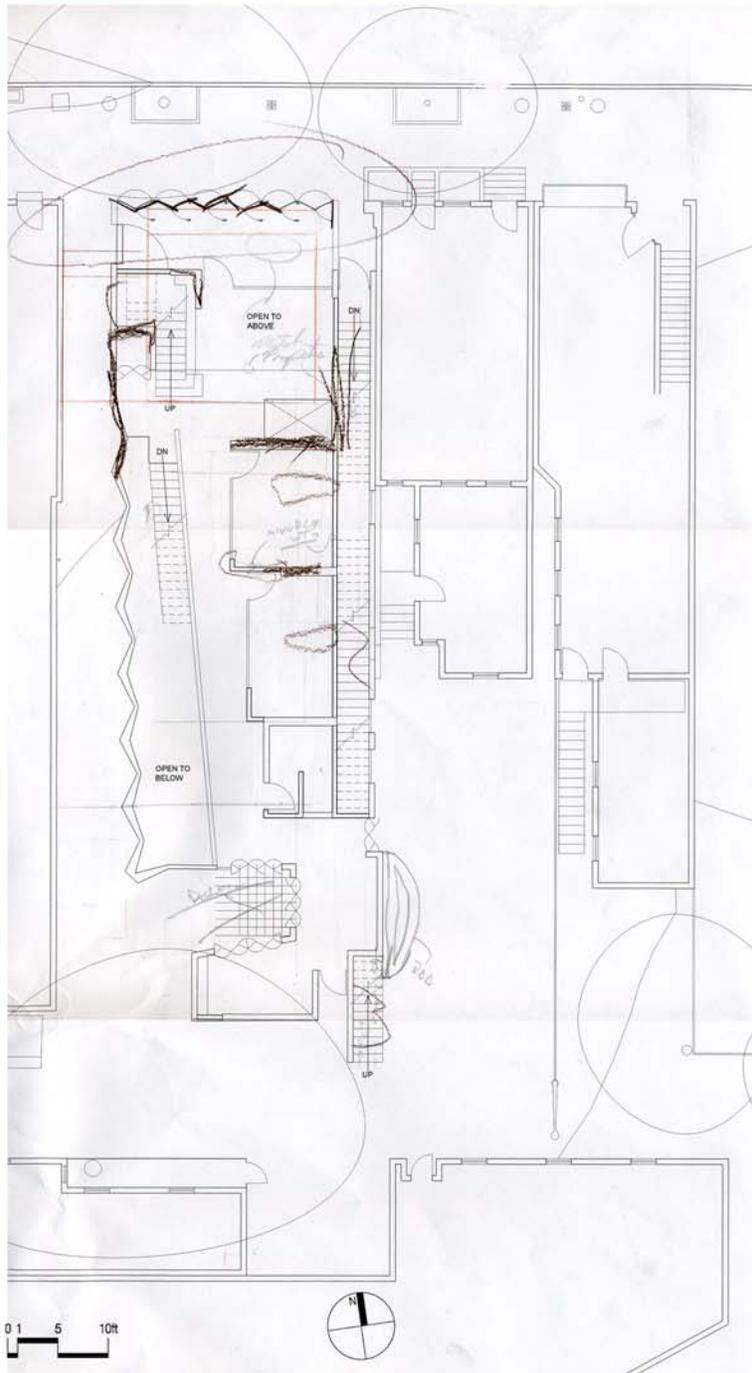
Typical floor plans.



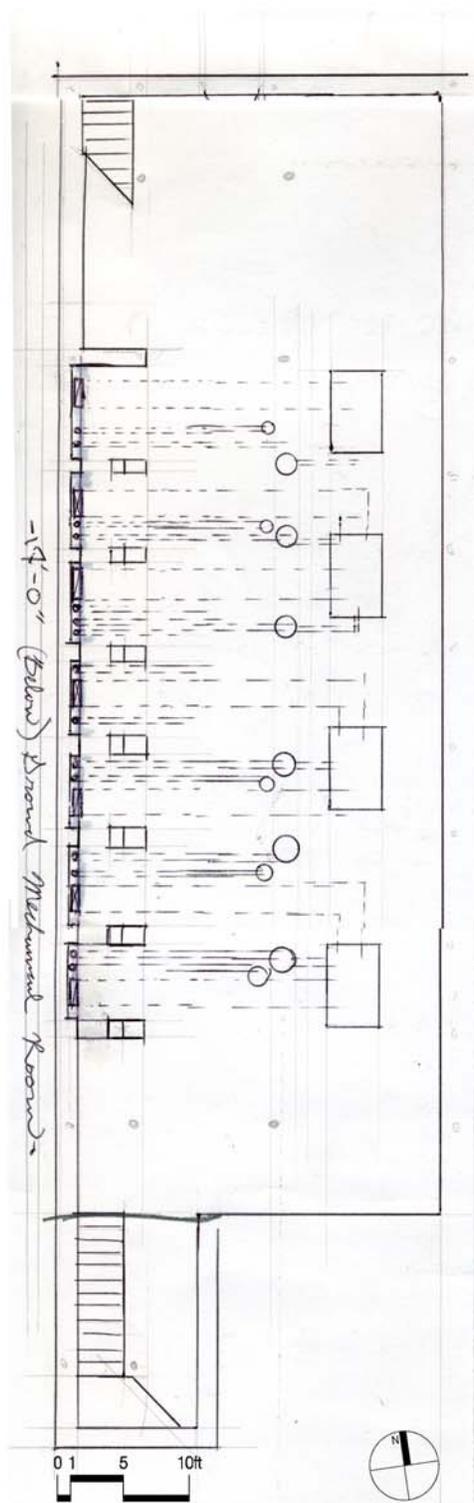
Roof plan for preliminary critique. Inhabitable roof to include wind powered turbine, southern directed photovoltaic panels, and artistic management of storm water runoff.



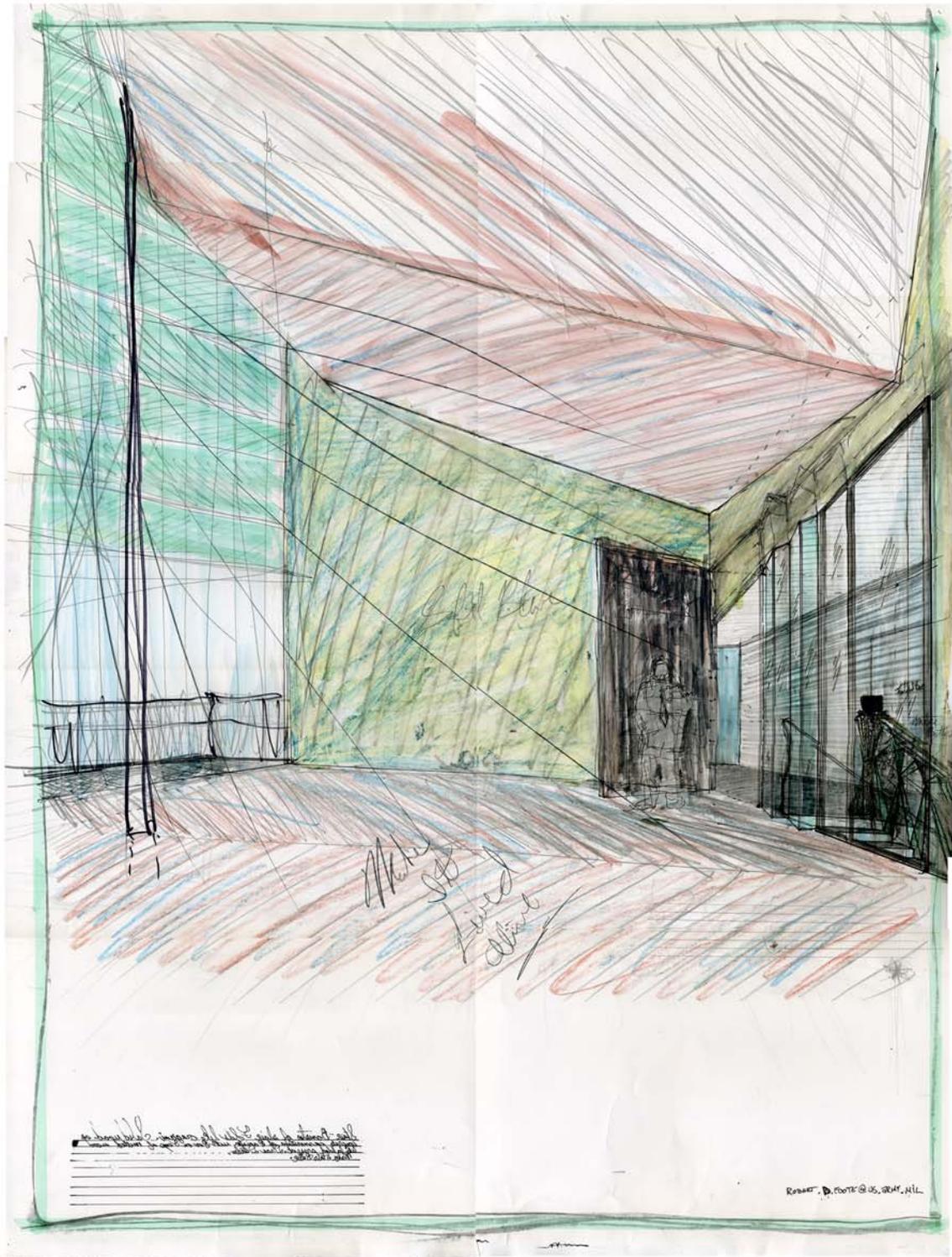
Roof access from uppermost level above the conference meeting rooms.



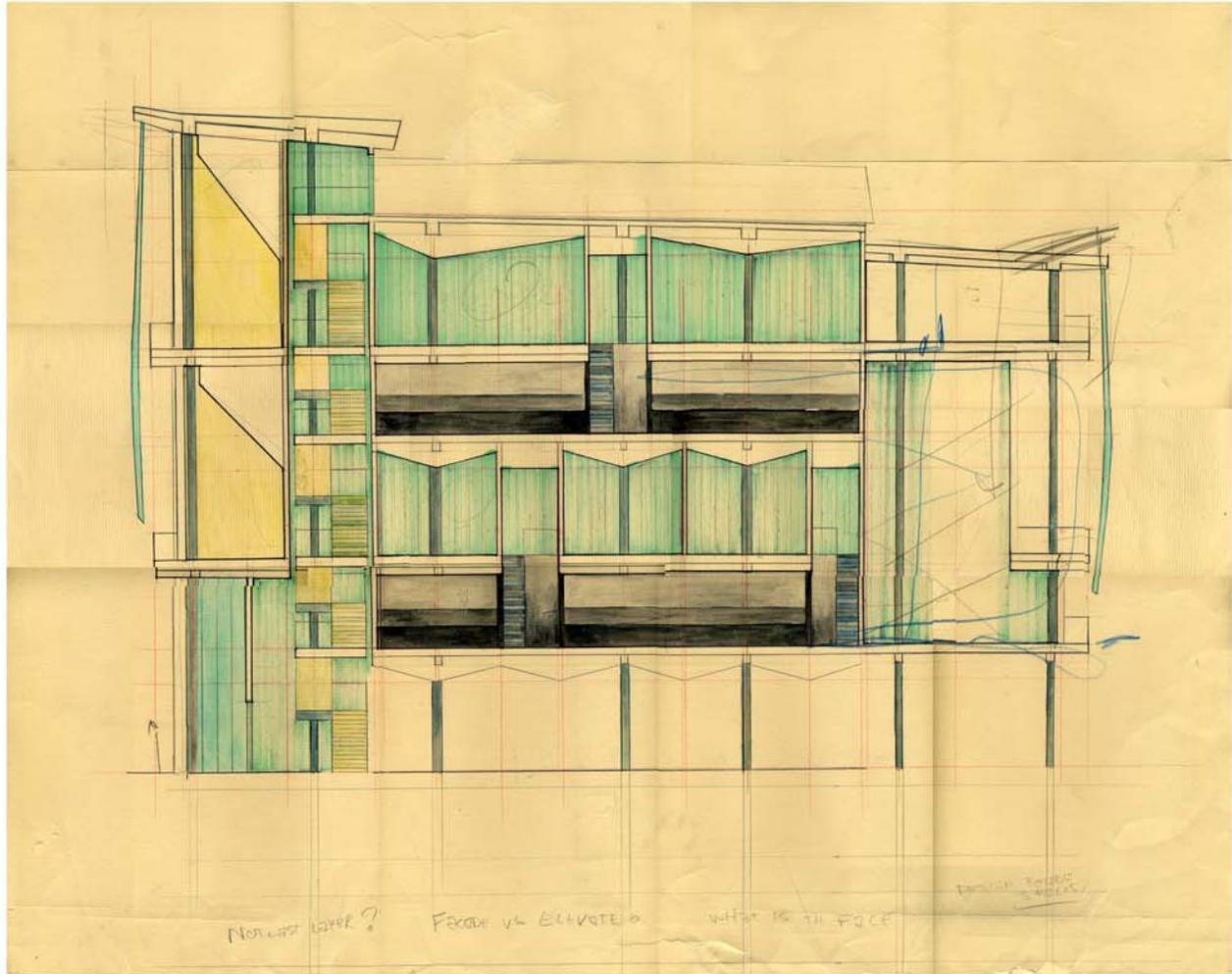
The linearity of the site constitutes the elle archetype as illustrated by the plans of the neighboring buildings. The typical elle footprints are created on the long narrow sites by additions incrementally made to the rear of the existing buildings. These initial constructed buildings and additions often create narrow side yard or exterior corridors between the buildings, The building design uses the narrow side yards and the elle form to create more views, light, and air entrances into the office spaces. This first floor plan studies the use of folding screens as doors opening-up & closing across the front facade. It is later observed that the front facade is the north facade and has little function for direct solar light control.



Mechanical Basement Plan: 17'-0" below grade- the second basement level and the lowest level of the building. One set of mechanical equipment per floor, All ductwork and piping shall diagrammatically be from the mechanical units horizontally to the vertical chase along the exterior wall. The vertical ascension later develops to house the stair and equipment and a four story vertical slot window.



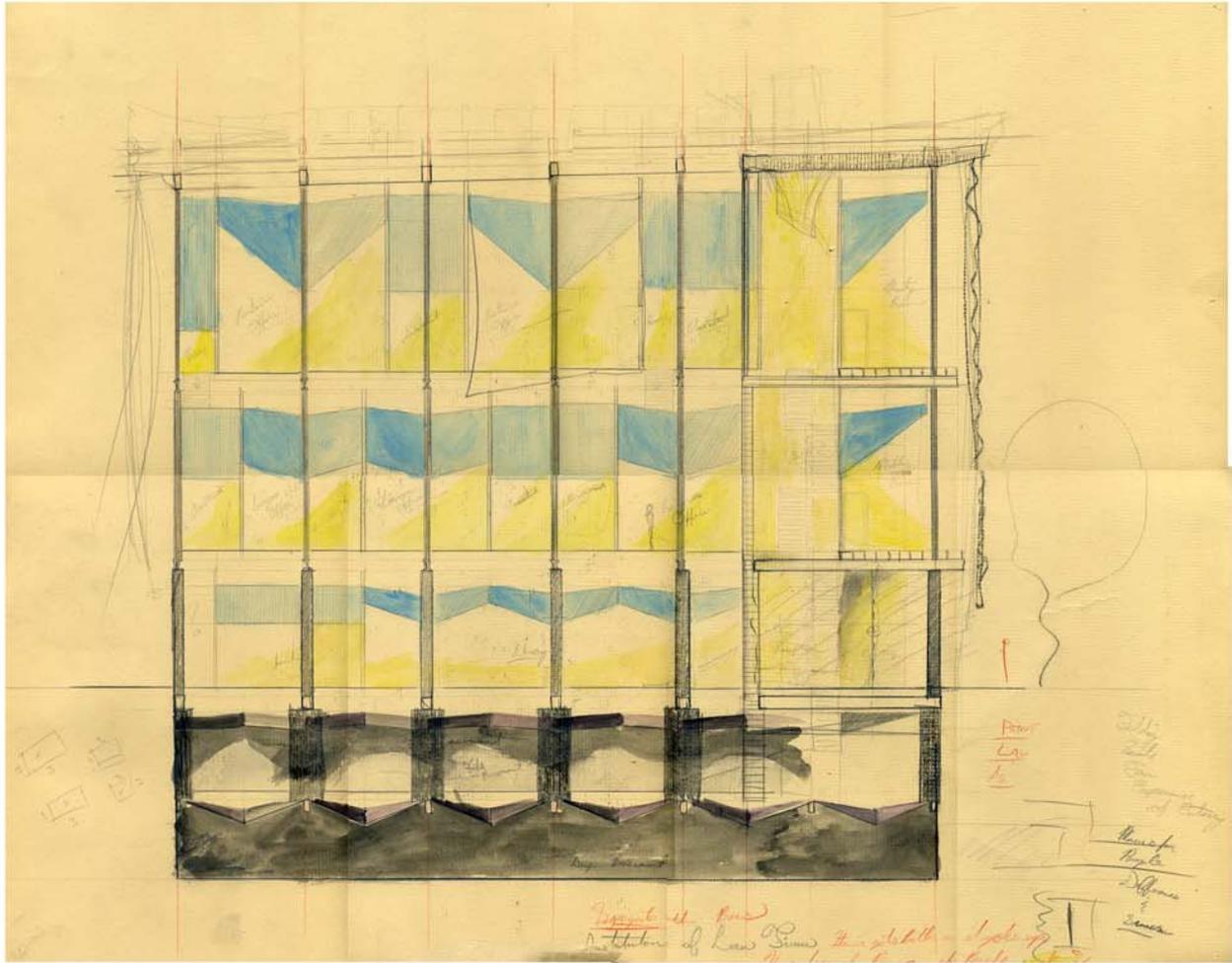
An early vision of the interior of the lawyers office. The folded ceiling is exaggerated by the diagonal V butting of the wood ceiling slats. This concept is also mirrored by the wood flooring. The building's exterior wrapping screen wall diffuses the early morning southeast light as does the vertical mullion accordion folded glass windows.



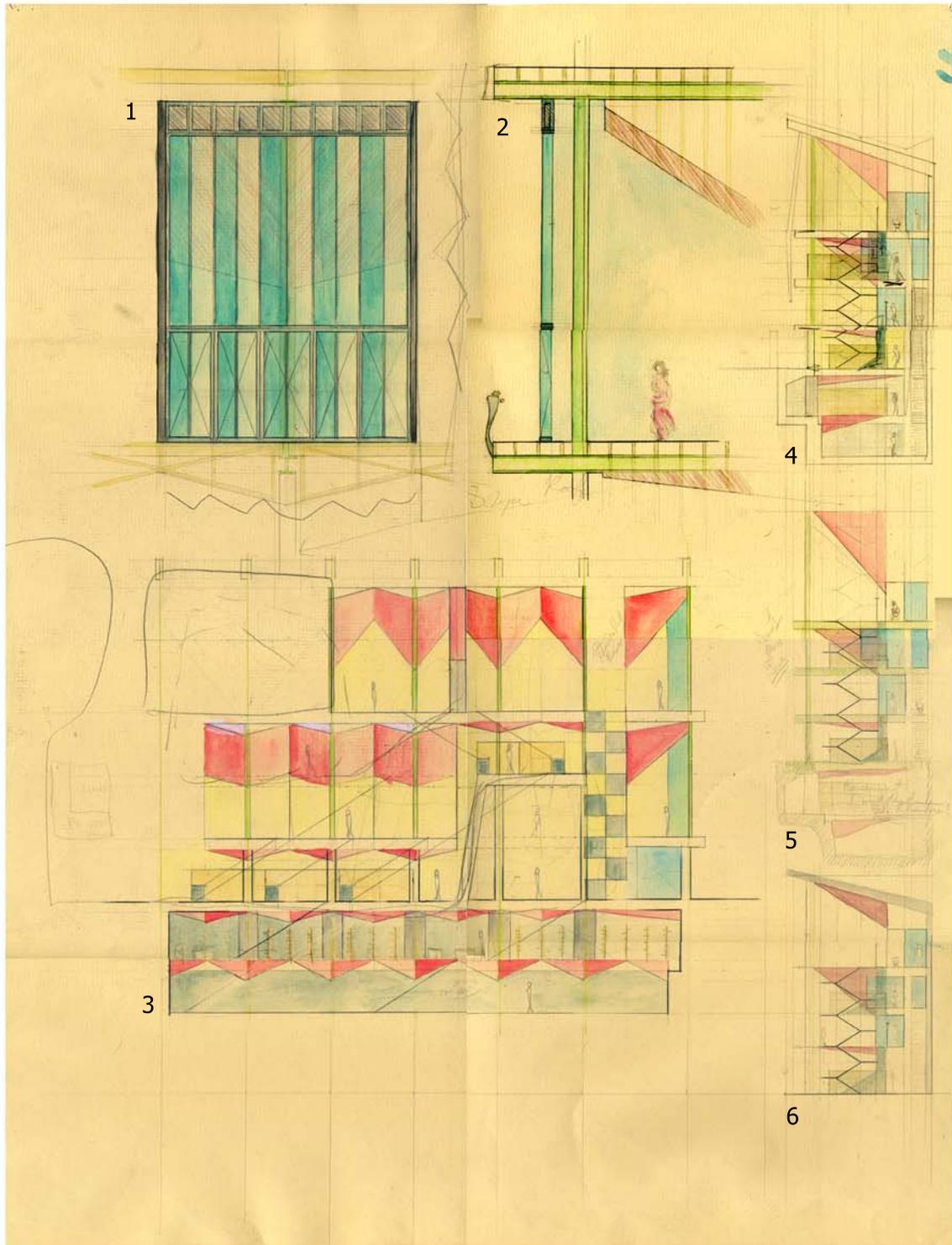
A longitudinal section elevation again illustrating the V ceiling and the vertical mullion windows of the law offices. The interstitial assistant's levels have stair access to support each lawyer. The front of the building is the more public domain of the building with the conference/ meeting rooms where client and lawyer discuss each such legal case overlooking and located nearest to the public street. Furthermore, to balance the subservient position of the assistants, they are given the rear third of the building to be garden space with direct access from their levels.



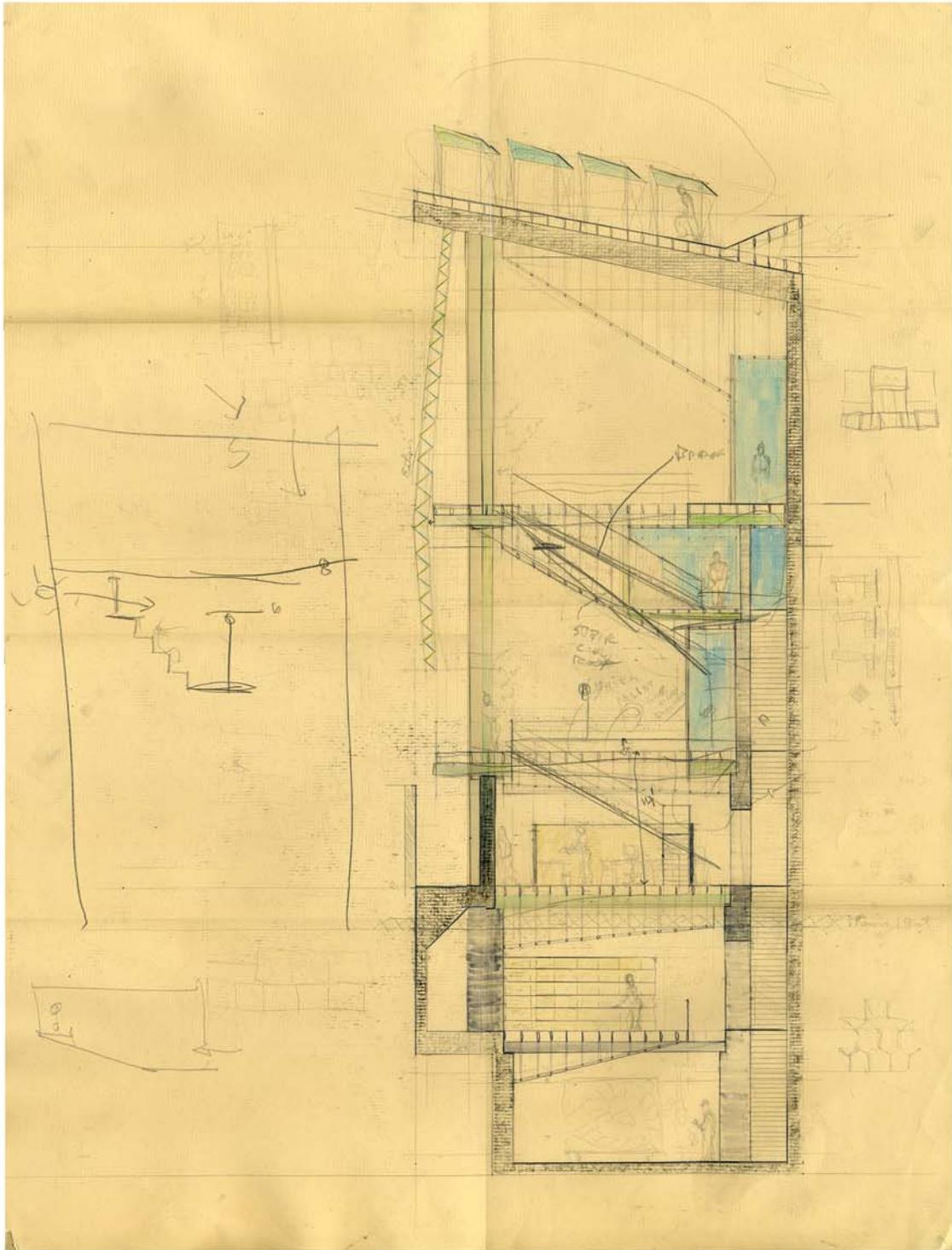
1) Four Part Model. Originally designed to be hinged such that the four parts could unfold to reveal different transverse section cuts through the building. 2) Full building model placed together. 3) Photographing into the modeled space of the assistants level w/ folded floor plans and ascending stair. 4) Ascending stair folded floor plan of assistants level.



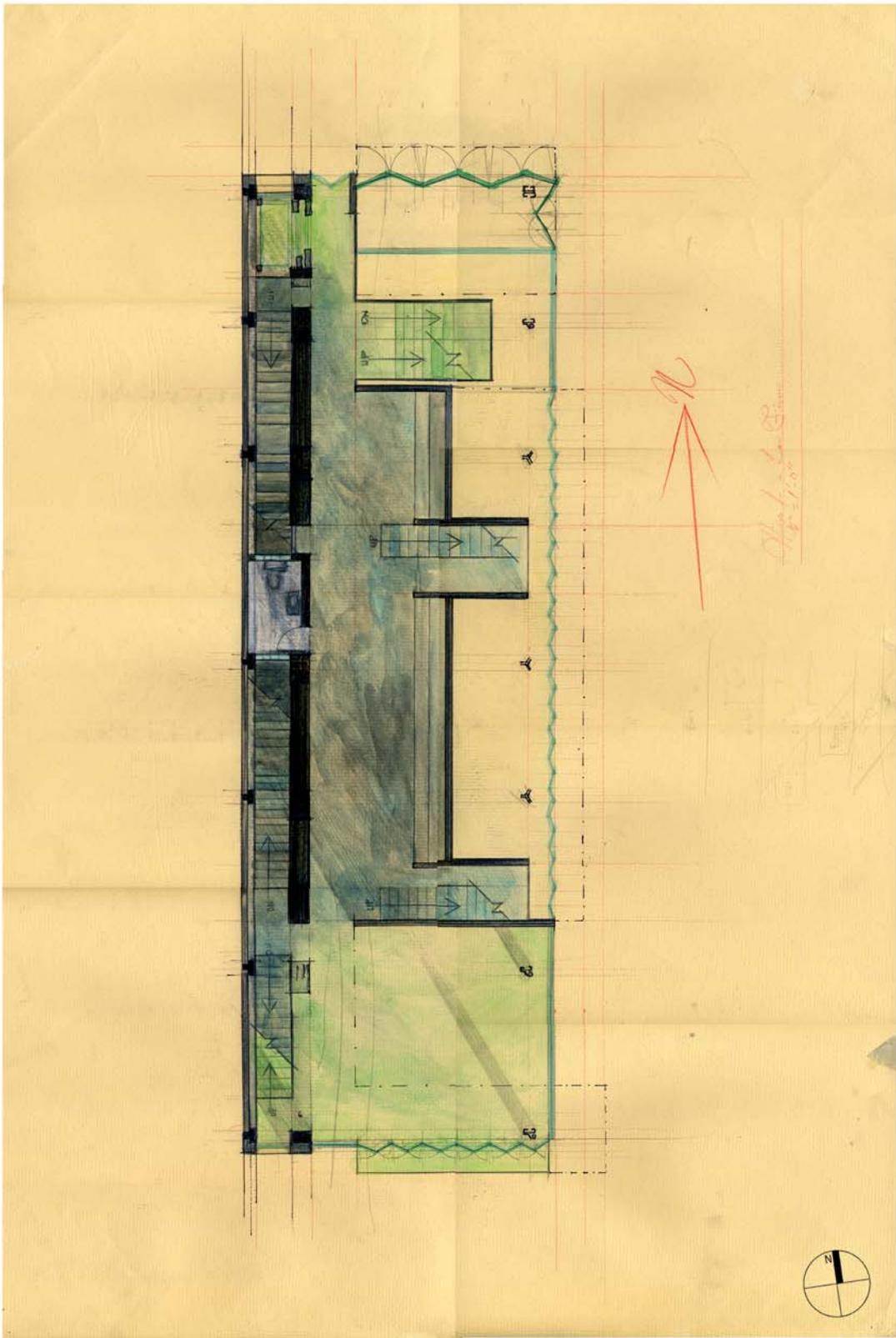
A longitudinal section elevation cut looking the other direction. Assistants' levels not seen. Only the grand ceiling of the lawyers' offices- diagrammatically blue, and the hazy entering sun- yellow, are seen.



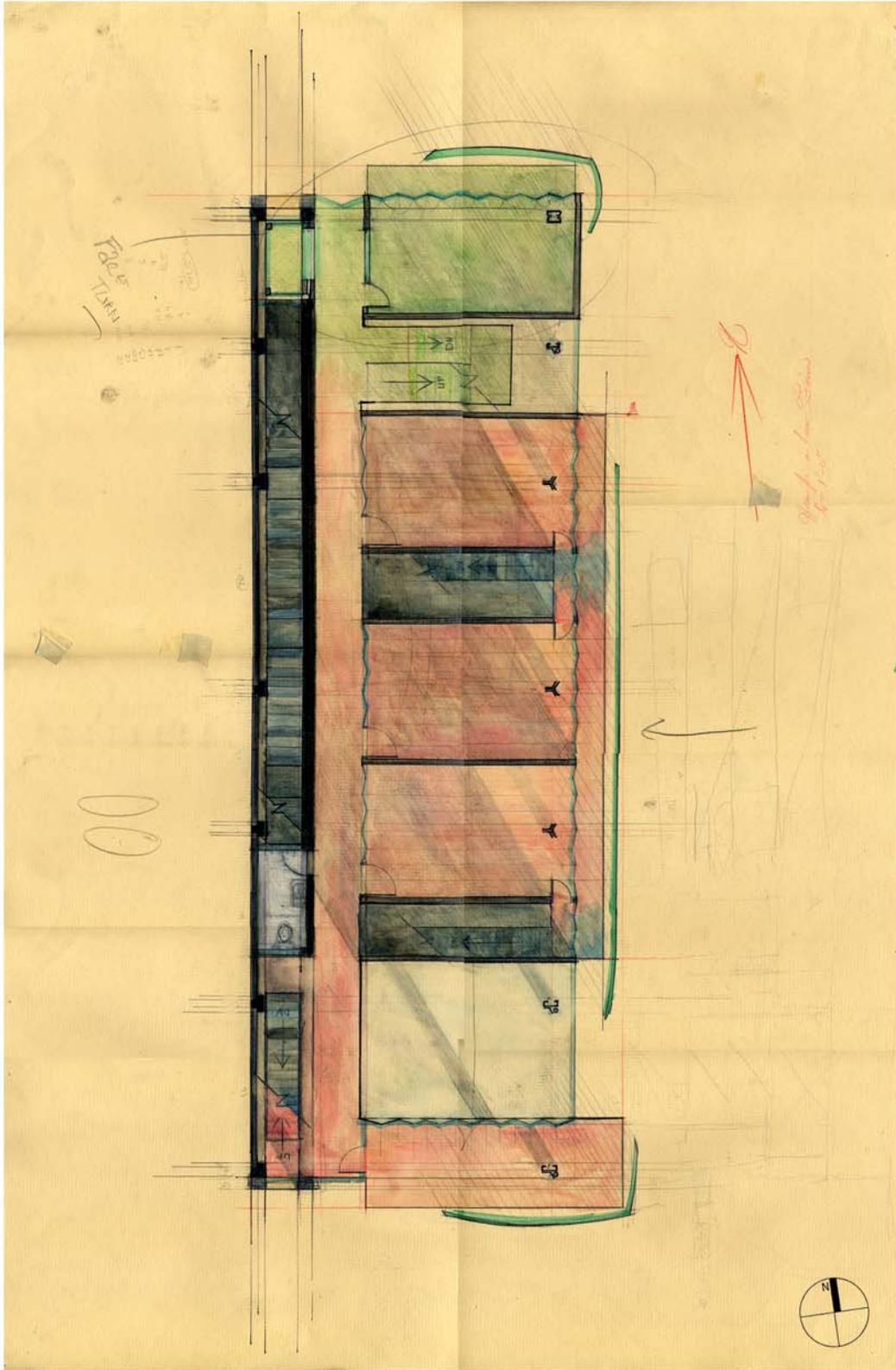
1) Exterior Elevation of a typical Lawyer's Office with accordion glazing and doors. 2) Section Detail through a Lawyer's Office. 3) Longitudinal Building Section. Levels listed from lower most level to upper most level: Mechanical Basement, File Room Basement, Lobby and Library, Lawyers Offices and Conference Room, and Principle Lawyers Offices and Conference Room. 4-6) Transverse Building Sections.



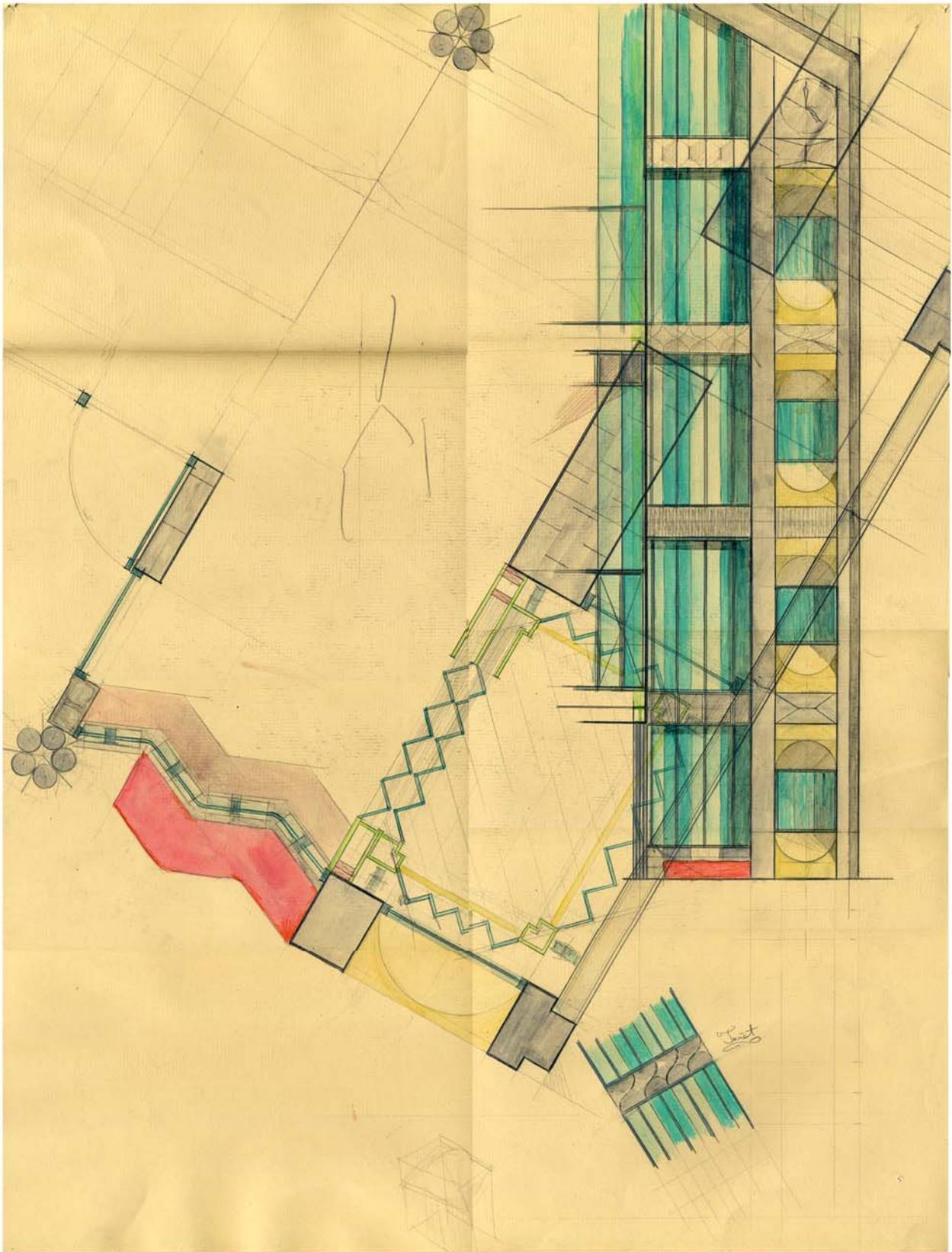
Transverse Building Section. Levels list from lower most level to upper most level: Mechanical Basement, File Room Basement, Lobby and Library, Lawyer's Office with balcony, Assistants Open Office with ascending stair at lawyers call and descending stair to file room, Principle Lawyer's Office with Balcony, and Roof with solar panel pavilions that together create a playful shading plane for roof inhabitants.



Plan of Assistants Level; violet color denotes the open office space of the assistants and the hidden stair to the file room. Green color denotes the common stair.



Plan of Lawyers Level: pink color denotes the lawyers offices and domain. Violet color is the assistant's stair, and green color is the common stair and conference room.



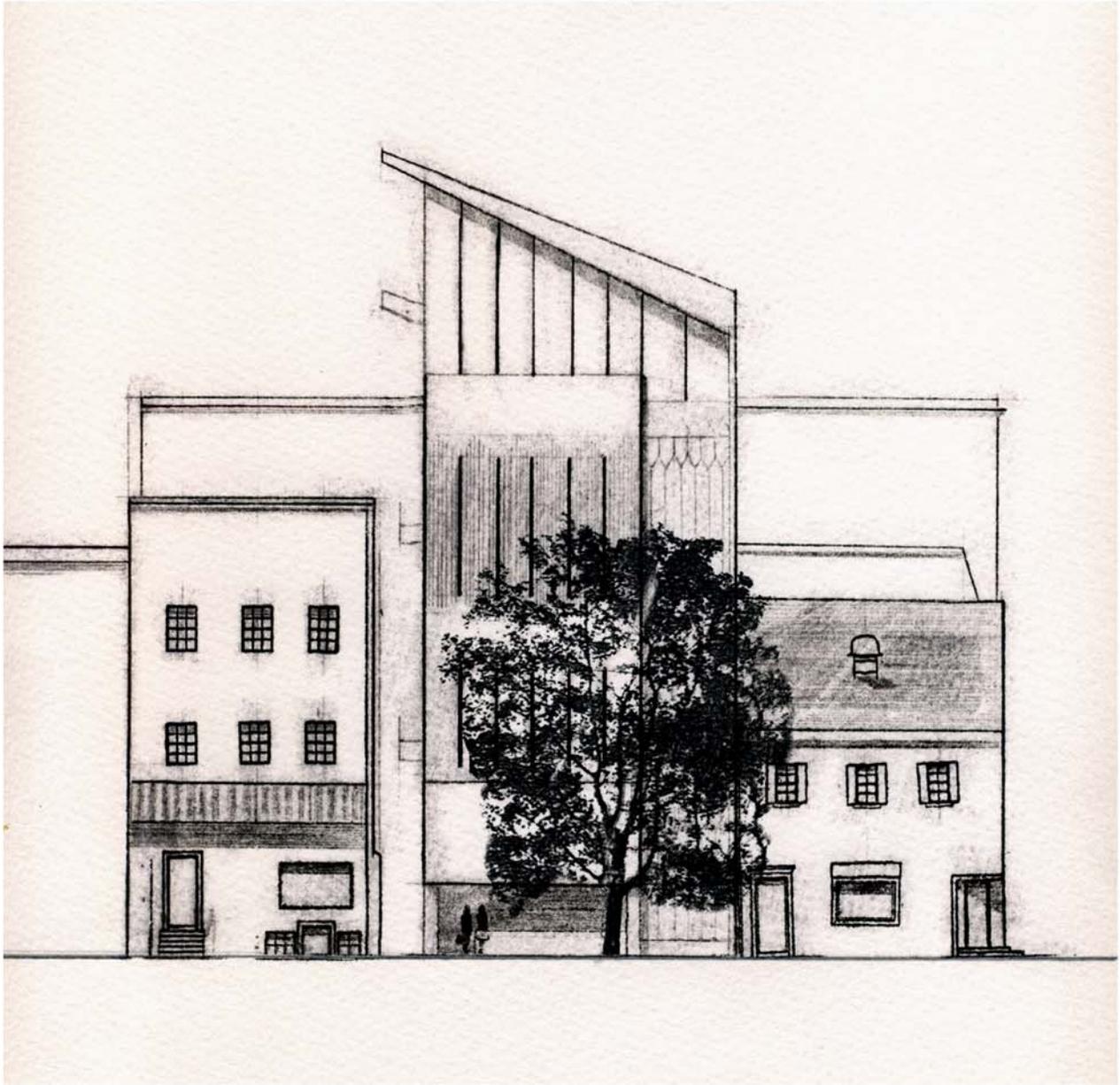
Plan and elevation investigation into the building's folded front facade on King Street.



Longitudinal Building Section superimposed on the proposed view from the offices. The vast sky enters into the lawyers offices. The conference room faces King Street or else the view is directly of the neighboring wall. You can see lawyers at their large desks and the assistants supporting from below. The roof steps down toward the rear emphasizing the street presence of the building on King Street and mimicking the traditional building forms of the area. The roof is to carry rain water runoff toward the rear, this to be developed further in coming studies.

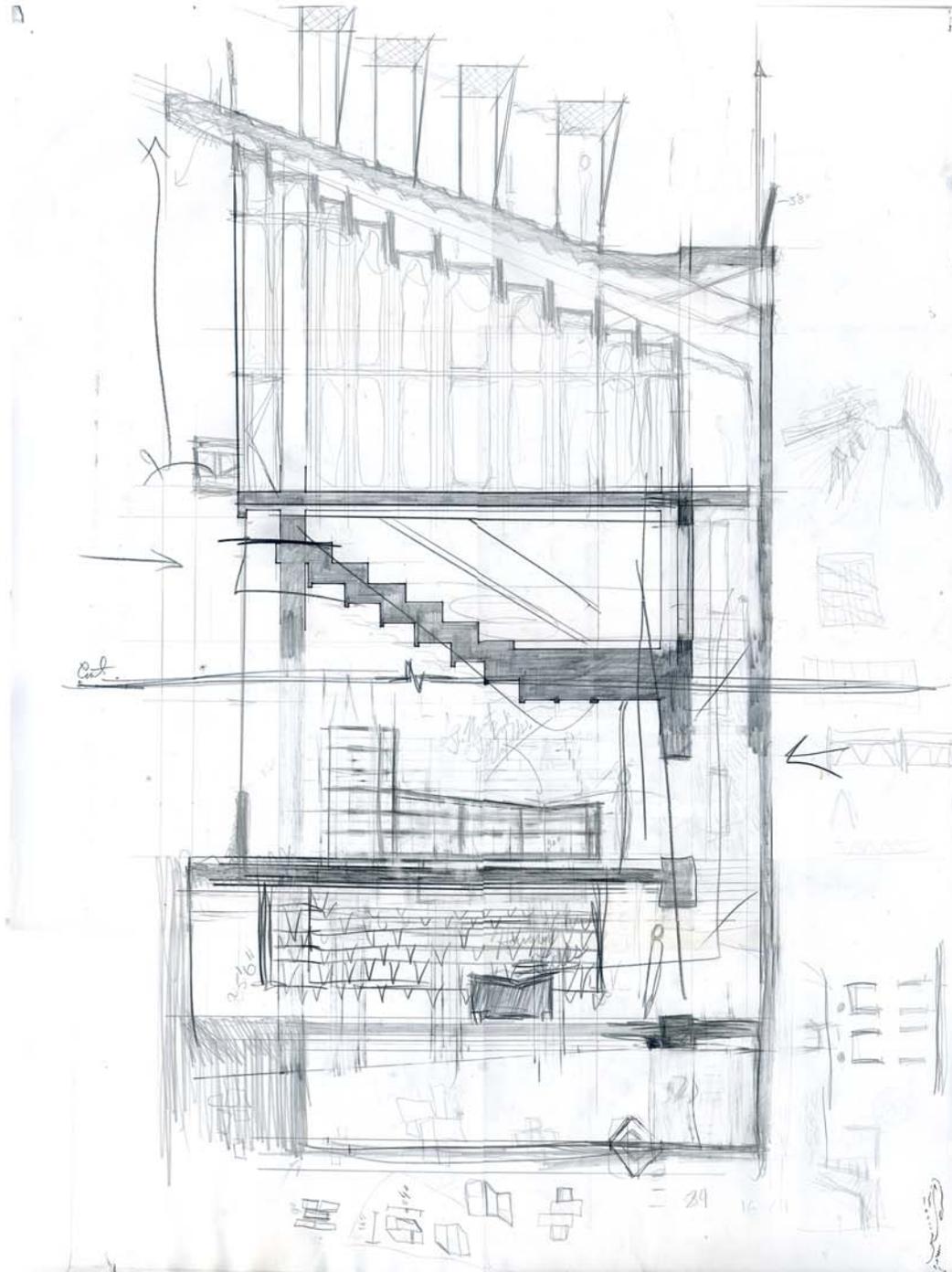


North or King Street Elevation; existing street furniture, lamp and tree are superimposed on the face of a photographed cardboard study model. An illustration of the facade concept is then drawn onto it.

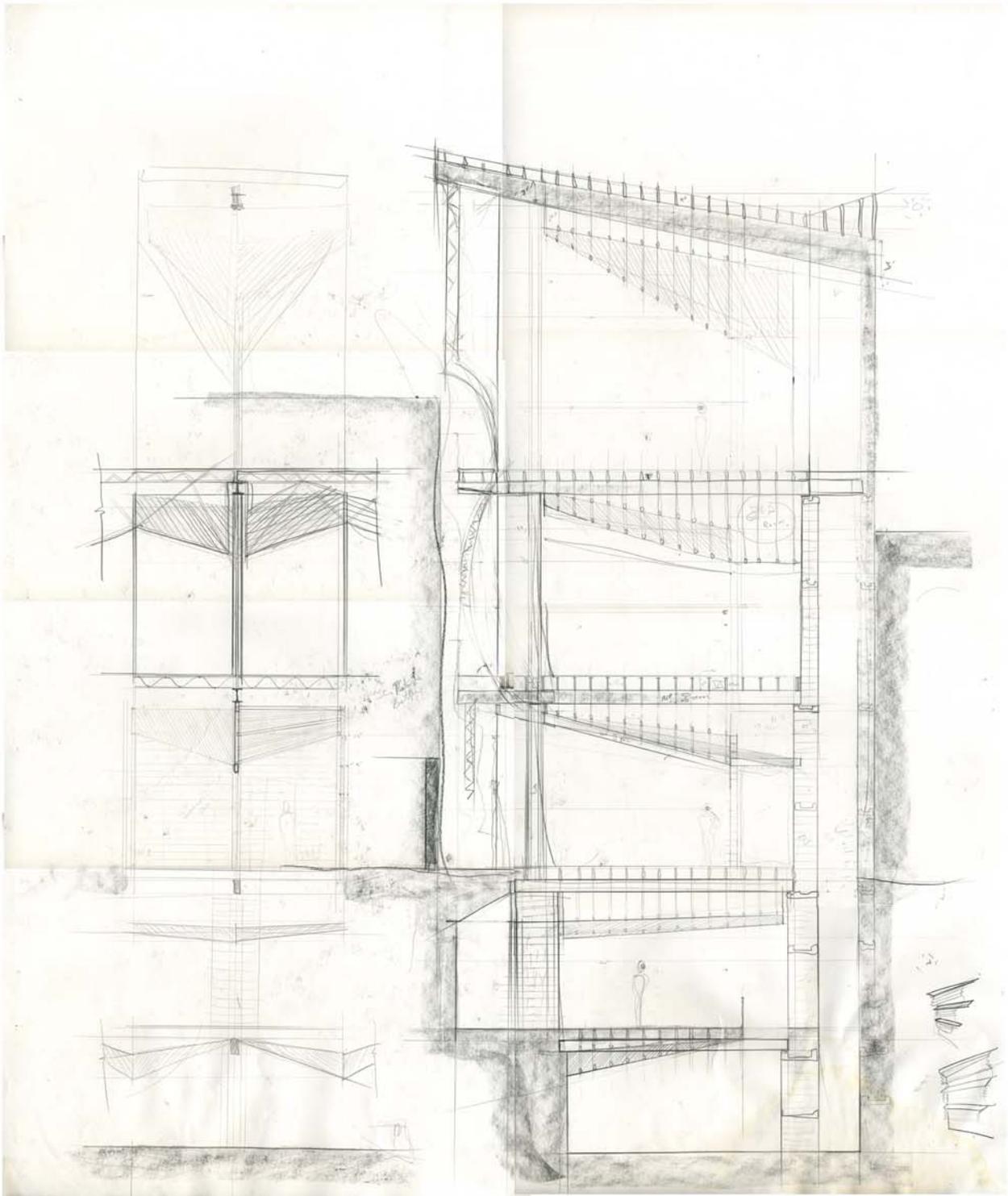


A follow-up graphic rubbing of another facade concept of the building in context to its surroundings.





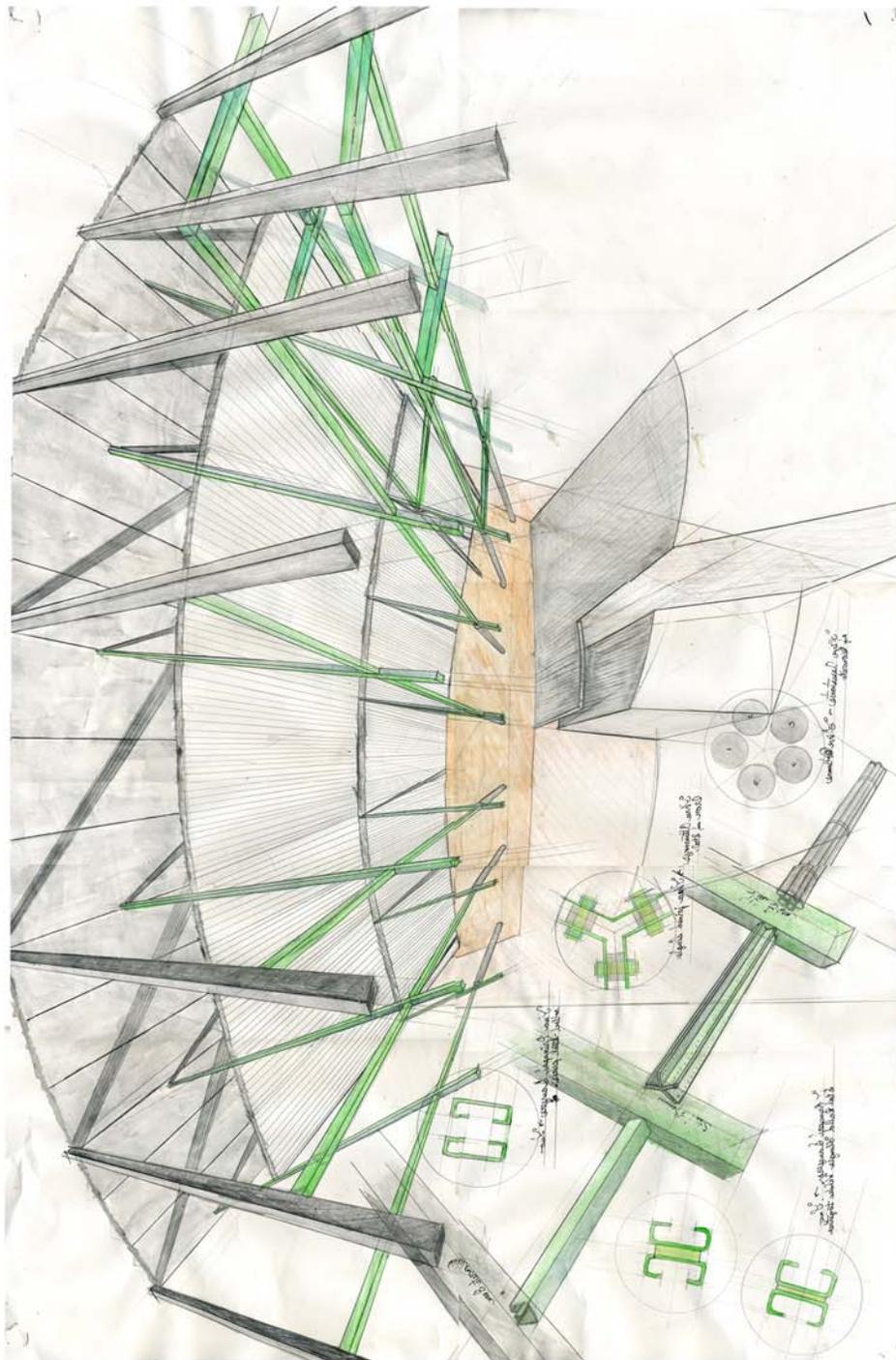
Investigative transverse building section with new developed folding details. The millwork of the library bookshelf to be designed with a folded top counter such that one could remove a book from the shelf and set it on the counter in the books privilege book fold and turn the page. The counter cradles the open book. The basement file room is to have the hanging files not in cabinet drawers but actual open metal hanging units suspended from the ceiling. Similarly, when a file is removed it is to be open and examined in the cradling fold of the tabletop.



Transverse Building Section, structural concept sketch.



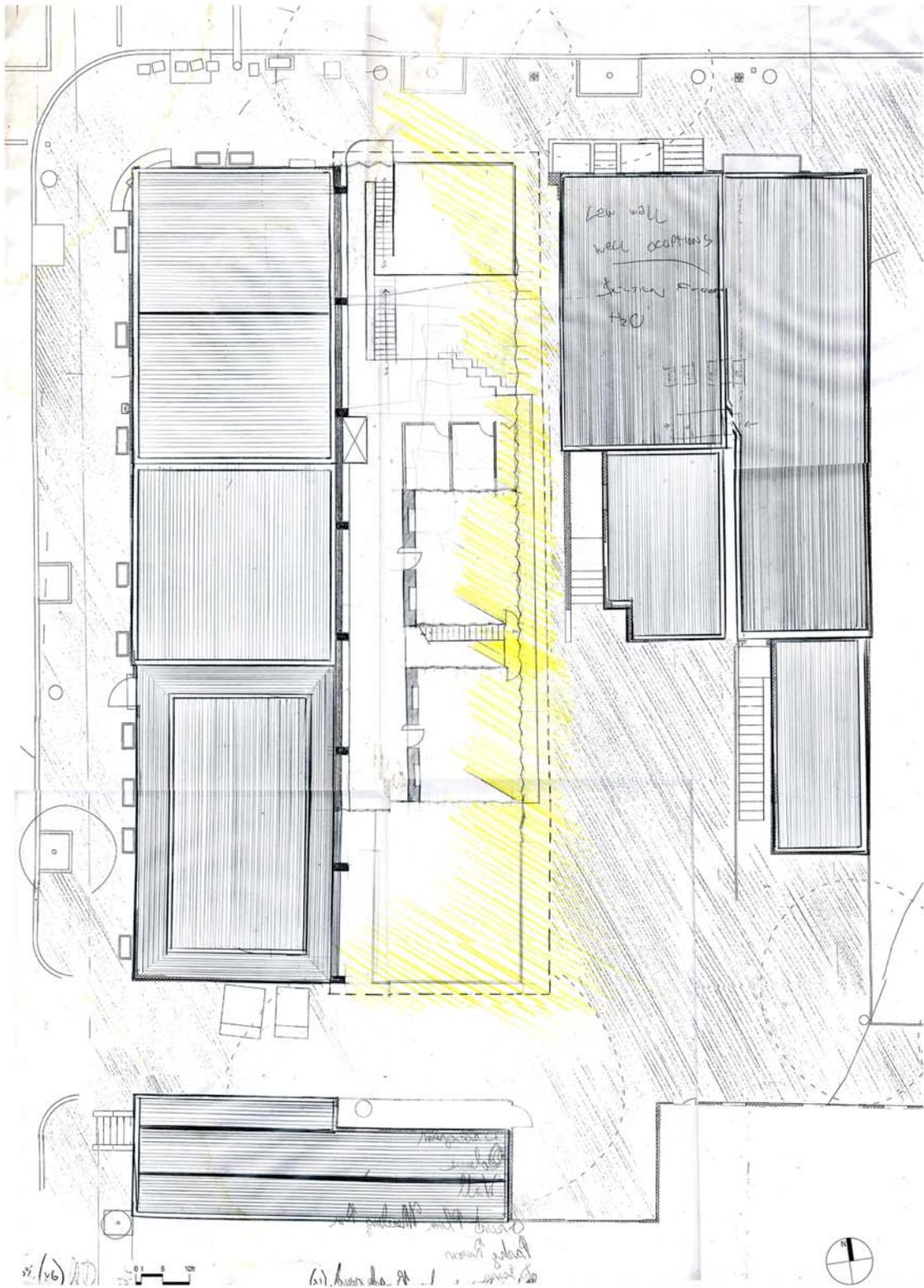
1 & 2) Model building section illustrating the folding thesis. 3) Model of law office interior with stepped ceiling of corrugated metal.



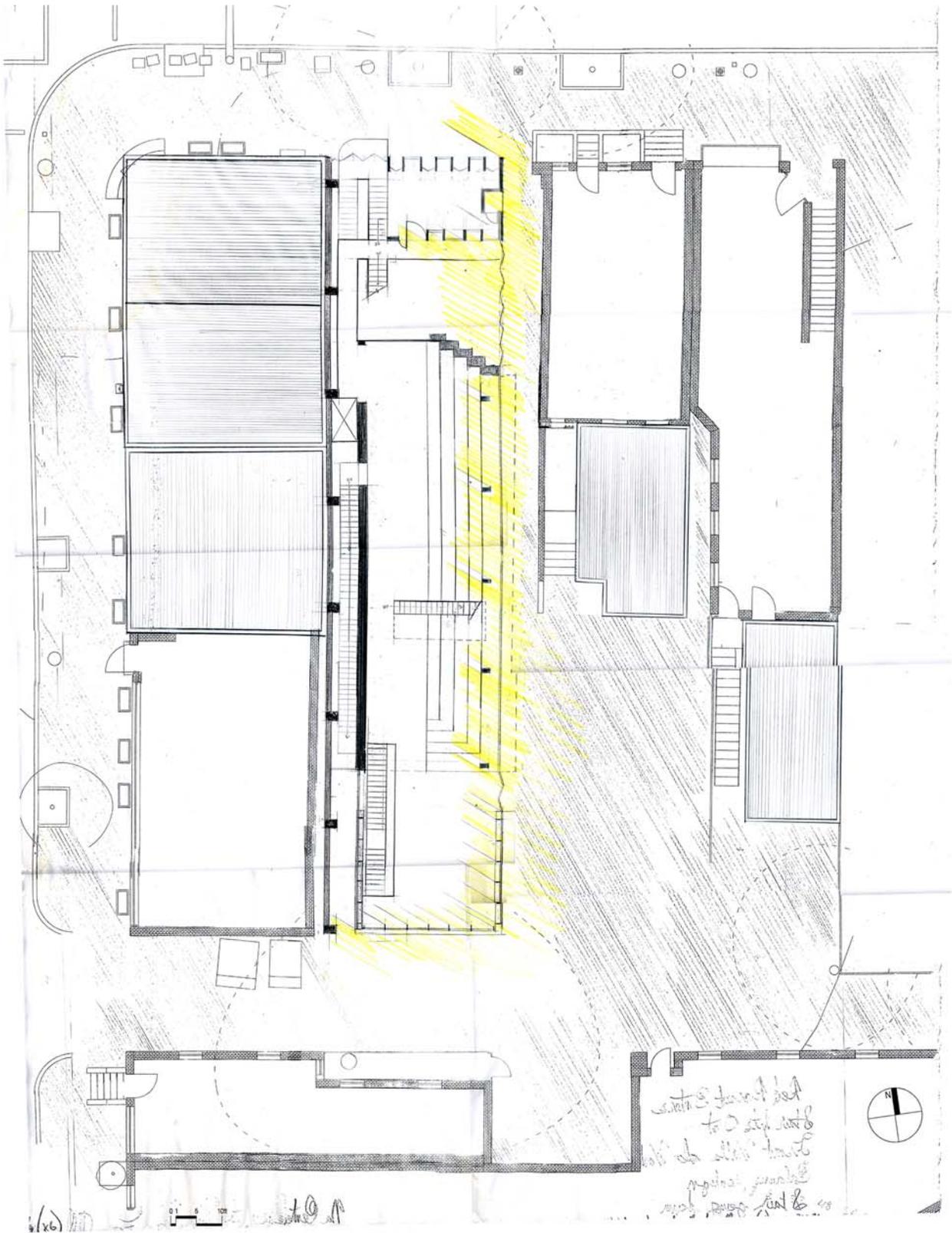
Birds Eye View- a drawing trying to identify the building's structural elements. The exterior most concrete wall creates one side of the vertical chase for the mechanical ductwork and piping and the space for the assistants' descending stair to the file room. The masonry wall creates the other side of the vertical shaft enclosure. Steel beams and columns hang from the concrete and masonry providing for the great glazing wall of the east facade.



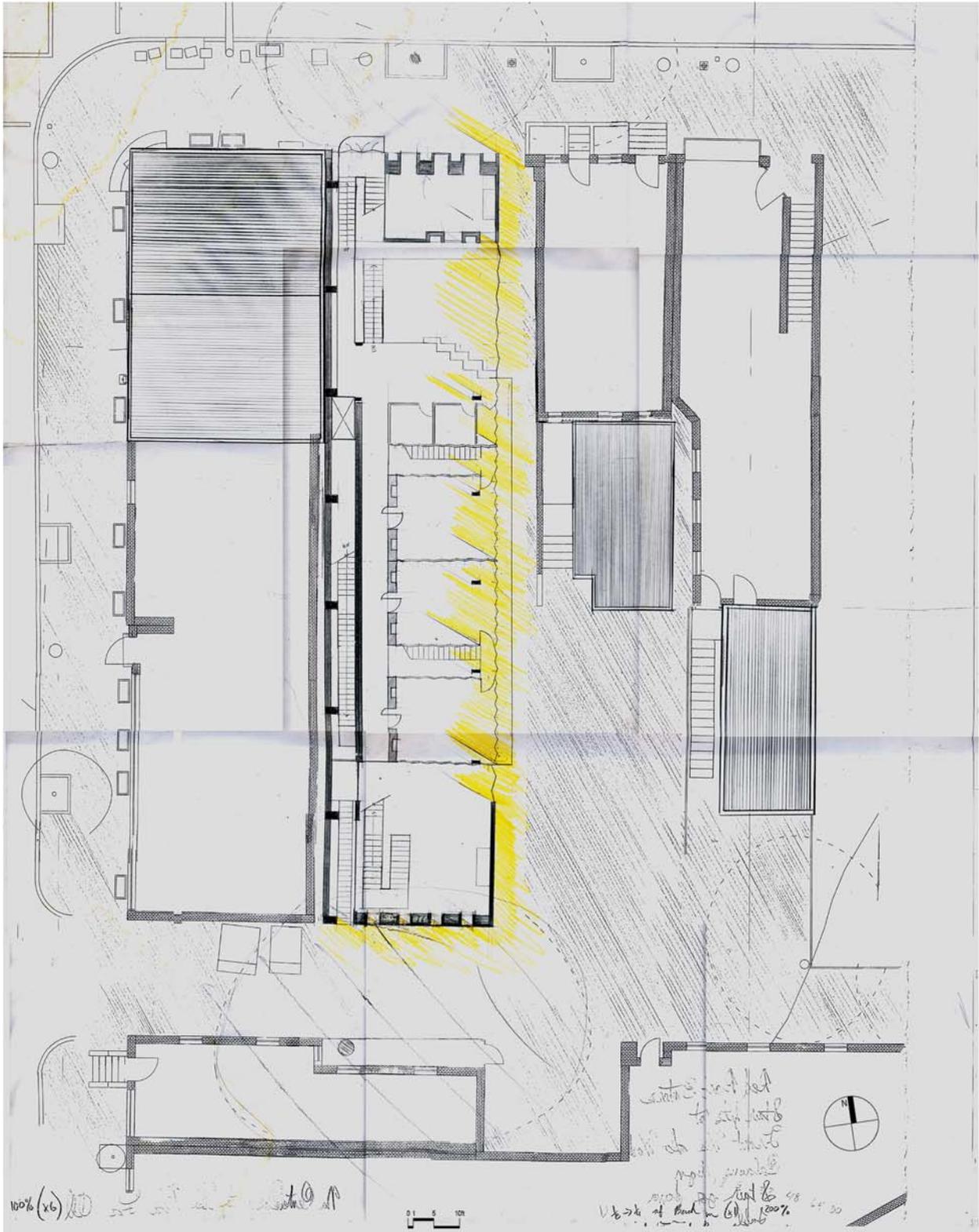
Roof Plan. The roof steps down to a roof fold running the length of the building to collect rain water runoff and direct it toward the back of the site.



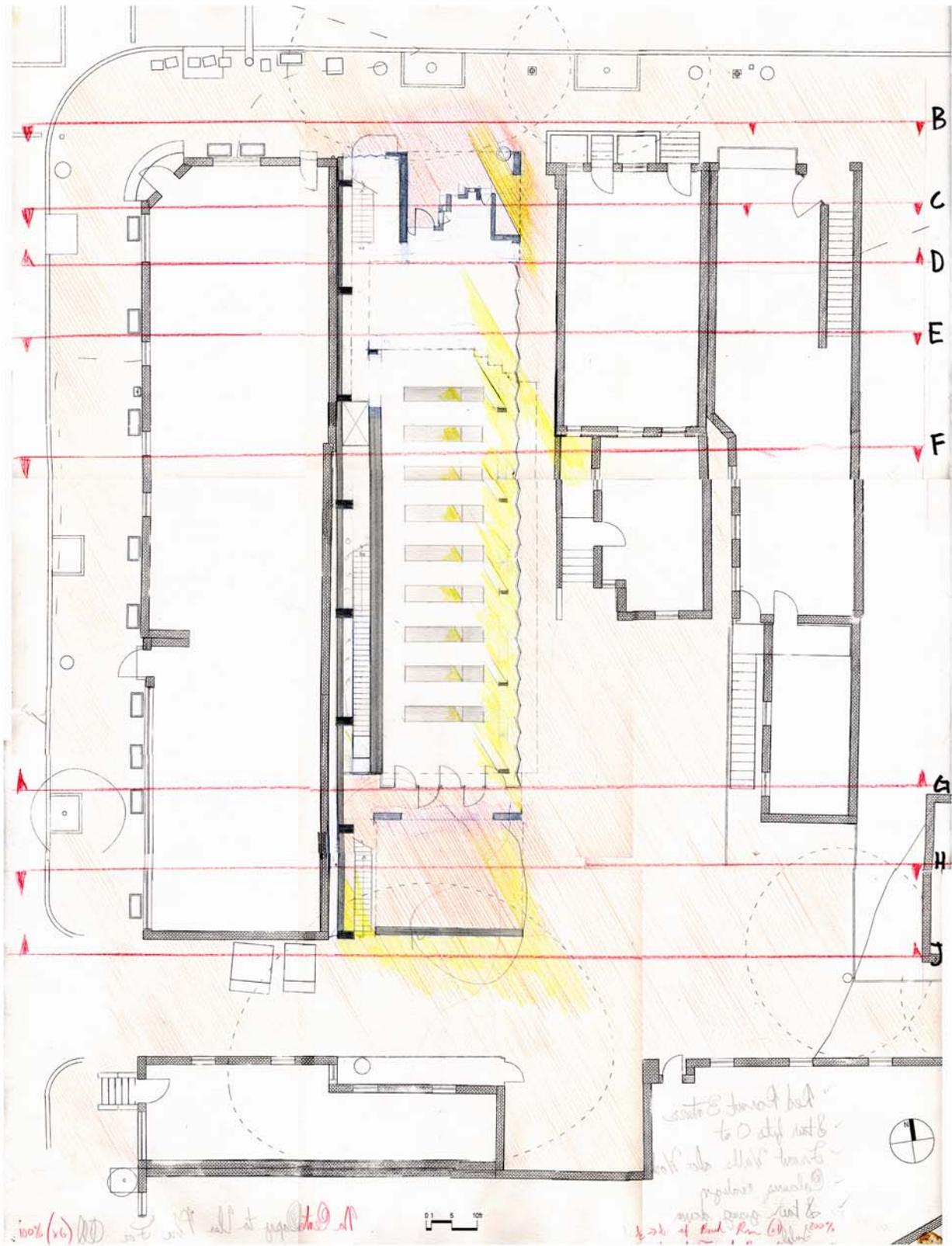
Principle Lawyers Level. The upper most level- the two principle lawyers are supported by the assistants from below.



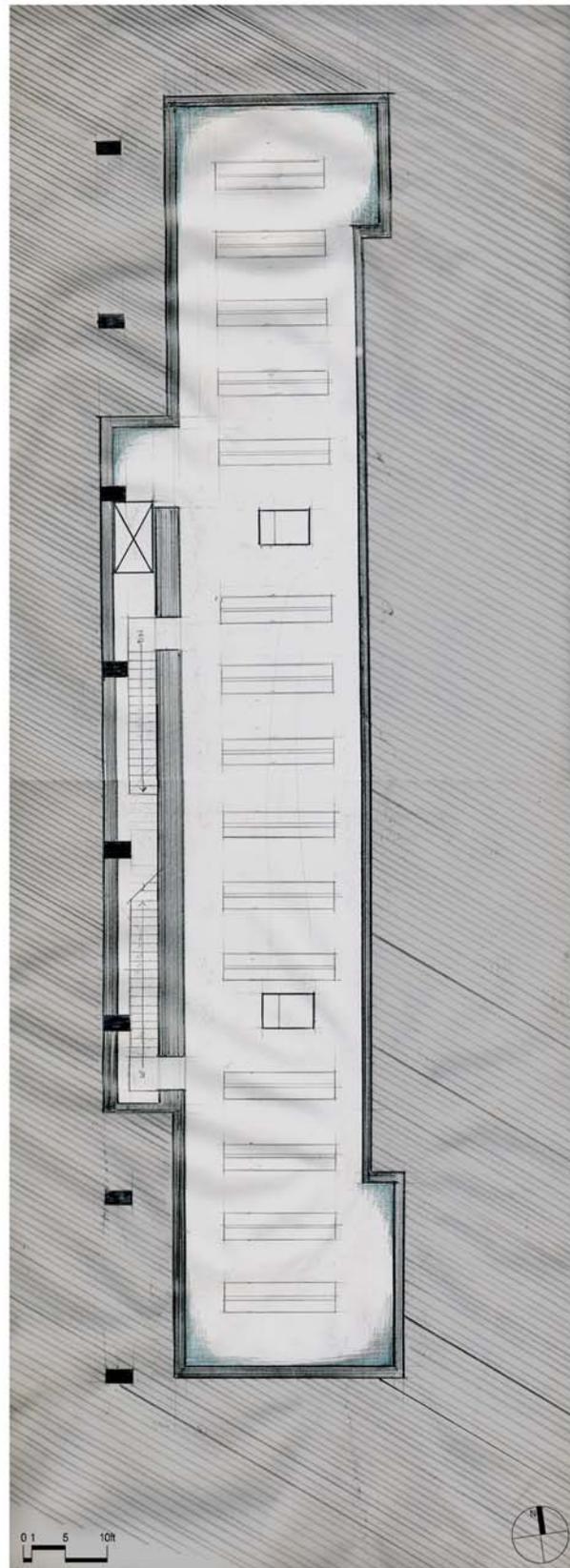
Assistants (to the principles) Level.



Lawyers Level. The three lawyers are supported by the assistants from below.



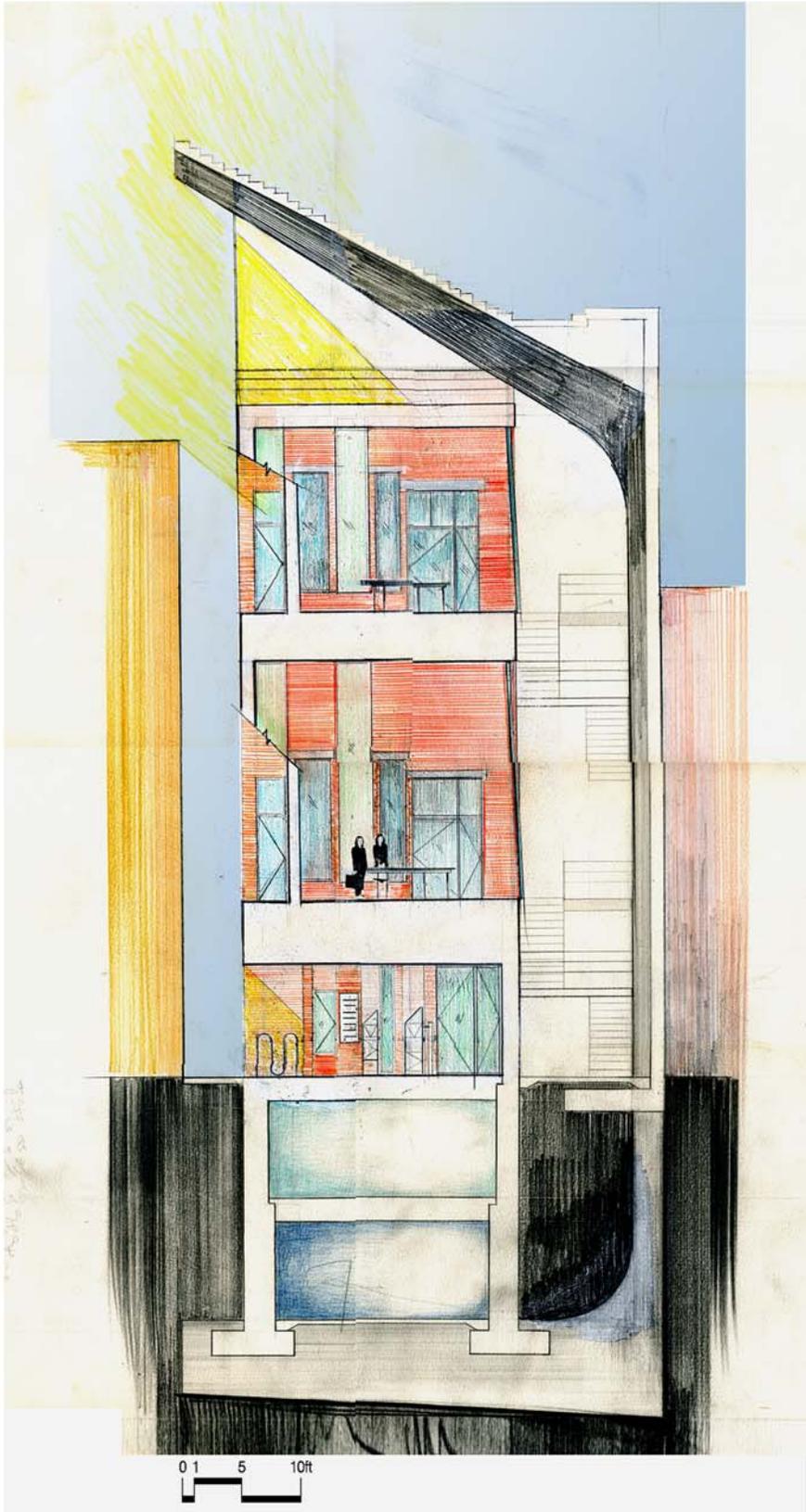
Ground Level- illuminating the library.



File Room Basement.



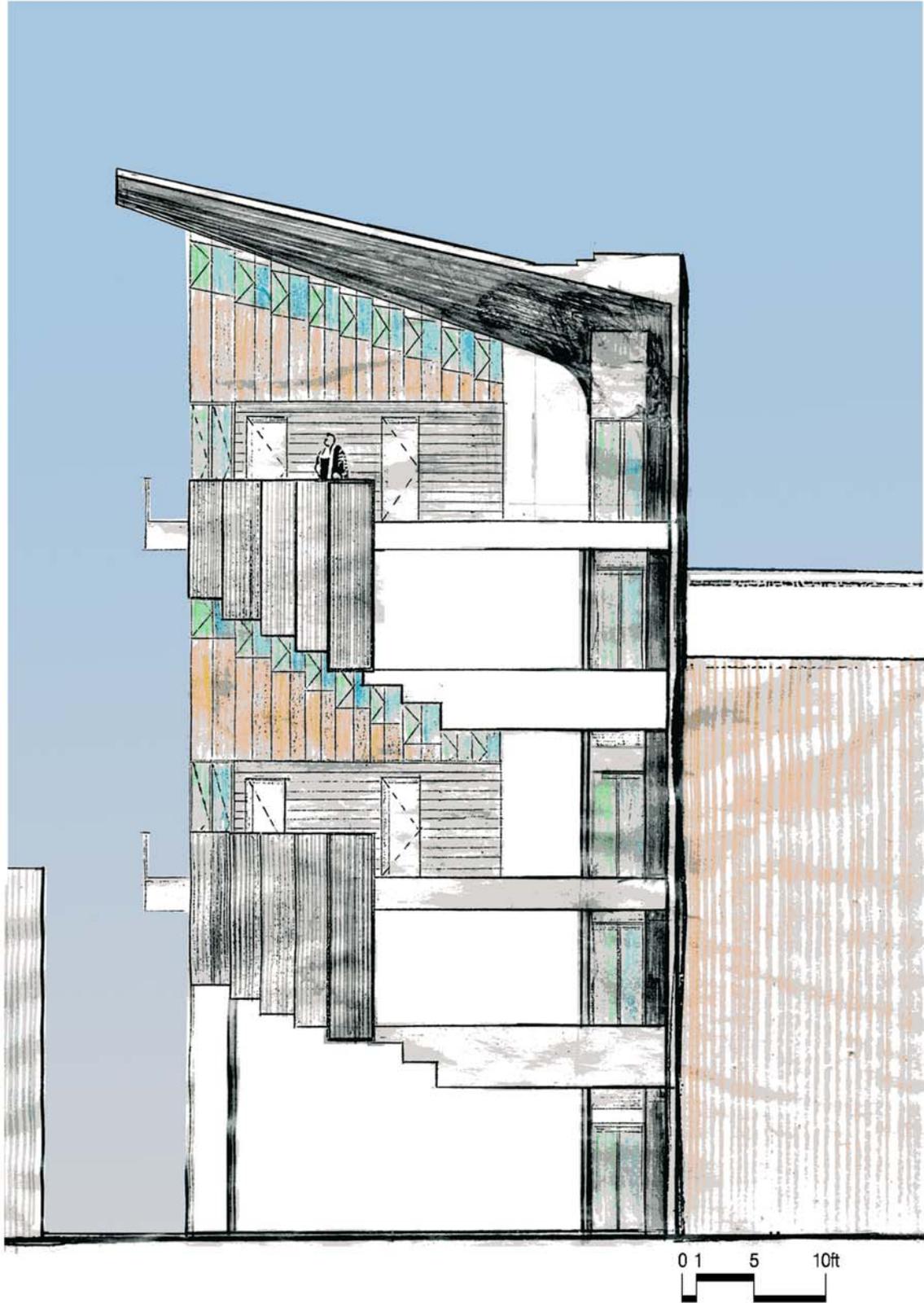
North or King Street Facade.



Transverse Building Section cut through the conference rooms.



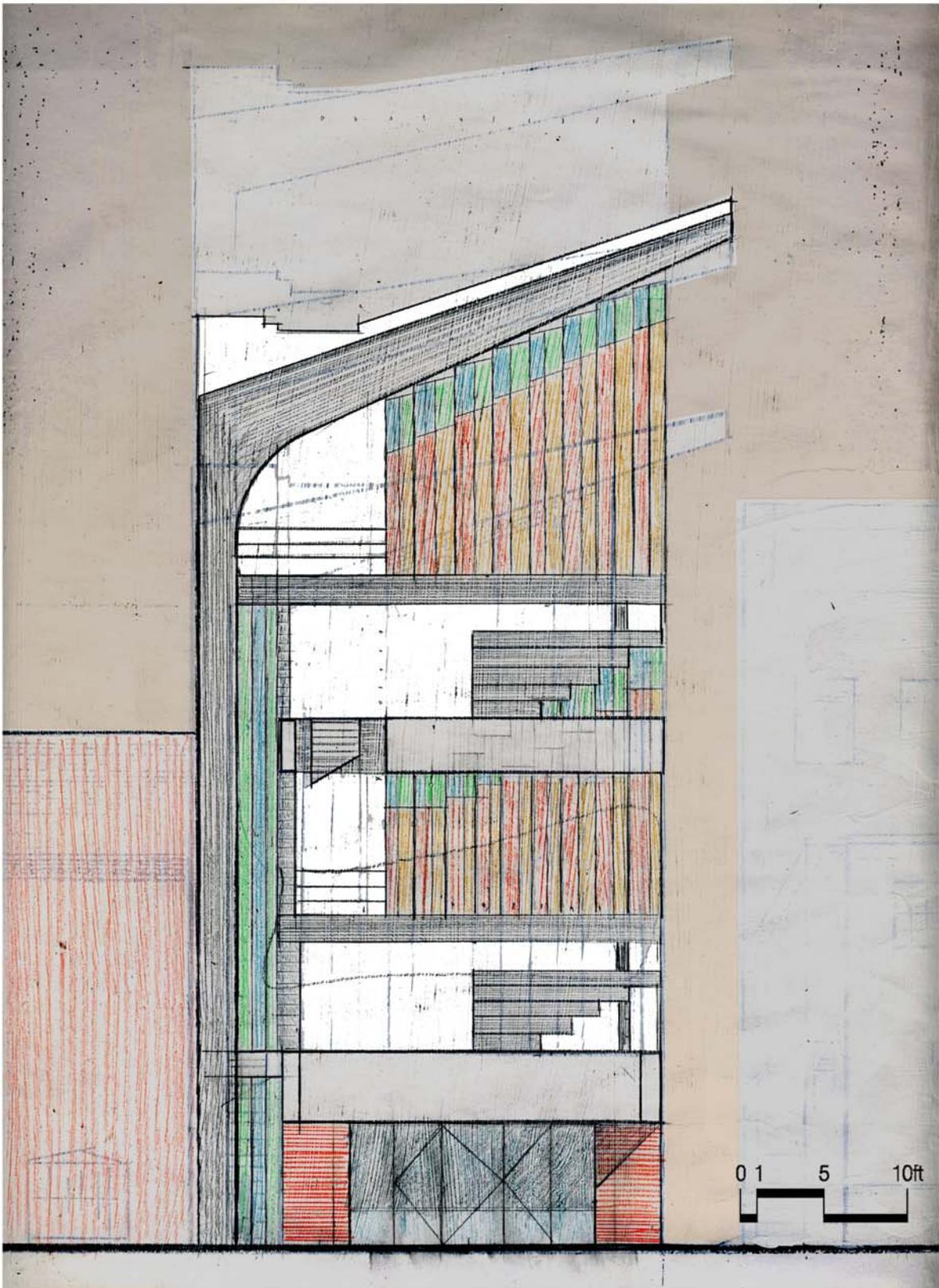
Transverse Building Section cut through the interior balcony landing of the conference rooms.



Transverse Building Section cut through the lobby atrium looking toward the offices and corridors.



Transverse Building Section cut through the Lawyers Offices, Assistants Levels, Library, File Room, and Mechanical Basement. This section represents the essence of the building and the thesis statement.



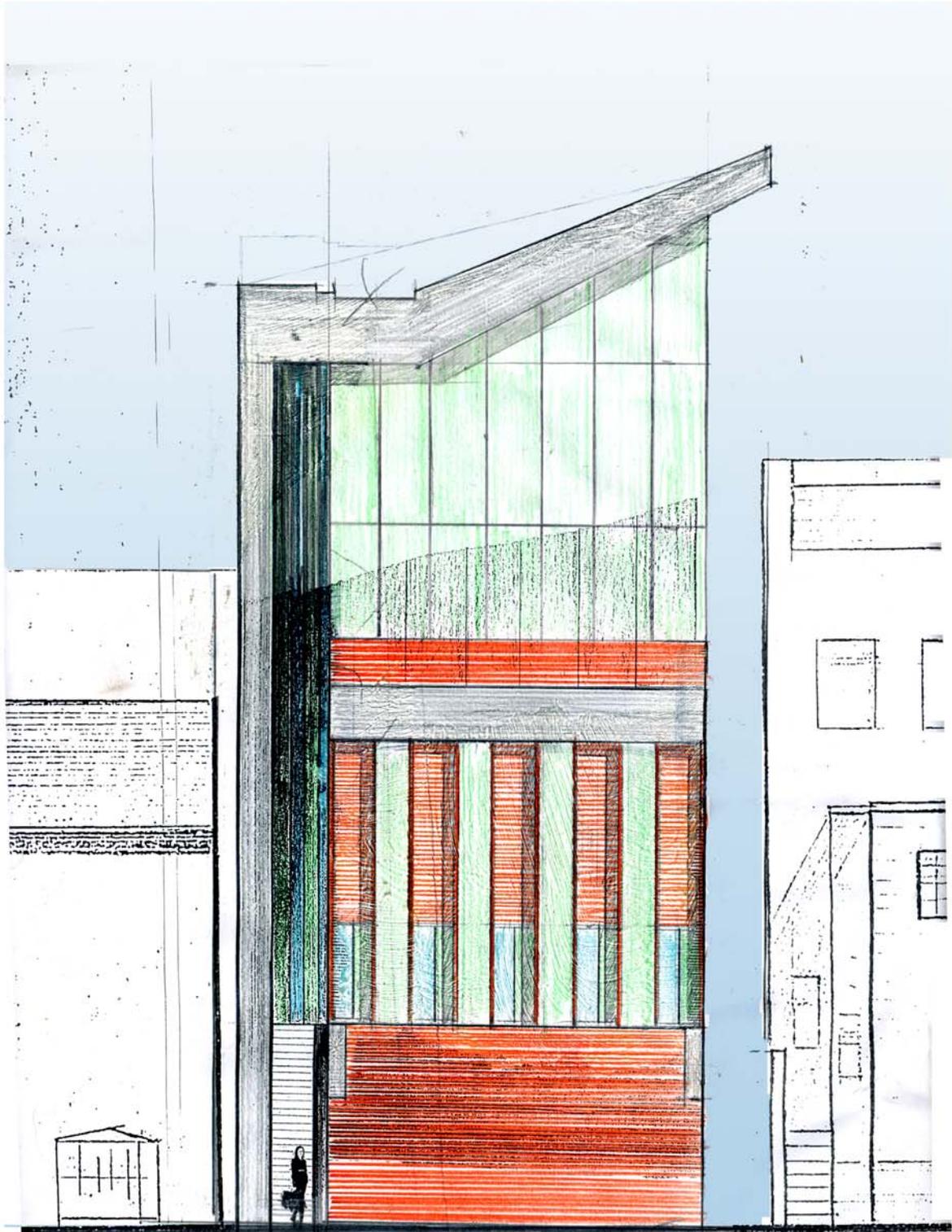
Transverse Building Section cut through the assistants garden atrium.



1 & 4) Building Model Section. 2) Perspective into assistants level with corrugated metal ceilings. 3) Perspective into basement file room with hanging files.



Transverse Building Section cut through the assistants garden atrium. The pictured employee is taking a break from the work day by dancing in the assistants' garden where there is no oversight of his boss's gaze.



South or Alley Facade.

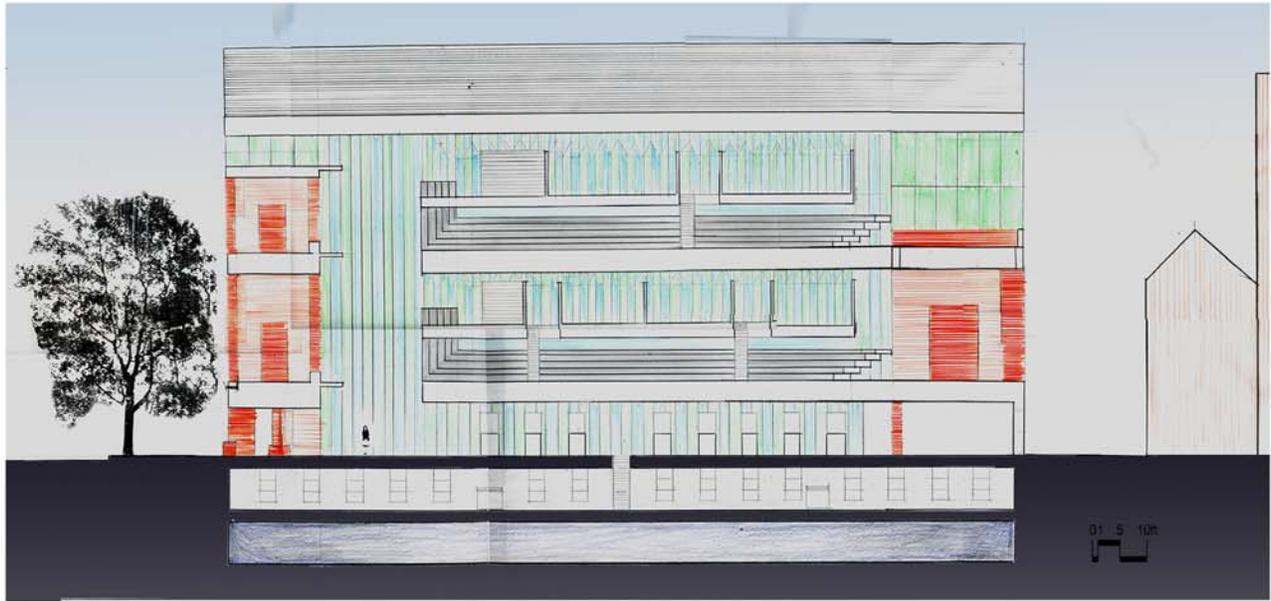




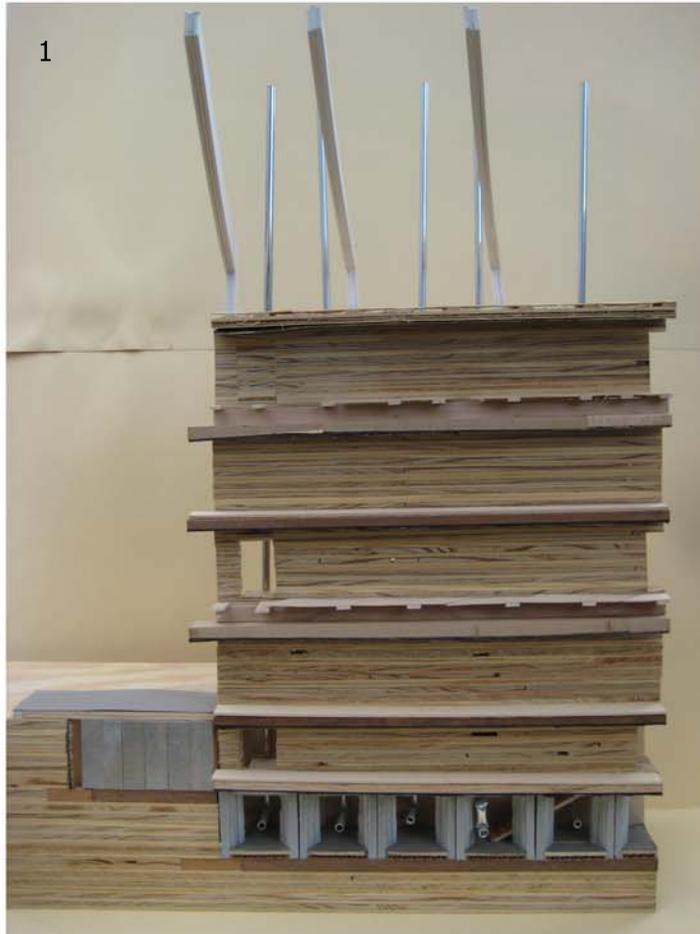
East Facade. East facing folded glazing bookend by the north facing conference rooms and the south facing garden atrium.



West Elevation. The profile of the adjacent building is illustrated.



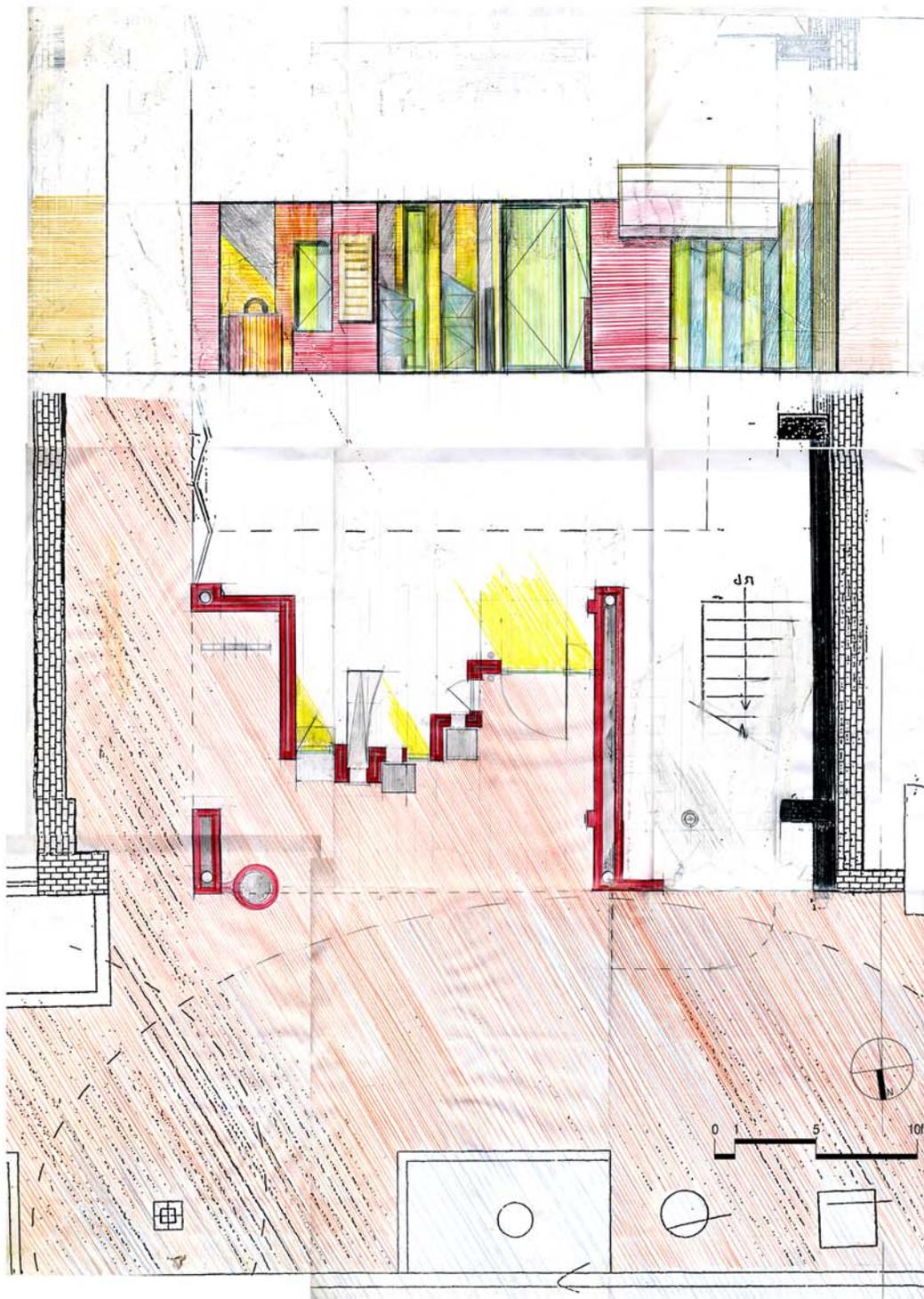
Longitudinal Building Section looking east.



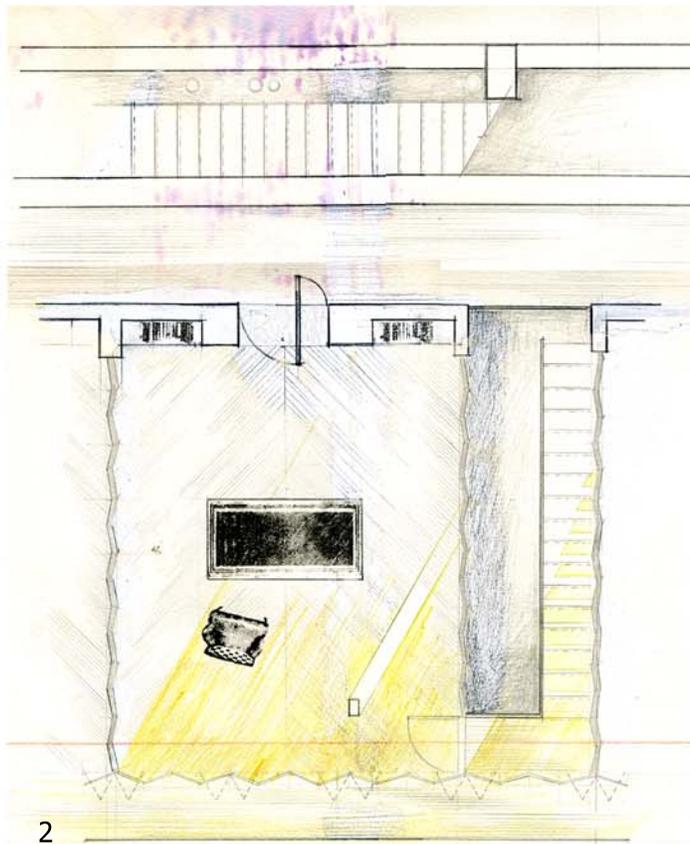
- 1) Longitudinal building model section illustrating the mechanical level at the basement.
- 2) Mechanical ductwork and piping coming from the basement units turn-up vertical through the stair chase.



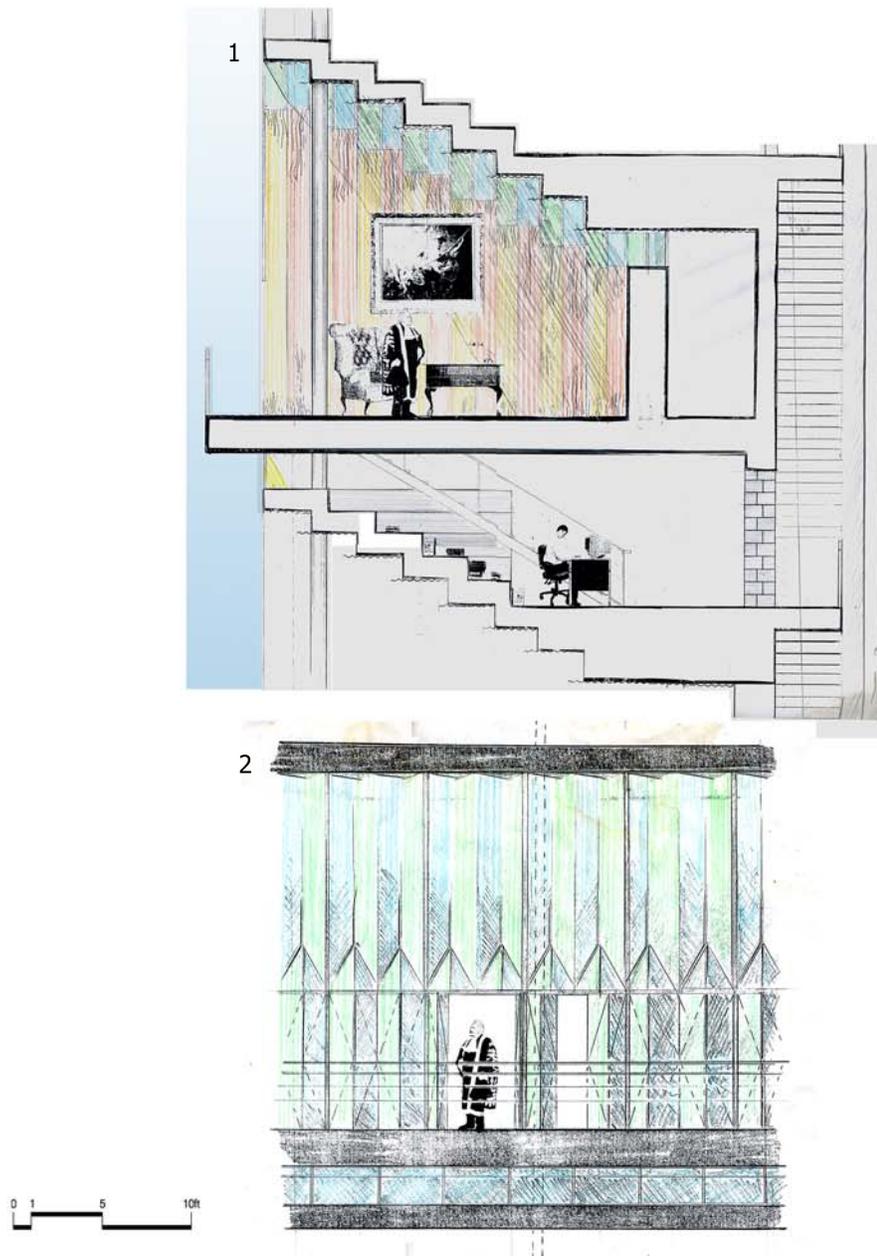
- 1) Modeled chase with descending stair to basement file room and mechanical ducts. Stair to be constructed of perforated folded metal.
- 2) Longitudinal building section model.
- 3) Modeled mechanical duct turning and passing to basement mechanical room.



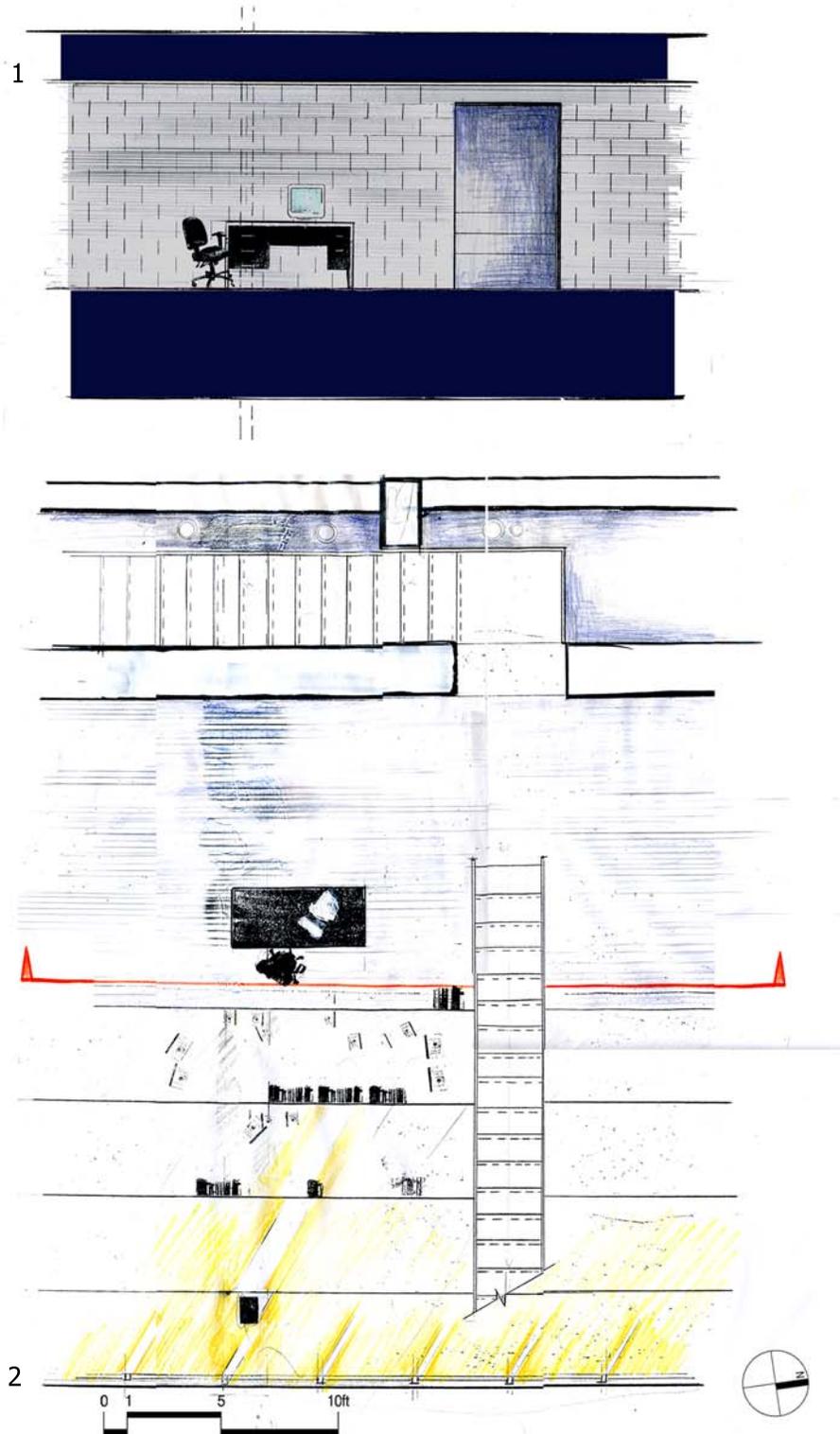
Plan and Elevation Details of the building entrance along King Street. The folded brickwork wall folds around and cradles each of the services of the building entrance facade: door, newspaper vending machine, mail drop off, building's mail receiving, bike rack, and trash can all of which are protected from rain by the plane of the building above. The sidewalk brick paving pattern floods into the entrance making the portico part of the public street as well as part of the building.



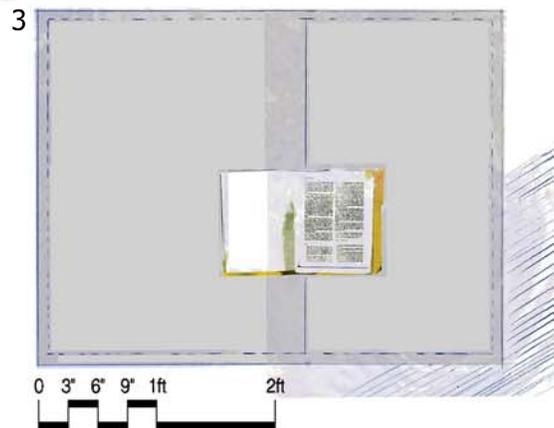
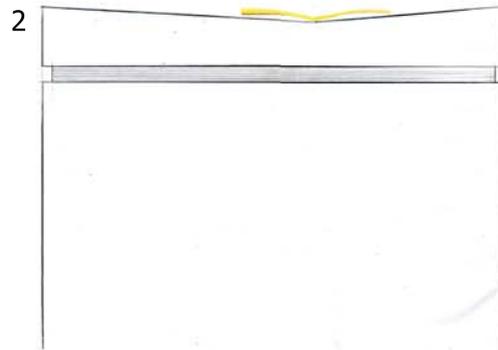
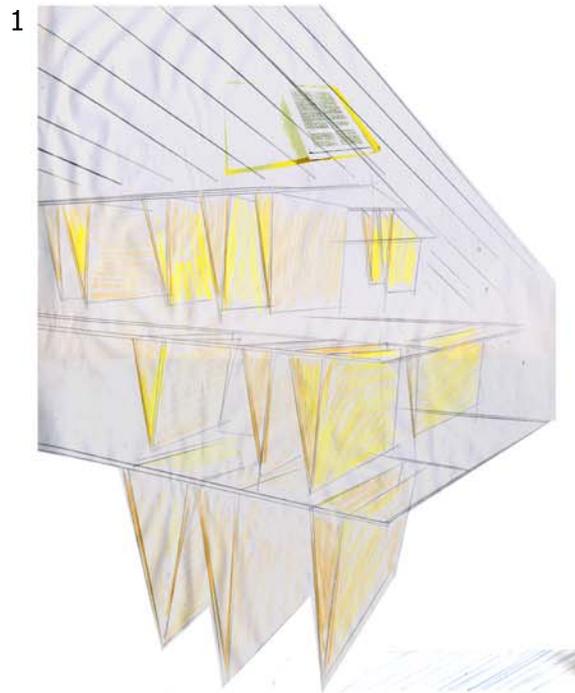
1) Interior Elevation of typical Law Office. Stepped ceiling funnels natural light in from the east. 2) Plan of typical Law Office. The stair ascends from the assistants level below. Accordion operable glass window lead to the balcony. Accordion stud framed partition walls are finished with bookend wood veneer.



1) Section of typical Law Office and Assistants Level. The lawyers accordion wood bookend paneled wall is depicted in the background as is his balcony, and flooding east light of his office. The assistants' horizontal ribbon window gives a more diffused light. The folded, stepped floor provides ample storage space both as a table and a shelf for the assistant's work. The assistants stair is visible in the background. 2) Exterior Elevation of typical Law Office. Operable accordion glass window with crystalline folding creating shadow reversal along vertical adjacency. The Lawyer steps outside to admire the view and take a moment away from the desk.



1) Interior Elevation of typical Assistants Open Office. Doorway to the descending stair the basement file room is visible in the background. 2) Plan of typical Assistants Open Office. Books, papers, files are collected, stacked and stored on the folded floor.



1) View of Vertical Hanging Files. 2) Elevation of File Room Table. A crease is created from the tables folded surface. The fold cradles the file while it is being examined. 3) Plan of File Room Table.

## Part II

September 7, 2005 - March 11, 2009

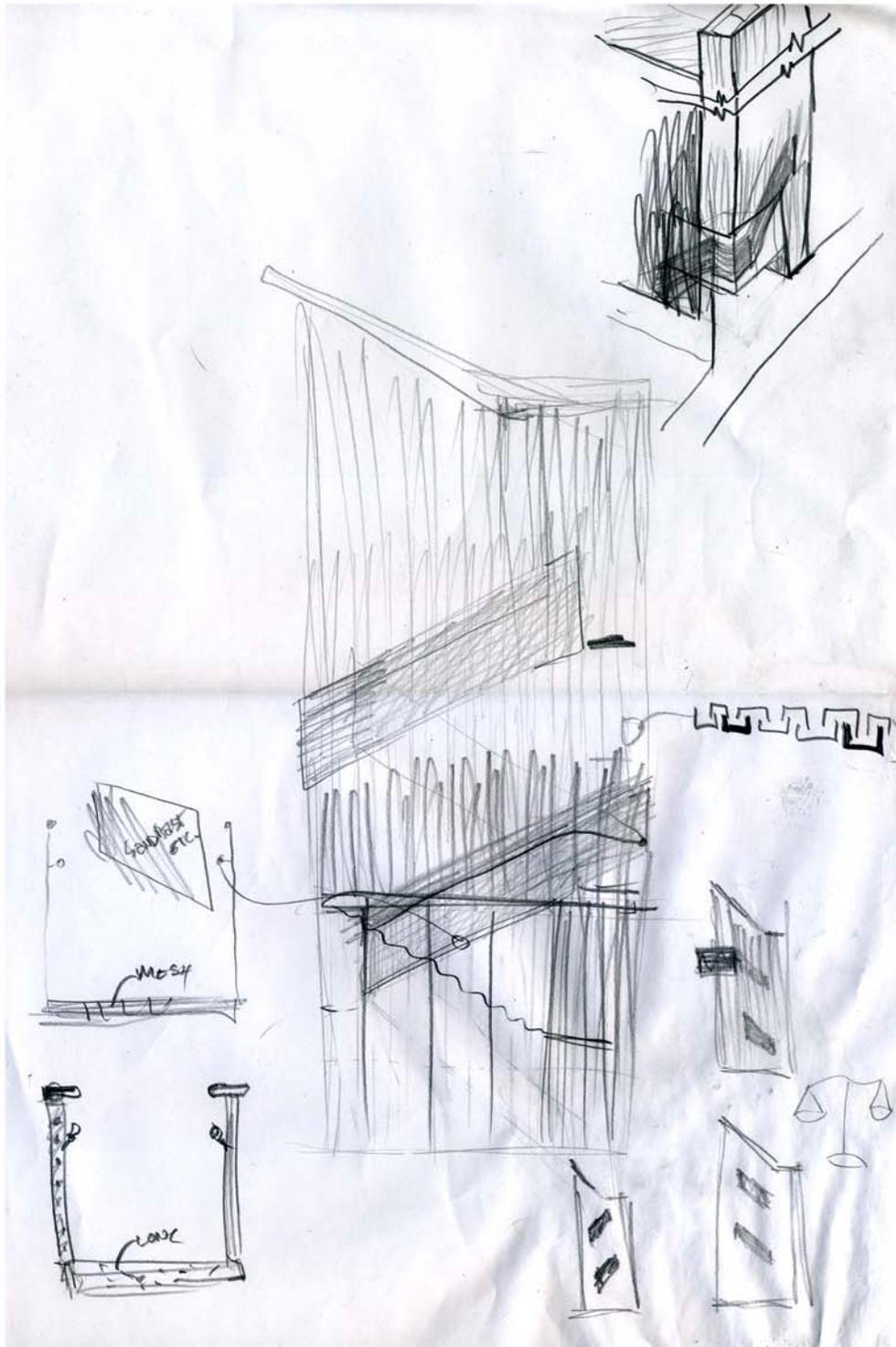
At the conclusion of my thesis defense Jaan Holt queried, "Is your project about folding or unfolding?"

Folding is active and the act of folding is the revelation of change. Unfolding begins with a predetermined crease and then the action of unfolding brings something new into the light. It reveals something that at first was not apparent.

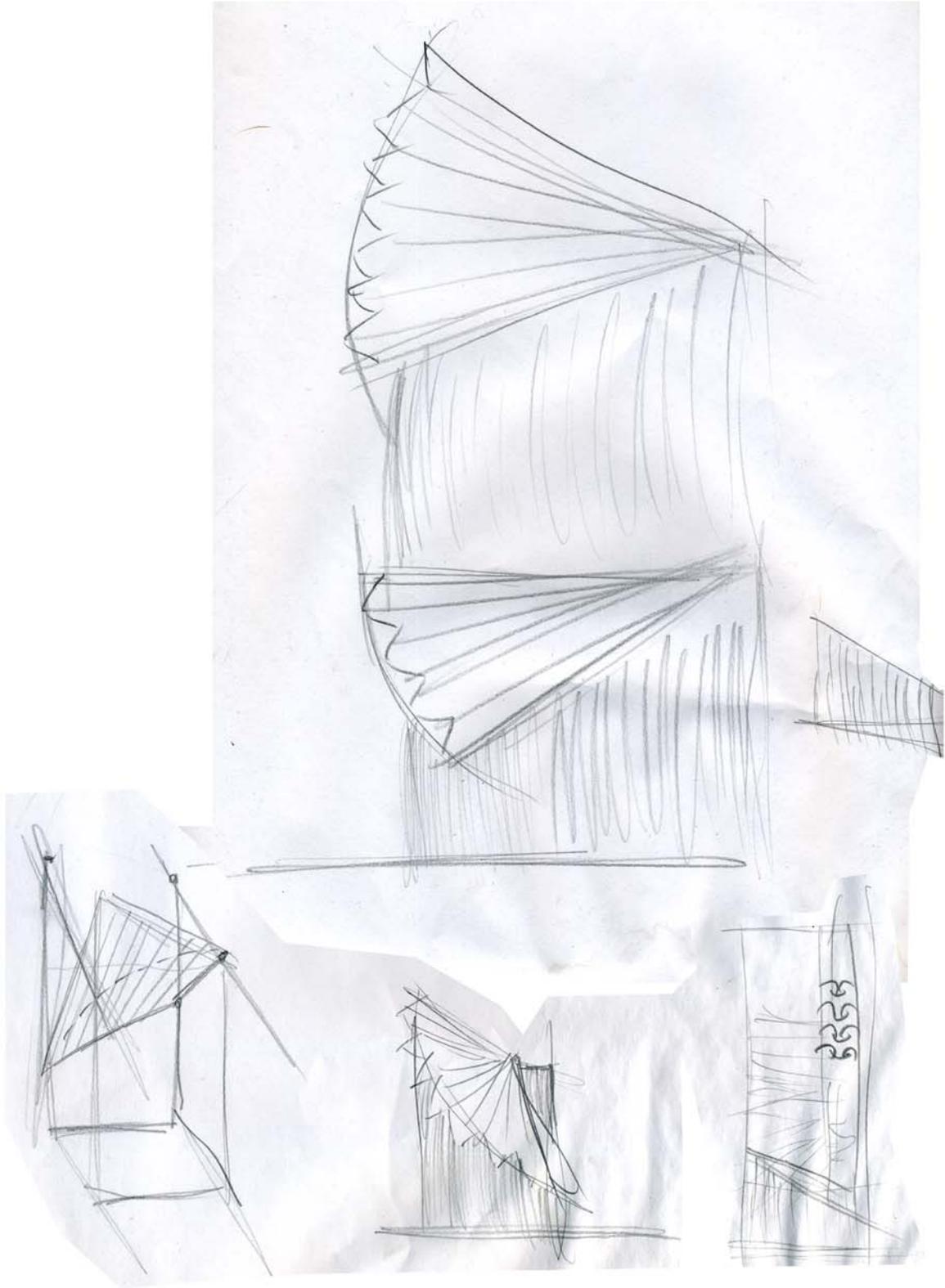
Folding is the reduction of distance between two points.

Folding is the additive process of the creation of segmenting- taking a single element creasing it and making three identifiable elements: the two planes on either side of the crease and the crease itself.

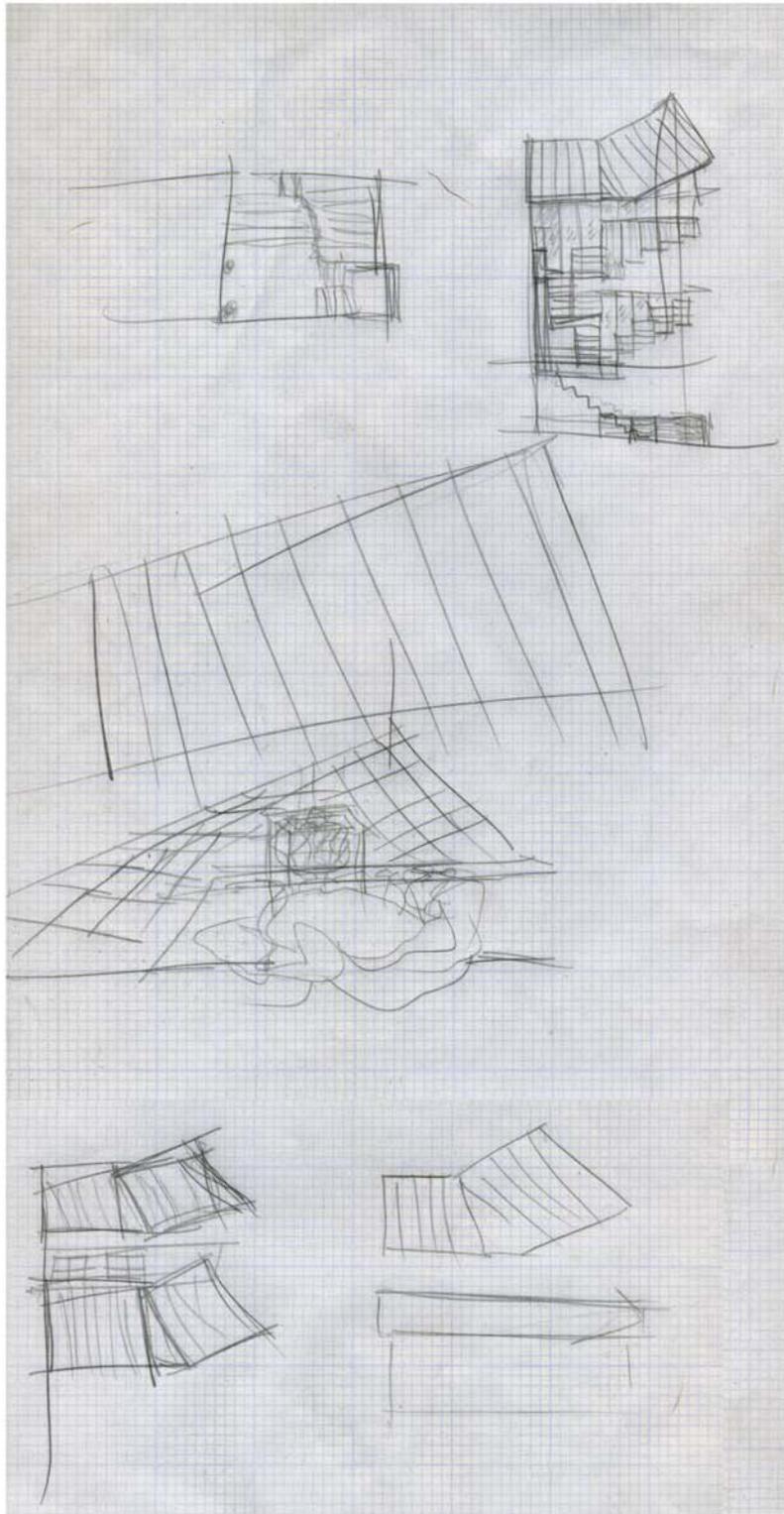
Unfolding is the addition of a new perspective from the unfolded revelation.



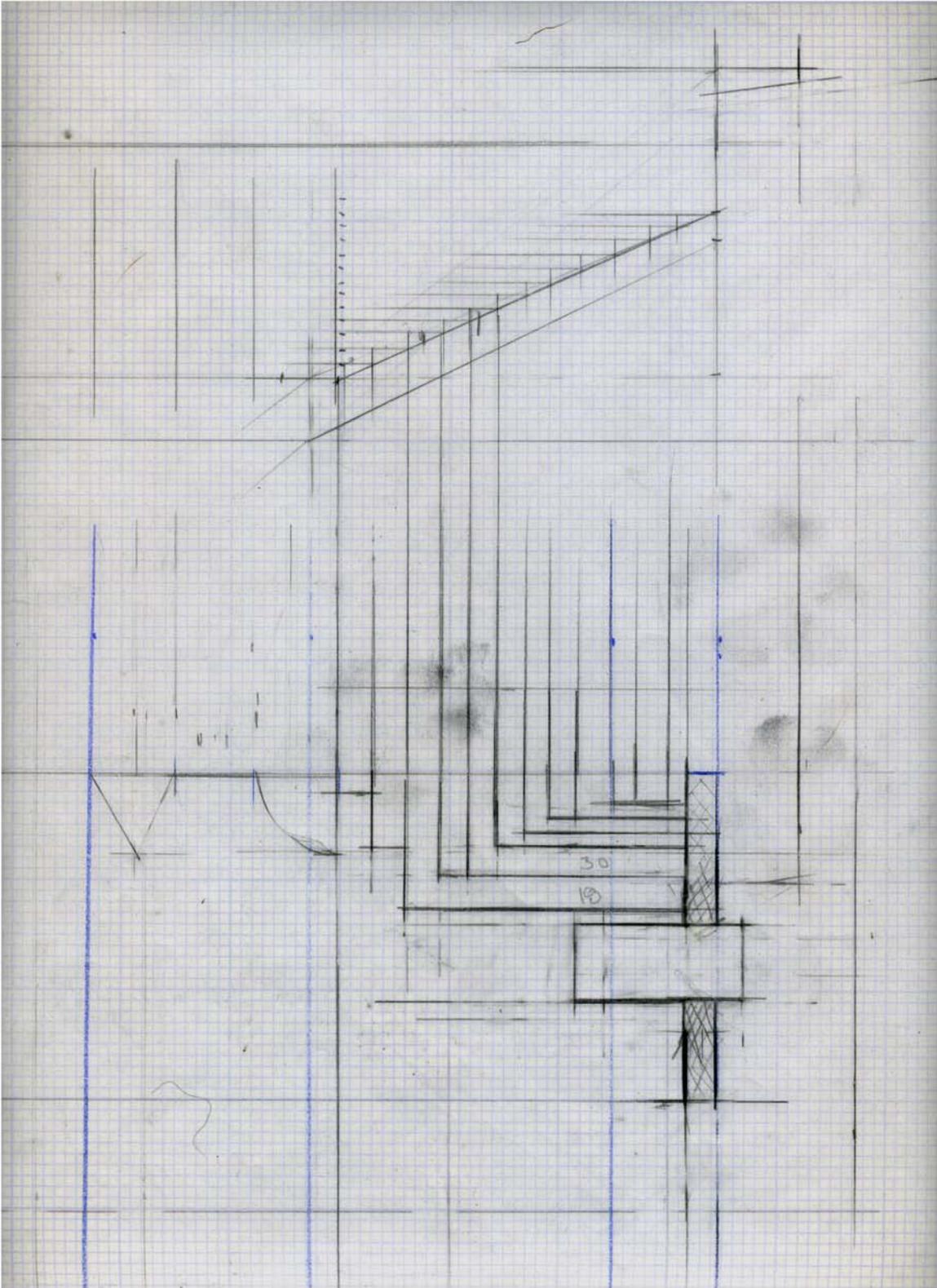
This is first investigating drawing to follow-up the defense criticism that the front facade's perception did not match the language used to describe it as a window into the public meeting areas of the building. The drawing studies the vertical circulation and the lobby atrium stair and its perception from the exterior through the transparency of the facade.



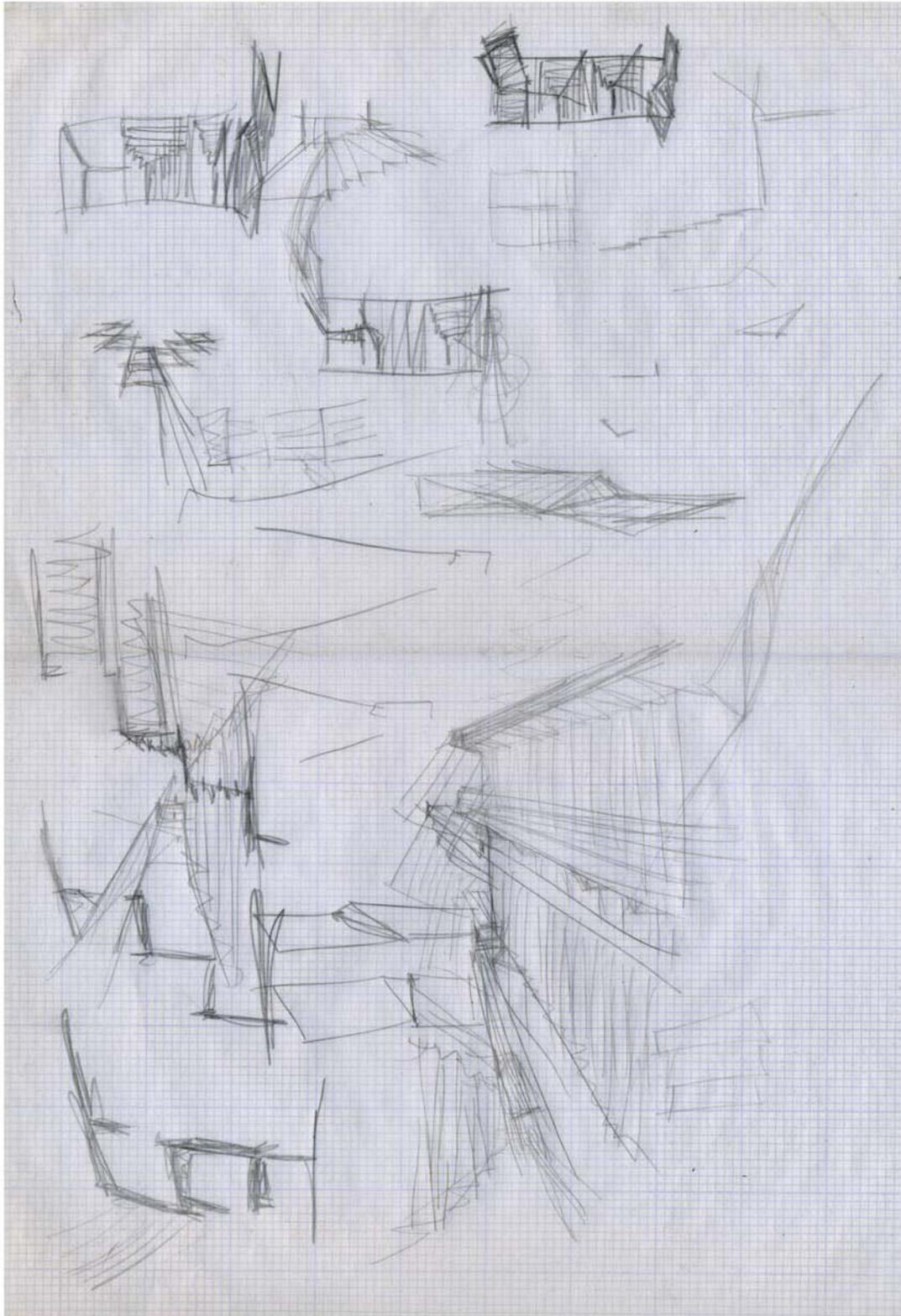
A concept with folding fan shaped roof elements creating a structural rigid and water dynamic roof.



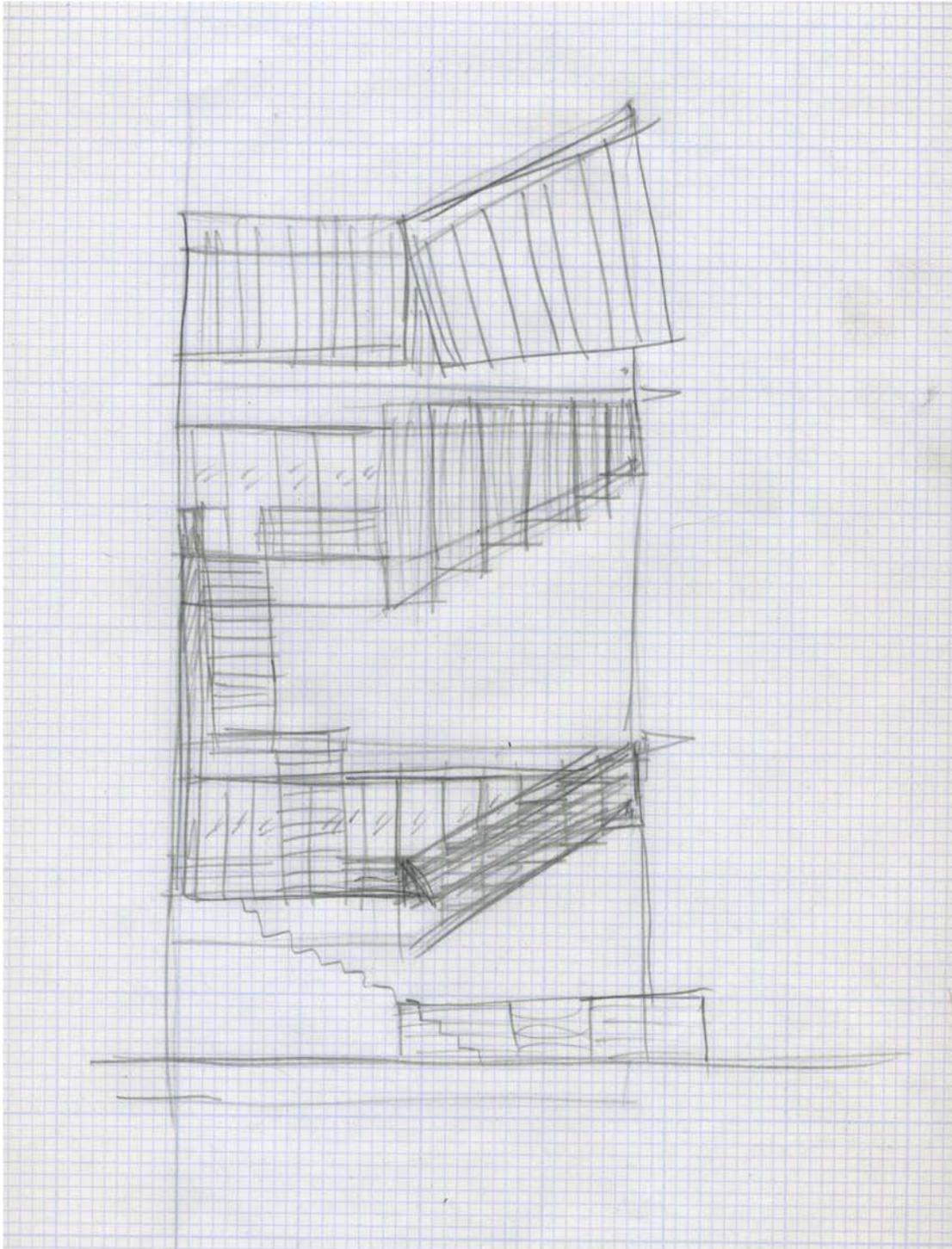
Different folded roof planes create form through ridges and valleys. Traditional standing seam metal roof is created by folding the edges of linear sheets of metal creating a standing seam and a water tight joint.



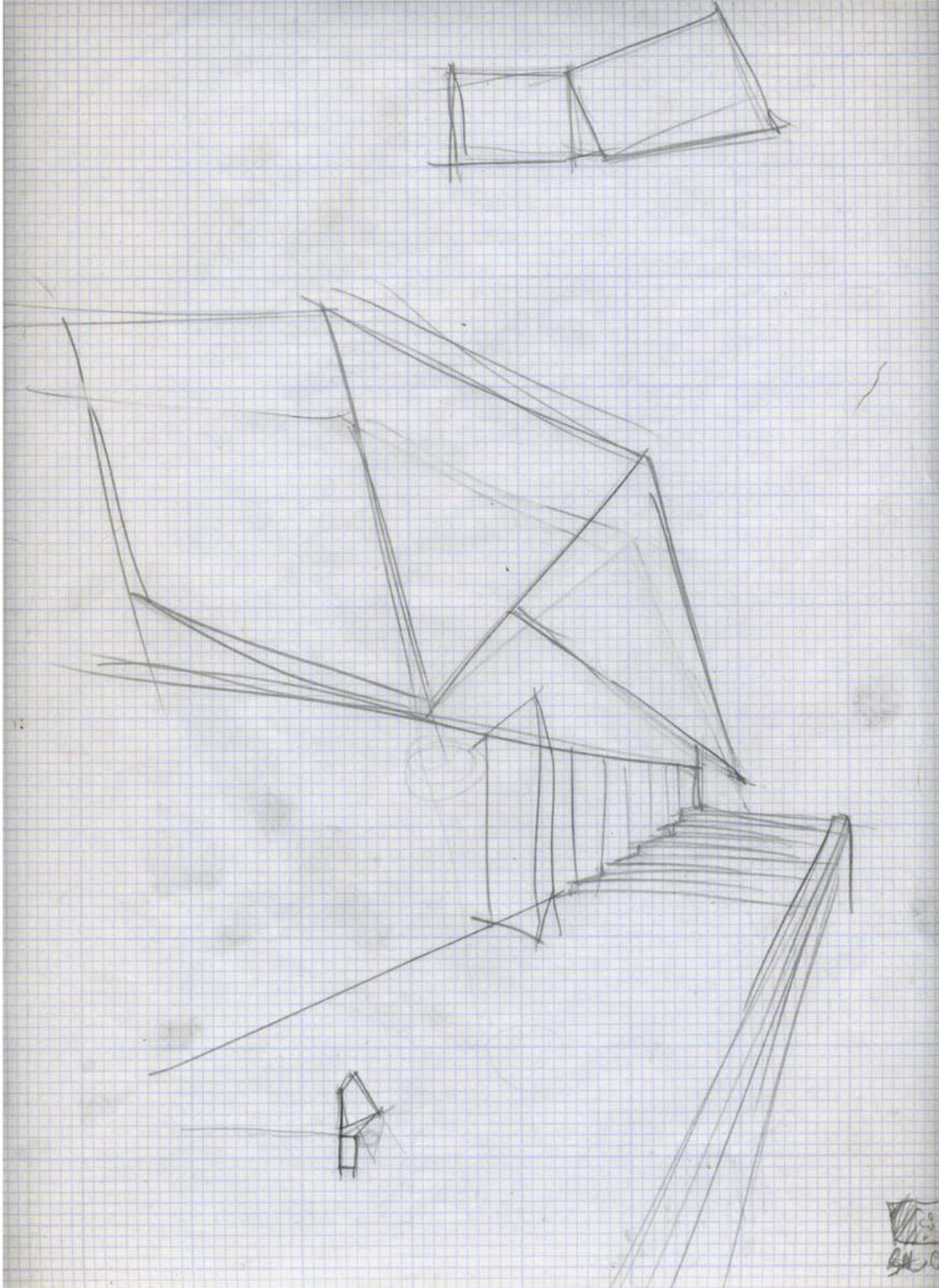
This is a drawing of distance calculation of the floor's folds, risers, treads, and the total floor to floor height.



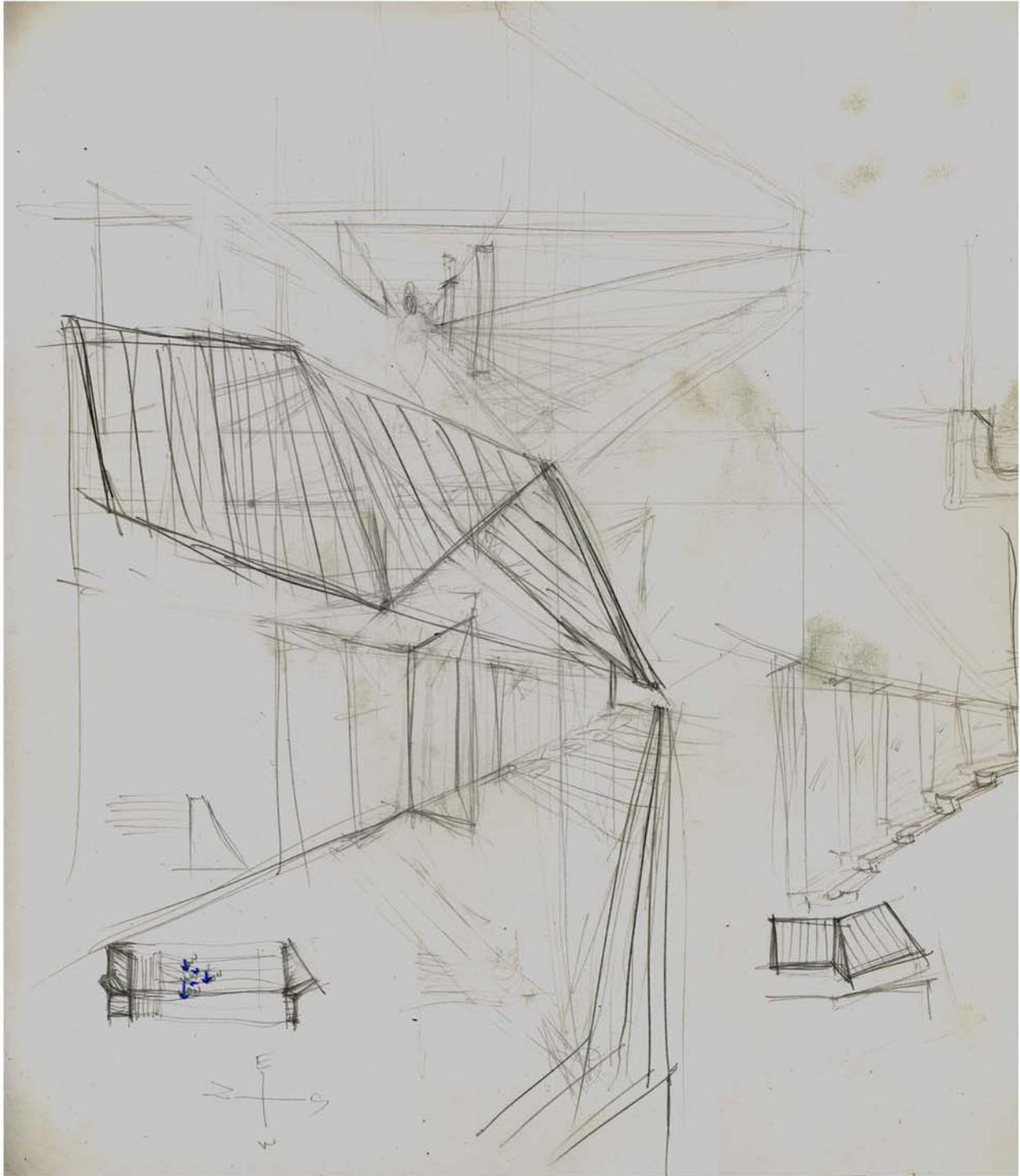
Sketching partial perspectives, elevations, sections, and roof plans to further develop the folded thesis and total building.



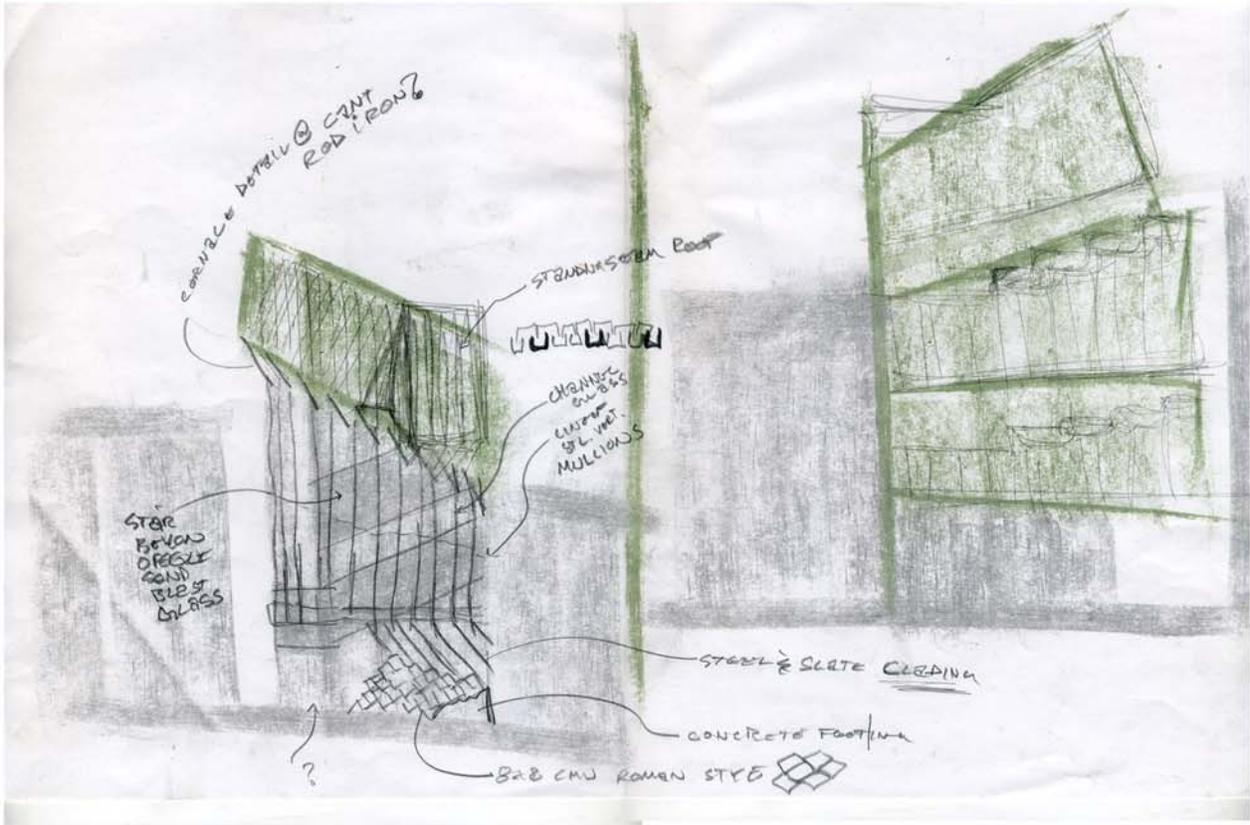
This section elevation of the rear alley studies creating a more garden-like atmosphere at south end of the building. The rear elevation relates the building's height back to the ground by terracing the levels (each with their own facade.) Rain runoff finally collects at the base of the building and its path will be a design feature turning the concept of downspout into waterfall and again relating the buildings height back to the ground.



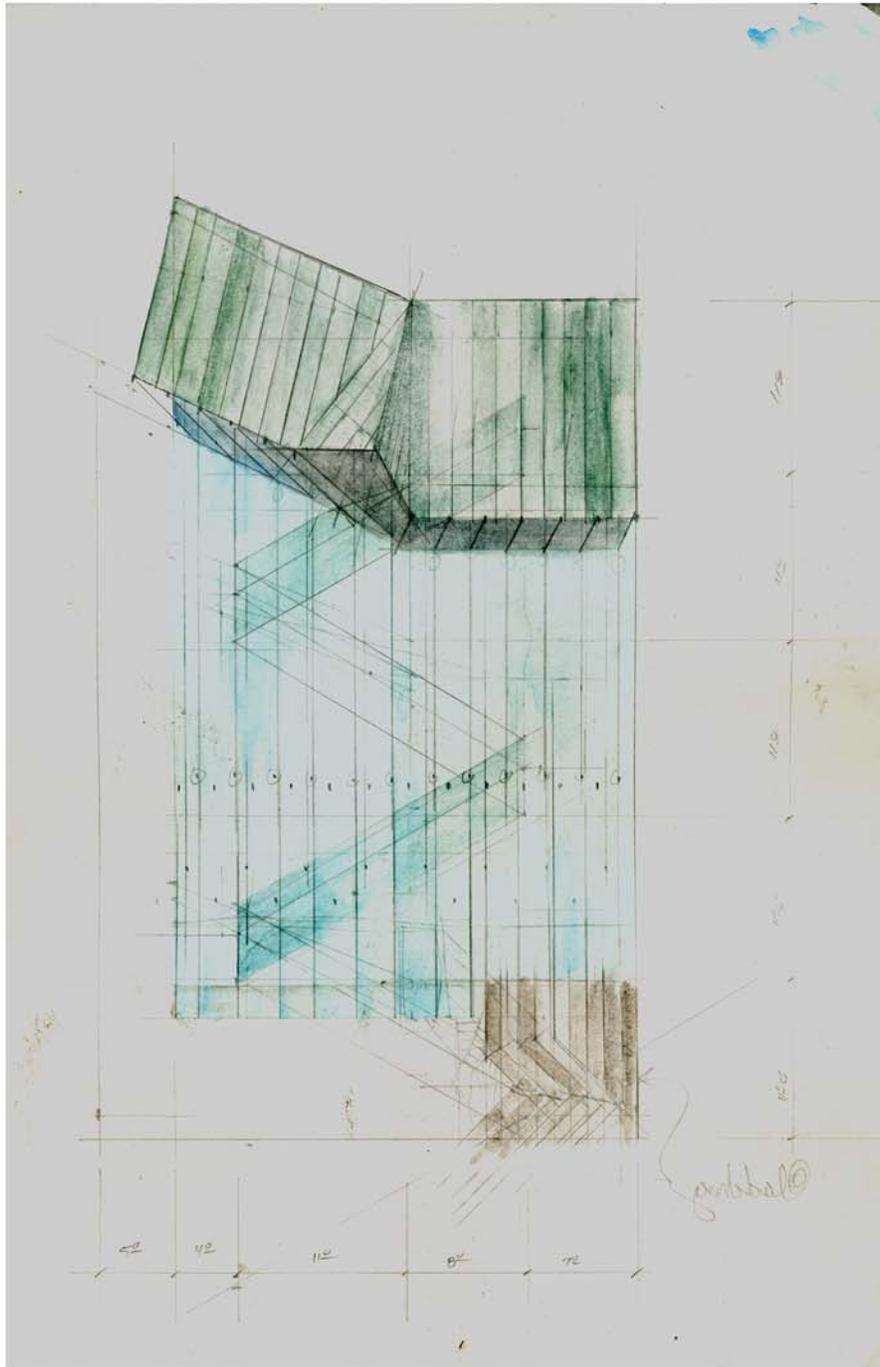
Sketch view of assistant's garden room- the folded roof plan meets the undulating accordion windows. The window mullions align with the folding/ stepping floor. Folded walls and ceiling planes are not so atypical that the spaces become unrecognizable to the inhabitants.



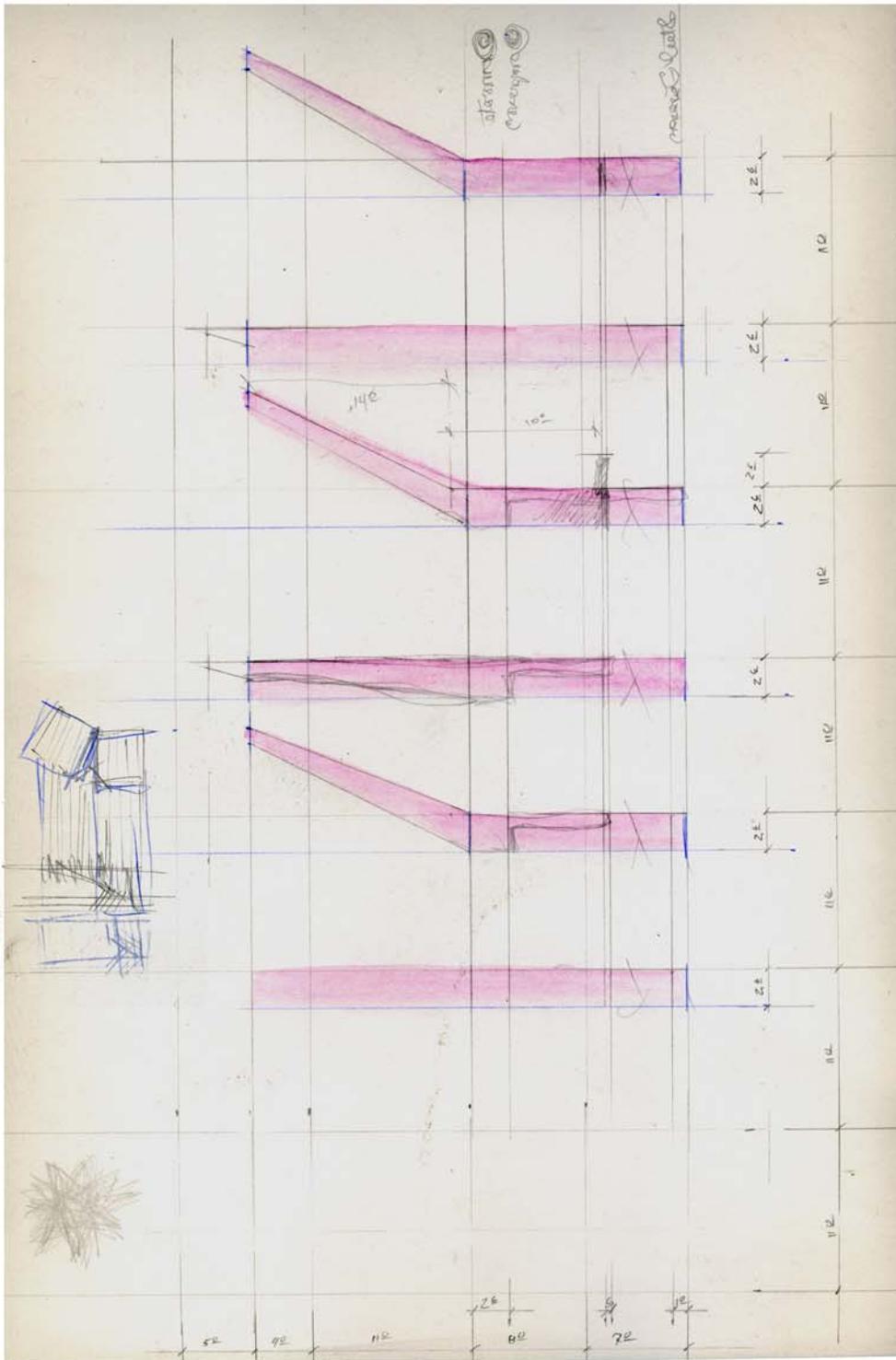
The overhang folded roof plane is able to more enclose the assistant's garden. The fold creates a structural cavity- a pecten shell form.



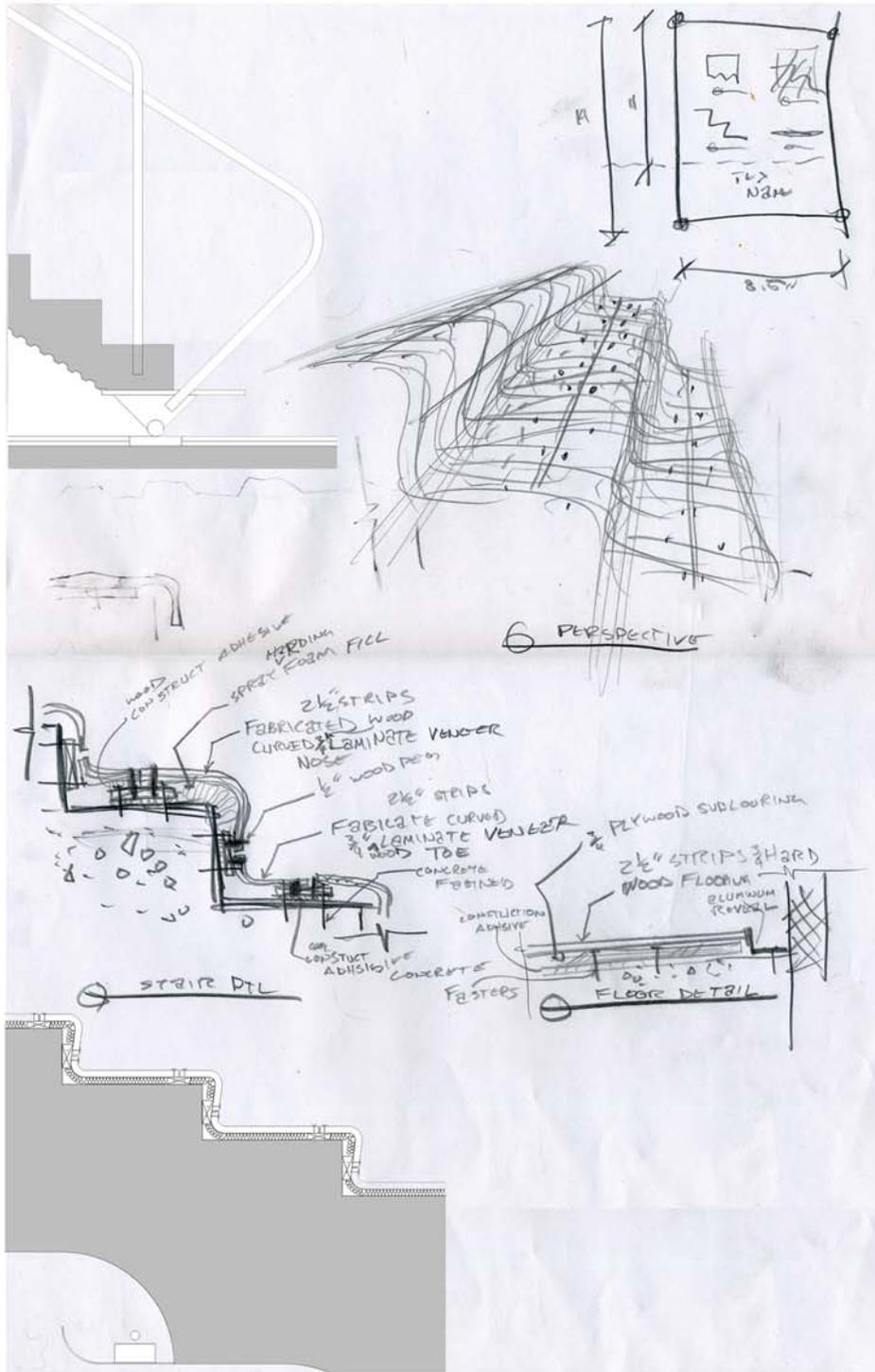
The front or King Street façade (left) and its materiality is contrasted to the rear or alley façade (right). The rear façade investigation illustrates fanning veils or palm leaf forms opening to the east.



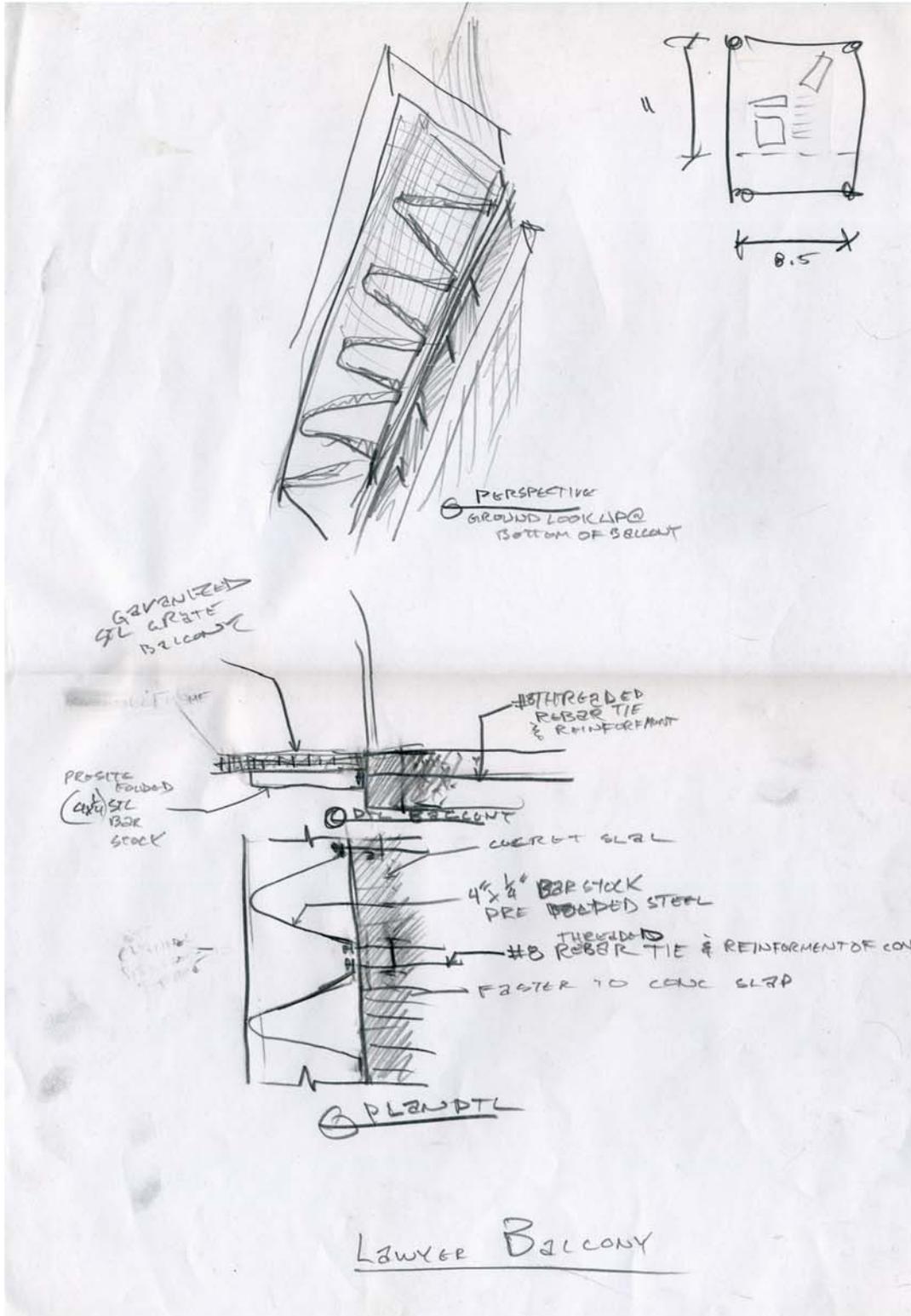
A measured drawing of the front or King Street façade. Different rates of transparency, translucency, and opacity create folding planes in the perspective visual depth. The materials themselves are ordered linearly and as the directionality of the building elements change the geometry of the order folds. This drawing is reminiscent of the initial elevation sketch done of the thesis. Much of the perceptual identity is similar between this sketch and the initial one as are functional and processional relationships described by the front façade.



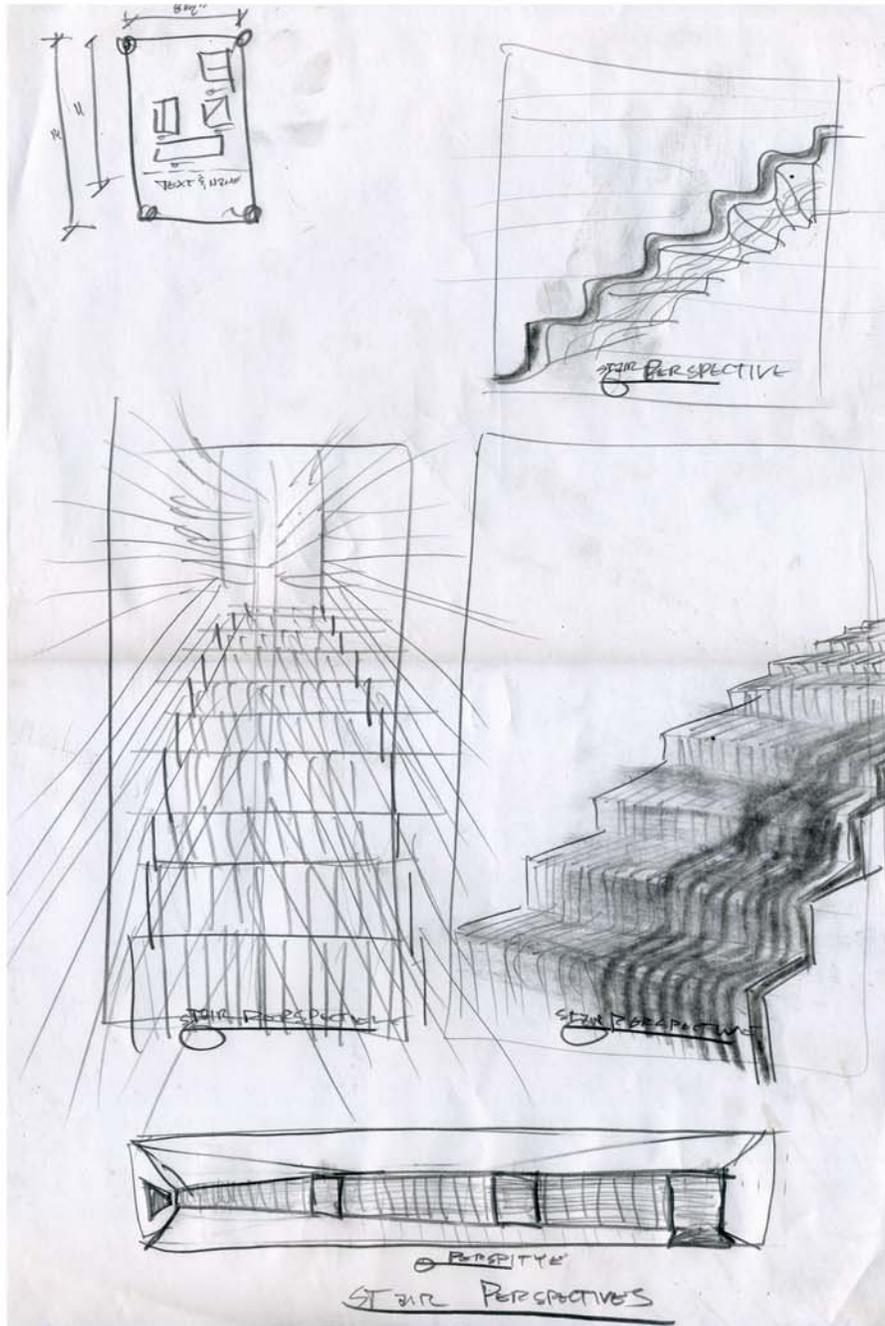
This measured section or structural skeleton diagram fits within the previous page elevation. Together these two illustrations bring the building as described by the thesis into the possibility of design leading to construction. It could be built.



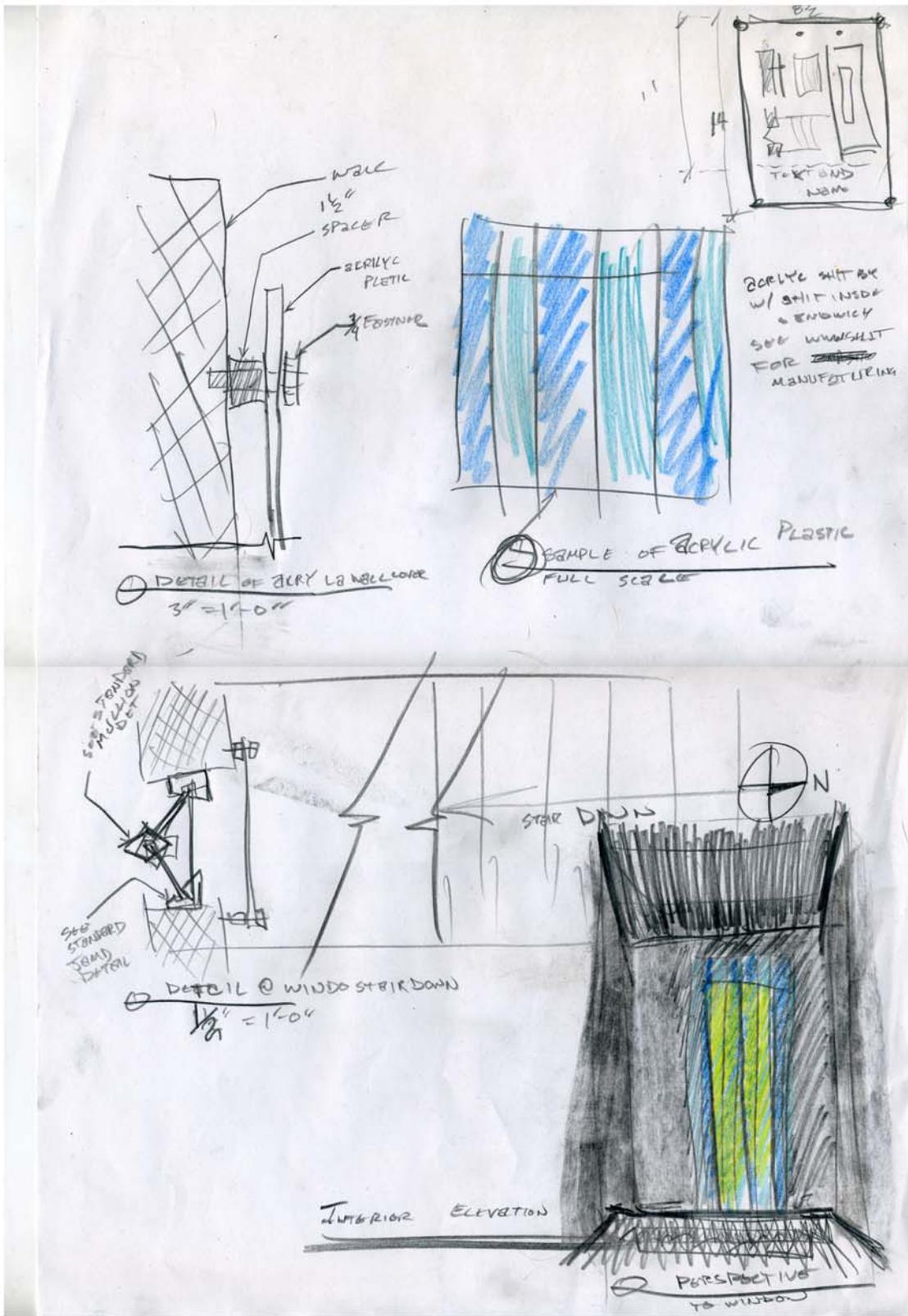
Details: Section, Perspective, and 2 details into the construction of the assistant's folding floor plane. In the stair detail not only does the poured concrete slab have an articulated folded step, but the laminate wood floor has been fabricated to fold over the step nose and inversely across the step inside corner. The perspective illustrates the finish floor as a cascade of supple corners- a wood waterfall. It is also at this point the planning of the sheet layout for the thesis book is seen in the upper right corner of the page.



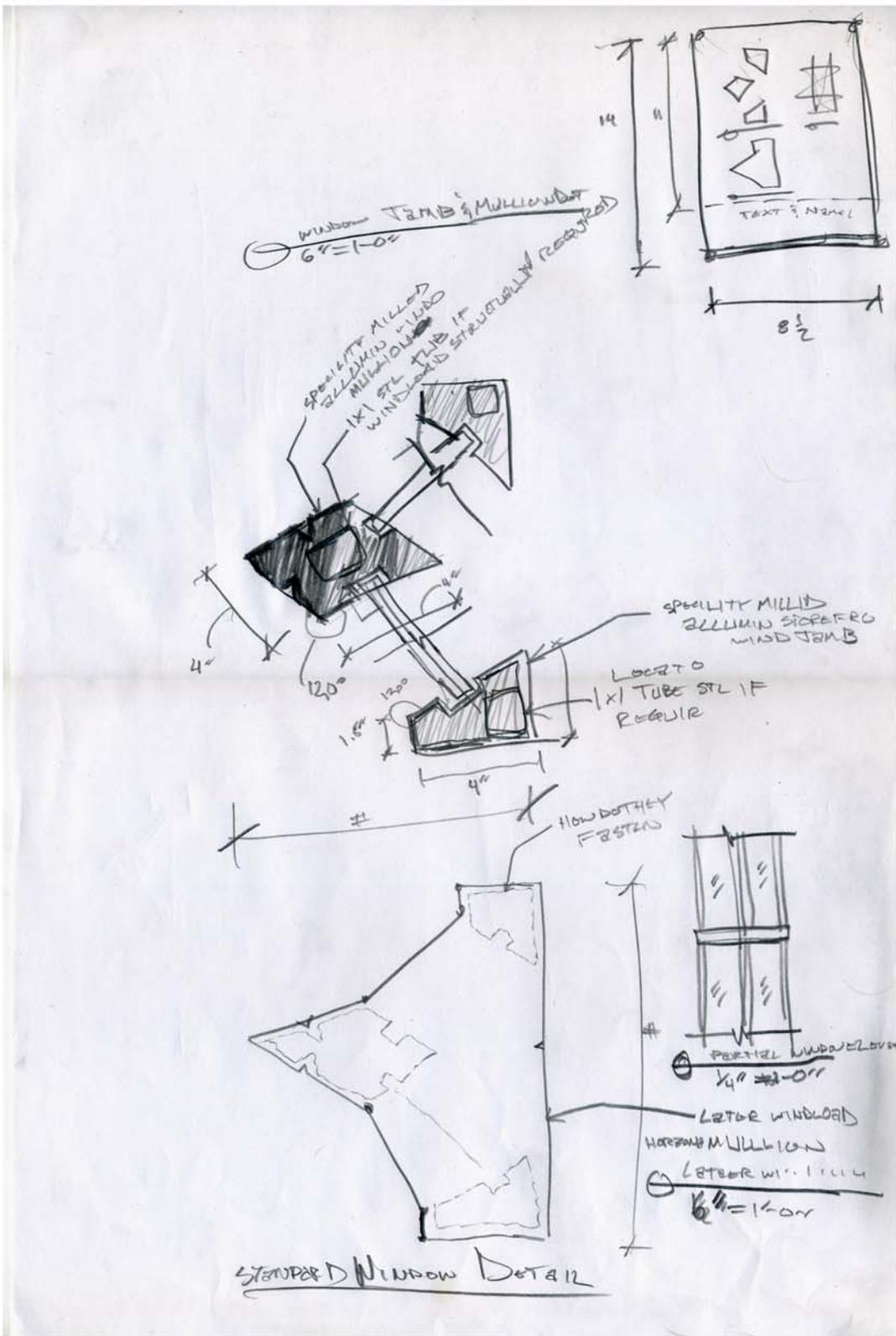
Details: The lawyers balcony is supported from steel plate that is folded with a radius bend and oriented such that the compression is acted upon the long flange of the plate making it structural rigid and able to support the woven steel grate balcony floor.



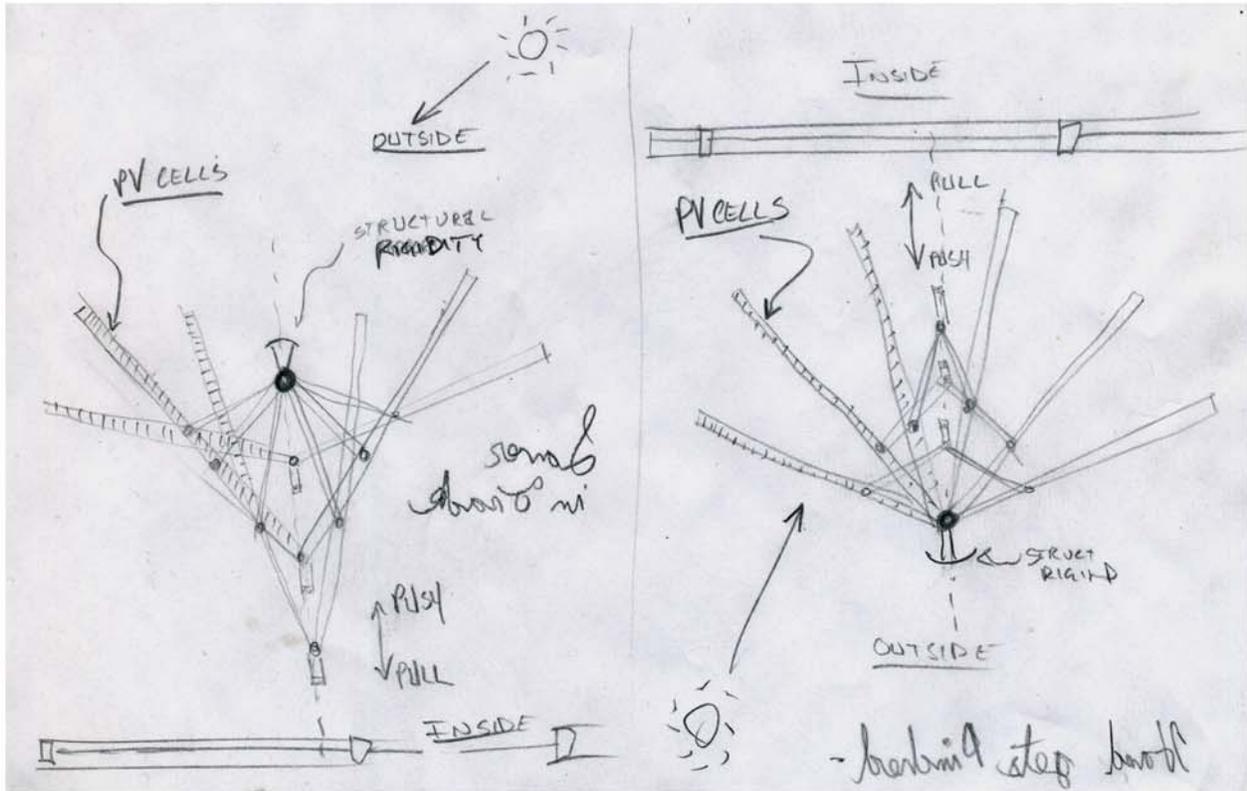
Details: The sketch details reveal aspects of the building that further enhance the thesis and gives way to an essence not captured by full building sections, plans, and elevations. The details make this building, this project, and this thesis. The assistant stair that descends to the file room basement is composed plate steel stringers parallel to each such that when viewed from the front or above they appear only as line and otherwise transparent. When viewed from the longitudinal side the opacity of structure is visible. This stair construction and orientation is ideal for letting light to pass through the long stair. Light from the vertical slot window penetrates all of the stair flights from the upper most level down the lowest level.



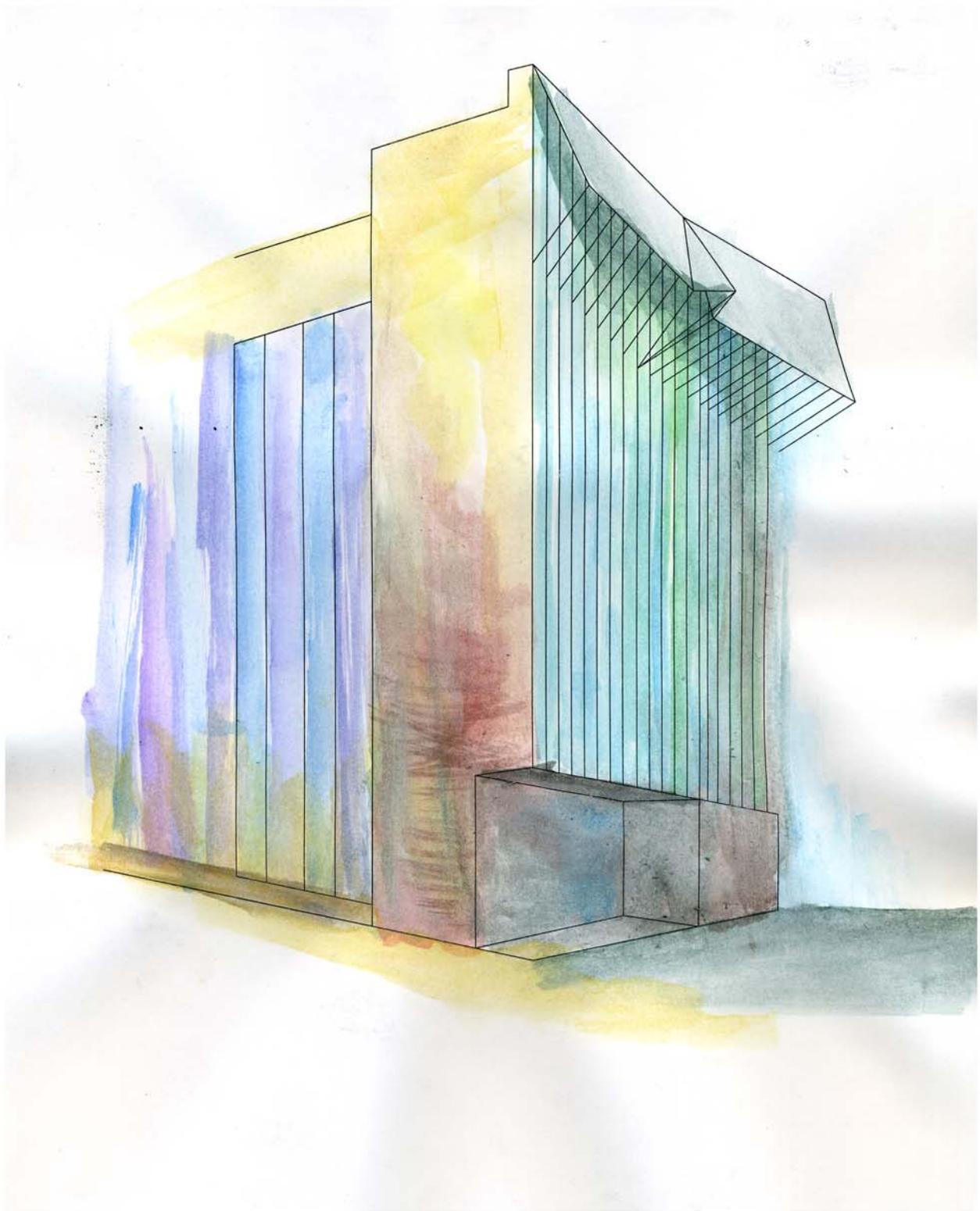
Details: Detail and interior perspective of the south facing vertical slot window.



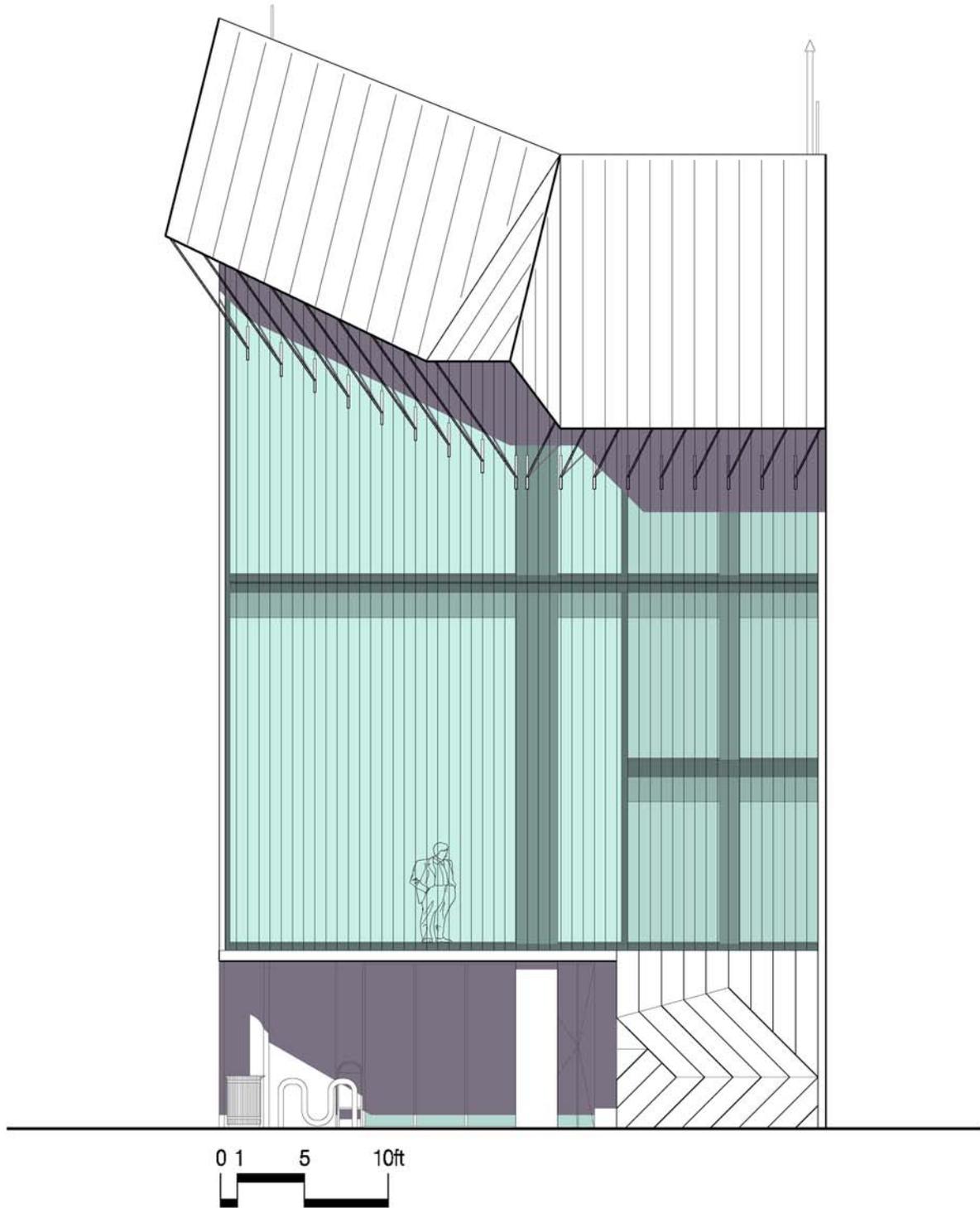
Details: Window jamb details of the vertical slot window.



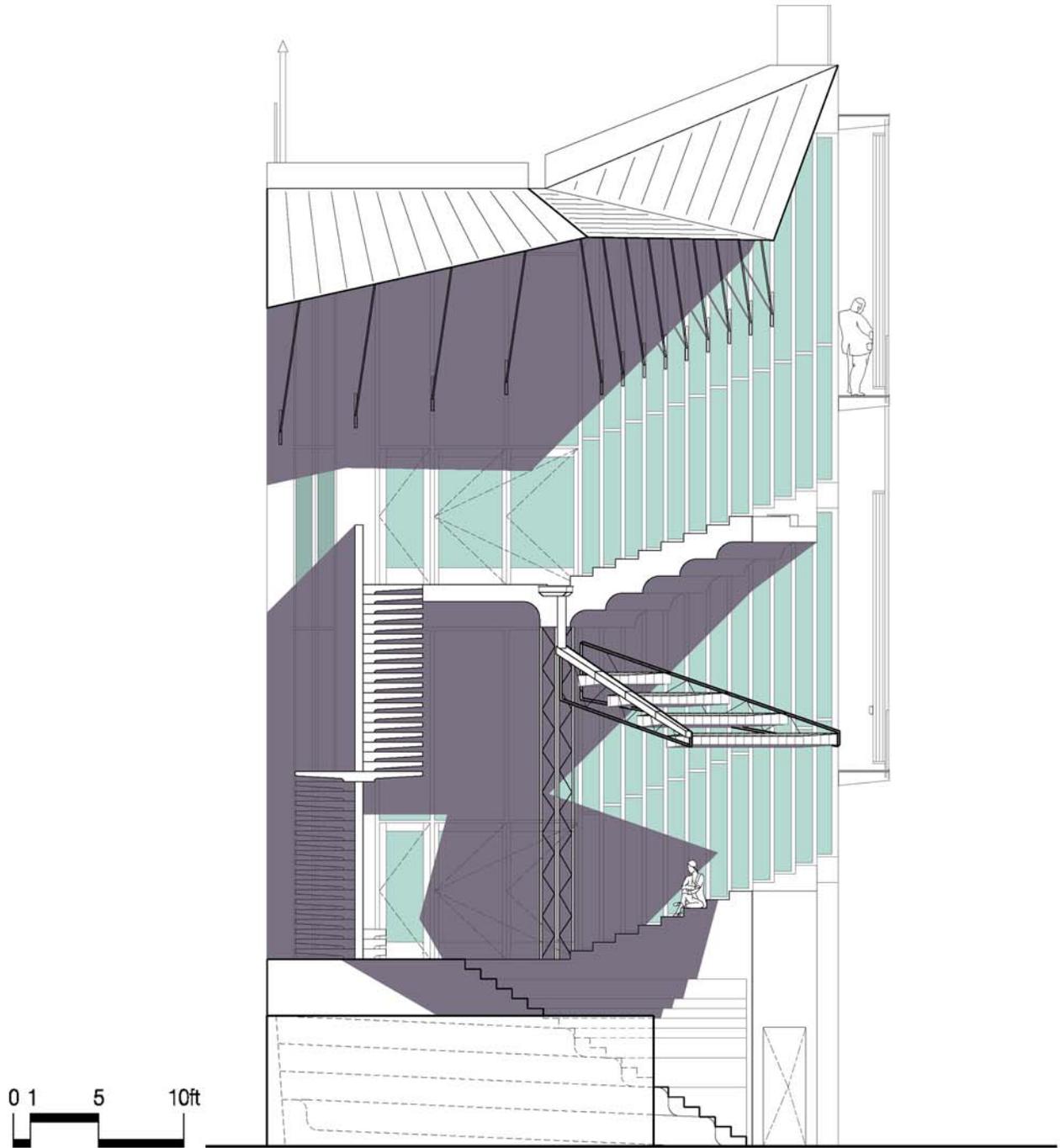
This visionary detail struck me when thinking about the action of folding and how part of a building can actively be folding and unfolding. Operating much like an umbrella these plan details illustrate the screening skin of the east facade. Each detail is a pair of screens that can be collapsed flat together or fully opened in a v shape so that each abuts the adjacent screen. When the screens are fully open the facade is fully screened creating an accordion textured form making a play of light and shadow on the screens' faces. Each screen is hand operated by pushing or pulling so as to meet each lawyers personal light preference per each hour of the day.



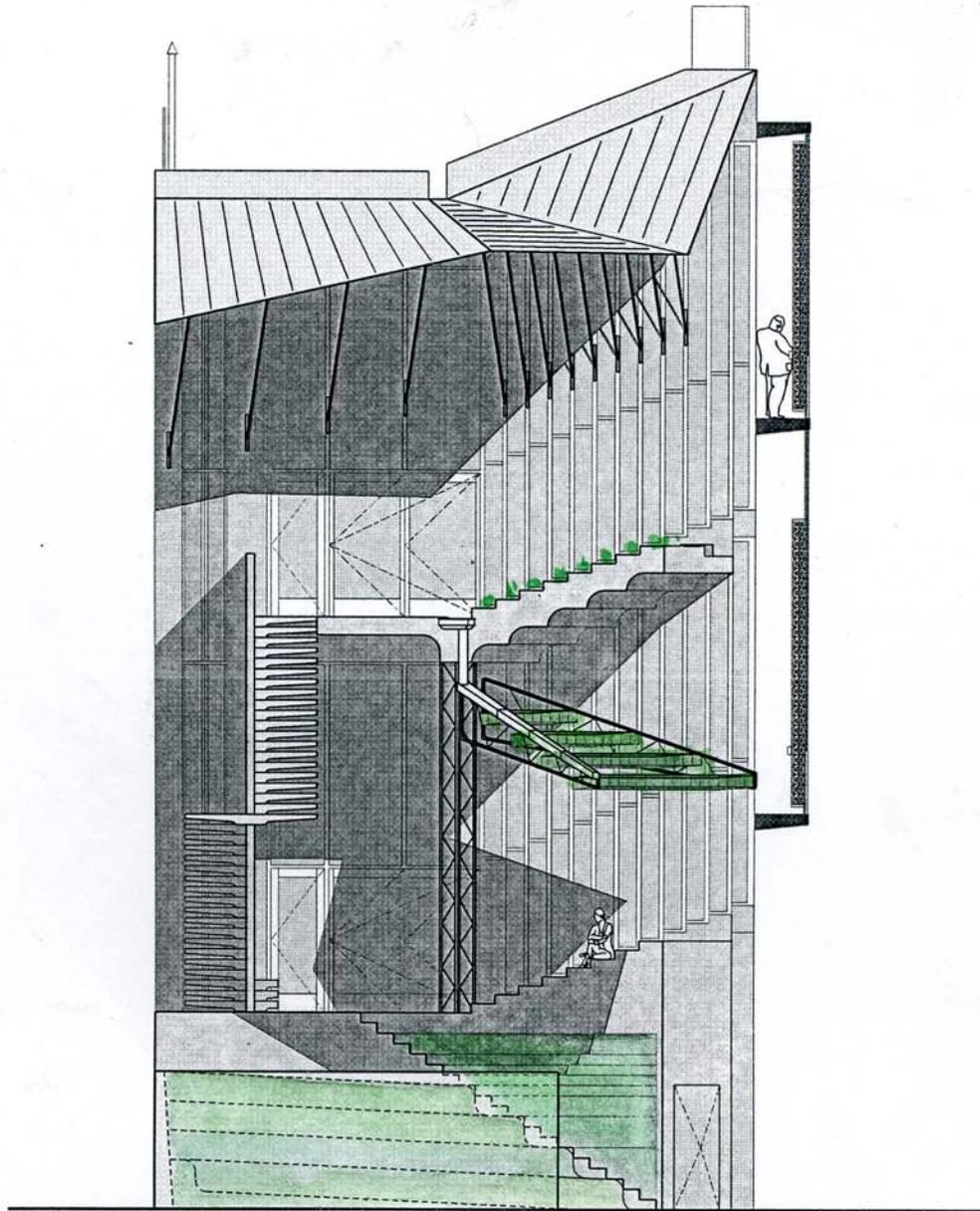
Perspective rendering/ sketch during the final development of the elevations and plans.



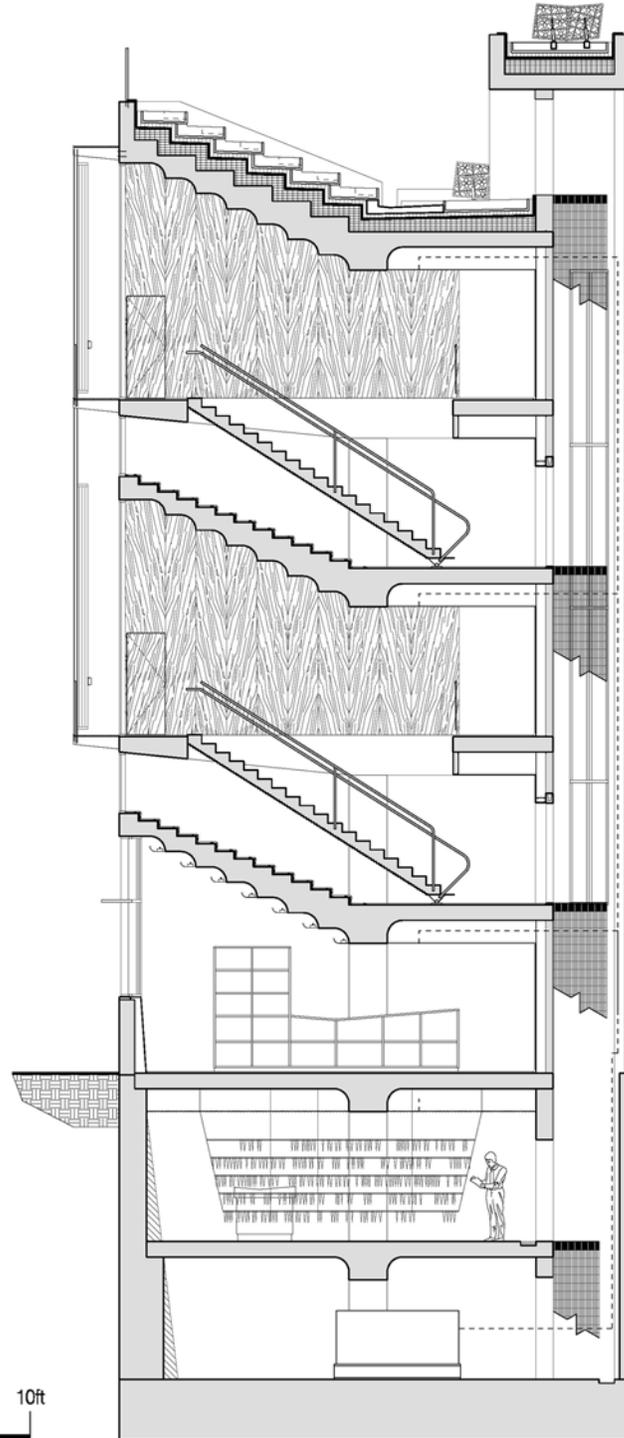
Channel glass makes up the upper two thirds of the facade at the conference/ meeting rooms. The medium of the channel glass obscures the full transparency of the floor slabs, concrete columns, partition walls, and other interior elements creating a play of color and shadow as viewed from the street.



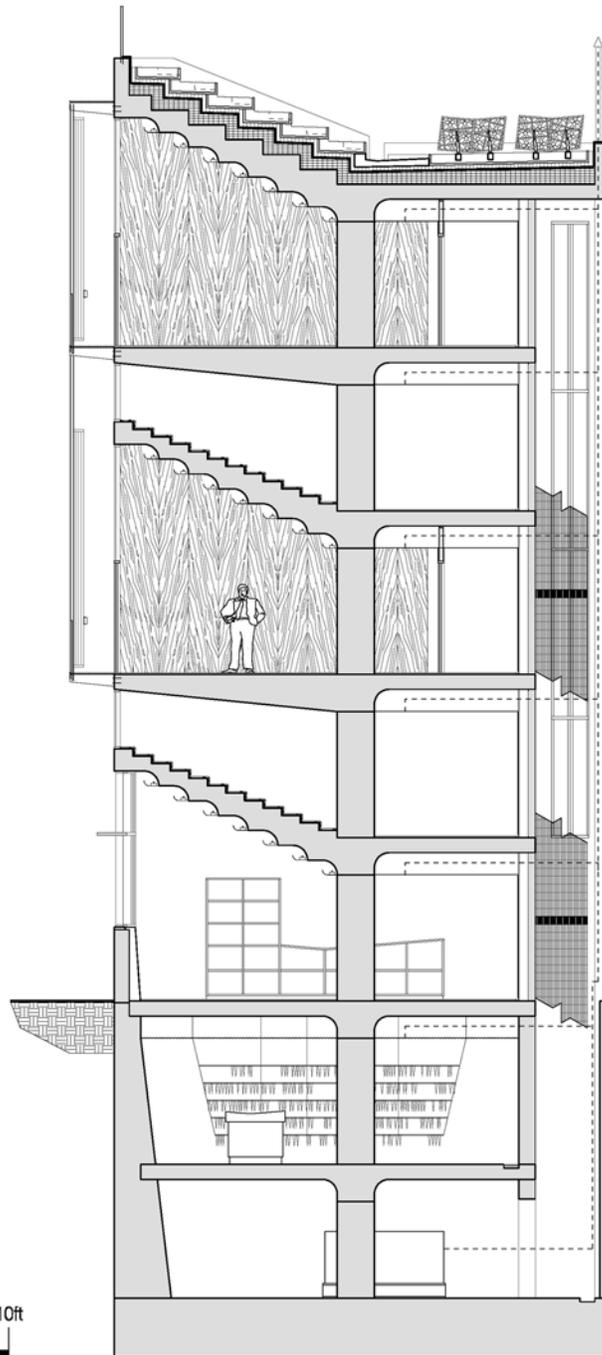
The south, alley, rear elevation unfolds. The north facade is the building presenting business to the street. The conference rooms become storefront windows to view the business inside. The south elevation is reminiscent of a row house opening up into the sun and the shaded sun. The rear, south facade of the building is at leisure and is composed of garden elements and outdoor rooms for lounging. The assistants hardships is rewarded by their sole access to this leisure garden which contains not only the ambling foliage but also the play of rain.



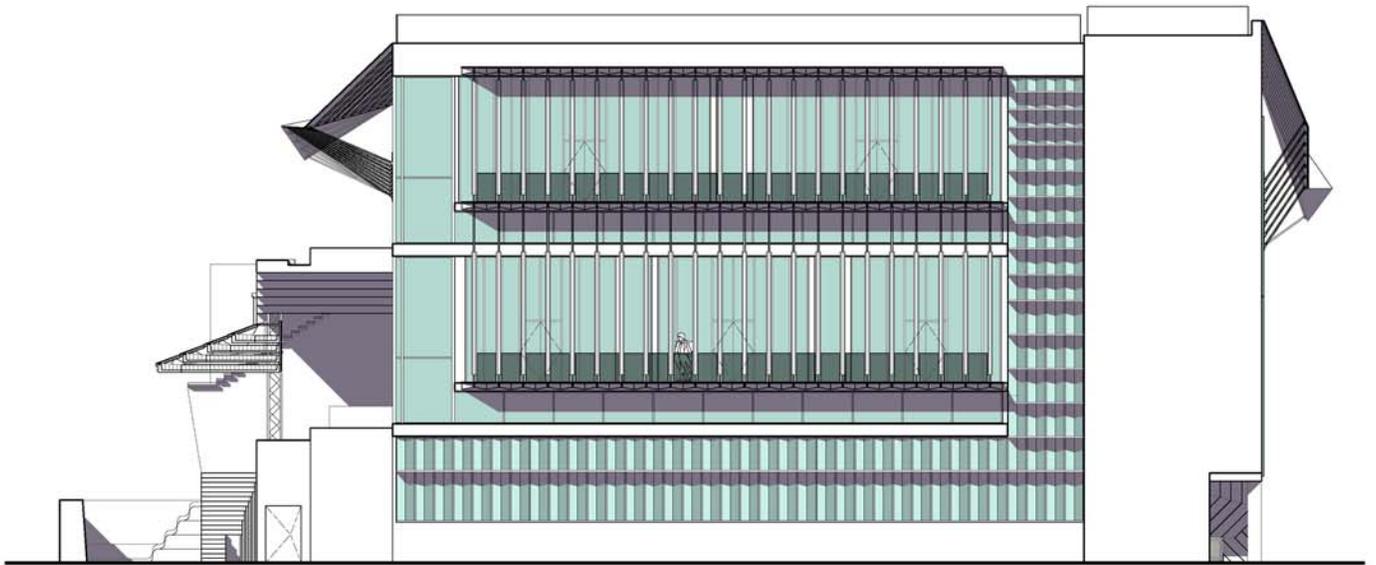
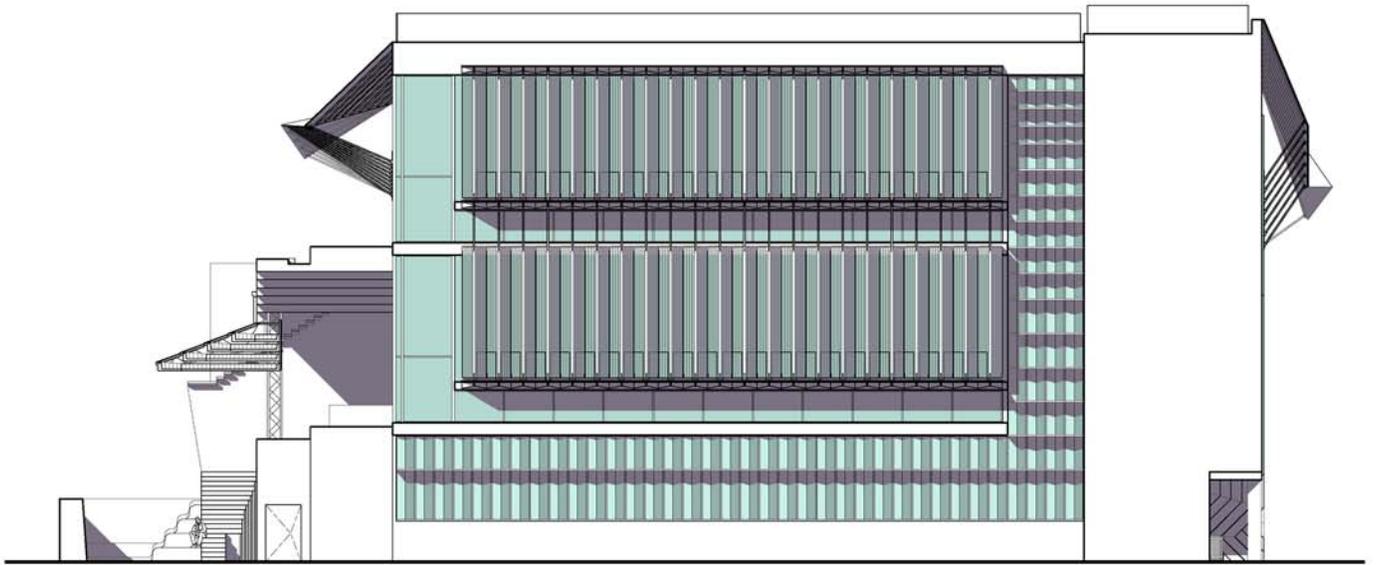
Early garden terrace illustration.



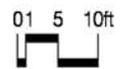
The assistants vertical circulation is best represented in this transverse building section. Earlier described elements of the thesis have come together in this best representation of the project: folded solar panels, folded library and lawyer office ceilings, folded accordion bookend wood veneer partition walls, folded stepped floor of the assistants' level, folded east facade screens, folded library book shelves, folded basement file room reading table, and hanging vertical files folders.

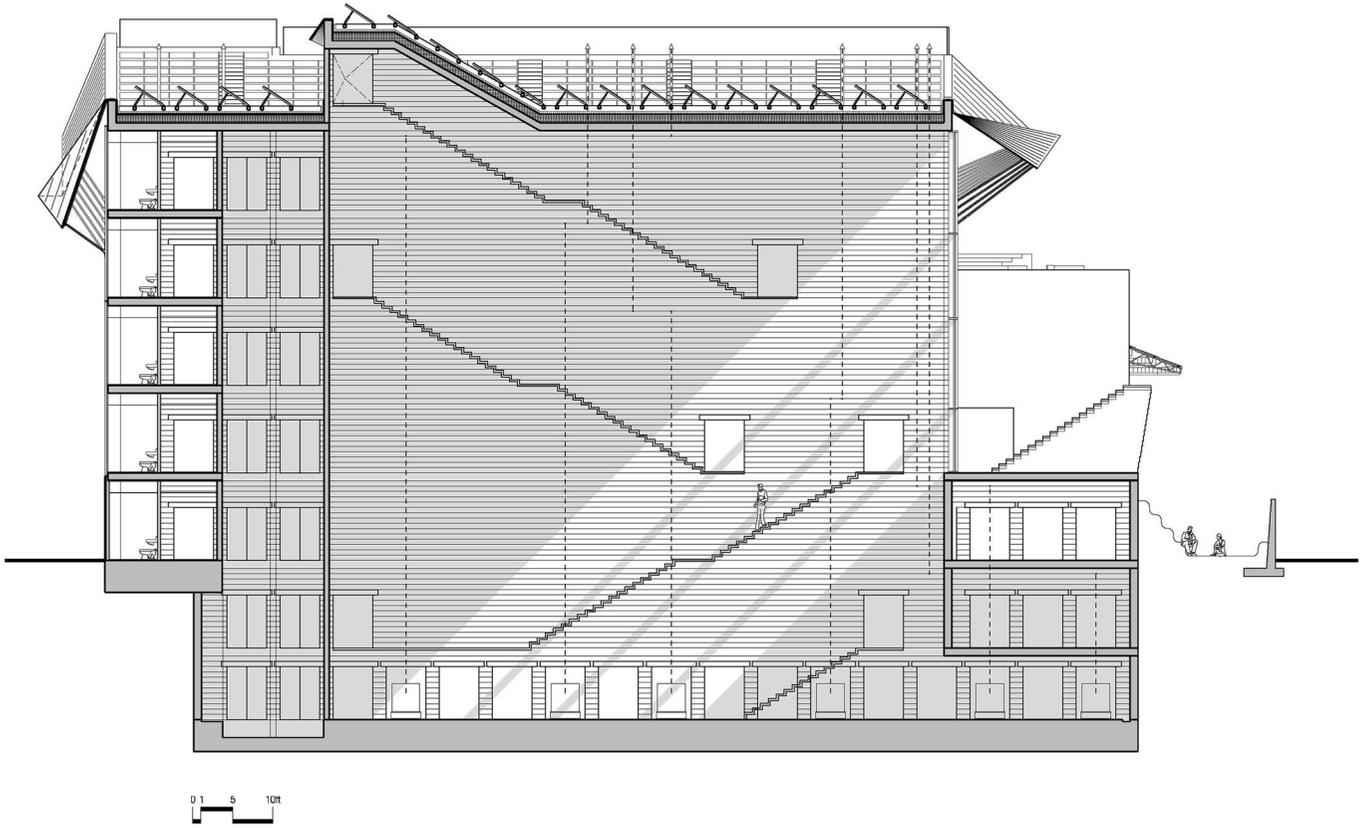


Transverse Building Section is the essence of the thesis, the building, and the project. Levels listed from lower most level to upper most level: Mechanical Basement, File Room Basement, Lobby and Library, Assistants Open Office, Layer's Office, Assistants to the Principles Open Office, Principle Lawyer's Office, and Roof. The structure is best understood in this section. The concrete columns in the middle of the building take the compressive load of the concrete floor slabs. The slabs cantilever only slightly, the column is near the center of the load. To counteract the remaining slabs desire to tip is vertical steel members acting in tension located at the inner chase wall. The exterior chase wall is only self load bearing and self supporting.

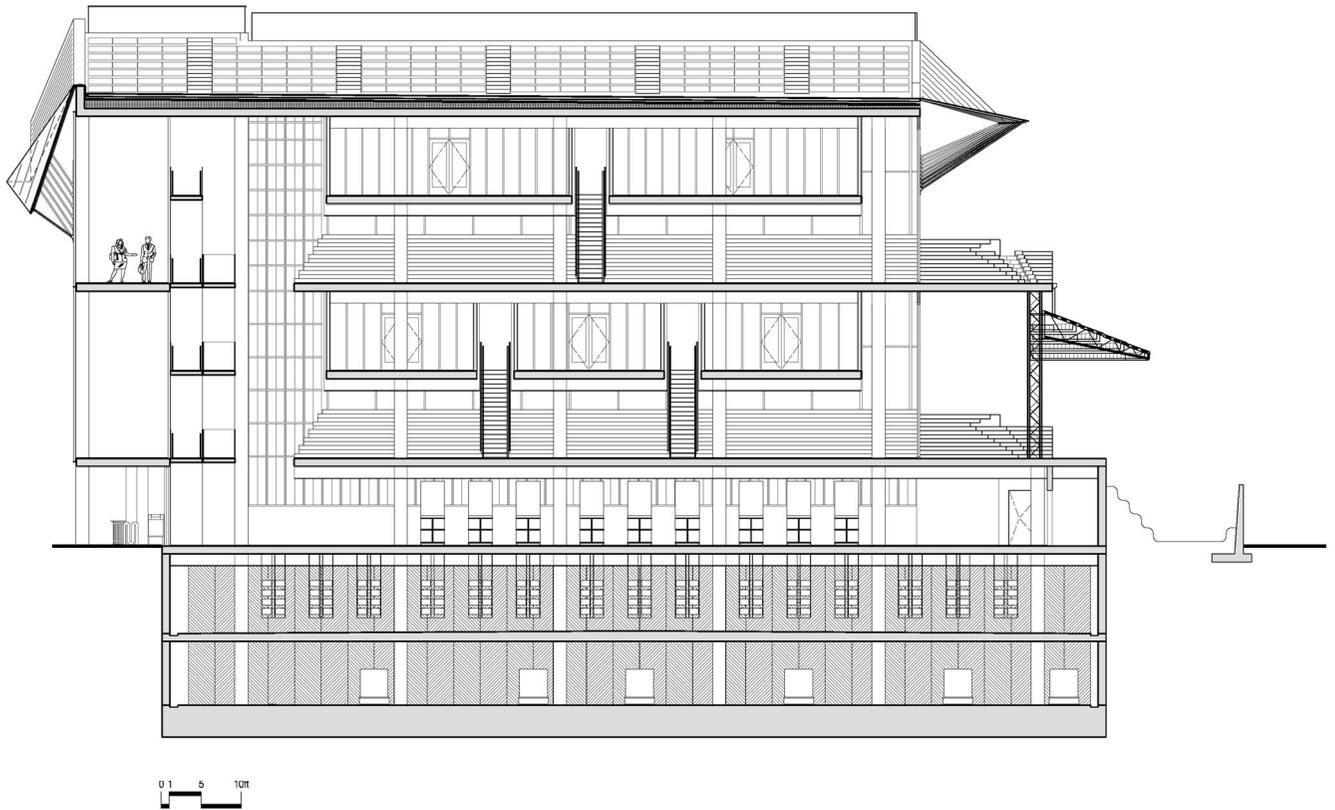


East Elevation- closed screens compared to open screens.

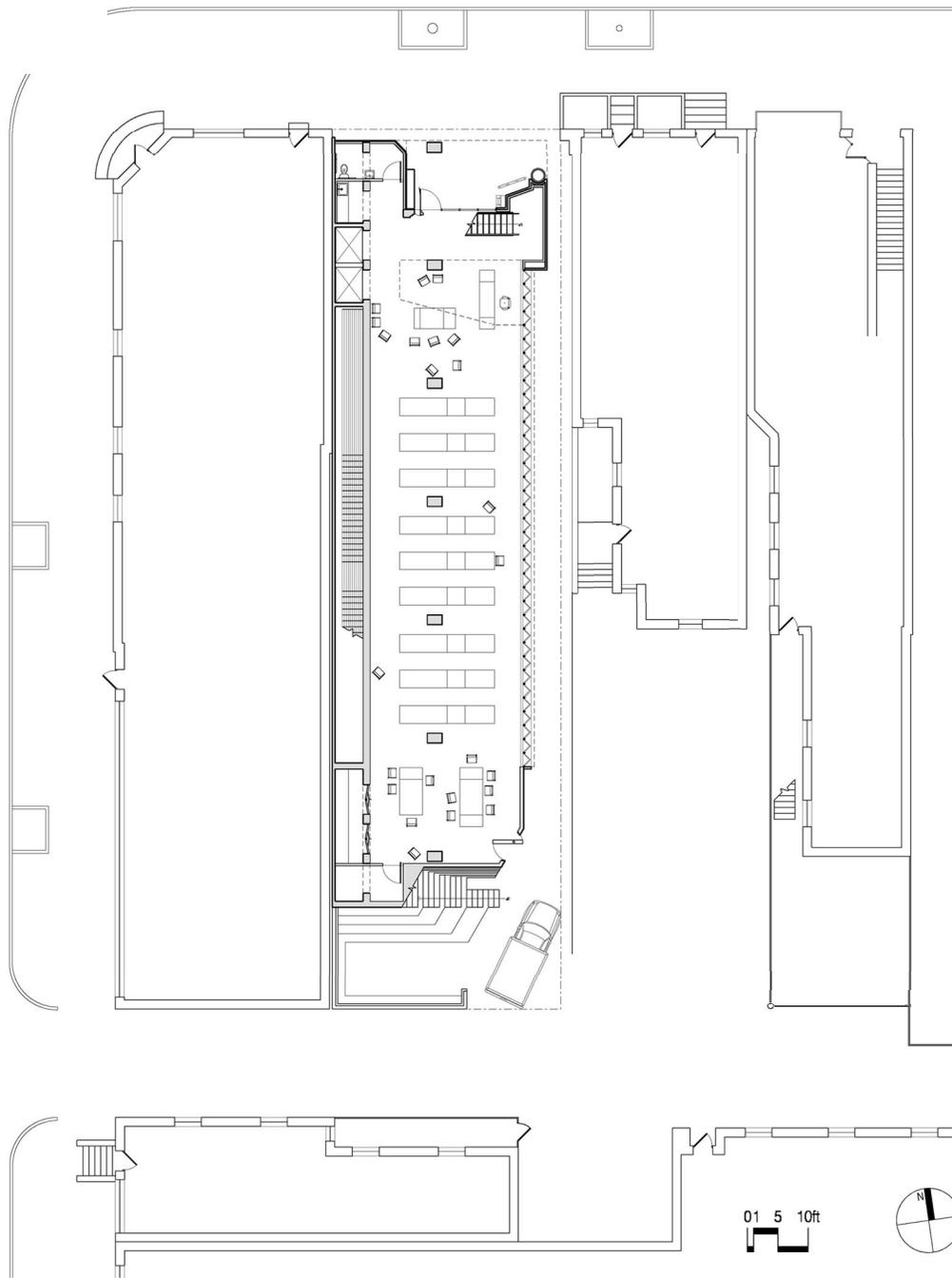




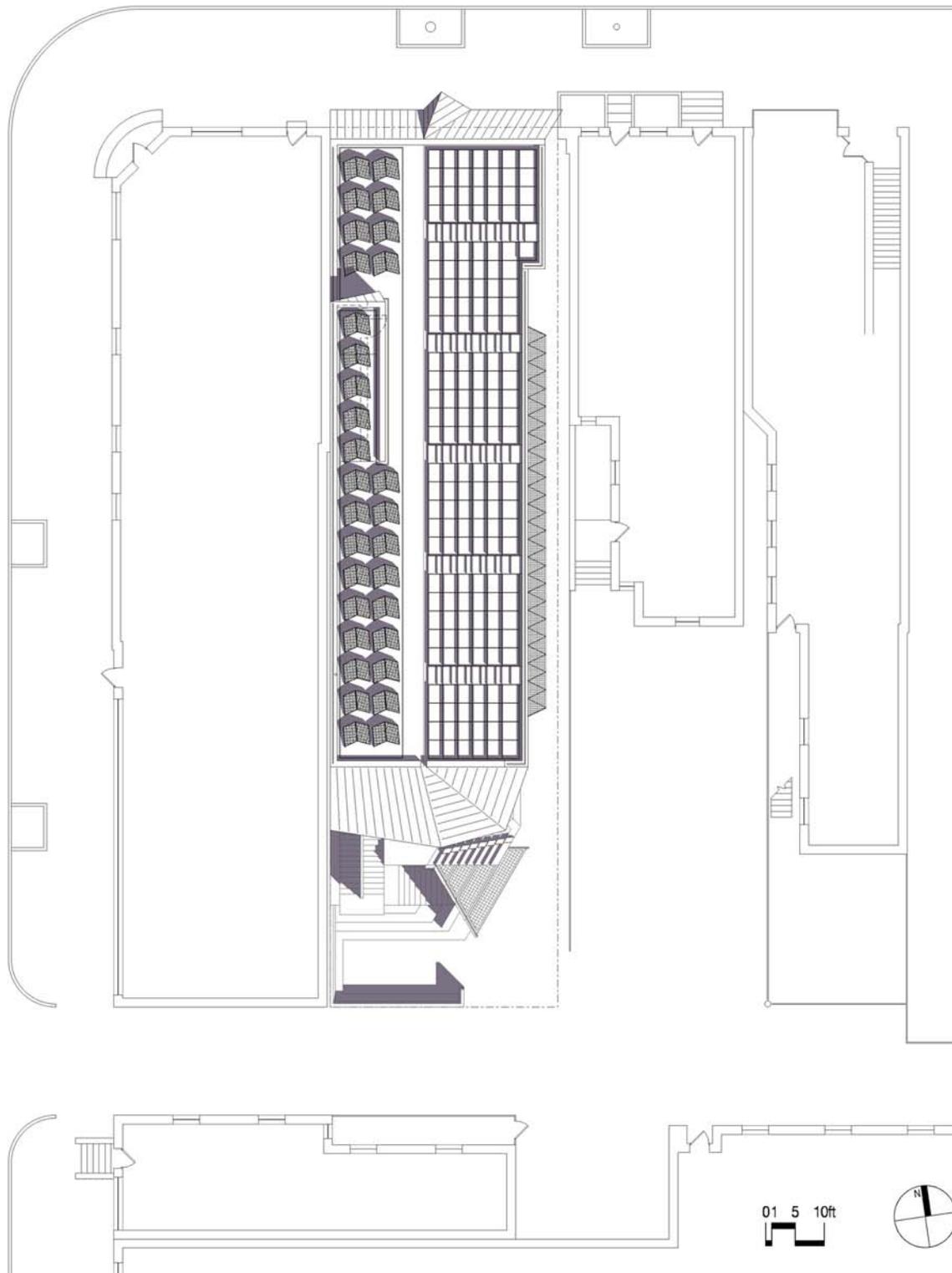
Longitudinal Building Section cut through the assistants stair. The entire cavern is lit from the south vertical slot window. The chase contains the stair and the mechanical and vent ductwork which is diagrammed by the dashed lines.



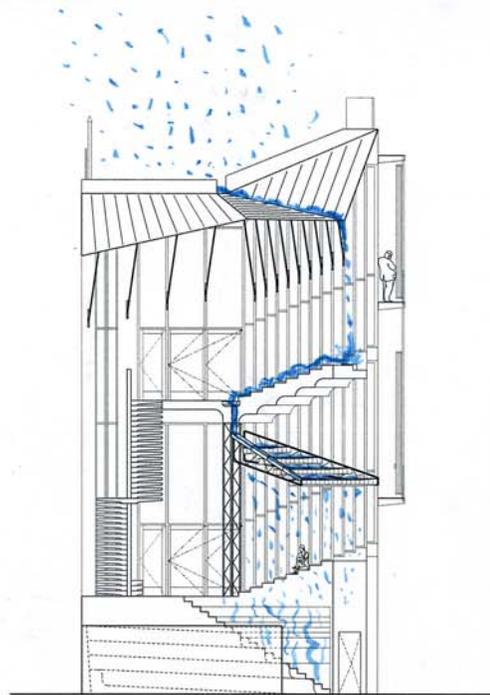
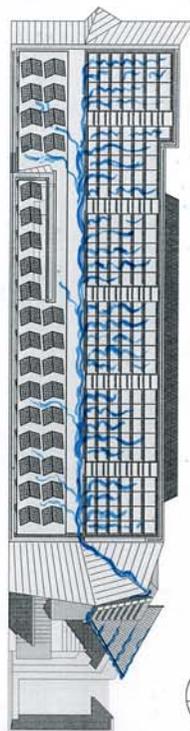
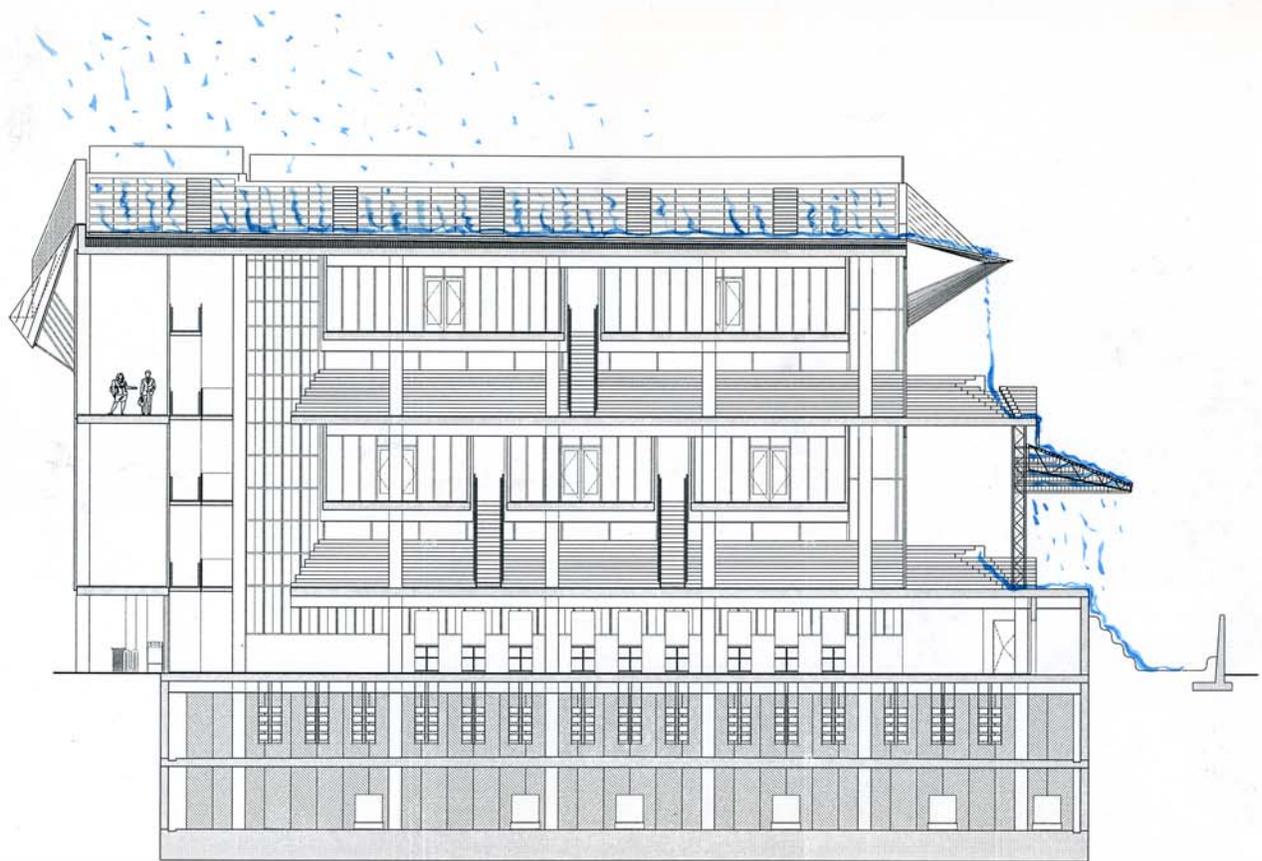
Longitudinal Building Section cut through the buildings formal levels. Levels listed from lower most level to upper most level: Mechanical Basement, File Room Basement, Lobby and Library, Assistants Open Office, Layer's Office, Assistants to the Principles Open Office, Principle Lawyer's Office, and Roof. The Conference Rooms are at the north end of the building and the Garden Terrace is at the south end.



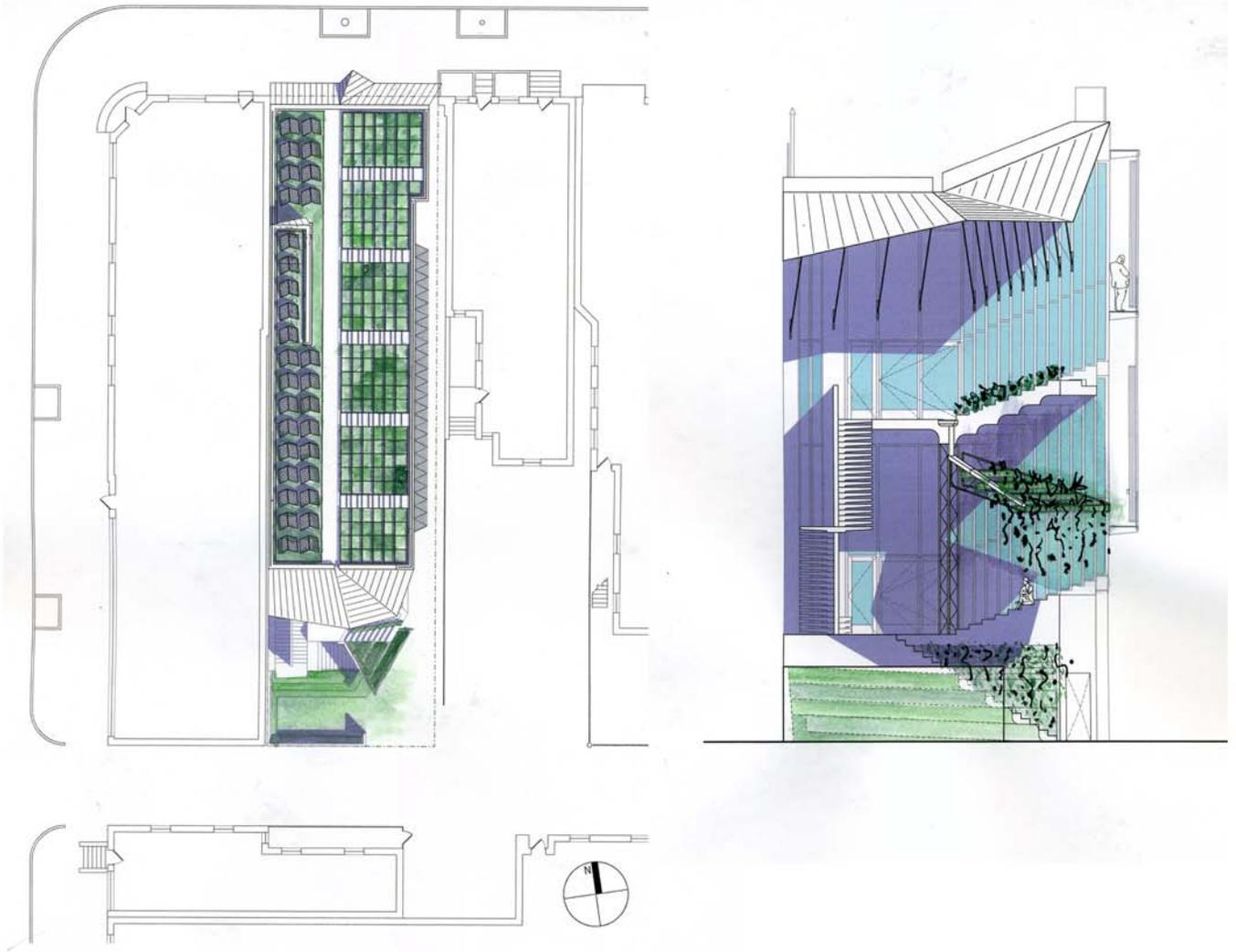
Ground Floor Level includes the Entrance Lobby, Reception, Library and Lower Garden. At the alley the terraced grotto transitions to steps that transitions again to a stepped garden wall. The east wall is composed of angle formed glass. The brick wall at the north east corner of the entrance ambles around creating niches and corners that give place settings for the entrance furniture: trash can, bike rack, mailbox, and bench. The front door is a counter weighted pivot door. A concrete mass balances the glass doors cantilever span. The reception lobby and waiting area are directly inside the door. The table and desk each have fold-up leafs at the end to increase their length. Folding chairs dot the reception and library. Closet doors to the rear mimic the folding screen of the upper level balconies.



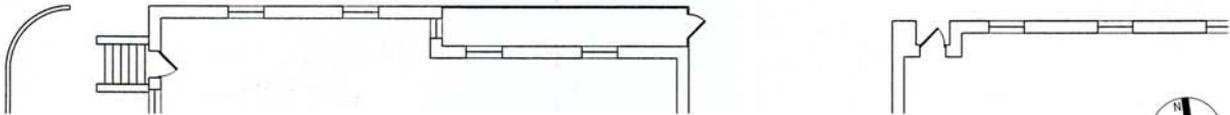
Roof Plan. Solar panels have a folded book shape to receive maximum south east light in morning and maximum south west light in the evening. Roof access is shown by the dash line.



Folded rain water runoff. The flow of rain water runoff from the roof is directed down the south facade sliding across the architecture in one direction, falling, and then cascading in the opposite direction. The folded path of the stream of water diagrams the spatial enclosure of the garden.

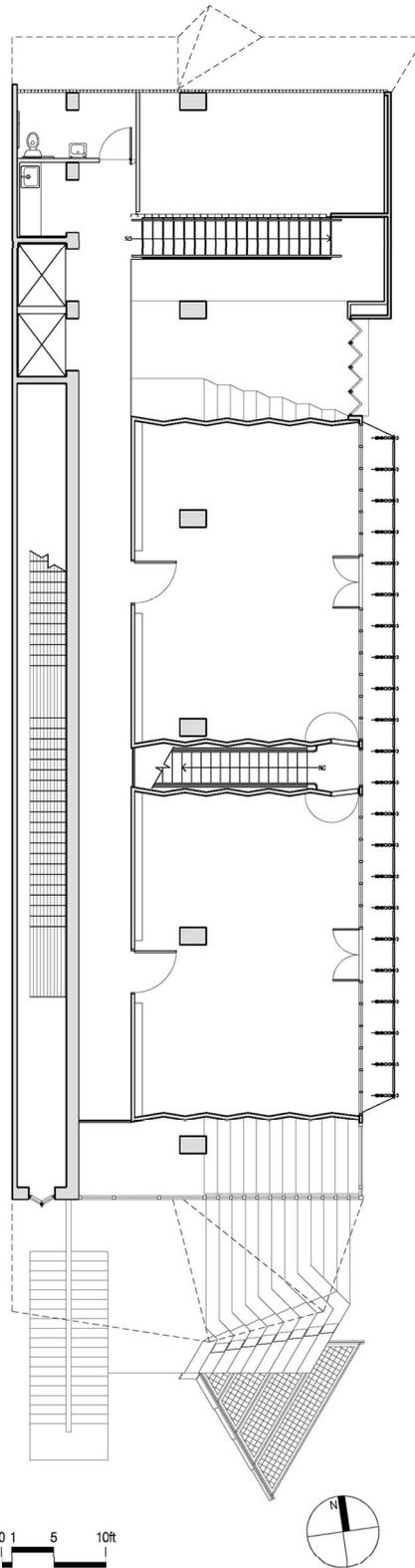


Roof Garden and Garden Terrace.

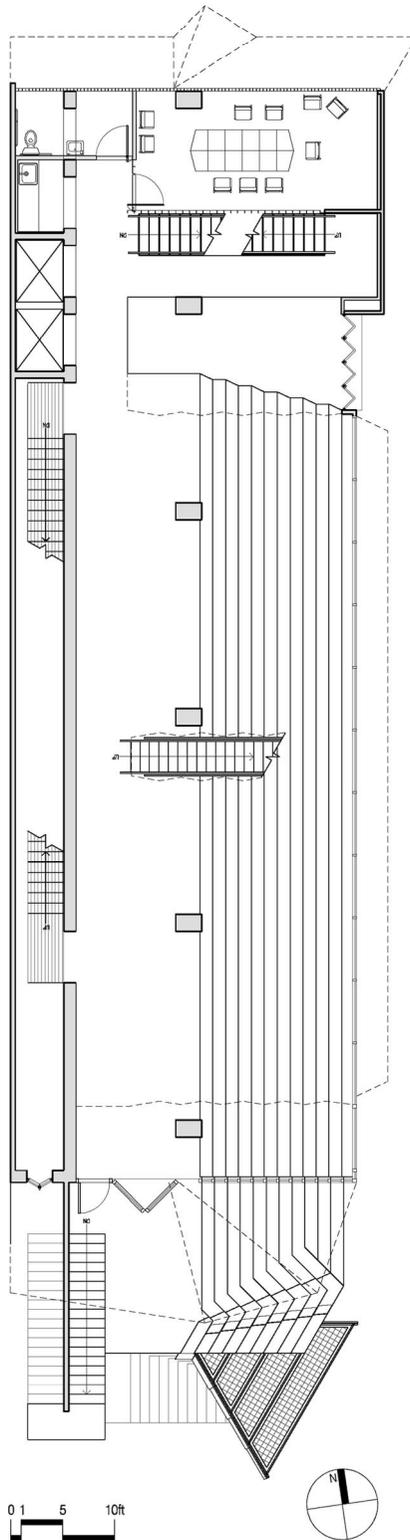


Rain water runoff cascades down off the roof garden through the garden terrace.

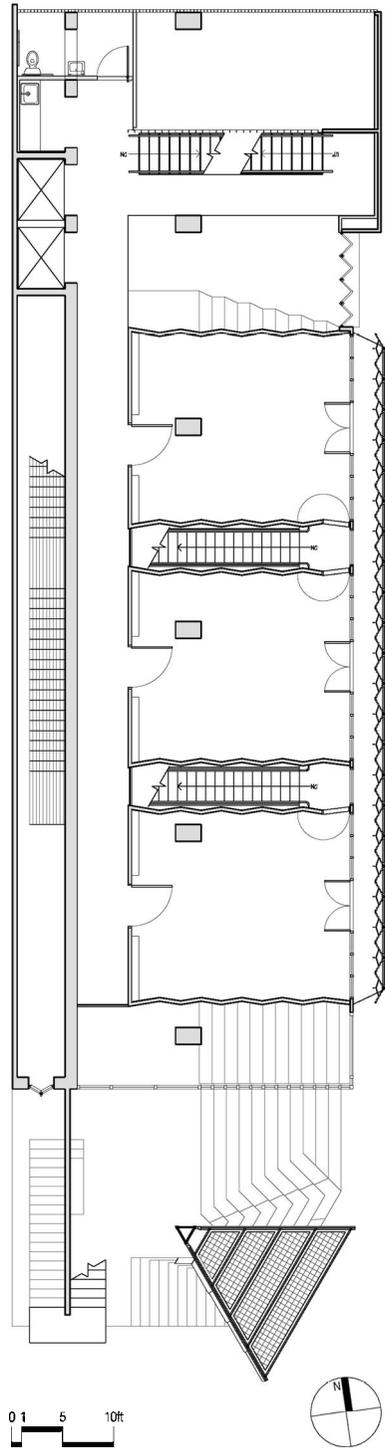




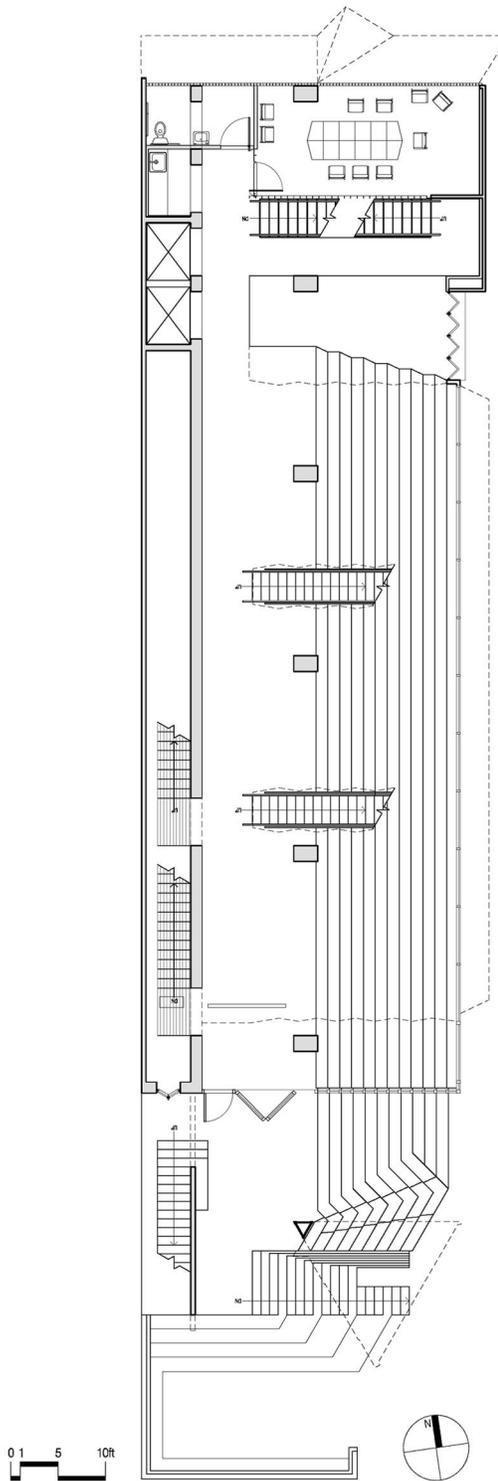
Two Principle Lawyers Offices- upper most level. The lawyers balcony screens are illustrated in a closed position leaving only the vertical parallel fins of the screens.



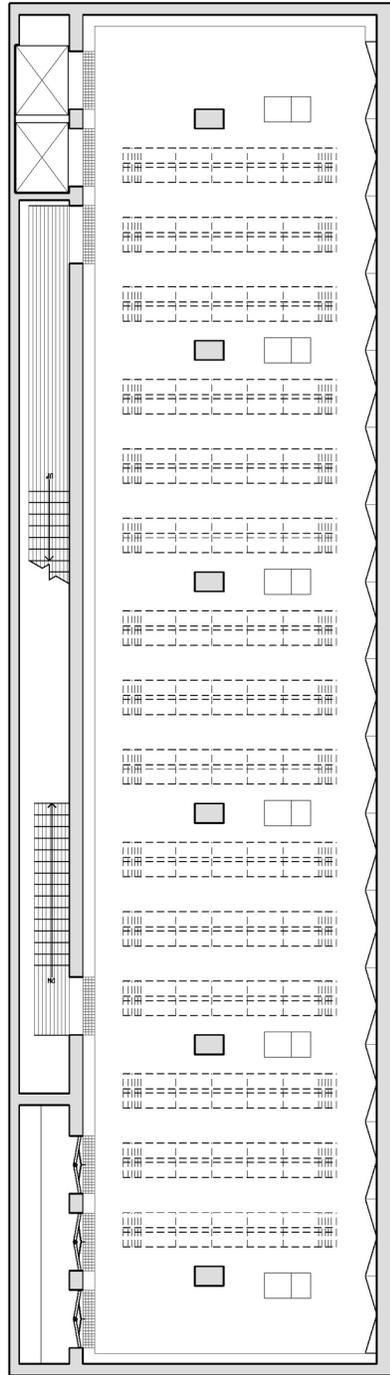
Assistants (to the principle lawyers) Open Office has access to the terraced garden. Conference room meetings begin by the lawyer making a grand entrance, descending from above, just outside the conference room along the interior glass facade.



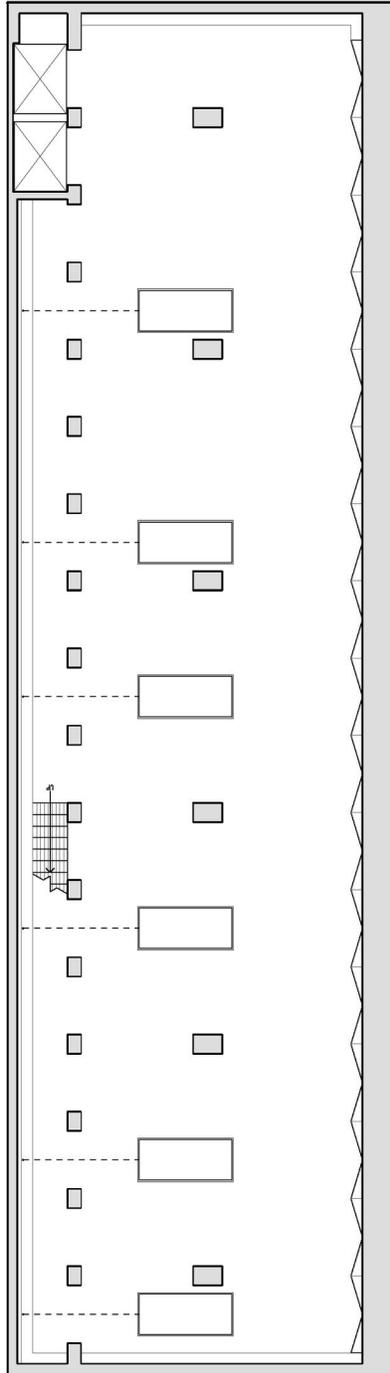
Lawyers Level- The screen is illustrated fully opened creating a closed screened facade, creating an exterior corridor upon the lawyers balcony. The assistants stairs from below enters the lawyers offices through a door hidden with the same wood veneer finish as the partition walls. In the assistants terraced garden a wedge shape awning shades the deck below. The awning houses foliage that fills the 1/6 umbrella form. This space frame wedge takes its structural, functional, and form from the umbrella.



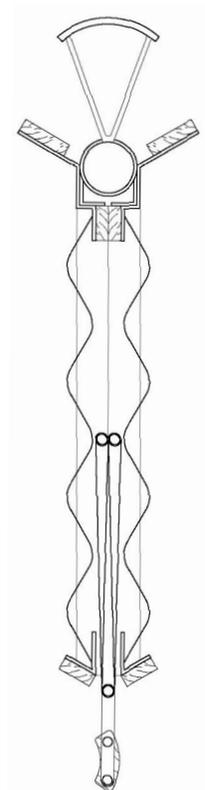
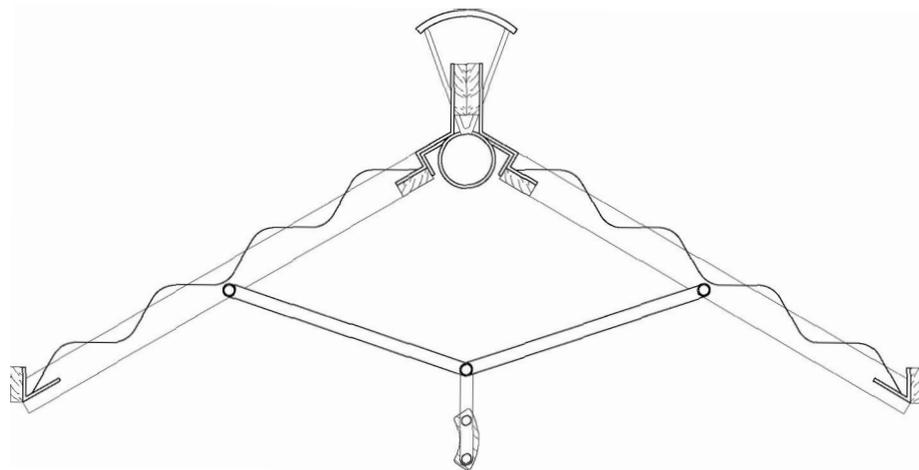
Assistants Open Office Level- The folded floor of the assistants office is carried outside into the garden. The exterior wall folds open for increased access to the garden terrace. An overhead triangular hanging garden trellis shades the garden steps. The folded floor inside steps, flows outside, steps again, twist acutely, folds down, folds back up, and transforms into the folding terraced landscaped ground.



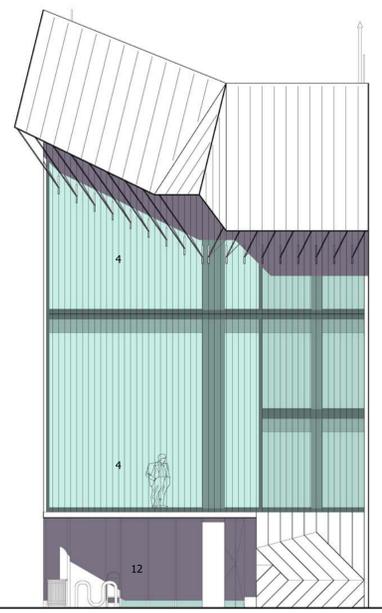
Basement File Room Level- Rows of Hanging files interspersed by columns and reading tables. The east wall is formed concrete with a slight pyramid shape cant, and concrete striations create a bookend V pattern. The perimeter of this basement level floor has a gutter in the event of moisture penetration. Grate transitions bridge the gutter giving way to the stair and elevator access.



Basement Mechanical Room Level- The dashed lines diagram the functional path of the mechanical units ductwork and piping. The east wall is formed concrete with a slight pyramid shape cant, and concrete striations create a bookend V pattern. The perimeter of this basement level floor has a gutter in the event of moisture penetration. Grate transitions bridge the gutter giving way to the stair and elevator access.



Details of the East Screen Wall. An inner steel tube acts as the fulcrum pin for an outer steel tube to pivot about. Steel angles provide the flanges for wood stop-bumpers, and the flanges also create a perimeter frame for the corrugated, woven, steel panels that comprise the face of the screen. A wood handle fits the hand allowing for pushing and pulling, opening and closing of the screen. Ideally, photovoltaic mesh could make-up the face of the panel of the screen.



North/ King Street Facade

0 1 5 10ft



Existing Site Conditions



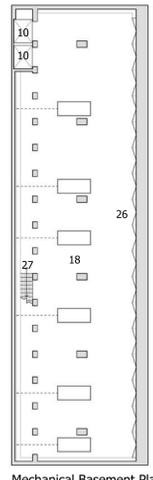
Hanging Files Perspective



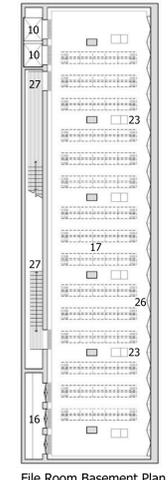
Vicinity Map



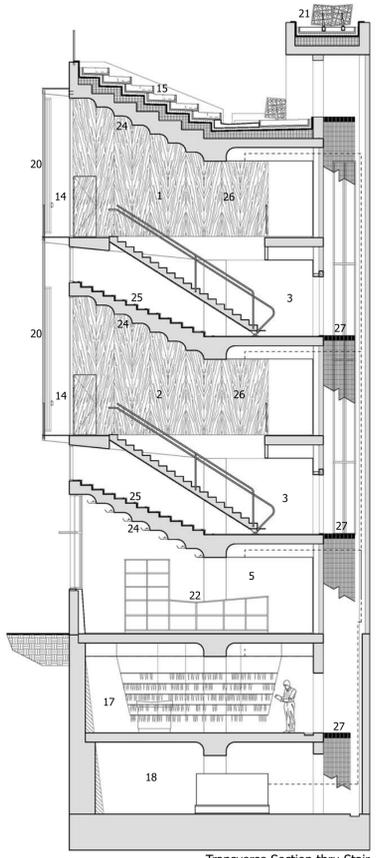
Reading Table Detail



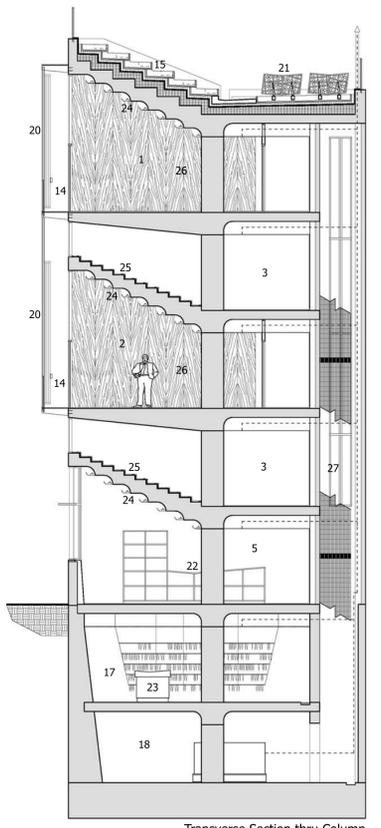
Mechanical Basement Plan



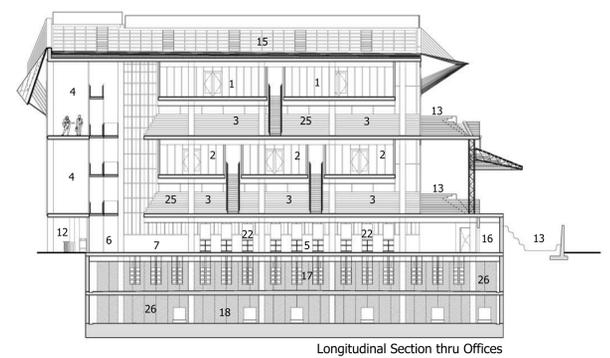
File Room Basement Plan



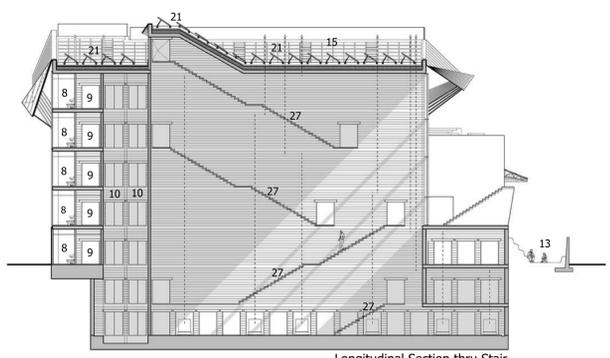
Transverse Section thru Stair



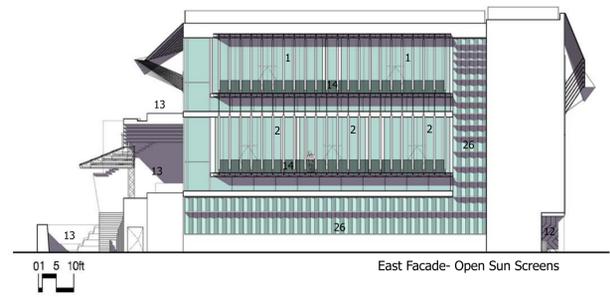
Transverse Section thru Column



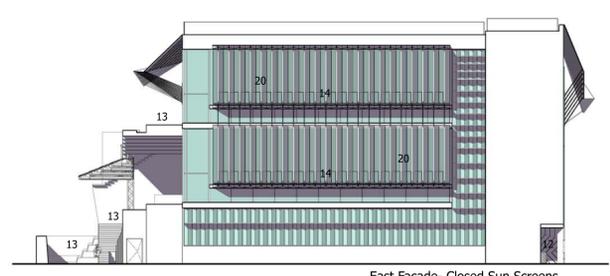
Longitudinal Section thru Offices



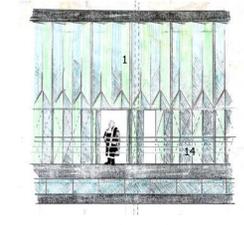
Longitudinal Section thru Stair



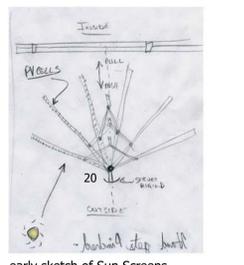
East Facade- Open Sun Screens



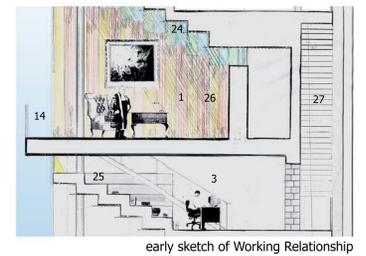
East Facade- Closed Sun Screens



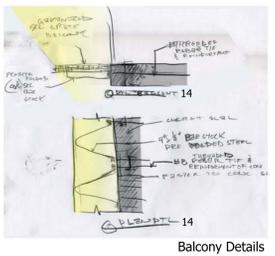
early sketch of Lawyer's Balcony



early sketch of Sun Screens



early sketch of Working Relationship



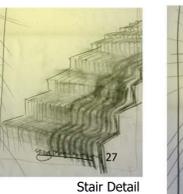
Balcony Details



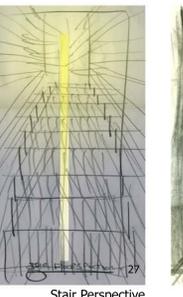
Balcony Detail



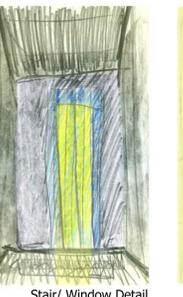
Stair Detail



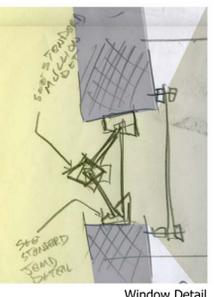
Stair Detail



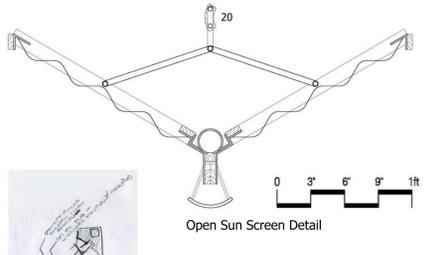
Stair Perspective



Stair/ Window Detail

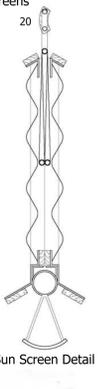


Window Detail

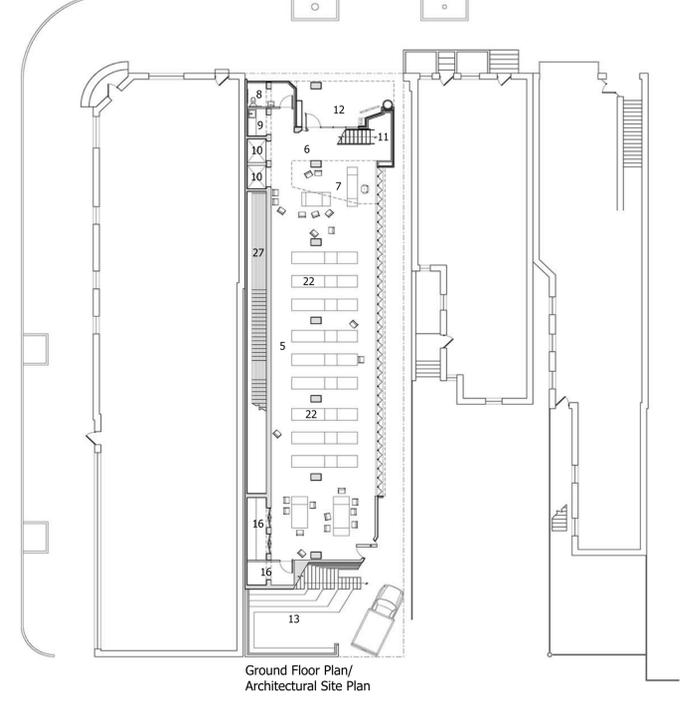


Open Sun Screen Detail

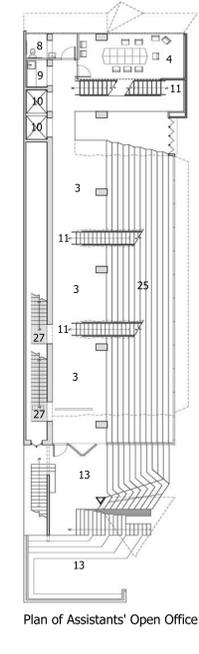
0 3' 6' 9' 1ft



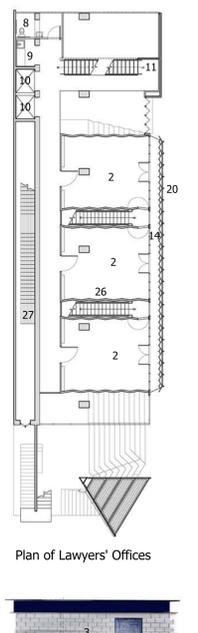
Closed Sun Screen Detail



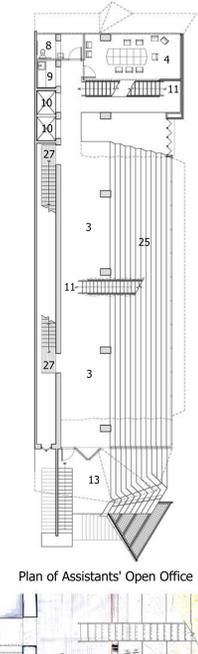
Ground Floor Plan/ Architectural Site Plan



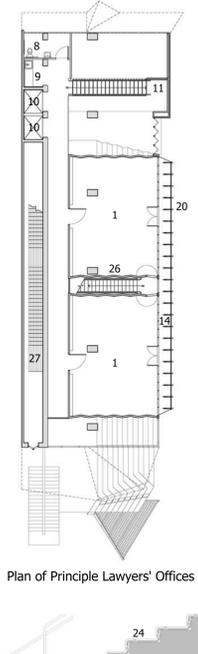
Plan of Assistants' Open Office



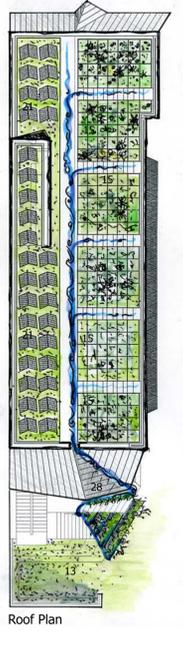
Plan of Lawyers' Offices



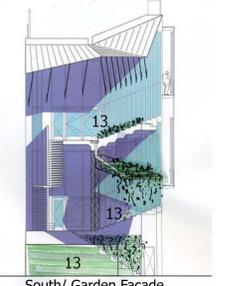
Plan of Assistants' Open Office



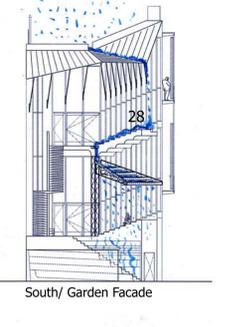
Plan of Principle Lawyers' Offices



Roof Plan



South/ Garden Facade



South/ Garden Facade

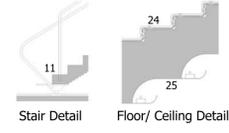
- 1 Principle Lawyer Office
- 2 Lawyer Office
- 3 Assistants Open Office
- 4 Conference Room
- 5 Library
- 6 Lobby
- 7 Reception
- 8 Toilet
- 9 Kitchenette
- 10 Elevator
- 11 Stair
- 12 Arcade
- 13 Garden Terrace
- 14 Balcony
- 15 Roof Garden
- 16 Storage
- 17 File Room Basement
- 18 Mechanical Basement
- 20 folding sun screen
- 21 folding solar panel
- 22 folded bookshelf
- 23 folded reading table
- 24 folded ceiling
- 25 folded floor
- 26 storage
- 27 folded metal stair
- 28 folding rain runoff



early sketch of Assistant's Work Space



early sketch of Assistant's Work Space



Stair Detail



Floor/ Ceiling Detail