

RE-USE AS A MEANS OF PRESERVATION

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ABSTRACT

People are often attracted to an image painted for them by history, fiction, and romantic novels. Artists have tried to construct these images for centuries, often exaggerating the past in order to make a more attractive narrative. I propose an architecture that works in the same way. The architect controls the narrative through the preservation and curation of tectonic details. He can create, destroy, or restore an existing building, and by altering the brick pattern, window style or ornament, can create his own version of history. This thesis addresses the image of a post-Civil War industrial site, the Appomattox Iron Works & Supply Co. building, in Petersburg Virginia. By taking advantage of one existing structure, the architect can reinvent the city as a modern destination. By juxtaposing the old, with a new set of residential apartments, the area becomes attractive to those young professionals who want to submerge themselves in the locale of an artistic urban community.

THANK YOU

To my parents who are and will always be there

I love you with all my heart

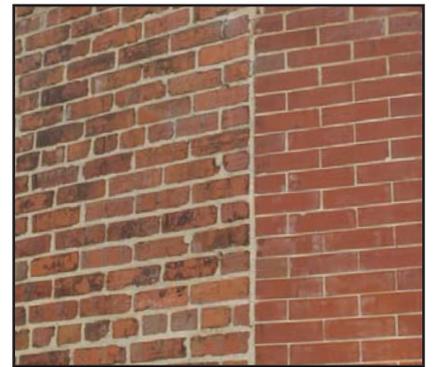
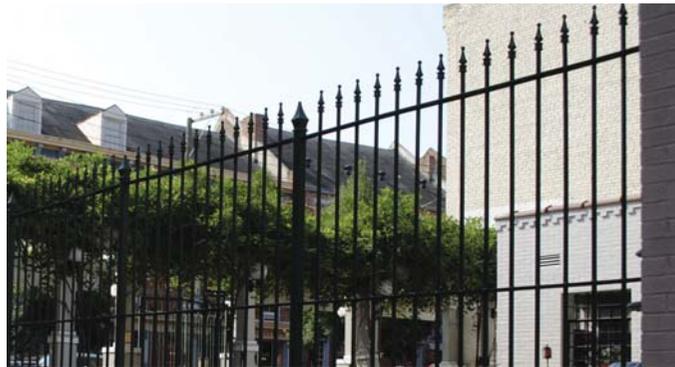
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SITE KEY

- | | | | |
|----|------------------------------|----|--------------------------------------|
| 01 | Carpentry Floor (Top Left) | 05 | Foundry Four over Five pane (Middle) |
| 02 | Stair Detail (Top Middle) | 06 | Gate (Bottom Left) |
| 03 | Steel Connection (Top Right) | 07 | Brick Seam (Bottom Right) |
| 04 | Foundry Brace (Bottom Left) | | |



ADAPTIVE RE-USE

In recent years it has become popular to transform industrial sites, valued for their central urban locations, into high-end residential developments. Examples include Ghirardelli Square in San Francisco, California, and the Minneapolis Riverfront, Minnesota. These areas fell into ruin as industry moved away from the inner cities and people moved toward the dream of a suburban life. However, with today's economic changes, young professionals are moving back into the inner city. "From the earliest times, urban communities have been the driving force behind human affairs. They remain irresistible destinations for all those who want to be where things are happening."¹ Those who wish to be close to everything are moving in, claiming prime real estate and reworking

zoning laws to rehabilitate existing structures such as warehouses, factories, and abandoned lofts.

A major question in adaptive re-use, for the architect, is the decision to transform or preserve an existing site. When rehabilitating a space, what do you keep? "The very best conversions are those in which the architectural heritage is respected by the new inhabitants, who allow the overall style to be dictated by its form."² Half the fun in taking over an existing building is working within the existing framework; looking at available space, using existing windows and piecing together materials. The encoded aesthetic of a factory is completely different from that of a new apartment building. Spaces designed for machines and assembly lines are capable of offering cathedral

like ceilings and open layouts, but may not lend themselves easily to all domestic situations.

This 6-unit apartment complex is set within the existing structure of the old Appomattox Iron Works & Supply Co., Inc. The challenge was to construct a domestic program within the vacant ruin, juxtaposing the old and the new. The old being the museum, designated by the smoke stained brick and Victorian window treatments, and the new, being the space for a new three piece living room set. As the goal in architecture is largely to improve the built environment, the idea in Petersburg is to help the city define it's own social destination, downtown. The design is meant to attract young professionals who are interested in living within an artistic loft community.

¹ Niesewand, Nonie. *Converted Spaces*. London: Conran Octopus, 1998. Print. pg 10

² *Ibid.* pg 23



FRONT ELEVATION



The Appomattox Iron Works & Supply Co. was established in 1899 as a foundry and machine shop for Southwest Virginia. Helped by the economic boom taking place after the American Civil War, Petersburg grew into a sizable industrial center. Business was dependant on the railroads, and their machines were sold from Richmond, all the way to Texas.³

Steep topography came to define the layout of the city. Industry took place at the bottom, nearest the railroad. Storefronts progressed up North Sycamore, and the mansions began to appear at the top elevations, overlooking the river.

Today, with less use of the rail lines, and partially because of the destruction caused by a 1993

tornado, the city is struggling. Business is mostly in antiques. The Iron Works sits between four major cross streets: North Sycamore, Old Street, North Market, and West Bank. The area immediately behind the existing storefront, which was once reserved for the foundry, now offers a courtyard ideal for residential parking.

³ "Appomattox Iron Works & Supply Co. Inc." The International Magazine of Industry (April 1912). Print.



OLD STREET



ca. 1970's RUSSELL DAVIS COLLECTION (Left)

ca. 1912 IMAGE FROM THE INTL. MAGAZINE OF INDUSTRY (Right)

"Photos courtesy of the Petersburg Museums,
City of Petersburg, VA, Laura Willoughly, 2010."



EXISTING FACADE

CASTELVECCHIO

"Photo courtesy of Andrea Russi, Flickr, 2011."



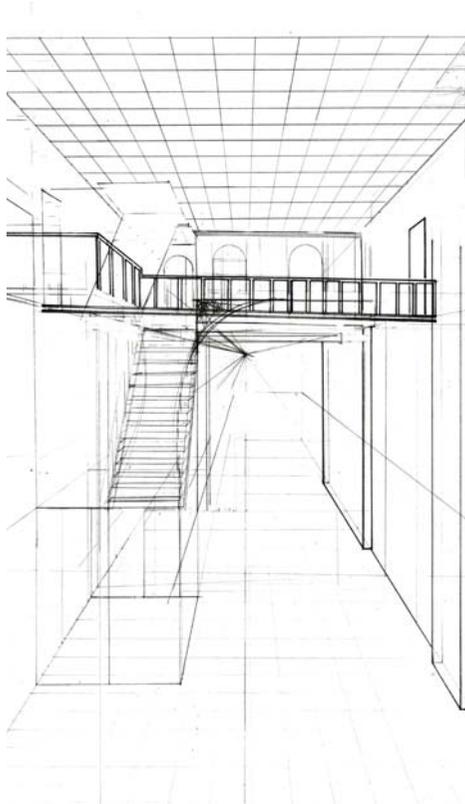
History can only be described as a narrative. The question becomes, which story should the architect tell? An interesting case in point is Carlo Scarpa's work on the Castelvecchio, in Verona. The museum is a medieval ruin, which underwent several renovations in the twentieth century. Antonio Avena, curator in 1923, tried

to hide evidence of foreign occupation by transforming the ruin into lavish bedrooms. Rewriting history, he added Gothic windows and intricate fireplaces. Scarpa, whose "commentary through design is a provocative and welcome alternative to the usual practice of preserving the architectural form,"intended to reveal this fiction.⁴ Af-

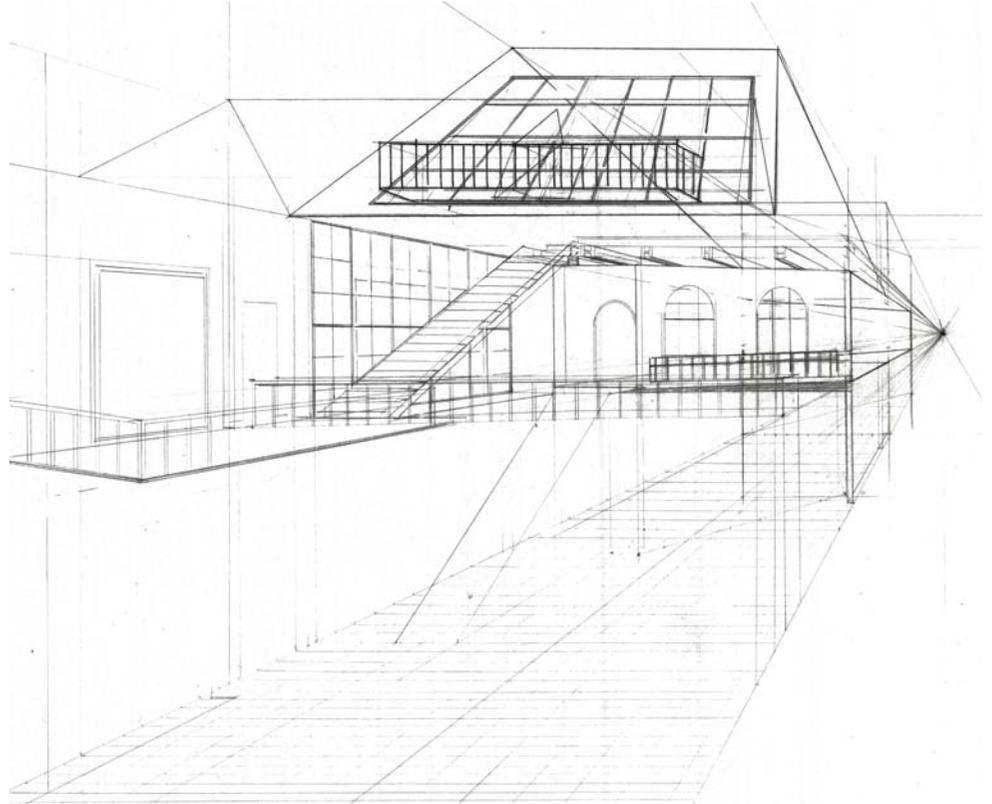
ter 1957 he added symbolic details into his construction, intent on seducing "the curious visitor willing to exchange myth for reality and to cast a critical eye on visual history."⁵ Scarpa made little consideration for the museum's past architectural merit, but sculpted a new narrative, a new image, based on Verona's history.

⁴ Coombs, Tamara. "Scarpa-Castelvecchio, A Critical Rehabilitation." Places 8.1 (1992) Print. pg 7

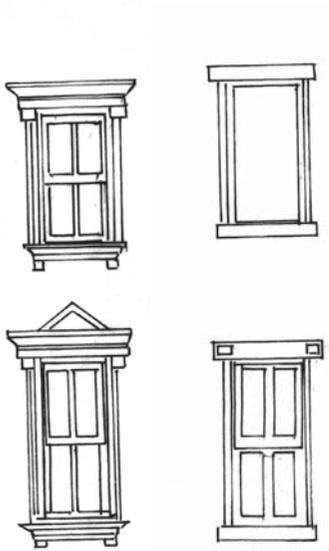
⁵ Ibid. pg 7



EARLY ILLUSTRATION (Left)



EARLY ILLUSTRATION (Right)



The preservation of a city is more complicated than the restoration of a few key sites. It must become sustainable in the modern era. It must juxtapose the old and the new, provide an image, while catering to a contemporary lifestyle. And, as observed in the historic restoration of Rome, “the problems of necessity and the problems of gran-

deur” are often contradictory.⁸ The city can either spend money moving forward, or spend money glorifying a relic. The challenge is to preserve just enough character of the post- Civil War image that it can attract new residents while opening itself up to a new program. According to Lewis Mumford “one of ... [the City’s] own principal function’s is to

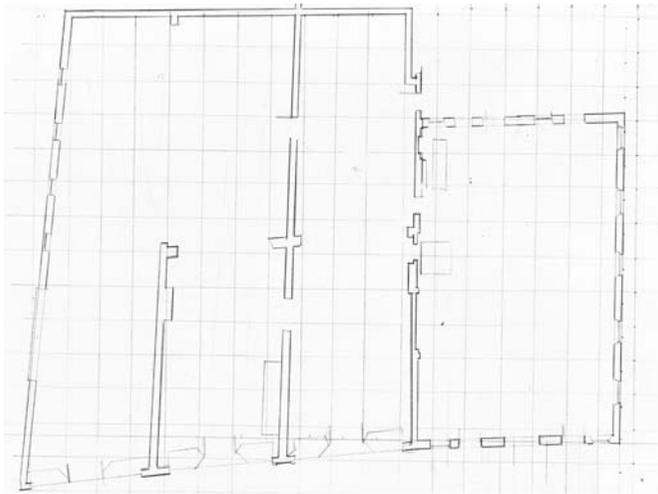
serve as a museum: in its own right, the historic city retains, by reason of its amplitude and its long past, a larger ... collection of cultural specimens than can be found elsewhere.”⁹ The architect has to judge which details are important to that image and become a curator in order to design a new narrative for the city.

⁸ Kostof, Spiro. *The Third Rome, 1870-1950: Traffic and Glory*. Berkeley: University Art Museum, 1973. Print

⁹ Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects*. New York: Harcourt, Brace & World, 1961. Print.



EARLY ELEVATION



By understanding the façade as a fiction, the primary objective of the architect is no longer to recreate a previous version of the building. There is no effort to return the Iron Works to any specific point in history. Instead, it has been stripped down to a ruin, drawn in approximation to what was left after a 1972 fire.⁶ There is no need to restore the

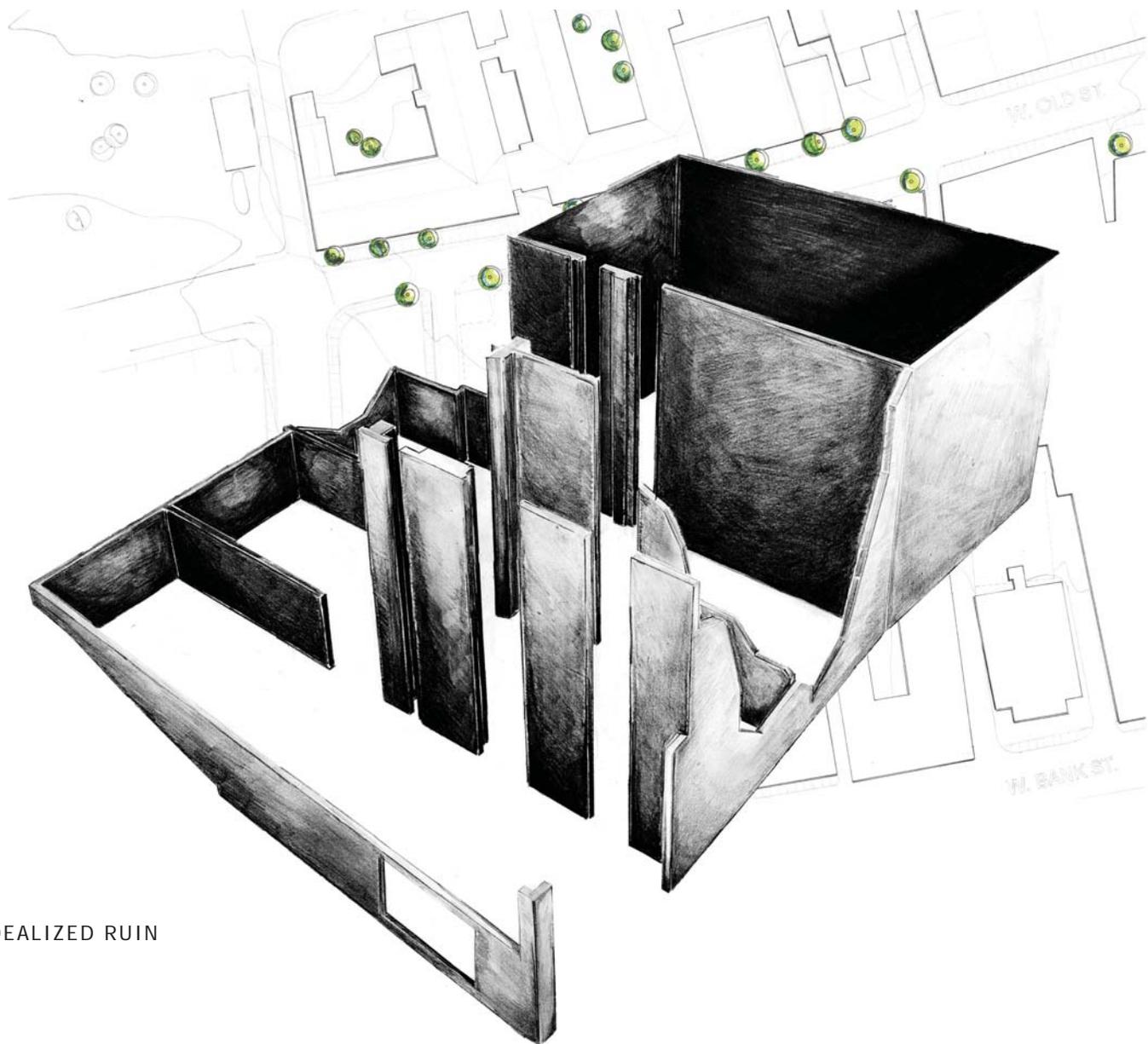
entablature, or the lost Victorian window treatments, because there is no more merit to them than the Gothic treatment of the Castelvecchio.

In this project the structure is preserved without a roof. The entrance to the apartment complex becomes a museum, a semi-public vestibule reserved for residents and friends as a separate gathering

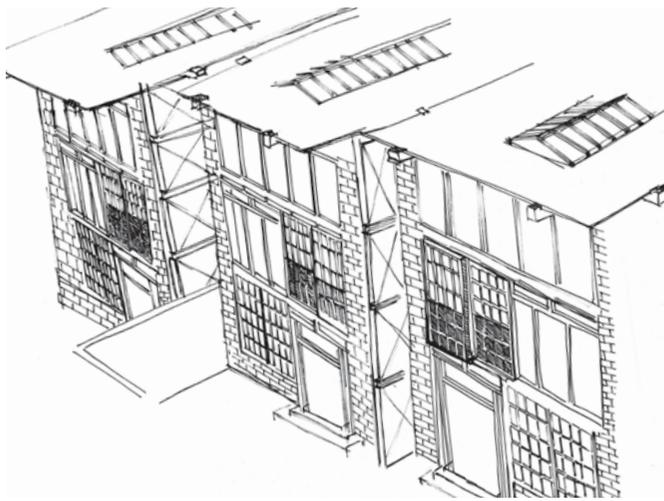
area. “If the museum was once seen as a repository of history, it is now perceived as a pointer to the future.”⁷ For the visitor, instead of being exposed to a formal narrative, a neutral box with Victorian windows hung from it like art, they are presented with an image of an industrial ruin. The old is set in juxtaposition with the new apartments.

⁶ “Appomattox Iron Works, 20-28 Old Street, Petersburg, VA.” Historic American Buildings Survey/ Historic American Engineering Record. Library of Congress. Web. Aug. 2010. <http://memory.loc.gov/ammem/collections/habs_haer/>.

⁷ Powell, Ken. *Architecture Reborn: Converting Old Buildings for New Uses*. New York: Rizzoli, 1999. Print.



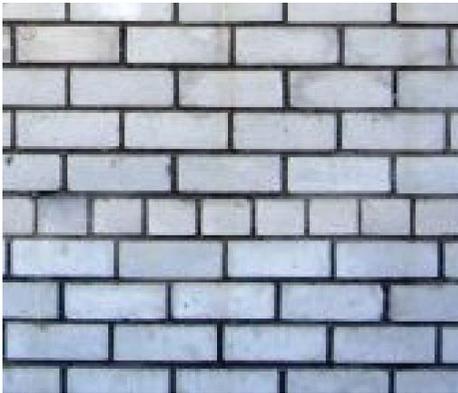
IDEALIZED RUIN



Four major material sections make up the weight of the structure: the original brick, belonging solely to the museum, the newly inserted masonry, which transitions the industrial image into the apartment complex, metal panels, and the precast concrete providing for a majority of the new interior surface. The first transition, museum to apartment, makes a visual

leap from the red clay brick to the similarly sized white module. The change in language, color more than line, is a hint toward the fact that 'yes,' one is newer than the other, but still has a wish to be part of the existing site. The white brick frames a metal panel wall, a device borrowed from existing facades in the surrounding neighborhood. The window system pre-

serves a four-over-five glass pane, found in the surrounding urban landscape. Abutting this frame, visible only from the sides and interior, is the concrete. The pre-cast walls are smooth in comparison to the brick with only a few lines cast into the surface. This change in material is the final transition between the industrial museum and the domestic space.



RED BRICK MATERIAL (Top Left)

WHITE CLAY BRICK (Bottom Left)

ENTEROS ARCHITECTURE FACADE (Right)

"Image courtesy of Enteros Design, City of Petersburg, VA, Gill Entzminger, 2011."

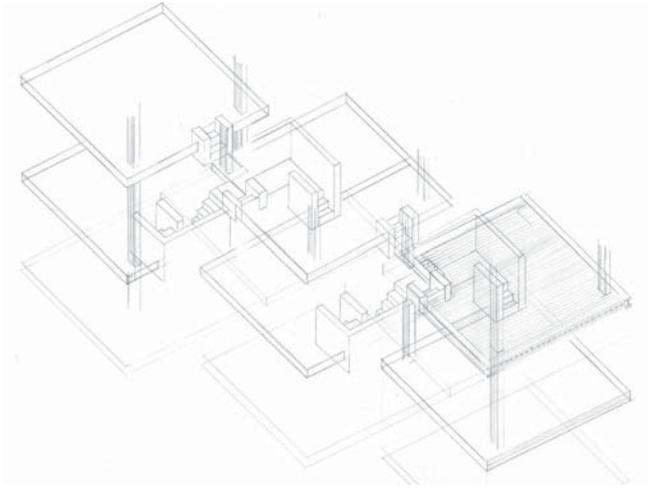


MODEL



MODEL

INTERIOR SPACE



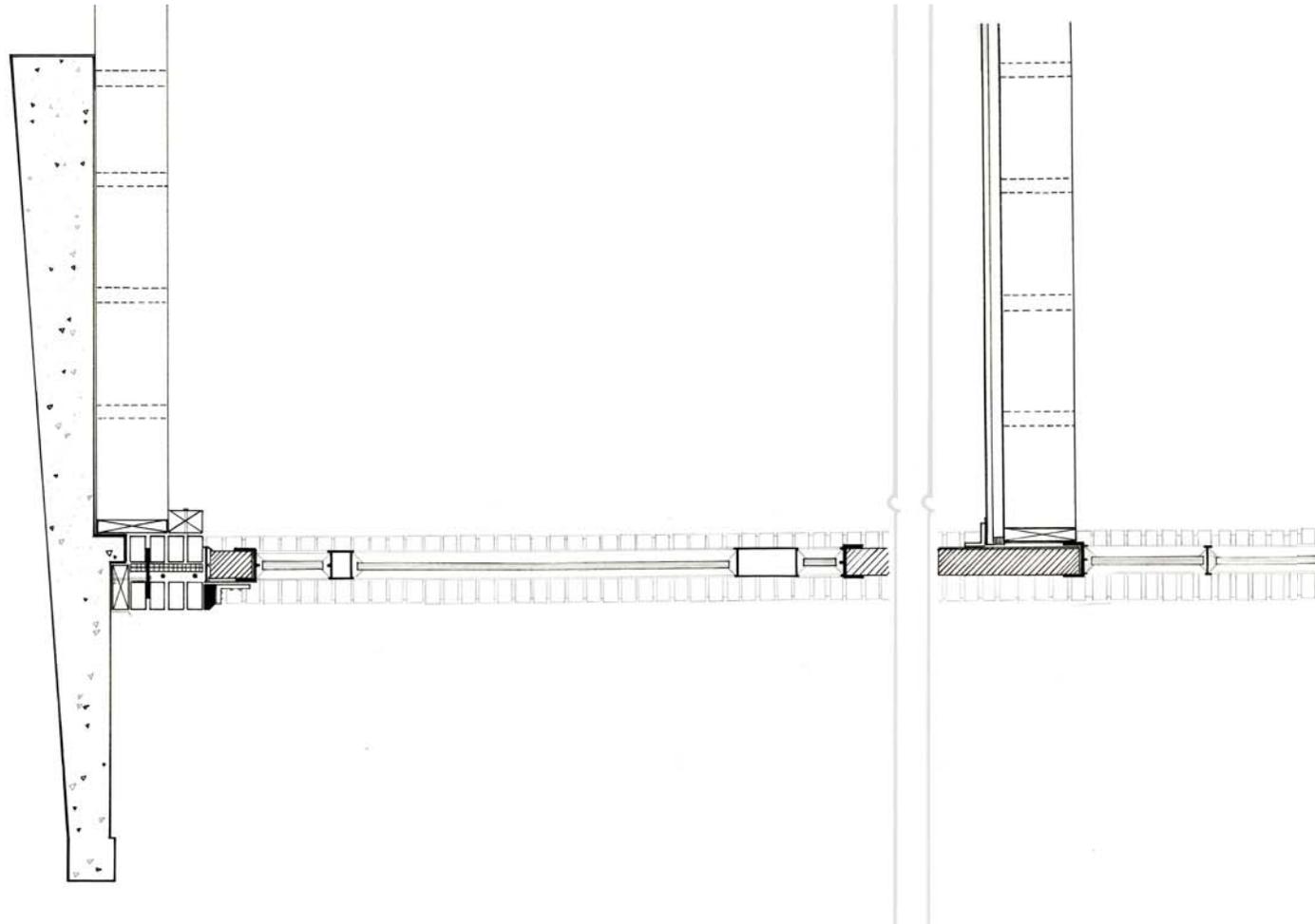
Domesticating an industrial site requires insight into what a young professional may want in a residential space. Assuming the inhabitants are young, on their own, and presumably budgeting on a minimal salary, space is cut down to a single bedroom unit. The public area of the home is separate from the private bed and bath,

both for convenience and to maximize the view. The larger rectangle in the outer tower is occupied by an open kitchen, and is meant as a public reception area. A steep stairway leads into the private area where bath and bedroom are combined. Levels of privacy are considered, and friends are able to access the bathroom without

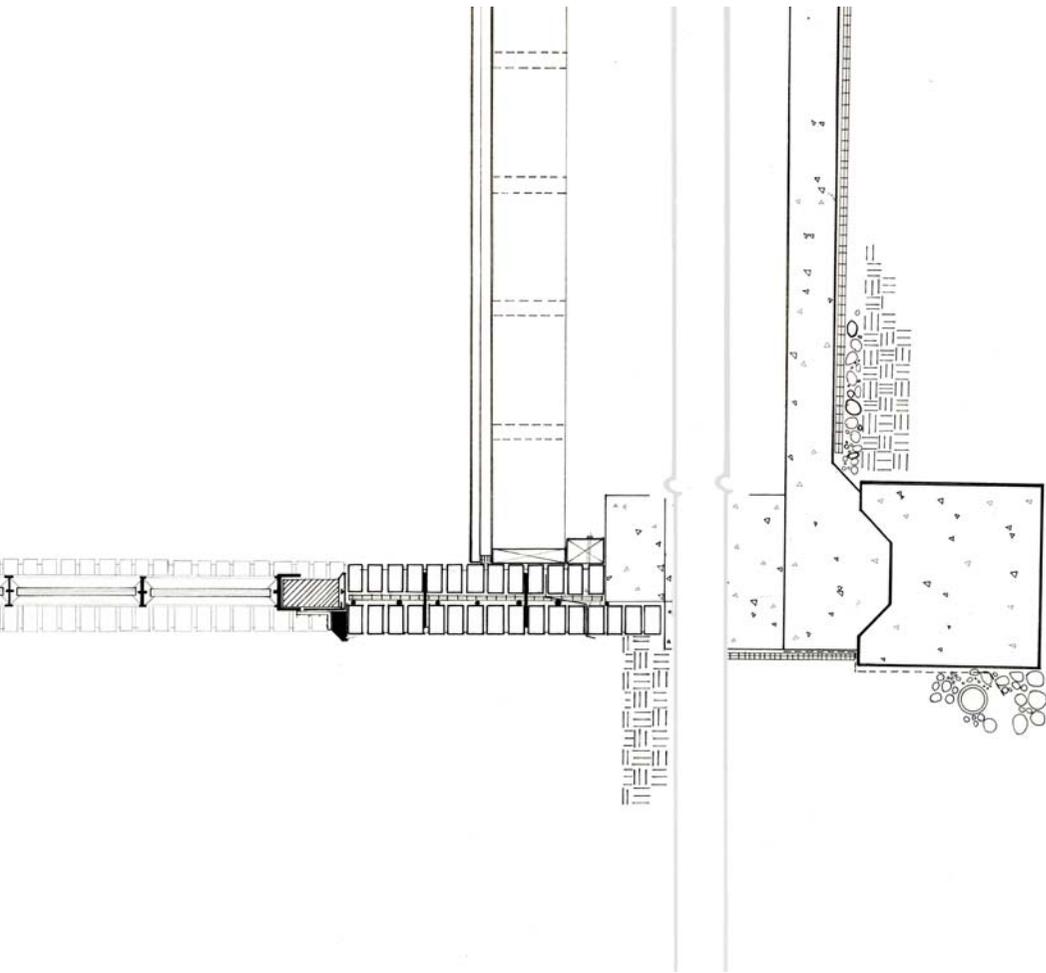
intruding into the bedroom. However, the bed and bath are one unit. The inner city location is the best asset to the space and views are provided on both north and south facades of the building. Curtains are essential to the architecture. This textile marks the boundary between the industrial museum and domestic space.

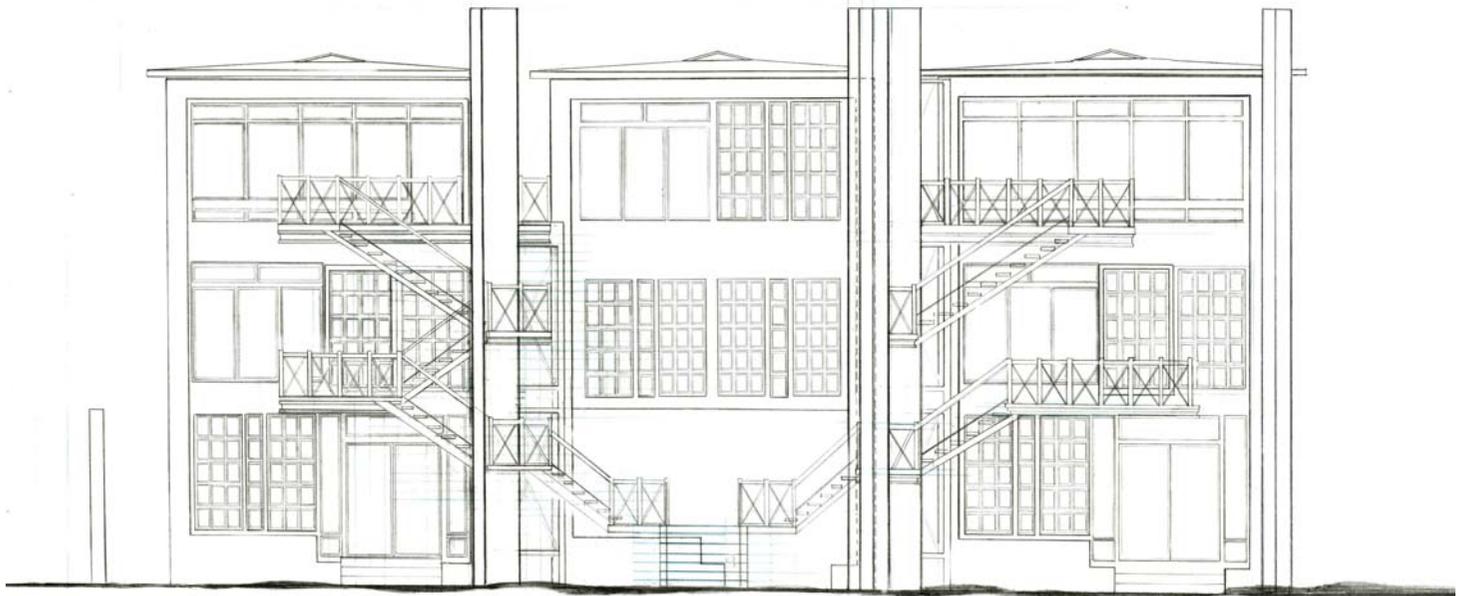


INTERIOR STAIR

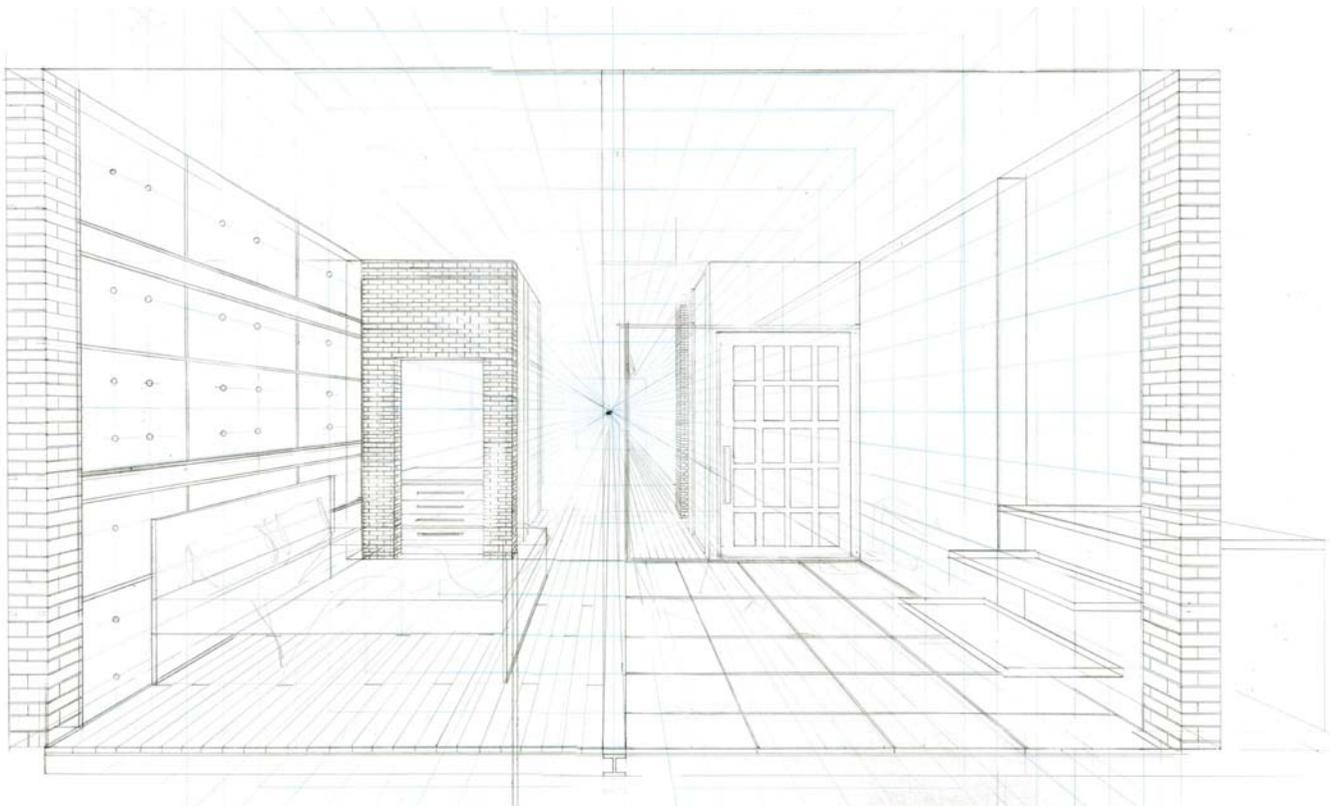


WALL SECTION





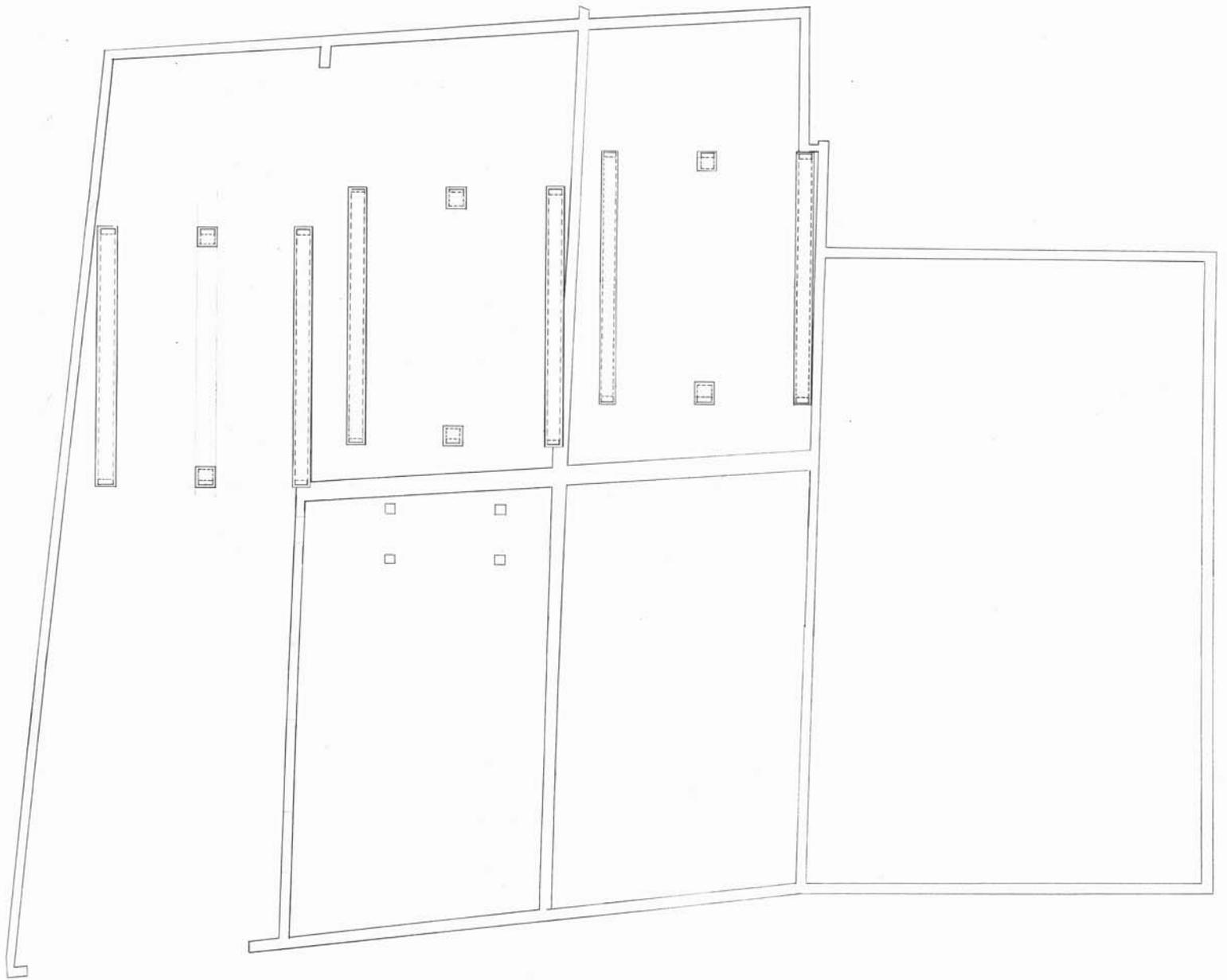
SECTION ELEVATION



INTERIOR PERSPECTIVE

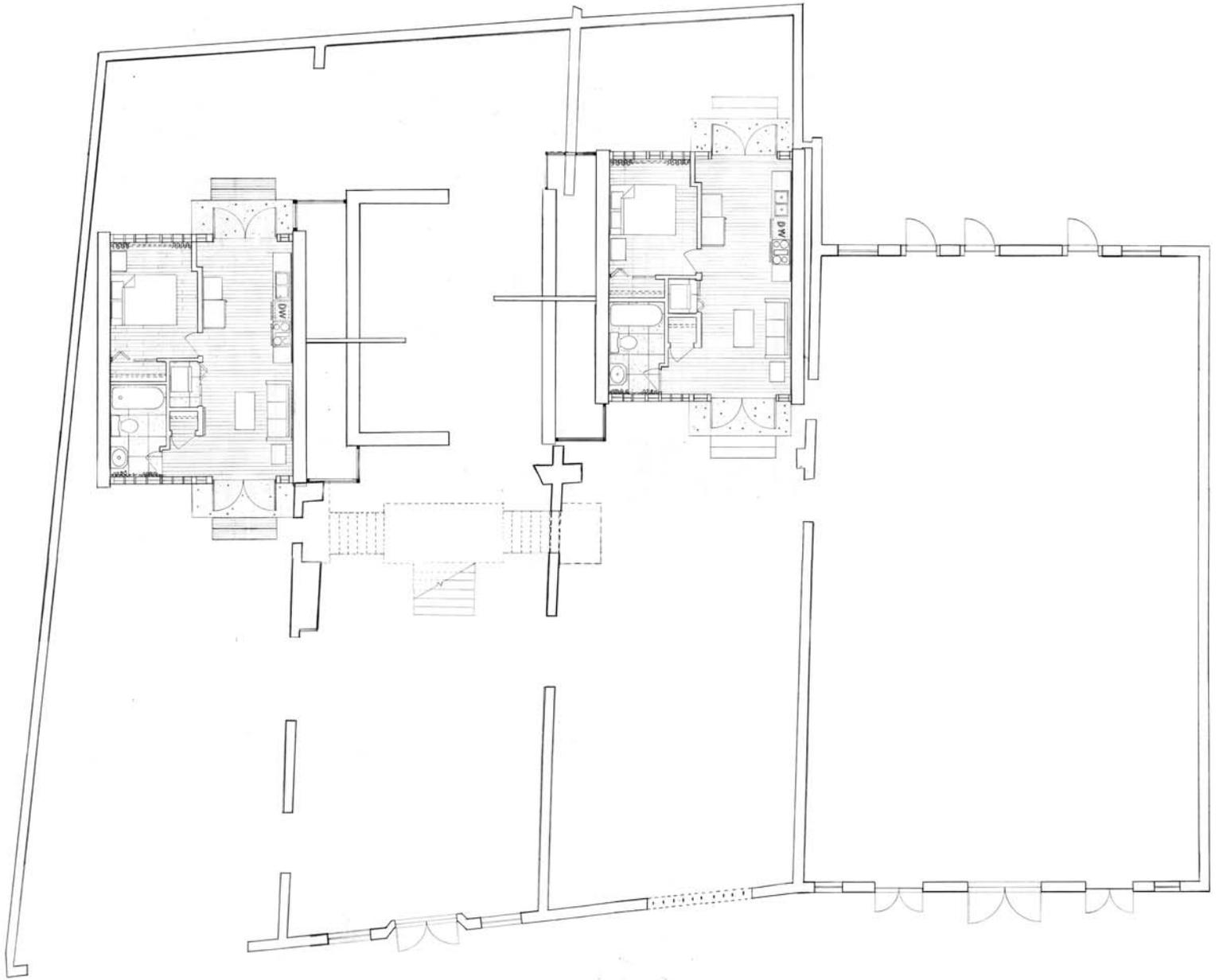
FOUNDATION PLAN





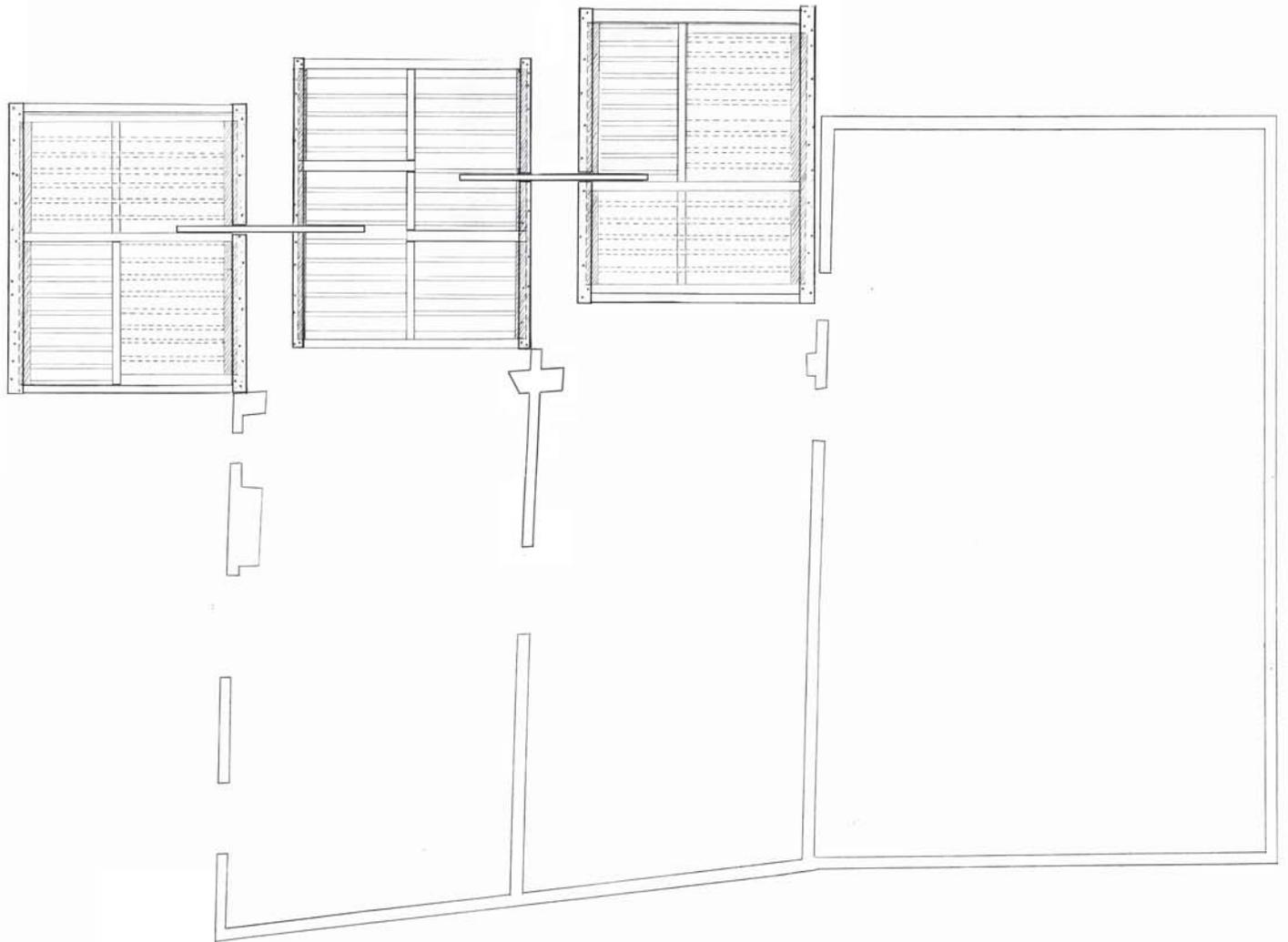
1ST FLOOR PLAN





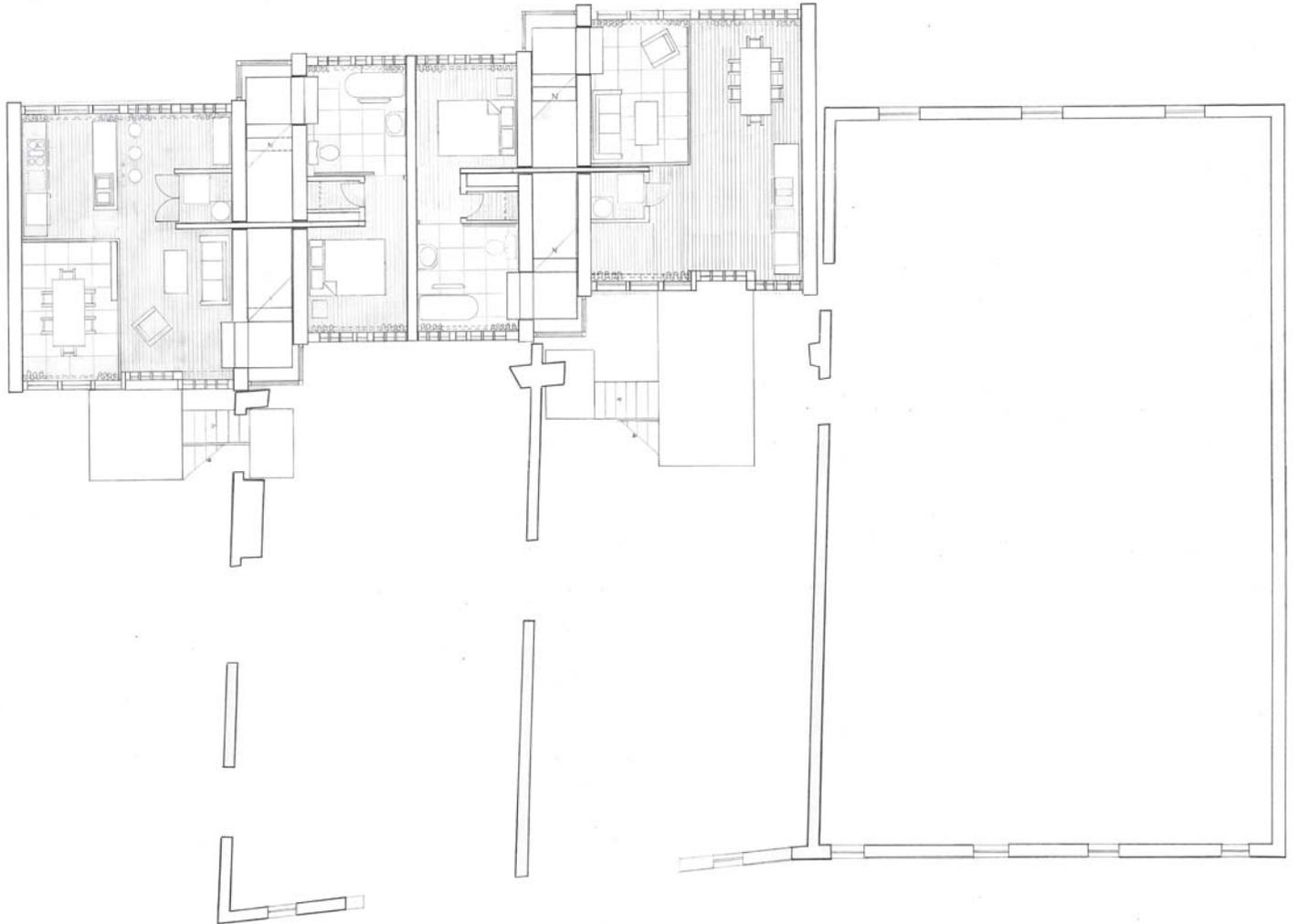
1st FLOOR REFLECTED CEILING PLAN





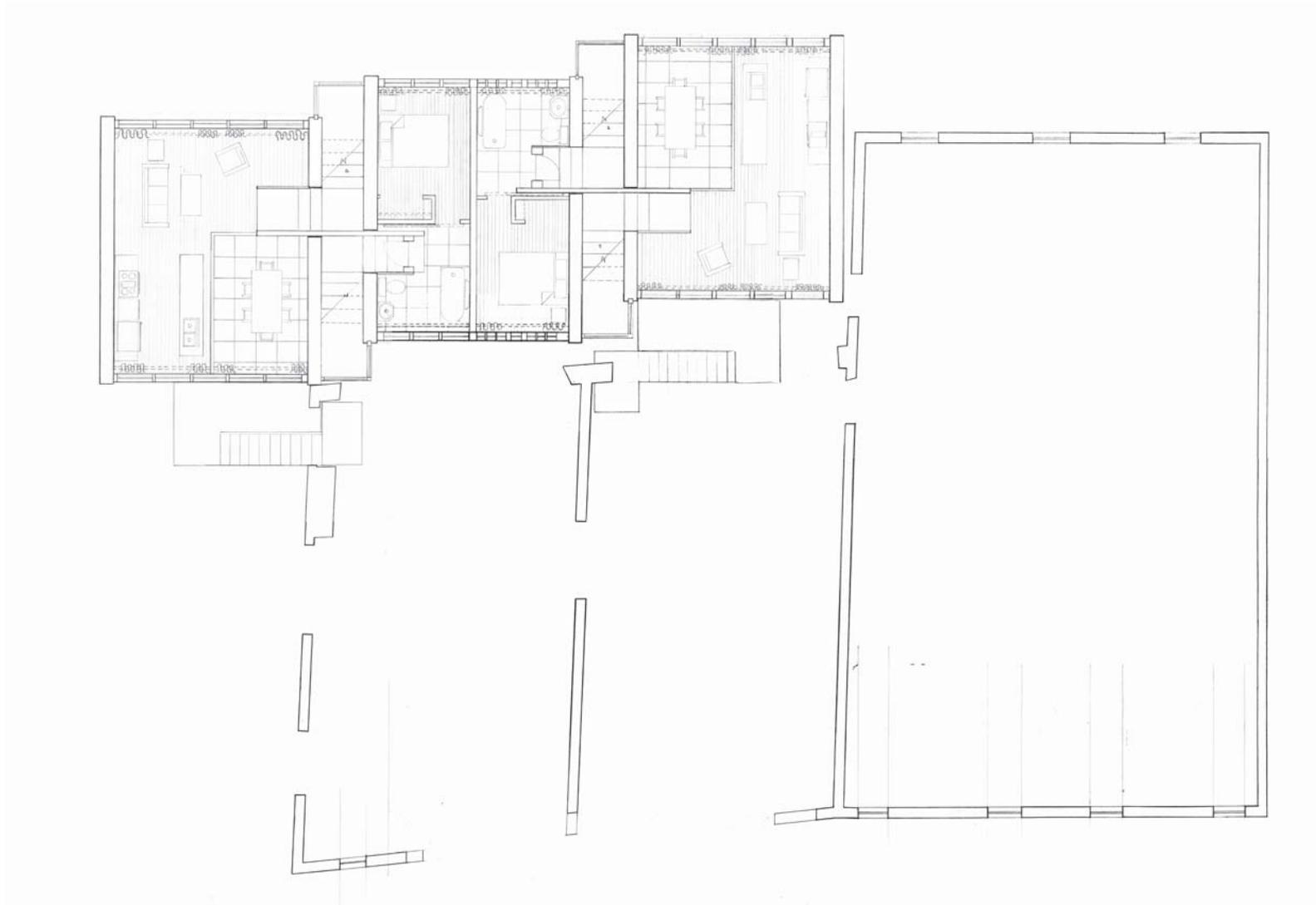
2ND FLOOR PLAN





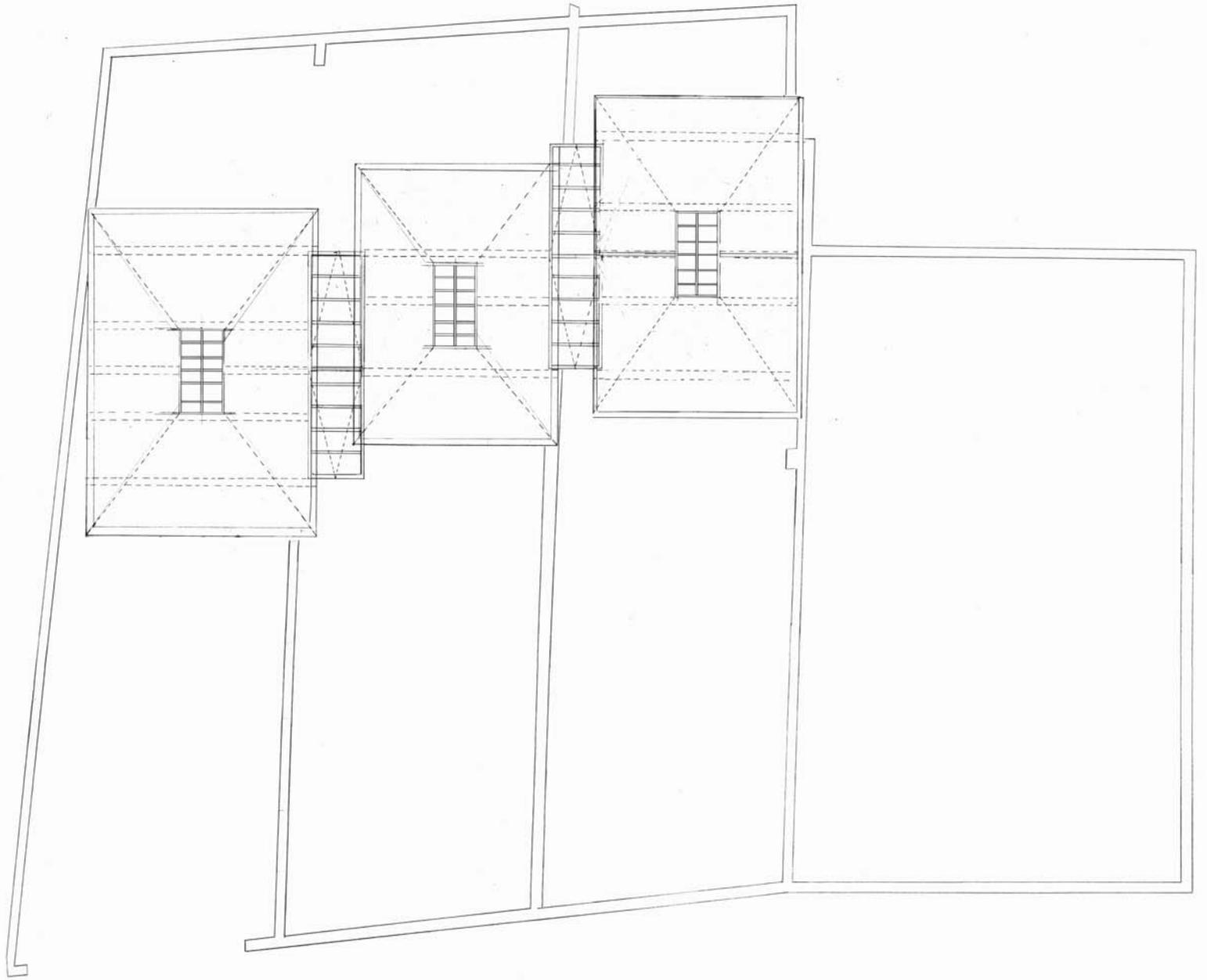
3RD FLOOR PLAN

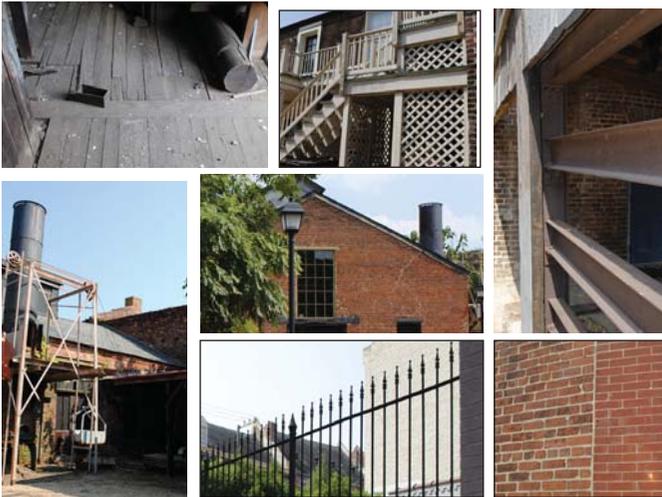




ROOF PLAN



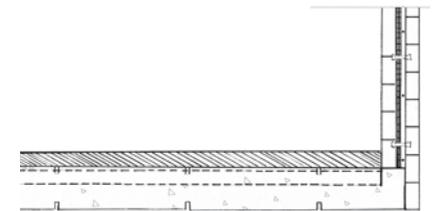
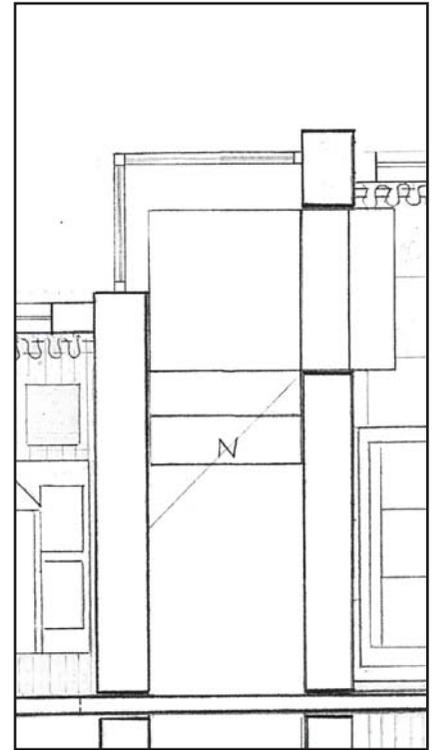
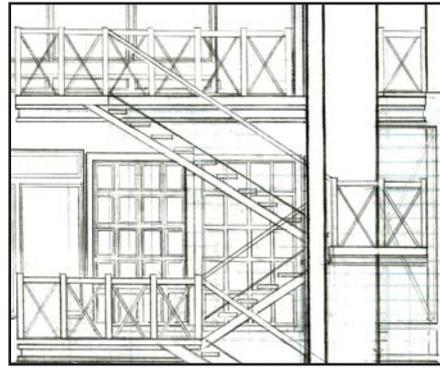
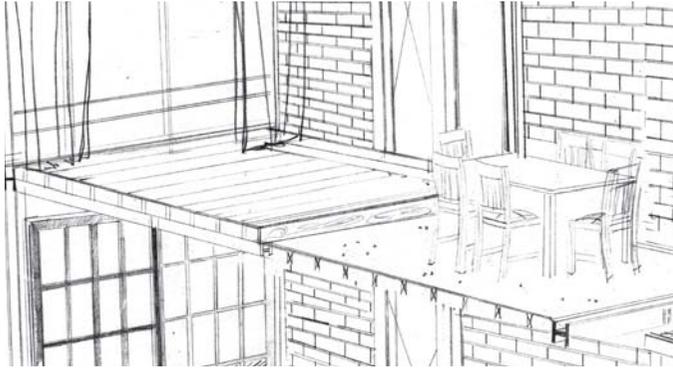




CONCLUSION

- 01 Isonometric Section (Top Left)
- 02 Stair Detail (Middle Left)
- 03 Plan Detail (Top Right)
- 04 Steel Connection (Bottom Left)

- 05 Model Window Detail (Middle)
- 06 Gate (Bottom Middle)
- 07 Plan Detail (Bottom Right)



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					Gate
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BIBLIOGRAPHY

"Appomattox Iron Works, 20-28 Old Street, Petersburg, VA." Historic American Buildings Survey/Historic American Engineering Record. Library of Congress. Web. Aug. 2010.

<http://memory.loc.gov/ammem/collections/habs_haer/>.

"Appomattox Iron Works & Supply Co. Inc." The International Magazine of Industry (April 1912). Print.

Coombs, Tamara. "Scarpa - Castelvecchio, A Critical Rehabilitation." Places 8.1 (1992): 4-7. Print.

Kostof, Spiro. The Third Rome, 1870-1950: Traffic and Glory. Berkeley: University Art Museum, 1973. Print

Mumford, Lewis. The City in History: Its Origins, Its Transformations, and Its Prospects. New York: Harcourt, Brace & World, 1961. Print.

Niesewand, Nonie. Converted Spaces. London: Conran Octopus, 1998. Print.

Powell, Ken. Architecture Reborn: Converting Old Buildings for New Uses. New York: Rizzoli, 1999. Print.

Wilton-Ely, John. The Mind and Art of Giovanni Battista Piranesi. London: Thames and Hudson, 1978. Print