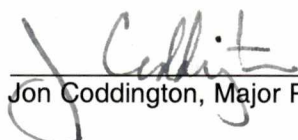
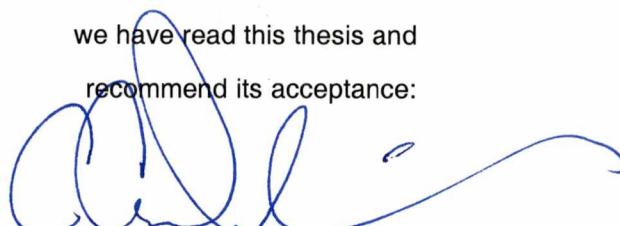


To the Graduate Council:

I am submitting herewith a thesis written by Jeffrey Hunter Ervin entitled "Poetic Technology: A Case Against Pavlovian Detailing." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture, with a major in Architecture.


Jon Coddington, Major Professor

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Associate Vice Chancellor and
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Poetic Technology: A Case Against Pavlovian Detailing

A Thesis
Presented for the
Master of Architecture
The University of Tennessee, Knoxville

Jeffrey Hunter Ervin
August 2000

Dedication

This thesis is dedicated to the memory of Rick G Boelter
A man of unwavering values, Rick held me to task and
always demanded my best I treasure the time we spent
together and I will not forget that "life is not a coincidence "

Acknowledgment

I would like to thank Jon Coddington for his patience, guidance and availability during this thesis process. Jon has provided professional experience and his personal library without hesitation or reserve. This effort would not have been possible without Jon's direction.

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Abstract

This thesis investigates the reciprocity between an architectural design concept and the architectural detail. This investigation attempts to demonstrate that the detail can be a generator of meaningful experience through its response to construction, program, and context.

Prologue

Most architects would agree that a relationship exists between the design concept and the architectural detail, however, many in the profession deny that this relationship is reciprocal. These architects do not view the architectural detail as an extension of the design concept but, rather simply, as the last step in the process of producing a set of construction drawings. This attitude denies the architectural detail's potential to transcend pragmatic issues inherent in construction and the detail's ability to express the poetic issues which are inherent in architecture.

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1. Thesis Statement

"The architectural detail," according to Marco Frascari, "is the minimal unit of signification in the architectural production of meaning" (Frascari, 500) This "minimal unit" is not necessarily in reference to scale, but rather in reference to a significant relationship or joint. In architecture, such joints as they are expressed in details restate, reveal, and respond to conditions within and around a building in order to enrich the experience of those who engage the building. The architectural detail reveals the nature of the construction of the building as an element of the design concept as well as an expression of its own pragmatic function. Therefore, the detail is not only a joint between materials or assemblies for constructive means, indeed, the detail becomes a source of meaning which supports the design concept. "Careful detailing is the most important means for avoiding building failure, on both dimensions of the architectural profession – the ethical and the aesthetic" (Frascari, 501) There is a correlative relationship between the constructive design philosophy and the expressive architectural detail that becomes a meaningful experience. This essential relationship, which this thesis calls **poetic technology**, is a reciprocal connection between the expressive design concept and the expressive detail.

2. Introduction

In his essay, "A Question of Things," Robert McCarter states, "Architecture is not simply a means of expression, it makes a place for meaningful experience" (McCarter, 1) In an architectural detail, this place for meaningful experience is born out of expressing the construction of that place and its context, "for the detail must respond to the environment in which it exists" (Patkau, 19) If the design concept is conceived based on a philosophy of experiencing the construction, then a correlative relationship must be established between the concept and the construction detail This joint (relationship) between the detail and the design concept can be thought of in terms of **poetic technology** which not only expresses the poetics of construction but, through the language of construction, establishes relationships by revealing, restating, and responding to forces acting upon the project For the purposes of this thesis, poetic technology constitutes three unique strategies of detailing: correspondent, simultaneous, and collaborative Each of these processes creates a type of joint, either implied or actual, however, in terms of architecture, these joints are apparent in the corner condition, penetration details, structure, and the building's relationship to the site

3. Supporting Argument

Definitions according to Webster (ARTFL)

Philosophy [Gr , loving + wise] the study of the nature and principles of knowledge, truth, existence, and moral and aesthetic values

Concept [L. conceptus (a conceiving)] a clear or logically formed idea

Detail [F detail, Fr detailler to cut in pieces, tell in detail] a minute portion, one of the small parts, a particular, an item

Architectural

Design philosophy the essential architectural argument that all decisions, including concept, are based on

Design concept an idea or vision used to organize and direct decisions throughout the entire process of creating Architecture

Architectural Detail element that supports or bolsters the concept and the construction

Poetic Technology

Constructive design philosophy = "process of construction becomes the detail" (Patkau)

Architectural Design concept = "giving architectural form to environmental forces" (Patkau)

Expressive Architectural detail = the joint - "the original detail – the generator of construction and therefore of meaning " (Frascani)

Poetic technology is the essential relationship between a constructive design philosophy and the expressive architectural detail. Furthermore, the expressive architectural detail supports and reinforces the ideas in the architectural design concept just as it supports and reinforces the building itself. Enriching the design concept, the detail is manifest within the construction solution creating a joint that is both physical and representational. Frank Lloyd Wright stated, "details such as grilles, brick textures in the fireplace, window mullions, even the leaded lines of the glass, bear the imprint of the same formal intelligence which conceived the whole, as the smallest parts all had the generating idea implicit within them " (Curtis, 125). The joint between expressive architectural detail and the design concept constitutes a reciprocal line of inquiry towards the mutual development of both. These infinite loops of investigation can involve the architect and the craftsman, the forces of site and the constructed

response, as well as the process of construction itself as it is linked to the site and its context

Correspondent Detailing

Poetic technology is not limited to expressing forces of construction, as in tectonics, but it more holistically considers the expression of the construction of the building as it interacts with the site and as the site interacts with it. This consideration gives the building a sense of relevance to the site because the building corresponds with elements inherent within the context of the site. This consideration is the joint created by correspondent detailing.

Correspondent (something that resembles or is analogous to something else) detailing involves “giving architectural form to environmental conditions” (Patkau, 91). As an architecture of response to forces, consideration goes beyond that of physical forces, e.g. climate or statics, to include cultural, traditional, and contextual forces. Revealing, restating, and responding to the forces inherent within the site gives the building a sense of intention where expressive details provide a deeper understanding of the intention and its relation to the site.

This is not to say that typical architectural detailing should be ignored in favor of expressing non-construction forces. On the contrary, “an architectural system,” according to Frank Lloyd Wright, “requires a consistent attitude in detailing, as well as in the disposition of the main forms, and just as the overall ‘formula’ must adjust as each new unity is found, so typical details must be attuned to the

unique work” (Ford v I, 195) Typical details, corners, penetrations, structure, and the building’s relation to the ground, are the primordial building blocks of construction and the architectural design concept. In the profession of architecture, many of these typical details have been created, tested, and cataloged for mass consumption in order to speed up the process of creating construction documents. In theory, this streamlined process is effective. In reality, the details are usually inserted without consideration for the job they are intended to do other than solving a constructional problem in a purely functional way. The detail is not used to express poetic issues or respond to local forces.

Pavlovian detailing, the unquestioned response of inserting a previously determined detail into a designated typical condition, has become a rite of passage for young architects. Many architectural offices start young architects, as apprentices to licensure, on door schedules or window schedules in order to teach the parts and pieces of a construction document set. The ‘unquestioned response’ becomes the insertion of ‘typical details’ into ‘typical conditions.’ Ironically, some of these typical conditions are the first experience people have with a building. For example, the penetration details (Fig 3 - 1) of a door (head, sill, and jamb) can be found in *Graphic Standards* for almost any condition and can be found in many buildings throughout the United States. This practice, once repeated, will give the door a placeless sense because it can and does occur anywhere in the country or the world. It does not respond to its specific

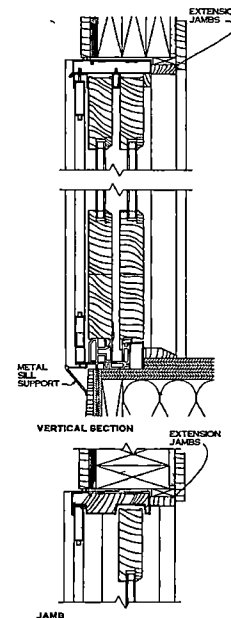


Fig 3 - 1 Door, head, and jamb details
source *Graphic Standards*

Graphic Standards provide an excellent base for detailing but this should be viewed as a starting point and not an ending point

context thereby being placeless. Unfortunately, the door is left to a single function when “perhaps the greater reality of a door is the localized setting for a wonderful human gesture: conscious entry and departure.” (van Eyck, 96)

A typical detail is not necessarily doomed to banality; in fact, the typical detail (Fig. 3 - 2) can be quite elegant and expressive. For instance, in the Strawberry Vale Elementary School, the architect used a typical yet simple foundation detail (Fig. 3 - 3) to express a horizontal datum on the building and restate the wrapping plane of siding on the façade. Perhaps the selection of typical details can be thought of in terms of a starting point in a dialogue “where the architectural details are seen as words composing a sentence. And, as the selection of words and style gives character to the sentence, in a similar way the selection of details and style gives character to a building.” (Fascari, 502) In this dialogue between equals, the detail relates to the particular and assumes the role of an expressive architectural detail. For Strawberry Vale the particular equals the expression of context in a fashion that is ontologically tectonic.

The correspondent architectural detail can inform as to the solidity of a building; “for it is not enough to make a building solid, judgment must estimate it as such.” (Sekler, 90). This judgment is not limited to the forces of gravity; it includes the building’s ability to handle the climate of a particular site. Gravity is an understood condition of construction while climate is indicative of the site itself. In order to give architectural expression to the cold climate

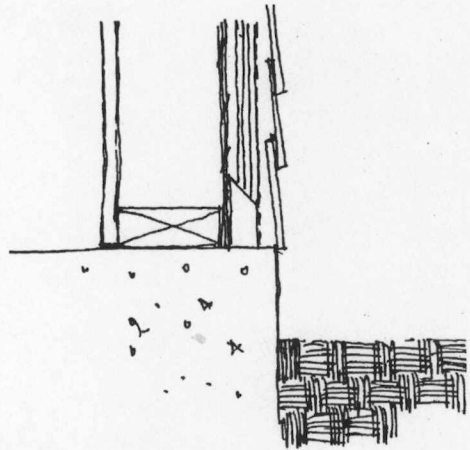


Fig. 3 - 2: Foundation detail
source: David Shone - Patkau Architects

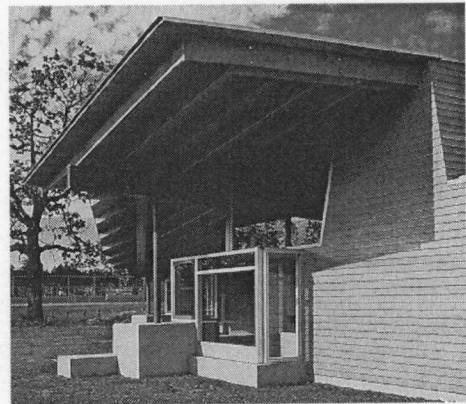


Fig. 3 - 3: Foundation / Column detail
source: GG

of British Columbia, Patkau Architects used a window, normally thought of as an element for viewing out, to express the thickness of an exterior wall. A corner window, placed flush with an exterior wall at the jamb of the window, provides a view in 'section' of the exterior wall, informing the participant as to a contained area of insulation. Located next to an entry, the window provides information as the participant passes from exterior to interior (Fig. 3 - 4).

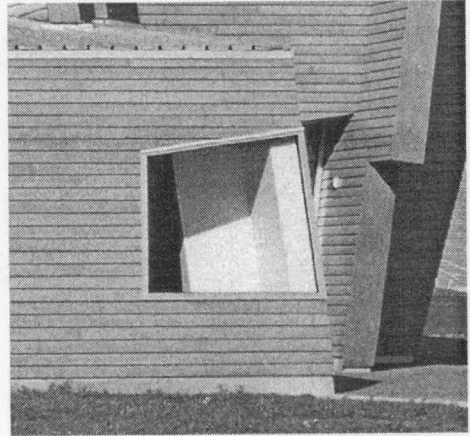


Fig. 3 - 4: Window elevation
source: GG

Correspondent detailing offers new lines of investigation for expanding and supporting the design concept. If these new lines of thinking for the design process are viewed as a composite effort instead of a linear one, then perhaps the corresponding details can be developed with the same attention as the design concept.

Simultaneous detailing involves rethinking the process of design development to include investigations into construction details in order to reflect the process of construction in the design concept.

Simultaneous detailing

In the *Architects Handbook of Professional Practice*, the American Institute of Architects gives a linear shopping list for the process of architecture. In this process, construction details are not mentioned until the third phase – the Construction Document Phase. By the time the CD Phase is underway, the architect has ostensibly completed conceptual design and chosen systems. This hierarchy establishes a course for the realization of details in a reactionary mode as opposed to a complementary one.

This process is contradictory to poetic technology since the detail has no affect on the design concept. The necessity to rethink this design process is expressed by

Patkau Architects

Our process used to be rather linear. We went from the concept to the plans and sections, and then materials entered the discussion. Now everything happens simultaneously. While producing conceptual sketches, we consider materials, while drawing a section, we also anticipate details. We try to use all our tools at once. At any given moment, on our boards there are plans, sections, elevations, and detailed sketches, while elsewhere we are building experimental models. We work in three as well as two dimensions and at multiple scales.

- Patricia Patkau

For Patkau Architects, this process has produced details that fertilize the design concept which, in turn, enriches the experience provided by the building. For example, preliminary site analysis revealed the opportunity to organize the classrooms by placing them between rock outcroppings in order to relate the entire building to the site. This decision not only creates a relevance to the building footprint, it establishes a design concept that is reflected in further detailing.

Carlo Scarpa, an architect whose work thrived on the adoration of the joint, used the joint as a generator of the design instead of the plan, not only in respect to the whole but also with regard to alternative solutions lying latent, as it were, within any particular part. (Frampton, 307) In this manner, the detail is considered in reciprocity to the architectural design concept.

In the same manner that simultaneous detailing allows the designer to rethink the process of inquiry in the schematic design phase, collaborative detailing expands the line of detail investigation to include the craftsman or workman who will be constructing the project. Collaboration is important because “on the workman’s decision depends a great part of the quality of our environment.” (Pye, 5)

Collaborative detailing

Collaborative detailing involves a level of communication and understanding between the architect and the craftsman. Minimizing the gap between pen and hammer, the architect must design and detail a building to challenge the workman’s skills in anticipation of achieving the intangible. “Design is what, for practical purposes, can be conveyed in words and by drawing: workmanship is what, for practical purposes, can not.” (Pye, 5) For instance, by leaving the marks of fabrication and expressing the process of construction, the detail can achieve a level of beauty and expression that cannot be designed or specified. Moreover, the detail becomes a joint between the craftsman and the observer by expressing the joint between the craftsman and the architect. The architects of the Gamble House in Pasadena, Charles and Henry Greene, used the joint between the building and ground to reveal the solidity and purpose of the detail and the craft with which it was created. The mudsill (Fig. 3 - 5), a foundation detail of brick, grout, and redwood timber, reveals a resilient sill as a joint between the building and

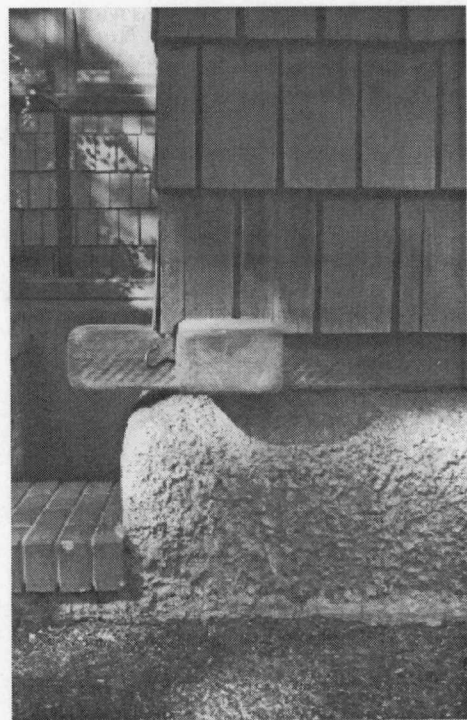


Fig. 3 - 5: Mudsill at Gamble House
source: Ford

the ground. The marks left by the rotary saw blade used to form the timber remained on the wood as an expression of its making. The rough finish of the timber reveals its role in supporting the house and it is in contrast to the other smooth wood members that comprise the house.

In some cases, collaborative detailing involves a heavy reliance on the craftsman to the extent the architect is almost removed from the design of the detail. "No architect could specify ashlar until a mason had perfected it and shown him that it could be done. Designers have only been able to exist by exploiting what workmen have evolved or invented" (Pye, 5). The craftsman must collaborate with the material. "True craftsmanship does not impose its will on the medium (rather) true craftsmanship but explores its varying response in the kind of conversation between equals" (Ehrenzweig, 58). For example, in selecting the wood-framing members in the Strawberry Vale School, the architect and the carpenter collaborated to determine the aesthetic value of each member in order to use less attractive pieces in hidden conditions.

In his essay on the writings of Alberti, Daniel Friedman explains that Alberti establishes "three indispensable agencies of architecture" which are "the architect's design, Nature's materials, and the craft worker's skill." Alberti remarks that a building is a product of thought and Nature, however, "neither would suffice without the hand of the skilled workman to fashion the material according to the lineaments" (Friedman, 171). In other words, it can be

said that architecture occurs only when the three collaborate.

Collaborative detailing is not necessarily limited to the craftsman (the skilled workman on the jobsite) but can, and should, include the client. For example, Edgar Kaufmann suggested an insightful understanding of materials by suggesting a detail solution to Frank Lloyd Wright on the design of Falling Water. "The prospect for those places where glass would meet the ragged profiles of stonework was not so happy; Wright thought that special (and probably awkward) framing members would be needed. Kaufmann was the first to suggest that the glass be run directly into caulking channels, or chases, in the stone. (Fig. 3 - 6) Without the boundary of a final framing member, and with this complete interpenetration, the character of each material could be enhanced by contrast with the other." (Hoffmann, 56)

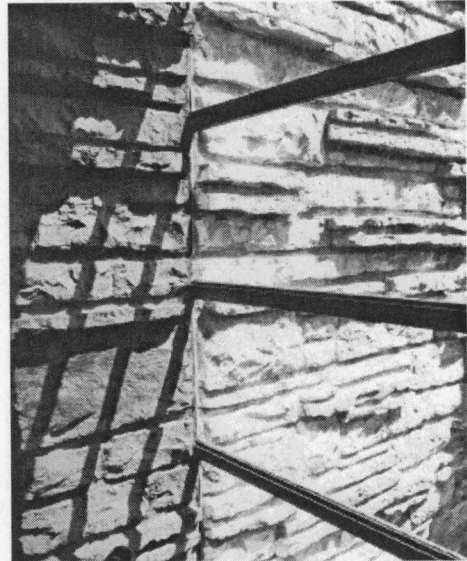


Fig. 3 - 6: Glazing detail, Falling Water
source: Hoffmann

Collaborative detailing has a historical precedent in the medieval process of making and finishing timber. The process of assembling a "timber frame involved laying it on the ground, prior to erection. The top face was therefore available for much better treatment and had the 'fair' face of the two sides. The frame was invariably erected such that the fair face was presented to the socially more significant space in the house, e.g. the main room. This symbolic orientation comes from and is reinforced by the craftsman's understanding of the social order." (Groak, 191)

For Ludwig Mies van der Rohe, part of the investigative process was the construction of full-scale details during design, employing both simultaneous detailing and collaborative detailing. By emulating the methods and materials used on the job site, Mies was able to replicate the method under which the detail would be realized as construction. In this form of collaborative detailing, the architect assumes the role of craftsman and designer, however, the architect must be skilled in such processes. For Mies, the act of building was analogous to the act of design, assuming the role of craftsman was the only way to achieve clear construction.

"There has been a long tradition in European architecture that engineers and architects are also builders. Modern examples include the Italian engineer Pier Luigi Nervi and the Spanish-Mexican engineer Felix Candela. In each case, working as building contractor, they have used their design skills to develop novel forms of construction, where the assembly process is implicit in the design. Perhaps the most extraordinary of such designer builders was Brunelleschi" (Groak, 192). Today in the United States, the tradition of the process of collaborative detailing continues in the work of Faye Jones, Mockbee / Coker, and Peter Gluck, among others.

4. Conclusion

“Architectural details are seen as words composing a sentence. And, as the selection of words and style gives character to the sentence, in a similar way the selection [and design] of details and style give character to a building.” (Frascari, 502) However, for the architectural detail to achieve its potential it must go beyond the sentence for the expression of a sentence is found in prose (the commonplace). The detail must inflect to become particular and imaginative, in this, we find poetic technology.

5. Program: YeeHaw Industrial Letterpress

The art of letterpress combines hand-crafted workmanship and machine reproduction. This type of work displays what David Pye calls the “workmanship of risk” combined with the “workmanship of certainty.” The workmanship of risk depends on judgment, dexterity, and skill because the quality of the result is not predetermined. Conversely, the workmanship of certainty ensures a predetermined result, this is usually what an item for sale is based on. Therefore, to produce a quality finished print, there must be a great deal of preparation involving the workmanship of risk. This preparation includes precise hand carving of type and images in order to ensure a perfect reproduction of the original.

Collaborative detailing, a level of understanding between architect and craftsman, is applicable to architecture for a craftsman as well as by the craftsman. The art of letterpress design is similar to the practice of preparing a set of architectural drawings. Both professions require an ‘original document’ that is prepared with judgment, dexterity, and skill to create copies from. Furthermore, the process of assembly for a type set is similar to the physical act of construction which allows for correspondent detailing as well.

YeeHaw Industrial Letterpress, founded by Julie Belcher and Kevin Bradley (Fig. 5 - 1) in 1997, is a letterpress, graphic design, folk art studio. Their work focuses on promotional posters for music events and “irreverent prints

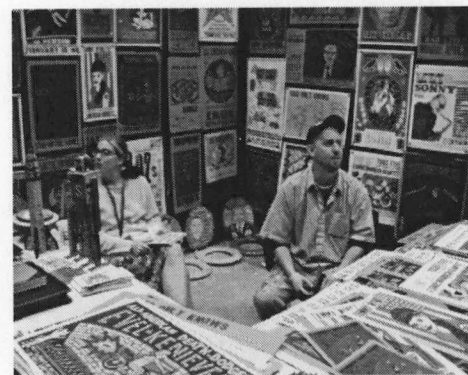
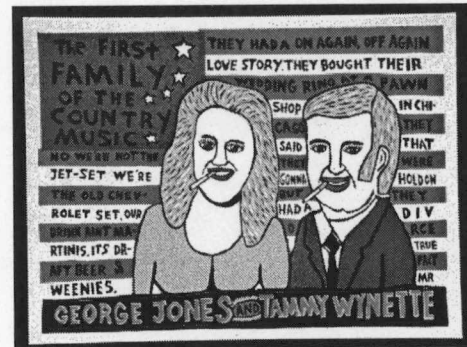


Fig. 5 - 1: YeeHaw Industries
source: Julie Belcher

Kevin and Julie get exposure at graphic tradeshow, festivals and on the internet; as a result, many people come to Knoxville to visit their shop.

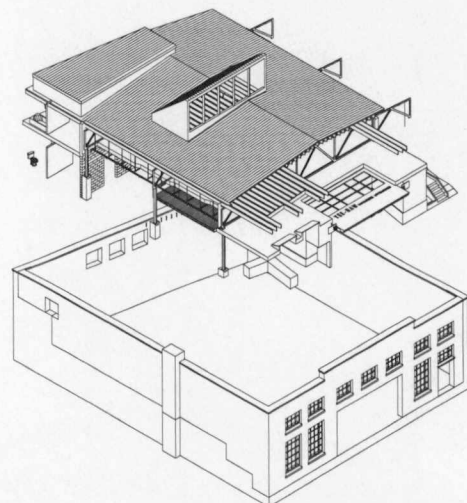


Fig. 5 - 2: old and new
source: Author

Reflecting YeeHaw's art, a new structure has been carefully prepared to be inserted into an existing shell

and paintings of notorious southern icons.” The posters reveal an aesthetic of craft and wit in both subject and execution because the method used to produce them requires a significant amount of the workmanship of risk. In order to express the joint between the folk past and the new style that YeeHaw uses in its designs, the company will locate its operation in an industrial warehouse on Jackson Street just west of Gay Street in Knoxville, Tennessee. A new structure will be inserted into the shell of the original building creating a joint between old and new (Fig. 5 - 2).

YeeHaw’s process of doing business, like that of many cottage industries, consists of designs and concepts generated by an individual accompanied by a production staff to mass produce the item for sale. Generally, the designs, created in Kevin Bradley’s “down-home aesthetic,” are drawn on paper and then carved onto a wood or porcelain plate. The plates must be carved in reverse (Fig. 5 - 3) so that they will copy correctly on the prints. After a plate has been prepared, it is placed on a letterpress and the font copy is added. Similarly, the copy (Fig. 5 - 4) must be arranged backwards and upside down in order to produce the correct output. Each letter has to be spaced in relationship to the letter next to it as well as in relationship to the overall copy – using spacing elements of metal bars called ems. Quite similar to the process of construction, the ems, like blocking in a stick-framed wall (Fig. 5 - 5), maintain a needed distance between elements and provide stability to the overall piece as it runs through the press. The ems are also part of a system of unit



Fig. 5 - 3: Porcelain Plate
source: Julie Belcher

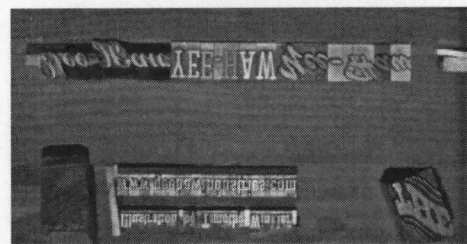


Fig. 5 - 4: letterpress fonts with spacers
source: Julie Belcher

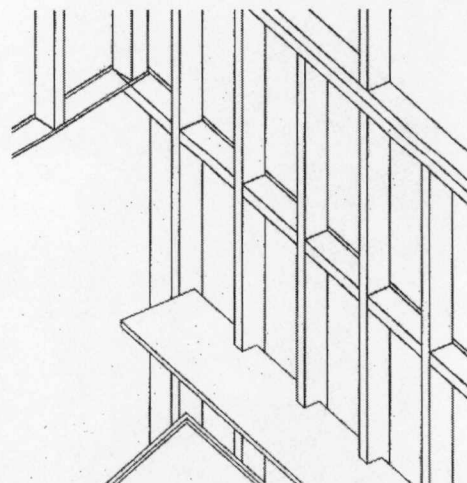


Fig. 5 - 5: Stick framing with blocking
source: Author

measure. Six picas create an em and four ems create a quad. This system is used for consistent letter spacing and kerning similar to the eight-inch module in brick or the four-foot module in stick frame construction (Fig. 5 - 6).

The program for YeeHaw consists of five components: display, production, design, storage, and office; furthermore, an apartment for the owners is required. Each of the elements of the business represents many processes; however, this work is usually divided among five people depending on the size of the job. At the beginning of each job, Kevin and Julie meet with the client to discuss subject, quantity, timetable, cost, and finished product. This discussion usually involves looking at previous work. After a job is defined, a plate is sketched and then carved for printing on one of the three presses. At this point, the process becomes more animated. Ink is applied to rollers which in turn apply ink to the face of the plate. Chipboard is then rolled across the face of the plate. This process is repeated using one ink color at a time so the chipboard can be printed up to 4 times. In between prints, the chipboard is left on rolling racks to dry; these racks hold 400 prints.

The display component (Fig. 5 - 7), 500 lineal feet, is to animate the street edge in order to create curiosity for people passing on the street. The display space will also overlap the design and production areas in order to use the process of design and production as a display function. The displays (Fig. 5 - 8) in particular consist of multiple 24

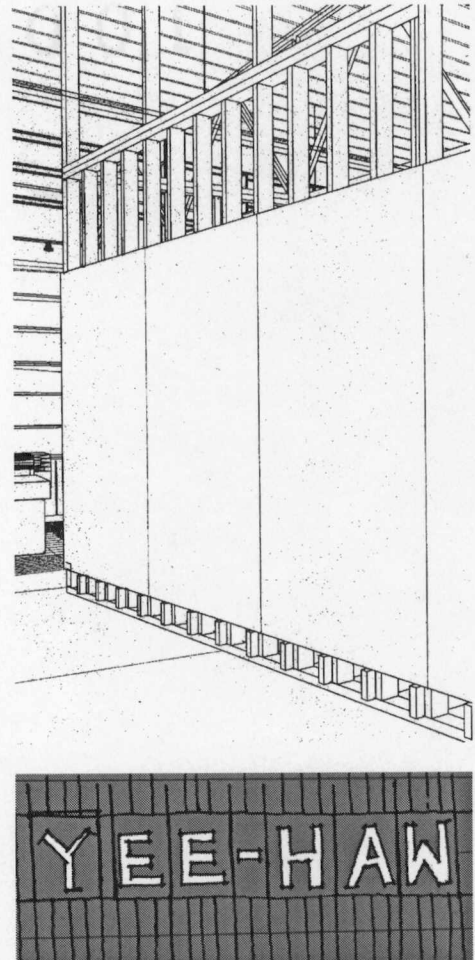


Fig. 5 - 6: Unit Construction
source: Author

Balloon framing gets its strength and simplicity from unit construction in the same manner as a letterpress operates on unit assembly.

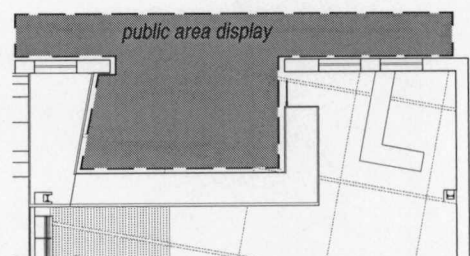


Fig. 5 - 7: Display
source: Author

The display area allows people to enter the space without entering the building.

x 36 inch posters hung in landscape and portrait format, as well as the original plates from which the posters were printed. The display area, being the most public, is to have some access by the public even after the hours of operation.

The production area (Fig. 5 - 9), approximately 1000 square feet, is composed of three ink presses, 8 rolling poster racks, 1 paper cutter (Fig. 5 - 10), 1 table saw, and a large staging area. The letterpresses (Fig. 5 - 11) are to have a five-foot space on all sides of both machines in order for two people to operate the press. The presses are not the "latest" way of doing this type of business; however, the hand-powered machines give each poster a sense of originality since each run is unique. The machines measure 3 x 7 feet and require power for a small motor which turns the ink rollers. During the production process, racks of printed and blank posters are located on either side of the machines in order to expedite the process. Ambient natural light is also to be available.

The design area (Fig. 5 - 12) is a working studio and will have the same industrial presence as the production area. The design area is to be adjacent to the production area in order to share the letter libraries (Fig. 5 - 13) which are large boxes of different point (size) fonts. The work in this area can range from laying out fonts and copy to carving plates for a print. The design area is to provide some privacy from production. The design area is to also be the culmination of the architecture by representing not only the work but also the process of assembly.



Fig. 5 - 8: YeeHaw print of Bill Monroe
source: Julie Belcher

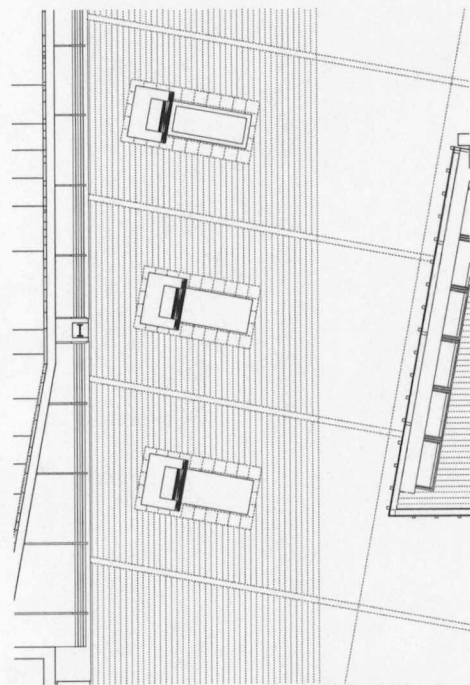


Fig. 5 - 9: Production Area
source: Author

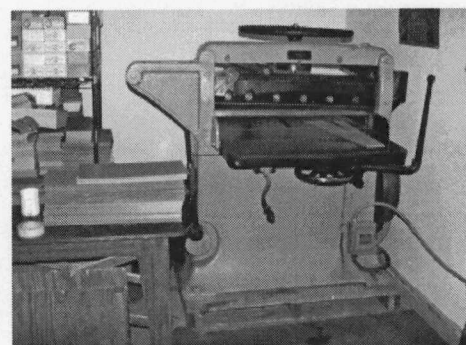


Fig. 5 - 10: Paper Cutter
source: Author

The storage area (Fig. 5 - 14) is to contain sections for bulk storage of printing supplies as well as some repair equipment. The majority of the storage is to be removed from the public areas; however, there is to be a large amount of shelving within the production area for storage of different sizes of chipboard and ink. In addition, there is to be kitchen and break facilities that are out of the public area but support the meeting area and the staff.

The living area (Fig. 5 - 15) is to have an entrance which is separate from the business entrance and square feet large enough to accommodate two people – a caretaker's apartment.

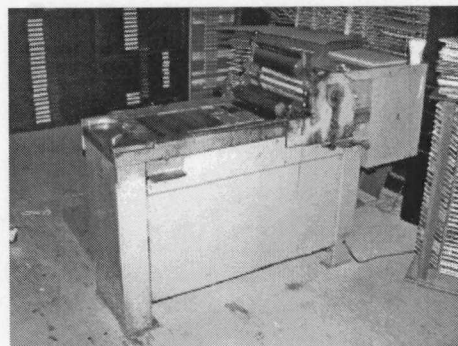


Fig. 5 - 11: Letter Presses
source: Author

These machines operate by rolling a blank paper surface across a negative image coated with ink.

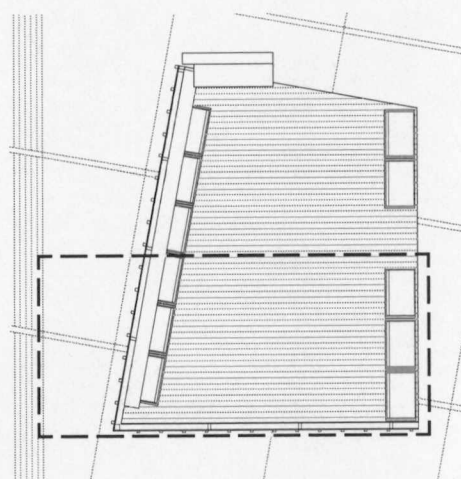
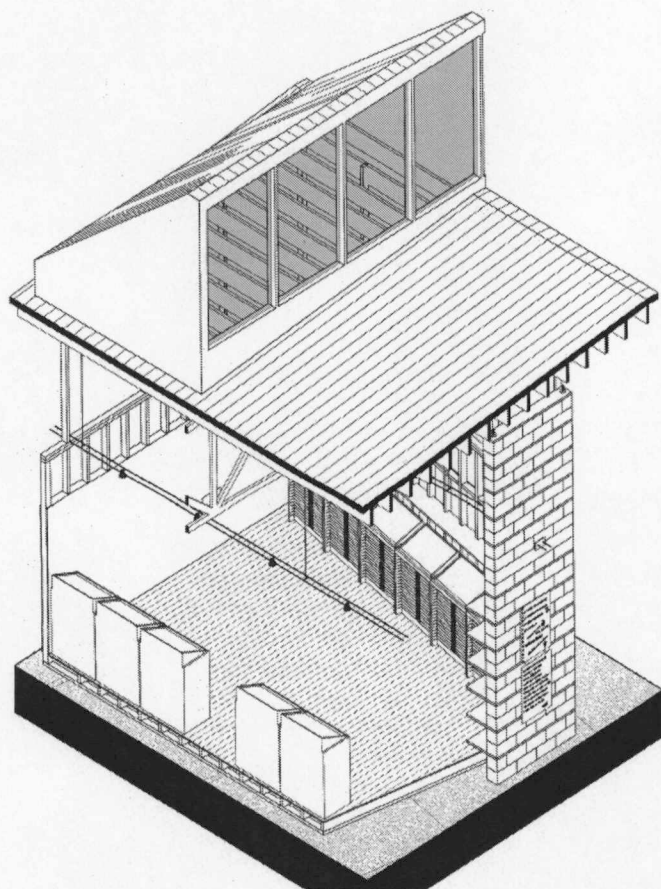


Fig. 5 - 12: Axon and Plan, Design Area
source: Author

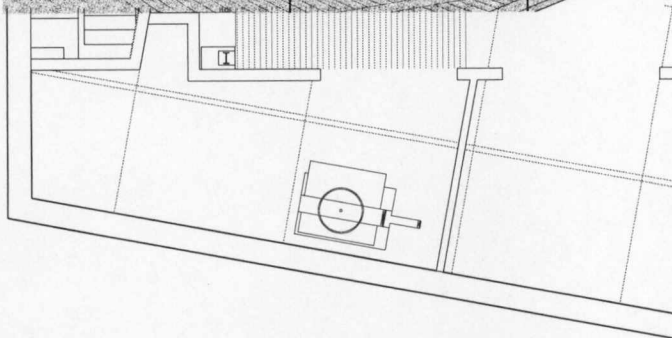
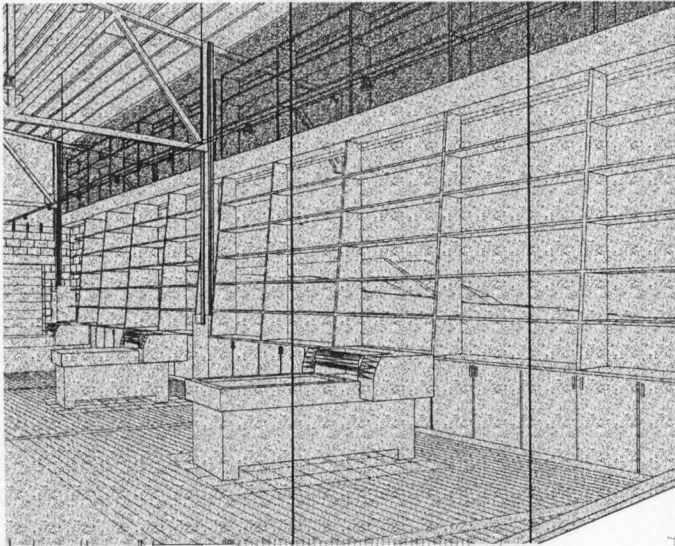


Fig. 5 - 14: Perspective and Plan, Storage Area
source: Author



Fig. 5 - 13: Font Boxes
source: Author

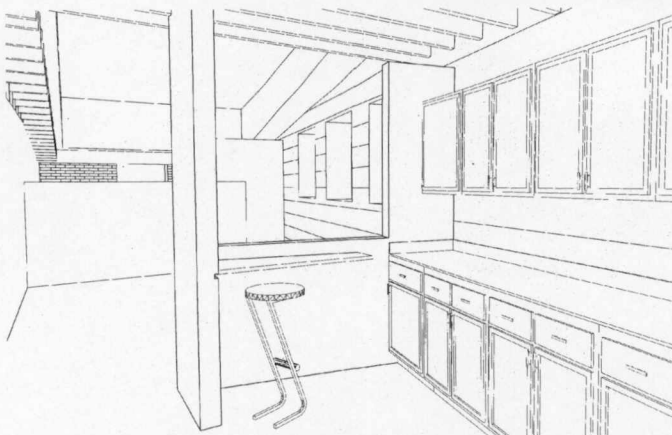
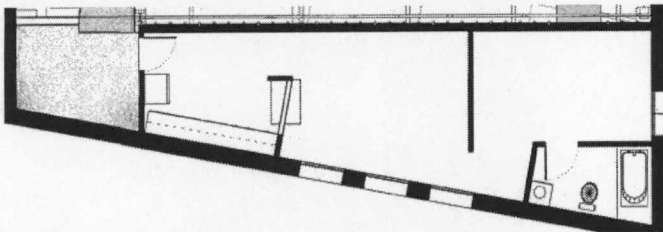


Fig. 5 - 15: Perspective and Plan, Apartment
source: Author

6. Site: 510 Jackson Avenue, Knoxville, Tennessee

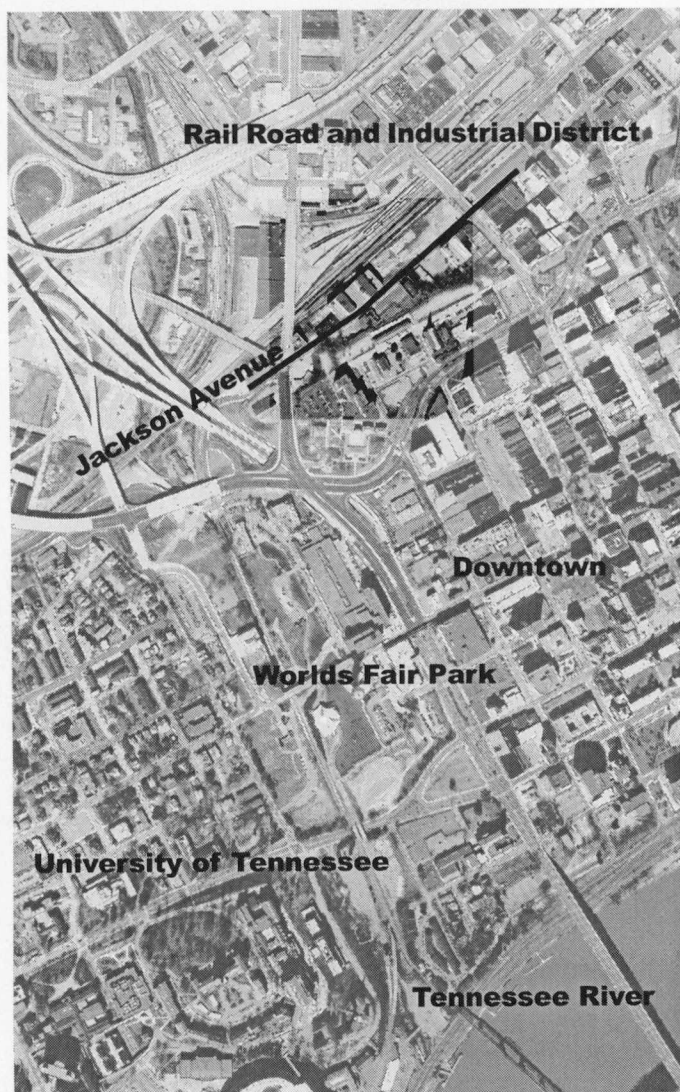


Fig. 6 - 1: Aerial Photo
source: GIS

The site (Fig. 6 - 1) for YeeHaw's studio is in an industrial area of Knoxville, Tennessee. It is within walking distance of downtown and is next door to a sculptor's studio. The building, a brick shell at 510 Jackson Avenue (Fig. 6 - 2), is located on the southern side of the street and faces north. As a response to site conditions the street inflects (Fig. 6 - 3) at the western side of the façade of the building. The inflection, a bend or fold or a departure from the

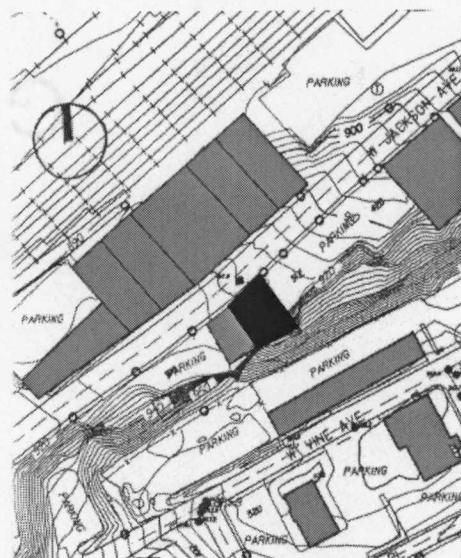


Fig. 6 - 2: Site Plan
source: Author

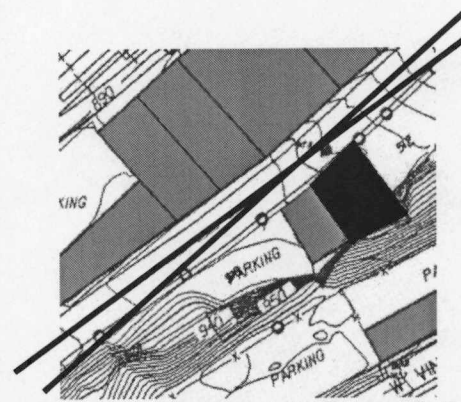


Fig. 6 - 3: Site Diagram, Inflection
source: Author

Responding to the contours of the hill, the street inflects at the northwest corner of the site.

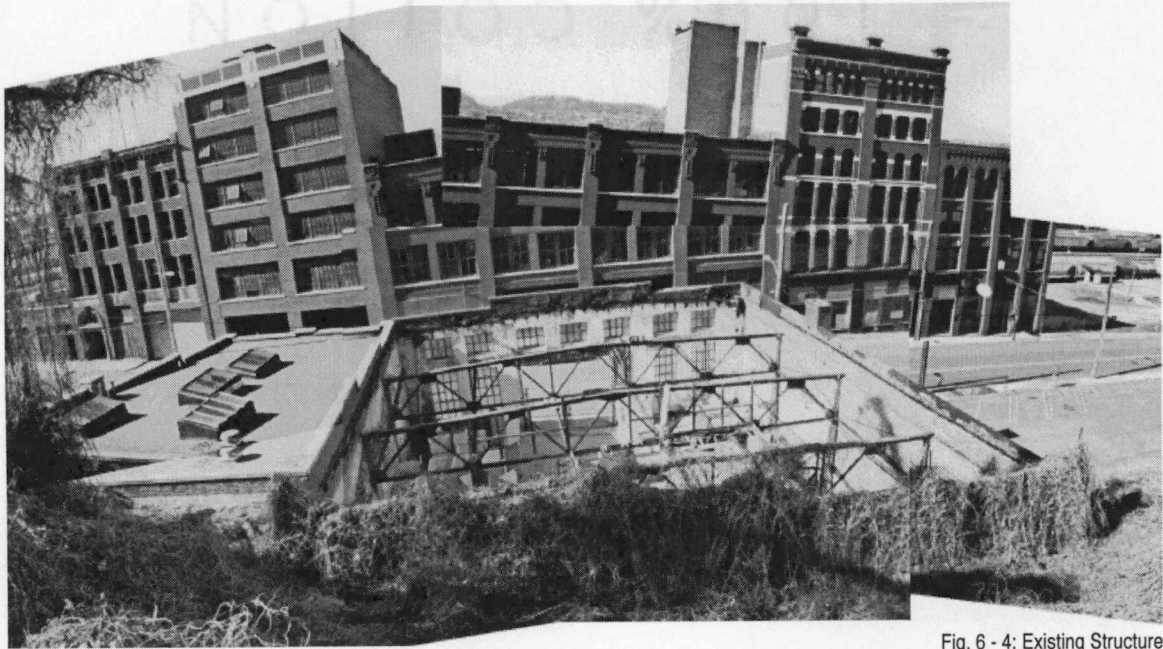


Fig. 6 - 4: Existing Structure
source: Author

monotone, presents an important architectural issue for correspondent detailing. The use of inflection within the architecture creates the opportunity to reveal, restate, and respond to contextual conditions to provide a meaningful experience and a sense of order.

The existing building is constructed out of a hybrid of masonry and steel (Fig. 6 - 4) that reveal another type of inflection. Kenneth Frampton, in his essay on Tectonics, states that inflection represents the “hybrid character of building” where various levels of production are applied for economy which results in “certain expressive values.” For this building, these expressive values can be found in the relationship between the steel frame and masonry walls (Fig. 6 - 5).

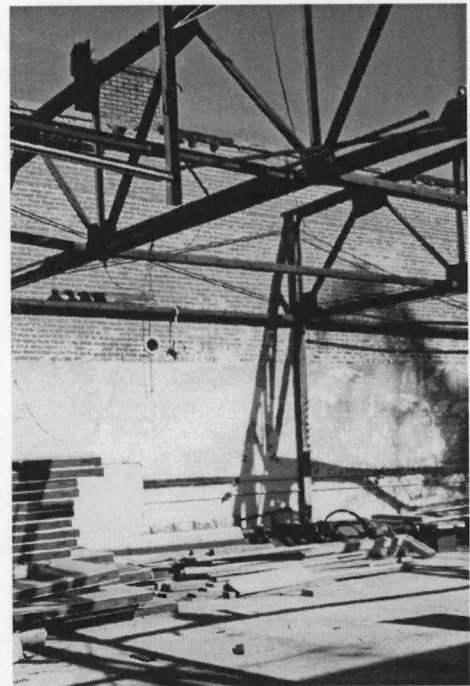


Fig. 6 - 5: Interior of existing structure
source: Author

The masonry walls (Fig. 6 - 6) consist of three types of materials and techniques: face brick laid in a running bond,



Fig. 6 - 6: Masonry construction
source: Author

fill brick laid in a common bond, and poured in place concrete as a retaining wall. Each of these elements have a cultural and pragmatic place within the order of the building. The face brick (Fig. 6 - 7) is used only on the front façade and it does not carry any structural load other than its own weight. It is the most expensive of the three masonry elements and is used only where it is in view. At the eastern end of the front façade the face brick turns the corner and terminates 5 feet back from the street. At the point of termination for the face brick, a lower grade of brick, fill brick, is used for the side walls. The fill brick (Fig. 6 - 8) is laid in a pragmatic common bond which gives it some structural stability. Supporting the fill brick is a poured in place concrete wall. This wall runs the length of the eastern wall and becomes a retaining wall on the southern side.



Fig. 6 - 7: Front facade of face brick
source: Author

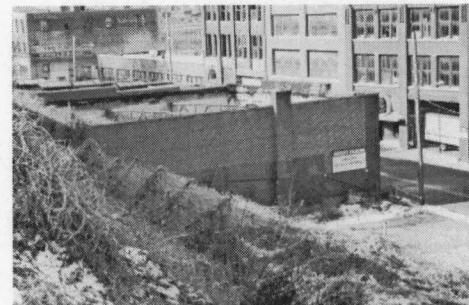


Fig. 6 - 8: Wall of fill brick and poured in place concrete
source: Author

The poured in place retaining wall (Fig. 6 - 9) does not meet the east and west walls at ninety degrees as in a typical orthogonal construction. Instead, the building provides a unique condition of inflection by pushing against

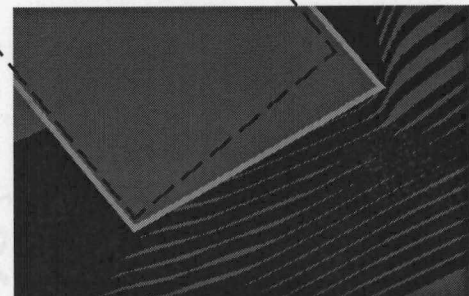


Fig. 6 - 9: Retaining wall responding to site context
source: Author

the existing hill to add more square footage as a simple pragmatic move. This shape gives the building a sense of relevance out of its response to the site. The hill that the building pushes against is used as a programmatic element by reintroducing it into the building (Fig. 6 - 10). By allowing the hill to “flow” back into the building (Fig. 6 - 11) on the western side a fire separation is created as well as a “yard” for the caretaker’s apartment.

The concept of inflection is further utilized by the resultant contour grid playing against the resultant structural grid (Fig. 6 - 12); in this manner, mass and frame relate to each other in a pragmatic but non-traditional way by providing a particular organizational grid. In order to reveal and restate the relationship between mass and frame (Fig. 6 - 13) the column detail is shaped to represent this relationship and “emphasize its static role” in the construction. The shape of the column base in plan view (Fig. 6 - 14) is in proportion to the mass walls with the structural column inserted in the middle. The column bases rise to retain the hill (Fig. 6 - 15) reinforcing the memory of the existing site.

The steel columns and trusses are the only remaining element from the existing roof structure; the wood purlins, decking, and roofing have been removed. The building stands as a ruin of mass and frame. Originally, the wood purlins rested in the walls to provide lateral stability and support portions of the roof. Some of the supports for the purlins are reused (Fig. 6 - 16) as a memory of the existing condition as well as an element to animate the back (south)

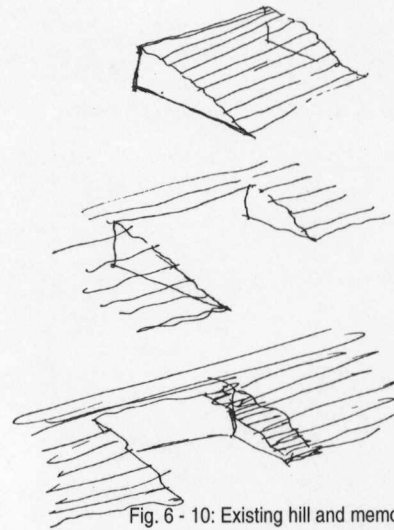


Fig. 6 - 10: Existing hill and memory of hill
source: Author

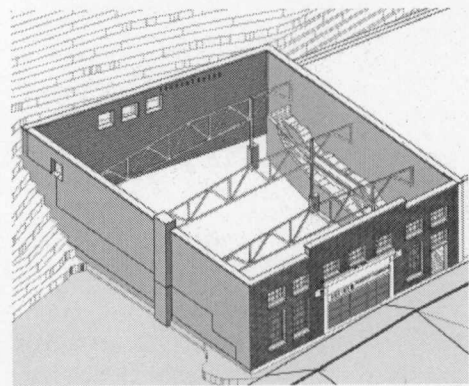


Fig. 6 - 11: Memory of hill as pragmatic detail
source: Author

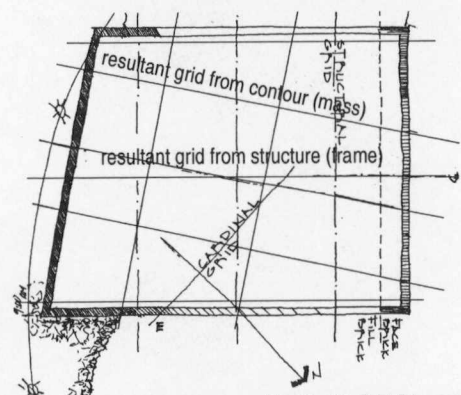
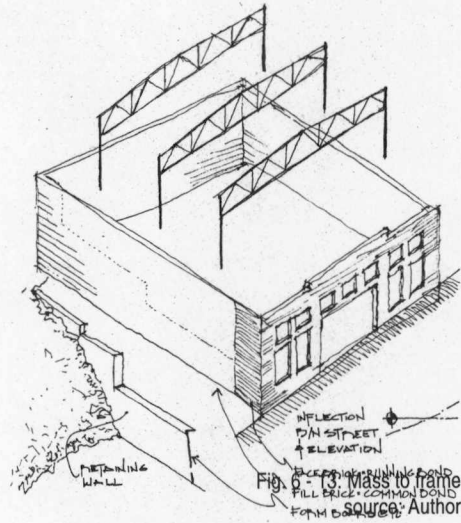


Fig. 6 - 12: Grid Diagram
source: Author

The resultant grids established the existing contours and the existing structure create an inflected condition for organizing building and programmatic elements.

side of the front façade. This detail responds to the building's relationship to the cardinal grid. (Fig. 6 - 17)

The purlins, which lie perpendicular to the structural grid, are close enough to the north / south grid to be able to act as *bris solei* for the skylight. Furthermore, the front wall is used to reflect ambient light into the production and display areas. (Fig. 6 - 18)



The buildings across the street from the site (Fig. 6 - 19), facing south, have highly articulated front facades with entries pushed back on the first floor. These entries allow natural light into the building while marking a function for someone visiting the building. On the YeeHaw site, this condition is reversed because the open roof does not block the sun which casts a shadow of the façade (Fig. 6 - 20) on the ground in front. To establish an entry the roof has been carved back to the first truss to allow the sun to cast a similar shadow. To articulate this shadow the main entry door has been incised with a text upside down and backwards to cast a shadow of "YeeHaw Industries" (Fig.

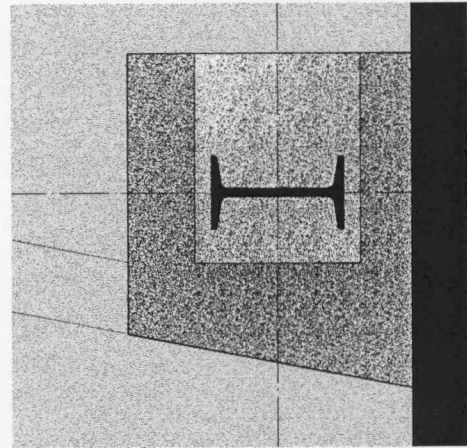


Fig. 6 - 14: Column detail
source: Author

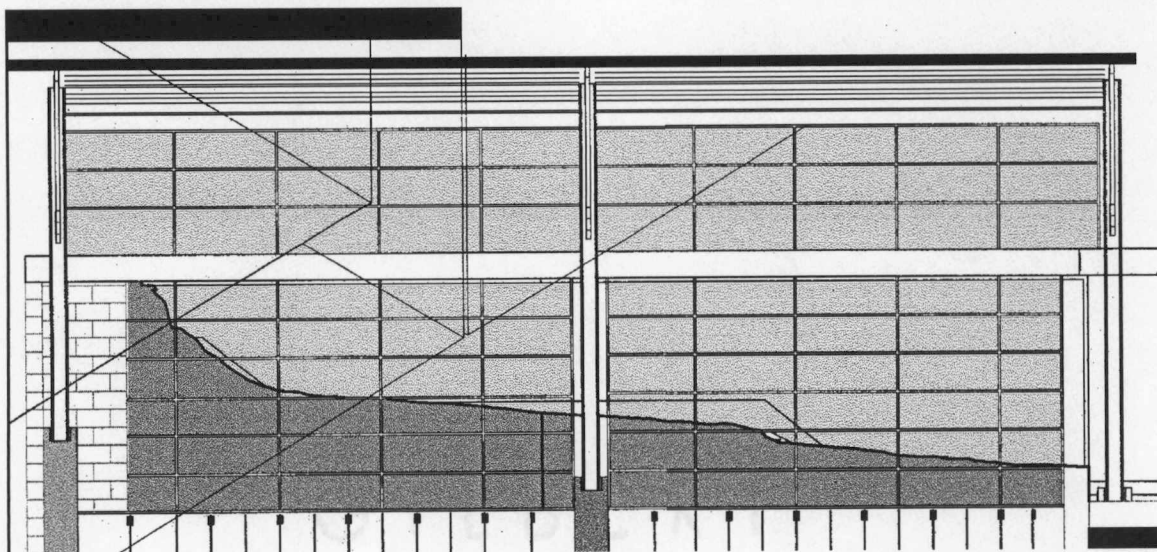


Fig. 6 - 15: Column detail
source: Author

6 - 21) on the ground. The door not only creates a memory of the ruin condition it reflects the way in which YeeHaw designs letterpress.

The site not only inflects the plan but inflection also occurs in elevation. (Fig. 6 - 22) As a result, the windows on the ground floor influence the location of the display and exchange areas. (Fig. 6 - 23) The two windows on the eastern side of the façade are too high for display, however they provide light and views for the exchange area. The sill on the window on the western side is about 3 feet off the street level making it suitable for viewing in to the space.

The front elevation establishes an organizational datum of 11 feet 6 inches which is the height of the main entry. This datum is carried through the entire studio as a height for HVAC, lighting, and ceilings (Fig. 6 - 24).

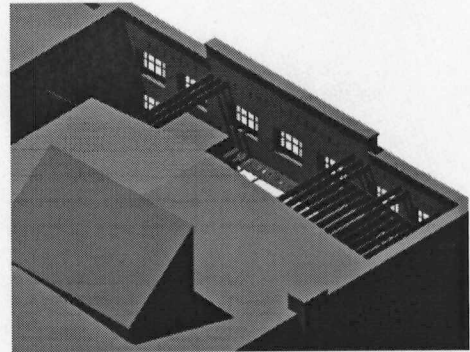


Fig. 6 - 16: Wood purlins casting shadow
source: Author

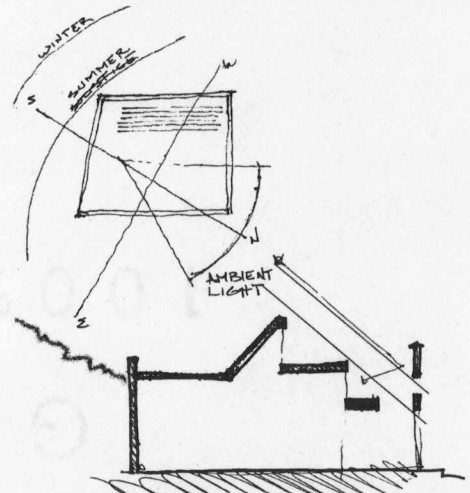


Fig. 6 - 17: Cardinal alignment diagram
source: Author

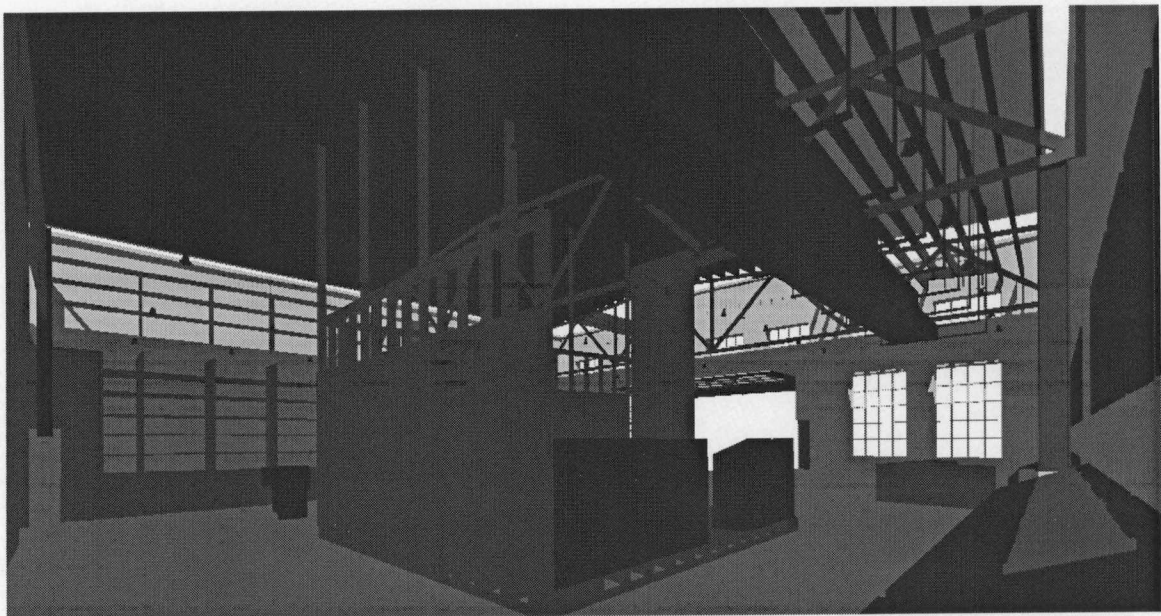


Fig. 6 - 18: Interior render of ambient light
source: Author



Fig. 6 - 20: Front facade
source: Author

Light penetration from entry.

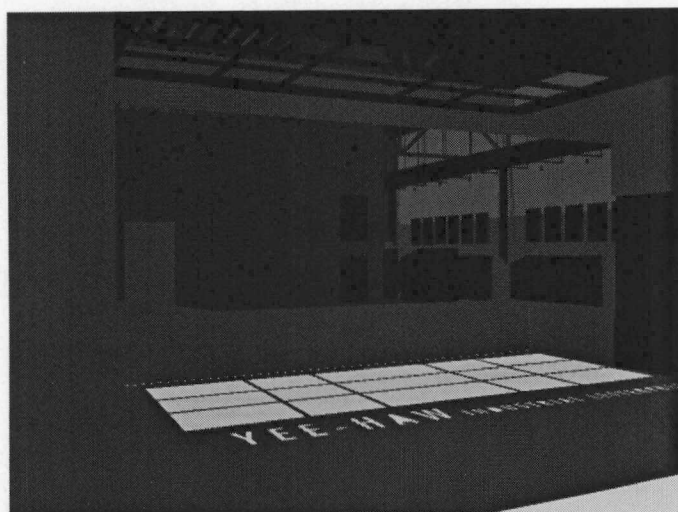


Fig. 6 - 21: Render of shadow at entry
source: Author

Reflecting the method of letterpress by working upside down and in reverse, the entry door informs as to the working processes of YeeHaw.

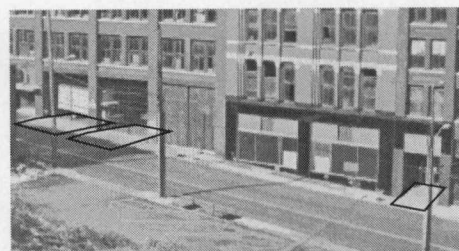


Fig. 6 - 19: Diagram of light / shadow at entry
source: Author

Light penetration into entries.



Fig. 6 - 22: Elevation
source: Author

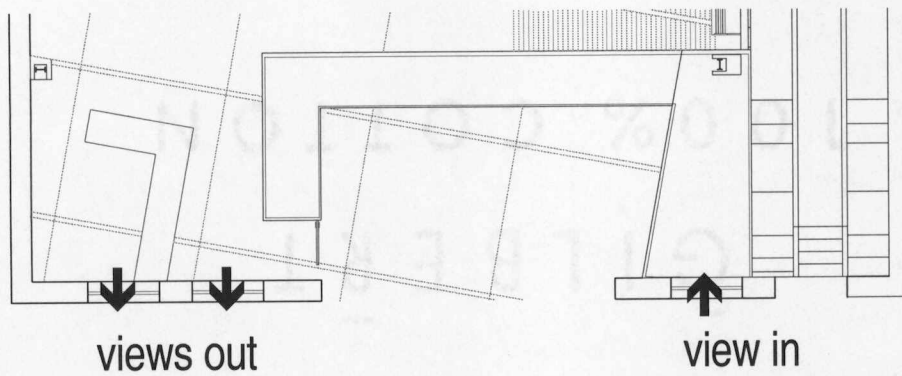


Fig. 6 - 23: Display and exchange areas
source: Author

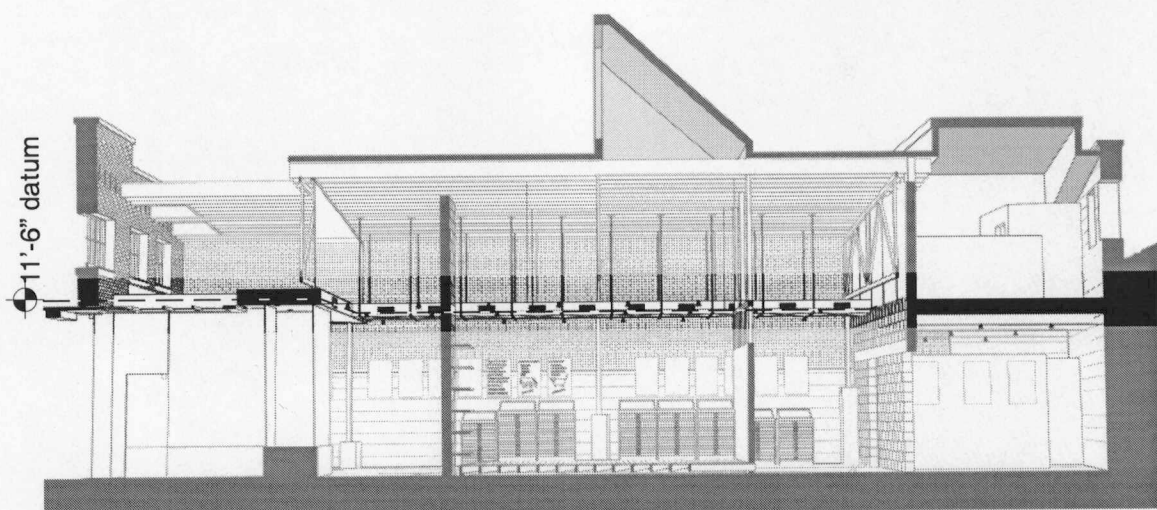
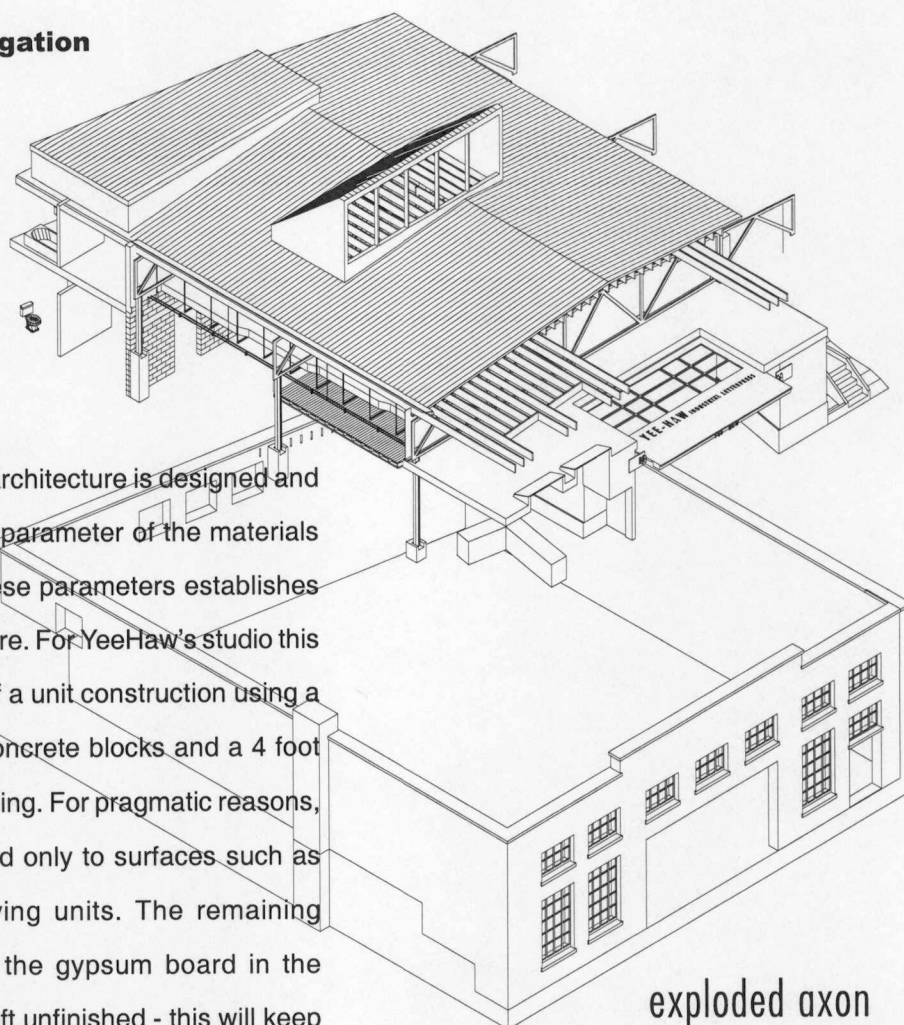


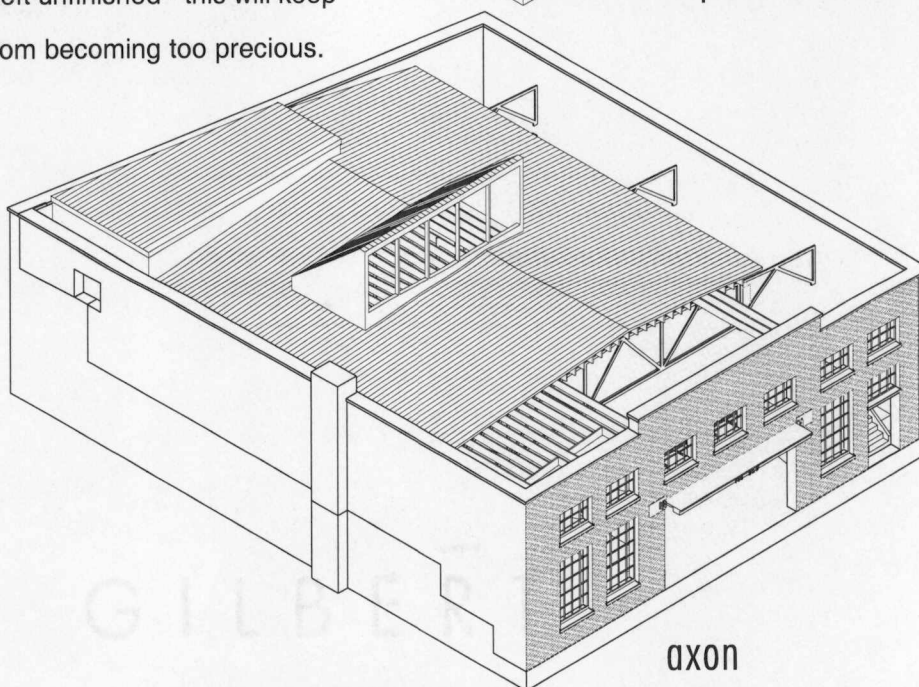
Fig. 6 - 24: Section showing datum as organizational tool
source: Author

7. Design Investigation

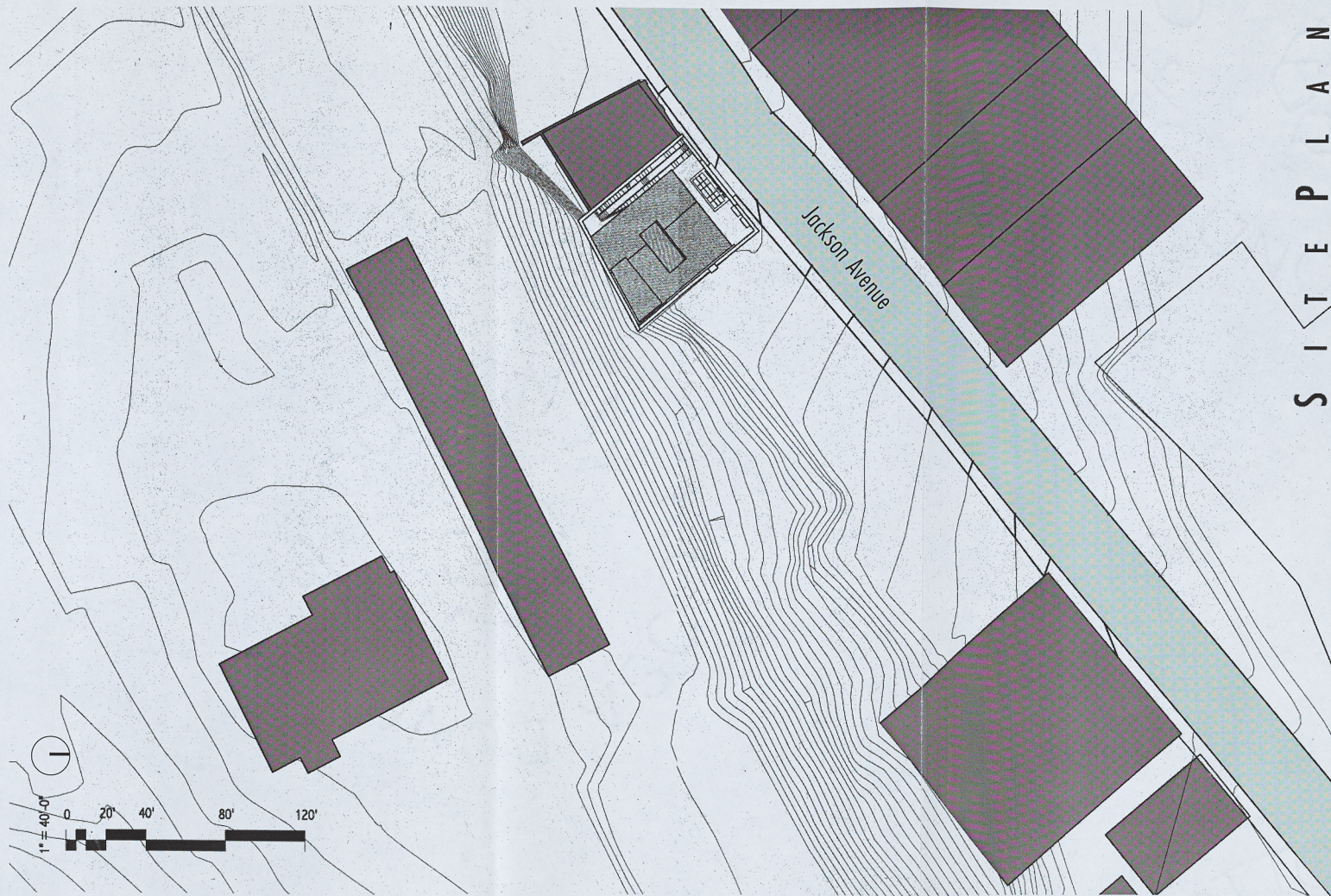
As with letterpress, architecture is designed and produced within the parameter of the materials used. Employing these parameters establishes a language of measure. For YeeHaw's studio this language consists of a unit construction using a 8 inch module for concrete blocks and a 4 foot module for stick framing. For pragmatic reasons, finishes were applied only to surfaces such as cabinets and shelving units. The remaining elements, such as the gypsum board in the design area, were left unfinished - this will keep the pin-up space from becoming too precious.



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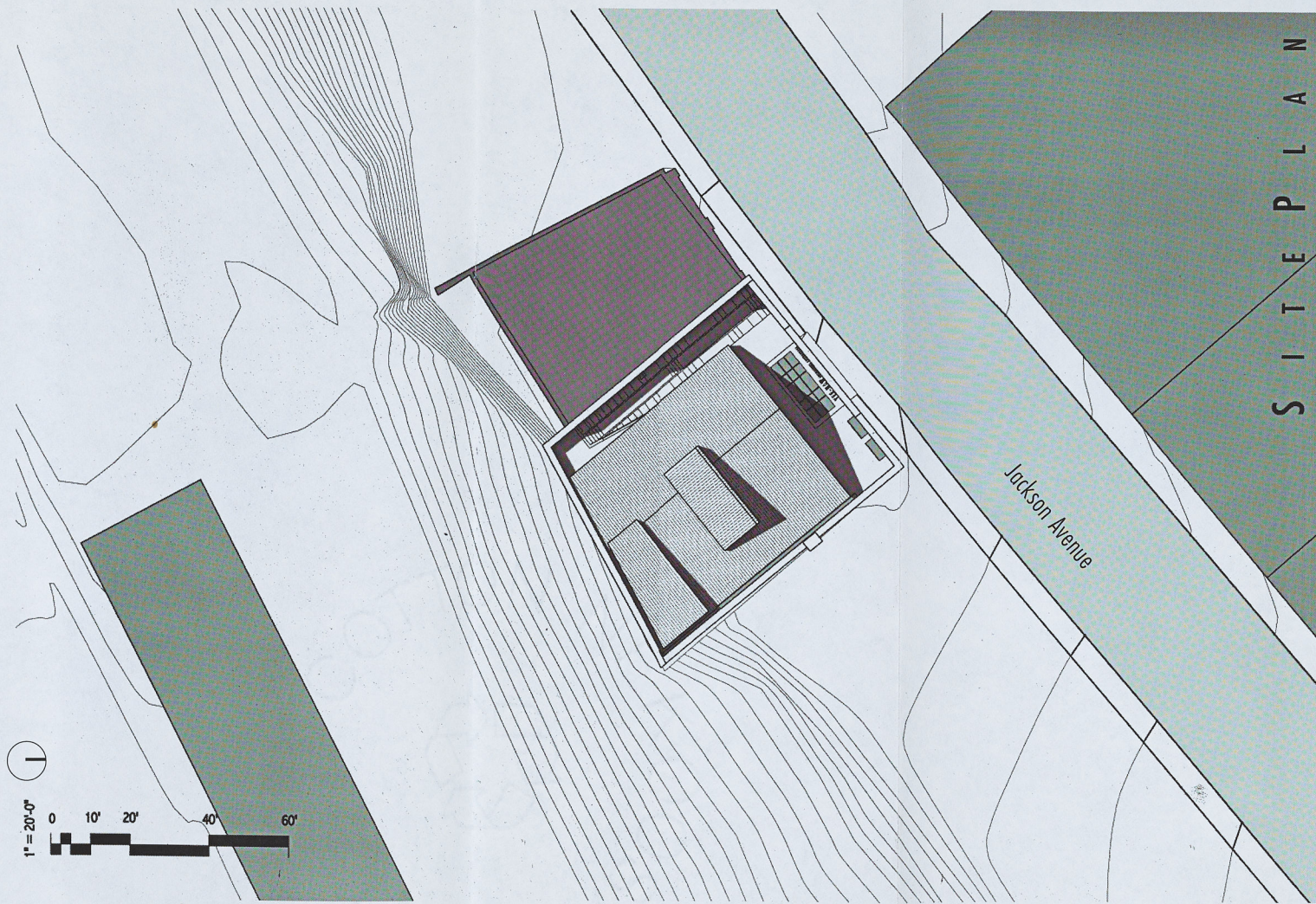
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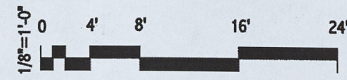
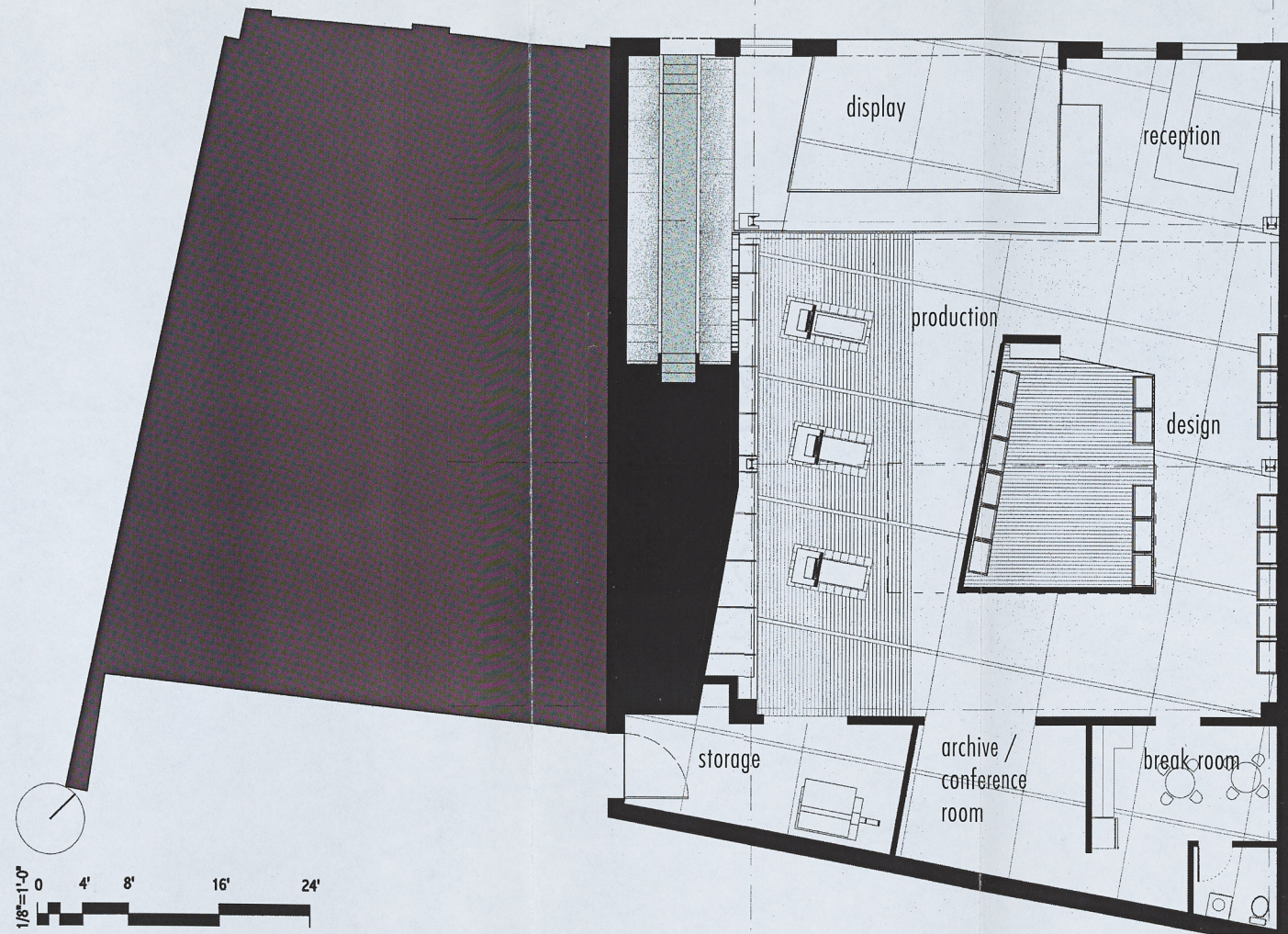
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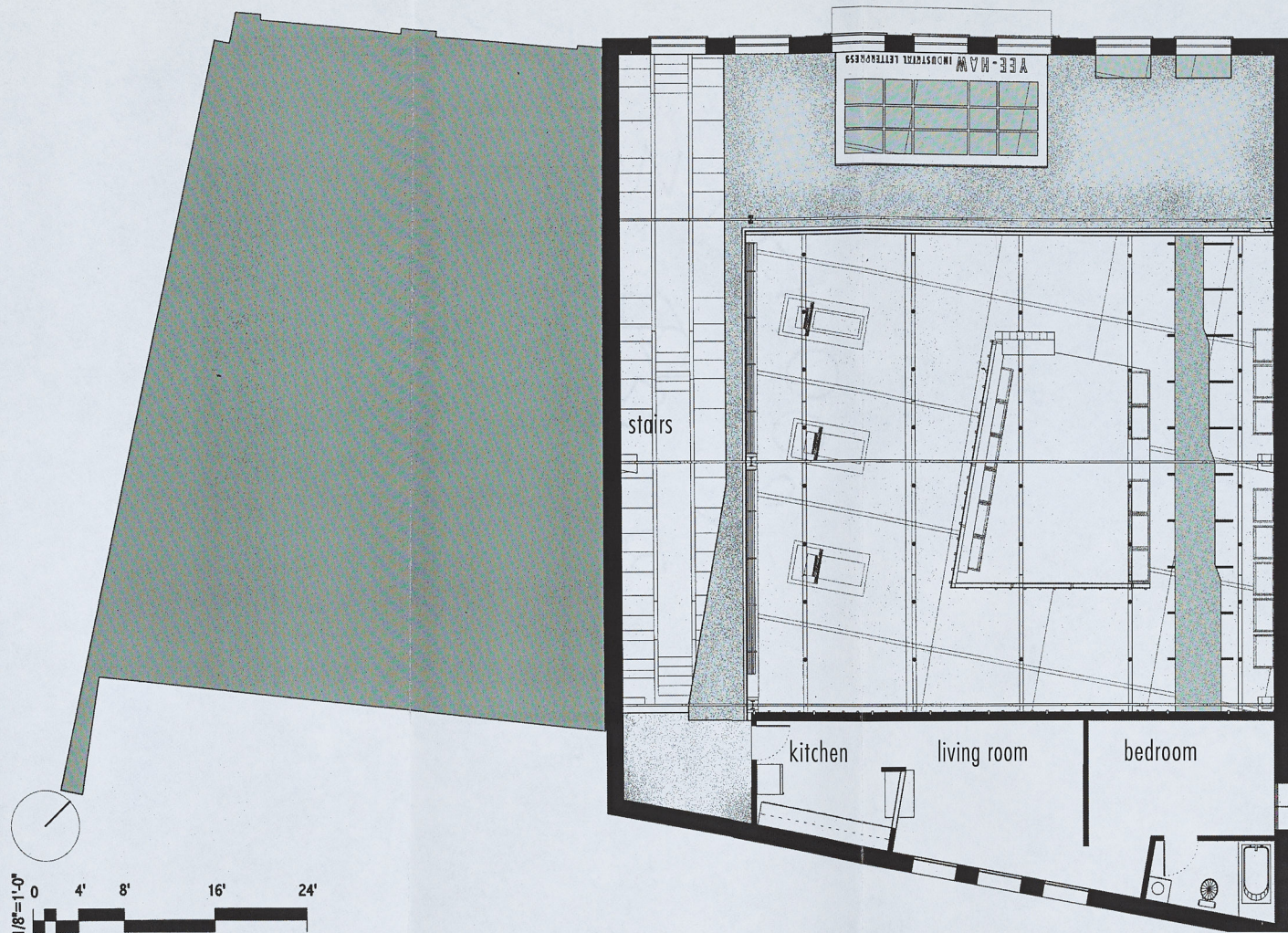
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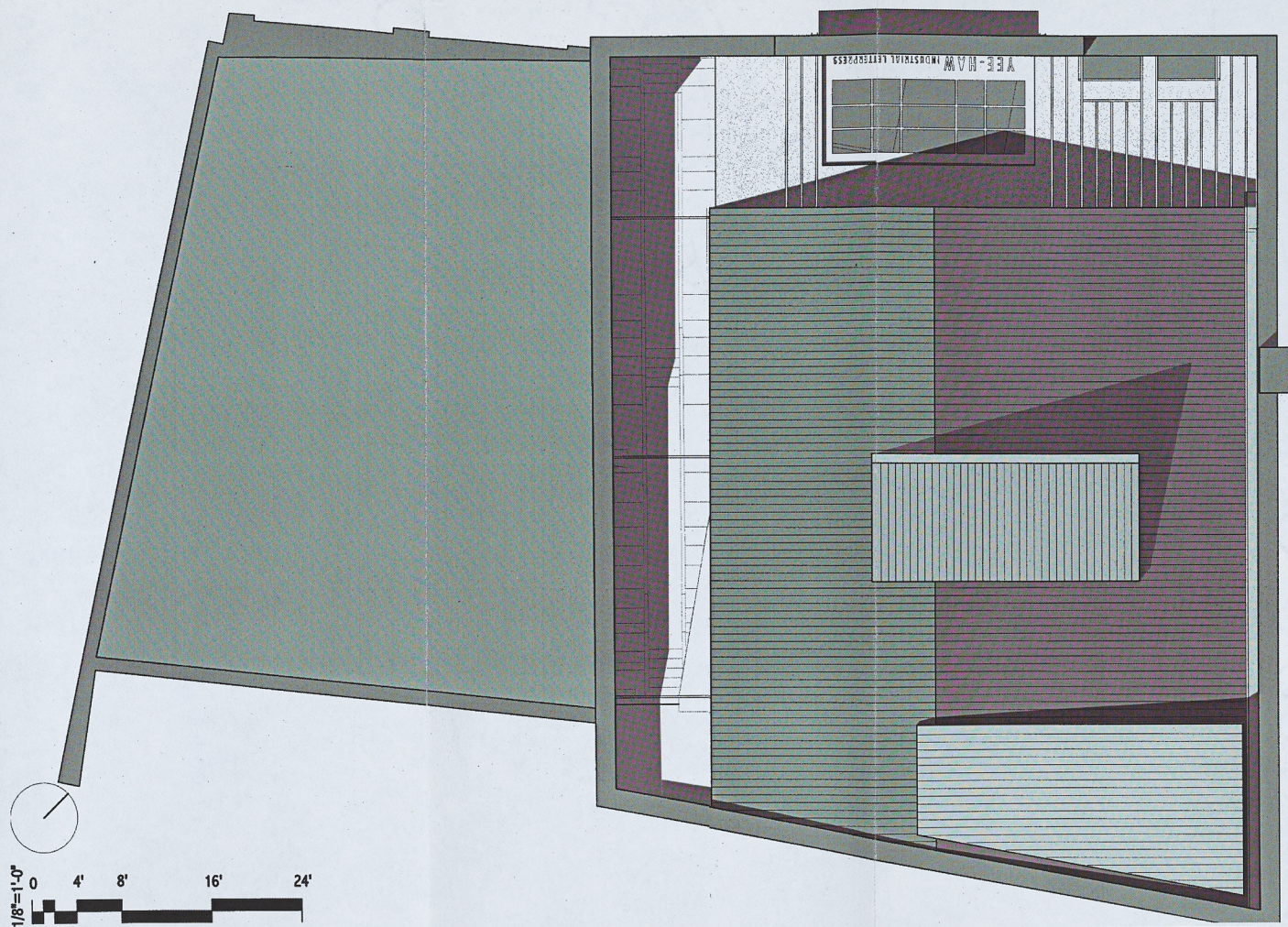
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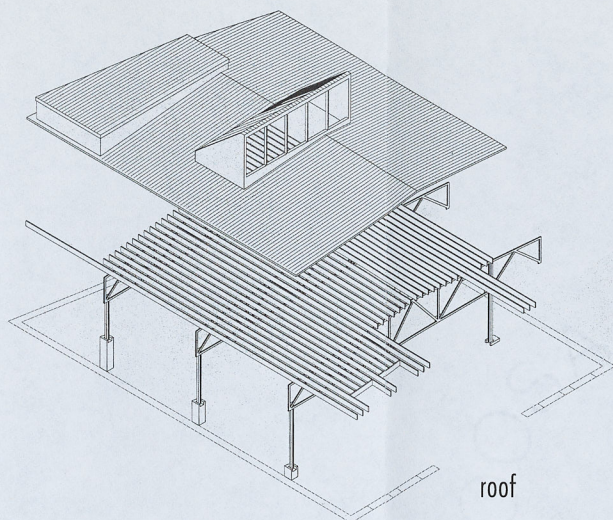


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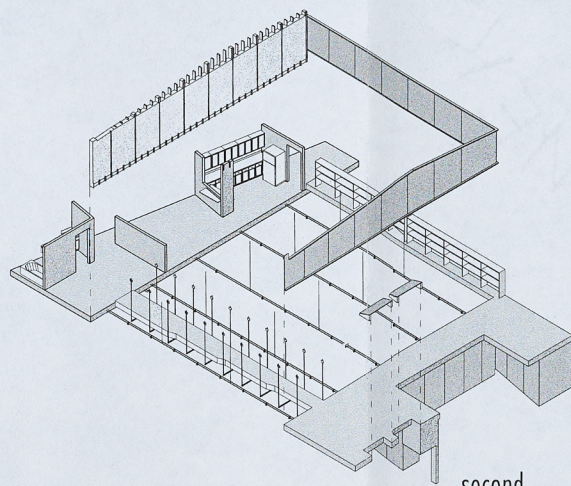
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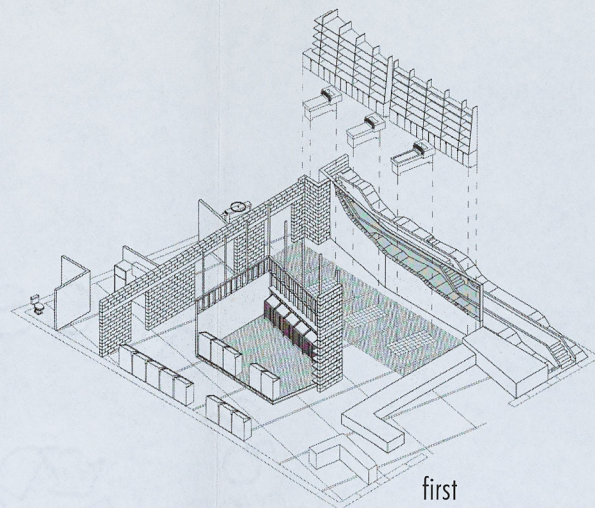




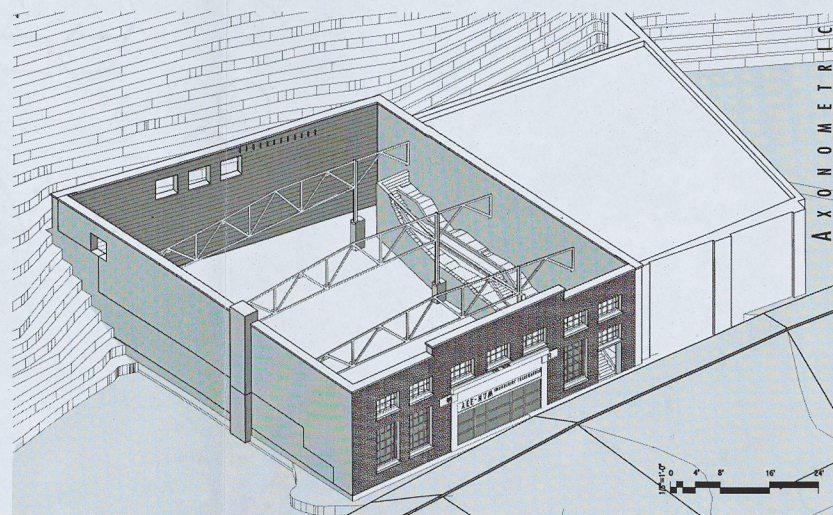
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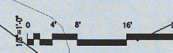
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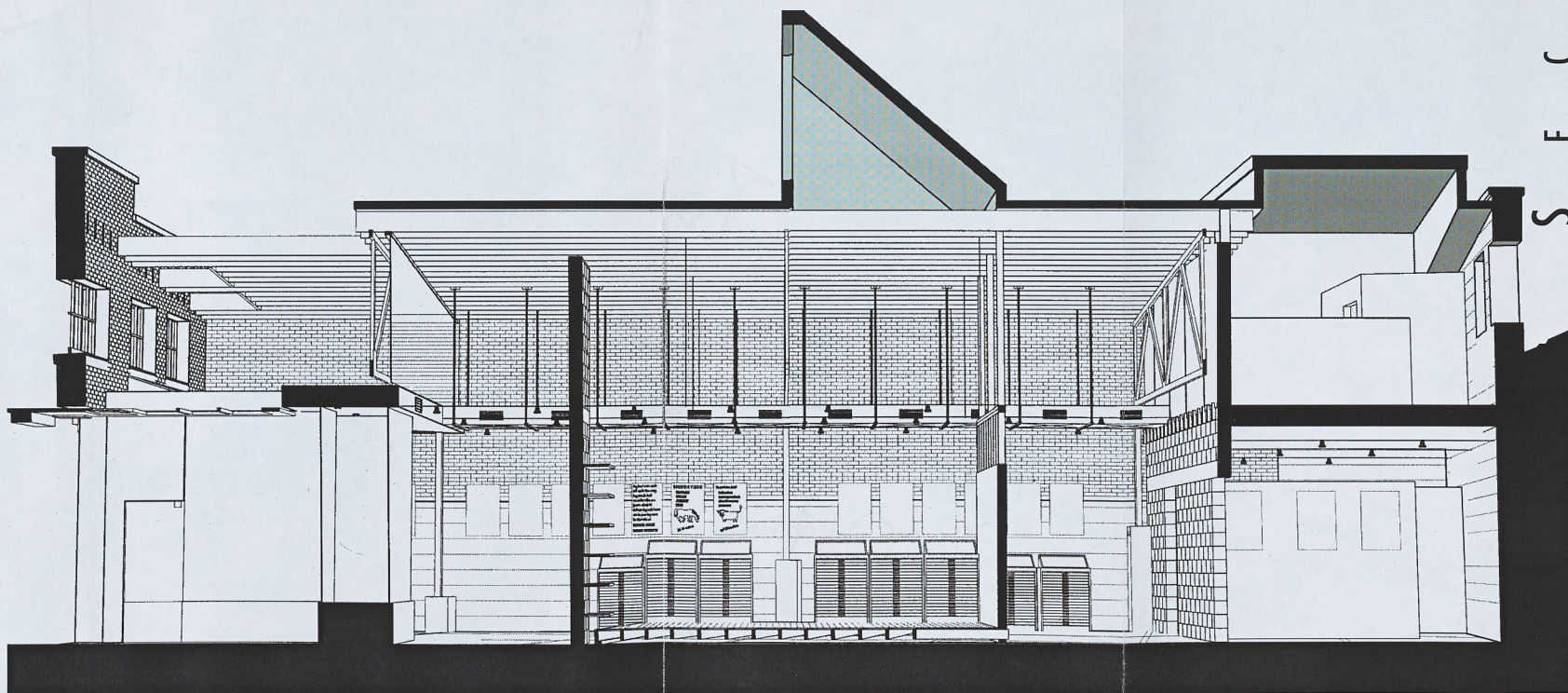


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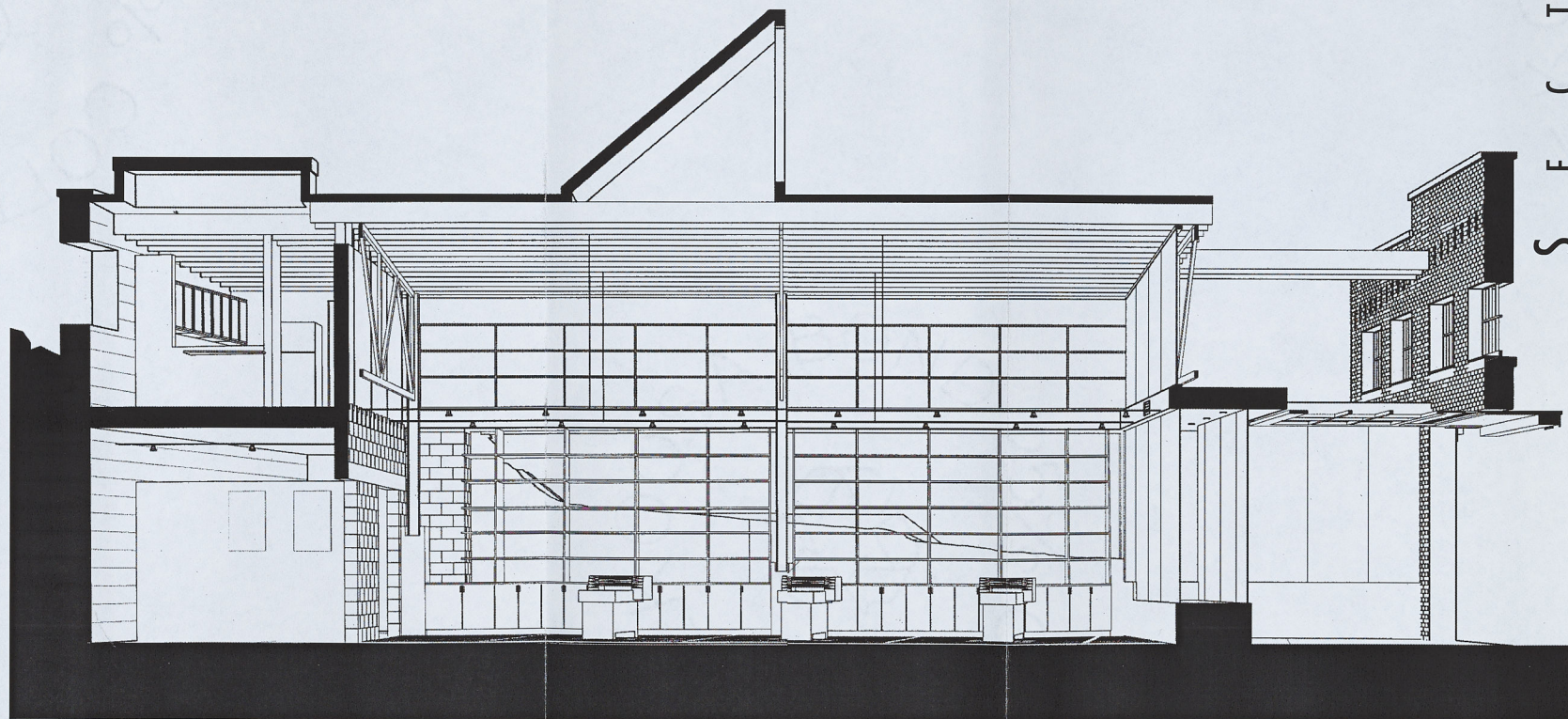
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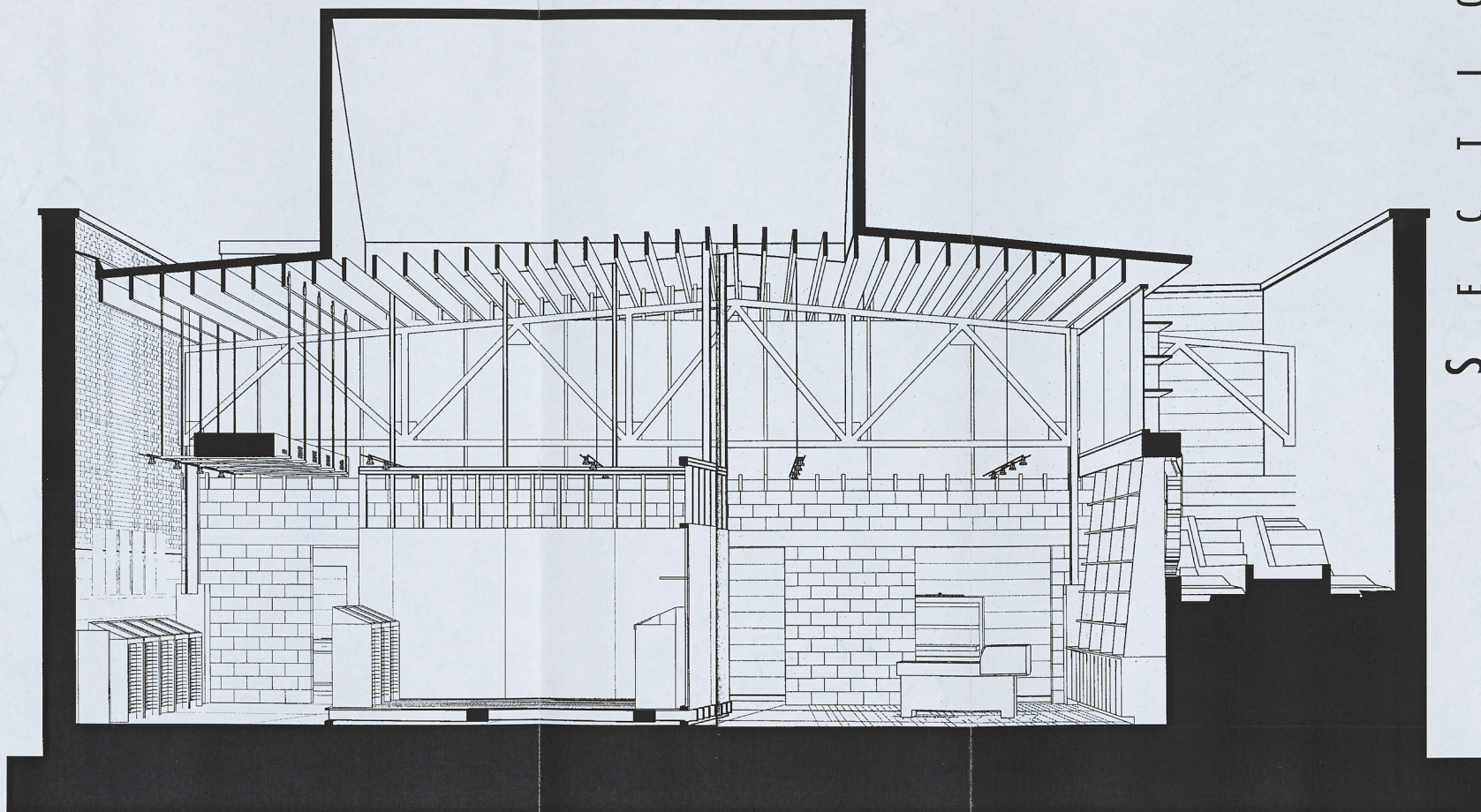
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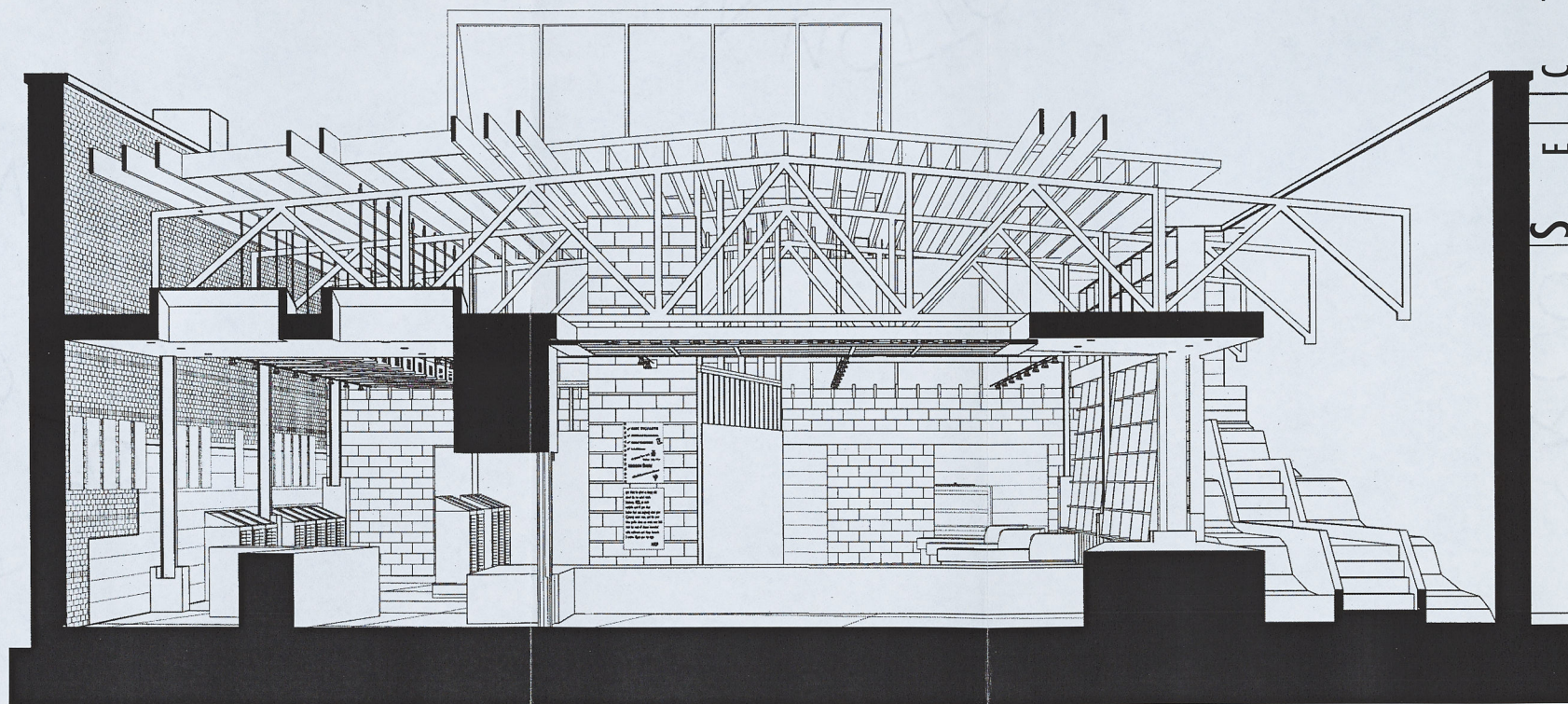
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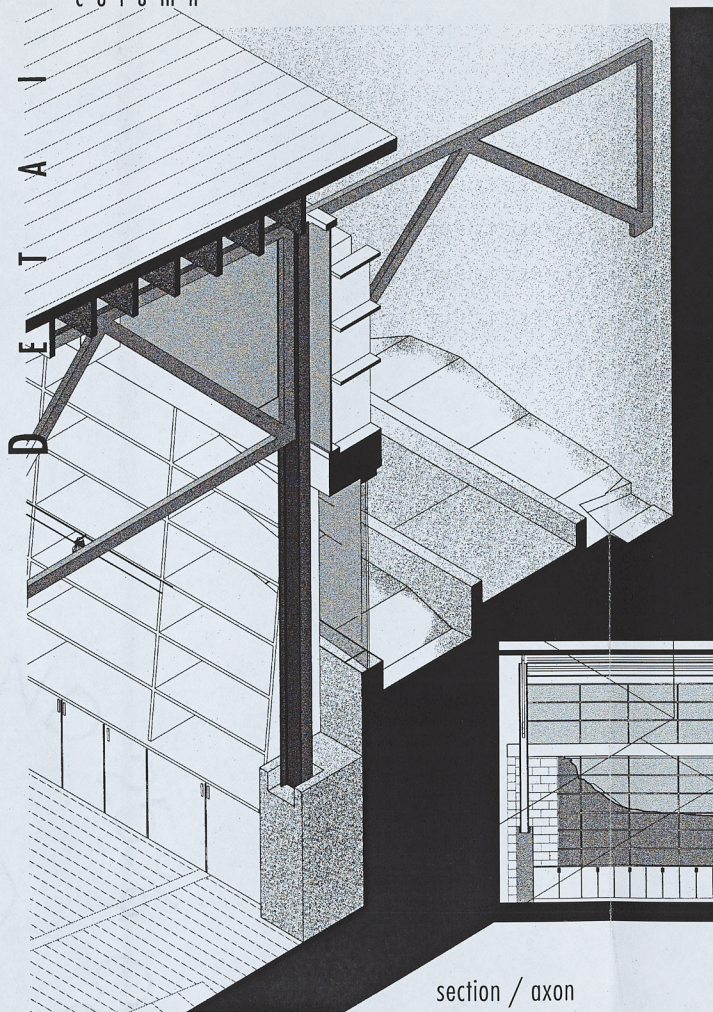
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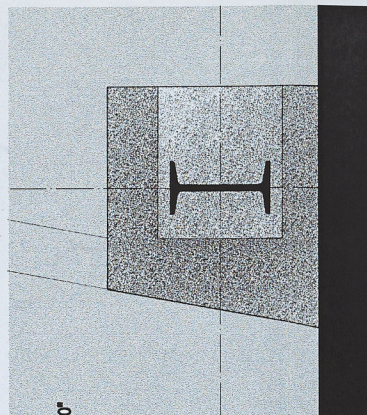




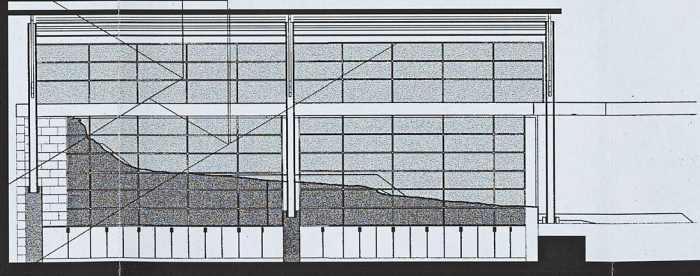
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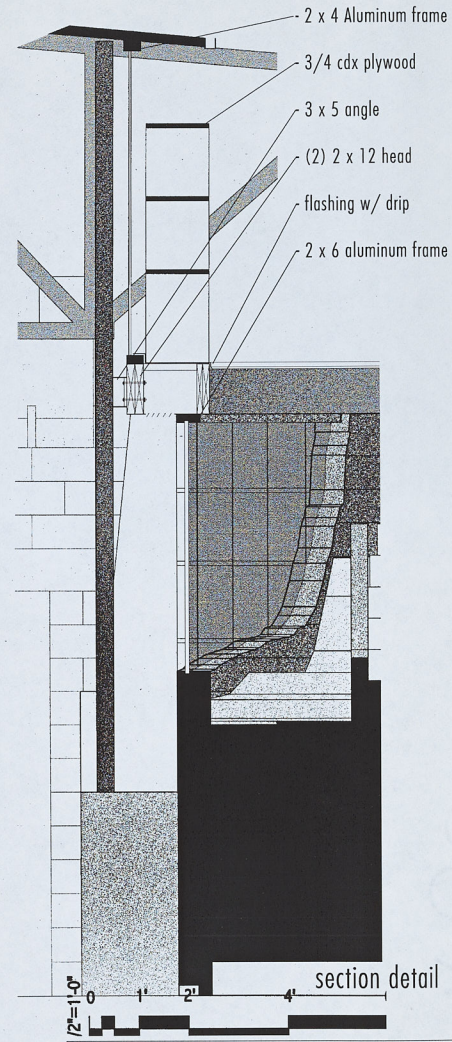
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plan detail

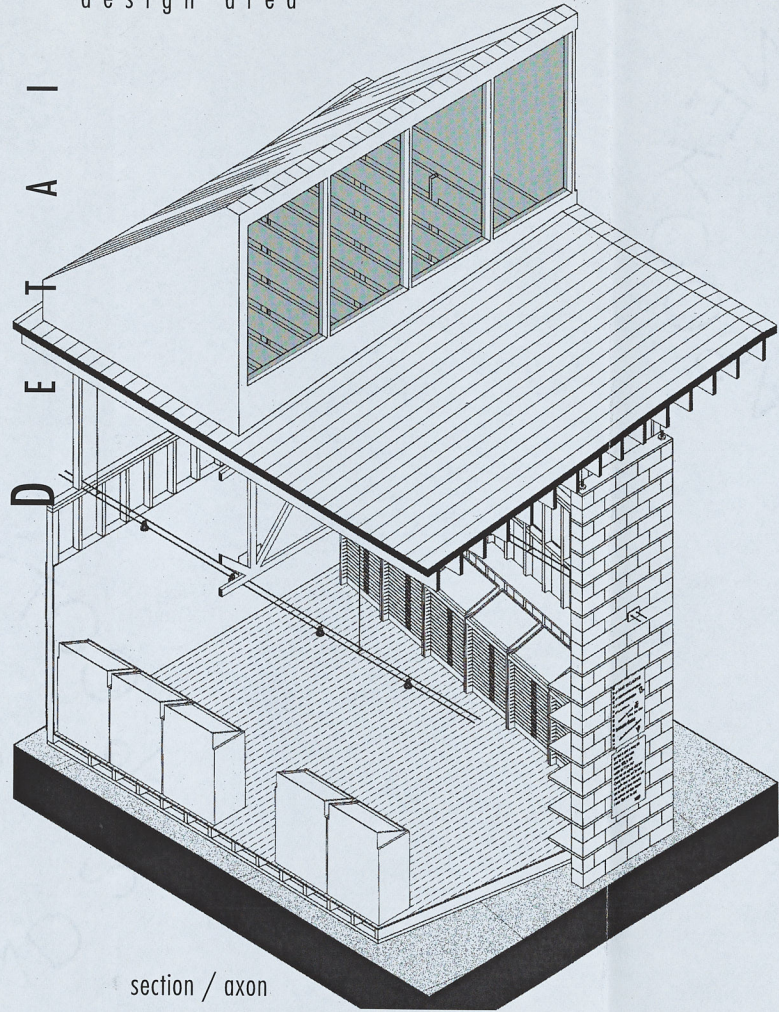


interior elevation
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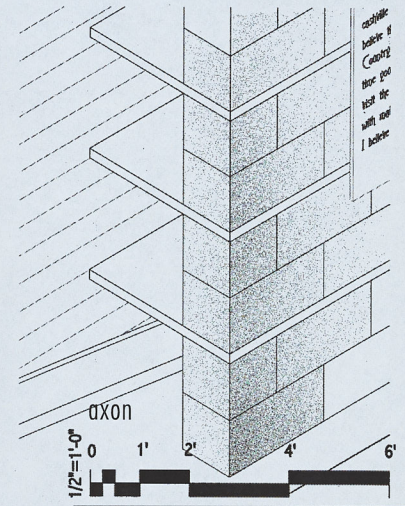
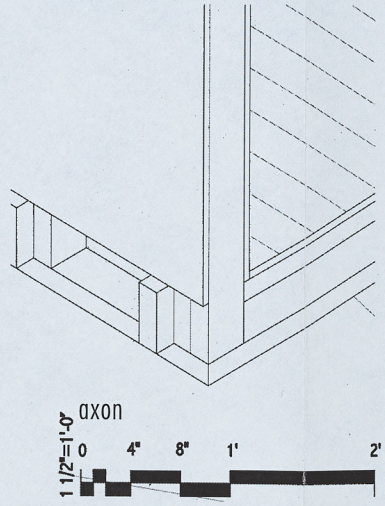
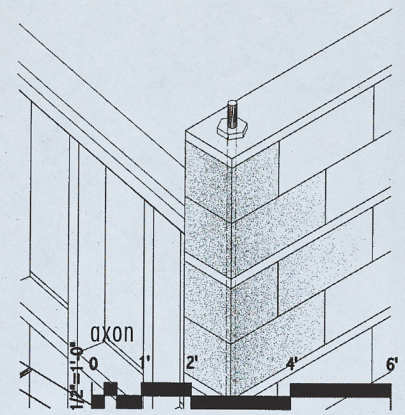
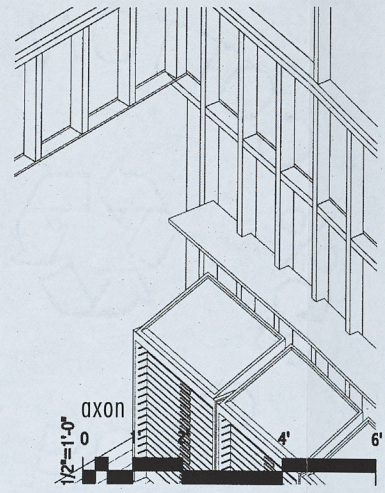


section detail

L design area

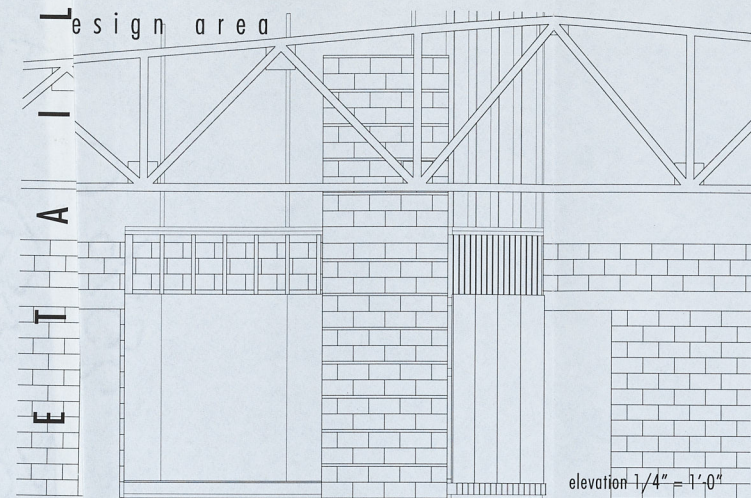


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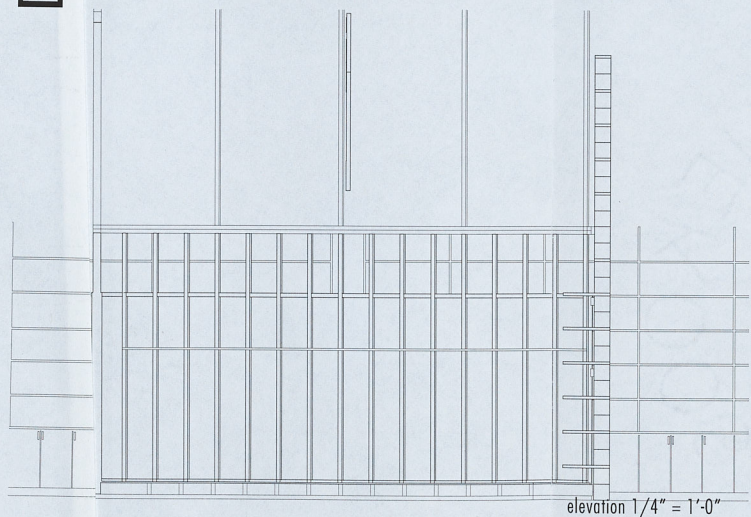


capable
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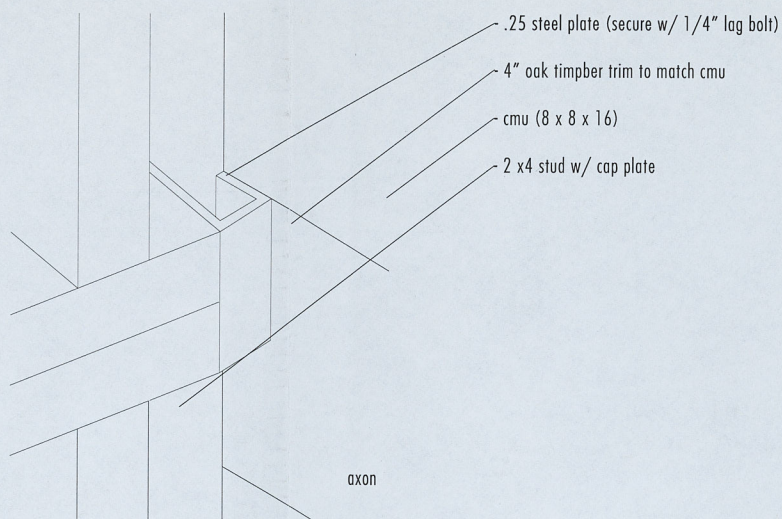
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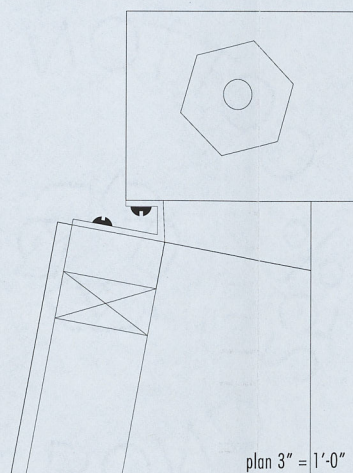
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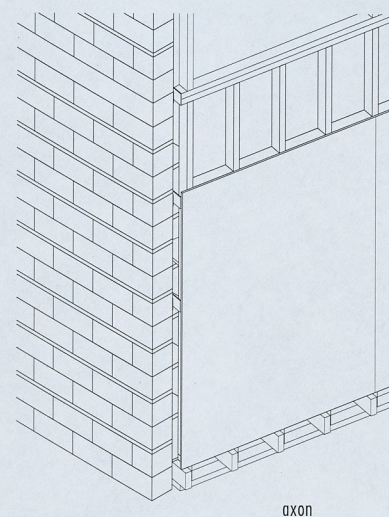
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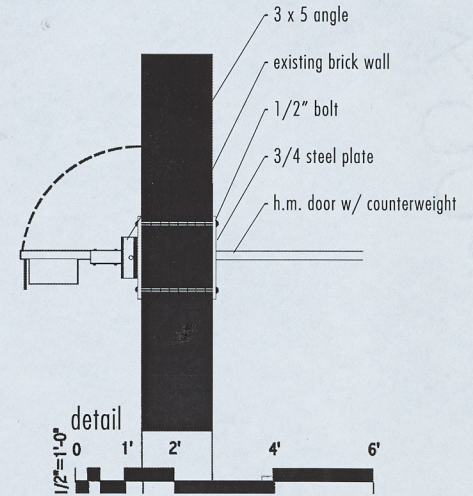
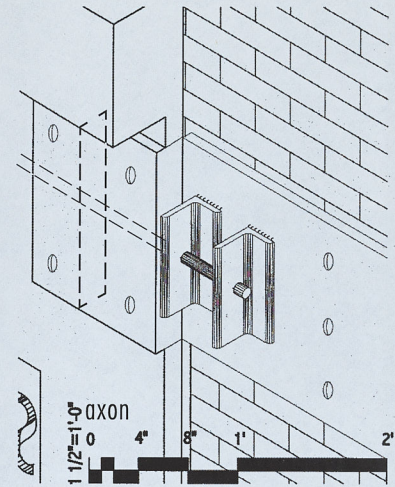
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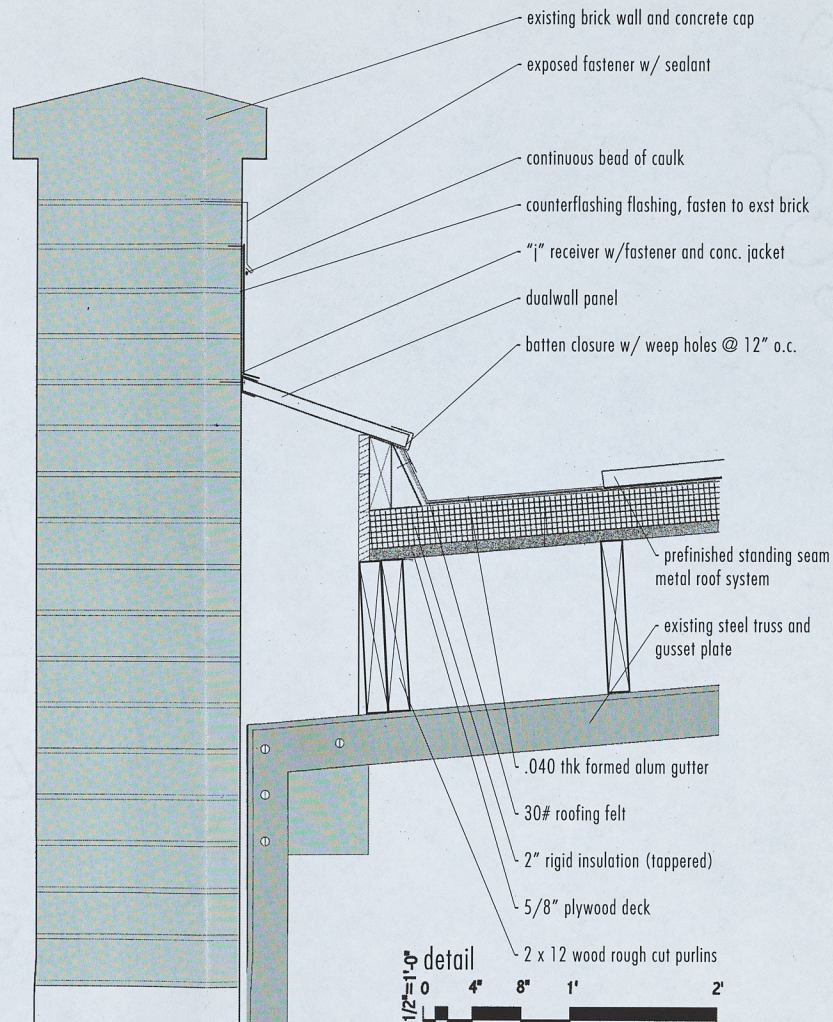
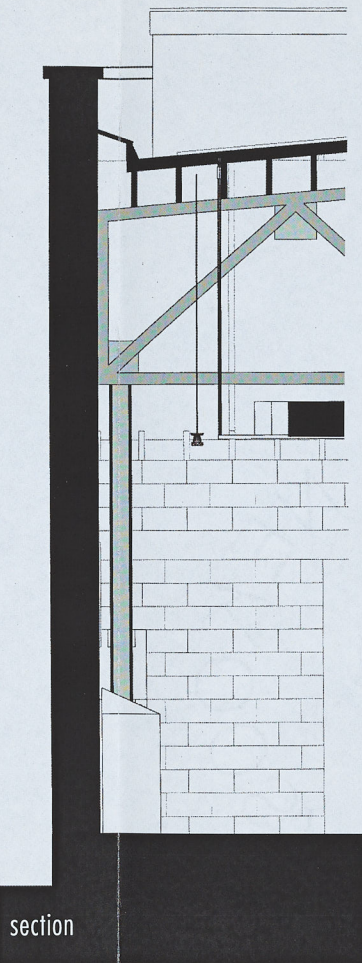
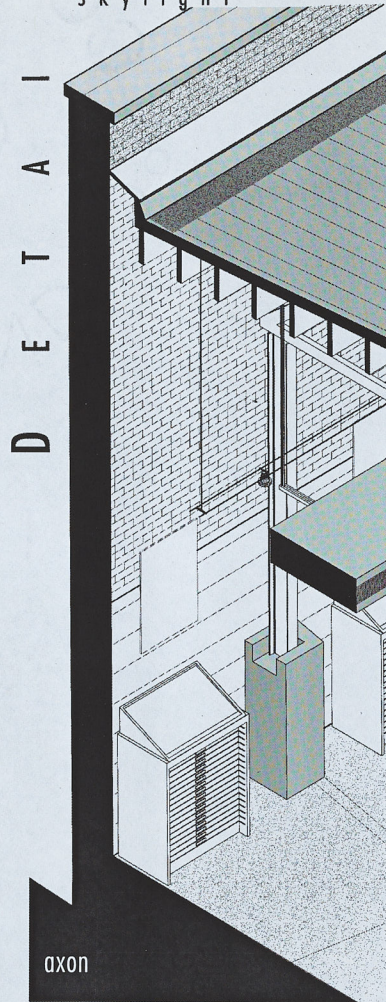
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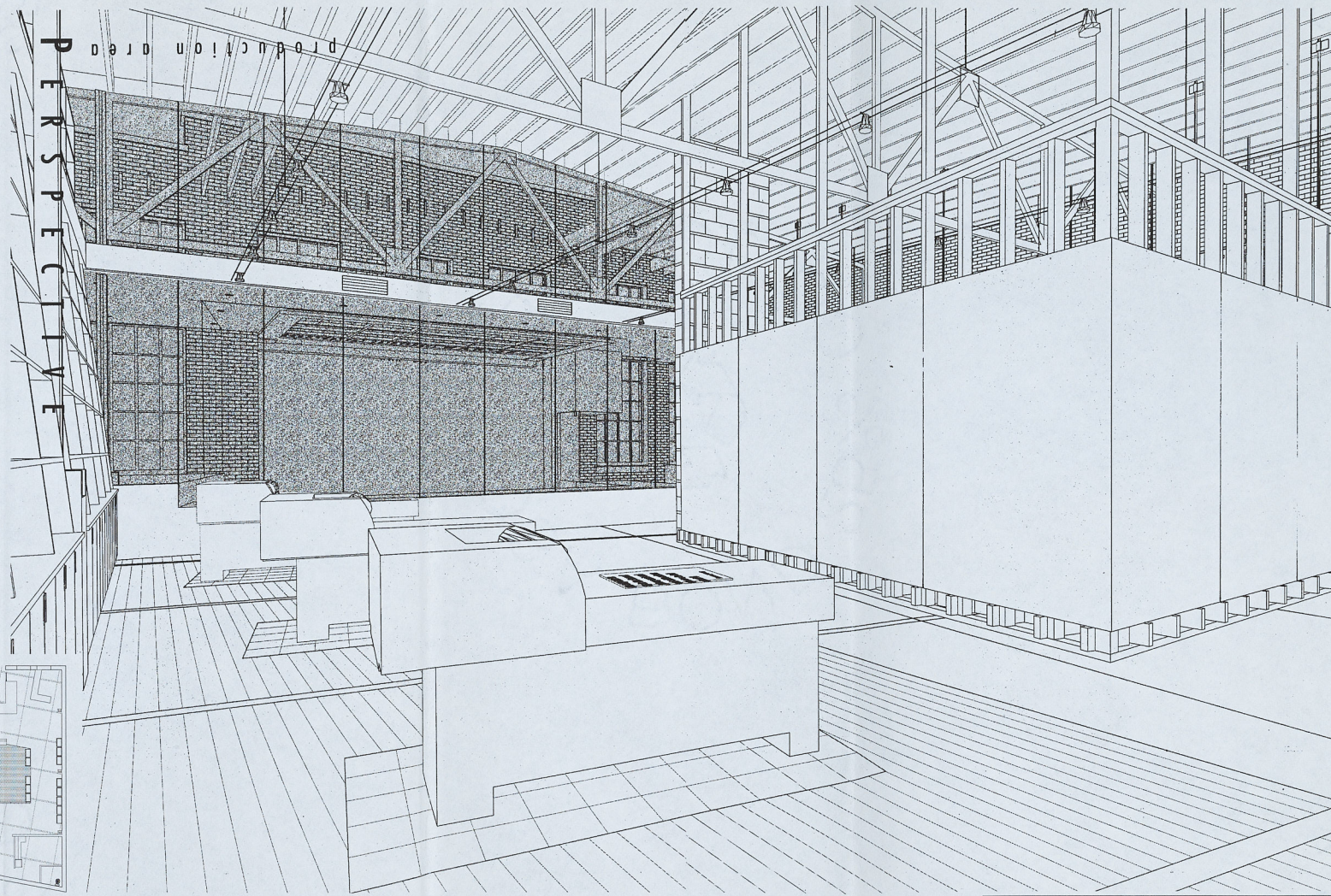
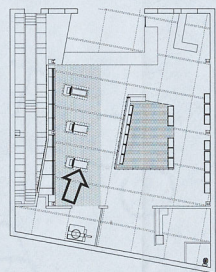


skylight



PERSPECTIVE

production area



PERSPECTIVE

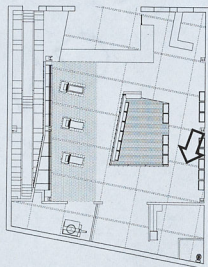
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EVEL KEMEVEL

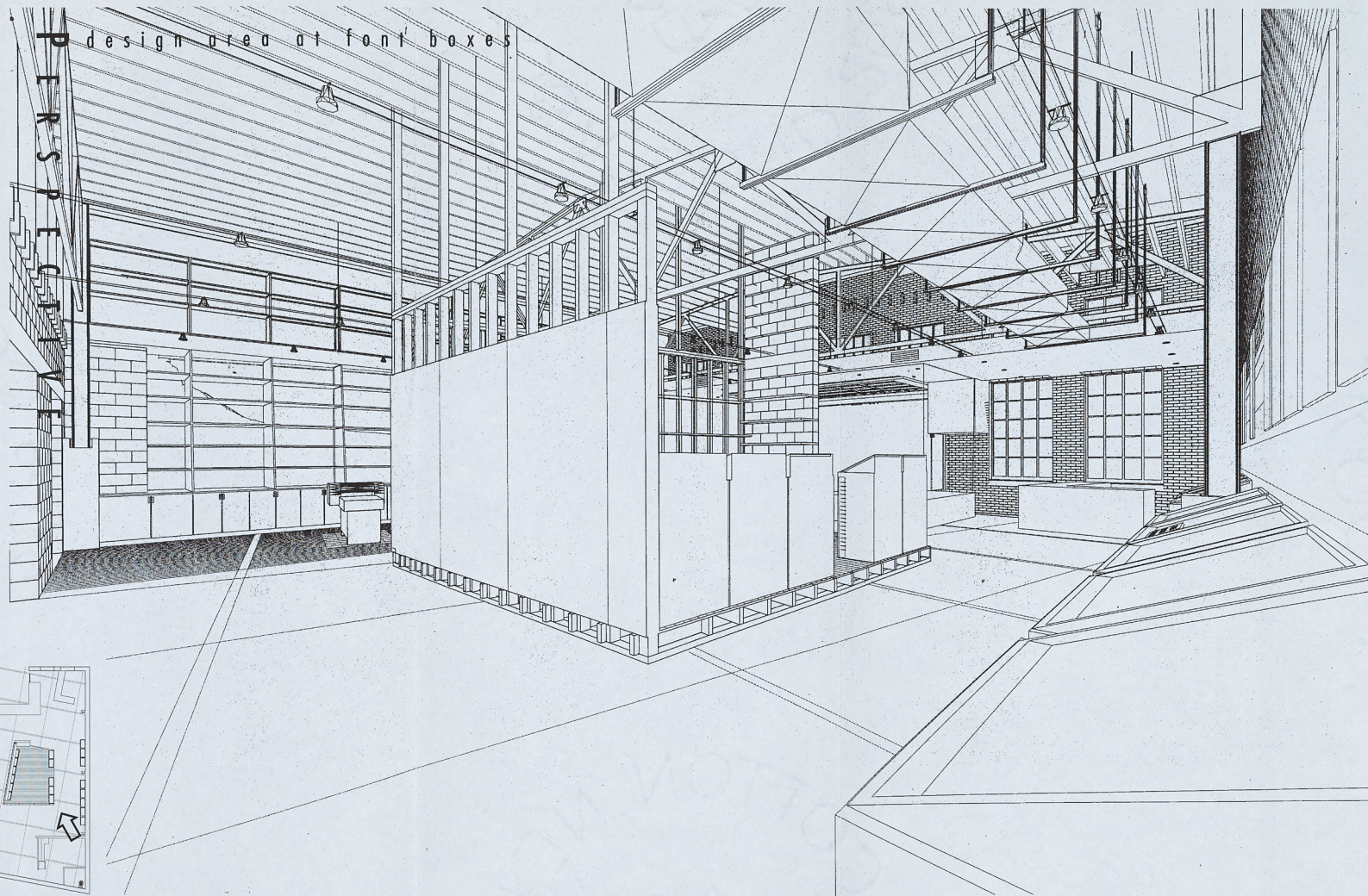


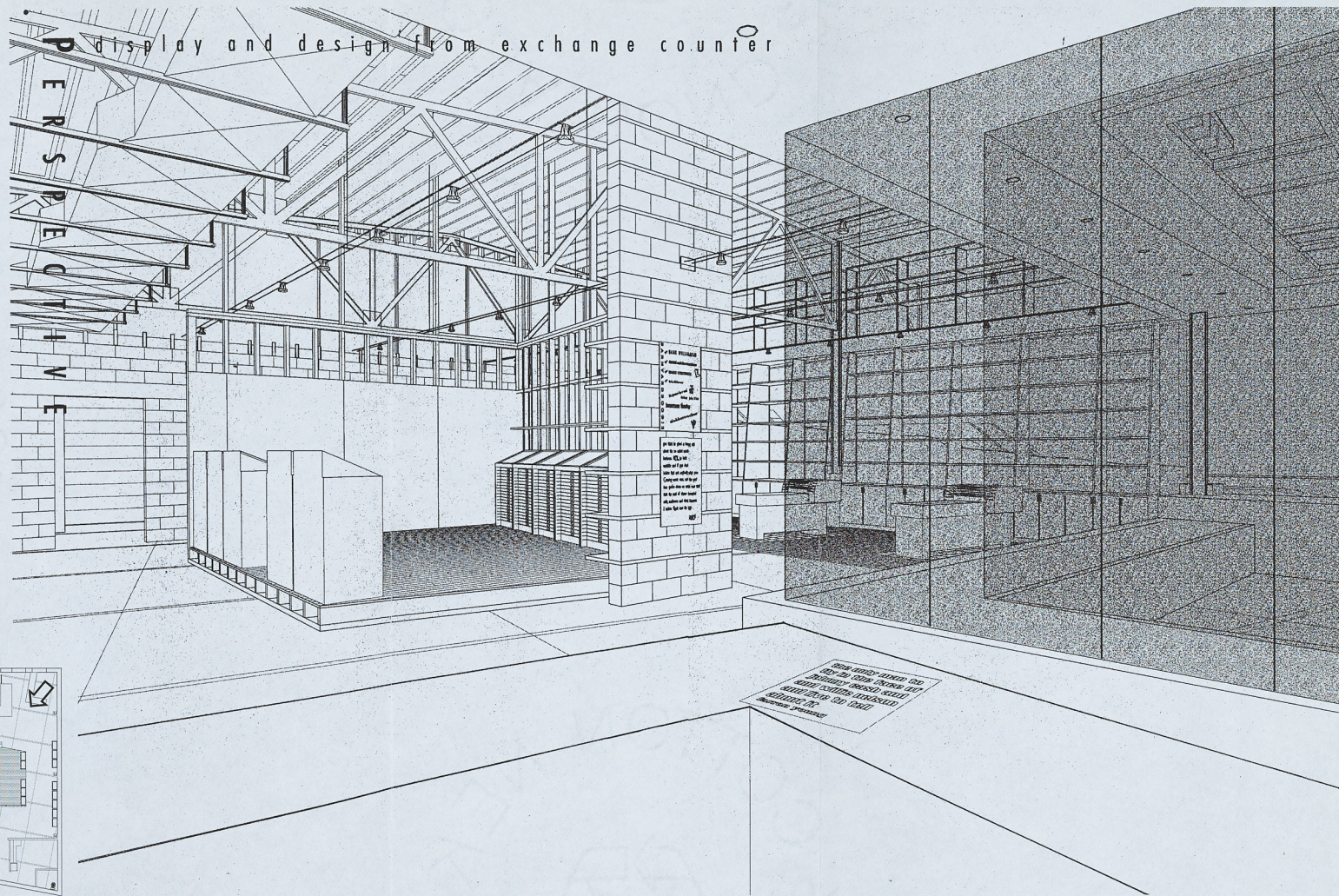
He broke every bone in his body
except his humerus because being a
dare devil was his business. One day he
was a professional that very he would
always eat some food children before
jumping buses full of nuts and bolts
in the air. He was a dare devil like he was so
much that he did not even wear a seat
strap his seat left him fun

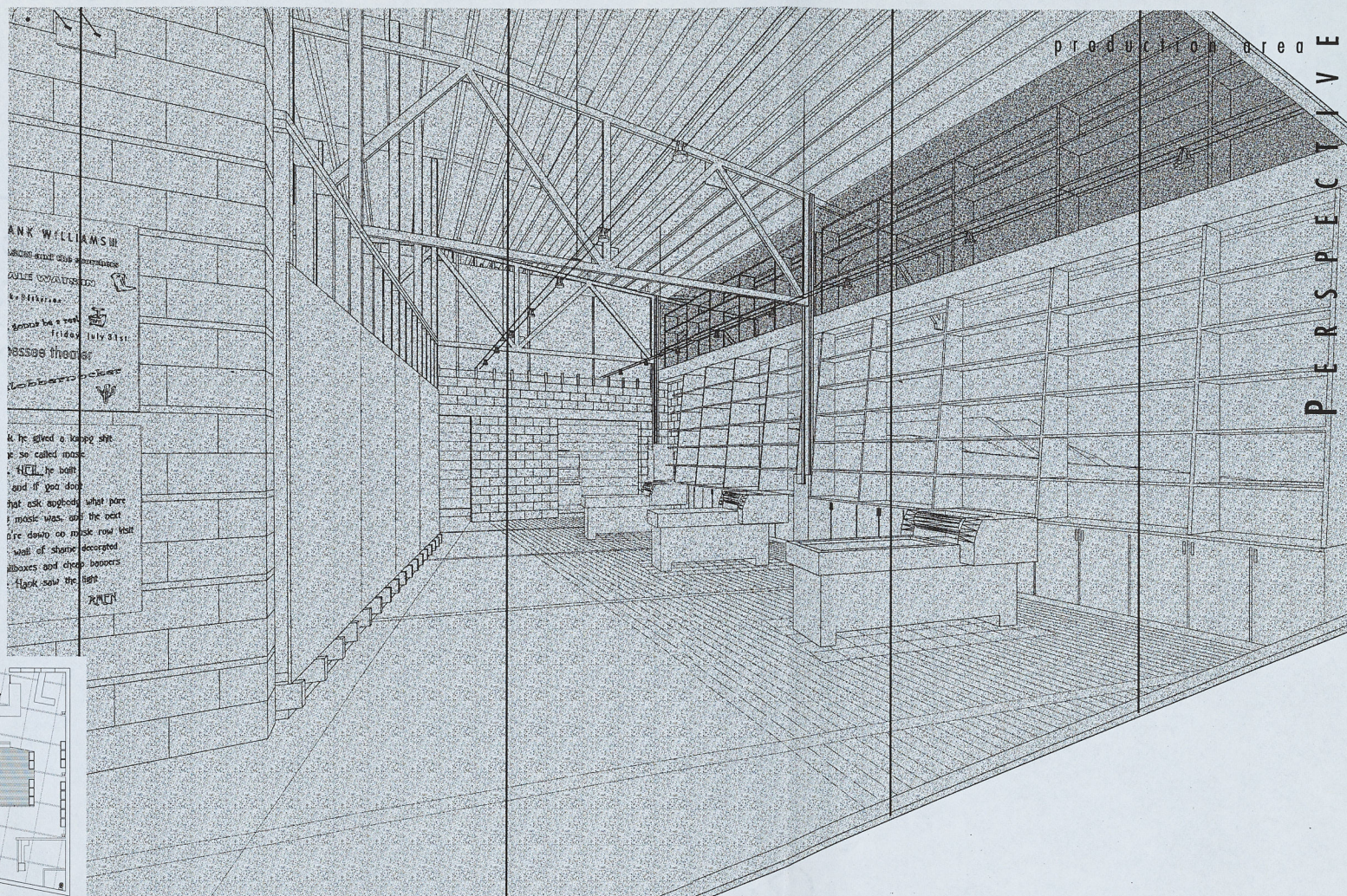
not scared of snakes he would
jump over the fire of hell and
break for the to come



PERSPECTIVE design area of font boxes

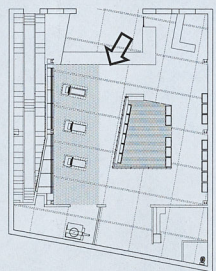


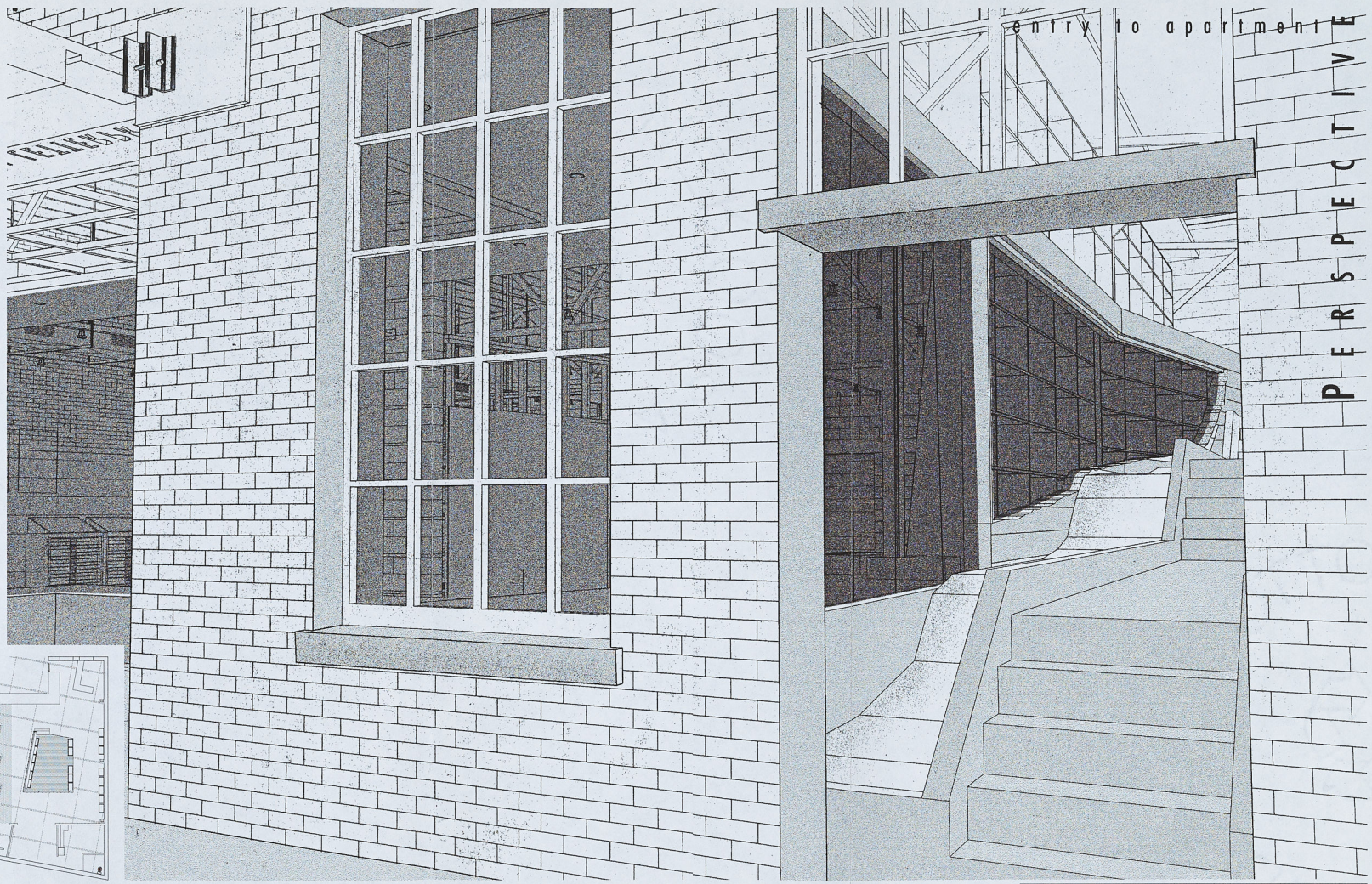
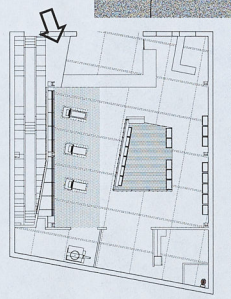




production area

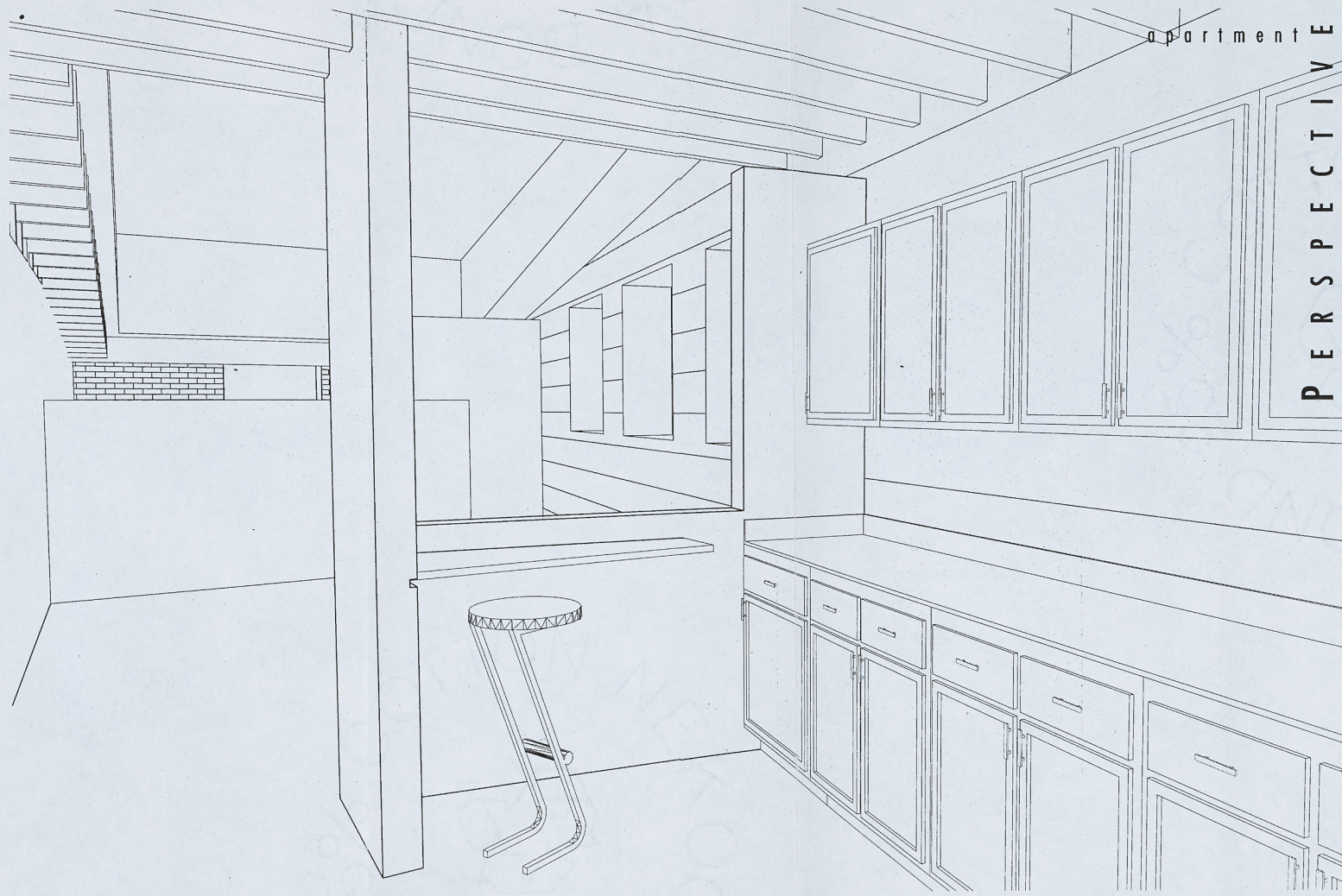
P E R S P E C T I V E





entry to apartment

P E R S P E C T I V E



apartment

P E R S P E C T I V E

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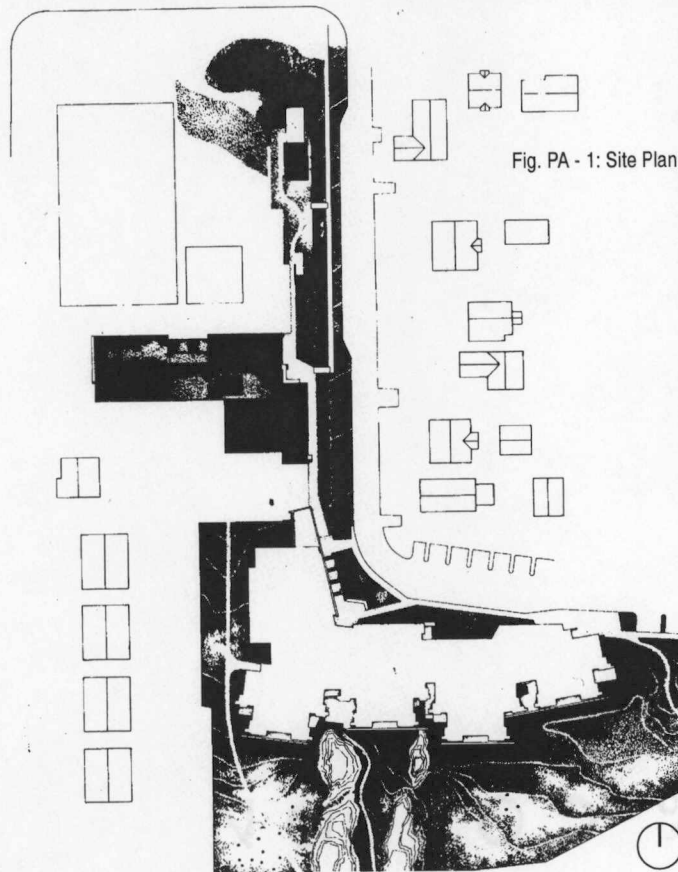
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Appendices

Patkau Architects: Strawberry Vale Elementary School



The Strawberry Vale Elementary School in Victoria, British Columbia, is sited in a semi-rural community made up of small farms and stuccoed tract houses. (Fig. PA - 1) The school, consisting of 16 classrooms for 300 students, is designed to be site specific and site responsive as well as acting as a teaching tool for its participants. The design concept, “differentiating elements within building assemblies in order to express the role of each element so that the nature of the construction and the forces which act upon it are evident,” (Patkau: Architecture, 91) is realized throughout the design process by simultaneous detailing. As an element of poetic technology, simultaneous detailing denotes the practice of designing and developing details while in the Schematic and Design

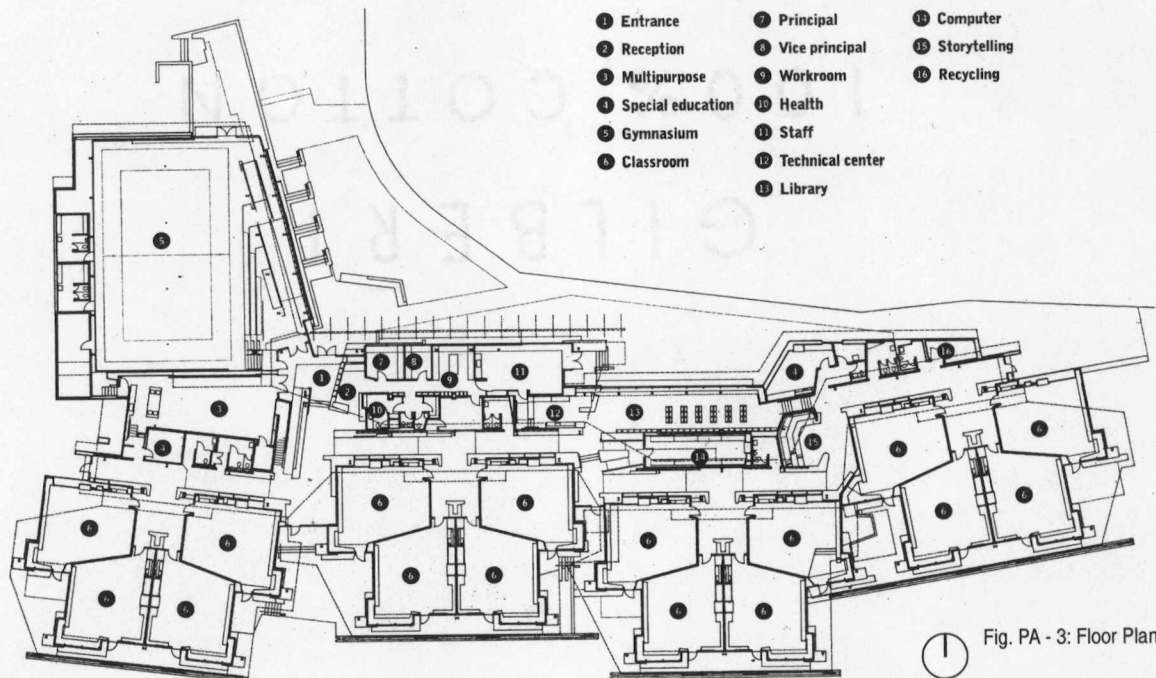


Fig. PA - 3: Floor Plan

Development phase. Furthermore, the architect, Patkau Architects, collaborated with craftsmen on the site to refine details and make material decisions.

The eastern elevation of Strawberry Vale (Fig. PA - 2) exhibits the essential relationship between the design concept and the construction details inherent in the project. The penetration details, corner condition, structure, and the relationship of the building to the ground all demonstrate the architect's design philosophy by revealing, restating, and responding to local materials, local conditions, and local construction techniques.

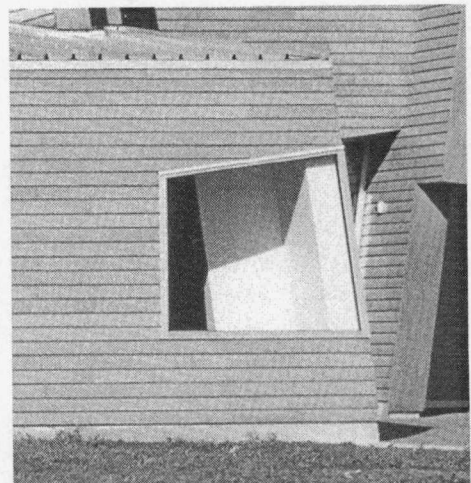


Fig. PA - 2: Window elevation

The plan of the school (Fig. PA - 3) is arranged so that the classrooms are on the southern side of the building and are grouped in pods of four. Each classroom is associated with the other classrooms in its own pod by a communal interior space. The four classroom pods relate to each

other through shared exterior spaces that act as porches for the classrooms. "In this way, each classroom belongs both to its pod and to a larger community, relating in some way to almost half the classrooms in the school via these in-between spaces." (Patkau: Frampton, 104) The pods are placed on the site in response to grade and site constraints, such as large rock outcroppings and trees. This arrangement expresses a relationship of response to the site and shows a rethinking of conventional attitudes toward site development by conforming the building to the site as opposed to conforming the site to the building. These plan moves at the scale of the site establish a language of correspondent detailing and begin to inform as to the design concept of the building, site specificity. Circulation through the building is in a linear fashion, east to west, with the spine conforming to each of the four classroom pods, as well as providing a grade transition.

The site has an 8-foot grade change over the transverse length of the building footprint and is complemented by large rocks and old oak trees. These factors influence the joint between building and ground (Fig. PA - 4) which is detailed using two complementary strategies: a simple typical condition and the condition of exceptional variation. The simple typical ground plane detail could, on the surface, be considered a pavlovian detail; however, it is used in an unusual manner. The typical level ground plane detail (Fig. PA - 5) is striated in the same manner as the exterior wall, creating a planar relationship between the siding and the exposed typical foundation. The coursing of the 4" clapboard siding (Fig. PA - 5) complements the



Fig. PA - 4: Column detail and abstract topography

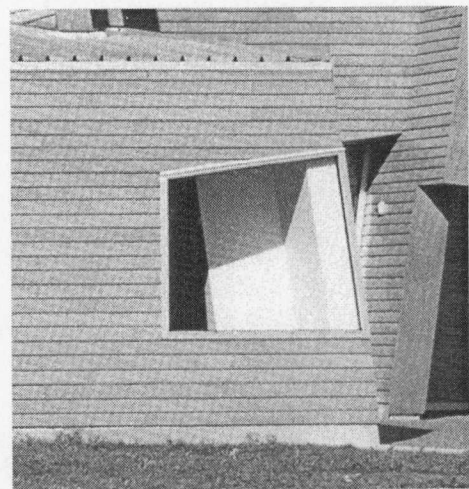


Fig. PA - 5

consistent band of exposed foundation around the building while expressing the striations of grade change on the site and, because there is no corner trim, the clapboard can read as stone or masonry. Moreover, the relationship between the typical foundation and the siding maintains a strong horizontal datum to reinforce the linear design of the school.

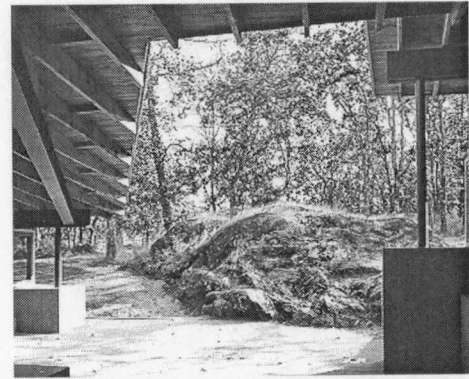


Fig. PA - 6: Covered area between classrooms

The joint of exceptional variation is used to base the building in the same manner that the indigenous rocks (Fig. PA - 6) are rooted in the site, giving “architectural form to environmental forces.” (Wagner, 85) These foundation details respond to conditions or forces that bear a structural connection or resolve a change in elevation, either vertical or horizontal. The structural connection detail, an outcropping of concrete rising above the ground plane to support a pipe column, implies a condition which exists but is hidden – that of the stability of the rock based into the earth. As an expressive architectural detail, (Fig. PA - 7) the base plate supporting the column is buried in the concrete in order to reveal a condition of embedment. The expressive quality of this detail is found in what is not revealed, the base plate. Rethinking the Pavlovian footing detail, (Fig. PA - 8) in this case, allows for a deeper understanding of the connection between the school and the community by restating the joint between the school building and the site.

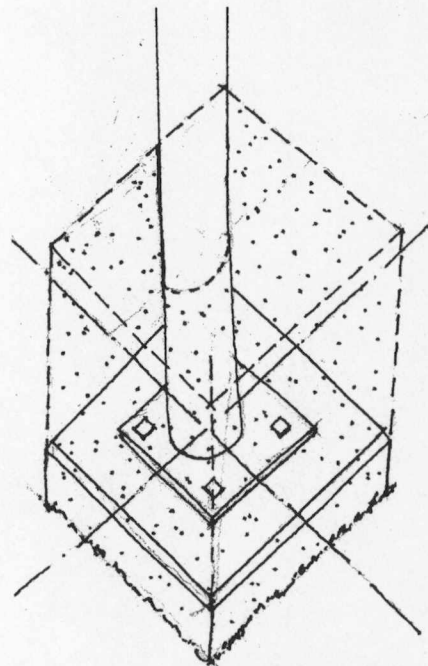


Fig. PA - 7: Expressive column detail

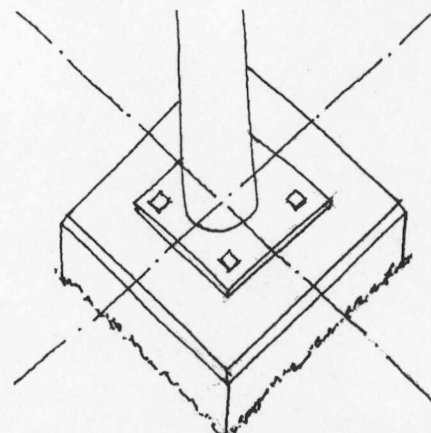


Fig. PA - 8: Pavlovian footing detail

For conditions that require a change in elevation, ranging from a corner window or a set of stairs to a ledge for sitting, the joint of exceptional variation creates an abstract

topography allowing occupation of the space as the building occupies the site. For example, every classroom contains a corner window that is visibly raised above the ground plane on a slab of concrete. (Fig. PA – 4) On the interior, this slab is covered with wood to create a bench for sitting (Fig. PA - 9). This sill detail reinforces the abstract topography while expressing a condition of place on the interior and creating a joint between the natural (site) and the manmade (school). The joint of exceptional variation becomes fertile by the use of simultaneous detailing. For Patkau Architects the construction of detailed large scale models occurs early in the design process; in this manner, a column detail which has been worked out early in the design phase can be further developed to play more than just a structural role. The column detail reinforces the abstract typography as a piece of the landscape. Simultaneous detailing allows the concept to grow as the detail grows, instead of the detail responding to the concept. Therefore, the concept becomes an intrinsic piece detail through all phases of architecture including shop drawing approval and contract administration.

In the detail of the exceptional variation, all foundation elevations course within the siding while rising above the finished floor elevation to reinforce the presence of the rock outcroppings on the site as well as maintain the horizontal datum. Coursing these concrete elements acknowledges a correspondent language within the construction of the building which coincides with Patkau Architects design philosophy, “the process of construction becomes the detail.”

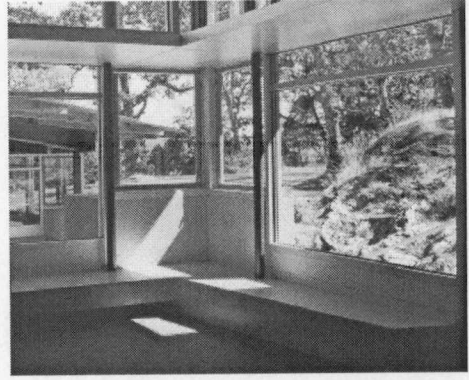


Fig. PA - 9: Abstrat topography from interior

“In French seventeenth- and eighteenth-century writing, authors would speak of the need to give a building visual qualities capable of convincing a viewer about its solidity, and in this sense *vraisemblance* (plausibility) became an important criterion ” (Sekler, 90) This plausibility represents a joint of understanding and comprehension between the building and those that interact with it For Strawberry Vale, the structural system not only reflects solidity of structure but also clearly demonstrates a “differentiation of elements” within the building assembly The structural system consists of wide flange steel columns and beams as a primary skeleton, pipe columns for secondary loads, and wood beams and joists for framing The wide flange columns are arranged on multiple grids that conform to the classroom layout and the circulation spine The columns are not embedded in the wall, instead, they remain exposed as a skeleton for layers of construction to be attached to Exposing the primary skeleton, and its implied grid (Fig PA - 10) restates the joint between the building and the site because the column placement

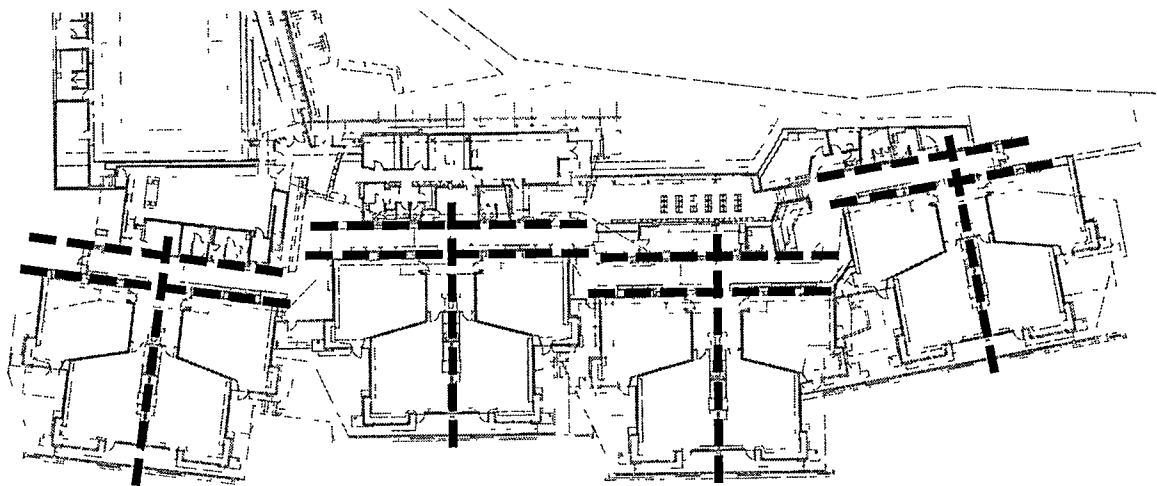


Fig PA - 10 Primary structural grid

conforms to the classroom pods, which in turn conform to the site. The pipe columns are arranged according to the structural grid of each classroom (Fig. PA - 11) and have been integrated into each cluster of classrooms. These pipe columns establish a smaller scale than the primary skeleton and are used in the context of smaller areas within the classroom, like the corner window. Finally, exposed wood framing, representative of vernacular construction practices, is used for the walls and the roof. Many of the wood joists bear on long span steel headers to show the different structural responsibilities of each material. This differentiation of elements demonstrates the tectonic nature of expression within the school's construction. "Through tectonics the architect may make visible, in a strong statement, that intensified kind of experience of reality which is the artist's domain – in our case the experience of forces related to forms in a building. Thus structure, the intangible concept, is realized through construction and given visual expression through tectonics." (Sekler, 92)

In a collaborative effort with the carpenter, the wood joist and framing members have been selected by the architect as a sort of 'crowning' process. Traditional wood framing involves a process called 'crowning.' In this process, the carpenter evaluates each wood joist to determine which end should bear on a supporting member. The decision is based on the slight camber, or crown, that is in each joist and that the arch should respond in opposition to the load it will carry. For the wood-framing members in the school, the architect and the carpenter have collaborated on the

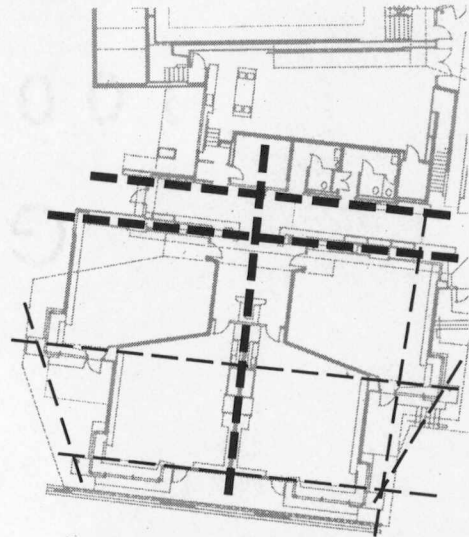


Fig. PA - 11: Primary and secondary column grid

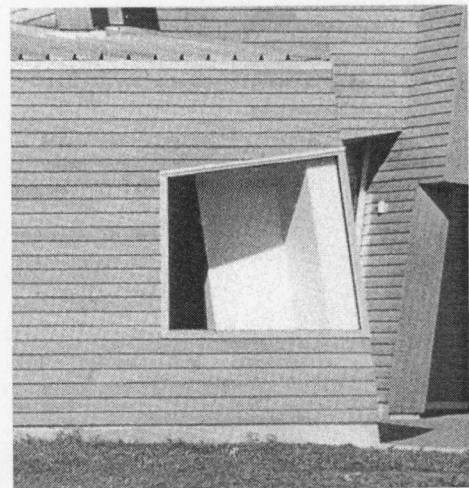


Fig. PA - 12

crowning process to determine the crown as well as the aesthetic value of each member in order to use less attractive pieces in hidden conditions.

On the exterior walls, the use of unpainted cedar clapboard as a siding material restates local building practices and materials, again giving “architectural form to environmental forces” – this time, a cultural force. The material itself, matching the color of grass on the site during certain seasons, is indigenous to the region; the traditional lap joint reflects the architectural details of regional farmhouses. The lap joint is further articulated at the corner conditions; (Fig. PA - 12) altered from traditional wood construction, it maintains the wrapping of the siding plane and reveals the “process of construction as a detail.” A symbol of its complexity and beauty, the omission of the corner board creates a joint where the mitre becomes the ornamentation; this requires a high level of skill from the carpenter. This detail expresses a cultural force by leaving out the traditional wood corner board and differentiates the classroom pods as a volume in contrast to the circulation walls as a plane. Furthermore, this corner detail reveals an implicit collaborative effort between the architect and carpenter. As a cultural joint between artist and craftsman, poetic technology expresses confidence in both the detail and the craft with which it is executed.

The glazing head and jamb details reinforce the site specificity of the building by continuing the plane of the clapboard siding across the window unit face and the coursing within the siding. The jamb detail (Fig. PA - 13)

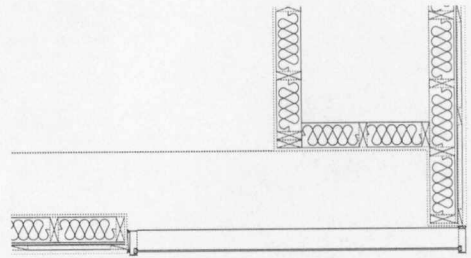


Fig. PA - 13: Jamb detail

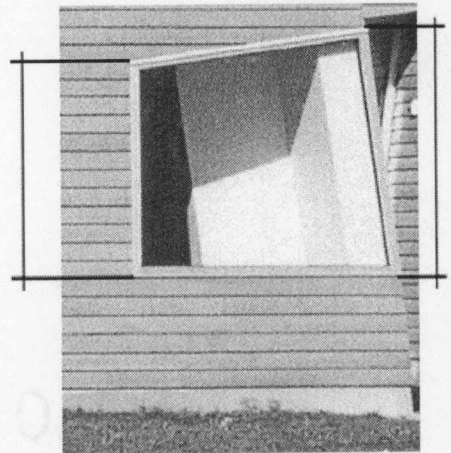


Fig. PA - 14: Jamb coursing within siding unit

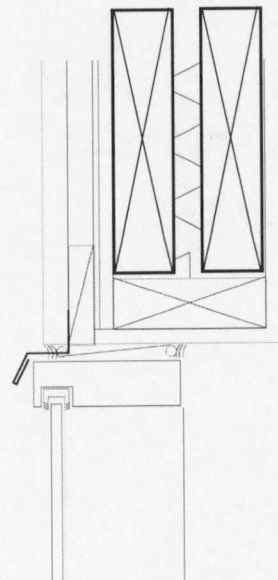


Fig. PA - 15: Head detail
source: author

reveals no differentiation in plane between the face of glass and the face of siding. The site responsive strategy of striation is expressed within the plane of the wall by precisely detailing the height of each jamb (Fig. PA - 14) to fit within the coursing of the clapboard. This celebration of coursing in the clapboard informs the viewer as to the exactness of the window unit façade as well as showing confidence in the carpenter. At the head detail (Fig. PA - 15), the mullion is flashed with a drip that has been positioned in the center of the mullion. This detail, although slight in scale, casts a similar shadow on the face of the mullion and relates the dissimilar aluminum to the surrounding wood cladding. The head detail offers insights into the technical aspects of the glazing unit by angling the mullion against the horizontal, creating a “gutter” to handle water that might normally stand on the top side of the mullion.

The shape of the window unit (Fig. PA - 16) informs the viewer as to the plan geometry of the classroom (Fig. PA - 17) that it supports and the spatial qualities within. Furthermore, the placement of the window is indicative of the classrooms’ relationship to the circulation spine of the

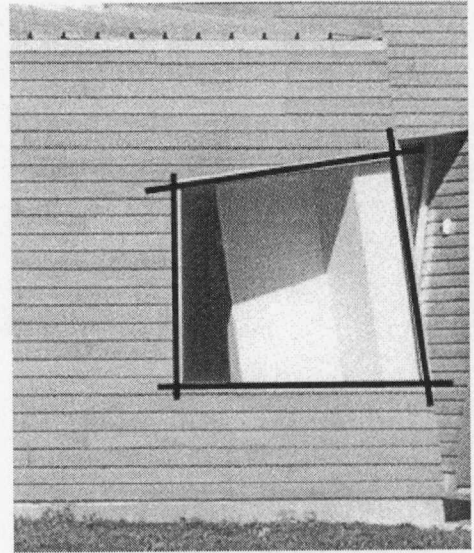


Fig. PA - 16: Window elevation to floor plan

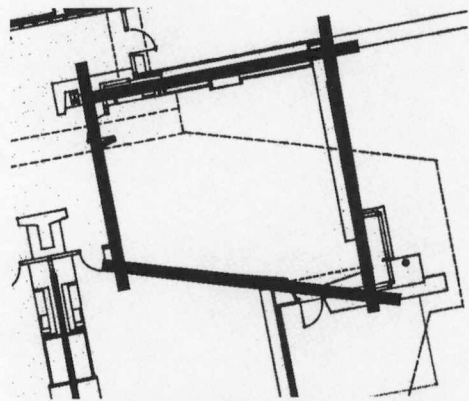


Fig. PA - 17: Floor plan of classroom

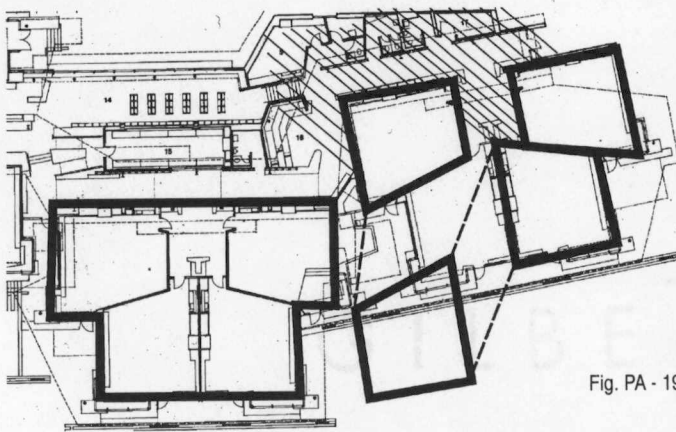


Fig. PA - 19

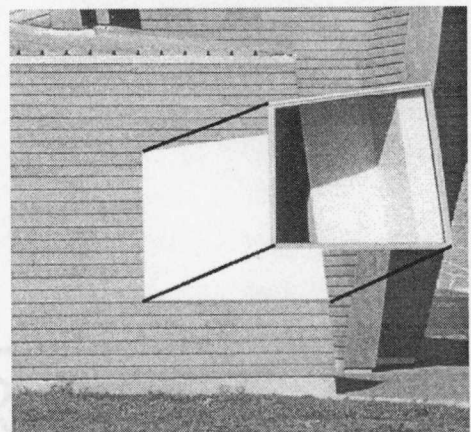


Fig. PA - 18

building. This revelation is achieved by embedding the window unit into the wall elevation (Fig. PA - 18) just as the classroom is embedded into the spine of the building (Fig. PA - 19). This detail reveals an understanding of the architect's concept of the relationship of classroom mass to the rest of the building.

The aperture of a window is generally perceived as providing the same proportion of light into a room as it does views out of the room, but for the school, these two properties are different. As a viewing element (Fig. PA - 20), the window has been placed on axis with the classroom entry by realigning the hinge side of the wall (Fig. PA - 21) to focus the view. As an opening for light, the aperture allows large amounts of ambient light into the room by the use of a reflective south-facing wall at the northern jamb. The window aperture is also an element for viewing in to provide education by informing the viewer as to the buildings construction. The thickness of the wall is expressed by viewing a section painted in white (Fig. PA - 22) which reflects light back through the window. Expressing the thickness of the wall implies a contained area of insulation and reinforces the threshold between inside and outside. This implication represents correspondent detailing by demonstrating a response to an environmental force that is part of the climate of the site. Moreover, this detail expresses the condition of wrapping, indicative of each classroom pod, versus the condition of plane

Strawberry Vale School provides a deeper understanding

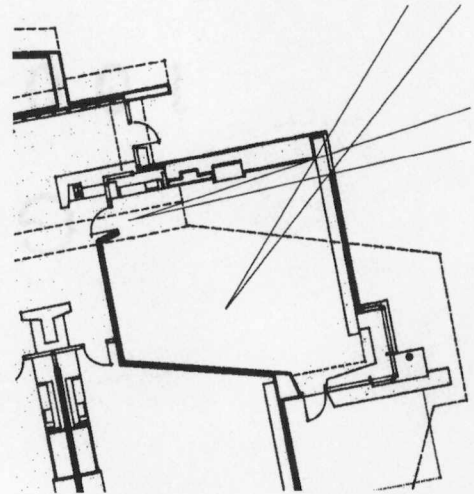


Fig. PA - 20

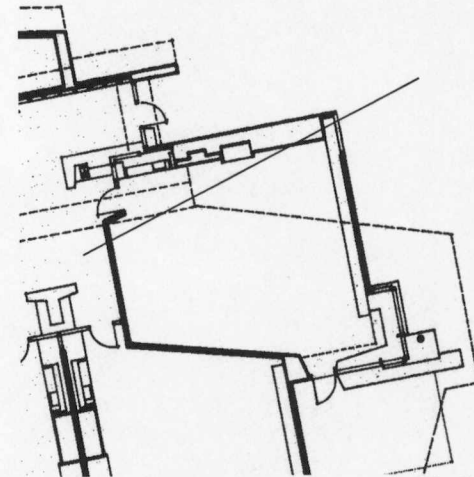


Fig. PA - 21

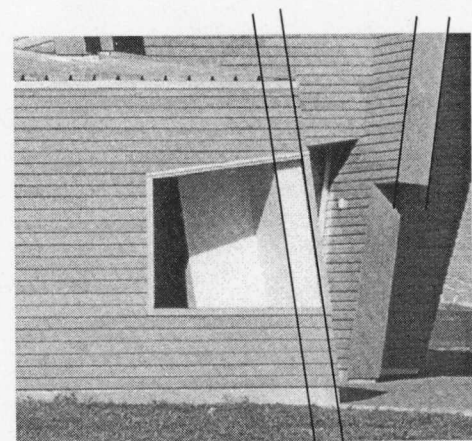


Fig. PA - 22

of the site and reinforces the connection of the school to the community. The building reveals, restates and responds to conditions of site and context by correspondent details in the foundation, skin, structure, and glazing. These details enrich the space within and around the building because they not only express architectural conditions but cultural conditions as well.

There are many lessons to be gleaned from the Strawberry Vale School that can be applied to YeeHaw's new studio. The most obvious one is the use of abstract topography to reinforce the building's relation to the site. Creating correspondent details by acknowledging the topography and then using it to a pragmatic and informative end becomes an experiential element for those who engage the building. In particular, the column detail for YeeHaw reflects the relationship between the building and the site as well as the relationship between the mass (walls) and frame; this in turn provides a deeper understanding of the details' cultural and static role.

Strawberry Vale School represents a study in pragmatism. This investigation is most apparent in the column, beam, joist, and rafter selections. Each element was selected for a specific job, e.g., steel for columns and heavy loads and wood secondary structure and framing. Combining materials reflects the "hybrid character of building" where various levels of production are applied for economy which results in "certain expressive values." These expressive values give the building a sense of the particular instead of the universal because the structure responds to the

give localized condition. For YeeHaw's studio, this lesson was translated into detailing rough-cut wood purlins which not only reflected a previous condition but also contrasts the "new" construction.

The secondary steel members, those acting as beams between the columns, are not only used as structural members; they are used to create a ceiling datum in the circulation areas. This datum provides a smaller scale in the large circulation spine and delineates the mechanical area above. The use of building elements to provide a datum translates into maintaining an existing head height that is established at the entry of YeeHaw's studio. The HVAC, lighting, low ceiling, and second floor all correspond with this datum of 11 feet 6 inches within a space that varies between 20 feet and 22 feet.

Strawberry Vale is designed under the mantra of "the process of construction becomes the detail." This philosophy has been very instrumental in making decisions on materials and techniques for YeeHaw. For instance, the design area is a simple wood frame object that is inserted into the original building. The simplicity of this object, however, reveals the method by which it is assembled as well as reflecting the method of assembly for letterpress – unit construction. In this manner, pragmatic details become more than construction solutions; they have reciprocal relation with the design concept.

Ludwig Mies van der Rohe: 3 Corner Conditions

Ludwig Mies van der Rohe's architectural design philosophy was the pursuit of 'clear construction' in building and he considered the "art of building as an intrinsically poetic act" (Frampton, 171) For Mies, the design of a building's corner was not only an exploration of the building art but an opportunity to articulate interior space while establishing a rhythm for the façade on the exterior. Mies was often criticized for repeating the same construction principle as opposed to experimenting with new possibilities. In response, he stated, "It costs nothing to invent interesting forms, yet it requires much additional effort to work something through" (Neumeyer, 339) The corner condition was something to be worked through.

Mies' early training was in the craft of stone work. From this experience, Mies learned the compositional elements of the classical orders from which, "he developed themes about the expression of structure in buildings which hark back to the early Italian Renaissance and even to Ancient Greece" (Groak, 196) The great architects of the Renaissance labored with the problem of turning a corner in stone and the solution was found in geometric studies. For Mies, these lessons would prove invaluable in his investigation of skeletal structures and the element that determines the structural possibilities – the joint. (Norberg-Schulz, 165)

Part of Mies' investigative process was the construction of full-scale details during design, employing both simultaneous detailing and collaborative detailing. By using the methods and materials used on the job site, Mies was

able to replicate the method under which the detail would be realized as construction. In this form of collaborative detailing, the architect assumes the role of craftsman and designer; however, the architect must be skilled in such processes. For Mies, the act of building was analogous to the act of design, assuming the role of craftsman was the only way to achieve clear construction. The process of constructing the corner detail was essential to the success of the building because Mies used these corners to establish the rhythm of the façade and express the manner of the building's construction.

In three distinct projects, Crown Hall, 860 Lakeshore Drive, and the Seagram Building, the corner conditions provide insight into an investigative process that reflects a progression of complimentary solutions and the pursuit of clear construction.

Crown Hall (Fig. M - 1), completed on the IIT Campus in 1956, was an exploration of space defined by skeletal structure. Describing the building, Mies said, "The essence of space is not determined by the mere presence of limiting surfaces but by the spiritual principle of this limitation. The true task of architecture is to let the structure articulate the space; it is not the building that is the work of art but space." (Mies, 86) Expressive of the process of skeletal construction, the building is suspended from four sets of columns and girders that maintain a continuous plane of glass on the facade. This plane becomes the space-defining element for the interior. On the interior, the corner condition detail supports the plane of glass by allow-

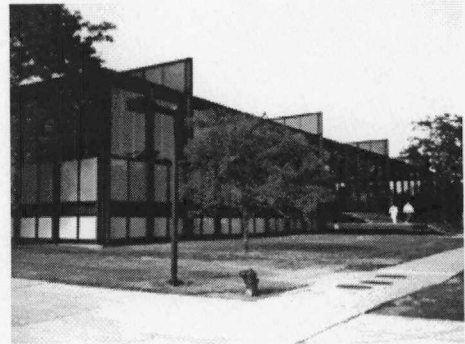


Fig. M - 1

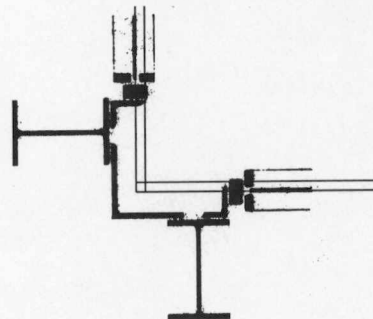


Fig. M - 2

ing the glass to connect at the corner as a continuation of the plane, although the glass does not actually touch (Fig. M - 2). As a correspondent detail, this connection is further expressed in the geometry of the corner itself because the detail has symmetry about the 45° line (Fig. M - 3). The implied connection also reveals and restates the building's relation to the structure because the glass slides behind the column. In plan and section, the volume of the building is contained within the structural skeleton.

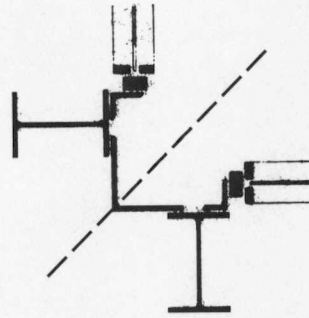


Fig. M - 3

860 Lakeshore Drive in Chicago (Fig. M - 4) consists of two identical 26-floor apartment buildings on the shores of Lake Michigan. The façade, expressive of the 21-foot skeletal structural grid, is uniform on every side which demonstrates the 'clear construction' of a regular skeleton. The corner condition establishes this clear construction. Expressing the structural column within (Fig. M - 5), steel I beams are welded at the column grid axis to a steel plate that covers the frame system. The I beams become a representational element of the structural column within. Furthermore, the same steel I beams are welded to the mullions of the glazing on a regular grid. The glazing conforms to this grid in a 'A, B, B, A' rhythm giving the façade a woven look. By using two different widths of glazing, the importance of the skeleton is further revealed. The use of symmetry in the correspondent detail of the corner condition is expressive of the equality of the building's façades. By placing steel columns on both sides of the corner, the equality is reinforced.



Fig. M - 4

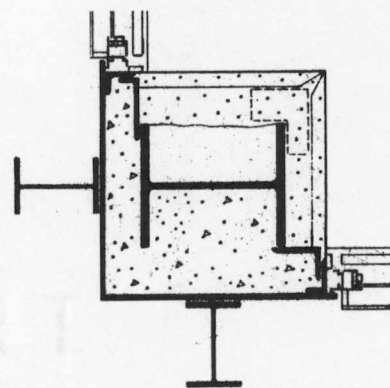


Fig. M - 5

Expressing the structural grid on the exterior gives an in-

dication of the spatial qualities on the interior. In a description of this architecture, Thomas Beeby writes, "the structural frame is a regular bay system. Its dimensions are determined by the requirements of the program. The structural grid is then subdivided into a planning grid, which is reflected on the exterior by the mullion spacing." In this manner, the detail denotes the ideas of clear construction while expressing organizational systems within.

The Seagram Building (Fig. M - 6), located 90 feet off the Park Avenue building line in New York, expresses the exploration of the corner, however, the materials have been changed to reflect the nature of the building. The steel frame has been covered and restated in a bronze curtain wall. The curtain wall, unlike 860 Lakeshore Drive, has been detailed to fit within the structural grid on equal intervals. This regularity expresses the autonomy of the façade as it hangs from the structure. Expressive of this condition, the correspondent corner detail (Fig. M - 7) shows the prominence of the structural column at the corner by cladding it in bronze.

In comparing all three structures (Fig. M - 8), there is a direct attitude expressed in the location of the glazing in relation to the structure. This attitude seems to be the expression of clear construction by the delineation of systems as individual elements within the composition of the building.



Fig. M - 6: Seagram Building

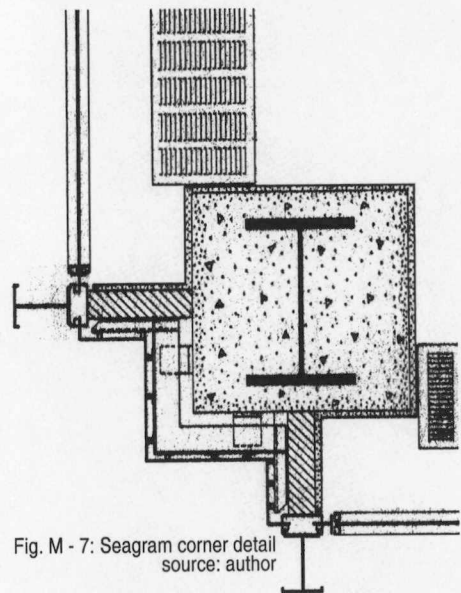


Fig. M - 7: Seagram corner detail
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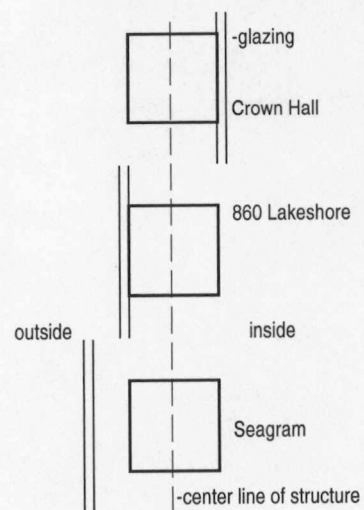
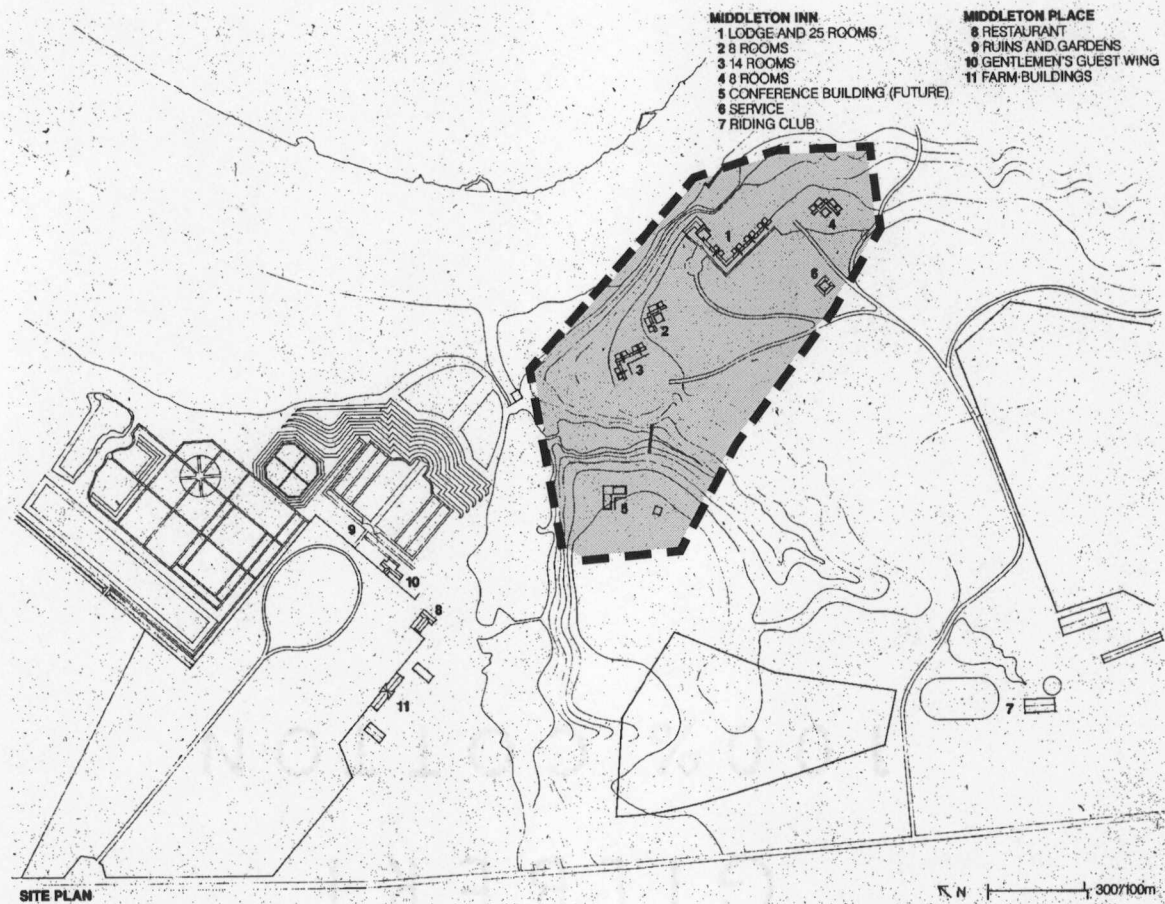


Fig. M - 8

Clark and Menefee Architects: Middleton Inn



The Middleton Inn in Charleston, South Carolina, by Clark and Menefee is a 55-room hideaway on the banks of the Ashley River. The design concept for the Inn was to complement and contrast the 18th century gardens (Fig. MI - 1) and ruins of Middleton Place Estate, which lie adjacent to the west of the new construction. Furthermore, the inn was designed to conform to the immediate site and its context. The concept was realized by manipulating local materials and construction techniques to reveal, restate, and respond to context.

The Middleton Inn site, (Fig. MI - 2) which is not within view of the gardens, has been arranged in direct contrast



Fig. MI - 1

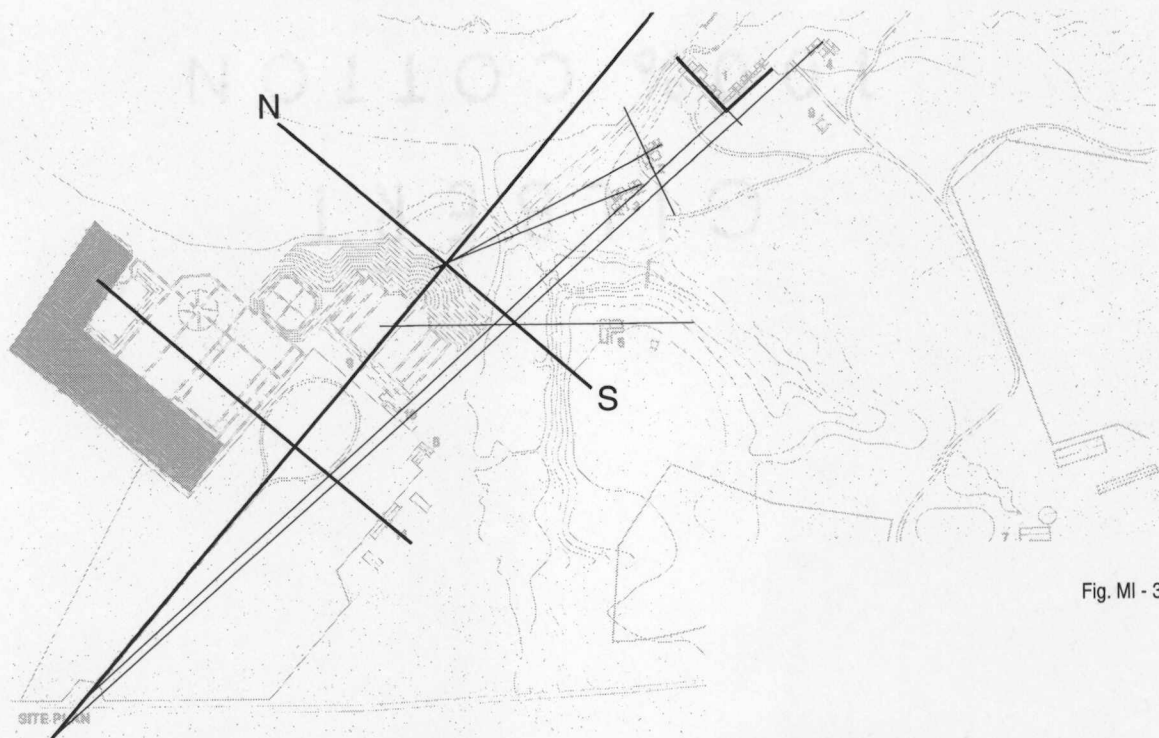


Fig. MI - 3

to the rigid site symmetry of Middleton Place but in conjunction with its localized geometry. As an “American Versailles,” Middleton Place Estate encompasses a controlled, natural environment where landscape has been drastically manipulated into vistas and focal points by using rational order, geometry and symmetry. Conversely, Middleton Inn responds completely to the land. The buildings have been located in pre-existing clearings and they have been designed to affect the site in a minimal fashion; in addition, the footprints acknowledge an axial relationships with Middleton Place. (Fig. MI - 3) Creating a “both / and “ condition of rigid and loose, the Middleton Inn dually reflects the geometric constraints of Middleton Place and the topographic constraints of nature.

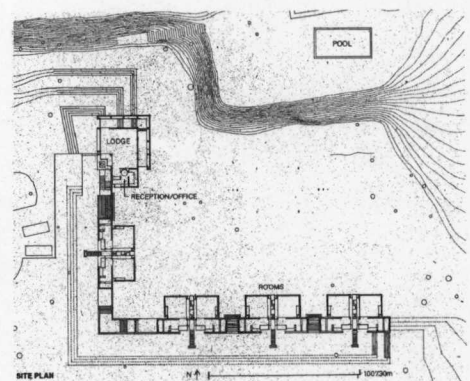


Fig. MI - 4

The main building (Fig. MI - 4), an “ell” consisting of 25 rooms and a lodge, is sited on two edges of a clearing in order to reinforce the edge of the clearing as well as

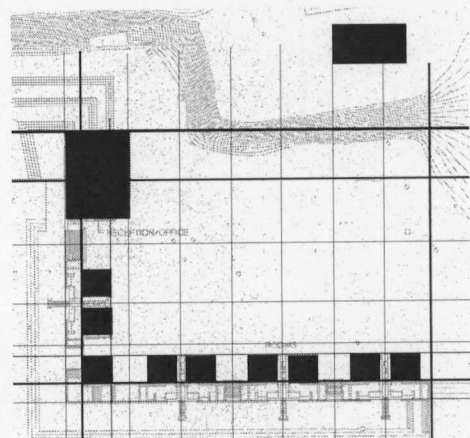


Fig. MI - 5

redefine the grass plane that makes up the clearing. The overall footprint, (Fig. MI - 5) ordered using strict geometric principles similar to those at Middleton Place, reveals an orthogonal grid that organizes the elements into a rational sequence and sets the tone for the architecture to follow. The “ell” is composed of two primary elements: a T-shaped masonry armature and a pair of rectangular wood volumes. (Fig. MI - 6) These elements designate interior and exterior spaces by their disposition to one another. The masonry armature, reading as mass, and the wood volumes, reading as frame, are played against each other in geometry and detail. This inflection between mass and frame expresses what Kenneth Frampton calls “the hybrid character of building.” The expression of the mixed activity of wet and dry construction allows for the possibility of “applying various levels of production to different parts of a given work, not only for reasons of economy and efficiency but also for the realization of certain expressive values.” (Frampton 12) The expressive values can be found in the reveals between two elements. (Fig. MI - 7) (Fig. MI - 8) The details for both connections create a spatial connection between the mass and frame as well as defining areas within the interior of the frame.

The geometry used to order the site has been used to order and size of the floor plan. (Fig. MI - 9) The curved wall at bathroom (Fig. MI - 10) provides a unique element which reinforces this geometry.

The main house at Middleton Place sat for many years in a ruined condition after Union Forces burned it during the

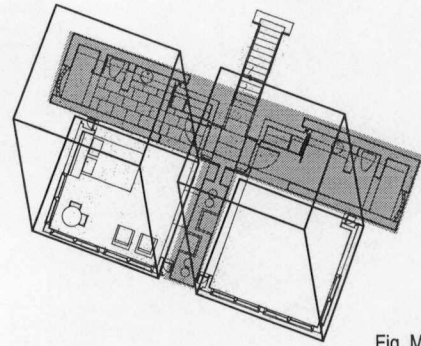


Fig. MI - 6

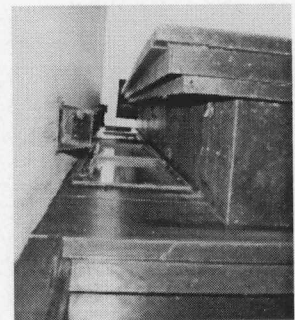


Fig. MI - 7



Fig. MI - 8

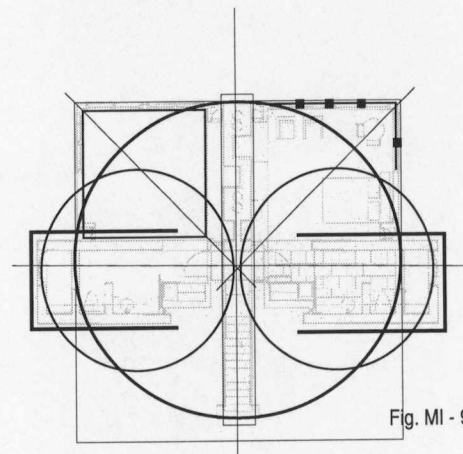


Fig. MI - 9

Civil War. The masonry armature (Fig. MI - 11) provides the first hint of those ruins which are located across the bridge. The armature, a wall of brick and concrete with a stucco finish, has little articulation on the exterior, giving the appearance of an exposed undercoat that once had another finish. This quality is furthered by the use of a "slave coat" as the exterior covering. The slave coat, a local stucco technique, was used widely at Middleton Place and matches the color of the moss on the site. This color and its articulation creates a joint between history and local context. In detailing the masonry armature, the joint between the building and the ground (Fig. MI - 12) is treated in the same manner as the joint between the building and the sky; (Fig. MI - 13) there is no transition. This direct connection of the masonry wall to the ground allows ivy to cover it on the forest side, creating a "modern ruin" and, eventually, creating a hedge. This detail also references the trained ivy that is used abundantly at the Middleton Gardens. This effect is further enforced because the armature has no cornice on this side. In section, the building provides a transition by fitting into the topography (Fig. MI - 14). On the forest edge, the masonry wall is two stories; however, on the water side the frame building is three stories. The ell-shaped armature hedge, in a sense, defines an outdoor room in the same way the hedges in the gardens define outdoor rooms.

The transition from forest to courtyard is further delineated by monumental punches in the skeleton armature. These punches are designated by large white granite headers (Fig. MI - 15) which create a structural simplicity and signify

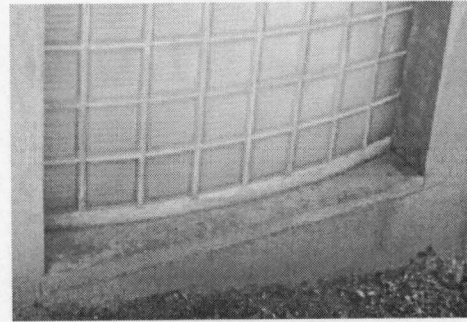


Fig. MI - 10

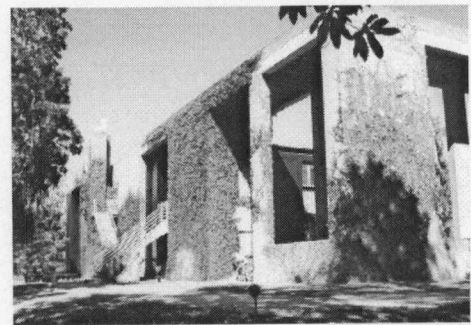


Fig. MI - 11

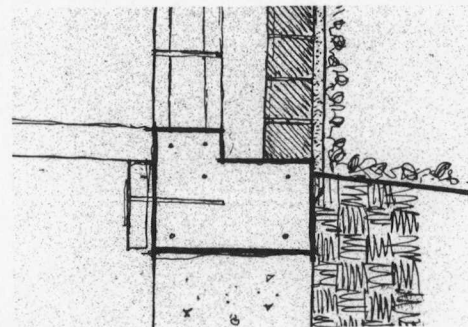


Fig. MI - 12

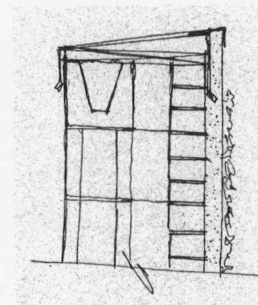


Fig. MI - 13

an important gateway. The white granite contrasts with the gray stucco in color as well as cultural importance. The gateways alternate between an entrance to the courtyard and an entrance to the individual rooms with no change in designation. In this manner, there is equal importance given to both locations as well as reinforcing the simplicity of the armature. (Fig. MI - 16)

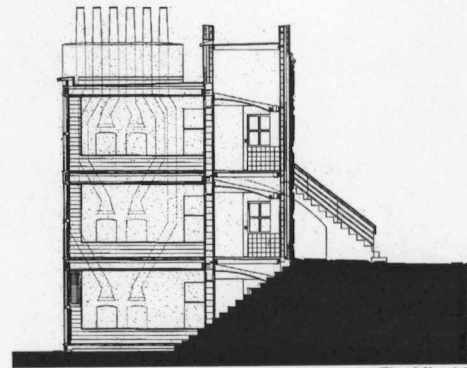


Fig. MI - 14

Within each gateway is a staircase, either to a room or to the courtyard, that is representative of the layout of Middleton Place. These staircases provide an important historical joint of understanding. The participant experiences a stair that has no terminus, just as the path on the bluff at Middleton Place rises with no apparent end. The stairs also represent a condition of localized symmetry, just as the stairs at Middleton Place create the same condition. The stairs that lead to the room entrances (Fig. MI - 17) terminate at a landing; however, the penetration in the armature allows for a view to the sky above the room modules. This view represents the view at Middleton Place.



Fig. MI - 15

The armature is used not only to define the edge of the clearing, but also to divide the two frame units. This is done pragmatically to provide a fireplace. (Fig. MI - 18)

The rooms, the second of the two primary elements that make up Middleton Inn, are articulated in complete contrast to the armature. The rooms are clad in wood shiplap siding painted "Charleston green." The green is so dark that it blends into the surrounding forest and can

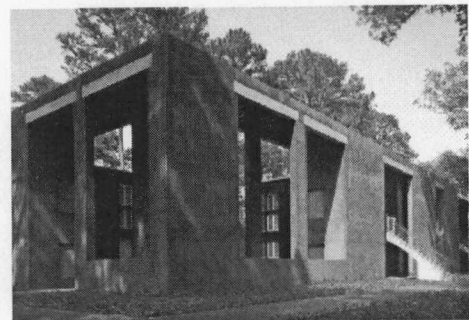


Fig. MI - 16

almost disappear. The wood siding (Fig. MI - 19) has been detailed to show the frame of the structure with a wood or glass infill. This has been done for two reasons. The first is that the pattern of the siding is not being used to establish a rhythm but merely to cover a volume. The second is that the labor required to assemble this detail is less because there is less cutting in the field. Each of the room volumes contain three bedrooms stacked on top of each other with windows from floor to ceiling. The pattern of these windows creates a large grid which breaks down to a 1:6:24:48 pattern (Fig. MI - 20); also a 2:2 pattern shows the relationship as the plan reads.

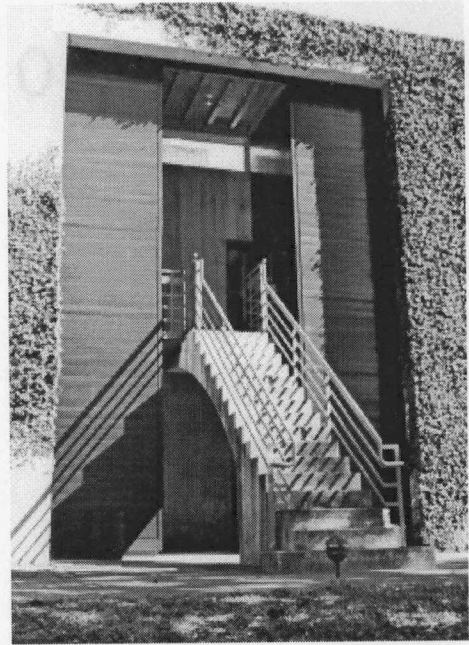


Fig. MI - 17

In stark contrast to the armature, the joint between the building and the ground (Fig. MI - 21) on the room volume has been detailed as a type of platform to offset the volume as well as create a joint between the plane of the courtyard and the building. This joint separates the building from the ground while maintaining the same plane. The joint between the building and the sky (Fig. MI - 22) has been detailed with a reveal as well. A cornice of copper has been used to transition between building and sky. The copper will age to become dark as the building, while showing an aging of the building.

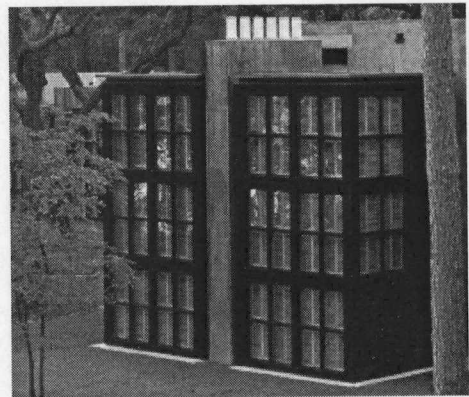


Fig. MI - 18

The rigid geometry that governs the site flows into the layout of the individual rooms. The glazing jambs and the exterior reveal establish the same definition of space that the entire building provides in the courtyard (Fig. MI - 23).

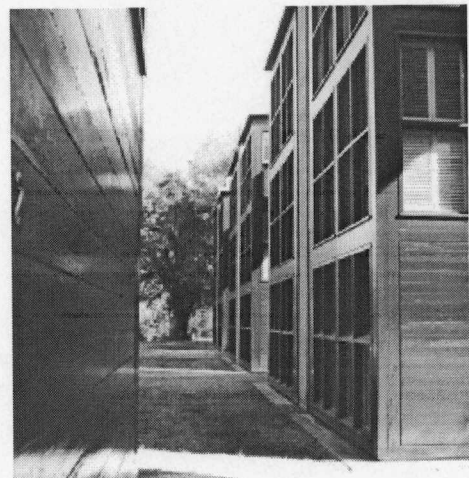


Fig. MI - 19

On the interior, the finishes have been selected to

complement the exterior finishes. In the armature, which houses the bathroom, (Fig. MI - 24) the tile floors and walls complement the stucco ceiling. This gives the armature a caved look, as if the rooms were excavated from a large rock. In the rooms, the finishes are light wood which gives a feeling of warmth. (Fig. MI - 25) The shutters contrast the dark green of the exterior which further reinforces the window pattern.

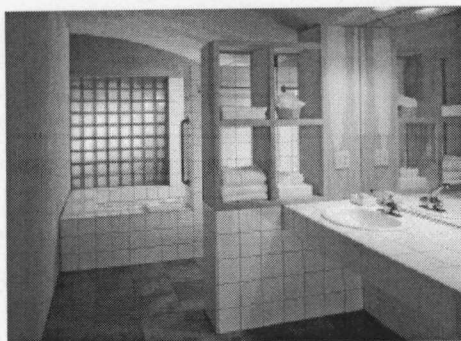
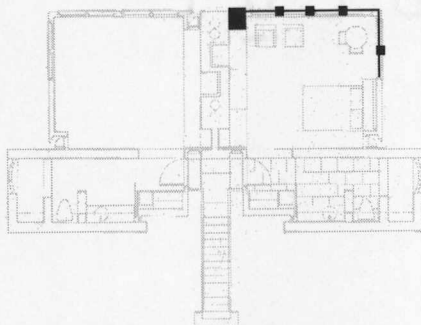
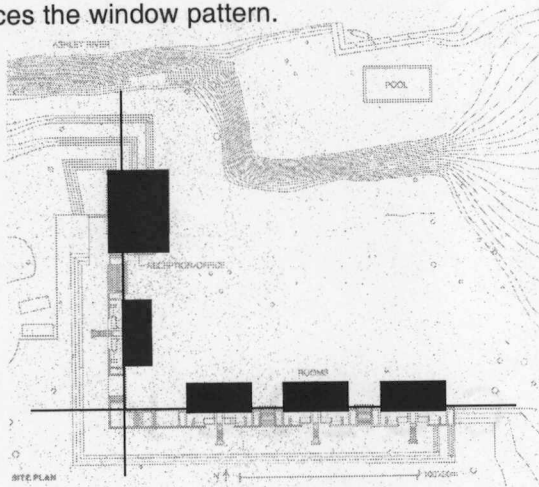


Fig. MI - 24

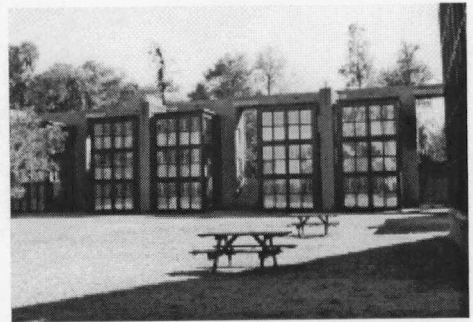


Fig. MI - 20

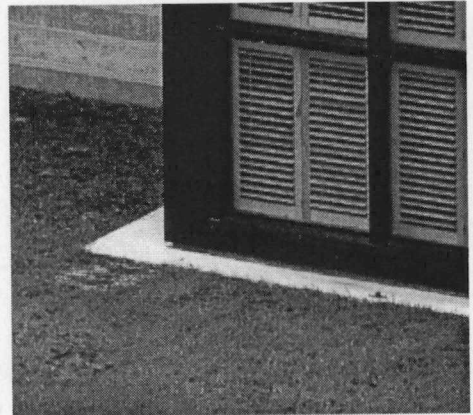


Fig. MI - 21

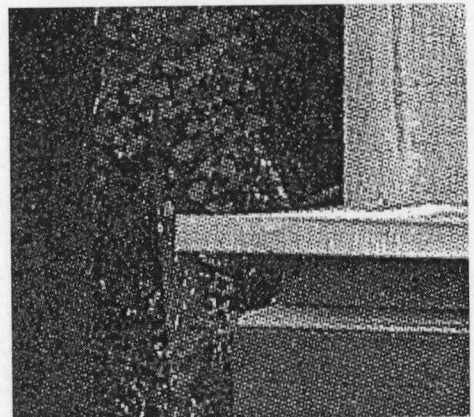


Fig. MI - 22

Fig. MI - 23

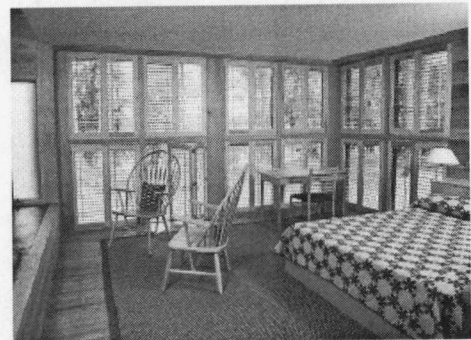


Fig. MI - 25

Vita

Jeff Ervin attended Memphis State University and graduated with a Bachelor of Science in Technology with a major in Architecture in 1993. He worked for Hnedak Bobo Group Architects prior to being accepted into the Graduate Architecture School at the University of Tennessee. After graduation in August of 2000, he accepted a position with Susman Tisdale Gayle in Austin, Texas.