Architectural Mutualism:
A Marriage of Old and New

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ABSTRACT

The dialogue between old and new architecture is a conversation brought to the forefront of the conservationist movement and city planning efforts as cities expand to their physical limits and eco-friendly reuse options become mainstream. As designers try and achieve a mutual respect between existing buildings and modern interventions, we are often faced with the dilemma of not only deciding which architectural artifacts should remain but also how to compose the different historic and modern layers in a way that formulates a new and more dynamic whole as a result of the interaction.

The following thesis is an adaptive reuse project of a historically and architecturally significant, turn of the century firehouse located in northwest Washington, DC. This architectural endeavor seeks to find a mutually respectful balance between old and new architecture while highlighting the clear differences in building materials, design aesthetic, and construction methods.

ACKNOWLEDGEMENTS

With sincere gratitude, I wish to acknowledge those people whose support and friendship have made this experience possible. To my thesis committee – Paul Emmons, Marcia Feuerstein, and Susan Piedmont-Palladino – for their encouragement throughout this project and their unwavering belief in my vision. To my friends and architecture peers who supported and inspired me every step of the way. To my family who reminded me of my love for architecture that began at such a young age and who has always been my biggest group of supporters. Finally to my husband, Ryan, who reminded me that there is a world beyond the studio.

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“For indeed the greatest glory of a building is not in its stones, or in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay even of approval or condemnation, which we feel in walls that have long been washed by the passing waves of humanity.”

-John Ruskin, *The Seven Lamps of Architecture,* 155

INTRODUCTION

Today, renovating and converting old buildings has become a mainstream response to our current ecological, economical and cultural values. The dramatic shift from urban renewal to conservation at the beginning of the 1970s has prompted designers to focus their attention on preserving and utilizing existing architecture and it has since become a core facet in urban planning strategy (Schittich 11-12). The emotional responses that these old buildings can elicit from a person is evidence of the meaningfulness of our cultural heritage and the desire to retain a tangible link to a past era. Historical buildings are physical representations of a past way of life that serve as markers of memory and provide an important sense of orientation (Stubbs 51).

While the need for such historical references to be maintained and preserved is without question, buildings must adapt to the times and allow for new uses as human needs and activities evolve with modernity. More often than not, integrating these new uses into old buildings requires some transformations as the uses for which some old buildings were designed no longer have a place in modern society. The act of converting these buildings centers on the delicate balance of evoking the spirit of the old buildings while still successfully accepting a new activity (Greer 6-7).

PRESERVATION METHODOLOGIES

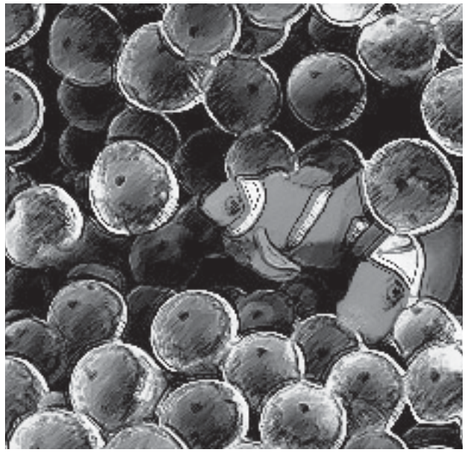
Since there is a broad range of conversion architecture and no one correct answer for preservation design, a designer's approach is usually dependent upon the existing building itself and also on the designer's core belief in the fundamental relationship between old and new. Johann Jessen and Jochem Schneider have identified three design strategies that architects can employ in the conversion of existing buildings that involve finding a building-specific balance between the value of the structure and the value of the new function (Jessen and Schneider 14).

The first approach is the most formal of preservation methodologies and focuses on authenticity and minimal intervention. Of utmost importance is to find a compatible new use that bears a close resemblance to the original intent or structure and to only allow for essential structural alterations. Such conversions typically involve an old building being preserved and opened up to the public as a museum (Jessen and Schneider 17-18).

On the contrary, the second approach values the existing fabric merely as a material for the new entity. Most commonly involving the reuse of ordinary buildings with no symbolic value, perhaps even previously slated for demolition, this approach is usually undertaken for pragmatic, economic reasons. The existing building is treated with an 'anything goes' attitude where there are no constricting guidelines and no "demand for authenticity." The building has no exaggerated emphasis of the old and no definable threshold between the existing and the new. The resulting entity is a homogenous whole, neither "distinctively old nor distinctively new" (Jessen and Schneider 19).

Finally, a third approach entitled "Layers and Fragments: The Idea of Difference" is based upon the notion that the old and new discover their expression side by side as historic layers are brought into relation with each other. "The idea of the homogenous whole is replaced by a two- or multi-layered model, in which the space is composed of different fragments which only formulate a new whole as a result of their interaction. The new component is an obvious addition, clearly legible in the image and fundamentally different from the existing substance" (Jessen and Schneider 18). The old and the new are treated in an equal manner and neither is celebrated nor accentuated above the other. The old building is not revised but instead reinterpreted as a result of its juxtaposition with the new intervention.

Driven by the idea of contrast, the third design strategy mirrors many of today's cityscapes, where the interactions of differing architectural vocabularies provides for a dynamic, built environment. As Nora Richter Greer points out "Most of the extraordinary expansion of the 19th century was clothed in historic styles, often in a wildly eclectic manner, to create an architecture the scale and complexity of which the world had never seen before" (6). Diversity within the city, as exemplified in the ages and styles of buildings and infrastructure, is what creates a richer built environment and a deeper connection to our common cultural heritage. The range in building types creates an interesting historic architectural fabric with contrasting layers indicating the design aesthetic and construction techniques of the period in which it was built and therefore bearing testimony to each succeeding age (Robert 4).



MUTUALISM

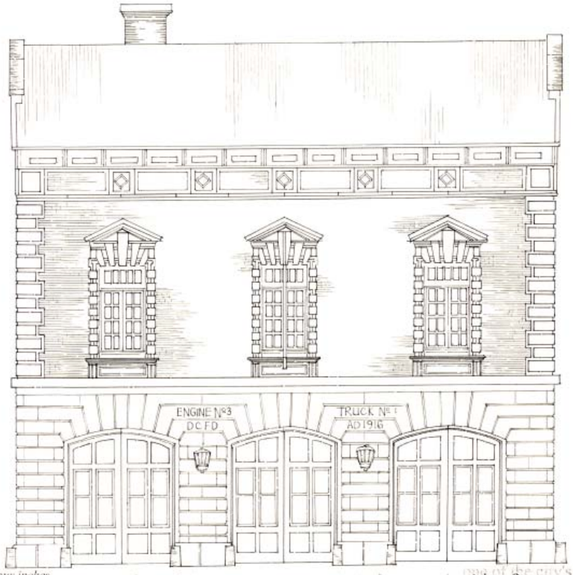
In employing this third design approach, a delicate equilibrium is necessary in order to maintain a mutual respect between the old and the new, whereby neither the old nor the new is seen as a mere adornment of the other and their interaction results in a more enhanced whole. In describing the association the old and new entity have with one another, one can draw comparisons to the organic relationship of mutualism. Defined as a biological interaction that is beneficial to both parties, most mutualisms are facultative, meaning that the partners can successfully live apart. In a symbiotic mutualistic relationship, both parties live within close proximity to one another and there is an obligatory relationship of interdependence. At least one of the parties relies upon the other for survival - well beyond a simple opportunistic relationship.

This mutually obligate interdependence can be thought of architecturally as a mutual reliance between old and new in which both entities give to the benefit of the other and exist to a fuller capacity as a whole. This interdependence can be demonstrated through structural support, programming, lighting, circulation and aesthetics and provides an interesting framework through which to guide a conversion of an existing historic building….and a marriage of old and new….

DESIGN INTENT

In the following thesis, I've employed the final design strategy of "The Idea of Difference" in my adaptation of a turn of the century Washington, DC firehouse. This thesis is a case study for reinterpreting and reactivating an existing historic building and creating a mutually obligate interdependence between the new and the old that is both respectful and purposeful. Great effort has been taken to highlight the clear contrast in building materials, design aesthetic, and construction methods over time.

Contrary to the conception of a faithful restoration, I have taken great liberties in my conversion of Engine Company 3 and, in some ways, gone against the Secretary of the Interior's Standards for Rehabilitation for historic buildings. I feel it is important to look past the prescribed preservation requirements and make sharp distinctions between the old and the new while also using the intervention to invigorate the old and make a more vibrant new whole. While I agree that "new construction shall not destroy historic materials that characterize the property," I strive to challenge the notion that a new addition "shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired" (U.S. Department of the Interior). For a building to accept a new activity, this often means that designers must make judgments about the historical significance of existing elements and determine the relevance of preserving these elements in order to create a new functional and appropriate space. The conversion should not be restrained in an effort to make the intervention a mere decoration that can be discarded at a later date when a new style of building is fashionable. An intervention should create a new whole, not add a component as though it is an afterthought hastily affixed to a beautiful piece of built history.



three sixteen-pane casement windows, each with a five-pane transom

three stories tall

faced with diaper-patterned brick

topped by keystone voussoirs and broken pediments

a classical tripartite design

bottom of the frieze serves as the stringcourse delineating the top of the second floor

"Engine No. 3, D.C.F.D."

"Truck No. 1, A.D. 1916"

extending above the ceiling of the second floor

window arrangement is monumental in scale

Italian Renaissance Revival

American interpretation of Italian Renaissance revival

front elevation is ornamented with false roofs

reflects the stature of the fire company charged with protecting Congress

contains three arched apparatus doors

black wrought-iron letters identify the building

THE STORY

Known as “Engine Company 3”, the building located at 439 New Jersey Avenue, NW in Washington, DC is a building steeped with a history present even in the pockmarked bricks and tar stains spotting the original pine floors. Built in 1916 as the future home of the city’s most prestigious fire company, Engine Company 3 was one of the city’s most elaborately designed firehouses of the time, and by all accounts, the work of a locally prominent architectural firm.

Located only four blocks from the Capitol, Engine Company 3 was charged with protecting the Capitol and was originally staffed by senators, congressmen, and Washington’s elite. Like other pre-World War II DC firehouses, Engine Company 3 was designed to function as a landmark for the surrounding commercial and residential neighborhood and served as a center for community civic and cultural activities.

Designed to be one of the city’s first fully-motorized engine and ladder stations, Engine Company 3 is also significant as one of only two surviving downtown firehouses and one of only two surviving three-bay firehouses of the period. Large and elaborately detailed, Engine Company 3 was not typical of firehouses designed for residential neighborhoods, a testament to the stature and prestige of the company working within its walls (Historic Preservation Review Board 2).

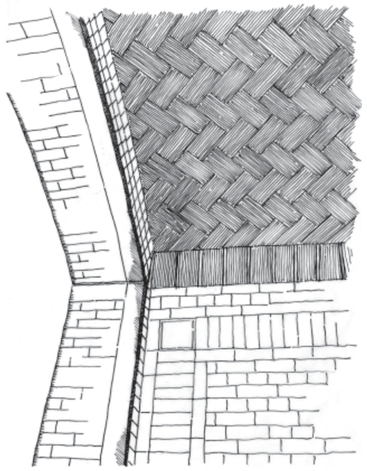
At a grand height of nearly 50 feet, Engine Company 3 is an American interpretation of Italian Renaissance Revival style. The façade composition is typical of American firehouses constructed between the Civil War and World War II and consists of a classical tripartite design. Intricate details such as limestone quoins, keystone voussoirs, broken pediments and a limestone and brick-work frieze add to the ornamentation of the façade (Historic Preservation Review Board 2-3).

The floor plan is highly functional and efficient with three full floors, attic space and a partial rear cellar. The first floor consists of the apparatus room, kitchen, sitting room and dispatch area. The second floor consists of a large, open-space bunk-room at the front and a bathroom, locker room, and two private offices at the rear. The third floor, once home to additional bunk space and possibly even a battalion's chief quarters and medical clinic, currently houses a fire museum devoted to the DC Fire Department history.

"*Architecture is to be regarded by us with the most serious thought. We may live without her, and worship without her, but we cannot remember without her.*"

-John Ruskin, *The Seven Lamps of Architecture,* 164

Noteworthy interior architectural artifacts in the space include the original four-story wrought-iron circular staircase, the five two-story fire poles, the slow-growth pine woodwork and trim throughout the second and third levels, and the Guastavino tile work within each front entry arch.



Historic Building Has Housed Firefighting Organization Formed in 1806.

With the completion of the park which is to link the Capitol and Union Station, Washington will have lost several historic buildings, which now occupy squares that are to be given over to trees and shrubbery. Among these old buildings, No. 3 engine house, built in 1874, and housing one of the oldest fire

1. *The Washington Herald*

Kelly-Norton Close Engine Co. 3

On October 31, 1993 at 0700 via vocalarm message, Engine Co. 3 was placed out of service by Fire Department Communications Division, thus ending a long and protracted battle between Local 36 and the Executive Branch that began in 1982.

It appeared that early in the budget process, once again, Congress would provide the language to keep the fire house open. Senator Kohl, D-WI and Chairman of the Senate D.C. Sub-Committee on Appropriations, added the necessary language to the Senate Bill. But, despite intense lobbying from IAFF Locals in Wisconsin, and personal contacts from Local 36, D.C. residents, and local businesses, Senator Kohl caved in to the Mayor and D.C. Delegate Norton. He refused to support his Senate language in conference.

Closing the Fire House "was the big victory of this Appropriations Session," said Delegate Norton, "that's been a long time coming."

Just who won the victory remains to be seen. Both Kelly and Norton are claiming credit. Local developers will soon be in a bidding war to obtain the valuable tract of prime real estate. However, the real losers are the citizens of the District of Columbia who will be deprived of the speedy and efficient service that has been delivered to them by Engine Co. 3 since 1871.

In FY 1992 Engine 3 responded to 3,644 calls for assistance.

2. *The Capital City Fire Fighter*

3. *The Capital City Fire Fighter*

Historic Firehouse Near Capitol to Reopen

Dilapidated and shut down in the bleak days of budget cuts seven years ago, the D.C. fire department's historic Engine Company 3 will reopen tomorrow and resume its place as one of the most famed firehouses in the city.

A reopening public ceremony, hosted by Mayor Anthony A. Williams (D) and interim D.C. Fire Chief Thomas Tippett, is scheduled for 11:30 a.m. Tuesday at the station, 439 New Jersey Ave. NW, the department said.

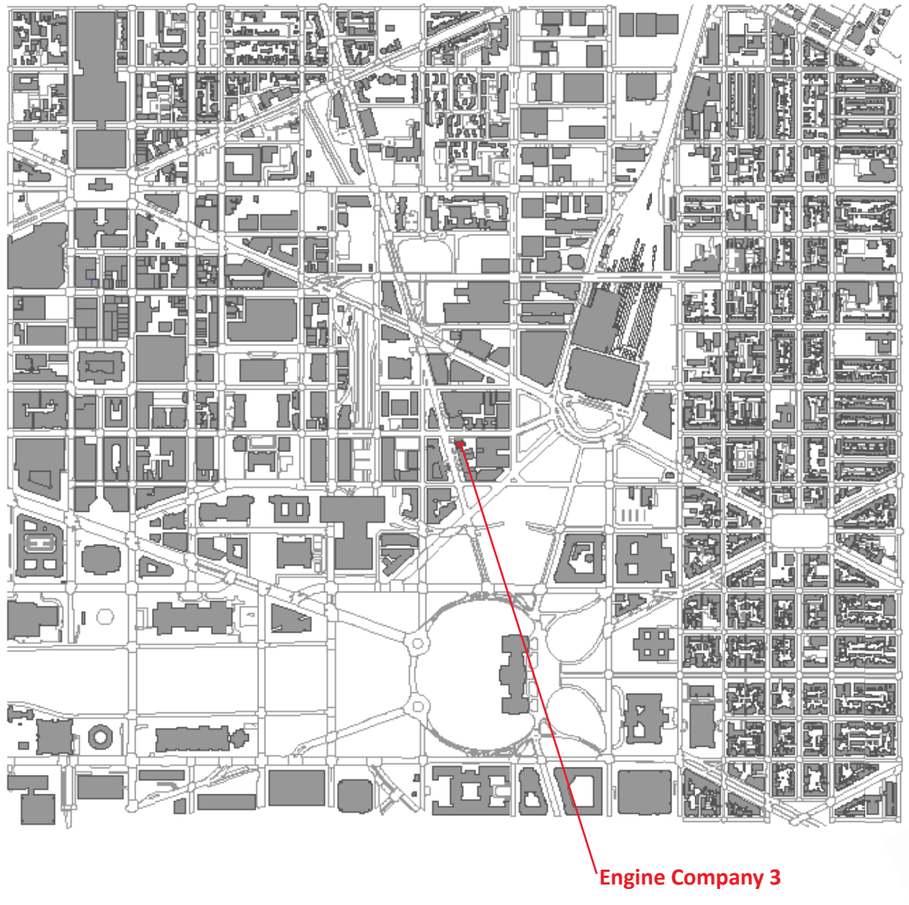
Founded in the early 19th century, Engine 3 was originally called the Columbia Fire Company and was first staffed by members of Congress, doctors and lawyers. It has traditionally been the firehouse of the nearby U.S. Capitol.

4. *The Washington Post*

The current condition of the property is exemplary with the original façade completely intact. A 1999 interior restoration removed multiple layers of paint from the interior brick walls and pine-clad columns and ceilings and reversed damage to the original wood floors. A more recent renovation converted the former four-story hose tower into an operable elevator for access to the third level fire museum. Notwithstanding the numerous interior partition wall changes and partial drop-ceilings on the first and second levels, the building is significantly similar to the 1916 plans and its quasi-continued use over the last 100 years has kept the building from falling into decay and disrepair.

Having previously faced closure and the threat of sale, Engine Company 3 will most likely fall victim once again to the budget setbacks facing the department and the effects of the development of newer, more modern stations coming to fruition nearby. By converting Engine Company 3 for a more timely and suitable use, we can preserve its historically significant features and bring life to a building at risk of becoming stagnant and overlooked.

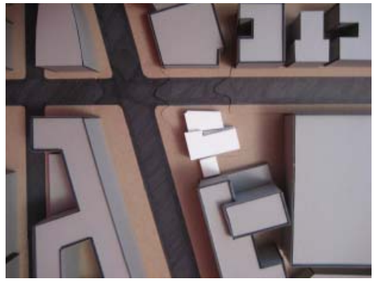
Despite the demise of the neighborhood firehouse and the idea of the firehouse as a lively center for community activity, the architectural and cultural significance of the building instills the desire to not only retain the ethos of the fire station but to keep the building in continued use for the public, not private sector. As a prominent piece of a shared history, the building should remain accessible and inviting to the many with a use worthy of the building's significance, hence the adaptation to a community library.



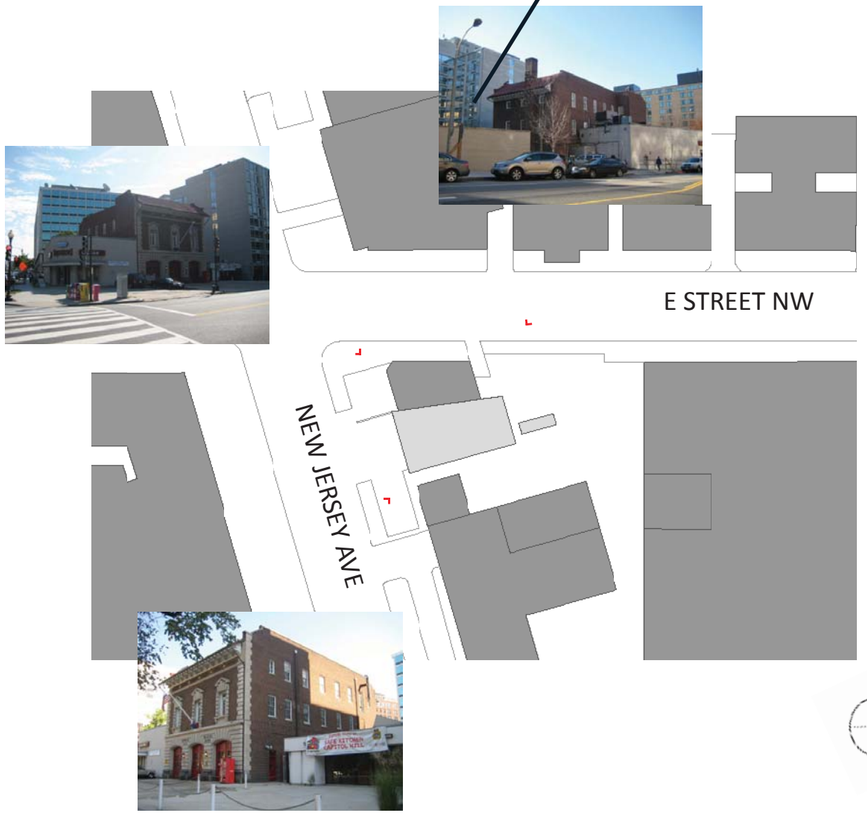
THE SITE

The site of this architectural endeavor is located at the southeast corner of the intersection of New Jersey Avenue and E Street NW, only four blocks from the U.S. Capitol in Washington, DC.

The building is located in a predominantly commercial district of the city and is surrounded by two-level commercial tear-downs, mid-century hotels, contemporary office buildings, and two historic condominium buildings to the north. The lot is relatively flat but the northernmost sidewalk bordering the site rises with the street grade creating a sunken depression at the northeastern corner of the lot.



A large wall bordering the northern sidewalk hides the neighboring building's grade-level HVAC equipment.



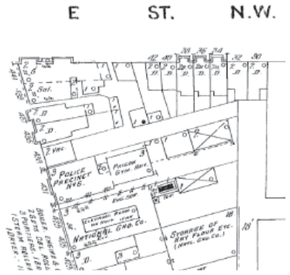
The existence of three dilapidated commercial buildings adjacent to the existing building provides adequate space for expansion to the north and south, while a one-story non-historic fuel storage building and parking lot provide space on the eastern side of the lot. The existing front façade of the building faces west and is set-back from the sidewalk by a 33-foot-deep paved surface.

At its inception, the firehouse was bordered to the north by multi-story commercial row-houses, thus the need for the northern wall open-air light well at the second and third levels of the building. Various buildings have existed on these lots ever since, as evidenced by the Sanborn maps. Today, the existing two-level liquor store would completely block the second level north façade windows were it not for this light well.

1888

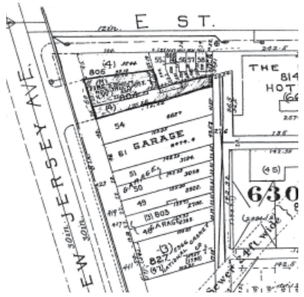
5. *Digital Sanborn Maps*

1904



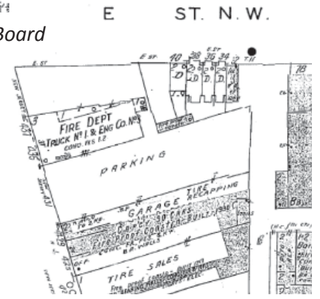
6. *Digital Sanborn Maps*

1929

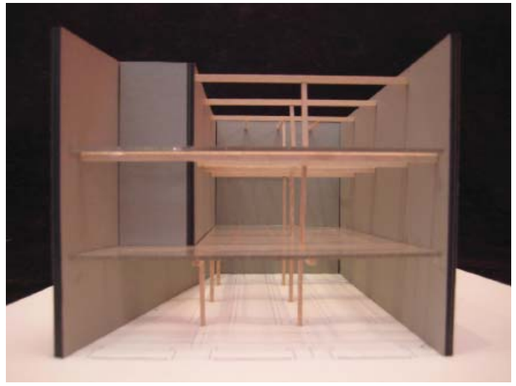


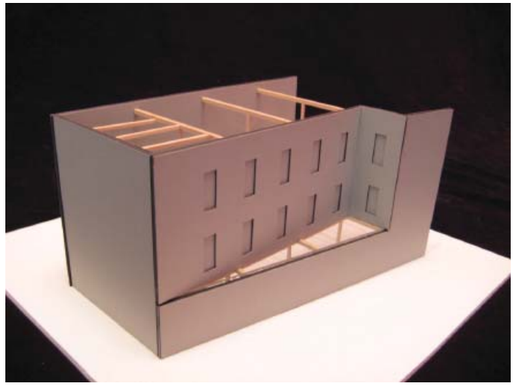
7. *D.C. Historic Preservation Review Board*

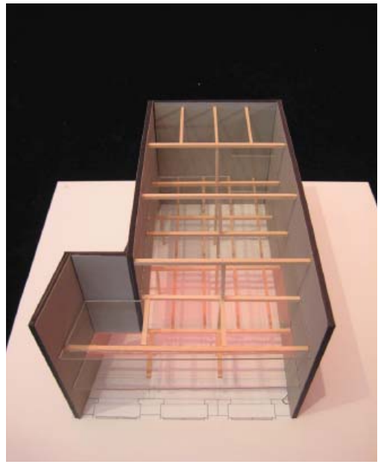
1959



8. *Digital Sanborn Maps*



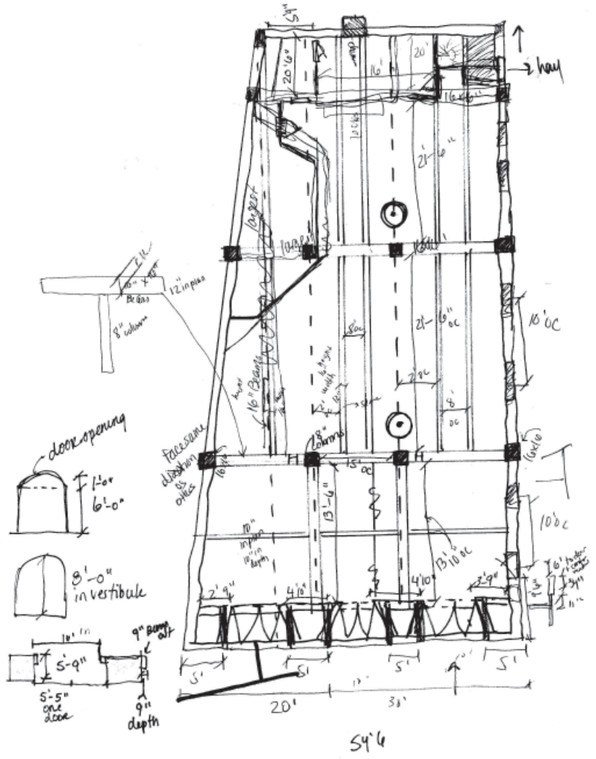




THE OLD

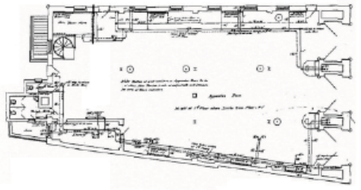
In the following project, I've proposed an adaptive reuse project that seeks to not only find a new use for Engine Company 3 but to retain the memory of the old building by preserving architecturally significant artifacts and maintaining the integrity of the original building.

My thesis research began with an extensive exploration of the existing building and site that proved to be an exercise in clever guesswork and exhaustive interviewing. My first few site visits were without existing plans so it was necessary to draft plans for the three floors I was given access to and to produce a structural diagram. Locked rooms and drop ceilings left many of my early observations to be clever guesswork and an irregular and varying structural grid was challenging to make sense of early on.

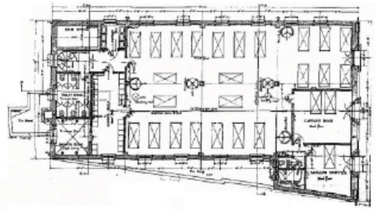


Later-found hardcopies of the 1915 plans proved to be reasonably comparable with what was in fact built in 1916 and provided a definitive structural plan with which I could move forward. Varying discrepancies were noted only in terms of interior partition wall placement and column spacing.

1915



9. D.C. Department of Public Works



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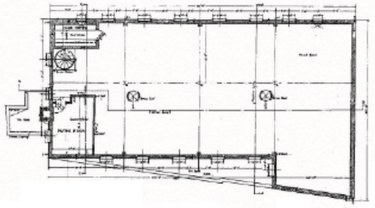
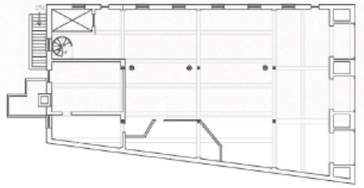
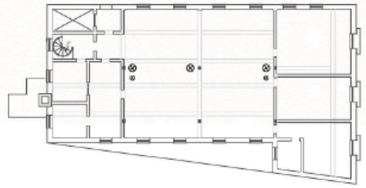


11. D.C. Department of Public Works

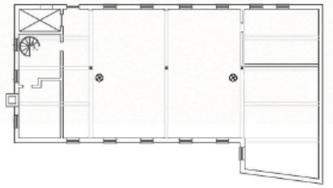
2010



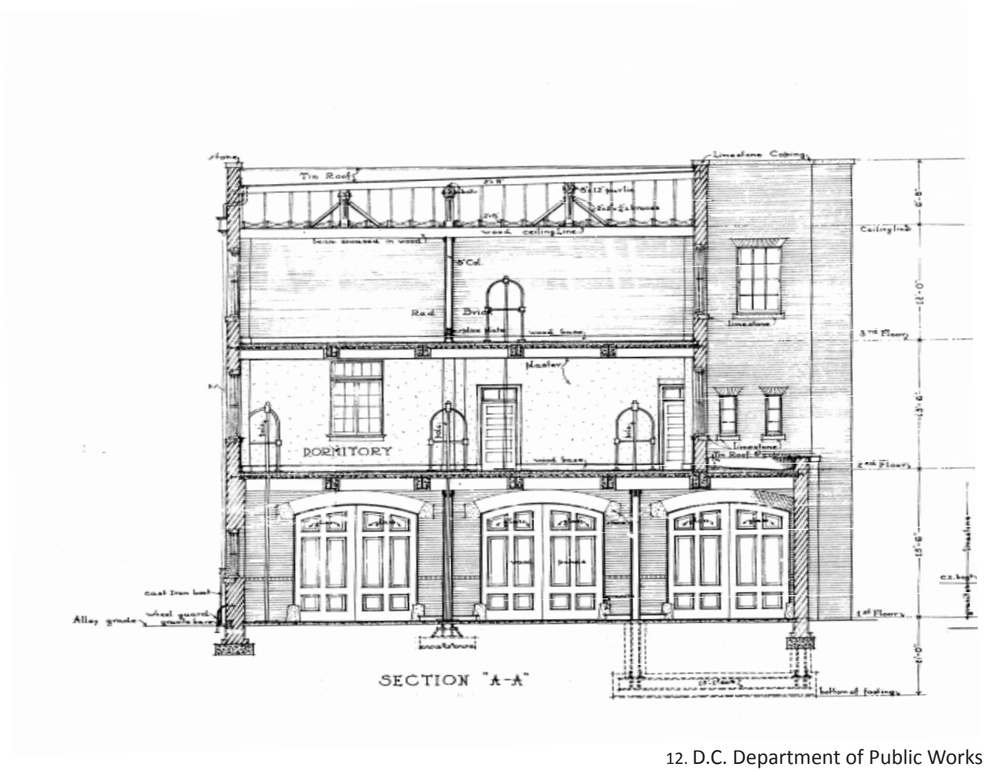
First Level



Second Level



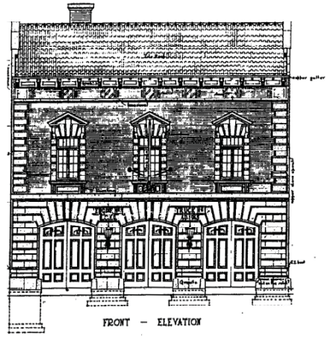
Third Level



12. D.C. Department of Public Works

13. D.C. Department of Public Works

The façade was built as-designed and today remains completely intact. My intention from the beginning was to preserve the façade as much as possible, as it is the face of the building and one of the most architecturally significant features.



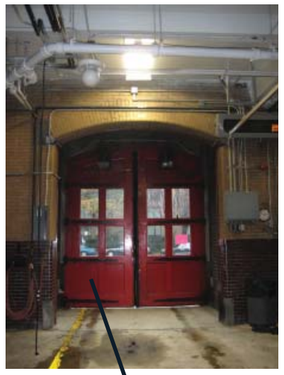
14. D.C. Department of Public Works

1915 Design

2010

Interior photos effectively illustrate the current condition of the firehouse and my access to the building provided the indispensable means of filling in the gaps of the missing information from the 1915 drawings.

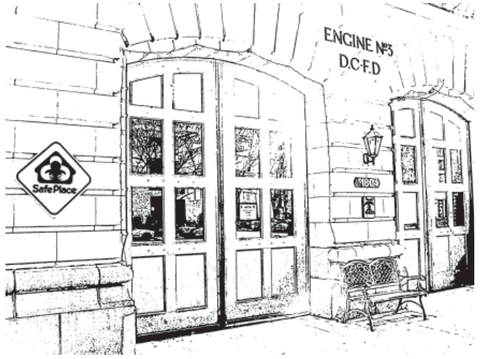
The original slow-growth pine paneling was restored during a 1999 third level rehabilitation.



The apparatus doors were moved forward by 6 feet in the 1920s to accommodate longer, motorized trucks.

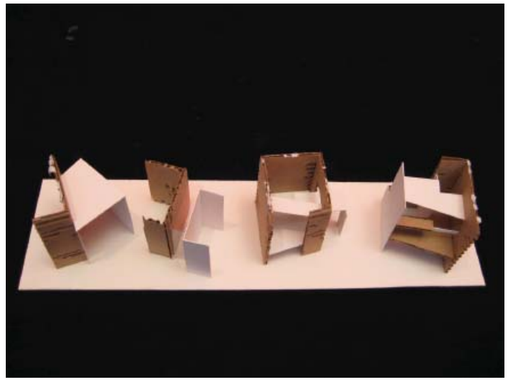
The former hose tower was recently converted into a four story elevator.

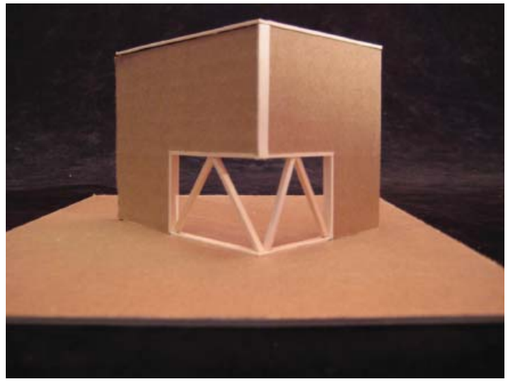
The attic crawl space was originally used for hay storage.

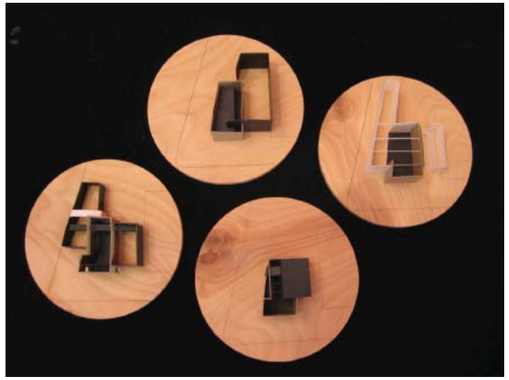


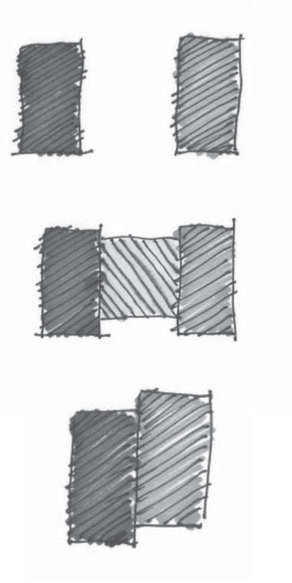
"The building already has a story; all you have to do is add the interesting next chapter."

-Stewart Brand, *How Buildings Learn: What Happens After They're Built*, 105









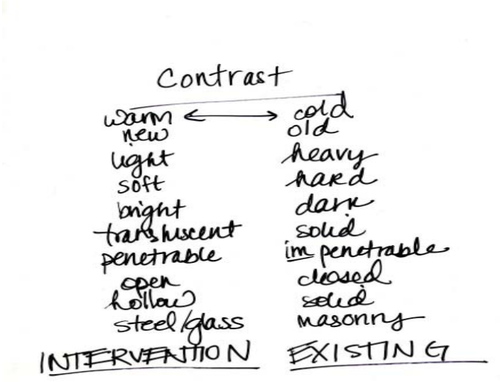
THE NEW

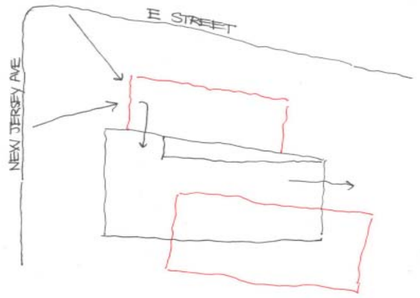
In my early analysis of possible interventions, I began with an exploration of the joint between the old and new and a study of the varying degrees of structural reliance that the old and new buildings could have upon one another.

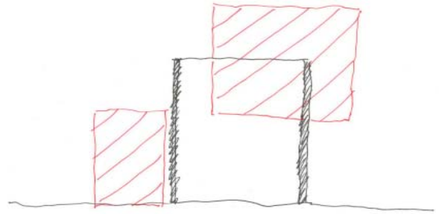
The reconciliation of the joint between the old and the new can ultimately be obtained in three ways:

1. A separation of distance between the old and the new forms.
2. A third form different from the other two that acts as a transition element.
3. The two forms side by side with a clear contrast between their materiality to highlight and even exaggerate their distinction.

One of the key facets of this endeavor was to clearly stress the contrast between old and new. My objective was not to blur the lines between the existing and the intervention but to make sharp distinctions in materiality, space and construction methods.

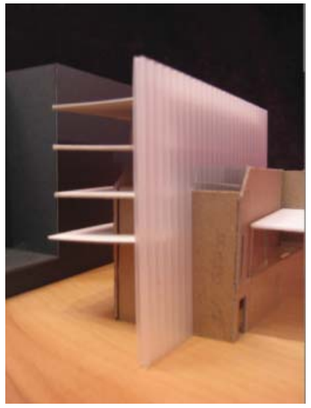


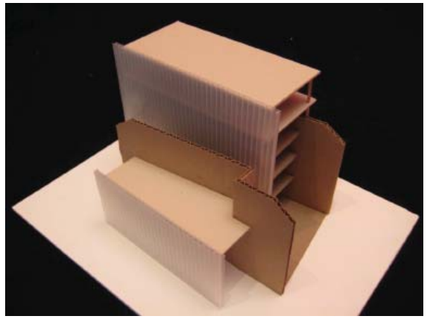




Ultimately, I couldn't limit myself to working within the existing building envelope. The existing 9,800 square feet was not appropriate for a modern 100,000 volume library and would have to be doubled in size to accommodate open stacks, circulation desks and study areas. Since I felt the façade, floor to ceiling heights and thick masonry walls were character defining elements of the building, every effort was made to preserve and celebrate these features. My design intention then was to emphasize the old and build up and out in a way that stressed the height of the building, exposed the building's load bearing capabilities and allowed for a way to experience the old and the new at the same time.

My overall design plan was to create two new volumes that would provide the additional square footage needed for this modern conversion while still keeping the existing exterior building walls considerably intact. The first new volume would project off the northern wall of the existing firehouse at grade level and provide a new point of entry to the building while also centralizing a new light-filled atrium to be built within the existing envelope. The second volume would be a cantilevered space projecting out and through the firehouse's south wall at the third level and rising two stories above the current roofline.

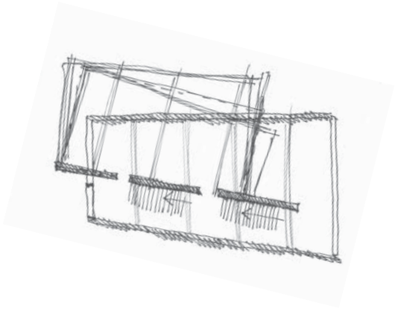


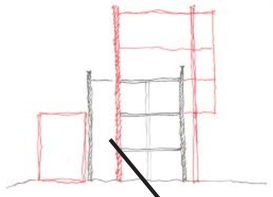


As a dark and highly partitioned space, my first effort was to create an open atrium space to bring added light into the building while also to emphasize the prominent height of the firehouse. Furthermore, I wanted to provide a new structural system upon which I could rest the existing concrete floor slabs and possibly provide support for the new volume on the south side of the building.

Early study models show the development of a double channel glass wall that encapsulates a system of steel columns and beams created to not only provide structural support to the new south volume but to provide the second load-bearing wall for the existing sliced floor plates on the second, third and fourth levels. The channel glass wall acts not only as a contemporary adaptation of the existing masonry load-bearing wall, but provides a translucent partition between the vertical circulation area and the intimate programmed space of the library. Slicing through the existing rear masonry wall, the channel glass structure also forms the northern wall of the new cantilevered volume created to provide additional square footage for the library stacks and computer areas.

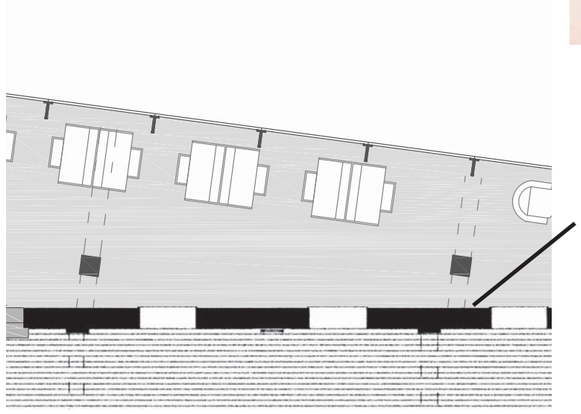
In designing the structural system for the new volumes of the building, I wanted there to be a clear contrast in both materiality and axis in an effort to create a dynamic juxtaposition. The resulting new steel column and beam grid is rotated by 15 degrees, thus aligning with the angled northern exterior masonry wall and the parallel channel glass wall. The existing structural system and concrete floor plates have been retained within the original building envelope except for the second and third level portions existing to the north of the new channel glass partition.





Sections of the second and third floors were cut back to create a multi-story atrium allowing transparent circulations from the basement to the third level and creating a visual vertical continuity that the previous space lacked.

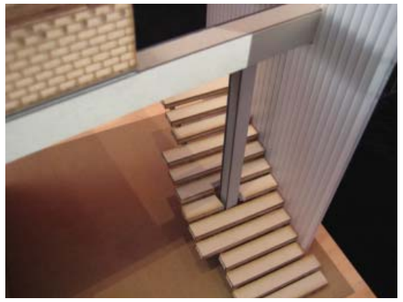
The south cantilevered volume extends beyond the original masonry wall on the third level and rises above the existing roofline to create the fourth and fifth levels. The overhang is sustained by cantilevered steel beams supported by external columns and by the structure within the channel glass wall.



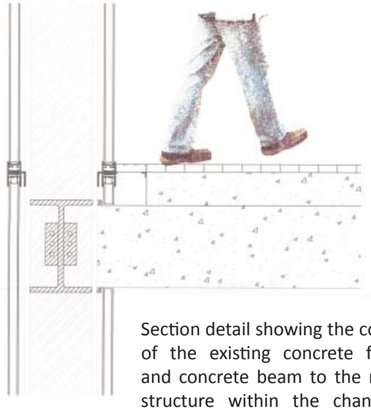
The shift in the structural grid is apparent on the third floor of the new cantilevered volume as the steel beams meet the dense brick wall at a purposeful angle and are completely exposed to the reading area below.

The original steel columns and concrete beams on the first level of the new atrium have been left completely intact as support for the angled masonry wall that creates the existing second and third level light well.

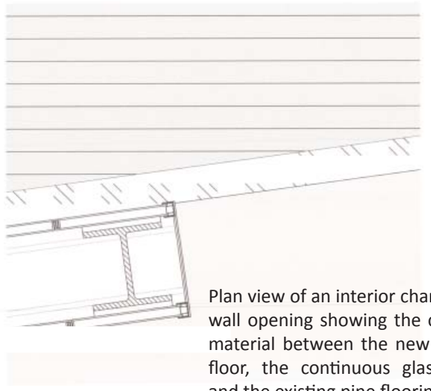
The placement of this existing column was incorporated into the new main level stairway as a nod to its structural importance and in an effort to force the visitor to engage the old building in an unexpected manner.



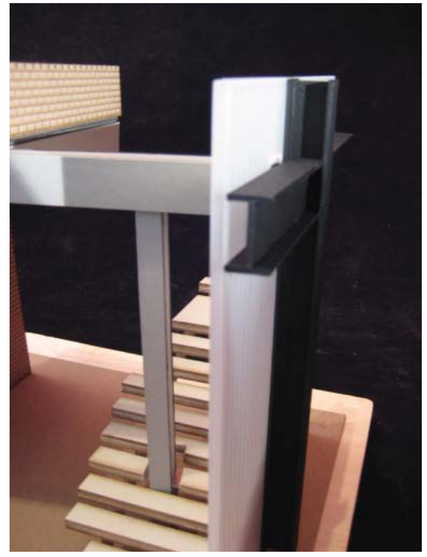
The interior channel glass wall provides a barrier between areas designed for heavy pedestrian circulation and areas of research and quiet individual study, while also allowing natural, filtered light to pass through to the bookstacks. Extending from the lower level to 4 feet above the roof of the new fifth level, the 20 inch wall is made up of two layers of long, narrow, “U”-shaped cast-glass channels, the five-story steel frame, and two additional layers of glass panels. This contemporary material creates a pattern of glazing that diffuses the light differently throughout the day but maintains a soft and tempered light suitable for the functionality of a library. Its translucency allows for a hint of the internal steel structure to be visible while also displaying the silhouette of forms and movement on the other side. The exterior channel glass wall mimics the form and functionality of the larger channel glass wall and provides a soft visual filter between the chaos of the busy street and the muted, interior spaces.

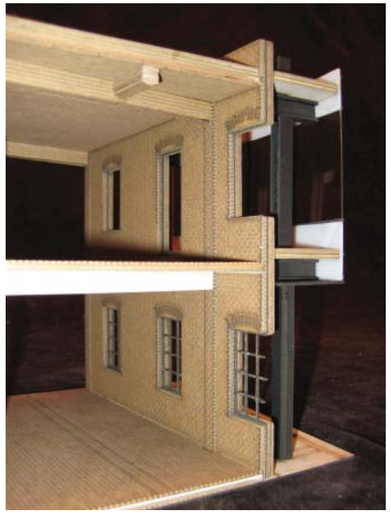


Section detail showing the connection of the existing concrete floor slab and concrete beam to the new steel structure within the channel glass wall.

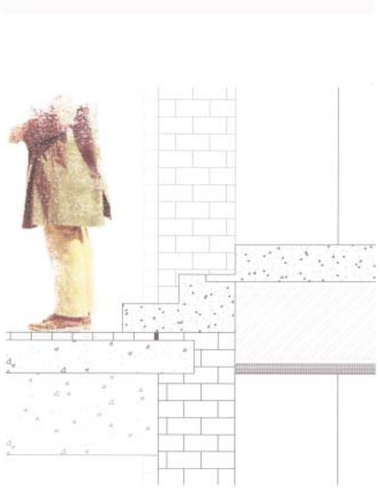


Plan view of an interior channel glass wall opening showing the change in material between the new concrete floor, the continuous glass reveal, and the existing pine flooring.



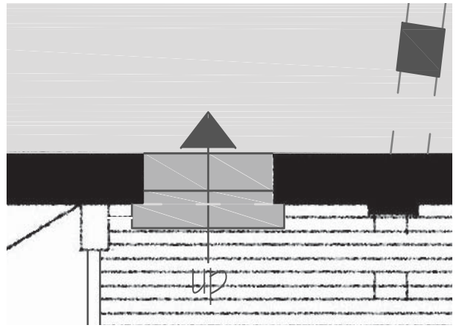


The diffused light created by the channel glass wall creates an appropriate space for the placement of the library's bookstacks tucked within the original envelope of the existing building on the first through fourth floors and encompassing the entire fifth floor. The area protruding outside of the original masonry walls and "hanging" above the former alley is dedicated to study carrels and computer work stations. By stepping up and through the original 6 foot windows, the participant is aware of passing over a threshold of time and entering into a space devoted to a different function. The same ceiling level is maintained yet by rising three steps, the participant has the feeling of being in a more intimate space for the purpose of private study. The change in material from the original dark pine floors to the contemporary carpeting of the new space, together with the floor-to-ceiling windows and new steel structure in the new volume, heightens the awareness of the juxtaposition.



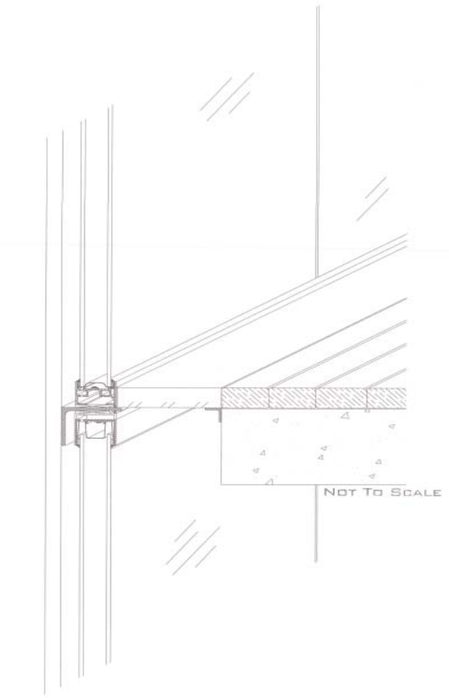
Section detail showing the masonry wall pass-through from the existing interior space to the new cantilvered reading room.

The various joints between old and new were reconciled in the three aforementioned manners and, through the juxtaposition of seemingly mismatched materials, create a distinct dialogue between the existing edge and the new interventon.



A third form different from the other two that acts as a transition element: Polished concrete stairs act as an intermediate material to highlight the changeover from the existing hardwood flooring to the carpet as one passes through the thick masonry wall into the new light-filled space.

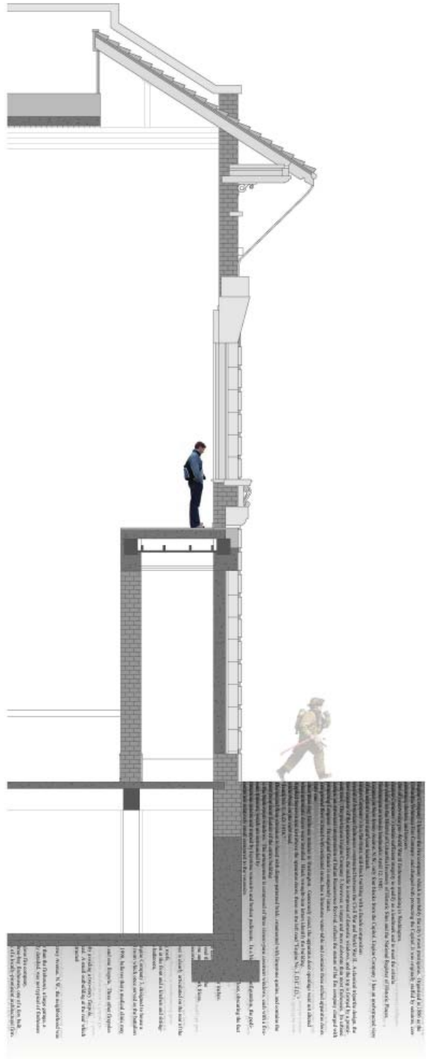
The two forms side by side with a clear contrast between their materiality: Glazing with varying levels of transluscency, polished, shiny metals and lightly colored concrete surfaces highlight and even exaggerate the distinction with the dark 1916 brickwork.



A separation of distance between the old and the new forms: Instead of aligning the existing sliced floor slabs directly with the new channel glass wall, a continuous, linear glass reveal was designed to cause the viewer to not only acknowledge the joint, but to recognize the dramatic uninterrupted height of the glass wall above and below them.

The exterior façade remains unchanged except for the removal of the three non-original appartus doors which have been exchanged for storefront windows. Having removed the second and third floorplates in the front section of the building, the area above the three arches has become an open viewing platform that allows the visitor to still engage the front wall and the prominent second level windows while creating a new light-filled vertical dimension in the front foyer.

The three orginal truck entrances have been converted into quiet reading areas complete with comfortable couches and magazine racks. The famed Guastavino tile arches are now accentuated by the increased natural light coming in the front windows as well the newly created gathering space below.

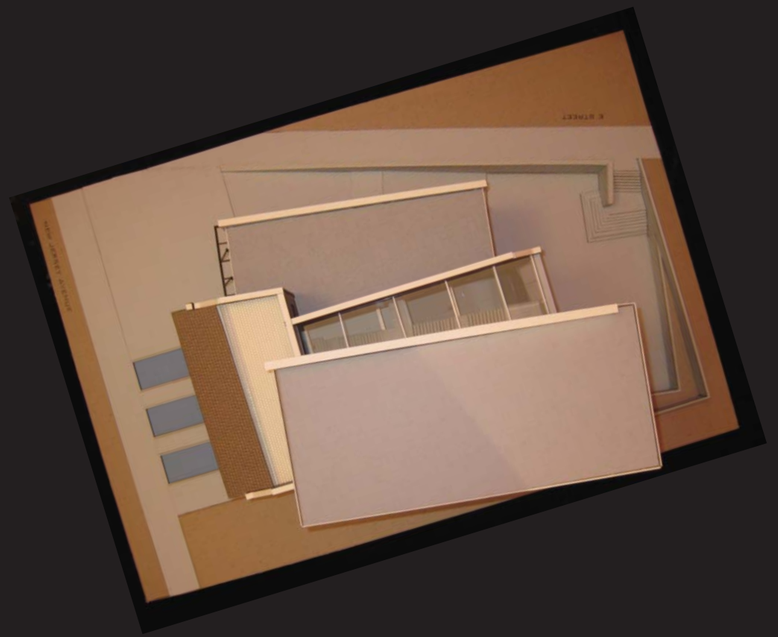


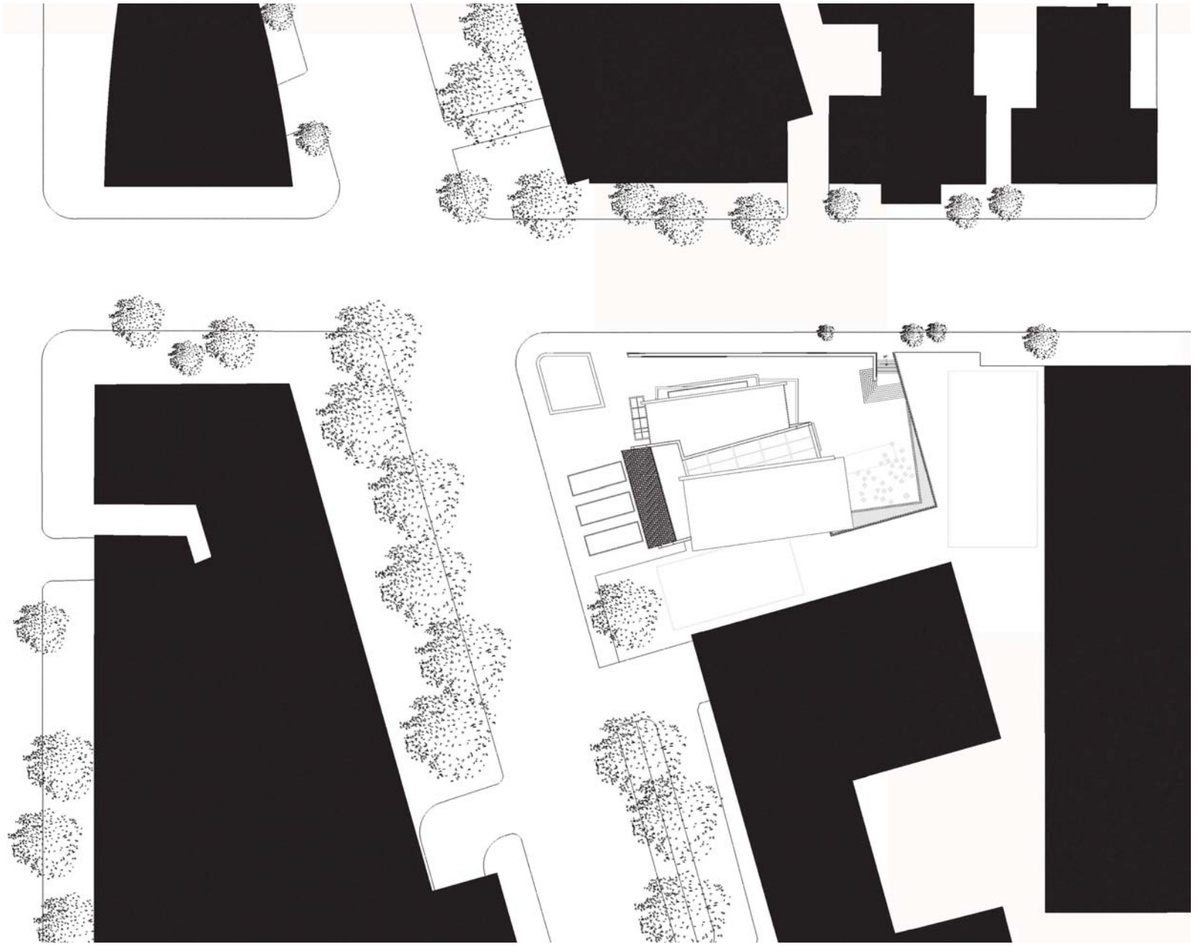
Front Wall Section

The main entrance has been moved to the new volume on the north side of the building forcing the visitor to face a series of thresholds as they move through the new foyer, through the existing northern wall and into the four level atrium. This allows the visitor to fully recognize and experience their passage through the solid masonry walls of the original building envelope; a threshold that is currently overlooked by visitors.

Currently flat and at grade, the rear section of the property has undergone a significant transformation. A sunken plaza has been created to allow access to the lower level rooms that will be open after library hours, as well to create an outdoor niche for community gathering and private reflection and reading. Access is provided from the street by a long ramp commencing at the main entry on New Jersey Avenue as well as a stairway in the northeast corner of the plaza.

Courtyard Perspective





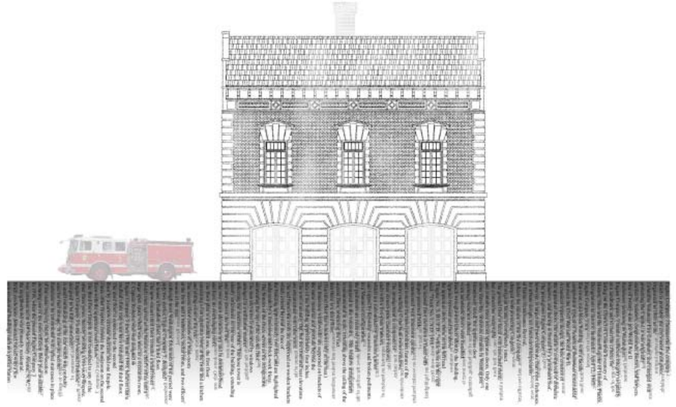
TRUCK HOUSE N#1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SHOWBER & AFFORD MUNICIPAL ARCHITECT

32' 64' 128'

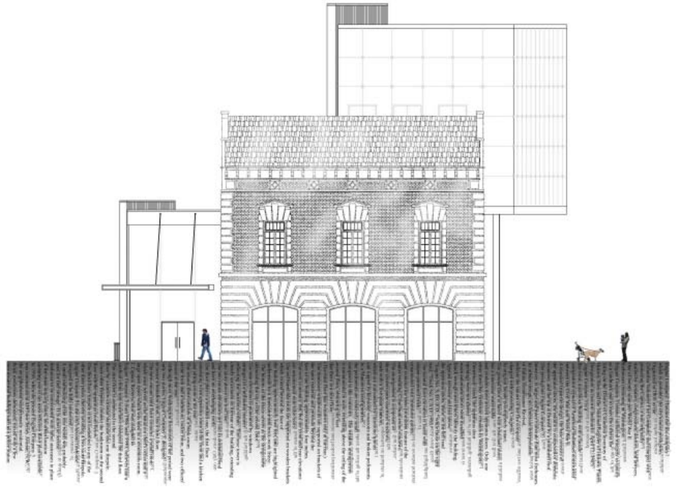
SITE PLAN

“We throw a stone into the water. Sand swirls up and settles again. The stir was necessary. The stone has found its place. But the pond is no longer the same.”

-Peter Zumthor, *Thinking Architecture*, 18

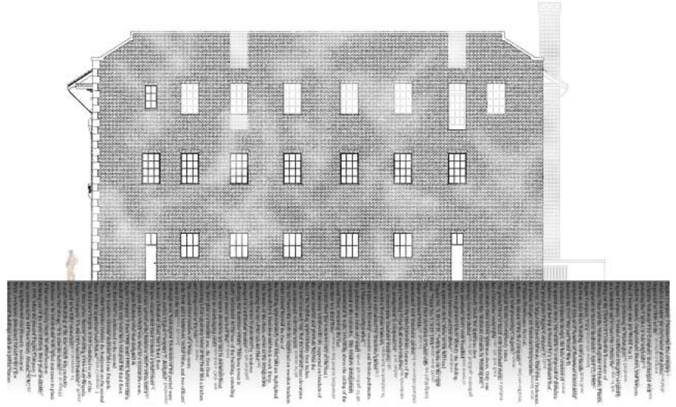


Existing West Elevation



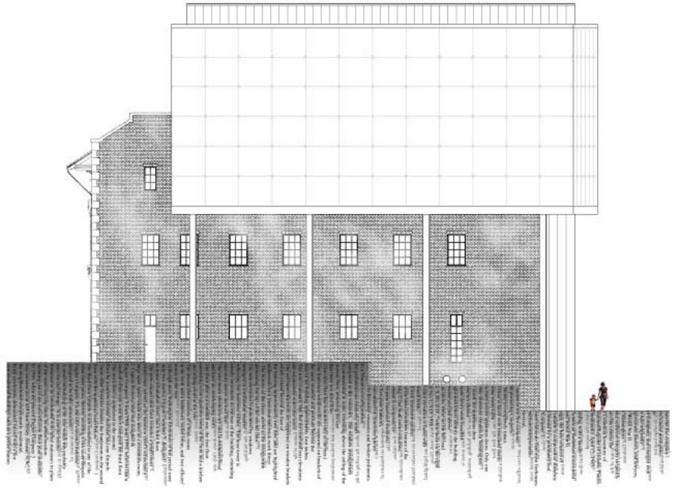
West Elevation

8' 16' 32'



Existing South Elevation

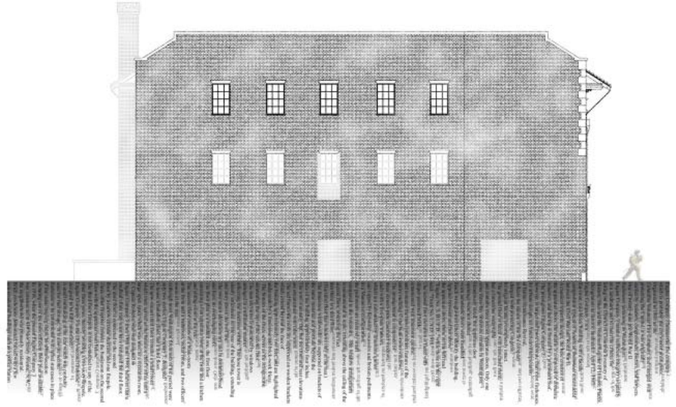
TRUCK HOUSE No 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 68 O
WASHINGTON D.C.
SHOUBER ARFORD MUNICIPAL ARCHITECT



South Elevation

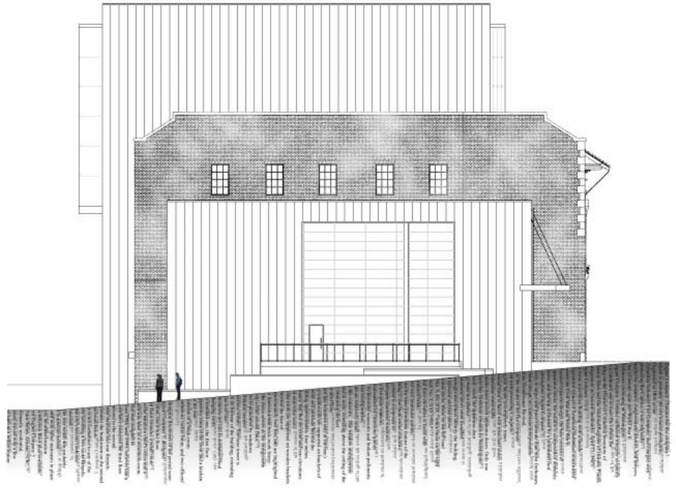
TRUCK HOUSE No 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 68 O
WASHINGTON D.C.
SHOUBER ARFORD MUNICIPAL ARCHITECT

8' 16' 32'



Existing North Elevation

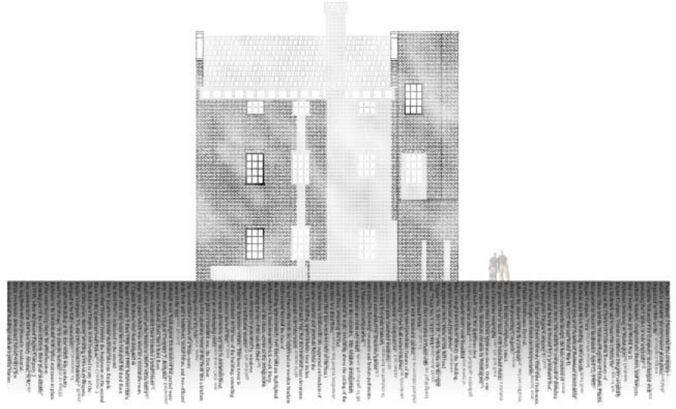
TRUCK HOUSE No 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT



North Elevation

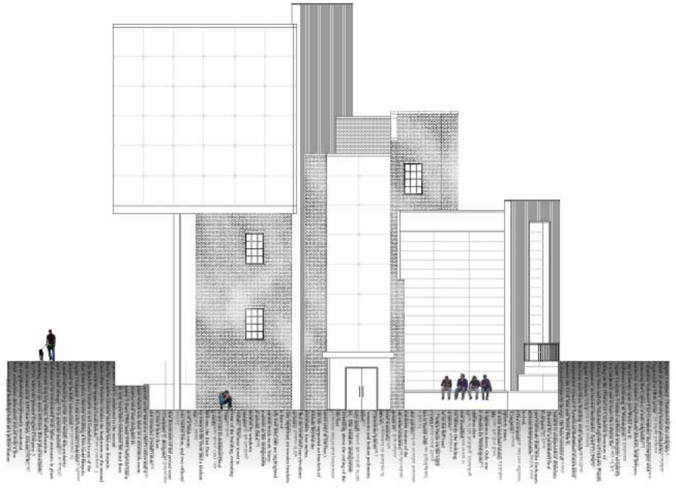
TRUCK HOUSE No 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT

8' 16' 32'



TRUCK HOUSE N# 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT

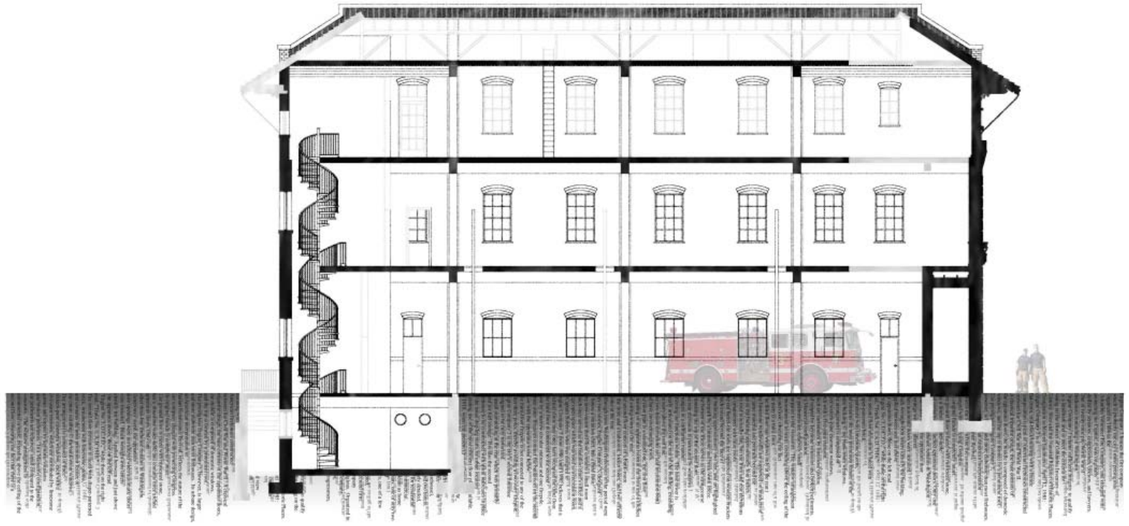
Existing East Elevation



TRUCK HOUSE N# 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT

East Elevation

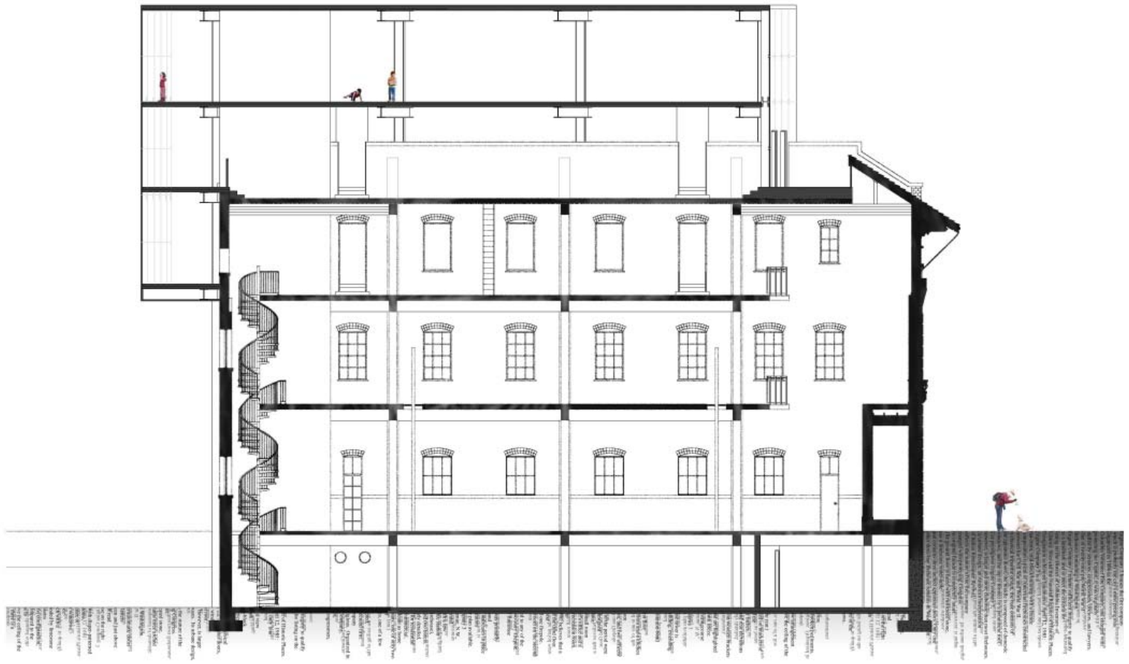
8' 16' 32'



TRUCK HOUSE N°1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT

Existing section A

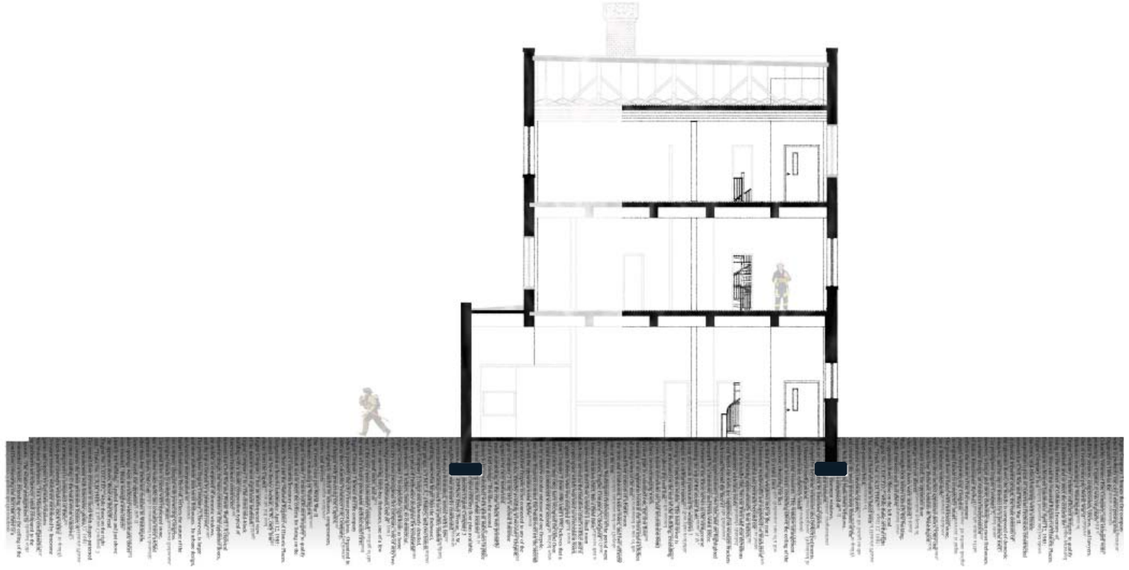
2' 4' 8' 16'



TRUCK HOUSE N°1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SQUARE 680
WASHINGTON D.C.
SHOWBER ASHFORD MUNICIPAL ARCHITECT

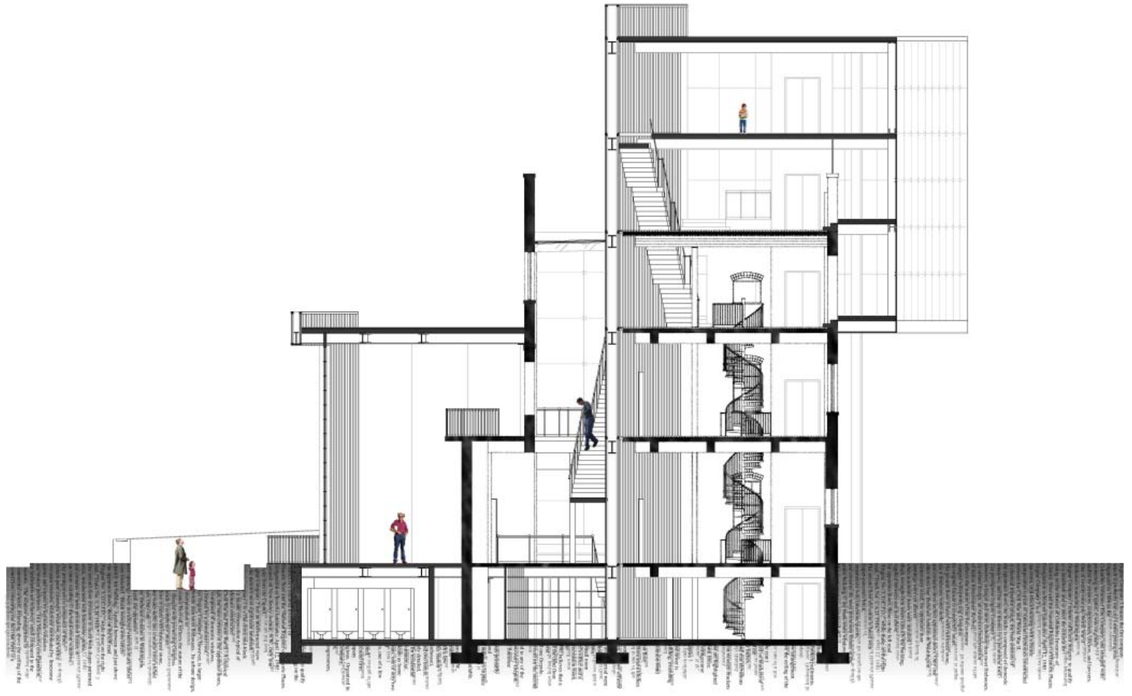
Section A

2' 4' 8' 16'



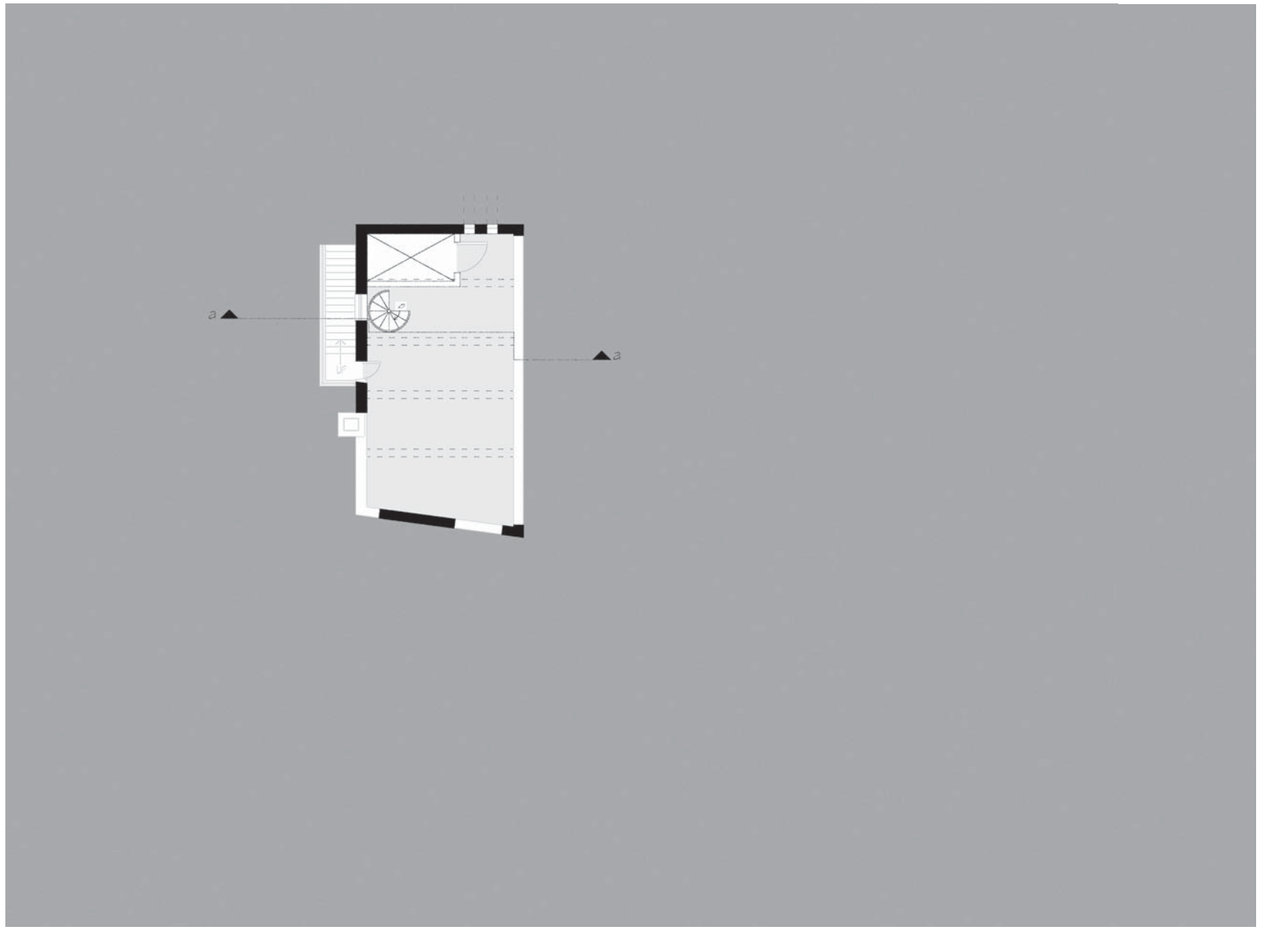
Existing section B

2' 4' 8' 16'

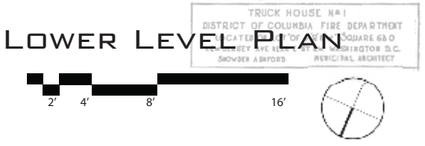


Section B

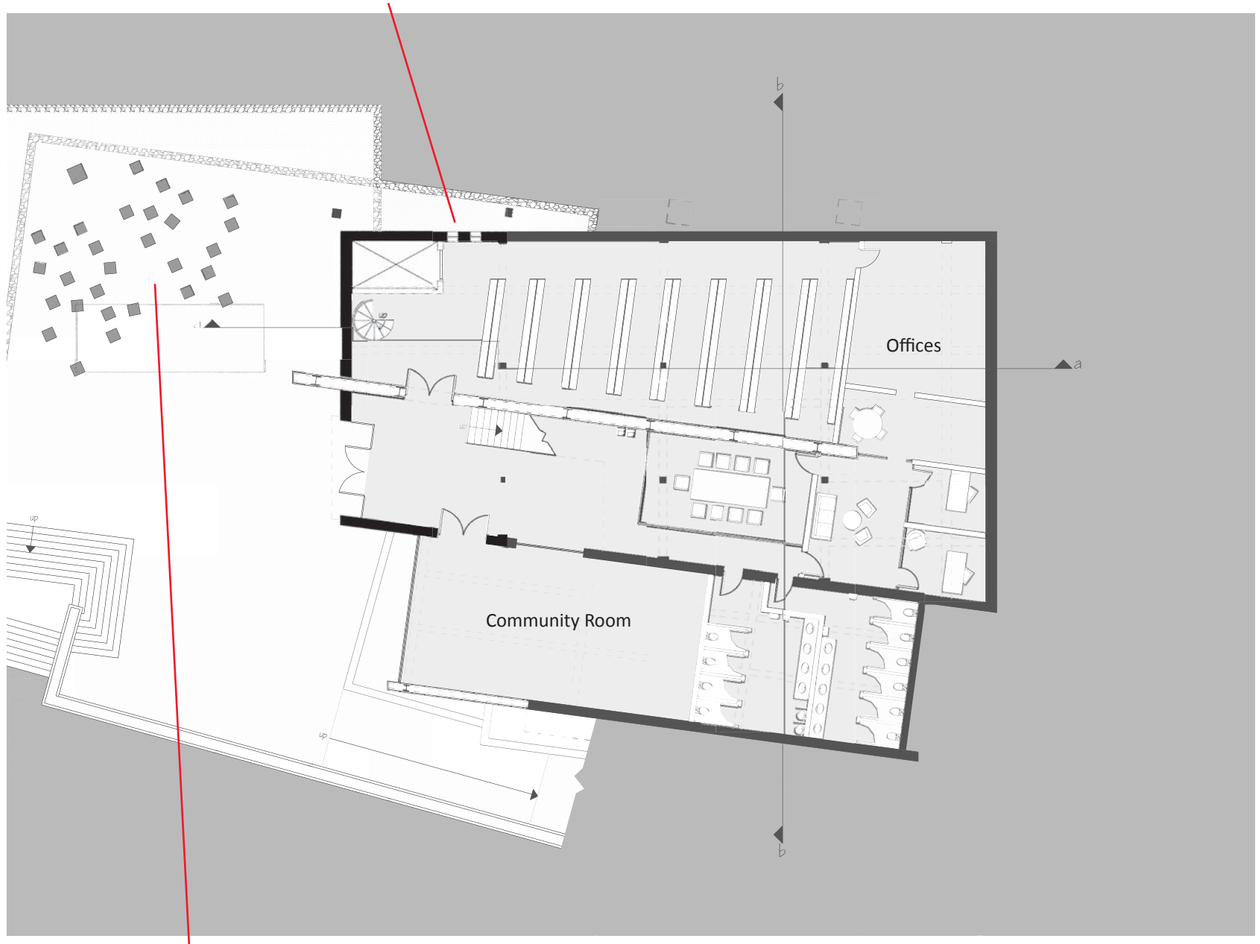
2' 4' 8' 16'



Existing Lower Level Plan

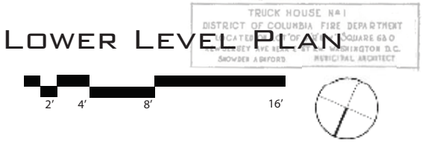


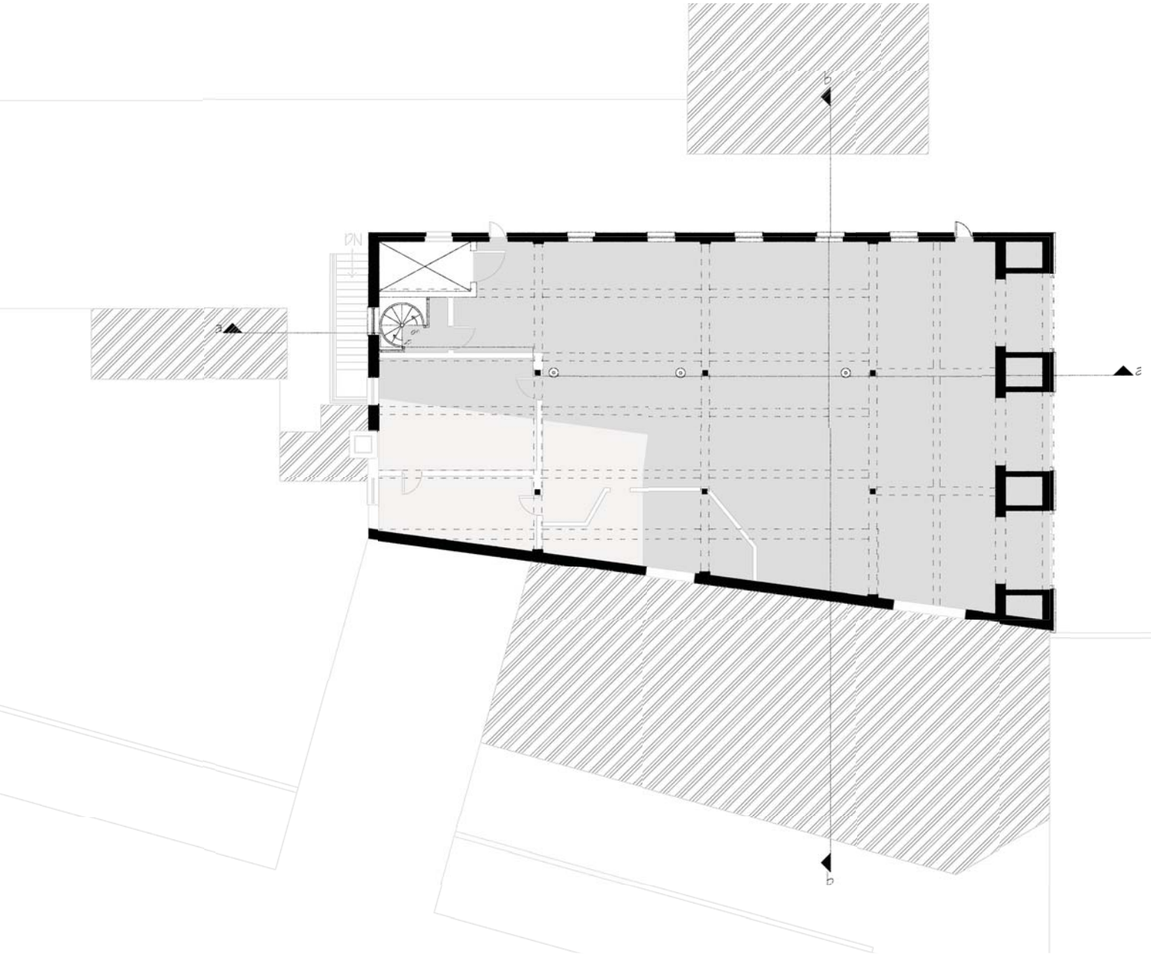
The orginal coal shoot openings have been replaced by windows and the adjacent earth has been pushed back to allow for natural light to enter the lower level.



Stone blocks have been introduced in the courtyard for use as seats for community functions and library reading groups.

Lower Level Plan

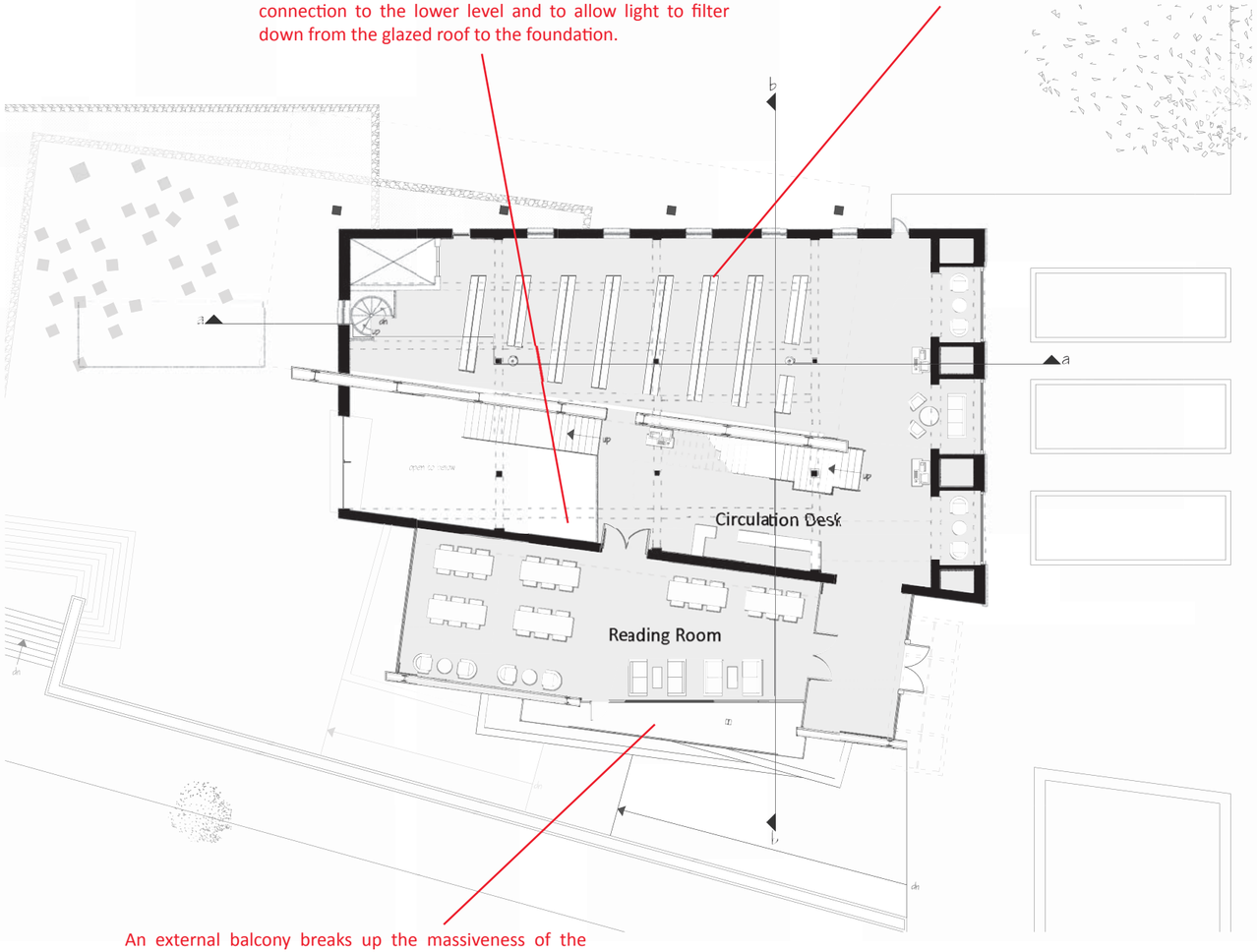




Existing First Level Plan

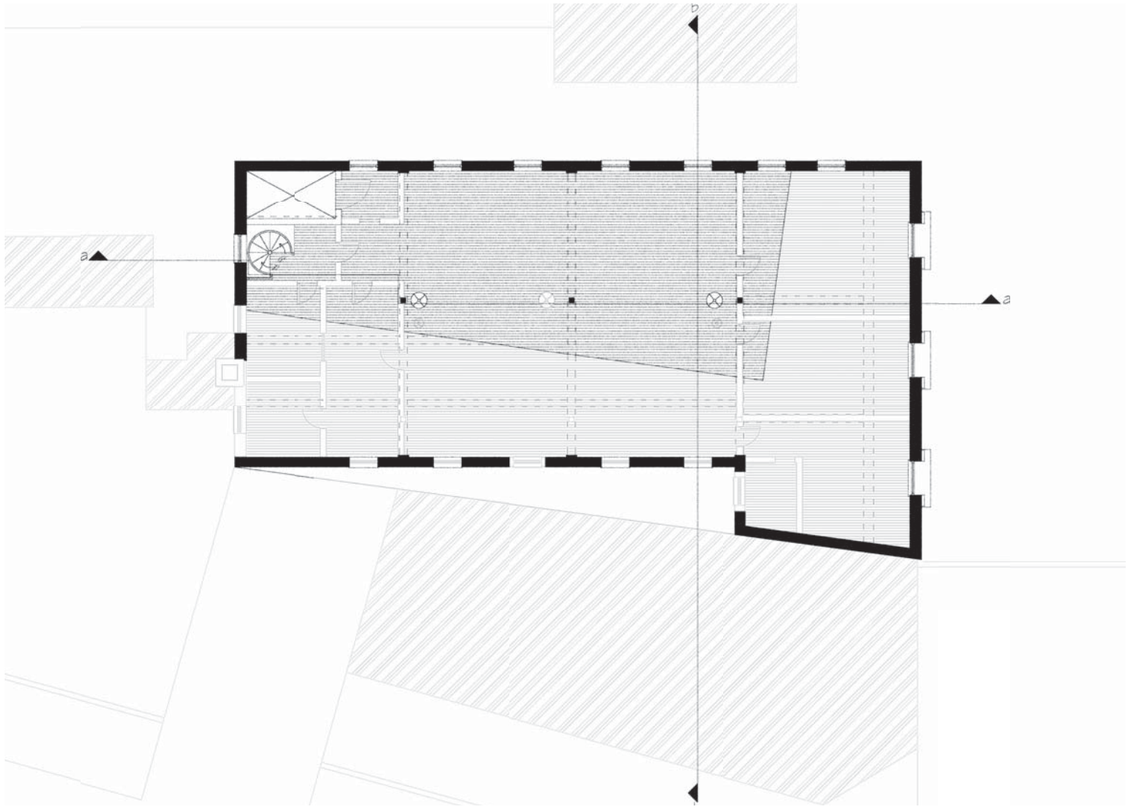
The first floor has been cut back to allow for a visual connection to the lower level and to allow light to filter down from the glazed roof to the foundation.

Lighting is concealed on the tops of the bookcases wherever possible to minimize altering the original wood paneled ceilings.



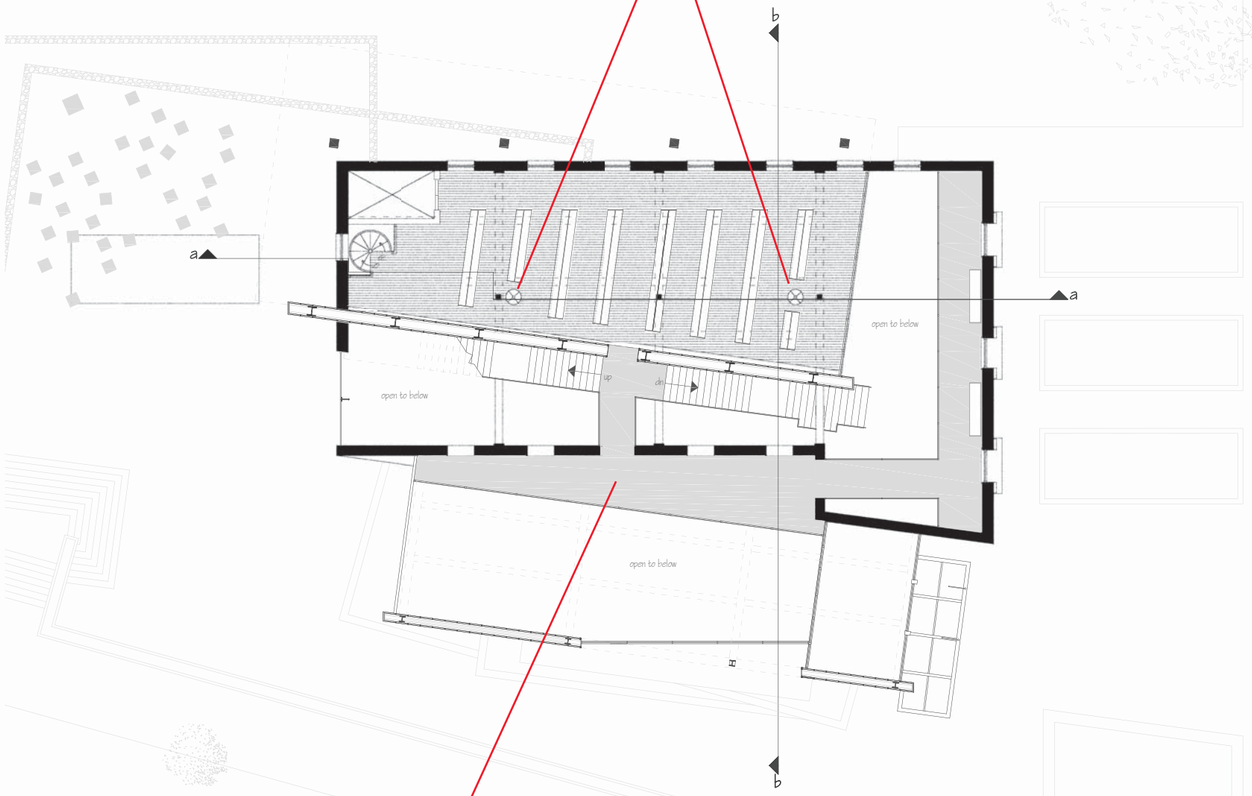
An external balcony breaks up the massiveness of the secondary channel glass wall and provides a main level connection to the outdoor plaza area.

First Level Plan



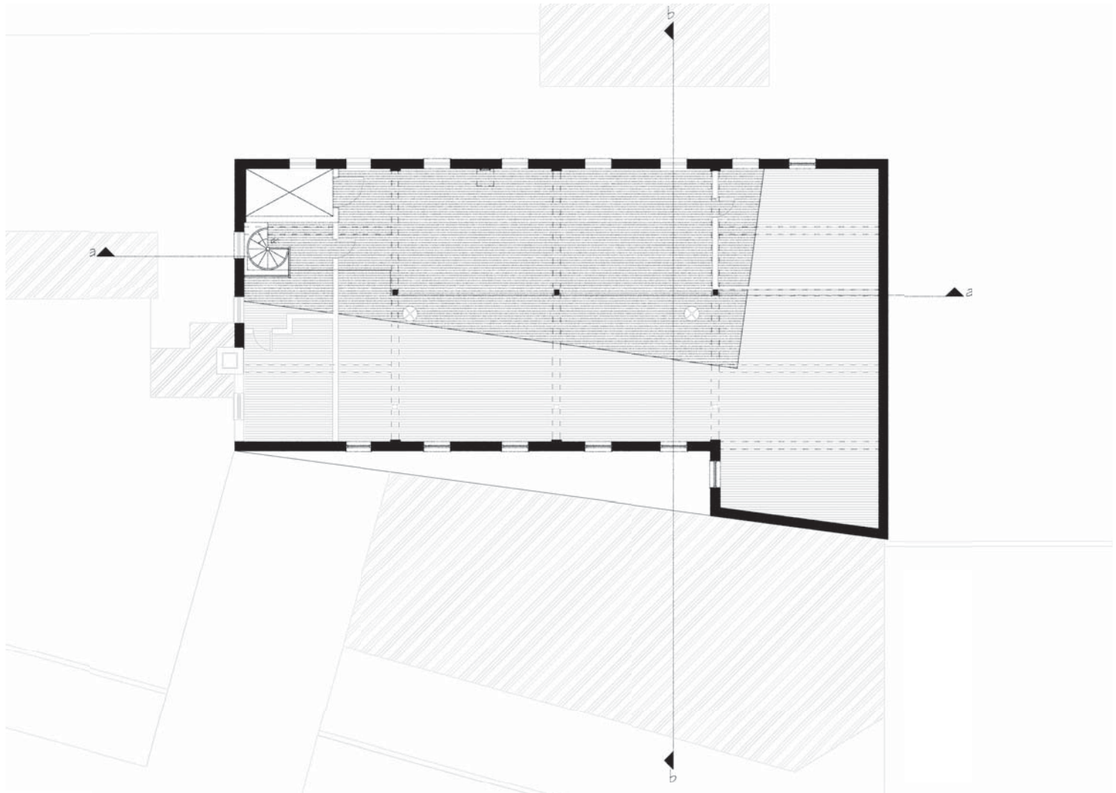
Existing Second Level Plan

Two of the five firepoles have been retained and while not functional, provide a tangible memory of the building's past use.

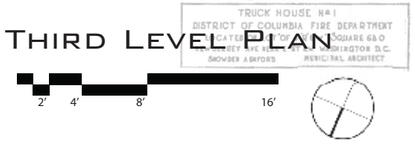


The existing first floor roof bump-out has been converted into a balcony overlooking the two story reading room and is accessed by a pedestrian bridge crossing the atrium from the second floor stacks area.

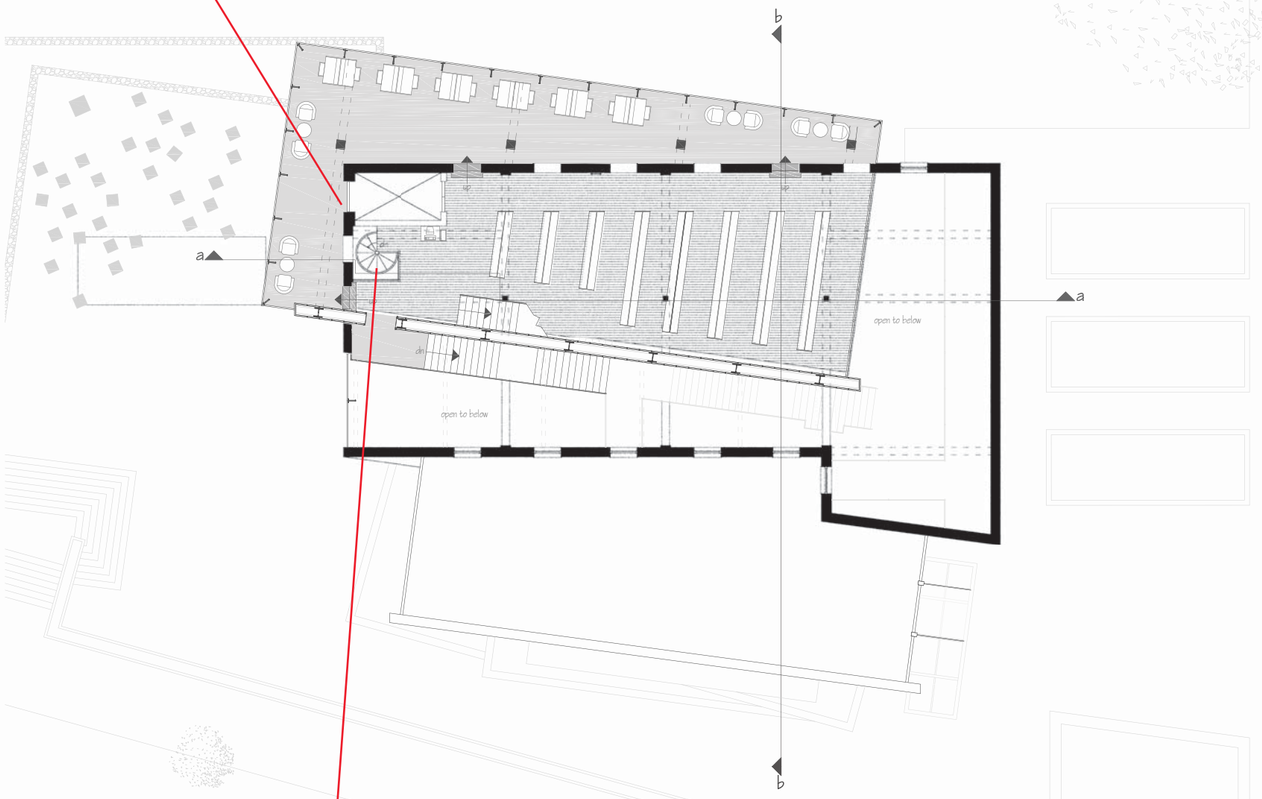
Second Level Plan



Existing Third Level Plan

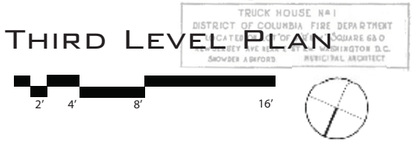


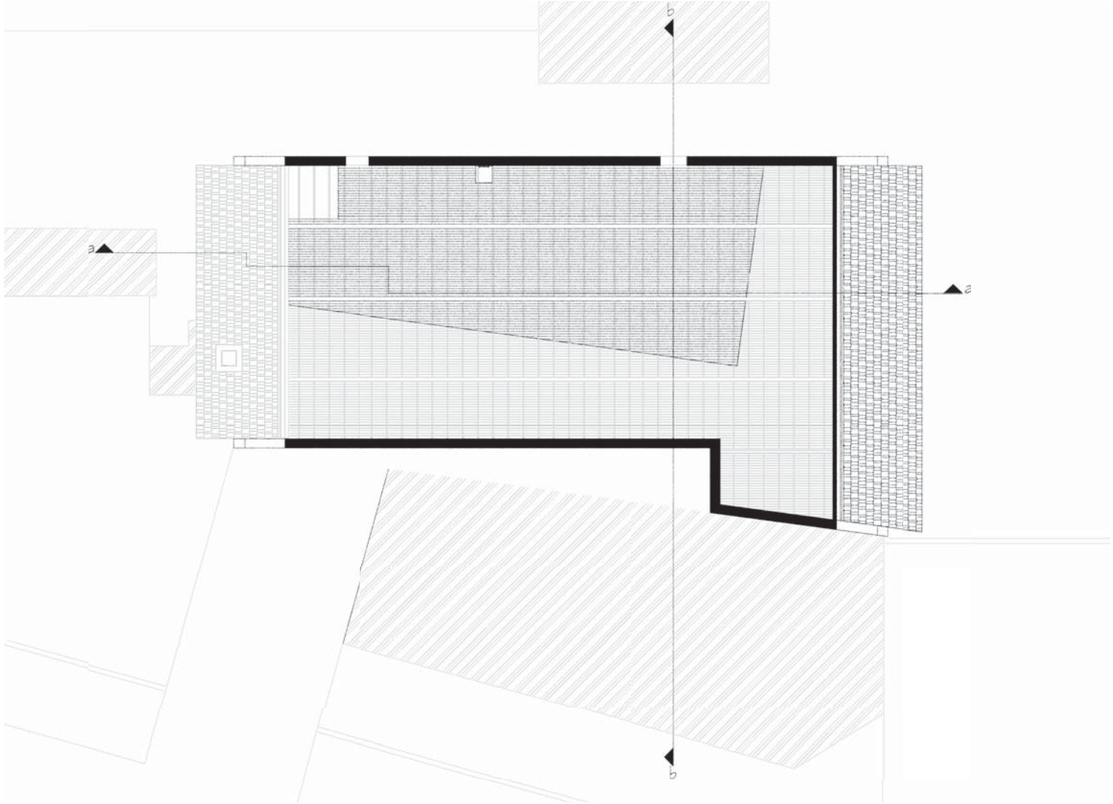
A dual entry elevator accommodates the 2 foot floor variation between the existing building and the new intervention.



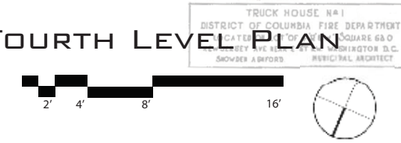
The four story spiral staircase has been preserved in its entirety and remains in its original location. As the second DC firehouse to have a spiral staircase as an efficienct use of space on an urban site, this steel artifact is said to also have kept the engine horses stalled on the first level from climbing to the third level hay stacks when foraging for an extra meal.

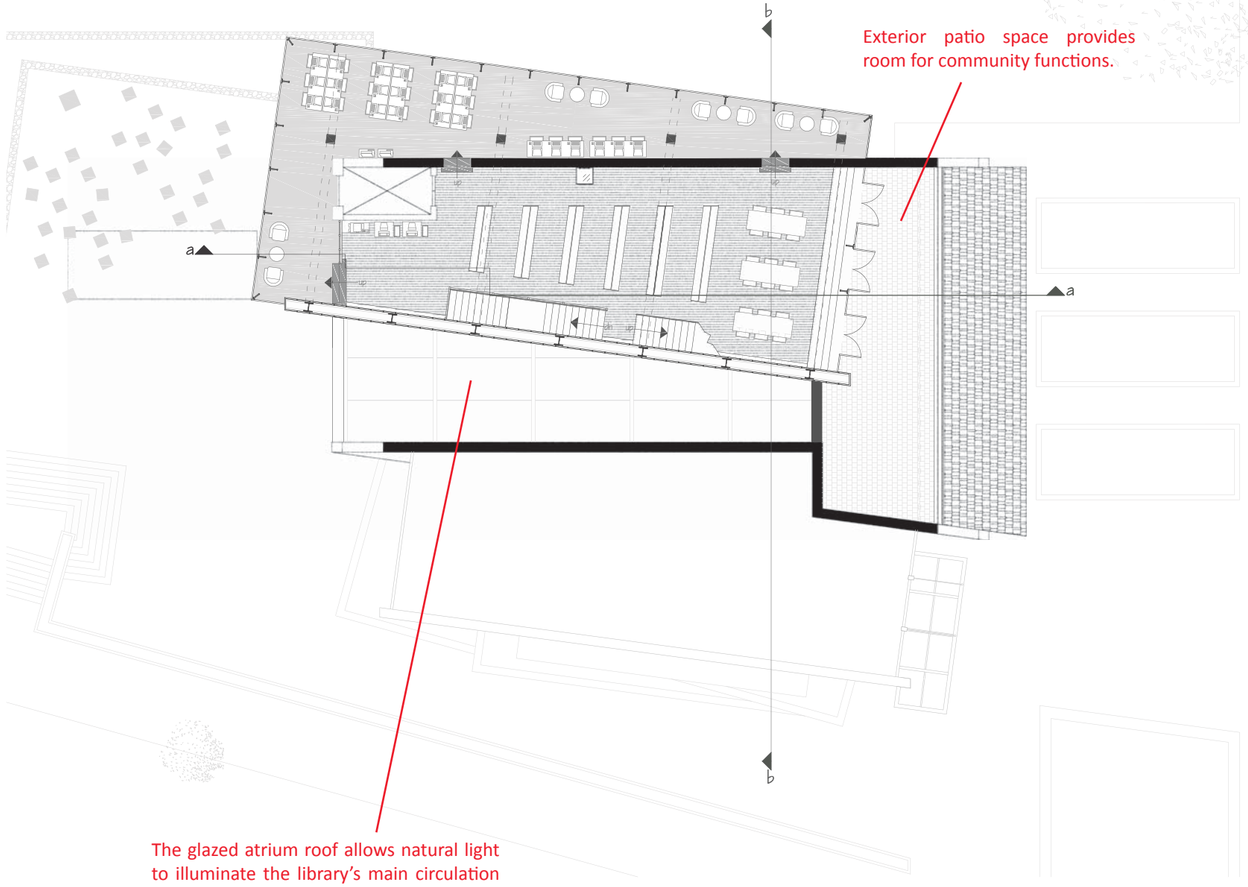
Third Level Plan





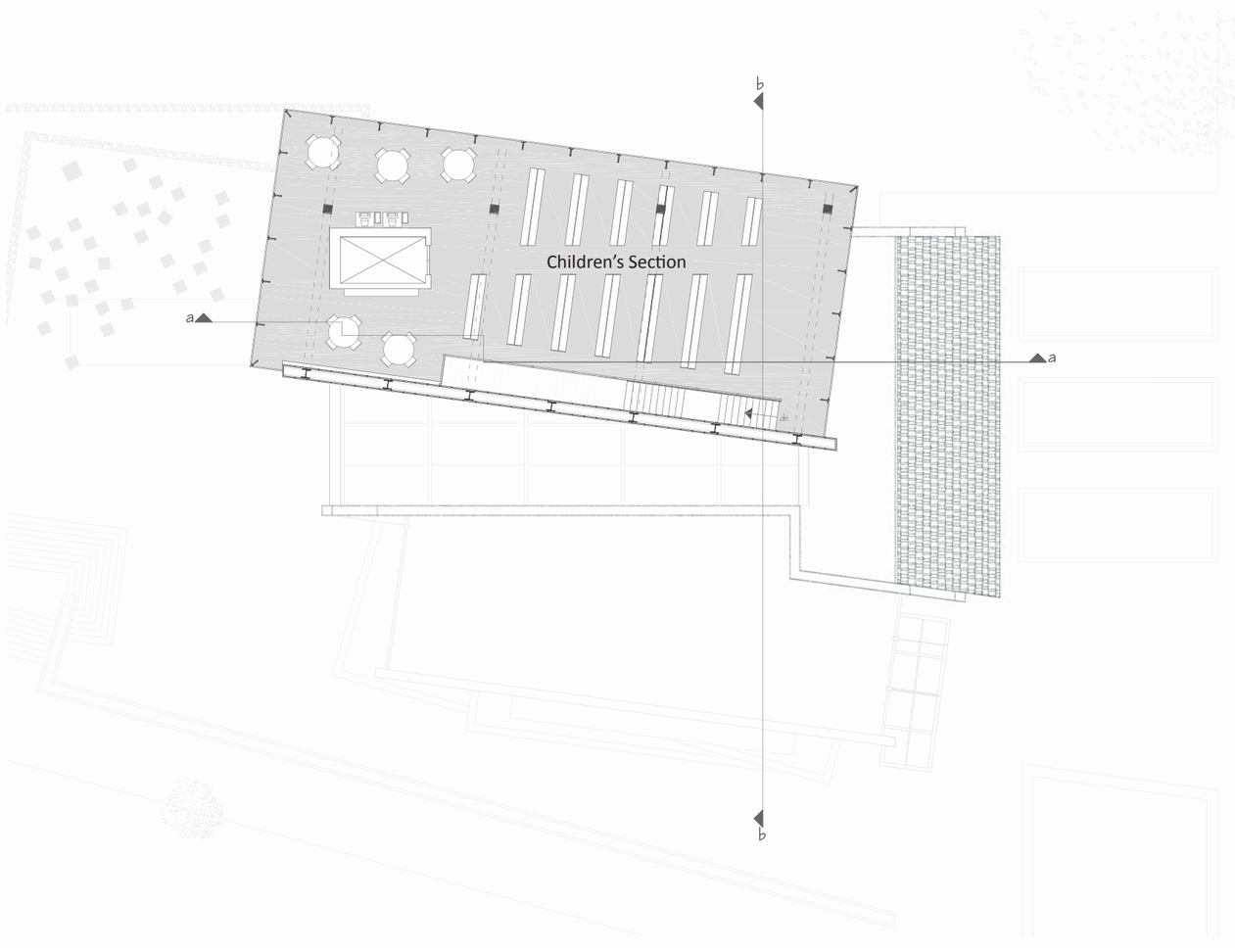
Existing Fourth Level Plan





The glazed atrium roof allows natural light to illuminate the library's main circulation corridor and penetrate the north side of the interior channel glass wall.

Fourth Level Plan



Fifth Level Plan

TRUCK HOUSE No 1
DISTRICT OF COLUMBIA FIRE DEPARTMENT
SHOWDER & AFFORD MUNICIPAL ARCHITECT

2' 4' 8' 16'

“Because like a real marriage, a garden, or any living thing, the city needs to be constantly renewed – but can only grow from its past.”

-Dennis Frenchman, *The Six Secrets of a Happy Marriage Between the Old and the New*, 20

CONCLUSION

In this architectural exploration, my aim was not to rehabilitate the existing firehouse but to reuse and transform the building in a way that retains the architectural spirit of the firehouse while embracing a new functionality. By emphasizing the contrast between old and new, my intention was to be sympathetic to the old building but instill a new energy as a result of the interaction, allowing the old building to emerge in a new light. While a marriage between such profound opposites could be fraught with tension, a mutual respect and interdependence can create a relationship that is both vibrant and forward thinking.

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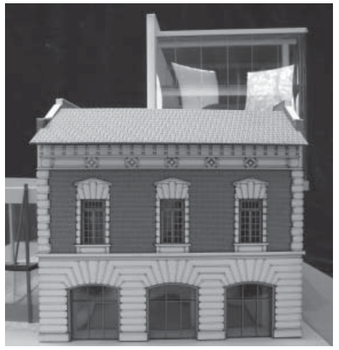

IMAGE CREDITS

All images, sketches and illustrations created by the author unless otherwise noted.

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3. *The Capital City Fire Fighter.* Fall/Winter 1993: Cover. [Fair Use]
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5. Sanborn map of Washington DC circa 1888. From *VT ImageBase, Digital Sanborn Maps*. Digital Library and Archives, University Libraries, Virginia Polytechnic Institute and State University. http://sanborn.umi.com.ezproxy.lib.vt.edu:8080/dc/1227/dateid-000001.htm?CCSI=8872n. (accessed November 2, 2009) [Public Domain]
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