

ABSTRACT

Title of Thesis:	Re-envisioning K Street
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The gross underutilization of civic infrastructure in Washington, D.C. has developed into an issue that stretches beyond statistical analysis, and speaks directly to the contemporary ideals that are eroding the city. Infrastructure spending has been focused primarily along the K Street corridor in the form of metro stations, bus routes and the proposed trolley car service, which was a measure that was passed by the city in order to alleviate mounting pressure on the underground metro rail system. In order to rectify this mounting concern, the problem has been identified as a lack of mixed uses only the K Street Corridor, which could easily be resolved by the integration of residential units alongside office, retail and hospitality space. Fostering an environmental that supports a live-work-place attitude will be a step in the right direction in transforming D.C. into a desirable place to live for economies of all scales.

RE-ENVISIONING K STREET

By

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Chapter 1 - Background

The K Street Corridor of Northwest D.C. currently serves as a Central Business District for the city, and the principal tenants in this area are almost exclusively limited to attorneys, special interest groups, and lobbyists, whose workday schedules have served to destroy the street level activity along the corridor after business hours and on weekends. In order to rectify this issue, pedestrian traffic must be integrated back into the comprehensive planning scheme for the corridor, which would allow for constant utilization of the infrastructure along K St. N.W. As currently constituted, K Street is the densest district in the city, while also maintaining one of the lowest residential dwelling rates in the D.C. This fact, combined with the primarily office zoning has lead to the demise of a corridor that could potentially serve as the linkage between several entertainment and cultural districts across the city.

When examining the various neighborhoods of D.C., certain strategies begin to emerge regarding their composition. The main axis or public space is typically flanked by high density commercial activity at the ground level, while the residential enclaves tend to radiate outward, sometimes losing density the further from the apex it may be located, such as in the case of the Dupont Circle neighborhood of Washington, D.C. In the case of K Street, this strategy is not a viable option, as the surrounding area has already been developed, in many cases the building stock has been developed to its' maximum density. So in order to address this issue, the existing building stock along the corridor will be examined, and any buildings that don't meet their maximum density would be considered for redevelopment. On the other hand, existing buildings that already meet the maximum density restrictions of the city, and are underutilized in their

current use, would be considered as a potential adaptive reuse, mixed-use housing complex. An ensemble of new construction, adaptive reuse, and infill housing would stretch over 18 blocks and several sites in order to forge a new strategy of development within the Central Business District, and would serve as an impetus for future development of residential units in order to rectify the gross underutilization of the civic infrastructure along K Street Northwest.

Background

The integration of high density mixed use developments within the K Street Corridor would help activate the ground level activity of the neighborhood beyond office hours, which is a troubling problem the neighborhood is currently saddled with due to its' lack of varied uses. In fact, much of downtown D.C. faced this similar issue over the past 15 years, but programs initiated by the Business Improvement District have helped transform neighborhoods such as Chinatown and Metro Center into active urban environments, which have street level activity at most hours of the day, several days a week. Constant analysis of crime, population, public infrastructure and pedestrian surveys have led to the redevelopment of those areas, and many of the same initiatives could be applied to the K Street Corridor in order to foster a more active urban environment. According to studies conducted by the Business Improvement District (BID), the average individual who spends time in Downtown DC is 44 years of age, earns \$80,000 a year, and close to half of those individuals are likely to have children. According to the same report, close to three quarters of the people surveyed considered Downtown a safe place, and sixty four percent thought that downtown would be an

attractive place to live.¹ This research can be cross examined with The Office of Planning's analysis of the K Street District, which has established that K Street currently has the densest building stock in the city, including half of all commercial office space, and thirty six percent of all jobs in the city. At the same time, only one multifamily residential building is located within the corridor, as the current zoning reflects a strategy of homogenous uses related to the political, medical and financial sectors.

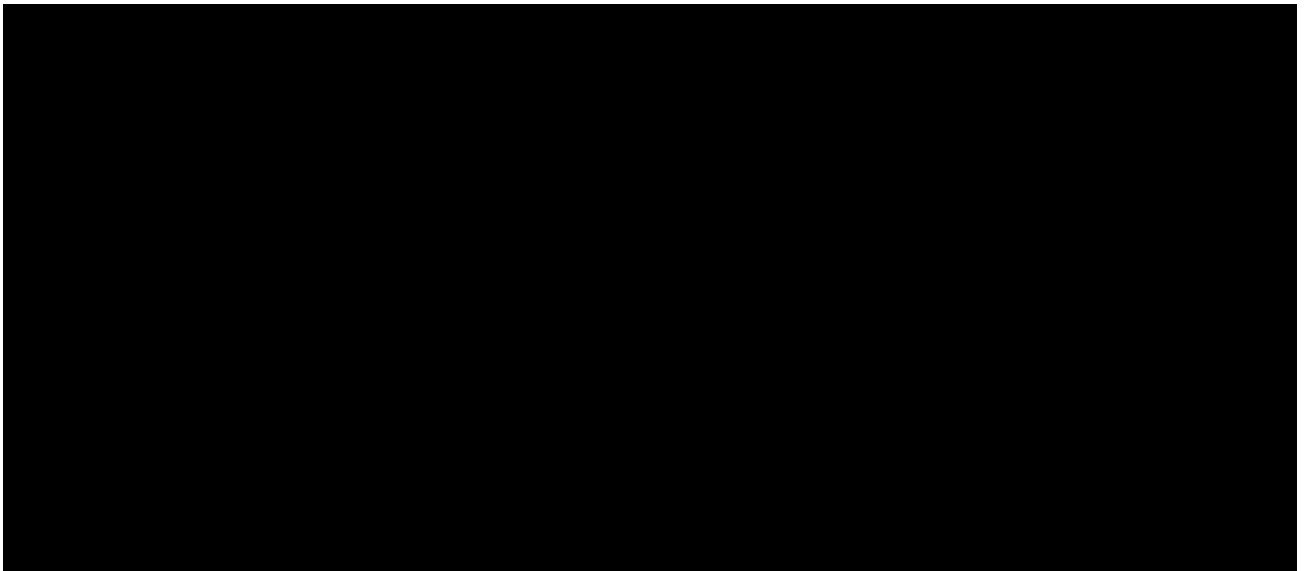


Figure 01: Zoning Map of Washington D.C. – Current Map (2011)
Source: D.C. Office of Planning

This also means that the K Street Corridor is the wealthiest neighborhood in the city, as the streets' most famous resident, the lobbyist, can have a starting salary close to \$300,000 for the most well connected insider.² In fact, close to fifty two percent of all Republican Congress Members who have left office since 1998 have become some of the city's most influential lobbyists. During the same period, thirty percent of exiting Democratic Members of Congress have taken on similar roles in the lobbying industry.²

¹ Gentleman Associates, . "A Pedestrian Survey." Washington D.C. Business Improvement District (2008), http://www.downtowndc.org/reports/pedestrian_study (accessed November 02, 2011).

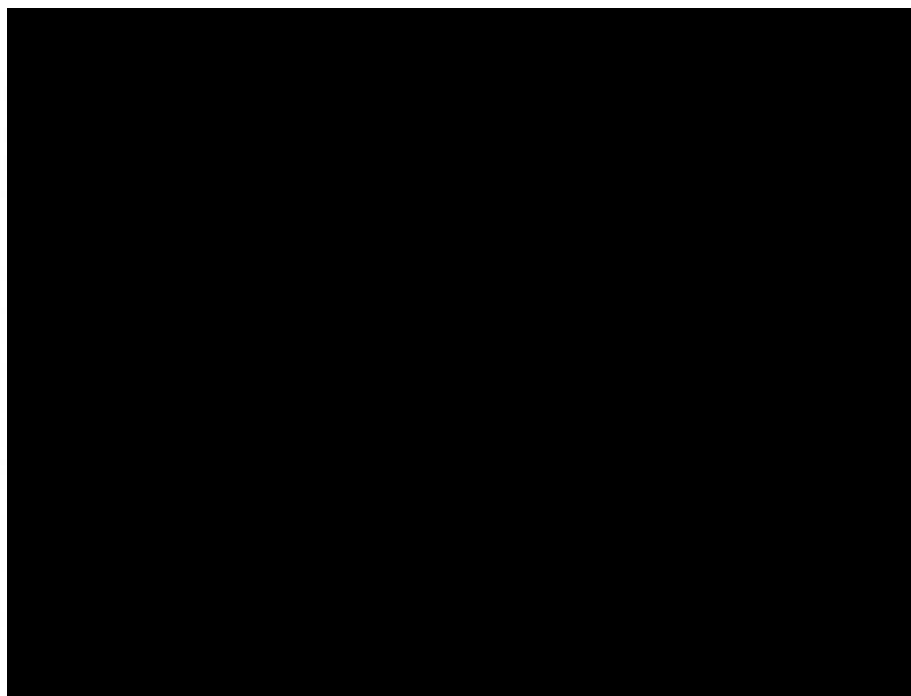
² Public Citizen, . "Congressional Revolving Doors: The Journey from Congress to K Street." Congress Watch (2005): 49.

This also leads to the understanding that the political makeup of the corridor can be greatly affected by the political party that may be in power at the time. During the Bush Administration, sixty two percent of all lobbyists were Republicans, while only fifteen percent were Democrats. The number of registered lobbyists in Washington D.C. is currently 34,750, and a majority of the lobbyists offices are located along K Street, due to its close proximity to the White House and a multitude of other government offices. K Street is so rampant with this particular city dweller, that, "If you picked up a rock on K Street and 18th Avenue N.W. and threw it at another person walking by, you'd stand a fairly good chance of hitting a lobbyist."³ Lobbyists provide crucial government information to contracted private companies, as well as promote the interests of the individuals that they represent. A typical contract between a lobbyist and a private company can run up to \$25,000 a month, with larger companies paying upwards of \$30,000 a month for lobbying firms' services. Over the past ten years, new clientele has gone up over one hundred percent, with insiders stating that there could be unlimited business potential in the current market for lobbyists. Lobbyists spend millions in DC, with a recorded \$320 million dollars spent lobbying on the health care industry alone.⁴ Total lobbyist spending for the current year is at 2.45 Billion Dollars, according to the Open Eyes network, a watchdog group which tracks lobbyist spending. And while lobbyists may reign supreme along the corridor, government overseers also have a presence on the street, in order to combat the perceived corruption perpetrated by the lobbyists on the U.S. citizenry.

³ Bimbaum, Jeffrey H. "The Road to Riches is Called K Street." *The Washington Post*, 2005

⁴ The Center for Responsive Politics. "Lobbying Database." <http://www.opensecrets.org/lobby/> (accessed).

While the current population of K Street may be seen as individuals with stylish haircuts and custom suits who enjoy red meat and sushi; this hasn't always been the case for a neighborhood that was first envisioned in L'Enfant's plan for D.C. Originally conceived as a residential neighborhood, K Street was home to large houses that were designed by leading architects of the time. Most famous of these houses may have been The Anderson Residence, designed by H.H. Richardson, which sat at the corner of 16th and K Street N.W.⁵ The home was constructed in 1882, but due to Mr. Anderson's declining health, and eventual death in 1892, the house was ultimately razed, and in 1925 a new hotel would be completed that would attempt to infuse the capital city with a brand of elegance it had not previous enjoyed. The Sheraton Carlton Hotel, later reintroduced as the St. Regis Hotel, is an eight story hotel constructed in the Italian Renaissance style, which was chosen due to its' social statement, as well as it's adaptability to the D.C.



climate. Since many buildings and public spaces of the time were focused upon the equal access of amenities for all citizens, the Sheraton Carlton Hotel was,

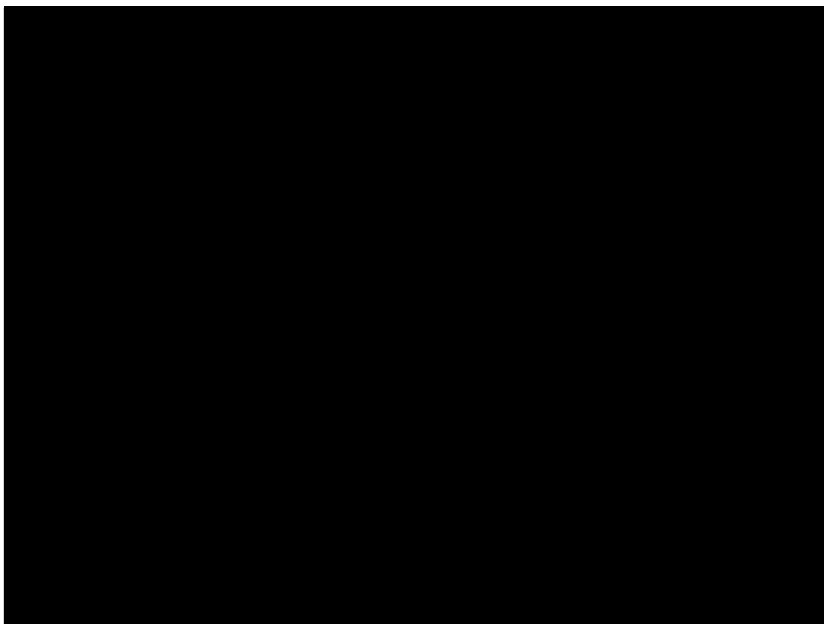
Figure 02: Carlton Hotel – Washington D.C. (1938)
Source: Sixteenth Street Architecture

⁵ Kohler, Sue. *Sixteenth Street Architecture*. Washington, D.C.: The Commission, 1978.

“Uncompromisingly Exclusive,” and championed the notion of aesthetic over profit.⁵

This building was one of the earliest examples of a new density strategy for K Street after the turn of the Twentieth Century, a strategy that would be adapted over the next century, which worked to transform K Street from a residential neighborhood into a bustling business district.

The two primary public spaces that serve K Street were also once primarily residential squares a far cry from their current composition. Farragut Square and McPherson Square are both equally distant from Lafayette Square and the White House, and broad avenues from the North bisect both. Neither square had very much building activity prior to the Civil War, but soon thereafter, large Gothic Revival style homes were constructed that were generally three stories tall. Due to the death of Admiral Farragut in 1870, the nation's first Admiral in the Navy, a statue was erected and placed at the apex of the square, thus memorializing the deceased Civil War hero. Soon thereafter, the Army Navy Club, which was designed by Hornblower and Marshall in 1911, was the first

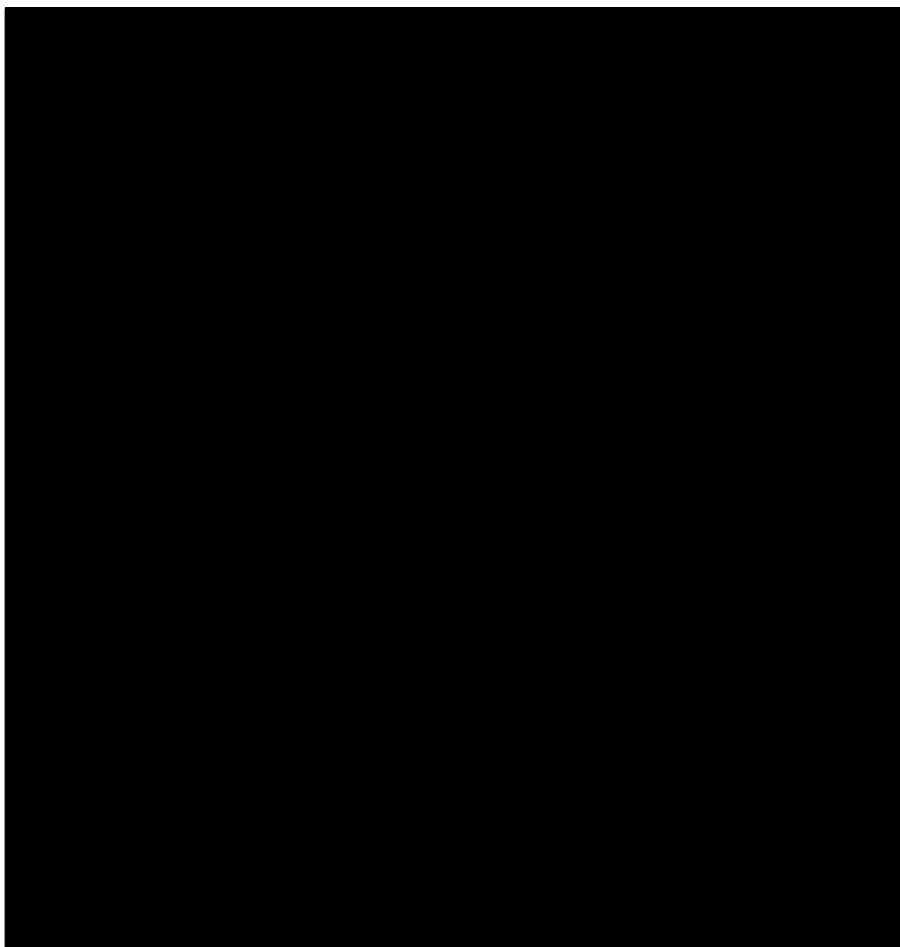


maximum density building to be situated along Farragut Square, as the recent City Beautiful movement ordinances had mandated that the 90-foot street wall must be maintained. As time

Figure 03: Farragut Square – Washington D.C. (2010)
Source: Photographed by Eric Christopher Gellman

passed, and the city's building ordinances were revamped in order to allow buildings to be 130 feet tall, Farragut Square evolved to become entirely defined by high density Classical Revival and Modernist office buildings, hotels and government infrastructure that maintain a continuous cornice height around the extent of the square. The Army Navy Club was even subject to a four story infill construction project in order to achieve its' maximum density, a project which was undertaken by Shalom Barnes Architects in 1987.

McPherson Square has a similar history to that of Farragut Square, as wealthy citizens such as John McLean, namesake of McLean, Virginia, constructed his home around what was known at the time as Scott Square. Office buildings that were occupied

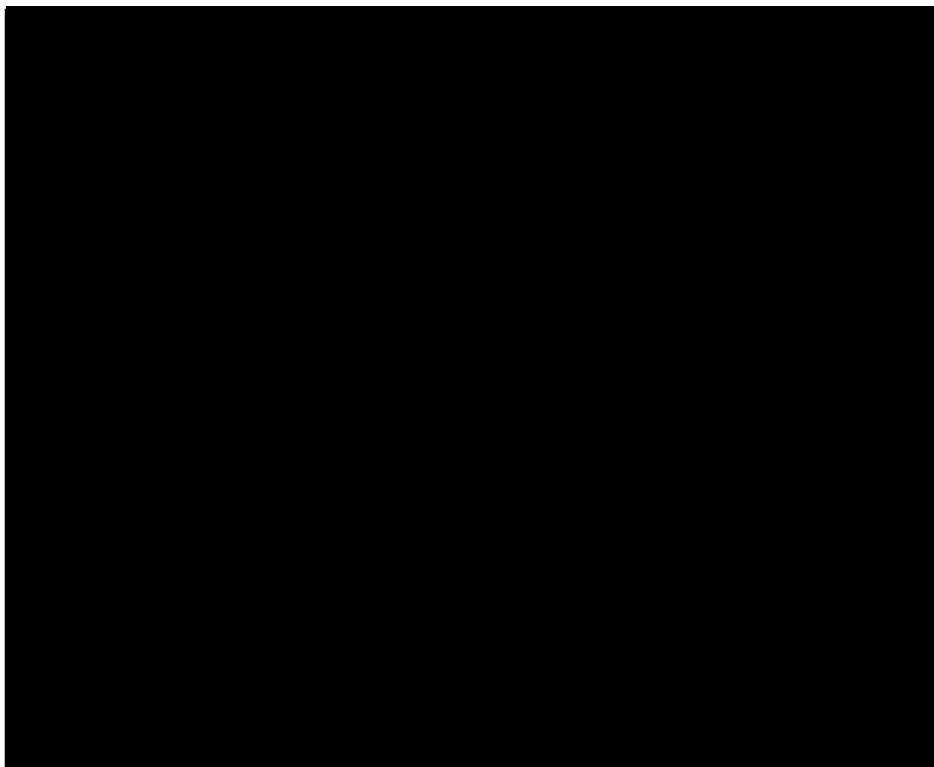


by banks, lawyers, lobbyists and other professionals, including prestigious tenants related to the public sector, soon replaced his 30-foot tall residential building. Modern office buildings now define the

Figure 04: McPherson Square – Washington DC (2010)
Source: NCinDC Flickr Photo Stream

square, with daytime users typically consisting of white collar individuals, while the evening clientele predominately consists of the downtrodden homeless.

These two well-defined public spaces are also at the heart of the issue regarding K Streets' underutilization as a live-work-play urban network, as three primary metro stations serving three different service lines pass through the stations. According to transportation studies conducted by The Office of Planning, the aforementioned metro



stations will surpass their capacity within the coming years, as over 313,000 individuals work downtown, and fifty four percent of those individuals take

Figure 05: Street Car Integration along K Street N.W.
Source: D.C. Office of Planning

the metro rail to work daily.¹ In order to alleviate this congestion, further infrastructure projects are already underway, including the streetcar system that will run along the extent of the K Street Corridor, terminating at Washington Circle. The streetcar will completely redefine the identity of K Street, as street parking will be removed in order to accommodate the new mode of transportation, as well as five foot wide bike lane running

east and west. Once this project is completed, the K Street district will consist of five underground metro stations, a surface level streetcar service, and bus transportation provided by the WAMTA and the DC Circular Bus. In order to take advantage of this massive influx of infrastructure spending, a multitude of building uses along this corridor must be realized in order to infuse a live-work-play attitude into a neighborhood that currently suffers from a lack activity after working hours.

In order to achieve these goals, several strategies will be explored in order to take advantage of the existing build stock through adaptive reuse, additive urban infill and deconstruction of existing structures that have outlived their purpose. 1522 K Street, a vacant 12-story modernist office building will be the site of an adaptive reuse typology analysis, where issues of circulation, light and air, and quality of life will be examined through design interventions. 1524 K Street is currently a condemned structure that has been segregated from the public realm, and is destined for redevelopment. Situated next door to the St. Regis Hotel, the program of this new construction can adapt to its' neighbors charisma and presence in the neighborhood, as well as relate to its' well-defined tripartite exterior scheme. 1520 K Street is a building that is fully operational, with two established ground floor uses that activate the street at all hours, but its' three story height does little to reinforce the City Beautiful Movement notions of urbanism that the city has established as a priority. In order to rectify this scenario, this property will be analyzed as an infill typology, whereas additions will be made to complete the block, but maintain the existing building and its' uses.



Figure 05: 1520 K Street N.W., 1522 K Street N.W., 1524 K Street N.W., St. Regis Hotel – Washington, D.C.

Source: Photographed by Eric Christopher Gellman

1607 K Street is also an underperforming building, once an operational two-story fast food chain restaurant; it now sits vacant in the heart of the district. The surrounding buildings have already been built to their maximum density, so not only does this building fail to meet its' potential, but it also negatively effects the generic scale of the buildings it surrounds.

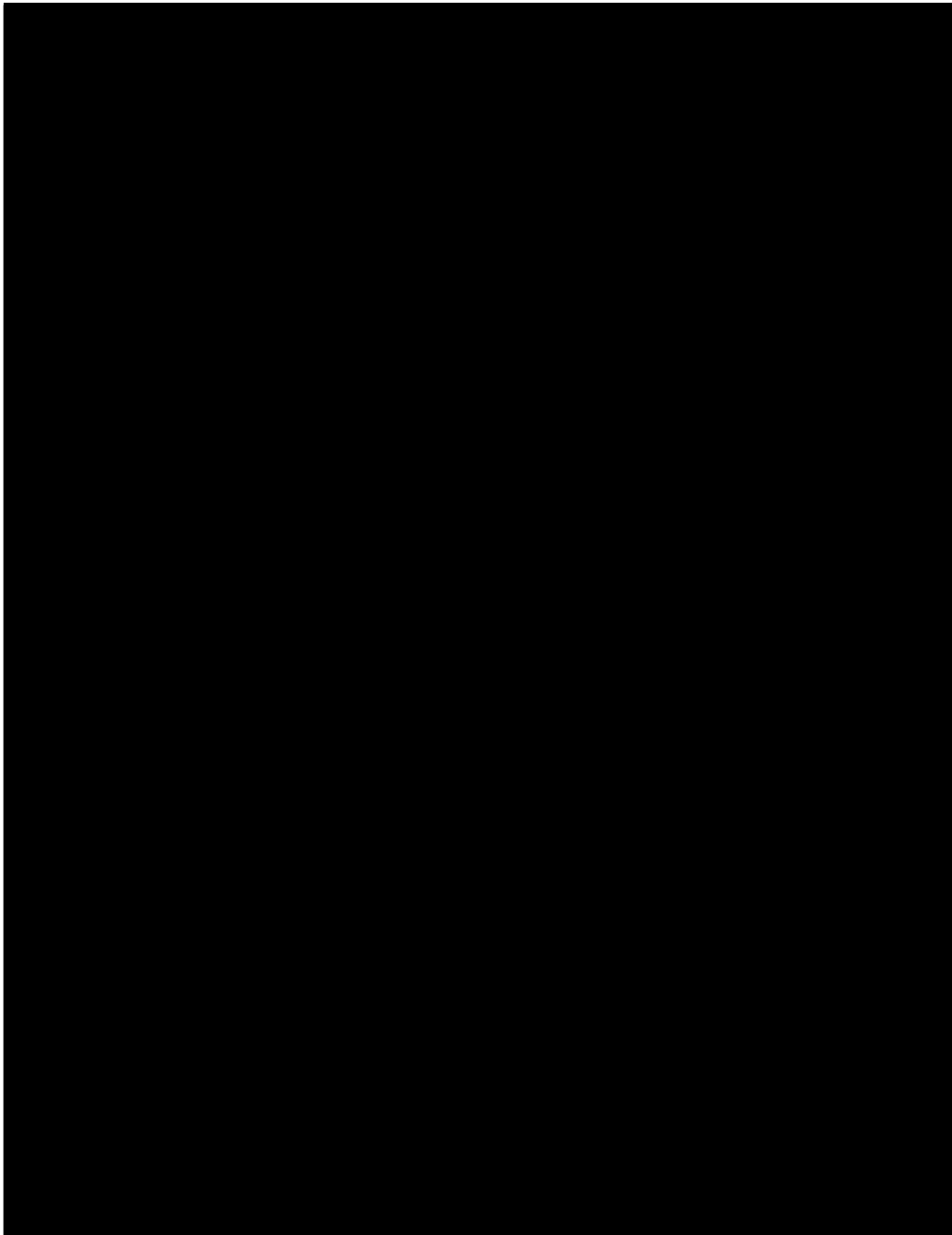


Figure 06: 1607 K Street N.W. – Washington, D.C.
Source: Yawper, Prince of Petworth Online Photographer

The final site to be analyzed will be the Christian Science Church on 900 I Street N.W. This site will not consist of adaptive reuse or demolition, but instead it will attempt to remedy the problematic urban features that its' collection of buildings has created.

Building interventions will be focused upon the windswept courtyard that connects the church with the office tower, as well as the design of a new skin for the church that would create a more engaging street wall than currently exists.

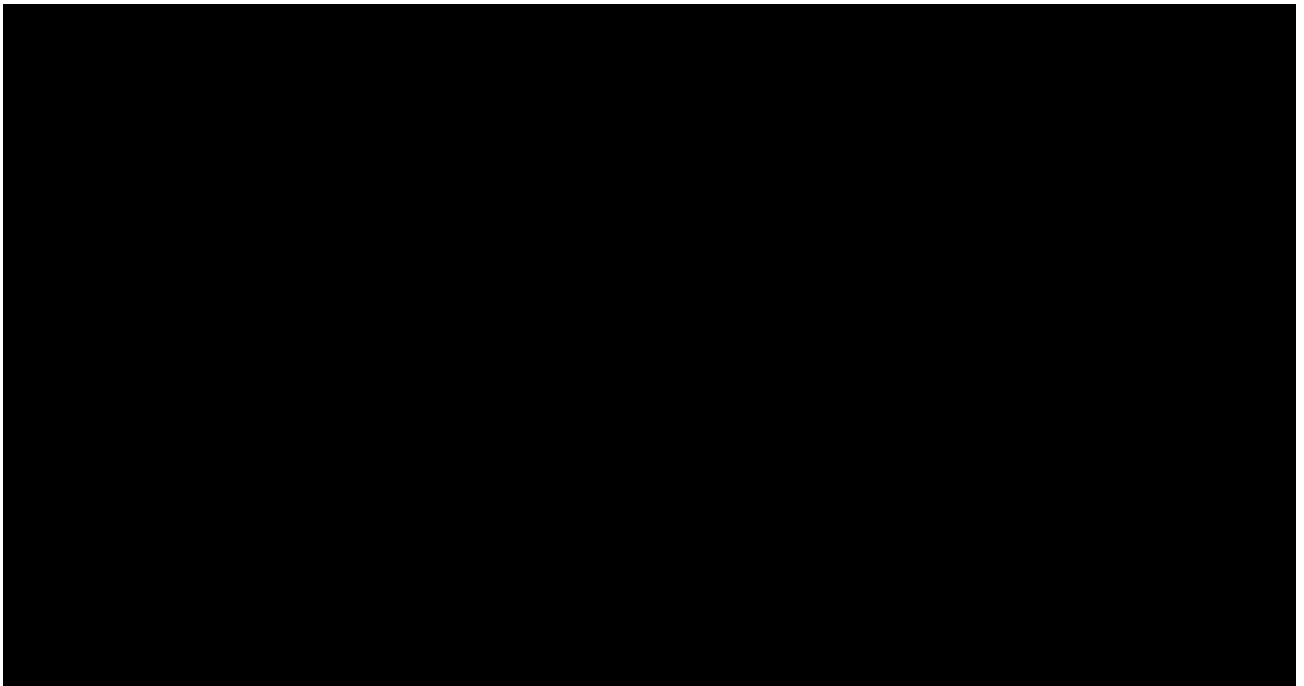


Figure 07: 900 I Street N.W. – Washington, D.C.
Source: Sixteenth Street Architecture (Book)

Site Description

Consisting of the densest stretch of buildings within the city limits, K Street N.W. maximizes its zoning along an expanse of 18 blocks with very few exceptions. This condition forges a continuous street wall, accentuated by a continuous cornice height that regulates the peripheral boundary of the site, which lends itself to a dynamic urban ensemble consisting of a ground plane, street wall and an implied ceiling forged by the sky above. When the street is viewed from a distance, the rapid development of modernist office structures has rendered the street banal and lifeless, as a lack of depth or formal articulation perpetuates a vast degree of homogeneity among individual edifices.

Post-tensioned slabs are typically utilized in the construction of the office buildings along K Street, as they allow for the greatest amount of cubic volume to be captured between the floor plates. This repetitive constructive method fused with a monotonous plane of reflective glazing renders the street nondescript and soulless, in stark contrast to other Washington D.C. neighborhoods including Adams Morgan, Georgetown and Chinatown. The aforementioned neighborhoods are successful at merging a variety of building uses into a limited number of standardized typologies that fit within the existing grid, yet in

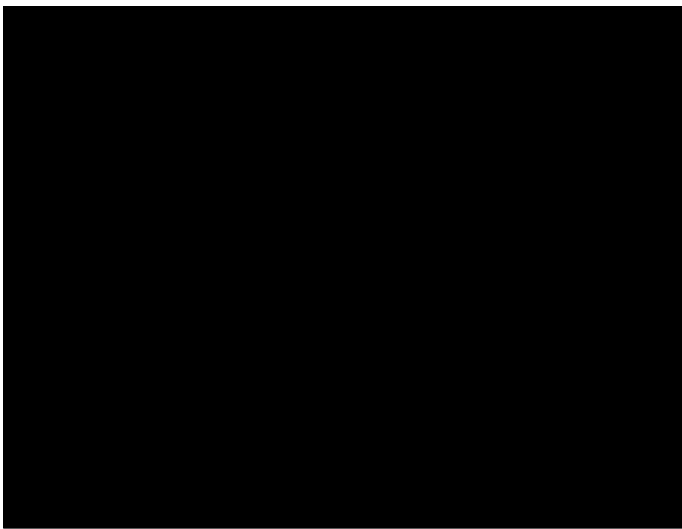


Figure 08: Streetscape of Adams Morgan Neighborhood, Washington, D.C.
Source: www.DCLIVING.com

contrast to K St., their composition is more successful due to their continuous engagement of street level activity. The ground level interaction on the existing infrastructure is composed of an episodic band of high security lobbies, fast casual lunch counters and chain coffee franchises. While

most office buildings won't allow pedestrians to pass beyond the lobby space, many are beautifully articulated with a range of architectural and artistic elements. The most pronounced of these spaces is 1801 K Street, which has successfully emblazoned an orthogonal plan of extruded plaster walls with a thrilling array of color. This technique wraps the corner of 18th and K St. at the ground level, and provides an ephemeral visual experience for passersby. While this was not an integral aspect of the comprehensive design scheme of the building, this cladding technique has distinguished the building



Figure 09: 1801 K Street Office Building Light Wall
Source: www.1801K.com

from its' setting, while simultaneously adhering to the established aesthetic principles of its' context.

Three of the four sites along K Street that have been chosen for redevelopment currently do not climb more than three stories in height, which is at close to 9 stories

shorter than what could potentially be built. In order to maximize the efficiency of the zoned and gridded land in Downtown D.C., it's imperative that these sites be densified in order to achieve maximum engrossment of a given lot. Also, low-rise structures fail to reinforce the overall street wall and continuous cornice height, and in fact disrupt the generic scale of the city, creating an uncomfortable, overbearing environment for pedestrians. In the case of 1606 K Street, a two-story building currently sits vacant on the site, and it's previous programmatic utilization as a fast food restaurant leaves little hope for a meaningful redevelopment of the site in its' current composition. In a testament to the buildings' lack of relation to its' context, neighboring buildings have developed behind the property line of 1606 K St., thus taking advantage of the elevated street perspective that the two story restaurant has yet to utilize. The building itself is composed of two massing walls to the east and west extents of the site, with inset glass spanning the twenty-one feet between the walls. The articulations of these elements are

customary of a typical suburban fast food restaurant, with the exception of a tawdry canopy that extends several feet north of the front elevation of the building. This buildings' current state would likely sanction complete demolition, with the likelihood than any salvaged materials would only serve utilitarian purposes, and not be celebrated in the new construction.

In the case of 1524 K Street N.W., the building has already been condemned by the city, and is currently awaiting complete redevelopment of the site. The existing exterior building components consists of plaster and stone, while the structure is composed of heavy timbers, which has been most been removed or destroyed. The site offers several limitations including: limited site dimensions, maximum density buildings to the east and west and a dependence on northern light for day lighting. Its' location adjacent to the St. Regis Hotel will assist in the regulation of the floor heights, window placement and formal articulation, given that the St. Regis Hotel serves as a primary node along the sixteenth street corridor, along with the Hay Adams and the White House. This placement can prove to be advantageous for the site, since its' contextual elements are rich in history, relating not only to the political continuum of Washington D.C., but also the immediate effects of the City Beautiful Movement on the capital city in the early Twentieth Century.

1522 K Street is an example of a poorly articulated modern office tower built in 1960, which has the potential to be reinvigorated as an adaptive reuse residential tower in the heart of K Street. Although the building meets its' maximum density and consists of two ground level commercial storefronts, it's dated interior design and lack of character on its' exterior alludes to the vacancy this building suffers from in its' current

constitution. In order to maximize the buildings' potential, the façade will be re-skinned, allowing for a maximum amount of light and air to penetrate the interior volumes of the building. The existing ground level distribution will be respected, as the interactivity between the building and the street has proven to be successful, which will also allow for a more economical approach to be taken with this scheme. Selective demolition will be utilized in certain instances to allow for the adaptation of modern amenities and double volume spaces where deemed suitable. The building currently consists of 2 fire stairs and an elevator, so every effort will be made to design the internal volumes relative to the existing infrastructure, which will ensure that minimum of code compliance design interpositions will be deemed necessary. The economy of design will allow for a wider variety of programmatic uses to be interjected into the strategy for this adaptive reuse development.

The third residential typology that will be examined is the urban infill of programmatic space above existing structure, such as in the case of 1520 K St. N.W. Currently composed of a three story early Twentieth Century townhouse, the internal function of this structure may provide K Street with its' chief amount of twenty-four seven activity. Archibald's Gentlemen's Club and Fast Eddie's Pool Hall share this space, with the gentlemen's club on the ground floor, and the pool hall on the top floor. The townhome was constructed in 1909, and in 1969 it was rebranded as a strip club, and has existed as so ever since.⁶ This current arrangement will lead to potential issues of egress for additional floors, as the internal space planning will most likely have to be rethought in order to accommodate densification on site. Also, the building is bounded

⁶ "History." Archibald's . http://www.archibalds.com/Section.asp?article_id=1798 (accessed December 3, 2011).

by 1522 K St. to the west, and a 14-foot wide alley to the east, allowing for an abundance of natural light to penetrate the façade from the east. Juxtaposed to 1520 K St., 1518 K St. reaches 6 stories in height, and has a stronger urban relation to its' context, although its' empty volume above its' roof could potentially be utilized in an dauntless attempt to maximize the square footage for this infill construction.

The final site that will be explored is the Third Church of Christ, Scientist site at 910 I St. N.W. An L shaped contextual office building, and a triangular courtyard that attempts to rationalize the residual space created between the two buildings accompanies this octagonal brutalist building. The buildings on the site foster a weak urban setting, as the uniformity of the ground plane, and the lack of pronounced entry sequences foster an urban space that is slovenly contrived, and reminiscent of the wind swept plazas that plagued New York City during the 1950s. Attempts will be made in order to actively foster fundamental urban design strategies, such as the continuous presence of commercial activity at the ground plane, as well as a clear separation between the public and the private realms. The brutalist design motifs will not be preserved through this new strategy, and the existing church will be subject to re-skinning, which will attempt to soften its' deleterious posture. While the existing building and public space are lacking in design rigor, the physical location is a wonderful site situated on axis between the St. Regis Hotel, the Hay Adams Hotel and the White House. These iconic contextual elements will serve as precedent for the grandiose composition of the design interventions, while concurrently transforming the cadre of modernist buildings into a well-articulated urban space.

Site History

K Street was developed as one of the widest streets in the city, as envisioned in L'Enfant's, and later Ellicott's Plan for Washington D.C. According to L'Enfant's plan, K Street was to be a special access street that would serve as the unofficial northern boundary of the city, which connected Georgetown with Northeast D.C. When passing through the Northwest quadrant, it passes by several of the city's major public spaces, including Washington Circle, Farragut Square, McPherson Square, Franklin Square, Mount Vernon Square. K Streets' sophisticated mansions of the Nineteenth Century have been completely supplanted by the current composition of maximum density modern office buildings, which reveals the enormous effects of a change in zoning that occurred in the early Twentieth Century. Prior to the transfer of land to the federal government in the late Eighteenth Century, private individuals owned much of K Street, and it was necessary to purchase or accept donations for those entities in order for progress to be made in the development of an active urban avenue. After the government secured the land, major development began along K Street in the form of homes, apartments and commercial buildings, primarily between 5th and 12th Streets. While Franklin Square was not originally planned in L'Enfant's vision of D.C., the park was the first to be developed along K Street due to a source of a fresh water spring that was located on its' grounds in 1832. Pipes were laid that pumped the fresh water from the park to the President's House, executive offices and fire hydrants across the city. Subsequently, the land was dedicated as a public park, although it was not completed until after the Civil War when grass, paving and flowerbeds were located on the site.

During the Civil War, D.C. converted many of its open public spaces as staging grounds for barracks of Union Soldiers. While Washington Circle maintained its'

identity as a park, Farragut Square, McPherson Square and Franklin Square were utilized by infantry from division across the Union sent to D.C. in order to protect the Capital. After the culmination of the Civil War, the city was granted Home Rule in 1871, and vast public infrastructure projects were undertaken in order to improve the navigability and overall conditions of K Street in the late Nineteenth Century. The Board of Public Works was responsible for the implementation of these projects, including the paving of streets, and the installation of gas lines. During this same time, sidewalks were laid, and buildings were allowed to build up to their property line, thus containing the frame of vision produced by the arrangement of similar building typologies. Other right granted to property owners during this time was the ability to impede upon the public realm through the construction of bay windows and stoops.⁸ Parks also saw improvement during this period, as a new fountain, Victorian watchman lodge and a pair of American Eagles were placed in Franklin Square, which had a residual effect on the context surrounding the square. During the late Nineteenth Century, K Street was commonly referred to as, “The Park Avenue of Washington,” due to the influx of luxurious mansions that followed the construction of city services including the D.C. 1 fire station, the Northern Liberties Market and the Franklin School, which is juxtaposed to Franklin Square to the south. Magnificent mansions were constructed over the next 50 years along K Street, such as Franklin Terrace located between 14th Street and Vermont Avenue.⁷ The house was constructed by real estate developer Archibald Lowery, and was later occupied by the Hearst and Vanderbilt families until 1907. Historically, K-Street was a jumble of sometimes incompatible activities. Today it is the opposite.

⁷ Barthols, Elizabeth. "K Street." *Historic American Buildings Survey* (1993): 12.

By 1903, K Street had succeeded in filling a majority of its' lots between Mount Vernon Square and 19th Street with brick and stone clad building, which consisted of a variety of housing typologies, as well as several commercial and municipal facilities. As time progressed, a shift occurred in the density of buildings along K Street, which coincided with a change in architectural tastes, as Victorian Homes began to give way to the Neoclassical Style. By 1952, a majority of the mansions that had once reigned supreme along K Street had been razed and replaced by high-density modernist office buildings. The paradigm shift that occurred was primarily due to the changing demographics of the neighborhood, as well as the extraordinary street width that exists along K Street. As K Street emerged as a business center in the early 1960s, traffic congestion became an increasingly difficult problem to counteract. Tunnels were forged in order to alleviate traffic near Washington Circle, and new zoning ordinances required new construction to supply underground parking structures. The addition of the metro rail system in the 1970s supplied three new metro stations between Farragut Square and McPherson Square, as well as two additional stations at Mount Vernon Square and Washington Circle. While K Street prospered between 14th Street and Washington Circle in the 1970s, the area between Franklin Square and Mount Vernon Square was plagued with adult video and bookstores, laundromats and liquor stores. It wasn't until the early 1991 that the last of these businesses were removed, and replaced with modern office buildings that reinforced the notion that K Street had emerged as the Central Business District of the city.

Several historic preservation sites fall within the boundaries of the K Street District, most notably the 16th Street Historic district, which stretches from Meridian Hill

Park in the north, to the White House in the south. The Carlton Hotel and 1601 K Street, 910 I Street and the Hay Adams Hotel are all associated with this historical district, and their classification as historically preserved sites should be recognized when considering potential design interventions for adjacent sites. Also, the Franklin School located at 13th Street and K Street is listed under the National Registry of Historic Places due to its' progressive history relating to the free education of American citizens.

Site Selection

When examining the K Street Corridor, the primary issue of underutilization of urban density led to the identification of several potential sites that could be transformed through a series of typology studies in order to facilitate a multi-use urban environment. When determining which sites would be suitable for redevelopment, existing density, FAR and vacancy rates were the primary factors in the conclusion to include the chosen sites. The sites that were selected contain existing infrastructure on their premises, and will require a suitable means of demolition depending on the scale of the project, as well as the typological means of which the project will be produced. Of the five sites that have been selected, three of the lots are directly connected to one and other between 1524 K Street and 1520 K Street, and those buildings are also connected to a service alley that will be utilized in the programmatic development of the overall scheme. The building at 1606 K Street will be presented as a complete demolition of the existing building, as a multitude of construction methods will be examined in order to properly address the scope of work that's associated with the programmatic elements of the project. These construction methods will consist of the following: off-site modular construction, post in tension slab assembly, and off-site cartridge construction of individual pods that can be

slid into a mega structure that would be assembled on site. The Third Church of Christ was chosen due to the lack of urban interactivity that currently exists, and the rectification of this issue will serve as the conceptual basis for the future design development of the site. Beyond the utilitarian aspects of the site selections that have been listed thus far, the proximity to major governmental nodes such as the White House, Washington Monument and other government buildings add to the significance of the sites located in the proximity of 16th St. and K St. Also, the existence of historically preserved buildings such as the St. Regis Hotel, as well as the multitude of buildings that are included in the 16th Street Historic District serve to enhance and solidify the prominence of the district. The existing infrastructure along K Street may serve as the strongest rationale for development along its' extents, as public transportation and light gauge vehicular traffic are capable of easily traversing the span of the street, which includes 5 metro stations that serve all 5 of the DC Metro lines.

Chapter 2 - Site Planning

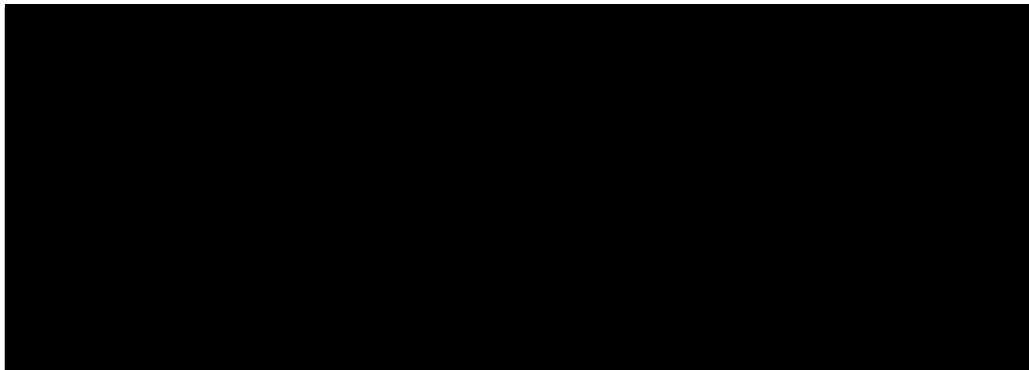


Figure 10: Existing Street Section of K Street N.W., Washington, D.C.
Source: D.C. Business Improvement District

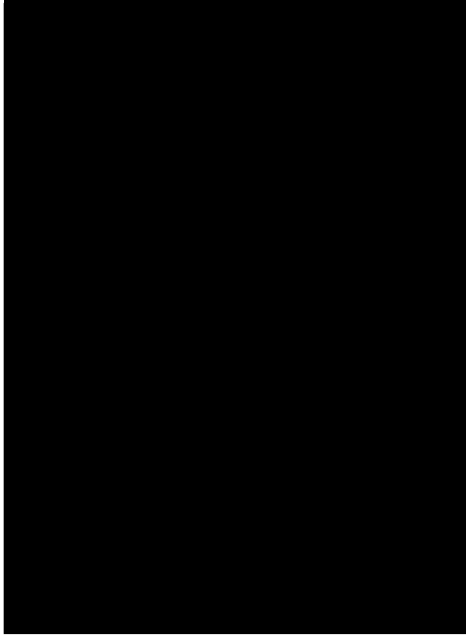


Figure 11: Existing Sidewalk Ensemble and Dimension Along K Street, Washington, D.C.
Source: D.C. Business Improvement District

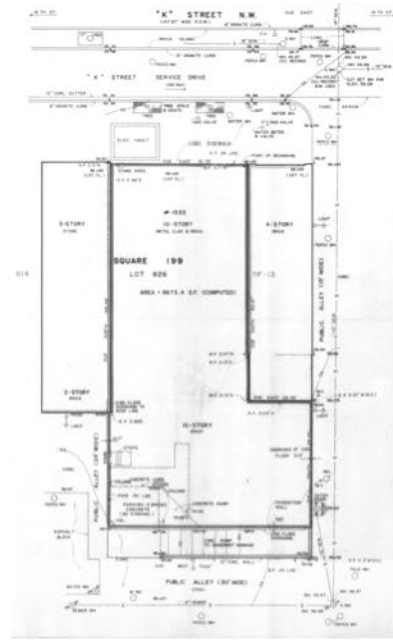


Figure 12: Existing Site Plan for 1520, 1522 and 1524 K Street N.W., Washington, D.C.
Source: Ski-Quorum Architects

The existing sidewalk condition along K Street is currently 19 feet wide, including and plantings, curbs and spaces dedicated for sidewalk vendors. During the busiest hours of the day, people walk elbow to elbow down the street, as the daytime population balloons to over 300,000 people a day in the business district of the city. Existing site plans and diagrams such as Figures 10 and 11 illustrate the limited paths for the pedestrian along K Street, as several lanes of vehicular traffic prevent the pedestrian have any interaction with the street in the form of integrated bus lanes, or the new proposed surface level trolley cars. Also illustrated in Figure 12 is the available alley access adjacent to 1520 K Street, which will be examined in the schematic development of the comprehensive assembly of buildings.

Chapter 3 - Site Survey

K Street has been recognized over multiple centuries as a vital corridor within the hierarchy of streets and avenues in D.C., and due this is distinction, a multitude of studies have been conducted which have recorded the variety of uses associated with the street. Illustrated in Figure 13, the Sanborn Map of 1888 depicts a residential street consisting of attached townhomes, as well as manor homes, such as Anderson House at the corner of 16th Street and K Street NW.

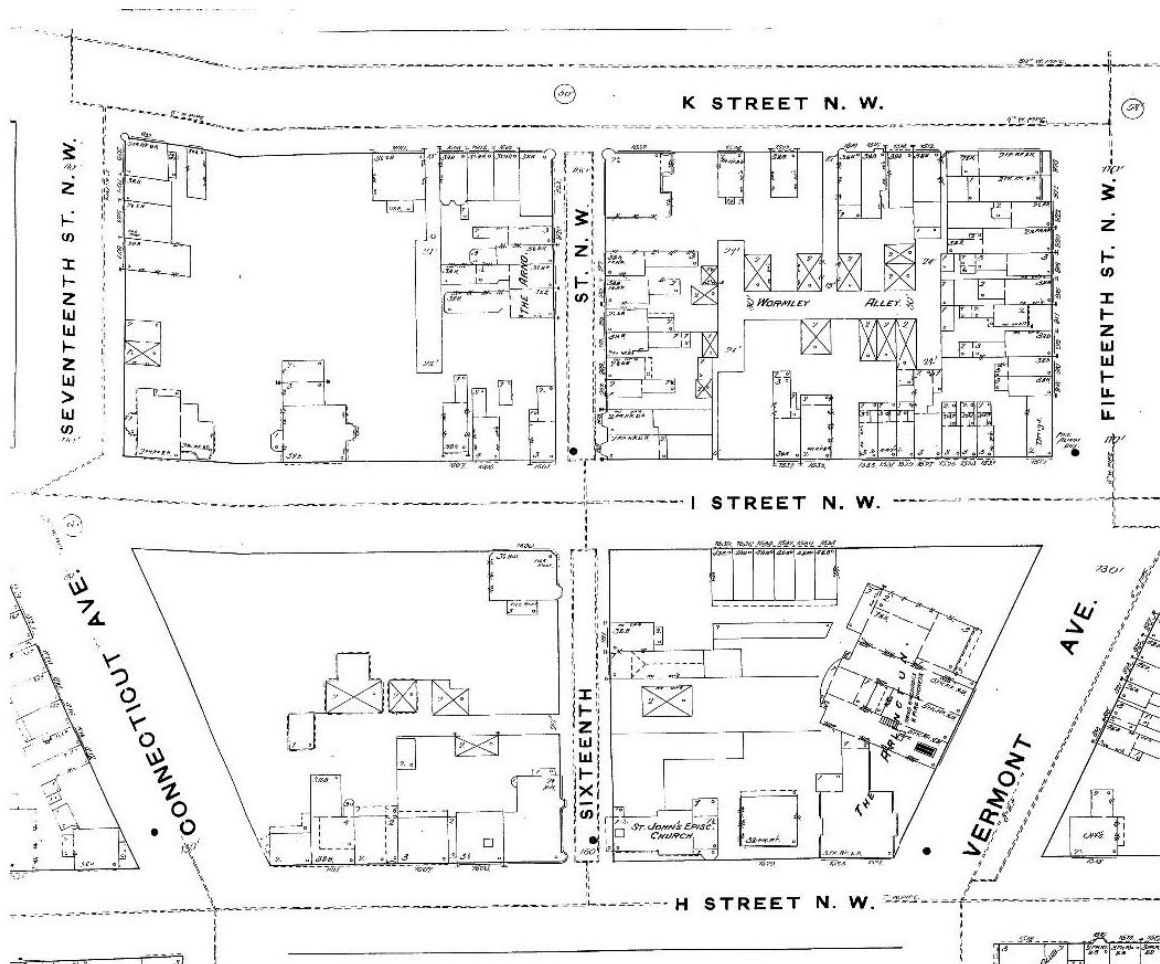


Figure 13: Map of Washington D.C., 1888
Source: Digital Sanborn Map collection

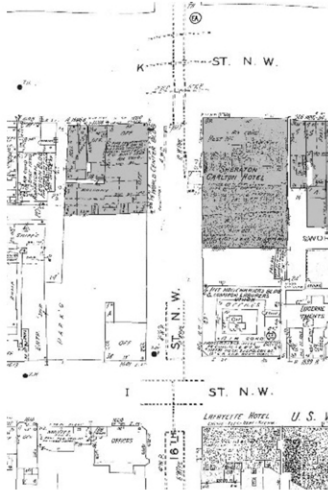


Figure 14: Map of Washington D.C., 1960
Source: Digital Sanborn Map Collection

As previously stated, the composition of the street evolved over the next eighty years, and the demolition of the smaller scale town homes lead the way for the construction of larger scale office buildings and hotels. Figure 14 depicts Washington D.C. during the 1960s, where a majority of the sites that have been identified for redevelopment had already been constructed, and are evident on the map. A noticeably absent Third Street

Church of Christ was not constructed until 1970, yet it's inability to adapt to the clearly defined urban ensemble, as well as its' failure to suit the needs of its' congregation qualifies the property to be examined for potential redevelopment. When compared against Figure 13, Figure 14 depicts an emerging



Figure 15: Topographic Survey of Downtown Washington,
Source: Drawn by Eric Christopher Gellman

modern neighborhood that is punctuated by a multitude of large-scale buildings that clearly define the edge conditions of the blocks, as well as address contemporaneous notions of parking, utilities and service alleys. Figure 15 illustrates the interconnectivity of the multiple systems that define the site, including the topography, existing building stock, public open spaces and means of transit. This delineation of Downtown D.C. highlights the strategy arrangement of the WAMTA underground stations relative to the hierarchical open spaces along K Street, as well as the disparity in width between K Street and 16th Street compared to the adjacent gridded streets.

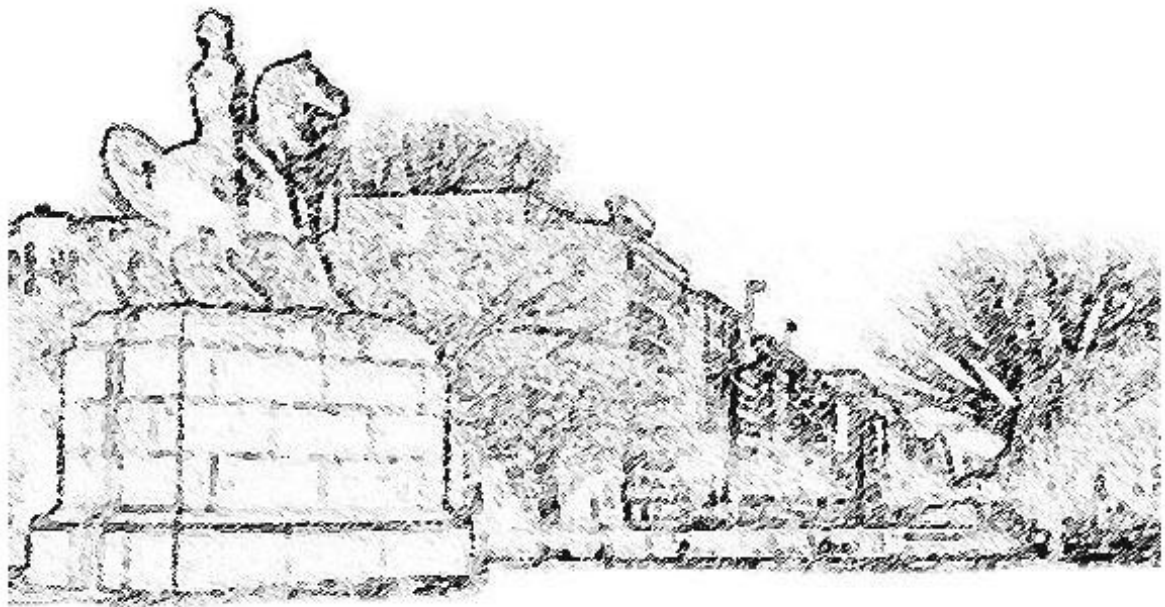


Figure 16: Perspective of K Street N.W. Looking East From Washington Circle
 Source: Hybrid Drawing Created by Eric Christopher Gellman, Graphic Underlays provided by Library of Congress

The strong axially of K Street is punctuated by the statue of George Washington on horseback at Washington Circle, and continues unimpeded to Mount Vernon Square and the D.C. Historical Society 16 blocks east. The continuous cornice height of the buildings along the street emphasize this nodal relationship, as there lacks a competing element between the liminal space that connects them.

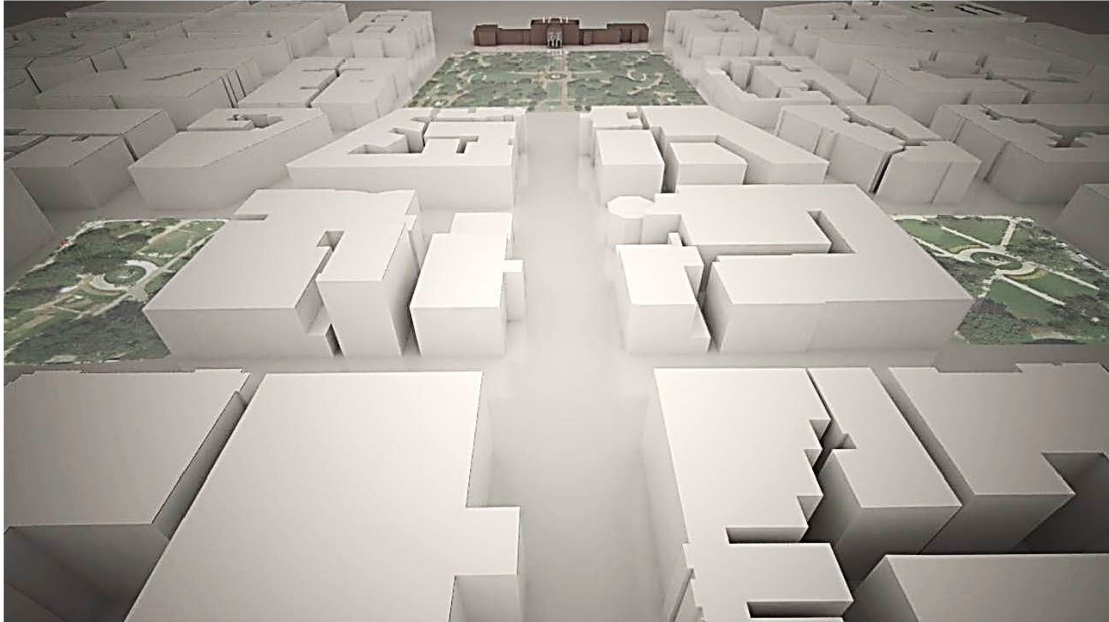


Figure 17: 3D Model of Downtown D.C., Looking south
Source: Created by Eric Christopher Gellman

Chapter 5 - Site Analysis – Site Boundaries, Setbacks, Right-of-Way

As depicted in Figure 18, the lot sizes of D.C. may not always be relevant to the existing footprint of a building, and in many cases, it is necessary for a building to consume several lots in order to maximize its' density. Eariler iterations of street ensembles can be understood through the analysis of the black diagram of the city, as tight narrow sites that maximize street frontage are common, which is indicative of the attached town homes that once rested on the site. While the new proposed design intervention will consists of residential mixed use developments that fit within the contemporary fabric of the city, the notions of a tightly wooven urban arrangmenet will be celebrated in the design of the new infill projects.

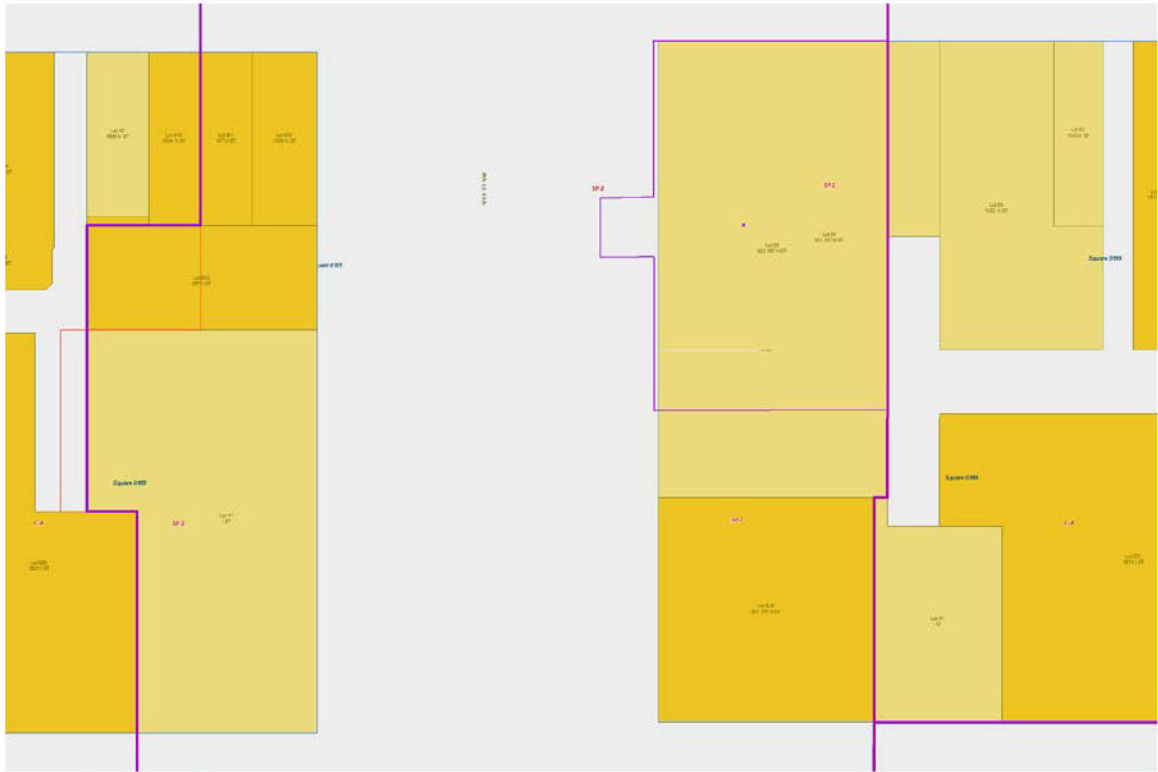


Figure 18: Lot Boundaries between K St. and Eye St. N.W. and 16th St. N.W.
Source: D.C. Office of Zoning

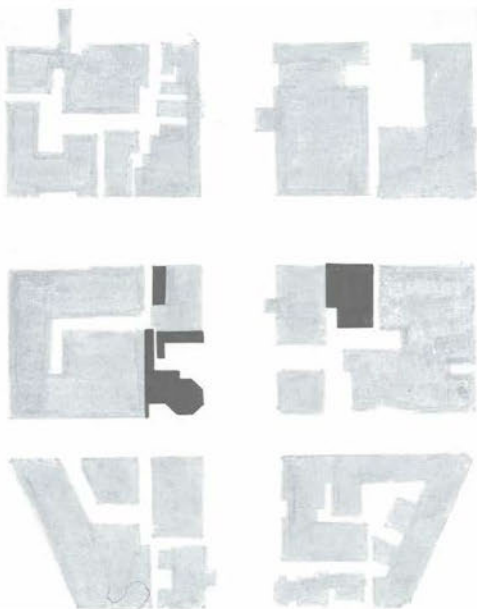


Figure 19: Scope of Work
Source: Drawn by Eric Christopher Gellman

The scope of work associated with the project will be limited to the sites that have been dissected, and found to be worthy candidates for urban infill, adaptive reuse or new construction. In the case of the Third Church of Christ, Scientist, the entire site will be examined, and schemes will be developed that consider the potential future utilization of the site in terms of program, use and integration into the urban realm

Buildable Areas

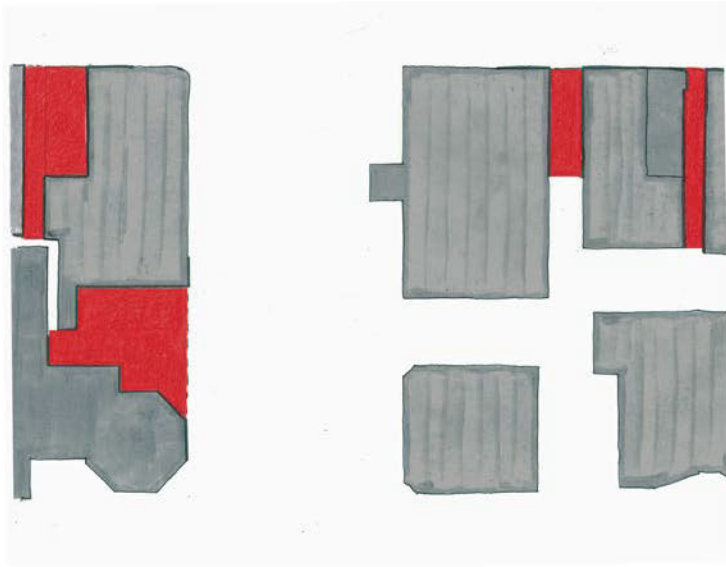


Figure 20: Buildable Area (Red) Diagram
Source: Drawn by Eric Christopher Gellman

Five sites located within a single block from the 16th St. and K Street N.W. intersection have been identified as prime targets for redevelopment, including the vast courtyard that connects the octagonal drum of the church with its rectilinear office tower.

Circulation: Vehicular Pedestrian

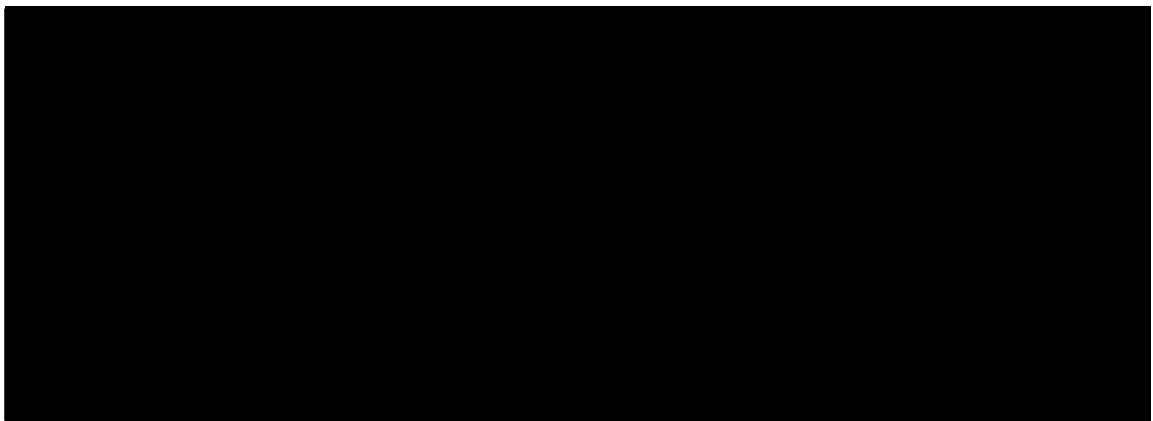


Figure 22: Proposed Vegetative Planting on K Street N.W., Washington, D.C.
Source: D.C. Business Improvement District

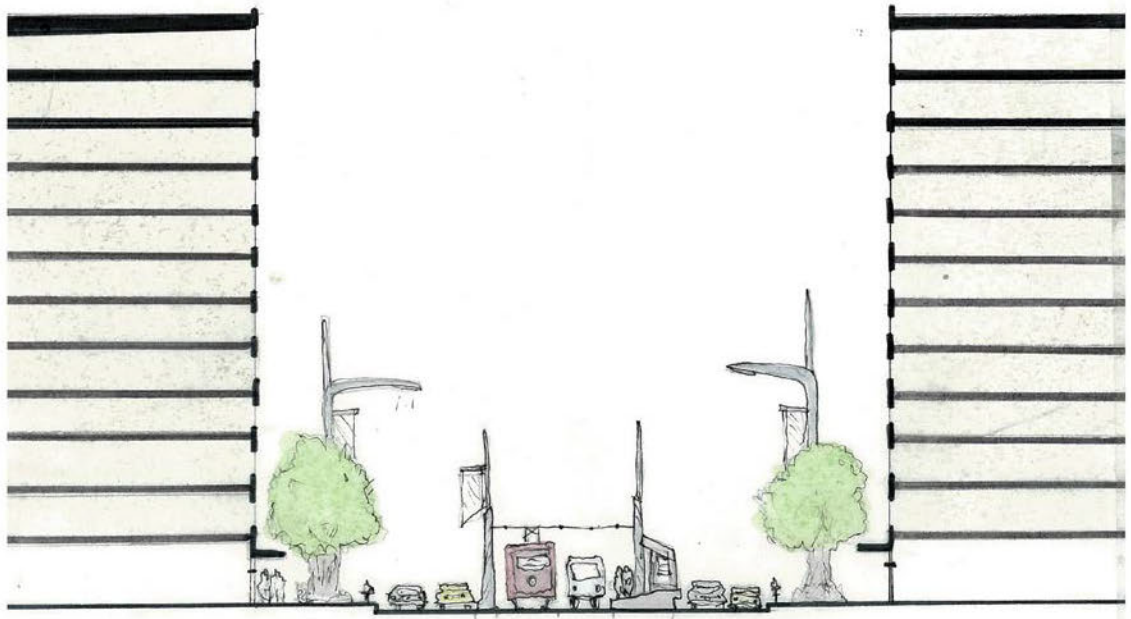


Figure 21: Proposed Street Section Along K Street N.W., Washington D.C.
Source: Drawn by Eric Christopher Gellman

The proposed alterations to the street scene of K Street would add a greater number of large growth trees to the sidewalks and transit way curbs, which would foster a more pleasant environment in the summer in terms of the micro climate due to the excess amounts of shade that would be produced. Continuous canopy coverage would stretch for several blocks at a time as illustrated in Figure 22.

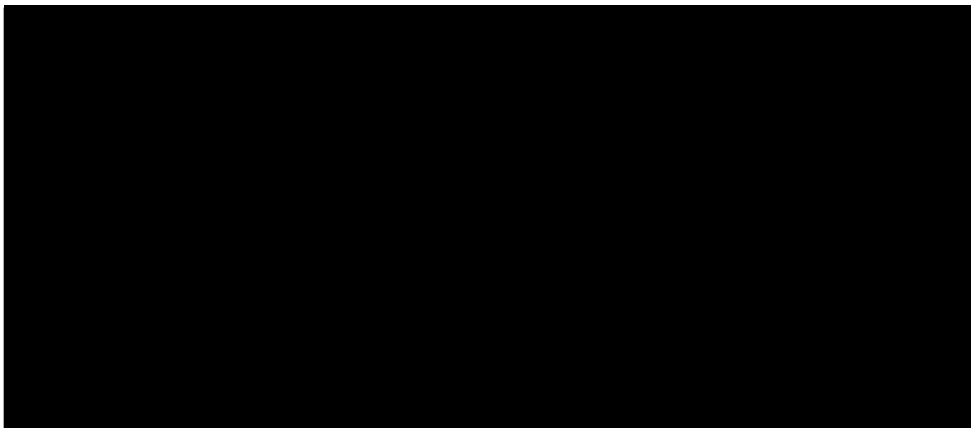


Figure 23: Proposed Sidewalk Redesign for Downtown D.C.
Source: D.C. Business Development District

Contour / Slope



Figure 24: Slope Analysis of Downtown D.C.
Source: Drawn by Eric Christopher Gellman

The contours along K Street vary slightly between Washington Circle to the West, and Mount Vernon Square to the East. The three site in question lay within an area that reaches a low point of 56'-0", and a high point of 60'-0". This provides few opportunities for design interventions that can use slope to the advantage of the designer in the case of 1606 K Street and 1522 K Street. In the case of the Christian Science Complex, the gentle slope of 1'-0" on site allows for the addition of a ramp and stair that provide egress into the newly defined residence, and well as create a boundary between the public realm of the courtyard, and the private realm of the residences.

Environmental

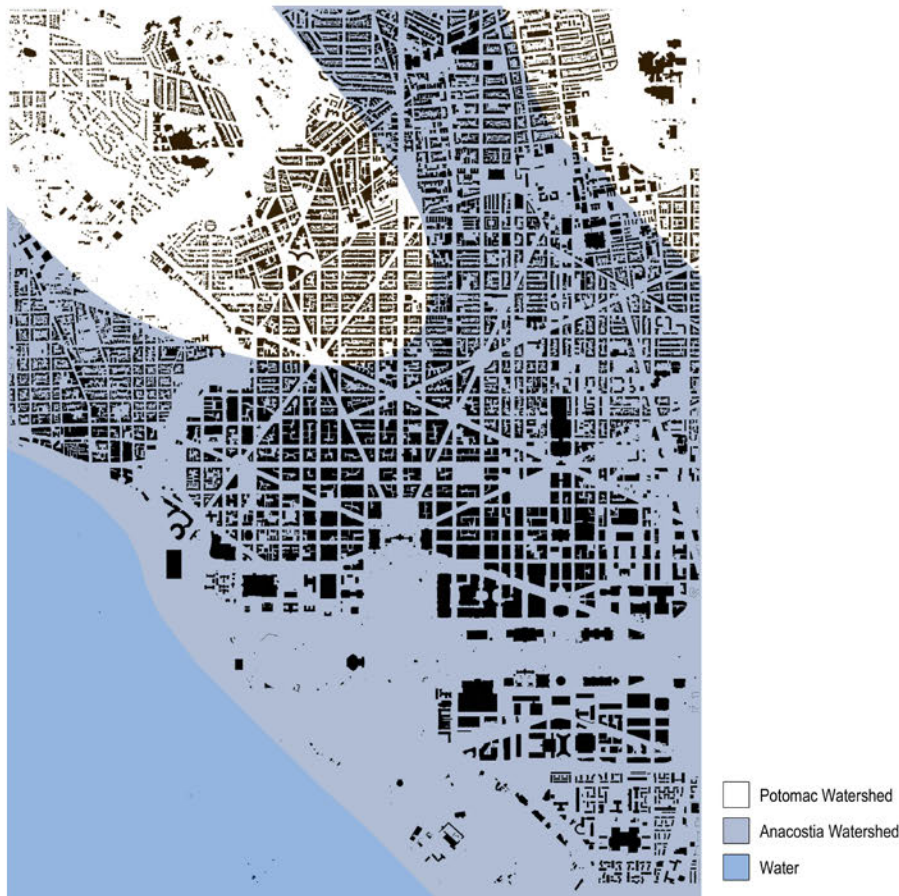


Figure 25: Map of Potomac Watershed
Source: Drawn by Eric Christopher Gellman

K Street falls within the Anacostia Watershed, which is notorious for the high level of sewage and pollutants that find their way into the watershed. Recent activity brought about by the Anacostia Watershed Society have aimed to curb the amount of pollution that makes its' way into the watershed, which is a highly valuable commodity for the Washington, D.C. region.

Historic Structures / Artifacts

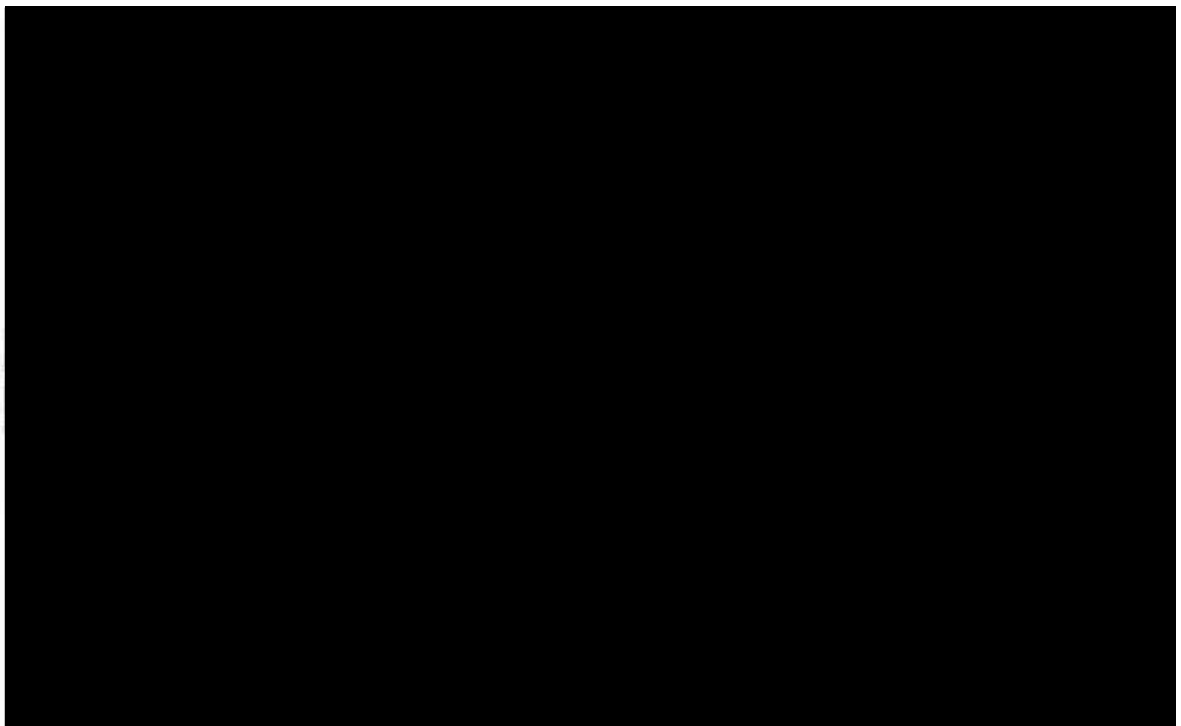


Figure 26: Plan of Carlton Hotel, Washington, D.C.
Source: Sixteenth Street Architecture (Book)

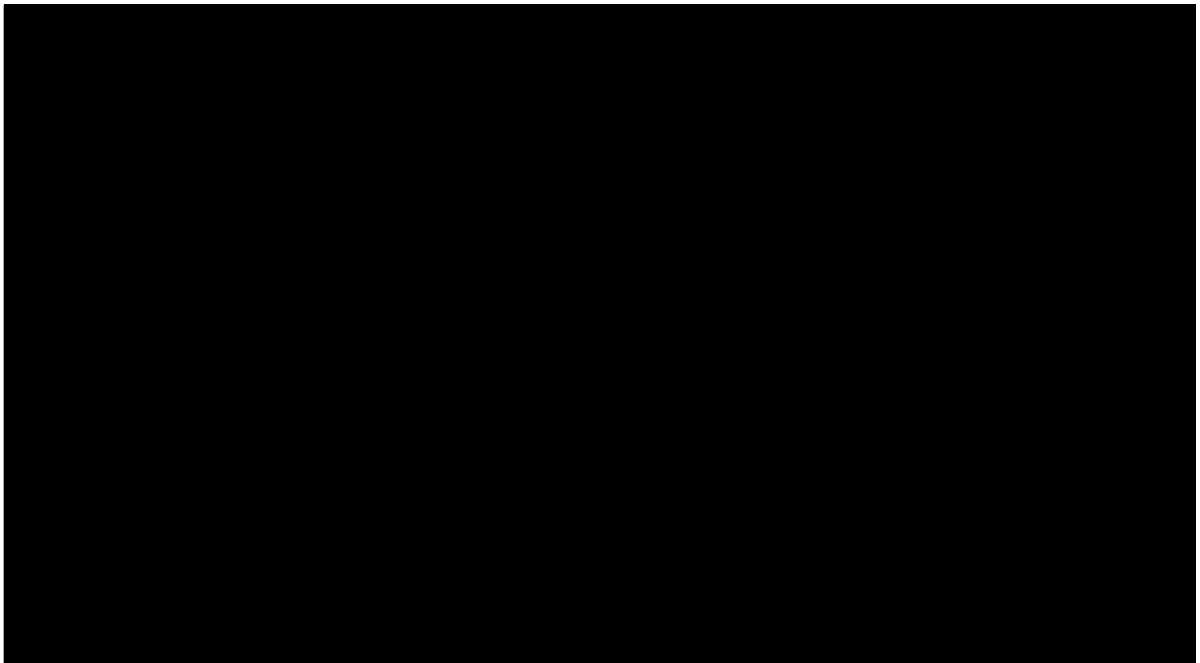


Figure 27: Elevation of Carlton Hotel, Washington, D.C.
Source: Sixteenth Street Architecture (Book)

The Carlton Hotel was built in 1926 as a Beaux Arts Hotel by the famous Washington, D.C. developer Harry Wardman, and designed by the architect Mihran Mesrobian. The hotel was placed on the National Registry of Historic Places in 1990, and defines the corner of 16th and K Street N.W.

Site Access / Parking

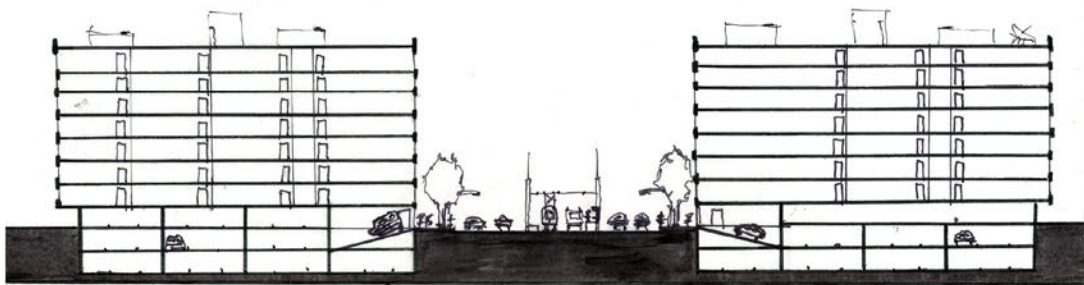
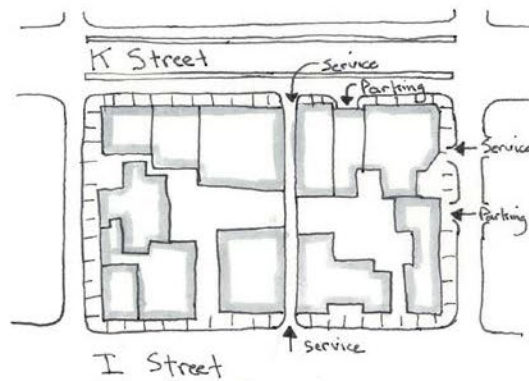


Figure 28: Sectional Analysis of Underground Parking Structures on K Street N.W., Washington, D.C.
Source: Drawn by Eric Christopher Gellman

Due to the overwhelming number of workers who commuted to K Street for work from outlying areas, underground parking structures became necessary in order to have ample parking for all those who desired to drive their cars to work. Also, since K Street is in a sense an organic device, the block development pattern grew organically over several decades, sometimes leaving only residual irregular spaces for service vehicle to access the back alleys of buildings. Figure 29 illustrates a proposed adjustment to the established method; whereabouts service entries are situated on the secondary North and South, rather than East and West streets in Downtown D.C.

BEFORE



AFTER

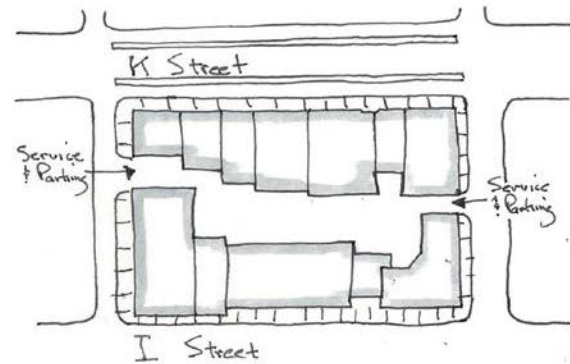


Figure 29: Block Diagram Illustrating Paradigm Shift in Site Access
Source: Drawn by Eric Christopher Gellman

Urban Context (Typologies, Use, Urban Structure)

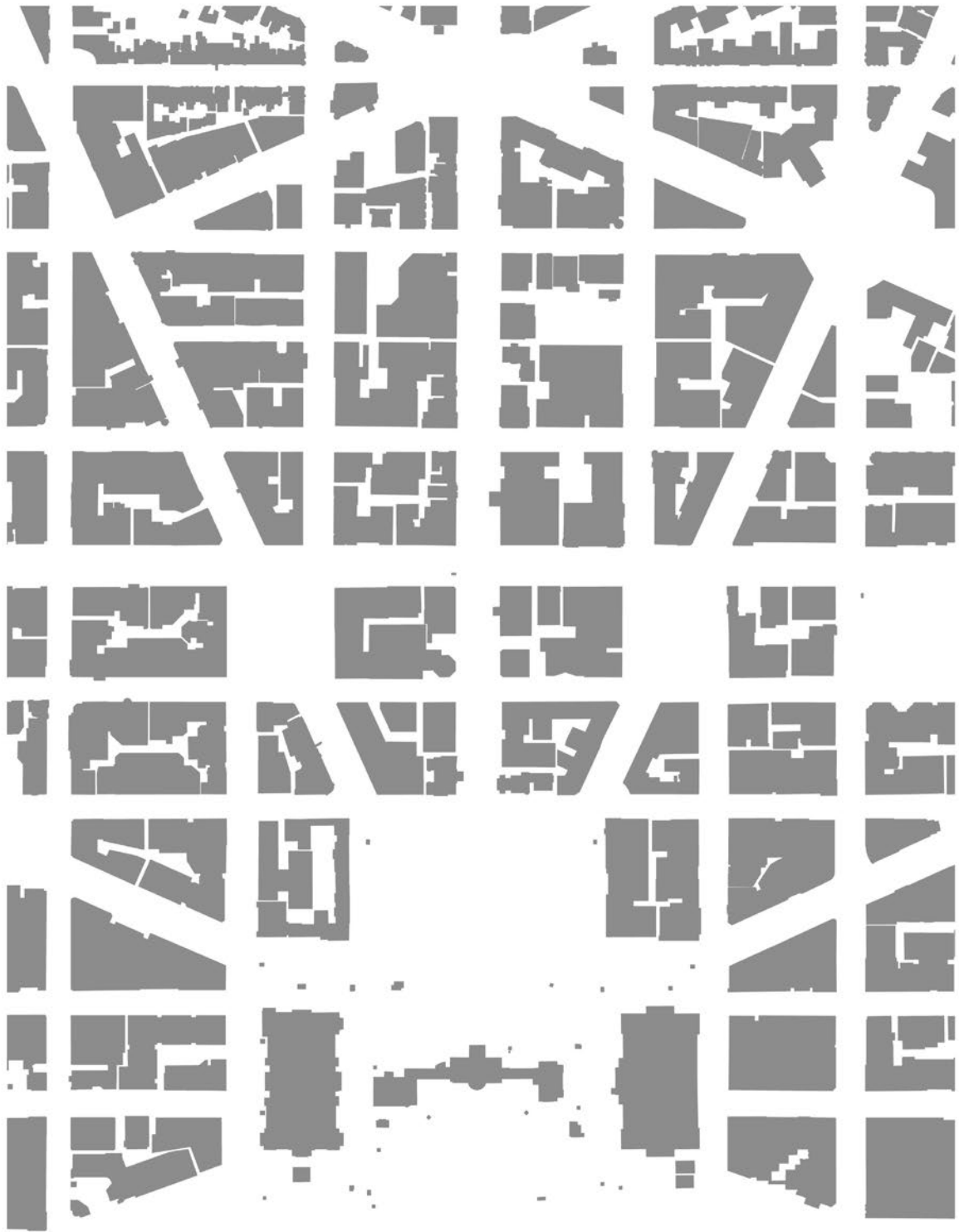


Figure 30: Figure Ground Map of Downtown D.C.
Source: Drawn by Eric Christopher Gellman

The existing density of Washington, D.C. clearly defines the streets and avenues that connect the various nodes and neighborhoods of the city. This figure ground drawing presents all of the built forms in grey scale, while the ground plane, parks, streets, etc. are perceived as the negative of the built forms.

Vegetation

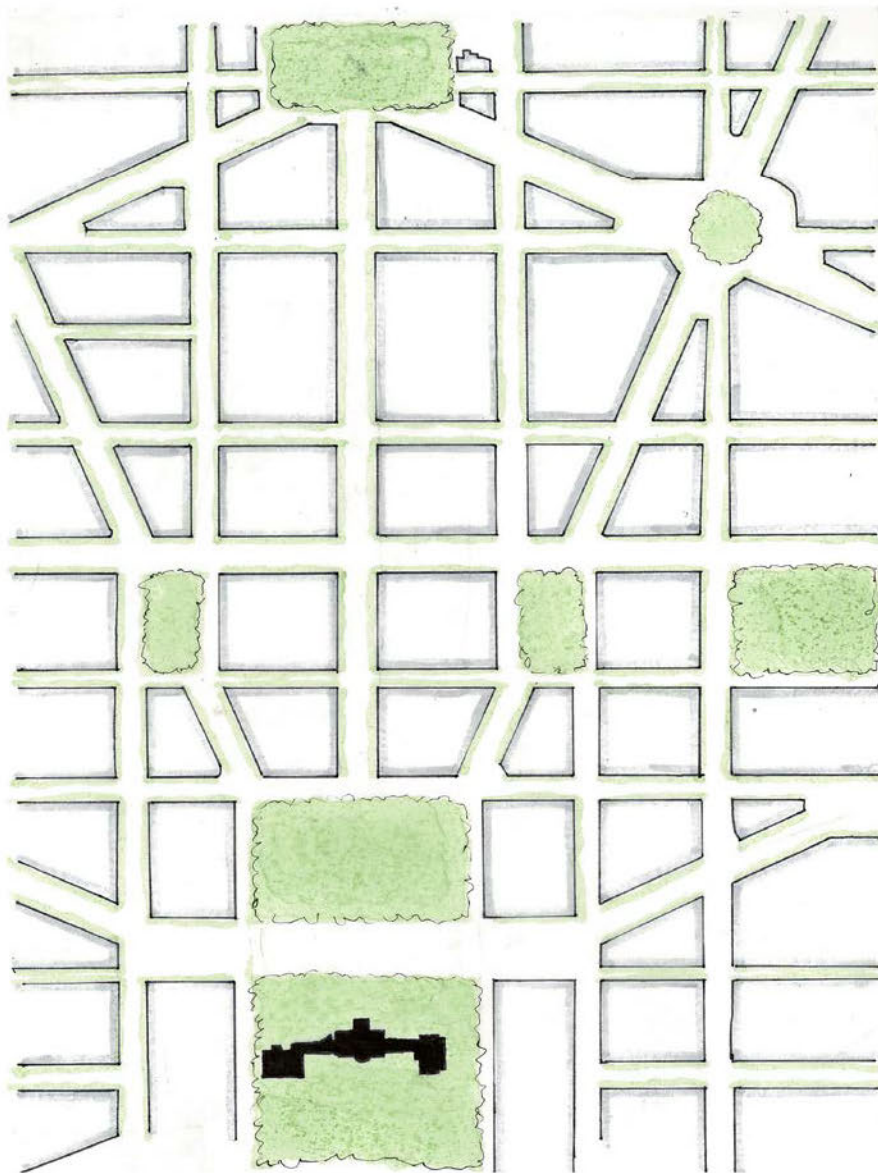


Figure 31: Vegetation Map of Downtown D.C.
Source: Drawn by Eric Christopher Gellman

Within the vicinity of the proposed sites, several public open spaces can be found inscribed within the grid of the city. Farragut Square, McPherson Square, Franklin Park and Layette Park are all within one block of the sites under examination, which provides a wealth of amenities for new infill construction of residential units.

Views into and from the site



Figure 32: Perspective of St. Regis Hotel, 1520, 1522 and 1524 K Street N.W., Washington, D.C.
Source: Photographed by Eric Christopher Gellman

The 1500 block of K Street is defined by buildings that maximize their height restrictions, as well as fill as little as three stories. The street width of 148 feet provides a grand passageway for existing vehicular traffic, and has the potential to provide a multi use transit corridor composed of private vehicular traffic, mass transit and bicycle riders.

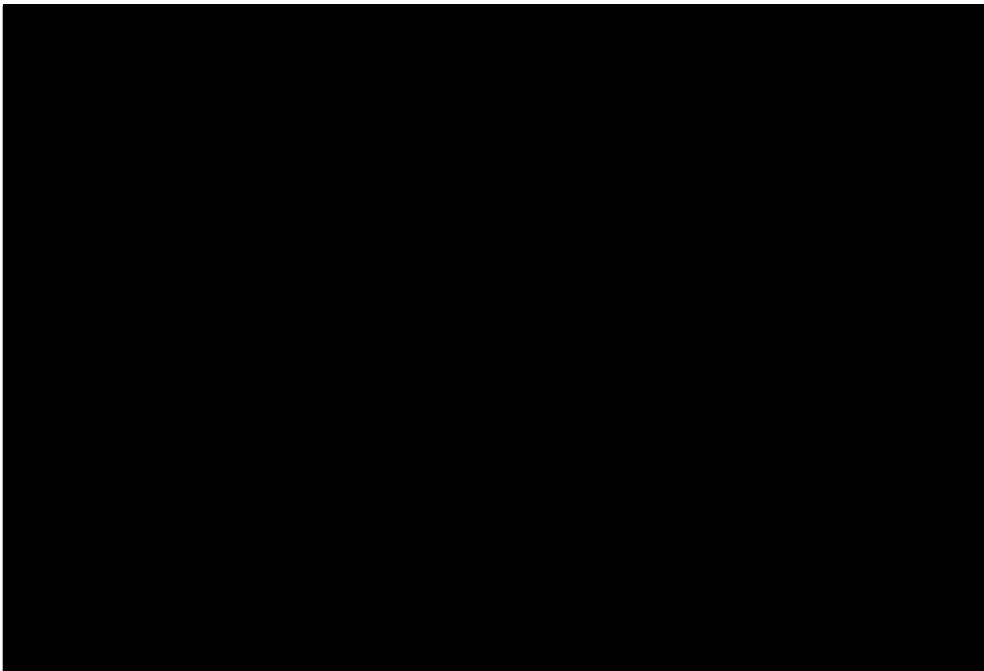


Figure 33: St. Regis Hotel, Washington, D.C.
Source: Starwood Hotels Online

The St. Regis Hotel illustrates the 50 foot setback along 16th Street in Washington, D.C., as well as the 8 story height limitation imposed by city ordinances at the time of construction.

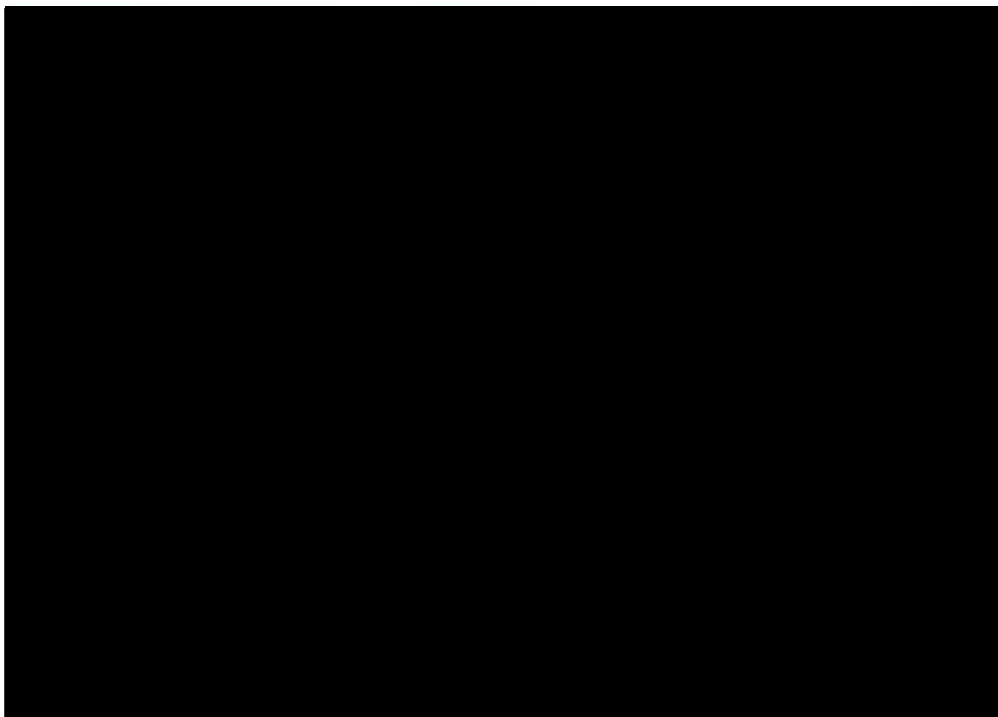


Figure 34: Third Church of Christ, Scientist, Washington, D.C.
Source: Third Church of Christ, Scientist Wikipedia Page

The Third Church of Christ, Scientist at 910 16th Street consists of the church, which reaches a maximum height of 45 feet, as well as an office building along the northern edge of its' site that reaches the 90 foot height limitation of 16th Street. The site also consists of a barren, windswept courtyard that is only populated when a church service is beginning or ending.

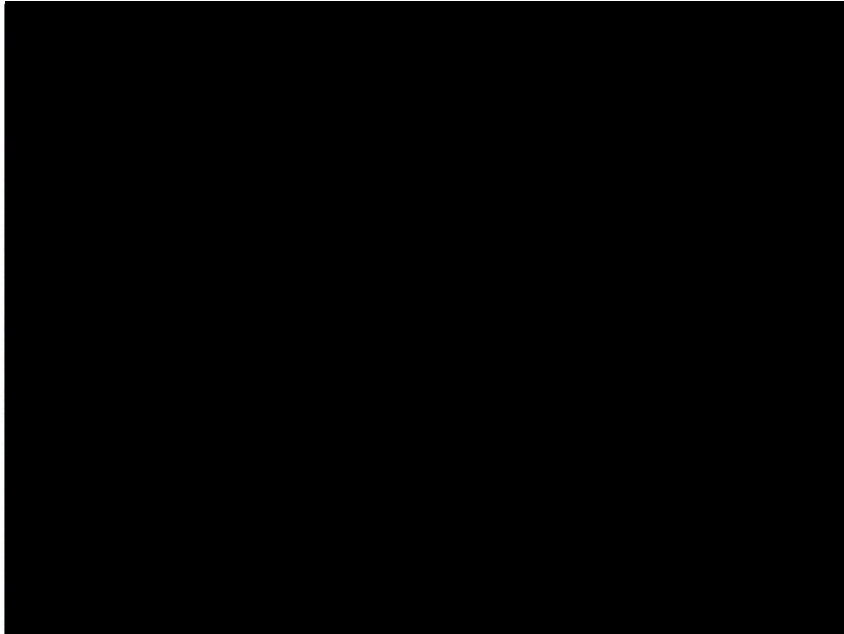


Figure 36: 1606 K Street
N.W., Washington, D.C.

1606 K Street N.W. currently consists of an abandoned 2 story fast food restaurant, reaching a maximum height of 25 feet from grade. It is also adjacent to an alleyway, which is 14 feet from 1608 K Street to the west. The site is 76 feet deep, and lacks a rear entry, as 1601 K Street is composed as an L Shaped building that occupies the lot behind 1606 K Street. The building lacks any significant architectural character or significance, and it will be razed in order to insert a 130 foot tower on site.



Figure 35: Perspective of 1520, 1522 and 1524 K Street N.W.,
Washington, D.C.
Source: Photographed by Eric Christopher Gellman

The sites of 1520 K Street and 1524 K Street reach stories in height, and 75 feet deep on their sites. 1522 K Street reaches 130 feet tall, and 135 deep in its' site. The combined width of 1522 K Street and 1524 K Street spans over 75 feet, which provides one medium size and one large store front for new potential business, as well as a dedicated entry into the new residential building. An alleyway is also situated to the east of 1520 K Street, and is separated from 1518 K Street by 14 feet of paving.

Zoning / FAR

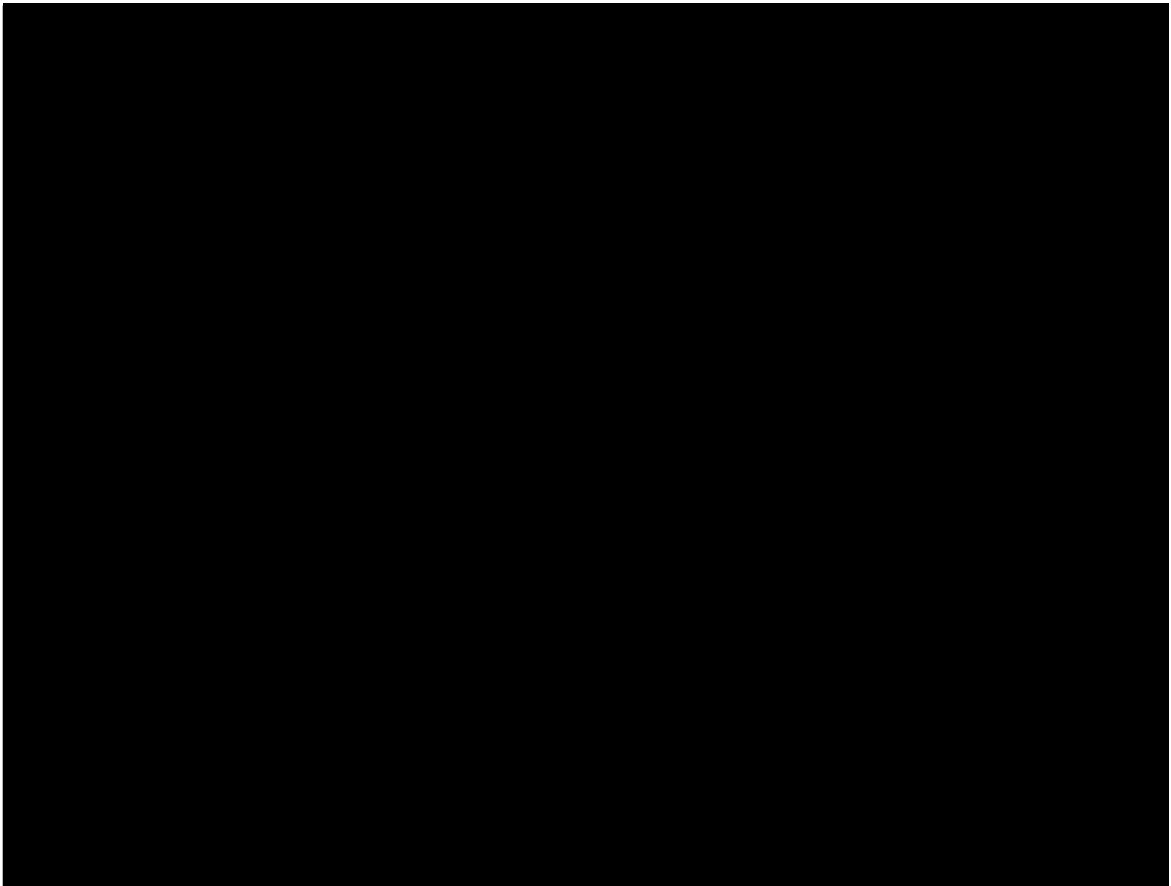


Figure 38: Proposed Zoning Map of Downtown D.C.
Source: D.C. Office of Planning

The downtown zoning map of Washington, D.C. highlights the single use zoning that plagues much of the city south of Thomas Circle, and north of the White House. The map also displays the four metro stations that are clearly defined within the high density commercial occupancy, as well as the 3 additional stations that are of the fringes of the business district. The map also highlights the existence of the 16th Street Corridor that merges medium density commercial with medium density residential along its extent.

Demolition Plan

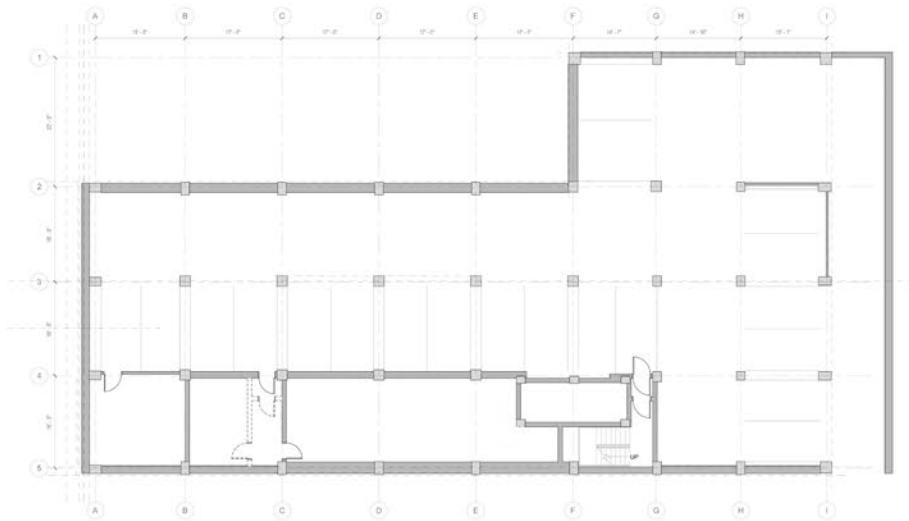


Figure 39: Underground Parking Plan of 1522 K St. N.W. D.C. Source: Eric Gellman

The existing building at 1522 K Street consisted of an underground parking structure accessible from the side alleyway and the rear façade. The garage is 3 stories deep, and consists of 18 parking spaces per level.

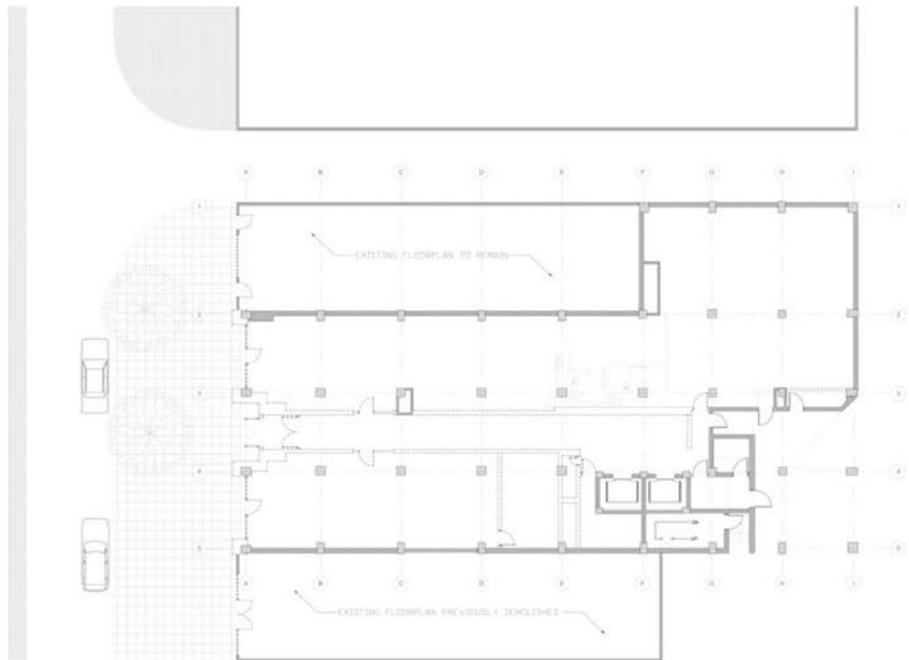


Figure 40: Ground Floor Demolition Plan of 1524, 1522, 1520 K St. N.W. D.C. Source: Eric Gellman

The ground level of 1522 K Street is composed of two street level retail storefronts, as well as a dedicated office lobby consisting of two elevators and access to the loading docks in the rear of the building.

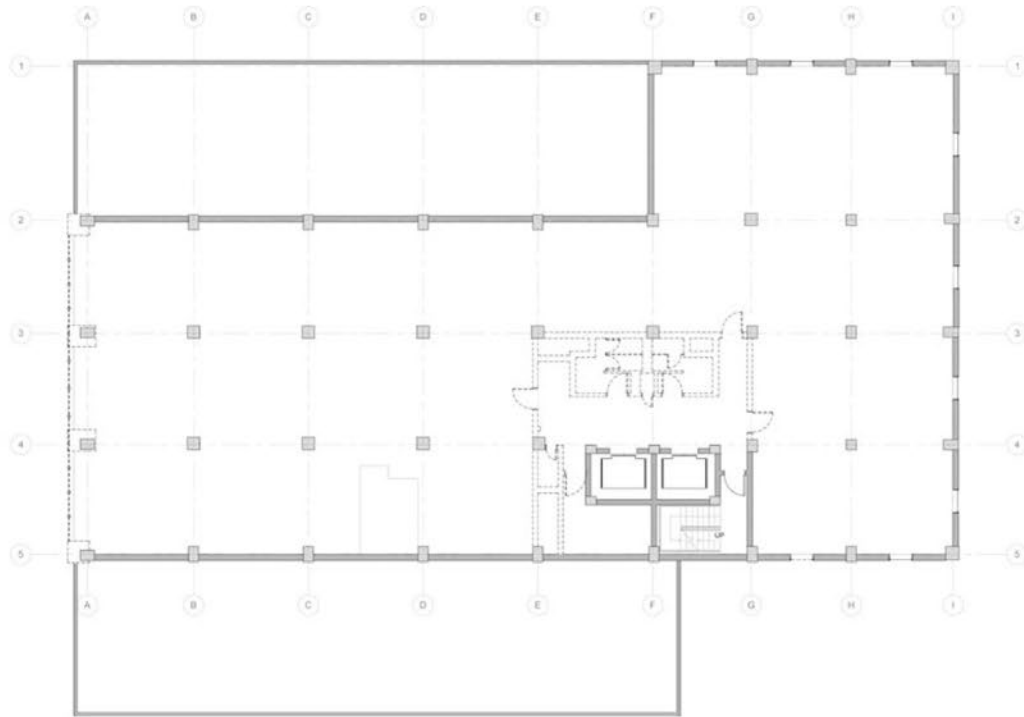


Figure 41: Floors 2-10 Demolition Plan of 1524, 1522, 1520 K St. N.W. D.C. Source: Eric Gellman

The typical floor plan of 1522 K Street is composed of a rigid column grid that is spaces 15 feet on center in most cases. The elevator shaft opens up into a dedicated lobby space where multiple offices can be accessed from the transitional zone.

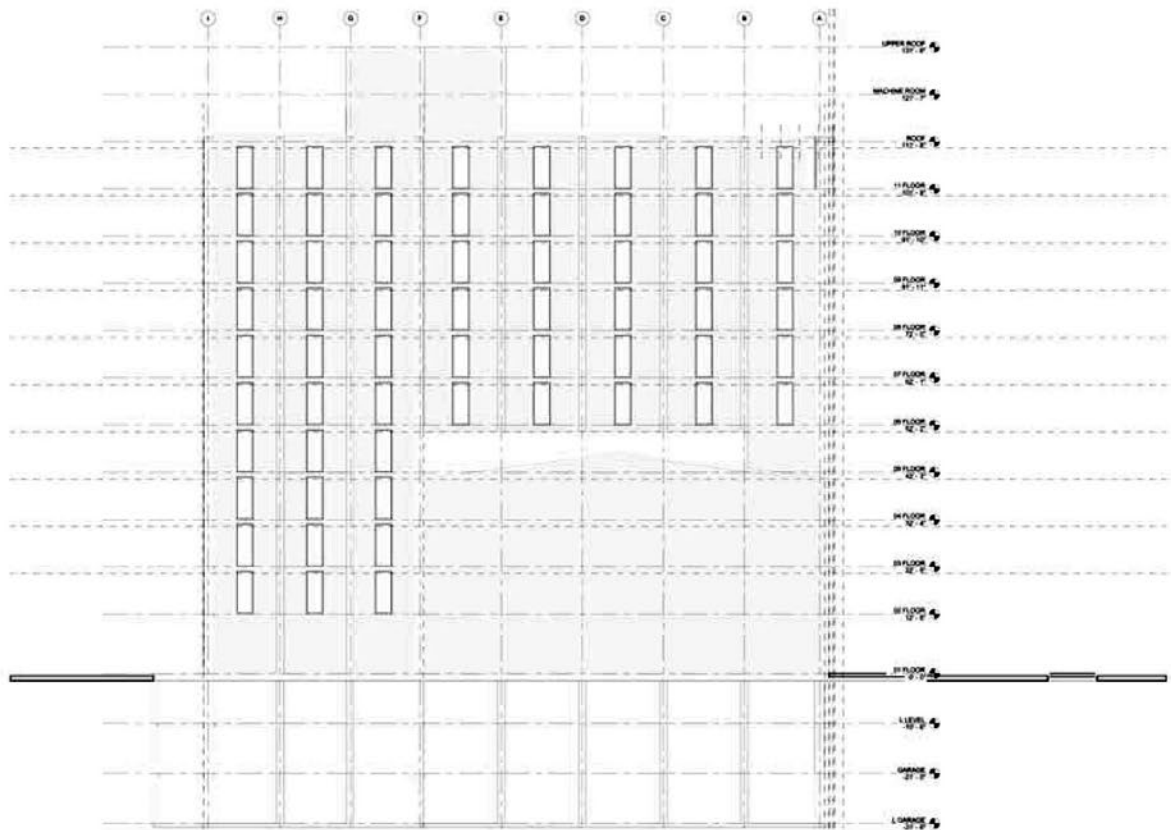


Figure 42: East Elevation of 1524, 1522 K St. N.W. D.C. Source: Eric Gellman

The east elevation of 1522 K Street exhibits its' relation to 1520 K Street, as a portion of the façade is obscured by the massing of the adjacent building. The existing east façade of 1522 K Street will be demolished in order to take greatest advantage of potential sight lines, vantage points, balcony additions and lights scenarios as derived through systematic analysis of the sight through solar studies.

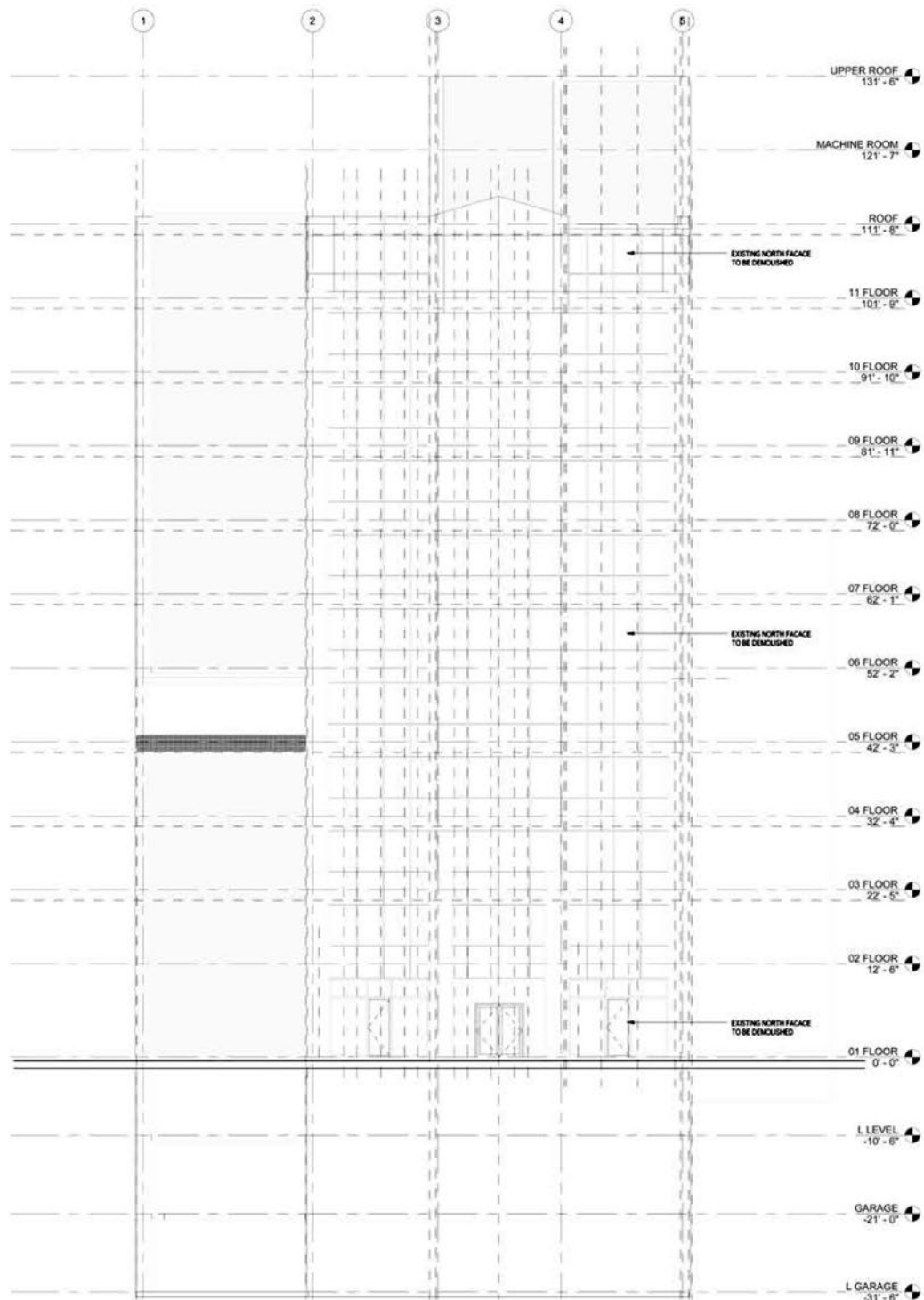


Figure 44: North Elevation of 1524, 1522, 1520 K St. N.W. D.C. Source: Eric Gellman

The northern façade of 1522 K Street consist of a collage of massing and glazing elements that produces a street front that lacks intrigue or engagement with the actors. In

order to rectify this scenario, additive interventions will be performed in order to establish an active street level, as well as a highly articulated building mass that related to its' context, as well as provide spectacular views of the city at large.

Chapter 6 - Precedent Analysis

In order to properly address each of the varying typologies that will be utilized in order to resolve the density and use issues plaguing K Street, several distinctive typologies were analyzed in order to establish a precedent for the design investigations. The first precedent that will be examined is the Student Housing Mixed Use Development Design Proposal composed by Gelick Associates in Chicago, Illinois, which is an urban infill project that consists of new construction and infill over adjacent structures.



Figure 45: Top: Perspective, Bottom: Plan, Right: Elevation of SHMUD
Source: Gelick Associates Online

The building is situated on a site that is 51 feet wide, and 165 feet in depth, and has early Twentieth Century existing structures on either side (Figure 45). The site is located in the East Loop, and has the potential to take advantage of views of Downtown Chicago. The programmatic functions of the mixed use development include the following: 500 student residences, a winter garden, café, exhibition space, business center, laundry concessions, mail room and fitness center. In order to maximize floor space and amenities, a two way truss supports the floor plates, which also integrates mechanical equipment within its' extents. The building envelope is devised in order to maximize solar gain in the south through the additions of solar panels, and extensive glazing in the North for greater concentrations of natural light. East and west walls have insulated metal clad walls, and minimal glazing for low angle light control. The addition of sustainable building components such as a green roof and solar panels give the visual impression that the building not only is subject to Smart Growth initiatives, but that it also subscribes to the notion of Smart Architecture.

When dealing with the adaptive reuse of existing buildings, Ennead's Seamen Church Institute (SCI) is a glowing example of a contemporary intervention seamlessly integrated into an existing building, which maintains the character of the neighborhood, while fulfilling the programmatic needs of the user. (Figure 46)

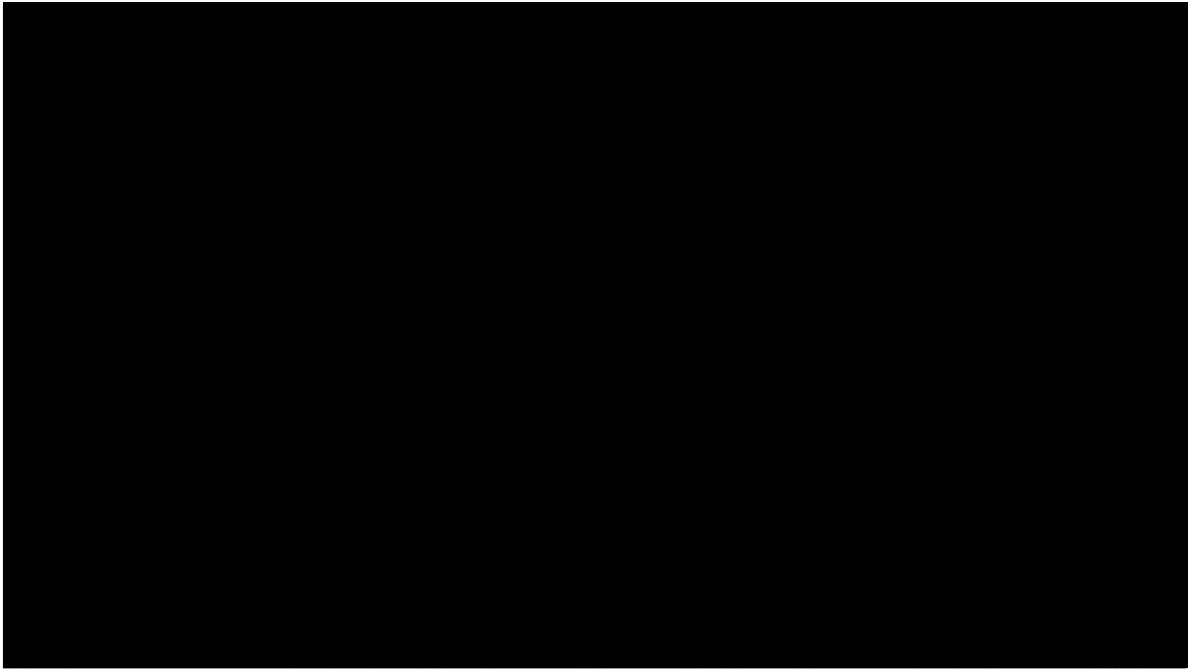


Figure 46: Perspective of Seamen Church Institute

Source: www.Ennead.com

Within this collaboration of old and new, thoughtful notions of institutional purpose are made evident through the enrichment of the nautical motif of the new addition. The building is located within the South Street Seaport neighborhood of Manhattan, which is the city's oldest commercial district. So in order to respect the existing context, while providing the necessary amenities for the SCI, this artful mash up merges, "The programmatic and institutional synergies," relative to the intervention and its' context.⁸

⁸ "Seamen's Church Institute." Ennead Architects. ennead.com/_/projects/seamans-church-institute/ (accessed November 8, 2011).

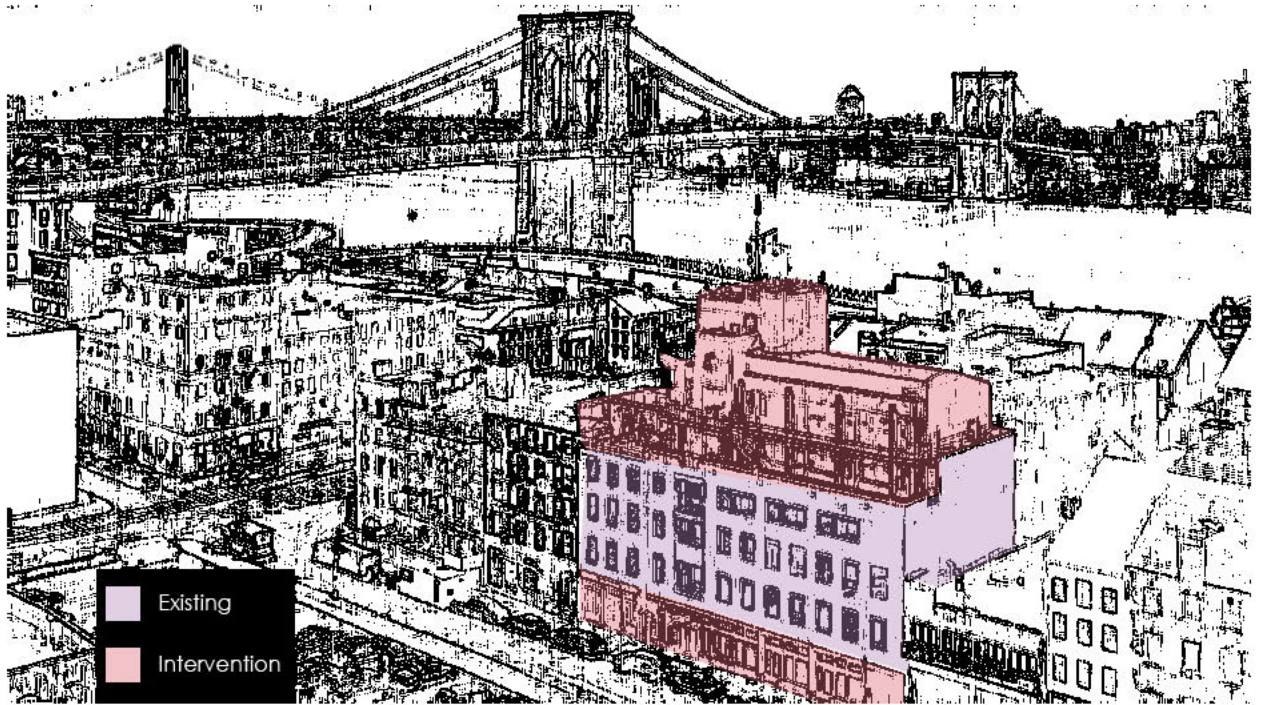


Figure 47: Existing versus New Intervention of Seamen Church Institute
 Source: Drawn by Eric Christopher Gellman

When examined sectionally, it is revealed that while the original Eighteenth Century Façade has been preserved, much of the interior spaces have been reimagined through selective demolition and new construction. The byproduct of the new design scheme has produced a private outdoor elevated seating area, which contains perspectives of the new construction, as well as the existing context of the neighborhood. The advantage of developing a scheme through the adaptive reuse method is clearly apparent in Diagram 02, as new gathering spaces are capable of being forged within the residual space that was underutilized by the previous structure.

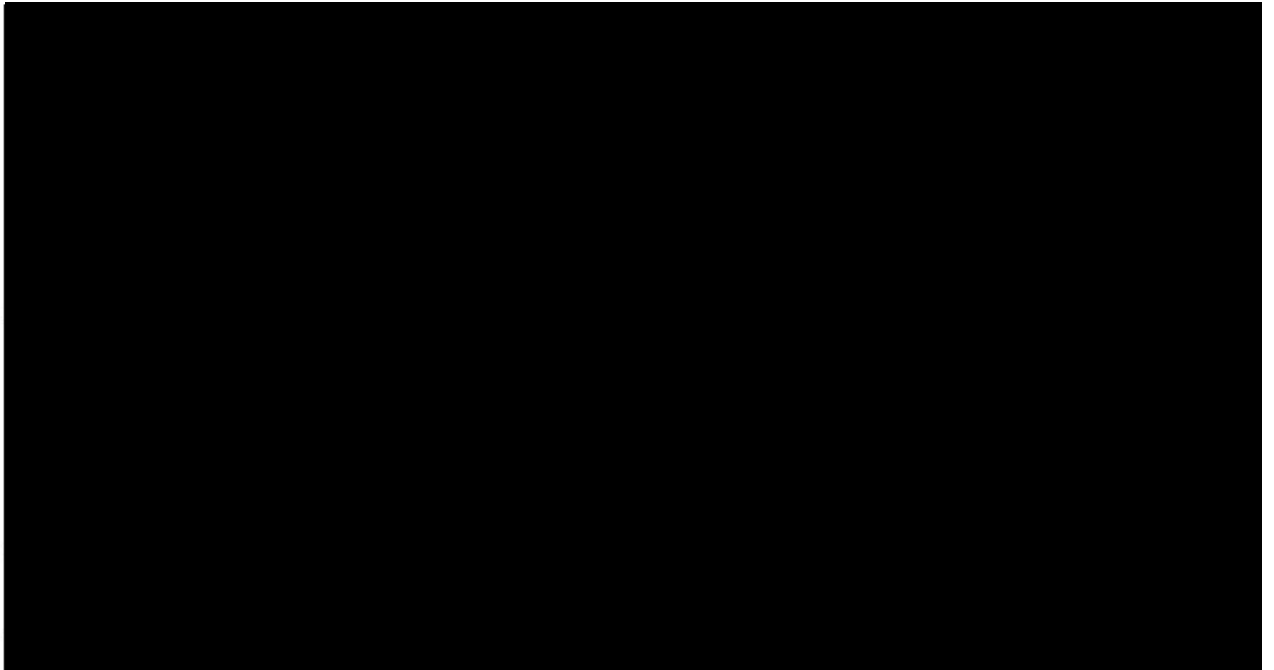


Figure 48: Section and Rear Exterior Courtyard of Seamen Church Institute

Source: www.Ennead.com

As it has been determined that several buildings within the scope of work are candidates for demolition, precedent research analyzing the ability of a new intervention to adapt and respond to its' context is critical when forging a design that will be treasured and revered by the local citizenry.

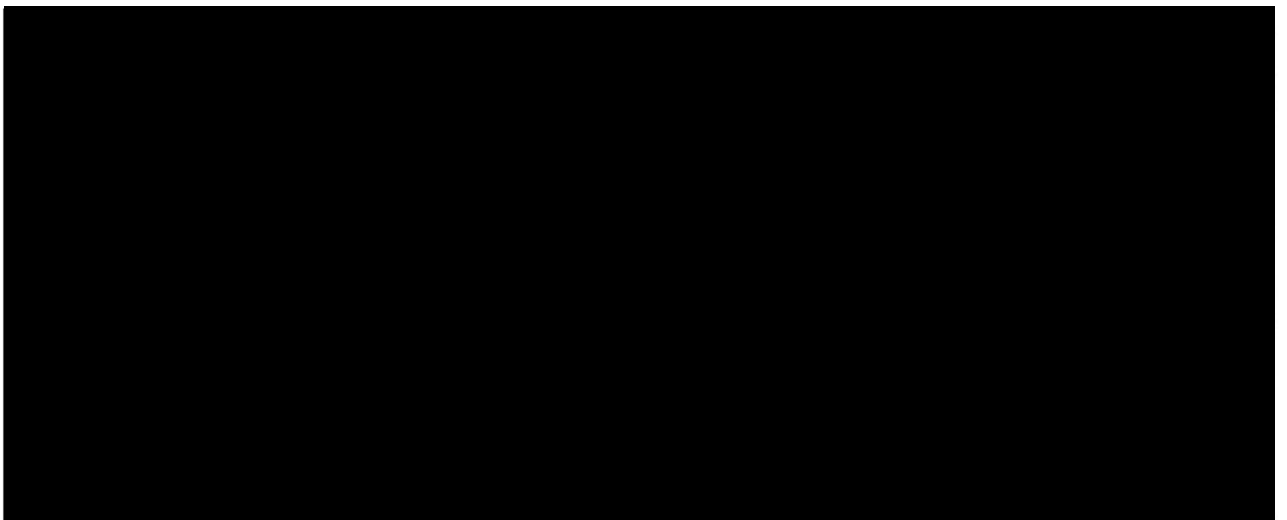


Figure 49: Perspective along River Aire, 36 the Calls Design Competition

Source: Design Boom Online

This was the topic for the 36 The Calls Design Competition, which asked participants to produce an iconic building that responded to the context of Leeds along the banks of the River Aire. The design entry produced by P+HS Architects infuses a minimalist contemporary strategy, while allowing the existing buildings to dictate several design features of the buildings' shell.

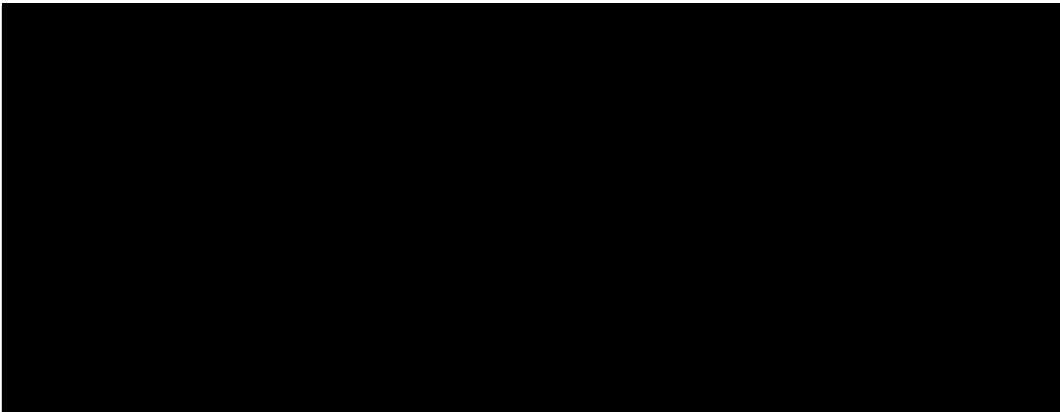


Figure 50: Elevation along River Aire, 36 the Calls Design Competition
Source: Design Boom Online

The minimalistic use of glazing along the front façade is intended to serve the utilitarian role of enclosing the floor plates, while not detracting from the building's iconic shell. This creates a hierarchy among the kit of parts, which emphasizes the notion of ascendancy associated with the shell.

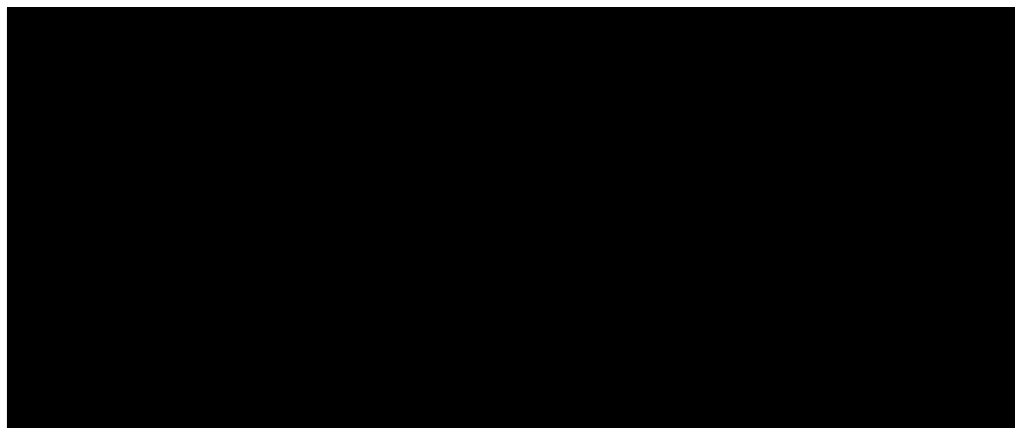


Figure 51 –Diagram of Relation to Context, 36 the Calls Design Competition
Source: Design Boom Online

These precedents depict scenarios where an urban environment has already emerged, but in order to take greatest advantage of available lot space within a city, new and inventive design strategies must be introduced in order to enhance the urban scheme. Tactics such as additive infill, new construction and adaptive reuse are all suitable typologies ready to be inserted into underperforming sites within cities, and still pose the capability of providing suitable amenities to the inhabitants.

Chapter 7 - Program Objectives

The sites in question will produce ground level commercial activity and multi level residential units above the ground level in order to maximize allowable height limitations. The program of the new interventions will seek to alleviate the monotony that currently exists along K Street through the implementation of mixed use building ensembles that engage the public at the ground level, while providing useful spaces for the occupants of the buildings. The ground level of 1606 K Street consists of a single retail unit, as well as a dedicated entry into the residences above. The tower contains 8 stories of residential units, as well as a single story penthouse that occupies much of the top level. The typical units are double volume height along and the street and the alleyway, with stacked flats in the rear of the building. This ensemble provides 16 units for 1606 K Street, plus the additional unit occupied by the penthouse above. 1522 K Street consists of two ground level retail sites, one of which is much larger in scale due to the demolition of 1524 K Street, which led to the addition of its' square footage to the total allowable buildable space of the newly conceived site. Single story residences are stacked from the third to the eight floors, providing a total of 96 units within that region. Two units on each floor are double height loft units, which were derived in order to take

greatest advantage of the allowable footprint, while still providing appropriate levels of light and air to the residences. From the ninth to the tenth floors, three penthouse suites are located on each level, providing a total of 6 suites for the building. Level 11 of the building is utilized as a roof garden terrace for all the inhabitants of the building, and a solar photo voltaic array is mounted on the roof that reaches the 130'-0" height limitation of Washington, D.C. Also, an observation tower is located at the rear of the site, which provides excellent views of the Capitol, the White House and the Washington Monument.

The Christian Science Complex office building will be adaptively reused as ground floor commercial space, as well as 7 levels of single height residential units above. Beyond the existing infrastructure, two additive interventions are located on site, both of which contain multiple stories of residential units. The ground floor of the 16th Street intervention contains street level commercial space, which is a continuation of the commercial space that had been specified for the existing office tower. Above the ground level commercial space, five levels of residential units are located within the new construction. Each level contains one unit, which is connected to the existing building via a bridge. The inner courtyard of the Christian Science Complex consists of new construction that provides 2 additional units per floor, including a gym on the ground level facing the newly defined courtyard. In total, 33 units are added to the K Street District with the addition of the Christian Science Complex residential development. In total, 152 new units will be added to the K Street District that currently consists of 200 total units. The implementation of these strategies can serve as a precedent for further development of residential units on K Street N.W., which would ultimately lead to the transformation of the neighborhood into a 24/7 destination.

Program Summary
1606 K St. N.W. D.C.

100	ADMINISTRATIVE:	Sub Total 712 ft²
101	Reception	532 ft ²
102	Copy/Fax/Mail	180 ft ²
200	RETAIL	Sub Total 1108 ft²
201	Check Out Counter	24 ft ²
202	Backroom Storage	354 ft ²
203	Sales Floor	650 ft ²
204	Dressing Room	80 ft ²
300	16th STREET LOFTS (04)	1,010 ft²
301	Foyer	46 ft ²
302	Living Room	302 ft ²
303	Dining Area	110 ft ²
304	Kitchen	72 ft ²
305	Water Closet	64 ft ²
306	Hallway Coat Closet	8 ft ²
307	Guest Bedroom	110 ft ²
308	Master Bedroom	200 ft ²
309	Master Water Closet	72 ft ²
310	Master Bedroom Closet	26 ft ²
400	ALLEYWAY LOFTS (04)	790 ft²
401	Foyer	46 ft ²
402	Living Room	274 ft ²
403	Dining Area	96 ft ²
404	Kitchen	86 ft ²
405	Master Bedroom	186 ft ²
406	Master Water Closet	70 ft ²

	407	Master Bedroom Closet	32 ft ²
500		BACK ALLEY FLATS (08)	712 ft²
	501	Foyer	46 ft ²
	502	Living Room	302 ft ²
	503	Dining Area	110 ft ²
	504	Kitchen	72 ft ²
	505	Water Closet	64 ft ²
	506	Hallway Coat Closet	8 ft ²
	507	Master Bedroom	110 ft ²
600		PENTHOUSE	1259 ft²
	601	Foyer	24 ft ²
	602	Living Room	252 ft ²
	603	Dining Area	148 ft ²
	604	Seating Area	98 ft ²
	605	Kitchen	96 ft ²
	606	Water Closet	64 ft ²
	607	Hallway Coat Closet North	8 ft ²
	608	Hallway Coat Closet South	8 ft ²
	609	East Bedroom	122 ft ²
	610	East Bedroom Closet	45 ft ²
	611	West Bedroom	110 ft ²
	612	East Bedroom Closet	22 ft ²
	613	Master Bedroom	160 ft ²
	614	Master Water Closet	68 ft ²
	615	Master Bedroom Closet	34 ft ²
		Total	14,155 ft²

1522 K St. N.W. D.C.

100	ADMINISTRATIVE:	Sub Total 2,025 ft²
101	Reception	610 ft ²
102	Copy/Fax/Mail	140 ft ²
103	Management Quarters	1050 ft ²
104	Building Storage	225 ft ²
200	RETAIL 1524 K STREET N.W.	Sub Total 3,220 ft²
201	Check Out Counter	60 ft ²
202	Backroom Storage	900 ft ²
203	Sales Floor	2100 ft ²
204	Dressing Room	160 ft ²
300	RETAIL 1520 K STREET N.W.	Sub Total 1,660 ft²
301	Check Out Counter	160 ft ²
302	Backroom Storage	300 ft ²
303	Dining Room	1,200 ft ²
400	RESIDENTIAL UNIT TYPE 01	Sub Total 1,110 ft²
401	Foyer	24 ft ²
402	Living Room	230 ft ²
403	Dining Area	148 ft ²
404	Seating Area	90 ft ²
405	Kitchen	96 ft ²
406	Water Closet	48 ft ²
407	North Bedroom	90 ft ²
408	North Bedroom Closet	18 ft ²
409	South Bedroom	96 ft ²
410	South Bedroom Closet	18 ft ²
411	Master Bedroom	158 ft ²

	412	Master Water Closet	72 ft ²
	413	Master Bedroom Closet	22 ft ²
500	RESIDENTIAL UNIT TYPE 02		Sub Total 905 ft²
	501	Foyer	36 ft ²
	502	Foyer Closet	22 ft ²
	503	Living Room	212 ft ²
	504	Dining Area	102 ft ²
	505	Kitchen	72 ft ²
	506	Water Closet	56 ft ²
	507	Guest Bedroom	108 ft ²
	508	Master Bedroom	180 ft ²
	509	Master Water Closet	72 ft ²
	510	Master Bedroom Closet	32 ft ²
	511	Hallway Closet	13 ft ²
600	RESIDENTIAL UNIT TYPE 03		Sub Total 1,042 ft²
	601	Foyer	44 ft ²
	602	Foyer Closet	18 ft ²
	603	Living Room	225 ft ²
	604	Dining Area	90 ft ²
	605	Kitchen	60 ft ²
	606	Seating Area	90 ft ²
	607	Water Closet	56 ft ²
	608	Guest Bedroom	110 ft ²
	609	Guest Bedroom Closet	13 ft ²
	610	Hallway Closet	26 ft ²
	611	Master Bedroom	180 ft ²
	612	Master Water Closet	72 ft ²

	613	Master Bedroom Closet	32 ft ²
	614	Master Bedroom Hallway Closet	26 ft ²
700	RESIDENTIAL UNIT TYPE 04		Sub Total 844 ft²
	701	Foyer	40 ft ²
	702	Foyer Closet	16 ft ²
	703	Living Room	180 ft ²
	704	Dining Area	120 ft ²
	705	Kitchen	80 ft ²
	706	Water Closet	56 ft ²
	707	Guest Bedroom	120 ft ²
	708	Guest Bedroom Closet	13 ft ²
	709	Master Bedroom	140 ft ²
	710	Master Water Closet	66 ft ²
	711	Master Bedroom Closet	13 ft ²
800	RESIDENTIAL UNIT TYPE 05 (ONE BEDROOM)		Sub Total 510 ft²
	801	Foyer	40 ft ²
	802	Living Room	168 ft ²
	803	Dining Area	72 ft ²
	804	Kitchen	80 ft ²
	805	Water Closet	48 ft ²
	806	Master Bedroom	102 ft ²
900	RESIDENTIAL UNIT TYPE 06 (STUDIO)		Sub Total 336 ft²
	901	Foyer	45 ft ²
	902	Foyer Closet	15 ft ²
	903	Kitchen	96 ft ²
	904	Studio Space	180 ft ²
1000	RESIDENTIAL UNIT TYPE 07 (LOFT)		Sub Total 412 ft²

	1001	Foyer	16 ft ²
	1002	Living Room	120 ft ²
	1003	Dining Area	48 ft ²
	1004	Kitchen	60 ft ²
	1005	Water Closet	48 ft ²
	1006	Master Bedroom	96 ft ²
	1006	Master Bedroom Closet	24 ft ²
1100	PENTHOUSE TYPE 01	Sub Total 1,259 ft²	
	1101	Foyer	20 ft ²
	1102	Foyer Closet	11 ft ²
	1103	Living Room	285 ft ²
	1104	Dining Area	150 ft ²
	1105	Hallway	100 ft ²
	1106	Kitchen	225 ft ²
	1107	Water Closet	56 ft ²
	1108	North Bedroom	88 ft ²
	1109	North Bedroom Closet	13 ft ²
	1110	South Bedroom	80 ft ²
	1111	Master Bedroom	150 ft ²
	1112	Master Water Closet	63 ft ²
	1113	Master Bedroom Closet	18 ft ²
1200	PENTHOUSE TYPE 02	Sub Total 1,038 ft²	
	1201	Foyer	24 ft ²
	1202	Living Room	300 ft ²
	1203	Dining Area	130 ft ²
	1204	Hallway	60 ft ²
	1205	Hallway Closet	10 ft ²

	1206	Kitchen	70 ft ²
	1207	Water Closet	56 ft ²
	1208	Guest Bedroom	130 ft ²
	1209	Guest Bedroom Closet	18 ft ²
	1210	Master Bedroom	150 ft ²
	1211	Master Water Closet	60 ft ²
	1212	Master Bedroom Closet	30 ft ²
1300	PENTHOUSE TYPE 03		Sub Total 2,118 ft²
	1301	Foyer	30 ft ²
	1302	Living Room	375 ft ²
	1303	Dining Area	250 ft ²
	1304	Seating Area	288 ft ²
	1305	Gallery Room	150 ft ²
	1306	Kitchen	375 ft ²
	1307	Water Closet	72 ft ²
	1308	East Bedroom	92 ft ²
	1309	East Bedroom Closet	13 ft ²
	1310	West Bedroom	128 ft ²
	1311	West Bedroom Closet	18 ft ²
	1312	Master Bedroom	200 ft ²
	1313	Master Water Closet	84 ft ²
	1314	Master Bedroom Closet	18 ft ²
	1315	Hallway Closet	25 ft ²
Total			70,543 ft²

910 16th St. N.W. D.C.

100	ADMINISTRATIVE:	Sub Total 2,025 ft²
	101 Reception	120 ft ²
	102 Lobby	270 ft ²
	103 Copy/Fax/Mail	135 ft ²
	104 Storage	140 ft ²
200	GYM	Sub Total 1,350 ft²
	201 Gym	1,350 ft ²
300	Restaurant	Sub Total 3,485 ft²
	301 Dining Room	2,400 ft ²
	302 Bar	415 ft ²
	303 Kitchen	450 ft ²
	304 Water Closet	220 ft ²
400	RESIDENTIAL UNIT TYPE 01	Sub Total 815 ft²
	401 Foyer	24 ft ²
	402 Foyer Closet	13 ft ²
	403 Living Room	230 ft ²
	404 Dining Area	72 ft ²
	405 Kitchen	72 ft ²
	406 Water Closet	56 ft ²
	407 Guest Bedroom	108 ft ²
	408 Guest Bedroom Closet	13 ft ²
	409 Master Bedroom	150 ft ²
	410 Master Water Closet	64 ft ²
	411 Master Bedroom Closet	13 ft ²
500	RESIDENTIAL UNIT TYPE 02	Sub Total 544 ft²
	501 Foyer	20 ft ²

502	Foyer Closet	13 ft ²
503	Living Room	180 ft ²
504	Dining Area	88 ft ²
505	Kitchen	64 ft ²
506	Water Closet	56 ft ²
507	Master Bedroom	110 ft ²
508	Master Bedroom Closet	13 ft ²
600	RESIDENTIAL UNIT TYPE 03	Sub Total 588 ft²
601	Foyer	30 ft ²
602	Living Room	180 ft ²
603	Dining Area	62 ft ²
604	Kitchen	88 ft ²
605	Water Closet	56 ft ²
606	Master Bedroom	154 ft ²
607	Master Bedroom Closet	18 ft ²
700	RESIDENTIAL UNIT TYPE 04	Sub Total 553 ft²
701	Foyer	24 ft ²
702	Foyer Closet	25 ft ²
703	Living Room	168 ft ²
704	Dining Area	96 ft ²
705	Kitchen	88 ft ²
706	Water Closet	56 ft ²
707	Master Bedroom	96 ft ²
800	RESIDENTIAL UNIT TYPE 05	Sub Total 1,227 ft²
801	Foyer	20 ft ²
802	Foyer Closet	13 ft ²
803	Living Room	430 ft ²

804	Nook	72 ft ²
805	Dining Area	160 ft ²
806	Kitchen	96 ft ²
807	Water Closet	56 ft ²
808	Guest Bedroom	108 ft ²
809	Guest Bedroom Closet	18 ft ²
810	Master Bedroom	158 ft ²
811	Master Water Closet	72 ft ²
812	Master Bedroom Closet	11 ft ²
813	Hallway Closet	13 ft ²
Total		33,384 ft²

Program Graphic Depictions

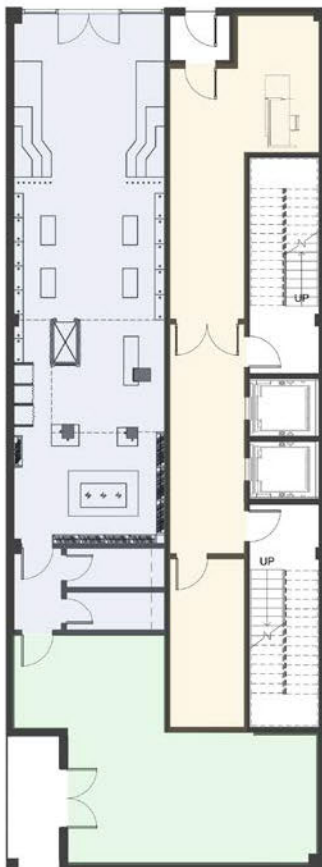


Figure 52: Ground Floor
Plan of 1606 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher
Gellman

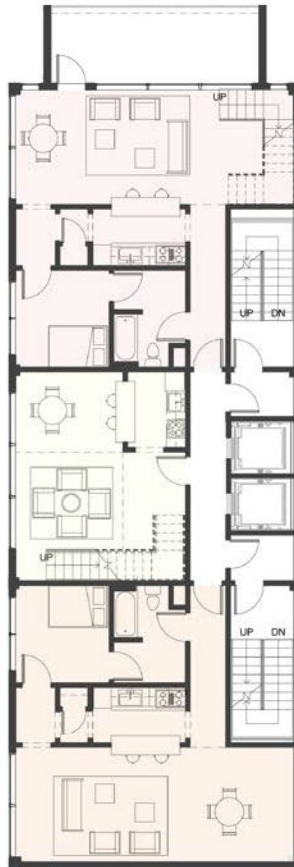


Figure 53: Typical Floor
Plan of 1606 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher
Gellman



Figure 54: Penthouse Floor
Plan of 1606 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher
Gellman

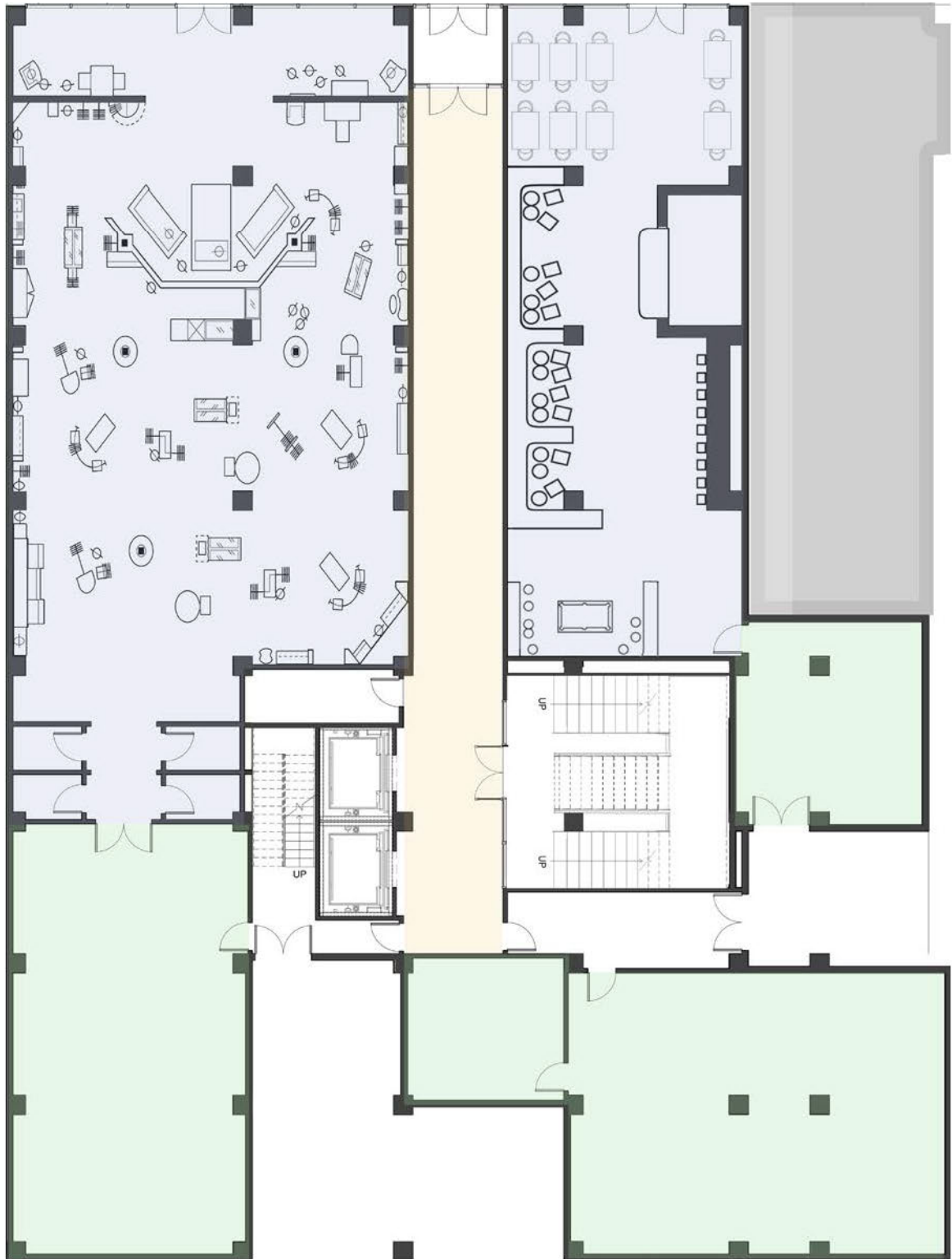


Figure 55: Ground Floor Plan of 1522 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher Gellman



Figure 56: Typical Floor Plan of
1522 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher Gellman



Figure 57: Penthouse Floor Plan of
1522 K Street
Scale: 1'-0"=1/16"
Source: Eric Christopher Gellman

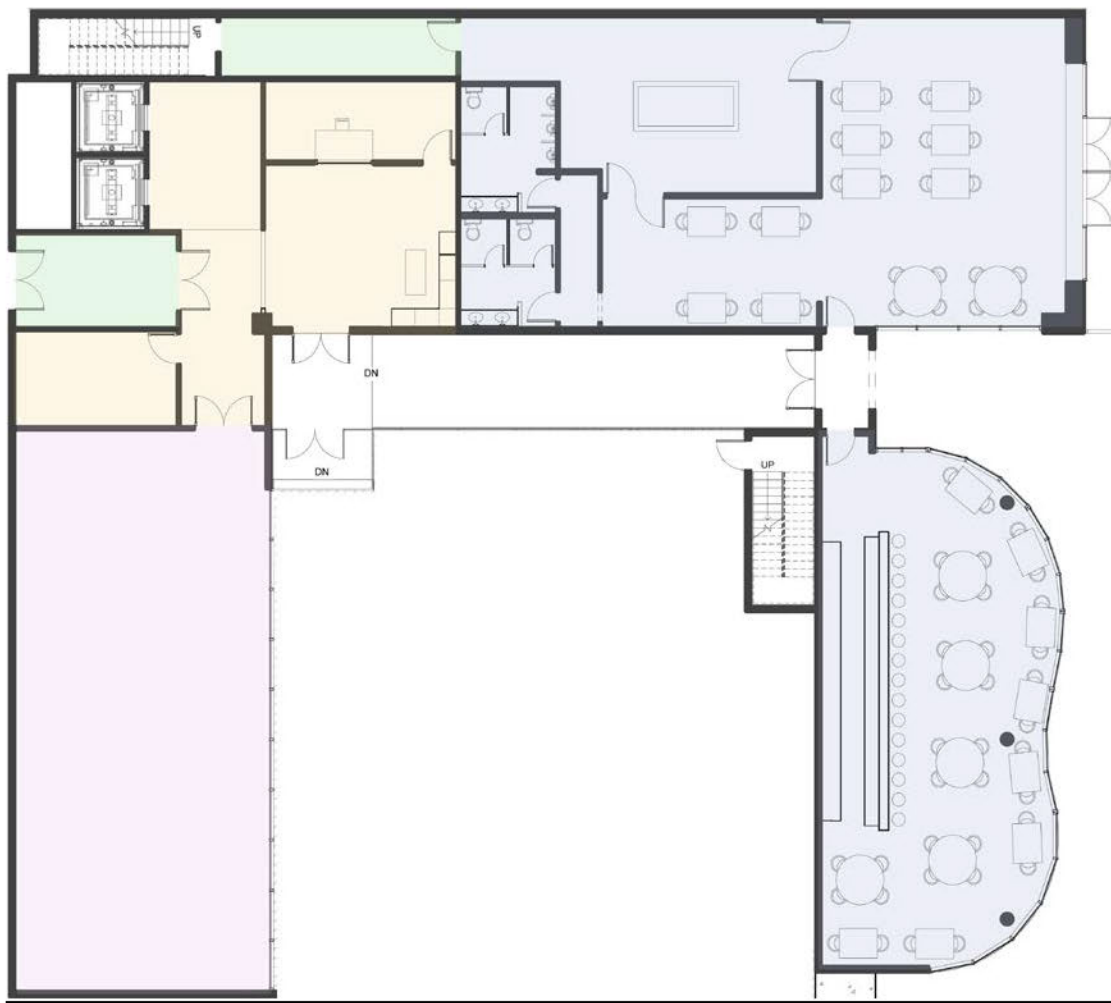


Figure 58: Ground Floor Plan of
910 16th Street N.W.
Scale: 1'-0"=1/16"
Source: Eric Christopher Gellman



Figure 59: Typical Floor Plan of
910 16th Street N.W.
Scale: 1'-0"=1/16"
Source: Eric Christopher Gellman

Program – Structural and Mechanical

The structural system of 1606 K Street is inscribed within the boundary of the building, and consists of 18-inch concrete columns that support post-tension concrete slabs, which allows for the greatest amount of ceiling height within the units. 1522 K Street adaptively reuses the existing two-way slab structure on site, and extends it beyond its original extents to fulfill the new programmatic requirements of the site construction. The Christian Science Complex is composed of existing two-way waffle slab buildings

that have been adaptively reused as residences. Also, new construction features free plan concrete columns that support the new intervention along 16th Street N.W.

Chapter 8 -Building Code Analysis

Applicable building codes that have been undertaken over the course of design include: no entry into a unit should be further than 50'-0" from an egress stair in a building containing a fire suppression system, all bathrooms must comply to 2006 ADA standards, bathrooms must contain a 5'-0" turning radius, sinks should be no lower than 27" from the ground, and no higher than 34" from the ground, mirrors should start no higher than 40" from the ground, toilets should be 18" on center from the two closes object on either side. In order to prevent smoke inhalation in the case of a fire, fire doors are to be installed at every level of entry while ascending or descending an egress stair.

Chapter 9 – Design Approach - Conceptual Site Strategies

In order to maximize the efficiency of the units, multiple iterations of plan development took place that examined the potential layout of floor plans, the implementation of vertical circulation systems, the subtraction of floor plates for light portals, as well as a slew of details that explored efficiency at greater depth. While the believability of these plans were key to making a strong argument for the implementation of such buildings, elegance and charm were also key factors in the holistic design of the buildings. While the buildings needed to perform programmatically, their ability to adapt and enhance the street environment of K Street was critical for the thesis to be considered a success. Ground level commercial activity was mandatory for all new interventions, and several different typologies of ground level activity were studied for

each site including: grocery stores, boutique clothing stores, larger scale clothing stores, cafes, restaurants, bars, etc. In regards to the residences, the importance of portraying the benefits of city life were key to the development of new the buildings, specifically relating to sight lines, balconies and levels of fenestration.



Figure 60: Perspective from 1606
K Street Balcony
Source: Eric Christopher Gellman

As portrayed in Figure 60, balconies would provide viewing platforms for new residents to enjoy the density and activity of K Street, which will be further enhanced through the implementation of the DC Street Car, which will connect H Street N.E. with Washington Circle in Northwest. In terms of viewports, the perspective from the new construction along 16th Street N.W. would provide some of the most impressive views that the Washington D.C. has to offer. As seen in Figure 61, the units have been

strategically designed in order to capture views of the White House and the Washington Monument, while seamlessly adapting to the existing context, as well as providing ground level activity.



Figure 61: Perspective from 910
16th Street N.W.
Source: Eric Christopher Gellman

Parti Analysis

In order to derive a design that maximized lot allowances, fulfilled the programmatic functions, and addressed the monotony of the existing street wall, a series of elevations studies were conducted in order to arrive at a design that would satisfy all of the objectives of the thesis. Figures 62 and 63 illustrate the façade studies that have been

drawn in context to identify potential relationships that could be forged between the new design and the existing conditions.

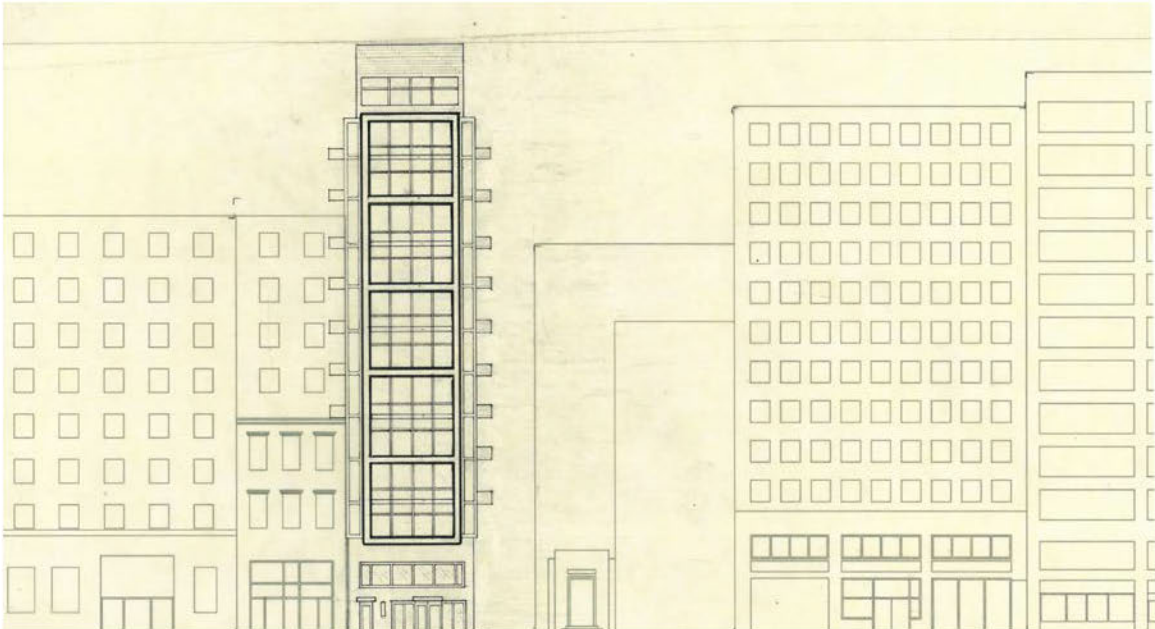


Figure 62: Elevation of 1606 K Street N.W.
Scale: 1'-0"=1/25"
Source: Eric Christopher Gellman

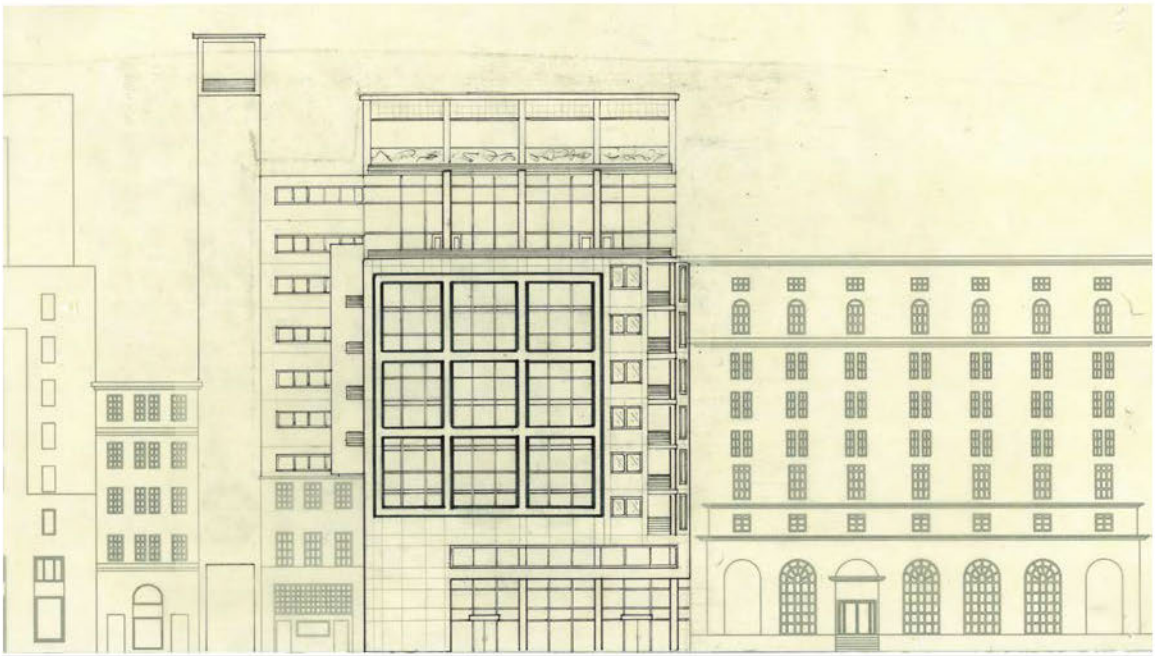


Figure 63: Elevation of 1522 K Street N.W.
Scale: 1'-0"=1/25"
Source: Eric Christopher Gellman

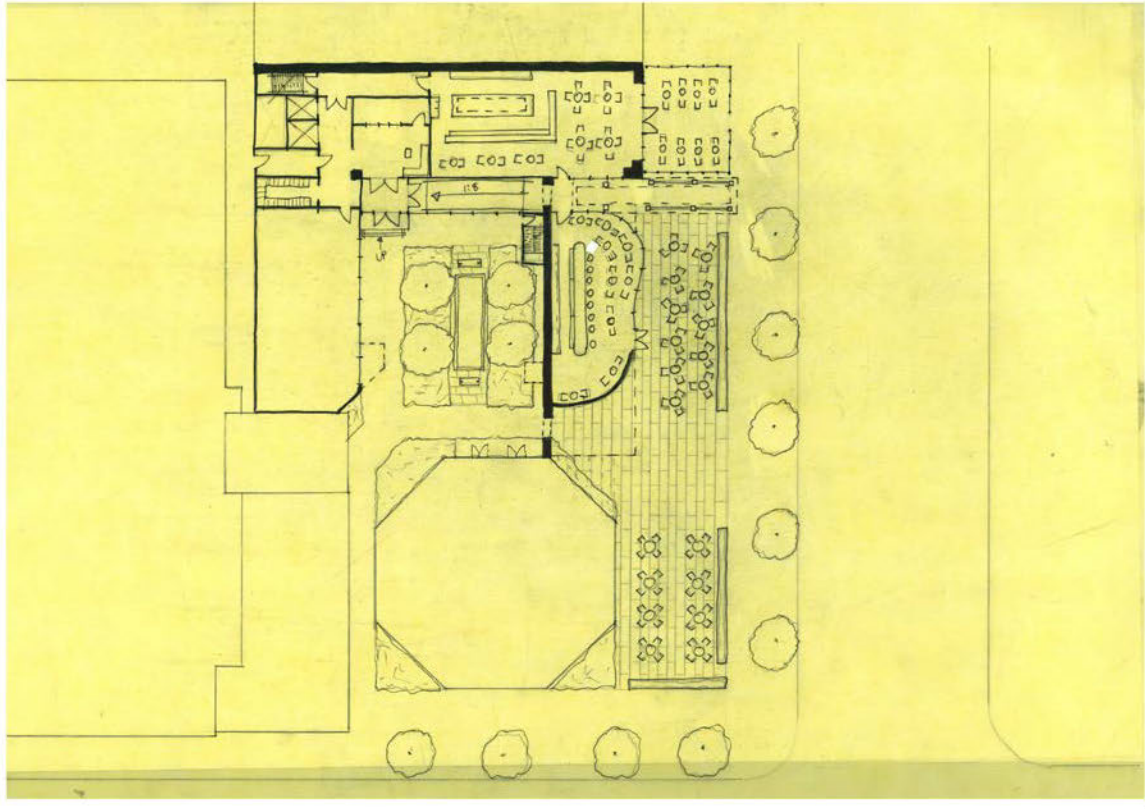


Figure 64: Proposed Site Plan of 910 16th Street
 Scale: 1'-0"=1/32"
 Source: Eric Christopher Gellman

The proposed site plan for the Christian Science Complex forges a new courtyard space that is well defined by the 16th Street interventions, while still allowing the public to access the space via 16th Street and I Street respectively. Figure 64 demonstrates the design strategy that separates the public realm from the private realm via an enclosed walkway that ascends 1'-0" of grade towards the northern edge of the site. A thick wall is also implemented into the scheme as a device that serves as the backdrop for a series of object pieces that define the 16th St. N.W. street wall. This thick wall also clearly defines the new courtyard space, and allows for anchors such as the object stair to rest along its' extents.

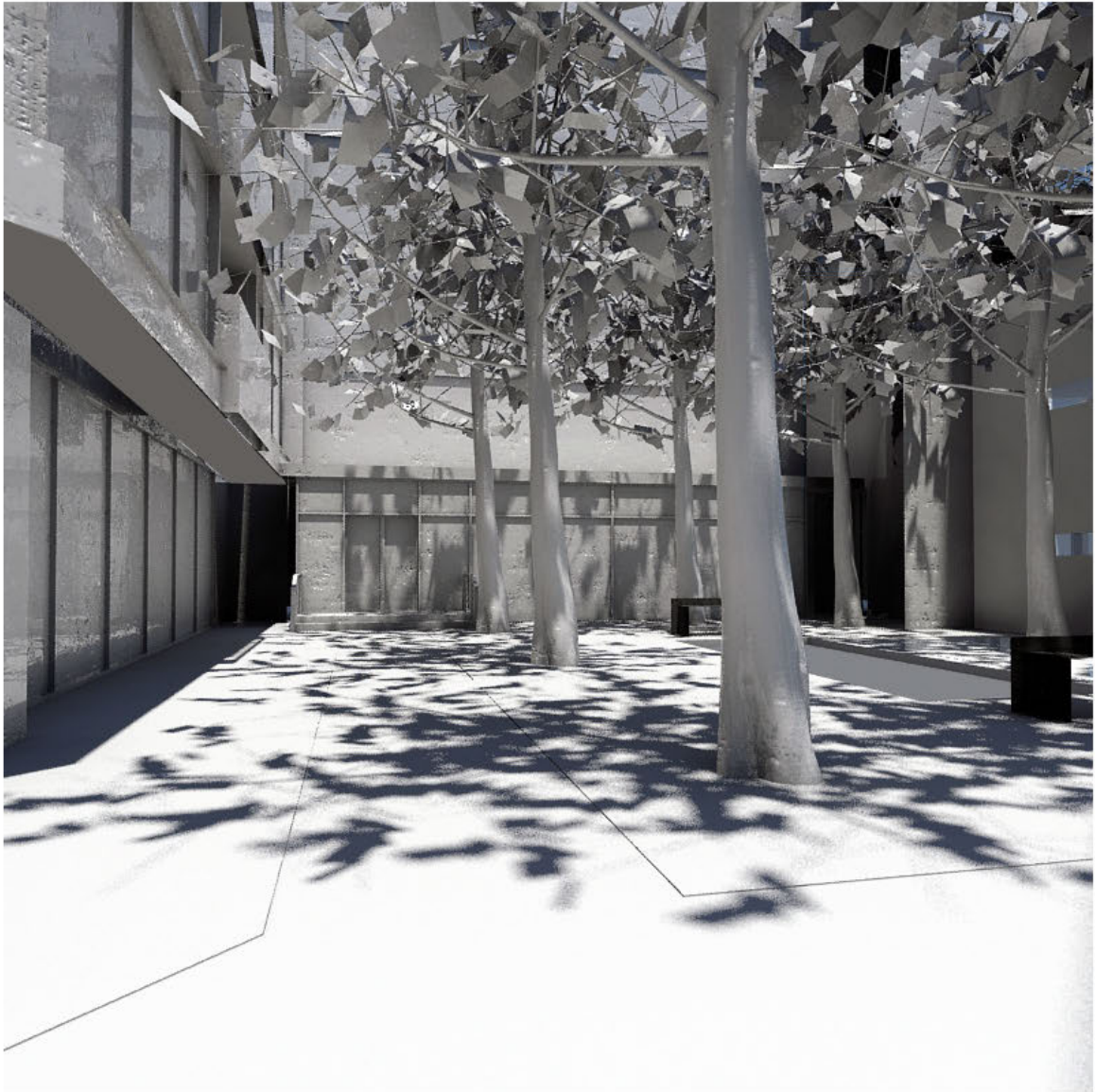


Figure 65: Proposed Semi Public Garden of 910 16th Street
Source: Eric Christopher Gellman

The 16th Street setback ordinance of 50'-0" provides an opportunity for spill out dining along its' broad sidewalks, as Figures 66 and 67 demonstrate. Beyond the street level activity, the building ensemble of the new construction seeks to forge a relationship with the progression and the minimalism of the existing buildings on site.



Figure 66: Proposed Street Level Cafes of 910 16th Street
Source: Eric Christopher Gellman



Figure 67: Proposed Sun Shade and Cafe of 910 16th Street
Source: Eric Christopher Gellman



Figure 68: Existing Street Wall of 910 16th Street
 Scale: 1'-0"=1/45"
 Source: Eric Christopher Gellman

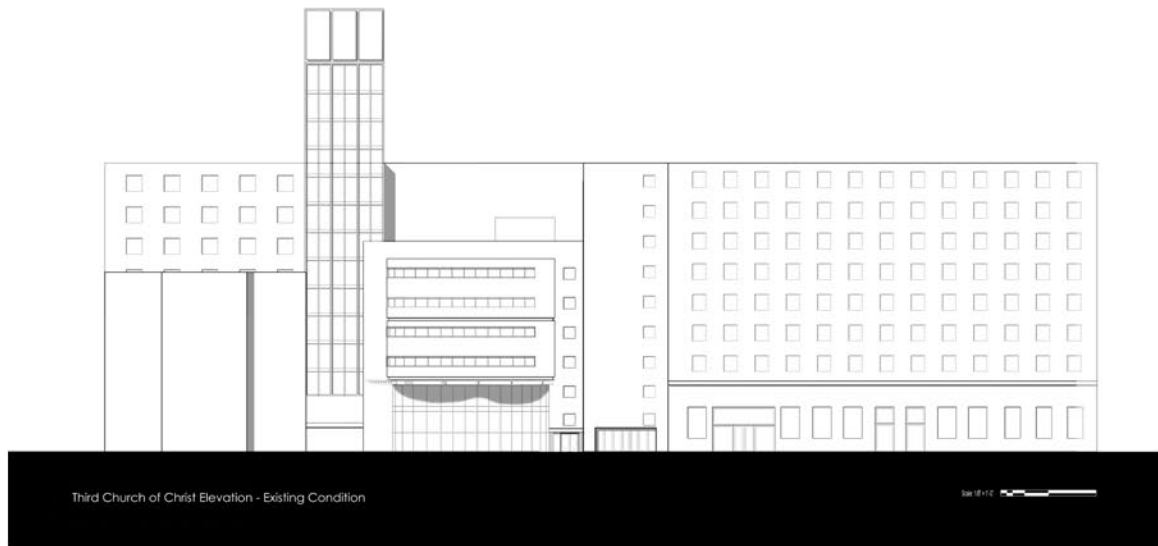


Figure 69: Proposed Street Wall for 910 16th Street
 Scale: 1'-0"=1/45"
 Source: Eric Christopher Gellman

The proposed street wall elevation highlights the need for a clearer definition of building mass and open space along the 16th Street Corridor.



Figure 70: Proposed Residences and Courtyard for 910 16th Street
 Scale: 1'-0"=1/45"
 Source: Eric Christopher Gellman

A sectional analysis of the site portrays the ability of new construction to provide a sense of liminality between the public realm of the street, and the private realm of the residential courtyard. The privacy that is enjoyed is fostered without the construction of built forms, but instead relies on the arrangement of the massing to imply a private space.



Figure 71: Existing Street Wall of 1500-1700 K Street N.W.
 Scale: 1'-0"=1/60"
 Source: Eric Christopher Gellman



Figure 72: Proposed Street Wall of 1500-1700 K Street N.W.

Scale: 1'-0"=1/60"

Source: Eric Christopher Gellman

When compared to the existing conditions on site, the proposed street wall for the 1500 to 1700 blocks of K Street radically improve the contextual makeup of the street, as well as provide close to 120 new residential units that cater to a wide range of individuals.

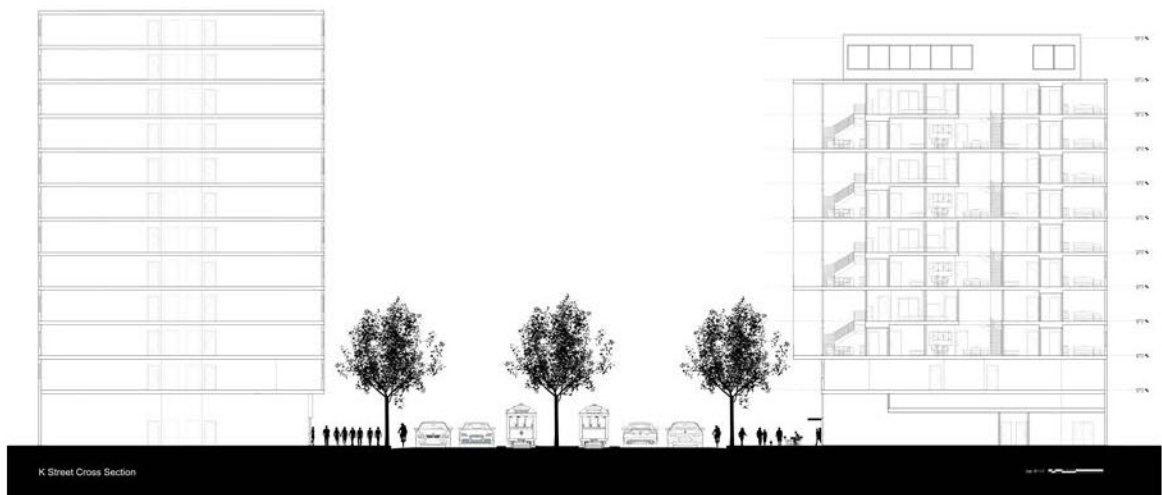


Figure 73: Proposed Demolition and New Construction of 1606 K Street N.W.

Scale: 1'-0"=1/45"

Source: Eric Christopher Gellman

When a section is cut through the proposed vision of K Street, a multi modal transportation network is revealed that hinders its' usefulness upon public transport over the automobile.

The infusion of ground level activity that caters to the target market of K Street would promote a greater amount of 24/7 use of K Street, rather than the 9 to 5 utilization it currently receives.



Figure 74: Rendered Perspective of the Proposed Design for 1606 K Street N.W.
Source: Eric Christopher Gellman

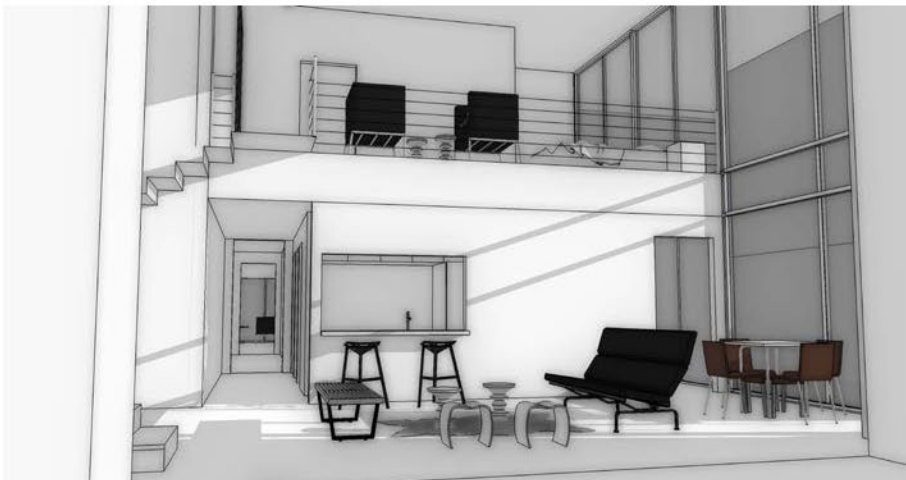


Figure 75: Rendered Perspective of the K Street Loft in 1606 K Street N.W.
Source: Eric Christopher Gellman



Figure 76: Rendered Perspective of the K Street Loft in 1606 K Street N.W.
Source: Eric Christopher Gellman

The Design of the 1606 K Street Lofts were motivated by the existing density of K Street, and the potential views that could be captured from within a residence of a city at work, as well as a city at play. The large panes of glass along the K Street loft provides spectacular views of the city, while Figure 77 demonstrates that even an alley view loft can still take advantage of the desired views of the city if the correct typology has been implemented.



Figure 77: Rendered Perspective of the Alleyway Loft in 1606 K Street N.W.
Source: Eric Christopher Gellman



Figure 78: Rendered Perspective of the Interior Looking South in 910 16th St. N.W.
Source: Eric Christopher Gellman

Reference Page

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