



# Coworking Community

A study of community working  
and its impact on office  
architecture



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A study of community working and its impact on office architecture

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Fargo, North Dakota

A Design Thesis submitted to the Department of Architecture and Landscape Architecture of North Dakota State University by Matthew Brian Nohr in partial fulfillment of the requirements for the degree of Master of Architecture.

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# Abstract



Man only exists in dialog with his neighbor. Our community is an integral part of our identity and our relationship with one another gives us purpose. Architecture constructs the environment and so constructs our interactions. This thesis explores how architectural techniques influence the way a community grows richly by developing a coworking office in Fargo, North Dakota. Through the study of a new typology by comparing existing coworking and startup offices and interviews with these companies, this thesis serves evidence for how a town may achieve the sense of community that this Northern Midwestern city aspires.

#### Key Words:

Startup, Community, Public, Urban, Coworking, Office

We live in a world where we are more connected than ever and yet have lost the ability to greet and connect with strangers. On a bus ride or in the mall, it is a common sight to see every person on their phone. There are thousands of people that we come in close proximity to yet don't develop a connection. Researchers find that the feeling of isolation is more prevalent in large cities than in small cities. Author and motivational speaker Tony Robbins introduces six basic needs of every person. He says that "Love [connection] is the oxygen of life; it's what we all want and need most."

If this loss of connection is common in bigger cities, built by the architects and designers who strive to promote health safety and welfare of the public, what do we need to change in order to introduce more people and develop a sense of connection in these cities? I believe there are design principles that deal with the needs of the soul that should to be brought forth to promote connection. We follow these principles already and have communities that thrive with connected people. By studying successfully designed cultures, I hope to bring forth the architectural principles that influence connected people through the study of coworking office facilities.

Coworking describes a physical space shared by people who are not employed by the same company. The term coworking was popularized by Brad Neuberg in 2005. Since then, over 700 locations have opened in the United States under this organization. This relatively new phenomenon has common architectural practices and an interesting of program of spaces. Studying common spatial relationships, architectural elements, and





locations will lead to the understanding of what makes this phenomenon a successful experience.

An ideal community is one in which people know their effect on one another and through caring about their neighbor they grow in success and closer to their goals. A community where a person's personal goals are tied to community goals thrives. Through giving your city grows and through getting your city grows. A sense of contribution unites people together. When we work hard and are around others who work hard, we tend to work harder. The meaning of a person's work drives them to get out of bed each morning and motivates them throughout the work day. Corresponding to a connected business community is a connected personal community. When your daily work introduces you to new people to form bonds with, your life outside of work grows. A healthy person has both personal and business life in good order. Both depend on our connections with each other.

It is clear that people desire connection. The connection desired is often more than a technological connection, but requires a real presence of persons. In a farmers' market, people discuss and talk to strangers in more than a business level. Perhaps the small town attitude of the farmers or their passion for work or sunny weather enlivens the crowd and people converse with each other in a radical way that isn't seen in most businesses. Compare this to the common experience at most big box stores where the cashier asks you if you found everything alright then continues on the same routine. In this relationship, there is no communion or

connection between people, only mere coexistence of people using each other for the transaction at hand.

I had a profound experience at a restaurant called Amsterdam Falafel. This restaurant was about 200-300 square feet for all of its eating space. The limited space and large number of patrons forced us to sit at the same table as strangers. This phenomenon was so different than that of any restaurant I had experienced before because I met new people and had a deeper interaction with them than I have with any other stranger at a restaurant. Culturally we find this strange, but I see an opportunity for growth in a community.

Midwesterners confuse Americans around the country with their openness to talk to strangers, to smile at people as they walk by, and to give the slight hand wave when you pass someone while driving. The Midwest is not the only place where this happens, but there is a change in mannerism and customs in different regions of the United States. This outward friendliness to strangers is what I hope to capitalize on for this thesis. If there were ever people who could show the world how to be friendly in the modern United States, it is in the Midwest.



In our modern world, hope exists for real connection between people. It happens every day in many places. When we study how to bring this connection to places where people suffer from isolation, we can share this hope. I believe in a world where we get to know our neighbor and help each other out. It may be a small town attitude. Think of how great a big city would be if it could experience the joy of connection found in a small town with the diversity and culture in densely populated areas.

When studying community development, I will look at developing the heart of the city through office, forum, and lifestyle. The location for this thesis should be in an urban downtown near most dense economic areas. The function of the space is most like a theater mixed with farmers market. It is like a theater in that it is a public forum for presentations. It is like a farmers market since it is local business and attractions with diverse tenants sharing a common space.

In 1956, the Southdale Center Mall became the first of its kind for indoor shopping. People had never before shopped with a common interior with conditioned air quality and light. Later developed food courts became a common space where strangers would sit in close proximity to each other. This modern typology celebrated sharing common space. However, it fell short of building community and relationships.

A coworking office is a new typology that encourages strangers to interact and network. It provides resources for growing local businesses and hosts events that inspire innovation and growth. Space is provided for local newspapers and magazines as well as startups and many other types of businesses.

Coworking is an office model where workspace is rented by the day or by the month for a flexible work environment. Coworking is modeled by shared workspace. This type of office, named by Brad Neuberg in 2005, showcases a unique relationship of a variety of businesses.

Blaine Booher, COO of Clifton Labs, says, "The local community is still very connected to their agrarian roots, mixed with some good old-fashioned Scandinavian work ethic. The people are warm, honest, and open. It's a great community to live in, and the people are generally happy and content."

Fargo, ND in the past 10 years has grown significantly in its innovation to become a leader in technology and agribusiness markets. It hosts many technology companies like John Deere, RDO, and Microsoft but still maintains a closely connected feel where people wave to each other and converse with strangers. It is beginning to grow significantly in the entrepreneurial world. The downtown district between Main Ave and 6th Ave North on Broadway Street primarily hosts local businesses with growth inspired by the Kilborne Group.



Prairie Den Front Door

The Prairie Den is located on the second floor of a historic building in Downtown Fargo, ND at the corner of 2nd Ave and Broadway St. The Prairie Den was an idea of Emerging Prairie's Founder, Greg Tehven to bring a coworking space to the city of Fargo. This initiative was based on the premise that a diverse economy consisting of startups, freelance workers and small businesses coexisting with larger corporations.

## Prairie Den

**Location:**

Fargo, ND  
Downtown

**Population:**

113,658

**Zipcode Density:**

4,234 per square mile

**Median Household Income:**

\$41,479

**Type:**

Office

**Size of space:**

5,400 SF

**Number of members:**

100 (fluctuates)

**Project Cost:**

Unknown



**Merchant's National Bank**

The Prairie Den is located above the King House Buffet in Downtown Fargo, ND at the corner of 2nd Ave and Broadway St. The Prairie Den was an idea of Emerging Prairie's Founder, Greg Tehven to bring a coworking space to the city of Fargo. This initiative was based on the premise that a diverse economy consisting of startups, freelance workers and small businesses coexisting with larger corporations. As Greg describes his inspiration for a Fargo coworking space in the August 2015 edition of Fargo Monthly magazine, "I often marveled at our student union as it proved to be the most

diverse place on campus. It served as a melting pot of ideas, the town hall for the campus and allowed groups to meet, study, and come together." The appreciation for his student union at the University of Minnesota led him to the desire to create that same opportunity in Fargo.

Through a collaboration with the Greater Fargo Moorhead EDC and Emerging Prairie this vision became a reality. CoCo, a business who develops coworking spaces and maintains them through occupancy was given the opportunity to open

this coworking space in the second story of the historic Merchant's National Bank on the corner of 2nd Ave and Broadway. However, CoCo's business did not take off and shut down Fargo's first coworking space. Emerging Prairie stepped in to secure the space and to ensure that this vision would not fall through. The Fargo community worked together through donations from John Deere, Bell State Banks, Eide Baily, 702 Communications, and other local supporters, the prairie den was able to secure the space and refurnish it with suitable office furniture. Over ten local artists donated time and effort to add unique character to the newly founded Prairie Den.



**CoCo Logo**

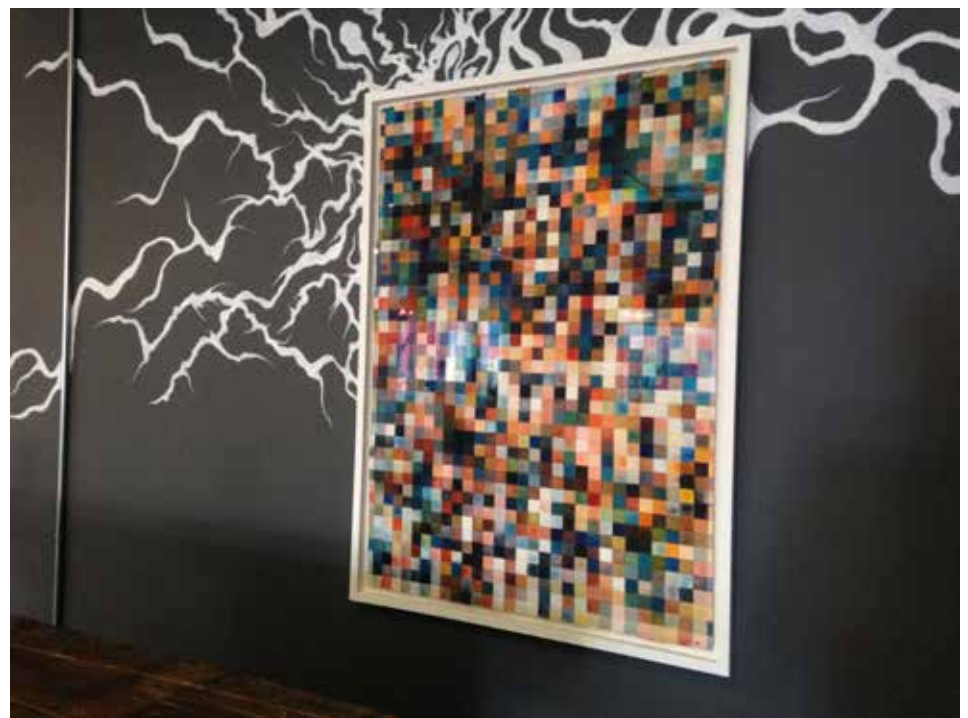


#ILOVEFARGO Mural

The Prairie Den is now home to over one hundred members with a variety of membership level. At the time this was written, permanent tenants include Emerging Prairie, Hash Interactive, Today Made, and CoSchedule. These are subject to change over time. Along with these companies are students, a film company, design firm, artist, political candidate staff, and consultants. An article in the newspaper InForum, talked about the recent celebration of these one hundred members. As the Prairie Den continues to grow, it plans to cut off membership at one hundred and twenty five members.

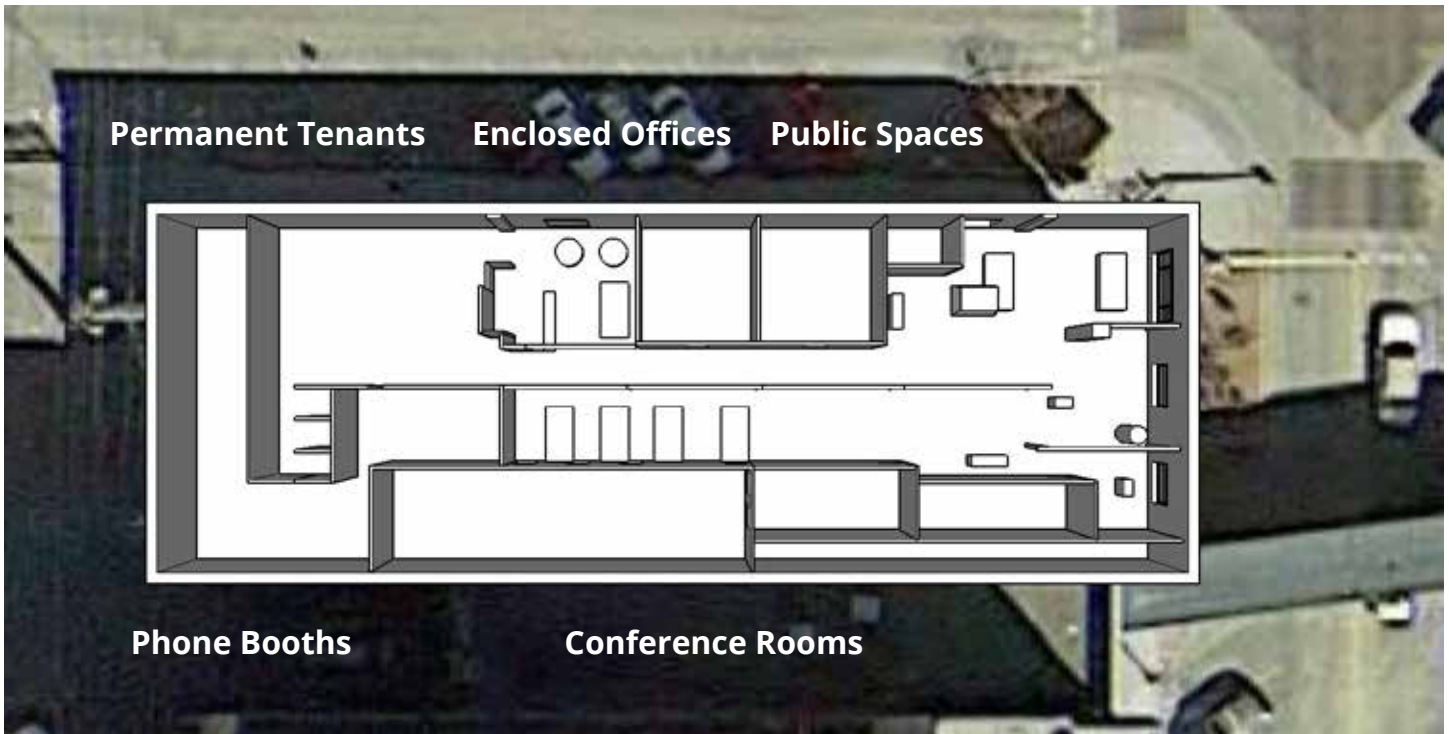
The Prairie Den has a large open floor plan with 4' by 8' tables held up by saw horses. An eclectic group of chairs are moved from table to table based on a person's preference. There are a few permanent tenants located in the Northwest corner along with enclosed offices in the North-central part of the floor. Community seating has close access to outlets as well as natural light. Ductwork and electrical is exposed to view running down the central corridor and branching into the different spaces. Furniture was contributed by local businesses like Misfits and purchased from the NDSU auctions.

Amenities include a large open kitchen with ample casework and full operational range and refrigerator. Coffee is free and available from local coffeehouse 20 below. Art work as seen on these pages is contributed by local artists that portray the expansive roots that the Fargo-Moorhead community has made throughout the country.



Prairie Den Artwork



**Prairie Den Floor Plan**

The space is organized in the 50' by 125' plan generated from the original plat. The plan is axial entering from the east and moving to the west. Western most spaces are private where the eastern most spaces are public and more lively. The North, South, and East facades receive ample light from large 10' by 6' windows. The South windows receive light from a interior light well and a recessed roof. The narrow plan encourages social interaction. Anyone who uses the kitchen or bathroom moves by most people who are working and gives them an opportunity to see each other and interact.

The structure comes from the original Merchant's National Bank heavy timber and wide flange post and beam construction. The structure connects to the exterior brick masonry wall. Interior posts are exposed and the masonry wall is covered by drywall, painted in a variety of colors including marker board paint. The structural bays are about 10' by 20', allowing about sixteen people to work simultaneously within one structural bay. Windows are at a variety of spacing. About fifty percent of the wall is opaque and the rest allows exterior light in.

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Interior walls are painted with at least 5 different wall covers throughout the space. Conference rooms are painted uniquely to inspire creative thinking in meetings. One conference room is big enough for two people and is the previous vault of the bank. All of its interior walls are painted with marker board paint. Another conference room has a conference table covered with pages from Henry David Thoreau's Walden inspiring transcendental thinking. This same room also has positive quotes gratified on the interior. This room is not like any conference room I had been in before. Telephone booth rooms are single conference rooms where one person can have a semi-private phone call without disturbing the peace of people around them and allows them to focus on their call. These rooms have a chair and a small writing surface. The floors are made of gray carpet square tiles. This material helps absorb a lot of sound. The kitchen has wood planks that are easy to clean.



**Tehven Under Skylight**



**Local Music in Prairie Den**

Furniture is easily moved and rearranged. This flexibility of space allow the Prairie Den to hold events such as startup drinks, Girl Develop It, and host local music. Emerging Prairie facilitates the majority of these events working as a small business version of the chamber of commerce. Without a business dedicated to the economic development of Fargo like Emerging Prairie, the startup community would look very different. A notable event that Emerging Prairie puts on weekly is called One Million Cups. During this event a business that has been around for less than five years pitches an idea and a variety of community members tell that business how they can help out. This community growth aspect is present in the Prairie Den and its members look out for each other in a similar way. Startups who do not operate out of the Prairie Den, still participate in activities hosted in there.



**Prairie Den East Facade**



**Prairie Den Street View**

The exterior view of the Prairie Den and King-house Buffet are inherited and minimally adapted from the original Merchant's National Bank. The entrance to the Prairie Den is the small door on the east facade. This approach does not prepare you for the locally grown creativity that is above.

The terracotta ornament and detailed cornice could not have been afforded by any business, especially that of a small grant funded group like Emerging Prairie. The transition from a historic past to a new and vibrant future show the investment in the Fargo-Moorhead community from a rooted growth in Fargo's history. The character of the King-House Buffet below does not reflect this same connection to history with its tacky chinese decoration.

The presence that the Merchant's National Bank imposed on Fargo in its past of being a business that is here to stay reflects the commitment that Emerging Prairie has in its active role in small scale economic development.

## **Conclusion**

The Prairie Den is in its early stages as an ever evolving space. Its current amenities, especially the community and connection to local culture far exceed that of any other office space in Fargo. Space planning happened somewhat spontaneously but it is attracting members and introducing people. The come and go nature of the typical member does not require lockable rooms or much permanent storage. As the Prairie Den evolves in the change of membership type, the architecture is sure to follow. This particular case study is interesting in its adaptability to growth and reflection of those who work there. The lack of permanent spaces may be what the Prairie Den needs to supply sustainable revenue to better accommodate the part-time members.

The architectural focus of this case study is its interior space planning, artwork, and furniture utilization. The standing tables, couches, and variety of chairs are fun and an engaging way to stay focused on work and constantly moving. The lack of acoustical barriers limits the type of work by computer oriented work. Collaboration and client meetings are hard to accomplish without use of closed in conference rooms.

The success of the Prairie Den is exciting to its members and the community. Some of its members, about 15%, played some part in the transition of CoCo to the Prairie Den and are committed to keeping this space around. The level of community commitment from the space is inspiring to other coworking spaces who are in their initial stages.



Family Health Service Sign

The Little Sisters of the Assumption Family Health Services building houses a variety of spaces from a first level thrift store, office spaces, meeting rooms, and exterior gardens. Located in one of the poorest neighborhoods in New York City, the Little Sisters of the Assumption work to provide low-income families with family health services, food pantry, nursing, education, and childcare.

Low funds made it difficult to support the five locations previously held by the sisters. The new complex houses all five locations to consolidate their services to one location. They wanted to be close to those they provided services to and provide a welcoming building that encouraged people to visit.

The floor plan is a compact rectilinear layout with consolidated circulation on the west side. The south and north faces have open glazing allowing over 80% of the facade to allow light in. Office spaces on the north have optimal task light and the offices spaces to the south

## Little Sisters of the Assumption Family Health Services

**Location:**

New York City, NY  
East Harlem

**Population of NYC:**

8,405,837

**Zip-code Density:**

93,875 per square mile

**Median Household Income:**

\$31,888

**Type:**

Office  
Retail

**Size of space:**

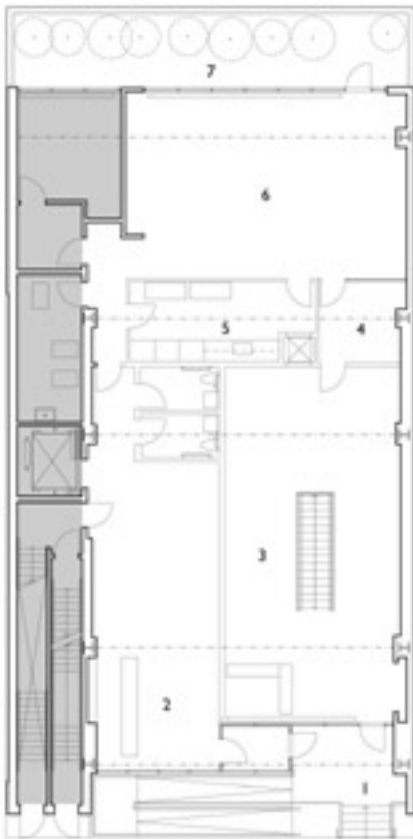
21,500 SF

**Project Cost:**

\$4.4 million

**Architect:**

Peter L. Gluck and Partners



Ground floor with partitions

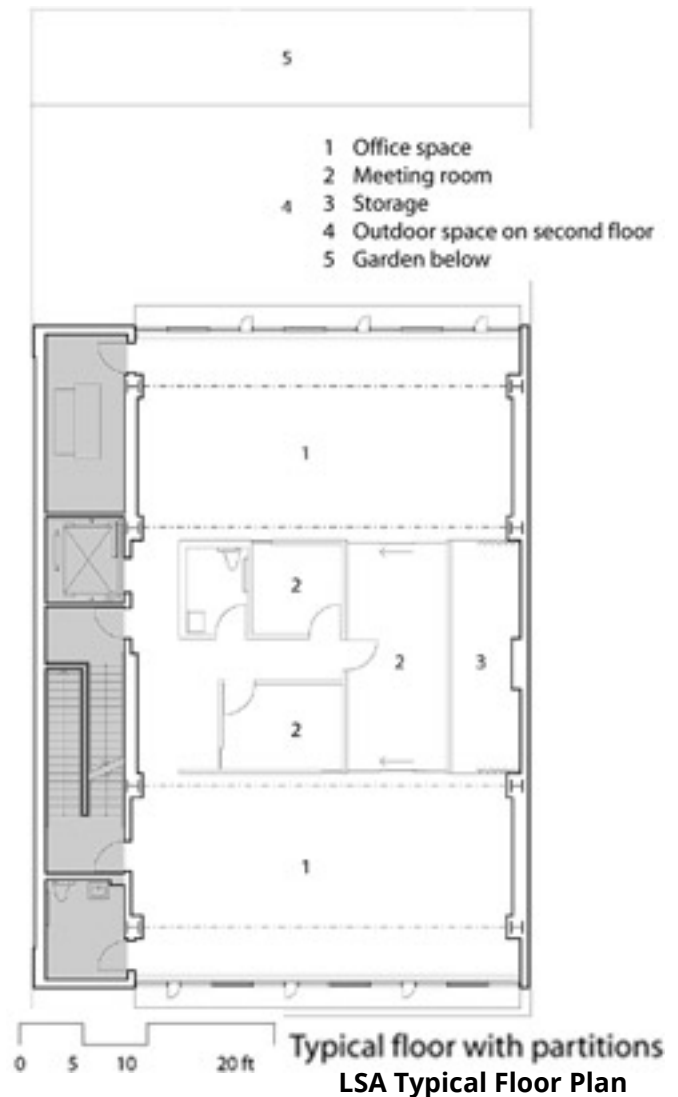
- 1 Entrance
- 2 Lobby
- 3 Thrift store
- 4 Meeting room
- 5 Pantry
- 6 Office space
- 7 Garden



**LSA Ground Floor**

have operable doors instead of standard glazing. These allow for easy light control and are a metaphor for the open door that the sisters provide for the community to enter in. Between the office spaces, in the center of the structure are the private offices which are artificially lit.

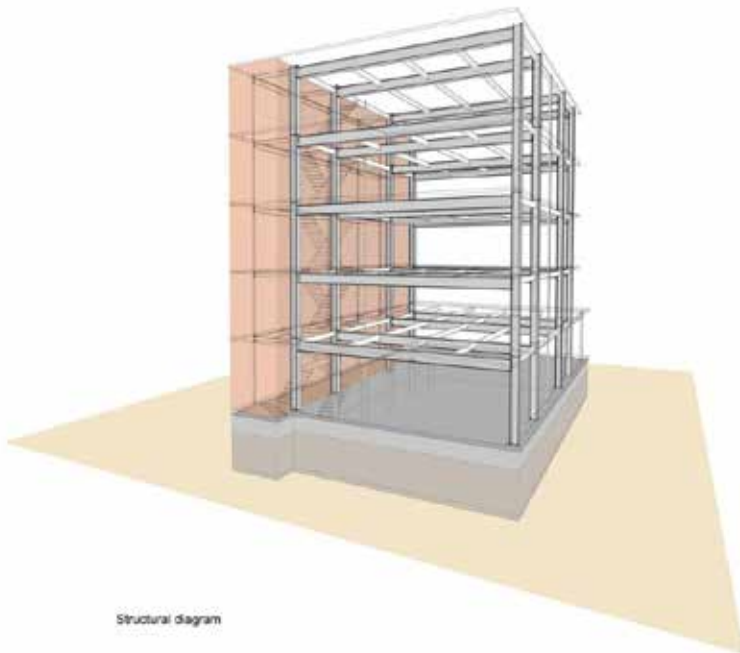
The first floor has primary greeting area and access to thrift shopping. The thrift store serves as an economical way for low-income people to buy clothing and serve as income to fund the sister's operation.



**Typical floor with partitions**  
**LSA Typical Floor Plan**

The structure of the Little Sisters of the Assumption Family Health Services is a steel structural frame. The frame is strong enough to span the 40' span without interrupting the interior spaces. Columns are spaced at 40' on center from east to west and between 15' and 20' on center from north to south. The bay is open for an adjustable floor plan to accommodate a variety of needs. The structure is not a celebrated aesthetic accomplishment, but a functional efficiency to empower the client's needs. The frame was engineered to support an additional two floors if the sisters need to expand.

The consolidated circulation keeps the floor plan open and visible without blocking the natural light brought in from the windows. This design maximized light penetration in an urban setting. Simple structure and large bays allow for variation in floor plan without a major redesign.



Structural diagram

**LSA Structure Diagram**

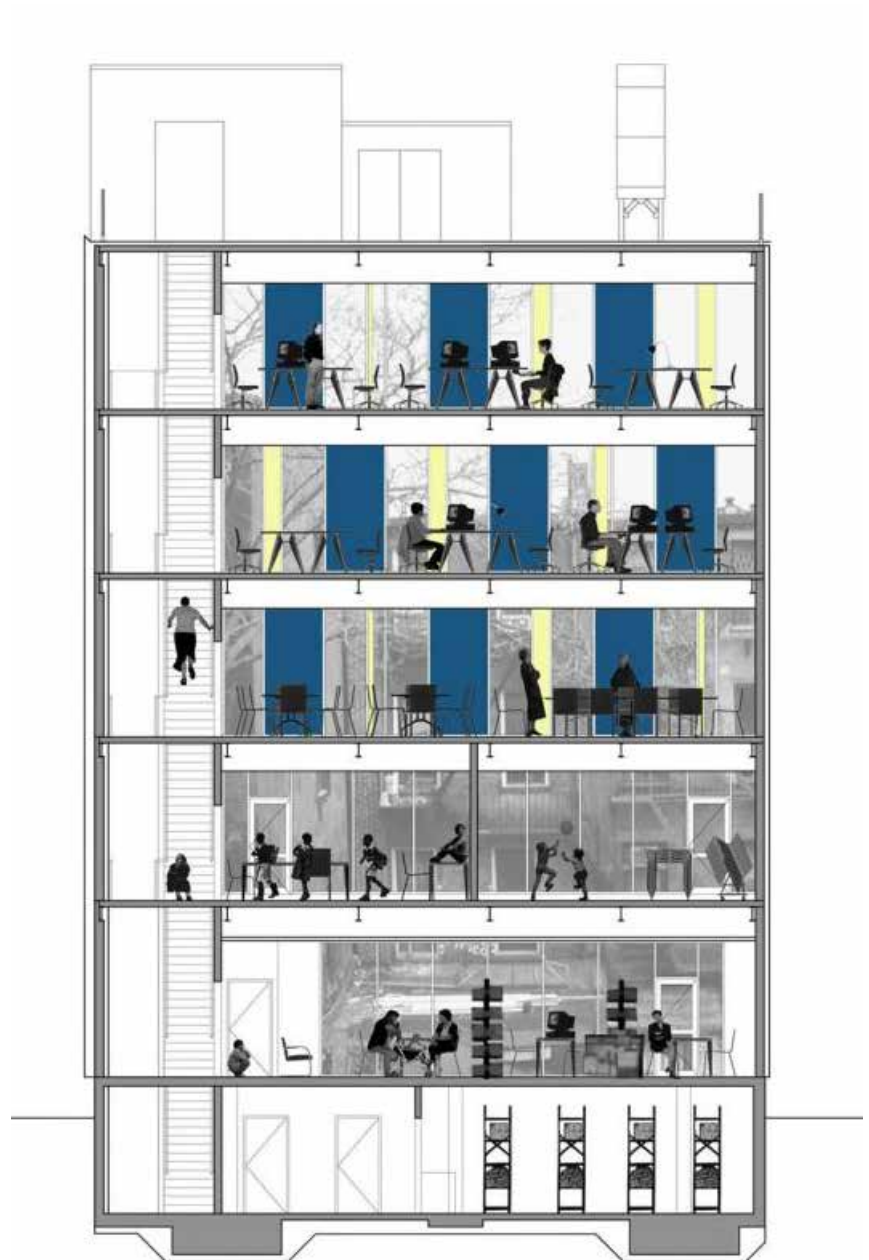




### Building Section

The building section reveals the simplicity of the structural frame and the repeatability of the different floors. Though each floor is structurally identical, each can operate as a separate business, retaining the business structure of the previous 5 locations. The open plan allows each of these businesses to customize their floors to best suit their needs.

From this section, there are five clear spanning beams running north and south. The convenience of the circulation shaft and the similarity of the floors gives a familiarity between floors welcoming people between spaces.



Section/Interior Elevation

LSA Building Section



**LSA Children Play Space**



**LSA Children Learning**

## **Interior Spaces**

The interior spaces are filled with natural light and hard surfaces. Though the sisters had a limited budget, spaces are able to be used for their child care and educational needs. The lack of ornament and detail leaves room for a place for the people to add their own personality. From these images, the space feels bare and commercial and not that of a unique community.

The spaces could benefit from seeing crafts made from the kids, local art, or a sense of personality. The pictures are very sterile and do not seem to welcome the occupants.

There is clear visibility between spaces as you can see from the heavy use of glazing. The connection between the play space and the outdoor basketball play area are great for watching children both from inside and out.

Office spaces are simple and efficient which were probably price driven decisions. However, surfaces are easy to maintain and are durable for constant movement of furniture. As you can see, the abundance of natural light eliminates the need for overhead lighting. The indirect overhead lights illuminate the room on dark days or at night without increased glare.



**LSA Office Space**



LSA Front Facade



**LSA Front Perspective**

## **Conclusion**

The Little Sisters of the Assumption Family Health Services is a good case study for a low budget urban office setting that seeks to serve the community. The unique use of doors to control light on the facade is an example of clever use of materials. This reflects the low-budget resourcefulness required of service oriented clients.

The simplicity of structure and large bays provide insight on how one would create a structure for an office space and increase natural light. Consolidating circulation is necessary in the small building footprint in order to maximize the utilization of space.

This example also shows how a downtown design may use retail with office and how the first floor serves the public more readily and how the other floors work well for more private business. In a downtown setting, the approach of the street level person should be taken into consideration to encourage public engagement.



**Houtsma Rear Entry**

The Houtsma Loods is a mixed use building with two major faces. One facade is on the narrow city street called the Hoogte Kadijk while the other faces the Nieuwe Vaart wharves. The street face primarily serves as student apartments while the wharf side is offices and parking. The building is a partial renovation of an existing structure and an addition of office spaces.

The connection between apartments and office space is unique and the building footprint fits that of a typical downtown setting. This case study compares the interaction of the different uses. The space separation techniques and the use of natural light makes this an excellent case study for informing coworking design.

Office spaces that are close to residential are largely successful for their convenience to the users. In a downtown setting, it is often necessary to provide the mixed use. Incorporating a parking structure in the downtown can be a challenging task as well. This case study is meant to inform how one may address the opportunities for parking.

## Houtsma Loods

**Location:**

Amsterdam, Netherlands

**Population:**

779,808

**Density:**

12,710 per square mile

**Median Household Income:**

\$60,999

**Type:**

Office

Residential

Parking

**Size of space:**

7,000 SF

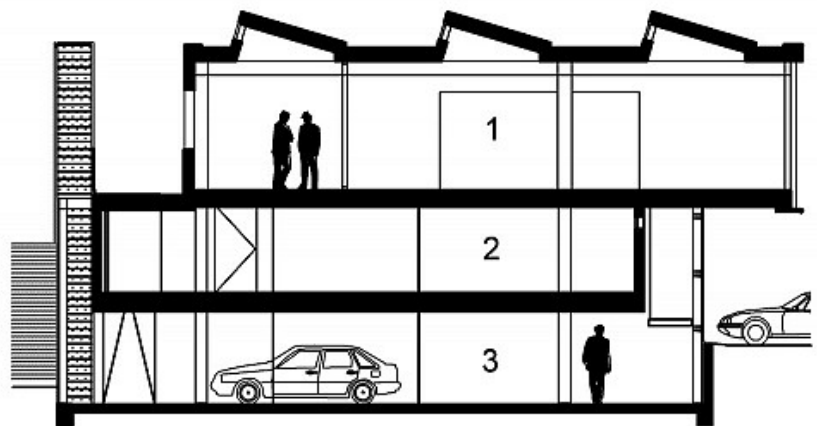
**Project Cost:**

\$5 million

**Architect:**

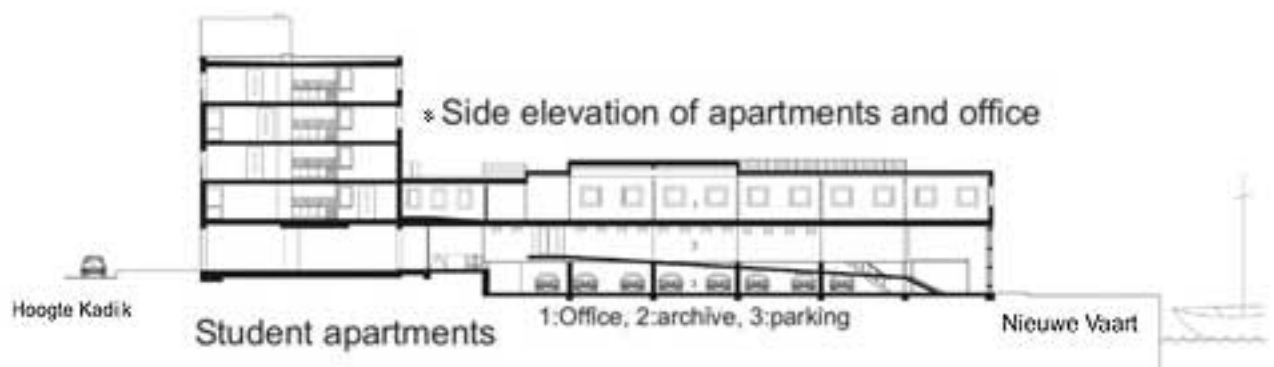
Faro Architecten

As you can see in these section, each use and floor is distinct to its purpose. The wharf and street sides have a different face presented the public, informing them that something different is happening on the interior. The uses are separated by their need for natural light. The garage needing least amount of light is located in the basement and the office and residential are located on the upper floors.



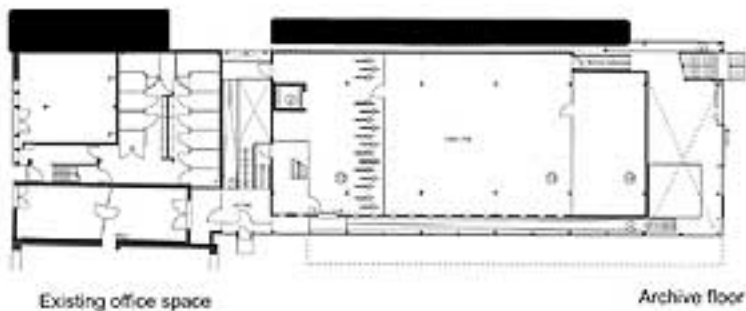
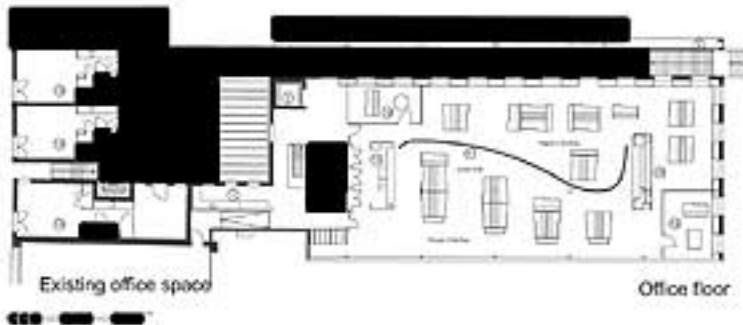
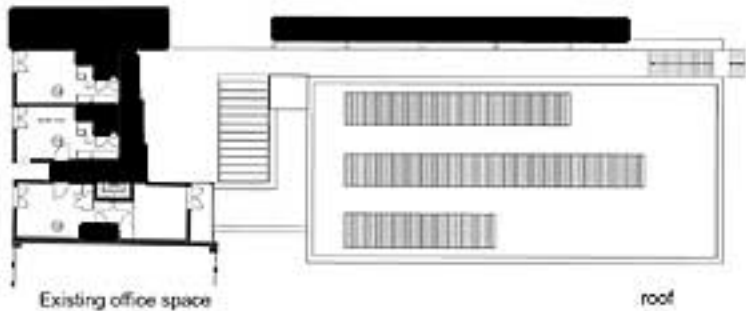
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Houtsma Enlarged Section



Houtsma Building Section

Structural spans are large and open to allow for a variety of space configuration. This is a common theme around office planning. As seen in the office floor, the serpentine strip is a way to separate space using a long and colorful acrylic segments. The rectilinear form is similar to that of other case studies. The existing office space is more cluttered than the east addition. As is similar to the LSA Family Health Services, the main corridor is located on the side of the building juxtaposed to a party wall. This is another example of consolidated circulation.



**Houtsma Floor Plans**



## Opposing Facades

The comparison between the street and wharf elevation reflect the difference of interior activity. The spacing and proportions are well ordered on both sides.

The wharf side enclosure system is a good reflection of the old docks and sea vessels and the effects of corrosion of water. The use of CORTEN steel is appropriate for salt water saturated air that is close to these materials. The slats of CORTEN allow for light to penetrate the space giving controlled natural light.

The street side brick enclosure reflects the old presented in the street-scape and a typical cladding system. The window openings distinguish this building from older proportioning systems. The window openings are large enough for doors and access to a small balcony.



Houtsma Rear Elevation



Houtsma Front Elevation



**Houtsma Office Perspective**



**Houtsma Interior Glazing**

### **Interior Finishes**

The office spaces have a cool use of materials. The glass cabinets are a unique portal framing the views between spaces, while acoustically separating them. The bases of the cabinets are made from a synthetic rubber that greatly reduces sound and improves the acoustical environment.

Ductwork is exposed to view. The light provided from the skylights gives plenty of task light and is well diffused by the angle of the roof openings. Artificial interior lights are simple florescent tubes in linear fashion through the building.



**Houtsma Acrylic Wall**

## **Conclusion**

The Houtsma Loods is a great example of a functioning multipurpose office with the right resources for semi-permanent to permanent tenants. Though the large structural bays allow for re-organization, the current furniture selection is mostly fixed. The office environment is somewhat sterile and functional in aesthetic. I would like to use the acrylic movable wall and know more about its acoustical properties. The building section is diverse and open for plenty of light. I'd like to use the multistory residential opportunities presented in the building section increase the utility of the building.

Fundamental features of the project are long-term office spaces, short-term office spaces, and public space. The primary function of this building is the short-term office spaces, though the long-term spaces bring reliable income to keep the building in operation.

General office spaces will include closed private offices, open private offices, and open public workstations. Each will have different space requirements. Collaboration space for team projects as well as conference rooms should be considered. Niches for client meetings provide a place for private conversation without an overwhelming privateness. Artistic space and interesting features differentiate this office space for creative clients, offering an inspiring change of scenery from the typical office aesthetic.

Public forum space should be seen from the street level. The space for large presentations or social gatherings encourages community participation and connects individuals from diverse backgrounds. Access to coffee and small food items keep conversations flowing without awkward pauses. Public space for coffee shops encourage students and very temporary users to use the facility in its most simple and easy way. The access from committed vs to few hour coffee users changes the human landscape of the building. Any other element that is found through research that increases community engagement should be considered for the design.

Description of Spaces	Qty	SF Each	Space Required
<b>Permanent Tenants</b>			<b>840 SF</b>
Enclosed Large Offices	0	150	0
Enclosed Small Offices	1	120	120
Open Large Office	0	180	0
Open Small Office	2	120	240
Open Workstations	5	80	400
Reception	1	80	80
<b>Coworking Office</b>			<b>4340 SF</b>
Enclosed Large Offices	0	150	0
Enclosed Small Offices	5	120	600
Open Large Office	3	180	540
Open Small Office	6	120	720
Open Workstations	30	80	2400
Reception	1	80	80
<b>Support Spaces</b>			<b>3515 SF</b>
Reception Seating	2	120	240
Large Conference	1	600	600
Conference Small	3	375	1125
Breakout Center	4	80	320
Print Scan Fax	2	80	160
Kitchen	1	350	350
Reference Centers	1	180	180
Supply Storage	1	50	50
Filing Area	1	140	140
Server Room	2	175	350
<b>Public Spaces</b>			<b>1560 SF</b>
Presentation Forum	1	1000	1000
Public Reading	1	300	300
Public Coffee	1	100	100
Display Case / Advertising	2	80	160
<b>Utility</b>			<b>1487 SF</b>
Circulation		8.0%	820
Mechanical		5.0%	513
Restroom		1.5%	154
Janitors Closets		0.2%	21
Walls, Partitions, Structure		7.0%	718
Unassigned Storage		0.3%	31
<b>Building Sum</b>			<b>11742 SF</b>

**Proposed Space Needs**



# User Client Description

User groups and distinct needs

The coworking environment consists of eight major client types. The types are Freelancer, Early-stage Tech Founder, Startup, Large Company, Non-Profit, Service Provider, Small Business, and Remote Team. Each type of client has different business needs that are solved through coworking. In the following section, the client types and their needs will be addressed.

## Freelancer

Since a freelancer relies on various clients without needing an office space every day, typical needs are to have varied visit hours with private conference area that can be booked ahead of time. They need a place where they can discuss options and considerations in a unique looking environment. The option of coworking allows them to use the office on a variable basis while having a stable place to consistently meet clients.

## Early-stage Tech Founder

During the early stages of a tech company, making connections with others in the industry helps spur the growth of the company. The small staff requires outside consultants for work that cannot be done by the current staff. Being in close proximity to these people enables short term consultations with these companies with convenient placement. Types of workspaces may be conference, open workspace, or lockable office.

## Startup

A startup company may begin with two employees one month and have eight the next. The flexibility in office growth allows them to hire new employees without the search for new office space as the company grows.

## Sarah English



Sarah is a local entrepreneur in Fargo, ND. As founder & CEO of Beach Interactive, Sarah develops "ridiculously clever educational video games." Her first game is called *Abettor's Letters*. This game teaches players foreign languages through point-and-click adventures.

Beach Interactive consists of three employees. Since their main business is in software development, they need space to setup their laptops with a reliable data connection. The creative nature of the company requires collaboration space as well as easy access to design consultants that are located in downtown Fargo.



## Sean Frederick



Sean joined his college friend Troy after some time in the corporate environment to for Hash Interactive. He graduated from North Dakota State University with a degree in Computer Science and after his time in Seattle, he came back to his college town to become reengaged with the Fargo-Moorhead community.

Hash Interactive was previously located in the Gibb Building, a few blocks from the Prairie Den. Their web development company now has seven employees and needed a place where they could market to the community and be in a friendly and talkative environment. He loves the Prairie Den for their small company and its unique office setting facilitates his needs for web development, client meetings and conference calls.

Being in close proximity to other talent helps form new networks to enhance the talent involved in the company.

### Large Company

For temporary to semi-permanent residency, coworking allows short term commitment to a space while a company enters a new region. The office needs are taken care of by the coworking facility so the large company can focus on their primary business instead of general office needs. The large company will often require more privacy and security of information. Dedicated printers to secure information and file storage is unique to the large company.

### Non-Profit

Easy access to the community and close proximity to major donors is a need of many non-profit companies. Their space is flexible for peak fundraising times. As non-profits touch our community heart, their presence enlivens our working experience. Use may range from private to public work spaces. Lease may be periodic times of the year or have a variable staff size.

### Service Provider

From paper supply to common consulting needs, coworking connects people from their frequent presence with many potential clients without extra marketing required. Service providers may need privacy for work, but also need visibility to keep presence in the office and community.



## Small Business

Inspiring spaces inspire creative employees to do their best work. With staff ranging from five to twenty people, their staff numbers are consistent, but need access to an interesting environment. The small business gives a regular presence in the office that ties the other businesses together. Needs are to be visible but private. Shared conference spaces and a variety of office styles will be common business needs.

## Remote Team

When traveling from project to project, these teams need a functional office space for a few days or weeks when traveling to visit with remote projects or clients. Remote teams need a flexible lease that upgrade their work experience from hotel business centers. Having the same office can give a sense of community to those that are used to traveling and provide a point of continuity in their ever changing landscape of their work environment.

## Jhett Christenson



Jhett is a local entrepreneur who has started a business consulting firm called Swanby Group. From his self taught skills and business experience, Jhett is looking to improve the businesses in the Fargo-Moorhead community.

After a short time of working in a private office, Jhett decided to work from the Prairie Den because he likes to be around other people. The twenty-four/seven access is a perk that he enjoys as well as the liveliness of the people working around him.





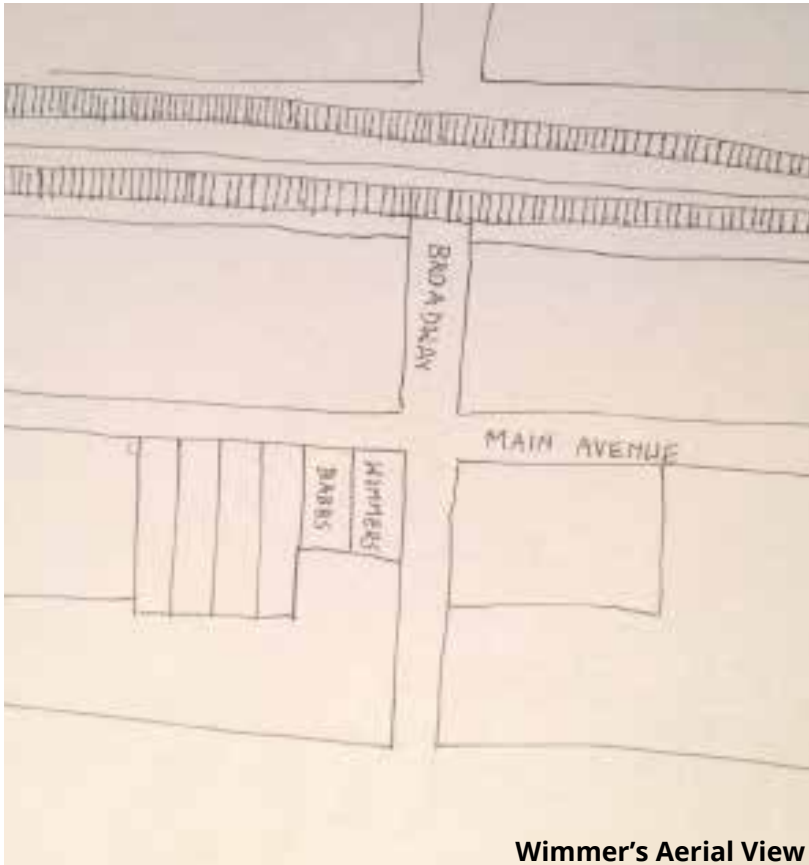
## Architectural Considerations

Offices generally need quality air circulation and ventilation along with ample noise barriers to promote quiet and fresh environments. Proximity to natural light and quality reading light allows people to see their work. Task lighting may need to be provided depending on the type of work.

This space houses tenants on a per-day, per-week, and per-month basis. The variation in office furniture will require great flexibility for different configurations. Since companies will likely need to be close to their own employees, offices will need to be able to be configured for convenience within each company. Data and phone connections will need to be configurable remotely so that access of files and data can be changed based on user group.

Access to the facility will be 24/7 so access and entry will need to be securable by electronic badge for after hours. This will allow for remote configuration of access control based on tenant's plan. The security of more permanent office spaces will need to be assessed so that some tenants can lock up their assets while others take theirs home at the end of the day.

Transparency and privacy will need to be addressed by providing a range from open air work spaces to closed offices with transparent walls to completely private spaces. This area of concern will be studied through case study examples.



**Wimmer's Aerial View**

Wimmer Diamonds and Babbs Coffee House are located South of Main Ave and West of Broadway in Fargo, ND. The site is a center point by the Fargo-Moorhead Community Theater, near NDSU's Renaissance Hall, and connected to the downtown district. The current owner of Wimmer's is liquidating his inventory and Babbs produces delicious coffee. It is a common spot for people who are working outside of their home or office and near many of Fargo's tech startups including Codelation.

## Wimmer's Diamonds



**Brad Wimmer**

602 Main Ave  
Fargo, ND 58103

Since 1919, the Wimmer's have been in the business of selling diamonds and fine jewelry. In 2015, 4th generation Brad Wimmer has decided to retire and close down the family business.

The family owned business has always been a big part of the Fargo-Moorhead community and after closing the downtown location, its legacy in Fargo history should continue.

## Historical Context



### Shotwell's Ready to Wear

In 1912 Cora Shotwell started her business in 604 Front Street (Main St), the now site of Babbs. She later moved her business to 602 Front St in 1919, now the site of Wimmer's Diamonds. Showell's Ready to Wear sold cloaks and suits. In 1983 Wimmer's took over the store.

The original facade of Wimmer's reflected the brick motif seen in Babb's today. The store front glass in front of the store is one of the few distinguishing features. The brick on Wimmer's was later covered by a metal panel enclosure system.

The interior of Wimmer's and Babb's are still connected in the interior reflecting the original connection made by Cora Shotwell.



Wimmer's Street View

The site of Wimmer's Diamonds and Babbs are located in two 25' by 80' urban parcels with a 60' by 50' parking lot to the south of the buildings. The building juxtaposes arts and crafts style businesses, and local clothing outlets. The building is on a sloping site. The site slopes enough to fit a basement at the back end of the building. Traffic is busy on Main Avenue throughout the day, but maintains a walkable feel with appropriate speeds and crosswalks.

Architecture ought to connect the people that it serves. As we all live in community with each other, we should learn how to commune with our neighbor and engage in thoughtful dialog with strangers. We have an opportunity in our connected world to leverage our network to get serve each other. Our newspaper, Facebook feed, billboards, and advertisements serve to connect us. The goal of marketing is to get the right service to the right person.

The way in which architecture has the potential to connects us in successful communities should be brought forth by a comparative study of these cities. From this global analysis, we compare the urban landscape and contextual makeup that cities striving to grow may aspire to develop. The comparison of cities reveals what design choices improve or reduce the connection between people.

Zooming in to the architectural level, this thesis will study the architectural types that breed community and isolation. Space planning and material choices will be emphasized to show the patterns of architectural choices.

Finally, the specific type of office called coworking is hoped to exemplify what it offers to community growth. Using this type, the thesis should show how, though its implementation, a city may infuse innovation and change.



This thesis intends to explain the theoretical aspects of a new typological phenomenon and how those aspects relate to community growth. Through a focused study of functioning coworking businesses and the effects they have on their cities, we will determine if coworking simulates a city's local economy and what architectural elements are unique among these businesses. A study of local businesses will show their importance on a city's overall economy and its effects on the health and well-being of the people. A key outcome of this process will be producing evidence that a city planner or local business owner can use to inject innovative culture to their community. The project will be considered successful if, when applied, these practices promote connectedness of people in the city and greater value given to struggling businesses.

## **Academic**

The study of theoretical topics in architecture is part of the requirements for the completion of the Master of Architecture program at North Dakota State University. Through this thesis I hope to explore community development and office design. The topic was chosen because of the important role architects play in the community and to understand a new type of office structure.

## **Professional**

After graduation, I plan to become more involved in the Fargo-Moorhead community and use the expertise to inform clients of better office design. I recognize the need for business leadership in the profession. This thesis is meant develop an understanding of business practices for design and consultant type firms. This should serve as a resource to aspiring entrepreneurs.

## **Personal**

Since I was old enough to play floor hockey at the YMCA, I've loved being involved in a team atmosphere. Groups like the Boy Scouts and the Sigma Chi Fraternity sparked my interest in community and business leadership. The interest I had in architecture came from the problem solving required to integrate many ideas and requirements. I hope that this thesis exemplifies the problem solving skills taught to me by these great organizations and North Dakota State University's College of Architecture and Landscape Architecture.

## **Definition of Research Direction**

Moving forward with the research, I will be collecting information about more existing coworking spaces. Most coworking companies have websites that feature photographs of their spaces. These show structure, location, furniture, space planning, lighting fixtures, wall and floor finishes, artwork, and wall types. These investigations will occur through a variety of sources defined in the research methodology.

## **Structure**

From the structure I should be able to derive how the space was inhabited, whether new construction or adaptive reuse. It will show general span distances as well as sectional relationships if the space is adaptively reused. These structural opportunities may show cases where exposed structure is preferred or cases where it is best to conceal the structure.

Impact on Decision Making

1. Qualify the selection of a site
2. Identify opportunities in these types of structures

## **Location**

The location will give information about the demographics of inhabitants. Through comparing the correlations between the demographics, optimal location for a coworking space will be derived. Age, gender, types of businesses of members, population density, education, nearby business types, and income will be the prevailing indicators for comparison.



Impact on Decision Making

1. Qualify the selection of a site
2. Note correlations in successful businesses
3. Study the interactions of potential members

### **Furniture**

Furniture reveals the type of opportunities that are available in successful coworking spaces. Looking at the way in which people interact based on furniture type suggests the optimal furniture depending on the desired interactions. The furniture types will be categorized and organized for best understanding of their similarities and differences. The way furniture is acquired also explains what furniture is available based on the level of investment that a company has.

Impact on Decision Making

1. Optimize selection of owner furniture
2. Increase desired social interactions
3. Understand equipment for office activities

### **Space Planning**

Space planning can be derived from perspectival interior photographs. These will reveal the proximity of spaces by frequency and the privacy demands that might be hidden within these relationships.

Impact on Decision Making

1. Assist with planning floor plan adjacencies
2. Study space requirements specific to coworking
3. Understand impact on social interactions

## **Lighting Fixtures**

The lighting fixtures are commonly unique from case studies I have visited so far. The type of lighting may be decorative or performance based and styles of fixtures may inform the deeper needs that are inherent in coworking design.

Impact on Decision Making

1. Select appropriate ratios of natural daylight and artificial lighting
2. Evaluate optimal lighting fixtures
3. Study necessary requirements for task lighting

## **Wall and Floor Finishes**

Wall finishes will inform the acoustical barriers and visual interest opportunities based on the finish.

Impact on Decision Making

1. Note sources of wall finishes
2. Acoustical impact of both
3. Durability requirements

## **Artwork**

Artwork from previous case studies has shown a tie to local art, from further research of other spaces, support may be found for this claim.

Impact on Decision Making

1. Highlight existing artist's work featured in coworking
2. Common styles of art that enhance the office experience

## **Wall Types**

Wall types will show the privacy barrier needs and the opportunities for different wall systems.

Impact on Decision Making

1. How to fine tune levels of privacy
2. Compare social interactions based on wall types

## **Economics**

Since different coworking companies are structured differently economically, their goals and effect on a community vary. Some companies are funded through grants and local government while others are private business ventures who turn profit. By comparing these economic models, I hope to understand the client better and isolate financial factors specific to community growth.

Impact on Decision Making

1. How businesses are funded
2. Interest in community based on financial structure
3. Pro-forma and cost structures
4. Entry barriers by client type

## **Goals**

1. Select appropriate architectural elements specifically for coworking
2. Increase social interactions and community growth through design
3. Offer attractive office amenities

## Methodology

### Research Methods

Through a relationship with Annie Wood from Emerging Prairie and the Prairie Den, I have gotten a membership and connections to other coworking companies. Surrounding cities with similar socio-economics as Fargo such as Bismarck, Bemidji, Grand Forks, and Brookings are planning on starting coworking spaces or have already started operations. I will be comparing the approach of each of these companies and the outlying factors that make their approaches unique. Both design strategies and politics will be studied from these relationships. I plan to conduct interviews with the owners of the coworking spaces as well as with their design team if possible. Information is also available in local newspapers such as the InForum and Fargo Monthly which highlights the startup community and their office needs. By working in the coworking space I hope to get a feel for the unique community in comparison to other office experiences that I've had. I hope to meet more people that are involved in the community and the values that they express through my interactions with them.

After getting to know the structure of the Midwestern approach to coworking, I will compare their approach to that of larger metropolitan areas. Cities such as San Francisco, Chicago, New York, and Boston have a lot of information on the web and in journal articles about unique amenities and pricing structures for services. The amenities that these larger scale operations have in comparison to the smaller scale shows the missed opportunities as well as infeasible

## Design Methods

### Interpersonal Investigation

Interviews

Work in proximity

Participate in local events

### Digital Investigation

Compare photographs

Compare narratives

Monthly rate comparison

### Design Development Tools

Hand Modeling

Hand Sketching

Trimble Sketchup

Rhinoceros 3D

### Design Representation


Adobe Creative Suite

Revit 2016

Rhinoceros 3D

Lumion

Autodesk 3DS Max

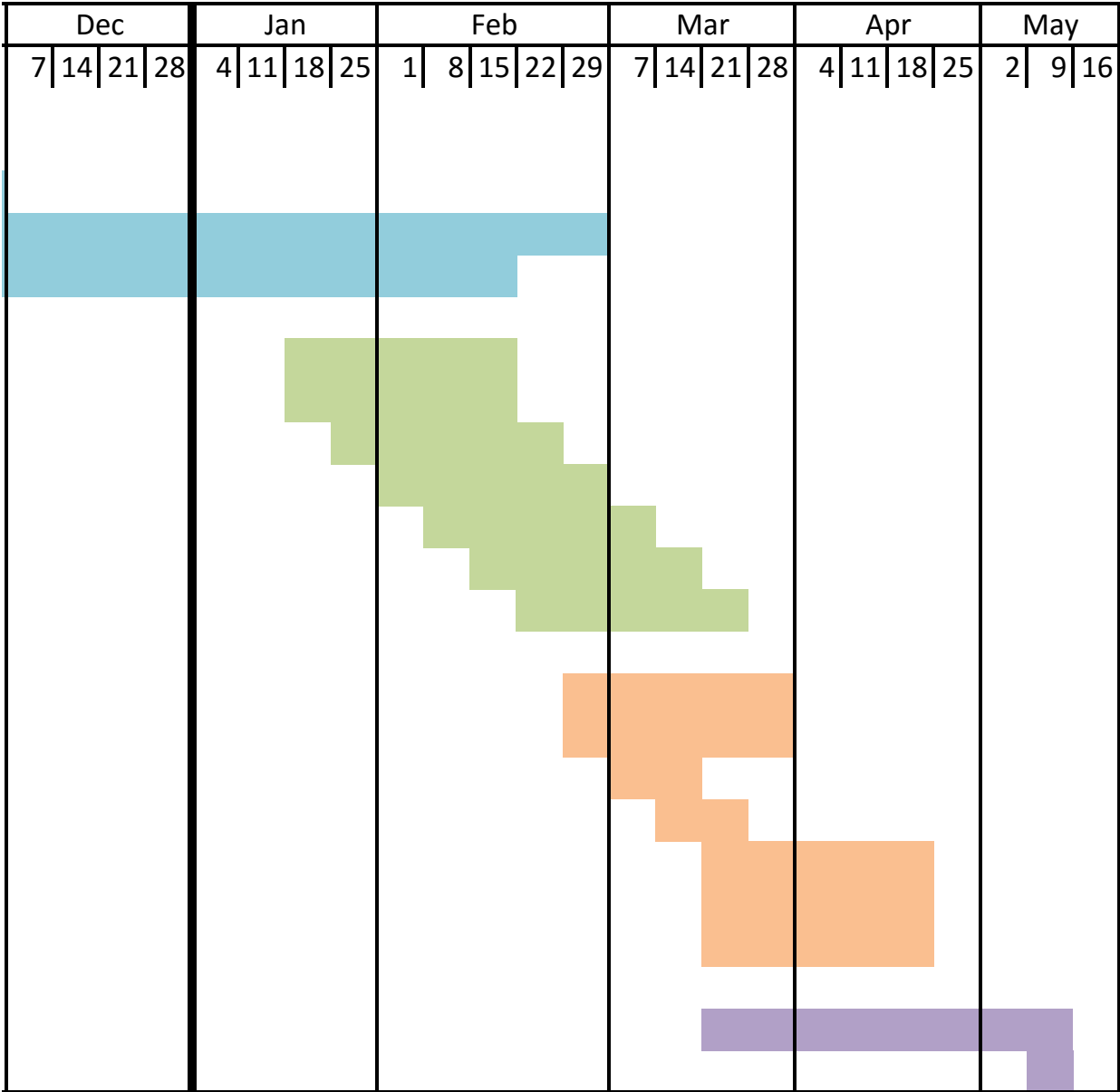


opportunities for the small scale. It is my hope to find as many missed opportunities and apply them to the design. By understanding the pricing structure, pro-forma data based on number of members and area will derive the economic feasibility for a coworking space based on its location.

Outside of the coworking world, there are startup companies and freelance workers that have sufficed without the benefit of coworking. By understanding their independence from coworking, I wish to ascertain their unique goals and barriers that prevent them from entering the world of coworking.

## Thesis Schedule

		Aug				Sept				Oct				Nov					
		10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	
<b>Research</b>																			
	Proposal																		
	Program																		
	Interviews																		
	Case Studies																		
<b>Iterate</b>																			
	Structure																		
	Sections																		
	Site Study																		
	Massing																		
	Context																		
	Sun / Wind / Light																		
	Spatial																		
<b>Develop</b>																			
	Floor Plan																		
	Elevations																		
	Enclosure																		
	MEP																		
	Interiors																		
	Finishes																		
	Furniture																		
<b>Deliver</b>																			
	Presentation Drawings																		
	Reviews																		



**Project Timeline**

# Program






## Historical Precedence

Over the past 100 years, the office environment has changed dramatically. Technological advances have changed the way we communicate and spatial relationships have reflected that. The way in which companies are led and operate have changed from a hierarchical system to more autonomous employees that have the capacity to work remotely and on more flexible schedules. In order to understand the importance for the new planning techniques suggested by this thesis, the historic precedence for office innovation must first be understood.

The conventional office plan was a popular office planning system until the late 1950's when the Quickborner Team recognized failures of this design and proposed the open office. In his book "Open Office Planning", John Pile describes the conventional office to be many private offices connected in one building. This is because desk work is assumed to be a form of study since it requires reading and writing and minimal conversation. This conversation usually happened in one-on-one interactions. Each office has the utmost privacy and security, free from outside distractions. The office building in the 1890s is similar to that of a hotel plan. Each tenant had their own keep and individual access.



After World War II there was a growth in the use of air conditioning and artificial lights that allowed for larger open warehouse spaces. The change in technology propelled the design of office plans. Security can now be addressed virtually through passwords instead of vaults and locked drawers. This led to the breakdown of previously necessary walls. However, status from the corner office on the top floor remained in the thoughts of the executive level employees. Many conventional office plans are still in use because of the status and enhanced privacy that was provided in the original concept. The modern conventional office, though closed off, may not have the amenities that the early offices provided. The access to natural light and the permanence of the pre-1950s office was lost for the middle management workers who desired privacy, but did not have the clout for the executive status.

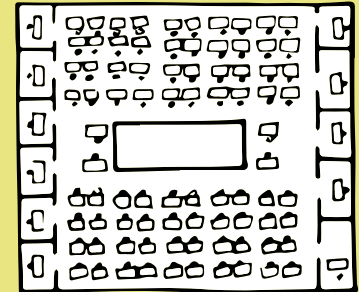
The office environment of today in creative industries has transformed the office relations and duties. Where work used to be a form of study, it has become a larger collaborative effort. Social office environments are seen in technology companies, design firms, and service based companies. Instead of solving problems by consulting a reference book, problems are solved by asking questions and learning from peers. In inventive and design companies, new ideas are formed by collaborators working together and bringing together different perspectives.

## Office Planning Strategies

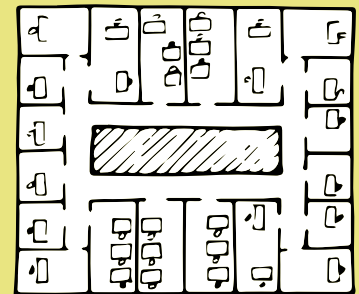
Burolandschaft is German for the office landscape. The “office landscape” is a method of planning that looks at the interrelationships of elements to provide proper communication lines, flexibility of use, and support the environment that produces the best results. Commonly used in describing office planning is the open office, which describes a method of planning with minimal permanent barriers and rooms when compared to traditional office planning. However, the “Burolandschaft” looks to balance the needs of an office where the result may be an open-office. Too often the open office is selected without a proper understanding of what its best function is. The Quickborner Team, a consulting firm out of Germany, coined this term in 1959 when they saw disunity between products, services, and the office environment.

The bull pen is a plan where the executives and management is located on the exterior walls and all other staff is located in the “pen” that is created by the executive fence. The executives would have access to exterior views and natural light as well as privacy from enclosed walls. This environment shows a split between managerial staff and non-managerial staff because of the different needs of these two basic employee groups.

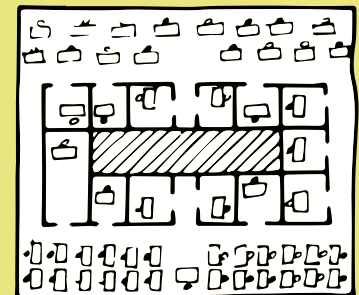
The single office was the standard in office planning where every employee has a walled in office with one to four employees. When little collaboration is done between different employee groups, the single office approach provides more availability for status symbols.



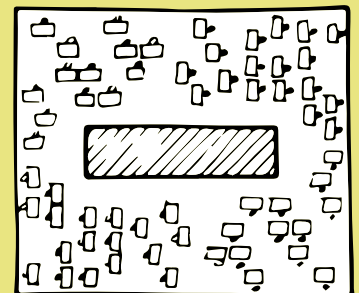
**BULL PEN**



**SINGLE OFFICE**



**EXECUTIVE CORE**

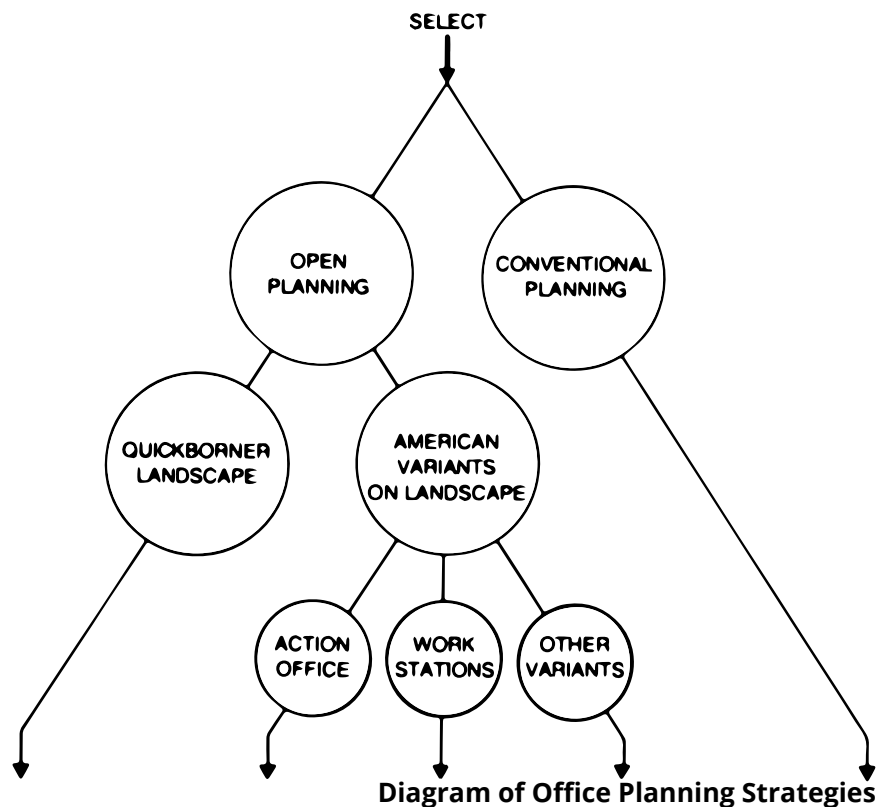


**OPEN PLAN**

**Office Plan Diagrams**

The executive core moves the executives to the central core of the building and the non-managerial staff to the perimeter. Allowing for natural light for all, the central core requires executives to give up their personal windows. This plan shifts status away from executives to reduce growing turnover in staff-level personnel turnover.

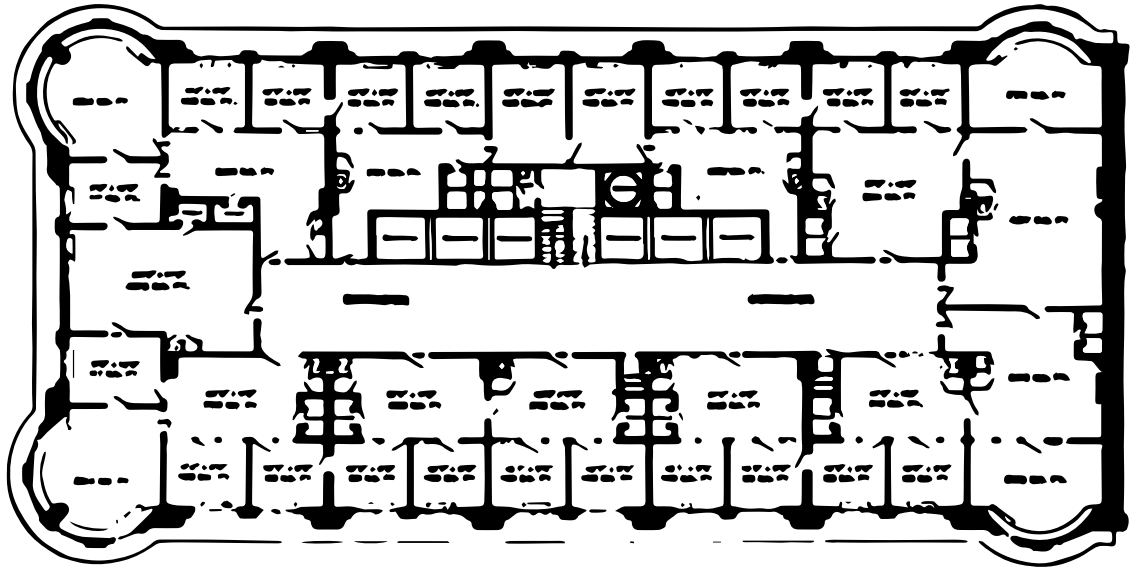
The open office plan reflects a horizontal management plan with little hierarchy. All employees have the same access to natural light, but all have little privacy and no room for status symbols. This plan works well for companies with dynamic and consistently changing office needs. The open office has also driven much change in furniture requiring more modular components.



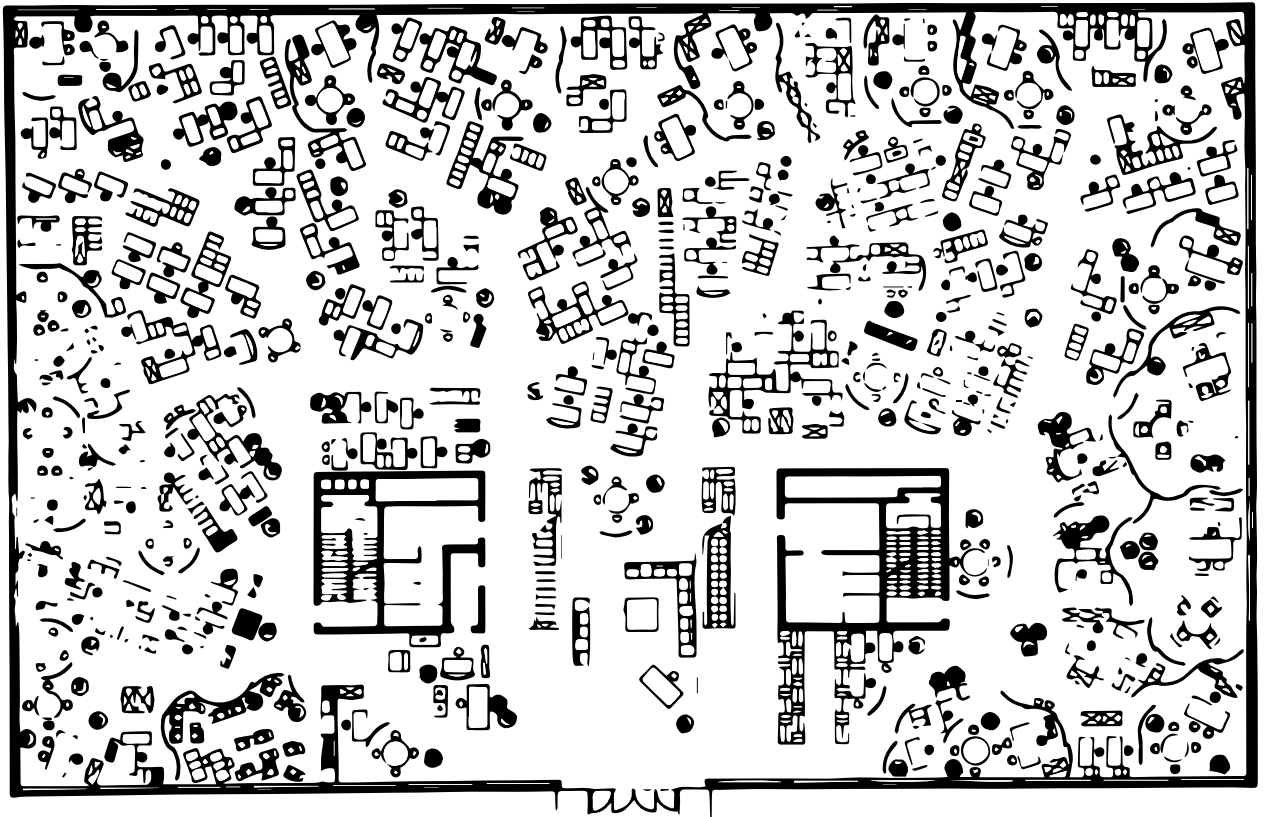
## Origins of the open office

The Quickborner Team for Planning and Organization, a management and consulting group, was hired to investigate the effectiveness of the current planning of offices. This team was led by brothers Eberhard and Wolfgang Schnelle. They learned that the conventional office layout was having harmful effects on work performance. They later teamed up with Kurd Alsleben to suggest a new planning principle.

The open office was so drastically different from the conventional plan that the public was shocked and laughed at the first published plans. They had done away with the logical grids and order that was clearly defined in the conventional plans. Private rooms and offices had disappeared. One of the key planning concepts, beyond a reduction of permanent walls, was an introduction of curvilinear order. Almost all office planning traditions were ignored. This was made possible to the Quickborner Team's consulting background, instead of a traditional design background. They were not obligated to uphold an understanding or commitment to previous planning principles in the same way a recognized designer would have been. Based on their findings that "offices exerted strongly negative influences on office work processes," (Pile, 1978) their radical approach is logical.



Conventional Plan

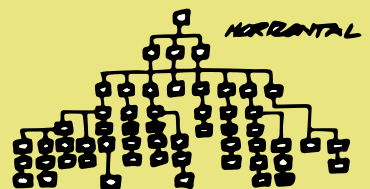
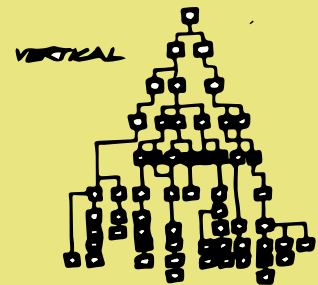
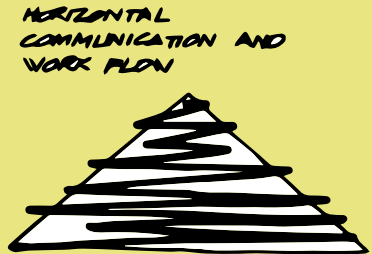


Quickborner Plan

The problems of the conventional office


The Quickborner Team recognized that the conventional office had many flaws. The conventional office was defined by the presence of partitions, which was identified as “the key to the physical inadequacies of the office.” (Pile, 1978) Since offices are contained in small fixed rooms along corridors, the departments and spatial adjacencies were not logically planned. The people who shared an office had excessive interactions with each other and lacked essential interactions of people in other closed offices. The excessive contact was identified as a potential source of “distraction and irritation.” (Pile, 1978) Another problem that made planning challenging is that status was much more prominent in conventional offices. A high ranking office may not be ideally located for a manager to interact with their direct staff, which reduced communication among their team. Compounding this issue was that status created far more bureaucratic and political conversations which diverted focus from essential work processes.

The conventional office was designed for a highly vertical and siloed organization. The organizational chart looked much more like a tree with highly isolated departments. This reduced horizontal communication between departments to department heads. This presented a communication pinch point where many conversations were missed because they were communicated through proxies instead of direct interaction. Departments working as separate units inhibited collaboration between departments. This made conversations slow and cumbersome.



Organizational Structures





Another issue with permanent partitions was that it was costly to remodel. When market influences require a company to adapt and restructure relationships of staff, it is a long and expensive process to reorganize the staff. This cumbersome process made it challenging to quickly adapt and organize relationships to their ideal setting. Thus, many companies did not restructure these relationships until the harmful effects of these relationships were so detrimental to the efficiency of the company that they had no other option. Companies who could not adapt to changing external influences suffered more than their dynamic counterparts.

Another critique of the conventional office is that it had excessive file storage. Up until the late 1950s, files were stored in credenzas, bulky storage desks and filing cabinets. This cluttered space was not often full of useful records. In most cases, storage was full of long past lunch appointments, dried up ink, and other outdated information. The storage equipment and extra structure necessary for these filing systems were costly and not worth the investment. A reduction in storage equipment encourages a conscious approach to record-keeping, requiring only essential paper to be stored. The advent of emails has facilitated a great reduction in paper storage, further enabling the eradication of excess storage.

The design approach of an open office

The Quickborner Team asked for an office designed with less geometrical order and higher connection to the order of work processes. They wished to remove boundaries and limitations with easily movable privacy barriers. Each need for privacy and space were realistically evaluated based on the needs of each job. The environmental requirements were shortlisted in three major categories. Openness, lighting, and acoustics were the primary factors in influencing the environment. Achieving the “largest possible number of unrestricted office floors” was the goal of openness. This meant that columns and service cores were to be eliminated or minimized. They asked for uniform lighting for adequate task performance. The acoustical conditions were to be ideal for focus. Much sound should be absorbed, leaving a comfortable level of background noise. This meant that solid furniture should be avoided and carpeting and an acoustical ceiling should be used.

## **Sociological Effects of Architecture**

Let's compare the social behavior of a dormitory to that of the office plan. As "Open office planning" pointed out, the office typology is similar to that of a hotel. This book studies the social differences of people who live in corridor planned dormitories and suite style dormitories. If you compare the conventional office plan and open office plan with the residence halls on the following pages, there is a similarity from the conventional office and the corridor layout. However, the social determinants of the corridor dormitory are based on the idea that each person has a semiprivate room with shared accesses to resources like the bathroom and a study space. The suite style dormitory contrasted in that rooms were semiprivate and resources were also semiprivate. In a pure open office plan, resources are shared and space is semiprivate to completely public. The conventional office on the other hand had complete privacy with private access to resources. These social factors lead to the belief that a corridor style dormitory's access to privacy and resources is analogous to the open office plan. The social factors for the suite style dormitory and the conventional office are related in the same fashion.

These typologies differ on the basis that the dormitory is the place that someone finds rest at the end of the day and the office is where a person is active during the day. Since the activities of a residence tend to be a more private exposition of oneself than the modern office environment, the conclusions about the similarities in motives may not be the same. For instance if the conclusion is made that a person is less social in public when they have a more social home, a person may be

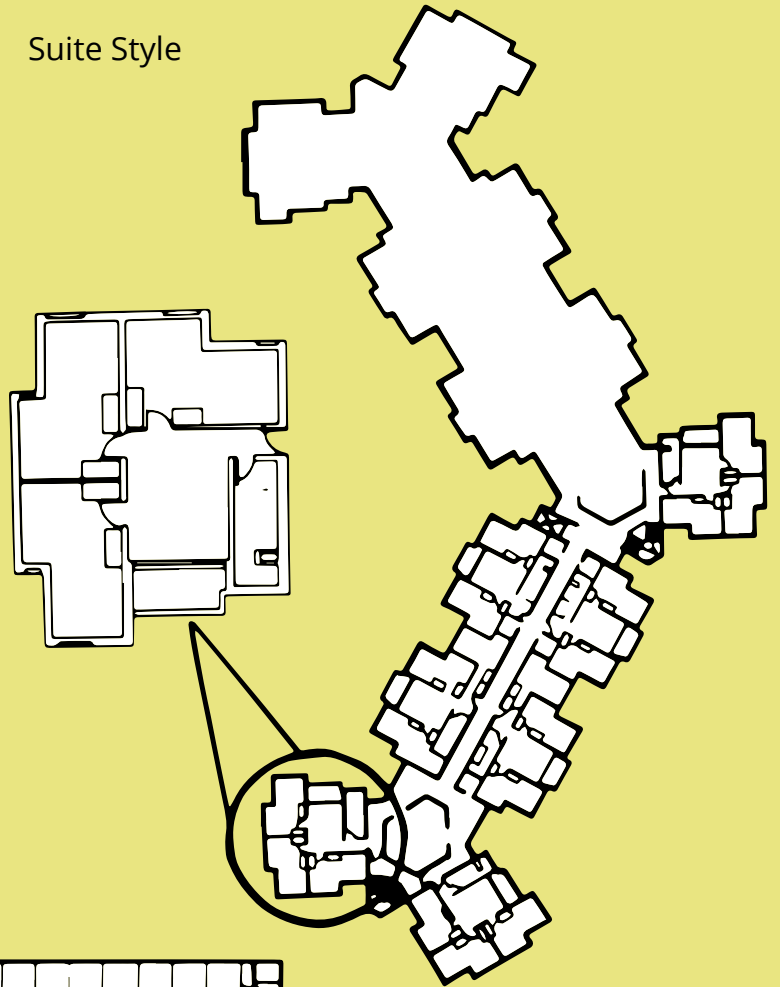
seeking a balance in the amount of social interactions in a day. In collocated work space, the work space is most commonly social. A person who desires to work in this environment is most likely looking forward to social interactions in the work place.

An alternative to collocated offices is typically to work from home. The teleworking or freelance employee works out of their home which is not commonly a social environment. After interviewing members of the Prairie Den in Fargo, I found that many of them preferred the social opportunities of the office.

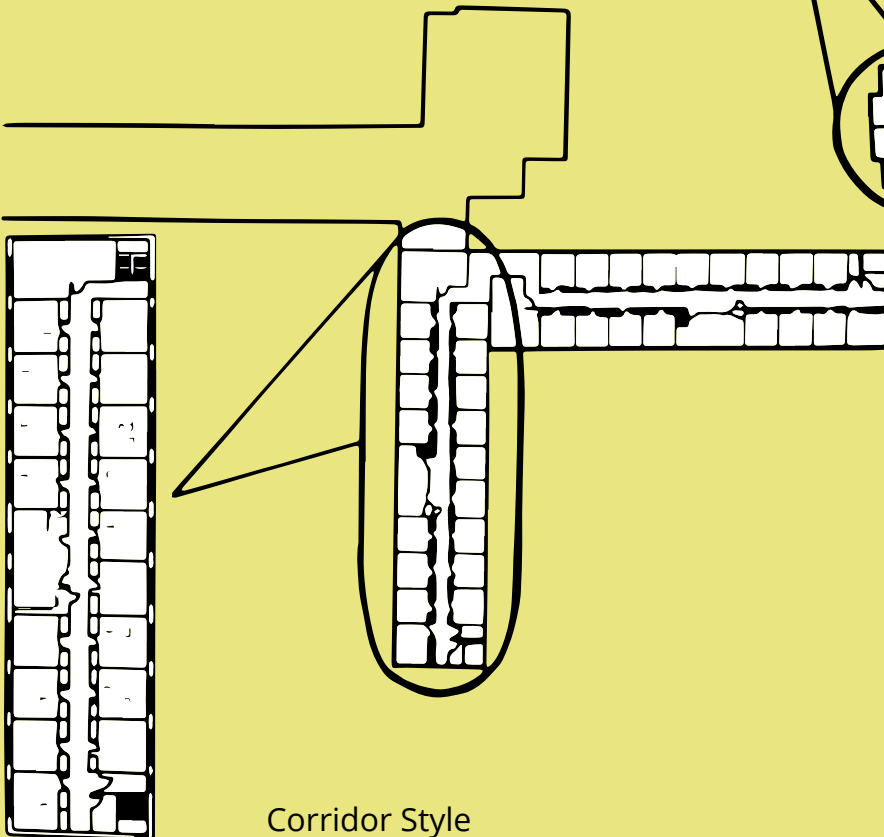
#### Results

The research showed corridor residents had a high level of uncontrollable social interactions and suite residents had some control over the nature and frequency of social interactions. Corridor residents were far more likely to report that the dormitories were crowded and were more likely to avoid other floor residents. In contrast to this, the suite residents felt that they had control over their interactions and were satisfied with their social encounters. Corridor residents were more commonly found in their bedrooms, isolated from others; suite residents were more commonly found in lounges and other social areas. The feeling of crowding was not based as much on density as it was on the amount of social control. By providing suitable semi-private to public options, the inhabitants were far more likely to be satisfied with the social environment.

Suite Style



Corridor Style



As you can see in the following charts, the style of residence had a statistically significant impact on the social attitudes of the residents. The feeling of crowding is shown in the first table to be more common in the corridor style dormitory. The second table shows the group related attitudes of the residents. Though corridor style residents are most likely to solve problems as a group, they are far less likely to share similar attitudes, disclose personal information, and feel recognized as an individual.

TABLE 2 4  
The Perception of Crowding Across Five Samples and Three Academic Years<sup>a</sup>

Dormitory Design	Sample									
	Spring, 1972		Spring, 1972		Fall 1972		Spring, 1973		Spring, 1974	
	Not Crowded	Crowded	Not Crowded	Crowded	Not Crowded	Crowded	1 = Not crowded 5 = Very crowded	1 = Not crowded 7 = Very crowded		
Corridor	29	21	21	11	14	18	3 219		3 640	
Suite	5	45	8	24	1	31	1 375		1 450	
	$\chi^2(1) = 25.6, p < .001$		$\chi^2(1) = 10.6, p < .005$		$\chi^2(1) = 14.716, p < .001$	$t(62) = 9.073, p < .001$		$t(175) = 63.008, p < .001$		

<sup>a</sup>Questions asked were: Is your dormitory crowded? Do you feel that your dormitory is crowded? How crowded is your dormitory?

Sociological Effects Table 1

TABLE 4 2  
Indications of Group Development

	Corridor	Suite	F	p
When you resolve problems do you do it as a group (1) or individually (7)?	5 131	2 367	55 68	.001
To what degree do you share the same attitudes with your neighbors? (1-7) <sup>a</sup>	2 905	4 167	14 21	.001
To what extent do you know how your neighbors regard you as a person? (1-7) <sup>b</sup>	3 135	5 500	38 18	.001
Number of items residents are willing to disclose to their neighbors (total = 10)	4 788	8 810	45 54	.001

<sup>a</sup> 7 = high degree of attitude similarity

<sup>b</sup> 7 = certain of how neighbors regard them

Sociological Effects Table 2



What this means for Coworking

In coworking spaces that primarily have public and shared spaces, the amount of uncontrollable social interactions increases. As a goal of coworking, people are looking to meet others. However, when limited on the amount of control of the frequency and type of interactions, people tend to feel higher social anxiety and stress. The conventional private office has too few social encounters for social anxiety to occur. The completely open office has the high frequency of social encounters desired by the networking coworker, with a lack of control on the type and frequency of these encounters. The optimal space to encourage social encounters has options for semi-private workspaces and public workspaces. This way, a member of the coworking space can adapt to their intentions of membership and also more easily gauge the intentions of other members.

## **Strategies in Network Assessment**

### Communication Types

A person needs to have control over the type of social interactions they engage in. Social interactions have a variety of degrees of friendliness, cooperative or competitive positioning, and formality. The anthropologist, Dr. Edward Hall, explains that many subtleties are communicated by the various positions and environments that we inhabit. (Propst, 1968)

For example, space is used by the freelancer for a controllable environment for client meetings. Instead of meeting in an uncontrolled third party location, the coworking space can provide a specific interaction environment with more controllable outcomes. The ability to control the positioning of the interaction between a competitive or cooperative position could change the productivity and effectiveness of the work they wish to achieve. Displaying a degree of professionalism is also important and something that is largely influenced by the environment. Coworking provides an opportunity for a variety of interactions without a long term commitment to an office.





### The failures of the cube

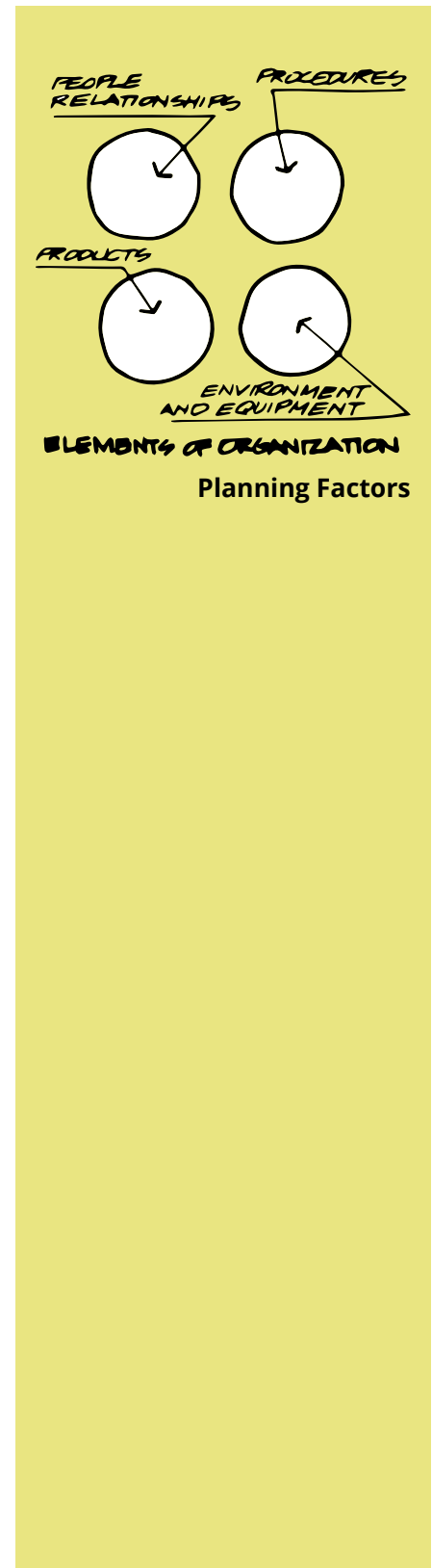
The cubical creates a problem of situational awareness. In the cubical, the containment and isolation from the surrounding environment reduces the awareness to potential security hazards and threats. The sense of isolation gives a false sense of security and inhabitants are far more likely to be surprised by their surroundings. This isolation also reduces conversation levels to extreme levels of quiet. The best speech privacy is provided by a comfortable level of background noise. Extreme levels of quiet lead to people increase of their own social presence. This can lead to self-consciousness speakers. Extreme levels of loudness are also controlled well when people are more aware of their surroundings and not isolated in cubicles. Sound levels between 45 and 55 decibels provide optimum conversational zones for privacy.

### The office as a social climate

In his book “The Office: A Facility Based on Change”, Robert Propst cites that social psychology studies indicate that a lack of knowledge of what others are doing can lead to “fear, antagonisms, and negative behavior.” (Propst, 1968) People feel like they are forgotten and left-out when they do not have a social awareness of what is going on around them. In contrast to this, a socially-aware employee is more hopeful and positive and likely to see goals and objectives. By creating an office environment that promotes social connection, employees have a chance to feel more included and involved in the work that they help to create.

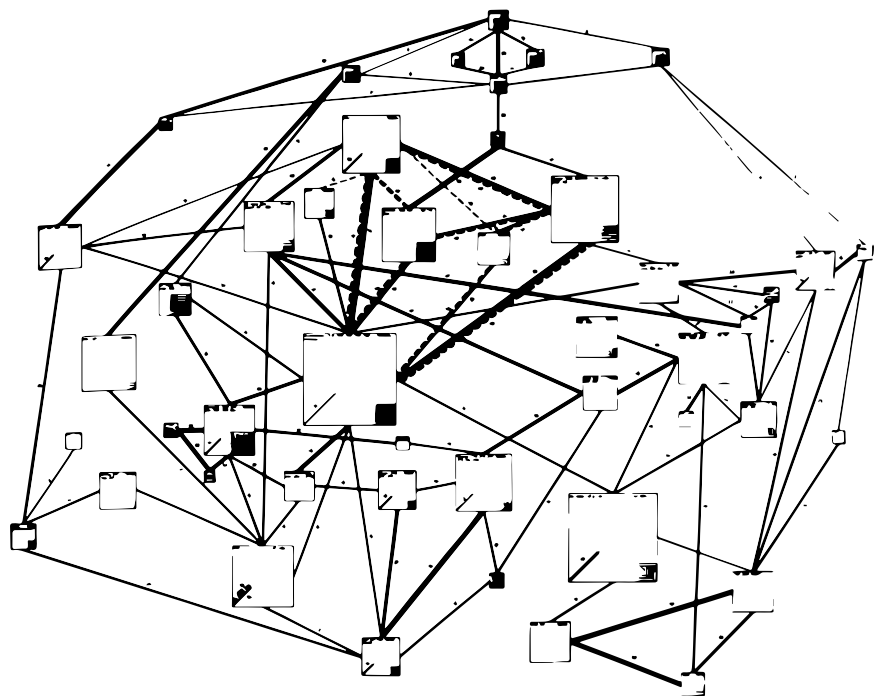
## Planning Factors

The most important planning factors according to the authors of “Planning the Office Landscape” can be reduced to four major groups. People Relationships, Products, Procedures, and Environment & Equipment are the best takeoff points when organizing planning issues. Environment and Equipment are well addressed by architects since it is part of common practice. This organizational need is important because it serves all of the other office needs. Procedures are the framework on which a company operates. By facilitating smooth operations, a company may devote more resources on more important products and projects. The Product is the reason that a company exists. This can vary from the product of an industrial process or a product that is at the service of people like an accounting company or law office. People relationships define the proper interactions and communication between the employees. People relationships can be the hardest to manage because of their soft nature and humanity of the employees. An architect has the ability to influence all people relationships through juxtapositions and proper areas for good communication but an architect must rely on the company’s management and culture to define how people are to relate. From this definition of culture, processes, and technology, an architect may design to enhance these four major planning factors.



## Diagramming User Groups

To better understand people relationships, a diagram may be used to plan needs of user groups, equipment needs and communication lines. User groups may have a representative to help the architect plan and understand their needs. Ultimately, these representatives serve to inform but not to make decisions. User groups should be defined by what makes them most productive. People should be grouped by proximity to equipment as well as who they need to talk to and influence. The user group diagram can become a complex network of people who have strong, medium, and weak connection. In a standard office plan, these interactions are best observed through a period of research as well as understanding business operations. A business analyst brings the expertise for understanding business operations.



**Relationship Diagram**

In coworking offices, user groups and representatives may not be available. However, understanding the major types of coworking members as well as a general market focus, will help to inform the design decisions. This will not be possible to diagram with an unknown and changing landscape, so it is important to provide space that is flexible and cognizant of the need for people to have different locations and relationships with people and equipment.

#### Organization Chart and Company Hierarchy

In typical office environments an organization chart shows the relationships of all employees under one solidly connected chart. However, in coworking offices, not all members report to each other or relate to each other in standard office terms. The members that are primarily in free-lance coworking may choose to sit near people to develop friendships or enhance their business network. Designating areas that are most apt for certain market sectors may help introduce the right people to each other in order for them to get the most out of social coworking.

Another fundamental difference is that coworking members do not tend to exist in the design process but come after the building is designed and are attracted to work in the coworking space. This poses an issues for information gathering. The owner of the coworking office ought to develop a profile of their desired client market in order to achieve the best access and features for them.

COMMUNICATION RECEIVED

TALLY GROUP	TELEPHONE	PAPER	VISITS
1100	THU THU THU THU THU	THU THU THU THU THU	THU THU

TALLY GROUP PERSONNEL

1101 S WILLIAMS, 1102 G BLAU,  
1103 J ROBINSON, 1104 A ALPERN,  
1105 W DELEON, 1106 F PORTER,  
1107 G LINDOLAN, 1108 O KLOONTER,  
1109 L STRAYER, ETC

COMMUNICATION TALLY-SHEET DETAIL

Communication Analysis

Analyzing communication types

In 1977 primary communication types included the telephone, paper, and in person visits. Since then there are more ways that people communicate. Video conferencing, email, audio conference calls, and instant message are all new forms of communication. In person visits can also be understood by looking at the people interacting. Internal communication may not require a formal setting and require mere proximity. External communication, such as client meetings might require a certain setting that is more formal and conducive to portraying the company culture and mission through a brief interaction.

A communication tally-sheet captures the frequency and type of communication used by particular user groups. Again this may not be analyzed in coworking offices because of the difference in membership. When new members join, they will have a communication profile that would reflect the information in a communication tally sheet. The best way to design for the unknown coworking members needs is to design for a few different profiles and assess the effectiveness of different spaces for each profile. By gathering this information, members can make more informed choices on where they will work in the office and how that will affect their productivity.

Email and instant message require an internet connection without much more. Paper communication requires access to print services and mailing services. In today's businesses, little paper communication is done, however many of these businesses still rely on some mailing service for packages and receiving paper documentation. Proper sorting and security of incoming mail and packages is needed in a coworking space. Since coworking members tend to be part of different companies, information security and file storage is important for the members who need that feature.

Telephone communication can be conducted by cell phone for most co-locating members, however, privacy and noise can be a concern. Though a person may want to meet new people, they would not want them to know confidential information of their individual clients and what exactly is happening in their company. Phone calls are also best conducted when there is less background noise and it is easier to focus on the call. Phone rooms with space for note taking, privacy, proper acoustics, and quick access help facilitate better phone communication. Audio and video conference calling require a dedicated phone line and web camera that has great quality. Conference calls can be quickly derailed and unproductive when people have background noise or a bad connection. Providing fixed lines and rooms for these operations gives a feature to coworking members that might not otherwise have this option at home. Phone conversations now take place on virtual phones so having a specific phone number may not be needed with services like Citrix Gotomeeting.

## Summary of Research

Just as the open office changed the landscape of conventional relationships and planning to the office setting, so now does the increase in freelance and teleworking labor require research and investigation. The change from conventional office to open office showed a change from vertical organization charts with siloed departments to horizontal organization with interdepartmental communication. Businesses are now capable of supporting mobile employees, which further suggests a change in architectural relationships. For many years companies were organized in a way that isolated employees from each other because of necessary privacy. However, much as the horizontal organization chart supports communication between departments, the contemporary company benefits from community relations and intercompany relationships. The new relationship of colocated companies that introduces these opportunities to study relationships and layout much like the Quickborner Team.

Returning to the comparison of dormitory styles and office architecture, the study of dormitory styles shows that architectural relationships not only influence the attitudes of students, but may also change their performance in the academic institution. If this is the case in two styles of college dormitories, it will also be the case for other architectural typologies. The Quickborner Team recognized the sociological effects of architectural elements and planning. They saw how the needs of employees were not being met by the standard office model and demonstrated that focus should be on what makes the employee successful and not about traditions

in design approaches.

What made the Quickborner team more apt to diagnose the issues of design was their lack of connection to design tradition. The fundamental change in the office functions and relationships required a design that was not based on previously known planning techniques. In contrast to this, coworking may be a new office model, but the design precedence teaches how architecture can best influence the office environment. The change that has not been looked at is the fundamental lack of unity between employees of different companies and enterprises. This is a relationship not seen by the Quickborner Team because businesses had not yet begun to operate in this manner.

A corporate environment is present to bring an entire team to top performance. When consultants and freelance workers do not have the corporate encouragement that supports them when they have issues and barriers, they turn to colleagues of different companies in similar situations that can help them out. Recognizing this need that is not addressed architecturally anywhere but in coworking, I see that these relationships are important and could use design techniques to help businesses and individuals thrive and grow.



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Over the years as there has been change in the structure and organization of the office administration and leadership, the office landscape has reflected this. In order to attain the highest results as a company, management needs to provide employees with essential resources that reflect their tasks. Just as the resources changed with the advent of technological changes from the typewriter to the computer, the human relationships have changed. When most work could be done by a single person that is processing data without much creative interaction, isolated offices were ideal. As this changed and more human interaction was involved, the open office was introduced to solve an logistics need that was missing in previous office designs. I suggest that the current business environment is at the next milestone in office design.

Now that people can operate a business with a laptop and an internet connection, the need for a permanent office location has declined. The bureau of labor statistics shows an increase of contract labor. There are currently 15.5 million people in the U.S. who were self-employed which has increased by 1 million since 2014. A study by Intuit estimated that over 40% of the American workforce will be independent workers. Many companies are offering employees opportunities to telework that had previously been required to work in the traditional office setting. The requirement for companies to offer healthcare and other benefits to full-time employees has also led to an increase in contract labor. Newspapers articles are written less by paid full time staff and more by contributing writers.



The changing times in organizational structure suggest a change in the architecture. Coworking offices provide a different experience than a typical office building which segregates employees from different companies and pools them together in a shared space. For many that are already working as contract labor, their opportunities for an environment conducive for their business are working out of a home office, working in office parks and furnishing an entire office, or working out of coffee shops. The home office can have too many distractions for proper work and also lead to isolation of the person from the community. The home office must also be completely furnished by the person which restricts the availability of full service office printers and conferencing space. The office park is often too expensive for contract labor and also leads to an isolated work environment. The coffee shop has the community environment without the office utilities of printers and conference space. The coworking space is a mix between a coffee shop and a traditional office.

Since the introduction of coworking, some new organizational patterns have come forth because of the unique relationship between members. The coffee shop is not designed for strangers to interact and people that visit do not often go with the intention of meeting new people. The traditional office protects privacy to a fault. This was because traditional offices didn't want to welcome different companies into their space and people do not visit these office settings with the intention of meeting new people. Where traditional office relationships are more easily studied by their correlation to the processes and work flows, the

coworking members are not easily studied. Since there is no long term commitment of members, the employee landscape is constantly changing. This leads to an issue in planning. The traditional office can be diagrammed, but the coworking office is too dynamic. However, by understanding the types of members and what potential needs they may have creates an environment of opportunity that is flexible to a variety of uses. The open office plan was the first notion of a flexible office. Using some of the principles present in this planning method, the coworking office can also be flexible to meet an ever changing landscape.


Some coworking companies like Grind and WeWork have created a business that profits from their expertise in shared office amenities and others are smaller operations like the Prairie Den that are of significantly smaller capital and built for the intention of community growth more than corporate profit gains. I'd like to focus on how the community focused office can create a low overhead environment that is economically viable but also achieve the social goals of the office. This particular sector of coworking has little research. Through a study of design techniques, this sector can be further explored.

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## **Economic Growth in Fargo**

According to Forbes Magazine, Fargo, ND leads their annual look at the best small places for businesses and careers. The business industry in Fargo has been growing over the past few years and leads in many business indicators. Fargo has had steady job growth over the past 5 years at 1.8% annually. This is the 4th ranked business growth out of 184 small metros. The labor is well educated when looking at the high school and college achievement. Unemployment is currently at 2.5%. With the increase in job growth and decrease in unemployment, there is a huge opportunity for an influx of population to fill this need. Fargo has a great source of educated labor from the three universities in the area as well as many technical colleges. Over 35% of the population has attained a college degree. The labor shortage differs greatly from cities like Detroit with excess labor and growing unemployment. This difference is a key indicator that the city of Fargo is going to continue to grow and increase the demand and value of land. Along with this, the \$14 billion economy was the fastest growing compared to the 184 metros at 7.3%. Moody's Analytics, a financial services company, suggests that the city is expected to grow by 5.5% per year.

Fargo has been growing on its own, independent of the growth in the Bakken from a recent fracking boom. It is important to identify that the growth is separate from the oil boom to illustrate that the growth will continue after oil extraction decreases. Fargo has most of its jobs in healthcare, technology, as well as education. The major employers are Sanford Health with nearly 7,000 employees, Microsoft with 877 local employees and



another 700 who work for vendors of Microsoft. Most of the population is young with 55% of the population younger than 35. This supports the large portion of hi-tech employment which is 4.3% of Fargo jobs. The cost of living is 1% below the national average, which is uncommon in cities that support this kind of economic growth.

From this information, the economic context of Fargo is that of a city growing in demand for labor and also growing in production. Businesses that operate in Fargo are well incentivized by the city tax laws. For self-employed professionals and small companies, the city provides a great opportunity to expand business and meet skilled professionals. When other cities are failing to grow, Fargo has lead the way at supporting businesses to grow. Six out of ten students at local universities come from out of state. After graduation six out of ten stay in North Dakota. The future of the city is bright and demand for skilled labor is on the rise. If Fargo continues to grow at its current rate, the city will need to continue to develop its land.

## **A Need for Teleworking and Contract Labor**

Imagine managing multiple projects for different Fortune 500 companies and advising executives as an independent contractor that works on a temporary basis. The Harvard Business Review defines this occupation as a supertemp. HBR notes how supertemps are trusted to carry out critical tasks for companies that would have previously been done by trusted in house employees. This is because supertemps possess talents that are unique to their fields and have the capacity to high intensity work without the need to be permanently staffed. Supertemps have increased flexibility and autonomy that allows them to work on their schedule and work remotely. These added benefits of this occupation include compensation comparable or better than a full-time job commitment. The supertemp is not limited to menial outsourced tasks. One supertemp is acting as interim CEO for an international trading company. Another added benefit is that they can work as a CEO for a few months then take a few months off to vacation or spend time with family.

Historically the job of the temp was a laughable position that was possessed by an inexperienced employee who struggled to keep enough work in their backlog. They worked independently but did not receive added benefits or compensation. However, the business climate today now supports experienced temps (supertemps) that offer the skills of the specialist. This challenges the stereotype of the temp and is helping to increase autonomous job opportunities for capable individuals. What people thought about elite jobs is also changing. People had once wanted the position of the CEO and to work an executive level. The time



commitment and extra tasking requirements of these positions has made them less desirable for talented individuals who are seeking promotion. HBR says that it is surprising that a person who has the option to work as a supertemp would choose a traditional job.

Temporary solutions are attractive to companies because management teams have become leaner. Management has become familiar with outsourcing work to contract labor and the increased specialization of the supertemp does not require full time employment for the company. Contract labor is a fast talent model that introduces little risk to a company but gives them an advantage over their competition. Companies can compensate the contract labor adequately without having to employ them when there is a reduced need for their specialty. This allows companies to gather quick expertise when they need it which improves their business.


McKinsey research found in 2011 that 58% of companies will have some increased need for temporary arrangements. This is nearly triple the companies that plan to offshore more jobs. MBO Partners found that sixteen million Americans are working independently today. In the following two years they anticipated that this number would rise to 20 million. This trend is happening in the United Kingdom as well. Over \$1.8 billion of revenue in the United Kingdom accounted for interim managers. These facts suggest that the need for non-conventional workspaces will increase for contract labor that is highly skilled and brings great expertise to the office environment.

## **Change in Human Connection**

Critique of the modern culture of connectedness began in the age of social networking. When social media sites like Facebook claimed that we are now connected more than ever prompted people to question the validity of that statement. Facebook allows people to share information with their friends indirectly through posts and interaction is optional for all people. We have lists that contain who we interact with and the networking engines have calculated who are best friends are based on frequency of interactions. The sterility and mechanical nature of friendships challenges traditional concepts of connection.

Research has started to show that face-to-face interactions are decreasing. A survey found that nearly four in ten people feel that they have less daily interaction with people than they did compared to the last five years. This same study found that only one in seven people felt that they have increased their daily interaction. The most frightening statistic is that one in six people only experience social interaction once a week or less. These experiences are not limited to the elderly. In fact studies show that young people feel loneliness even more acutely than older generations. About sixty-eight percent of adults experience persistent loneliness compared to eighty-three percent of people under the age of thirty-five.

Dr. Rebecca Harris is a psychologist at the University of Bolton. In her study of the results of these studies she explained the complexity of loneliness. She says that loneliness is far more than a boolean state that



is either lonely or not lonely. She says that the loneliness occurs in a spectrum and has a far greater impact on our well-being than previously imagined. She explains that our brain perceives loneliness like a physical injury and the necessity for a person for overcoming loneliness is equally important to physical injuries.

Another study done by sociologist, Dr. John Fry, found the importance of sharing feelings of intense isolation. In his study among golf players, he says that players felt isolation because of their separation from their family during golf tours. Players were not likely to share the feelings that they had with their competitors and the loneliness increased among them by harboring their feelings.

These findings suggest the probability that office workers experience isolation is high, especially in those that are traveling and working remotely. By studying ways to increase their connection to the people that they work with, their feelings of isolation can be treated. A place that serves people community is much like a hospital for loneliness. It heals wounds and prevents them from coming back. Such a need is evident in modern culture.

In order to better understand the opportunities for a design at the proposed site, I will be examining the qualitative and quantitative aspects gathered from in person visits and local resources for climate, demographic, and other data. The site is at the corner of Main Avenue and Broadway Street in Fargo, ND. The collection of information describes the attributes inherited from its location and are necessary to know for an informed design.

## Views

From the corner of Broadway St and Main Ave is a view down the Broadway corridor. This street is decorated seasonally and into the winter where holiday lights are strung on the flag poles. To the south-east, Island Park is visible. At higher floors, this view is more prominent. To the east is the Wells Fargo Bank. Looking to the north is where the Burlington Northern Santa Fe railway travels with coal, oil, and other transport. A clear view of the tracks is obstructed by the Fargo Parks Department's historic train depot. Most buildings visible in the area are historic buildings. The most enjoyable view that I experienced was the foot traffic. During the weekdays the sidewalk is occupied by people getting coffee to study, shopping at the trendy clothing retailers or passing by for business. Weekends and evenings are when people visit Rhombus Guys pizza. Street traffic is constant along Main Ave. At the corner is where the cars stop for the changing stop light that controls the traffic. The views to frame include the Broadway corridor, foot traffic, island park, the train depot, and the BNSF railway. The view to avoid is the starting and stopping vehicular traffic and the Wells Fargo Bank.



**Historic Block**



**Wells Fargo Bank**



View of Broadway



View of the Train Depot



View of Island Park

## Density

The proposed site is densely built in the urban environment. The buildings share party walls and occupy the entire block. Building height of the block is limited to about two stories with exception of DeLendrecie's mixed use apartments to the west. The surrounding blocks have more greenspace. The Wells Fargo Bank, though a tall office high rise, has a suburban lawn in front of the property. Parking is limited around the site. Existing spots are ninety minute street spots. To the south of Wells Fargo Bank is the Island Park Parking Garage which charges \$1 per hour or \$52 per month. This area of Fargo is among the most densely built in the city. The downtown is easily walkable because businesses are so closely built.

## Soils

Fargo-Moorhead has simple subsurface soils. The deepest formations are granitic and gneissic which are found between 200 and 300 feet below the surface. These are rarely discovered because of the glacial drift sediments that are at a surface 100 feet below grade. This layer is strong enough to support high-rise and engineered structures with caissons and end-bearing piles. Above the glacial sediment is a layer of fat clay with little bearing capacity. The high plasticity of the fatty clay limits the option to create slopes and thus leads to the flat landscape of Fargo, ND.

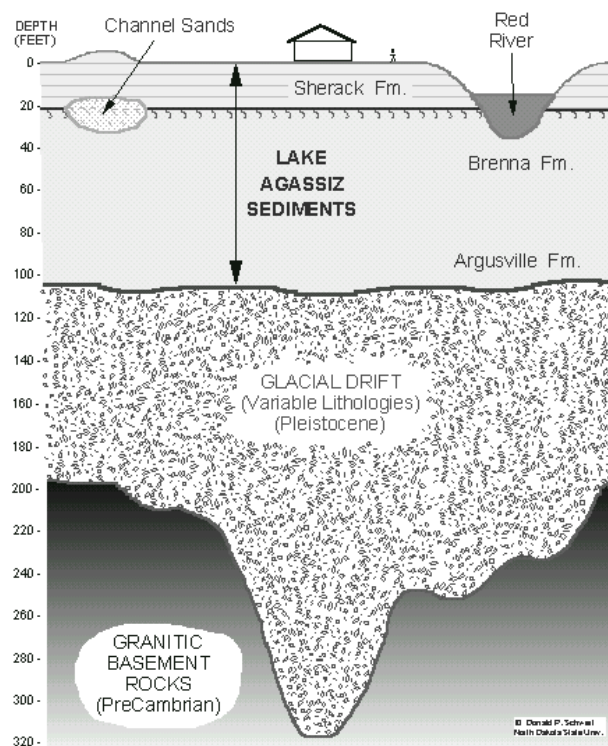
The series in Fargo are made up of very deep and very poorly drained soils. Water is slow to permeate which leads to flash floods in rain events. The plains are gently sloping from 0 to 2 percent because of the high

plasticity of the soil. The frost depth is about 5 to 6 feet. Frost is present 205 to 255 days out of the year. The average elevation of Fargo is 908 feet. The soils support corn, small grains, soybeans, and sugar beets.

### Water Table

As seen in topographic images, Main Avenue is on the edge of the flood plain. The existing site is at the top of a small hill. Underground soils are abundantly present with water. During high snowmelt years, excess rainwater dampens the soil leaving a soupy mix with fatty clay. In event of a flood in Fargo, this building's foundation and lower levels would be enveloped in a deluge of water. The seasonal high water table is 3.0 feet below the surface. Between March and July the high water table is 1.0 foot above the surface to 2.0 feet below the surface.

GENERALIZED CROSS-SECTION OF FARGO-MOORHEAD



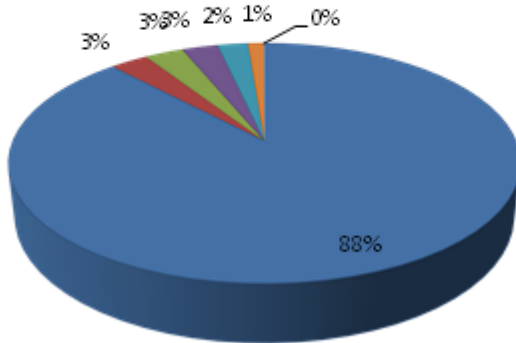
Geology of Fargo, ND

### Demographics

Fargo is populated with 113,658 inhabitants as of 2013 and has increased +25.5% since 2000. Fargo has been under significant growth over the past few years and the city population is anticipated to be higher than in 2013. The male to female distribution is 51% male to 49% female. This is an even distribution when compared to worldwide gender distribution. Fargo has a younger median resident age (29.7) than the state median resident age (35.5). The median household income is \$44,845 which is \$10,914 less than the state average.

Fargo is sparsely diverse with an 88% Caucasian population. Primary ancestry is German (30.6%), Norwegian (23.9%), Irish (6.8%), Swedish (4.4%), English (3.5%), and French (3.0%). Since these primary ancestries are commonly Caucasian, this explains the lack of racial diversity in Fargo.

- White alone
- Black alone
- Hispanic
- Asian Alone
- Two or more races
- American Indian
- Other race

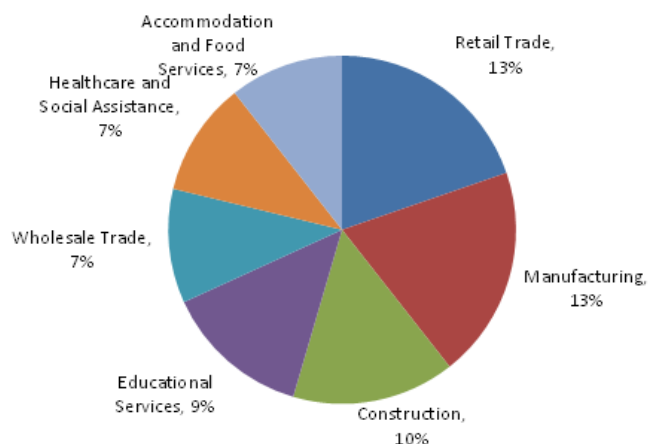


Fargo Race Chart

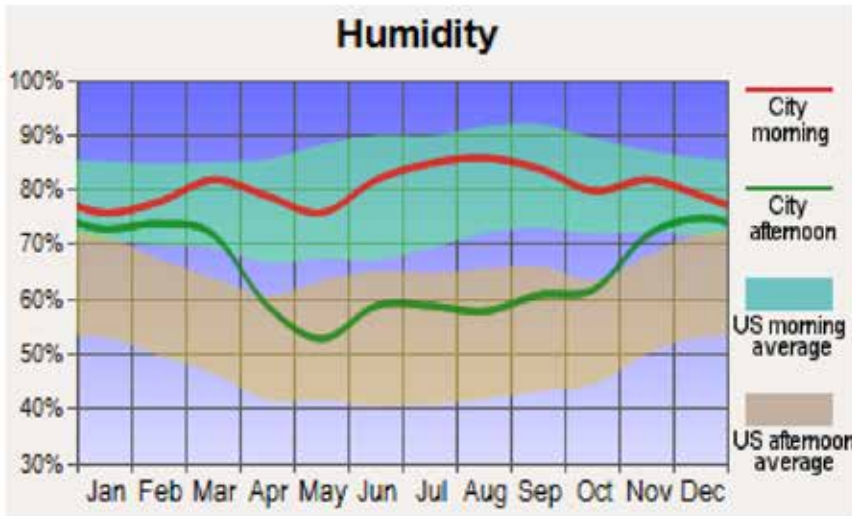
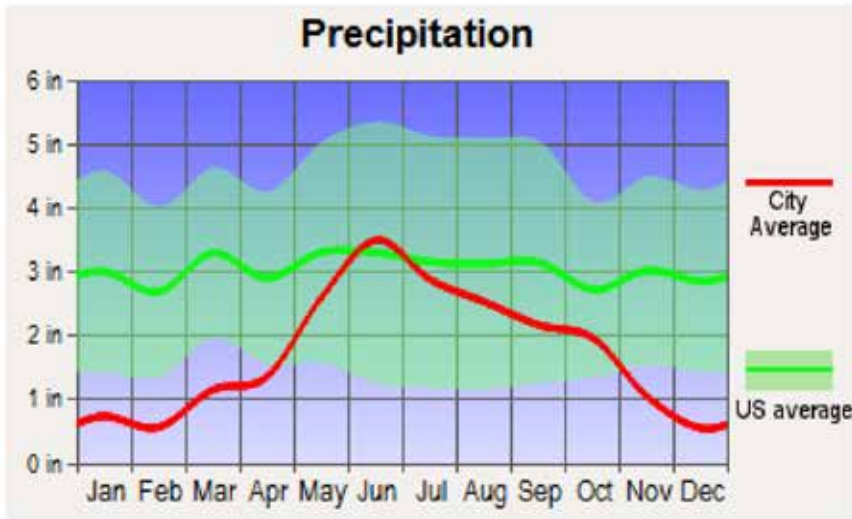
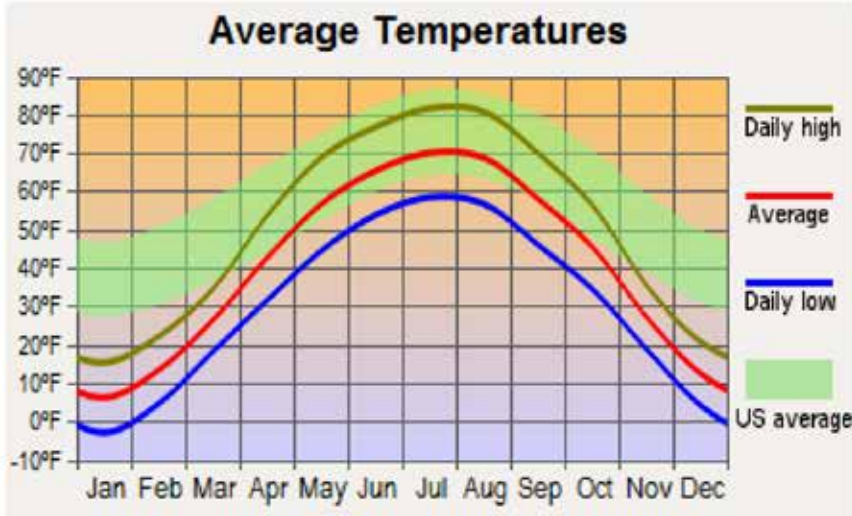


Fargo is a well-educated city with over 93.1% of its population that is 25 and over having attained a high school degree. 37.9% have gone on to earn a post-secondary degree of Bachelors or higher. There is also a reduction in unemployment with 4.3% unemployed in 2013 to 2.5% in 2015 according to the Bureau of Labor Statistics. This is less than the national average at 5%. A large portion of the population in Fargo is due to the presence of North Dakota State University. Over 45% of the population is never married and 39.4% that are now married.

The most common industries in Fargo are seen in the graphic below. The presence of Sanford, Essential, and other healthcare providers employs a substantial portion of the population. Fargo is a city that many residents of small North Dakota towns travel in for shopping, healthcare and education. Fargo is also located at the intersection of interstate 29 and interstate 94. These two major highways connect from Western North Dakota through Minneapolis and Winnipeg to Dallas. This makes it a proper location for large scale manufacturing because of its proximity to shipping access.



**Fargo: Primary Industries**



## Climate Data

Fargo's temperature fluctuates from upper 90s to negative 20's and 30's. The temperature swing is about 130 degrees Fahrenheit. The freeze thaw extremes require building materials that can keep spaces cool in the summer and warm in the winter. Thermal expansion is also an issue.

Fargo has less precipitation than the US average. The non permeable soils are not able to absorb precipitation as it falls, so this lower than average precipitation helps avoid more flooding issues. The highest rain months positively correlate with the high water table months.

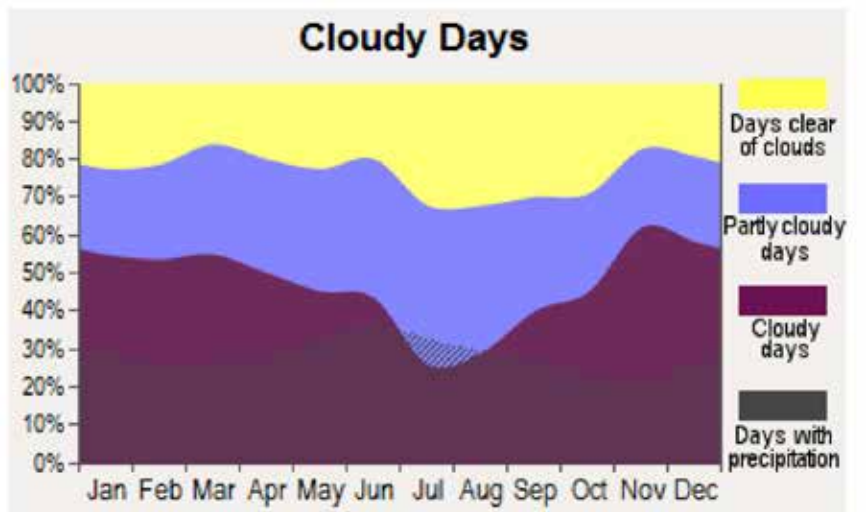
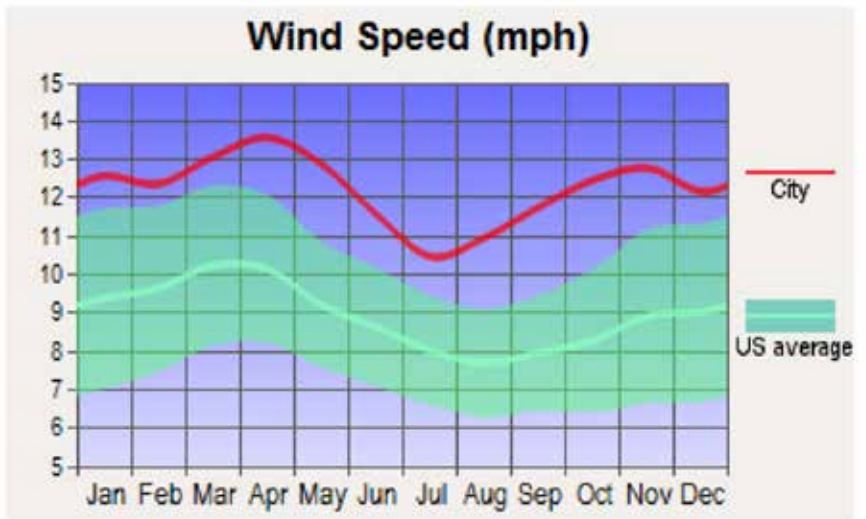
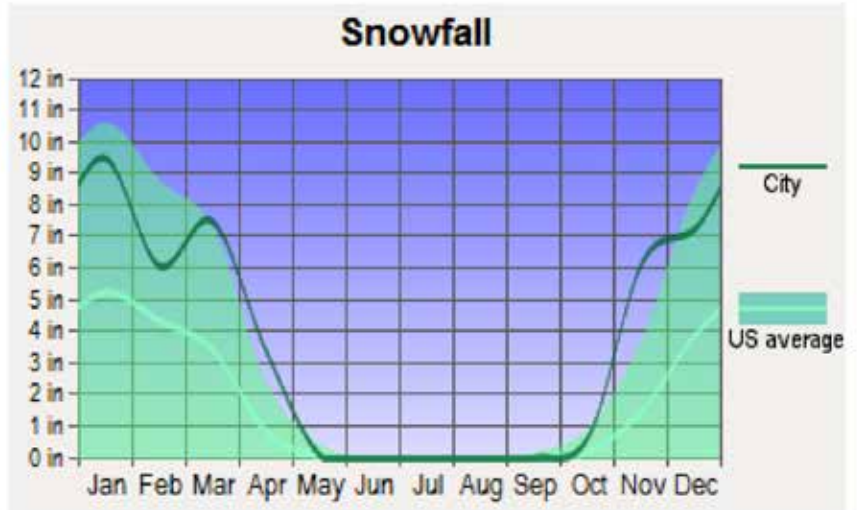
Fargo has average humidity compared to the rest of the United States.

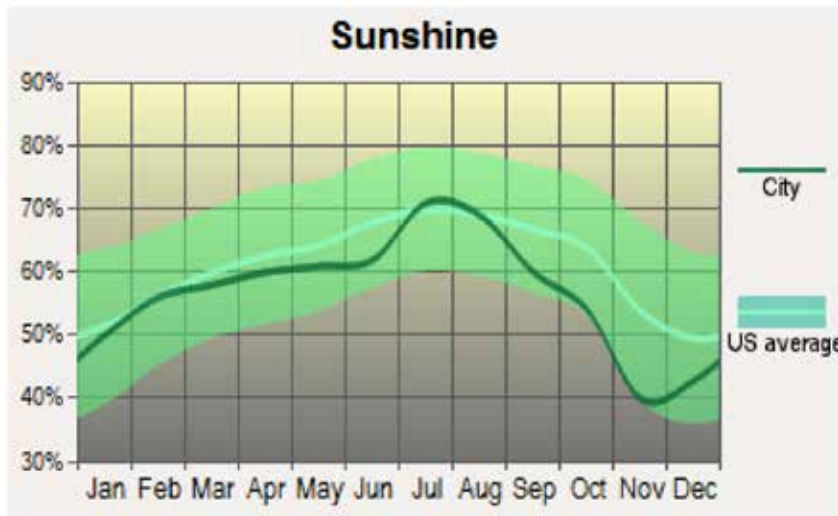
## Climate Data

Snowfall is average compared the rest of the United States. However, the cold weather keeps snow on the ground longer than places with warmer climates.

The flat plains of Fargo, ND allow wind to pass unobstructed. The cold winters are amplified by high winds. As you can see, the wind speed is much higher than the U.S. average.

Fargo has many more cloudy days than sunny days. The months of November and December are most cloudy. Summer time is when the sun is most likely to be visible without cloud obstruction.





Fargo Climate Data 3



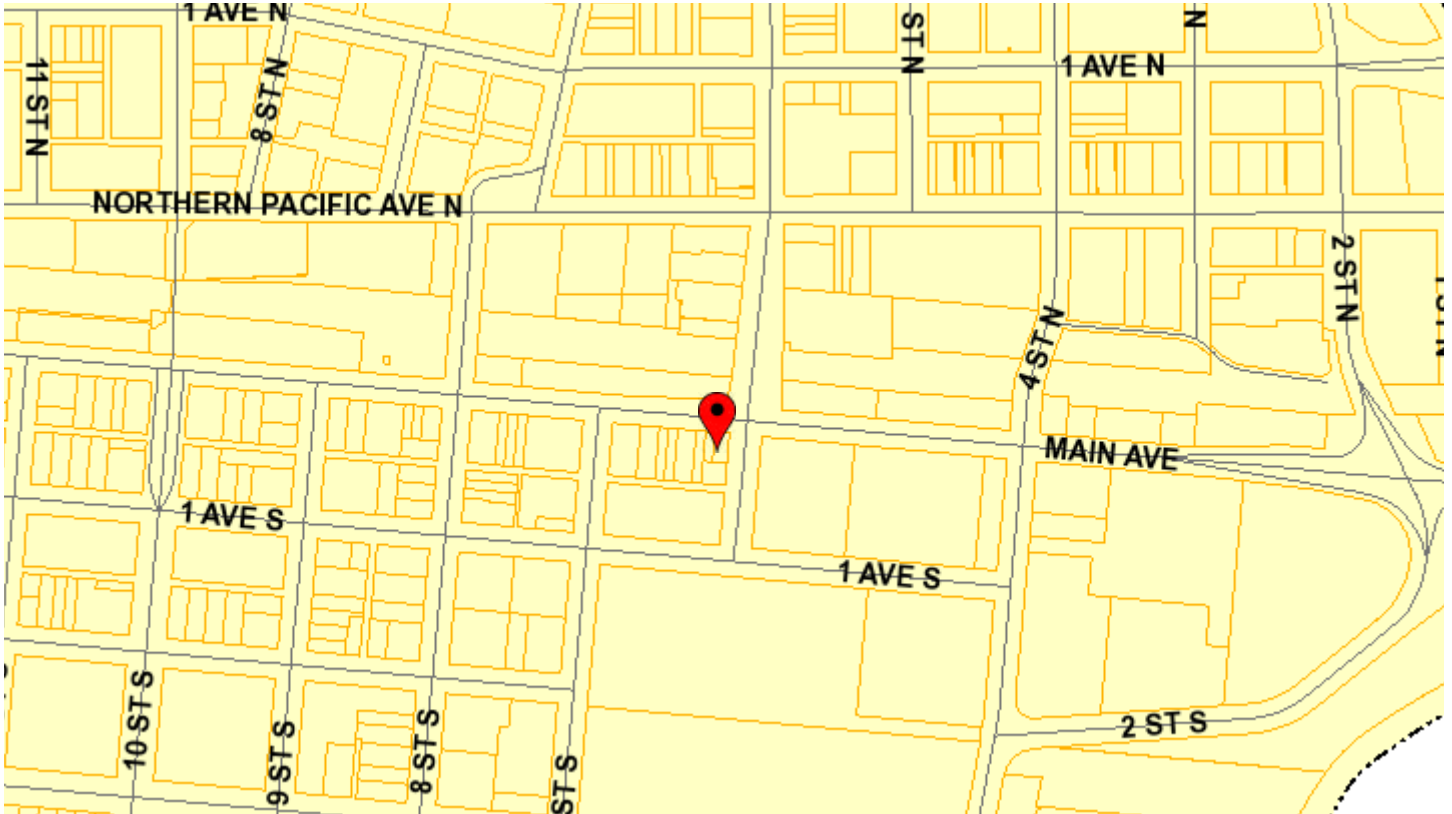
Sun Path Diagram

## Sun Data

Fargo has below average sunshine throughout most of the year. In the months from September to January, sunshine exposure is at its least. More exterior openings are necessary in order to capture more sunlight because of lower sun exposure. People are likely to appreciate sunlight more in a sunlight deficit, so placement of seating near sunlight would be well received.

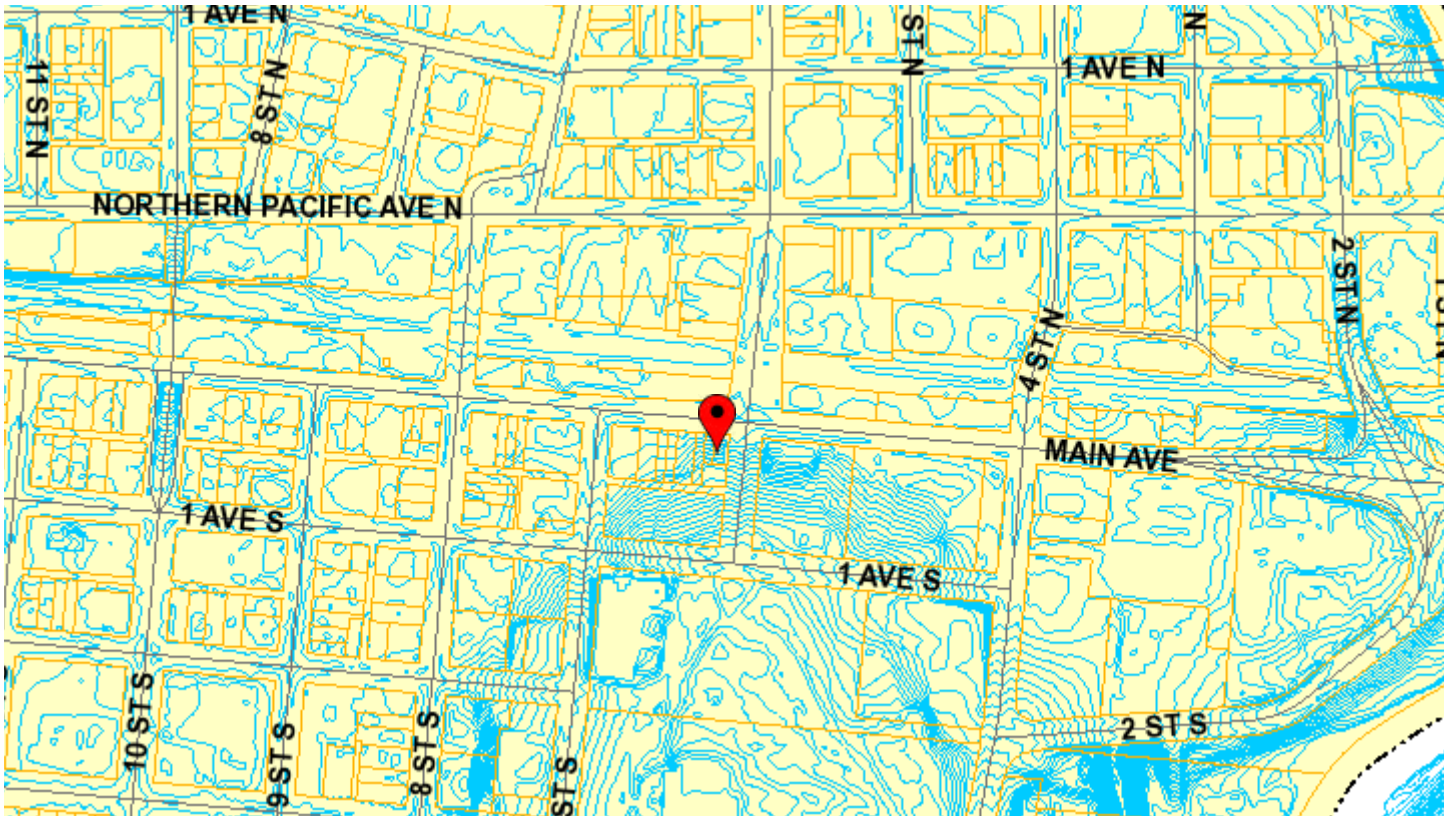
The sun path diagram shows the path of the sun during all times of the year. In the summer time, the sun is at its highest. During this time of year, sunrise and sunset occurs closer to the north. This is seen in the top ring of the diagram. During the summer heat load is most extreme on horizontal surfaces. The winter sun is low to the ground and stays to the south. During this time of year, heat gain is most extreme on the west.

| .xviii



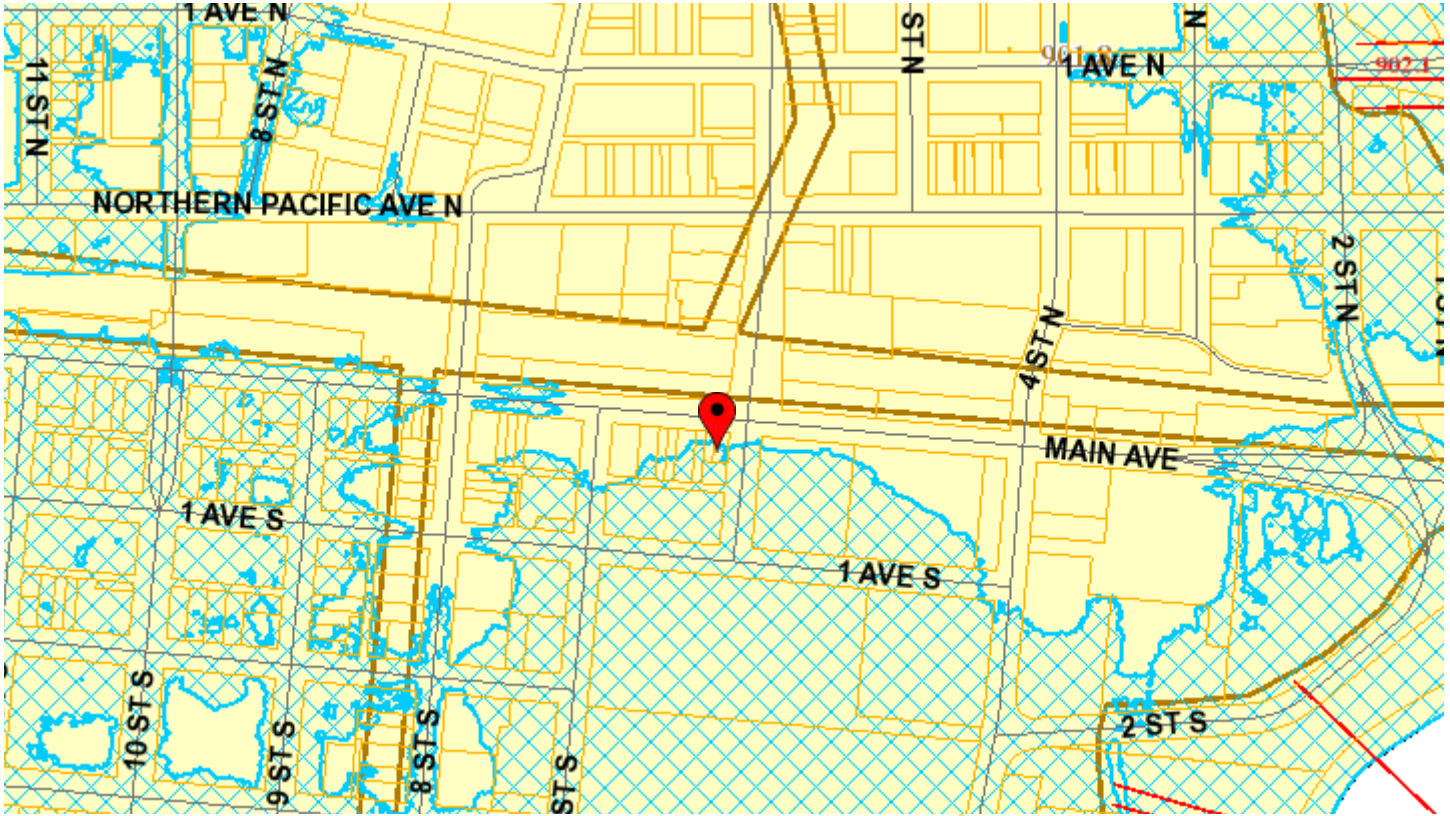
This map shows the parcels in Fargo and their organization in the downtown area. Parcels that are spaced closely to each other suggest a walkable nature the sidewalks. Successful walking neighborhoods look similar to the densely packed parcels found near the site. To the west, 8th St S has a walking friendly block with multiple shops along the way.

**Downtown Parcels**



Topographic Map

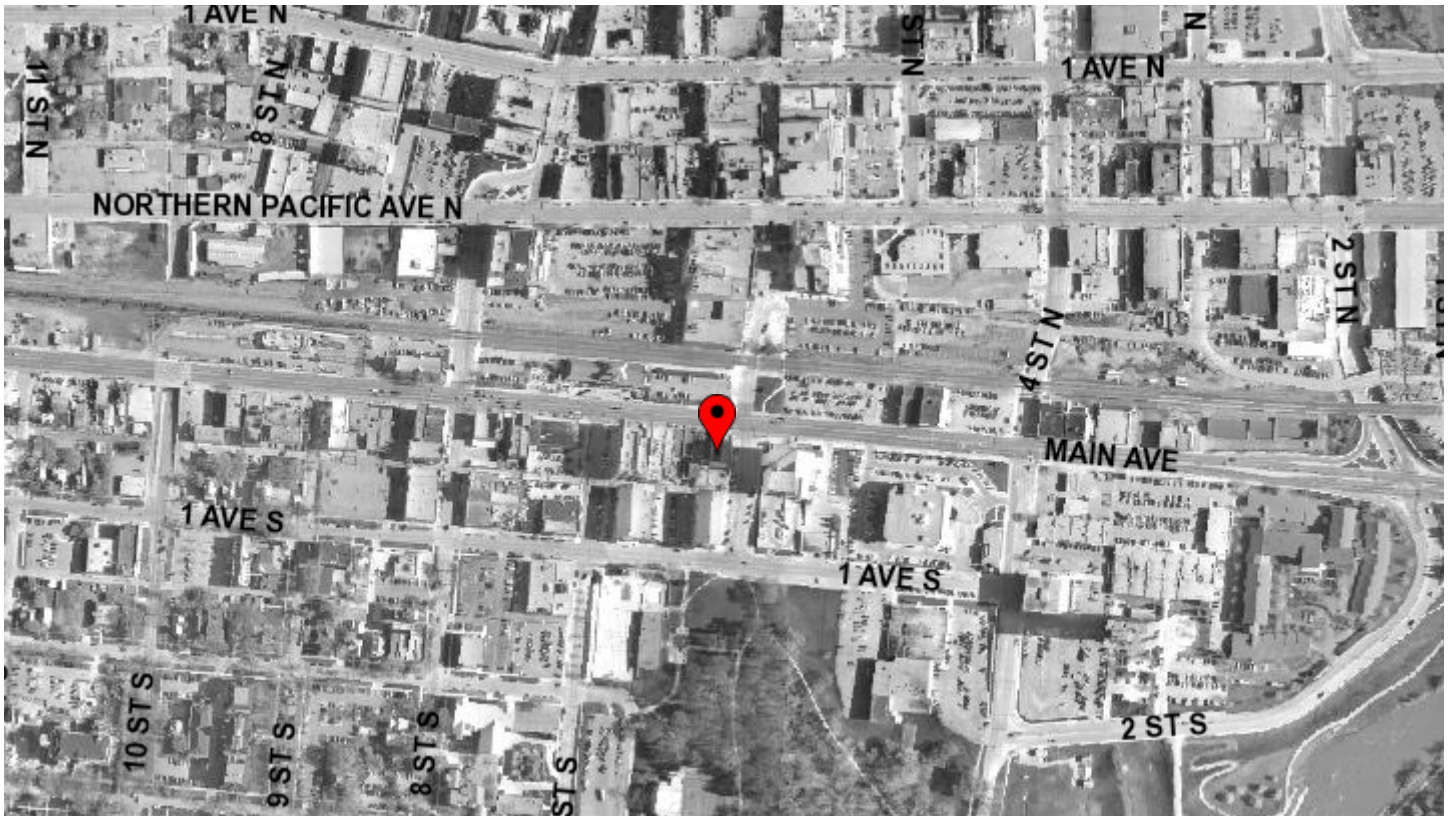
The blue lines on top of the previous map indicate one foot elevation changes. As the lines become closer, the map indicates an increase in slope. Most of very little slope, similar to the north areas of the map. Near the river, island park and up to Main Ave, the slope becomes more intense. This area of Fargo has one of the most interesting topographic opportunities.



**41 Foot Flood Plain**

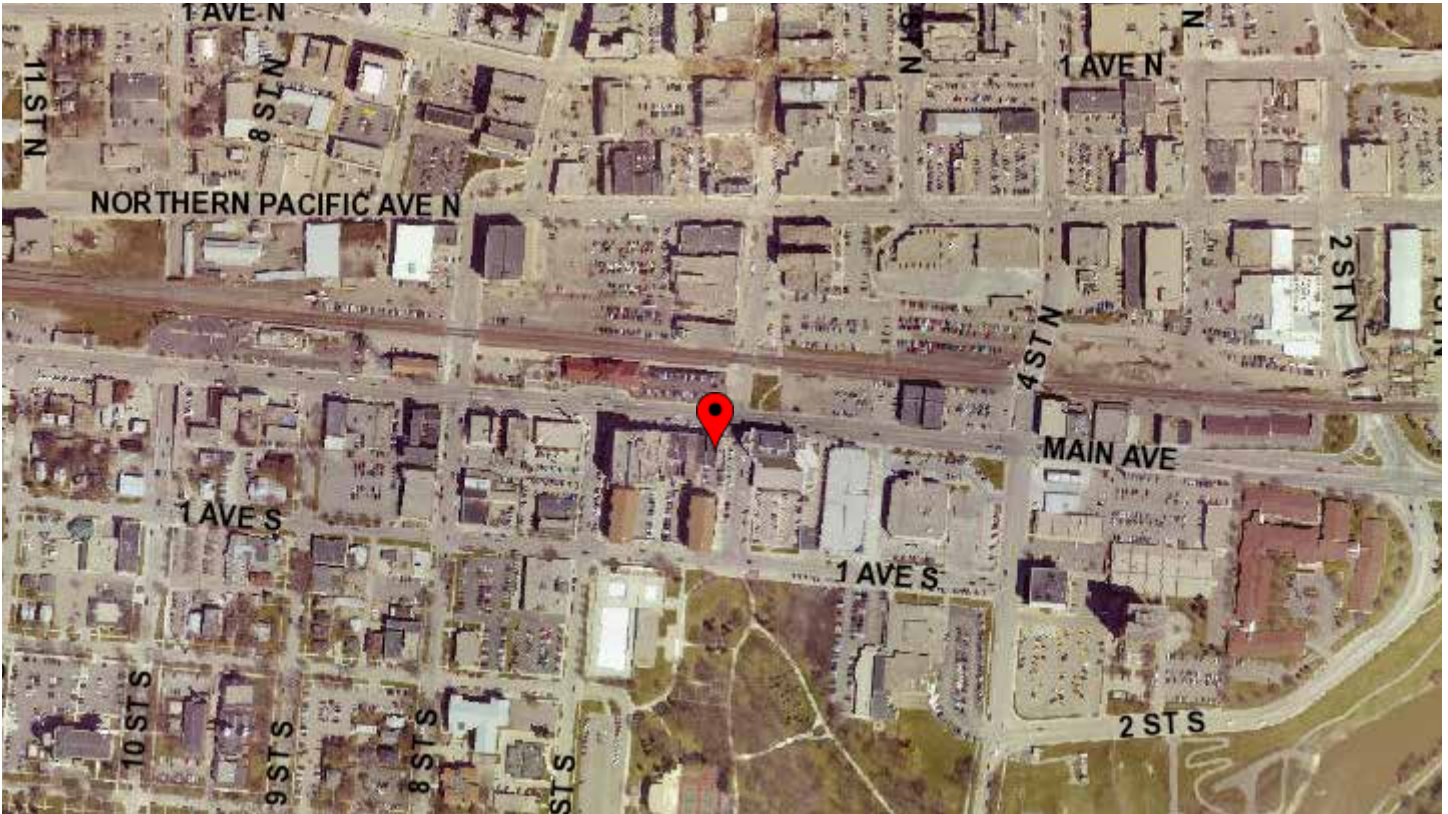
Removing the excess topographic lines leave the 41 foot flood plain. This is the highest current capacity for the flood management systems to hold. If the river rises higher than 41 feet, the areas in blue hatching are subject to flooding. This indicates that in a flooding disaster, most of the lower floors of the site would be under water. This is an unlikely event, but building systems should be prepared for this type of natural disaster.





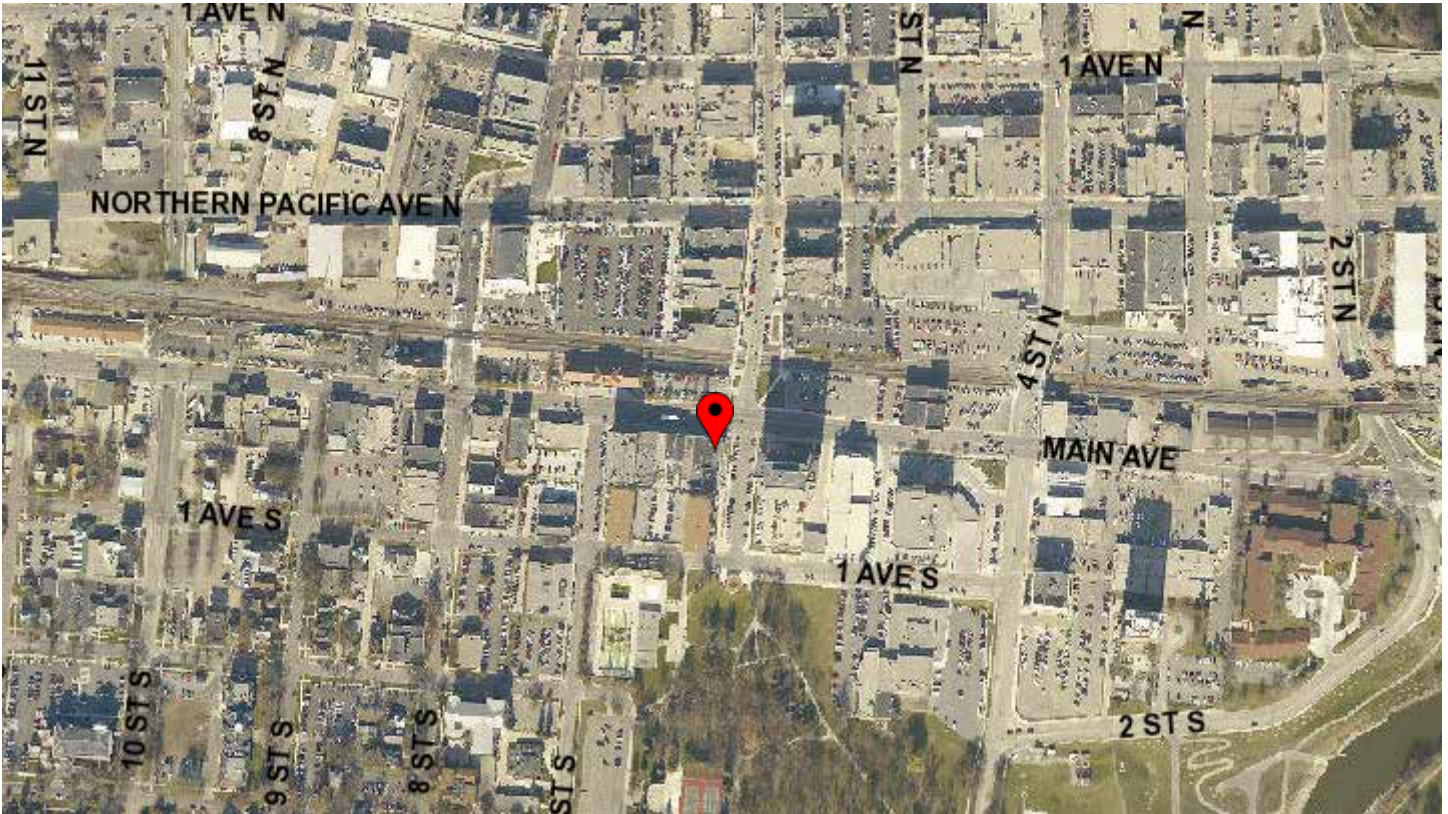
1995 Aerial View

The earliest satellite imagery from Google shows this view. From this view, you can see the buildings that occupy the parcels and how much of the parcel is in use. In this dense environment few parcels have any setback. This exemplifies how the city zoning encourages zero setback.



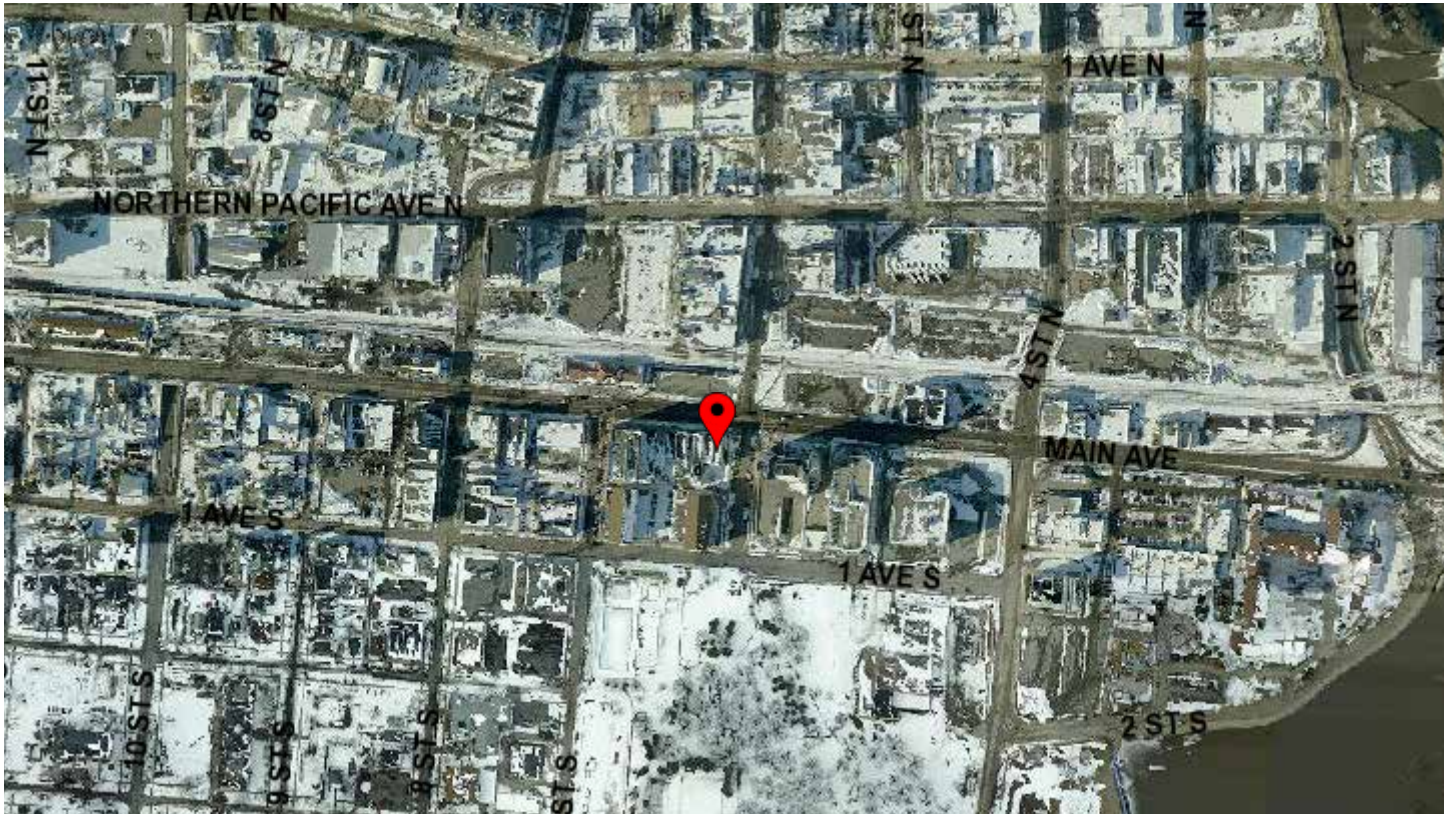
2002 Aerial View

The 2002 aerial view show the minimal change in new construction in this area. Though building had been renovated in the past 7 years since the previous image, most have been interior renovation and adaptive reuse projects.



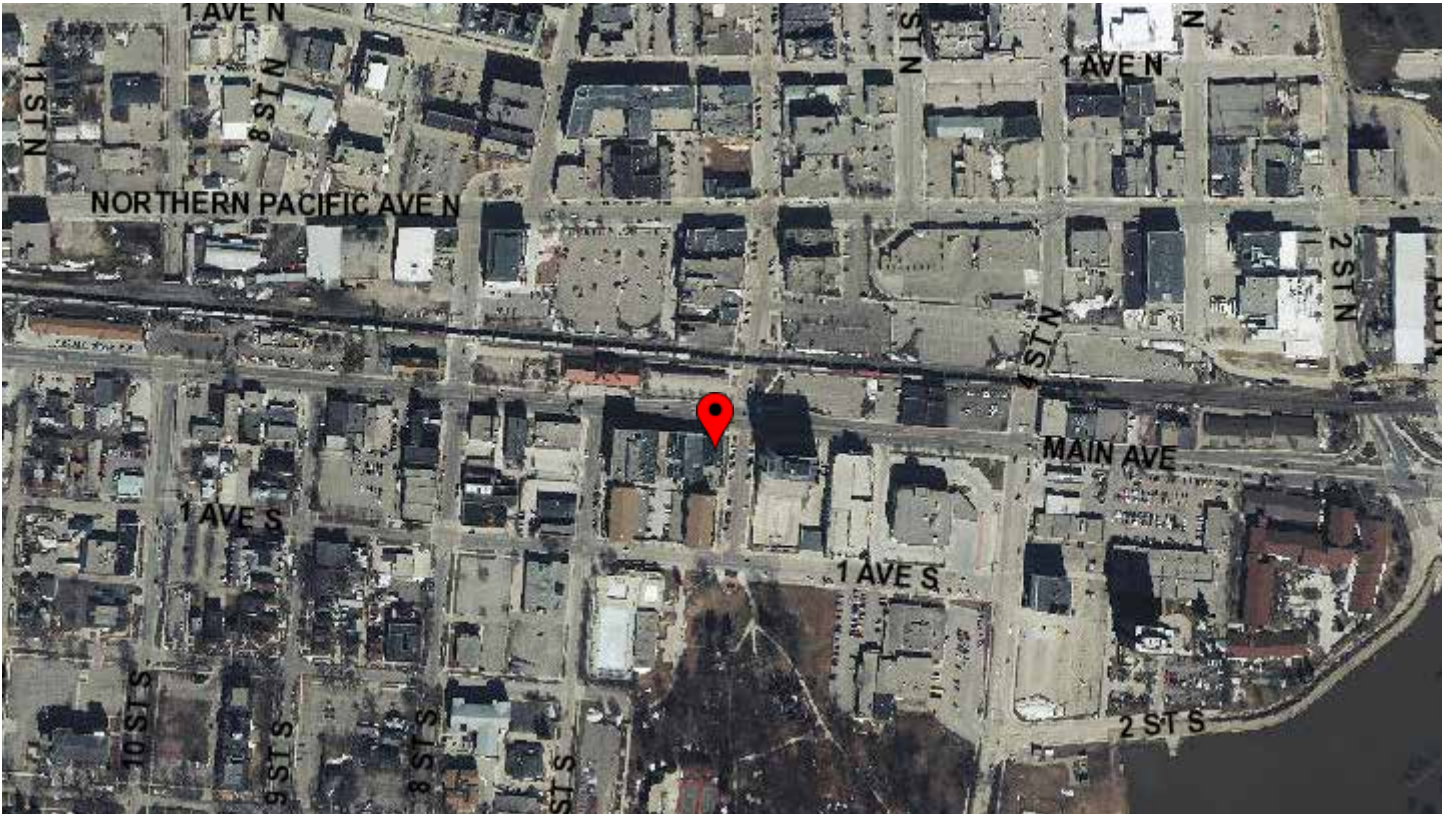
2006 Aerial View

The information in the 2002 aerial image is true with this image. New construction is hard to find in this image.



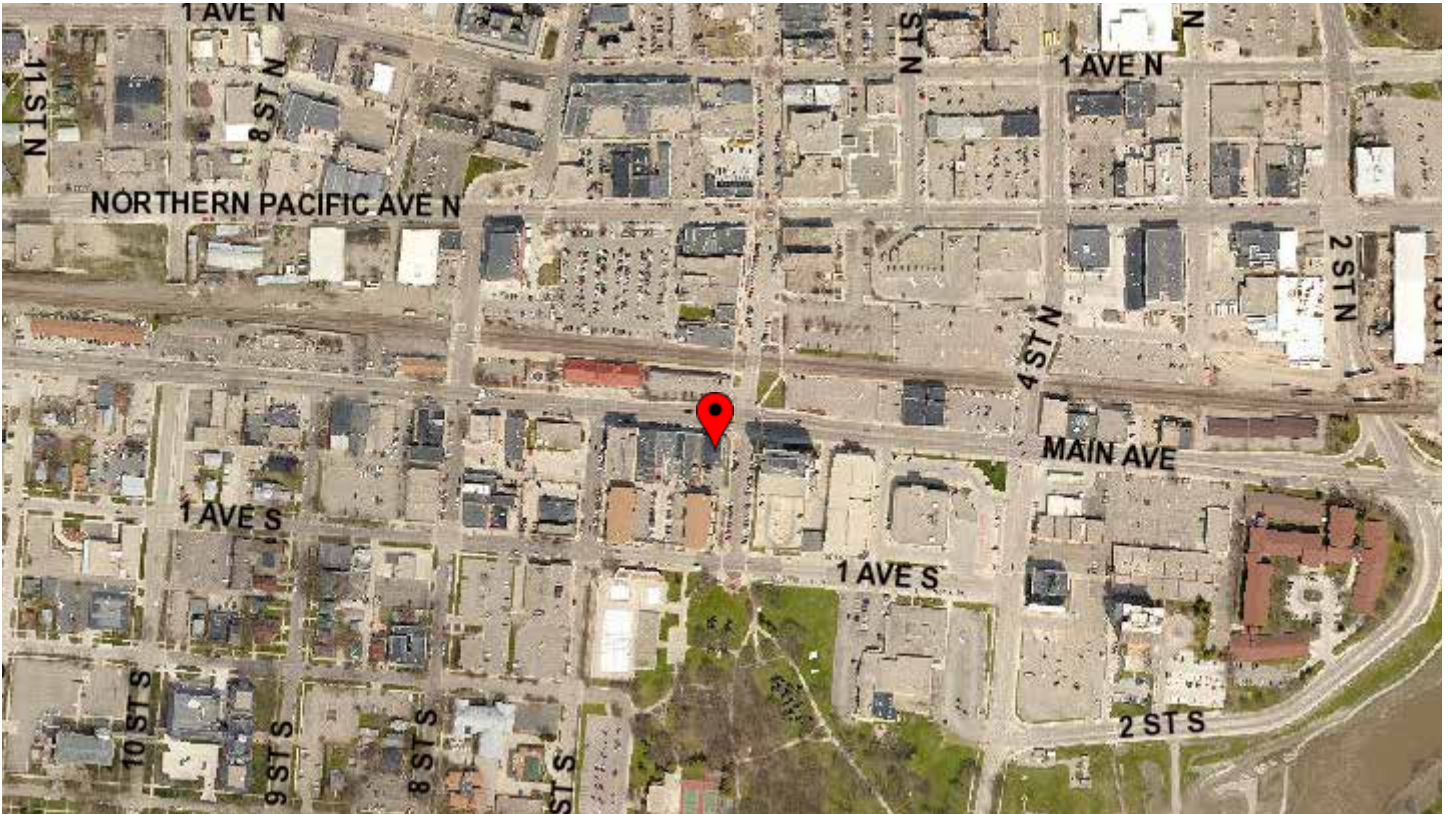
2009 Flood Aerial View

In 2009 Fargo had a large flood. It was anticipated to reach a height of 35 to 36 feet. Ten days later, the National Weather Service raised the predicted flood level between 37 and 40 feet. Another week later the predicted flood level was between 41 and 42 feet. This flood was one of the largest floods that Fargo has experienced. The final crest of this flood was 40.84 feet which is why the 41 foot flood map is now used as the standard for flood assessment.



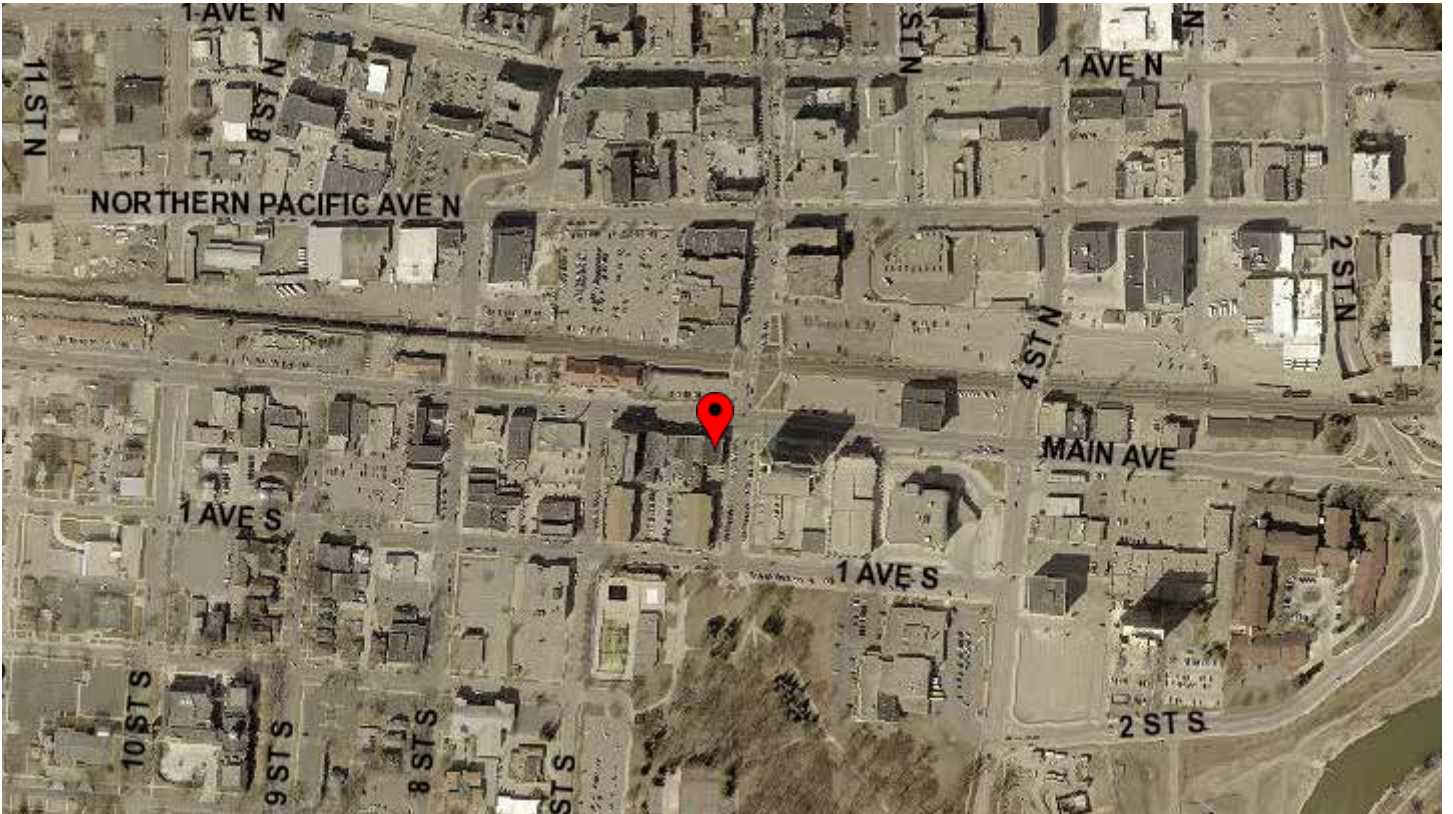
2010 Flood Aerial View

The flood in 2010 was much lower than 2009. The final crest was at 36.99 feet.

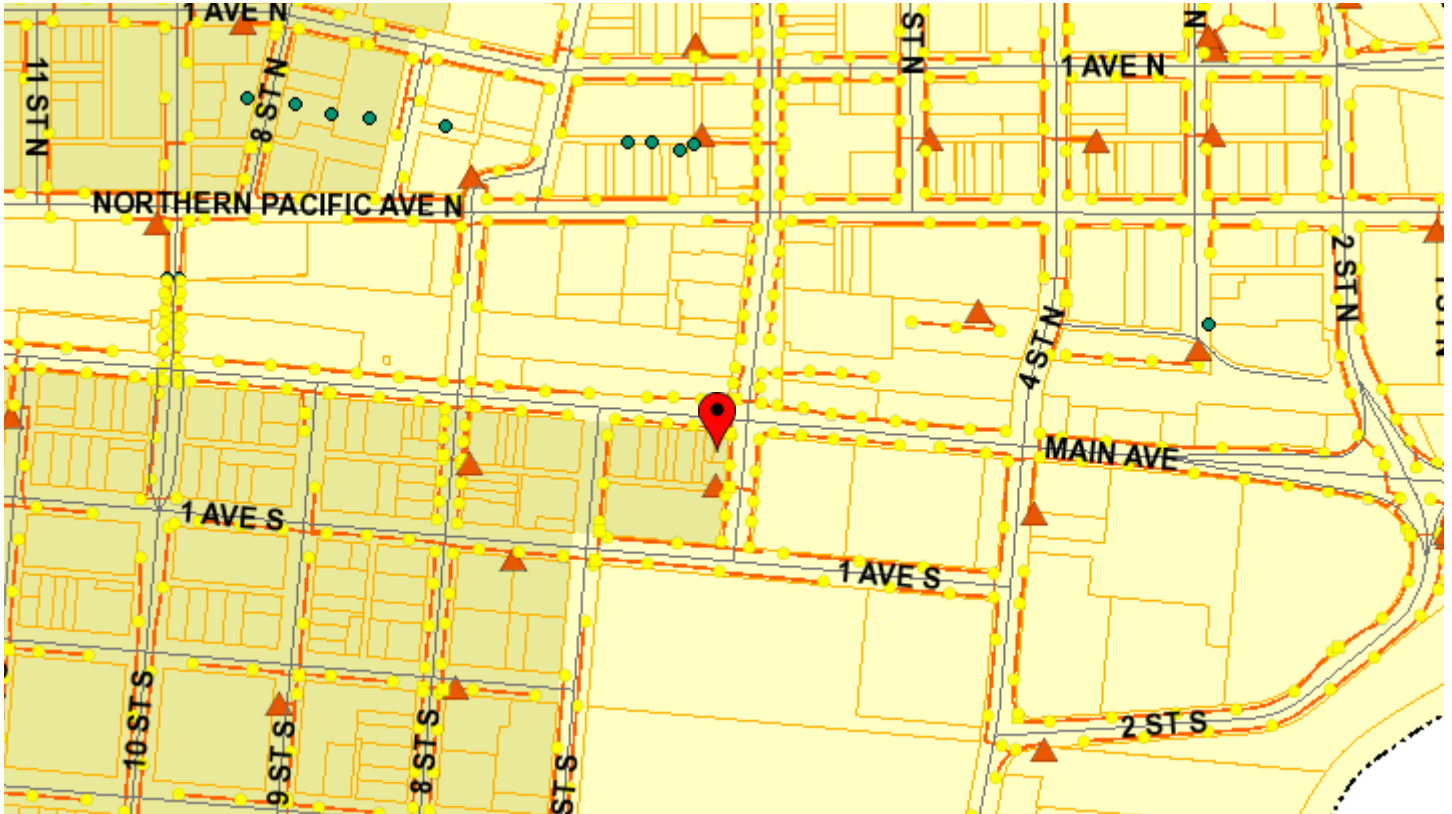


The next two images provide the most recent two years aerial view.

2014 Aerial View



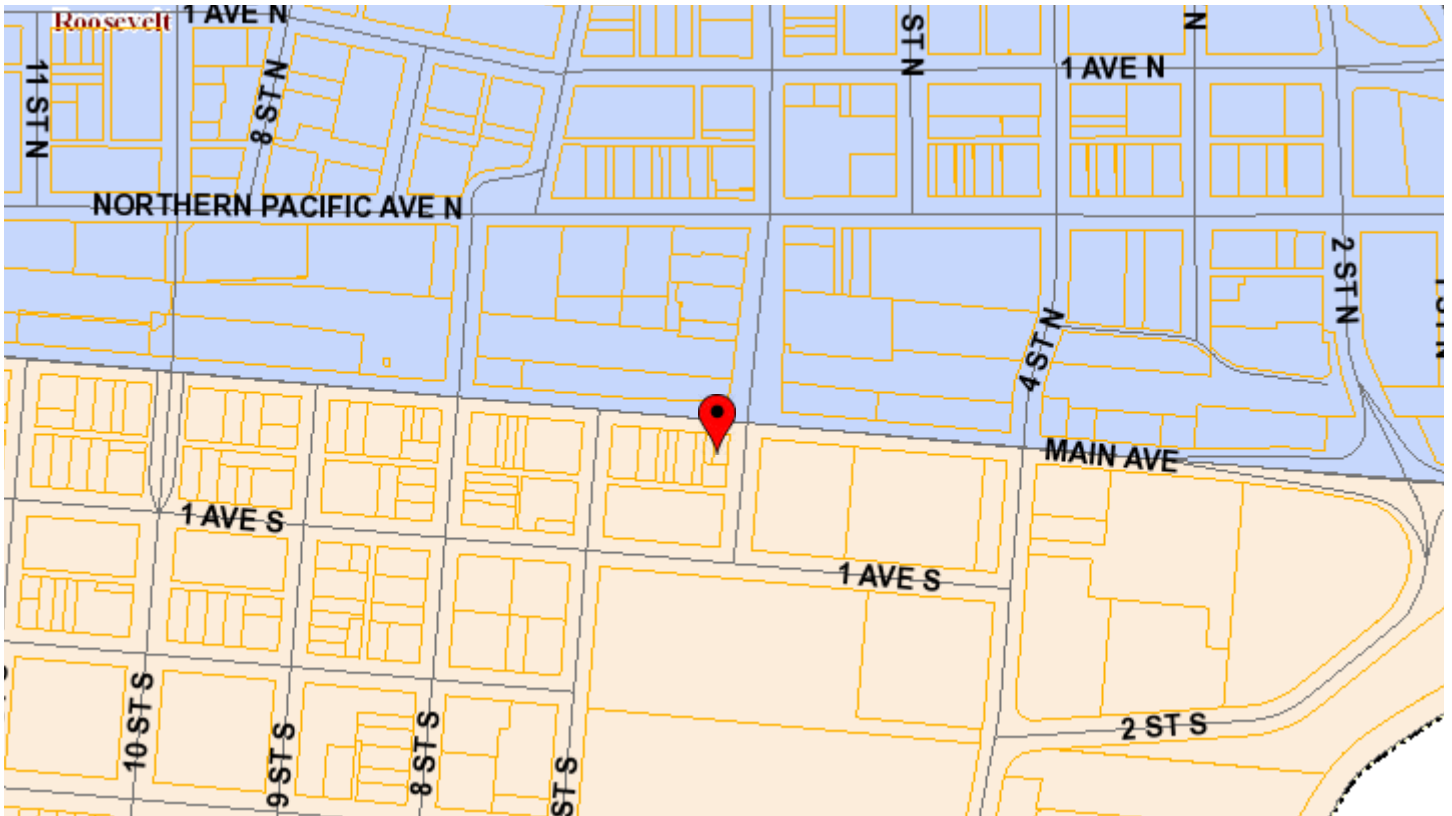
2015 Aerial View



A well lit neighborhood is essential for safety and security. This map shows the locations of street lights in downtown Fargo. Street lights are well spaced and connected. People in this area should feel safe after dark around the locations where they would park their cars to the entrance of the site.

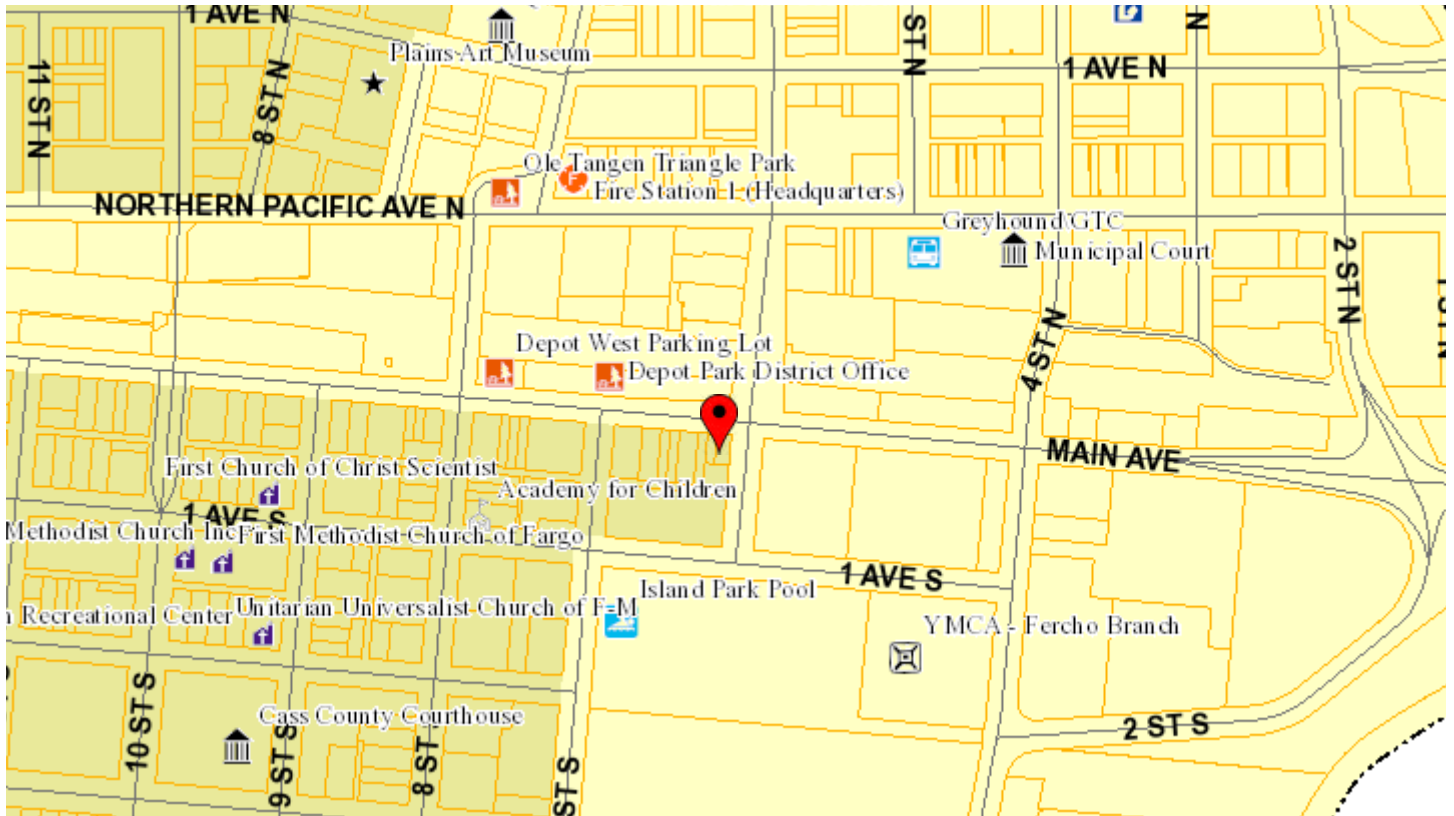
**Street Light Locations**





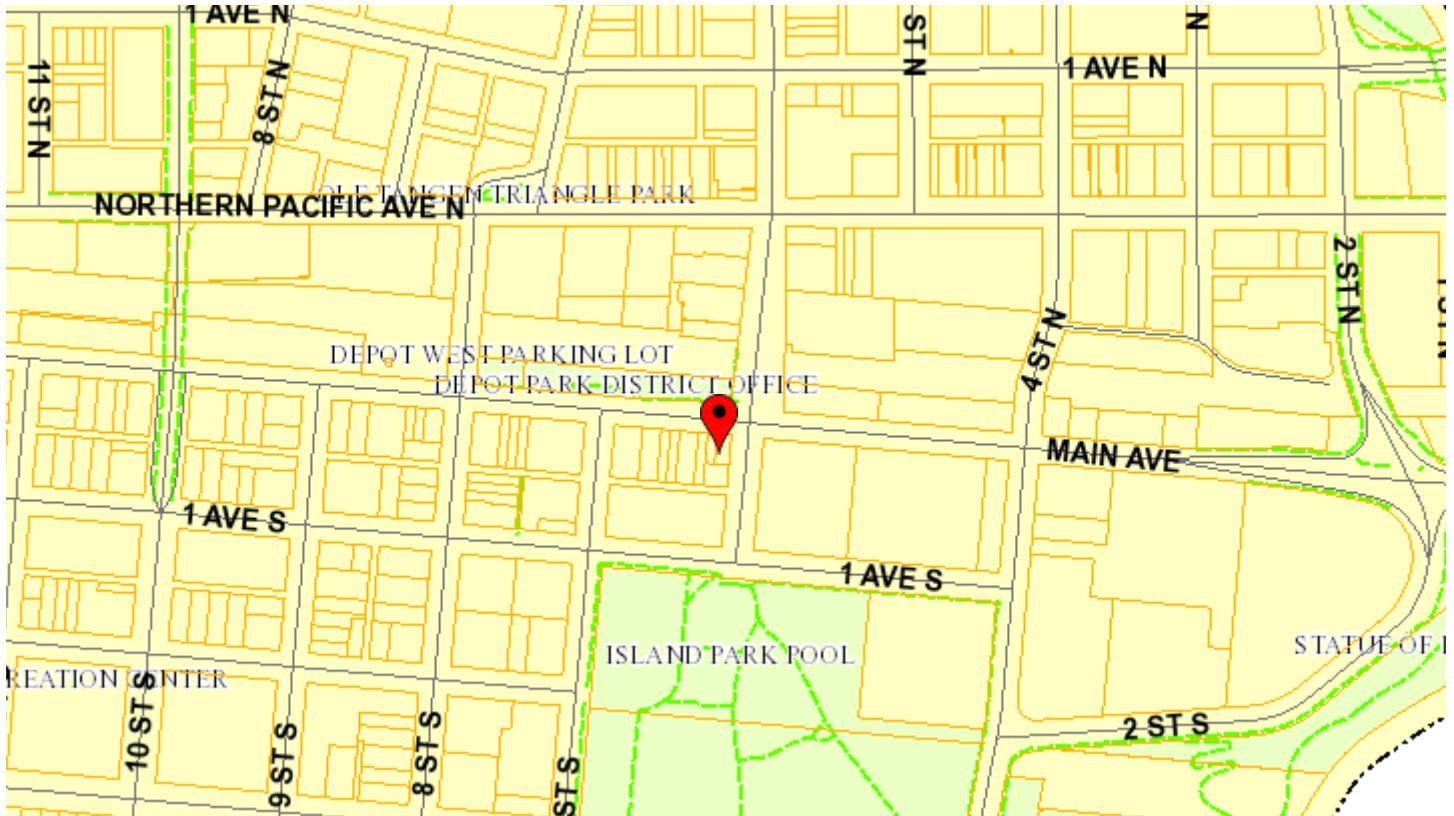
**School Districts**

School districts are separated by Main Ave. The children who live south of Main Ave attend Clara Barton. The children who live north of Main Ave attend Roosevelt.



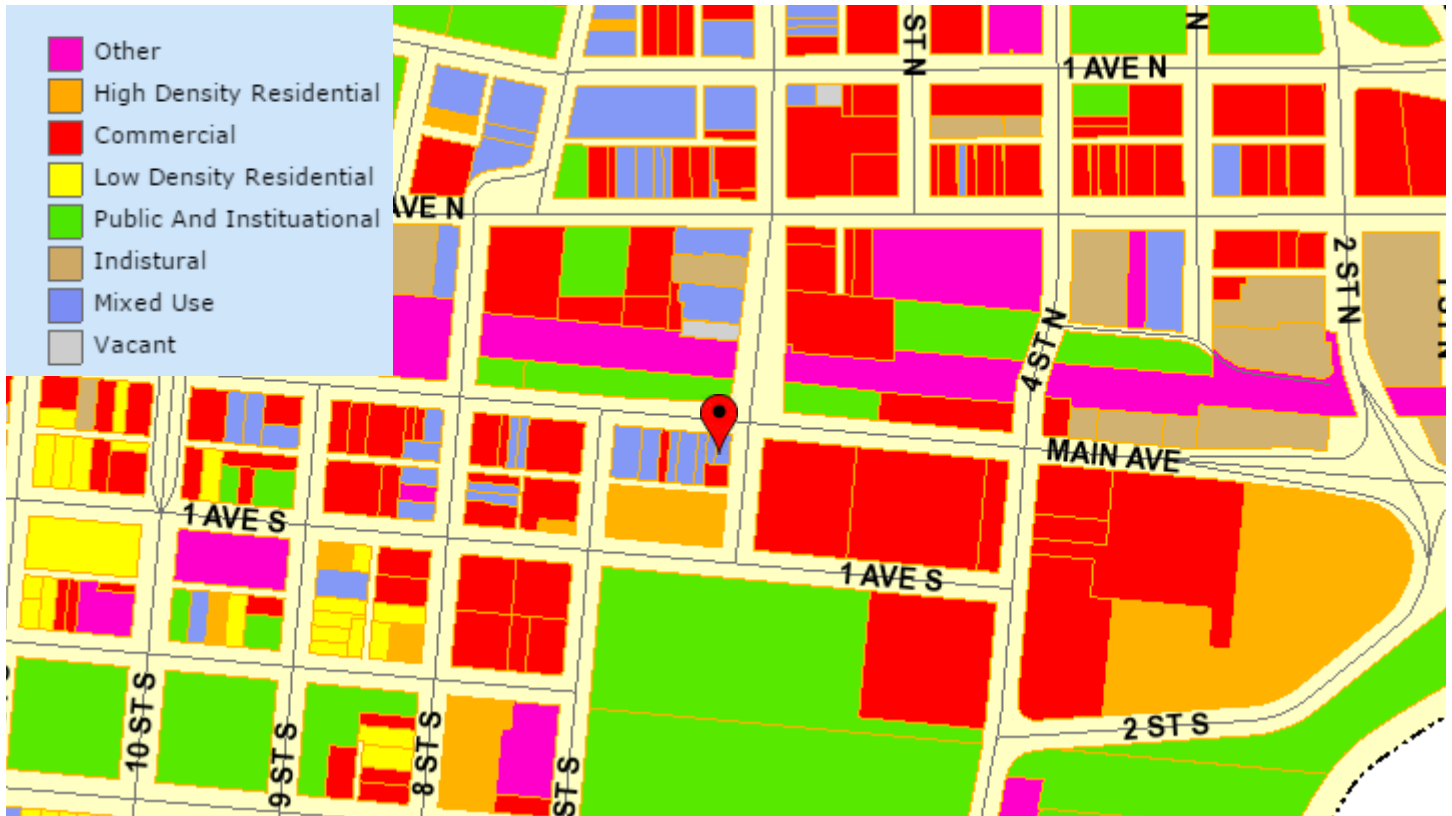
The site is in close proximity to Island Park Pool, the YMCA and a couple of churches. The public transit station, Greyhound GTC, is within a short walk of the site. Among these points of interest shown are antique stores, clothing retailers, and restaurants.

**Points of Interest**



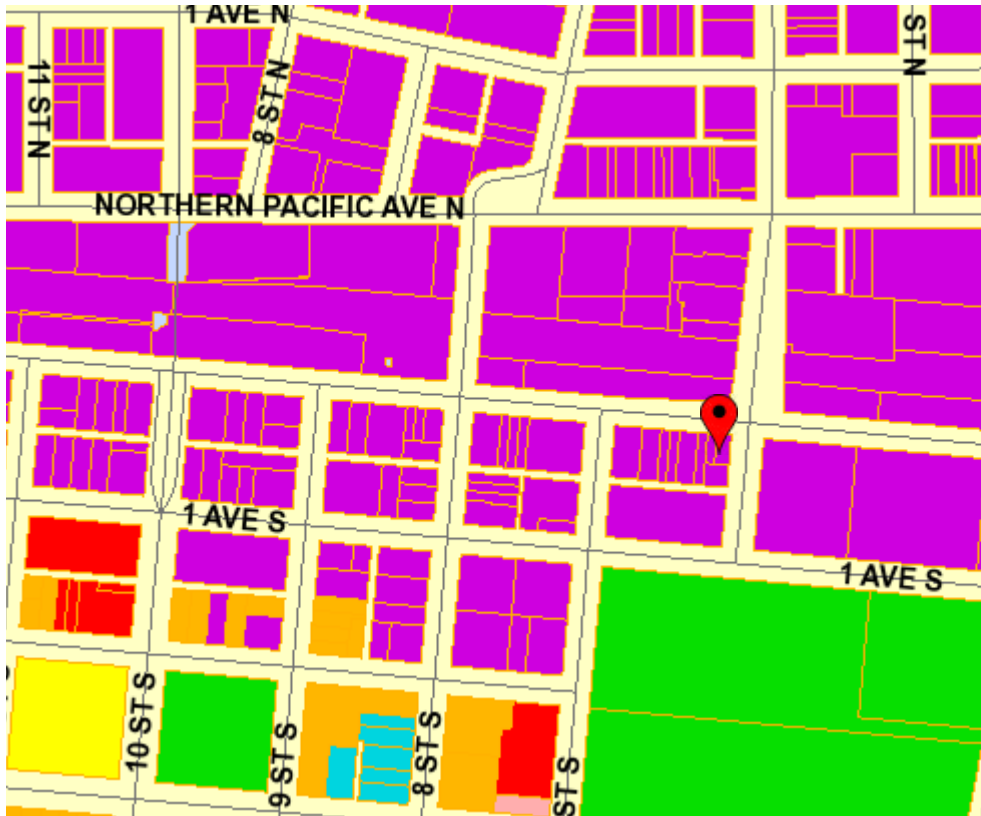
**Nearby Parks**

The Fargo Parks department is located across the street from the site. They maintain local plant life that are on Broadway and surrounding streets. Island park is south of the site and contains multiple tennis courts, a playground, and basketball court.



Land directly surrounding the city is mixed use. There is a large diversity of uses in the small area of the map that is shown. Most of downtown is mixed use or commercial. With close proximity to high density residential, the site provides an opportunity for people to walk to work.

Land Use



**Zoning**

- AG - Agricultural
- DMU - Downtown Mixed Use
- UMU - University Mixed Use
- GC - General Commercial
- GI - General Industrial
- GO - General Office
- LC - Limited Commercial
- LI - Limited Industrial
- MHP - Mobile Home Park
- MR-1 - Multiple Dwelling
- MR-2 - Multiple Dwelling
- MR-3 - Multiple Dwelling
- NC - Neighborhood Commercial
- NO - Neighborhood Office
- P/I - Public Institutional
- SR-2 - Single Dwelling
- SR-3 - Single Dwelling
- SR-4 - Single Dwelling
- SR-5 - Single Dwelling
- Zoning Unknown
- Zoning in Transition

**Zoning**

Areas around the site are all zoned for DMU - Downtown Mixed Use. This zoning is open to many different types of buildings. Requirements suggest a zero setback. The Public Institutional zone to the south is zoned to preserve Island Park.

## Native Plant Life

Knowing the natives species reduces the environmental impact of landscaping. Native species are more sustainable and require less maintenance. They are the best adapted species for the climate specifically the sunlight hours, precipitation, temperature, and humidity. Native species also encourage wildlife. They are most adept for local wildlife habits and help the local ecology. Fargo is in the USDA hardiness zone of 4a which has an average annual minimum temperature of -25 to -30 degrees Fahrenheit. Native species are hardy enough to sustain the more challenging growth environments in North Dakota. Exotic species will require more care and replacement if they are to survive and exist in Fargo.



Red Cedar  
*Juniperus virginiana*  
Height: 30' - 50'    Diameter: 1' - 2'



Boxelder  
*Acer negundo*  
Height: 50' - 70'    Diameter: 2' - 4'



Paper Birch  
*Betula papyrifera*  
Height: 50' - 75'    Diameter: 1' - 3'



Hackberry  
*Celtis occidentalis*  
Height: 25' - 40'    Diameter: 1' - 4'



Hawthorn  
*Crataegus sp.*  
Height: Up to 30'



Green Ash  
*Fraxinus pennsylvanica*  
Height: 30' - 60'    Diameter: 1' - 3'



Eastern Cottonwood  
*Populus deltoides*  
Height: 50' - 100'    Diameter: 2' - 5'



Bur Oak  
*Quercus macrocarpa*  
Height: 60' - 80'    Diameter: 2' - 4'



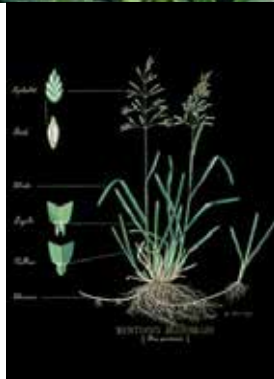
American Elm  
*Ulmus americana*  
Height: 75' - 100'    Diameter: 2' - 4'



**Bluegrass / Rye / Fescue**  
Dense blend



**Kentucky Bluegrass**  
Soft and dense, V-shaped.  
1/8" blade. Darker grass



**Fine Fescue**  
Thin and pointed blades  
1/16" or less blade. Full gray color



**Ryegrass**  
Shiny blades. 1/8" blade width  
Dark green. Fast growing



**Bent Grass**  
Narrow and flat blades. Soft feel  
Found on putting greens / fairways



**Zoysia**  
Thick and prickly blades. Slow growing.  
Stiff and narrow blades





## Parcel Assessment

Wimmer Corner owns both Babb's Coffee and Wimmer's Diamonds. 602 Main Ave is the location of Wimmer's Diamonds. 604 is the location of Babb's Coffee. The total assessed land value of both properties is \$489,000, occupying a total lot of 5,176 square feet. If the entire lot was built to two stories, the total occupy-able space is 10,352 square feet.

The dates list for the year built are not accurate according to historic photographs. In 1879 the First National Bank was built at the address of 602 Main Ave. The reason that the assessment information does not match the historical build date is unknown. 604 Main Ave was built after 602 Main Ave, but before 1879 according to historical photographs.

<b>PARCEL NUMBER</b>	01-2240-00790-000		
<b>SEGMENT NUMBER</b>	1		
<b>ADDRESS</b>	602 MAIN AVE		
<b>OWNERSHIP INFORMATION</b>	WIMMER CORNER		
<b>SCHOOL DISTRICT</b>	1 - Fargo		
<b>2015 Appraised Value (Current Certified)</b>	<u>Land</u>	<u>Improvements</u>	<u>Total</u>
Full Appraised Value	\$25,000	\$239,700	\$264,700
Net Taxable Appraised Value	\$25,000	\$239,700	\$264,700
Assessment (Local, State, Exempt)	Local		
<b>2016 Proposed Appraised Value (subject to change)</b>	<u>Land</u>	<u>Improvements</u>	<u>Total</u>
Full Appraised Value	\$25,000	\$239,700	\$264,700
Net Taxable Appraised Value	\$25,000	\$239,700	\$264,700
Assessment (Local, State, Exempt)	Local		
<b>BUILDING INFORMATION</b>			
Year Built	1895		
Story Height (Res. Only)	N/A		
Main Floor Sq. Ft. (Res. Only)	N/A		
Total Building Sq. Ft.	4346 Sq. Ft.		
Number of Apartment Units	N/A		
<b>LAND USE</b>	Commercial		
<b>PROPERTY TYPE</b>			
<b>LOT SIZE</b>			
Front Width	39		
Back Width			
Depth Side 1	80		
Depth Side 2			
Square Footage	3130		

### 602 Main Ave Property Assessment

<b>PARCEL NUMBER</b>	01-2240-00810-000		
<b>SEGMENT NUMBER</b>	1		
<b>ADDRESS</b>	604 MAIN AVE		
<b>OWNERSHIP INFORMATION</b>	WIMMER CORNER		
<b>SCHOOL DISTRICT</b>	1 - Fargo		
<b>2015 Appraised Value (Current Certified)</b>	<u>Land</u>	<u>Improvements</u>	<u>Total</u>
Full Appraised Value	\$16,000	\$208,300	\$224,300
Net Taxable Appraised Value	\$16,000	\$208,300	\$224,300
Assessment (Local, State, Exempt)	Local		
<b>2016 Proposed Appraised Value (subject to change)</b>	<u>Land</u>	<u>Improvements</u>	<u>Total</u>
Full Appraised Value	\$16,000	\$208,300	\$224,300
Net Taxable Appraised Value	\$16,000	\$208,300	\$224,300
Assessment (Local, State, Exempt)	Local		
<b>BUILDING INFORMATION</b>			
Year Built	1894		
Story Height (Res. Only)	N/A		
Main Floor Sq. Ft. (Res. Only)	N/A		
Total Building Sq. Ft.	4047 Sq. Ft.		
Number of Apartment Units	N/A		
<b>LAND USE</b>	Commercial		
<b>PROPERTY TYPE</b>			
<b>LOT SIZE</b>			
Front Width	0		
Back Width			
Depth Side 1	0		
Depth Side 2			
Square Footage	2046		

### 604 Main Ave Property Assessment



**First National Bank**



**The Commercial Bank of Fargo**



**Shotwell's Ready to Wear**

## Historical Land Use

In March of 1878, the First National Bank opened on 602 Main Ave. as 12'x16' wood frame building. In 1879, the bank moved into the two story brick building on the left. This was a new construction build. This image shows both the wood and brick buildings that they occupied in that year,

In June 1904, First National Bank sold the building to The Commercial Bank of Fargo. The bank was occupied for eight years until it was closed and its liabilities were transferred to the Merchants National Bank located on 2nd Ave and Broadway St.

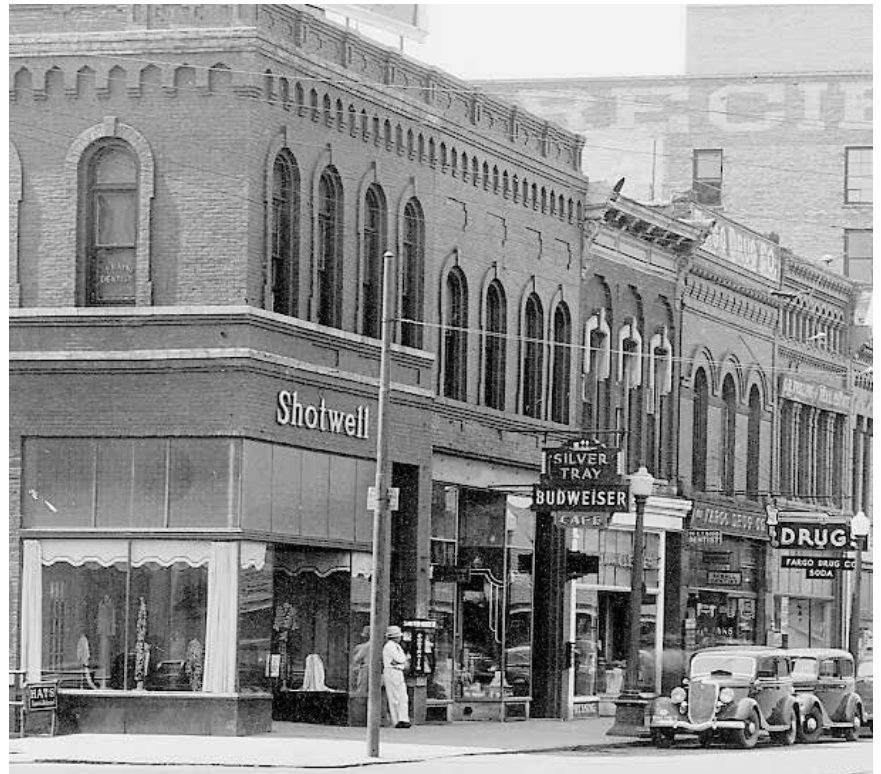
In 1912, Cora Shotwell opened a clothing store in the former Commercial Bank of Fargo. Shotwell's Ready to Wear changed the facade on 602 Main Ave, later influencing Wimmer's Diamonds. In 1916 Cora Shotwell expanded her business to include 604 Main Ave. In 1983 Wimmers bought the building.

## Historical Land Use



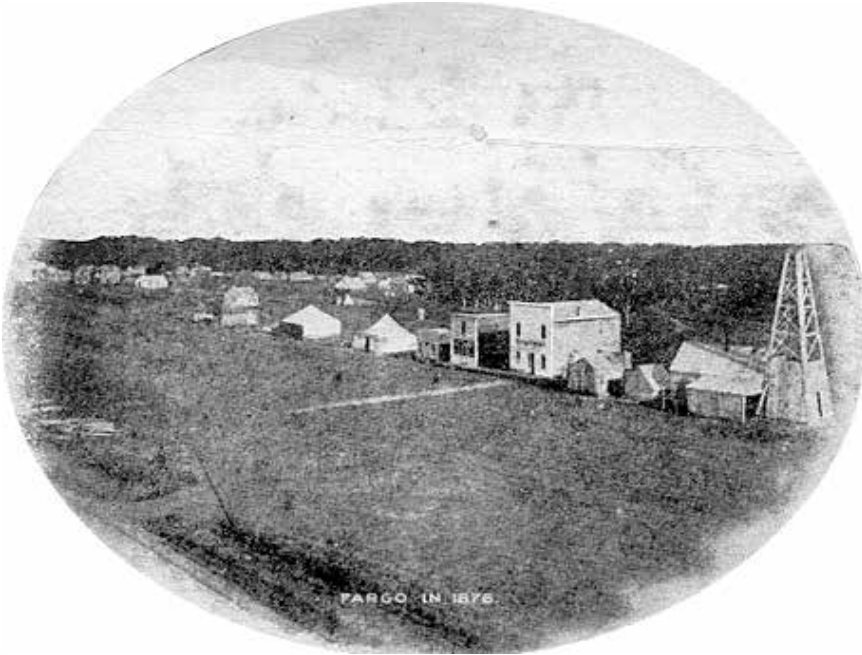
**Bland and Bland**

604 Main Avenue was originally a hardware store by the name H. F. Emery hardware. Charles and William Bland opened their business in 1910. Records indicate that they went out of business between 1913 and 1915. The building was unoccupied until 1916 when Shotwell's expanded into this space.



**Silver Tray**

Silver Tray took over the 604 Main Avenue building in 1935. Silver Tray Cafe was originally located at 14 8th St South. This cafe was among the first of any business in Fargo to obtain a liquor license. Between 1938 and 1940, the Silver Tray moved to 514 N. P. Ave. Records do not indicate the use of the building from 1940 until 1983.



**Front Street in 1873**



**Front Street Looking West in 1879**

## **Front Street:**

A historical perspective

Main Avenue was previously known as Front Street. It has been a hot spot for activity since the 1870's. The earliest photograph is on the left. It was taken in 1873, likely from the Headquarters Hotel. The subsequent photographs show the evolution of the street over the next 60 years. After 1910, the buildings have not changed much on the exterior. Owners and functions have changed over the years, but the buildings remain the same.

This adaptive reuse shows an investment in the historic buildings of Fargo. Among these is one of Fargo's oldest brick buildings, the proposed site for this project.



Front Street Looking West in 1910



Front Street Looking West in 1930

## **The business of coworking**

In order to understand the purpose that drives the program, the purpose and strategies of the business must be comprehended. Coworking is a office rental business that generates revenue by leasing space to members who are looking for a temporary or alternative work space. Business is most profitable when membership is high. The coworking business will also profit from hosting events and from coffee bar services. There will be temporary members and semi-permanent members who occupy the office space, In coworking, there will be a highly changing group of people who visit the coffee bar and public spaces and different groups that check out rooms for presentations and conferences.

### Adding value to members

Architecture has the ability to influence the efficacy of the space as an office environment and cafe. Members will find most value in the office space if it provides high quality work spaces that are catered to their need for sound and visual privacy. If the space cannot provide hospitable space that allows people to get work done, the spatial juxtapositions will not matter. The primary goal of the space is that people will be able to get work done. Members also value meeting the right people. Though casual interactions and community is valuable to everyone, members want to meet people who can positively influence their business. This is why membership should attract high influence individuals as well as those who wish to be influenced. Membership diversity is important so that people can learn and meet a variety of people. Having limited space, I would encourage a few target industries so people can learn

more about their business.

Membership benefits from office amenities that a standard office does not provide. Many coworking spaces provide kitchen and recreational space for their members to relax and work more comfortably. There are a variety of amenities that can be offered. A kitchen is necessary, but having a kitchen large enough to support catered meals leans to the side of an amenity. In the stages of programming, the specific amenity has not been identified. However, the design must incorporate some value adding amenities to improve membership

### **Privacy and Security**

The relationship between the public cafe and the members only space needs to be friendly so as not to pose as a great visual barrier between members and cafe visitors. Members should be free to visit all places of the building, allowing them full access to all people who are visiting the space. If members wish to work in public spaces, they should have the option to do so. Cafe visitors on the other hand, should not feel a barrier between themselves and members, but their access should be restricted to the cafe and public spaces. This protects the privacy of members and adds value to their membership. Member services like printing and conference spaces should be separated from public spaces.

Members often want access to be 24/7 so that they can work at times that are most conducive to their business. Key card access restricts access and can be managed remotely. This way members can work on their schedule. The Prairie Den found this to be a valuable way of tracking use and allowing access.

## **Spatial Relationships**

This thesis is an investigation of spatial relationships and interior qualities that positively affect community and office work conditions for small businesses and self-employed professionals. The design investigation should study three objective qualities:

1. Effectiveness of the space based on type of work
2. Relationships between spaces
3. Value adding amenities

These three qualities will guide the research and develop what spaces are needed in the program. The goal of all spatial relationships is that they should improve the quality of work being done by members and enhance their connection to the community.

## **Qualities and Overall Feel**

The overall feel should convey a professional environment with a connection to Fargo's history. It should continue the narrative that Fargo is a booming town for business and community. A balance must be struck between feeling at home and the feeling of a professional environment. This is to provide a sense of community in a professional workspace. Local artists bring in a sense of place that is unique to the city of Fargo. This space is an opportunity for custom furniture and uniquely designed architectural features. The feel should reflect the natural historicism present in the building. Material selection should be warm instead of the stereotypical sterility that office spaces tend to have.



## Space Estimation

Space quantities and sizes are estimations. Through the design process, the SF per member should be reduced to increase the potential use of the space. These spaces are to influence the ideas and options that are available for design but should not restrict or limit what spaces are possible.

Description of Spaces	Qty	SF Each	Space Required
<b>Permanent Tenants</b>			<b>840 SF</b>
Enclosed Large Offices	0	150	0
Enclosed Small Offices	1	120	120
Open Large Office	0	180	0
Open Small Office	2	120	240
Open Workstations	5	80	400
Reception	1	80	80
<b>Coworking Office</b>			<b>4340 SF</b>
Enclosed Large Offices	0	150	0
Enclosed Small Offices	5	120	600
Open Large Office	3	180	540
Open Small Office	6	120	720
Open Workstations	30	80	2400
Reception	1	80	80
<b>Support Spaces</b>			<b>3515 SF</b>
Reception Seating	2	120	240
Large Conference	1	600	600
Conference Small	3	375	1125
Breakout Center	4	80	320
Print Scan Fax	2	80	160
Kitchen	1	350	350
Reference Centers	1	180	180
Supply Storage	1	50	50
Filing Area	1	140	140
Server Room	2	175	350
<b>Public Spaces</b>			<b>1560 SF</b>
Presentation Forum	1	1000	1000
Public Reading	1	300	300
Public Coffee	1	100	100
Display Case / Advertising	2	80	160
<b>Utility</b>			<b>1487 SF</b>
Circulation		8.0%	820
Mechanical		5.0%	513
Restroom		1.5%	154
Janitors Closets		0.2%	21
Walls, Partitions, Structure		7.0%	718
Unassigned Storage		0.3%	31
<b>Building Sum</b>			<b>11742 SF</b>

**Estimated Space Needs**

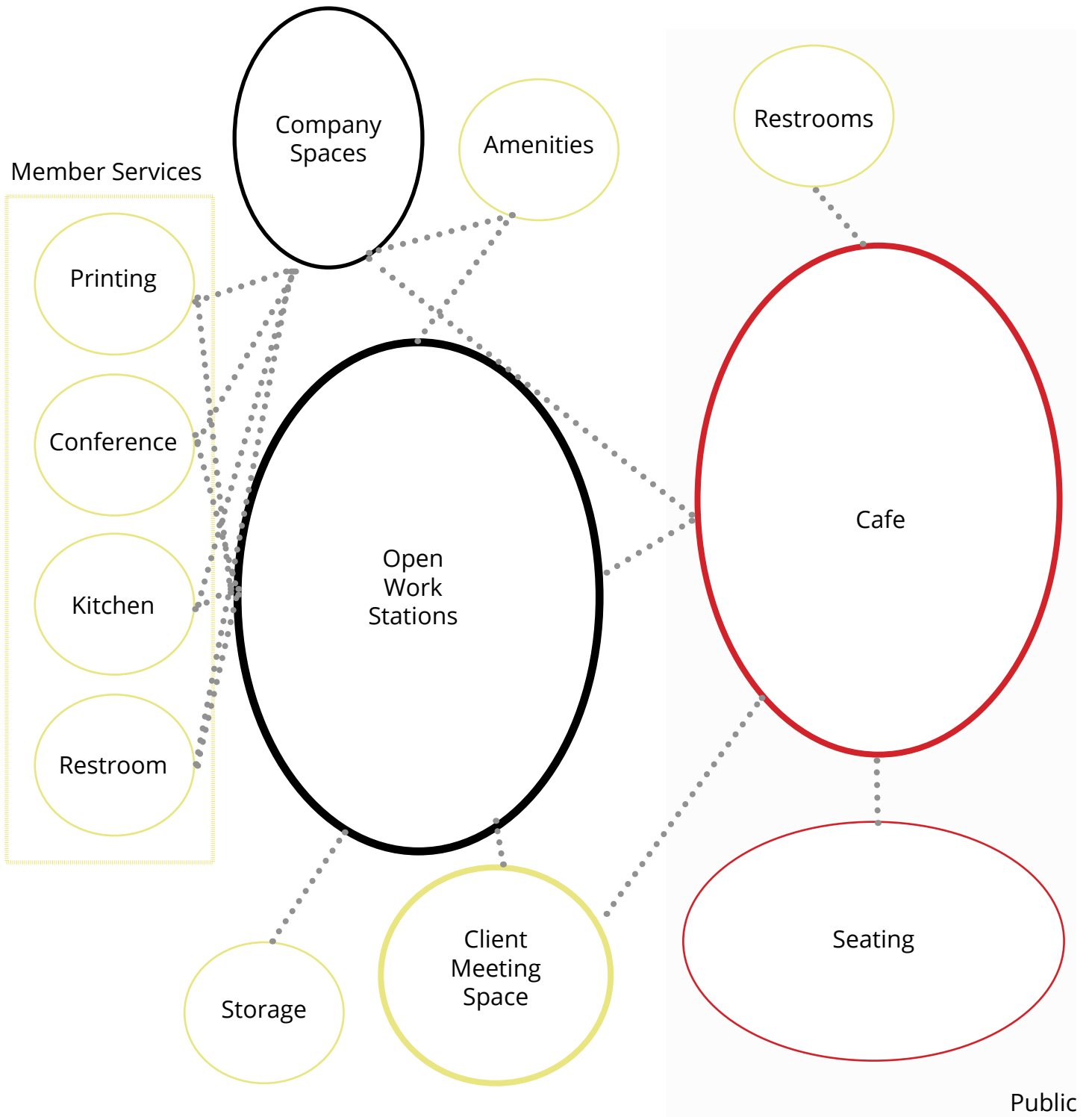
## Brainstorm of Potential Spaces

- Shared tables and community working areas
- Individual working spaces with close proximity to others
- Client meeting and discussion for a very small group of people (interview like atmosphere)
- Workspaces for people who want to be around others but not talk to them.
- Workspaces for people who want to see others but not hear them
- Workspaces for companies who want to be isolated
- Workspaces for people who need high focus
- Presentation and gathering areas
- Idea space for ideation and brainstorming
- Conference room for creative thinking and problem seeking
- Conference room for problem resolution
- Shared library of community books
- A shared kitchen with serving capabilities for events
- Dining spaces without options to eat alone.
- Coffee and alcohol bar
- Ability to view lots of people
- Locations with lots of uncontrolled encounters
- Locations with controlled encounters
- Workspaces near traffic
- Workspaces away from traffic
- Movable partitions to create work groups
- Phone stations with sound isolation with some visual privacy
- Coat and belonging storage
- Minimal storage for long-term members
- Print and workspace
- Reading and non-work-related studying (pleasure)
- Conversational spaces that are okay to be loud but isolated from those who need quiet

## Beyond the Rigid

The brainstorm list of potential spaces explores general feel and functions that I developed in a brainstorming session to generate many possible spaces. This list serves to inform the designer of the creative nature in programming to be carried into the design process. It is an example of abstracting from concrete definitions that are common in standard office planning and closer to how the Quickborner Team would have recognized issues and identified needs to the planning professionals with which they worked.

Spatial Programming Diagram



## Executive Summary of Program

The building is an exploration of spatial relationships for the purpose of community growth and enhanced office services for self-employed and small business professionals. A strict definition of spaces would be assuming the result of the design exploration. In order to provide a loose understanding of how space can be used, estimated space allocations were included but are not required to be strictly followed. The program serves as a starting point for the investigation to occur.

In order to best explore spatial relationships, study spaces should be developed as components that can be used to serve different office needs and functions. These components can be analyzed for their individual effectiveness and rated by what type of work occurs best in them. After designing these components, they can be arranged so that interactions can be studied. This breaks down into studying the solid and the void and how they interact.

The final design solution should meet the requirements for adequate lighting, air exchanges, and acoustics for standard office design. It is required to meet ADA code and other codes required by law. The space should provide the optimum working environment for small businesses and self-employed professionals. The program should be flexible so that it can comfortably function at high occupation. By meeting all of these essential criteria, this design investigation will demonstrate a clear understanding of coworking architecture and develop a discussion about office planning and practices.

## Bulleted Summary

### *Required:*

- Office space
- Kitchen space
- Public space
- Mechanical room
- Café and Bar
- Conference rooms
- Restrooms

### *Recommended:*

- Recreational Area
- Community library
- Presentation space
- Views to Main Ave
- Creativity room

### *Optional:*

- Outdoor access
- Enclosed offices
- Multi-story views

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# Product





## Approach to the Design Process

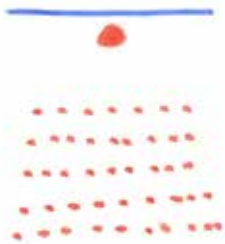
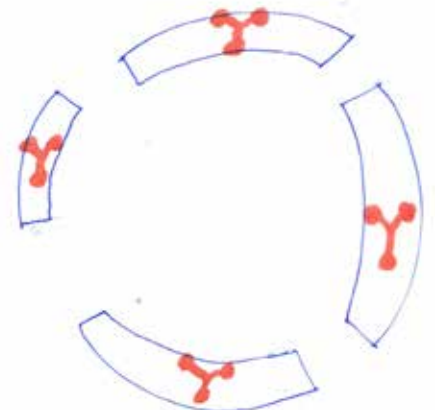
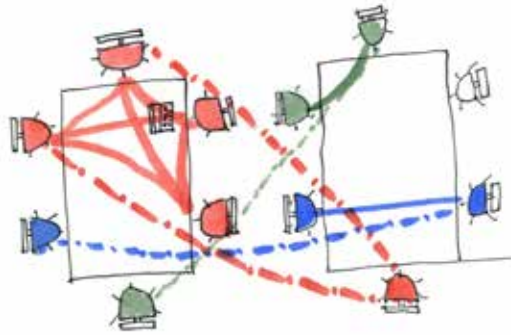
In order to understand what is architecturally unique, I began the process of investigation by building a record model of the existing building. As I began this process, I was interested in how someone studying coworking and relationships would build this model. This led into an investigation of how to graphically draw relationships and interactions.

The process evolved into large studies spaces and how all people could potentially interact. The distance that noise is projected and heard, what people could see and how materials played a role were all factors that were found to be important. The graphics on the following spaces show the intensity of interactions based on furniture layout and room size and dimensions. These graphical studies were the source of information for many of the discoveries and design decisions.

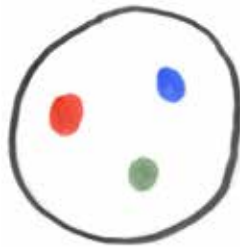




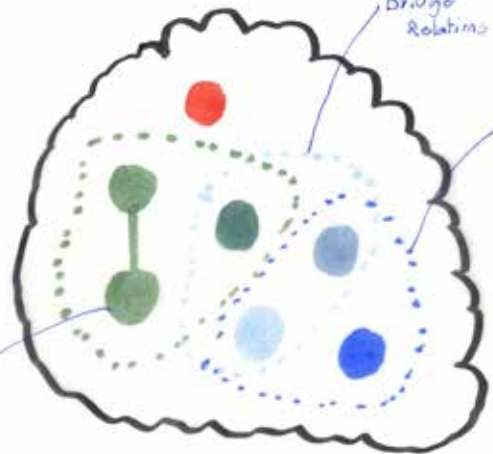
Group as  
a fixed p  
all work  
together



Present  
one



Unrelated  
individuals

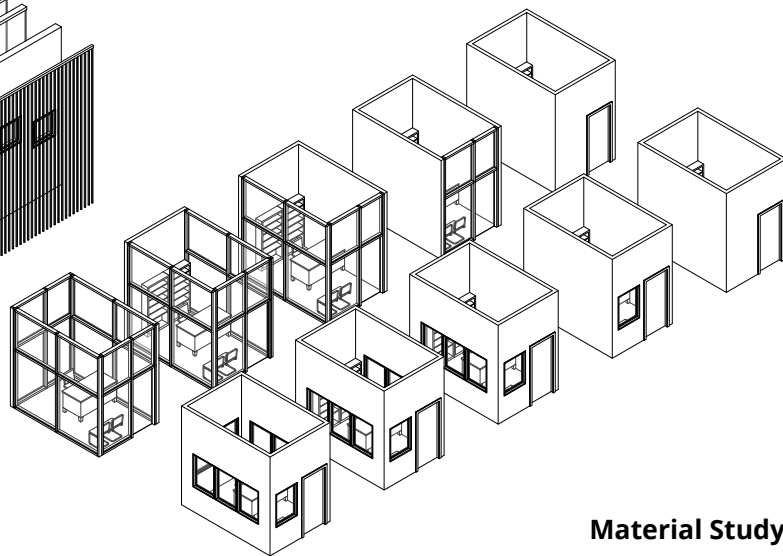
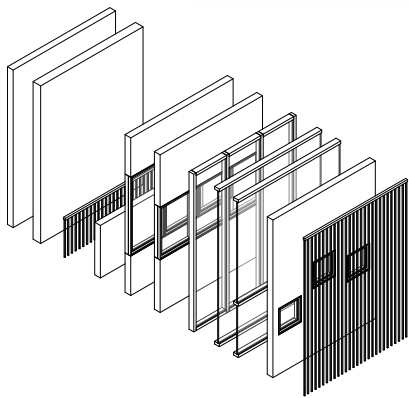


Drugs  
Relations

Related  
individ.

Team of  
two

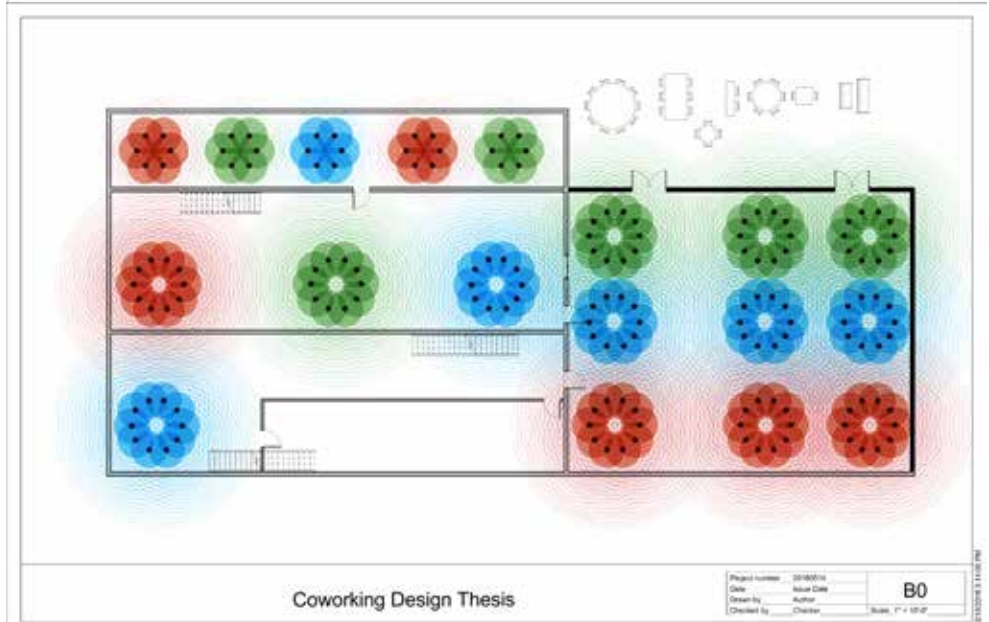
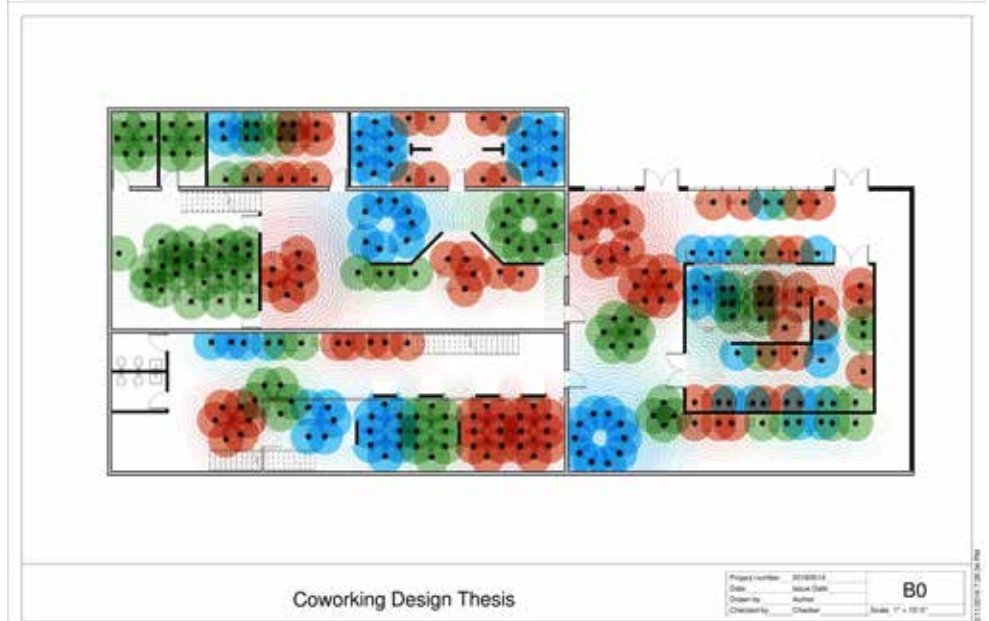
### Graphical Relationships

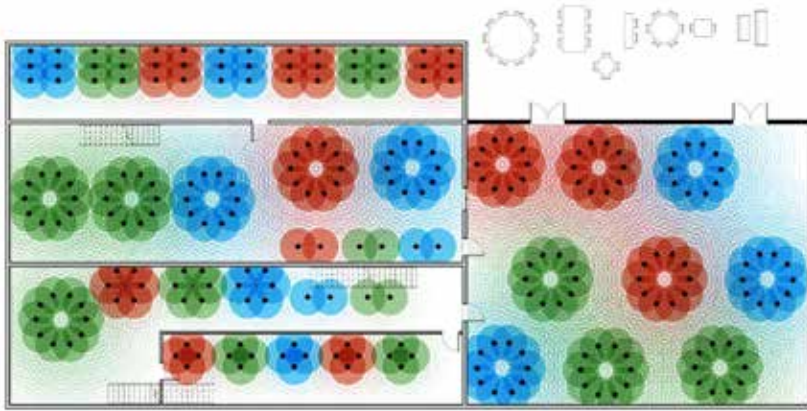


### Material Study

## Acoustic Studies

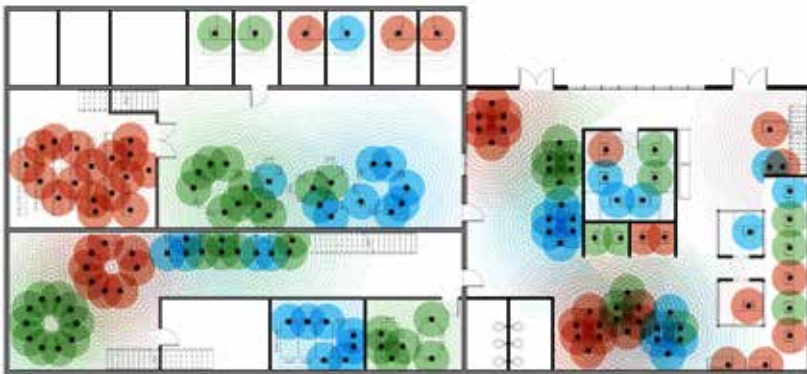
The acoustic studies showed that large open rooms could host big conversational tables and have intense areas of interaction. They also showed how tables should be located along corridors in order to maximize familiarity. After a certain amount of walls were built, space became too separate and interactions between groups were hard to achieve.





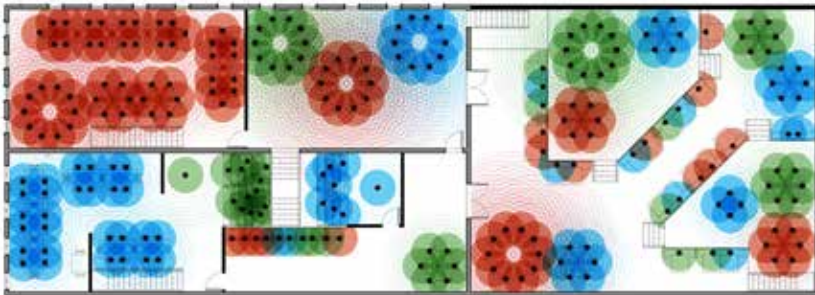
Coworking Design Thesis

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Drawn by	Author	
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Coworking Design Thesis

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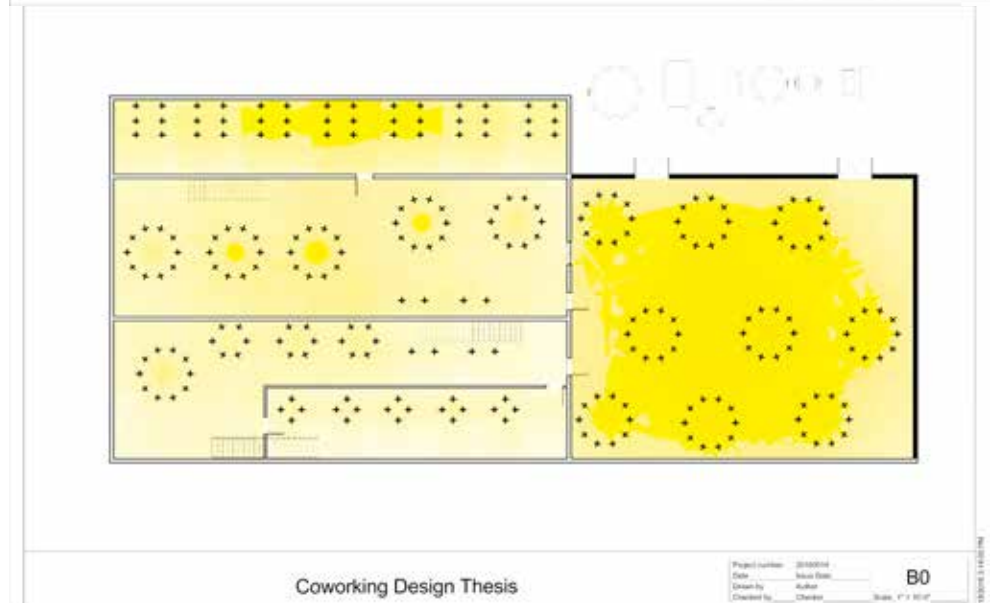
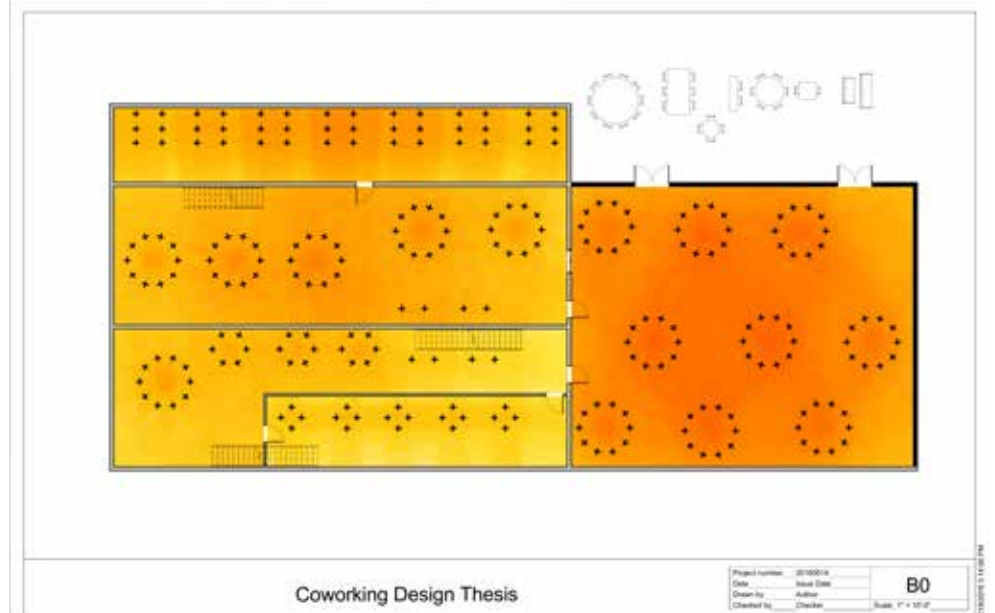
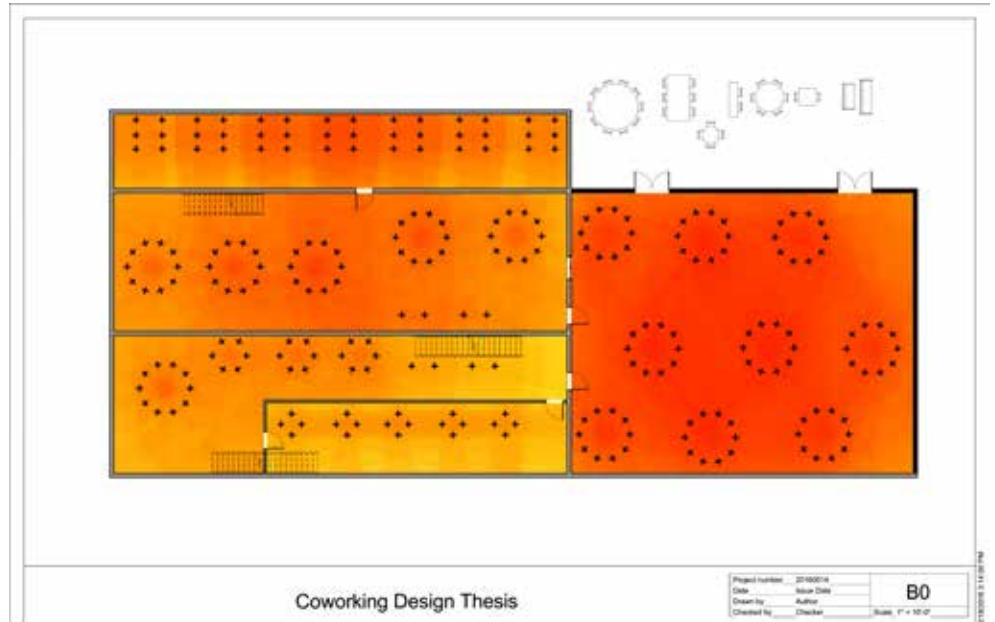
Coworking Design Thesis

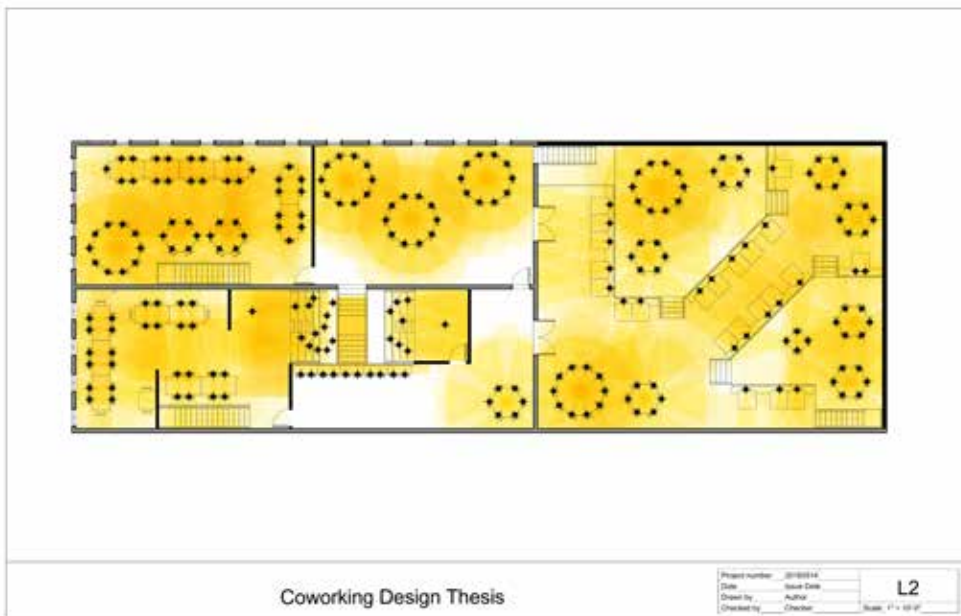
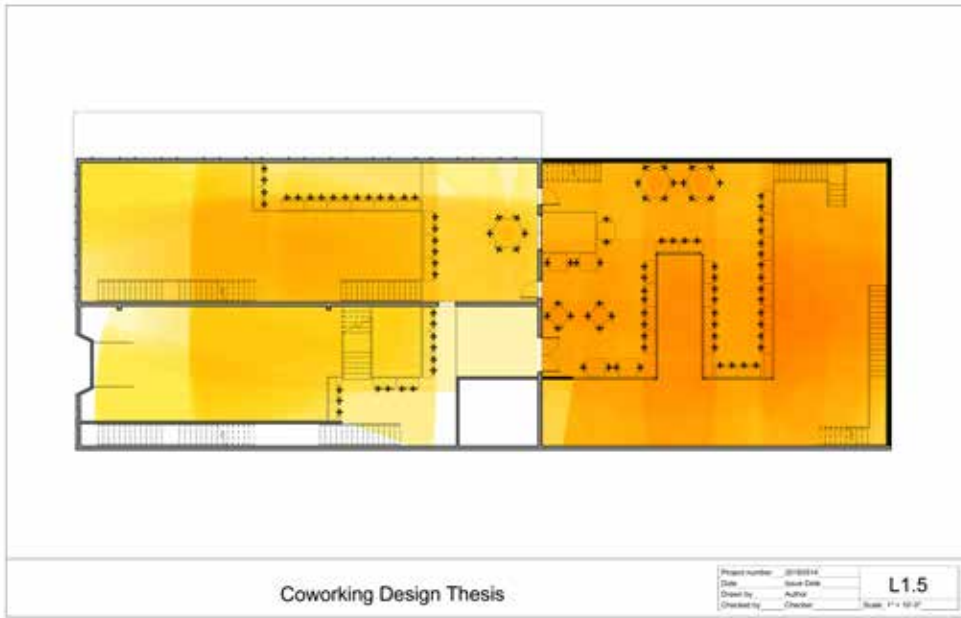
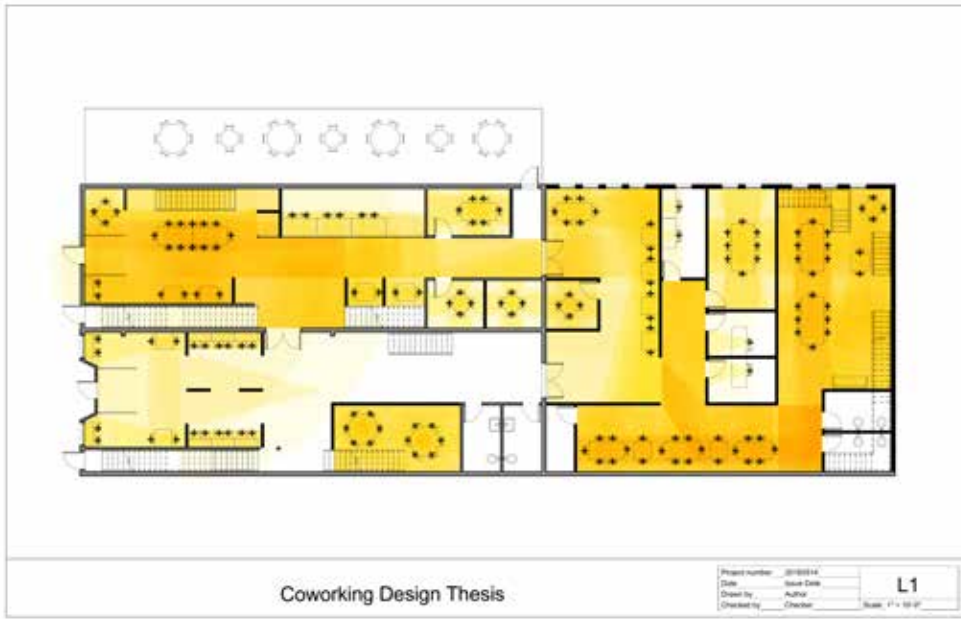
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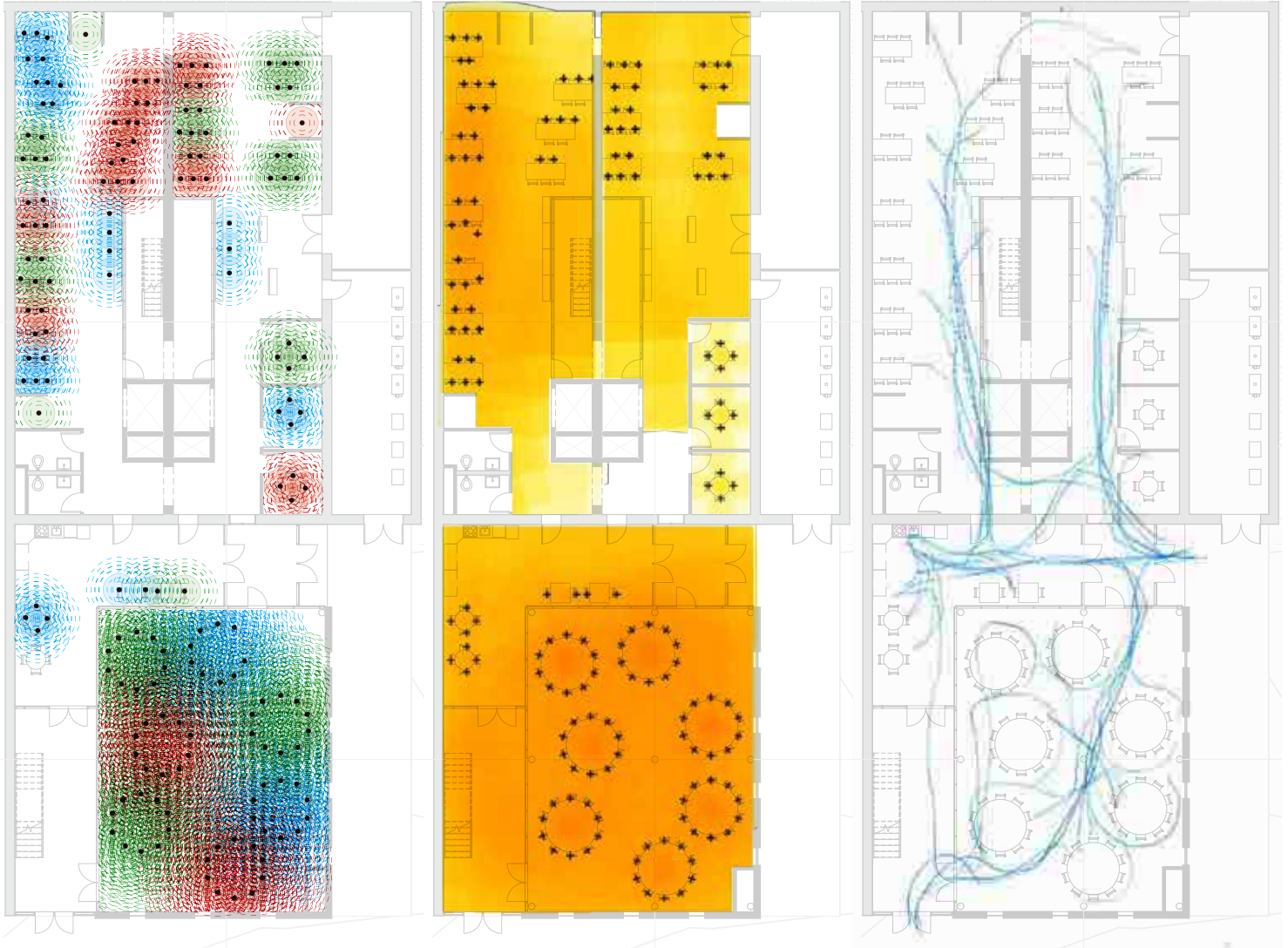
## Visual Studies

I studied visual connectivity by placing a 15 degree cone in front of each seated location. After all of the cones overlapped, I saw that darker areas were visible by more people. Spaces that were more visible could be perceived as public, while spaces less visible were more private. There seemed to be something unique about privacy that is inherently visual and not acoustic.

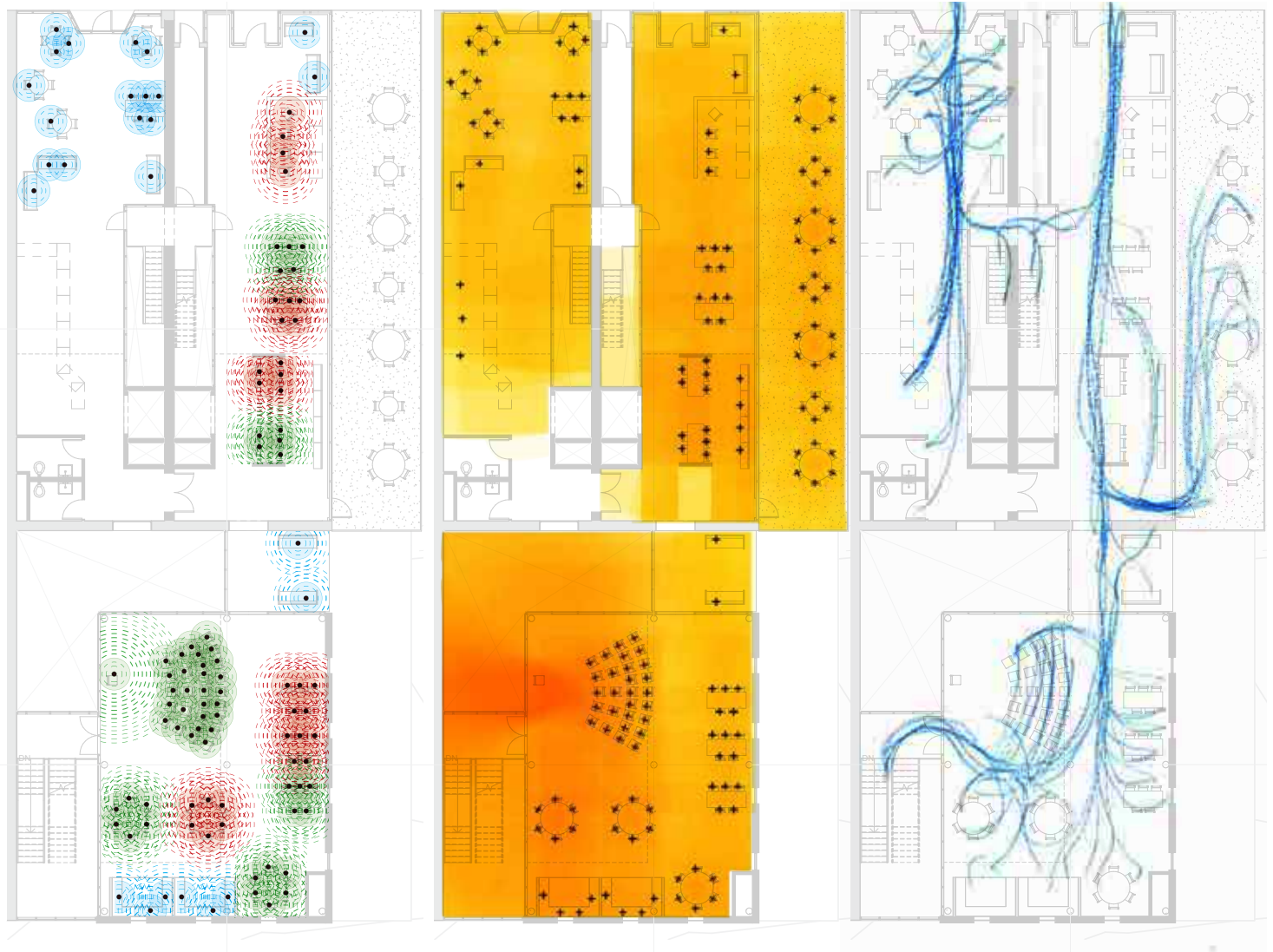
From this I found that furniture placement largely decides the direction and amount of views, but the intervening walls reduce the feeling of space being public. In creating a community, it is important to have space that is viewed as publicly occupied.



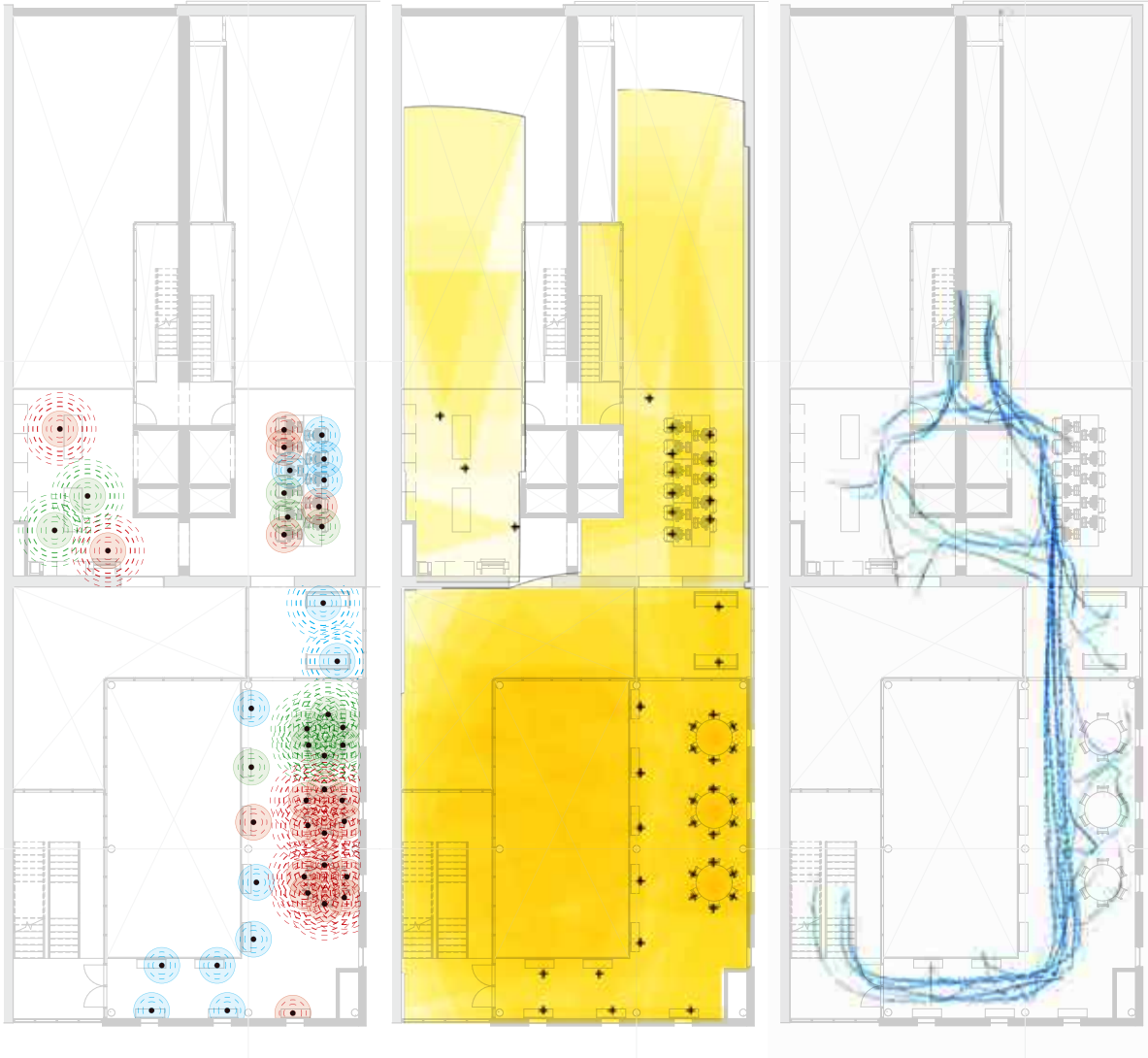




## Basement Level

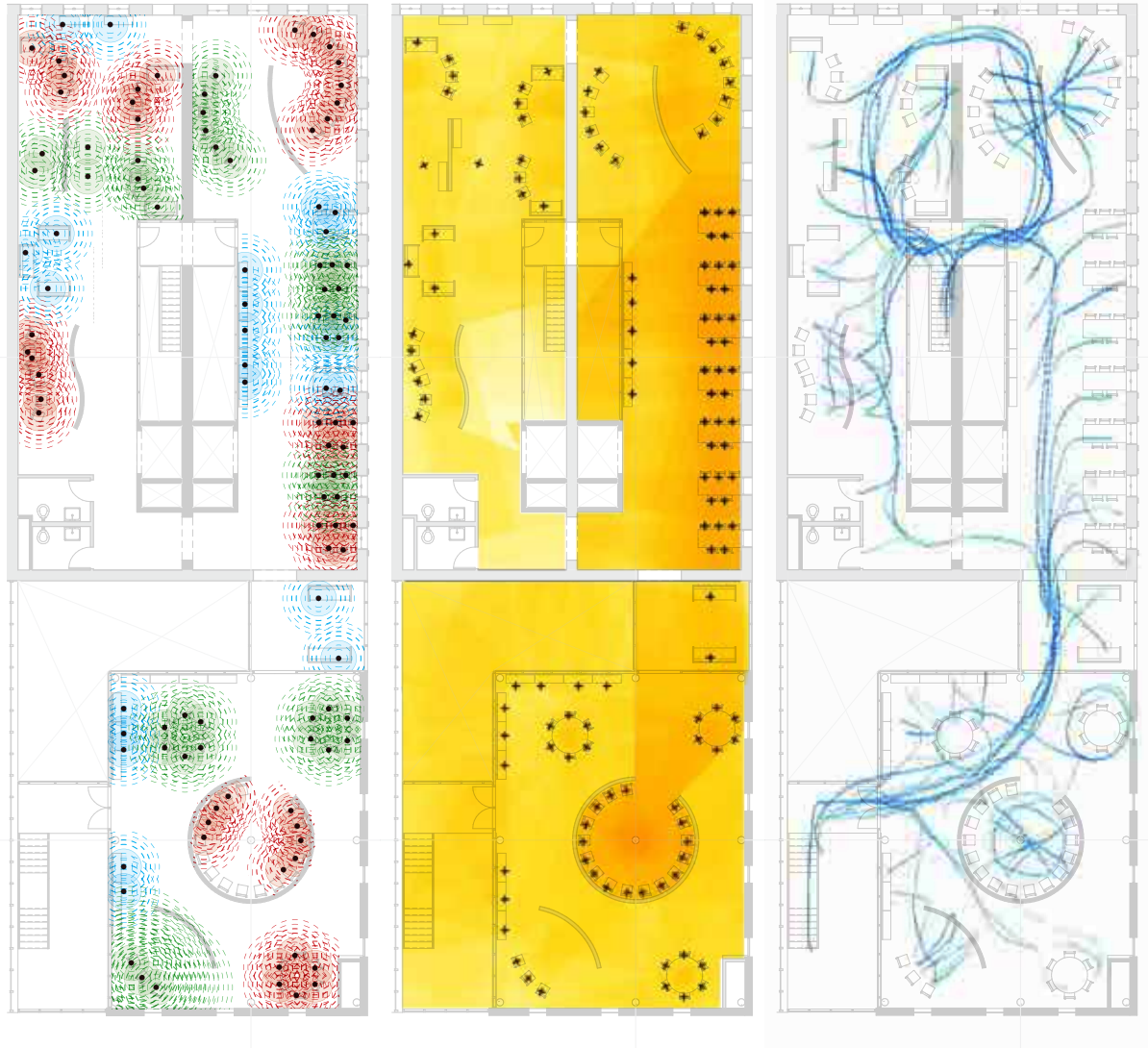


**Level 1**



## Mezzanine Level



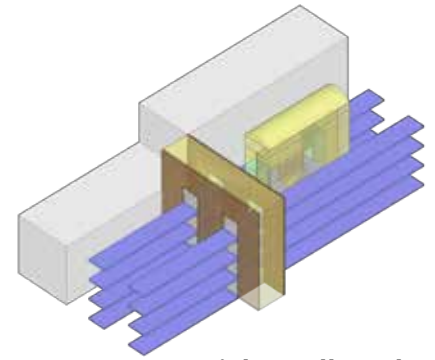


**Level 2**

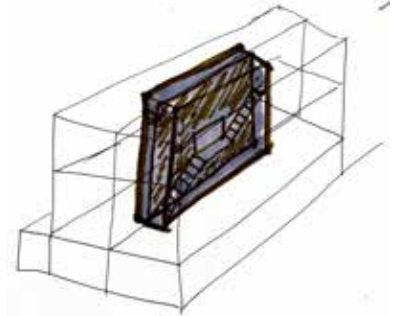
## Design of Major Architectural Elements

After understanding the relationships of interactions and interior space, I learned how inheriting an existing space did not necessarily lend itself to optimal coworking design. The graphical studies allowed me to see functional use of space in plan but they did not transfer to section in the same manner. This encouraged me to study the building in small building sections. I looked for options to include atria, centralized circulation, and split level views. This technique of sectioning a model into chunks was informative in allowing me to see spaces and adjacencies that were otherwise invisible.

Another technique I used to investigate vertical adjacencies was building the physical model in virtual means. I was able to understand the bare essential elements by the process of building the physical model. Then, by virtually modeling the representation, I was able to focus on the core elements without being encumbered by too much information.



Light Well Study



Horizontal  
Vertical



Circulation Sketches



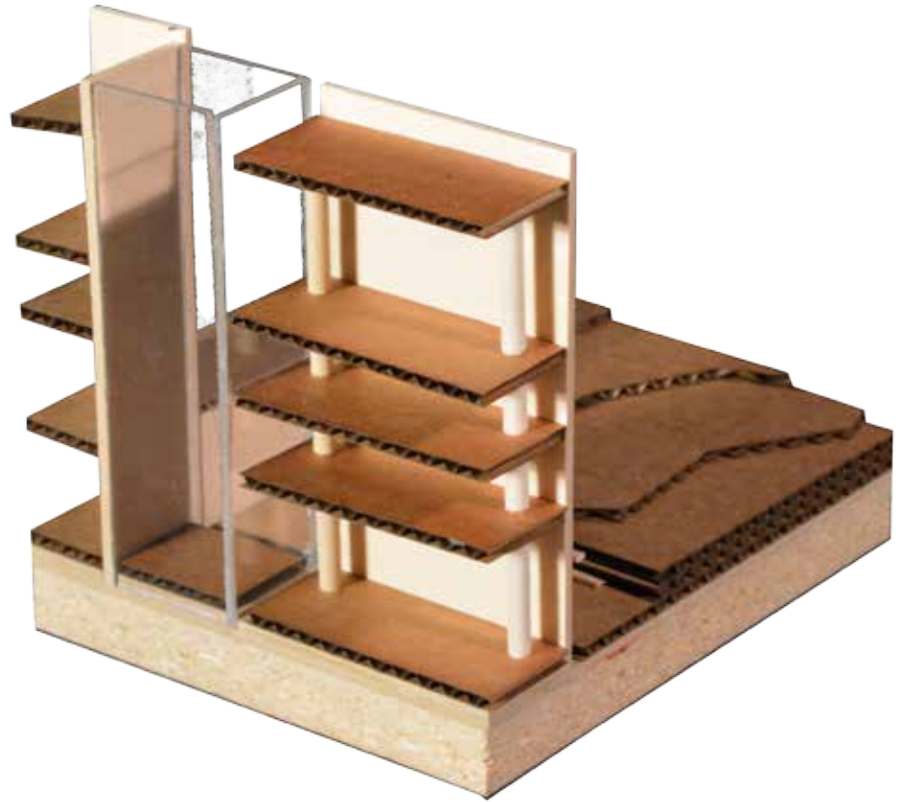
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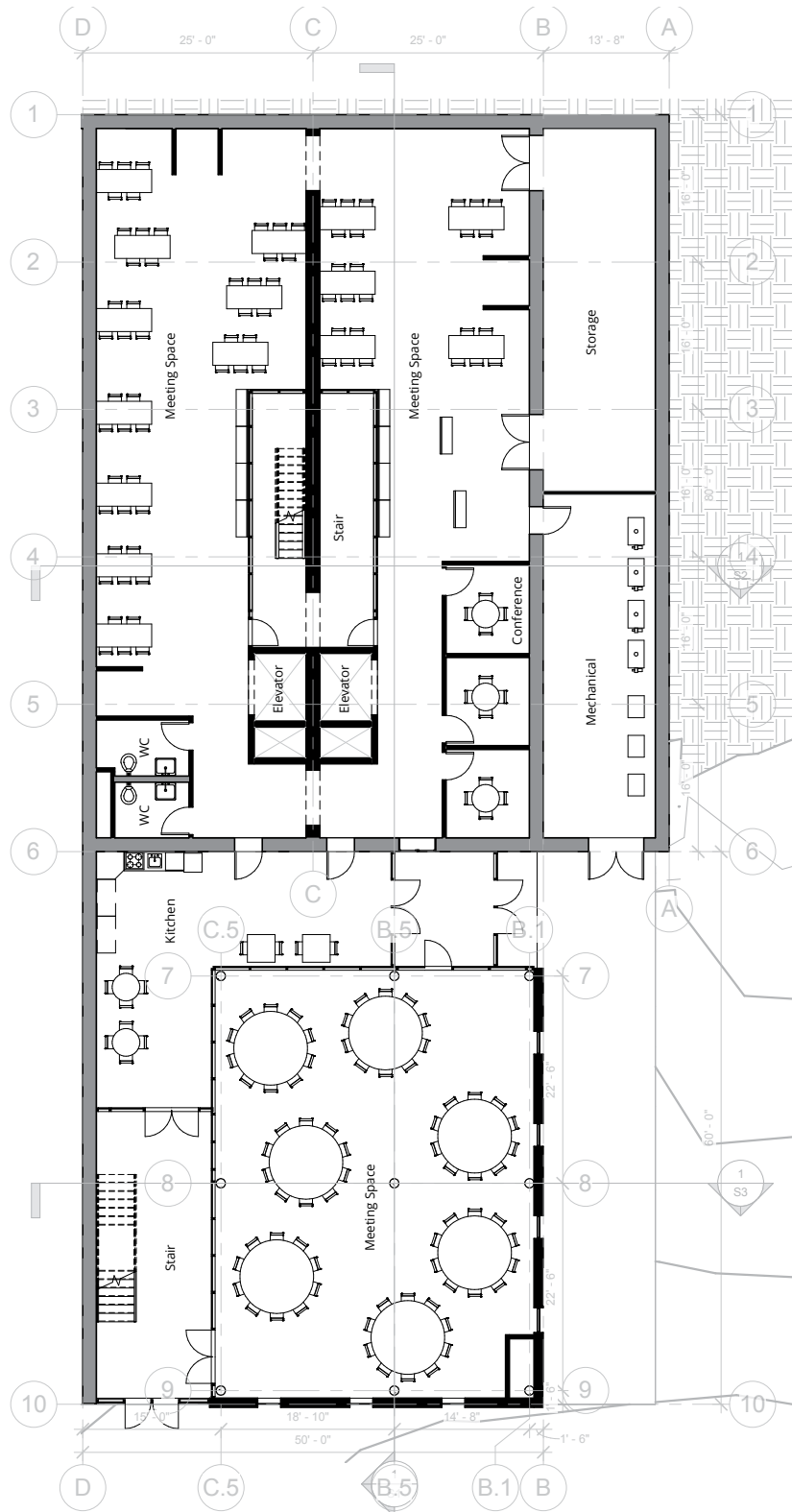


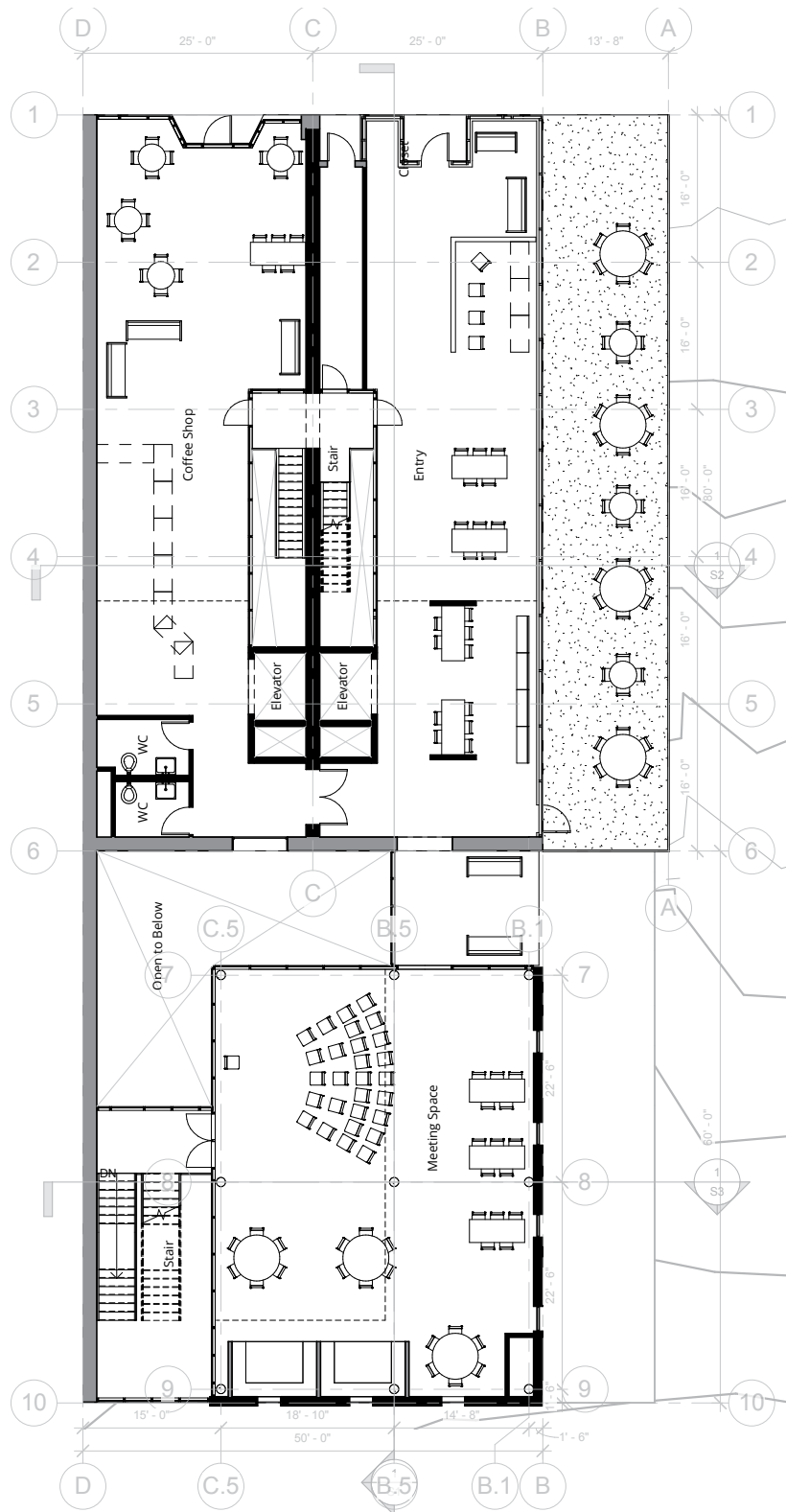
## Research Product

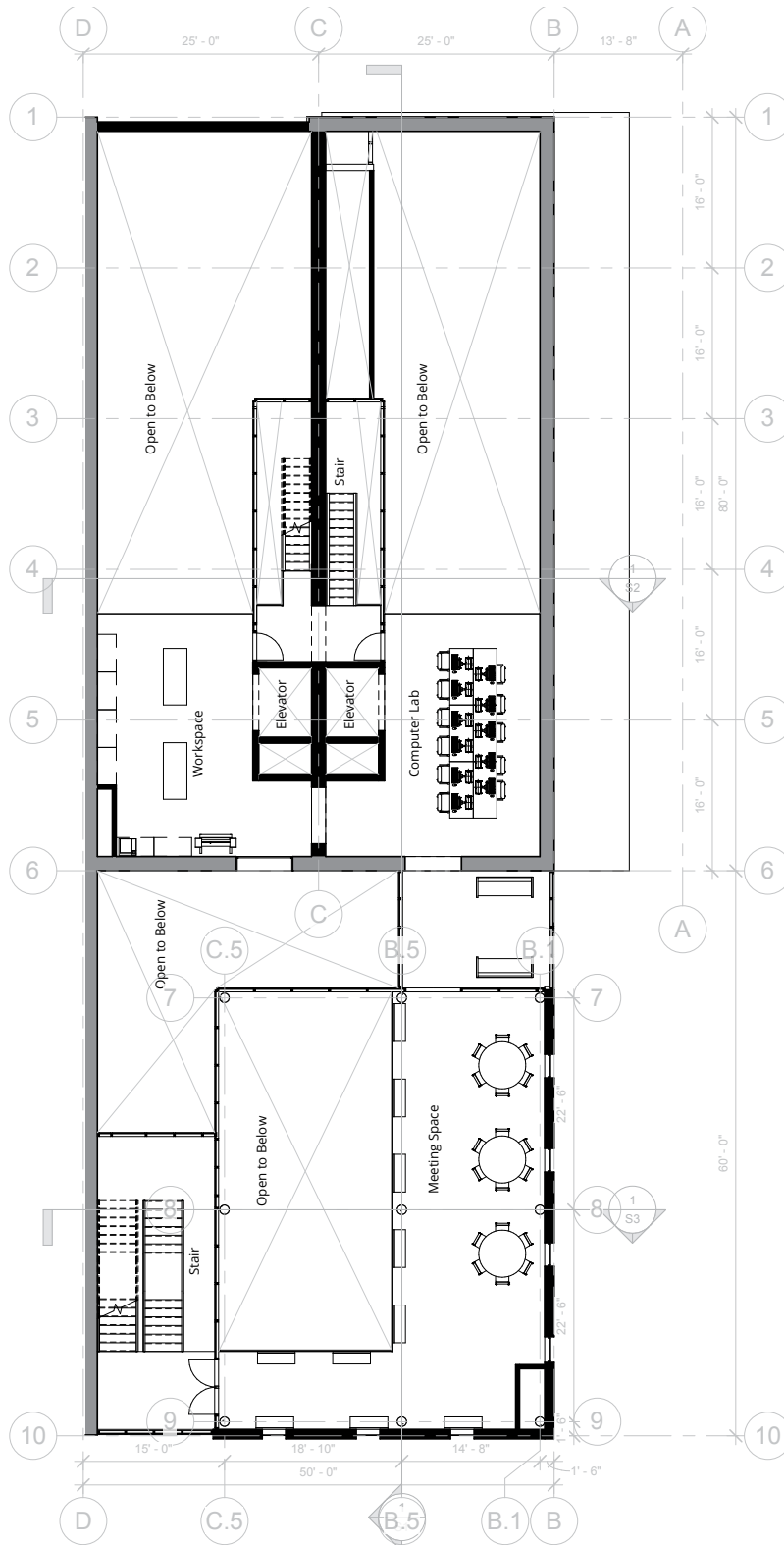
After implementing the results from the design investigation, I produced a building that allowed me to understand the success of the research. I found that centralized corridors and placement of furniture was successful. However, these presented new design challenges. Having appropriate egress with the new central stair became an issue because the transparent glass walls needed to be fire rated. Similarly, the atrium and mezzanine spaces need to achieve appropriate fire rating.

The plans show existing walls in gray and new or highly altered walls in black. In the sections, you will see how the spaces interact vertically. These are directly formed from the results of the chunked section models. Though I produced a building as a final product, what I found most valuable and interesting were the techniques in investigation. While looking through the final drawings, keep in mind that these were directly tied to the process identified in the previous section. These final drawings should be a lens to judge the success of the research methods.

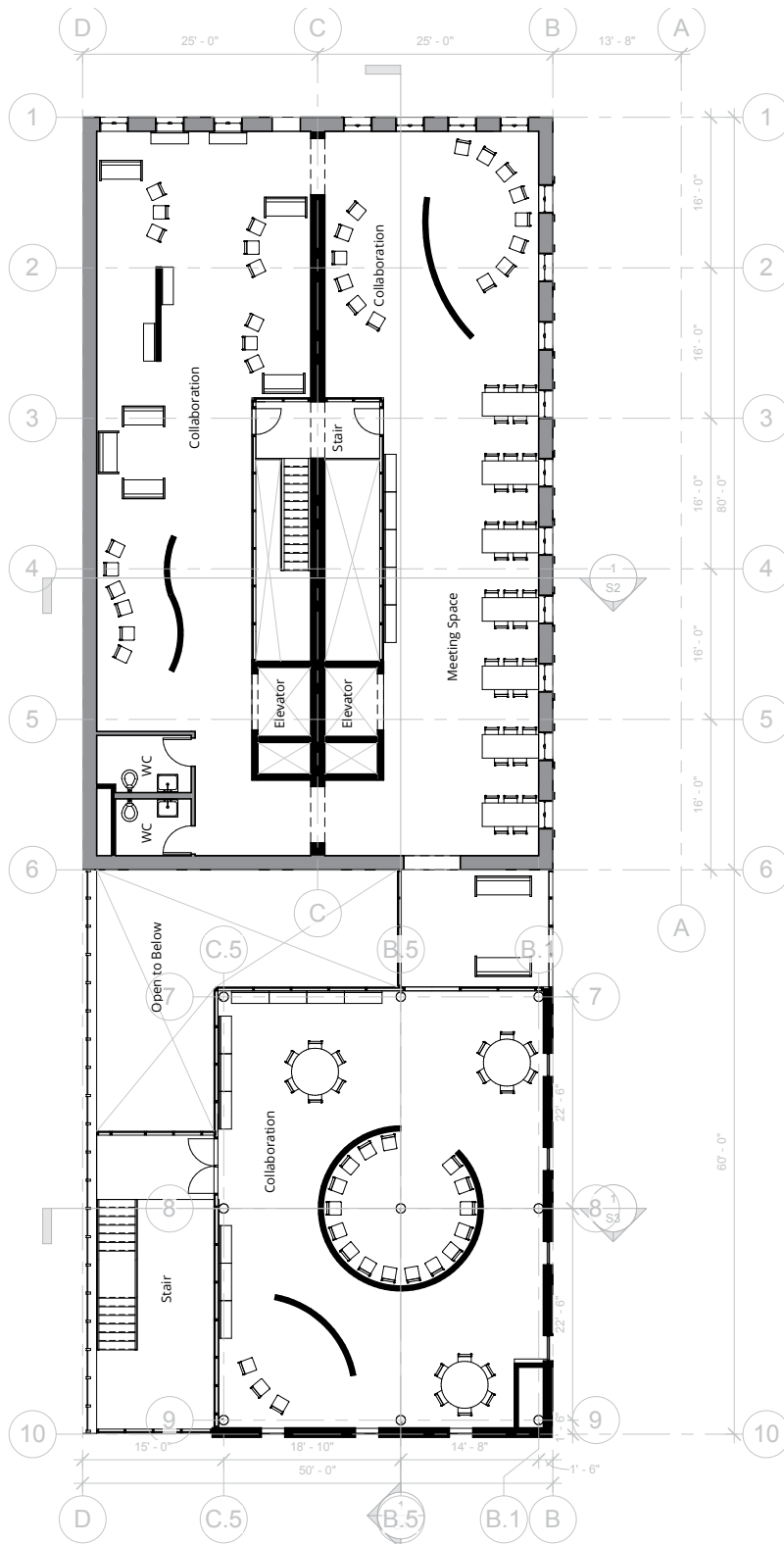






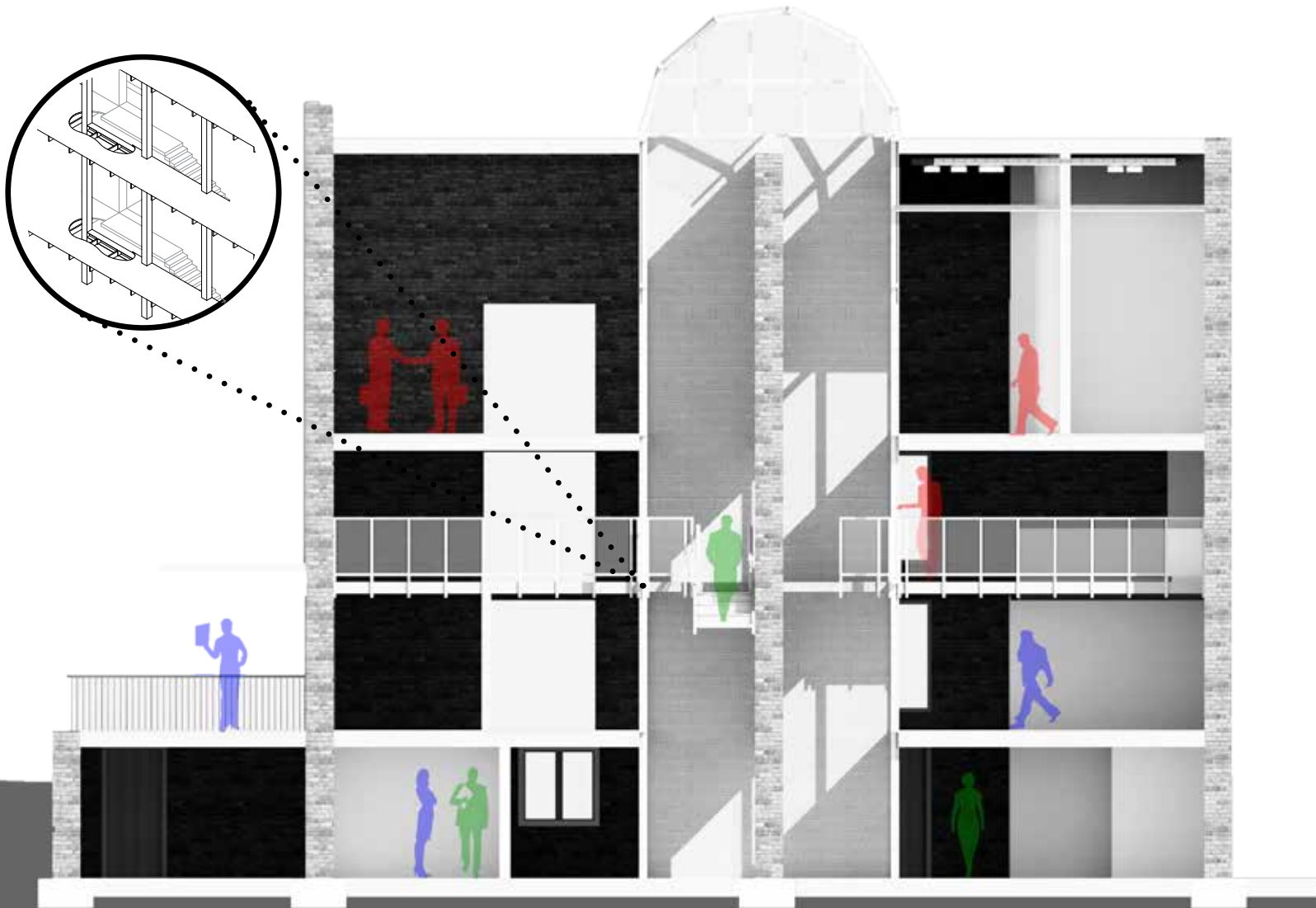


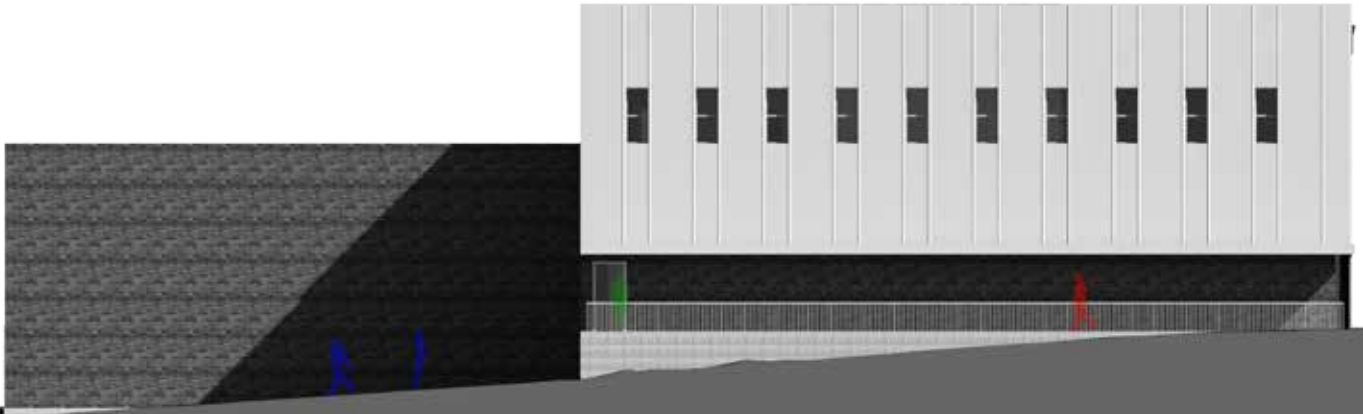
Mezzanine Floor Plan





Section 3

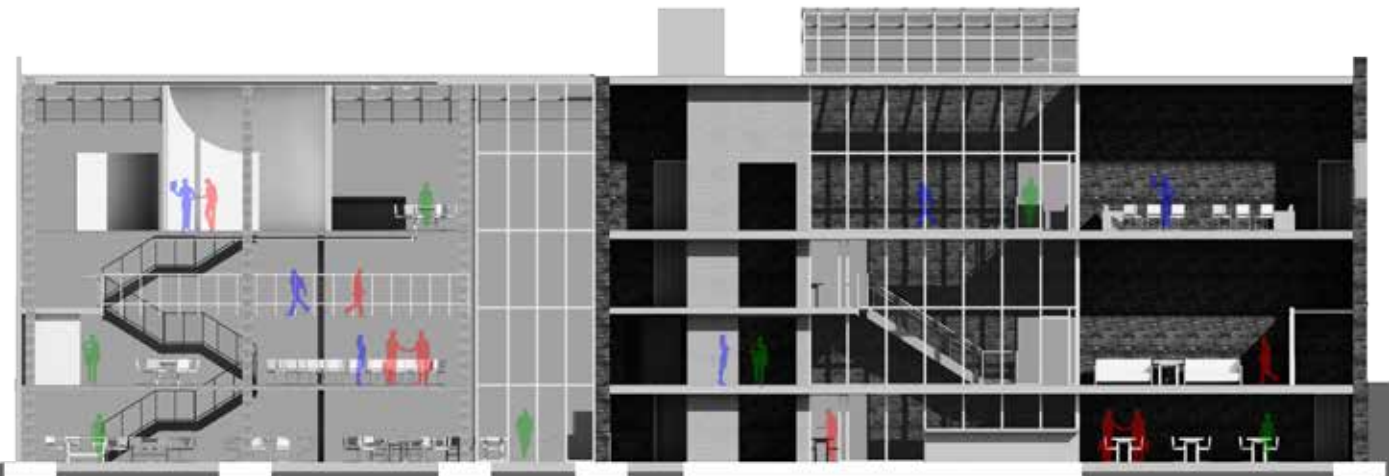




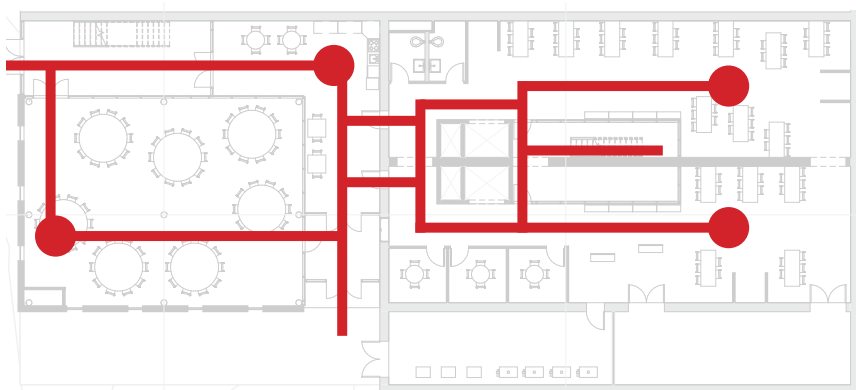
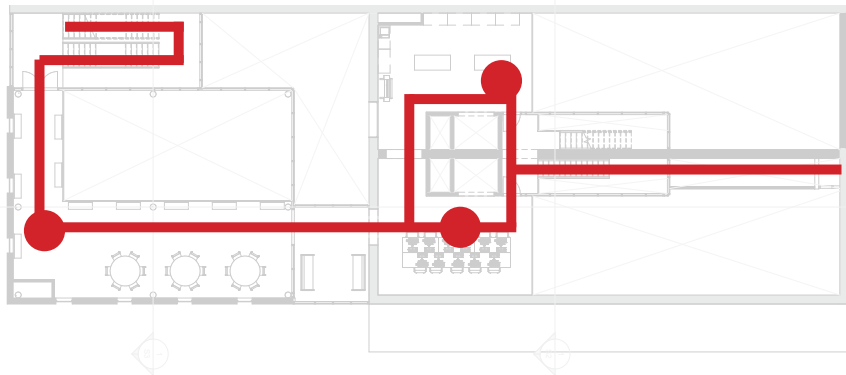
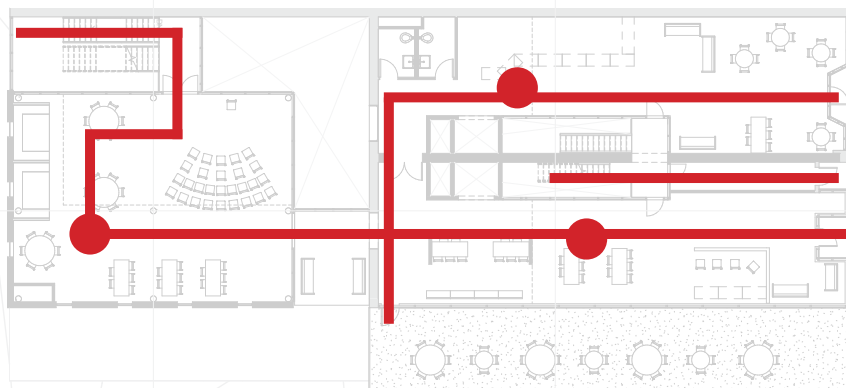
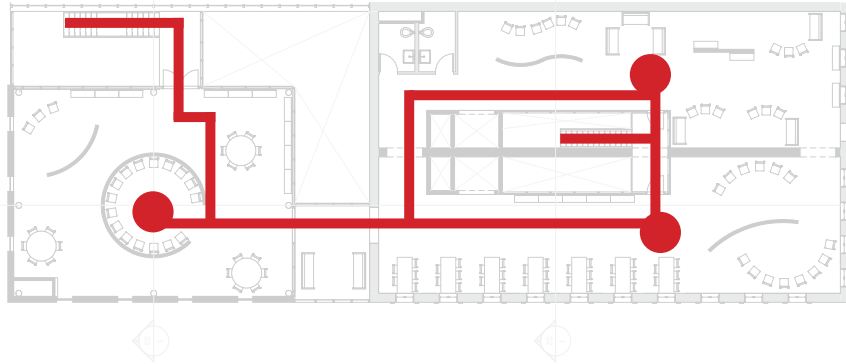
Existing Elevation



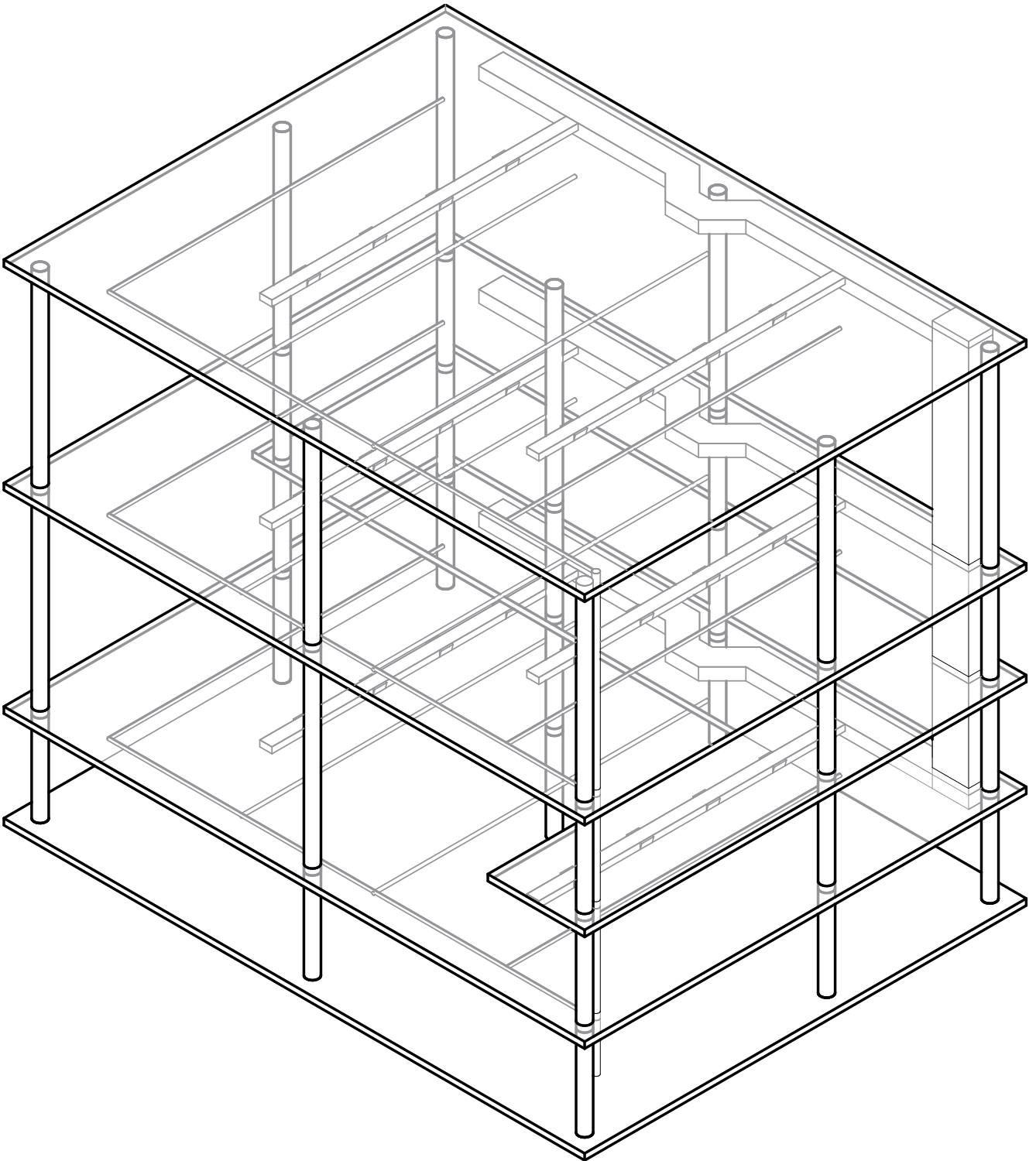
Proposed Elevation



Section 1













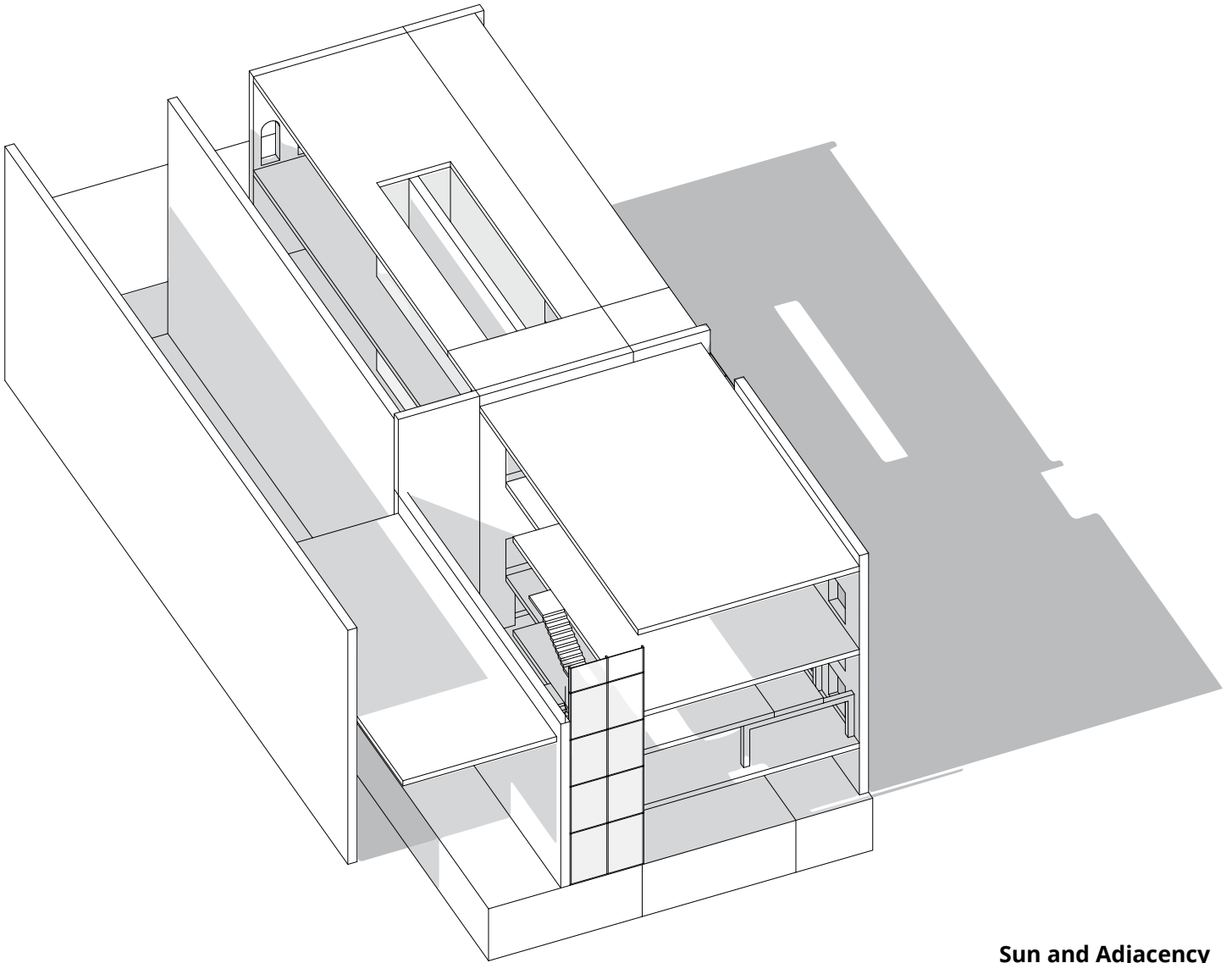


## Site Conditions

Building on a dense urban site requires extensive understanding of the neighbors and how they use their space. It also requires an understanding about how new changes to the parcel will effect their daily business. The neighbor most effected by the south addition is Rhombus Guys. Their rooftop outdoor seating is directly adjacent to the new construction. This opportunity allows the visitors to look into the coworking space while protecting them from bad shadows or harsh glaring sunlight.

Another important design aspect is how the building greets the sidewalk and pedestrian traffic. The corner of a block is an important design element that connects interior space to the larger global context. The sidewalk connection provides an opportunity for semi-enclosed space. This could be achieved through movable doors or operable facade features. Further investigation would be encouraged beyond the study of this project.





Sun and Adjacency

## Sun and Adjacency

The south part of the building is directly adjacent to a rooftop eating area for a local pizza restaurant. The views from the restaurant were incorporated in the design process. The roof next to the eating area curves to avoid harsh sun angles. The transparent glazing allows the rooftop visitors to peer into the coworking space to begin to question and understand the function of this nearby space.

### **Building on the Precedent**

Using the lighting, acoustic, and general office design requirements identified in previous sections as a foundation, this thesis satisfies the requirements of a functional office then studies increased interactions. The general office comforts and needs were kept on my mind while considering the specific nature of coworking. The approach encouraged creativity to explore interactions while satisfying the needs of office design.

There are many built coworking spaces. However, few of them are documented compared to the built projects. Many of these projects are small interior renovations that do not involve major construction or design and could be completed by the owners of the coworking space. This was the case with the Prairie Den. Renovations were small including new paints and surfaces and a few built walls. The primary design elements were artistic and furniture arrangement.

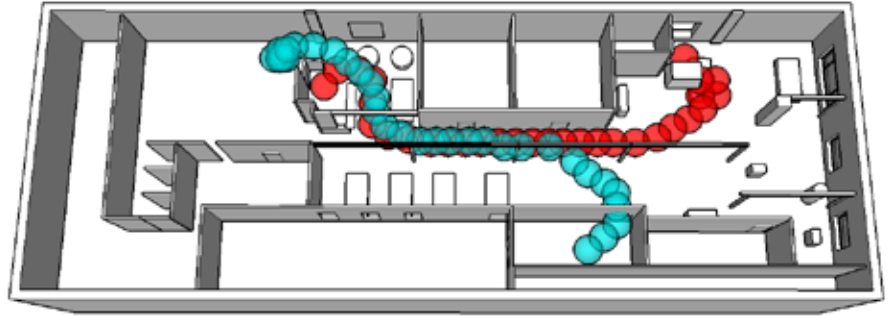
Since surface treatment, partition walls, and furniture movement were the common and available tools of the coworking space manager, I separated my study into major architectural intervention and minor arrangement changes. Starting with the minor arrangement changes helped me to understand the needs and approach of the coworking space manager. Then, after understanding these challenges and needs, I intervened with major architectural elements and decisions.



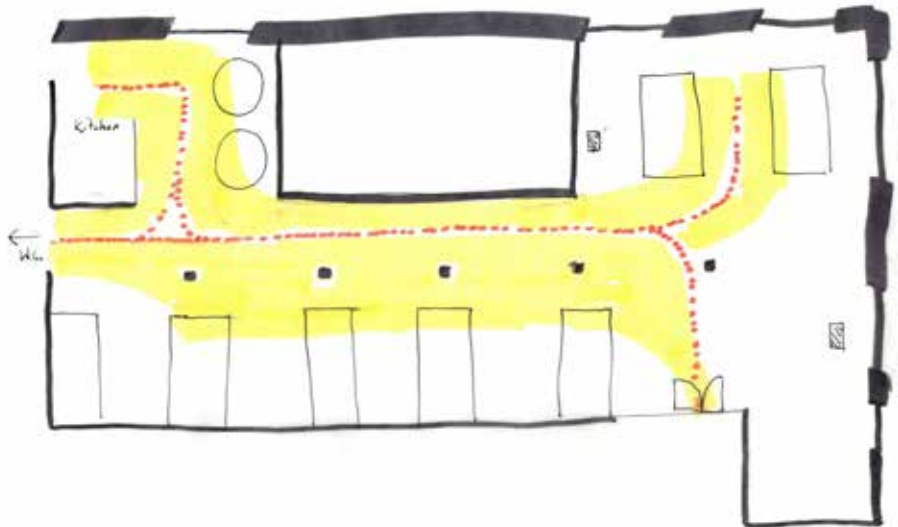
## Existing Prairie Den

The existing Prairie Den provided the best opportunity to watch and study how people used the space and how interactions and connections were formed. First person observation of this space was the best available precedent. I was able to understand the space through interactions and human use instead of abstracted technical drawings. This approach was more similar to coworking and led me to be well informed on the issues specific to this investigation.

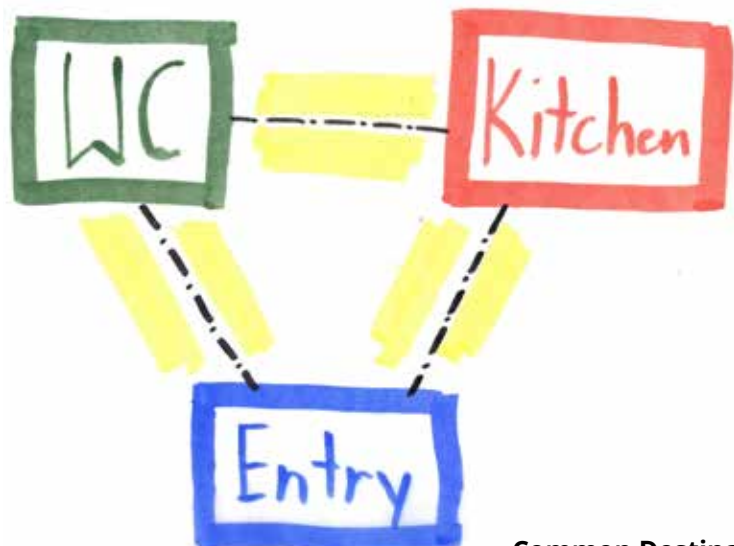
The traditional office precedents explain how to create a place where people are effective in their type of work. This thesis incorporated that research and looked and circulation paths and how interactions were formed. These diagrams explain how people are prompted to circulate and their impact on the space around them as them travel from on place to another.



Graphical Movement



Den Circulation Adjacencies



Common Destinations

## **Analysis of the Research**

The intent of the research was to determine the architectural elements specific to coworking and to promote connectedness within the space. Architectural elements that were most influential to the design were the corridor, the connection to the city, atria and light, and split level views.

Since interactions were available along circulation paths, centralizing and organizing these paths became important in order to optimize the potential for interactions. The existing structure had stairs and corridors all throughout the building. However, since the goal was to maximize the use of these interactions and provide spaces with high and low frequency interaction areas, centralizing these became important to the design. These centralized circulation areas also provided an opportunity for light to come in and fill the space. They also allowed views between spaces so that people could see each other. The challenges that arose from atria and light wells were meeting appropriate fire rating while maintaining and visibility through the space.

Split level views were achieved by the added mezzanine level. This level collected all resources such as printing, computer labs, and work tables so interactions could occur in a common location. Views were set with standing desks overlooking the floor below. By allowing people to see each other from separate levels, people become more familiar with the other members and are more likely to interact and form connections.



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## Personal Data



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Hometown:

Council Bluffs, IA

“NDSU”

## Studio Experience

### 2nd Year

Fall: Stephen Wischer

Tea House | Fargo, ND

Boat House | Minneapolis, MN

Spring: Phil Stahl

Dance Studio | Moorhead, MN

Mobile Residence | Anywhere

### 3rd Year

Fall: Paul Gleye

Urban Renewal | Moorhead, MN

Spring: Frank Kratky

Steel Interpretive Center | Fargo, ND

Center for Learning | Chicago, IL

### 4th Year

Fall: David Crutchfield

High rise | San Francisco, CA

Spring: Steve Martens

Historic Events Center | Fargo, ND

### 5th Year

Fall: Mark Barnhouse

Wetlands Research | Ulen, MN

Spring: Mike Christensen

Coworking Space | Fargo, ND