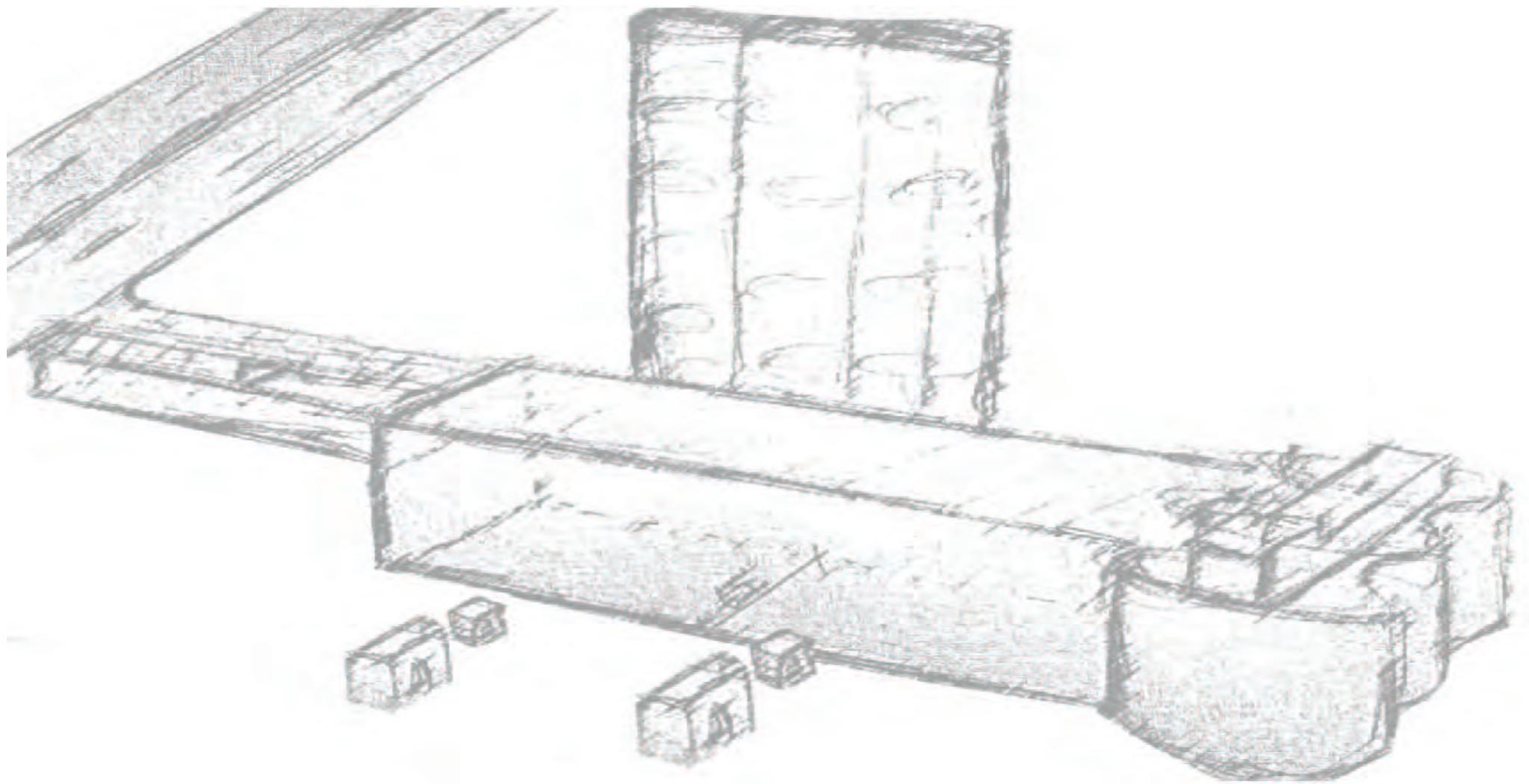




The Beehive

The Beehive



theBeehive

By Silas Chapman

The Beehive
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By Silas Chapman

Texas A&M University
Master's of Architecture Final Study

Acknowledgements

Throughout the 1800's, Americans migrated westward in search of a better life. While my brother, Samuel Chapman, may not have traveled in a covered wagon, his recent move to Utah from our generational home in Southern Illinois was as brave in my eyes. Therefore, I dedicate this book to my brother, a modern pioneer.

When I finished my Bachelor's degree in Illinois, Sam suggested that I apply to Texas A&M University. Without him I would not have had the opportunity to attend this remarkable institution. When we live next to each other again, wherever that may be, we can say,
"This is the place."

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I. Master's of Architecture Committee Members



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Marcel Erminy

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Professor Erminy worked as an architect on residential, multifamily, commercial and institutional projects. In 1990 he was part of the winning team for the national competition to design the Venezuelan Pavilion for Expo'92 in Seville, Spain.

His academic areas of interest include architectural design, tectonic development, interior design, architectural photography, digital imaging, visual communication and graphic design.



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Dr. Glowacki's interests include Classical and Near Eastern archaeology; ancient-medieval art and architectural history; vernacular architecture; heritage conservation; historic preservation; cultural heritage management.



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Texas A&M University
1992

Dr. Wunneburger's primary research interests include studies of social impacts due to interactions of demographics and spatially explicit policies and laws.



Studio Professor

Andrew Hawkins

B.A. (Environmental Design)
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M.A. (Architecture)
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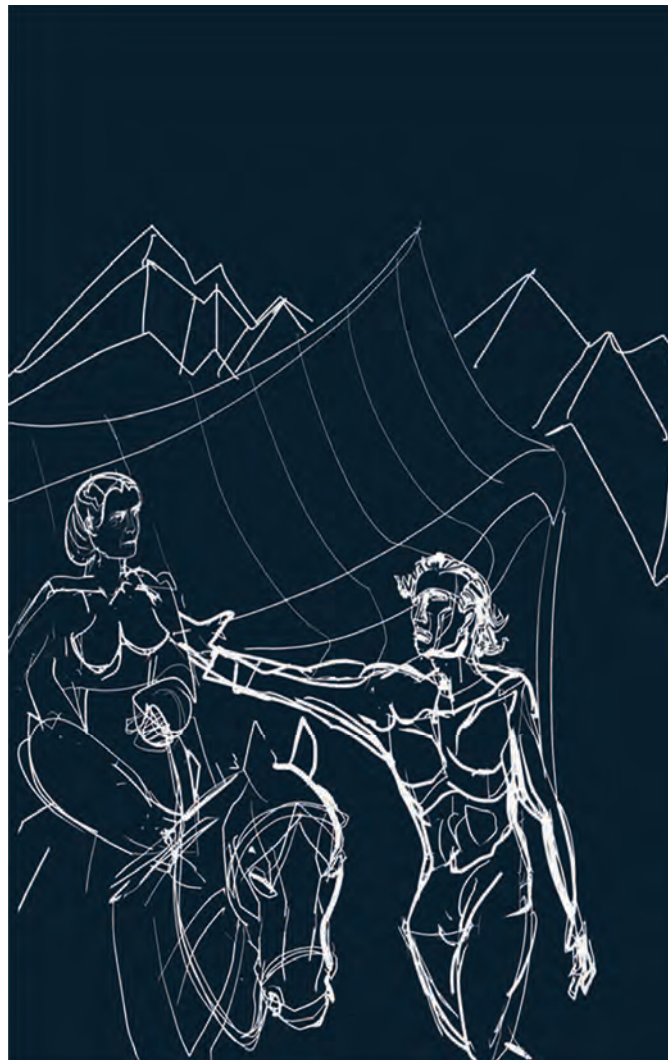
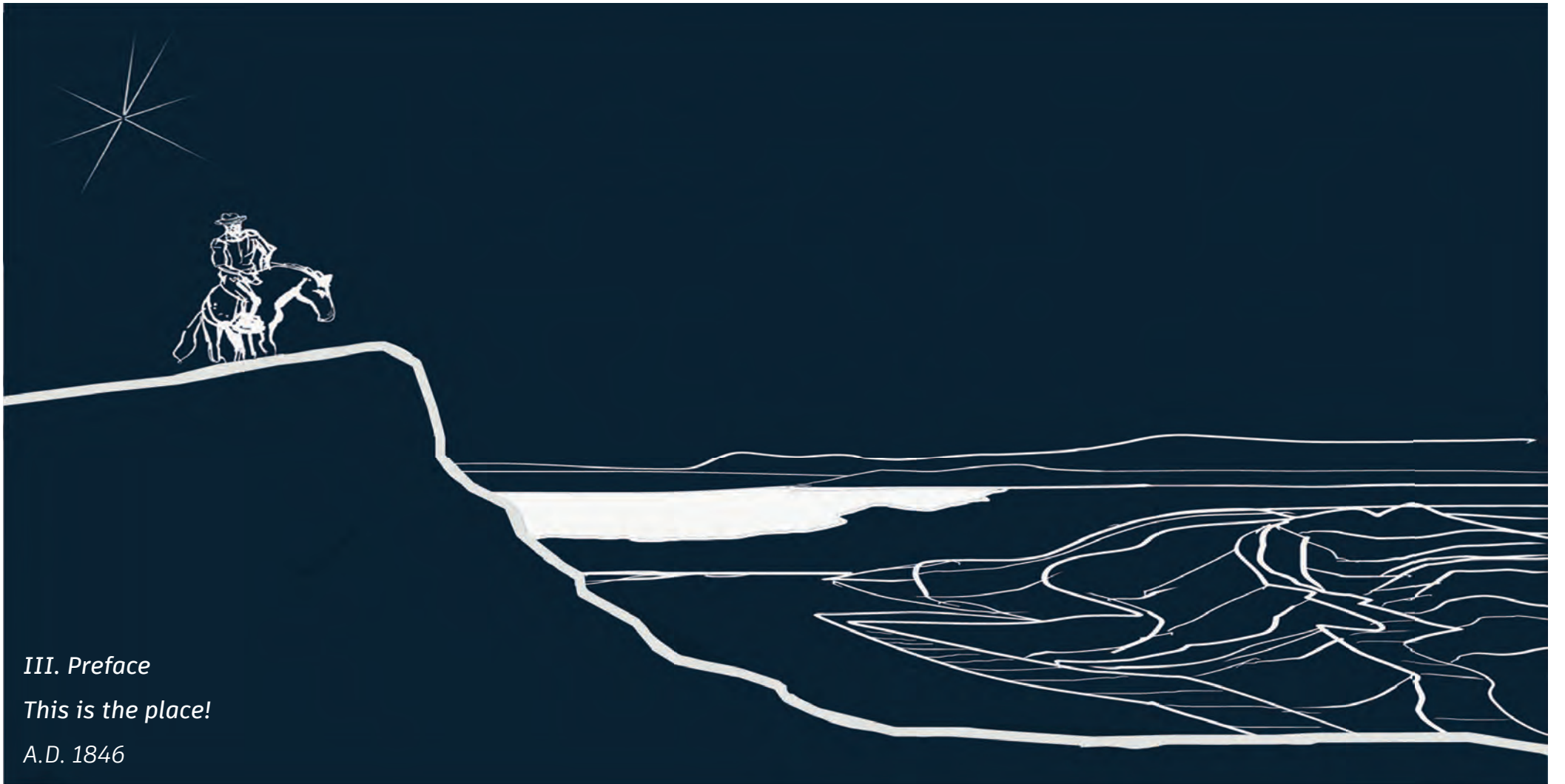
Andrew G Hawkins, AIA is an Assistant Professor of Practice in the Department of Architecture at Texas A&M University and also the principal architect of Hawkins Architecture Inc., a Texas-based practice that focuses on public project types.

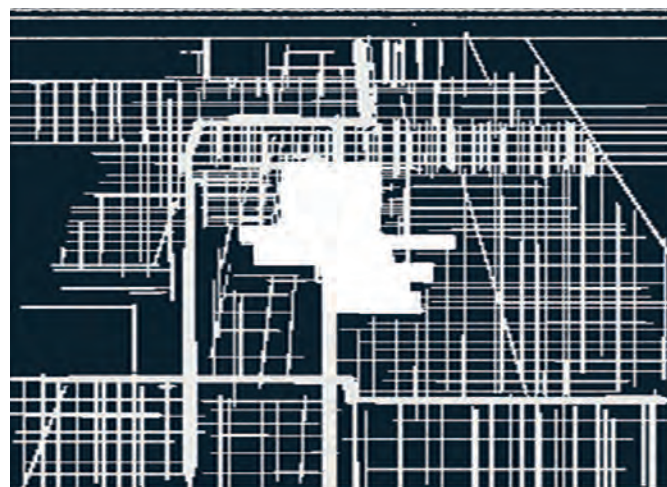
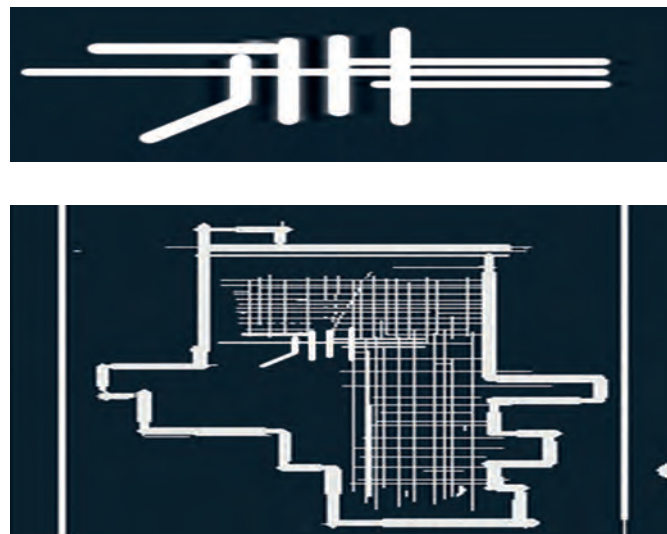
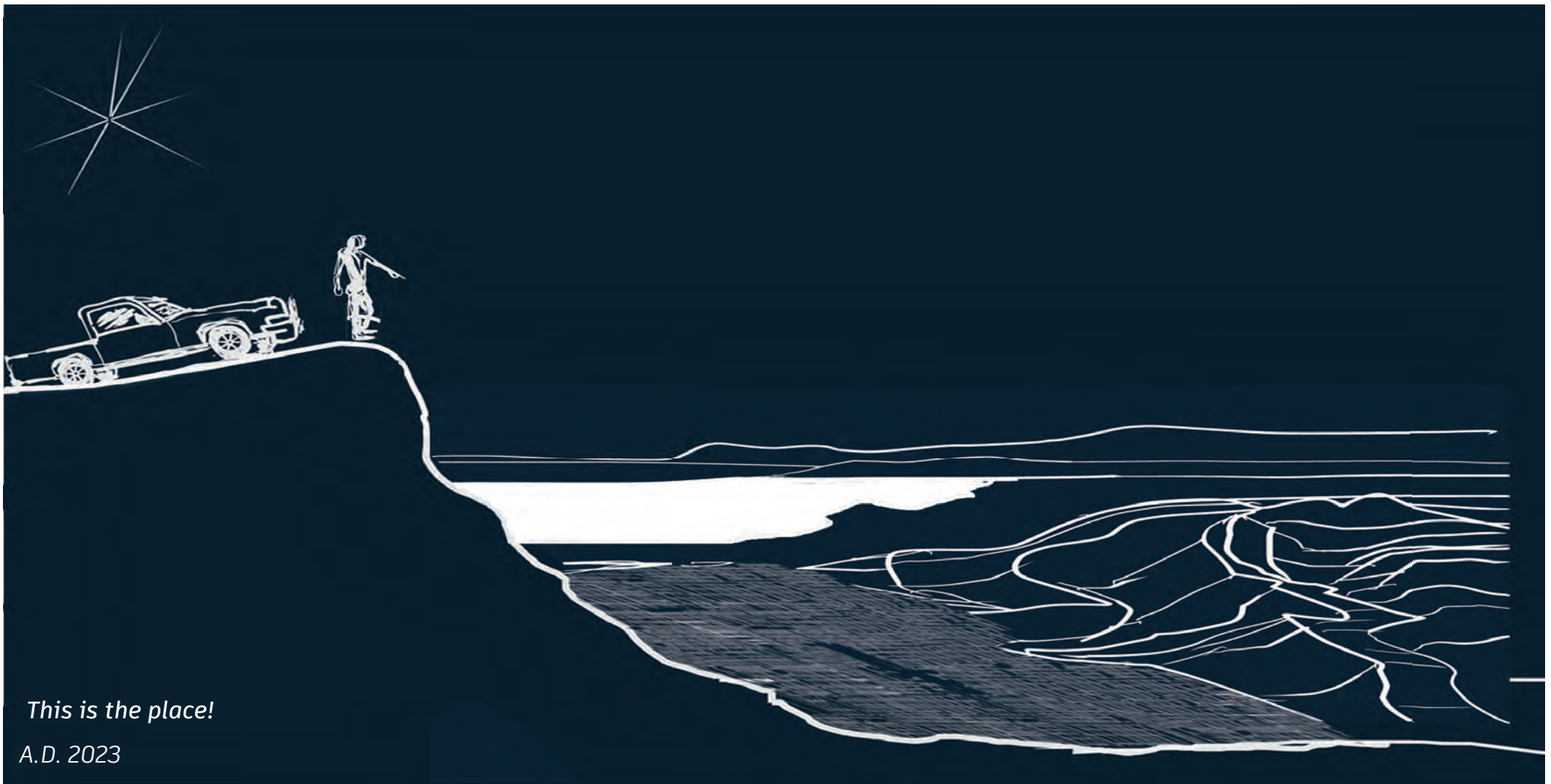
II. Abstract

Salt Lake City, Utah is growing both in population and urban infrastructure. The growth has put pressure on the housing availability which has caused developers to expand Salt Lake's urban sprawl. The city sits between two mountain ranges, one in the east and one in the west. This makes its constructable area finite. I am proposing to repurpose a portland cement factory located downtown to offer housing availability to families and young adults.

The design is a mixed-use multifamily apartment building. "Housing development is changing; for example, in Salt Lake County, single-family detached development is becoming less common (24% of new units in 2020), while middle housing is on the increase (32%), and larger multifamily units are making up the majority of new projects (44%)" (Gardner Institute, 2017) This change in housing trends is addressing the population increase that has been instigating urban sprawl. There is no more space near the business district to construct single family housing.

Utah's population is growing because of their strong job market, low cost of living, and soaring birth rates. Out-of-state employees are attracted to the technology companies that are headquartered there. This inbound migration is causing a cultural paradigm shift, and is a major factor contributing to their housing availability dilemma. My intent is to offer housing accommodations for the increasingly diverse population, as well as to redevelop an outdated industrial zone to better serve the public.

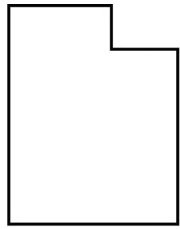






1 Research

Utah History



Joseph Smith, 1805 - 1844



Brigham Young, 1801 - 1877

Joseph Smith founded the Church of Latter-Day-Saints in 1823, ushering in a new and uniquely American religion. His people moved many times to escape religious persecution. Smith was killed by a mob for his religious practices and political involvement. His people remained ostracized for their beliefs and moved westward.

Brigham Young and many of his followers arrived in the Salt Lake Valley in 1847 to practice their beliefs. When he first gazed over the horizon into the valley he said, "This is the place."

Young named the area Deseret, meaning honeybee, signifying the hive of activity that would soon inhabit the area.

At least 60,000 pioneers crossed the plains for Utah. With time, they transformed the desert valley into the bustling and prosperous Salt Lake City.

They had found a place to grow their newly founded religion free from judgment from the dominantly Christian and Catholic population. Pioneers built churches, homesteads, and stores, living in relative isolation.

Figure 1: Forced Migrations of Mormons

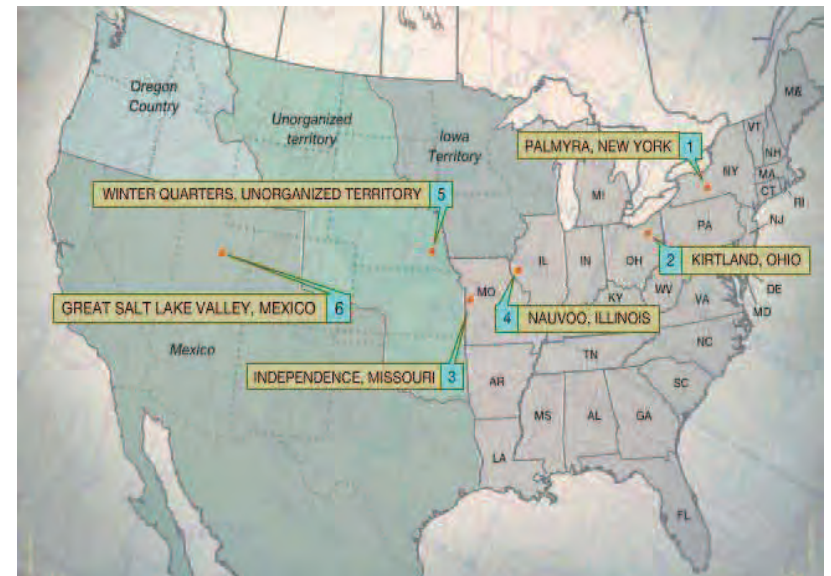


Figure 2: Nauvoo, IL to The Great Sale Lake Valley, 1846



Figure 3: Salt Lake City's Inception, 1853



Figure 4: The Transcontinental Railroad, 1869



In 1869, The transcontinental railroad passed through the city. The westward expansion of the entire country flowed through Salt Lake City, making it prosper.

Figure 5: Growth, 1885



As the city entered the 20th century, the technologies of the industrial revolution found their way into the Salt Lake Valley. This growth necessitated the development of a strong industrial complex. Factories were zoned into an area two miles west of downtown Salt Lake City.

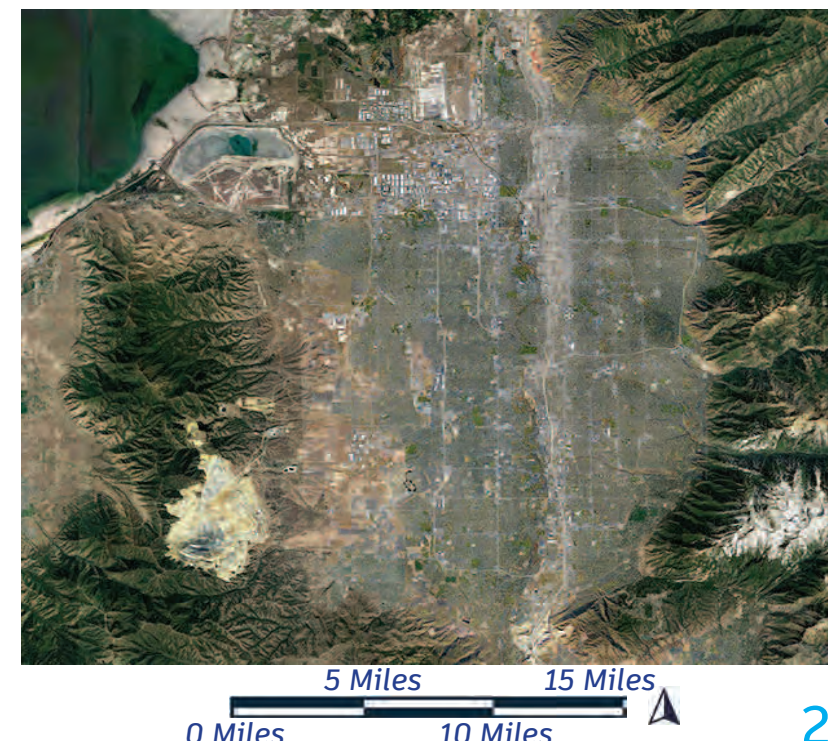
Figure 6:
Urban Sprawl, 1963



Figure 7:
Urban Sprawl, 1999



Figure 8: Salt Lake City, 2023



Population Projections in Utah

Figure 9: 2065 Population Projection

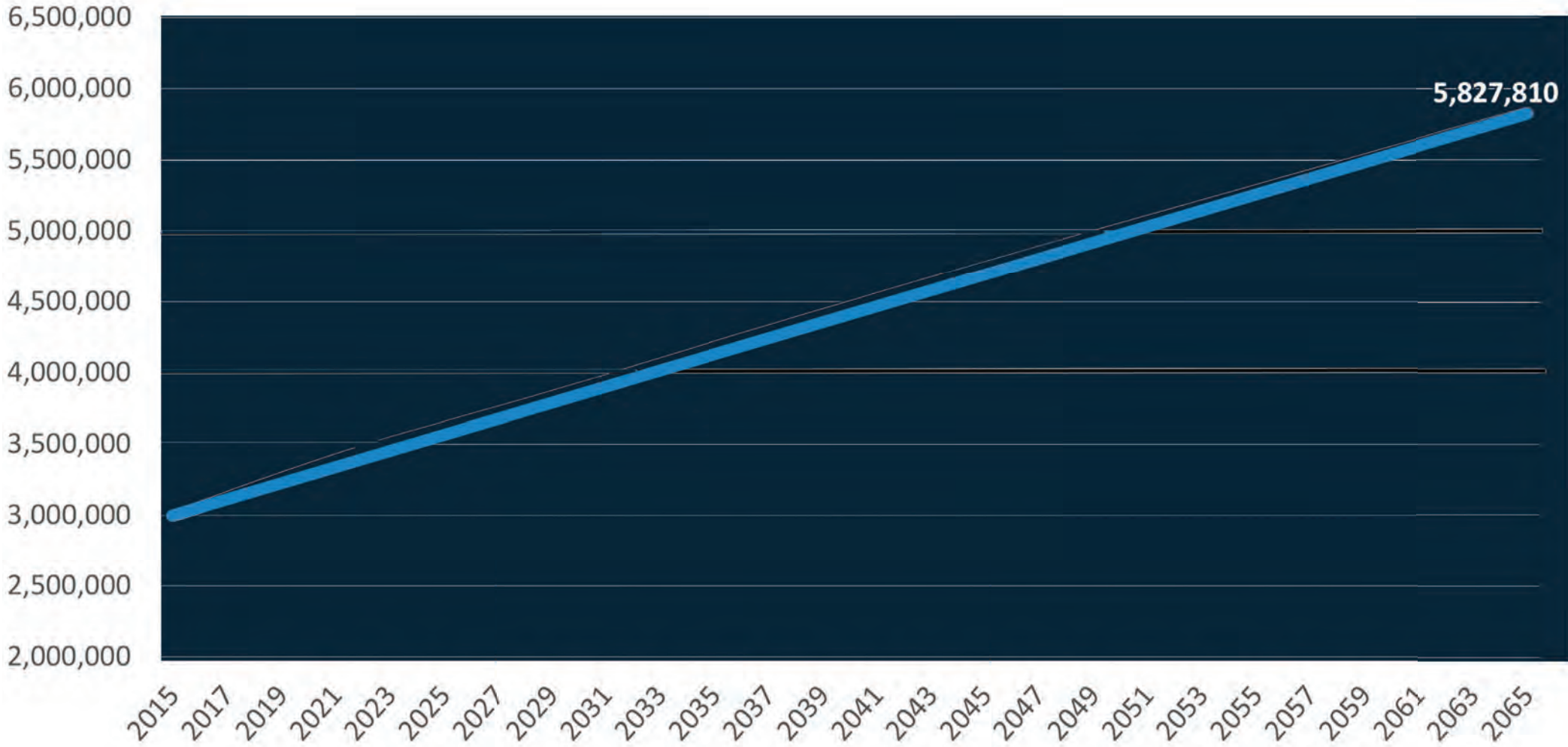
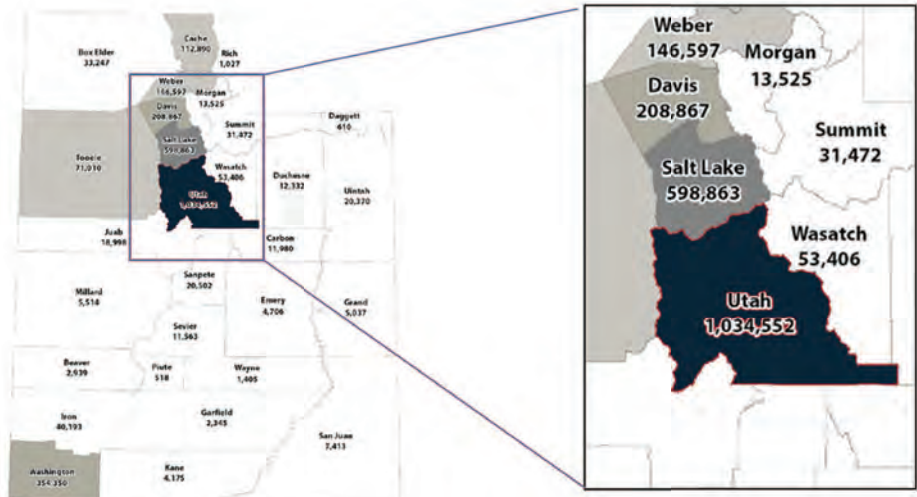
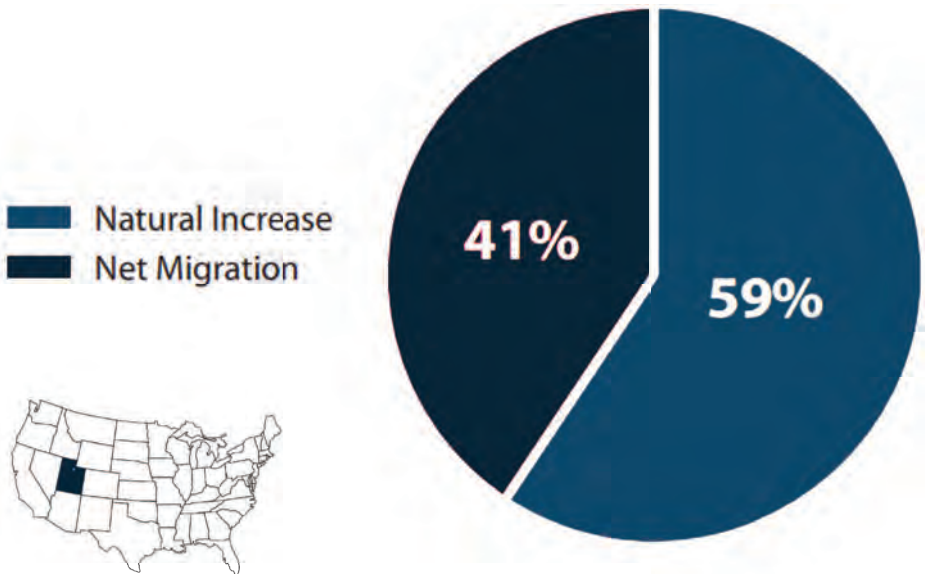
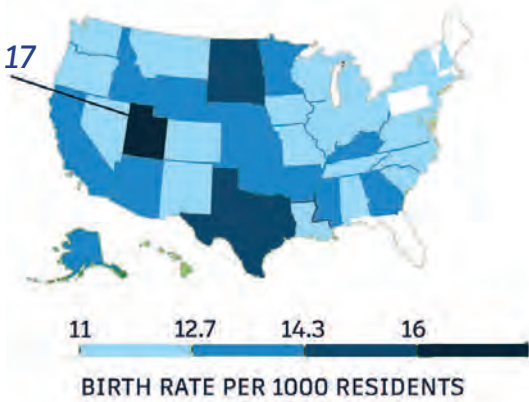


Figure 10: Inbound Migration & Natural Births

Figure 11: Target Counties



The growth has put pressure on the housing availability incentivizing developers to expand Salt Lake's suburbs



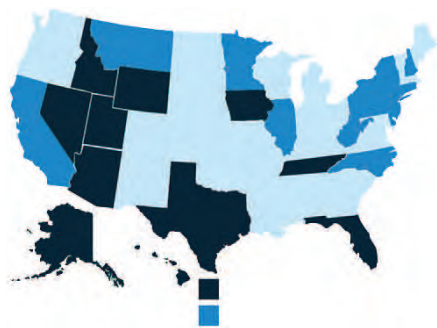
The increase in Utah's population from natural births and inbound migration has put pressure on the state's housing availability.

Source: Kem C. Gardner Policy Institute

Figure 12: Birth Rates

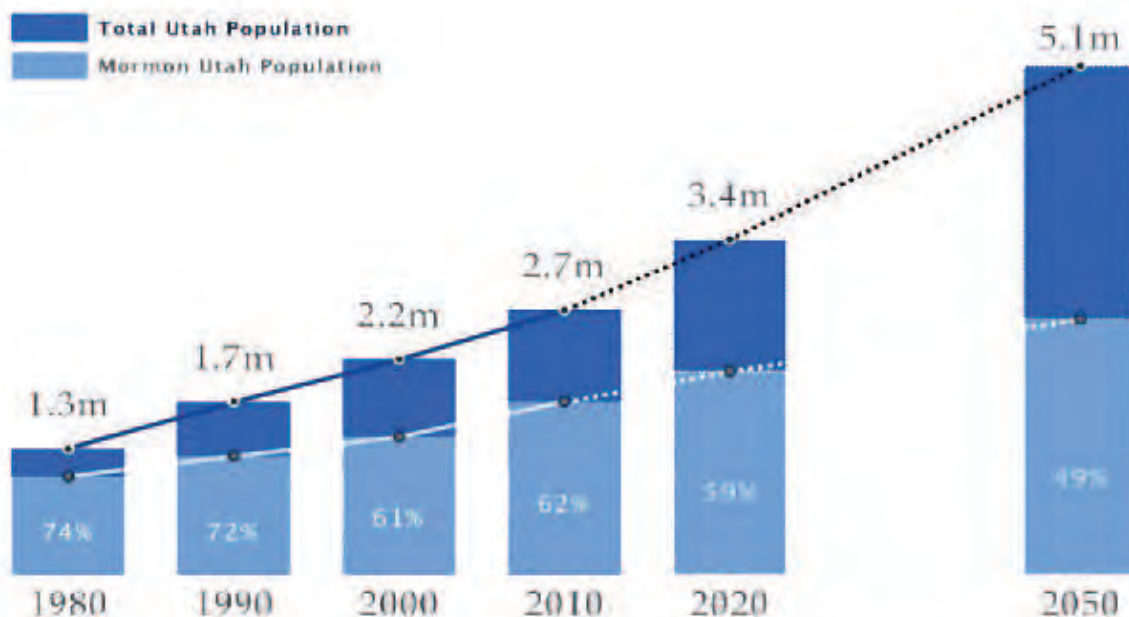


Figure 13: States with the highest inbound Migration per capita



States in the The Intermountain West have been experiencing the highest rates of inbound migration in the country due to their low cost of living, job growth, and attractive scenery. States on the East and West Coasts have been experiencing the highest outbound migration.

Figure 14: Mormon vs. Non-Mormon Population



The increase in its population from natural births and inbound migration has put Utah in a state of rapid growth. A population report from the Kem C. Gardner “Utah’s population is projected to reach close to 5.5 million by 2060, an increase of about 2.2 million people or a 66% increase over the next 40 years, according to “Utah Long-Term Planning Projections.” (Garner Institute, 2017) The Salt Lake Valley is a finite space, and the urban sprawl has pressed into the edges of the mountains.

Satellite cities such as Provo and Tooele have seen enormous growth. New satellite cities are forming at an unsustainable rate.

Changes in demographics as well as the socio-political climate of the state have caused a drop in the participation in the latter-day-saints church. Out of Utah’s 3.4 million people, 59% are members of the Mormon church.

This is obviously a large amount. However, when seeing the projection for 2050 in figure 13, the graphic reveals the decreasing participation in the church.

Precedents

Schmidt Artist Lofts

Location..... St. Paul, Minnesota
Square Footage..... 410,000 sf
Number of Floors.....7
Architect.....BKV Group
Number of Units.....260
Unit Types.....One Bedroom Apartments
Rental Cost.....850\$ – 1200\$
Completed.....1868 - Updated 2014

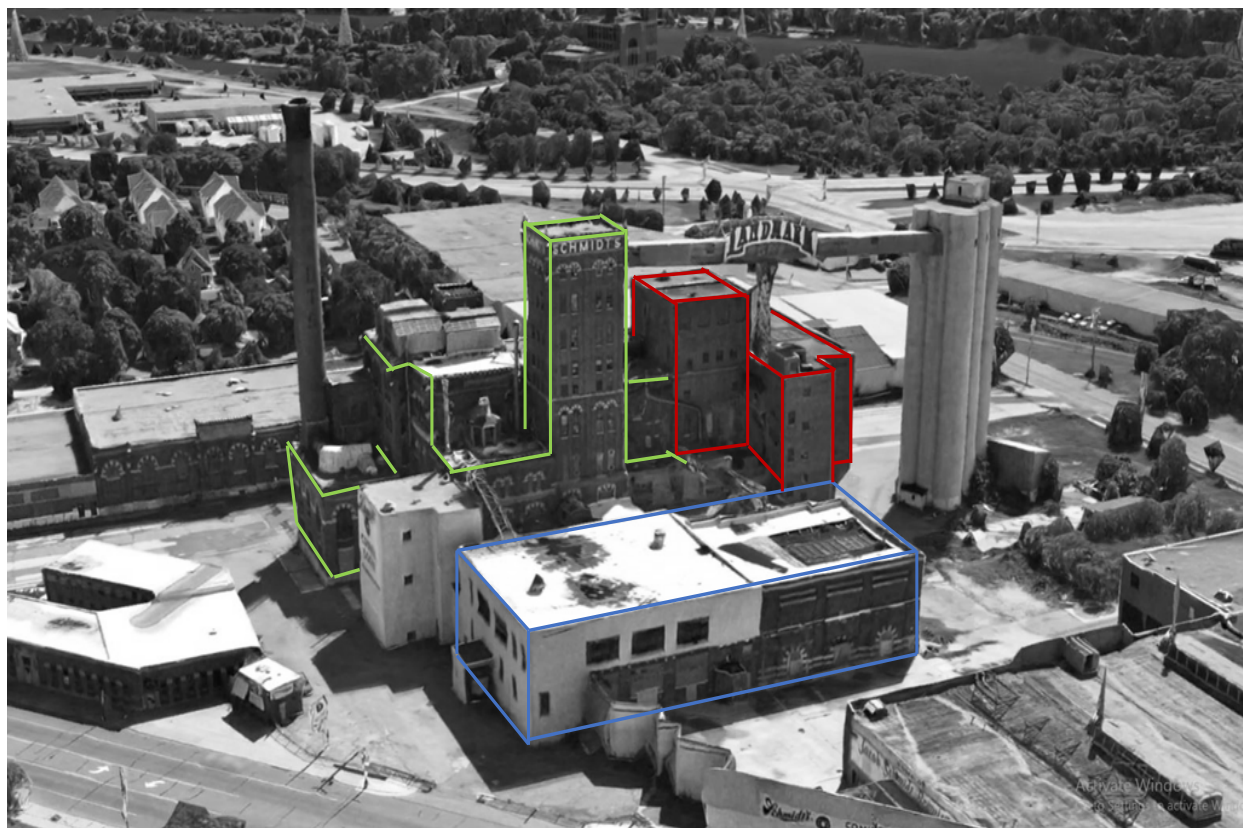


Figure 16: Building Program



Figure 15: Lobby

Residences 
Public Spaces 
Workspaces 

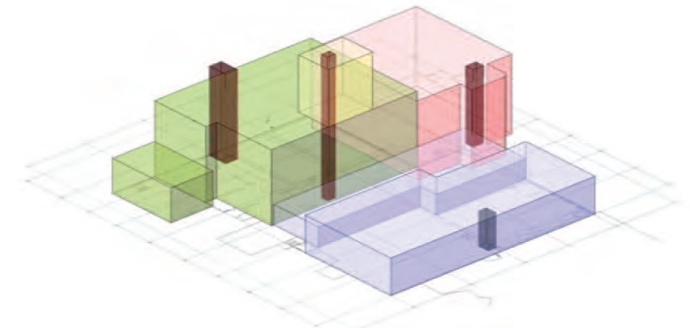


Figure 18: Mill City Museum

Mill City Museum

Location.....Minneapolis, Minnesota
Square Footage.....125,000 sf
Number of Floors.....3
Architect.....MSR Design Group
Project Type.....Cultural Space
Completed.....1880 – Updated 2001-2003



Figure 17: Atrium



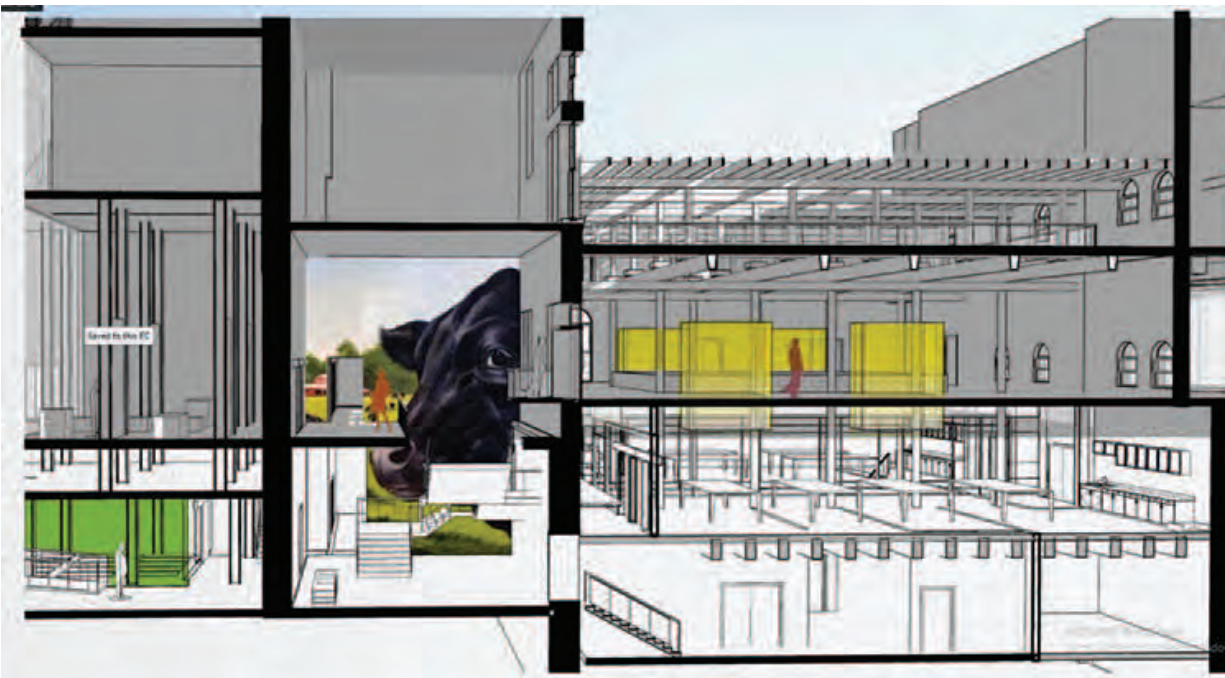


Figure 19: Concept Section - Schmidt Artist Lofts

The Schmidt Artist Lofts offer apartments specifically for Artists. Indeed, they *only* permit artists to live there. This forms a small community in itself. I was inspired by this project because it offered many types of units, providing options for the renters.

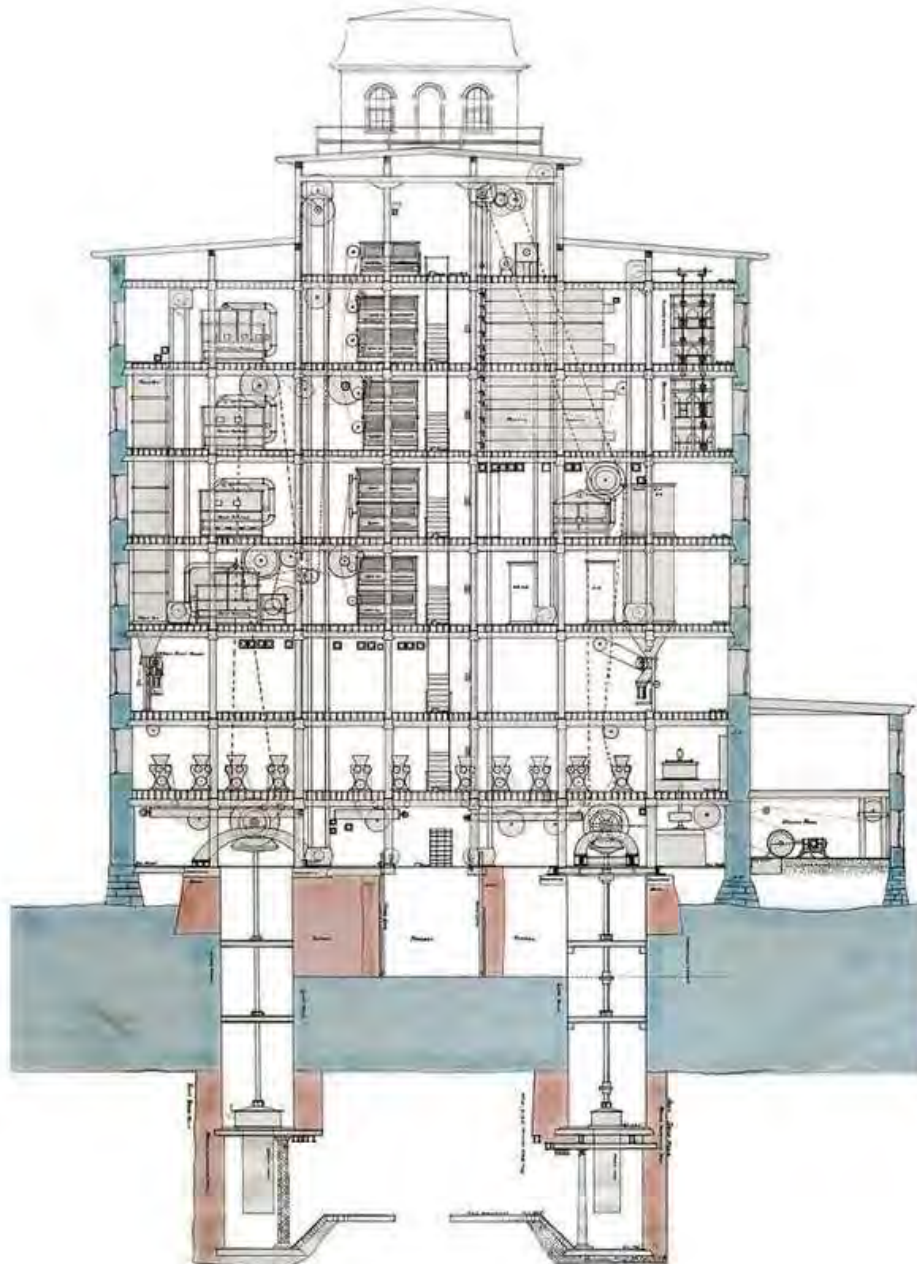
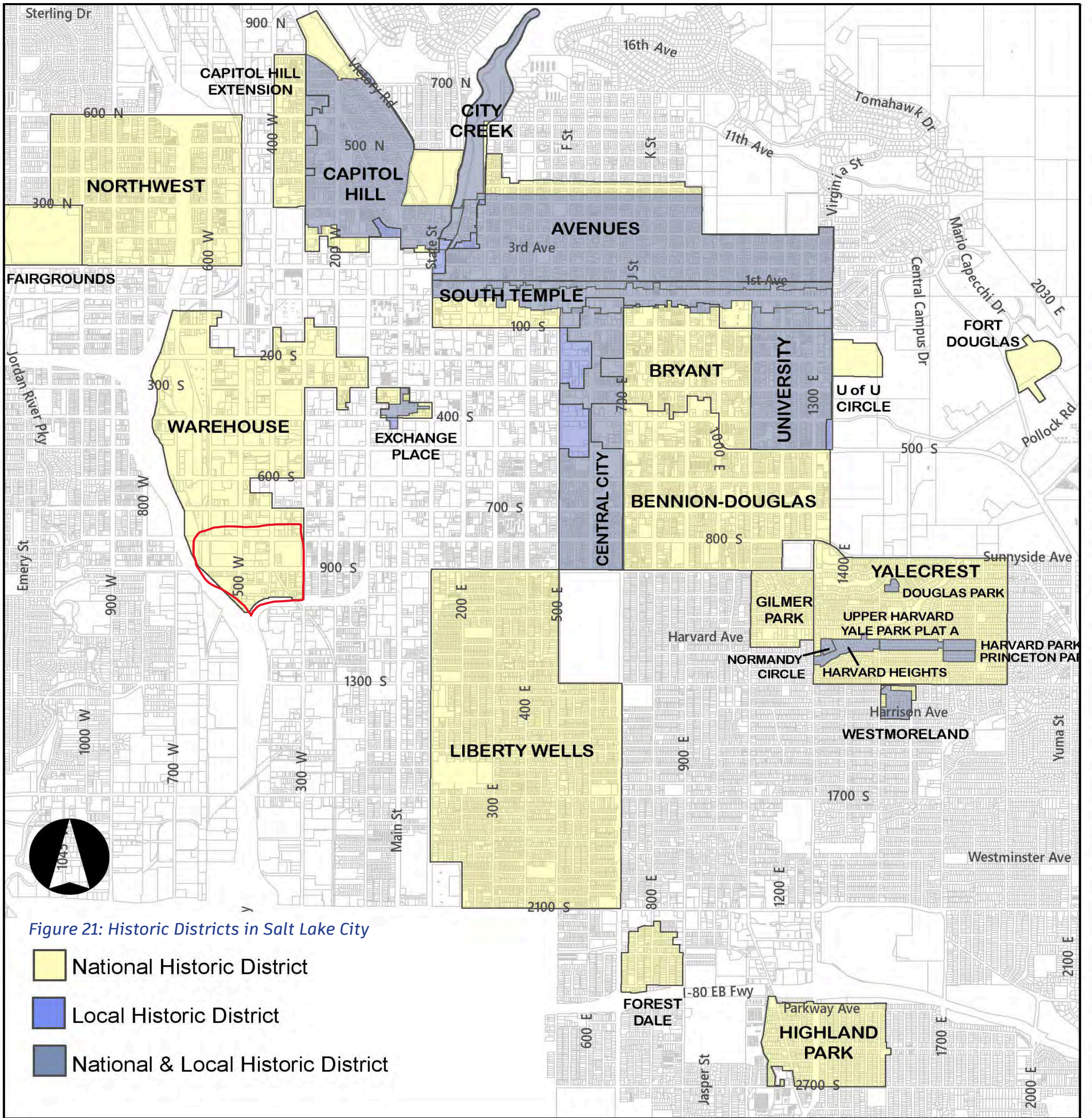


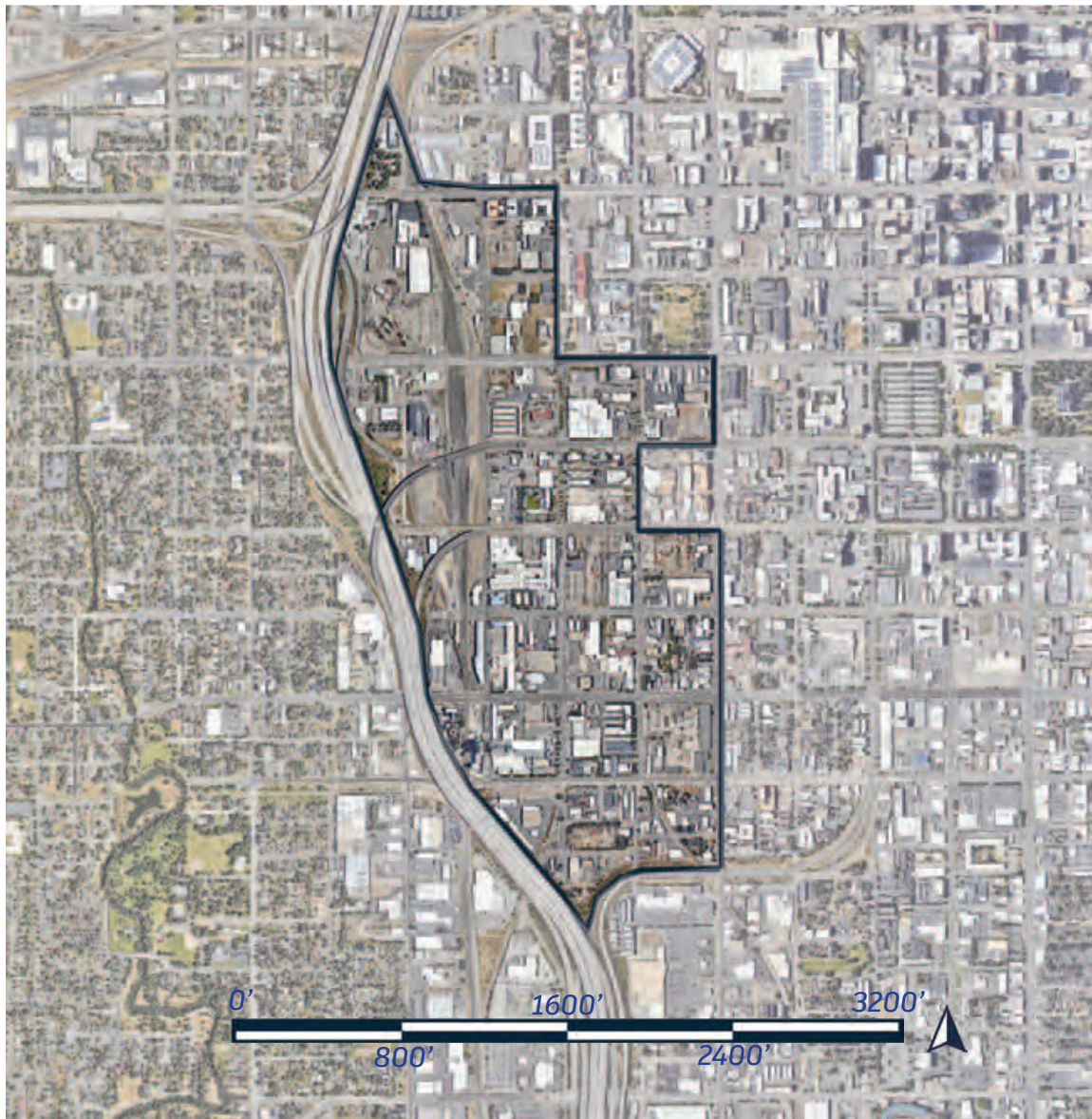
Figure 20: Section - Mill City Museum

The Mill City Museum was a flour mill that exploded in the early 20th century. MSR Design Group converted it into a museum educating the public about mills operating during the industrial revolution.

This project aesthetically inspired me. The glass contrasts the concrete structures which I utilized in my project.



The Warehouse District



Along I-15, Utah's busiest highway, lies Salt Lake City's oldest and largest industrial sector. This zone is called the warehouse district. Salt Lake City's Historic Preservation Society wrote about it saying, "The Salt Lake City Warehouse District retains integrity of setting, feeling, and association as a late - 1800s to early 1900s working class and industrial neighborhood heavily influenced by the railroad industry." (Preservation Society, 2011)

The area is characterized by huge industrial buildings and railyards, all of which historically served to build the city. Industries in Utah include fabrication, household product manufacturing, and mining. Today, these industries continue to provide work. The Historic Preservation Society of Utah went on to write, "Residential resources are relatively rare in the district and are largely found as isolated buildings or small clusters of buildings scattered throughout the district; the exception is a somewhat larger concentration of dwellings in the southern portion of the district." (Preservation Society, 2011)

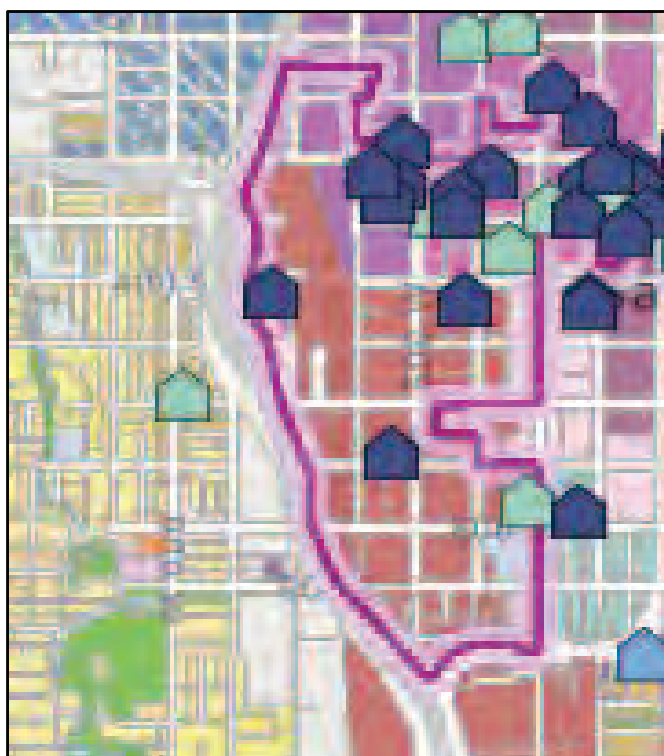


Figure 22: Industrial Zoning

The Granary District

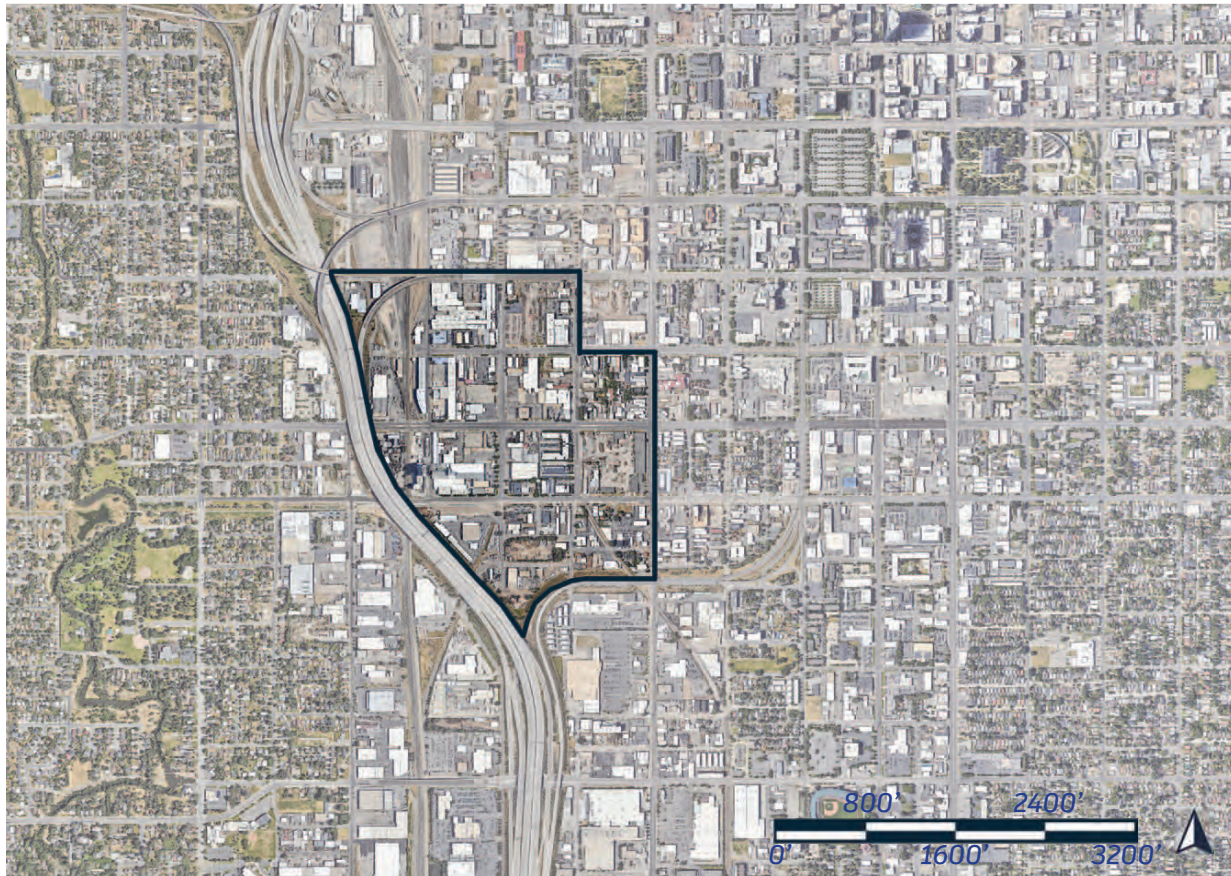
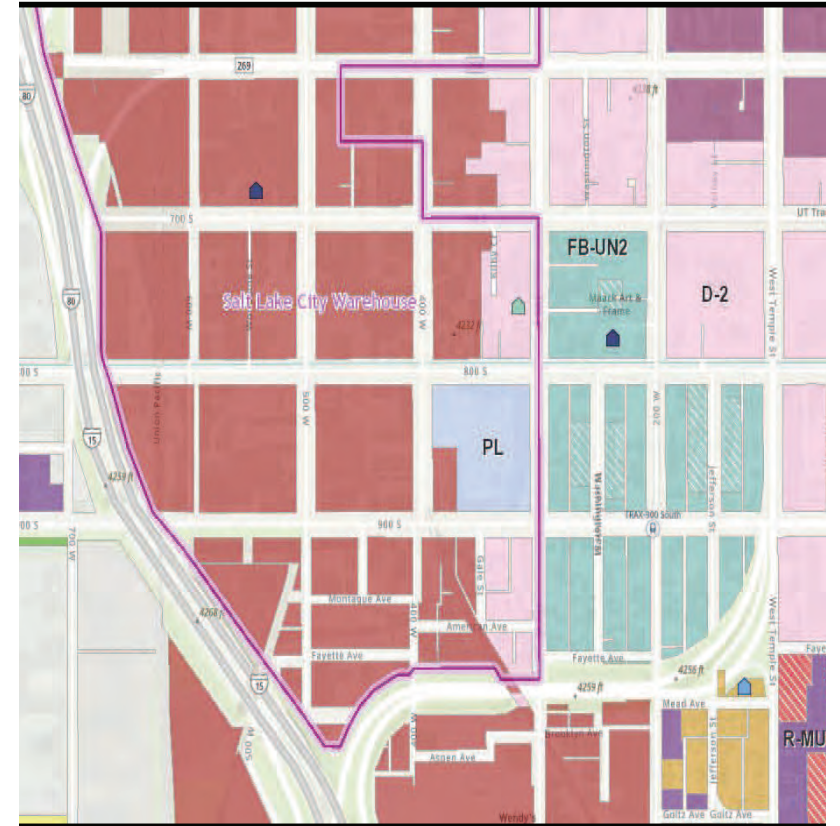


Figure 23: Industrial and Commercial Zoning



The Granary District



Gentrification



That southern portion of the district is named the Granary District. The granary district is a quickly changing area covering 194 acres. It is a railyard and industrial zone, but is being converted to mid-rise residential, arts, and entertainment. As it stands, warehouses share a property line with suburban neighborhoods. Trains cross populous roadways. Plumes of industrial smoke are emitted close to white picket fences. Developers recognized some twenty years ago that the Granary District is outdated and badly placed considering the growth that the city is experiencing.

An article by Racheal Dalrymple, a reporter for *Utah Business* wrote about a program that the city developed in 2017 to encourage this change of urban character. She wrote, “Salt Lake’s Granary District used to be the heart of the city’s manufacturing, processing, and storage industries. But now, as it transforms beyond its industrial roots, the Granary District is becoming a thriving arts district known for street art and craft breweries thanks to a unique funding program from the Salt Lake Redevelopment Agency.” (Dalrymple, 2015)

This program is intended for property owners who have assets classified as industrial buildings. Dalrymple goes on to explain, “Originally established as a pilot program to encourage the reuse and revitalization of the Granary neighborhood’s unique stock of warehouses and industrial buildings with a grant of up to 200,000 dollars.” (Anderson, 2021) This program shows Salt Lake City’s determination to Gentrify the Granary District. Thus, addressing their future requirements of more space for urban housing and entertainment.

“Needless to say, the Granary District is rapidly shedding industrial users in favor of modern office space and incoming residential.” (Anderson, 2021)



Photograph by Yann Droy



The Site

Mountain Cement Factory

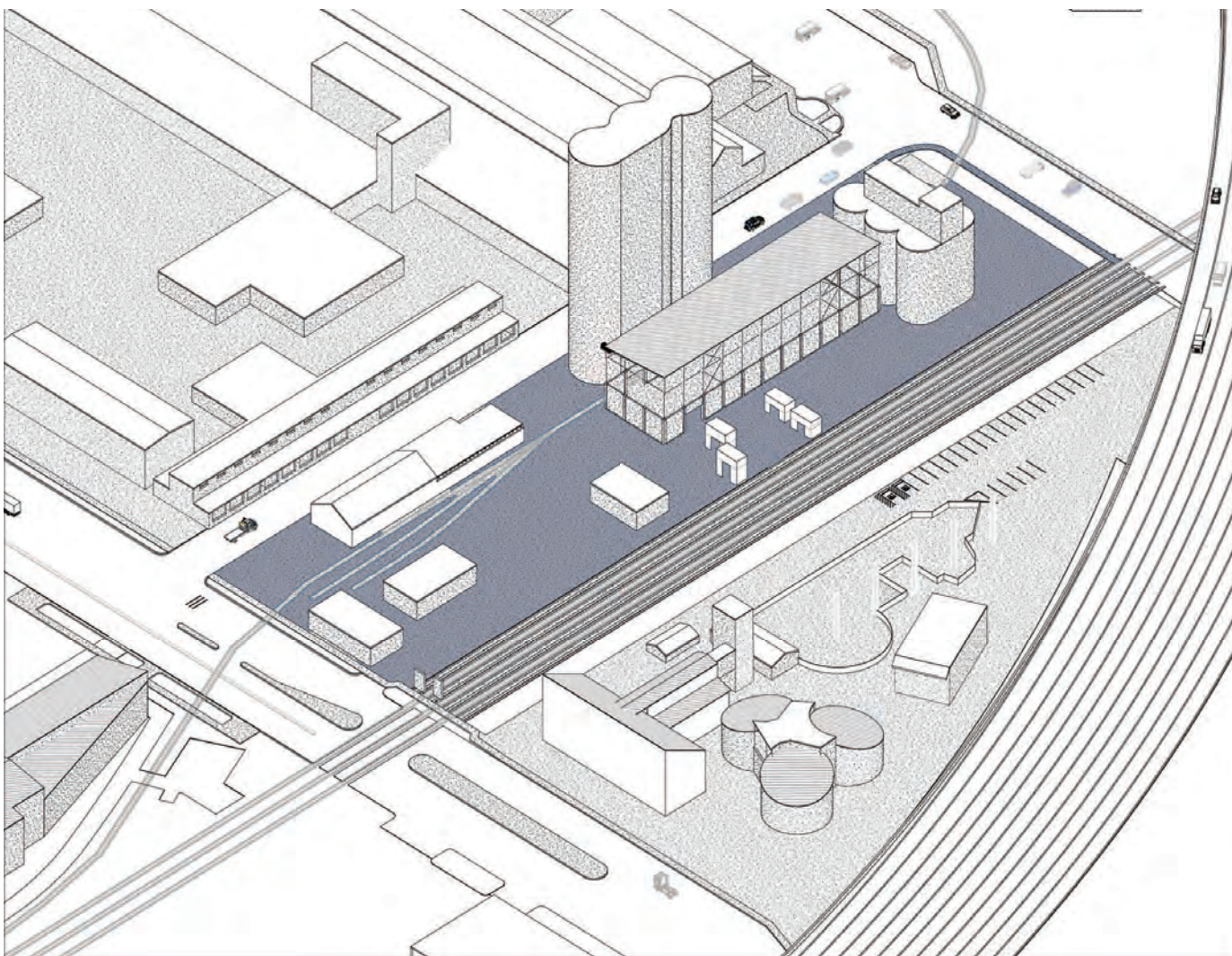
615 W 800 Street, Salt Lake City, UT

143,000 Square Feet

Circa 1890's

Additions in 1950's

Upon visiting the Granary District in person in 2022, I saw out of my car's window a peculiar industrial building with silos cutting the skyline. This portland cement factory transports its goods on a railway across the intermountain west.



The facility is still in use, but I argue that, with the help of the grant, the owner could redevelop it. Furthermore, site conditions such as its adjacency to grocery stores, breweries, and even haunted houses make the selection of this building not only sensible but exciting.

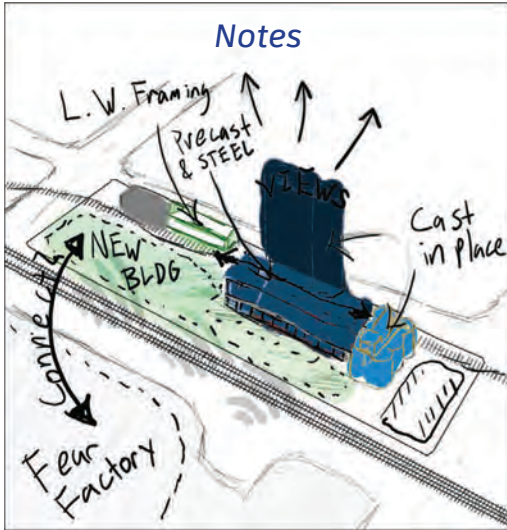
The development trends in the Granary District, as well as the competitive grant for adaptive reuse industrial buildings provide the rationale for investing in this building.

Lidar, a point-cloud based dimensioning tool, was used to accurately model the existing building. Yann Droy, a photographer and personal friend was kind enough to photograph the site to facilitate more accurate modeling.

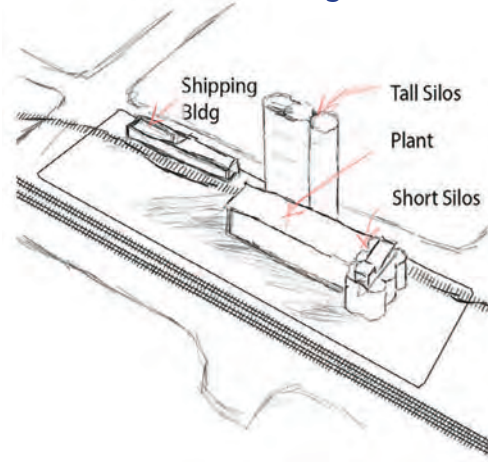
Infrastructure



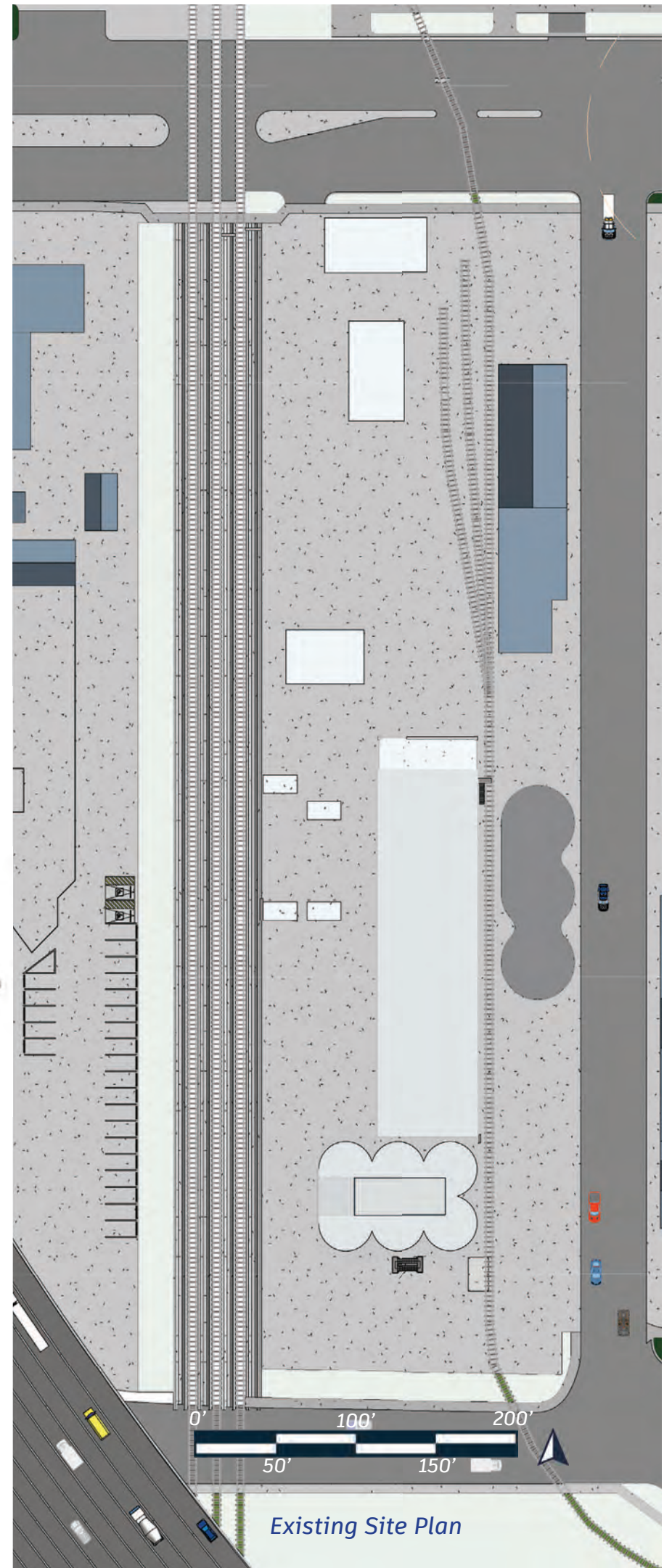
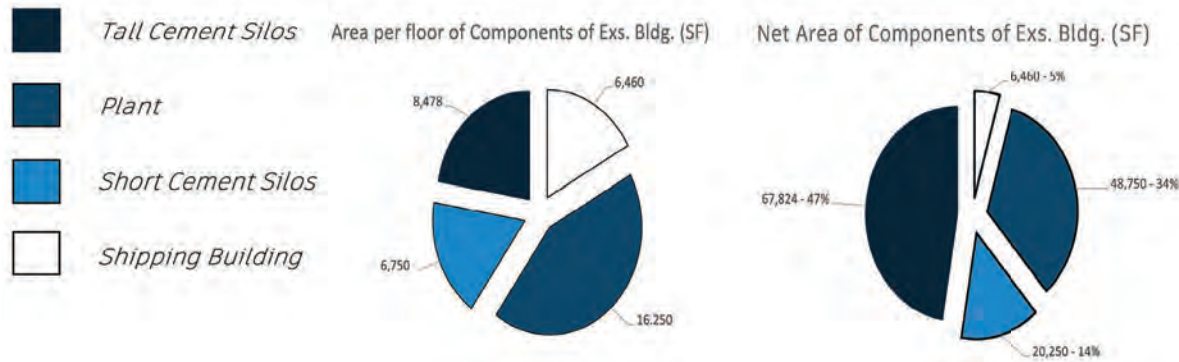
Notes



Site Buildings



Size of the Site Buildings



Existing Site Plan



View from I-15



View from the Parking Lot - Yann Droy

The Fear Factory

Part of the existing cement factory has already been repurposed as a haunted house attraction for the public. On a busy night like Halloween, hundreds of people visit the Fear Factory.

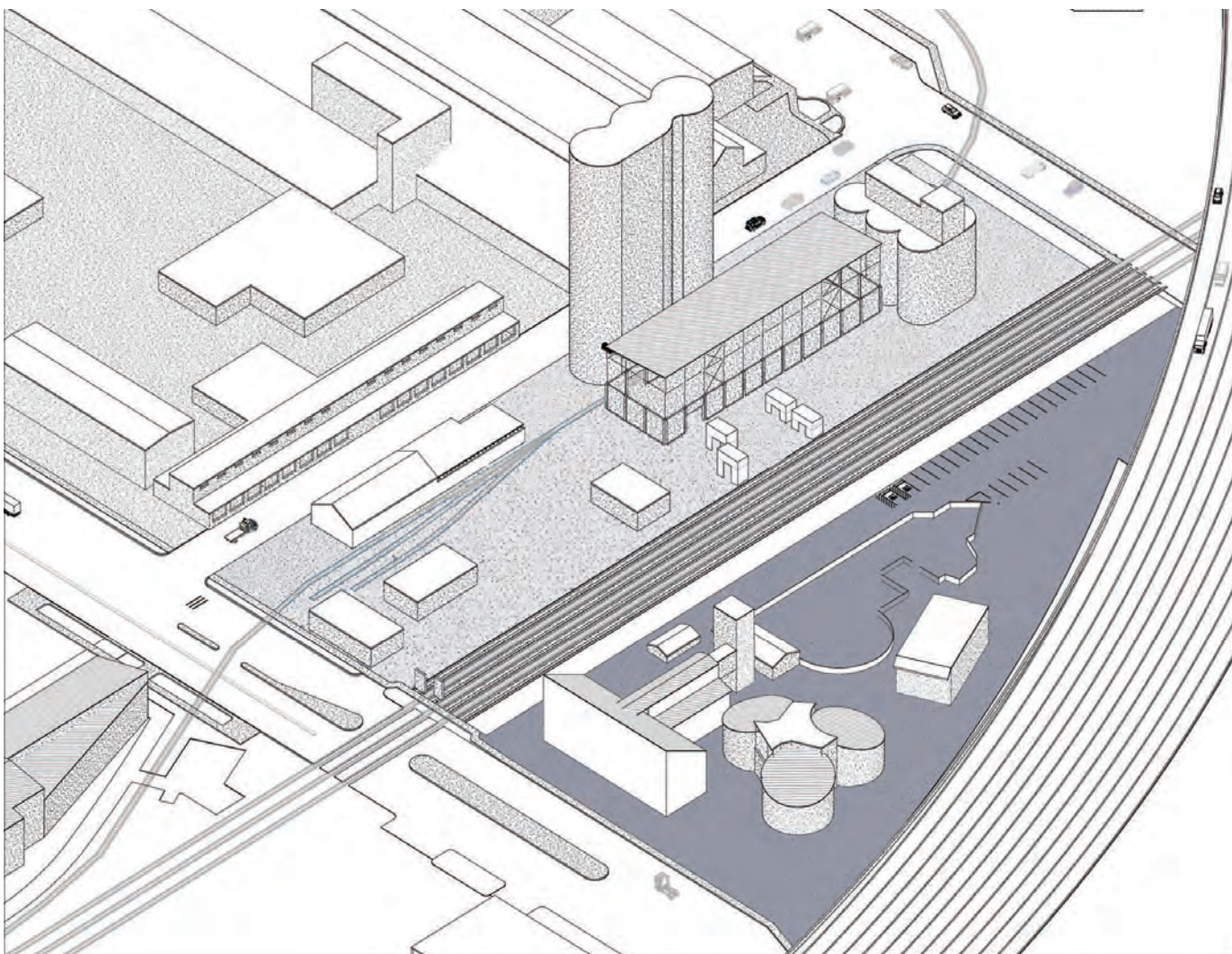


Figure 24: Halloween Night



Figure 25: Mural

Their eerie mission statement reads as follows, "In the late 1800s, in the heart of industrial Salt Lake City, a cement factory known as the Portland Cement Works opened its operation. In those days, manufacturing was a



dangerous activity, requiring the use of boiling liquid and heavy machinery powered by the grinding of giant gears. In this environment of early industrialism, the margin for error was small. Throughout the history of the factory, numerous workers learned this reality too late." (2011)

This peculiar amenity provides site opportunities for more entertainment developments on the Beehive's site.





2 Iterations



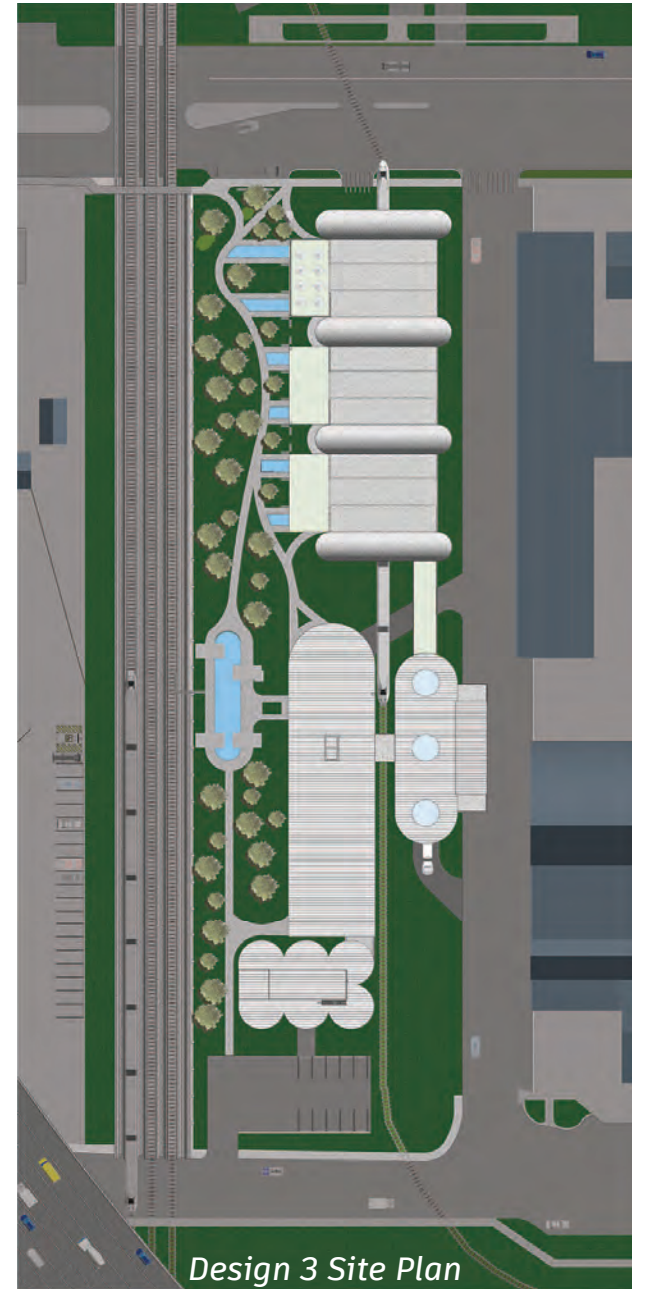
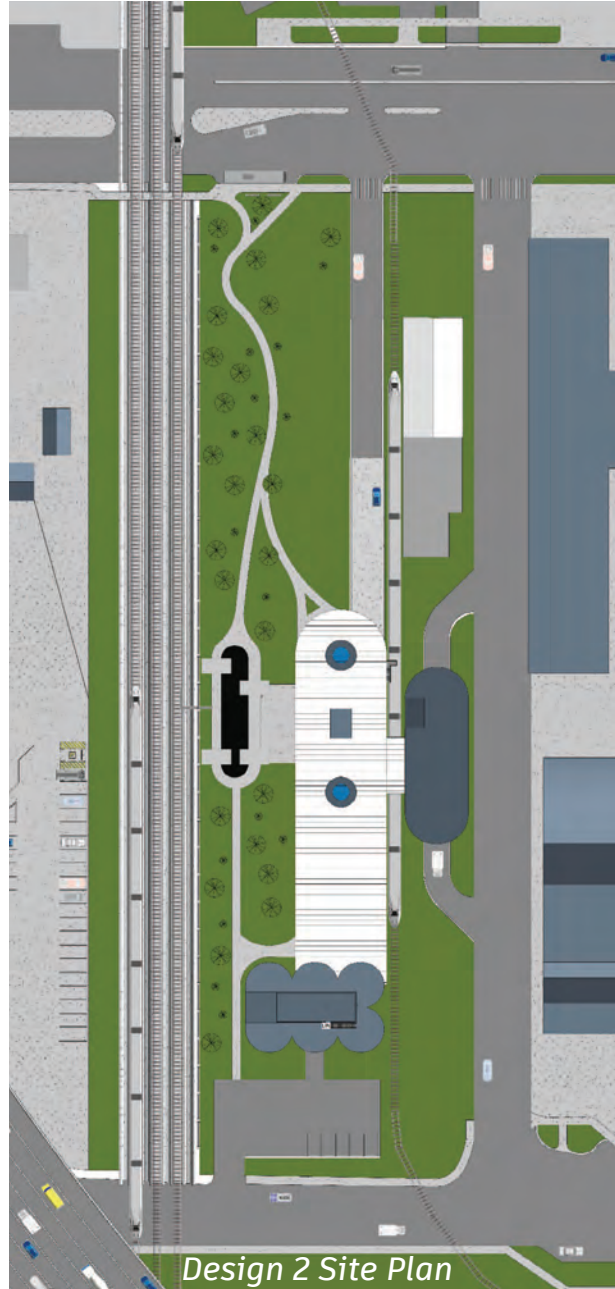
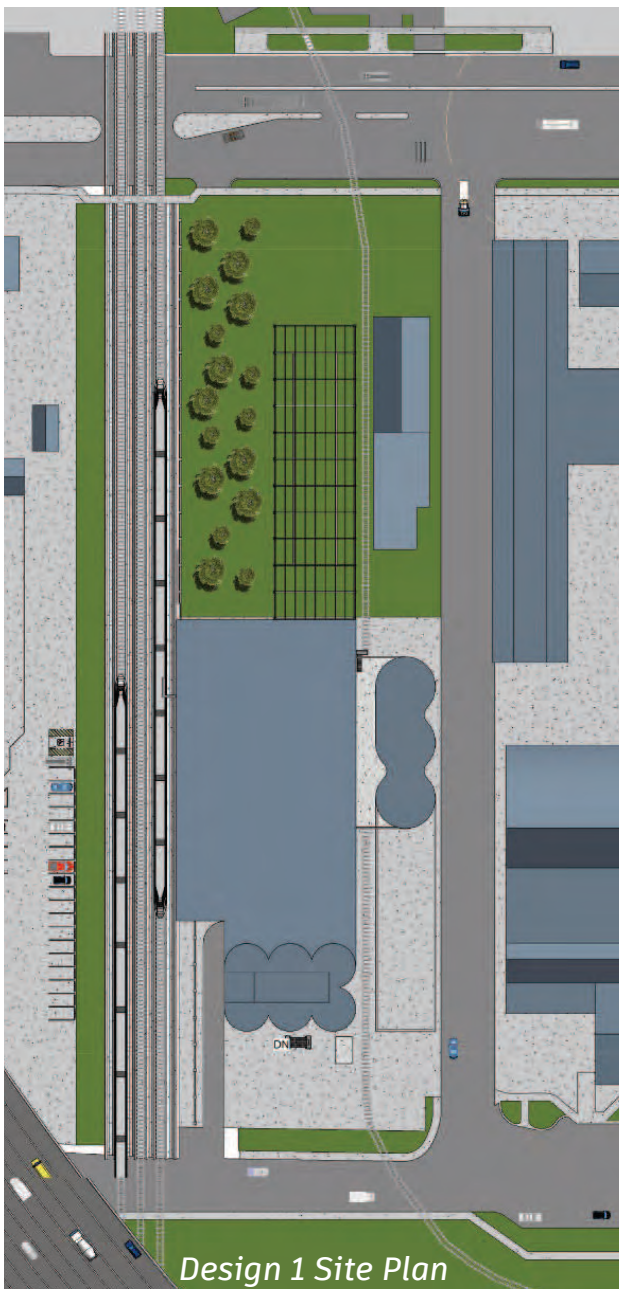
The initial design for the building suggests expansion of the project to the north.



Apartments are placed in the existing silos. The building massing of the next iteration provides a long outdoor public space on the western half of the property.



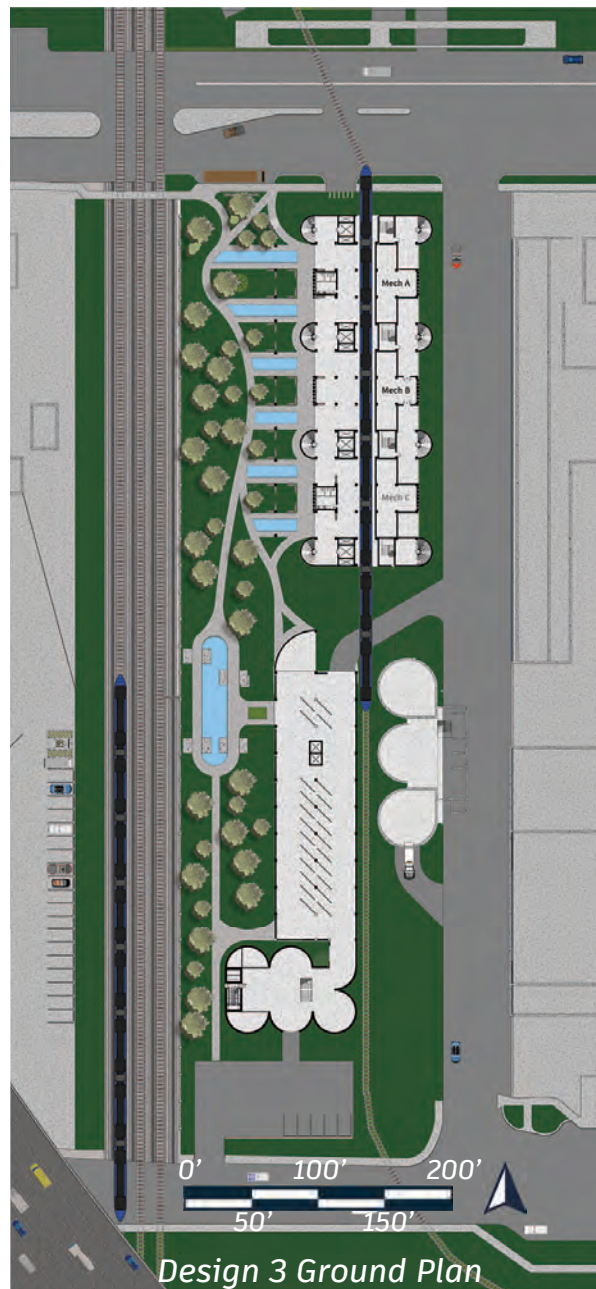
By combining the concepts in the previous exercises, this step produced a site plan that tackles the future housing needs of the growing city.



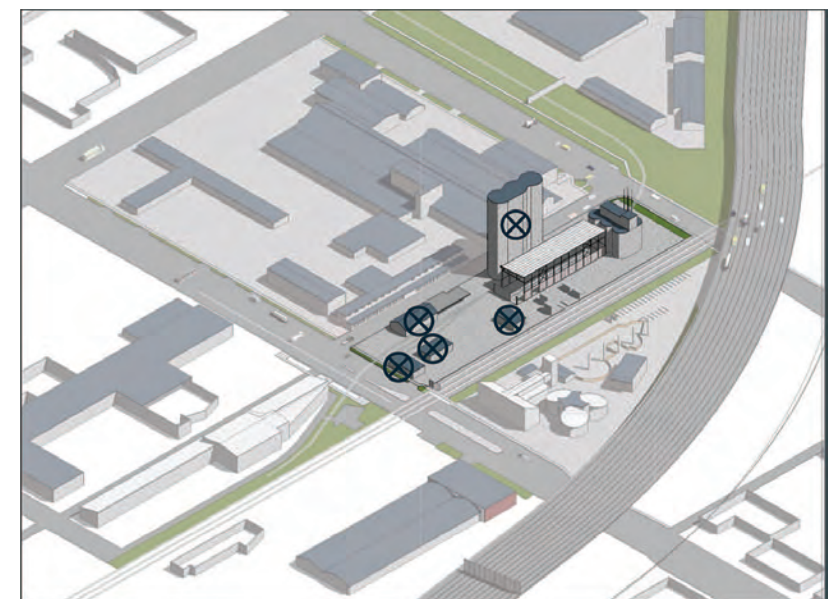


The existing railway runs through the structure for conversion to public transit, making the complex a catalyst in expanding urban development in the Granary District.

To achieve the results of the winning iteration, demolitions must be performed on several existing structures. There are existing fueling and equipment maintenance stations which will be demolished to provide a continuous path for pedestrian traffic. Furthermore, the shipping building, which originally loaded material onto freight cars, will be removed to make room for the North Wing building.

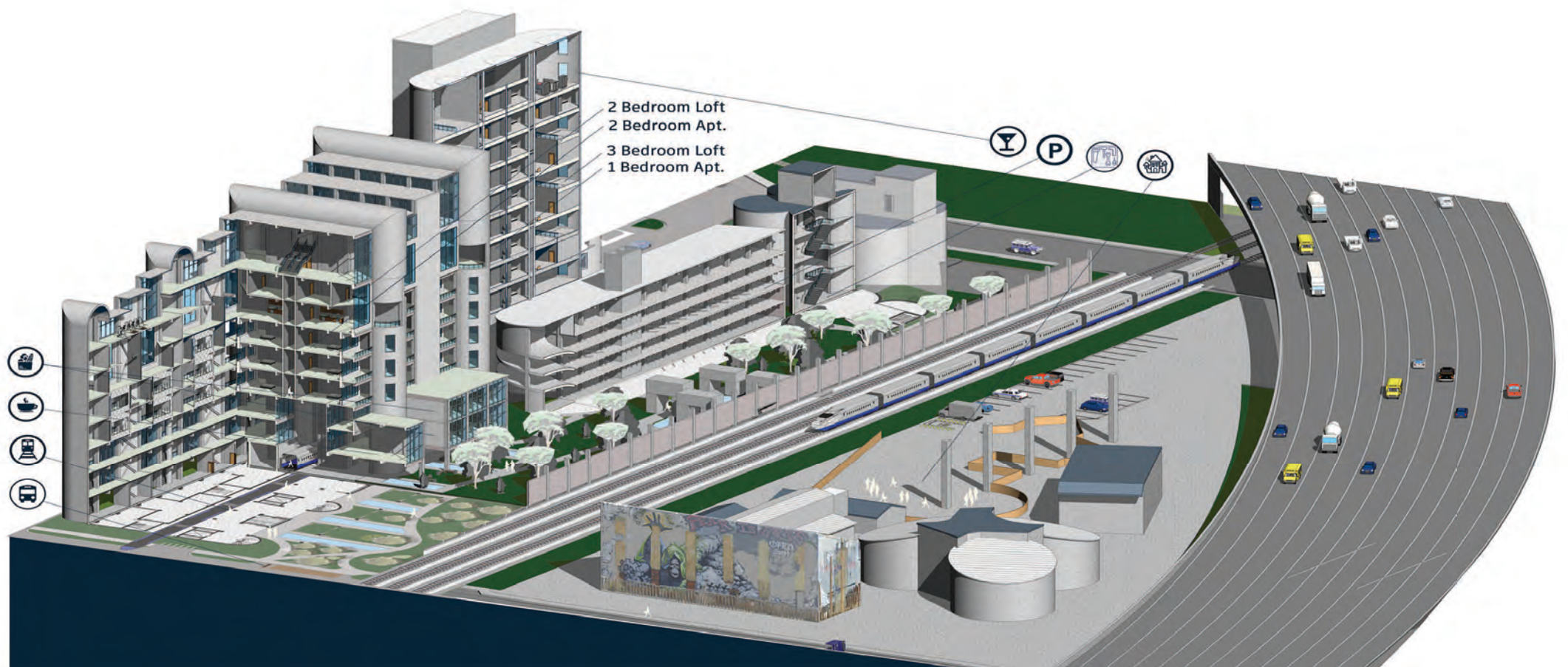
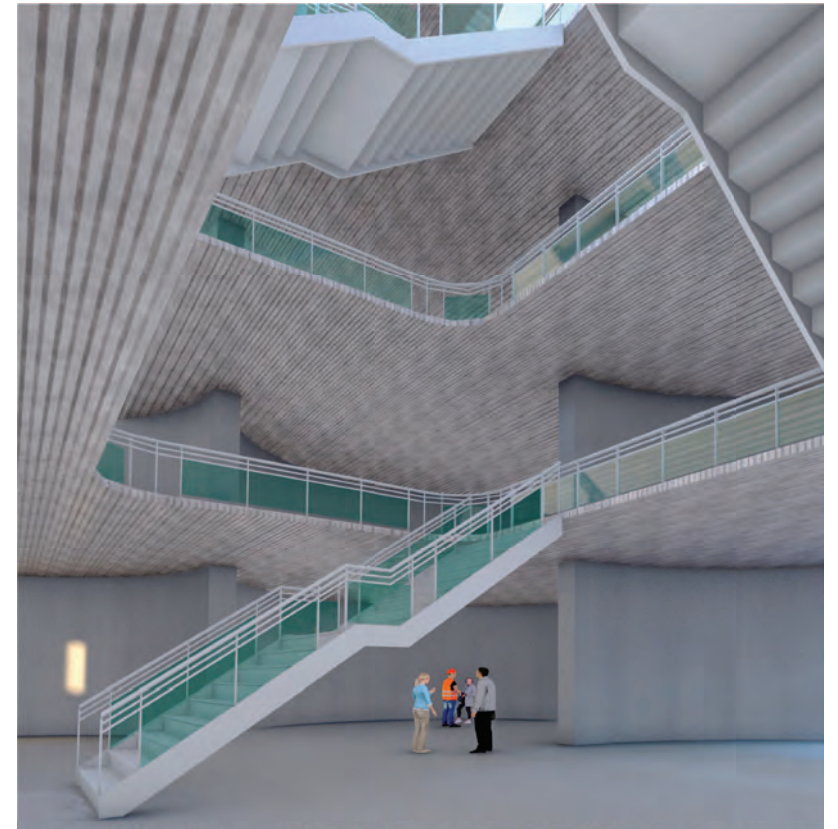


Furthermore, Quadrants of the existing silos will be cut from the top down to make room for vertical circulation, and to provide rectilinear walls to place service spaces against. Finally, the railroad tracks in front of the shipping building will be removed and stored for reuse to facilitate groundwork on the North Wing.



Demolitions

The initial concept for the reuse of the south silos was to demolish the interior curved walls, allowing an atrium to be constructed serving as the space for the complex's amenities.





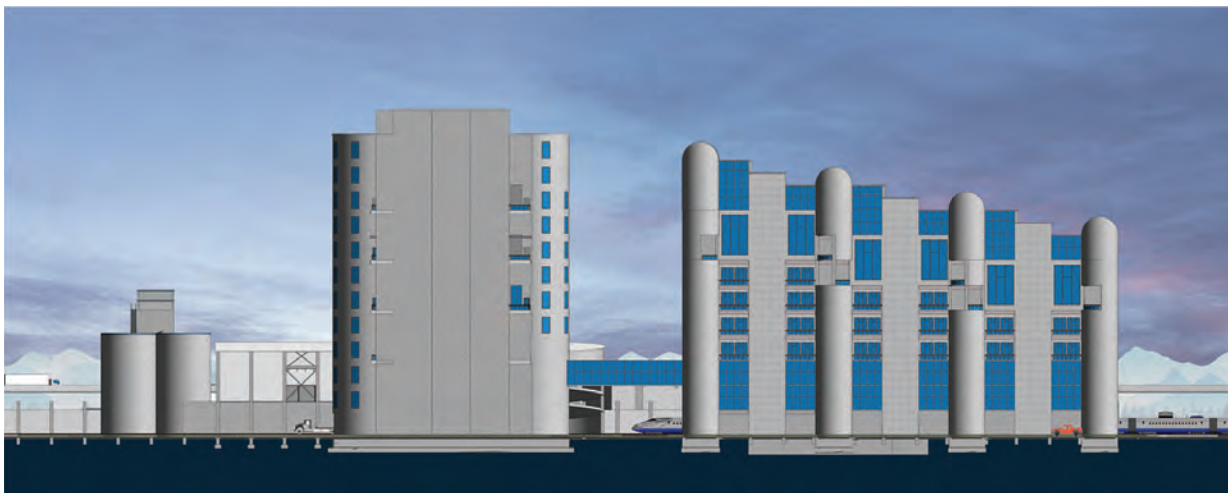
This design is the winning concept for proceeding into design development. The North Wing's added space appropriately addresses the need for housing in Salt Lake City.



North Elevation



South Elevation



East Elevation



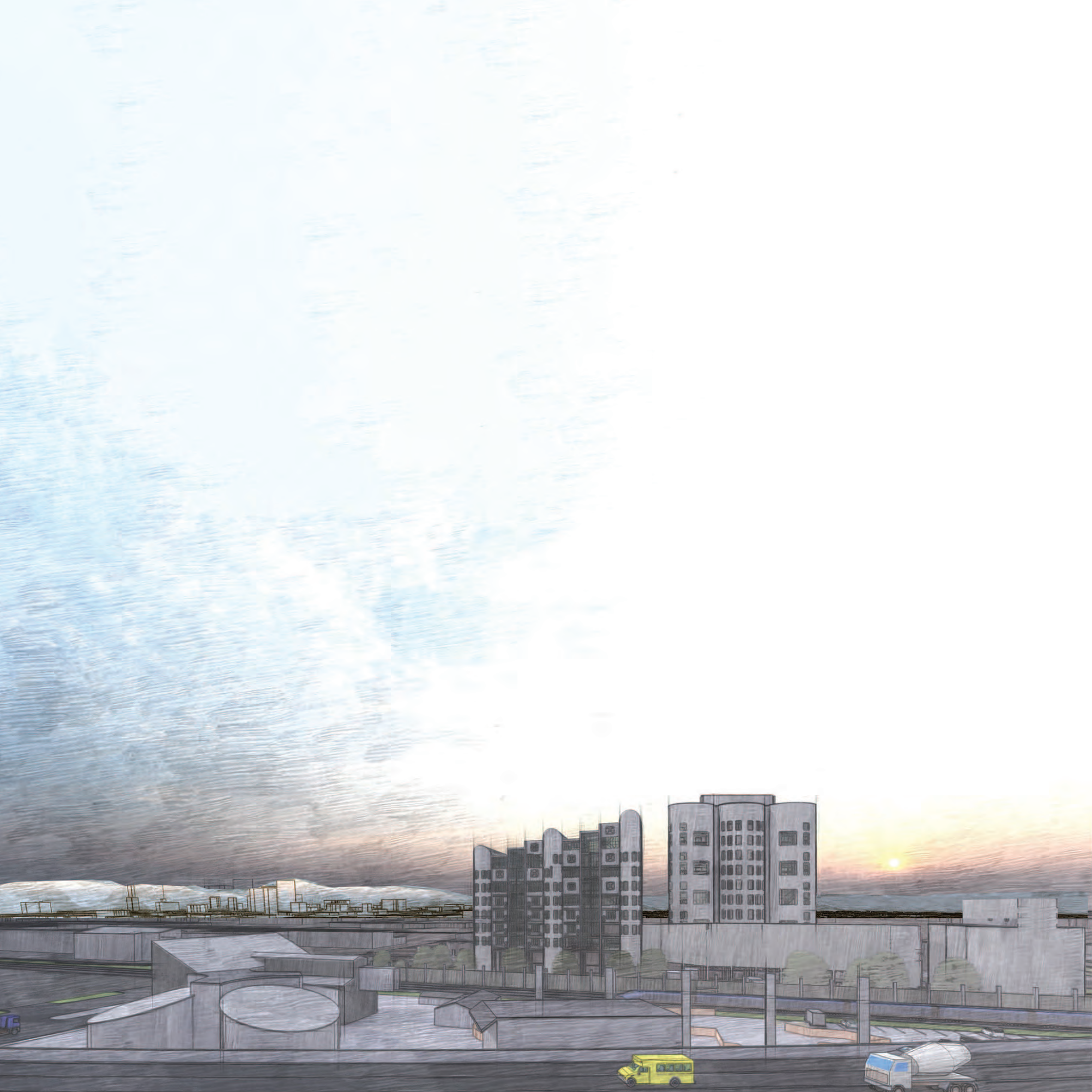
West Elevation







3 Proposal



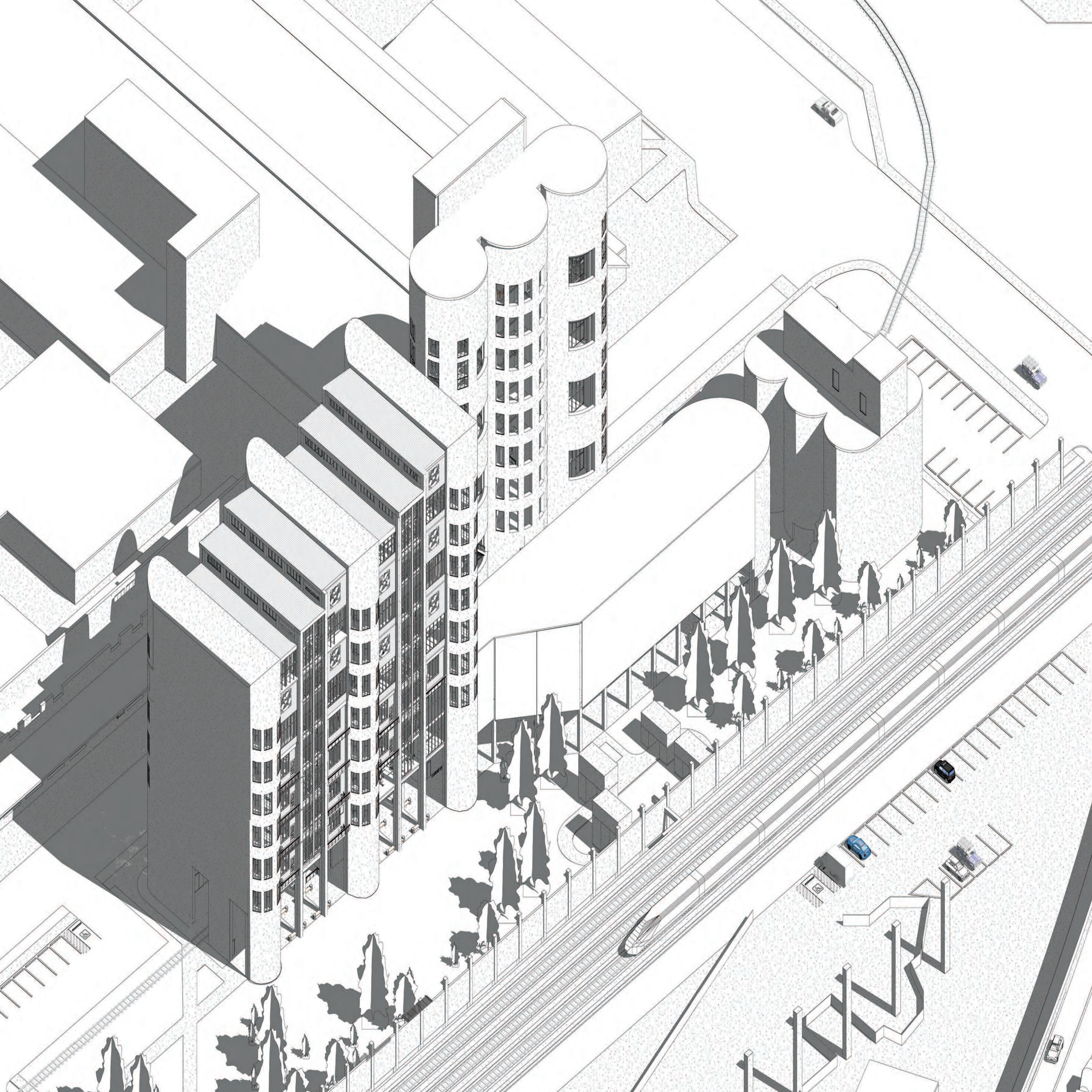
Site Planning

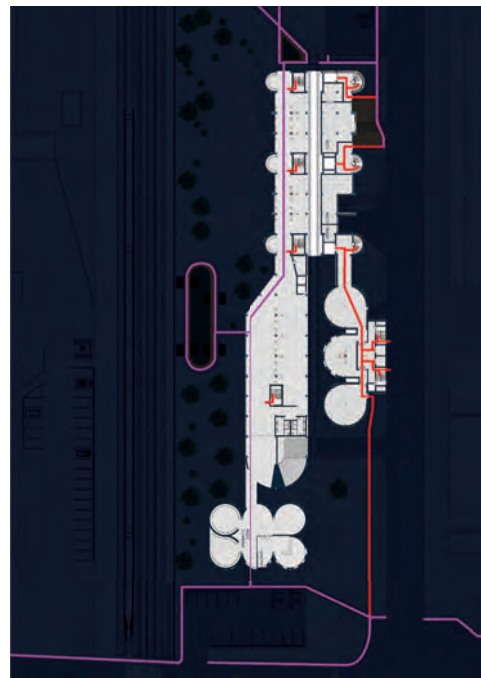
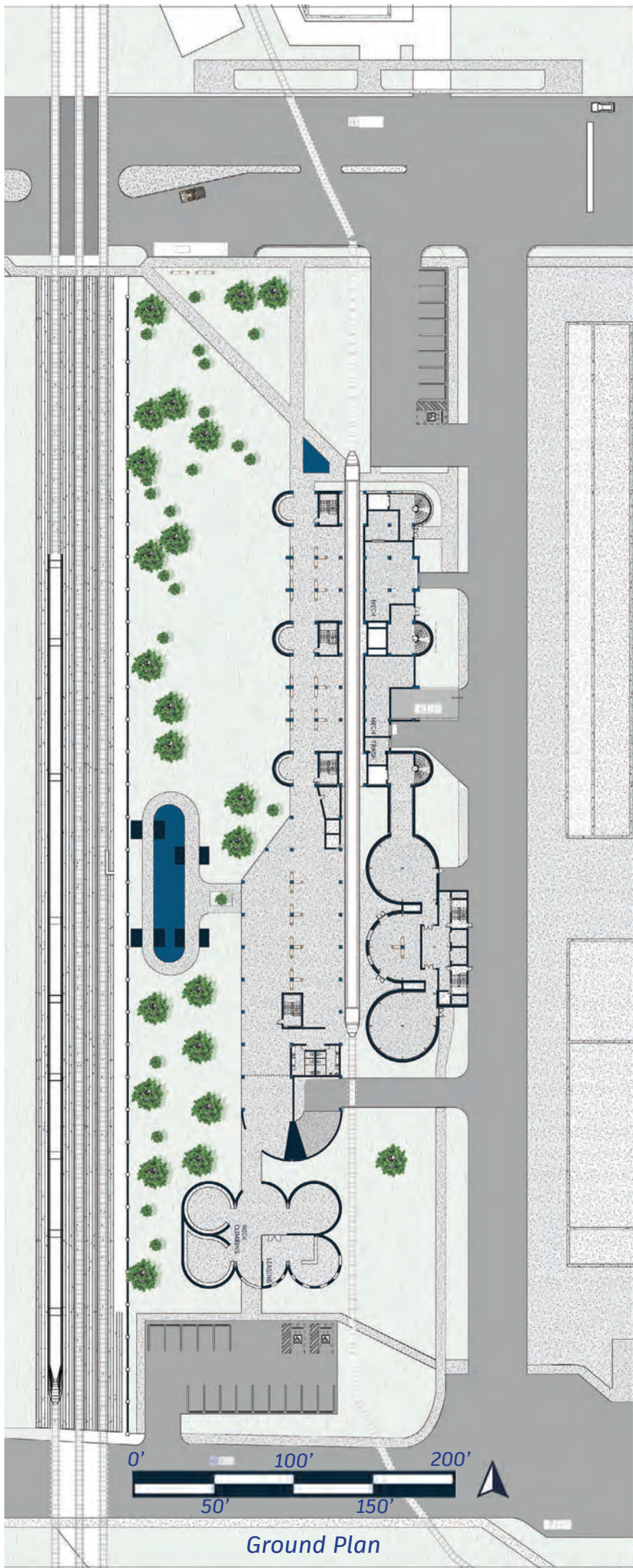
Compared to European and East Asian infrastructure, the United States is behind in its development of passenger rail lines. The comparatively young age of the country as well as its enormous land area have encouraged vehicular travel.

The incentivization for The Beehive's residents and the public's usage of a passenger train stop in Salt Lake City combat the smog inversions that regularly plague Utah's citizens and wildlife.

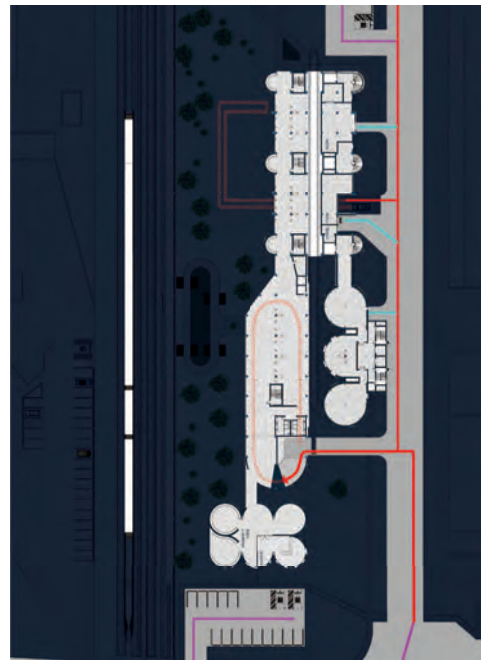
The facility is a portland cement factory. The selection of concrete to frame the building visually ties the new construction back to the building's original use. Making adaptations on the complex aesthetically harmonious.



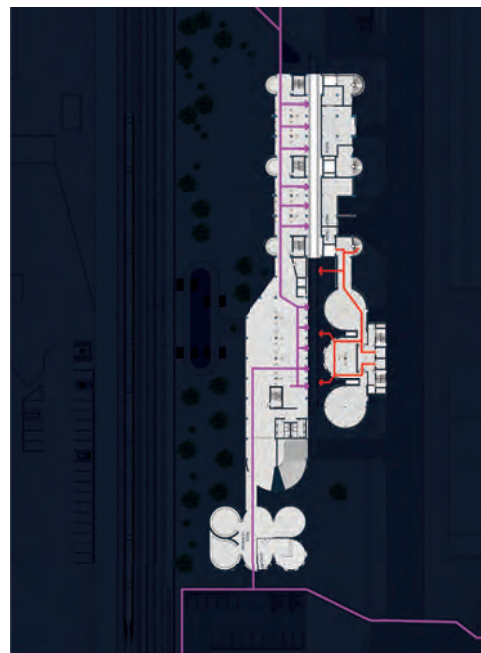




Pedestrian Circulation

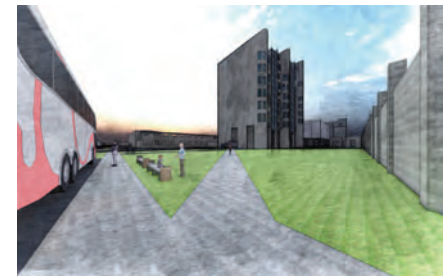


Vehicular Circulation



Train Loading / Unloading

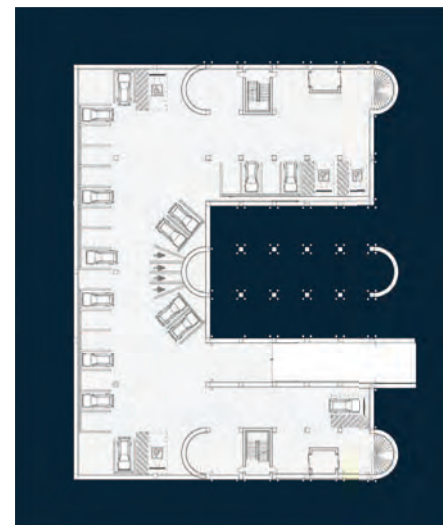
The ground floor of the complex is designated to loading and unloading people from the passenger train. Residents of both buildings use the ground floor of the central silos to access the train. This forces a separation between resident users and public access when using the train.



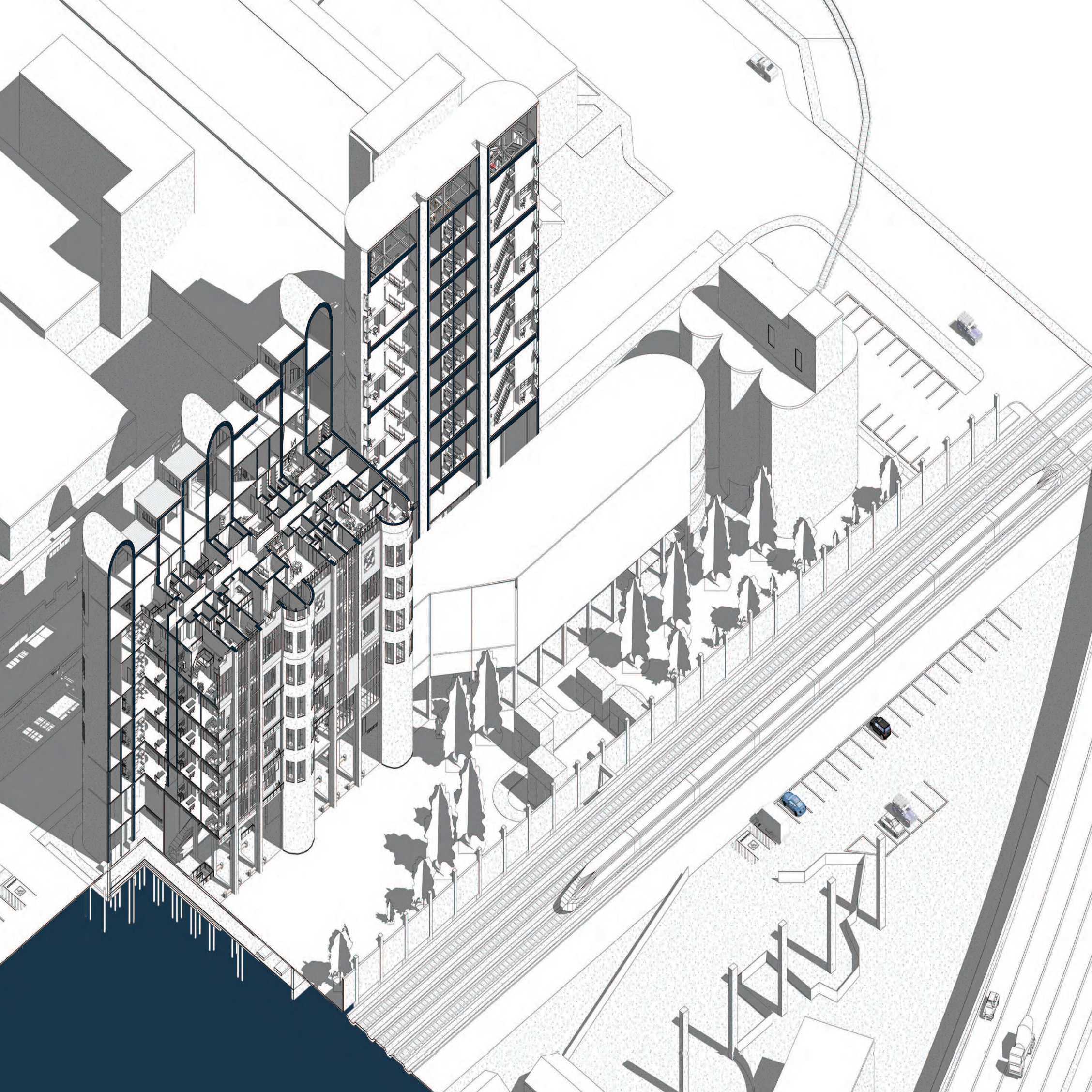
Bus Stop



North Wing Underground Parking



Train Loading



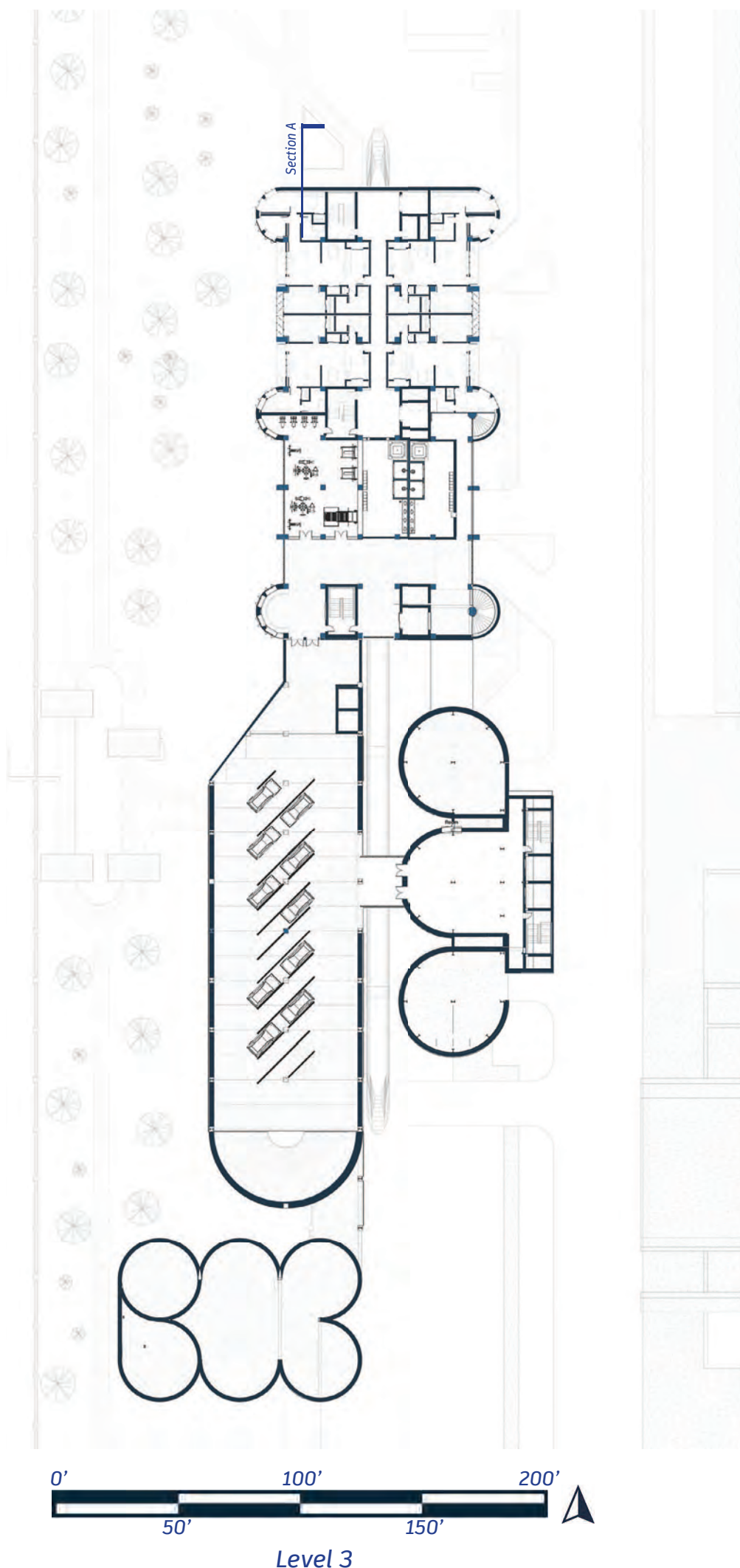
Residences

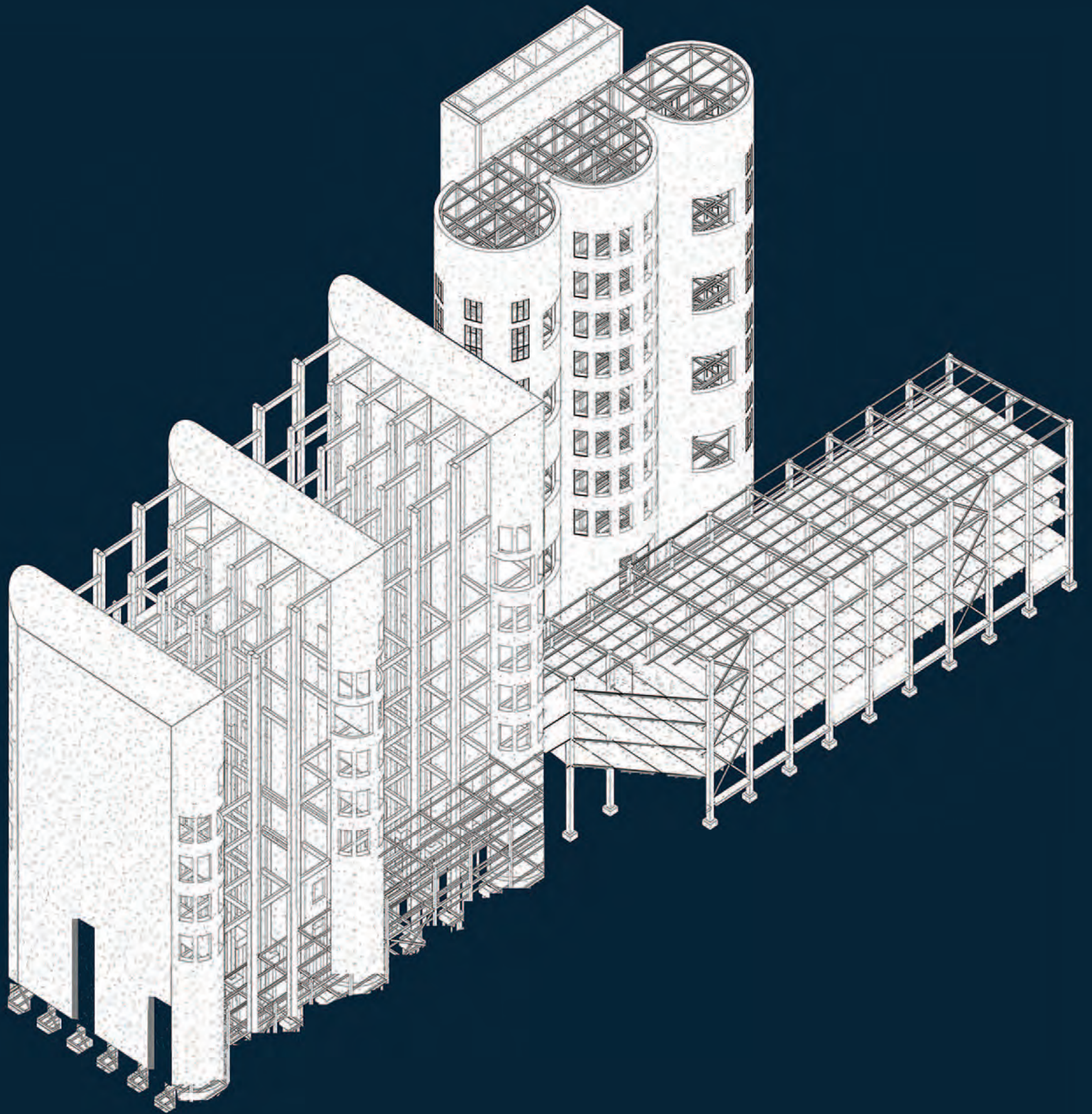
Complex SF	255,000
Garage SF	52,000
Net Residential SF	165,280
Number of Floors	13
Number of Units	90

1 Bedroom Silo	820 SF	(18 Units)
3 Bedroom Silo	2640 SF	(8 Units)
2 Bedroom Unit	1850 SF	(44 Units)
2 Bedroom Loft	2100 SF	(10 Units)
4 Bedroom Loft	2700 SF	(10 Units)
Occupancy	226	Residents

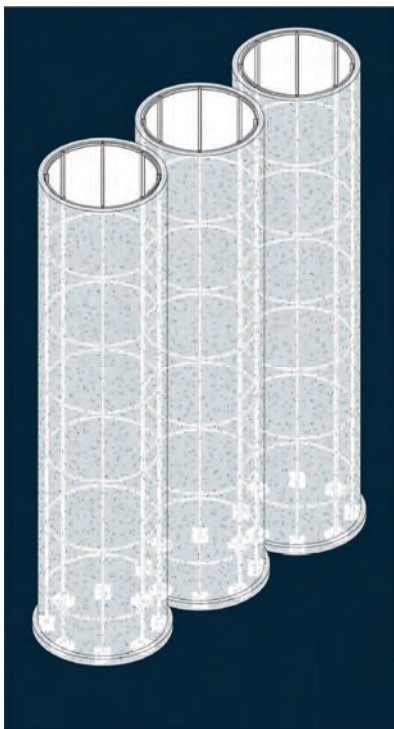
The apartments in The Beehive encompass two separate structures, a new building on the north end of the site and the adaptive reuse of the existing cement silos.

These buildings are linked only by a parking garage, separating apartment typologies for a younger target audience in the new building, to a more family – oriented group in the existing silos. This allows the facility to successfully welcome a variety of people, which is culturally relevant in this rapidly changing state.

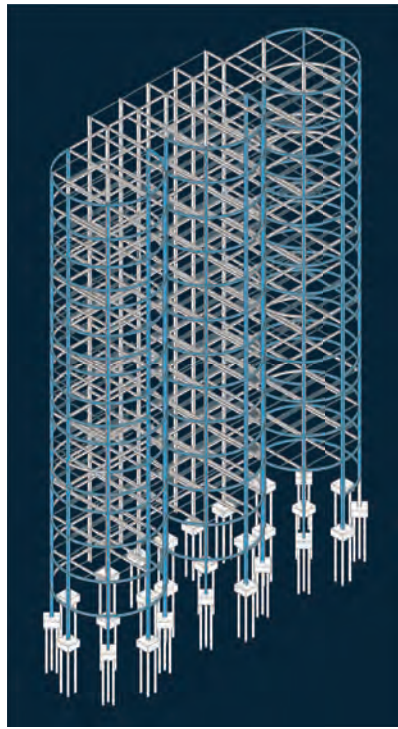




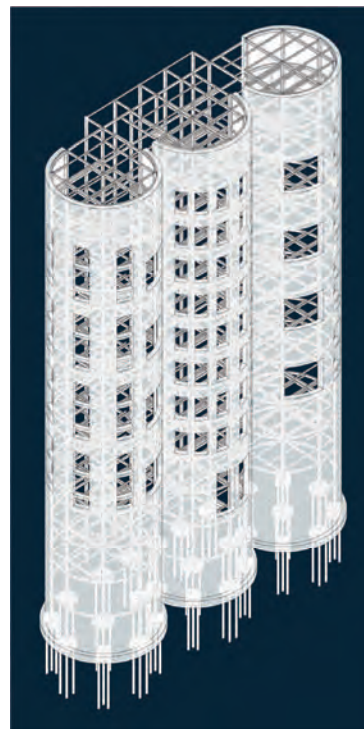
Structural Framing



Existing Structure

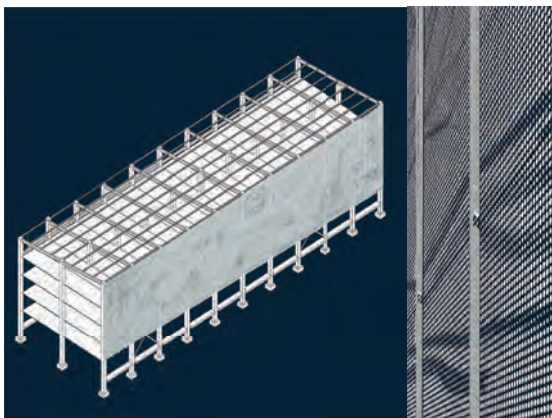


Steel Framing

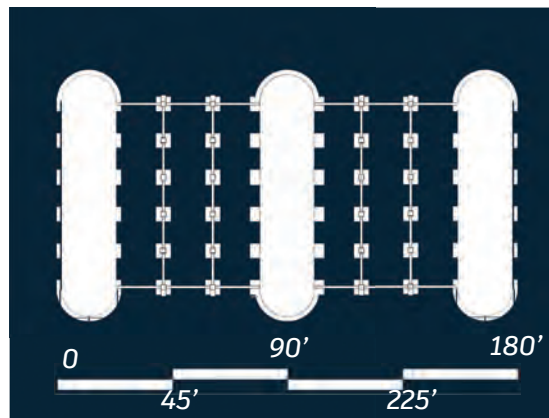


Silo Cuts

The silo apartment's floor assemblies are lightweight concrete slabs over metal decking. The beams holding the deck tie back to existing rolled girders, whose original duty was preventing failure of the cast in place silo walls from the enormous outward forces of the cement



®Imagewall Parking Garage Facade



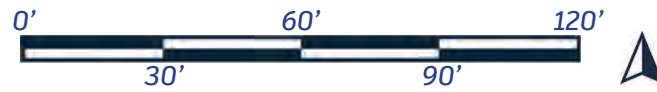
North Wing Structural Site Plan

The North Wing is a precast one-way structure supported by six cylindrical shear walls. These walls form vaulted ceilings, making the circle and semi-circle recurring shapes in both plan and section throughout the complex.



Foundation Plan





South Silos

South Silos

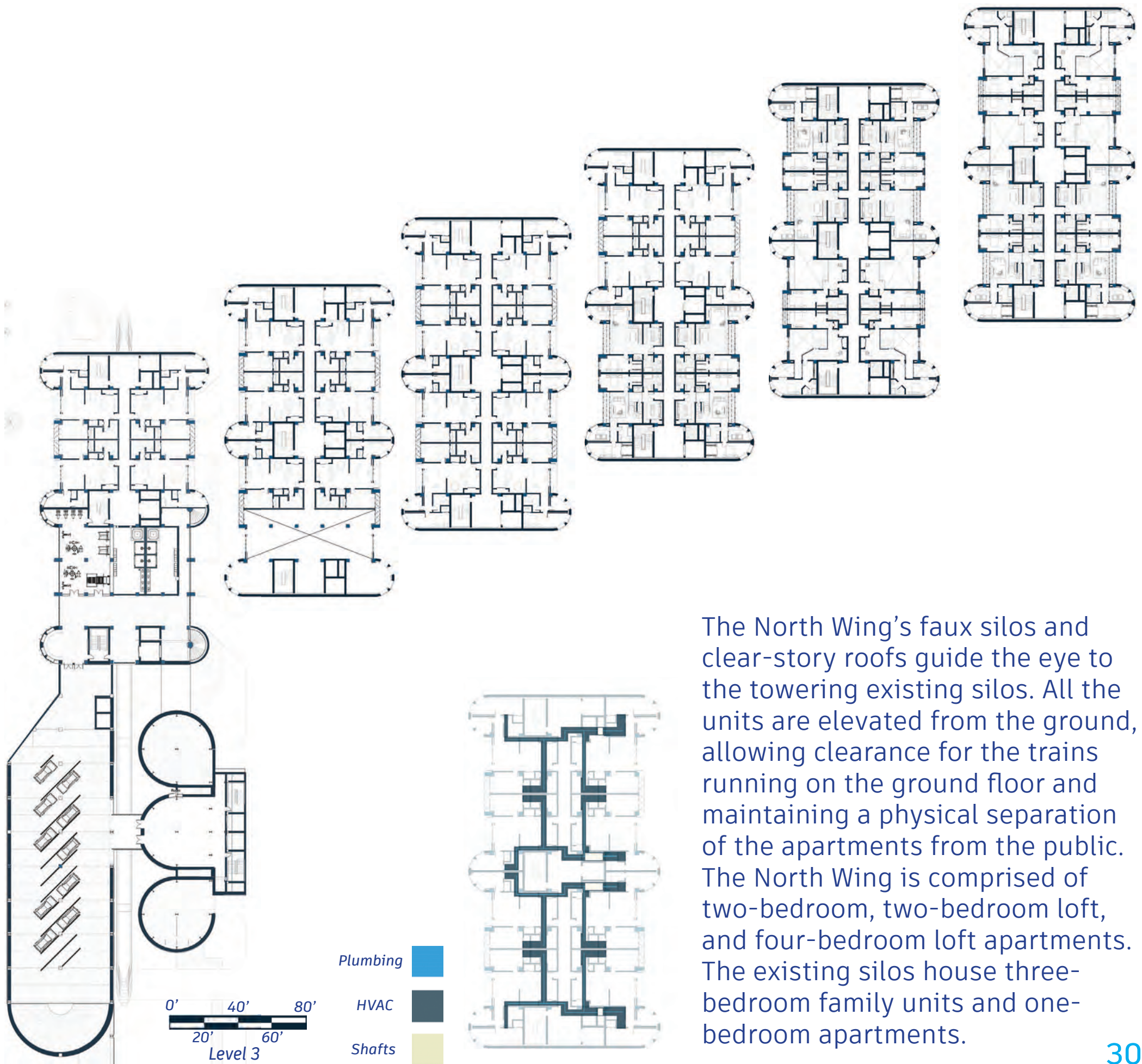
The interior walls of the south silos were cut to create massive open spaces. Placing more apartments in these silos is possible, but it is more important to preserve its original height as an artifact of the place for the public. If a person approaches the building from the south to the train station, they are forced to move through this space.

Its utility is public entertainment. It is a free bouldering wall for rockclimbers. It has a small conditioned space serving as the leasing office for the complex. The building's adjacency to the Fear Factory's parking lot increases its chances for further public usage.







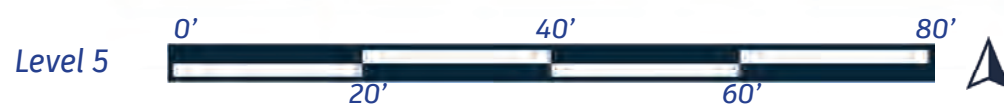
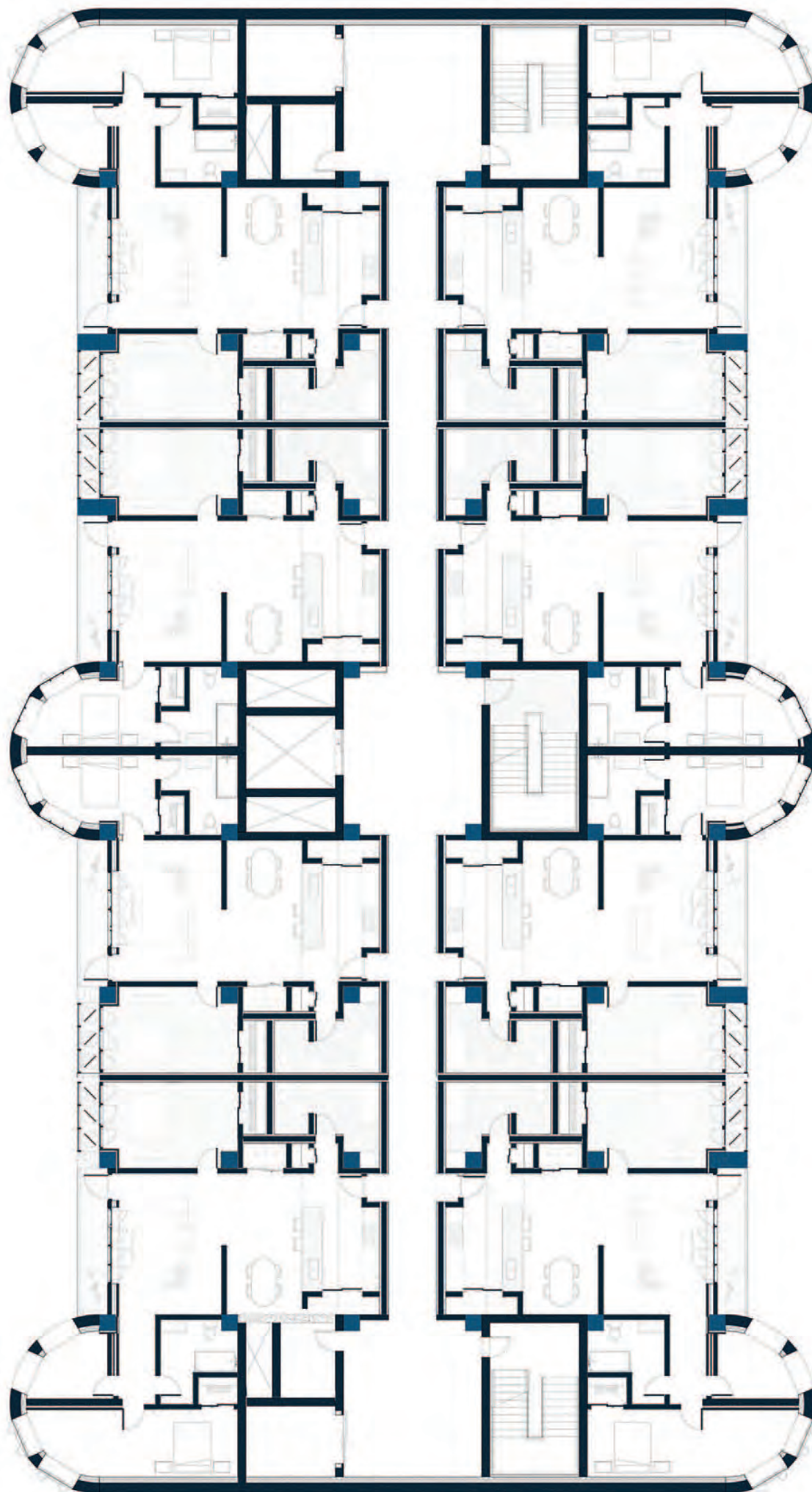


The North Wing's faux silos and clear-story roofs guide the eye to the towering existing silos. All the units are elevated from the ground, allowing clearance for the trains running on the ground floor and maintaining a physical separation of the apartments from the public. The North Wing is comprised of two-bedroom, two-bedroom loft, and four-bedroom loft apartments. The existing silos house three-bedroom family units and one-bedroom apartments.

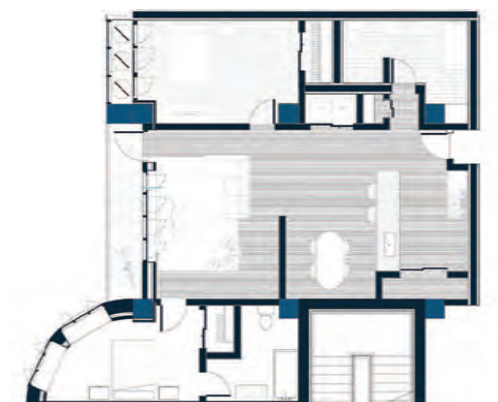


Two - Bedroom Units

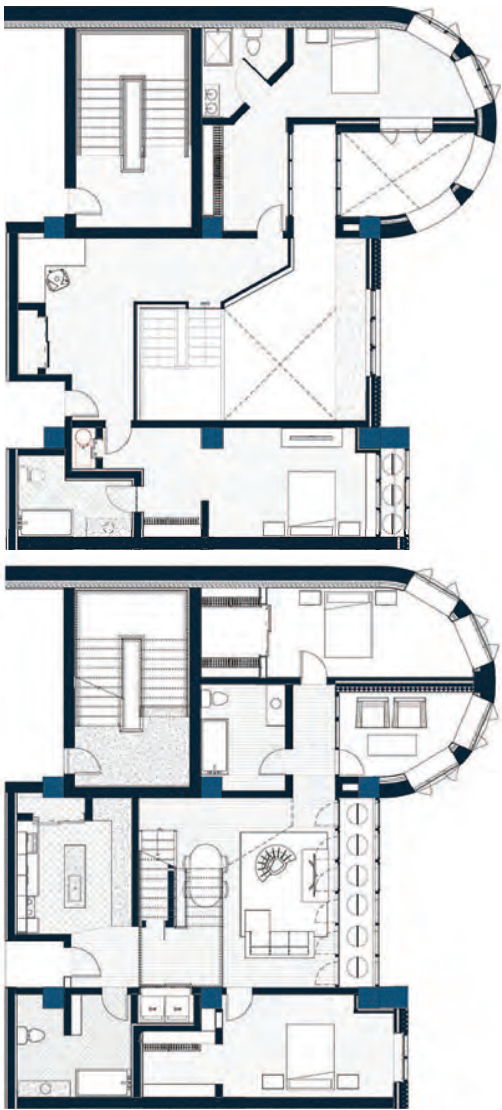
The two-bedroom units are the closest units to ground level in the complex. These spaces have ideally been designed for college students and other young adults.



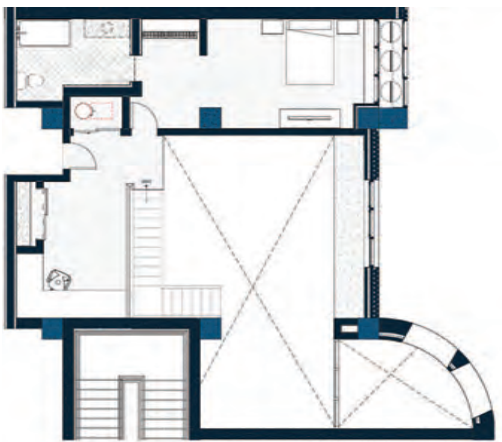
Two - Bedroom Apartment



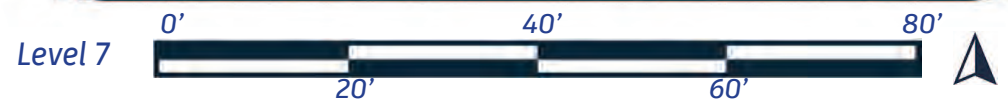
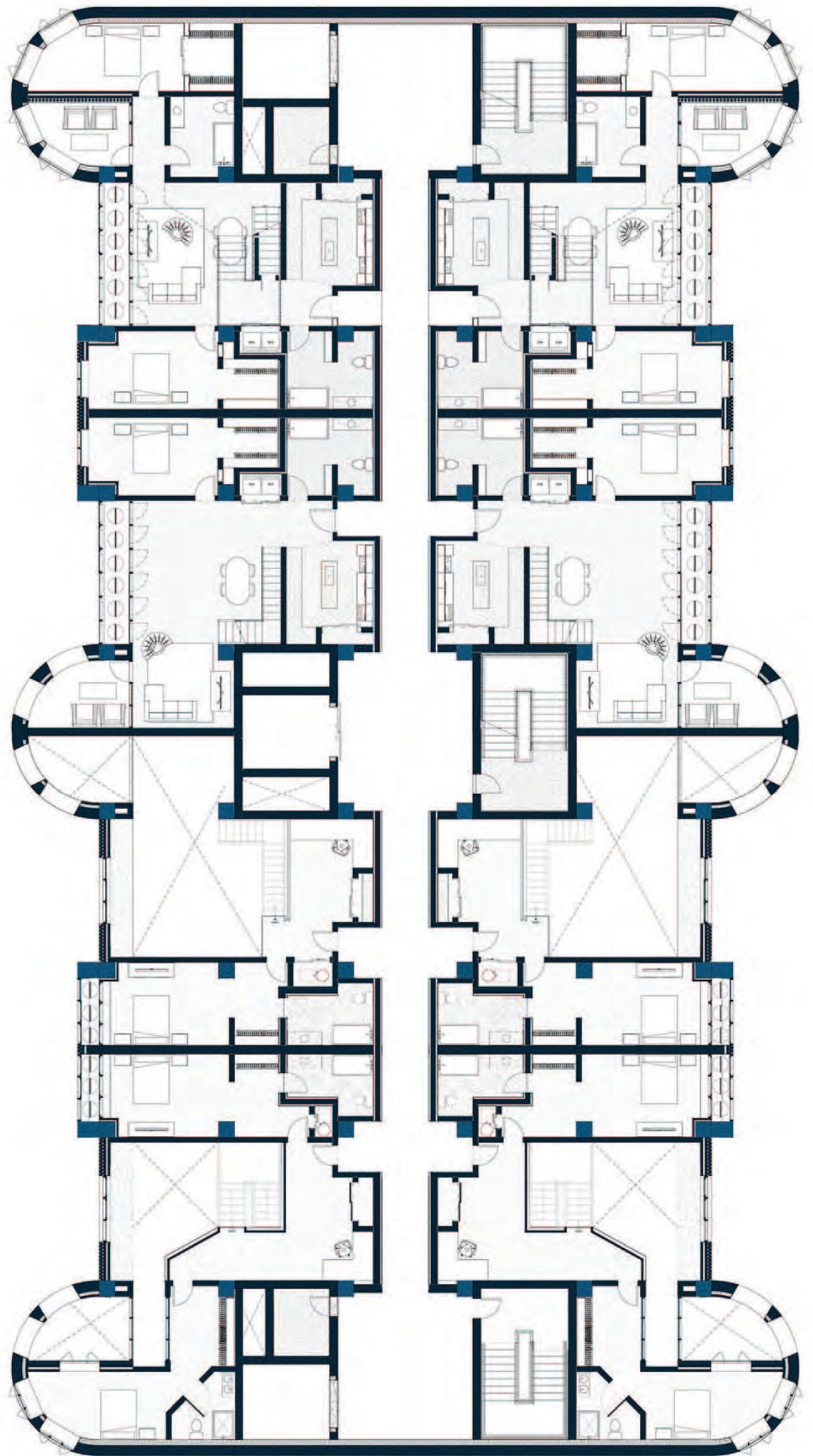
Two - Bedroom Apartment



Four - Bedroom Loft



Two - Bedroom Loft

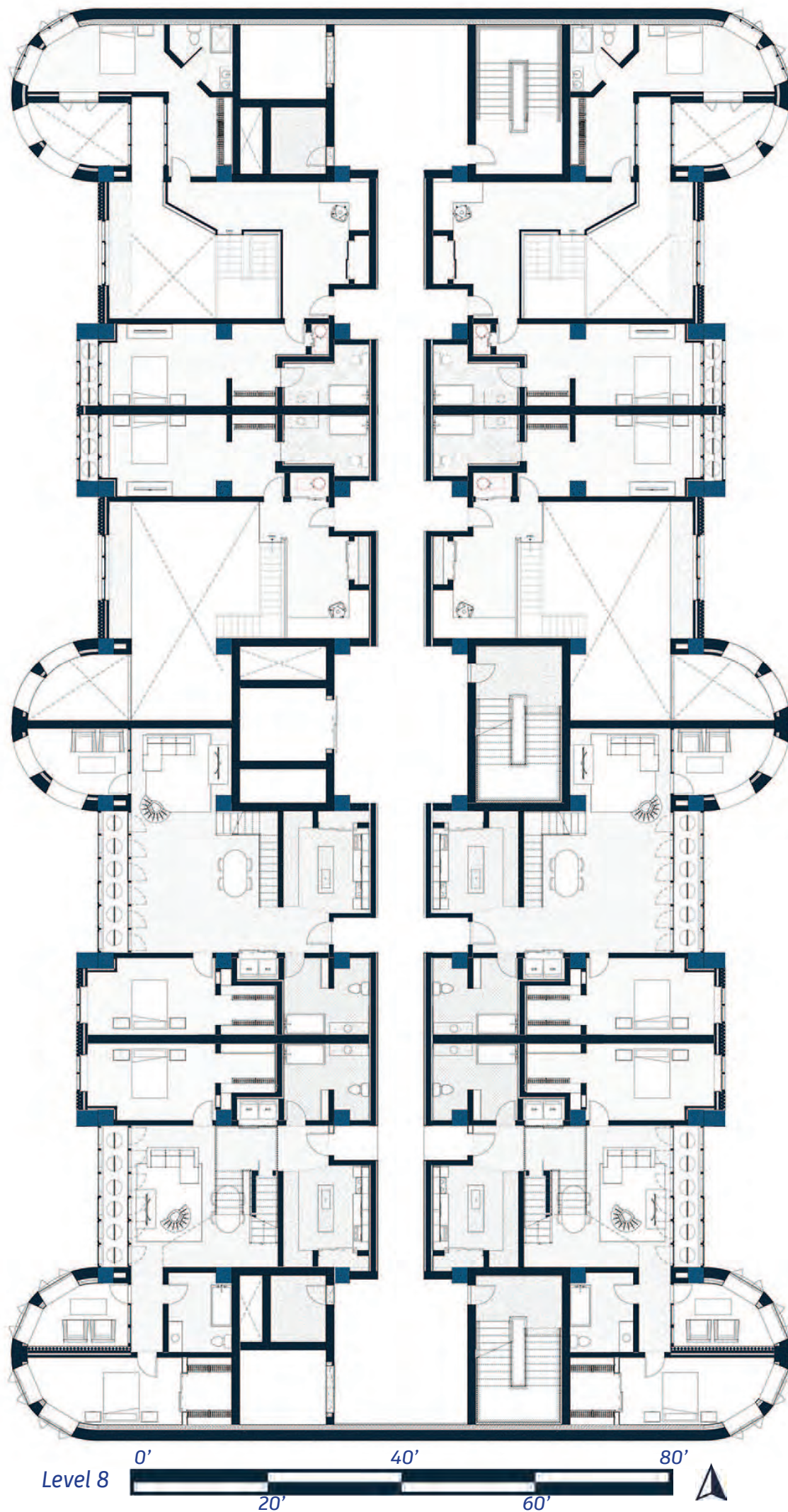


Lofts

As live – work living situations continue to rise, especially in the growing technology hub of Salt Lake City, the lofted units expand the target audience attracting remote workers.

In plan, the lofted units alternate vertically, creating a rising facade which guides the eye to the existing silos.

The four-bedroom lofts are located on the extremities of the North Wing building. This apartment type is versatile. It can house families and groups of young adults alike. Since they lie on the edge of the building, the apartments receive entire “faux silo” spaces. These semi-circular spaces act as bedrooms and covered balconies. Depending on which side of the building an individual’s apartment is in, they will have 180 degree views of either downtown towards the east or the Great Salt Lake in the west. The living room is designed with a custom window with mullions to look like a rose window cut out of a masonry opening.







0' 20' 40' 60' 80'

West Elevation



Level 9

Level 8

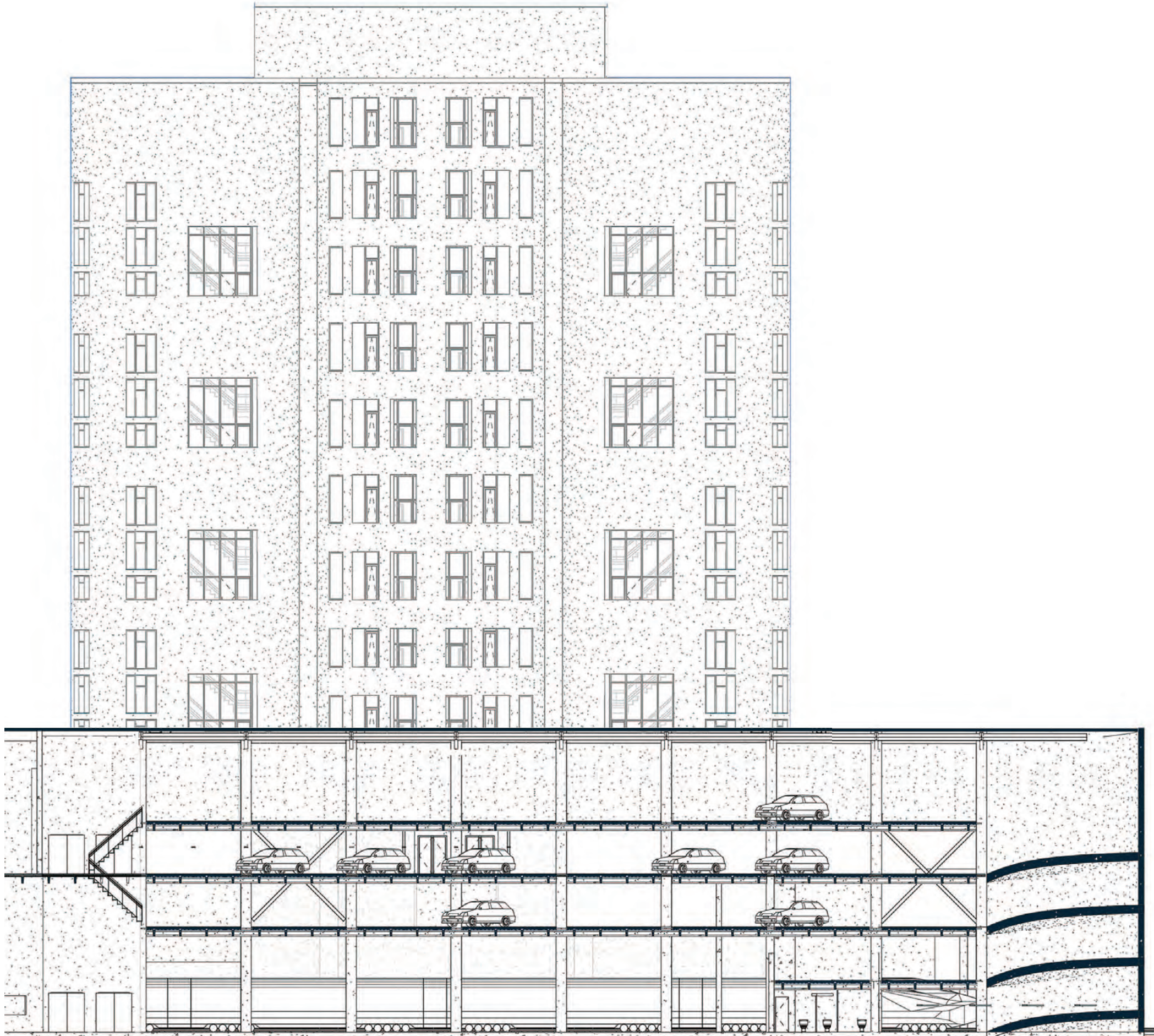
Level 7

Level 6

Level 5

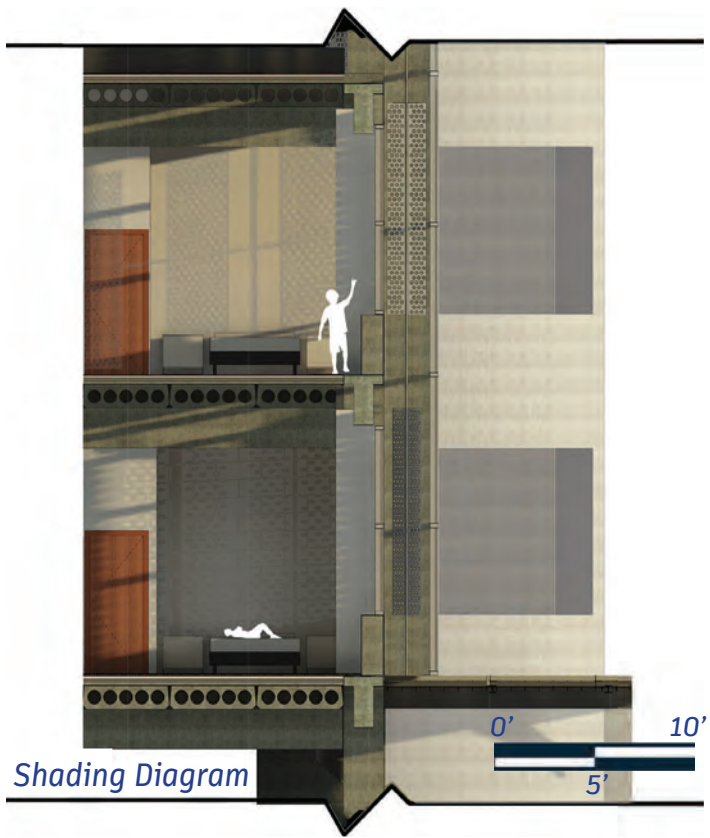
Level 4

Level 3

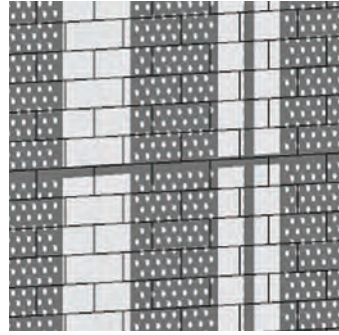


0' 20' 40' 60' 80'

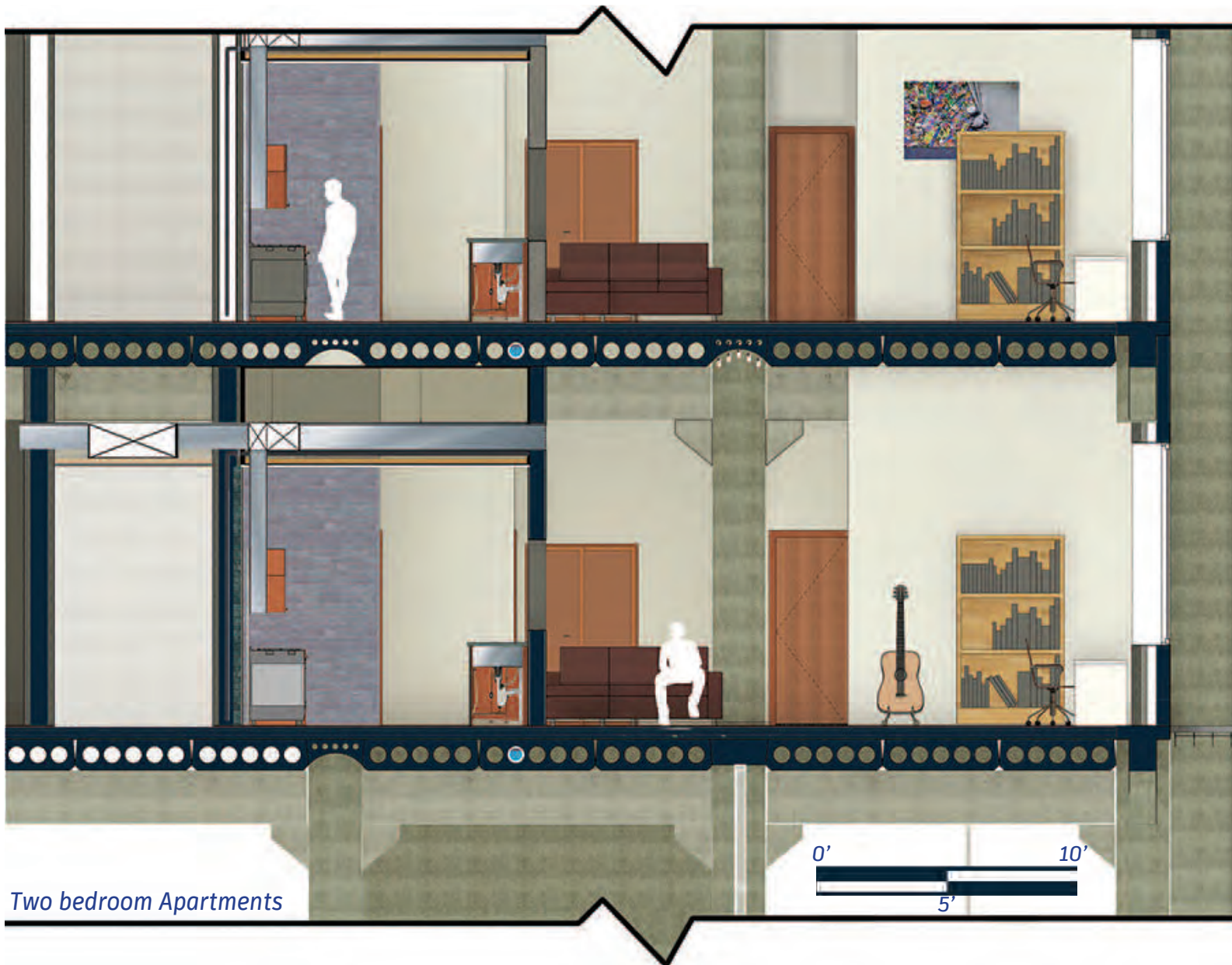
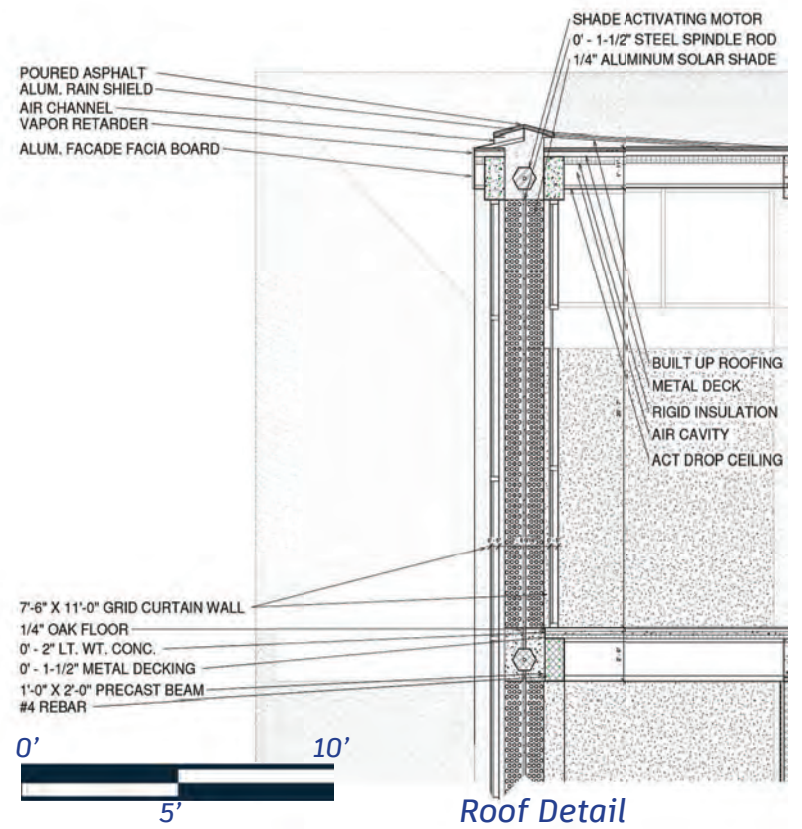
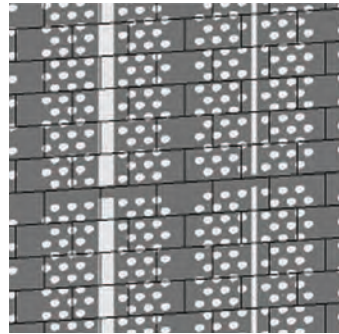
Section A



“Open” Shadow

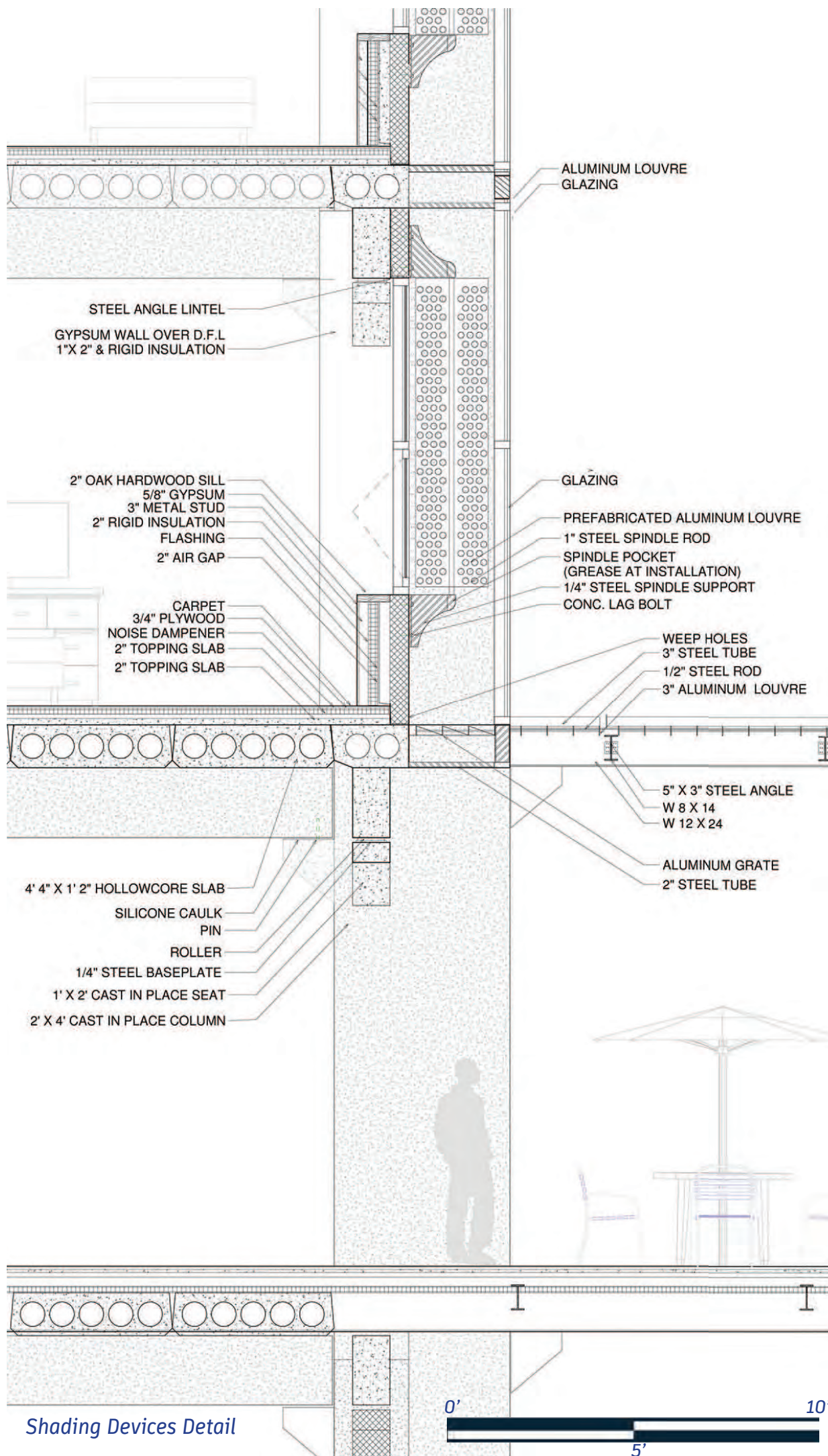


“Closed” Shadow



Sun Shading Devices

Every apartment in The North Wing is designed partially with a double-skin facade. Considering Utah's desert climate, this installation combats the solar heat gain on the residences. The continuous double skin shaft creates a natural vacuum which pulls hot air upwards, dissipating at the roof. Concrete is subject to increased solar gain compared to other materials. To combat the increase in heat, prefabricated aluminum louvres are fastened to a domestic scale masonry wall fitted for manual operation.



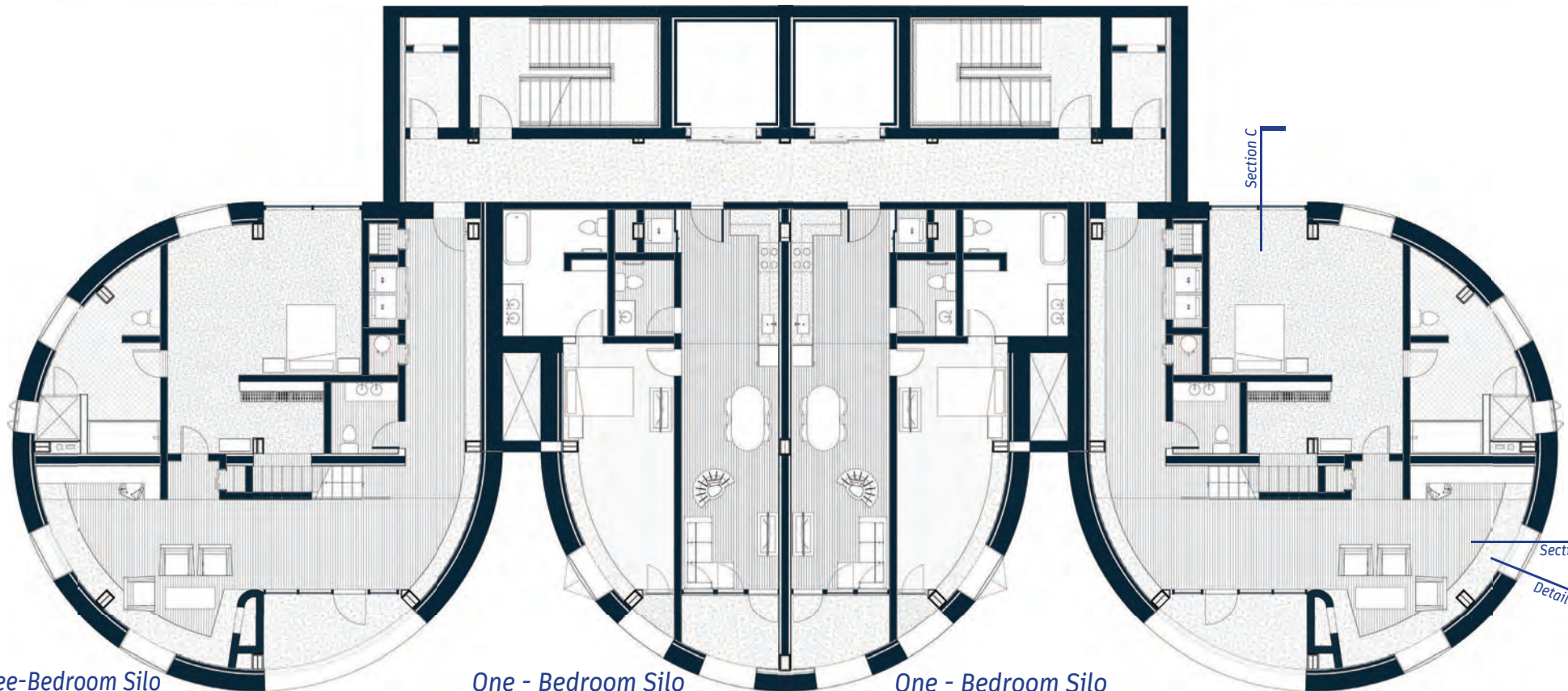
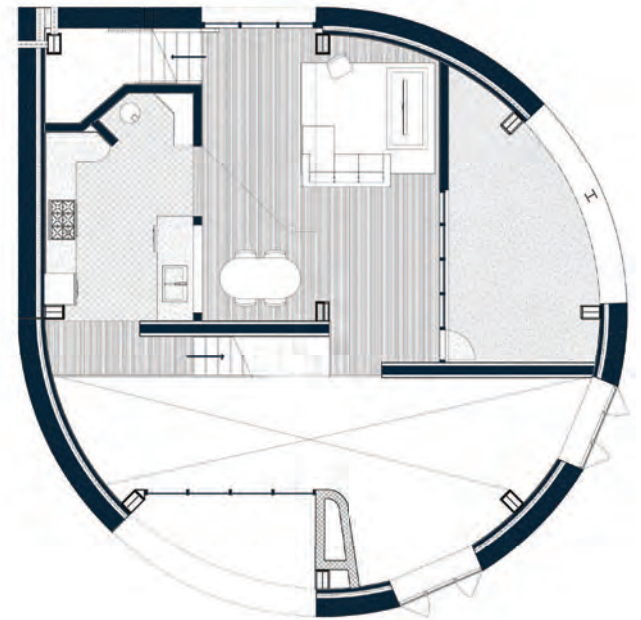
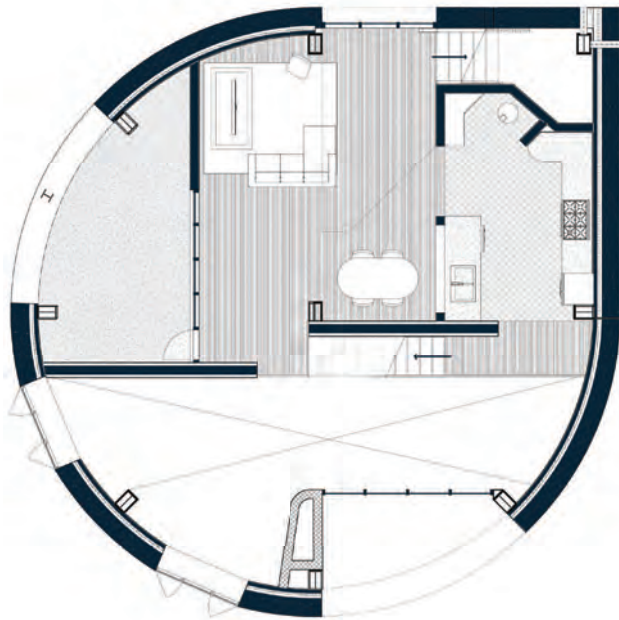
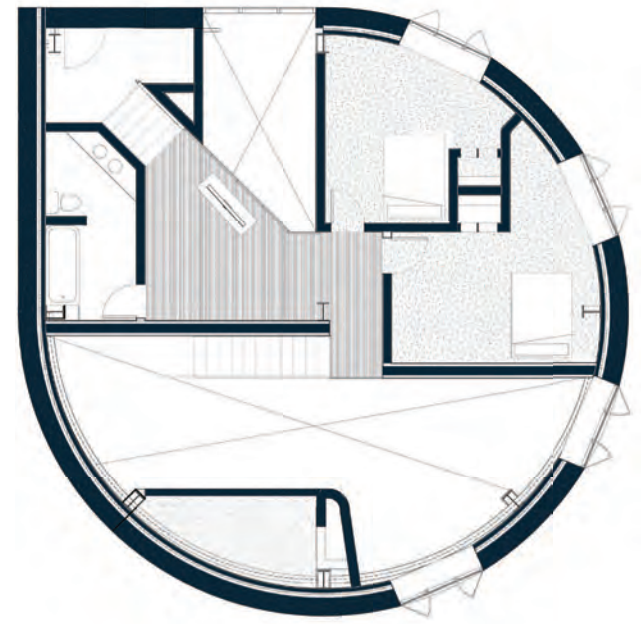
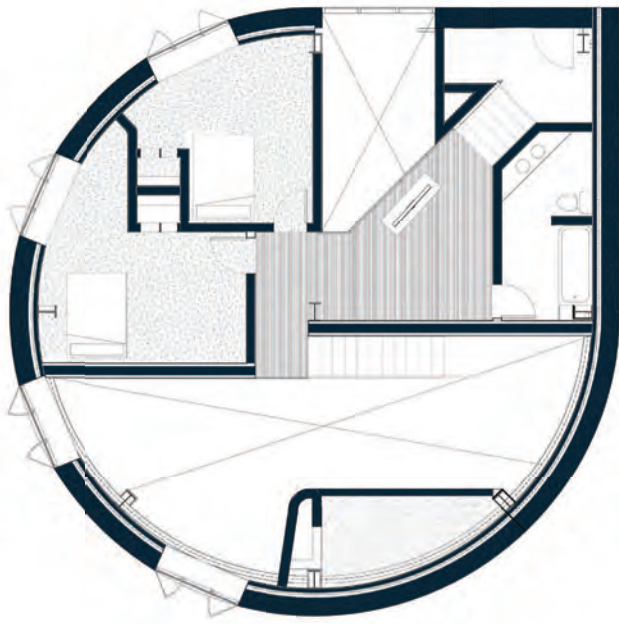




5 Central Silos



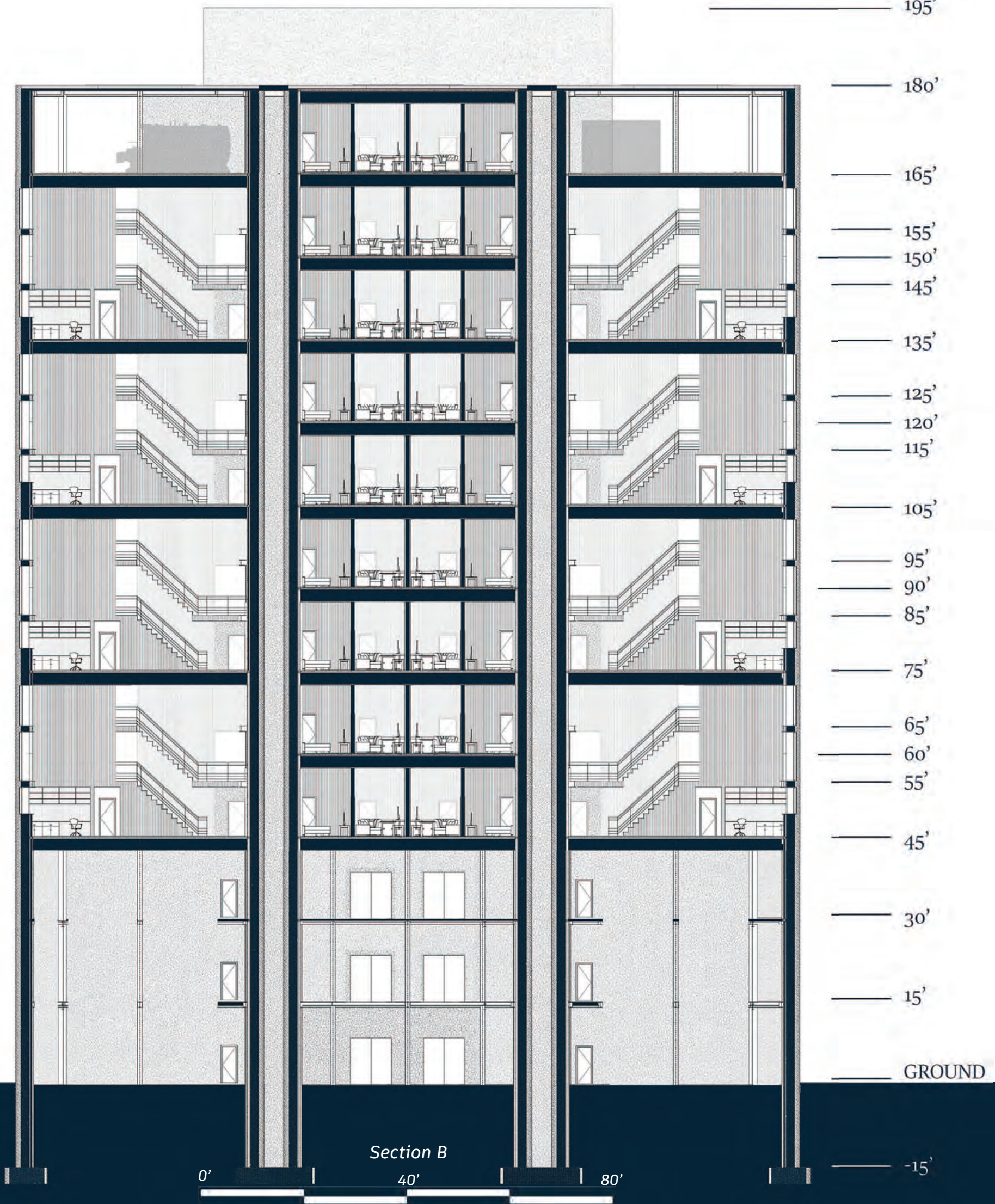
Silo Apartments



Three-Bedroom Silo

One - Bedroom Silo

One - Bedroom Silo



195'

180'

165'

155'

150'

145'

135'

125'

120'

115'

105'

95'

90'

85'

75'

65'

60'

55'

45'

30'

15'

GROUND

-15'

Section B

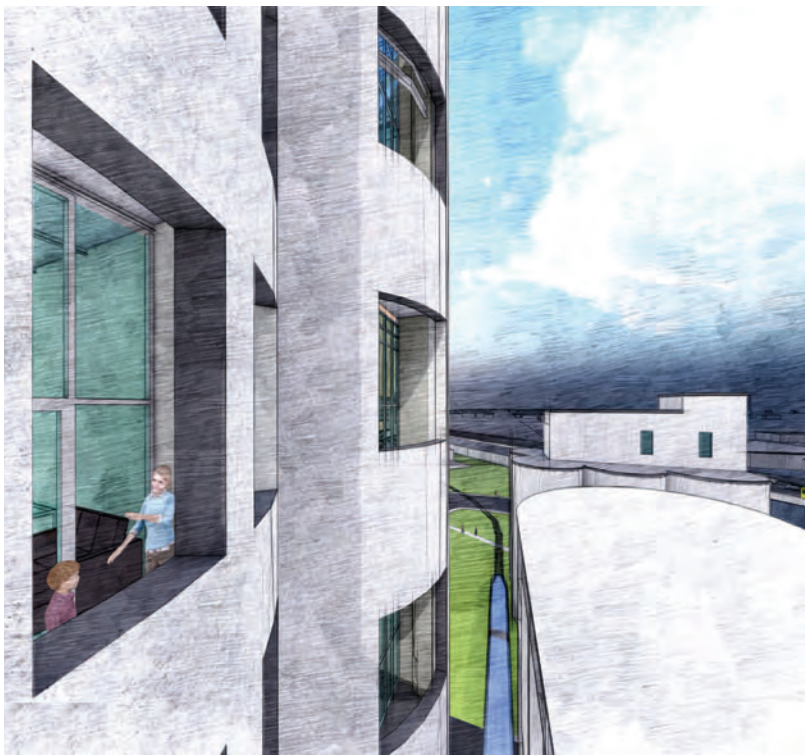
0'

40'

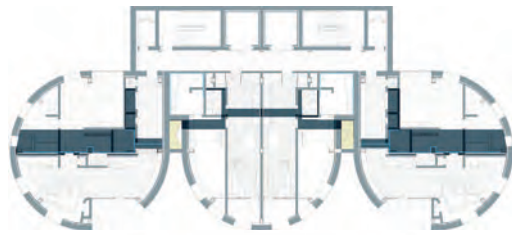
80'

20'

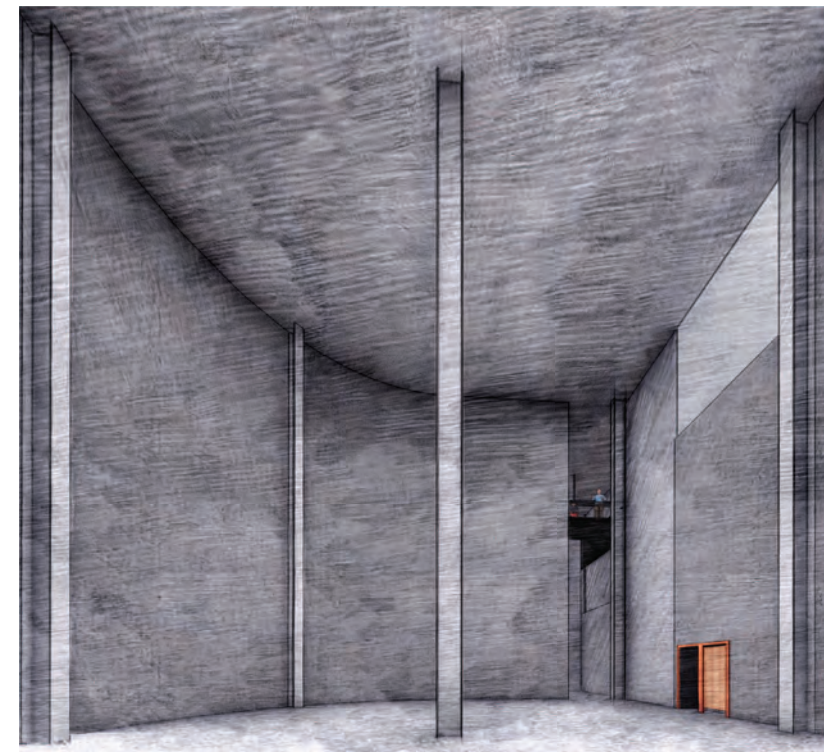
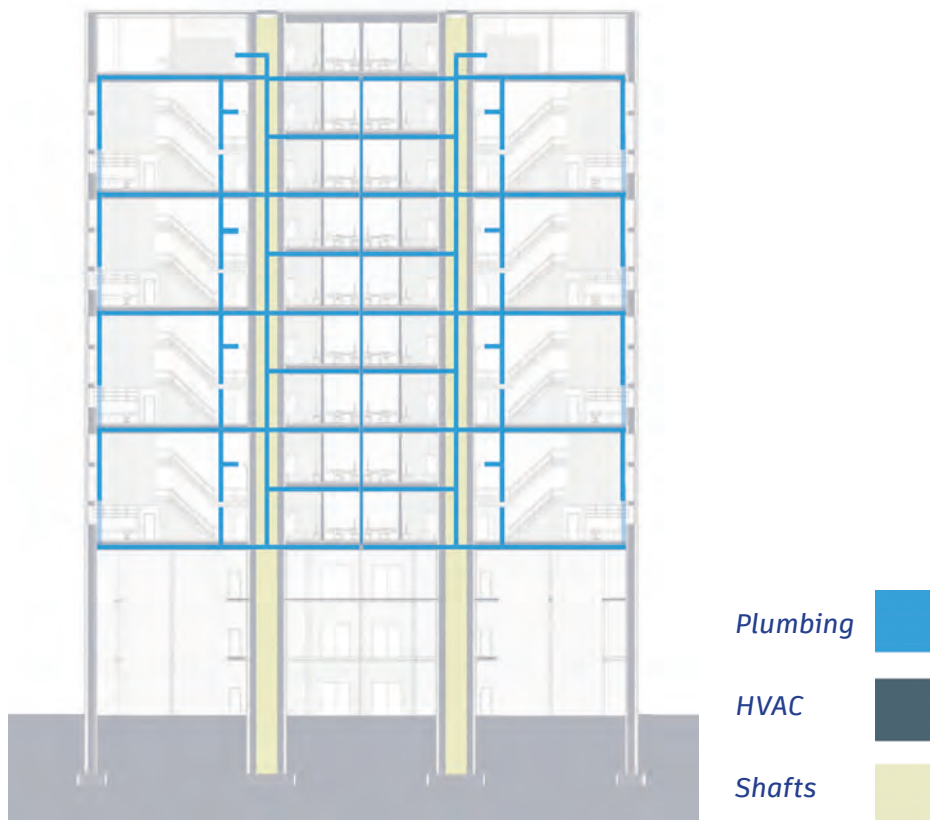
60'



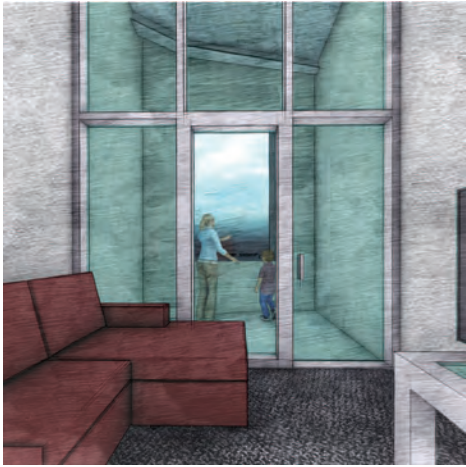
This building has been repurposed to include one - bedroom and three - bedroom apartments. From construction methods to projected residents, these units differ from those of the North Wing. Quadrants of the existing silo's shells are cut away to allow for an exterior core providing vertical circulation. Where windows and balconies are needed, the existing wall is likewise cut away.



Similarly to the south silos, the first three levels of the central silos are left without floor assemblies to preserve the history of the building. As a resident enters from the ground or the parking garage, they travel through these airy spaces.



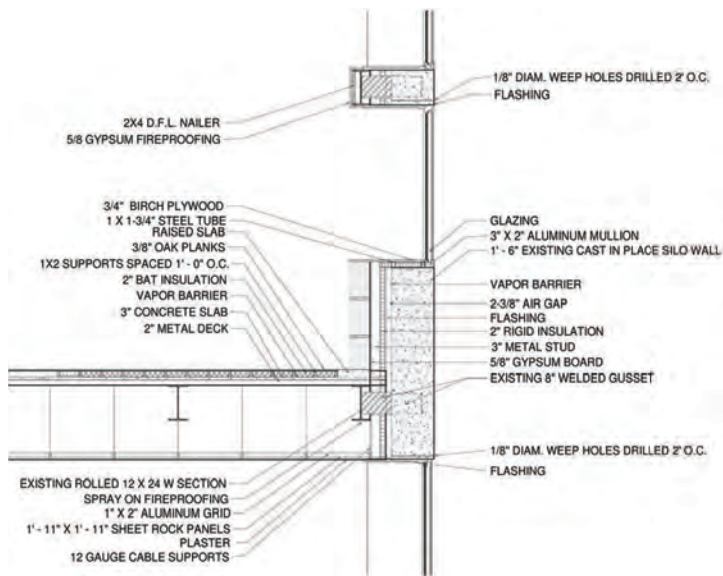




Section B



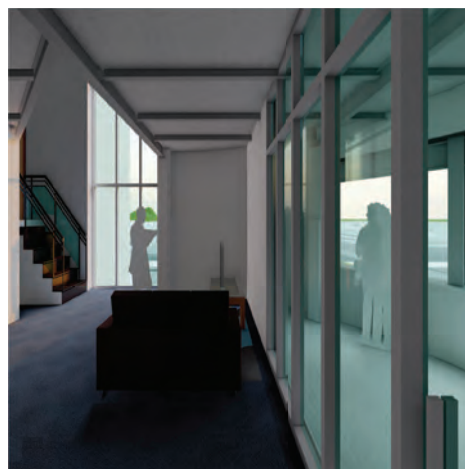
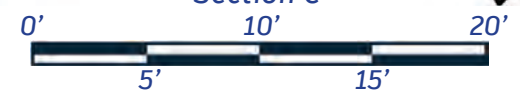
The interior finishes are made of sheet rock and wood paneling, the latter of which leads the eye vertically to accent the height of the apartment.



Detail B



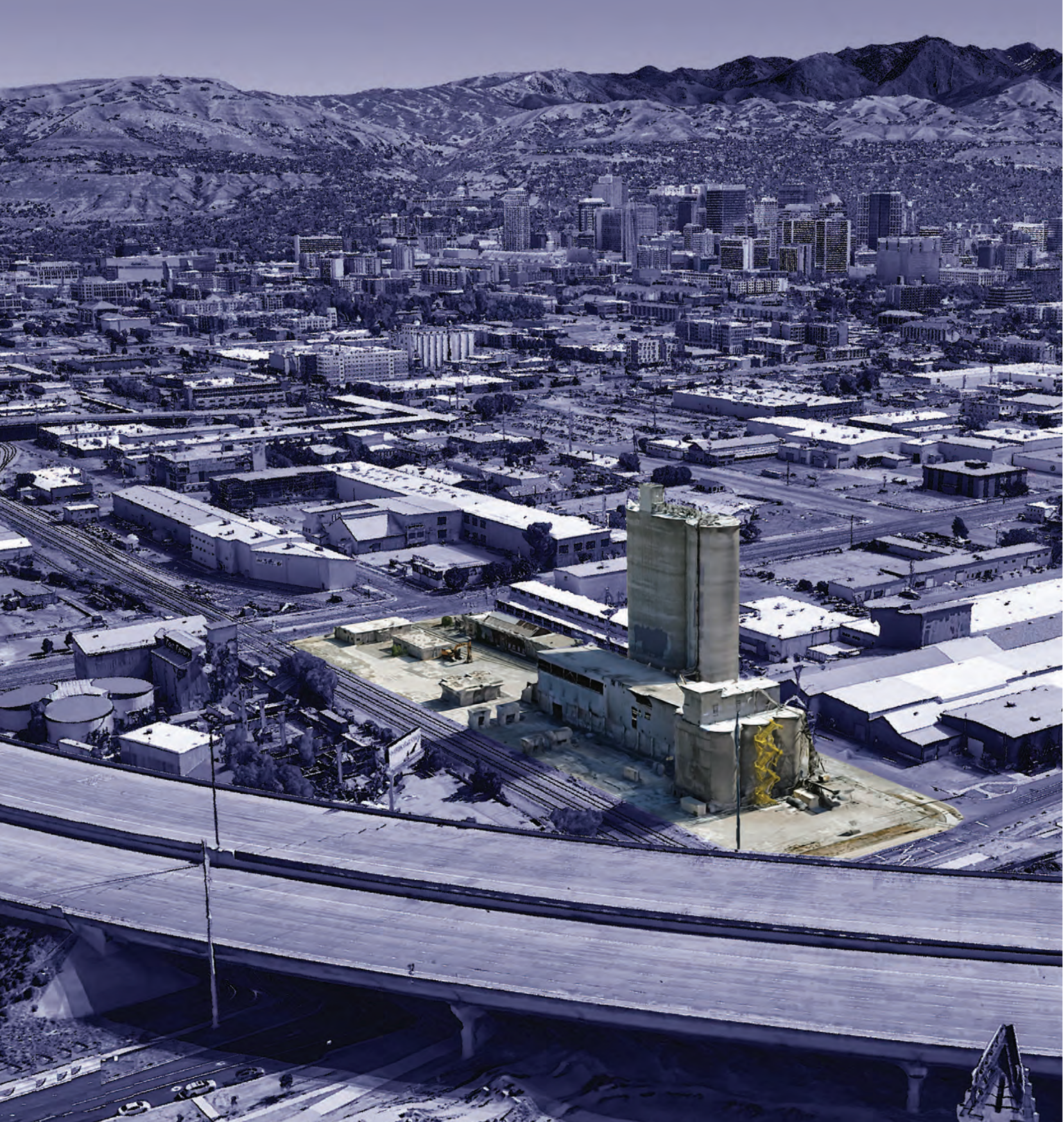
Section C

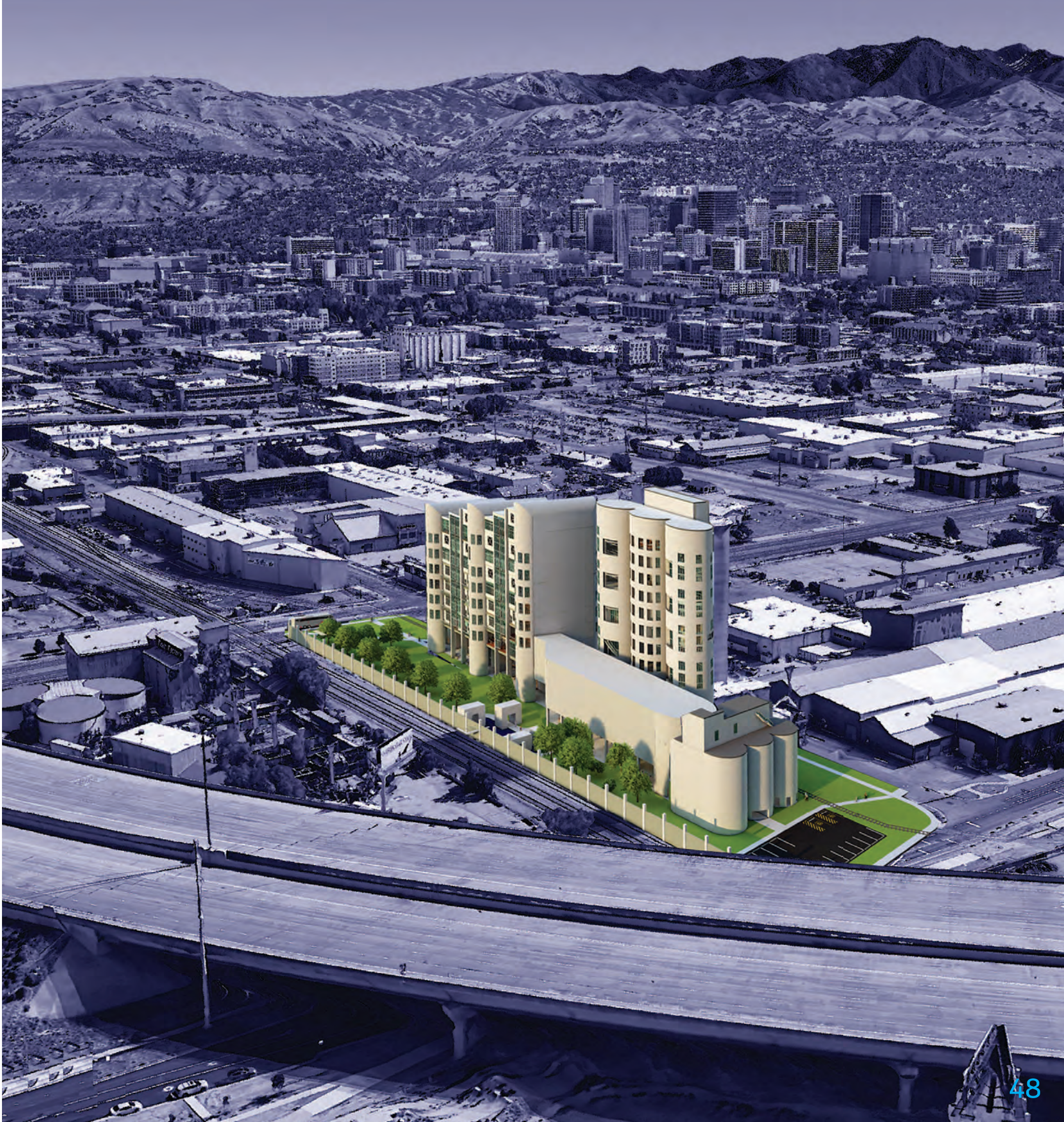






6 Closing





Afterword

Within design, a balance has to be struck between the possible and the real. There is always tension between what soars and fires the imagination, on one hand, and what is fully grounded and attainable to serve useful need, on the other.

This project turns the old into something new: new energy, new vitality, and new objectives for a place that had outlived its original purpose. This converted cement factory addresses the current problem in Salt Lake City of limited housing space in a city cabined by mountains and an inland sea. The only way to build is up. The lofty goal of a beautiful structure for newcomers to Utah and natives alike where people have a place to live, work, fall in love, and do the most important things that make life worth living, could be actualized in this housing concept.

As we have seen, the old structure in this given case could not be more grounded in everyday reality as it is a cement factory. The designers of which have impacted (at a remove) the design of the entire city in “concrete” terms as regards its hardscape. What a beautiful thought that my design could in turn fructify a city in a less durable but somehow no less important way - by creating a place for the softscape of human life to be and do its best.

Contributors

It has been an honor to work with the gifted professors of architecture at Texas A&M University without whose guidance this project would not have been realized. I am equally appreciative of my colleagues in the 2023 cohort whose friendship I will remember for a lifetime.



"Study Session at the Fear Factory" 10/31/21

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Figure 1: American Experience. *Forced Migrations*. Retrieved from <https://www.pbs.org/wgbh/americanexperience/features/mormons-map/>

Figure 2: Gnederriter. *Westward Expansion*. Retrieved from <https://www.timetoast.com/timelines/westward-expansion-1845-1860>

Figure 3: Salt Lake County Surveyor. *SLC 1853*. Retrieved from <https://slco.org/surveyor/mapping--gis/free--historical-maps/>

Figure 4: American Experience. *Forced Migrations*. Retrieved from <https://www.pbs.org/wgbh/americanexperience/features/tcrr-timeline/>

Figure 5: Salt Lake County Surveyor. *SLC 1885*. Retrieved from <https://slco.org/surveyor/mapping--gis/free--historical-maps/>

Figure 6: Salt Lake County Surveyor. *SLC North 1963*. Retrieved from <https://slco.org/surveyor/mapping--gis/free--historical-maps/>

Figure 7: Salt Lake County Surveyor. *SLC North 1999*. Retrieved from <https://slco.org/surveyor/mapping--gis/free--historical-maps/>

Figure 8: SLC Maps. *Salt Lake City GIS Data*. Retrieved from <https://maps.slcgov.com/mws/index.htm>

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Figure 9: Kem C. Gardner Policy Institute. 2021. *Population Projections*. Retrieved from <https://gardner.utah.edu/demographics/population-projections/>

Figure 10: Kem C. Gardner Policy Institute. 2021. *Population Projections*. Retrieved from <https://gardner.utah.edu/demographics/population-projections/>

Figure 11: Kem C. Gardner Policy Institute. 2021. *Population Projections*. Retrieved from <https://gardner.utah.edu/demographics/population-projections/>

Figure 12: Kem C. Gardner Policy Institute. 2021. *Population Projections*. Retrieved from <https://gardner.utah.edu/demographics/population-projections/>

Figure 13: Policy Circle. *Migration Between States*. Retrieved from https://www.thepolicycircle.org/minibrief/migration-between-states/#section_5

Figure 14: Garrott, L. (2020, April 15). *Total church membership*. newsroom.churchofjesuschrist.org. (n.d.). Retrieved February 20, 2023, from <https://newsroom.churchofjesuschrist.org/facts-and-statistics/state/utah>

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Figure 15: BKV Group. *Schmidt Artist Lofts* Retrieved September 1, 2022 from <https://bkvgroup.com/projects/schmidt-artist-lofts/>

Figure 16: BKV Group. *Schmidt Artist Lofts* Retrieved September 1, 2022 from <https://bkvgroup.com/projects/schmidt-artist-lofts/>

Figure 17: MSR Design. *Mill City Museum*. Retrieved from <https://msrdesign.com/case-study/mill-city-museum/>

Figure 18: MSR Design. *Mill City Museum*. Retrieved from <https://msrdesign.com/case-study/mill-city-museum/>

Figure 19: BKV Group. *Schmidt Artist Lofts* Retrieved September 1, 2022 from <https://bkvgroup.com/projects/schmidt-artist-lofts/>

Figure 20: MSR Design. *Mill City Museum*. Retrieved from <https://msrdesign.com/case-study/mill-city-museum/>

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Figure 21: Salt Lake City Planning Division. *Local Historic Districts*. Retrieved from <https://www.slc.gov/historic-preservation/historic-districts-and-buildings/local-historic-districts/>

Figure 22: Salt Lake City Planning Division. *Local Historic Districts*. Retrieved from <https://www.slc.gov/historic-preservation/historic-districts-and-buildings/local-historic-districts/>

Figure 23: Salt Lake City Planning Division. *Local Historic Districts*. Retrieved from <https://www.slc.gov/historic-preservation/historic-districts-and-buildings/local-historic-districts/>

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Figure 24: Fear Factory. *Our Story*. Retrieved from <https://fearfactoryslc.com/history/>

Figure 25: Fear Factory. *Our Story*. Retrieved from <https://fearfactoryslc.com/history/>

