Galt Agora

Vision for a Pedestrian Fabric in the City of Cambridge

by

Boian Dabov

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Architecture

Waterloo, Ontario, Canada, 2015

I hereby declare that I am the sole author of this thesis.

This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

The ongoing urban renewal occurring within the City of Cambridge, and its Galt city centre has been a long delayed process, yet it is a necessary one for the city and its inhabitants. A latent sense of disintegration within the cultural identity of the city can be observed, as a result of architecture and urban infrastructure that subverts the relationship between people and the public realm. The existing urban design has been dominated by fragmented community relationships, propagated by our now unavoidable dependence on automobiles. As the city grows in population, the design of resolutely public spaces will be crucial for development of effective interactions between individuals living as part of a community. This thesis will investigate 9 potential sites for future public environments within the existing network of underutilized city owned parking lots and other unexploited public sites. It proposes a critical evaluation of current parking functions as legacy urban infrastructure, and the addition of socially, culturally, and economically productive public space, or public infrastructure. A *hybrid public architecture* will result as a synthesis of the unavoidable need for parking (urban infrastructure) and the currently un-addressed need for successful pedestrian environments (public infrastructure). The speculative interventions will ultimately benefit the city of Cambridge, as it engages in the creation of urban architecture designed to support democratic social interactions amongst the local community.

Using the archetype of the Greek *agora* and *stoa*, this thesis will create a language for a *hybrid public architecture* as a basis for defining a series of new productive public spaces. The vision for this thesis will seek to supplement or replace underutilized public parking lots and other public spaces relevant to the identity of the city, with informal public spaces and supportive market structures, all meant to attract and sustain pedestrian activity and exchanges. Influenced by theories of *absolute architecture* (Pier Vittorio Aureli), *spaces of appearance* (Hannah Arendt), studies on sensory driven nature of animal interaction (Edward T. Hall), and various precedent studies on the design and function of public spaces and supportive markets, this thesis will speculate on the ability of a future pedestrian fabric to support future growth in the city. A *hybrid public architecture* will present these future public environments as places for harmonious political and economic relationships between the diverse citizens of Cambridge.

ACKNOWLEDGEMENTS

This idea could not have been developed without the support of the people in my life. I would like to thank my parents, Maria Sirakova-Dabova and Nikolay Dabov, my brother, Teodor Dabov, and the rest of my family, who have taught me the value of critical thinking and continue to inspire me to become a better human being. I want to thank Natalie Calderón, who has provided her love and support since the beginning of this journey. I would also like to thank my friends and colleagues, and to let them know that through our conversations and collaborations, I have found focus and motivation.

I would like to thank my thesis committee members, Adrian Blackwell and Val Rynnimeri, the University of Waterloo School of Architecture administrative staff, Lynn Griggs from the City of Cambridge Archives, Nicole Walker (GIS Analyst at the City of Cambridge), and Deanne Friess (Department of Development Planning, City of Cambridge).

Finally, I would like to thank my advisor, Rick Haldenby, who has provided his guidence and widsom unsparingly while I navigated the murky waters of self-directed research.

DEDICATION

Of significant importance in my life moving forward, is my devotion to further the understanding, empathy, and coexistence between human beings. Together, we can embrace our fragile position in the universe, and through collaboration, we can collectively make a better future for both our local and global communities.

TABLE OF CONTENTS

LIST OF FIGURES

Figure 0.01 - The parking lot and future public environments.

PART 1

INTRODUCTION

"Community never refers to a collection of bodies conceived independently of their world. It refers to the nature of the relations between these bodies and their world." – Tiqqun Collective[1]

This thesis is a vision for future public enviornments within the Galt City Centre in Cambridge, Ontario. More importantly, it is a vision for the development of a strong community relationship between the citizens of Cambridge and the designed space of the city. This relationship is what constitutes the physical form of the city, and furthermore, is the basis for defining our personal interactions with others within our shared urban landscape. Thus, as an architectural project for the community of Galt, this thesis will focus on the explicit development of active and productive public environments in existing public sites across the city core. A hybrid proposal of architectural and urban interventions will be presented as a critically derived result from research on the history, current condition, and future developments of the city, the problems presented by currently underutilized public infrastructure, and precedent studies of relevant architectural solutions and design influences. The primary sites selected for intervention are existing city owned off-street public parking lots, which although abundant throughout the city core, also

(1) Tiqqun, Introduction to Civil War (New York: Semiotext(e), 2010), 13.

represent a void within the overall city fabric given their current state of underutilization[2]. These lots currently overwhelm the downtown city fabric, and serve as a largely unprofitable use of what could potentially be an economically productive property. In place of these parking lots we can imagine a speculative future *hybrid public architecture*, which addresses the need for variably programmed public environments seeking to sustain community interactions and exchanges. Furthermore, the proposed architecural language will embrace and maintain the requirement for off-street parking, but will ultimately present a new fabric of pedestrian architecture that will focus on better engagement with the growing population of the city. By conglomorating parking into covered multi-storey structures, then supplanting the newly created public sites with open air gathering spaces, public canopies, and supportive buildings with variable programs, the project aims to create profit by providing rentable retail and local vendor spaces. The vision is a series of connected projects designated as long-term city initiatives. The proposed future *hybrid public architecture* will aim to encourage social, economic, and cultural coexistence, and participation between the bodies which define a community, their zone of interaction: the public spaces of the city.

The role of city planners, developers, and architects in executing urban intensification projects, should include the design and use of public spaces as a top priority. Public spaces, in their basic sense, are places for gathering and exchange, which in turn influence the local economic prosperity of the community. This depends on the supportive function provided by architectural and urban design projects, and their ability to create a thriving environments for interactions between people and the architecture of city. The most basic form for an architectural project seeking to encourage economic productivity, is the market and its extended spaces for formal and informal activity. The ancient Greek city states included such structures and spaces,

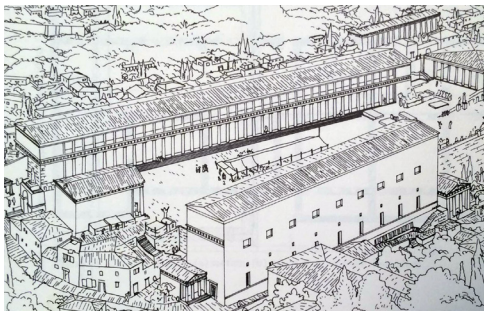


Figure 1.01 - Drawing showing the Assos agora and stoa, from “The Architectural Development of the Greek Stoa” by J.J. Coulton.

(2) City of Cambridge, “Off-Street & On-Street Parking Surveys.” (IBI Group Report, 2008), 12.

known as the archetypal *stoa* and *agora*[3]. The agora is an open air public area, often framed by the construction of stoa, a covered collonade structures along the perimeter of the agora. The agora on its own, functioned in these city states as an informal meeting and market place, where vendors and citizens could exchange in commodites, services, and ideas, but it is in the addition of the stoa as a dedicated structure for these exchanges, that Greek city states truly prospered. The shelter they provided meant that the core of the city could sustain market exchanges for longer periods of time, unencumbered by changing environmental conditions. The stoa added further benefits to the city by virtue of its multi-functional program usage, which supported formal and informal community events, hosted meetings between citiziens and government representatives, and also generated profit through the rental the space(s) to vendors.

Today, this basic archetype has evolved into the public plazas inherent to the urban design in cities accross the planet. Similarly, the malls of North America are built according to this relationship between dedicated retail spaces, and the informal spaces which connect them. Accross the world, it is in the shared public spaces that a city can showcase itself and the stength of its community relationships. Furthermore, it is in these spaces that a city can encourage economic prosperity, by creating an environment where citizens, visitors, and vendors can interact. The ability for architecture to sustain public interaction is a result of the innate human desire for safety and comfort, and as such, we can tailor our shared environments based on the requirements of the community. In the development of this vision, the stoa and agora provide the basis for encouraging community interaction, through the design of variable building programs in public spaces.

Figure 1.02 - A view of 'Peurta Del Sol', the central plaza in Madrid, Spain. The buildings surrounding the plaza include a municipal hall, and various hotels. At the ground level, retail and restaurants support the occupation of the plaza by citizens and tourists alike.

To better understand the importance of social, economic, and cultural interactions within public spaces, we must first

(3) J.J Coulton, The Architectural Development of the Greek Stoa (Oxford: Oxford University Press, 1976), 8.

understand how a community defines the city. The city exists as a series of imagined boundaries[4], which we associate through our connection between the physicial limits of constructed environments and the population of citizens which exist within them. These defining boundaries are imagined in the sense that as cities go through urban development, the intangible divisions of land use are ultimately bound to the presence of human activity. Therefore, we can define the city as the interaction between four primary bodies, 1) people, 2) architecture (residential, commercial, intitutional, and industrial buildings), 3) transportation (urban infrastructure), and 4) public spaces (public infrastructure).

We can define urban infrastructure as the network which connects architecture and transit. Conversly, public infrastructure is the network of connectivity between architecture and people, through the creation of shared spaces such as open-air gathering places, markets, sidewalks, gardens, and parks. Thus, public infrastructure is the mechanism with which a community can connect with its built and natural environment, seeking to provide a means for cultural, social, and economic prosperity.

Of particular interest for this vision is the public infrastructure of underutilized city-owned off-street parking lots in the immidiete downtown core of Galt. These lots can be classified as urban infrastructure, which although they help to support the transportation of individuals in and out of the city core, they do not provide a benefit to the pedestrian activity of the city, thus they do not serve a role as public infrastructure. Furthermore, by mainting the current parking land usage, the city is catering the experience of the downtown core to only those people who drive and do not necesarrily live in proximity to the Galt city centre. The parking lots are adjacent to main streets with a rich and yet mostly unexploited heritage history, and act as a deterent for future

Figure 1.03 - Image of “Water Street Lot#2 Public Parking Lot”, one of the sites chosen for redevelopment in this thesis.

(4) Benedict Anderson, Imagined Communities: Reflections on the Origin and Spread of Nationalism (London and New York: Verso Books, 2006).

development due to their lack of a sustainable pedestrian fabric. A recent study from the University of Connecticut compared the change over time of overall land use of parking lot and of buildings in mid-sized industrial cities similar to Cambridge, Ontario, and posited that a high parking supply ratio observably altered the built environment such that city land use saw a decrease in building land use, thus limiting economic prosperity[5]. Thus, in envisioning a new future public environment for the city, the parking lots are a critical and often unprioritized opportunity for introducing new socially and economically productive architecture into the city fabric. Their general proximity to the heritage core, and their underutilization make the Galt City Centre public parking lots ideal for creating culturally vibrant, socially active, economically productive, and pedestrivan-friendly public environments.

As the City of Cambridge attempts to position itself within the technological, economic, and cultural evolution of Waterloo Region (Kitchener, Waterloo, Cambridge), the need for pedestrian oriented design becomes imperative in creating a sustainable community. An architecture which encorporates pedestrian oriented design can facilitate more meaningful public exchanges by encouraging social interactions and activities between the growing and increasingly multicultural population of the city. Using the archetypal forms of the Greek *stoa* and *agora*, in conjunction with architectural theories on the design of public spaces as places for confrontating the dominant urban infrastructure, a comprehensive vision for a pedestrian fabric in the Galt city centre will be presented. This intervention of the city fabric will exist as a series of unified architectural and urban design projects, meant to conglomorate and supplement existing parking functions, while simulataneusly creating an occupiable pedestrian environment capable of supporting various commercial functions, thus encouraging profit growth for the economy of the city.

Figure 1.04 - A view of 'The Stop Nightmarket', an annual event which temporarily re-appropriates a parking lot in downtown Toronto, Canada, into a vibrant food market event, 2013.

(5) McCahill et al, "Visualizing Urban Parking Supply Ratios.", University of Connecticut, June 2014.

The City of Cambridge is composed of three core areas: the town of Hespeler, the town of Preston, and the City of Galt, with the latter being the administrative and cultural hub of the amalgamated centres. As the City of Cambridge projects a significant increase in population and employment levels within the next 15 years [(6)], the Galt City Centre will have a significant role in establishing a built environment capable of supporting the city's commitment to cultural, educational, employment, and administrative development. As growth continues, the effect of urban sprawl and its disproportionate embrace of the automobile over the pedestrian, becomes increasingly visible in the Galt city centre. This is most evident in the abundance of the large off-street parking lots around the downtown core, which have become a legacy of the urban landscape in the city centre. With the relatively recent introduction of the University of Waterloo School of Architecture in the Galt, the expanding demographic of students have become catalysts for new businesses, residents, and tourism for the city. Furthermore, the recent completion of the Dunfield Theatre of Cambridge has increased visitors to the Galt city centre. And while residents and visitors have increased, city planners and developers have not prioritized the public amenities that the citizens require. Without a significant urban development proposal for a comprehensive pedestrian fabric, the city is ignoring the need for infrastructure required to maintain a sustainable level of activity and interaction amongst the entities that constitute the community of Galt.

The primary armature around which the city of Galt is built, is the Grand River. It is the backdrop for the heritage core, and as a result of its destructure power, has been channeled, contained, and by virtue, seperated from the city fabric. Furthermore, as a legacy of the floodings, many sites adjacent to the river as well as the downtown core, have become off-street parking lots, without

(6) Note: As stated in the Cambridge Official Plan (May 2012), the current population of the city is expected to rise from 126,748 in 2011 up to 173,000 in 2029.

a direct benefit to prosperity of the city. By evaluating the existing conditions and functions of the parking lots and other relevant underutilized public spaces, in relation to the urban armatures of the city, this thesis will attempt to elucidate the latent social, economic, and cultural benefit of a well-designed public/ pedestrian infrastructure integrated within the existing economic framework of the city. The use of architectural elements and forms functioning resolutely for public occupation and interaction, will seek to inspire the individual to question the existing form of their city and its relationship to the natural landscapes of its terrain, rivers, and creeks. Specifically, it will also act to confront both imagined and real boundaries of urban infrastructure (city streets and flood protection walls). This in turn will give citizens political agency through their choice to occupy and coexist in environments that serve their social, cultural and economic needs. By reimagining the parking lot, this vision will seek to create future pedestrian environments suitable for encouraging local market exchanges within the urban conditions and climate of the Galt city centre. Thus an architectural language for these proposed public spaces will be derived from the study of architectural theory on public environments and interactions, through a unifying understanding of the sensory driven experience of the physical thresholds between private and public environments. A *hybrid public architecture* will seek to define this threshold by presenting itself as an explicit zone of pedestrian occupation that also maintains the function and need for public parking in the city core.

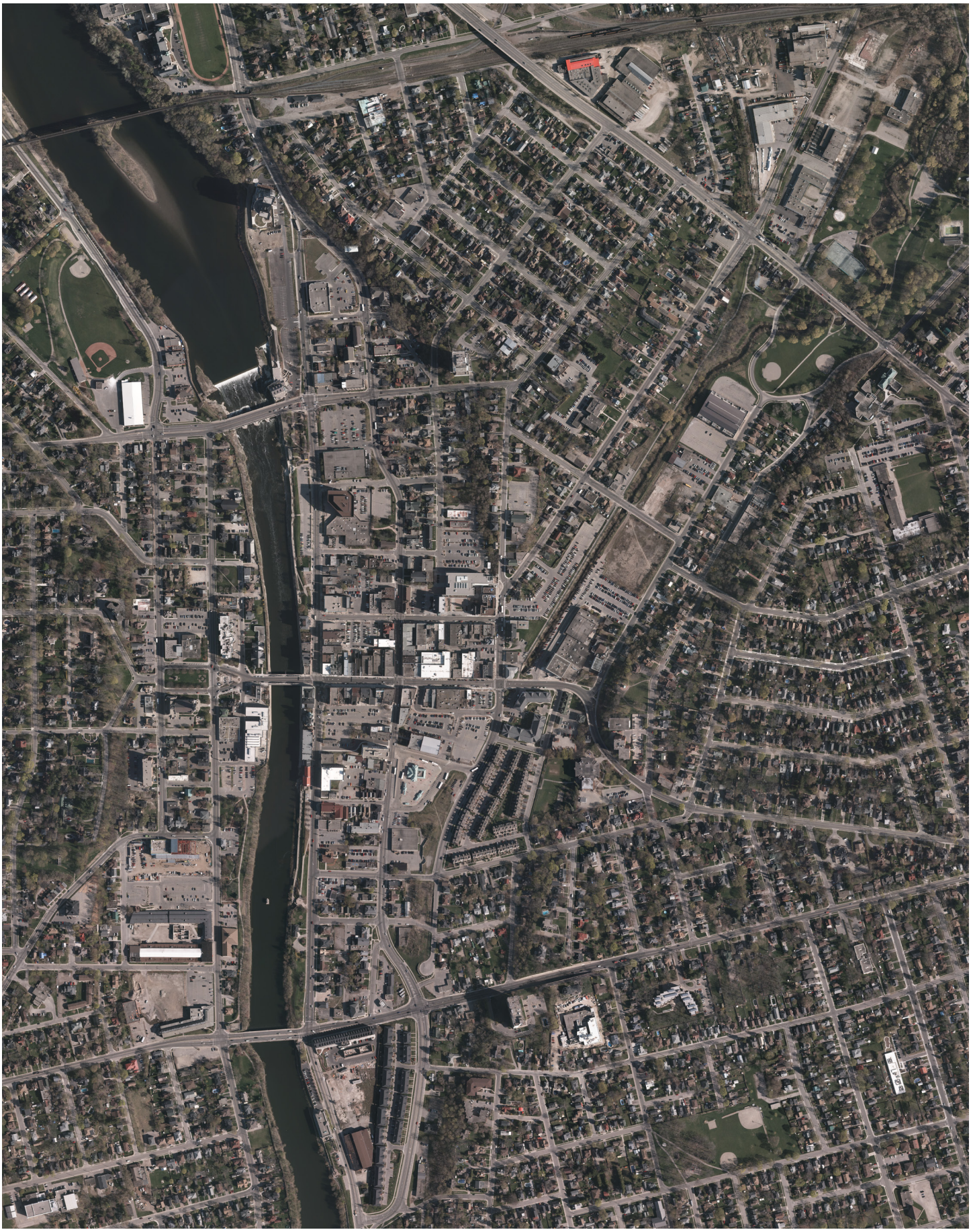
Figure 1.05 - A view of the existing elevated pedestrian promenade and “Living Levee” along the Grand River. Also showing “Water Street Lot#1 Public Parking Lot”, where the annual Mill Race Festival is held, 2014.

Development within Cambridge, and on a larger scale, within any growing city, is an undeniable phenomenon. The majority of such development is in the hands of the private sector, where the public often has a very limited ability to critique the projects which will affect the future of their city. Thus, in presenting the theory and language of a *hybrid public architecture*, this thesis argues for the principle that existing public spaces in the city remain public. The vision for the hybrid approach is that of embracing the needs of existing urban infrastructure and infusing

that need with enhacned public functions, is a statement meant to elucidate public developments as a benefit to the community. By creating explicitly public spaces, serving to attract, activate, and act as a tool for increased productivity and public exchange, Galt can sustain its growth and flourish as a cultural hub for the region. The future public environments in the city will create a new pedestrian fabric, that will utlimately result in a more prosperous and sustainable community.

The formation of this vision for the city centre of Galt begins with a study of the history, conditions, and function of existing sites that can function as future public environments. By evaluating the various city owned parking lots and properties adjacent to the Grand River and Mill Creek, this thesis will propose for the creation of a comprehensive pedestrian fabric that will supplement or replace existing off-street surface parking lots with a resolute public function. This will be accomplished through the implementation of multi-level parking structures in key locations of the city, accompanied by architecture designed with specific reference to the pedestrian interactions and experience of the city. The language of an *hybrid public architecture* will be the theoretical thread defining the requirements, function, and form of the proposed designs. We will further be explore this through a study of the nature of public spaces, the relationship between people and place, and a study of relevant precedents, resulting in an architectural vision seeking to provide an urban pedestrian fabric in the Galt.

Figure 1.06 - Satellite photo showing the Galt City Centre in the City of Cambridge, 2012.



A BRIEF HISTORY OF GALT

Situated on the banks of the Grand River, the Galt city centre has evolved into its present form through its connection to the river and its surrounding landscape. The valley in which it exists is framed by the natural ravine running alongside the grand river and the mill creek basin (Figure 1.09). It is between these conditions, that the urban core of the city exists. The town of Galt was created in 1825, formerly the Shade Mills settlement, a town renowned for its industrial and manufacturing capacity. This capacity was driven by the relationship between the various mills powered by the Grand River and its connecting creeks. The town of Galt had become a renowned place to live in and visit, as economic prosperity allowed for the construction of many important buildings and structures that functioned to support the growing population[(1)].

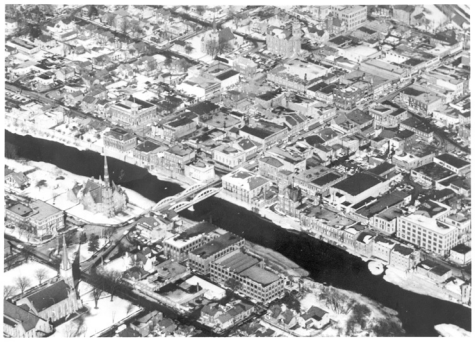


Figure 1.07 - An aerial photo of the Galt City Centre, 1965.

The town was in many ways defined by its architecture, which consisted of many landmarks, some of which have survived to this day, such the Main St. Bridge (1819), the Great Western Railway bridge (1854), the Galt Post Office (1885), and the Galt Carnegie Library (1903). The town was also home to renowned hotels such as the Imperial Hotel (1881), which occupied a site directly across the Galt Post Office. Unfortunately, the very force of nature which established the city and its economic engine has been a constant threat to the architecture of

Figure 1.08 - A typical street scene in downtown Galt, showing Main St. and Water St. intersection. The Imperial Hotel can be seen at back of the scene, 1910.

(1) City of Cambridge, “Historical Information”, City Archive, http://www.cambridge.ca/city_clerk/city_archives/historical_information_evolution_of_galt.html.

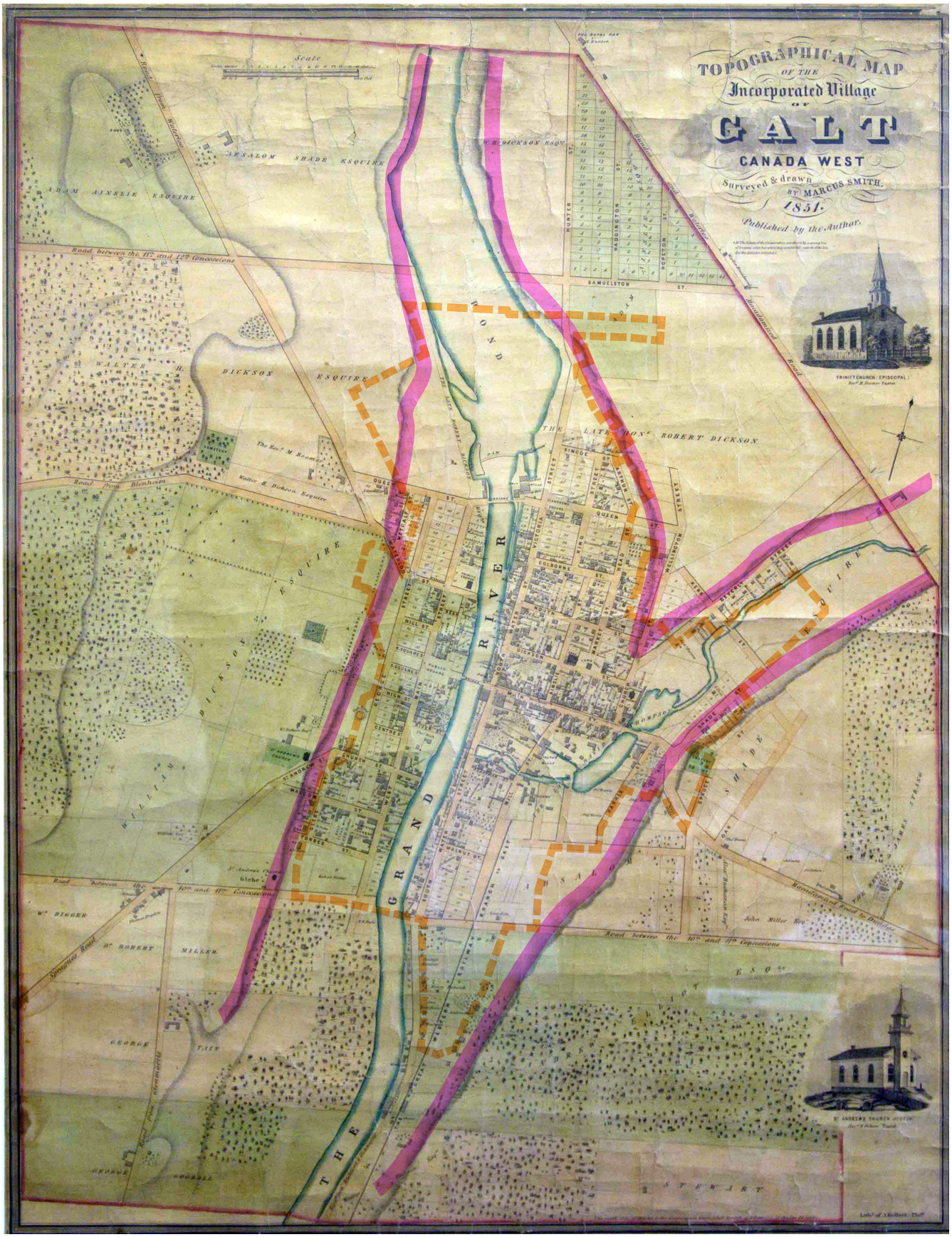


Figure 1.09 - Map of the City of Galt, 1851, with the Grand River and Mill Creek Revine highlighted in pink, and the current City Centre Core Area outlined in orange.

the city. Flooding in the region is a result of the Grand River Watershed system, which spans across the centre of Southern Ontario down to its estuary where it flows into Lake Eerie. Prior to the construction of a flood protection wall in 1985, the city had become accustomed to dealing with the destruction left behind by flooding, creating a cyclical abandonment of property sites, often waiting years before re-development. Many of the sites located within the core have seen drastic changes in their architectural form and public function as a result of environmental damage. Some of the sites exist today as city owned public-parking lots, which were a temporary and cost-efficient alternative to new building developments. The parking lots exist as low-maintanence property developments, but ultimately failed to re-establish the vibrant pedestrian culture supported by the businesess which they replaced. The cost of repairs and rebuilding often overburdenned business owners, and as highlighted in official property insurance records[2], showed a legacy of stagnation in the construction of new buildings in Galt.

Figure 1.10 - Archive photo of The Imperial Hotel, destroyed by a large fire in 1916.

Figure 1.11 - Archive photo showing the site of the Imperial Hotel ruins, remaining in this condition for 14 years, 1930.

Of great relavance to understanding the evolution of the city of Galt into its current urban landscape, is the history of the former site of The Imperial Hotel, located accross the street from the Old Post Office on Water St., and just south of the Main St. Heritage core. The Imperial Hotel was a prominent landmark, destroyed in a fire in 1916. After its destruction, the site of the hotel ruins remained vacant and the burnt remains of the structure were not replaced until 1930, with the construction of the Capitol Theatre[3]. The proximity of this site to the Grand River left its architecture susceptible to flood damage, which would continue to ravage the city core whenever seasonal rainfall and melting of ice exceeded average rates. Flooding affected the city centres of Galt, Preston and Hespeler, which amalgamated into the City of Cambridge in 1973, with Galt as its de facto centre. The city had already felt the hardships of economic stagnation, as instability was documented in the City of Cambridge Archives occupancy records from 1971, showing a high vacancy rate of retail property situated around

Figure 1.12 - Archive photo showing the Capitol Theatre, which would succumb to economic difficulties as a result of financial losses incured during the flooding of the Grand River, 1983.

(2) Griggs, Lynn., City of Cambridge Archives, Personal Interview. 8 April, 2013.
(3) Griggs, Lynn., City of Cambridge Archives, Personal Interview. 8 April, 2013.

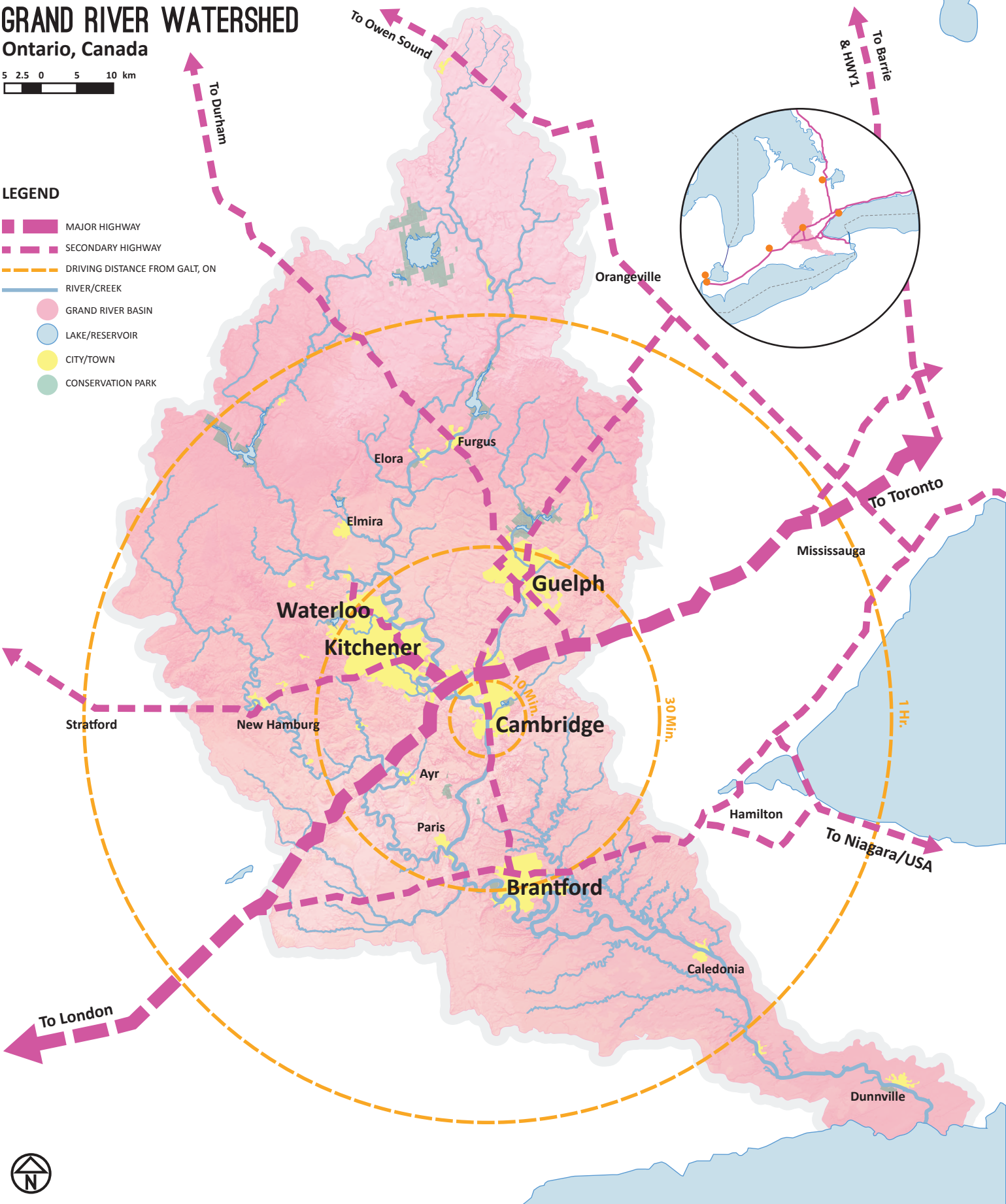


Figure 1.13 - Map showing the Grand River watershed and its relationship to the City of Cambridge.

the Main Street heritage core[4]. This difficult time for the once vibrant city centre was then confronted with destructive power of the river on the infamous day of May 17th 1974, when higher than normal rainfall had caused an unprecedented flooding the Grand River watershed. Water levels reached as high as Ainslie St. to the east of the river, almost completely submerging the downtown core and its many businesses. The aftermath of the massive flooding left many businesses physically destroyed, and left many more with costly damage repairs. The flood was estimated to have cost the City of Cambridge $5 million in damages, and resulted in the construction of a flood protection wall completed in 1985. This flood protection infrastructure has in turn defined the relationship between city and river with a concrete retaining wall and an elevated walkway known in the city as the "Living Levee", separating the elevated promenade from Water St. by a 2 meter high earth berm running from Park Hill Rd. down to Cedar/Concession St. [5].

Figure 1.14 - Archive photo showing the flooding of the Grand River and its extent into the downtown core, where it damaged many businesses, 1948.

Construction of the Grand River retaining wall was an important project in minimizing damage from future flooding of the area. But the destruction left behind by the 1974 flood had made many businesses financially overburdened with repairs of buildings degraded by the water damage. The Capitol Theatre was one of the buildings damaged by the flood, and as the city and its affected property owners had to deal with the process of repairing and rebuilding, the theatre would eventually succumb to the pitfalls of financial burdens, and had shifted in ownership until it was eventually demolished in 1996[6]. The theatre property had been purchased by the City, and after its demolition it was converted into the "Water Street Lot #2 Parking Lot".

Figure 1.15 - An aerial photograph of the May 17th, 1974 flood of the Grand River, showing the Park Hill Rd. bridge almost completely submurged, 1974.

The flooding of the city replaced many of the vibrant and active street facades and their diverse shops and businesses, with off-street parking infrastructure. The city has developed these lots as temporary solutions due to a lack of development interest, and they remain today as a legacy of the financially disruptive power of the Grand River floods.

(4) Griggs, Lynn., City of Cambridge Archives, Personal Interview. 8 April, 2013.
(5) Martin, Ray. "One Day in May Event Marks 1974 Flood's 40th Anniversary." Editorial. Cambridge Times n.d.: n. pag. 8 May 2014. Web
(6) Griggs, Lynn., City of Cambridge Archives, Personal Interview. 8 April, 2013.

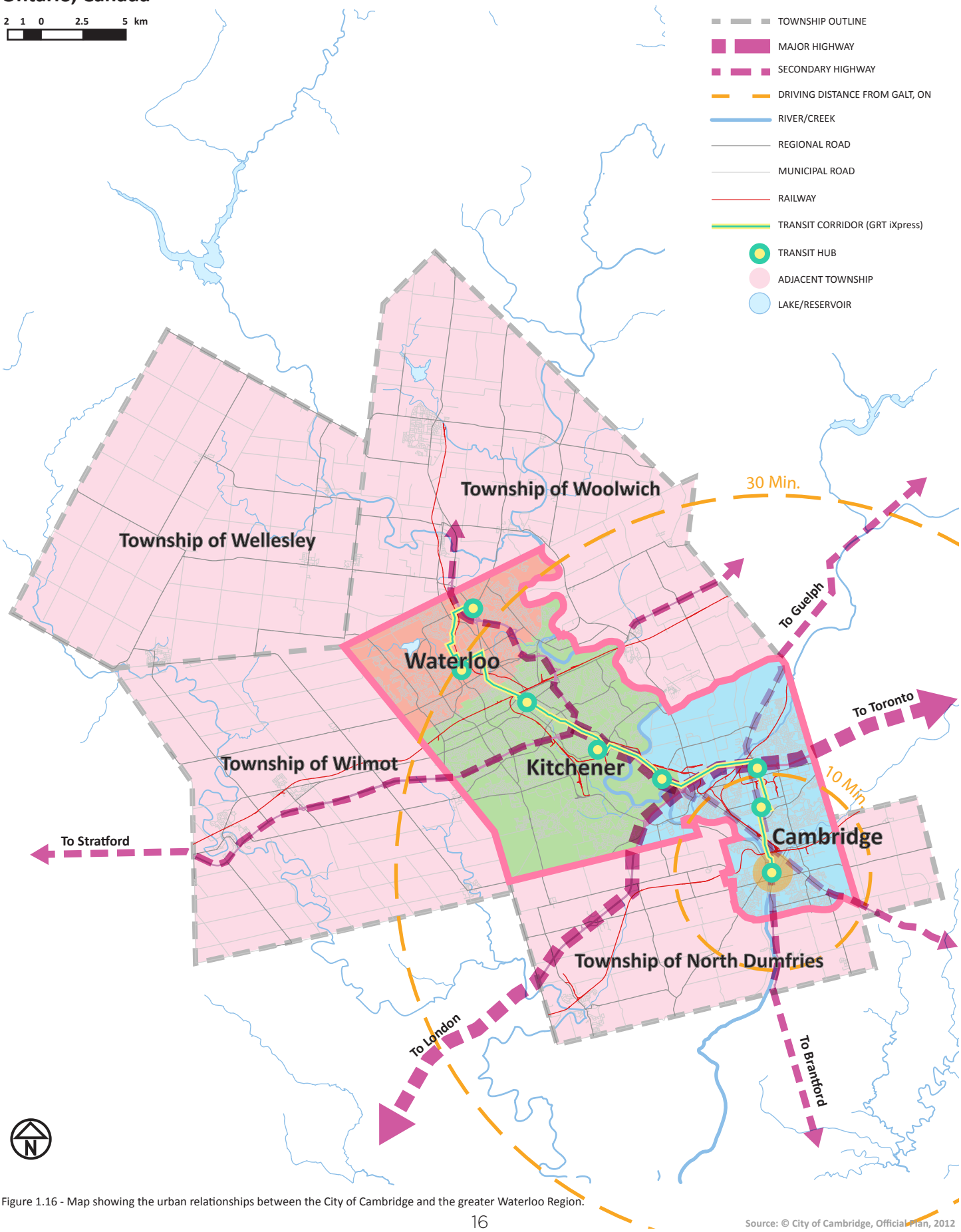


Figure 1.16 - Map showing the urban relationships between the City of Cambridge and the greater Waterloo Region.

Figure 1.17 - A composite aerial map of the City of Cambridge, 1945.

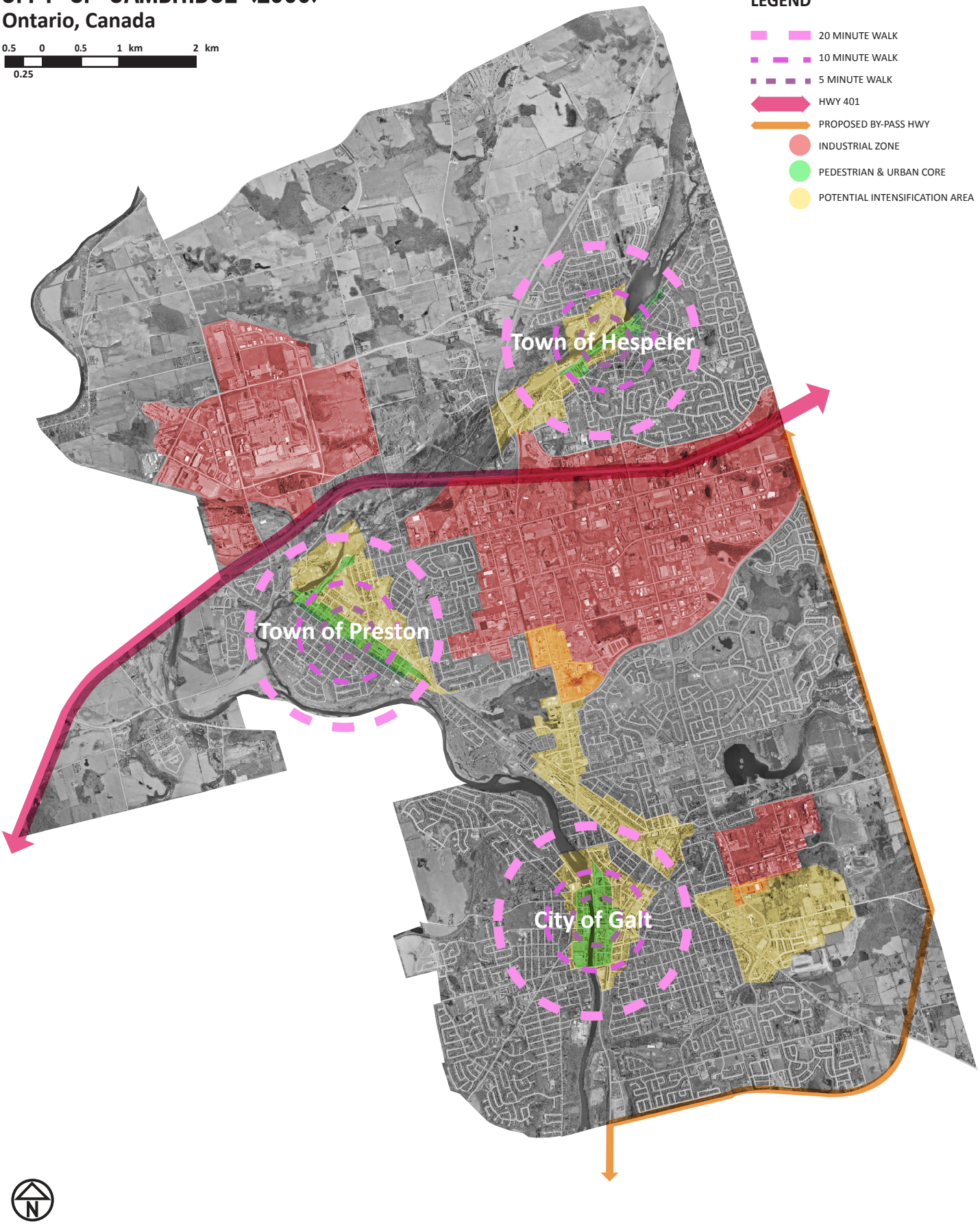


Figure 1.18 - A composite aerial map of the City of Cambridge, 2009.

Figure 1.19 - Map showing the proposed thesis sites and their condition in 1957.

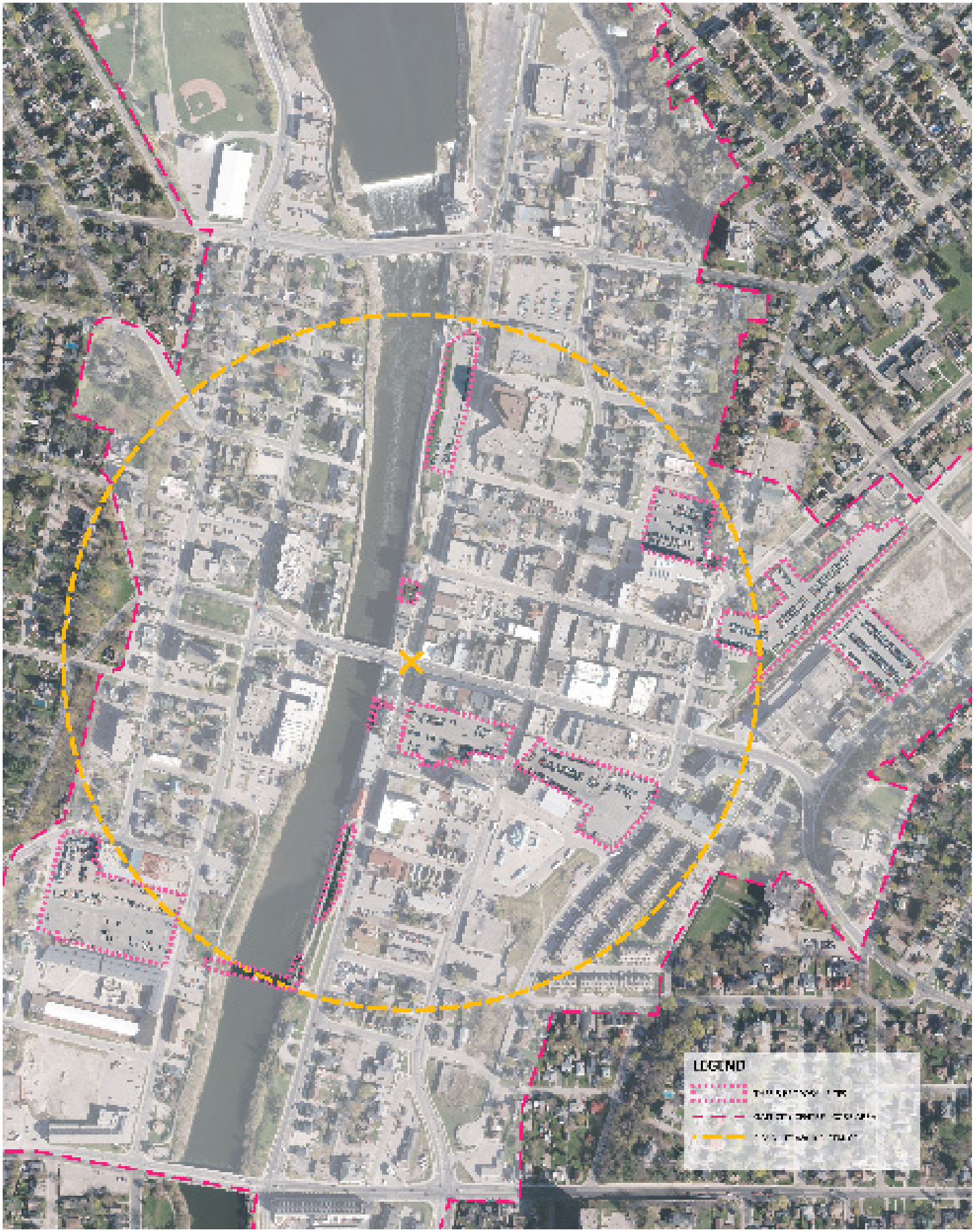


Figure 1.20 - Map showing the proposed thesis sites and their condition in 2012.

INVESTING IN FUTURE PUBLIC ENVIRONMENTS

The legacy of destruction and high property vacancy rates in the urban core of Galt has been detremental to future investments in the city fabric. The city has seen its urban fabric degraded from active street fronts supported by various retail and residentail structures, into what is now a predominantly empty and underutilized off-street public parking lots. Although city-owned parking lots are available for public use, they are ultimately an extension of the urban infrastructure of the city, providing a space dedicated to the vehicles which transport us, and in turn, neglecting the need for pedestrian oriented urban conditions. In establishing these sites as primary territories for intervention and intensification, we can seek to revive the former glory of the sites and their once vibrant pedestrian activity, by investing in public infrastructure and its integrated architecture.

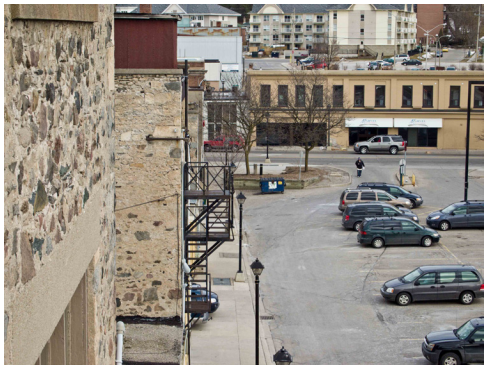


Figure 1.21 - A view of the existing pedestrian promenade behind the Main St. Heritage district, adjacent to the “Water Street Lot#2 Public Parking Lot”, 2014.

As the City of Cambridge moves into the future, and expects to see an increase in population and employment in the city core, it must make investments not just in urban infrastructure, but also in public infrastructure. Such projects will focus on the requirements of the pedestrian and their sensory interaction with the city fabric, and thus would stand to attract activity and events to the city core. This will be a critical distinction that city planners, developers and architects need to embrace as the City of Cambridge strengthens its relationship with the surrounding region. As an integral hub along the Highway 401 corridor, which connects the province of Ontario from Windsor (Canada/U.S.

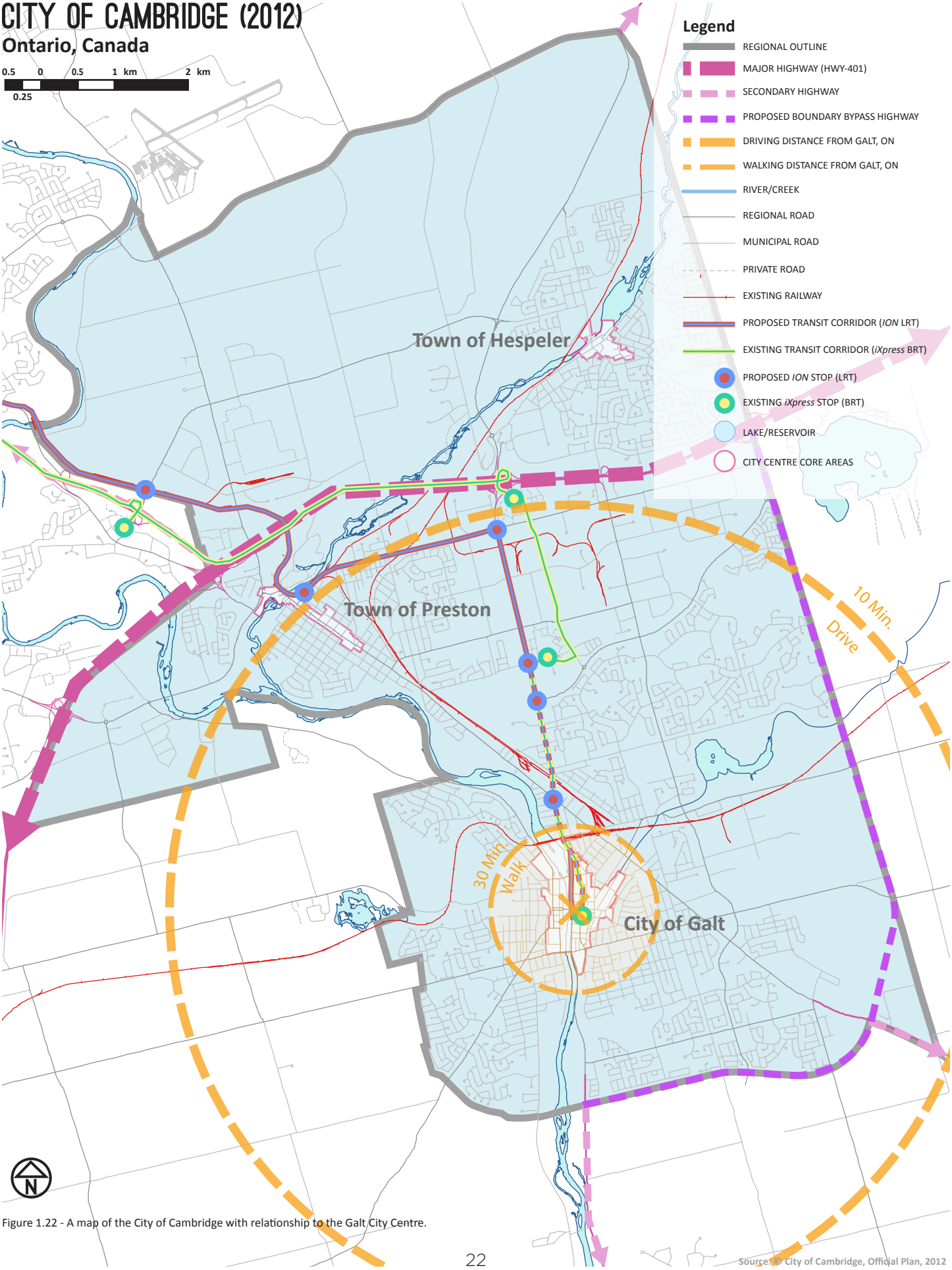


Figure 1.22 - A map of the City of Cambridge with relationship to the Galt City Centre.

Source: © City of Cambridge, Official Plan, 2012

border) to the Quebec border, the City of Cambridge, along with the greater Waterloo Region (Waterloo-Kitchener-Cambridge), is situated strategically on one the busiest roads in the world. Highway 401 at the Hespeler Road exit in Cambrdige experiences an annual average daily traffic volume of 125,600 vehicles[1], which according the Region of Waterloo's Regional Transportation Master Plan, sees an estimated $740 million in daily commodity value pass through the region[2]. The City of Cambridge Official Plan clearly references the strategic advantage of the city's manufacturing, technological, and cultural industries, and their proximity to the 401 transit corridor. Furthermore, as part of a 2006 Ontario initiative to define a growth plan for the Greater Golden Horseshoe area, the Region of Waterloo represents a key aspect of the province growth plan, and as such it has labelled uptown Waterloo, downtown Kitchener, and downtown Cambridge (the Galt city centre) as designated Urban Growth Centres[3].

Figure 1.23 - The current condition of the Grand River flood protection wall, with the riverside path underneath the Galt Post Office, 2012.

The Official Plan of Cambridge addresses this urban growth in its vision statement as a city that "celebrates the uniqueness of its founding communities […] united by its heritage, rivers, cultures and common future" [4]. It goes on to define as part of its "Growth Management and Urban Structure" strategy, a set of objectives that will become the basis for future developments and how they should accommodate the forecasted growth in population, employment, and tourism. The objectives relevant to the creation of future public environments in Galt include:

Figure 1.24 - The old Galt Post Office is rendered by RDH Architects, showing the proposed re-development of the downtown site as an result of city efforts to invest in the urban core of Galt, 2014.

- A balanced growth between residence and employment uses
- Encourage new developments and intensification of built-up areas with a balanced land use between residential, employment, and commercial uses
- Promoting transit oriented development, mixed-use buildings, heritage conservation, social facilities, and reuse of existing

(1) "Ontario Provincial Highways Traffic Volumes On Demand." Ontario Ministry of Transportation, n.d. Web. 20 Oct. 2014.
(2) "Regional Transportation Master Plan." Region of Waterloo (Official Report, 2011), 61.
(3) "Growth Plan for the Greater Golden Horseshoe, 2006." Places to Grow. Province of Ontario, n.d. Web. 20 Oct. 2014.
(4) "Cambridge Official Plan." City of Cambrdige, (Official Report, May 2012), 14.

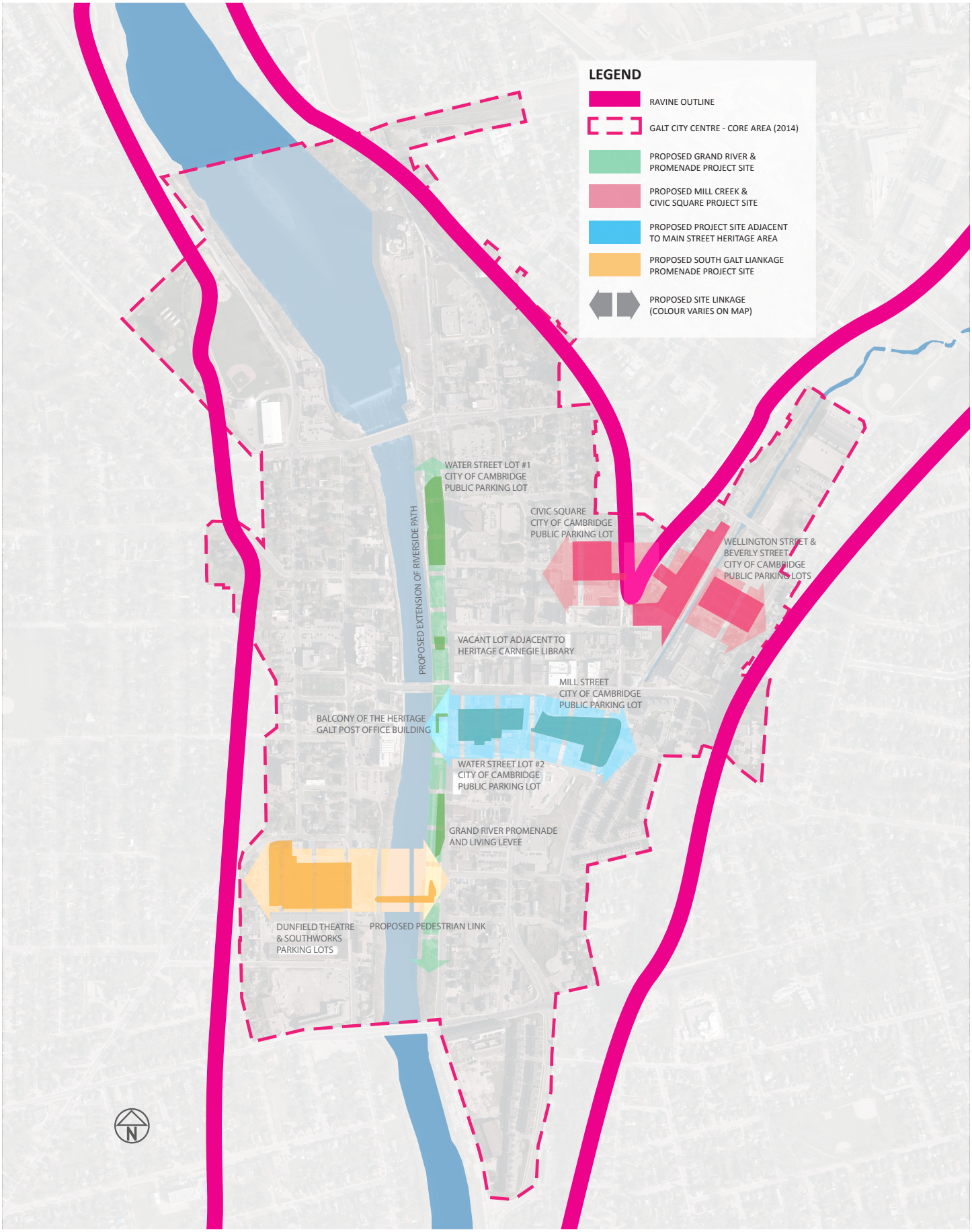


Figure 1.25 - Map showing the urban relationships between the proposed thesis sites and the existing urban and natural landscape of Galt.

buildings, and infrastructure renewal.
- Promoting urban design strategies that are are safe, attractive, pedestrian friendly, integrated with the natural heritage system, existing built areas, and supporting facilities and services.

When the City of Cambridge committed to the relocation of the University of Waterloo School of Architecture from the main Waterloo campus into the Galt city centre, it also confirmed its commitment to the growth strategy objectives it defines in the Official Plan. The conversion of the Galt Silk Mill into the School of Architecture in 2004 was a pivotal investment in the history of Cambridge and of the Galt city centre, since it has become a localized source for a rotating population of students. The influence that the School of Architecture campus has brought to the city can be clearly seen today, as the creative and culturally diverse group of students have supported the local economy through their integration as residents, retail customers, and overall community participators. The city as such has gained the benefit of a new economic base and has seen a significant rise in new residential, retail, and mixed-use developments. The newly announced plans to build an extension for the campus with the creation of a new design based school [(5)], will bring even more student community members. The city has also committed to restoration and adaptive reuse of heritage landmarks through its recent development agreements along the Main St. Heritage District, the Cambridge Mill Restaurant at Park Hill Rd., and the planned renovation of the Old Post Office into a mixed-use building providing many public amenities.

Figure 1.26 - The University of Waterloo School of Architecture, moved into an old silk mill on the edge of the Grand River and the historic Main Street Bridge.

Figure 1.27 - A night scene of the Galt Unsilent Night festival, where the call of the event and its conversion of city streets into pedestrian zones brought people into the city core even in the colder winter weather, 2013.

The Dunfield Theatre, opened to the public in 2013, has further expanded the visitor base of the city based on a growing culture of art and entertainment. The Galt city centre also hosts various festivals and exhibits, many of them held within the heritage conservation districts along Main St., Dickson St., and Water St. Many of these festivals focus on encouraging the local community and its visitors to participate in

(5) Davis, Brent. "$24-million Expansion Proposed for University of Waterloo School of Architecture in Cambridge." The Waterloo Record, 04 Apr. 2014. Web.

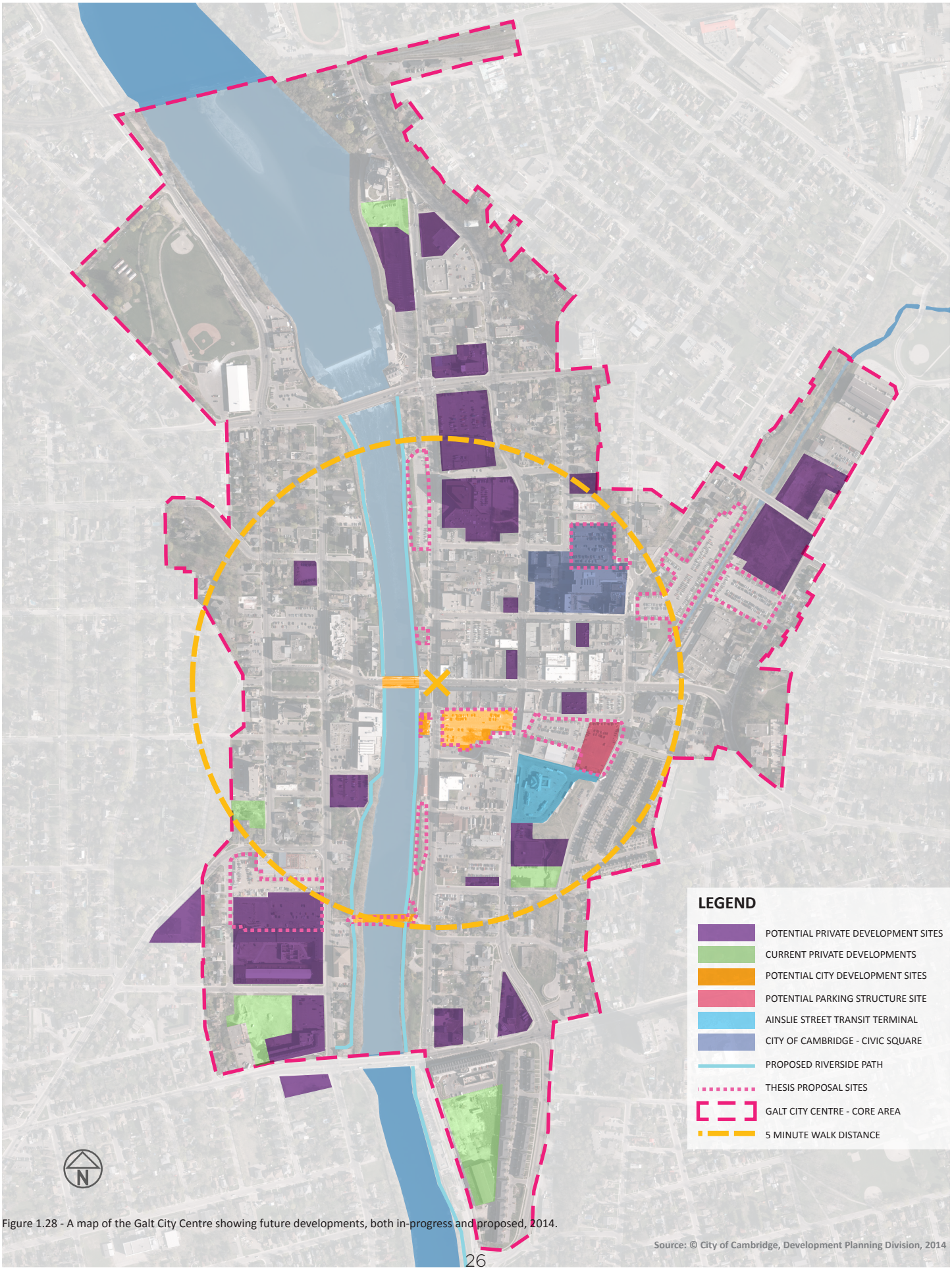


Figure 1.28 - A map of the Galt City Centre showing future developments, both in-progress and proposed, 2014.

Source: © City of Cambridge, Development Planning Division, 2014

occupying the public spaces of the city. In events such as the Mill Race Folk Festival and Galt Unsilent Night, the city will temporarily close off roadways to allow for pedestrians to fully engage with the architecture of the city, and the culture that it harbours. Other festivals and events take advantage of existing parking lots as temporary pedestrian zones, such as the "Water St. Lot #1" parking lot running parallel to the Grand River and the "Living Levy" walkway. This space is used as a concert venue during the Mill Race Folk Festival, and until recently, was the host of a weekly Galt Antique Car Show that ran throughout the summer months [6]. The Cambridge Farmer's Market hosts an expanded outdoor market within the adjacent city owned "Market Square Lot" parking lot, which sees a consistent volume of residents and visitors embraced into the city centre on Saturday mornings.

Figure 1.29 - The Cambridge Farmer's Market is a weekly event that expands to appropriate the adjacent city-owned parking lot for local produce vendors, 2013.

There is great value in all of these festivals and events, as they attract many people to the city centre of Galt. These pedestrian oriented events are almost all, with the exception of the Cambridge Farmer's Market, rare occurrences, with most taking place annually. This is in part due to the lack of perceived demand by event organizers, as well the inability for current public infrastructure to support on-going public occupation. This is exemplified by the current state of pedestrian environments such as sidewalks and connecting paths in the downtown core, which do not have any integrated public ameneties. These amenities can be as simple as a public canopy protecting users from unfavourable weather, public seating, and open air spaces which take advantage of terrain and passive solar energy. Other such public ameneties can include public market buildings, retail, cafes, and public washrooms, all of which would integrate with the public infrastructure to make more accessible and attractive places for public occupation. In moving forward, the city must realize the importance of creating a more readily accessible urban pedestrian fabric with specific function for supporting the community and its various events and activities. As an archetype, the open-air parking lot has already been proven as an ideal place for community interaction, but this is only possible if there are integrated public

Figure 1.30 - A view of "Water Street Lot#2 Public Parking Lot", which has an occupancy rate between 46% and 62% during peak usage, 2014.

(6) Martin, Ray. "Weekly Car Show Cruisin' out of Galt Core." Weekly Car Show Cruisin' out of Galt Core. Cambridge Times, 3 May 2013. Web.

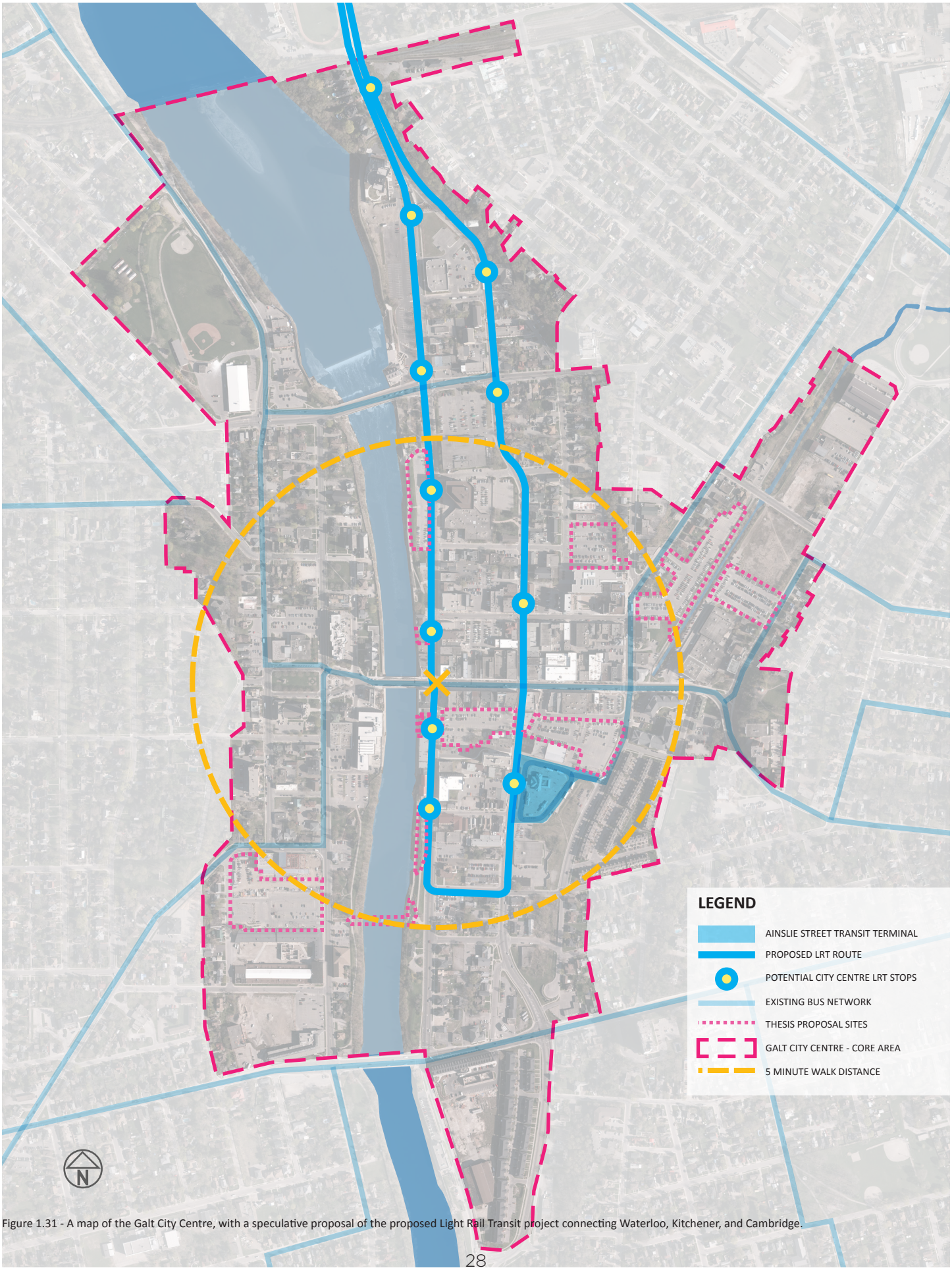


Figure 1.31 - A map of the Galt City Centre, with a speculative proposal of the proposed Light Rail Transit project connecting Waterloo, Kitchener, and Cambridge.

amenities to support its use as a public infrastructure for pedestrians, instead of a purely urban infrastructure for vehicles.

The need for public parking lots in the city is unavoidable, but it does not need to be maintained at its current scale. By minimizing the parking supply ratio, and optimizing the use of existing lots, an integrated public pedestrian network can be created to adapt to the growing population base of the city. Soon, the Galt city centre will become even more connected to Waterloo Region, as Grand River Transit plans to implement Light Rail Vehicles (LRT) along the Waterloo-Kitchener-Cambridge transportation corridor. The first stage of the LRT will be completed in 2017 and will connect Waterloo to Kitchener, with a Bus Rapid Transit (BRT) between Kitchener and Cambridge. The BRT line will run along Highway 401 and along Hespeler Rd., terminating at the Ainslie Terminal in the Galt city centre. The second stage of this development will be converting the BRT line into an LRT line which will connect the 3 main cores of Cambridge; Preston, Hespeler, and Galt [7]. Public transportation will greatly increase the amount of visitors to the Galt core (Figure 1.31), and will also allow the city to decrease the need for parking spots, and in their place, envision future public spaces in the city as potential zones for sustained daily pedestrian activity.

Underutilization of these city-owned parking lots has been a widespread observation, as a 2008 study of the off-street parking use conducted by IBI Group Architects and Planners [8], shows that of the 1,306 city owned parking spaces in Galt, peak usage fell between 44% and 52% occupancy (Figure 1.33). The abundance of parking in the city centre can be seen as problematic given a 2014 study conducted by Chris McCahill, Norman Garrick and Carol Atkinson-Palombo from the University of Connecticut [9], which posits that high parking supply ratios tends to create sparsely distributed buildings and deters new developments. In contrast, the study concluded that within the group of examined city centres, municipalities that maintained or lowered their parking supply

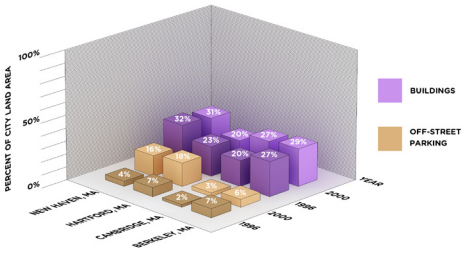


Figure 1.32 - A graph of the studies conducted by the University of Connecticut for 4 cities (New Haven,Hartford, Cambridge, and Berkeley, MA), showing a decrease in the percent of building-area coverage in cities which dramatically increased their parking supply. In comparison, the cities which saw little or reduced parking supply both saw increases in biuilding land use.

(7) "The Story of Rapid Transit in the Waterloo Region." Region of Waterloo (Official Report, 2014), 61.
(8) City of Cambridge, "Off-Street & On-Street Parking Surveys." (IBI Group Report, 2008), 12.
(9) McCahill et al, "Visualizing Urban Parking Supply Ratios.", University of Connecticut, June 2014.

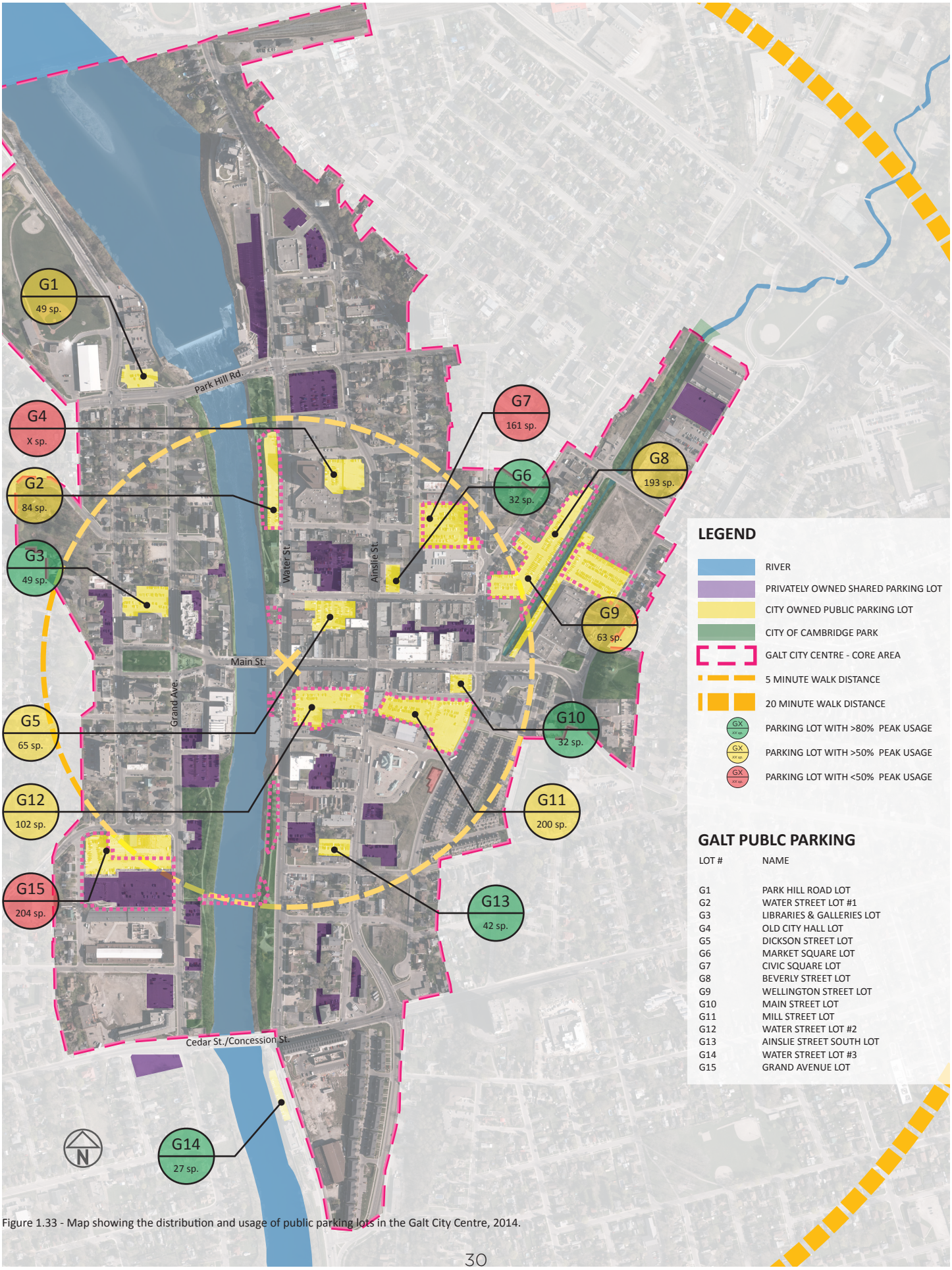


Figure 1.33 - Map showing the distribution and usage of public parking lots in the Galt City Centre, 2014.

ratio tended to have a higher increase in usable building area (Figure 1.32), showing that the tendency to believe that parking spots alone will drive people into the city is flawed. Therefore, if the city focuses on limiting the amount of surface parking available within its downtown core, it is more likely to encourage shared transportation options for people driving into the downtown for work, and furthermore, allow for new development opportunities to attract and sustain people in the Galt city centre.

This approach will support the growth of citizens and visitors to Galt. As the city continues to invest in upgrades to its transit infrastructure, such as the LRT and the addition of a new city by-pass highway, new opportunities will be created for reaching the city centres. The city has also invested in the development of new cultural institutions and attractions, and as per the official city plan mandates, hopes to develop as a cultural hub for the larger Tri-Cities region. These investments will be prodominantly benefecial to the public, and as such, great care and planning is required in making these investments sustainable and productive for the community. People who currently live within the suburban zones outside of the city centres will eventually be able commute to city centres using increasingly more available public transit. City centres of Cambridge will also expect an increase of potential visitors from Kitchener and Waterloo, and even visitors from the rest of the province, therefore investments in public environments and facilities will be an undeniable aspect of the development strategies for Galt.

PUBLIC ARCHITECTURE AND THE CITY

When considering the value that a public space, and in turn, the value that public architecture can provide to the daily life of a community, we often imagine what that value would be to ourselves as individuals. This perspective is critical as it is through the act of consideration that we can reflect on our relationships with the various members of our community, ultimately allowing us to situate ourselves as either coexisting amongst the group or fighting against it. The experience of architecture in the city is specific to the individual, yet it is also a shared experience in that each individual relates to the greater community through the architectural definition of shared public space. If we find that we wish to coexist with the group, then all of our actions within the spatial limitations of our world must be decided upon based on the potential of conflict with members of a community. When we act, we use our innate ability to reason and project our memories, experiences, and emotions onto an idea of what we sense from the world around us, and in turn, we make a decision to act. Our actions when confronted with other members of the community within a given shared environment are driven purely by our ability to sense whether or not we belong in that environment. Hannah Arendt describes this condition as the 'space of appearace', in which our actions as citizens are made capable only through the sensory confirmation of others[1]. When accepting the presence of others in a shared space, we are forced to consider the possibility of confrontation,

(1) Hanna Arendt, "Action" in The Human Condition (Chicago: University of Chicago, 1958), 199.

and thus, must act towards coexistence. For example, people entering a city square simulatenously present themselves as singular entities, as well as members of the group. The ability for architecture to encourage this coexistence lies in the supportive function of built form, which ultimately seeks to benefit the city as a whole, by containing social, economic, and cultural exchanges and events.

We have engrained instincts similar to all other animals, that allow us to coexist within our respective communities. By studying the actions of animals and their sensory relation to one another, we can better understand the underlying conditions which allow human cooperation. Anthropologist Edward T. Hall was very interested in this and posited that humans, like all animals, live through the world using their senses, and that we too are bound through our senses of sight, sound, smell, touch, and taste, to construct a mental projection of our spatial relationship to all other things. This includes our relationships with other animals, other people, things, and of critical interest to this thesis, the shared architecture with in we live. In our confrontation with anything outside of ourselves, we are faced with distances that are quantifiable amongst all species of animal. Animal psychologist, Heini Hediger, refers to these as a flight distance, and critical distance[(2)], which describes the distance in which an animal will flee, or act upon another entity based on a sensory driven response to its spatial proximity. Thus, our ability to sense and evaluate a given situation and environment, which we share with animals, is critical in understanding the value of public space. When one animal can sense the presence of another animal in a given environment, then it will sense and evaluate a safe distance to interact with the other. Its multitude of senses will furthermore define its flight and critical distances, and if the other is sensed but has not crossed either the flight or critical distances, then it can be said that the animals will coexist, even when there is potential for future conflict. In this special place, the animal will neither act or react, it will simply be and continue sensing and evaluating its position with respect to the world around it. Ultimately, this coexistence occurs as a result of the continuous and constant potential for conflict. Human beings

(2) Edward T. Hall, The Hidden Dimension (New York: Doubleday & Company, Inc., 1966), 10.

are no different, and although our flight and critical distances vary even amongst members of our own species, our ability to sense our environment and others in it, predisposes us to the same instinctual evaluation for the potential of conflict, leaving us to decide either to coexist or not.

The architecture of our cities is like every other technological innovation, an extension of our ability to sense the world around us[3]. We have evolved as socially dependent creatures; therefore, our architectural technology correspondingly evolved to protect us from conflict. The potential for this conflict can originate from both outside and from within our group, and from the construction of the first wall, we constructed a way organize and make a spatial threshold the people we coexist with, and those with which we do not. From the archetype of the walled city-states of Mesopotamia and Ancient Greece, civilizations formed through the ability for architecture to protect and define a community of people who related to the same group. As technology continued to advance, the power of cities grew, and eventually was able to protect us and ensure our survival beyond the walls, and into the unknown. This process was invented with the Ancient Roman civitas, which would go on to define a new relationship between a city, its community, and the world. The civitas of Rome represented the expansion of the private space (Greek oikos) in the form of the urbs (the material construction of the city, in the form of a "walled agglomeration of houses without further political qualifications." [4] The urbs represented a city transcending the limits of a fortified wall, but one that had become protected by virtue of its physical (roads) connection between Rome, and the infinitely expansive networks of households associated with the Empire. This relationship between groups/ communities connected by infra-space [5], or urban infrastructure, was driven by an expansionist logic that lead to the creation of the Roman Empire. Thus with the creation of the Roman Empire, the mechanism of urbanization as we know it today, was formed. In the absence of the

(3) Edward T. Hall, The Hidden Dimension (New York: Doubleday & Company, Inc., 1966), X.
(4) Pier Vittorio Aureli, "Toward the Archipelago" in The Possibility of An Absolute Architecture (Cambridge Mass: MIT Press, 2011), 7-8.
(5) Note: *Infra* is the latin word for "in-between", thus the space in-between the private *oikos*.

wall as the primary tool for defining a community, we could use our transportation infrastructure to define what social psychologist Benedict Anderson refers to as infinitely large imagined communities. He defines this term with regards to our the concept of a nation state as “an imagined political community - and imagined as both inherently limited and sovereign. It is imagined because even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each, lives the image of their communion.” (6) As the civitas has become the archetype of the modern city, we see that while urbanization replaced the physical threshold of the city with an invisible one, the potential for conflict between members of the community still continues to exist. To assist in addressing this conflict, the use of public infrastructure to host formal and informal gatherings, markets, and events necessitated an architectural form which would function as a tool that will at once mark us as individuals and as members of the city. This form is the public plaza, which in its most basic form, is an open air pedestrian zone framed along its perimeter by various private and institutional buildings. The archetypal public plaza is a hub for interaction between citizens populating its immediate vicinity, and the visitors it receives through its integration with the spatially limitless transportation infrastructure (roads).

The presence of a person in a shared physical environment is an act that places the individual as a separate entity framed by their surrounding architecture, and its other occupants. As this person seeks to coexist with these other occupants, they may aim to claim their individuality as absolute in the sense that it is resolutely itself (7) while also independent from its defining public. This claim of individuality allows for the person to be evaluated and become included or excluded from the group. Naturally, if the group accepts them, then their individuality is accepted, further increasing the diversity and thus cultural growth of the community. Italian architect Pier Vittorio Aureli, author of “The Possibility of an Absolute Architecture”, expresses his theory of an

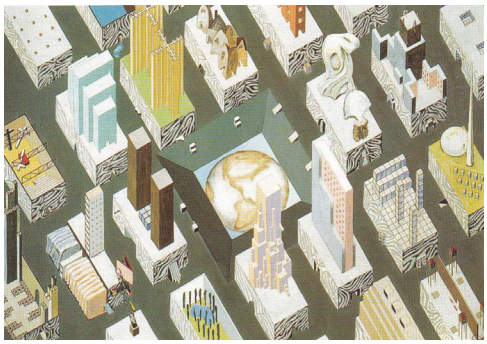


Figure 1.34 - An image from Rem Koolhaas’ thesis, “The City of the Captive Globe”, referenced by Pier Vittorio Auereli as a primary example of *absolute architecture*, showing the resolute islands of architecture as they are contained within the urban fabric, functioning to constitute and define the city as a inter-dependent fabric of parts.

(6) Benedict Anderson, Imagined Communities: Reflections on the Origin and Spread of Nationalism (London and New York: Verso Books, 2006), 6
(7) Pier Vittorio Aureli, “Toward the Archipelago” in The Possibility of An Absolute Architecture (Cambridge Mass: MIT Press, 2011), IX.

absolute architecture as the role of architecture functioning as a tool for questioning the current relationship between public and urban infrastructure. Aereli posits that the application of *absolute architecture* as a radical intervention will elucidate the need to question the role of the citizen within the ever expanding context of urbanization. He describes properties and their contained built forms existing as islands in the sea of urbanization infrastructure, with an inherent ability to accept their position within the surrounding landscape, while simultaneously presenting an opportunity for its users to critique their relationship with the urban context. Aureli's thesis aims to investigate the potential of radical individuality in architectural form in the confrontation between the many projects of architecture and their relationship with one another within the infrastructure that they connect with. He believes that architecture should seek to define and make clear the presence of limits and borders with the urban infrastructure, evoking the potential for conflict between itself and the other architectural forms piercing the urban fabric [8]. Only then, can architecture achieve a socially and politically productive function of confronting the system of urbanization and being judged as a result. It is through the judgement and evaluation of the individual architectural form, that the public occupying it can reflect on the direction and choices that the modern civitas has to make, as the city is ultimately an imagined community comprised of its many coexisting, yet separate members. Furthermore, Aureli presents his research with an overarching debate on the nature of public and private spaces. *Absolute architecture*, although radical in its propositions, can serve as a reference point for the creation of an new architectural language describing the design of public spaces and their relationship to their urban infrastructure. By taking a synthetic approach, we can accept the need for parking (urban infrastructure), as well as propose an alternate or even supplemental use of current city-owned public spaces. This architectural language will supplant the existing parking lots, and will present itself as rejecting the current relationship to urban infrastructure with its increased embrace of pedestrian oriented interactions, acheived through the creation of new meeting and

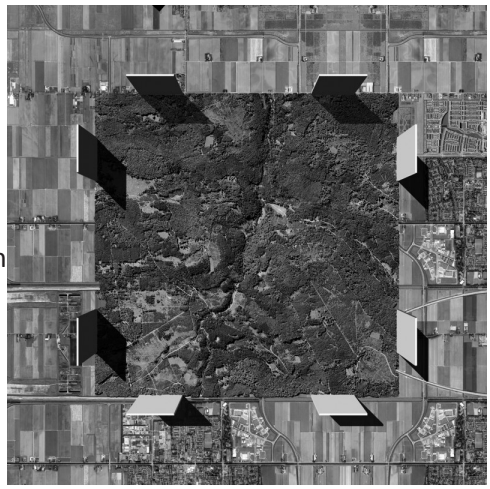


Figure 1.35 - No-Stop City, a theoretical project proposal by Pier Vittorio Aureli and Martino Tattara (DOGMA). This project is an application of Auerili's theory of an absolute architecture, where built form proposes a radical confrontation of the existing urban frabric. The goal of this project is to inspire conversation and judgement by citizens on the shape of their city.

(8) Pier Vittorio Aureli, "Toward the Archipelago" in The Possibility of An Absolute Architecture (Cambridge Mass: MIT Press, 2011), 45.

market spaces. This new architectural language will also embrace and accept the urban infrastructure, by proposing the maintenance of off-street parking function, which through its conglomoration in multi-storey parking structures, can create opportunities for new public infrastructure. The proposed pedestrian fabric for the Galt city centre will therefore be a *hybrid public architecture*, which will define a new pedestrian relationship with legacy of public parking in the city, as a synthesis of transportation and pedestrian networks.

STOA AND AGORA

With the establishment of a *hybrid public architecture* as the driving theory behind the design of new public pedestrian environments in addition to the conglomoration of off-street parking, we will now look at architectural precedents which influenced the design of the proposed vision. The archetype of the ancient Greek stoa and agora presents itself as the ideal starting point in developing a specific architectural language for the future of Galt's pedestrian fabric. The agora is a public open space that is used by citizens for assembly and markets. Within Greek city states not plagued by war and instability, stoa were built adjacent to the agora of the town, and served as a meeting place, but more importantly, a place for diverse market exchanges. The presence of stoa in cities often reflected the economic prosperity of the various city states of ancient Greece, and existed in prominent states, such as that of Athens which contained multiple stoa varying in scale and service [(1)]. The archetypal form was an evolution of the portico, a covered colonnade attached to the front of a building or temple, where stoa exist as a stand alone buildings situated exclusively adjacent to public meeting places. "The Architectural Development of the Greek Stoa" by archaeologist J. J. Coulton presents an extensive study on the history and function of the stoa, and is compared to the contemporary functions of a community hall. The stoa, with respect to its open air counterpart, was able to provide a generalized function for the community by virtue of its

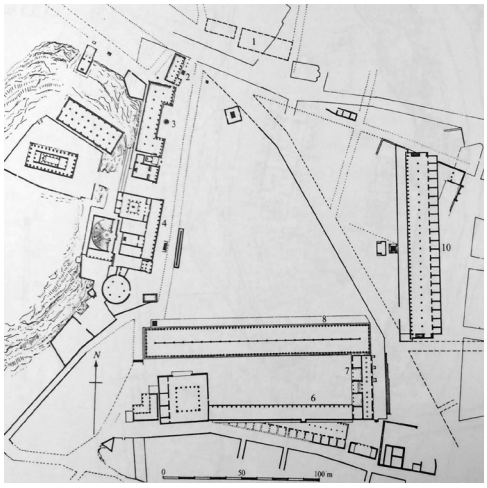


Figure 1.36 - Plan of Athen's agora adjacent to the acropolis (2nd Century BCE), from "The Architectural Development of the Greek Stoa" by J.J. Coulton.

(1) J.J Coulton, The Architectural Development of the Greek Stoa (Oxford: Oxford University Press, 1976), 8.

covered floor area. The dimensions of catalogued stoa ranged roughly between between 10m to over 150m in length, and 10m to 30m in width, and scaled according to the capacity of its adjacent agora [2]. The stoa provided protection and comfort from the unaccommodating weather, which was a pivotal technological invention as it pertains to public use, because through its various and often changing intermediate functions, the stoa could continuously sustain a diverse group of citizens and their interactions, thus increasing the productivity of the local market economy as well as sustaining increases in social interactions. The documented functions of various stoa included; informal and formal meeting place, memorials and other ritualized events, permanent and rented market stalls, public dining, informal vendors, storage, shelter from rain and sun, exercise halls, refuge for the homeless, gallery and exhibition, and even political assembly [3]. As a building built for explicit use by the public, or citizens of the city, the stoa was also funded through the public, where wealthy citizens would contribute either as a gift or as an interest free loan. Citizens who could contribute more generous funds received family prestige through the inscriptions on the building, not unlike the donor walls of modern publicly funded buildings. Although publicly funded, once completed, stoa became an asset of the state. As such, the state could receive remuneration through the renting out of retail space to both permanent stall vendors as well as temporary vendors selling in designated areas along the covered colonnades. When the building required repairs, the city would seek further public funding to cover any associated maintenance costs. Thus, J.J. Coulton posits that the economic model of the stoa brought pure profit [4] for the city state.

Figure 1.37 - Jokkmokk Winter Market in Sweden. The market has been an annual tradition for over 400 years, and is evidence that public market interactions can be sustained even in winter climates.

Figure 1.38 - A public market in the town square of Otavalo, Ecuador. This is a weekly cultural market, and in the evenings is converted to a food-market with local vendor stalls.

Stoa and agora existed solely as an instruments for public use and productivity, which have gone onto influence evolution in the construction of cities throughout human history. As an archetype, they became an irreplaceable aspect of social and economic life in cities. In ancient Rome, the basilica and the forum represented this evolution as the gladiatorial customs of the forum necessitated a variation of

Figure 1.39 - Maxwell Hawker Centre in Singapore, is one the most well known food markets, which are rented by the multicultural citizens of the city, showcasing affordable and diverse food options.

(2) J.J Coulton, The Architectural Development of the Greek Stoa (Oxford: Oxford University Press, 1976), 193-198.
(3) Ibid., 9-12.
(4) Ibid., 16.

the form, but maintained its function as a place for supporting public revenue [5]. In medieval cities the town square and its surrounding institutions similarly supported public gathers and markets. Even in non-western civilizations, the gathering of people and markets in the public spaces between its buildings has made the public square as a universal architectural feature of the city. From plazas of the Inka empire [6], to the defined public zones in dynastic China, depicted famously by Zhang Zeduan, a court painter for the Song Dynasty (Figure 1.37). The value of these spaces has been through their function in connecting users with one another, defining them as ideal places to support market exchange. In today's contemporary sense, the underlying architecture of the stoa and agora can be seen in the food courts of North American malls, covered food markets of Asia (Figure 1.36) and Europe, street markets in Latin America (Figure 1.35), and other public squares found within the institutional cores of cities around the world.

Figure 1.40 - A scene from Zhang Zeduan's "Along the River During Qingming Festival", depicting the public occupation of a bridge, used as an extension of the marketplaces of the town squares.

(5) Vitruvius, "Book V" in Ten Books on Architecture (Cambridge University Press, 2001), 131
(6) Ian Farrington, Cusco: Urbanism and Archaeology in the Inka World (Florida: University Press of Florida, 2013), 37.

PART 2

GALT AGORA AND HYBRID PUBLIC ARCHITECTURE

The relationship between stoa and agora is the primary archetypal precedent for the architectural vision of this thesis. The functional arrangement between public buildings and their adjacent open spaces is further supported within the theoretical framework of a *hybrid public architecture* defined earlier in this thesis, as a synthetic response for mainting urban infrastructure while introducing a new productive public pedestrian infrastructure. To execute this vision, the *hybrid public architecture* will create optimized parking solutions in place of the existing off-street public parking lots of Galt, and will create resolutely public environments within the available property area in 9 locations (Figure 2.01). The sites chosen for intervention are existing city-owned parking lots (with the exception of site #9, which is a private property designated by the city as a potential site seeking private investmentment), as well as sites along the public promenade along the Grand River. These sites all attempt to unify the pedestrian experience of the city by intensifying the primary promenades of the Grand River and Mill Creek, such that they provide a new access and relationship to the natural elements that have defined the city. By introducing new public infrastructure, through variable program functions on top of the need for parking (urban infrastructure), a *hybrid public architecture* becomes the language for a systemic intervention looking to create socially, culturally, and economically productive places for pedestrian use. The adaptation of the relationship between stoa and agora will need to function within the continental climate of Galt, and as such,

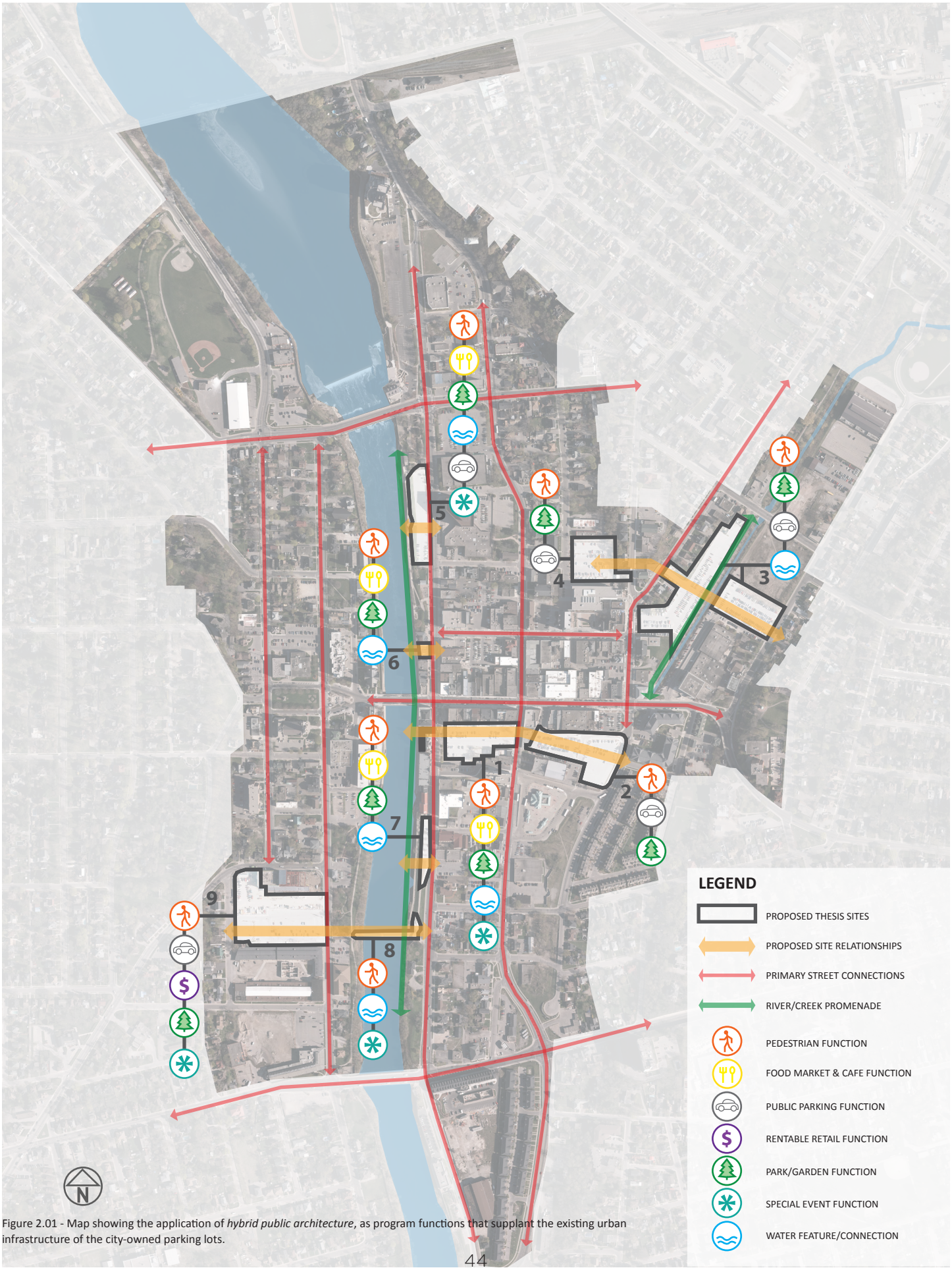


Figure 2.01 - Map showing the application of *hybrid public architecture*, as program functions that supplant the existing urban infrastructure of the city-owned parking lots.

will seek to create supportive public structures which can be used in summer and winter. Each building will offer an economic benefit to the city, through profits received from rentable food stalls, outdoor market stalls, designated restaurants, cafes, and gallery space. The lots will also provide a social benefit in the form of well designed pedestrian environments aiming to sustain occupation and encourage activity of the citizens. This is accomplished by the application of extensive public seating around the proposed open-air public spaces and their built program, as well as designated physical activity zones (sports, cycling, and other excercise activities).

The landscape strategy for the series of visions will seek to embrace the natural Grand River ravine system, as well as the parallel pedestrian experience along the Grand River and Mill Creek. Along the Mill Creek, the proposed developments will create a link perpendicular to the channelled water way, and along with the developments in running paraellel to Main Street and the new developments linked by a pedestrian bridge south of the city centre, will all act to bring a phased increase in pedestrian activity along the rivers edge and its flood protective promenades. Each public property will remain public, and by adapting to the needs of pedestrian activity, will also grow in unison with the investments of Galt as a cultural hub with a unique urban relationship to the beauty of the Grand River.

The latent benefit of the proposed vision will attempt to encourage a sustained public participation and occupation of currently underutilized public property. This will begin with a study of the existing site conditions and their value with respect to the Official Plan for the City of Cambridge. After looking at all open-air public spaces within the city centre of Galt, 9 specific sites were selected (Figure 2.01), 5 of them are current city owned off-street parking lots (sites #1, #2, #3, #4, #5), with once of the lots a private parking lot adjacent to the former city-owned parking lot now occupied by the Dunfield Theatre (site #9). The remaining 3 sites along city owned property along the Grand River (sites #6, #7, #8). Of these promenade sites, site #8 is a proposed pedestrian and cycling connection bridge, which has also been designated by

the City of Cambridge as a necessary intensification innitiative[1]. Each site will be designed with the goal of facilitating and sustaining citizen participation in currently underutilized but prominent locations in proximity to the Galt core. Furthermore, each site has a direct visual connection to heritage architecture, or the natural heritage systems of the Grand River and Mill Creek. In addition to these specific sites, the vision also integrates with the current concrete riverside path along the east bank, for the entire length between the Park Hill Rd. bridge and the Concession St. bridge. By investing in these sites, the city can provide a new public amenity, and because of the abundance of sites and their proximity to the core, the vision for their future can best be realized by treating each site as an individual project, contained within the scope of a the explicitly public function each project will serve against its backdrop of roads and adjacent private properties. Thus, as each site will contain a stoa (public structure) and agora (public space), the language of a *hybrid public architecture* will be expressed in the capacity for each project to identify itself as for an extension, and tool for the public, while embracing the need for parking and urban infrastructure.

Looking again at the existing off-street parking lots owned by the city, we can get a sense of the least disruptive way to distribute and phase each of the comprehensive vision. Of these existing lots, only 4 of the lots within the urban intensification area have a higher than 80% peak usage, with respect to the average peak usage of 52% for all Galt lots combined[2]. This allows us to completely eliminate the public parking function of particular sites as long as the required parking spaces can be conglomerated in multi-story parking lots. The phasing of the vision will follow the order of the presented projects, beginning with the simultaneous construction of the first two sites; the Galt Agora and Galt Park. The time-frame of the proposal is meant to be seen as a long-term innitiative, first with the construction of parking lot structures, followed by the construction of the public agoras and the stoa (commercial structures) and new public parks and activity areas.

(1) Jackson, Bill. “New Petition Pushing Pedestrian/bicycle Bridge over Grand River.” New Petition Pushing Pedestrian/bicycle Bridge over Grand River. Cambridge Times, 5 Sept. 2014.
(2) City of Cambridge, “Off-Street & On-Street Parking Surveys.” (IBI Group Report, 2008), 12.

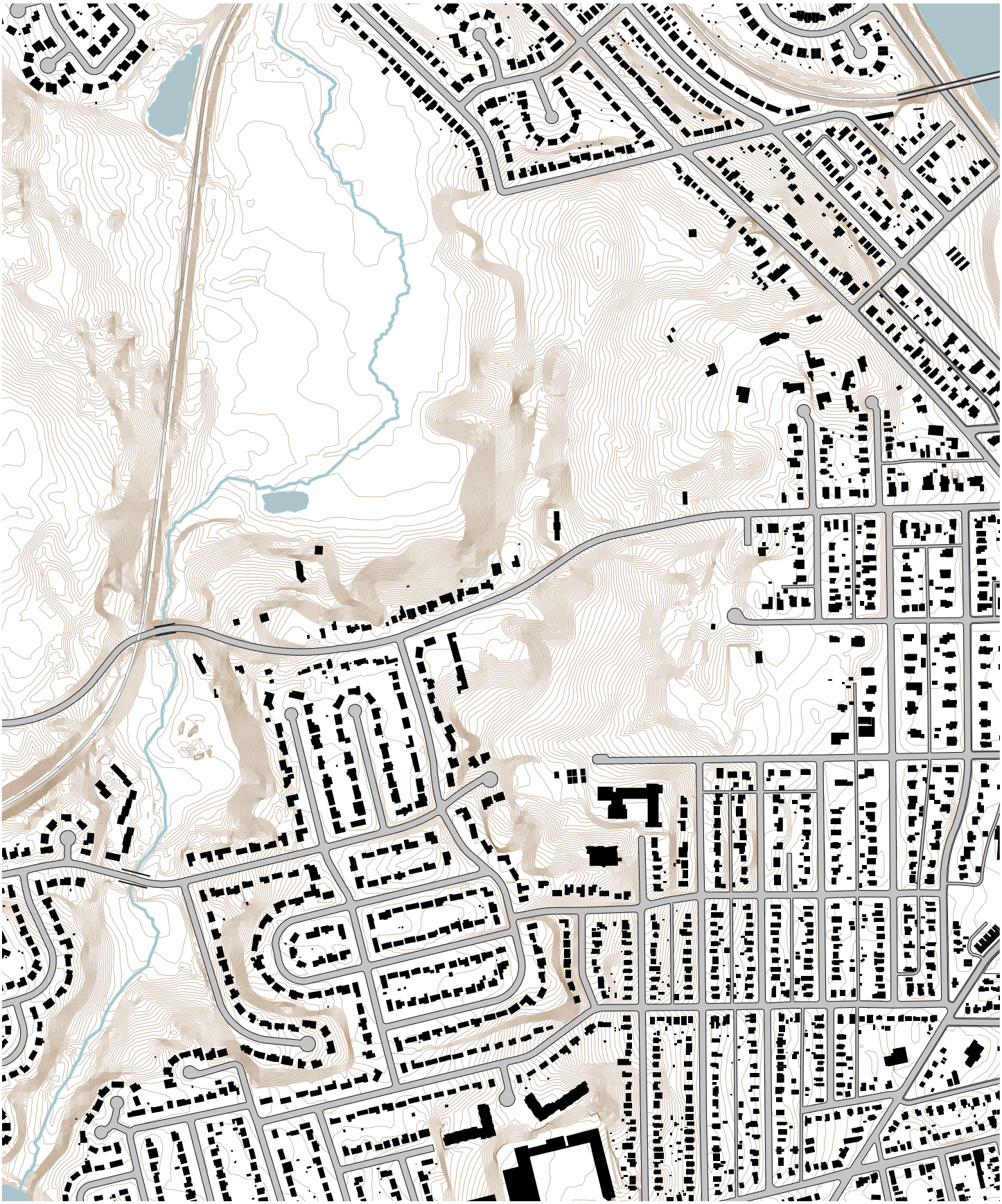


Figure 2.02 - Context plan of Galt (1:8000), showing the distribution of existing buildinds and the proposed developments of this thesis.

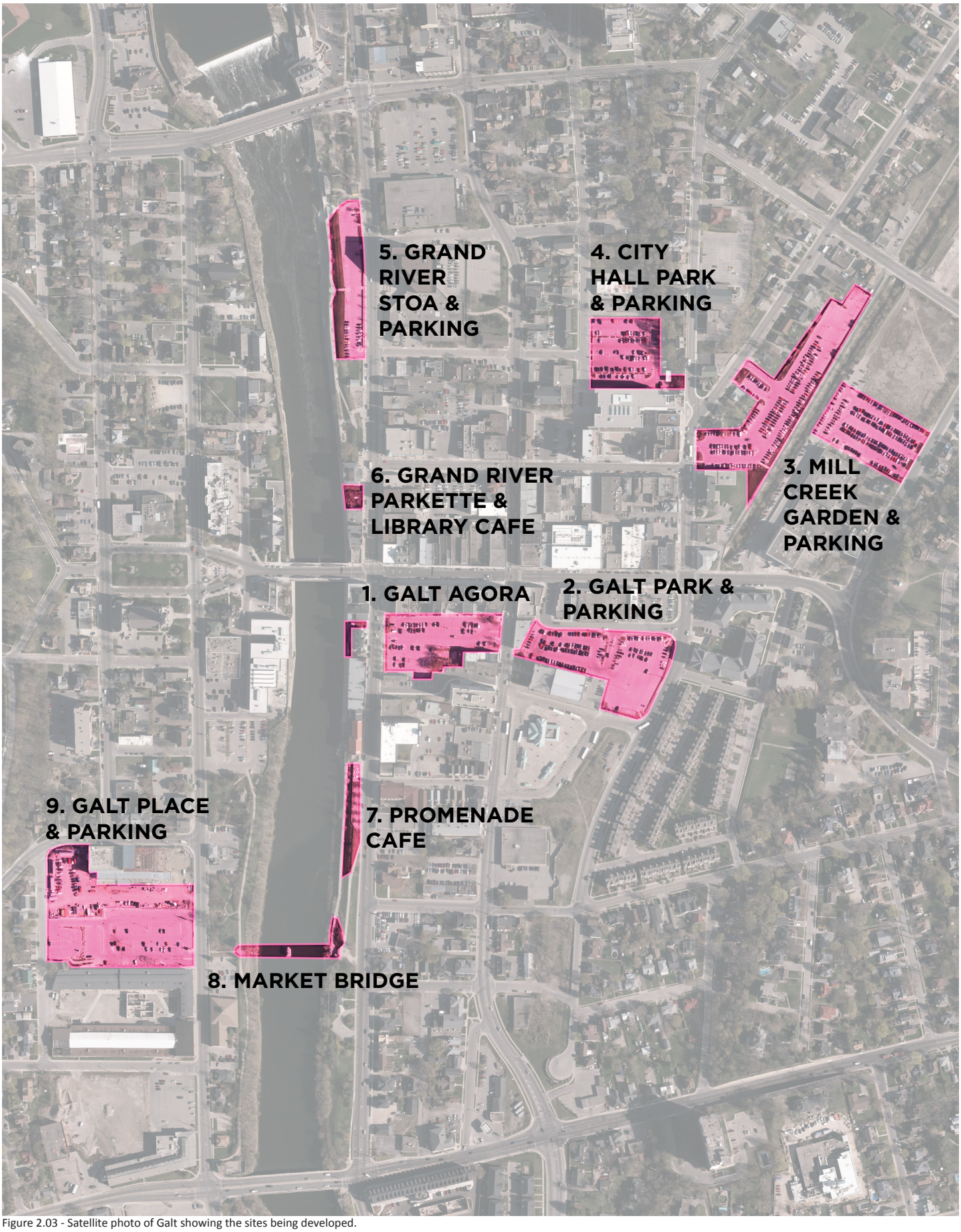


Figure 2.03 - Satellite photo of Galt showing the sites being developed.

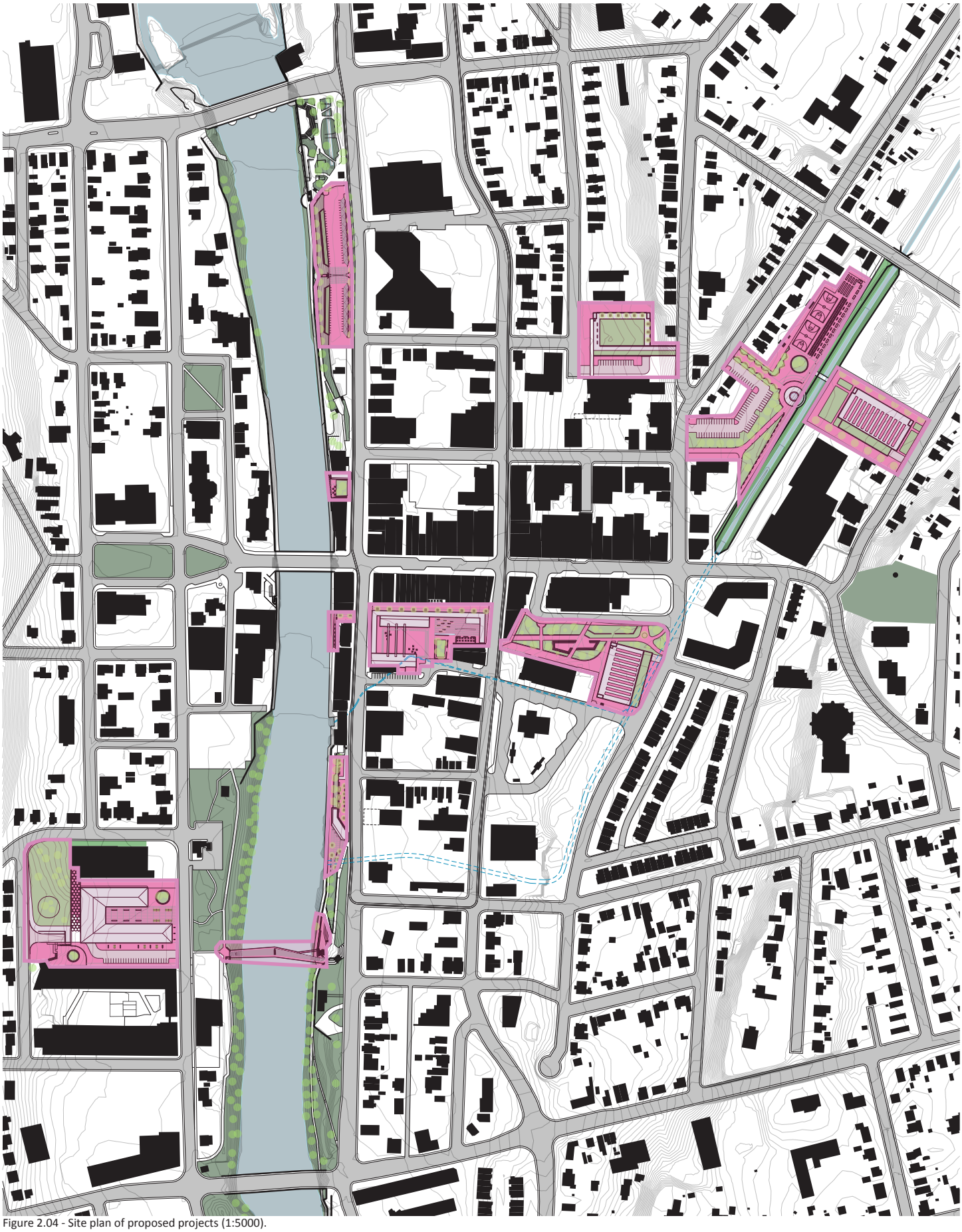


Figure 2.04 - Site plan of proposed projects (1:5000).

1. GALT AGORA

The first implementation of an absolute parking architecture will be in the “Water St. Lot #2 Parking Lot”, which is situated in the immediate core of the city, with its location across the heritage Galt Post Office, and running parallel behind the Main St. heritage district. It makes it the ideal location for an open-air agora contained by permanent food market stoa. The site is split into three sections; a pedestrian promenade along the back of the Main St. Buildings running the full length of the site, with the west end containing the market structures and their agora, and the east end of the site containing a public washroom, park, and another intermediate agora.

The site will be connected by a continuous canopy around the perimeter of the site will function as a threshold defining the limits of the new public gathering spaces. The canopy runs parallel to the pedestrian promenade, creating a spatial separation between the back of the heritage buildings, and their new adjacent public plaza. Integrating seating into various aspects of the architecture help to encourage the occupation of the site. From seating built into tree planters along the promenade, the stairs surrounding the sunken west agora, benches integrated into the east agora, as well as seating and tables into the two market buildings, creates a diverse fabric of pedestrian gather mechanisms. By providing shelter along its edges with the perimeter canopy, and by giving continuous public access the market structures, people who currently only pass through the site will have a reason

to stay and explore. This will be accomplished by speciliazing the market structure to give rentable kitchen stalls that will be meant for showcasing the existing multicultural background of the city.

With the diversity among the citizens of Cambridge, and the growing demand for multicultural food options, stalls that specialize in limited menus presenting affordably priced and sized portions, have the potential to introduce and engrain the often-overlooked diversity of the community. The structures are built similar to the ancient Greek stoa, with an extensive covered colonnade containing on one edge, the kitchen stalls and their back of house services, and on the south end facing the plaza, a covered public eating and lounge area. The north stoa contains a larger open dinning and lounge area, and the south stoa contains a larger service area, which allows for a storage space for things such as outdoor tables and chairs, and other equipment which can be used during special events. The east end of the site is on the same grade as the street, as opposed to the sunken space on the west end. It includes in its design a landscaped tree park framed by a perimeter concrete bench, as well as water features fed by an existing underground mill race. It will support an existing fabric of cafes, galleries, and restaurants in the buildings surrounding it, and will also have a publicly accessible washroom structure on the north-east corner. The site will also connect to the heritage Post Office, which is currently under development to become a mixed-use restaurant, café, and public library. The extension of the promenade running parallel to the Main St. heritage will cross over into adjacent to the post office, where the integrated seating tree planters of the Galt Agora will extend the sensory perception of the new public environment.

Figure 2.05 - Existing condition of “Water Street Lot #2 Public Parking Lot”.

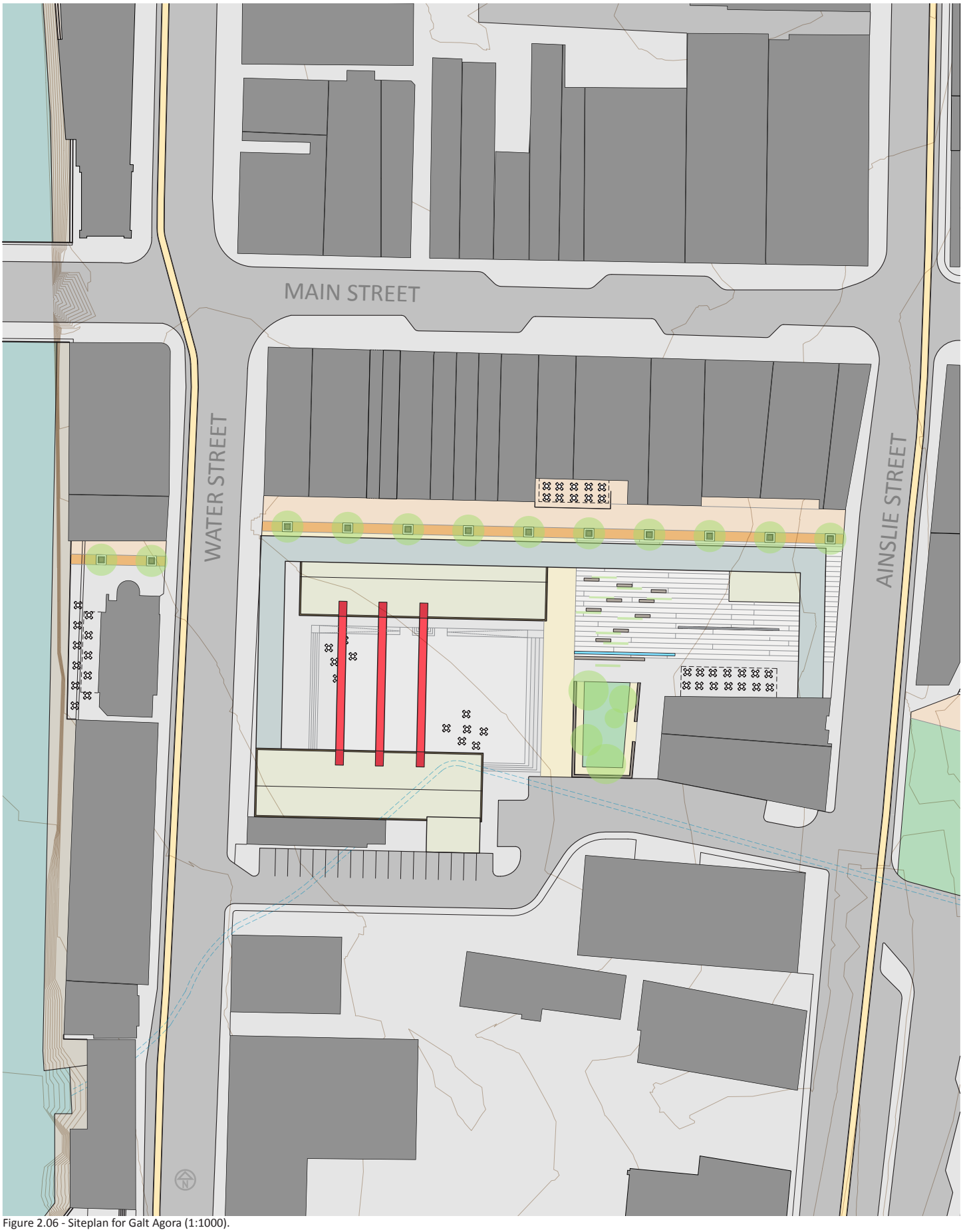


Figure 2.06 - Siteplan for Galt Agora (1:1000).

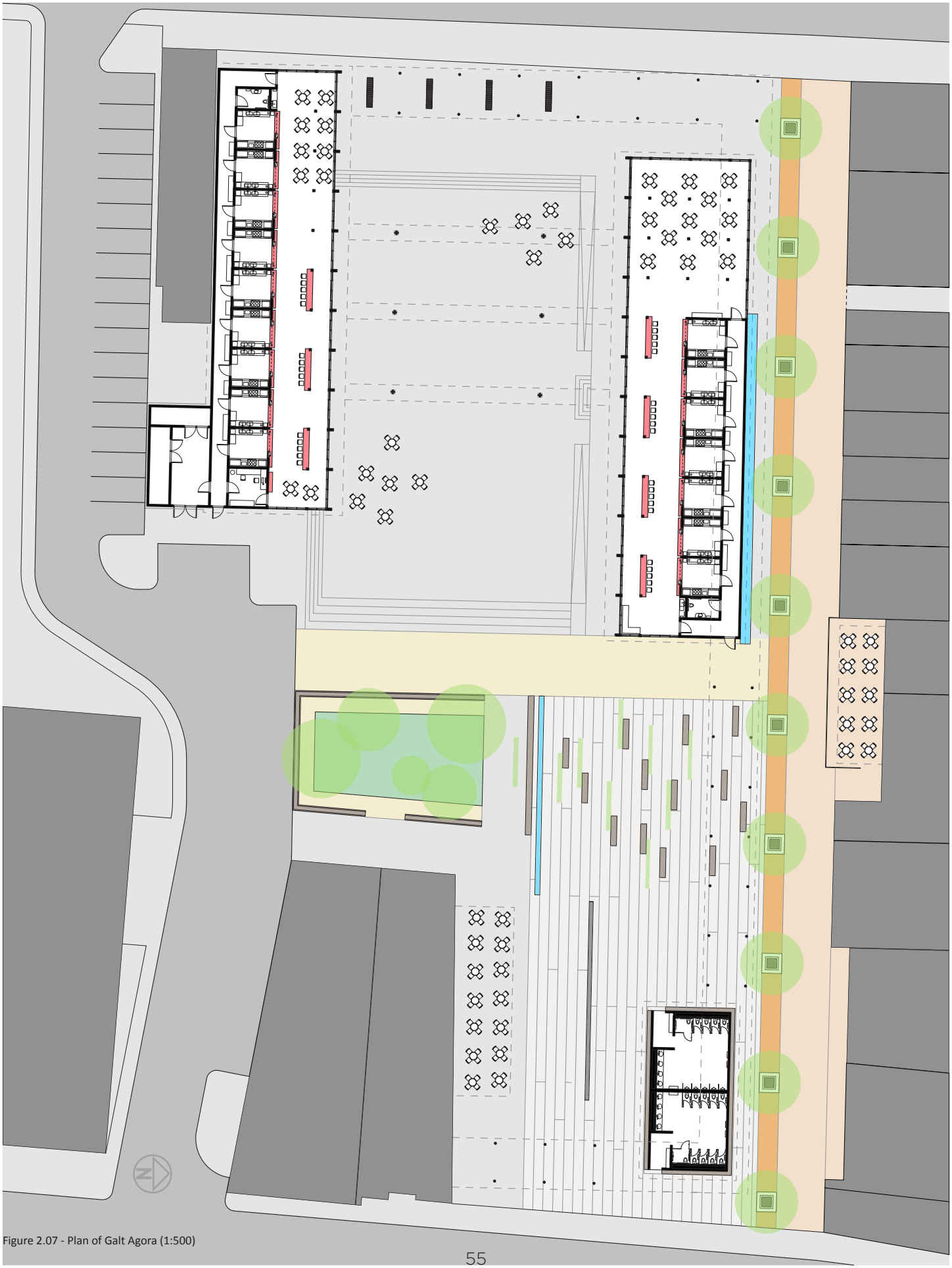


Figure 2.07 - Plan of Galt Agora (1:500)

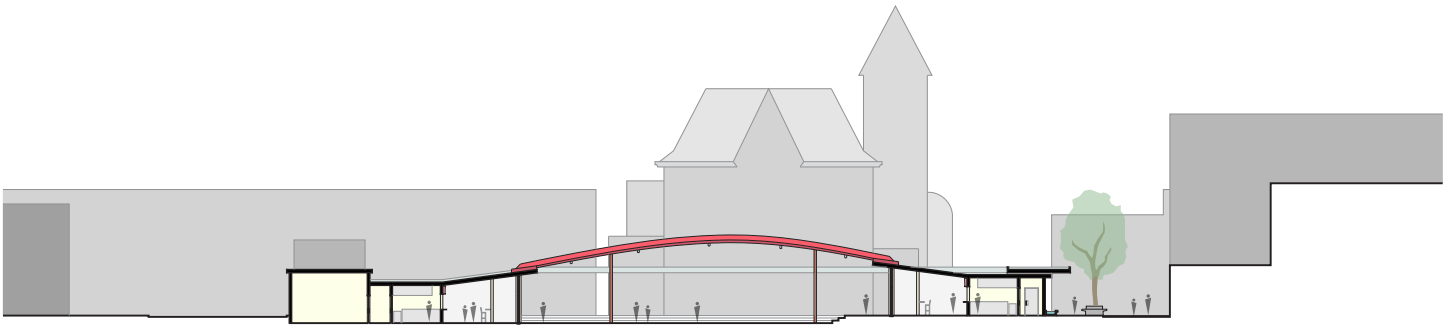


Figure 2.08 - East/West Site Section of Galt Agora (1:600).

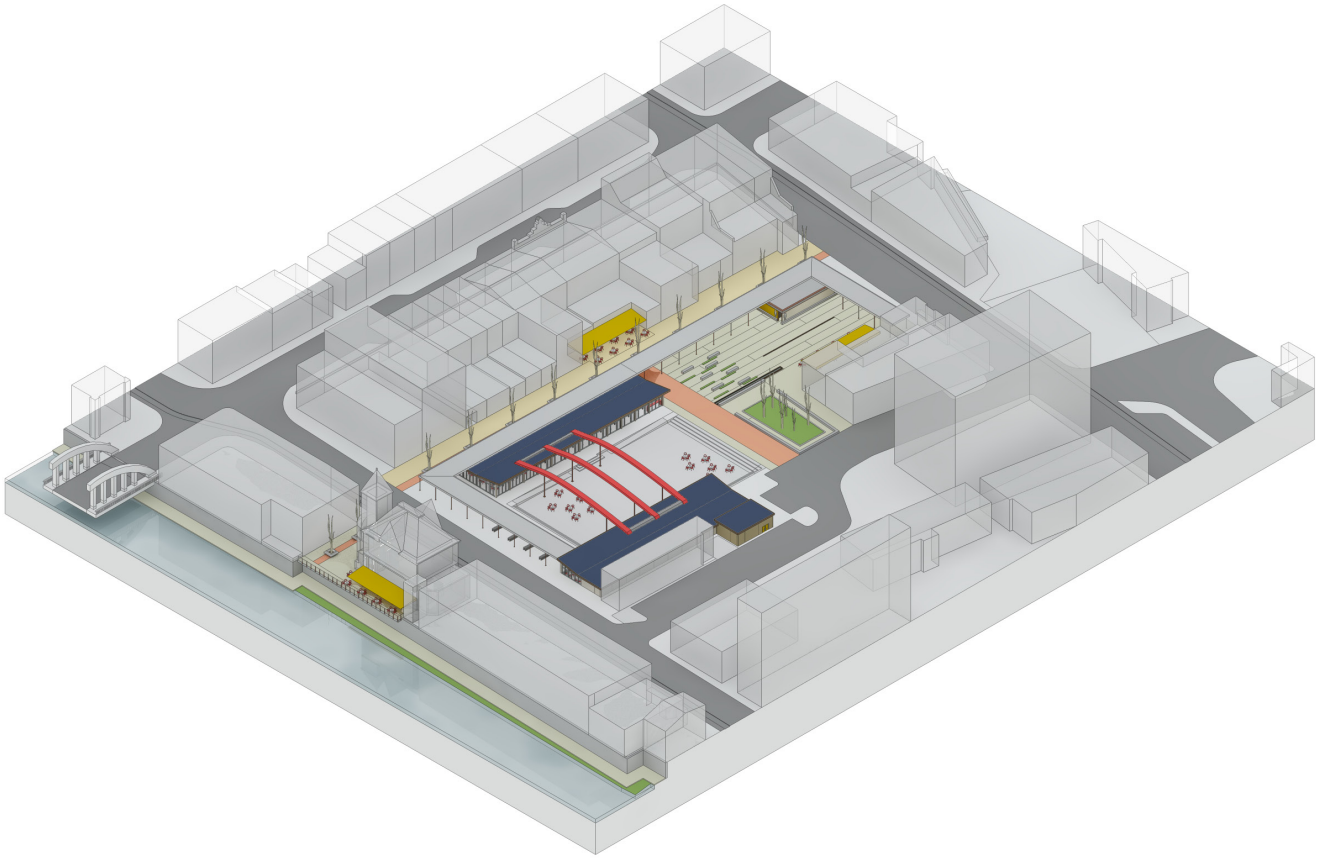


Figure 2.09 - Axonometric diagram showing the relationship between the proposal and the existing site conditions.

Figure 2.10 - View of Galt Agora, showing the northern plaza with its integrated water features.

Figure 2.11 - View of the Galt Agora, facing south-east from Water St. South.

Figure 2.12 - A view of the Galt Agora and its connection to the Galt Post Office, as seen from accross the Grand River.

Figure 2.13 - A view of the north plaza of the Galt Agora, showing the tree park, integrated site seating, and the public washroom along Ainslie St.

Figure 2.14 - An interior view of the Galt Agora market structure, which will see the inclusion of local community vendors showcasing the diverse food culture of the city.

Figure 2.15 - A view of the main plaza, which is slightly sunken and framed by the two food market structures.

2. GALT PARK

The second site will be simultaneously developed alongside the Galt Agora. The Galt Park will become a public park and a parking structure in the existing “Mill Street Parking Lot”. With the combined parking spaces of this parking lot and of the “Ainslie St. Lot#2 Parking Lot” total 302, with peak usage of 73% and 62% respectively. The proposed parking structure will supply 162 spaces, or 54% of the outgoing lots. Because this plan proposes the construction of more multi-storey parking structures near the Mill Creek and the Cambridge City Hall, as well as single level off-street parking in the all other existing city-owned parking sites selected for development, the loss in parking spaces can be sustained by the remaining public lots as the phases of this vision are realized.

The public park that will replace the majority of the site will function as an informal gathering space. By creating green landscapes marked by trees and shrubs, integrated with a pedestrian pathway, which opens up into a small plaza framed by another perimeter seating structure. The proximity of this site to the south end of the Mill Creek pedestrian trail located at the corner of Main St. and Wellington St., allows for it to serve as an independent yet organic extension of the connected park system which runs parallel to the creek. A hybrid public architecture will introduce pedestrian and parking functions, as well as a park function, which will lead users towards the Mill Creek promenade on the north east side of the site.

The design of the parking structure is designed with construction efficiency in mind, as a three level building, that takes advantage of use of photo-voltaic arrays on the roof, and a green roof over the ramp module. The interior of the lot will implement a vacancy notification system, which will connect an array of proximity sensors hung above each parking space, identifying if the spot is available or occupied. The system will display a green light indicating an available spot, and a red light for an occupied one, which can greatly decrease the time spent for parking by displaying the total available spaces at the entrance gate at the parking lot.

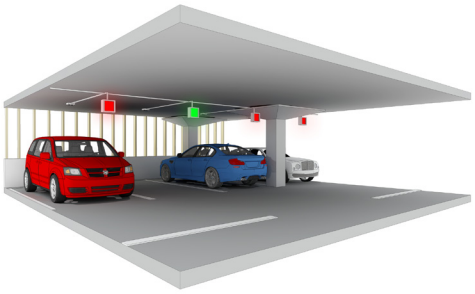


Figure 2.16 - Diagram showing the function of proximity sensors that identify occupied and free parking spaces within all of the proposed parking structures.

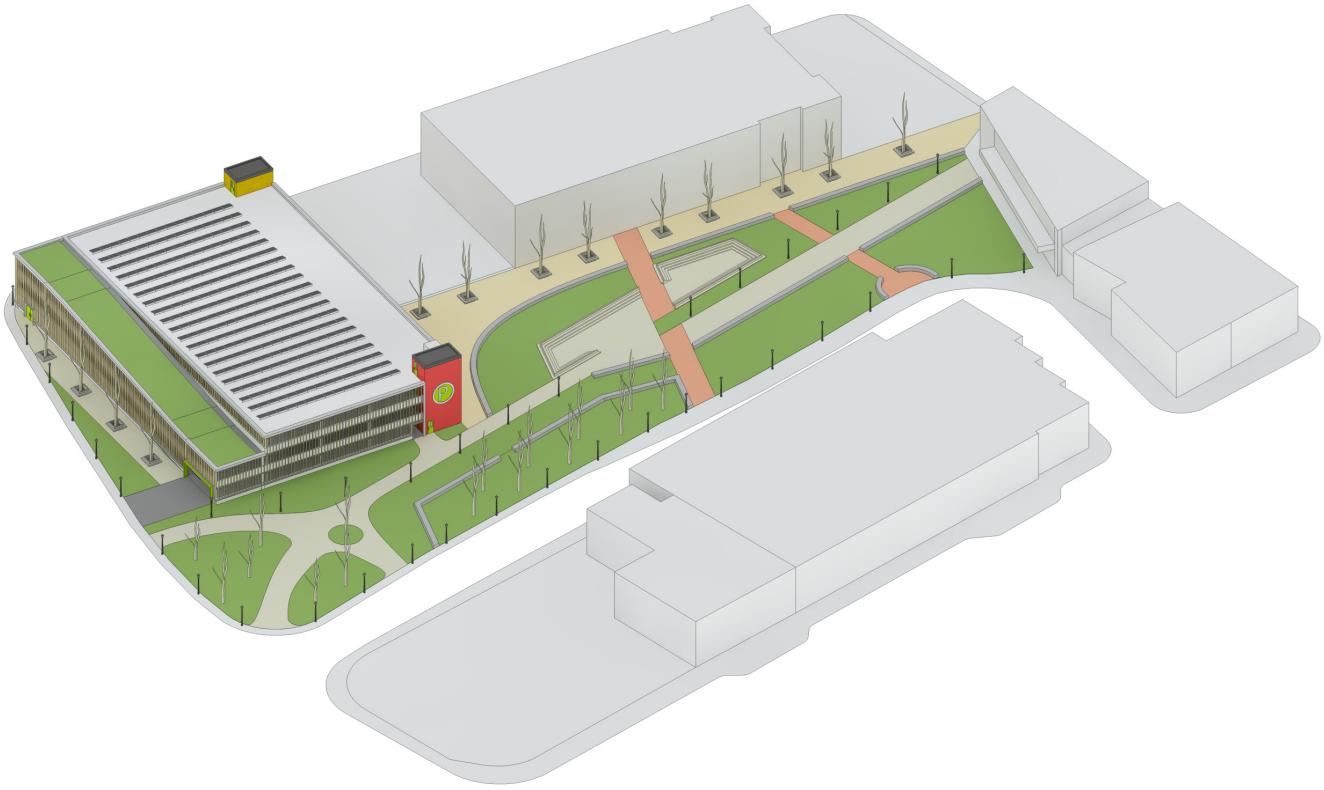


Figure 2.17 - Axonometric diagram showing Galt Park and its existing site conditions.

Figure 2.18- Existing site condition of “Mill Street Public Parking Lot”.

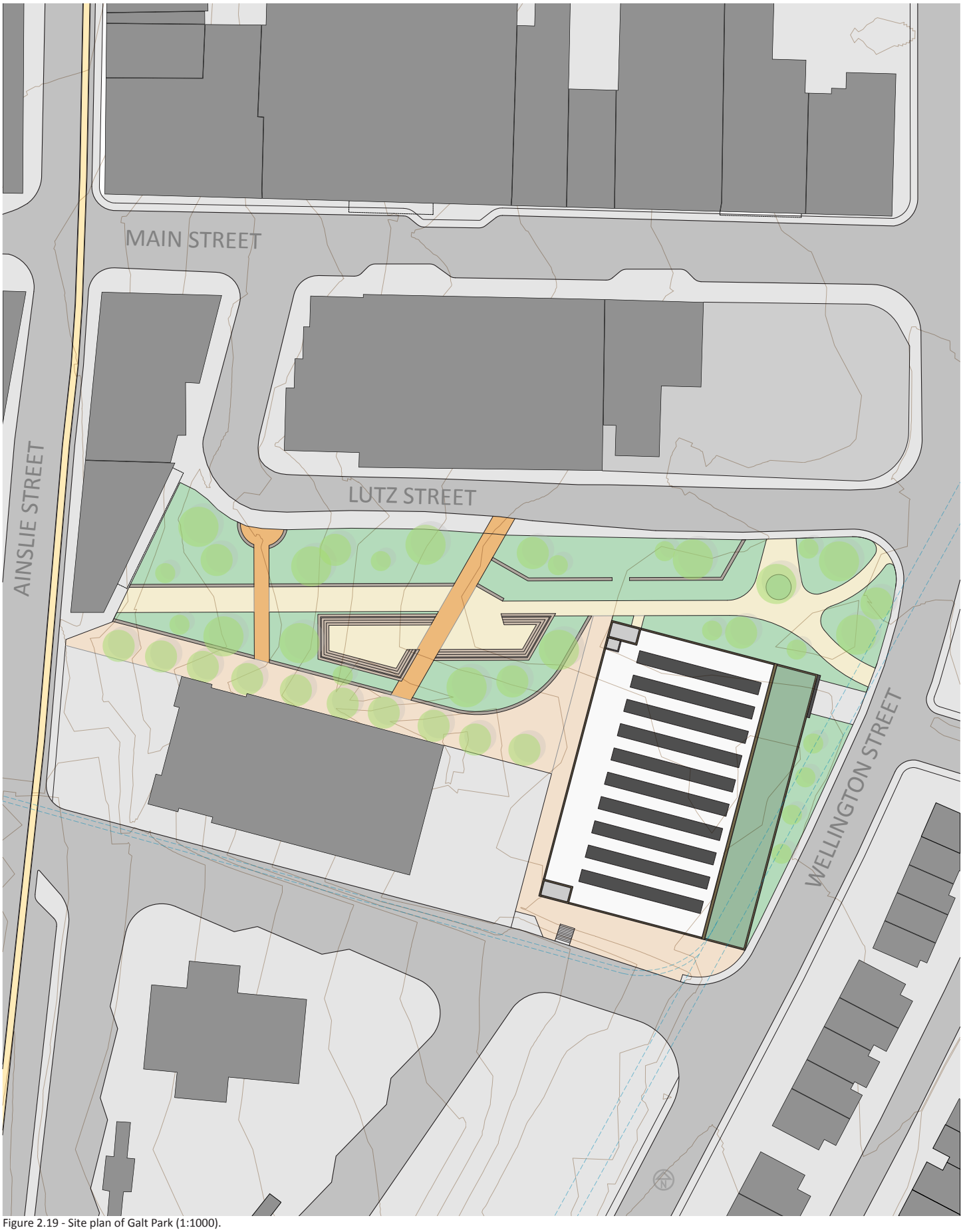


Figure 2.19 - Site plan of Galt Park (1:1000).

Figure 2.20 - A view of the proposed park system, facing south-east.

Figure 2.21 - A view of Galt Park, facing west.

Figure 2.22 - Aerial view of Galt Park.

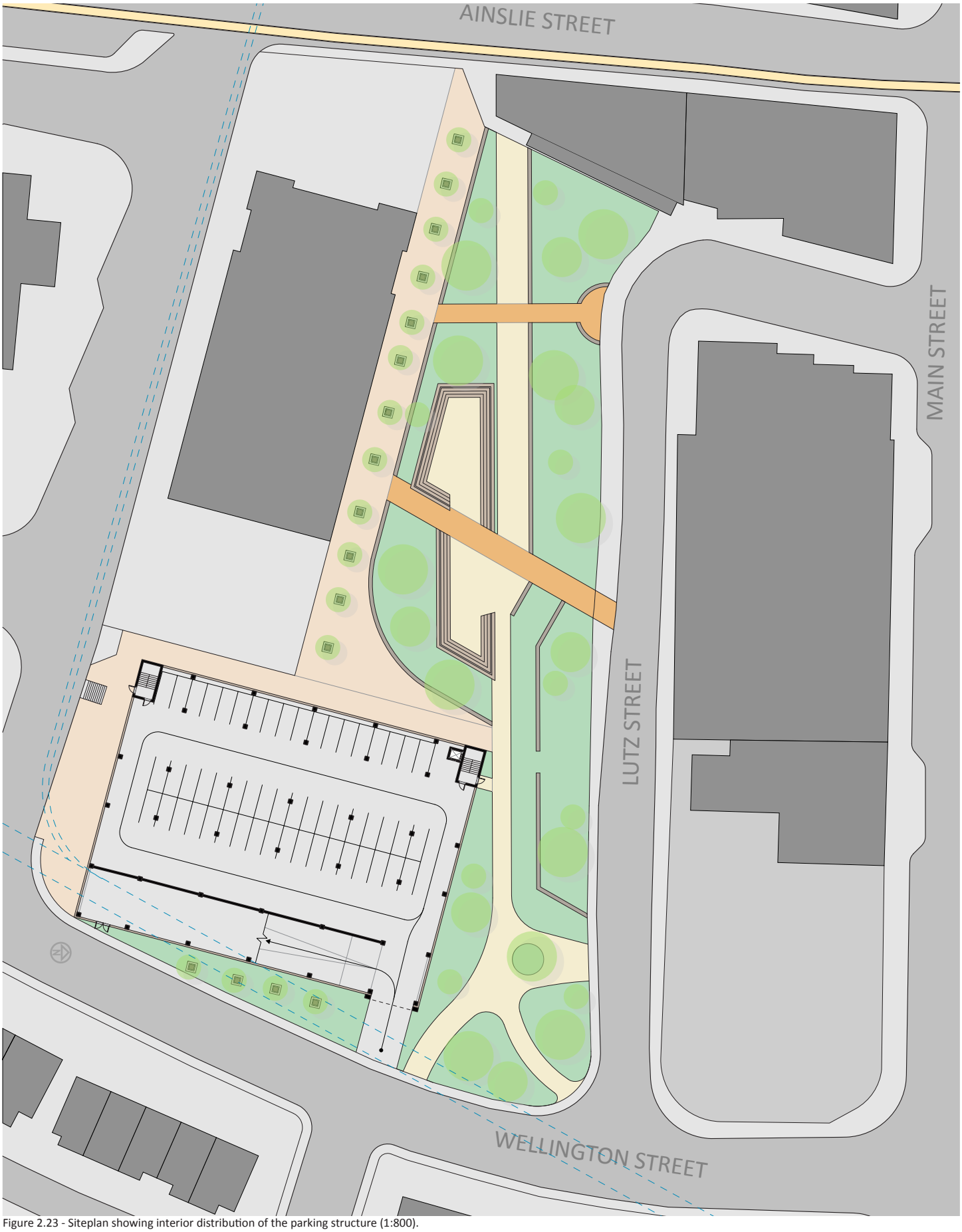


Figure 2.23 - Siteplan showing interior distribution of the parking structure (1:800).

3. MILL CREEK GARDENS

The next project for the future pedestrian fabric of Galt is the Mill Creek Gardens. This site will take over two existing city-owned parking lots running adjacent to the Mill Creek, and will also propose for the creation of another three storey parking structure north of the Region of Waterloo Administrative building. The existing “Beverly Street Parking Lot” and “Wellington Street Parking Lot” hold 193 and 63 spots, with a respective peak at 63% and 73% usage. The total of 256 parking spaces will be replaced with 228 spots provided by the covered parking structure, and another 74 off-street parking spots that will remain in the “Wellington Street Lot” location. The new total number of parking spots will be 302, represent an 18% increase over the existing spots, and also bringing the total number of eliminated parking spots at this phase of the proposal to only 94.

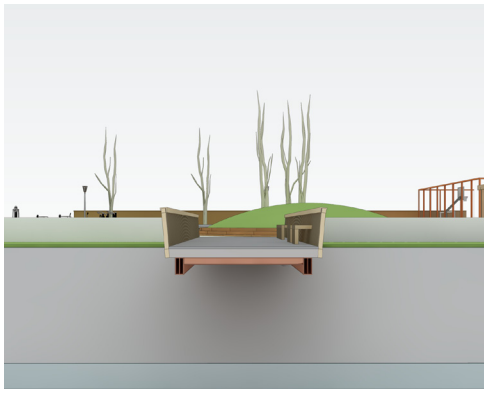


Figure 2.24 - A cross-section of the proposed Mill Creek pedestrian bridge, showing its integrated seating along the south railing.

The absolute public architecture defines this site as a public park and gathering space, community garden, and sports and activity zone. The Mill Creek Gardens features a series of pathways which separate the park zones from the paved pedestrian zones, and is accessed along the existing Mill Creek pathway as well as a new gateway access from Beverly St., which leads towards a circular water pond, marking the centre of the site. This water feature creates a slight cantilever of the pedestrian pathway over the creek, physically confronting the current limits of interaction between citizens and the natural heritage system. Around the water feature is a circular canopy, which carries

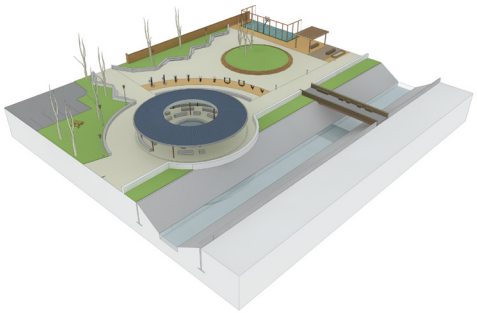


Figure 2.25 - A diagram showing the radial distrubtion of program around the central water feature and its canopy.

on the language from the Galt Agora, providing a temporary shelter to accommodate public use during rain and snow. Radiating around the water feature is a perimeter array of public activity machines that are a common feature in European cities. The two basketball and street soccer courts are placed between the property line of the adjacent homes and a wooden trellis running parallel to the Mill Creek path. This trellised zone includes wooden benches for occupation, and terminates at the north end of the site, which has a community garden that can be used by local residents, and potentially, the occupants of the Galt Agora market stalls. Across the creek, the 3 storey parking structure has a similar form as the one at the Galt Park, and similarly has photovoltaic and a green roof incorporated in its design. A small pedestrian bridge connects the two sides of the creek, and even provides integrated pedestrian seating on the northern railing.

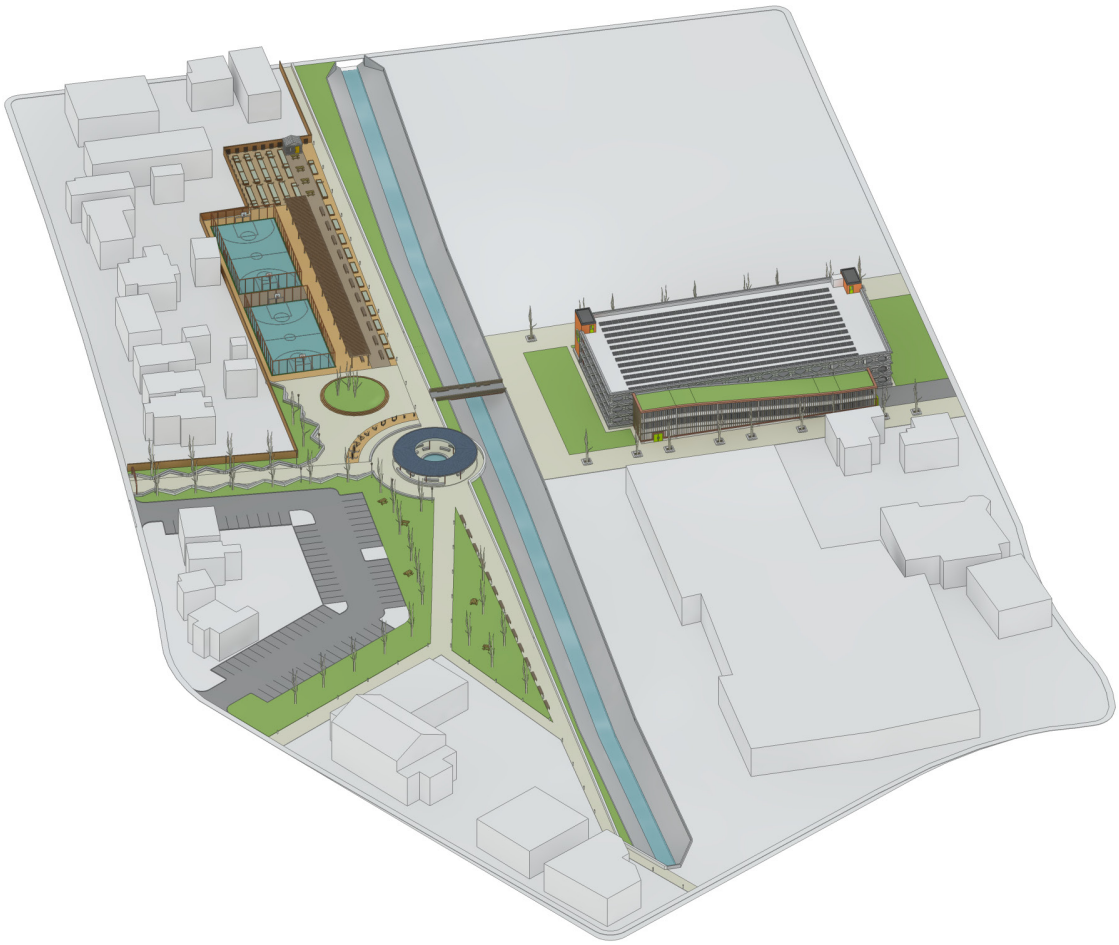


Figure 2.26 - Axonometric diagram showing the distribution of site program and their relationship to the existing site conditions.

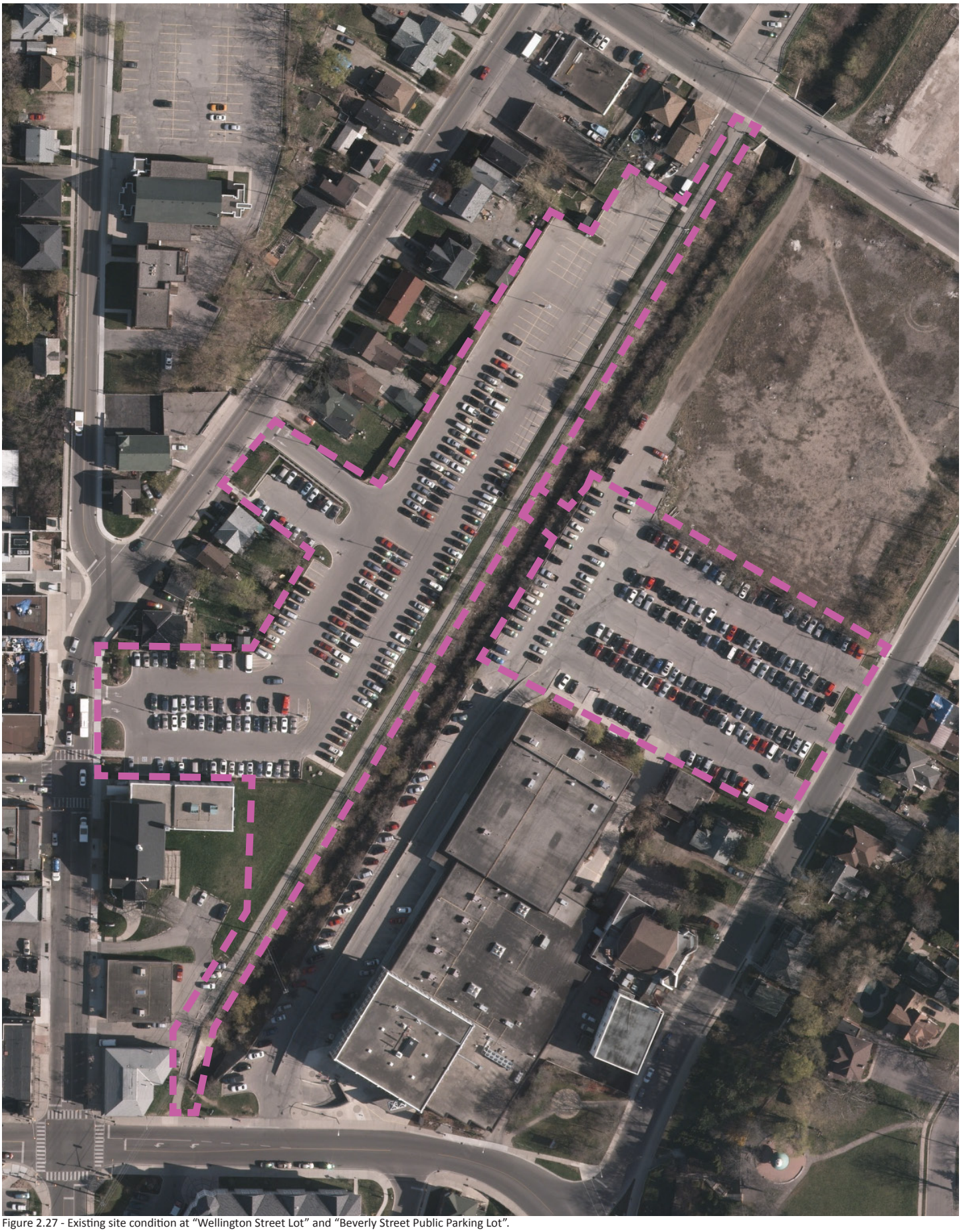


Figure 2.27 - Existing site condition at “Wellington Street Lot” and “Beverly Street Public Parking Lot”.

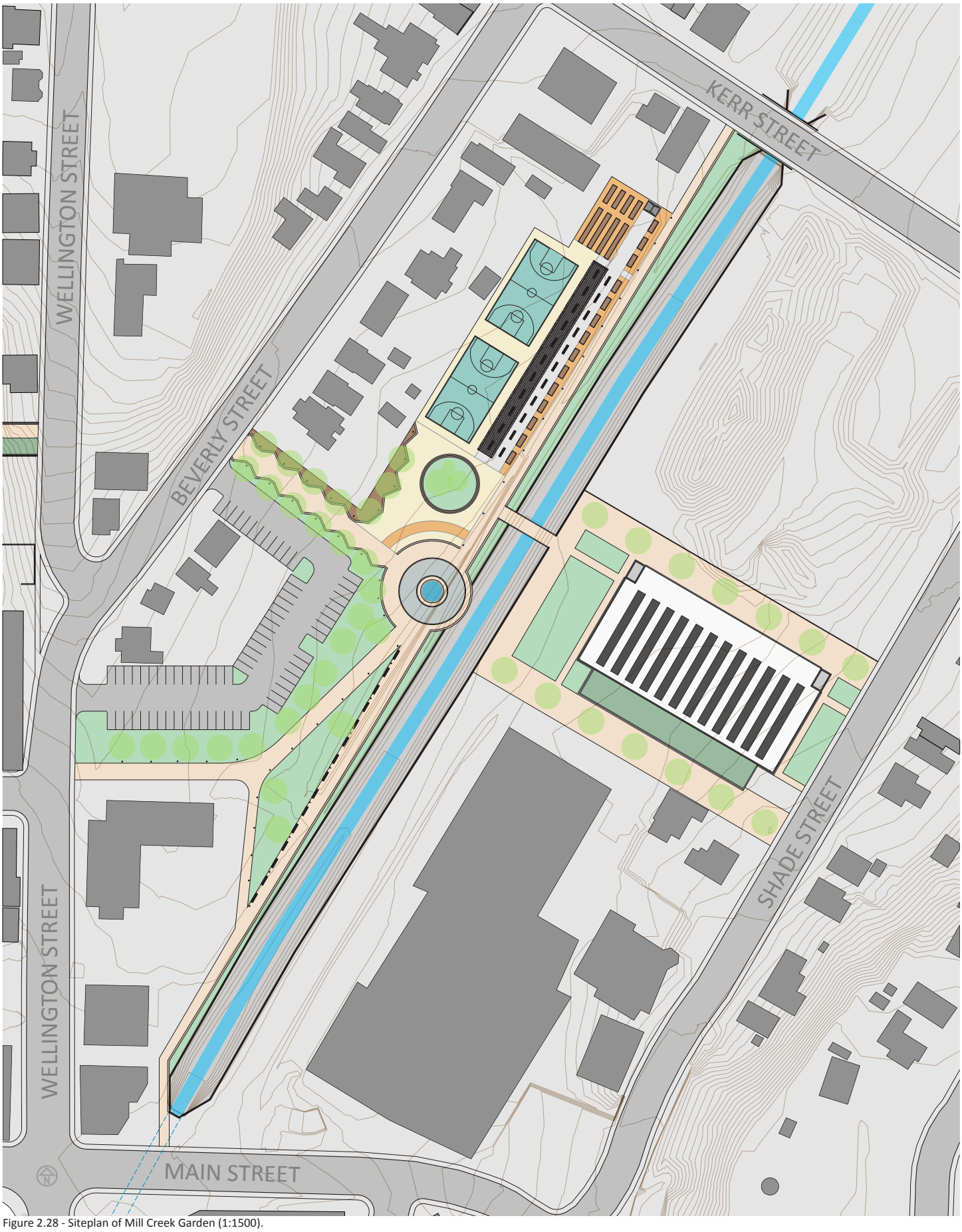


Figure 2.28 - Siteplan of Mill Creek Garden (1:1500).

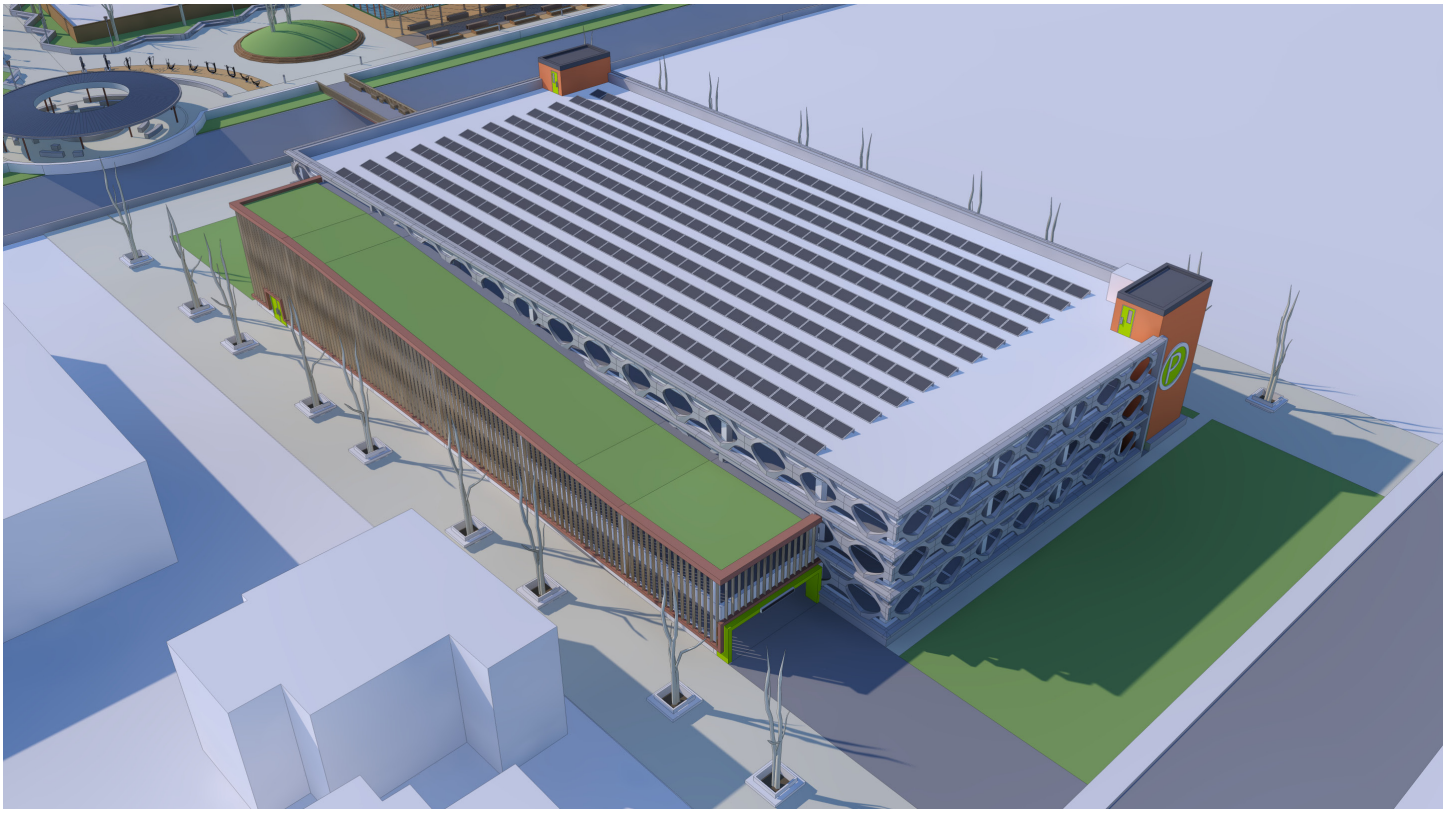


Figure 2.29 - Aerial view of the Mill Creek Gardens parking structure, showing its green roof and rooftop photovoltaic array.

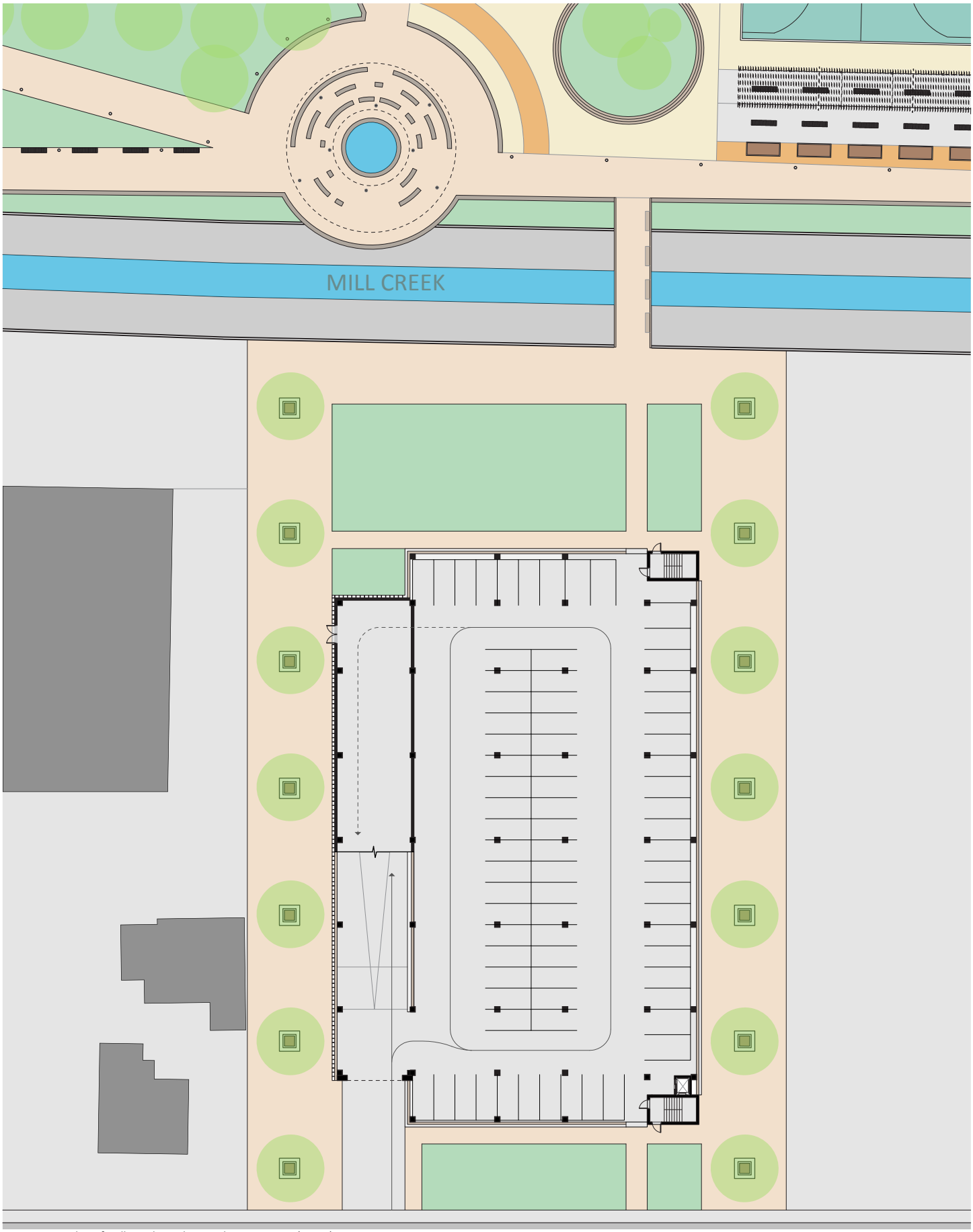


Figure 2.30 - Plan of Mill Creek Gardens parking structure (1:600).

Figure 2.31 - View of the gate for Mill Creek Garden, along Beverly St.

Figure 2.32 - A view from accross the Mill Creek, showing the pedestrian bridge connecting the parking structure to the community park. With its green berrm, and plentiful seating, the site can be used for relaxation, as well as for physical activity. With built-in work-out equipemt, and two basketball/indoor soccer courts, the site can engage with both young and old citizens in need of a place to excercise.

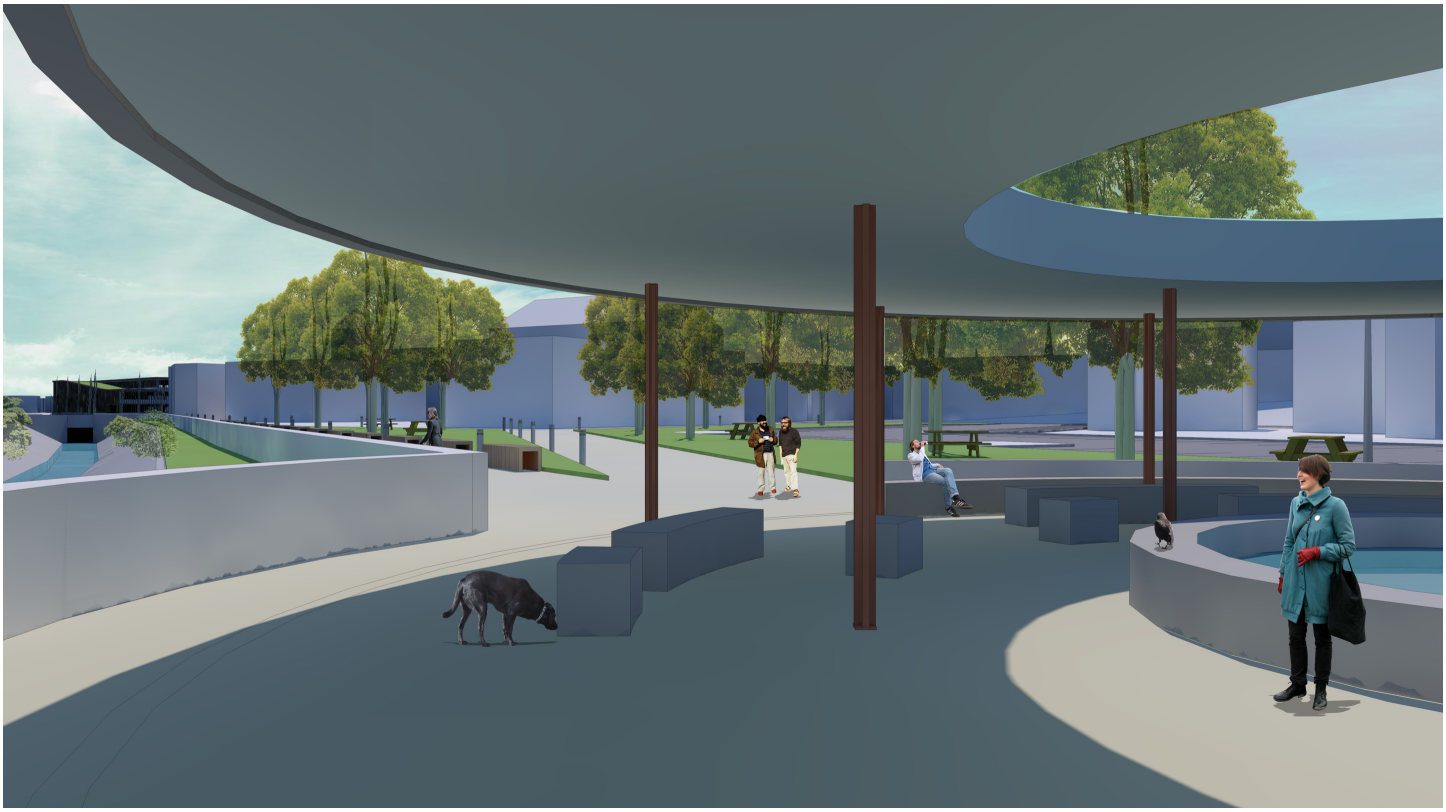


Figure 2.33 - A view from underneath the circular canopy surrounding the water feature. This architectural element cantilevers over the Mill Creek, forcing a unique boundary between the creek and the public environment built along it.

Figure 2.34 - View of the community garden to the north of the Mill Creek Garden promenade.

Figure 2.35 - Access to the parking structure will be from Shade St., and will feature a digital display board that is updated with real-time parking spot availability.

Figure 2.36 - Once inside, the driver can see green and red lights above each parking space, signalling if it free or occupied by virtue of a suspended proximity sensory system.

4. CITY HALL PARKING STRUCTURE

The next phase of the vision will be the construction of another 3 storey-parking structure at the existing “Civic Square Parking Lot”. The current number of parking spaces in the site is 161, which see a peak usage of 43%. The proposal for this project will replace them with 162 indoor parking spaces, and an additional 14 street level spaces, for a total of 176 spots. These new parking spaces bring the number of eliminated parking spots at this phase down to 79, with respect to the current total number of spaces. The parking structure is again similar architecturally to previous two, but takes advantage of the raised terrain along Wellington St., to connect the pedestrian sidewalk at the low point of the car ramp roof. This connecting bridge allows the entire roof structure to be used as an intensive green roof that seeks to provide a designated dog park for the city. The roof top public park helps to extend the public infrastructure and pedestrian fabric of the Mill Creek Gardens, as it creates a linkage going from Beverly St. and Wellington St., using the terrain of the natural ravine to extend west. The dog park is an ideal solution for the city, as there is currently no designated dog park in Galt. What would otherwise be wasted area, the rooftop park is provides a new public park function, which also has access to an elevator that connects to grade as well as the elevated walkway the links the parking structure to city hall.

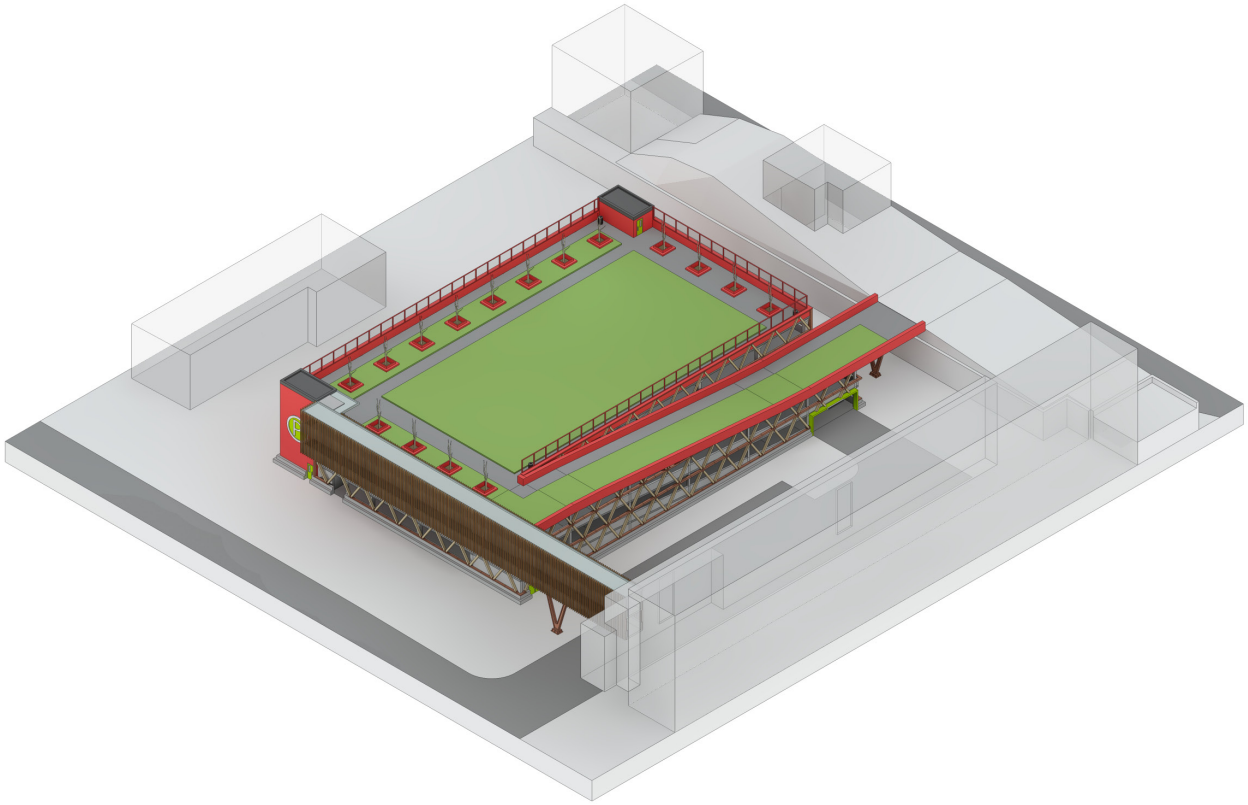


Figure 2.37 - Axonometric view of the City Hall Parking structure, with its pedestrian connection to Wellington St. The parking structure also connects users and pedestrians to the Cambridge City Hall via an elevated walkway on the west side.

Figure 2.38 - Existing condition of “Civic Square Public Parking Lot”.

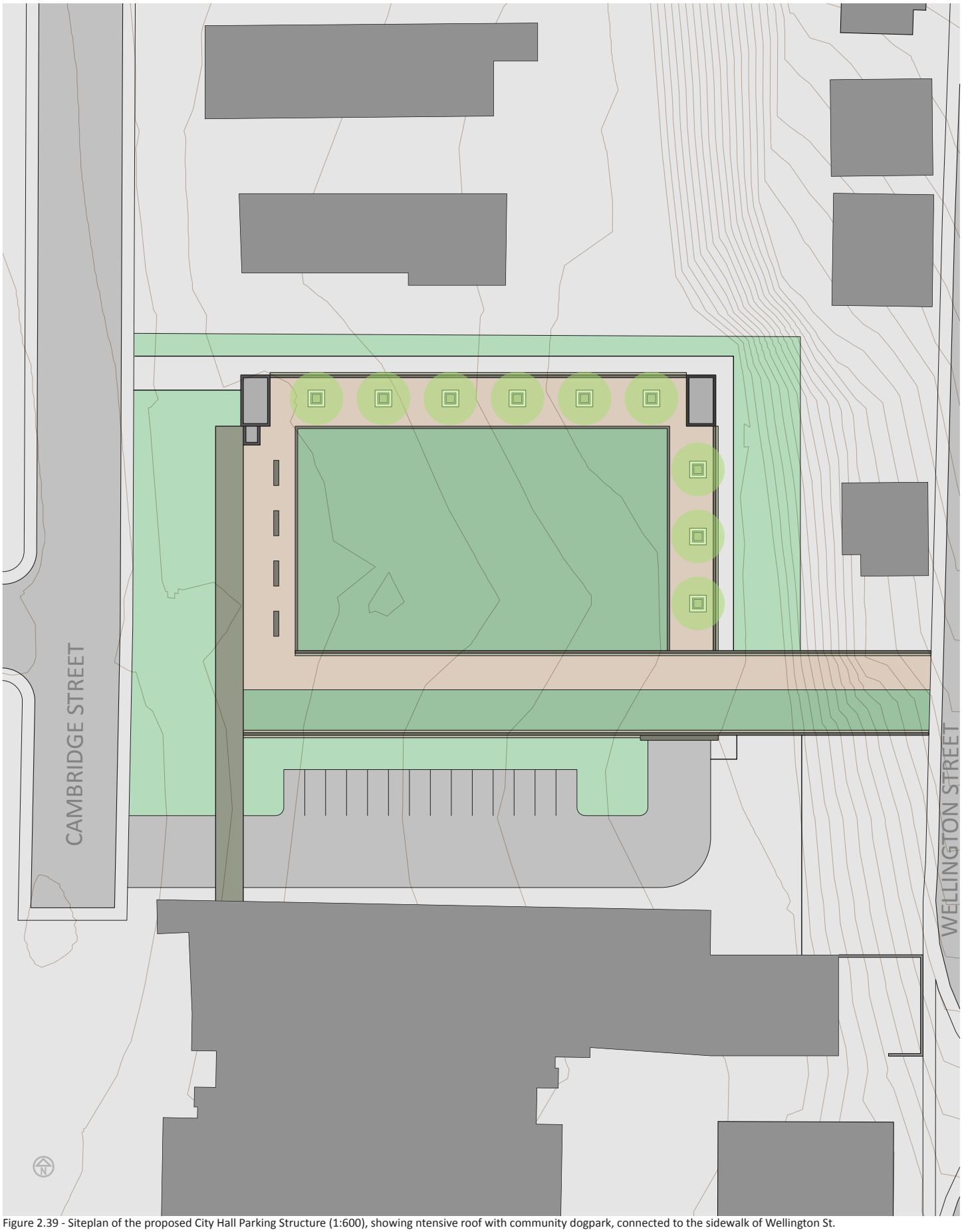


Figure 2.39 - Siteplan of the proposed City Hall Parking Structure (1:600), showing ntensive roof with community dogpark, connected to the sidewalk of Wellington St.

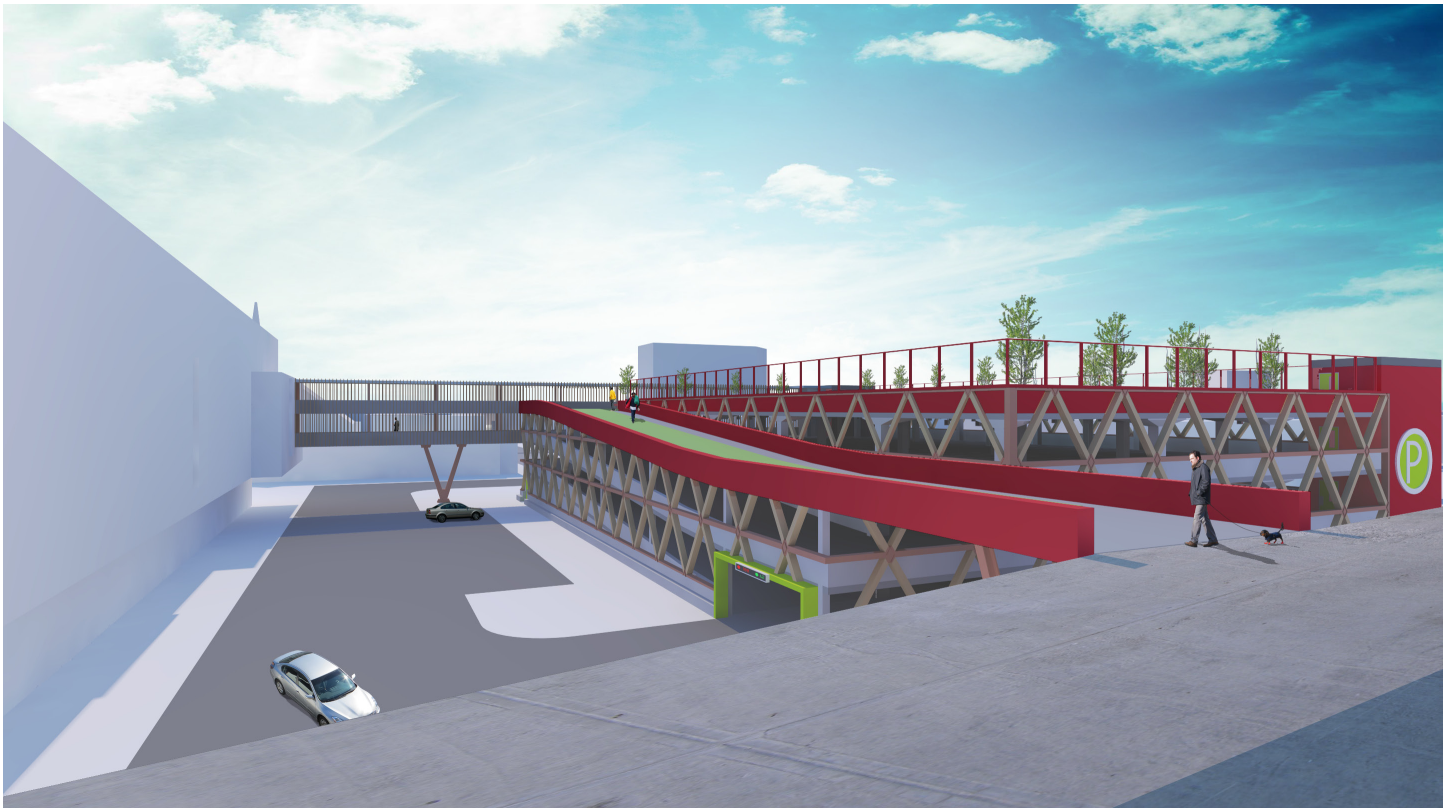


Figure 2.40 - A view of the bridge extending from the roof of the ramp entrance, which can be used by the public as public park. The parking lot will feature similar digital display systems with real-time information on parking space availability.

Figure 2.41 - The rooftop park has access to the elevated walkway connection to City Hall, and also provides the ideal space for dogs to be walked.

5. GRAND RIVER STOA

This project represents the first of the connected developments proposed along the Grand River. The existing site is the “Water Street Lot #1 Parking Lot”, which contains 84 parking spaces with a 50% peak usage. Unlike the other existing public parking sites developed in this thesis, the Grand River Stoa will keep the full functionality of the off-street parking, but will augment their relationship with the site so that it can better function as an exhibition space for special events. The proposal will see provide 81 parking spaces, a loss of 3 spots from the existing condition, bringing the total number of eliminated city parking spaces to 82.

Framed between Water St. and the elevated pedestrian promenade of the “Living Levee”, this site aim to better integrate the promenade and street activity, which will see its use increase with the eventual construction of the Grand River Transit LRT corridor connecting the Hespeler Rd. transit line to the Ainslie St. Transit Terminal. The project proposes the addition of a light structural canopy along the sidewalk along Water St., and will push the parking spaces on the existing west edge 3 meters into the earth berm of the “Living Levee”. This action will embed half of the parking spaces as covered parking, and will create an elevated green space above. This space will serve to enhance the pedestrian experience along the promenade, and will also create a vantage point along the edge of the site when it is used as an event space. With enough area to include a stage at the south end of the

site, as well as the ability to convert the new covered parking spaces into temporary stalls to service a variety of different public events and exhibitions.

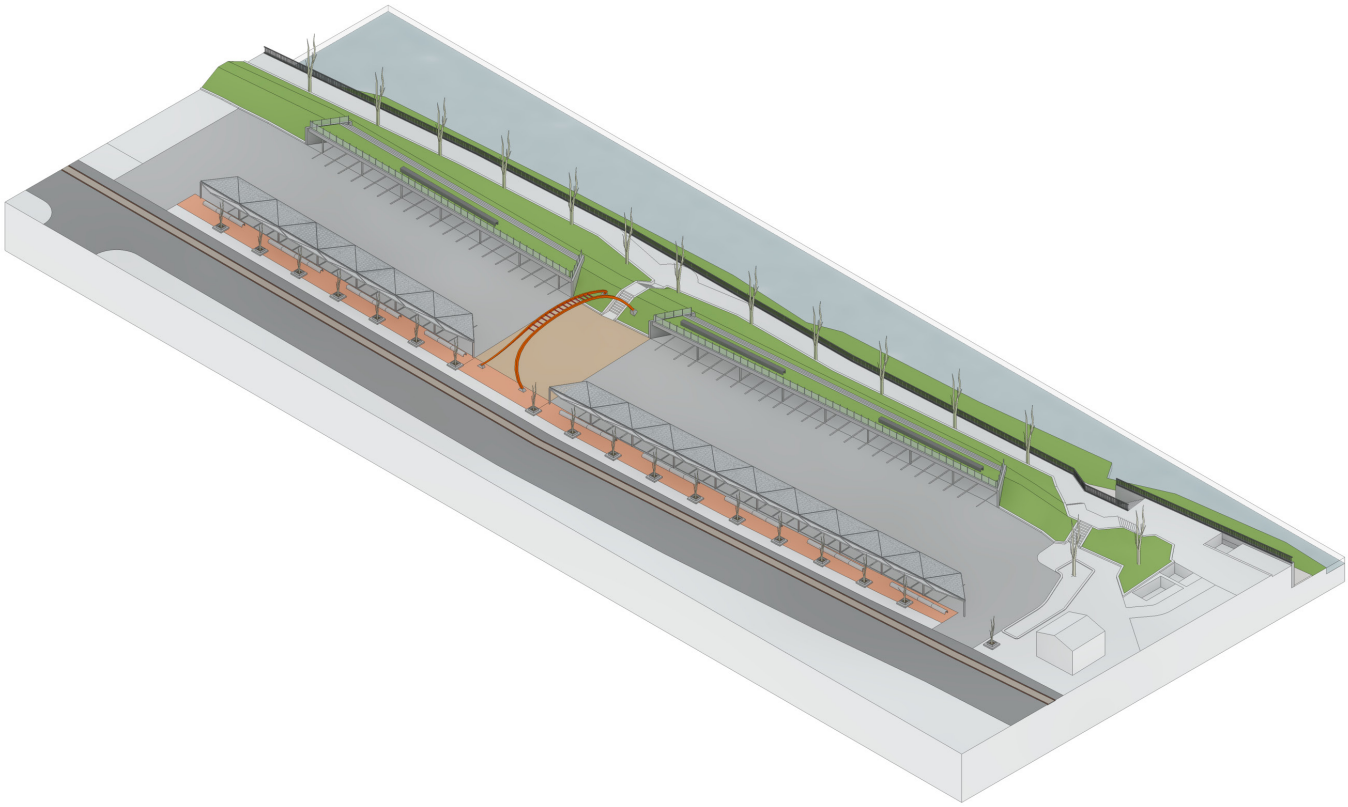


Figure 2.42 - Axonometric view of the proposed Grand River Stoa, showing the new pedestrian canopy along Water St. South, and the excavated “living levee”, which now provides cover from the elements and a new public platform for the promenade running along the Grand River flood wall.

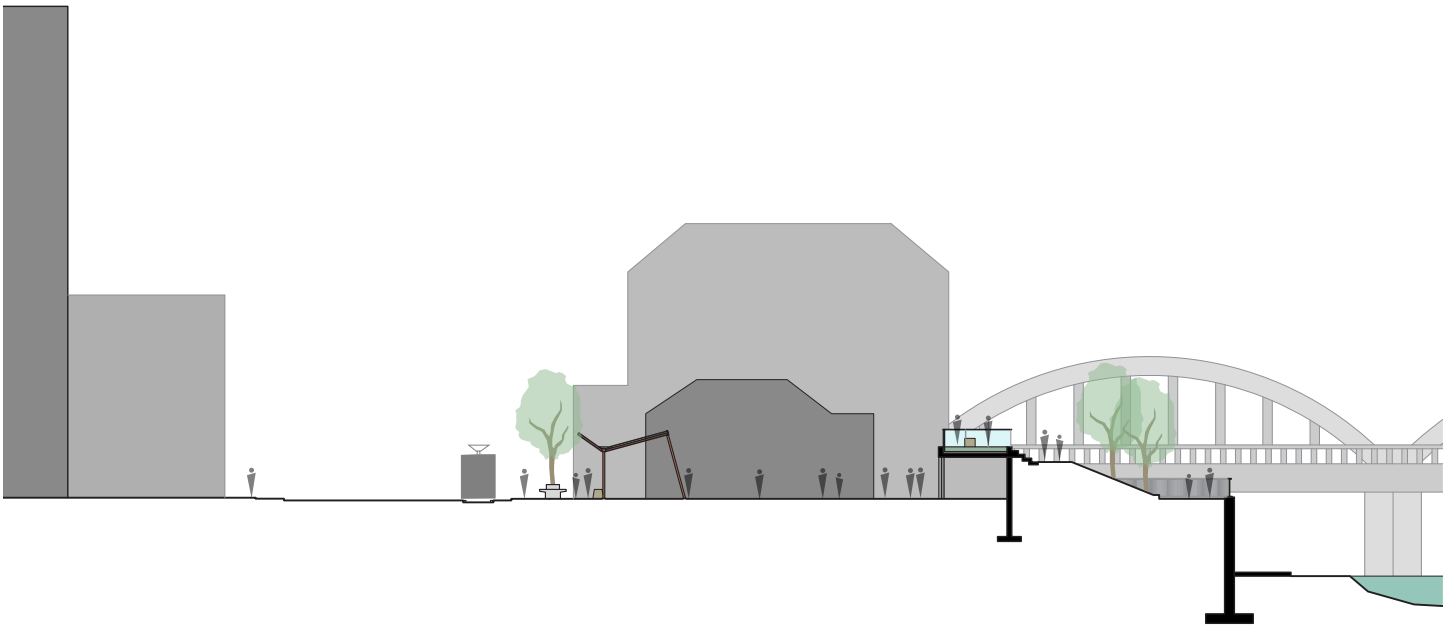


Figure 2.43 - Site section (east-west) facing south (1:400), showing the relationship between street, canopies, open area, hill, promenade, river wall, and riverside path.

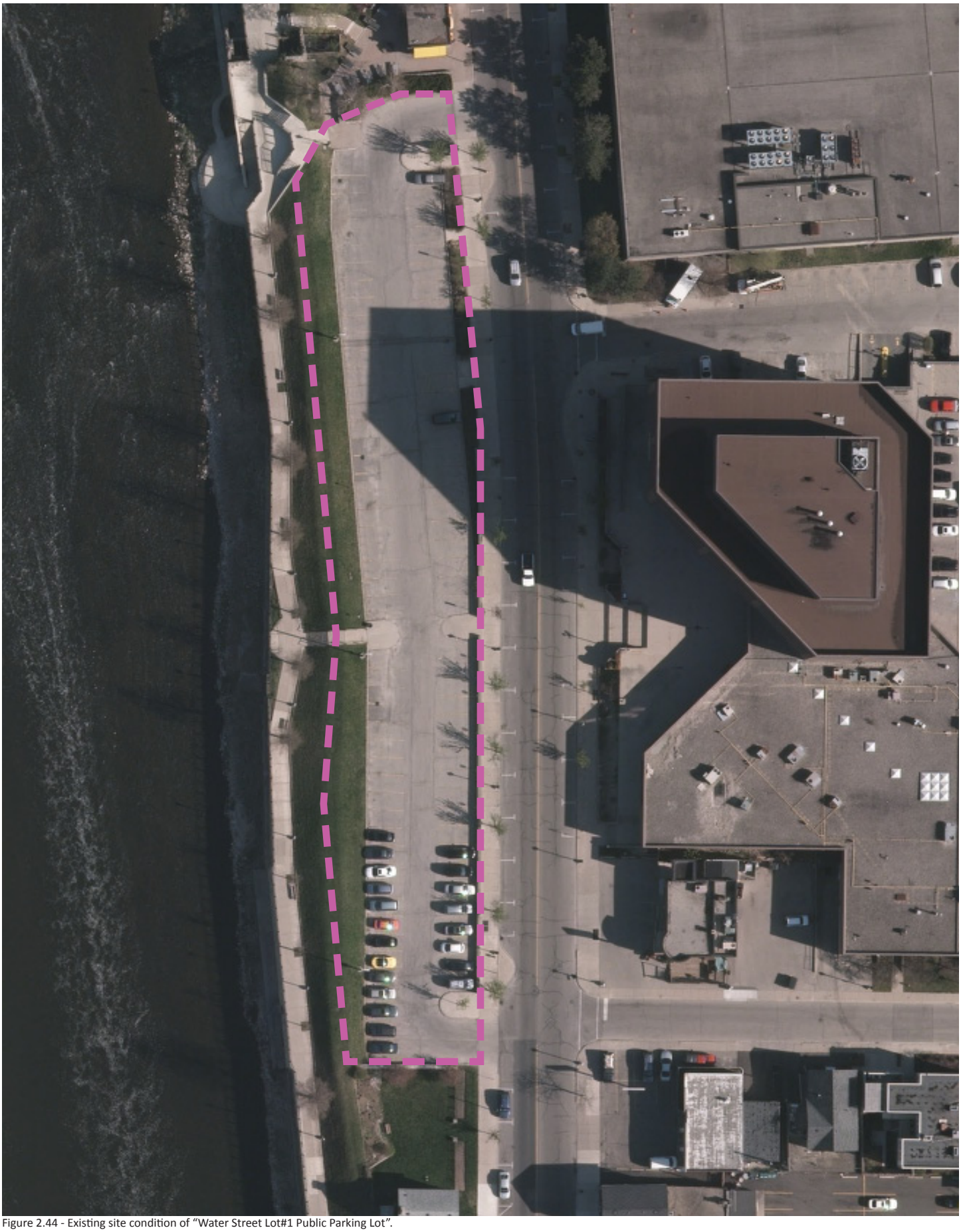


Figure 2.44 - Existing site condition of “Water Street Lot#1 Public Parking Lot”.

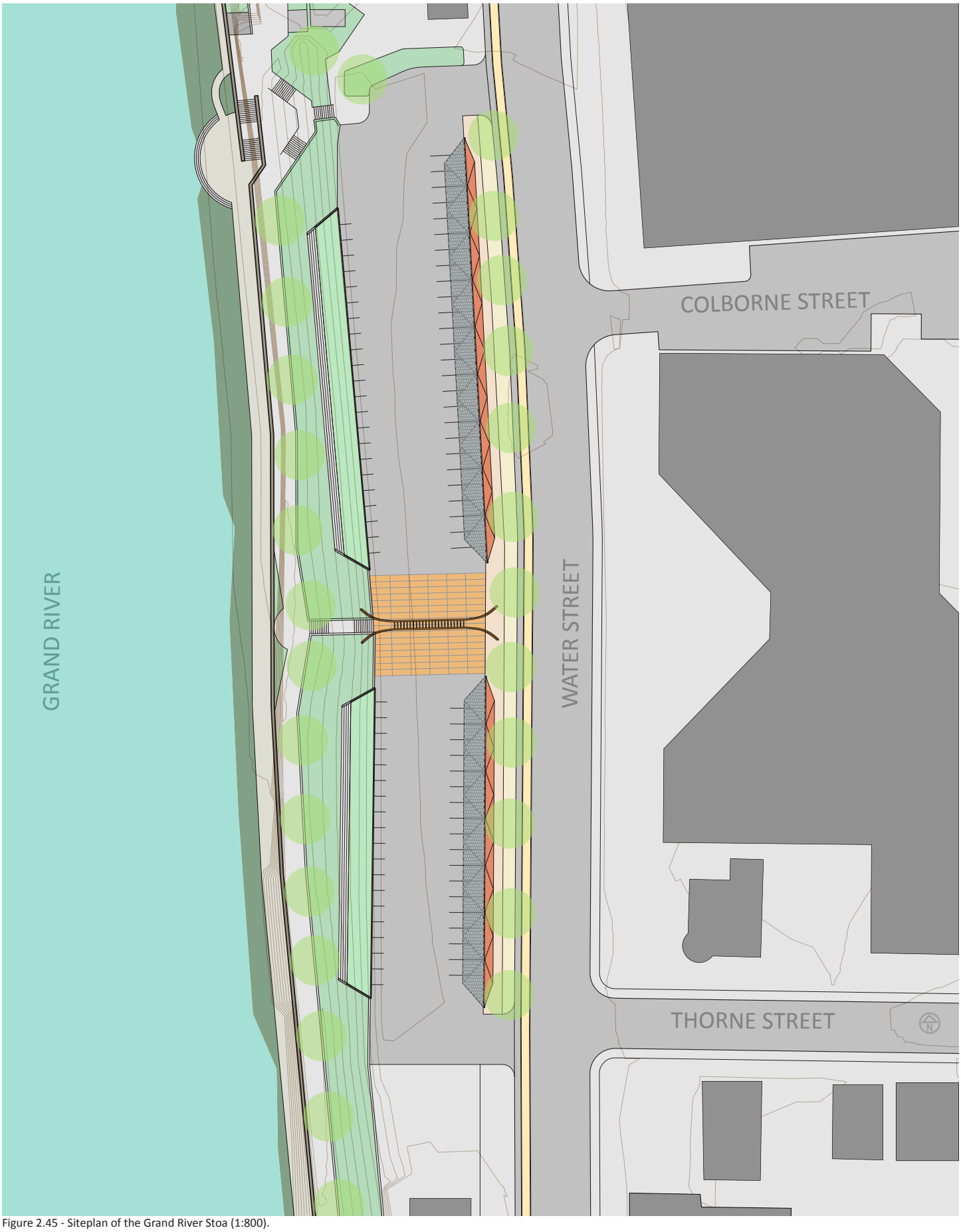


Figure 2.45 - Siteplan of the Grand River Stoa (1:800).

Figure 2.46 - View of the elevated promenade on the east side of the Grand River, showing the proposed extension to the hill of the “Living Levee”.

Figure 2.47 - A view of the site functioning as an off-street public parking lot.

Figure 2.48 - Grand River Stoa and its long open area can host concerts, markets, and other special events. The steel archway supports these events as a structure for suspending speakers, lights, and displays. It simulatenously marks the paved corridor leading to the main access to the Grand River promenade.

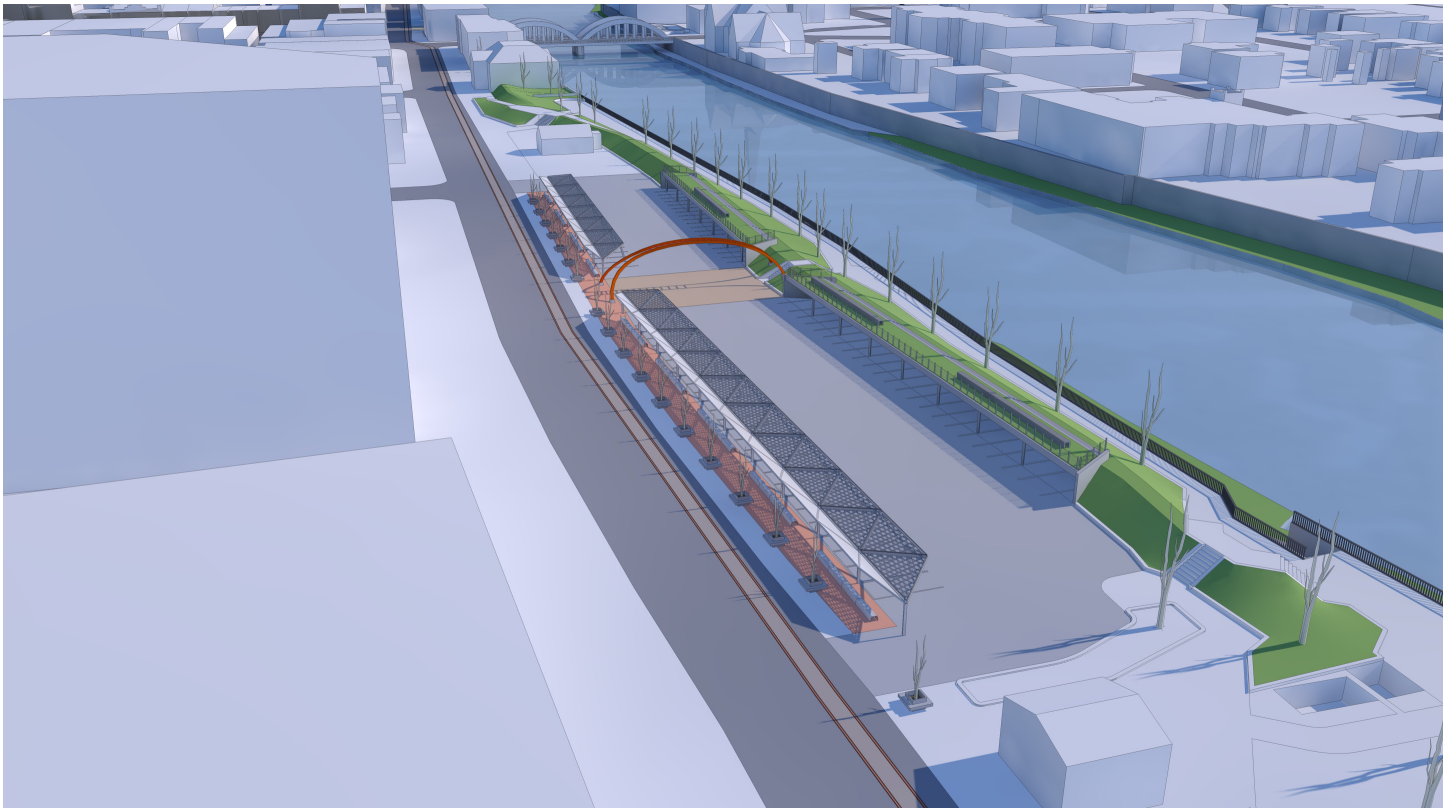


Figure 2.49 - This aerial view facing south shows the relationship between the Grand River Stoa parking lot/exhibition space, and the urban fabric. The pedestrian canopies along Water St. will also provide shelter for citizens along the proposed LRT line connecting Galt to the Waterloo Region.

6. GRAND RIVER PARKETTE & LIBRARY CAFE

The Grand River Parkette & Library Café will be built on a currently abandoned property adjacent to the heritage Galt Carnegie Library. The primary function of this project will be to extend the pedestrian access from Water St. down to the level of the Grand River and the proposed extension of the concrete riverside path. It will see the construction of a 2 storey public structure on the north edge of the site, connecting it to the heritage library. This building will have a public library on the grade level that can become an extension of the existing Cambridge Libraries network, and will have a café at the lower river grade level. A stairway will run alongside the glazed façade of this building bringing users down to a small paved area that can be occupied informally and by customers of the café. The site will use the remainder of the area make a landscaped hill from the grade level to the small paved plaza. The use of an absolute public architecture is made most clear in this project with respect to the relationship of the existing conditions with the river, by eliminating the portion of the river wall, and replacing it with strengthened steel wall which will open and close along mechanically operated track system. This wall steel wall will function to allow a seasonally dependent access to the rivers edge, which will undoubtedly increase use of the river edge as a pedestrian and cycling path. When the river expects its recurring increase in water volume, usually during the winter and spring, the wall can be closed to ensure the protection of the city from flooding, while still allowing public use at the submerged level.

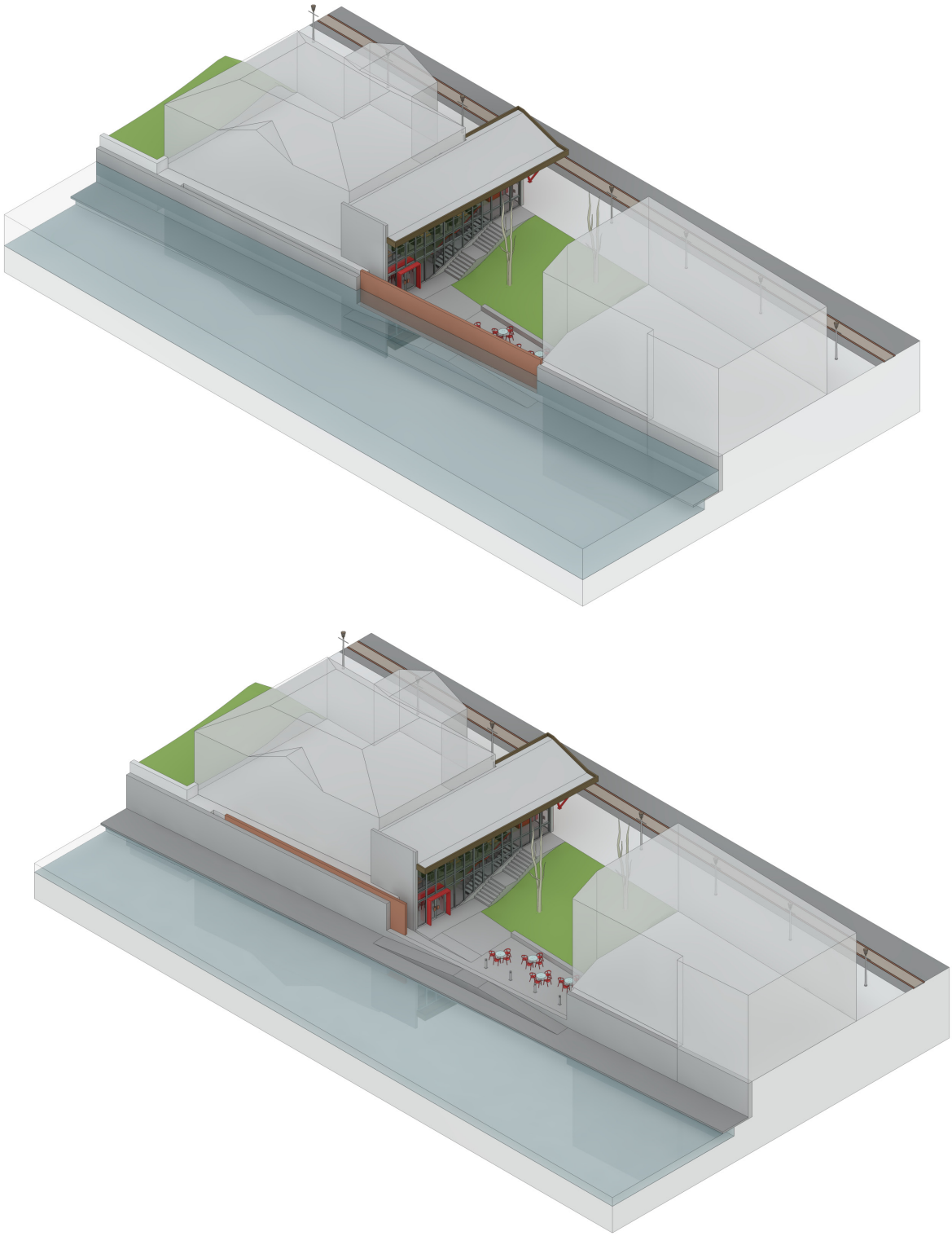


Figure 2.50 - Axonometric View of the Grand River Parkette and Library Cafe. The flood wall will see this site as its only break along the urban core of Galt, and will be supplanted with a sliding steel wall which can be closed during the seasonally high water levels.

Figure 2.51 - Existing site condition of the vacant property adjacent to the Heritage Galt Carnegie Library.

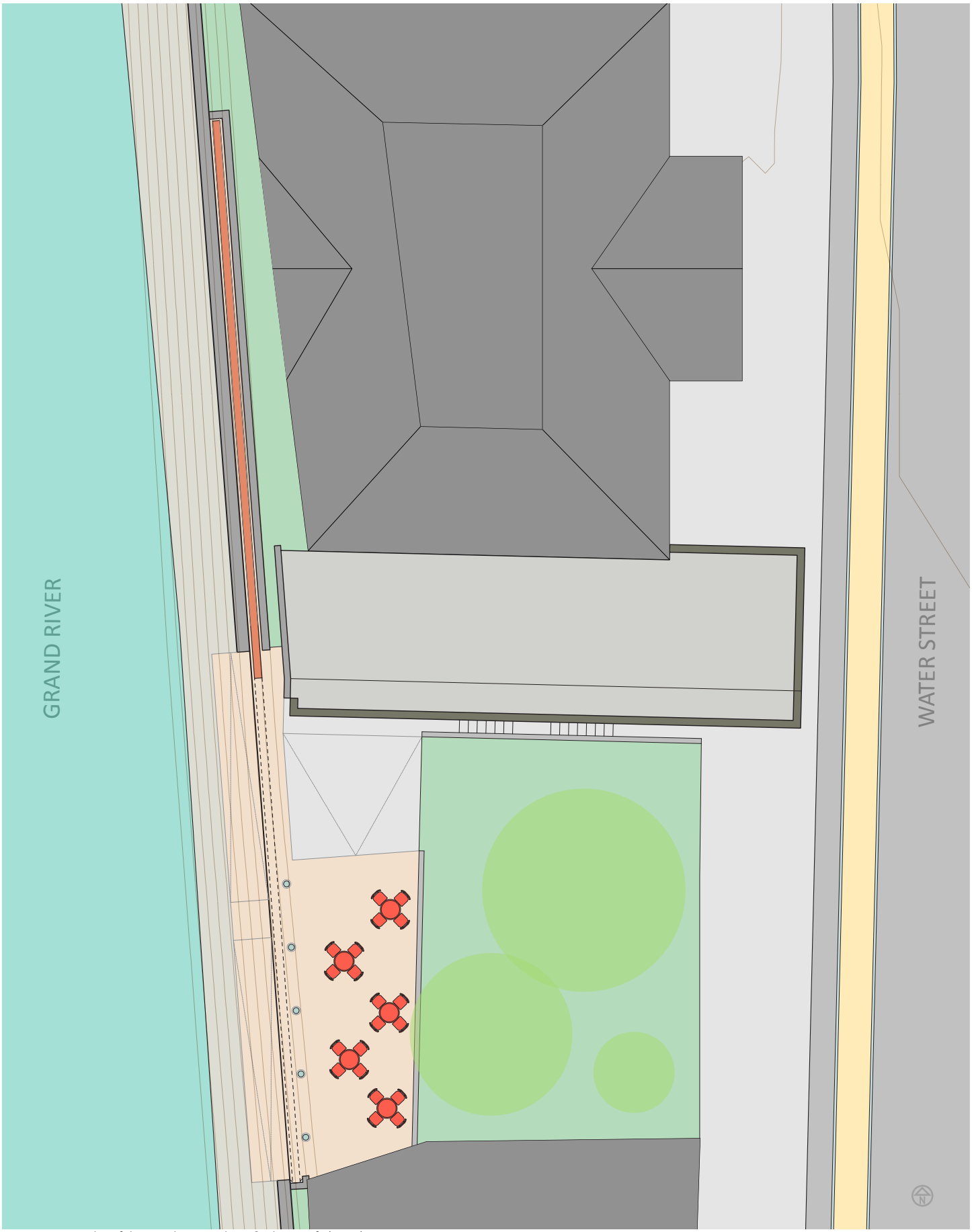


Figure 2.52 - Siteplan of the Grand River Parkette & Library Cafe (1:200).

Figure 2.53 - View of the parkette from the Grand River, showing the open condition of the sliding steel door.

Figure 2.54 - A view showing the Library & Cafe entrance along Water St. and the proximity to the proposed LRT line connecting Galt with the rest of Waterloo Region.

Figure 2.55 - Interior view from the public library during the a high water level on the Grand River. With the steel wall closed, the parkette still supports public occupation and access to the lower level cafe.

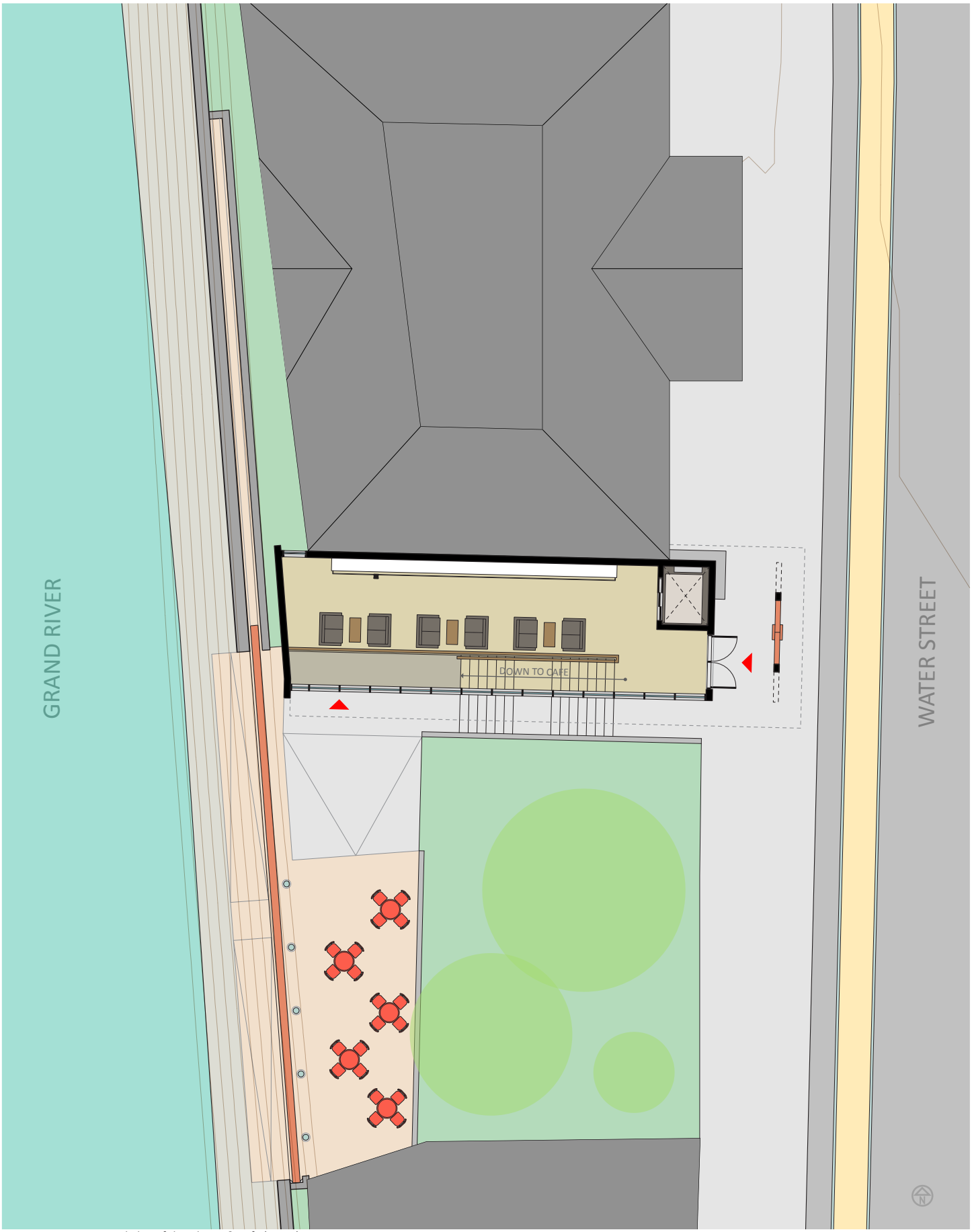


Figure 2.56 - Street Level Plan of the Library & Cafe (1:200).

7. PROMENADE CAFE

The elevated Grand River promenade exists as two distinct sections, one on the north of Main St., beginning at the heritage Galt Carnegie Library up until the Park Hill Rd. bridge, and the other one south of Main St. running until the Concession St. bridge. The southern portion of the promenade also includes an earth berm, extending the “Living Levee” across the length of Water St. In the vision for the Promenade Café, the berm will be manipulated along its existing pathways for crossing between the sidewalk and the promenade. A new retention wall will added to carve into the earth berm and create an opening facing the river. This new public plaza will be supported by a café structure on the north side of the site, and will also see the addition of a concrete stair connecting down to the riverside path. To maintain the flood protection provided by the existing levy, another steel wall will be added that will slide parallel to the new retaining wall, and will allow the entire site to be closed off from direct street access in the event of another major flooding. Public occupation will be allowed by the inclusion of seating from integrated tree planters as well as standalone concrete benches.

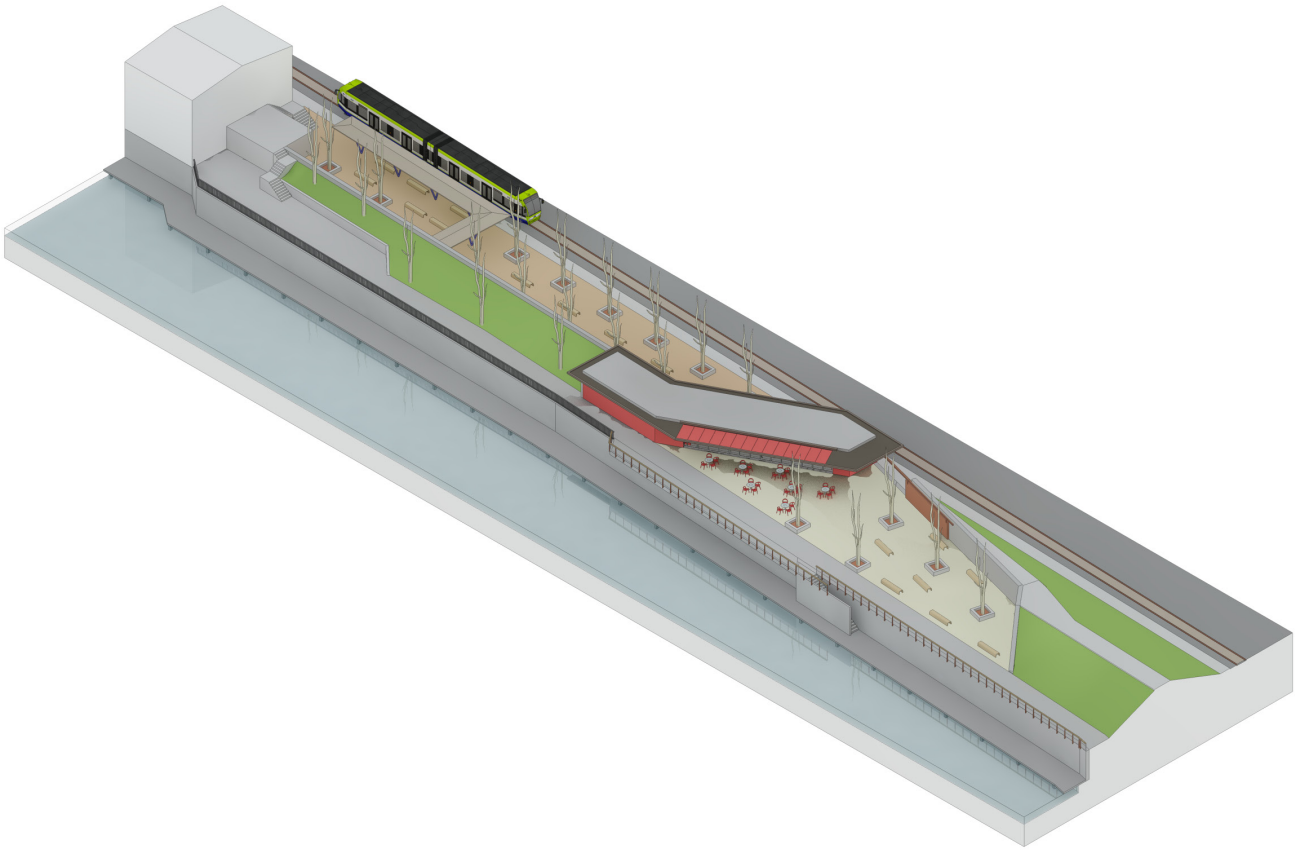


Figure 2.57 - Axonometric view of the Promenade Cafe, showing a new pedestrian canopy for a future LRT stop, a cafe structure, new retaining wall with sliding steel wall, and the public plaza it encloses. This view also shows the cantilever of promenade north of a new concrete stair that connects to the continuos riverside path.

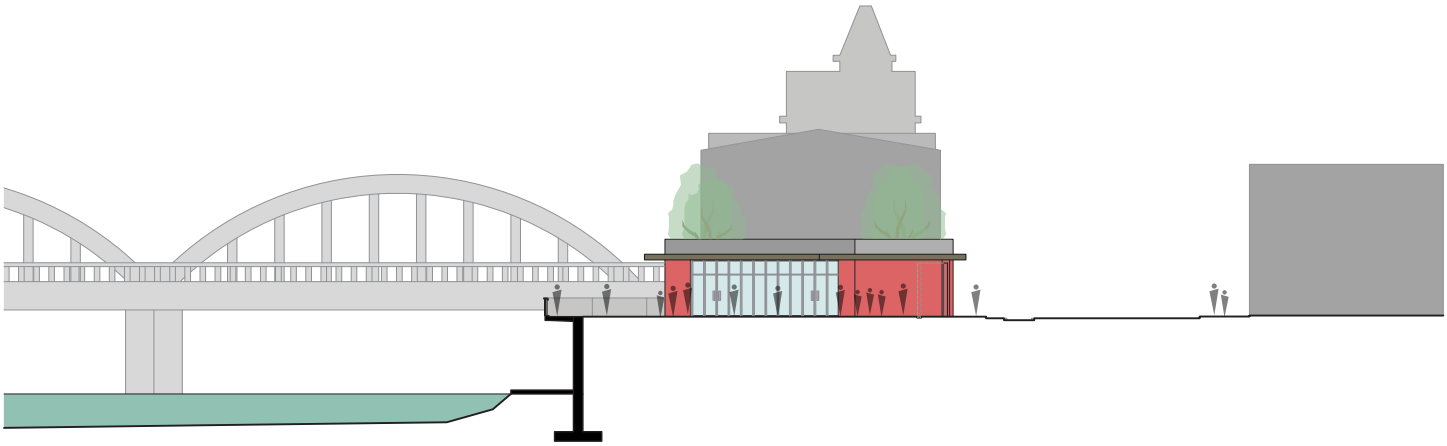


Figure 2.58 - Site section (east-west) facing north (1:400), showing the relationship between river, riverside path, public plaza, cafe structure, and the threshold seperating it from the urban infrastructure around it.

Figure 2.59 - Existing site condition of the Southern “Living Levee” elevated promenade.

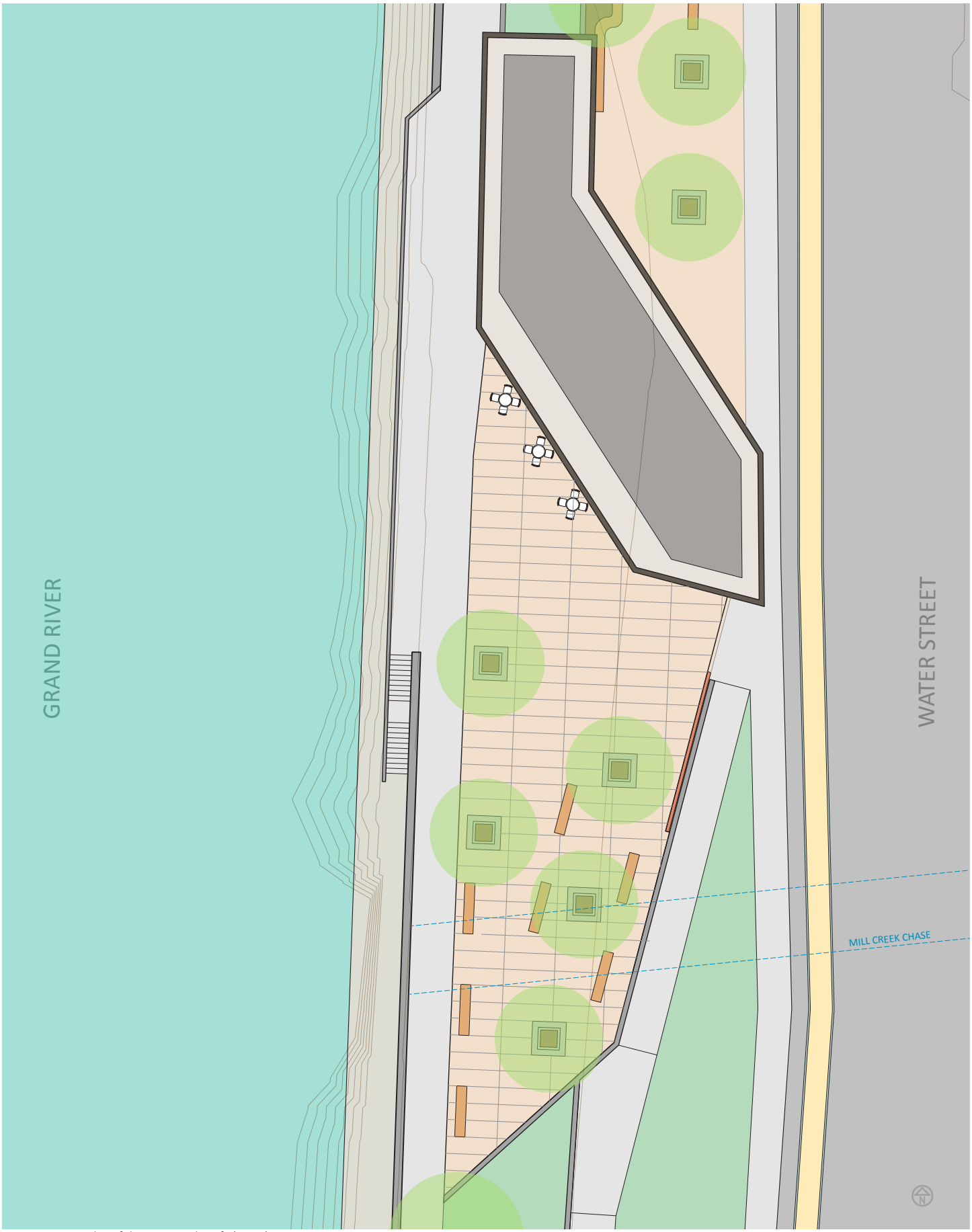


Figure 2.60 - Siteplan of the Promenade Cafe (1:300).

Figure 2.61 - View of the public plaza facing along the Grand River.

Figure 2.62 - View of the street entrance to the new promenade plaza and cafe.

Figure 2.63 - The cafe will have a south facing facade, with an expanded seating area as part of the new plaza.

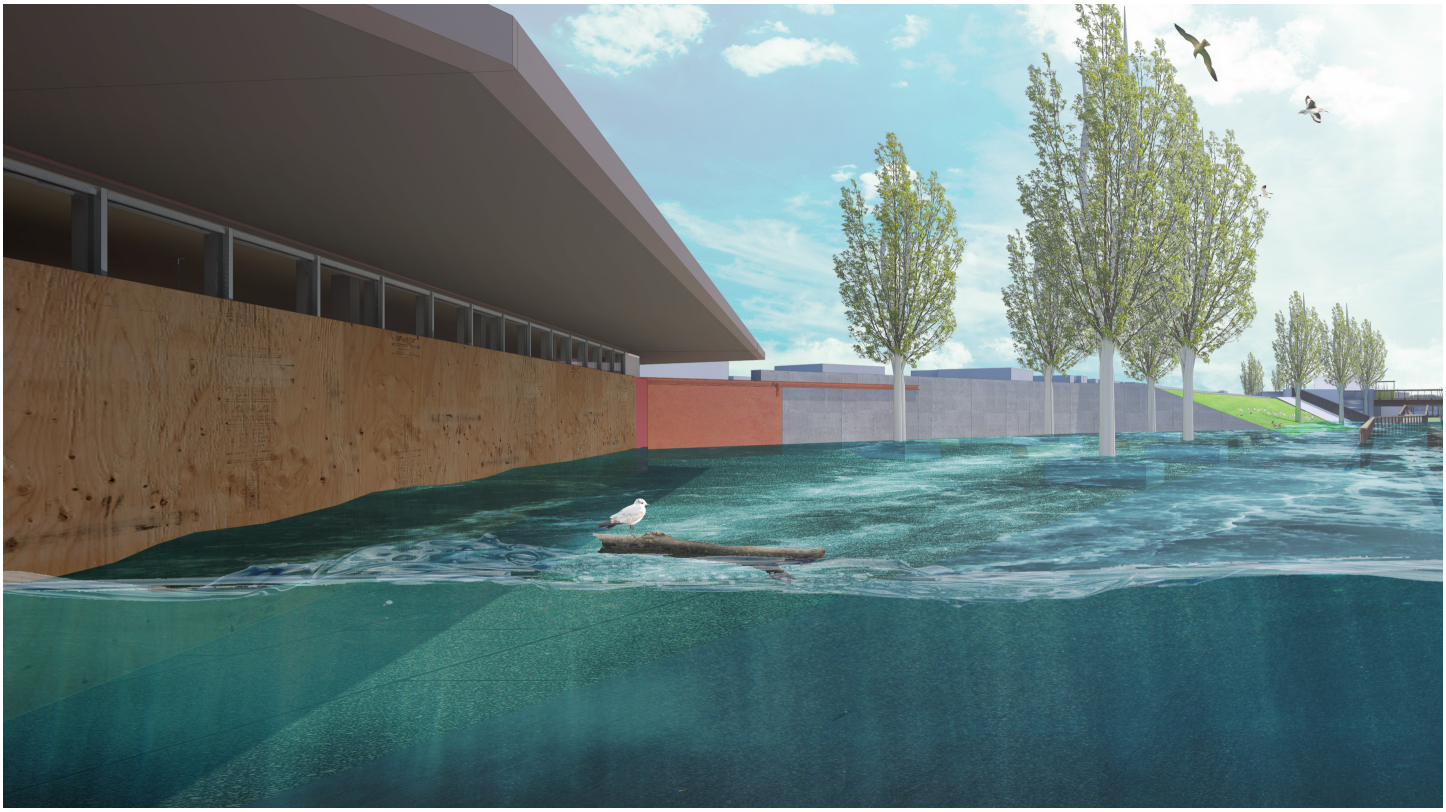


Figure 2.64 - In the event of another and catostrophic flooding, the steel wall can be closed, completing the “Living Levy” in order to keep the street level safe from the water.

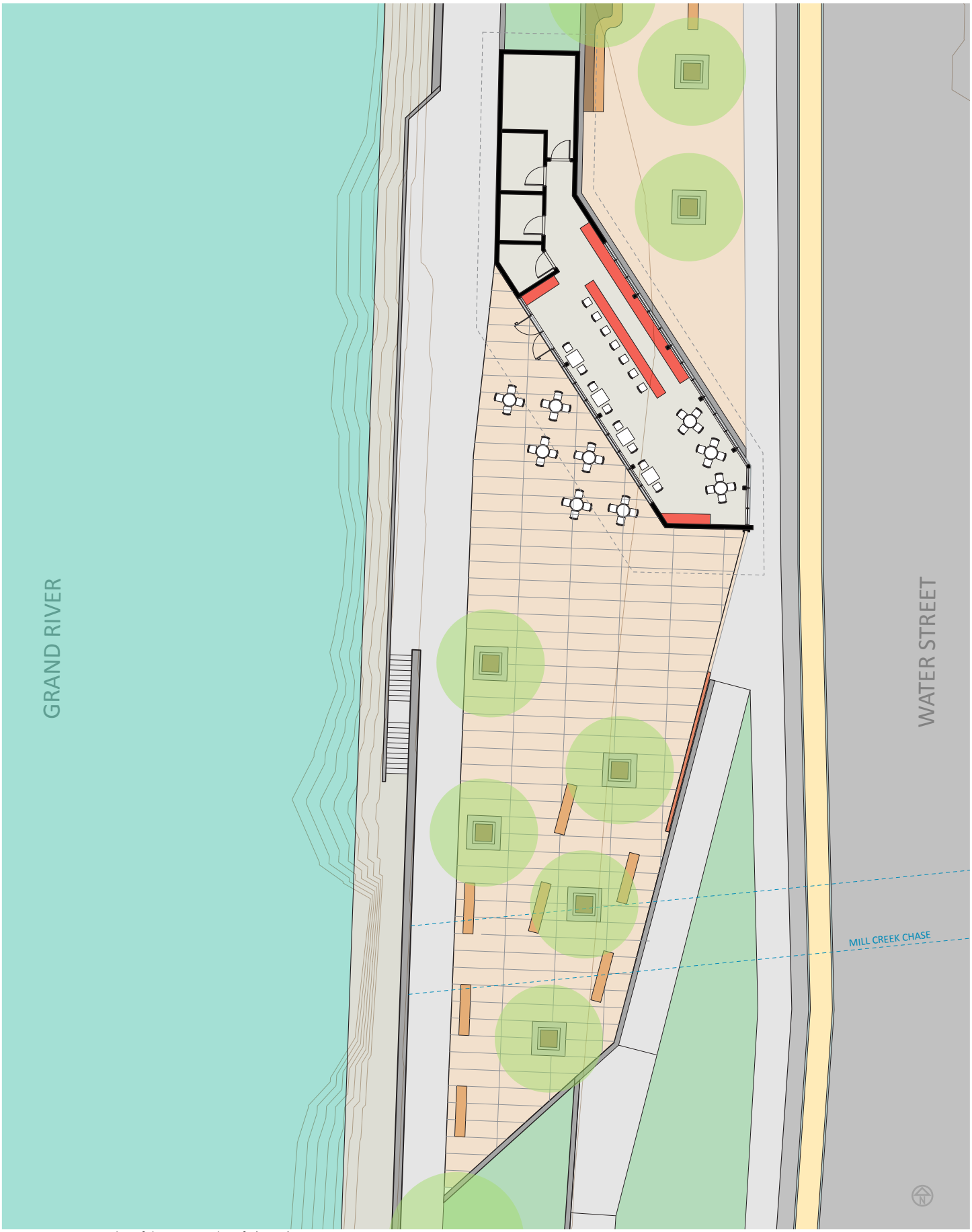


Figure 2.65 - Interior plan of the Promenade Cafe (1:300).

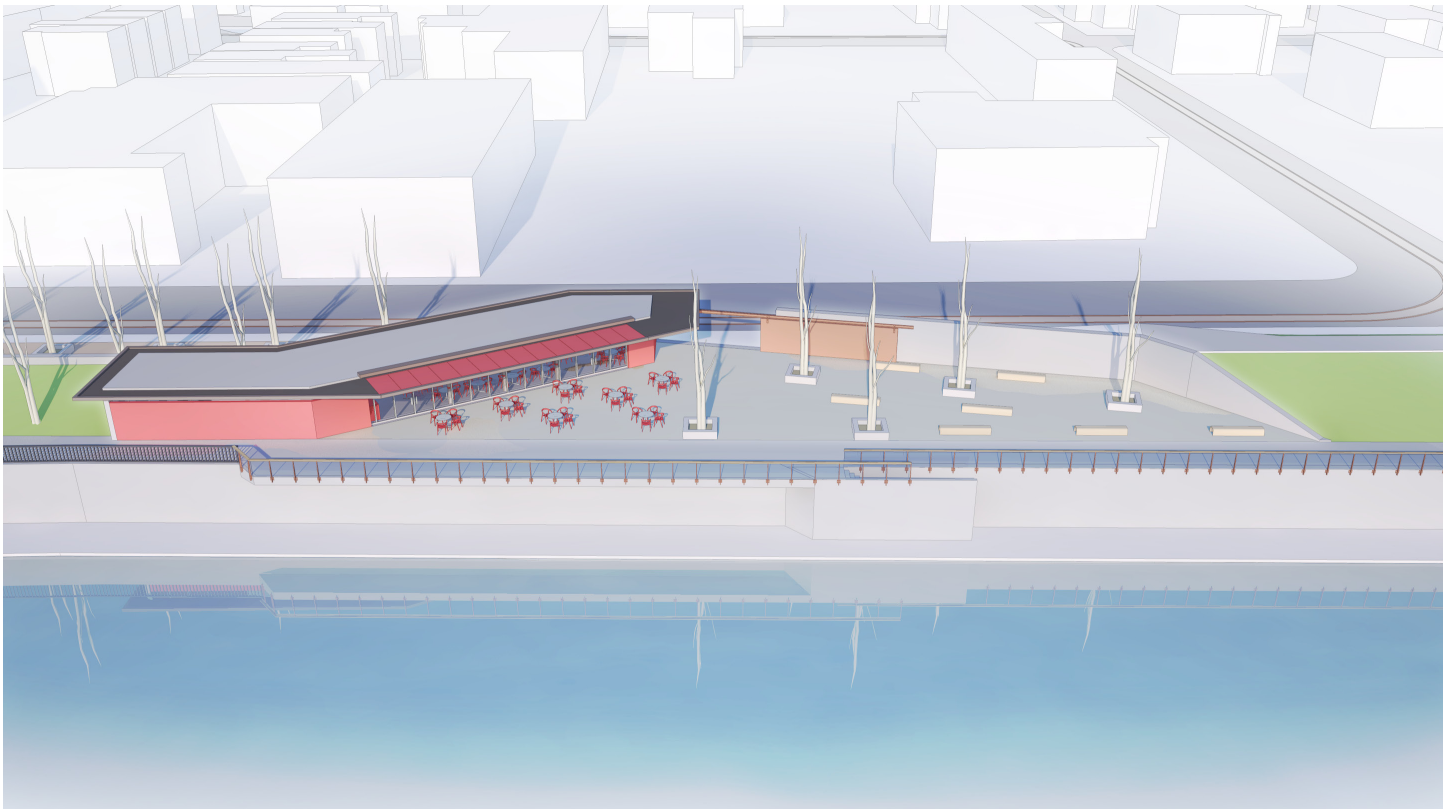


Figure 2.66 - Aerial view of the new plaza.

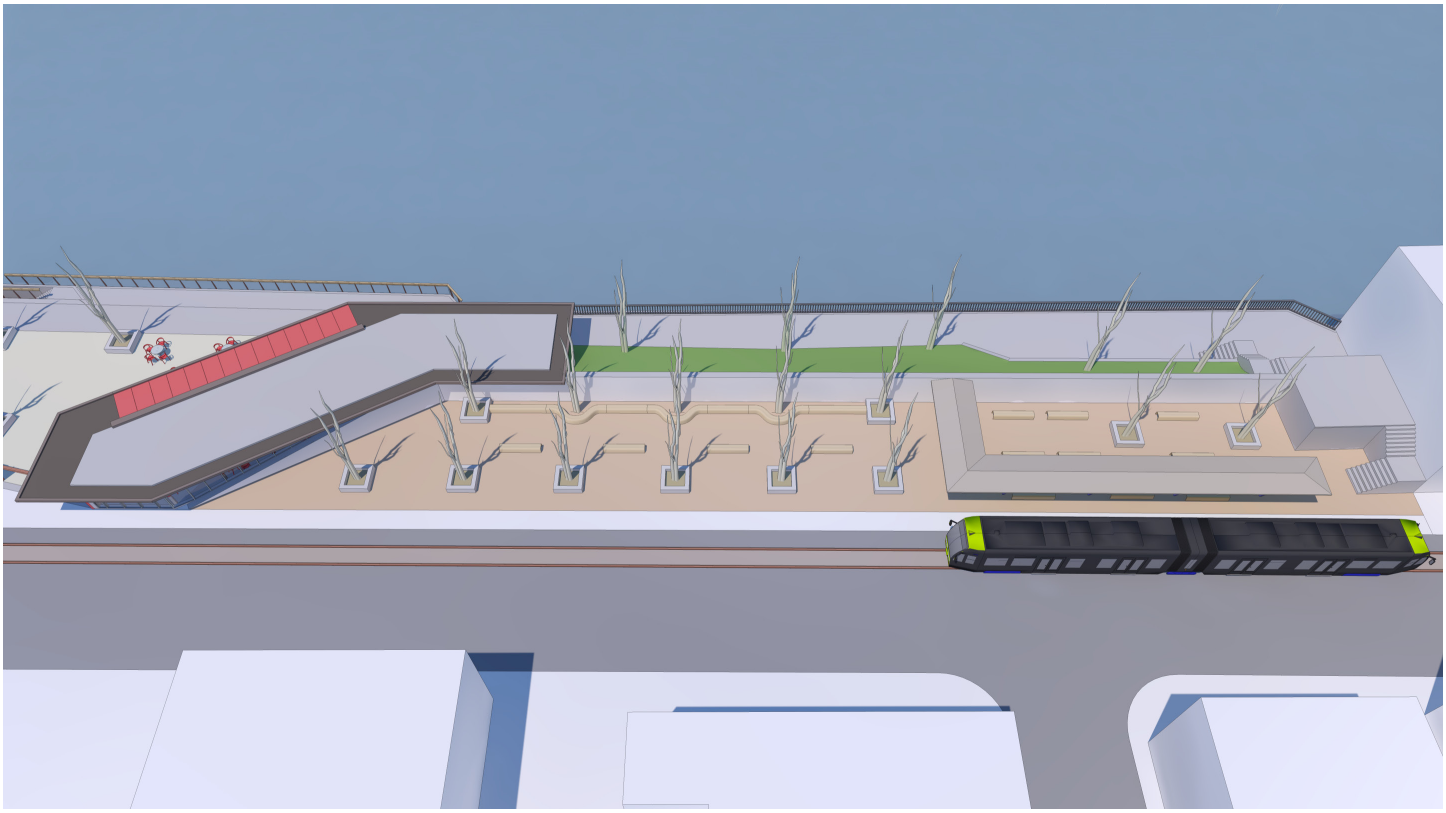


Figure 2.67 - Aerial view of the public tree garden and LRT canopy.

8. MARKET BRIDGE

The last project situated along the Grand River will be the proposed vision for a new pedestrian bridge connecting east and west Galt on the site of demolished rail bridge, whose central support pillar still stands in the middle of the river section. The bridge will function as a space for on-going pedestrian occupation, and will also be designed with the purpose of hosting temporary and rentable market stalls. The vision for such a market stems from that of Sunday street markets in many cities worldwide, which see the conversion of a street into a temporary space for local vendors to sell their products on a weekly basis. This bridge will extend the usable public market spaces in Galt, defining itself as a resolutely public infrastructure, with the vision of a pedestrian and cycling bridge that also includes a secondary market function, providing the public with the ability to question and confront the archetype of the bridge, as a comprehensive mechanism for the pedestrian fabric. Structurally, the bridge functions as a connection between the level of the southern Grand River promenade, and the elevated landing platform level which raises to the height of the existing earth berm. The “Y” shaped plan of the building allows for this connection between the two different levels on the west side, which extend to another existing paved landing on the east side. There, a stand-alone covered structure will provide store the temporary market stalls when not in use, which have been designed with foldable assembly for easier stacking and access.

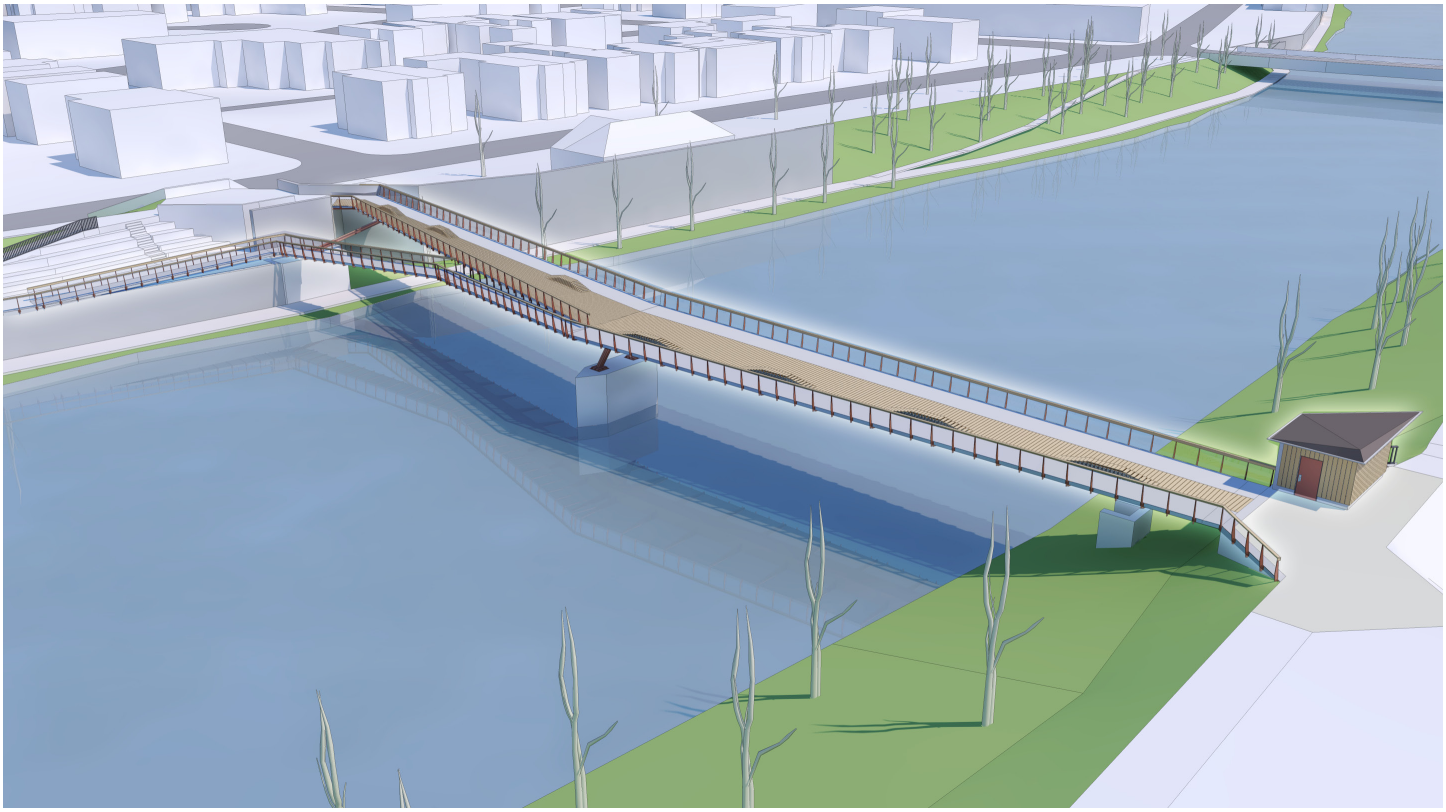


Figure 2.68 - Aerial View of the Market Bridge shown without temporary market stalls.

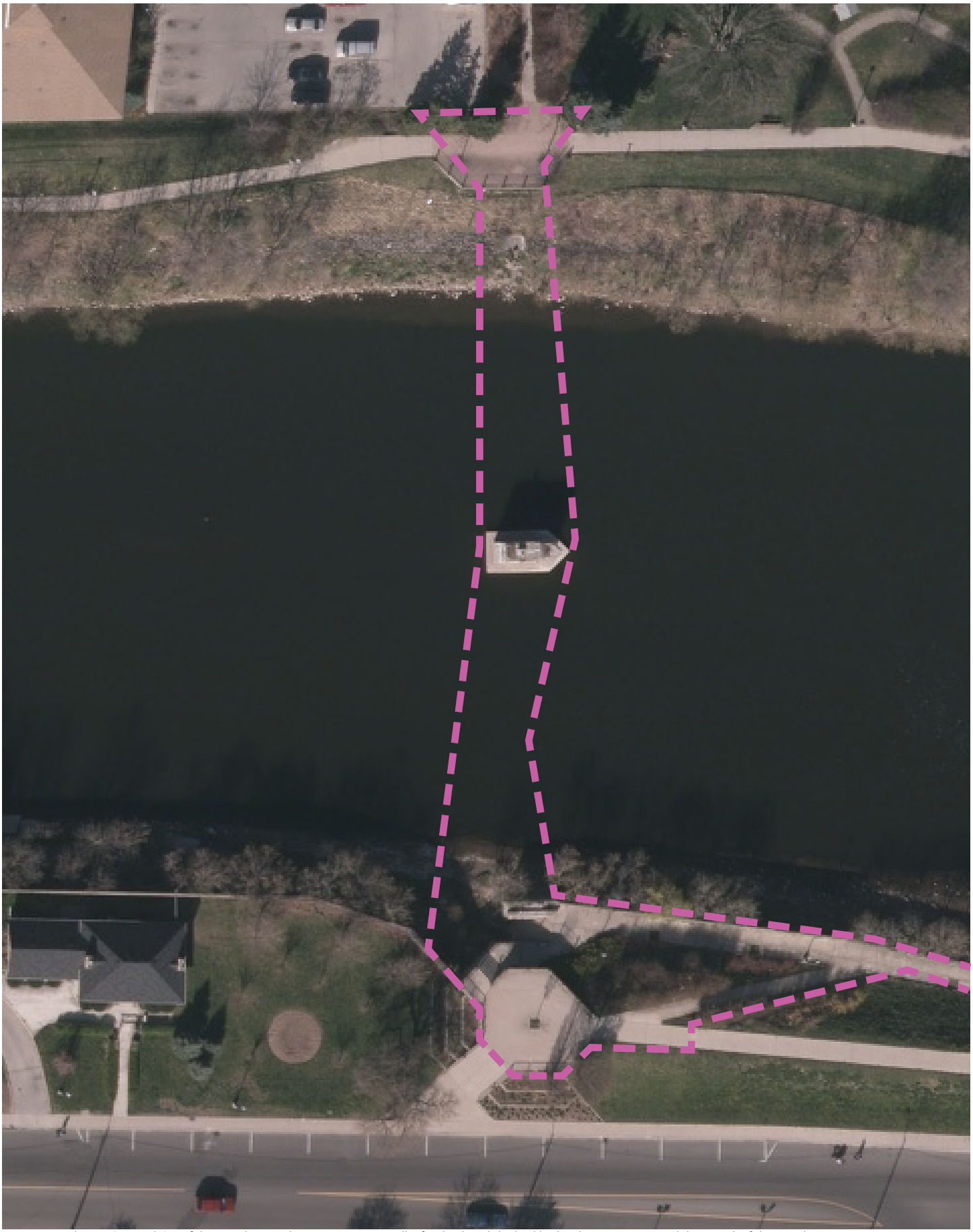


Figure 2.69 - The existing condition of the site, showing the remaing support pillar for the demolished rail bridge that once connected this stretch of the Grand River.

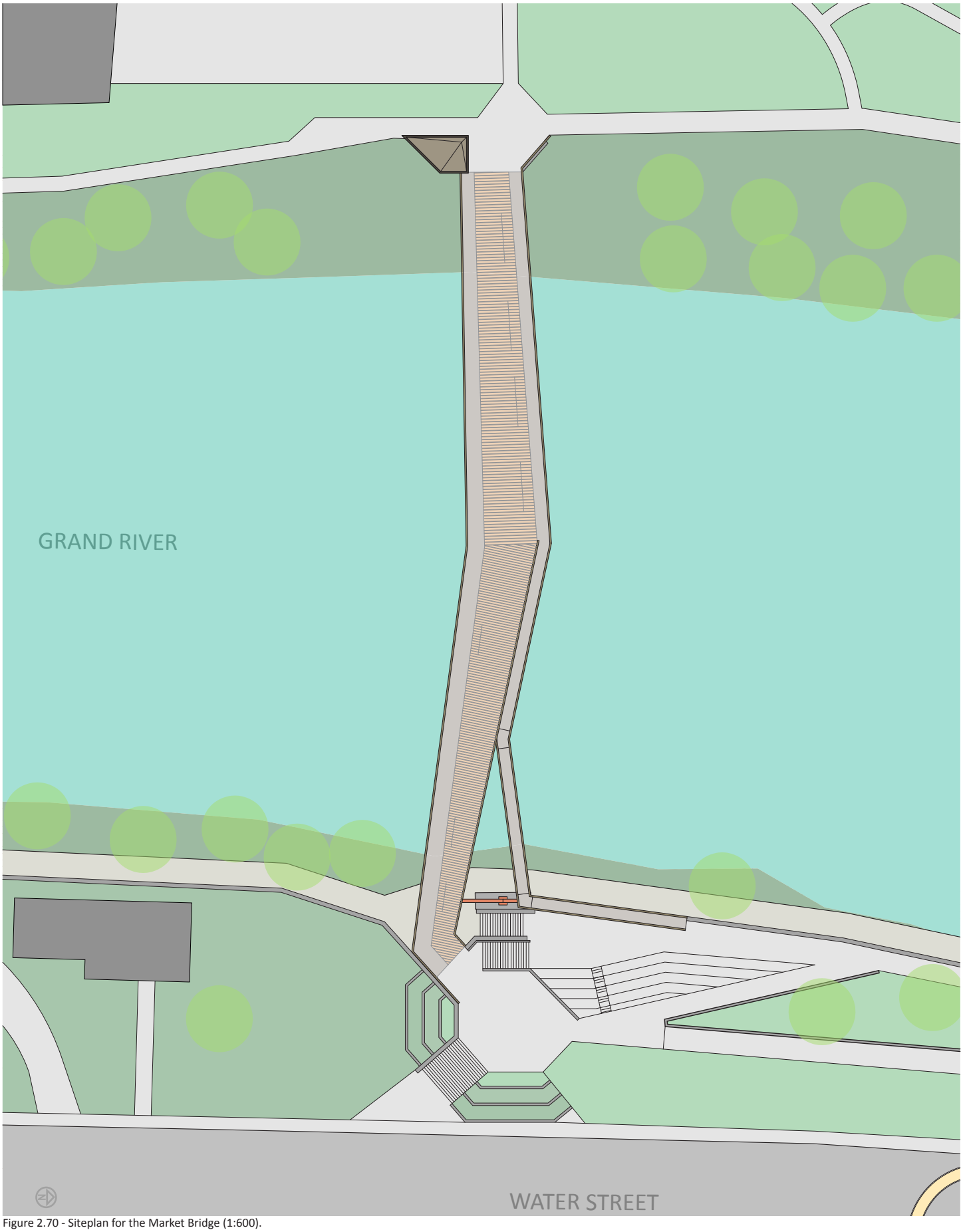


Figure 2.70 - Siteplan for the Market Bridge (1:600).

Figure 2.71 - View of the bridge from the riverside path.

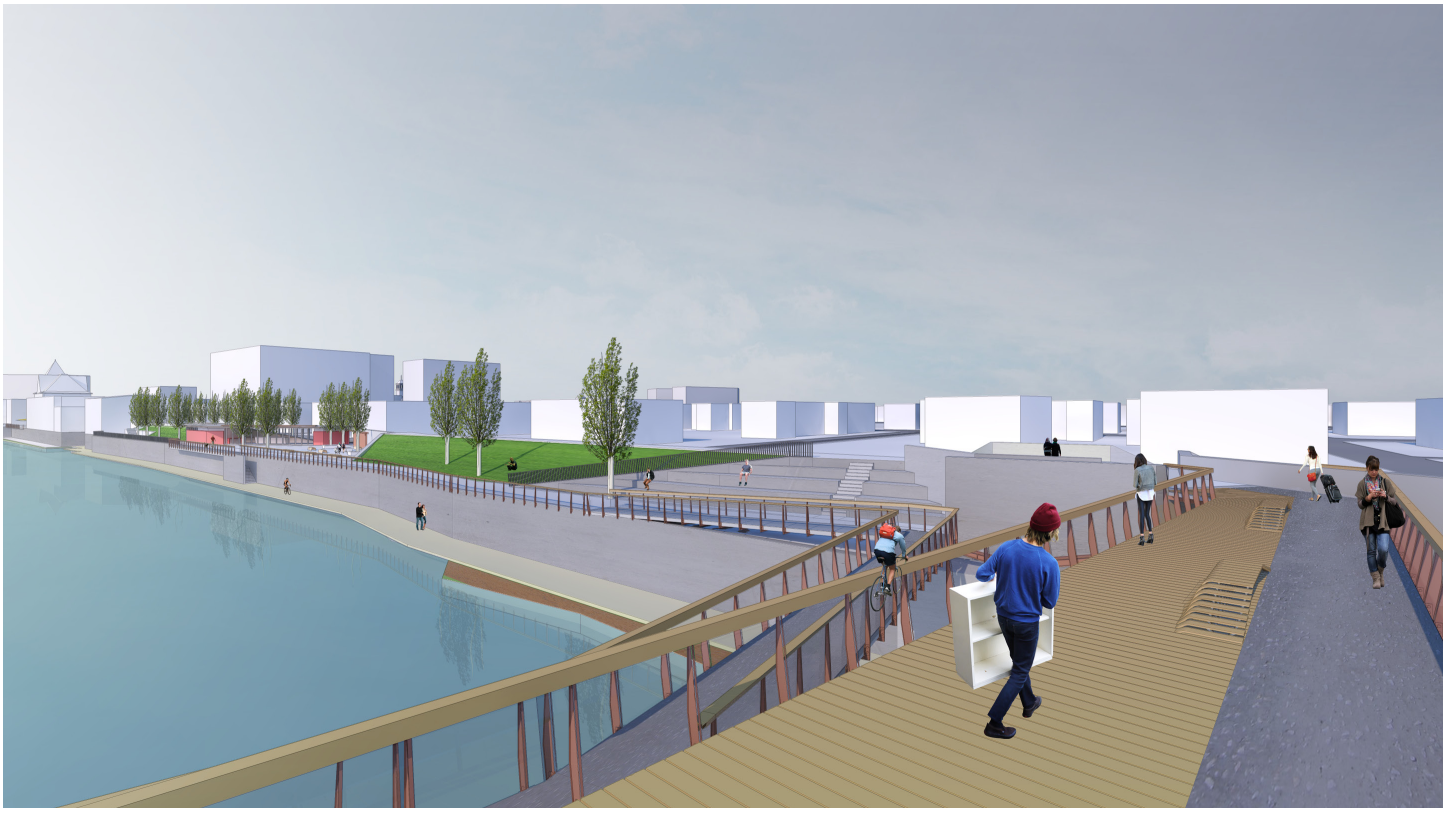


Figure 2.72 - View of the eastern landing of the bridge, showing the seperation a pedestrian walkway connecting the lower promenade level.

Figure 2.73 - A view of the bridge during a market day.

Figure 2.74 - The market stalls can be stored in the small building at the western landing of the bridge.

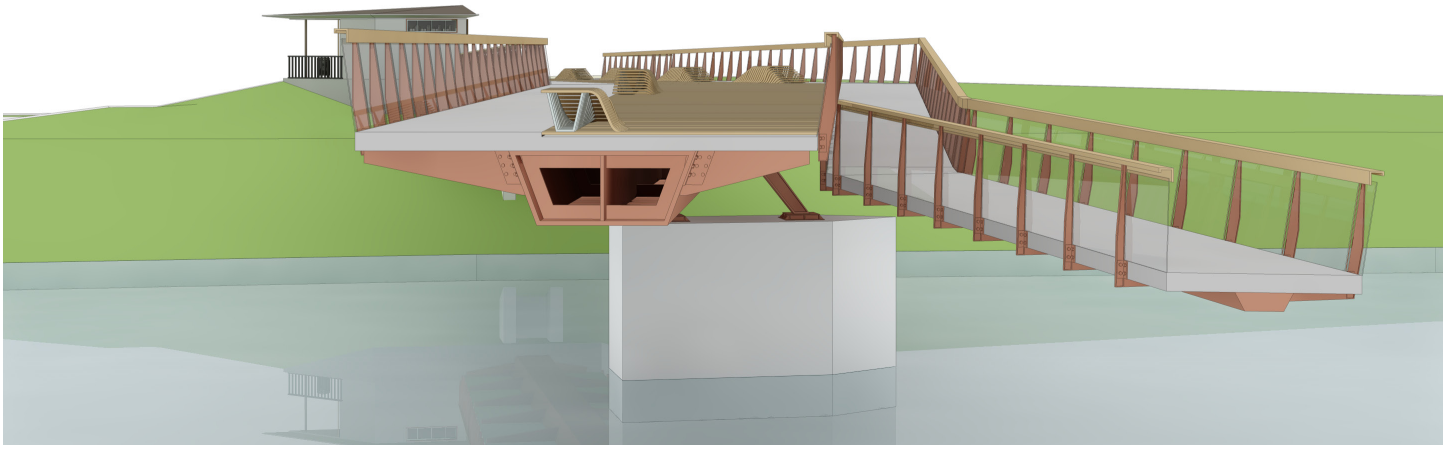


Figure 2.75 - Section view showing the steel structure of the Market Bridge.

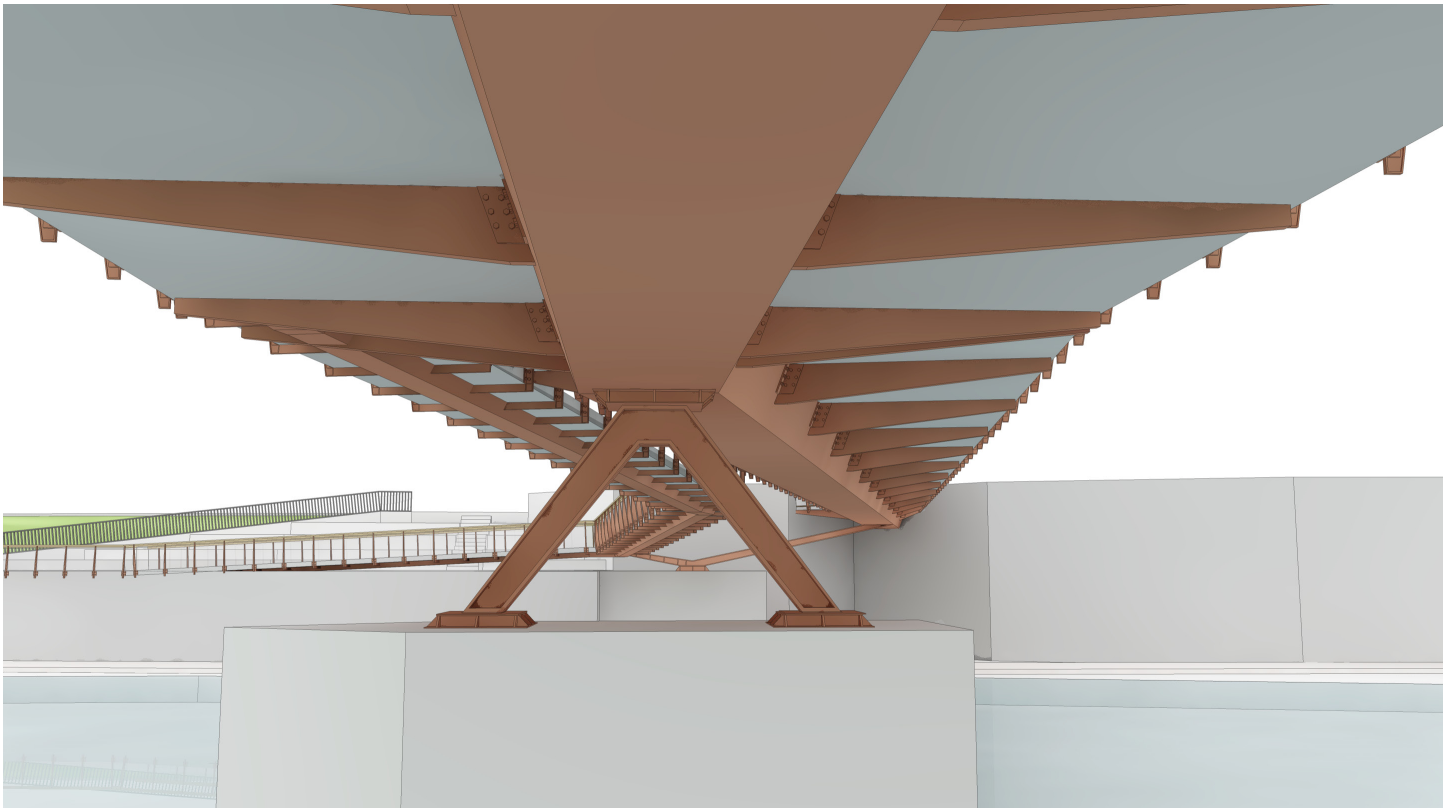


Figure 2.76 - Detailed view of the underside structure of the bridge.

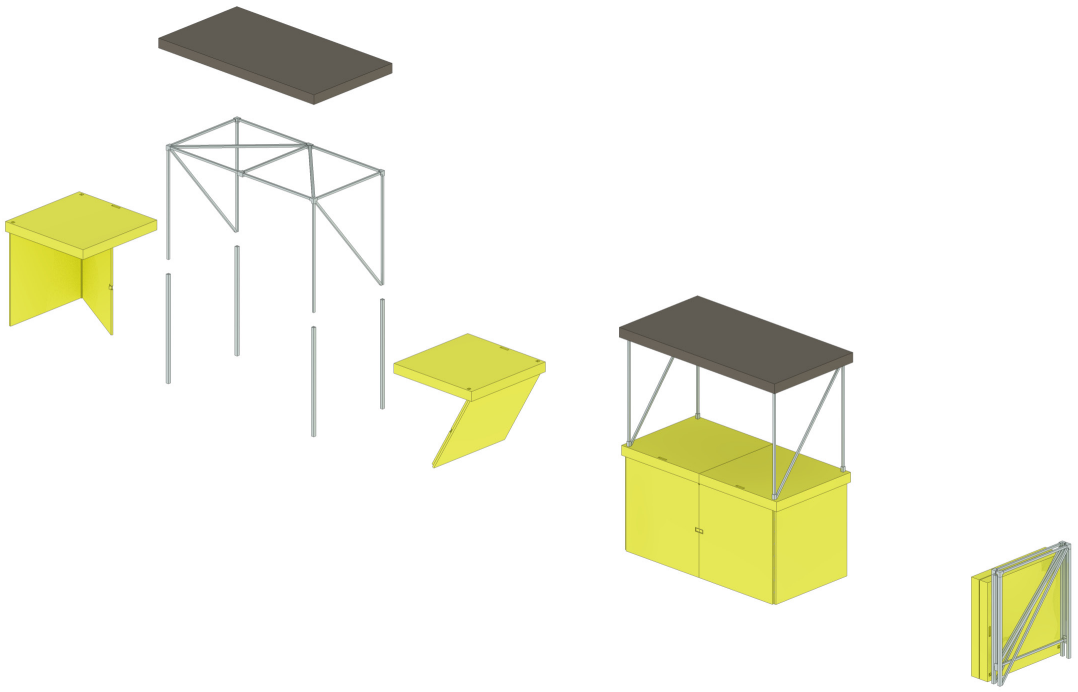


Figure 2.77 - Exploded view of the market stall assembly.

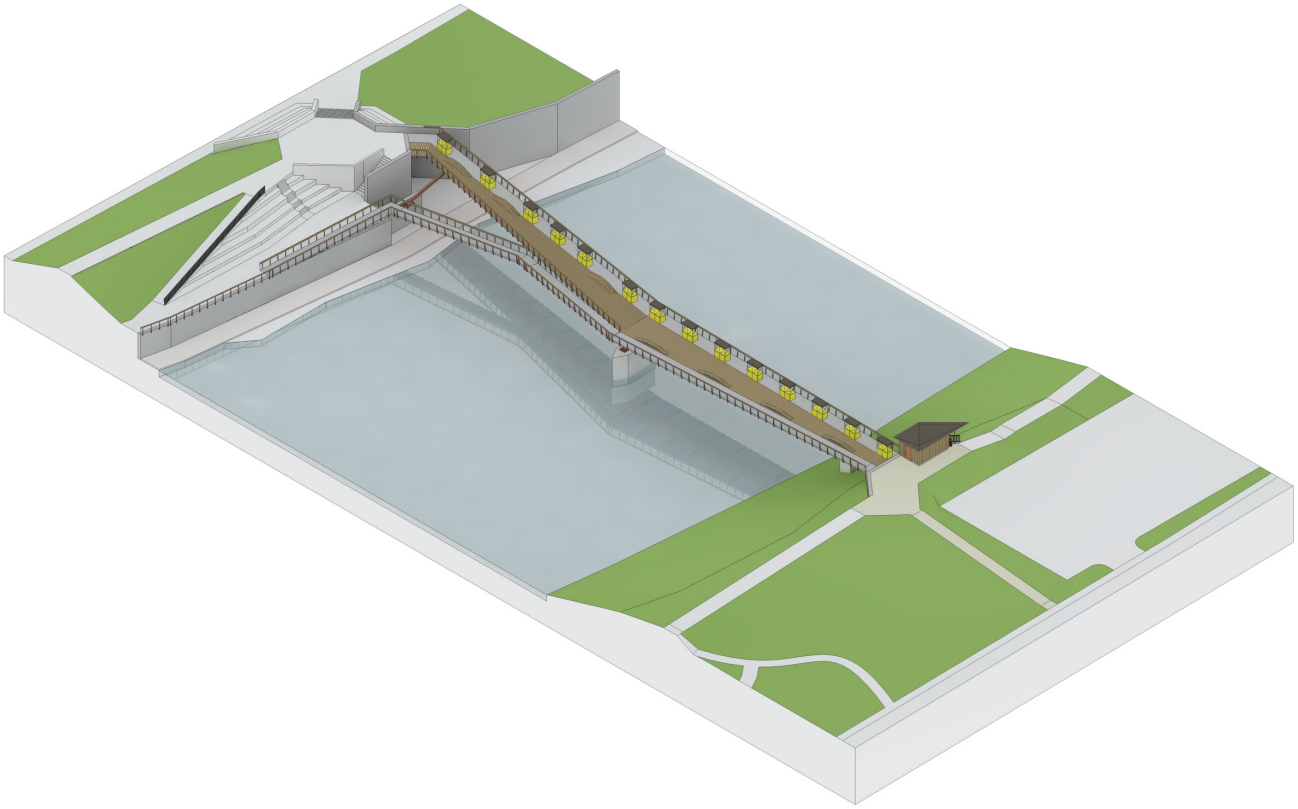


Figure 2.78 - Axonometric view of the bridge showing market stall distribution.

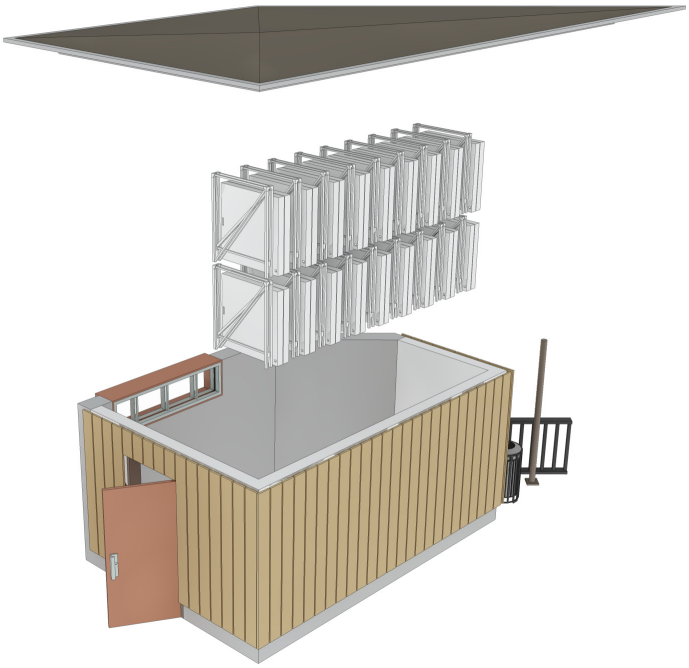


Figure 2.79 - Exploded view of the storage structure and the rentable market stalls in their folded position.

9. GALT PLACE

The final project in my vision for a future pedestrian fabric in the Galt is the conversion of existing “Grand Avenue Parking Lot” and it’s the adjacent, privately owned, Southwork’s Outlet Mall Parking Lot. Situated across the street from the “Cambridge Sculpture Garden”, and what would also be directly across the Market Bridge connection to east Galt, this site is intended to function as a stoa and agora, secondary to the first phase of the Galt Agora. The particular site is unique among the previous projects of the vision, in that it is the only one that requires the voluntary participation of the owner of Southwork’s Outlet Mall. Therefore, this project includes a proposal to extend what is now an area used for as off-street parking for Southwork’s and the parking for the newly built Dunfield Theatre, and supplement it with the addition of a roofed structure to house a permanent restaurant, large national or global retailers, as well as a public gallery. These programed elements will be housed within a colonnade that will create a court condition open to Grand Ave. This proposal will also maintain 26 existing off-street parking spaces parallel to the building edge of Southwork’s, and will add another 108 parking spots built into the natural hill rising west of Grand Ave., such that an intensive green roof will cover it. This roof will become a new public park for the west side of the city, and will provide a lush landscape for visitors and community members to enjoy. Prior to the construction of the Dunfield Theatre, the city owned parking lot had 204 parking spaces, with a peak usage of a meagre 3%. Given the research showing that parking supply ratios within the city should seek

to be minimize or maintained (*ref UofC study), the low current usage of the lots, as well as the ability for on-street parking to accommodate peak hour or special event parking, the proposed total of 134 parking spaces will be adequate for the project vision. The site will provide an extensive canopy surround another open-air agora. The public plaza will contain perimeter seating integrated into the pavement, and providing a public refuge for visitors and community members alike. With its proximity to so many current and proposed institutions, this current parking lot contains a palpable potential for a future absolute public architecture.

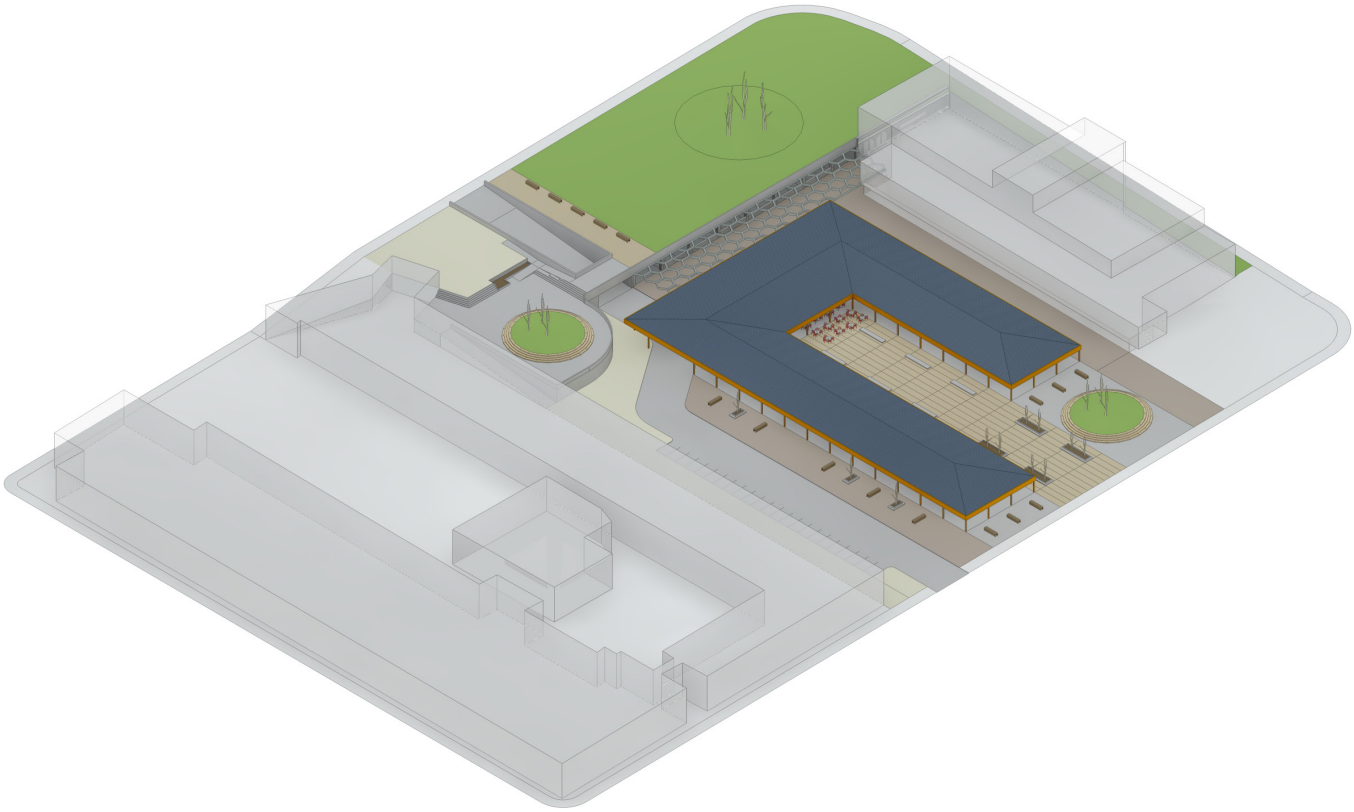


Figure 2.80 - Axonometric view of Galt Place, showing the market structure (stoa), its public plaza (agora), and covered parking lot.

Figure 2.81 - Aerial image of the site of “Grand Avenue Public Parking Lot”, which was replaced with the Dunfield theatre, shown while under construction in 2012.

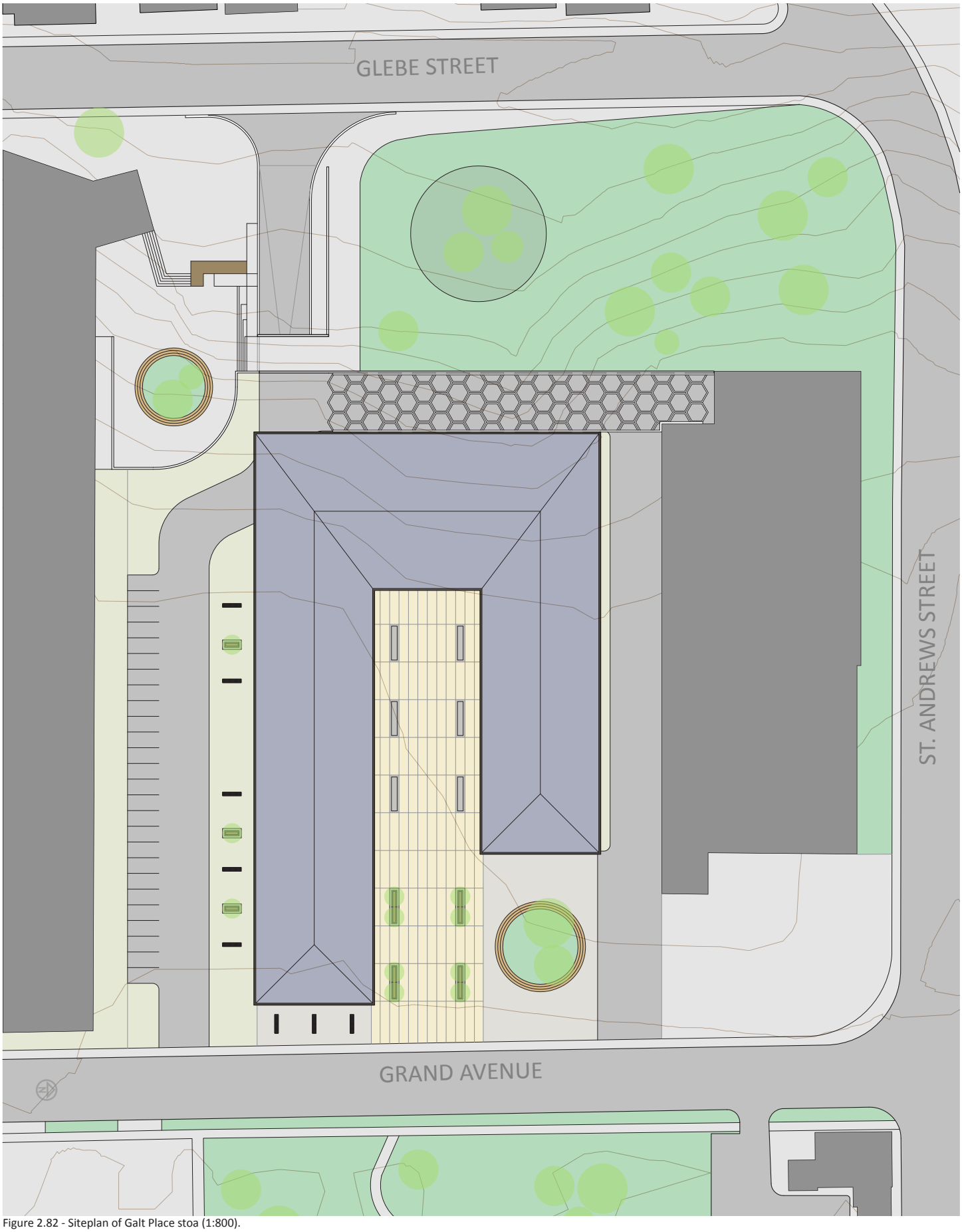


Figure 2.82 - Siteplan of Galt Place stoa (1:800).

Figure 2.83 - Plan of Galt Place stoa (1:800).

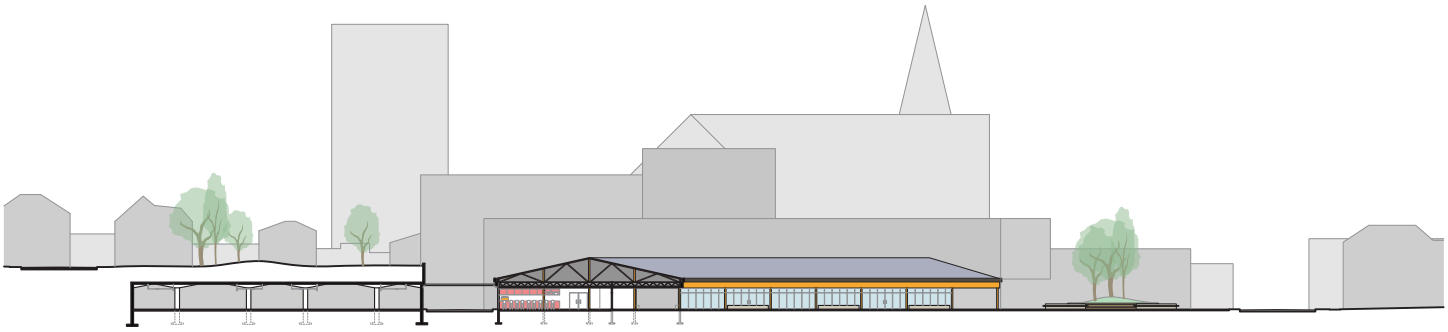


Figure 2.84 - Sitesection (east-west) facing south (1:1000), showing the relationship between the Galt Place stoa and the surrounding urban condition.

Figure 2..85 - View from the south-west corner of the site.

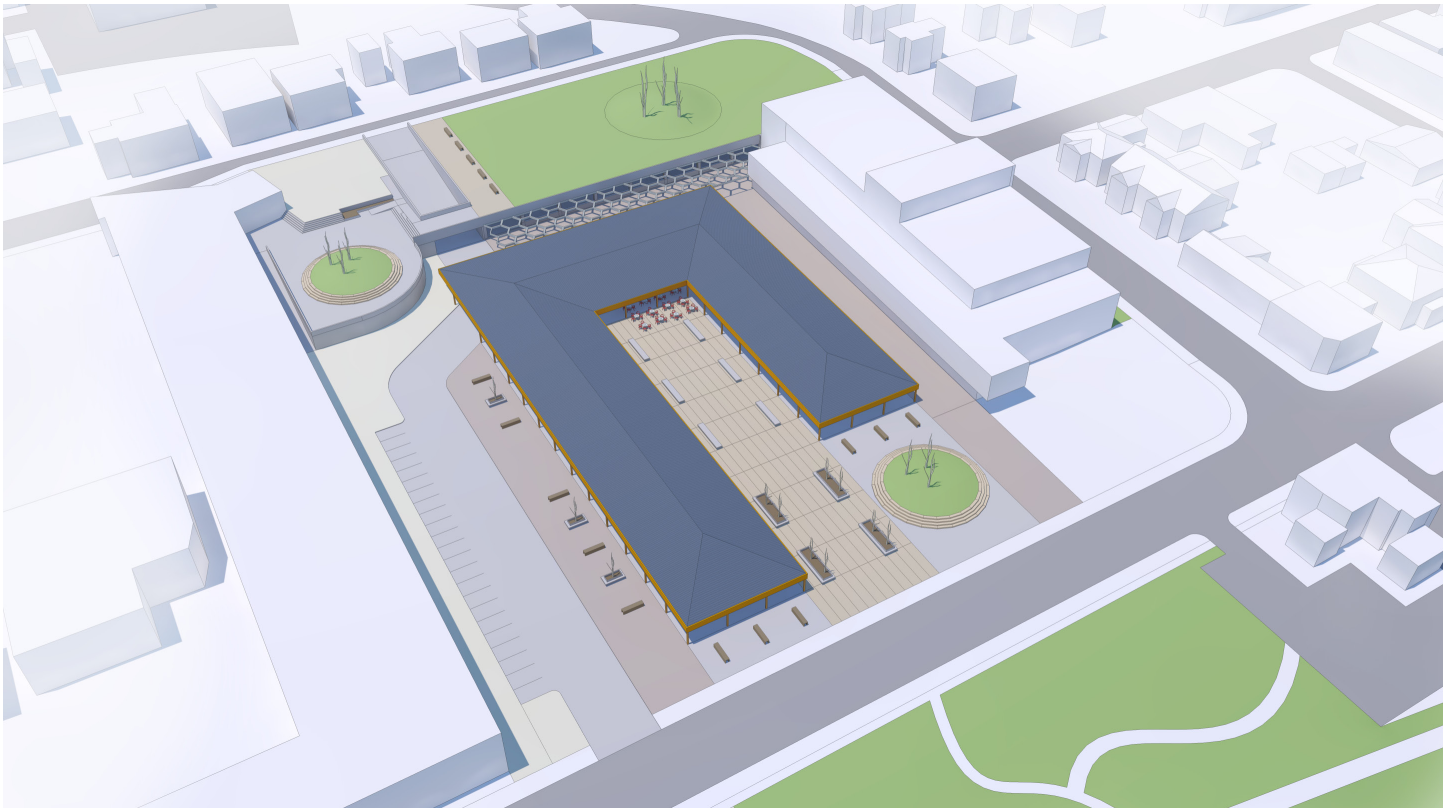


Figure 2.86 - Aerial view of the Galt Place stoa and agora.

Figure 2.87 - View from the Galt Sculpture Garden across the street from Grand Ave.

Figure 2.88 - The covered collonade provides a public shelter from rain.

FUTURE PUBLIC ENVIRONMENTS IN GALT

With this presentation of my architectural vision for the Galt city centre in the City of Cambridge, I have chosen to focus on the role of the architect as a servant of the public. Very often, the design of architecture within a city is seen from the perspective of private development, and in turn, as professionals, we may find our ability to serve the public and greater good of the city is compromised due to political and economic pressure to seek profits for a singular investor/ developer. Thus, in the exploration of existing public spaces and city owned parking lots, I hope to emphasize the ability for architects to create and realize visions with a primary and explicit benefit to the public at large. This can be accomplished without radically altering the urban fabric, but instead, with a synthetic response that embraces both urban infrastructure and public infrastructure for these new public environments. These 9 projects, although existing independently of one another, each offers a singular confrontation to the existing city fabric, one which points to the lack of existing public infrastructure and the need for public environments that can support and sustain productive exchanges between members of the community. Each project works within a system for engaging with the public, and furthermore, providing an economic and social benefit to the city. Thus, as we seeks to inspire conversations about the role of public spaces in the increasingly private urbanized world, a *hybrid public architecture* can offer a solution to the needs of the growing City of Cambridge. As this thesis has attempted to establish the value of public spaces (public infrastructure), it proposes a

new public architecture, based on the archetype of the Greek stoa and agora and adapted to the social, financial, and environmental needs of Galt. The goal of a speculutive pedestrian fabric is to strengthen the relationship between community and the architecture (and urban infrastructure) in which it exists.

Each project accomplishes this through the inherent creation of what Hannah Arendt describes as the space of appearance [(1)]. This is the basic description given to public political spaces, in which members of a community can be exposed to one another. This can be seen as a primary factor in the development of our species, and in turn, the cities in which we live, because it is in our nature, as political animals [(2)], to depend on each other in order to act. She describes public spaces as a space of appearance, where mobilized individuals can exchange in speech and action, possible due to a spatial acknowledgement of others. Speech and action are the basic mechanisms for the political animal, and it is within shared environments that these mechanisms can be used to coordinate and communicate with multiple members of the community. Thus, action is a fundamentally unique characteristic of human nature that allows us to confront one another in a productive and synergistic way [(3)]. The shared spatial acknowledgement of one another, as members of a public, allow us to identify potential for conflict or positive influence, and thus, encourage us make decisions on our actions within a public environment. Choosing to coexist within the shared space of public plazas has allows us to act towards positive influence, and therefore increased productivity of the public realm. The ancient Greek stoa and agora were a perfect example of how architecture can encourage and increase public exchanges, leading to prosperity for the city state. In developing architecture for future public environments in Galt, the public square, a space of appearance, must utilize its relationship within the urban fabric to identify zones for public occupation. Architect William H. Whyte defines seven properties necessary for creating a successful shared urban space, and includes: sitting space, sun, wind, trees, water, food, and what he refers to as

(1) Hanna Arendt, "Action" in The Human Condition (Chicago: University of Chicago, 1958), 199.
(2) Aristotle, Politics (New York: Dover Publications, 2000), 28.
(3) Hanna Arendt, "Action" in The Human Condition (Chicago: University of Chicago, 1958), 188.

'triangulation' [4]. This last property describes the ability for a public space, its human inhabitants, and their actions, to engage with one another by virtue of a stimulus (action) that attracts an individual into an open public environment, where upon engaging with the other individuals, they immediately define themselves as a public within the spatial limits of the space. All seven of these properties are present within the nine individual projects of this thesis, and through the use of the presented architectural elements, each project defines its site as for public, creating an absolute public architecture of public plazas throughout the city core of Galt.

In conclusion, my thesis vision for a future pedestrian fabric in downtown Galt hopes to inspire both students and professionals in the field of architecture and urban planning, to think of public development as an essential aspect in meeting growth objectives for city states. As it stands, high parking supply ratios have not provided an observable benefit to the city. Therefore, we must work together to elucidate the benefit of productive pedestrian spaces in their place. As the city expects to increase its population and employment rates, the city centres of Galt, Preston and Hespeler will need to meet those increases with public spaces and their ability to encourage local and global market exchanges, such that both existing and new citizens can identify each other as a part of a unified productive community.

(4) William H. Whyte, The Social Life of Small Urban Spaces – The Street Corner, DVD, The Municipal Art Society of New York, 1988.

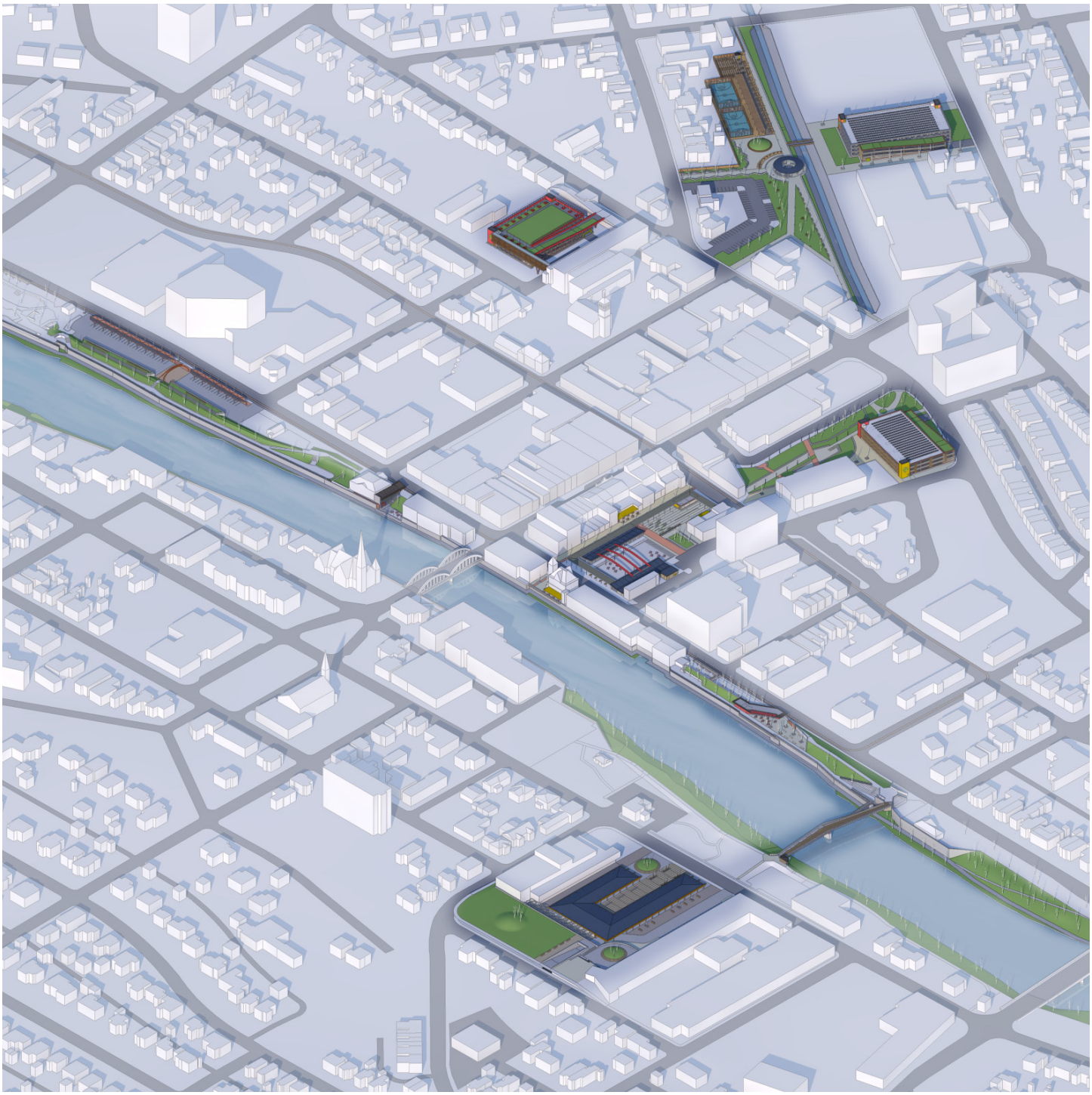


Figure 2.89 - Vision for a pedestrian urban fabric in the Galt city centre.

BIBLIOGRAPHY

Awan, Nishat, Tatjana Schneider, and Jeremy Till. Spatial Agency: Other Ways of Doing Architecture. New York: Routledge, 2011.

Baird, George. The Space of Appearance. Massachusetts: The MIT Press, 1995.

Coulton, J.J. The Architectural Development of the Greek Stoa. Oxford: Oxford University Press, 1976.

Farrington, Ian. Cusco: Urbanism and Archaeology in the Inka World. Florida: University Press of Florida, 2013.

Frumkin, Howard, Lawrence Frank, and Richard Jackson. Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities. Washington: Island Press, 2004.

Gandy, Matthew. Urban Constellations. Berlin: Jovis Verlag GmbH, 2011.

Gaventa, Sarah. New Public Spaces. London: Mitchell Beazley, 2006.

Gehl, Jan. Cities for People. Washington: Island Press, 2010.

Gehl, Jan. Life Between Buildings: Using Public Spaces. Translated by Jo Koch. New York: Van Nostrand Reinhold Company, 1987.

Hou, Jeffrey. Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities. New York: Routledge, 2010.

Jodidio, Philip. Public Architecture Now!. Cologne: Taschen, 2010.

Jowett, Benjamin, trans. Aristotle's Politics. New York: Random House Inc., 1943.

Lefaivre, Liane. Ground-Up City: Play as a Design Tool. Rotterdam: 010 Publishers, 2007.

Maas, Winy, Jacob van Rijs, and Richard Koek. Farmax: Excursions on Density MVRDV. Rotterdam: 010 Publishers, 1998.

Marusic, Barbara Golicnik, Matej Niksic, and Lise Coirier. Human Cities: Celebrating Public Space. Brussels: Stichting Kunstboak, 2010.

Mostaedi, Arian. Urban Spaces. Barcelona: C. Broto & J.M. Minguet, 2002.

Speck, Jeff. Walkable City: How Downtown Can Save America, One Step at a Time. New York: Farrar, Straus and Giroux, 2012.

Steel, Carolyn. Hungry City: How Food Shapes Our Lives. London: Chatto & Windus, 2008.

Stivale, Charles J., Gilles Deleuze: Key Concepts. Montreal: McGill-Queen's University Press, 2005.

Viñoly, Rafael. The Making of Public Space: 1997 John Dinkeloo Memorial Lecture. Ann Arbor: The University of Michigan, 1997.

Wagenaar, Cor. Happy: Cities and Public Happiness in Post-War Europe. Rotterdam: NAi Publishers, 2004.

Wright, Herbert. Instant Cities. London: Black Dog Publishing, 2008.

Hanna Arendt, "Action" in The Human Condition (Chicago: University of Chicago, 1958).

Pier Vittorio Aureli, "Toward the Archipelago" in The Possibility of An Absolute Architecture (Cambridge Mass: MIT Press, 2011), 1-47.

Benedict Anderson, Imagined Communities: Reflections on the Origin and Spread of

Nationalism (London and New York: Verso Books, 2006).

Lieven De Cauter and Michiel Dehaene, “The Space of Play: Towards a general theory of heterotopia” in Heterotopia and the City: Public Space in a Post Civil Society. Eds. De Cauter and Dehaene (London and New York: Routledge, 2008), 87-102.

Nancy Fraser, “Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy” in Social Text No. 25/26 (1990), 56-80.

Kanishka Goonewardena, “The Urban Sensorium: Space, Ideology and the Aestheticization of Politics.” Antipode Volume 37, Issue 1, (January 2005), 46–71.

Jürgen Habermas, “The Social-Structural Transformation of the Public Sphere” in The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society. Trans. Thomas Berger (Cambridge Massachusetts: MIT Press, 1996), 141-180.

Bruno Latour, “From Realpolitik to Dingpolitik” in Making things public: Atmospheres of Democracy. Eds. Bruno Latour and Peter Weibel (Cambridge Mass: MIT Press, 2005), 14-41.

Jacques Ranciere, Disagreement, Trans. Julie Rose (Minneapolis: University of Minnesota Press: 2004), 1-42.

Richard Sennett, The Spaces of Democracy (Ann Arbor Michigan: Taubman College, 1998).

Erik Swyngedouw / Maria Kaika / Nikolas Heynen “Urban Political Ecology: Politicizing the Production of Urban Natures” In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism. Eds. Erik Swyngedouw, Maria Kaika, Nikolas Heynen (Oxford and New York: Taylor and Francis, 2007), 1-20.

Tiqqun, Introduction to Civil War (New York: Semiotext(e), 2010), 9-63.
Michael Warner, “Publics and Counterpublics” in Publics and Counterpublics (New York: Zone Books, 2005), 65- 124.

William H. Whyte, The Social Life of Small Urban Spaces – The Street Corner, DVD, The Municipal Art Society of New York, 1988.

Slavoj Zizek, “Some politically incorrect reflections on urban violence in Paris and New Orleans and related matters” in Urban Politics Now. Eds. BAVO (Rotterdam: Nai Publishers, 2007), 12-29.

Christopher Alexander, Sara Ishikawa, Murray Silverstien, A Pattern Language: Towns, Buildings, Construction (New York: Oxford University Press, 1977).

George Baird, The Space of Appearance (Cambridge Mass: MIT Press, 1995).

Stephen Graham, “Constructing Premium Network Spaces: Reflections on Infrastructure Networks and Contemporary Urban Development.” International Journal of Urban and Regional Research. Volume 24.1 (March 2000).

Edward T. Hall, The Hidden Dimension (New York: Doubleday & Company, Inc., 1966).

The Homeless Hub, Various academic papers and studies on homelessness, http://www.homelesshub.ca.

Michael Hardt and Antonio Negri, “Of Love Possessed” and “A force to Combat Evil” in Commonwealth (Cambridge Mass: Harvard University Press, 2009), 179-199.

Marc Maurer and Nicole Maurer, “The Uninhibited Freedom of Playfulness,” in Space Time Play, ed. Friedrich von Borries, Steffen P. Walz, Matthias Böttger (Basel: Birkhäuser, 2007), 352-353.

Merijn Oudenampsen, “Aldo van Eyck and the City as Playground,” Flexmens, October 10, 2010, http://www.flexmens.org/drupal/?q=Aldo_van_Eyck_and_the_City_as_Playground.html.