MAIN & 7TH PARK

MOUNT PLEASANT

CLIENT

VANCOUVER PARK BOARD

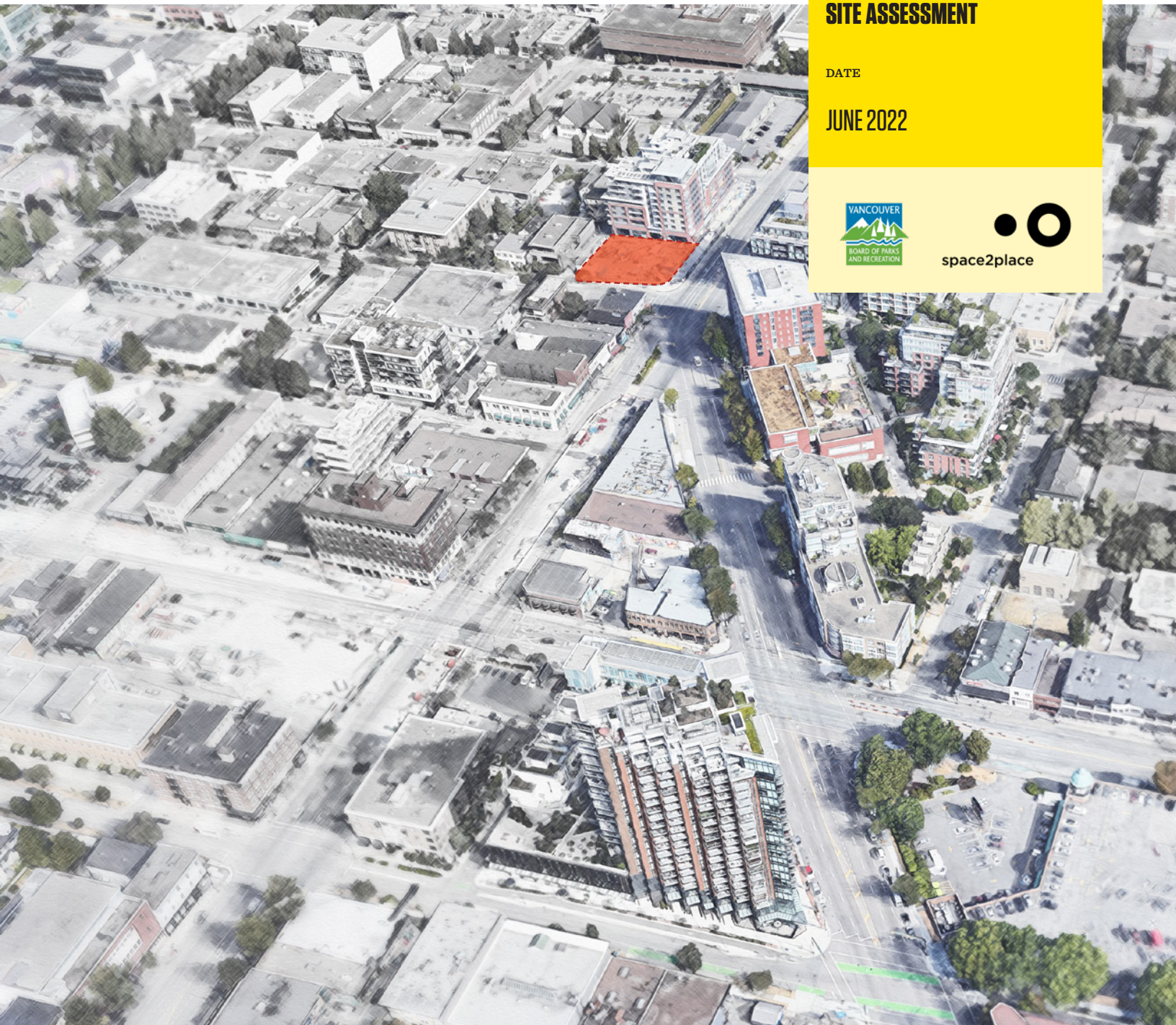
DESCRIPTION

INTERIM REPORT 1:

CONTEXT ANALYSIS AND SITE ASSESSMENT

DATE

JUNE 2022



VANCOUVER BOARD OF PARKS AND RECREATION

space2place

[PAGE INTENTIONALLY LEFT BLANK]

TABLE OF CONTENTS

Analysis Overview 6
Site History 7
Population Demographics 9
Population Density 10
Community Festivals & Events 12
Open space & Recreation 13
Micro-Climate 14
Neighbourhood Connectivity 18
Adjacent Zoning 19
Site Adjacencies & Access 20
Existing Site Conditions 21
Elevation & Slope Analysis 22
Site Sections & Views 24
Sun Shade Study 25
Site Character & Views 26
Opportunities & Constraints 27
Appendix 1: Architectural Analysis 29
Appendix 2: Civil Analysis 35

[PAGE INTENTIONALLY LEFT BLANK]

LIST OF FIGURES

Figure 1 - Project Area Location 6
Figure 2 - 1850s Map of Vancouver 7
Figure 3 - Site Context Map (today) 7
Figure 4 - Intersection of Westminster Ave. (Kingsway) & Main St., 1889. 7
Figure 5 - Looking SE from Westminster Ave. and 9th Ave., 1908 8
Figure 6 - Contour Map, Early 1900s 8
Figure 7 - Inside a Mount Pleasant Brewery 8
Figure 8 - Social Demographics 9
Figure 9 - Population Density & Dwelling Types. 10
Figure 10 - Population Density Relative to Park Space 11
Figure 11 - Images of Mount Pleasant Events 12
Figure 12 - Inventory of Park Amenities 13
Figure 13 - Park Amenities in Proximity to Main St. & 7th Ave. 14
Figure 14 - Impervious Cover 15
Figure 15 - Canopy Cover 16
Figure 16 - Land Surface Temperature 17
Figure 17 - Neighborhood Connectivity 18
Figure 18 - Adjacent Zoning 19
Figure 19 - Site Adjacencies and Access 20
Figure 20 - Existing Site Conditions 21
Figure 21 - Elevation Analysis 22
Figure 22 - Slope Analysis 23
Figure 23 - Site Sections and Views. 24
Figure 24 - Sun Shade Study 25
Figure 25 - Site Images 26
Figure 26 - Opportunities and Constraints 27

OVERVIEW

CONTEXT ANALYSIS + SITE ASSESSMENT

The Vancouver Park Board is initiating the design and implementation for a new outdoor public space on the shared, ancestral and unceded territories of the hən̓q̓əmin̓əm̓ and Sḵwx̱wú7mesh-speaking people, specifically the xʷməθkʷəy̓əm (Musqueam), the Sḵwx̱wú7mesh (Squamish) and the sel̓íl̓witulh (Tsleil-Waututh). The project area (see Figure 1, below) is provisionally referred to as Main & 7th Park. The Vancouver Park Board is in the process of solidifying an official naming strategy that will be further coordinated and confirmed with Host Nations.

The following analysis and diagrams provides an overview of the history, physical conditions, community and patterns of use in the area.

Situated at the intersection of East 7th Ave. and Main St. the proposed public space is located within the heart of the vibrant Mount Pleasant neighbourhood. Adjacent to eclectic shops, restaurants and mixed-use residences, the site is embedded within the urban fabric of the surrounding context. While the site is small by area, approximately 1,000 m^2, the prominent location of the park emphasizes the significant role the site will play in shaping the use and character of the evolving Mount Pleasant neighborhood.

Mount Pleasant is not only expected to experience population growth (see Figure 10), but will also see transformation by the SkyTrain expansion along Broadway (see Figure 17). While there are several parks in the adjacent greater context, there is a lack of outdoor public spaces integrated within the core mixed-use urban district that characterizes Mount Pleasant (see Figure 12). As Mount Pleasant continues to grow, so to will the demand for easily accessible public outdoor spaces.

The future park at Main & 7th presents an opportunity to act as both a landmark and social hub, providing space for daily informal use as well as integration into the many street festivals and events synonymous with Mount Pleasant (see Figure 11).

Design interventions will need to consider the site's existing conditions, including elevation changes, noise from traffic and surrounding edge conditions. Response to these influential conditions offers opportunities to improve stormwater management, increase biodiversity, reduce surface temperature and represent cultural histories to cultivate a place that responds to the needs of the Mount Pleasant community.



Figure 1 - Project Area Location

SITE HISTORY

CULTURAL & ECOLOGICAL CONTEXT

The neighborhood now known as Mount Pleasant once supported towering forests with a multi-layered understory. The area's rich mosaic of habitats was home to a diverse array of wildlife and was also significant for local indigenous communities who sourced food and medicine in the plentiful creeks, marshes and forests, including one of the largest salmon and trout creeks of the region (named Brewery Creek by colonial settlers).

As with most streams throughout the region, Brewery Creek and other nearby streams were lost to modern development during the 20th Century. While present, Brewery Creek and ravine was a significant feature in the area running adjacent to now Main St. The creek was significant not only for local human communities but for wildlife, including a beaver population that modified the landscape with a large damn, forming a biodiverse, marshy lake. Here, people were known to harvest berries and medicinal plants.

The Mount Pleasant area was further defined by a prominent trail utilized by wildlife and First Nation communities connecting what is now called New Westminster and False Creek. This trail was later modified by colonial development to become Kingsway (Historic Indigenous Trail).

"First Nation communities" Is this better stated as "First Nations Peoples" or simply "First Nations"

Source: Mount Pleasant Historic Context Statement, City of Vancouver 2008



Figure 2 - 1850s Map of Vancouver



Figure 3 - Site Context Map (today)

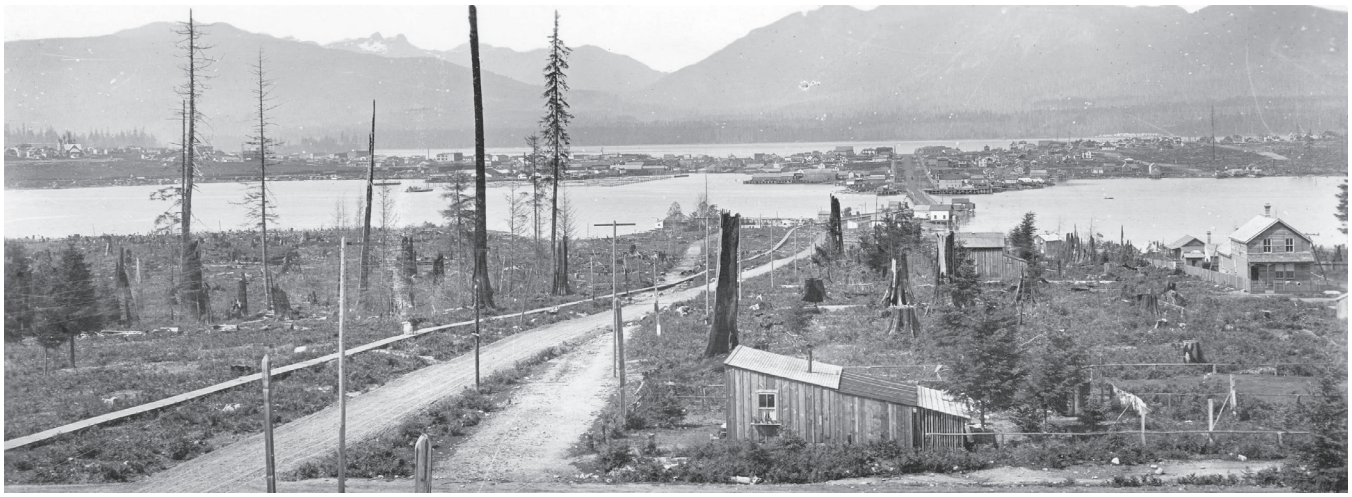


Figure 4 - Intersection of Westminster Ave. (Kingsway) and Main St., 1889

Source: Vancouver Archives

SITE HISTORY

COLONIAL CONTEXT

By the mid 19th century, the arrival of colonial settlers marked the beginning of the regions transformation. Mount Pleasant became one of the earliest areas for settlement as Vancouver's first suburban neighborhood. The settlers oriented development in relationship to the stream soon to be dubbed "Brewery Creek" and the existing trail that connected to New Westminster. A hub of activity emerged at the convergence of Main St, Broadway and Westminster Ave (Kingsway).

Mount Pleasant was soon characterized by craftsman homes and low, multi-story brick buildings that housed shops, grocers and banks. The introduction of a streetcar in 1889 further accelerated growth. Industry, as well, was quick to make use of the surrounding context, with various sectors utilizing the fresh water from the creek, particularly the many breweries that became synonymous with the neighborhood.

Today, Mount Pleasant continues to grow and transform, but many of the early heritage buildings remain, including a two-story brick building across from the proposed park location at Main & 7th. The now eclectic neighborhood hosts an artistic community and vibrant murals, along with a many restaurants, cafes, breweries and shops.

Source: Mount Pleasant Historic Context Statement, City of Vancouver 2008



Figure 5 - Looking southeast from the intersection of Westminster Ave. and 9th Ave. (Main and Broadway), 1908 **Source:** UBC Digital Collection

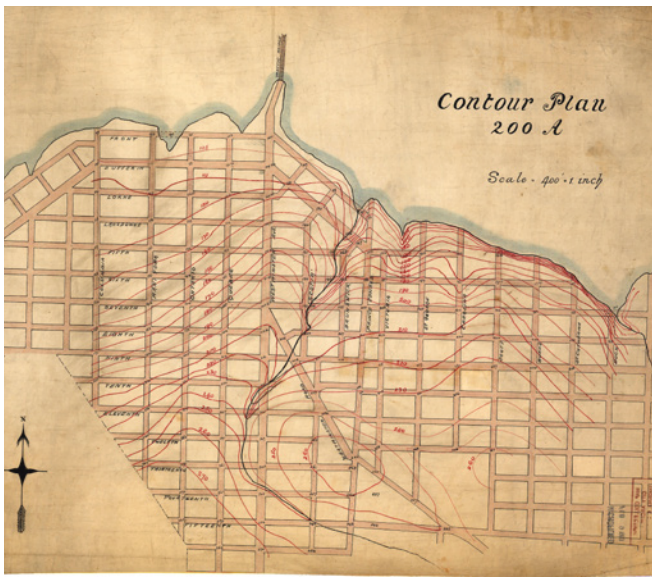


Figure 6 - Contour Map, Early 1900s **Source:** Vancouver Archives



Figure 7 - Inside A Mount Pleasant Brewery **Source:** Vancouver Archives

POPULATION DEMOGRAPHICS

SOCIAL INDICATORS

Mount Pleasant has a youthful population, with a high proportion of individuals aged 25-34. There are fewer families and children compared to the region at large, and a high percentage of people living alone. According to the Mount Pleasant Social Indicators Profile (2020), Mount Pleasant was once a neighbourhood that skewed towards a working class and culturally diverse population.

During the past decade, Mount Pleasant experienced a shift towards a more affluent and white population with a decline in immigrant, racialized, and indigenous residents. As Mount Pleasant continues to densify, it is important to prepare for the possible displacement of community members and provide inclusive spaces that celebrate Mount Pleasant's less visible populations.

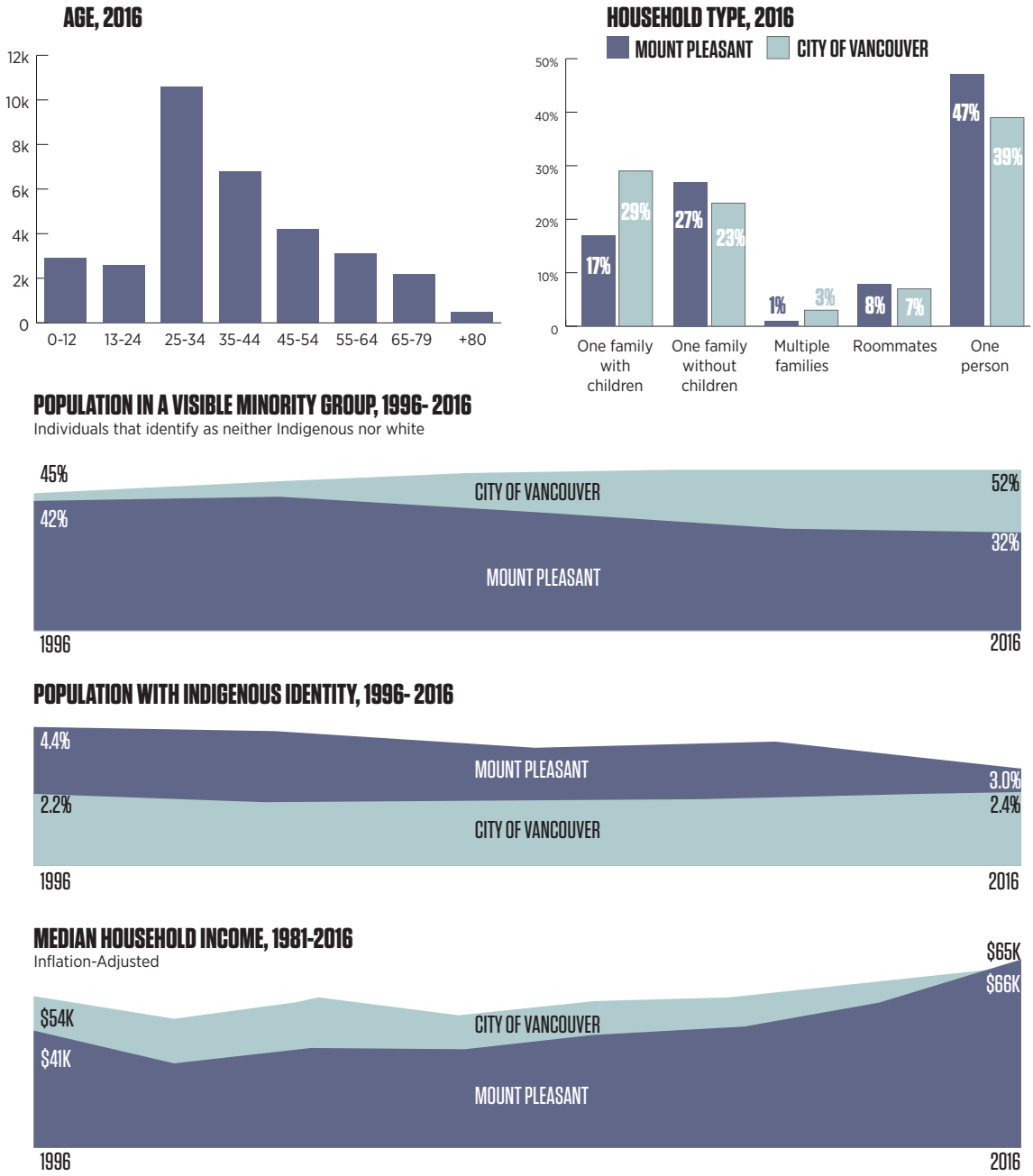


Figure 8 - Social Demographics

Source: City of Vancouver, Mount Pleasant Neighborhood Social Indicators 2020

POPULATION DENSITY
AND DWELLING TYPES

Main & 7th is within the Mount Pleasant neighborhood. Mount Pleasant makes up 3% of the City of Vancouver's land area and houses 5% of its population. The neighborhood contains 6% of the private households counted in the 2016 census. As of 2016, Mount Pleasant's population density was 90 persons per hectare, 65% denser than the city overall. Mount Pleasant has densified rapidly since 2006. Mount Pleasant has a low proportion of single-detached houses. As of 2016, a majority of households are in lowrise apartments, with apartments in higher buildings being the second largest category. Almost 90% of dwellings in Mount Pleasant are in apartments, a proportion that continues to grow consistently (City of Vancouver, 2020).

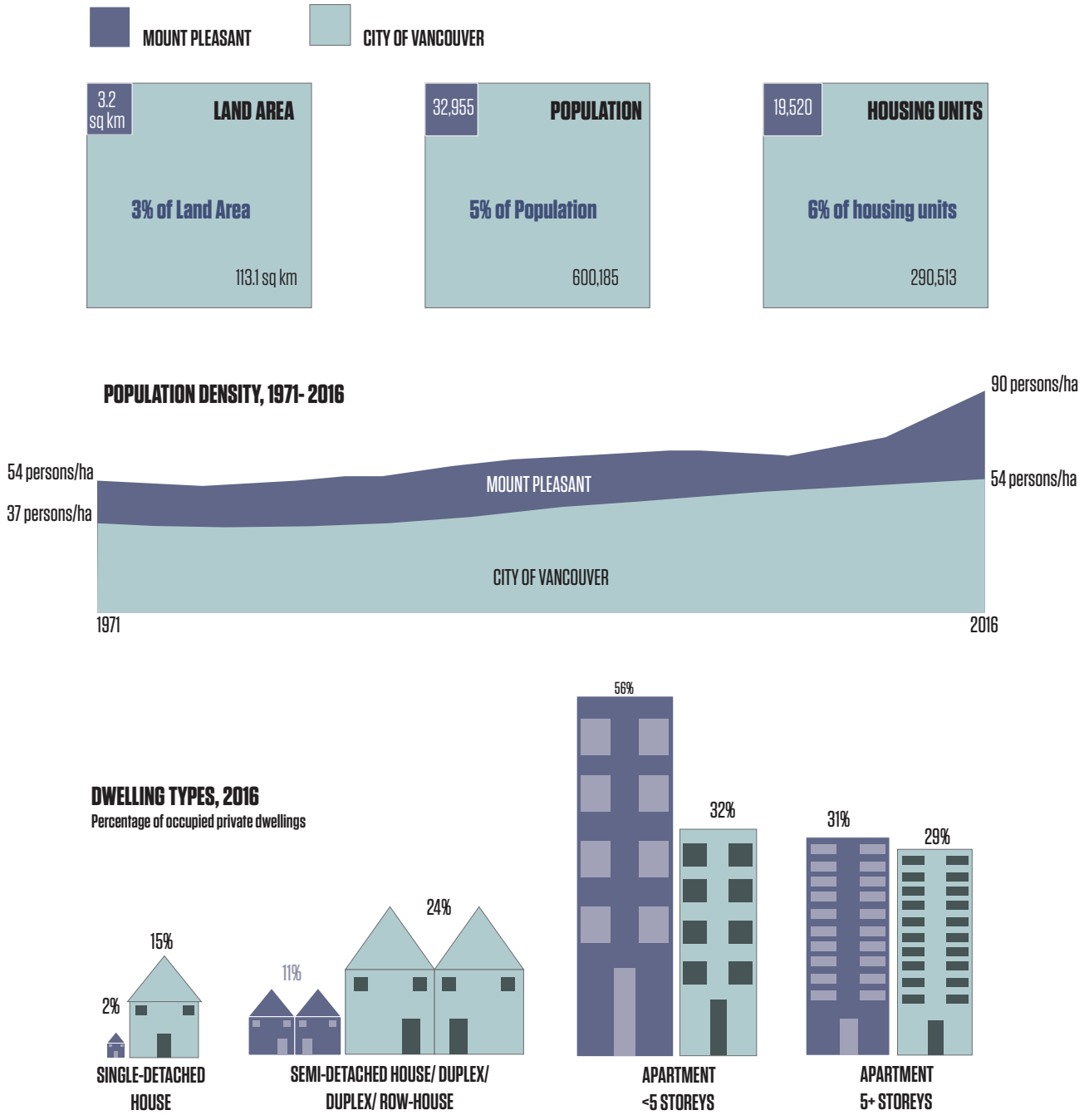


Figure 9 - Population Density and Dwelling Types

Source: City of Vancouver, Mount Pleasant Neighborhood Social Indicators 2020

POPULATION DENSITY

RELATIVE TO PARK SPACE

This graphic is based on data presented in VanPlay, Vancouver's Parks and Recreation Services Master Plan (2019/20). Using 2016 Census data, it identifies park space (hectares) relative to population density. The City's 2041 population density projections (as of 2016) are highlighted with dashed lines.



Sources: : Census Data, 2016;
VanPlay Vancouver's Parks and Recreation Inventory and Analysis 2018

Figure 10 - Population Density Relative to Park Space

COMMUNITY EVENTS & FESTIVALS

MOUNT PLEASANT'S VIBRANT & ARTISTIC COMMUNITY

Mount Pleasant is known for hosting a variety of large events and street festivals throughout the year, including the iconic Vancouver Mural Festival and Car Free Day. Mount Pleasant continues to utilize parks and urban streets to grow their outdoor public programming with new events, such as Just Off Main, and summer pop-up concerts with Music on Main.

The site's location at Main & 7th calls for an adaptable space to allow for adjacent events to spill into the park. Whether integrated into street festivals, as a satellite location for larger off-site events, or as a site for temporary artist installations, flexible space will be an important component in the versatile use of the site.



CAR FREE DAY **Source:** www.dailyhive.com/vancouver/



VANCOUVER MURAL FESTIVAL **Source:** www.dailyhive.com/vancouver/



JUST OFF MAIN! FESTIVAL **Source:** www.instagram.com/mountpleasantbia



CITY CENTRE BLOCK PARTY **Source:** www.vanmuralfest.ca



CARNAVAL DEL SOL **Source:** www.dailyhive.com/vancouver/



MOUNT PLEASANT FARMERS' MARKETS **Source:** www.eatlocal.org/

Figure 11 - Images of Mount Pleasant Events

OPEN SPACE & RECREATION

PARK AMENITIES NEAR MAIN & 7TH

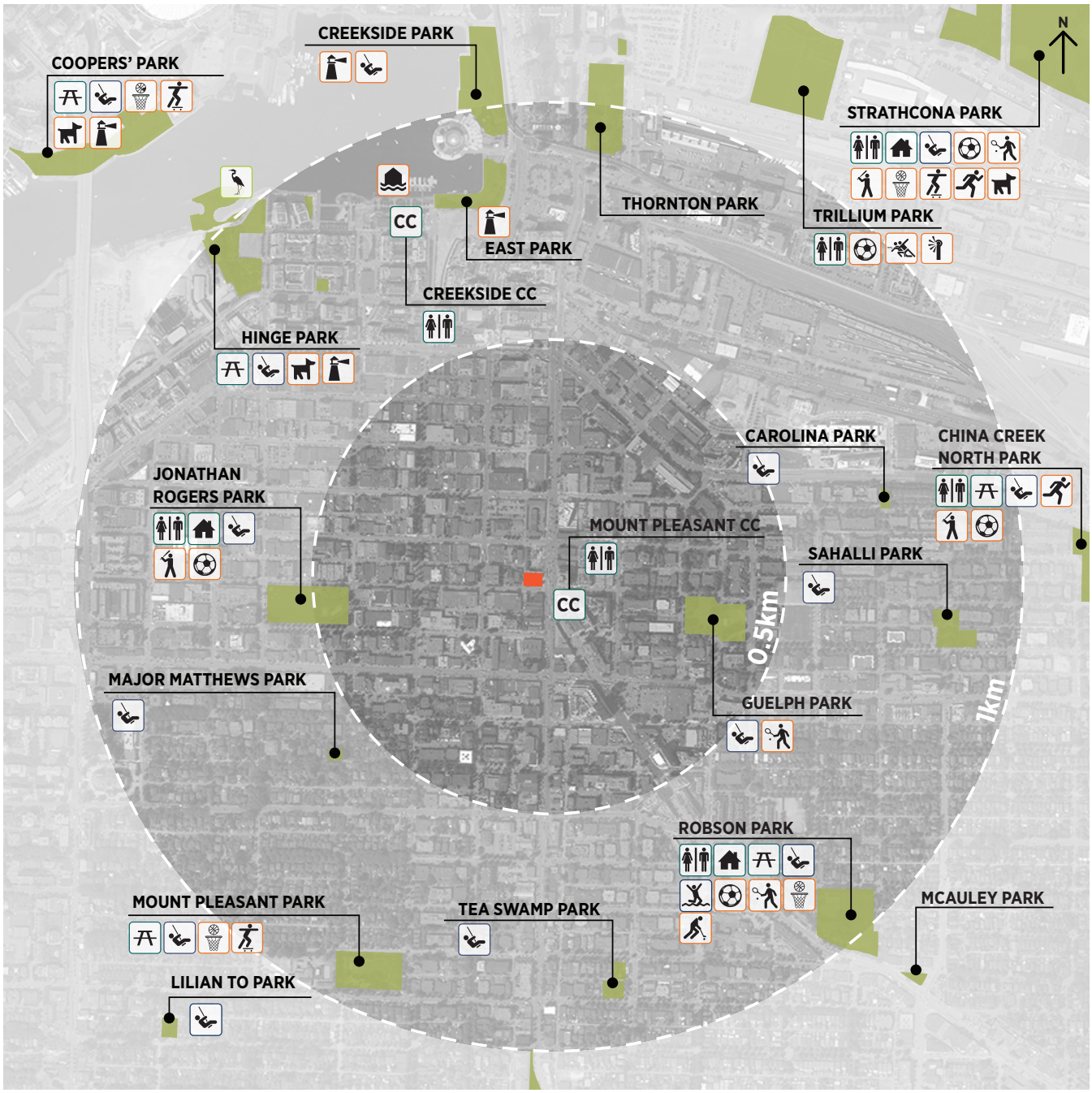


Figure 12 - Inventory of Park Amenities

OPEN SPACE & RECREATION

PARK AMENITIES IN ORDER OF DISTANCE FROM MAIN & 7TH

Two mid-sized community parks, Jonathan Rogers and Guelph (Dude Chilling) Park, are located within a 5 minute walk from the site at Main & 7th. These parks are large enough to offer a range of recreational activities as well as host larger events, such as the Mount Pleasant Farmers' Market and Carnaval del Sol. Further from the site location are several other well utilized parks, including Mount Pleasant Park, Hinge Park and Creekside, all within 1km of Main & 7th. However, there are few public spaces in Mount Pleasant within the immediate vicinity of Main St. The project site, surrounded by shops, restaurants and residences, is well situated to provide opportunities for people to enjoy the active urban environment and has the potential to offer adjacent residents with much needed outdoor space. Given the many offices and service workers in the vicinity, the site also has the potential to be a popular daytime destination and provide a space for respite during working hours.

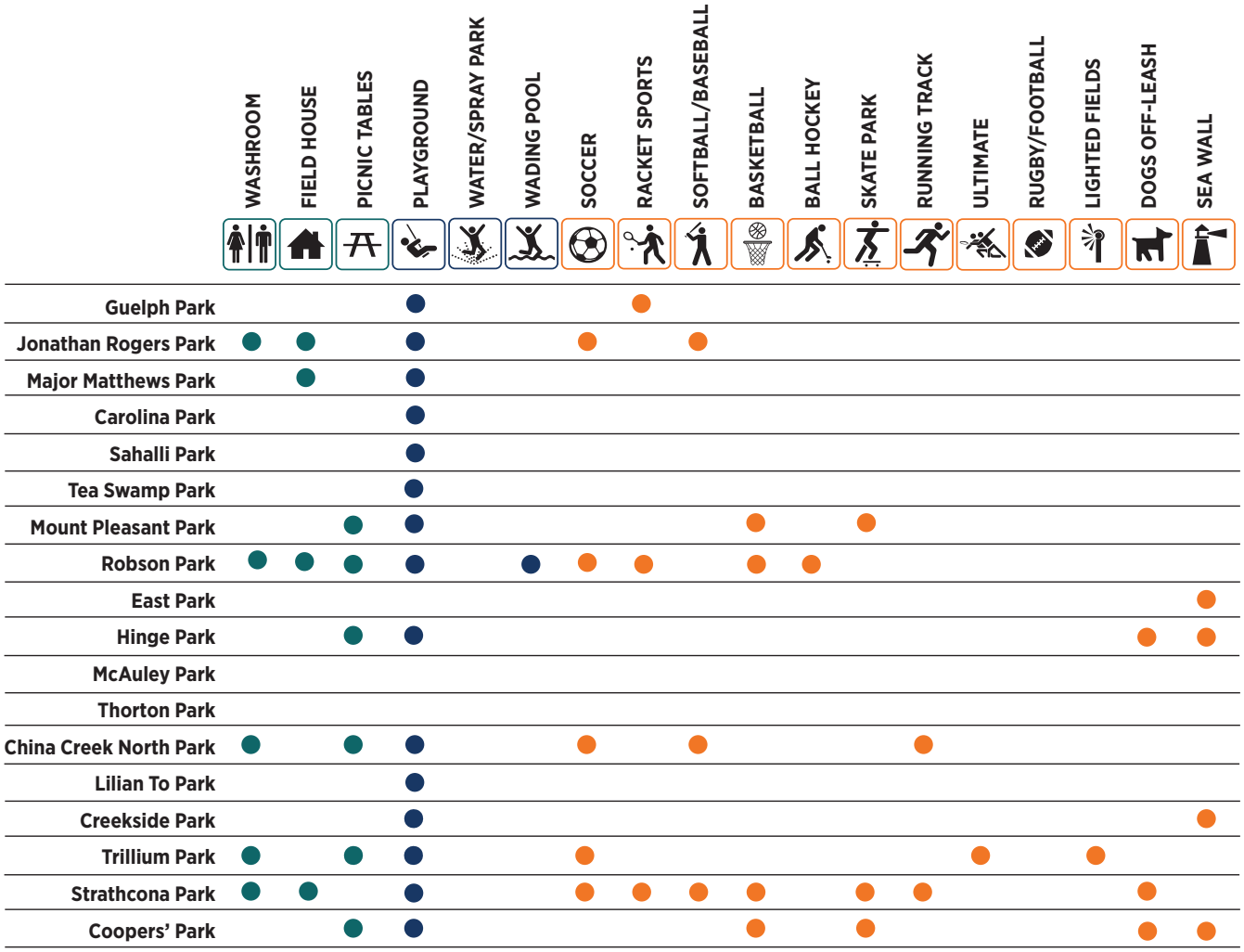


Figure 13 - Park Amenities in Proximity to Main St. & 7th Ave.

MICRO-CLIMATE

IMPERVIOUS COVER

The following map illustrates the project site is located in a region dominated by a high percentage of impervious surfaces, indicating a need for increased vegetation, pervious surfaces and other stormwater management strategies.



Figure 14 - Impervious Cover

Sources: City of Vancouver Urban Forest Strategy, 2018

MICRO-CLIMATE

CANOPY COVER

The project site is situated in a region currently deprived of tree canopy coverage, with the site itself possessing only one singular tree (see Figure 20). Introduction of trees will be an important factor in the enhancement of biodiversity, increased shade, and improved air quality, amongst other direct benefits.

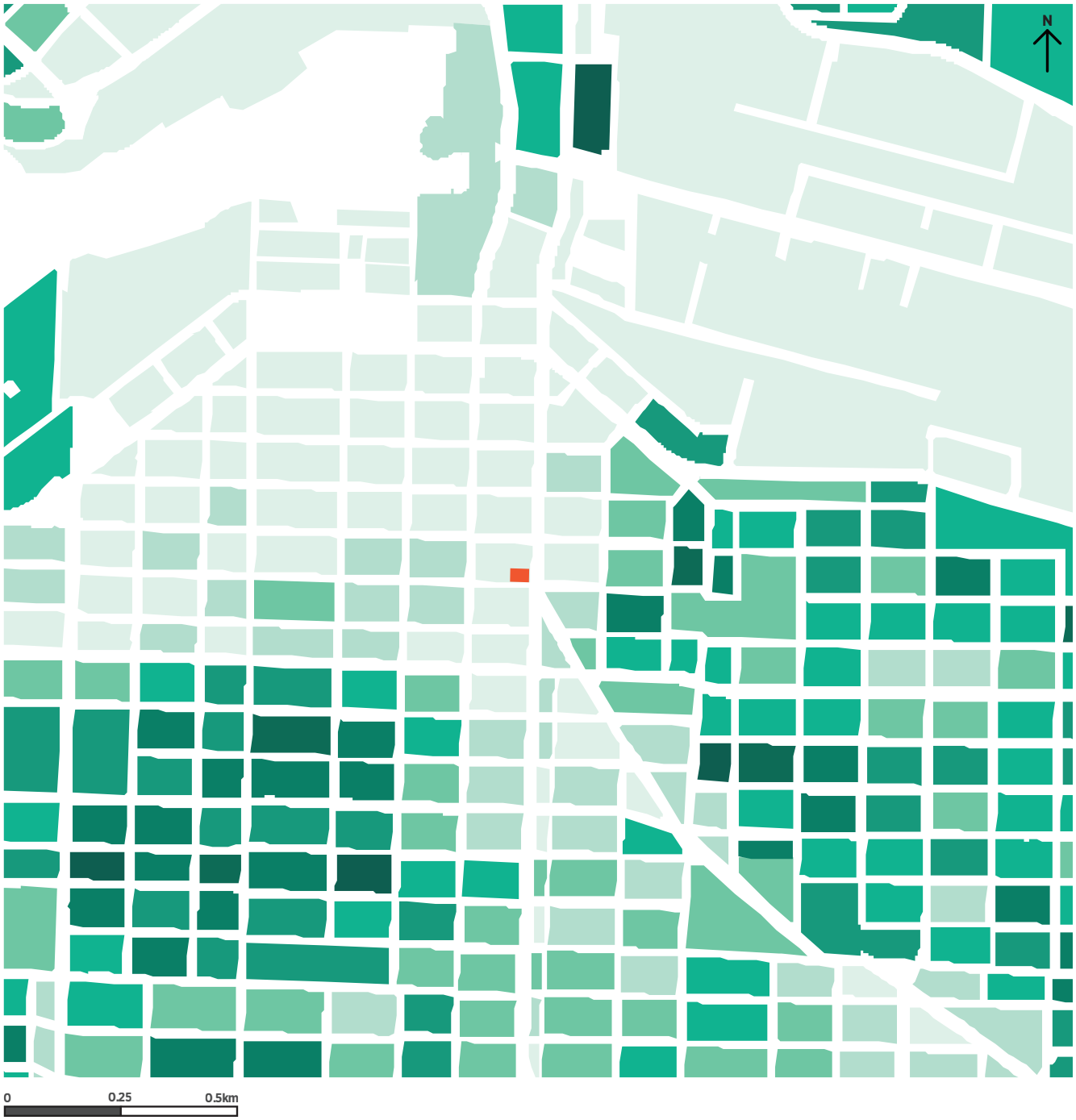


Figure 15 - Canopy Cover

Sources: City of Vancouver Urban Forest Strategy, 2018

MICRO-CLIMATE

LAND SURFACE TEMPERATURE ON A HOT SUMMER DAY

An increase of land surface temperature can be observed as a result of the lack of tree canopy and over-abundance of impervious surfaces. Addressing vegetation and surface materials will not only help combat the urban heat island effect, but will also improve comfort and the sensory experience for site users.

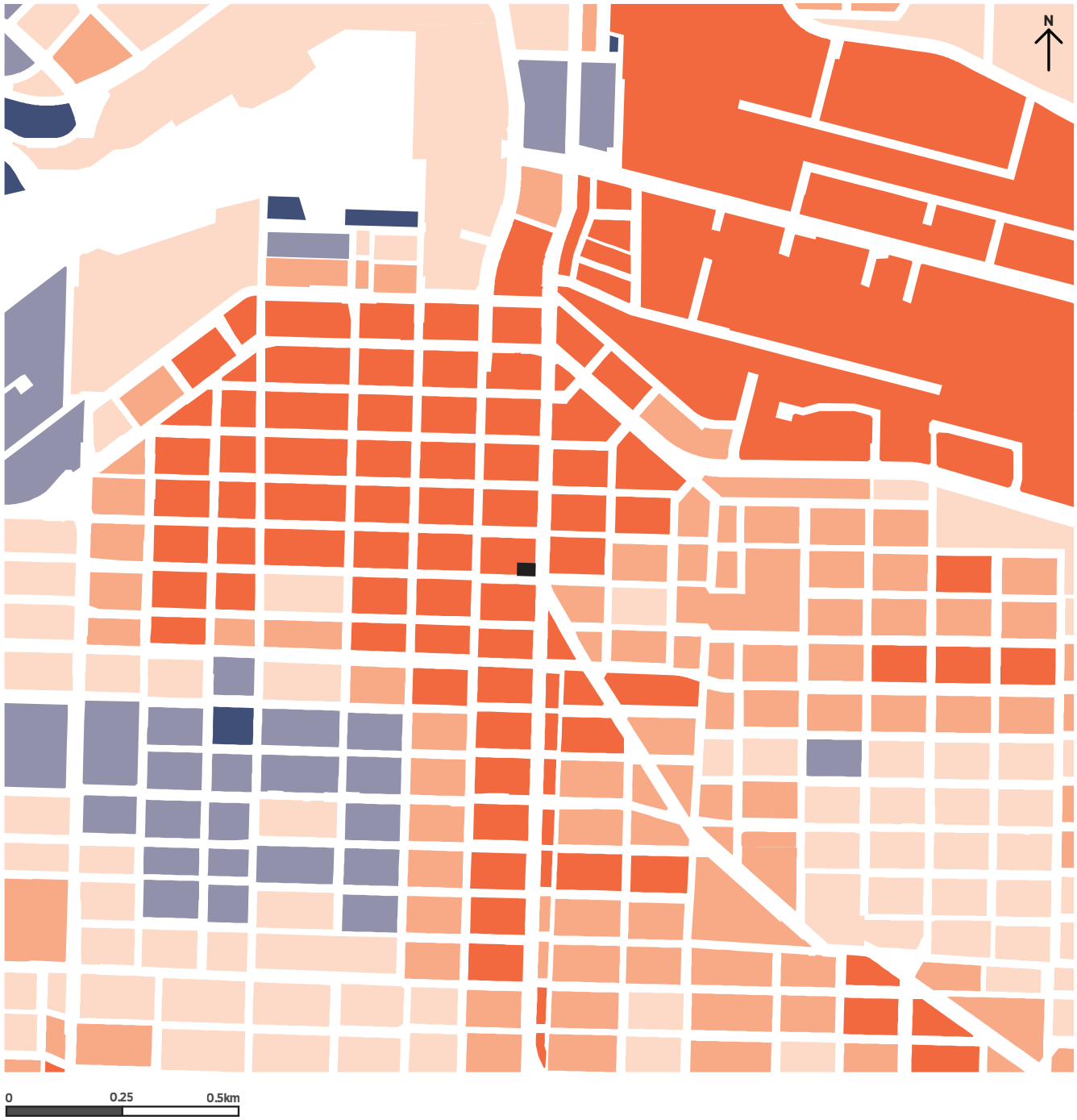


Figure 16 - Land Surface Temperature

Sources: City of Vancouver Urban Forest Strategy, 2018

NEIGHBOURHOOD CONNECTIVITY

PEDESTRIAN, CYCLIST, TRANSIT ACCESS

The site is located in proximity to the high-traffic arterial streets Main St, Kingsway, and Broadway. While the site is well connected to current/future transit, pedestrian and cyclist access is problematic. Access from the east side of Main St. is circuitous given the current configuration of crosswalks and traffic signals.



Figure 17 - Neighbourhood Connectivity

ADJACENT ZONING

FUTURE LAND USE & DEVELOPMENT

Based on the zoning outlined it the 2022 Broadway Plan, the following map illustrates the densifying mixed-use urban nature of the surrounding context. The site is adjacent to buildings zoned as mixed-use midrise, mixed-use lowrise and medium intensity industrial. The site is also in close proximity to the proposed transit infrastructure along Broadway.

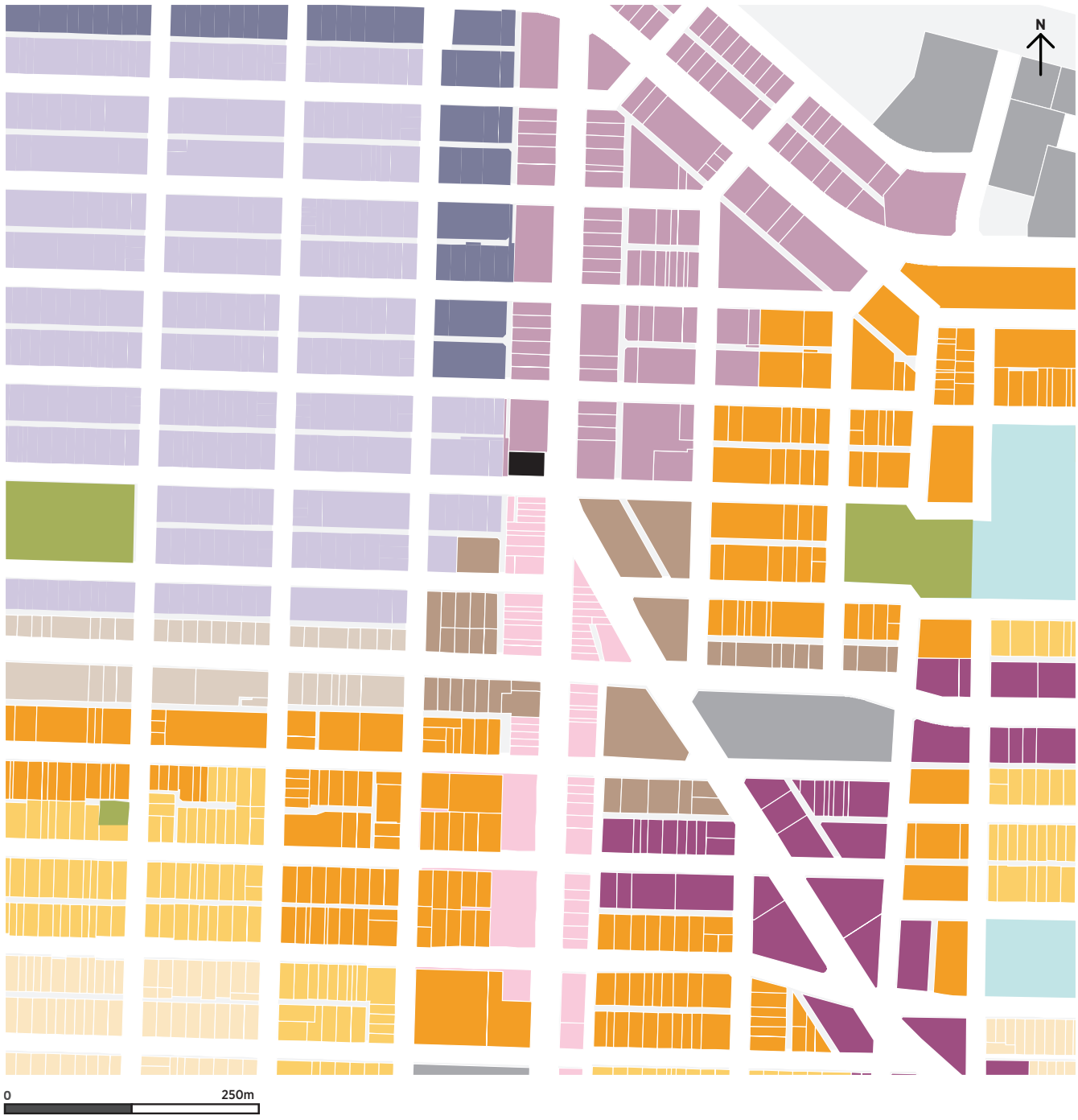


Figure 18- Adjacent Zoning

Sources: City of Vancouver Broadway Plan, 2022

SITE ADJACENCIES & ACCESS

SITE CIRCULATION & SURROUNDING CONTEXT

Main & 7th is adjacent to a new 8 story mixed-use commercial and below market residential building with a restaurant and outdoor patio at ground level. Other surrounding buildings are older and expected to densify with future development. The site is also close to a library and community centre. Direct pedestrian access to transit and community amenities on the east side of Main St. is not feasible due to traffic management complexity.

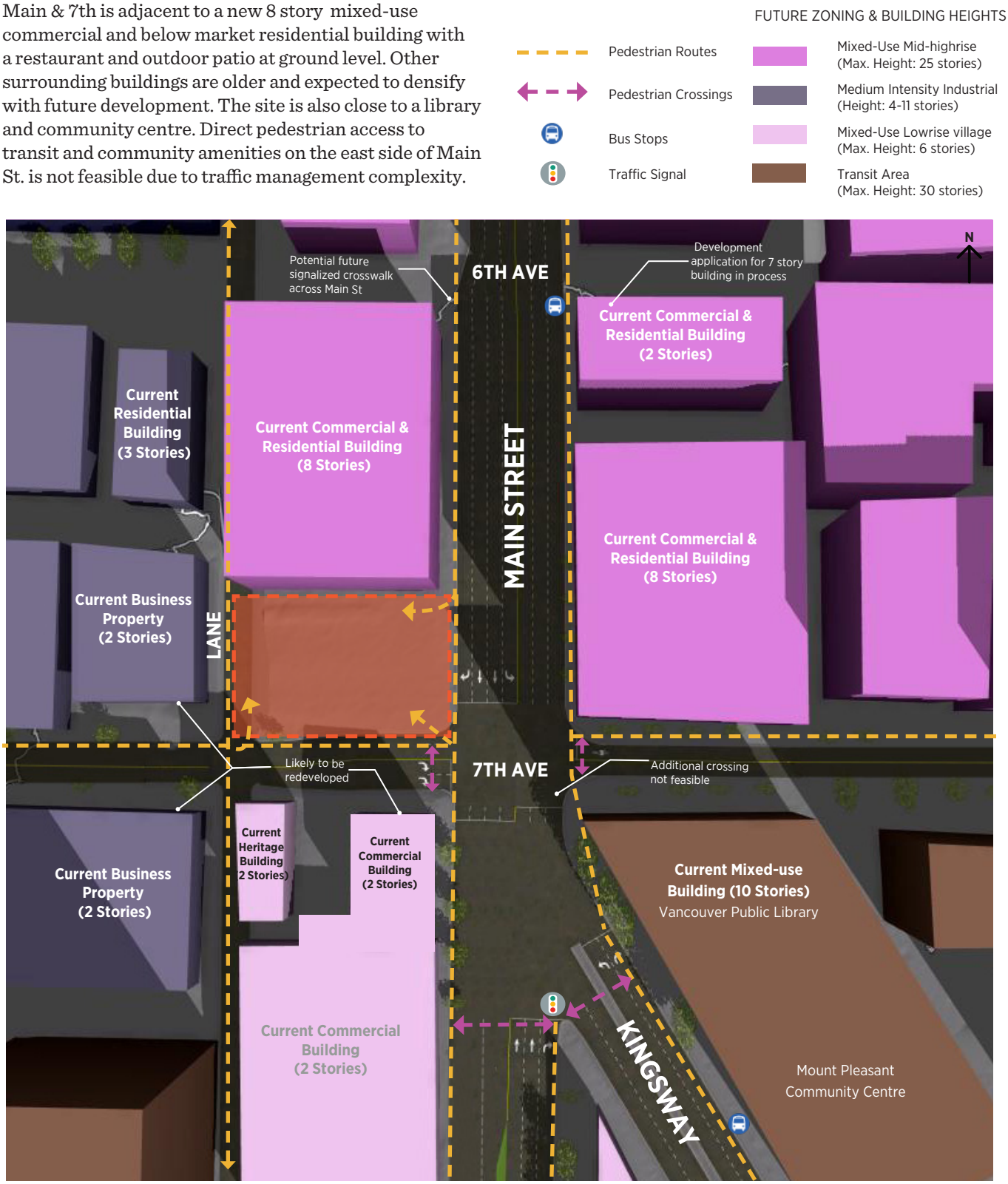


Figure 19 - Site Adjacencies and Access

Sources: City of Vancouver Broadway Plan, 2022

EXISTING SITE CONDITIONS

UTILITIES, TREES, ADJACENCIES

The site is currently comprised of asphalt paving, temporary planters and several light/utility poles. The project boundary extends beyond the property line to include the sidewalk and boulevard along 7th Ave. as well as the adjacent lane. With few underground utilities and items to remain, the site is generally free of existing features to accommodate. The boundary of the adjacent restaurant patio, access to the residential entrance and integration of the lane will be key edges to consider.

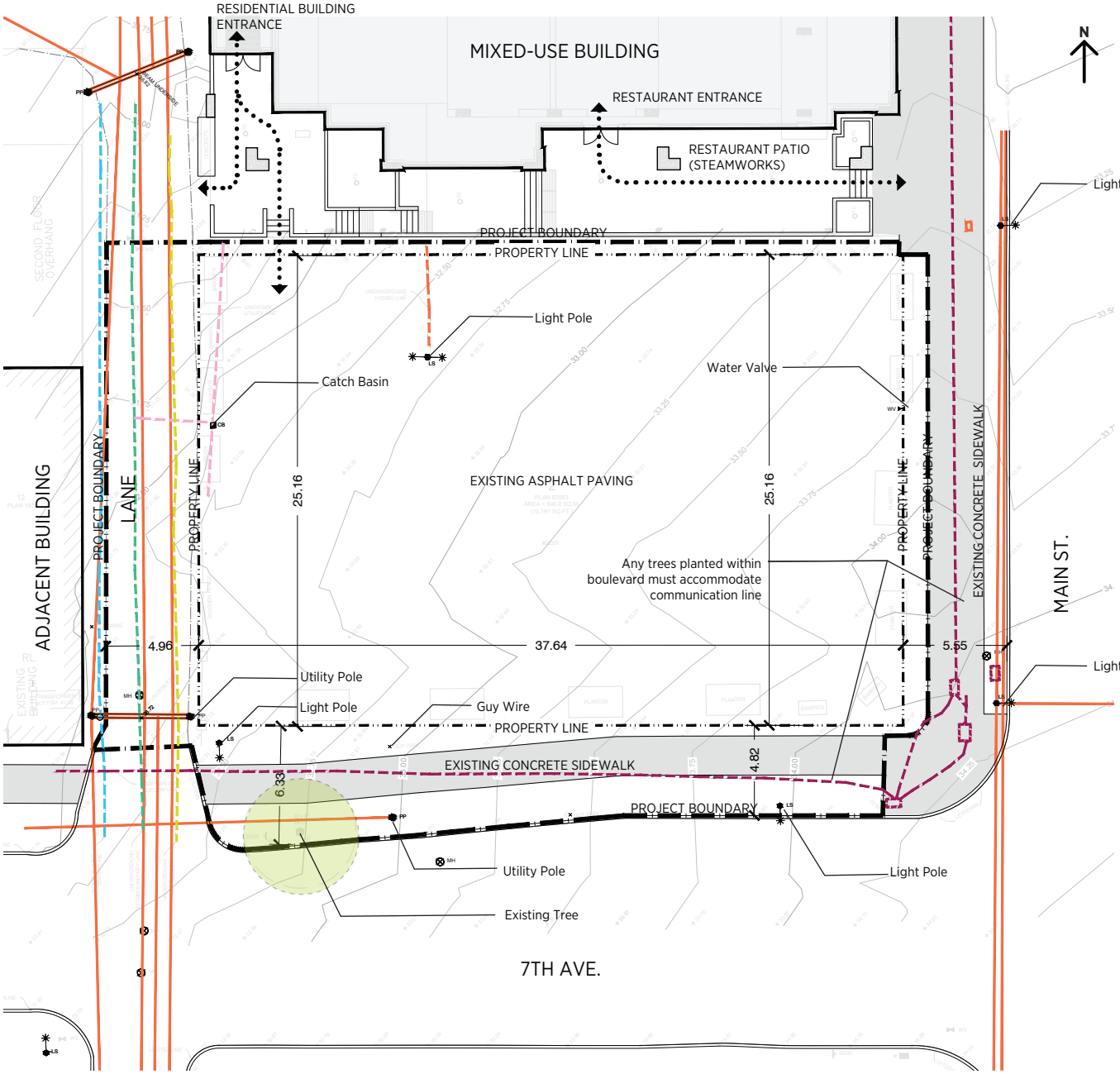


Figure 20 - Existing Site Conditions

ELEVATION ANALYSIS

GRADING & DRAINAGE

The following diagram illustrates the change in elevation across the site, indicating a grade change of approximately 3 m from the southeast corner to the northwest corner of the property. This will inform the drainage strategy with a potential to collect stormwater at various points across the site with overflow connected to civil services near the northwest corner of the site.

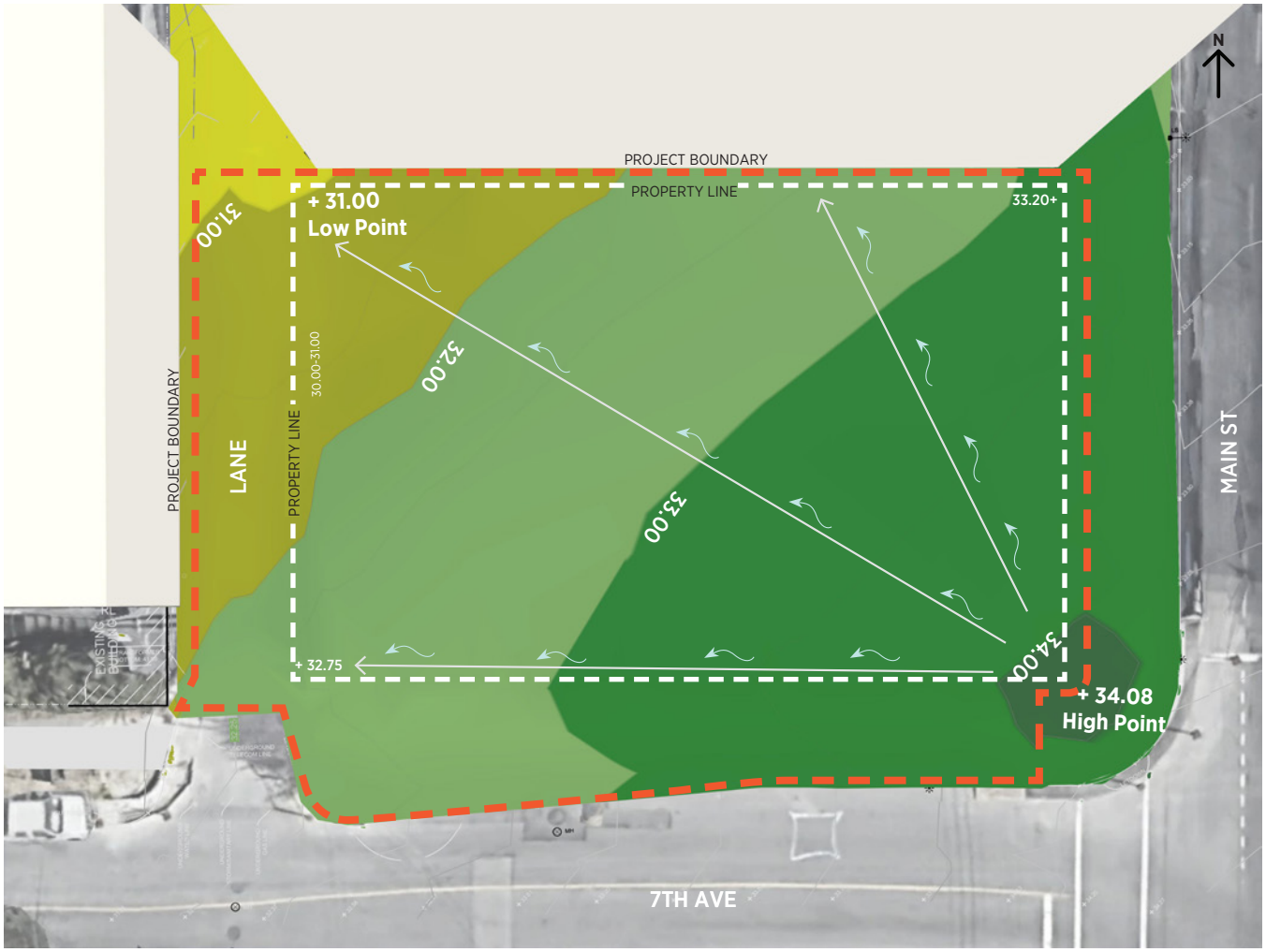


Figure 21 - Elevation Analysis

SLOPE ANALYSIS

SITE TOPOGRAPHY

The illustration below visualizes the slope across the site. While the site is generally sloping from the southeast corner towards the southwest corner of the property, the west edge of the site has the steepest slopes.

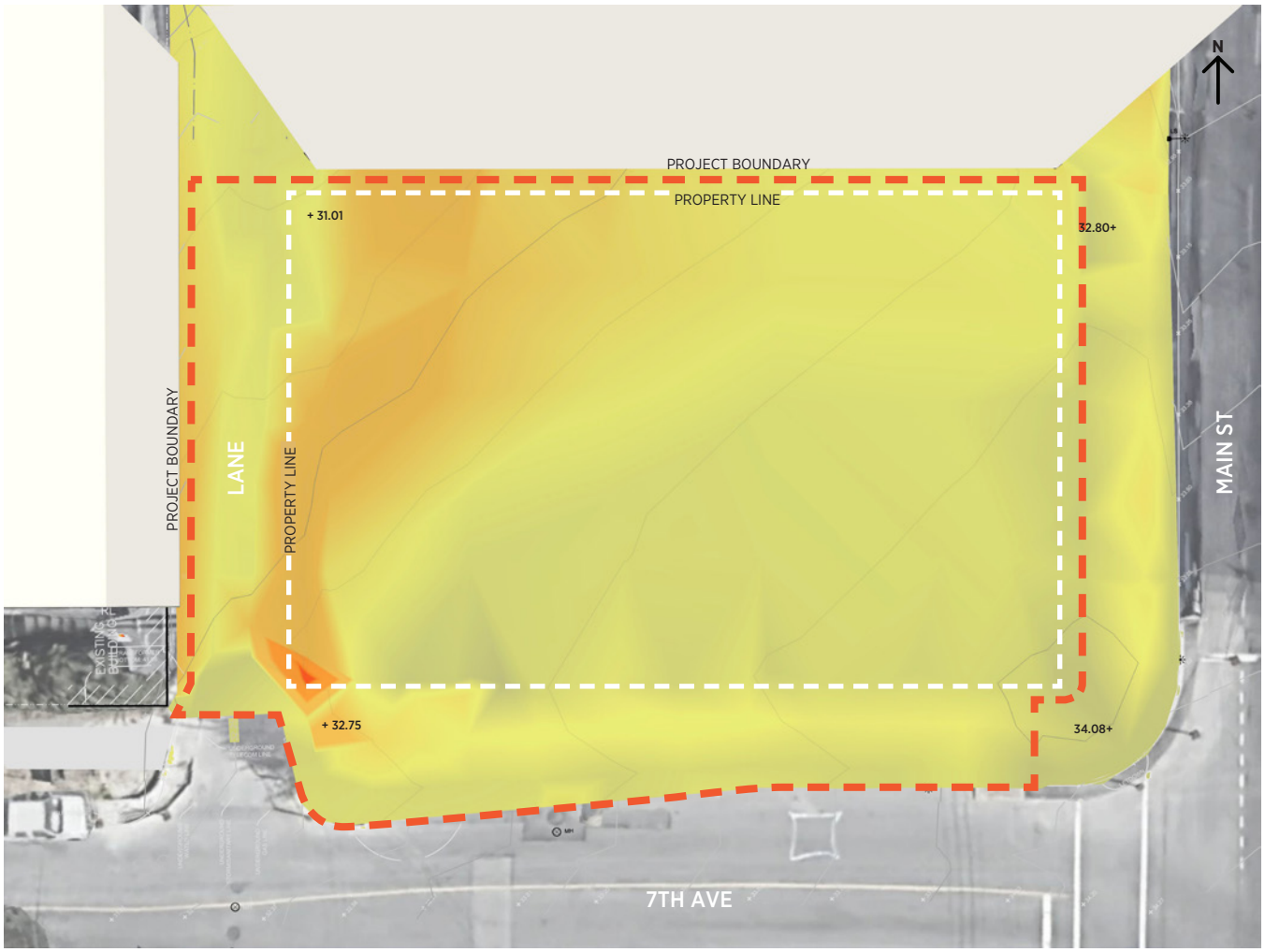
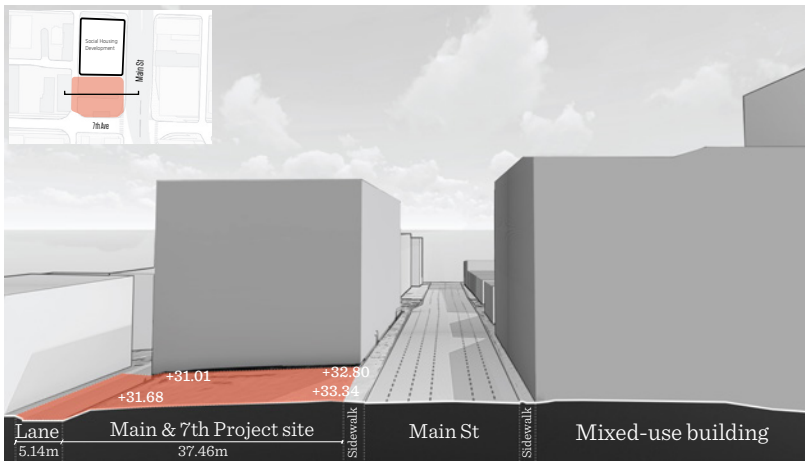


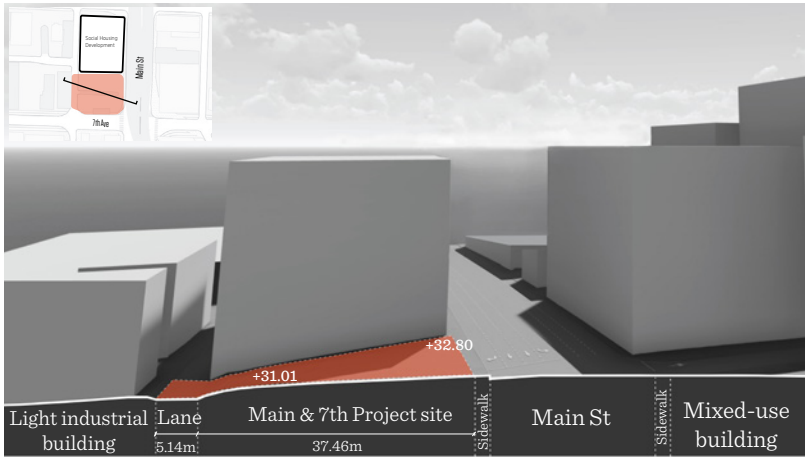
Figure 22 - Slope Analysis

SITE SECTIONS & VIEWS

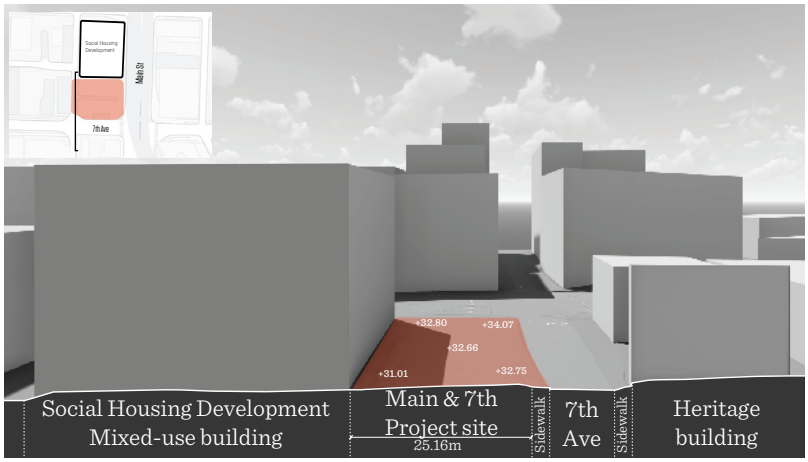
VISUALIZING CURRENT CONDITIONS











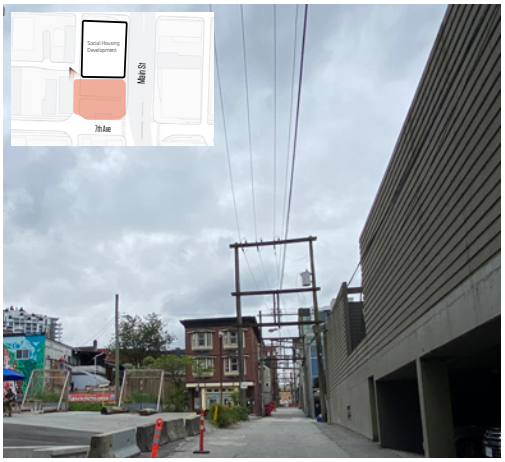
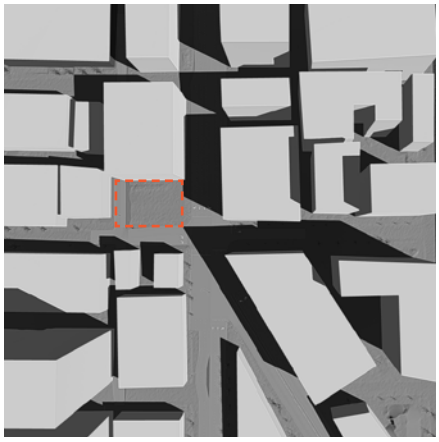


Figure 23 - Site Sections and Views

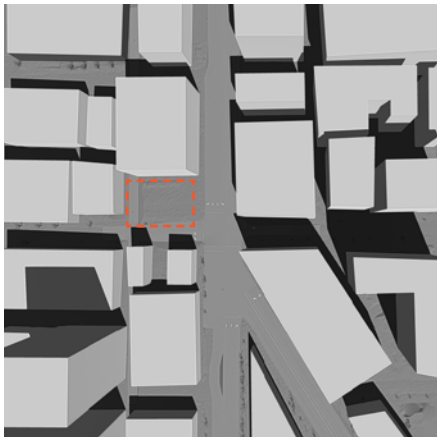
SUN SHADE STUDY

PROJECTED CONDITIONS

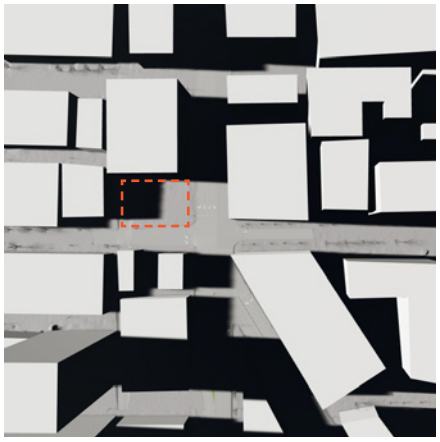
The following sun shade study is based off projected building heights as identified in the Broadway Plan (City of Vancouver, 2022). While the site will receive ample sun during summer months, in the fall and spring the site is shaded in the afternoons. The site will be consistently shaded throughout the winter months.



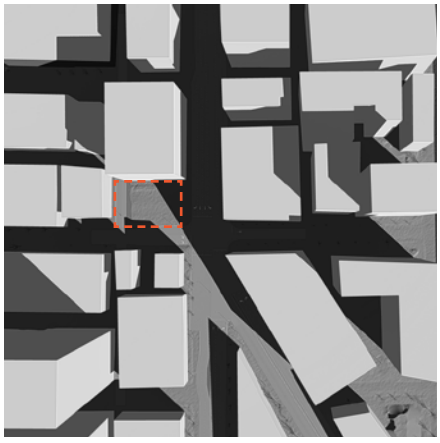
JUNE 21- 10AM



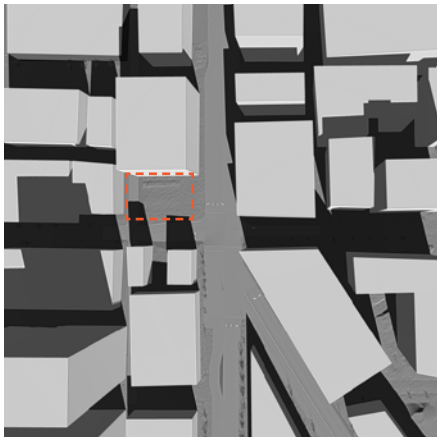
JUNE 21- 12PM



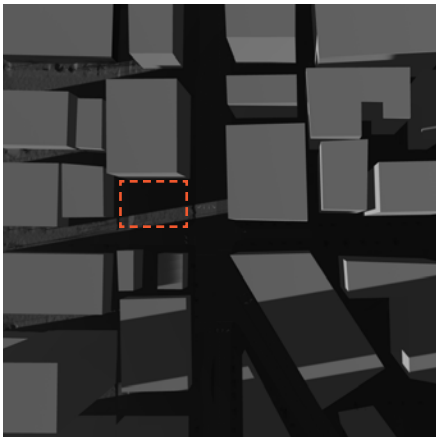
JUNE 21- 6PM



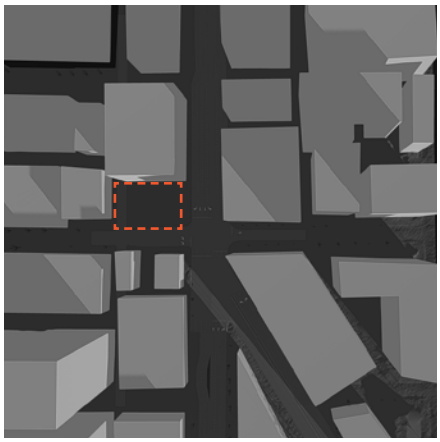
SEPTEMBER 21- 10AM



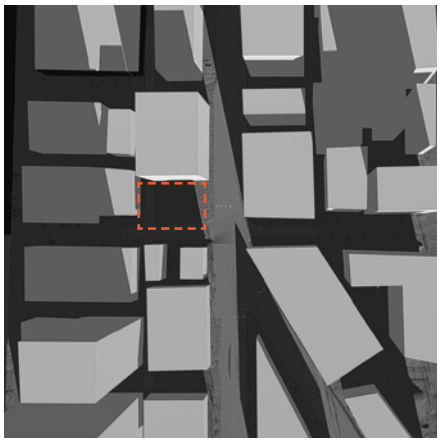
SEPTEMBER 21- 12 PM



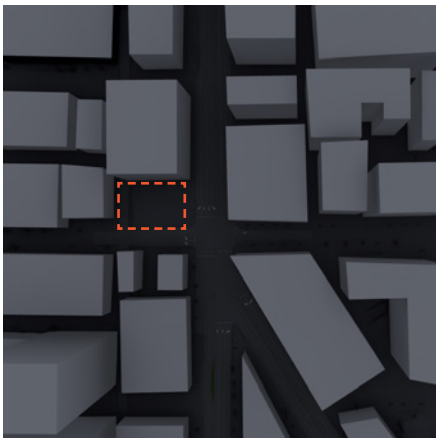
SEPTEMBER 21- 6PM



DECEMBER 21- 10AM



DECEMBER 21- 12PM

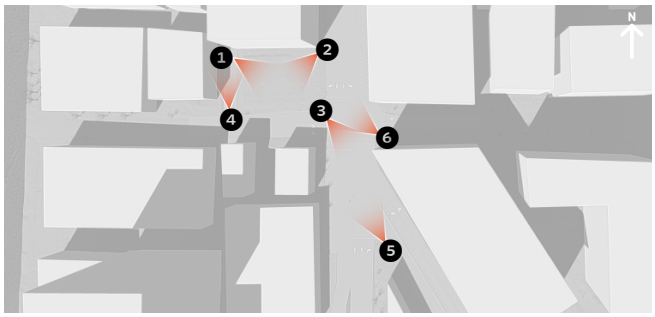


DECEMBER 21- 6PM

Figure 24 - Sun Shade Study

SITE CHARACTER & VIEWS

VIEWS TO AND FROM SITE LOCATION



The following images illustrate the prominent visual and sensory influence of the adjacent streets, particularly the heavily traveled Main St. Views looking into the site, particularly from the intersection of Main St and Kingsway, will be important to define the park as a landmark and improve wayfinding. Views extending from the site should be considered along with strategies to soften the experience of traffic along Main St. There are also opportunities to strengthen the visual connection with Kingsway.



Northwest corner of the site, looking southeast



Northeast corner of the site, looking southwest



Southeast corner of the site, looking southeast



Southwest corner of the site, looking north



Southeast corner of Main St. and Kingsway looking northwest



Southeast corner of Main St. at 7th Ave looking northwest

Figure 25 - Site Images

OPPORTUNITIES & CONSTRAINTS

- Provide universal access and pedestrian circulation into and through the site with key nodes at prominent intersections, particularly the highly visible southeast corner.
- Explore improvements from surrounding context, including connection to adjacent crosswalks.
- Potential to explore alternatives to existing fence along the north edge to mitigate the awkward condition caused by the existing barrier/fence around restaurant patio.
- Incorporate the lane along the west side of the site to support laneway activation, primary residential access and improved pedestrian circulation.
- Explore opportunities for noise reduction.
- Utilize the grade changes across the site to improve stormwater infiltration and noise attenuation.
- Increase tree cover and vegetation for improved heat-island mitigation, biodiversity, comfort and seasonal interest.
- Provide flexible space that is welcoming to daily visitors and to accommodate events.
- Consider the urban condition of the site context to inform design language, materiality and spatial layout.

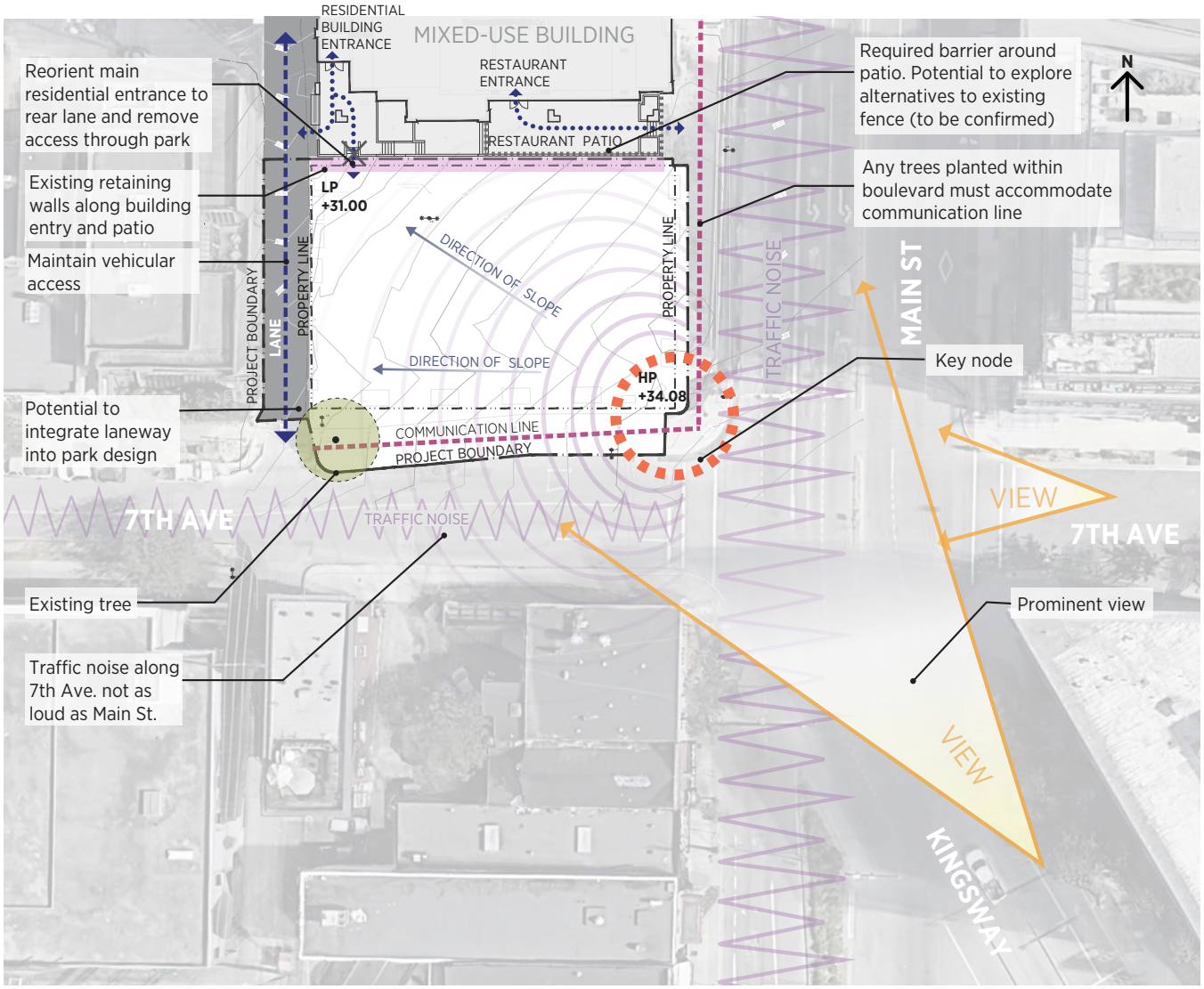


Figure 26 - Opportunities and Constraints

[PAGE INTENTIONALLY LEFT BLANK]

APPENDIX 1
ARCHITECTURAL ANALYSIS

COMMUNITY PLANNING

PUBLIC REALM PLAN

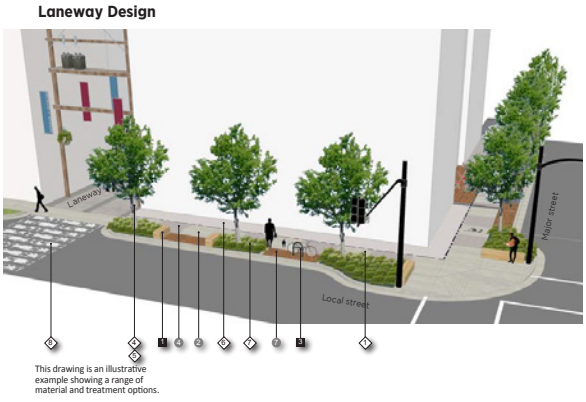
The "Public Realm Plan," chapter 4 of the "Mount Pleasant Community Plan Implementation Package" dated October 13, 2013, provides the latest visioning for the 7th and Main Street site and the Mount Pleasant neighborhood. According to that study our site is located within a proposed "heart of the community" which extends past Broadway to 10th street and up Kingsway.

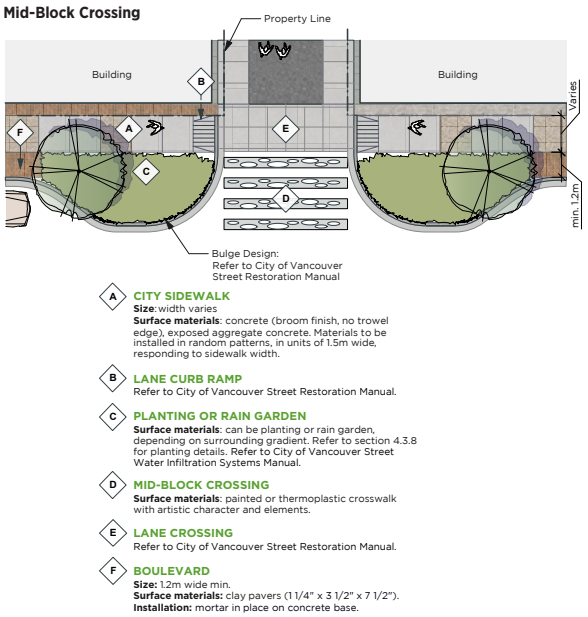
"This is suggested as a way to reinforce the triangle formed by Kingsway, Main Street and East Broadway as the epicentre of a vital and imaginative community, where temporary painting of the sidewalks and streets can create an ever-changing environmental experience for visitors and users of the area. This would be an opportunity for artists and community groups to work together to create these temporary masterpieces, in a spirit of renewable excitement and empowerment."

Some other relevant recommendations:

- Develop a laneway plaza in the "triangle block" at Main Street, Kingsway and East Broadway for temporary and special events.
- Incorporate laneway plaza opportunities to reinforce the laneway activation and animation The site one of several identified as an opportunity for special events on the Laneway in addition to the plaza.

The 2022 Broadway Plan may impact these recommendations, though the June 2022 plan remains general in its recommendations.





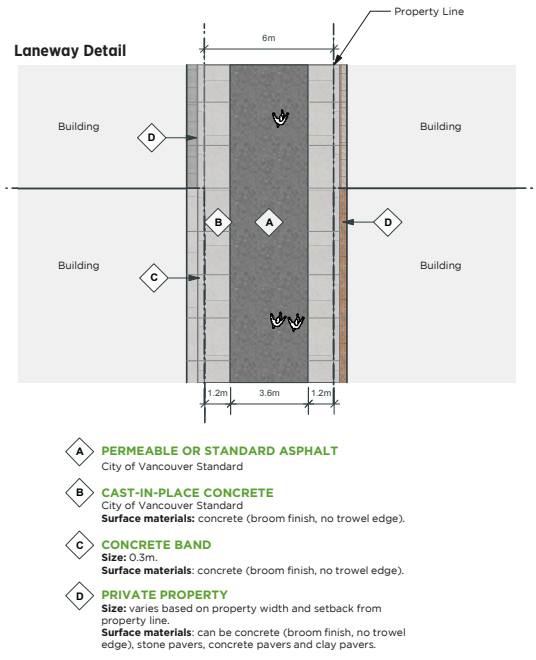


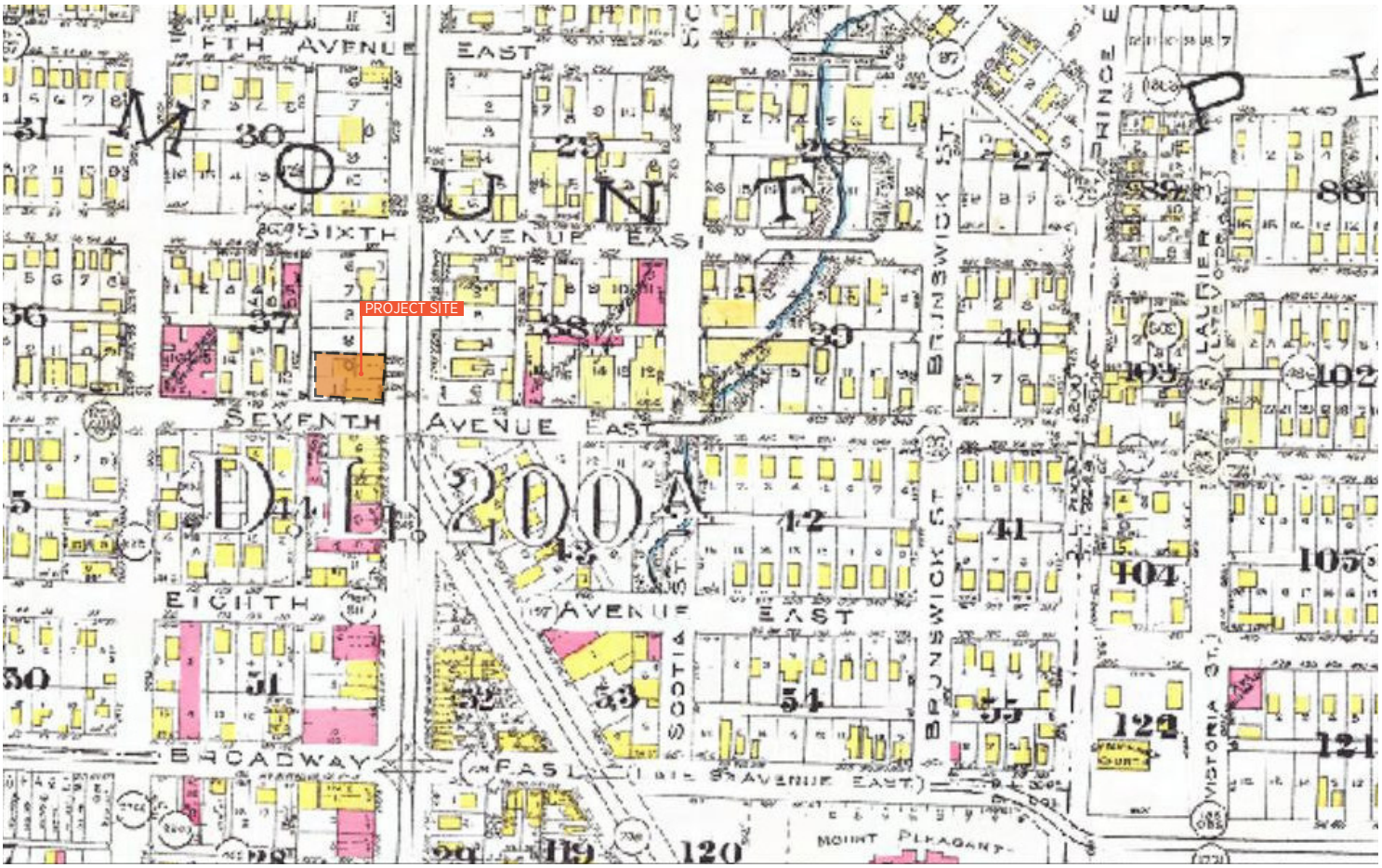
Figure 1 - Proposed Laneway Design

Source: City of Vancouver, Mount Pleasant Community Plan 2013

SITE HISTORY

PRIOR OCCUPANCY

The 1912 Goad's Fire Insurance Map shows two buildings fronting Main Street along the trolley line just before it splits between Main St. and Kingsway. The site looks to be surrounded mostly by residential buildings. To the east is the former run of Brewery Creek and several breweries.



EXISTING CONDITIONS

SITE SECTIONS

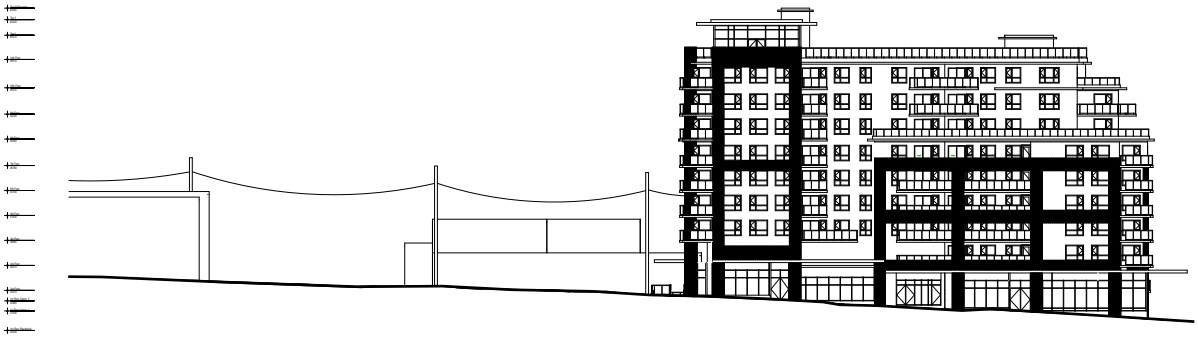


Figure 5 - East Elevation



Figure 6 - Section E/W

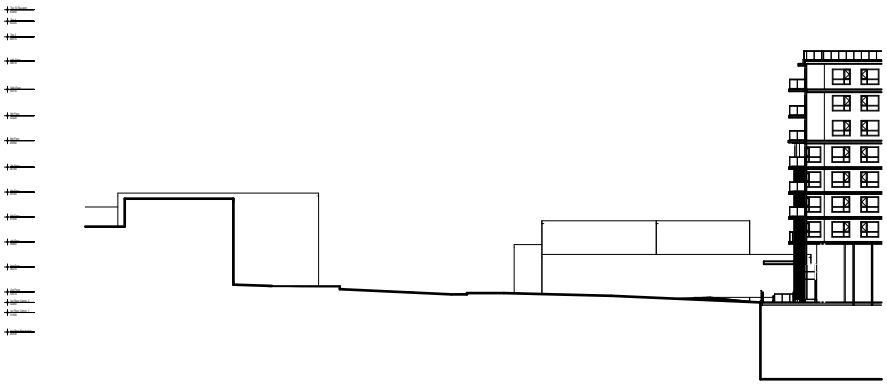


Figure 7 - Section N/S

REGIONAL TRANSPORTATION

TRAFFIC PLAN

The current plan is to maintain 7th Avenue as a "collector" street between Main Street and Cambie Street preserve 6th and 8th as local access streets. It is proposed to review the intersection and potentially provide a pedestrian crossing on the north site of 7th Avenue. The pedestrian/cyclist activated signals would then move to Main St. and 6th Ave. and Main St and 4th Ave. to improve connections to Mount Pleasant Community Centre.

A transportation survey for the area called for the intersection to have "bus priority" to improve transit service in anticipation of the Broadway Subway.

The study determined that relocating a proposed crosswalk from 7th to 6th Ave. is preferred and that 7th Ave. should remain a main connector for vehicular traffic.

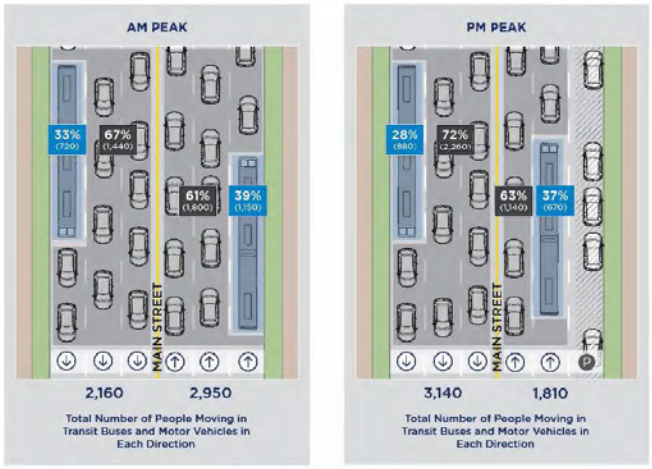


Figure 8 - Traffic Flows - Kingsway

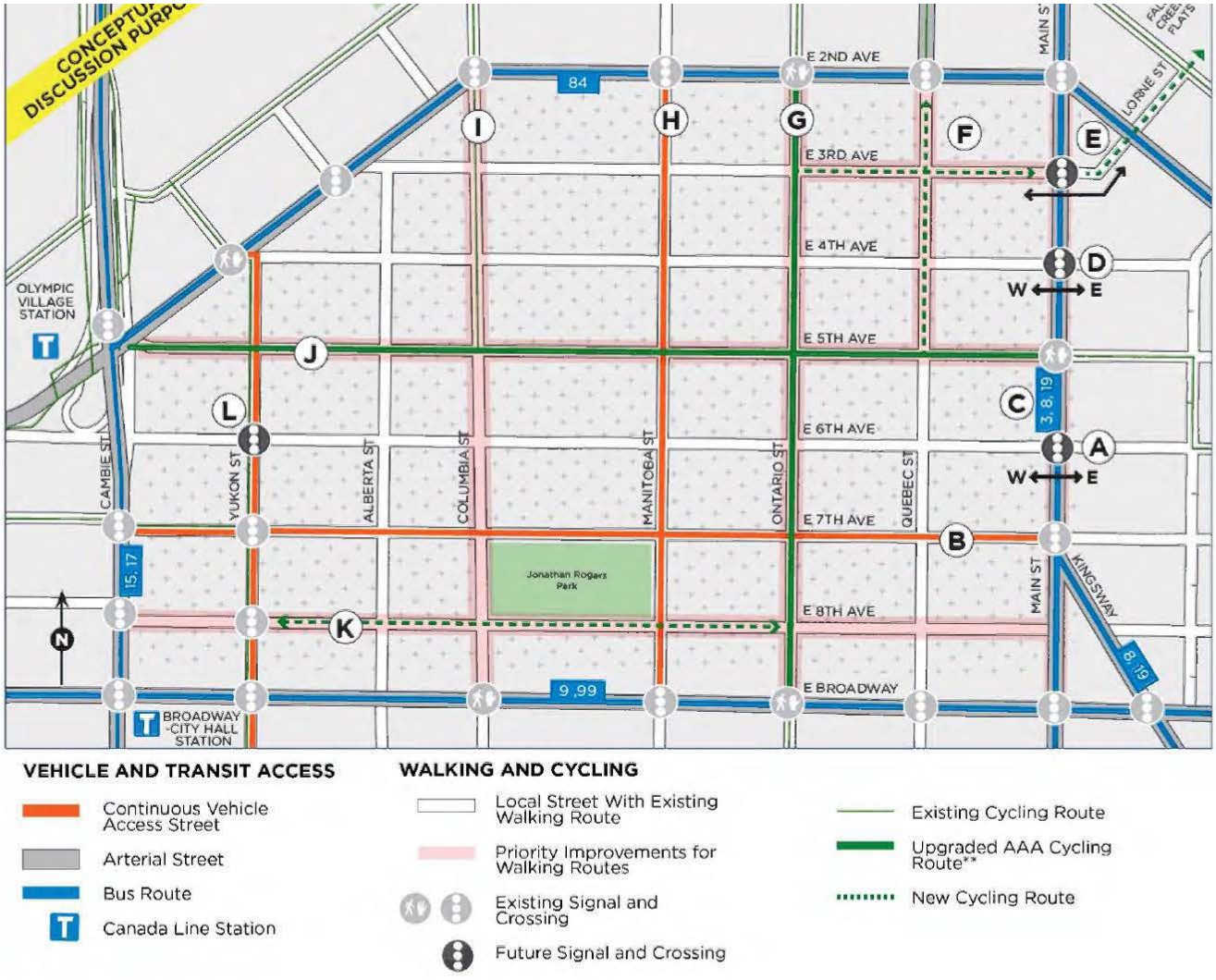


Figure 9 - Traffic Plan

Source: City of Vancouver, Mount Pleasant Industrial Area Transportation Strategy

[PAGE INTENTIONALLY LEFT BLANK]

APPENDIX 2
CIVIL ANALYSIS

June 28, 2022

Space2Place Design Inc.
200 – 291 E 2nd Ave.
Vancouver, BC V5T 1B8

Vector Engineering Services Ltd.
150 – 6450 Roberts street
Burnaby, BC V5G 4E1

Re: Preliminary Civil Design Brief – Main & 7th Park

The following Civil Design Brief outlines the civil aspects of the project located at east 7th avenue and Main street. It begins with the existing conditions and continues with the civil design options for the site based on City requirements.

Site Description

The proposed park is located on the northwest corner of Main street and E 7th Ave. It is fronted by Main street on the east, E 7th Ave. on the south, a laneway on the west and an adjacent building on the north. The existing lot used to be a parking lot and it is fully paved with asphalt. It is currently graded to drain from the southeast corner to the northwest corner of the lot with slopes between 3.5% to 7.5%. The south half of the lot is less steep than the North half. There is about 3.0m elevation difference between the highest point and the lowest point of the lot.

Existing Drainage Conditions

The lot is currently drained with a single catch basin, located about 16m north of the south property line along the west property line. This means that any drainage north of the catch basin is likely draining overland into the lane west of the site.

Site Connections

Drainage connection to the site can only be provided from the lane to allow for gravity drainage. According to information available in the City GIS, there is a 200mm diameter storm main along the laneway. The deepest possible connection invert at the main would be around 29.8m, and at the property line it would be about 29.9m. the expected connection size is a 150mm diameter storm connection, based on an expected peak flow rate of 18.3 liters per second.
Water connection will most likely come in from the existing 150mm water main along east 7th Avenue. There is an existing 200mm water main along Main Street as well. However, it would most likely be significantly more expensive to connect to it due to the relative distance from the

150 – 6450 Roberts Street, Burnaby, BC V5G 4E1 vector@vectoreng.ca 604-298-2333

lot and the required traffic management costs. It may be useful to note that there is an abandoned water main along the laneway. Any connections in the lane would have to cross it.

Rainwater Management:

According to the City of Vancouver Rainwater Management Bulletin (July 2018), the site must comply with the following 3 requirements:

1. Retain the first 24mm of rainfall over the lot area.
   Lot Area = 947m^2
   Target to retain = 947m^2 x 24mm = 22.7m^3
   So, a minimum of 22.7 m^3 will have to be provided between retention in soils, harvesting and reuse and detention tank.
2. Treat the first 24 – 48mm of rainfall to remove at least 80% by mass of Total Suspended Solids (TSS). Treatment can be achieved mechanically with a treatment system like the Jellyfish Filter, or through percolation through a minimum of 450mm depth of growing medium.
3. Site discharge to the City system must be controlled to be no more than the predevelopment 5-years peak flows. Flow controls will have to be provided with a supporting storage tank. However, note that flow control and storage tank is likely to be governed by the retention requirement indicated in requirement 1, above.

It is important to note that both the retention and treatment requirements are possible to achieve with planting and growing medium alone. This is also the preference of the City of Vancouver. However, if it is not feasible to meet the above requirements using planting, it is possible to use mechanical structures to meet the requirements. For example, if the retention requirement cannot be achieved fully with planting, a detention tank sized to hold the remining runoff volume can be provided to supplement the retention in planting. Retention capacity of growing medium is calculated as 20% of the volume of growing medium.

There is also an option for rainwater reuse by collecting water from impervious areas and conveying it into Permavoid cells situated underneath planters. The Permavoid cells provide a storage volume for the water until such time when the soil above is below saturation levels. Then, the water in the Permavoid will be wicked up into the soil, effectively providing Passive Irrigation. This strategy may be very applicable to this site due to the elevation differences between the highest and lowest points of the site. Runoff from higher elevation areas could easily be conveyed using gravity to platers located along the lower elevation areas of the site. Other rainwater management options may include a rain garden to provide storage and treatment to rainfall, absorbent landscape to provide retention, green roofs, and more. However, more detailed analysis is required to examine the suitability of each of these rainwater management methods.

Yours truly,

Niro Tuv, AScT, BBA
Project Manager