

**VIA COURIER:**

June 14, 2018

City of Kelowna  
Planning Department  
1435 Water Street  
Kelowna, BC, V1Y 1J4

Attn: Mr. Adam Cseke, MCIP, RPP Planner, Planning Department

RE: **1940 Underhill Street (PID: 025-799-657)**  
**OCP Amendment, Rezoning, and Development Application**

We are pleased to provide you with our application for an OCP amendment and Rezoning for the above noted lands. Specifically, our application contemplates:

- An OCP Amendment of the entire site from the current Education/Institution (EDINST) and Multiple Unit Residential (High Density) (MRH), to Multiple Unit Residential (High Density) (MRH).
- A rezoning of the entire site, from the current Agricultural 1 (A1)/Education and Minor Institutions (P2)/Regional Commercial (C6), to Urban Centre Commercial (C4).
- A Development Permit on a portion of the site for the development of 3 6-storey rental residential buildings, with one building containing a minor amount of ground floor commercial.
- We are applying for a Development Variance Permit for the purpose of relaxation of parking requirements for the Initial Phase of development.

Enclosed are the following items:

- Completed Application Form and Checklist
- Development Permit Fee
- Current State of Title
- Letter of Authorization & Owner Authorization Form
- Zoning Analysis Table
- Completed Site Profile
- Rezoning and Development Permit Drawing Package
- Planning Rationale

We have also provided completed technical reports in support of our application which includes:

- Traffic Impact Assessment; and

- Servicing Study

We note that further to our recent discussions that we are including our application for Development Permit at this time despite our application not being complete. We will be providing the following additional information to complete our Development Permit Application shortly:

- Waste & Recycling, Signs, Lighting;
- Floor Plans for each floor;
- Elevation Drawings of buildings, fences, and retaining walls;
- Landscaping Plan;
- Colour and Materials Board; and
- Design Rationale.

If you have any questions or would like more information about this project please do not hesitate to contact the undersigned.

**DISTRICT DEVELOPMENTS CORP.**



per: Michael Nygren

**Enclosure**

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**CITY OF KELOWNA**  
**MEMORANDUM**

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**Date:** July 20, 2018  
**File No.:** LUC18-0004  
**To:** Urban Planning Management (AC)  
**From:** Development Engineering Manager  
**Subject:** 1940 Underhill St. for Lot A, Plan KAP74477

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Development Engineering Services have the following requirements associated with this rezoning application;

Requirements addressed in rezoning file Z18-0071 must be satisfied prior to the LUC discharge.

The discharge of Land Use Contract 76-1039 from the subject property does not compromise the Development Services Branch.



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James Kay, P. Eng.  
Development Engineering Manager

AS

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**CITY OF KELOWNA**  
**MEMORANDUM**

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**Date:** July 20, 2018  
**File No.:** OCP18-0015  
**To:** Urban Planning Management (AC)  
**From:** Development Engineering Manager (JK)  
**Subject:** 1940 Underhill Street

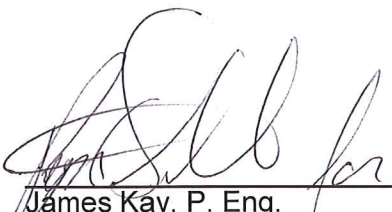
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The Development Engineering Branch comments and requirements regarding this application to amend the current OCP Designation from EDISNT & MRN to MXR to facilitate a multi-phased mixed use project.

The Development Engineering Technologist for this project is Aaron Sangster

**1) General**

All the offsite and onsite infrastructure and services upgrades will addressed in the zoning memo Z18-0071

  
\_\_\_\_\_  
James Kay, P. Eng.  
Development Engineering Manager  
AS



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## CITY OF KELOWNA

# MEMORANDUM

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**Date:** July 20, 2018  
**File No.:** Z18-0071  
**To:** Urban Planning Management (AC)  
**From:** Development Engineering Manager (JK)  
**Subject:** 1940 Underhill St A1, C6 & P2 to C4

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The Development Engineering Department has the following comments and requirements and are subject to review and requirements from the Ministry of Transportation (MOTI). The road and utility upgrading requirements outlined in this report will be a requirement of this development. The Development Engineering Technologist for this project is Aaron Sangster.

**1. General**

- a. The Fire Department and Environment Division requirements and comments are addressed separately.
- b. Provide easements as may be required.

**2. Domestic Water and Fire Protection**

- a. This property is currently serviced with a 38mm-diameter water service and a 200mm service. The disconnection of the existing smaller diameter water services at the developer's expense. Only one service will be permitted for this development.
- b. An approved backflow protection device must also be installed on site as required by the City Plumbing Regulation and Water Regulation bylaws.
- c. A water meter is mandatory for this development and must be installed inside a building on the water service inlet as required by the City Plumbing Regulation and Water Regulation bylaws. The developer or building contractor must purchase the meter from the City at the time of application for a building permit from the Inspection Services Department, and prepare the meter setter at his cost

**2. Sanitary Sewer**

- a. Our records indicate that this property is currently serviced with a 200mm-diameter sanitary sewer service. The applicant's consulting mechanical engineer will determine the requirements of the proposed development and establish the service needs. Only one service will be permitted for this development. If required, the applicant will arrange for the removal and disconnection of the existing service and the installation of one new larger service at the applicants cost. An inspection chamber and brooks box are required on the service.

- b. A downstream flow analysis check is required by a consulting civil engineer to determine the impact of additional flow contributions on the existing pipe system. If it is determined that upgrades to the existing facilities must be made, additional bonding will be required.

**3. Storm Drainage**

- a. The developer must engage a consulting civil engineer to provide a storm water management plan for this site which meets the requirements of the City Subdivision Development and Servicing Bylaw 7900. The storm water management plan must also include provision of lot grading plans, minimum basement elevations (MBE), if applicable, and provision of a storm drainage service and recommendations for onsite drainage containment and disposal systems
- b. Provide the following drawings:
  - i. A detailed Stormwater Management Plan for this development; and,
  - ii. An Erosion and Sediment Control Plan.

**4. Road Improvements**

- a. The lane on the south property line must be upgraded to a pedestrian path including LED street lights, irrigated landscaping, drainage system and pavement removal and replacement and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. City maintenance vehicle must be able to access this path.
- b. These are Development Engineering comments/requirements and are subject to the review and requirements from the Ministry of Transportation (MOTI) Infrastructure Branch. A TIA maybe required for this development and improvements maybe required from this Report.

**5. Road Dedication and Subdivision Requirements**

- a. Grant Statutory Rights of Way if required for utility services.
- b. If any road dedication or closure affects lands encumbered by a Utility right-of-way (such as Hydro, TELUS, Gas, etc.) please obtain the approval of the utility. Any works required by the utility as a consequence of the road dedication or closure must be incorporated in the construction drawings submitted to the City's Development Manager

**6. Electric Power and Telecommunication Services**

The electrical and telecommunication services to this building must be installed in an underground duct system, and the building must be connected by an underground service. It is the developer's responsibility to make a servicing application with the respective electric power, telephone and cable transmission companies to arrange for these services, which would be at the applicant's cost.

**7. Design and Construction**

- a. Design, construction supervision and inspection of all off-site civil works and site servicing must be performed by a Consulting Civil Engineer and all such work is subject to the approval of the City Engineer. Drawings must conform to City standards and requirements.



- b. Engineering drawing submissions are to be in accordance with the City's "Engineering Drawing Submission Requirements" Policy. Please note the number of sets and drawings required for submissions.
- c. Quality Control and Assurance Plans must be provided in accordance with the Subdivision, Development & Servicing Bylaw No. 7900 (refer to Part 5 and Schedule 3).
- d. A "Consulting Engineering Confirmation Letter" (City document 'C') must be completed prior to submission of any designs.
- e. Before any construction related to the requirements of this subdivision application commences, design drawings prepared by a professional engineer must be submitted to the City's Works & Utilities Department. The design drawings must first be "Issued for Construction" by the City Engineer. On examination of design drawings, it may be determined that rights-of-way are required for current or future needs.

#### 8. Other Engineering comments

- a. Underground parking entrance grade and radius to be confirmed.
- b. Only one access to this property is allowed as per bylaw 7900. The existing driveway letdown must be removed and replaced with barrier curb and gutter, sidewalk and boulevard.
- c. A MSU standard size vehicle must be able to manoeuvre onto and off the site without requiring a reverse movement onto public roadways. If the development plan intends to accommodate larger vehicles movements should also be illustrated on the site plan.

#### 9. Geotechnical Report

Provide a comprehensive geotechnical report, prepared by a Professional Engineer competent in the field of hydro-geotechnical engineering to address the items below:  
**NOTE: The City is relying on the Geotechnical Engineer's report to prevent any damage to property and/or injury to persons from occurring as a result of problems with soil slippage or soil instability related to this proposed subdivision.**

The Geotechnical report must be submitted prior to submission of Engineering drawings or application for subdivision approval.

- (i) Area ground water characteristics, including any springs and overland surface drainage courses traversing the property. Identify any monitoring required.
- (ii) Site suitability for development.
- (iii) Site soil characteristics (i.e. fill areas, sulphate content, unsuitable soils such as organic material, etc.).
- (iv) Any special requirements for construction of roads, utilities and building structures.
- (v) Suitability of on-site disposal of storm water and sanitary waste, including effects upon adjoining lands.
- ii) Any special requirements that the proposed subdivision should undertake so that it will not impact the bank(s). The report must consider erosion and structural requirements.

- iii) Any items required in other sections of this document.
- iv) Recommendations for erosion and sedimentation controls for water and wind.
- v) Recommendations for roof drains and perimeter drains.
- vi) Recommendations for construction of detention or infiltration ponds if applicable.

**10. Servicing Agreement for Works and Services**


- a. A Servicing Agreement is required for all works and services on City lands in accordance with the Subdivision, Development & Servicing Bylaw No. 7900. **The applicant's Engineer, prior to preparation of Servicing Agreements, must provide adequate drawings and estimates for the required works.** The Servicing Agreement must be in the form as described in Schedule 2 of the bylaw.
- b. Part 3, "Security for Works and Services", of the Bylaw, describes the Bonding and Insurance requirements of the Owner. The liability limit is not to be less than \$5,000,000 and the City is to be named on the insurance policy as an additional insured.

**11. Charges and Fees**

- a) Development Cost Charges (DCC's) are payable.
- b) Fees per the "Development Application Fees Bylaw" include:
  - i) Survey Monument, Replacement Fee: \$1,200.00 (GST exempt) – only if disturbed.
  - ii) Engineering and Inspection Fee: 3.5% of construction value (plus GST).

**12. Survey, Monument and Iron Pins**

If any legal survey monuments or property iron pins are removed or disturbed during construction, the developer will be invoiced a flat sum of \$1,200.00 per incident to cover the cost of replacement and legal registration. Security bonding will not be released until restitution is made.



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James Kay, P. Eng.  
Development Engineering Manager

AS



# 1940 UNDERHILL STREET

REZONING & DEVELOPMENT PERMIT 06.2018

LEGAL DESCRIPTION

PLAN KAP74477 LOT A DISTRICT LOT 127 & DL 4646

ADDRESS

1940 UNDERHILL STREET, KELOWNA

OWNER

1940 UNDERHILL DEVELOPMENTS CORP.  
C/O DISTRICT DEVELOPMENTS CORP.  
200-8809 Heather Street, Vancouver, BC  
(604) 683-2404

ARCHITECT

DIALOG  
611 Alexander St, Vancouver, BC  
(604) 255-1169



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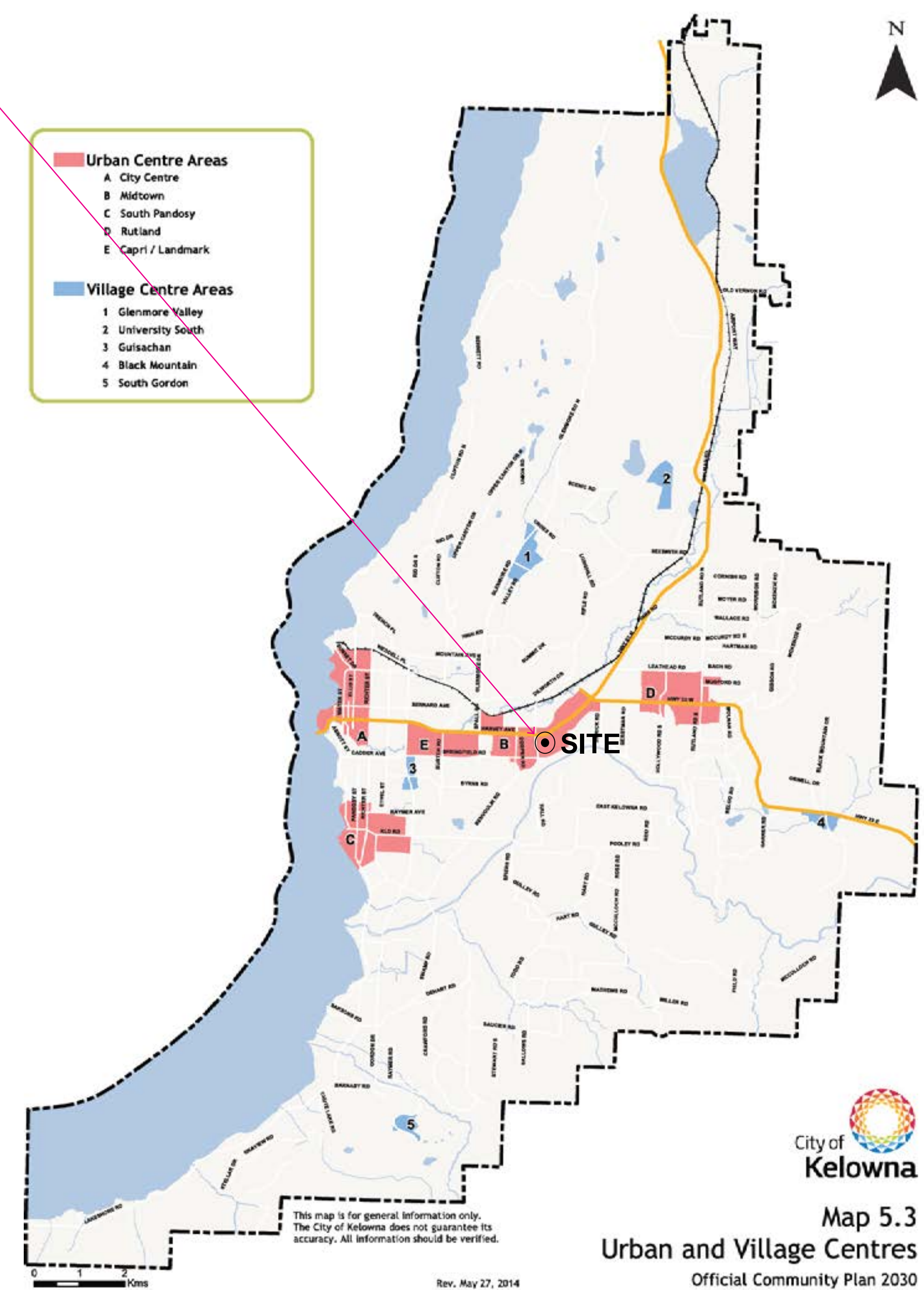
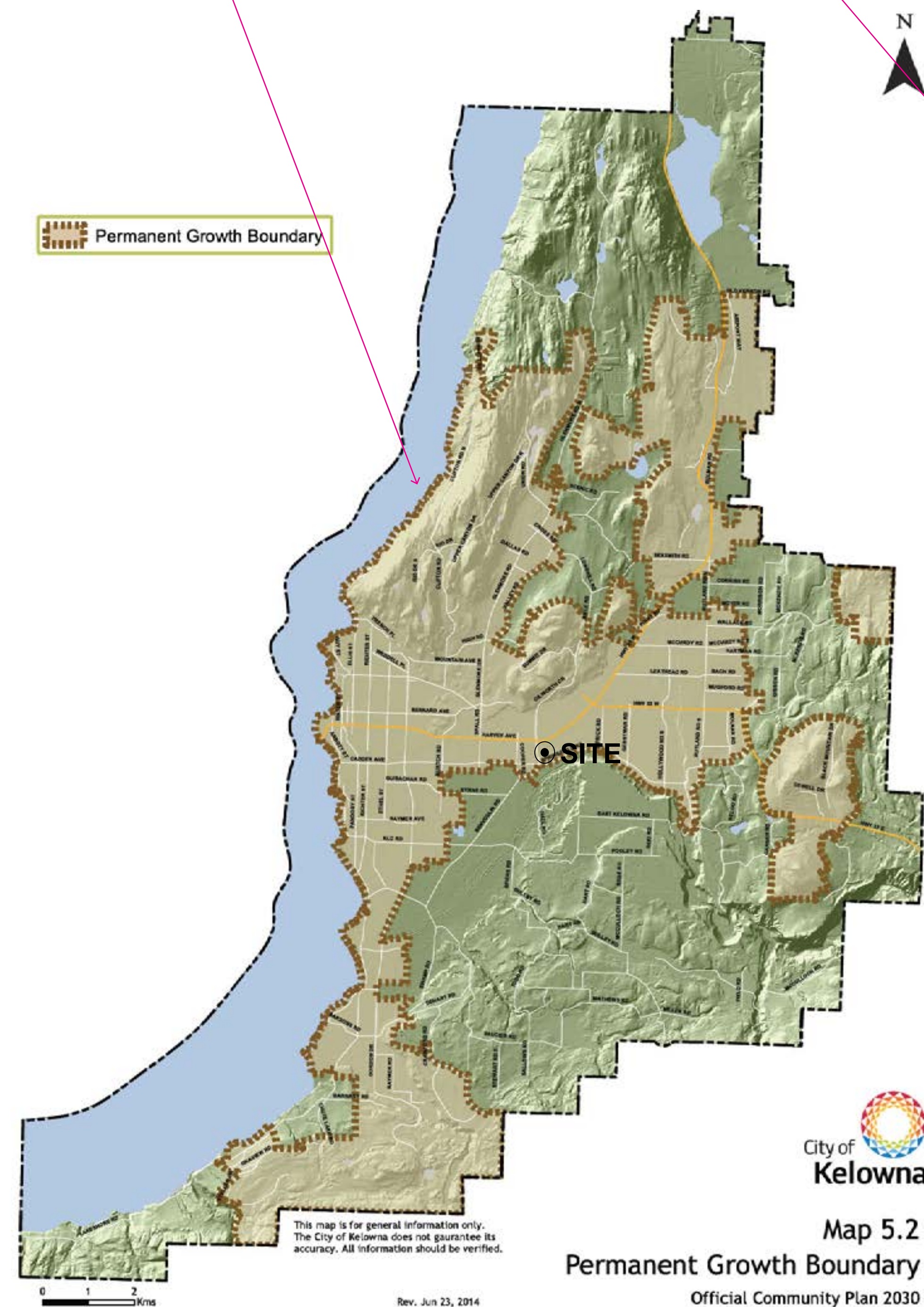
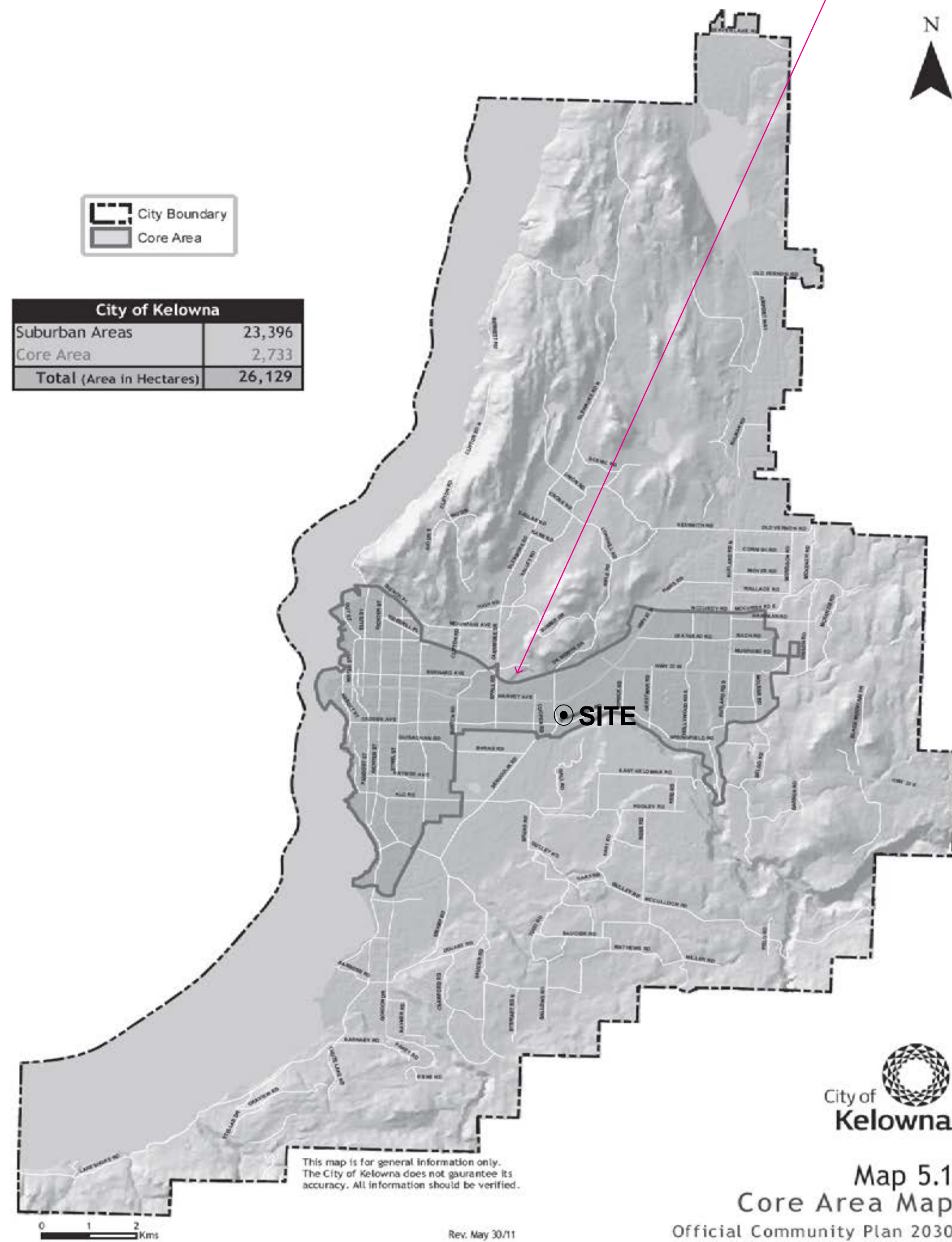


# 01

CITY CONTEXT

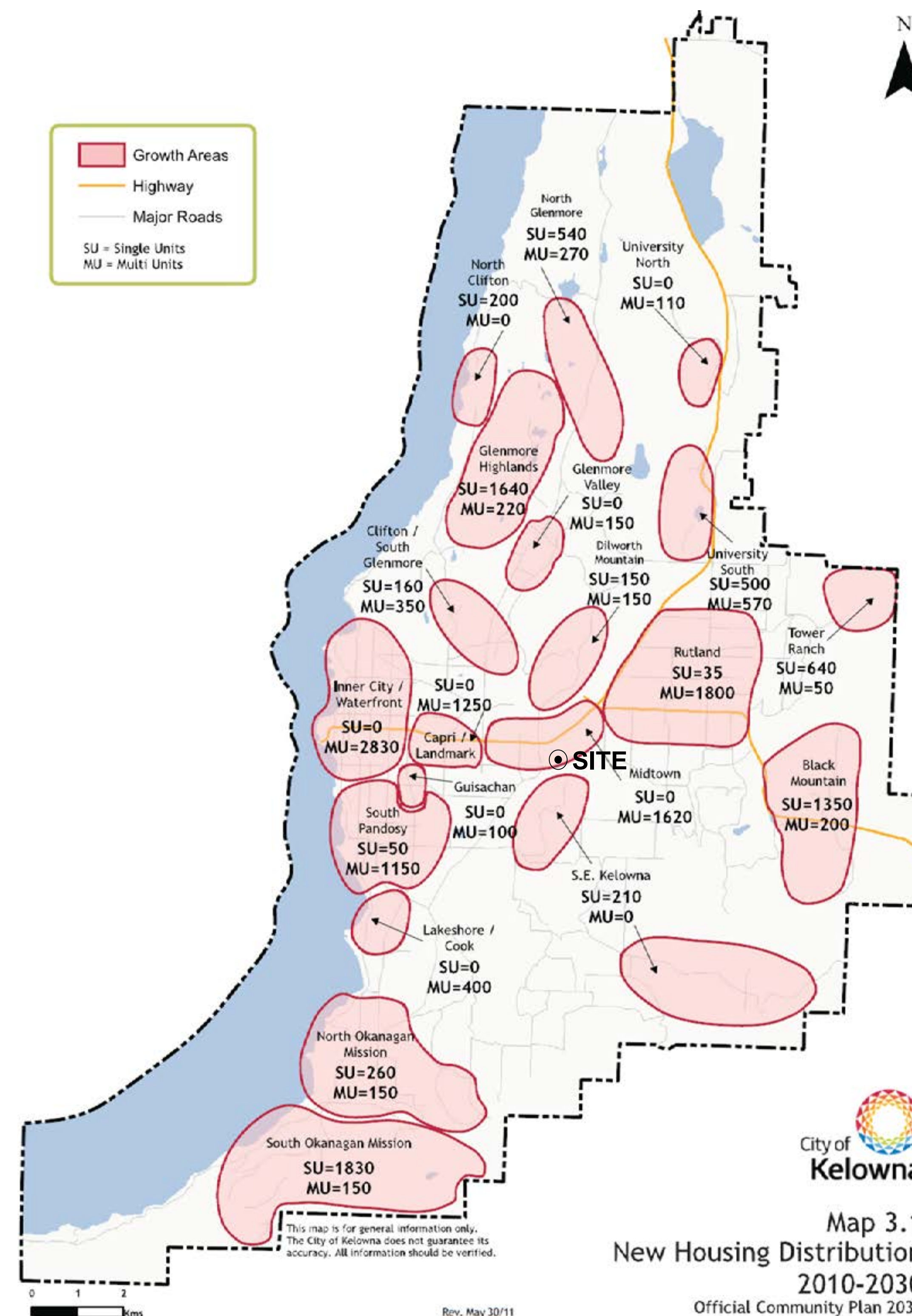


The maps above are from Kelowna's Official Community Plan ("Kelowna 2030") and indicate the City's urban structure strategies on a citywide basis. These maps illustrate that our site is located within the "Core Area," within the "Permanent Growth Boundary," within one of the only five designated "Urban Centre Areas," and within the "Central City" sector.

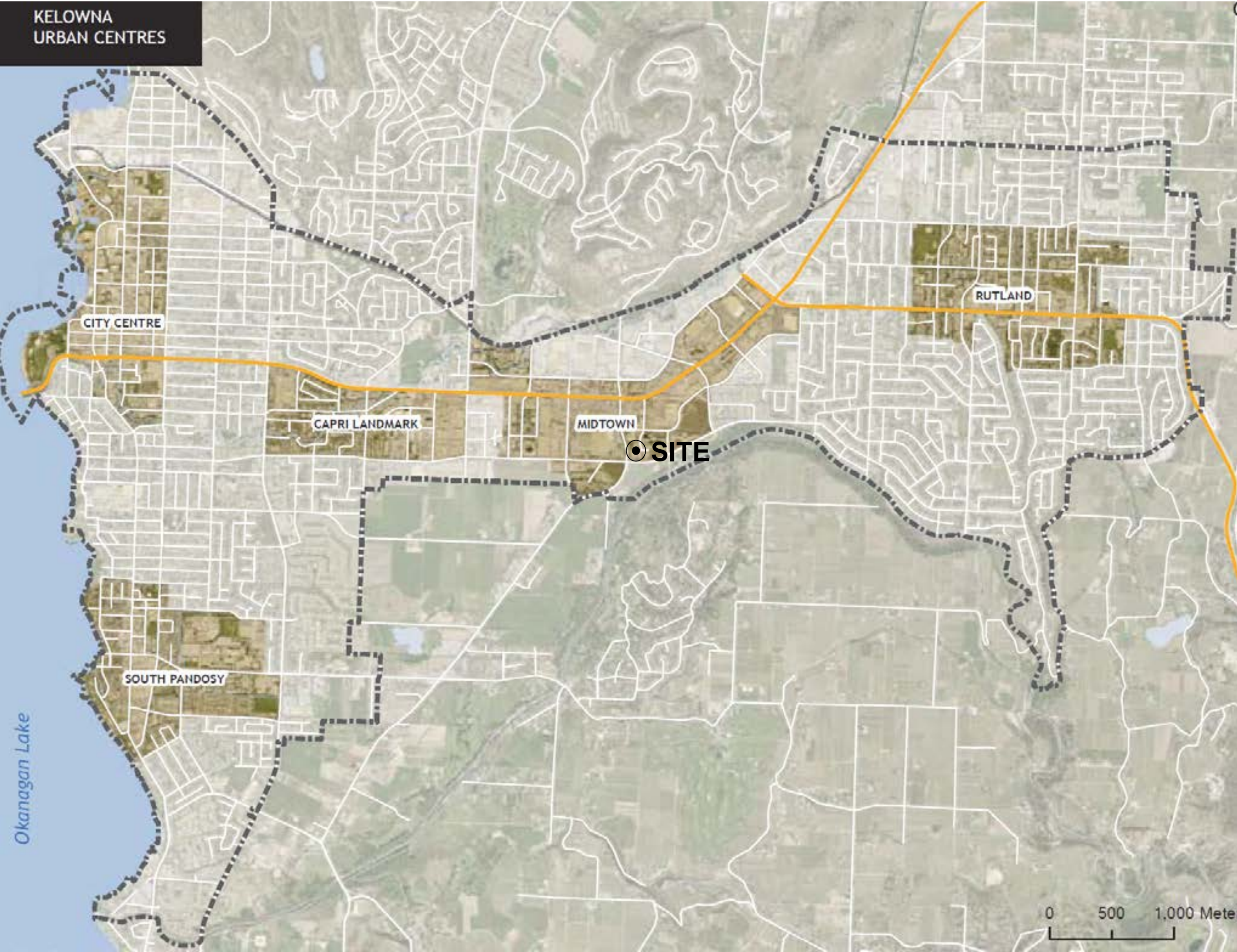




OCP 2030 Vision for Urban Centres. A vibrant, amenity-rich area wherein different land uses frequently occur within the same building and almost always occur within a one-block area. Urban centres contain a variety of housing types, the presence of which contributes to social diversity. Urban centres are highly urbanized, pedestrian friendly environments that draw people for work, shopping, and recreation from a broad community of approximately 25,000 residents living within approximately 2 kilometres.







Principles for Urban Centre Development

- Principle 1: Mix it Up
- Principle 2: Places for People
- Principle 3: Healthy Housing Mix
- Principle 4: Social Spaces
- Principle 5: Placemaking
- Principle 6: Going Green
- Principle 7: People First Transportation
- Principle 8: Make it Walkable

Data in this page is from Urban Centers Roadmap (July 2016) by the City of Kelowna

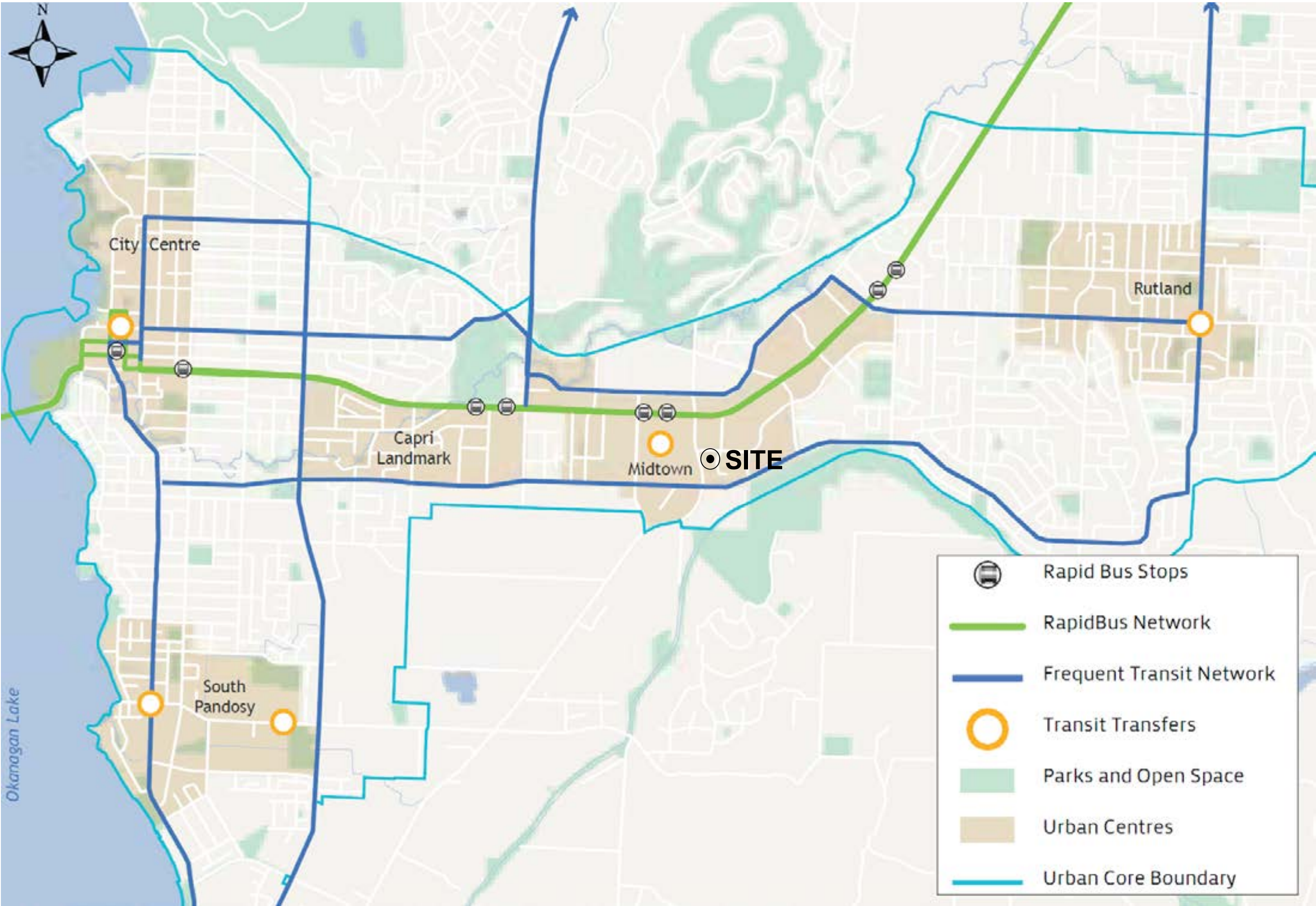
Urban Centre Metrics	City Centre	South Pandosy	Capri-Landmark	Rutland	Midtown
Population	3,791	4,184	2,249	5,607	1,846
Population Density (people per hectare)	22.8	30	23	33	9.8
Employment	10,142	3,895	8,523	1,400	6,733
Employment Density (jobs per hectare)	61	25	87	14.2	35.9
Major Parks and Public Spaces	City Park, Waterfront Park, Stuart Park, Rowcliffe Park	Boyce-Gyro Park, Kinsmen Park, Osprey Park, Raymer School, Fascieux Park	Pacific Court Park, Parkinson is just outside boundary of Capri-Landmark	Ben Lee Park, Rutland Centennial Park, Rutland Lions Park, Roxby Plaza	Mill Creek Linear Park, Barlee Park, Mission Creek Park is just outside boundary of Midtown
Existing Active Transportation Corridors (ATCs)	Cawston Ave, Waterfront / Abbott, Art Walk	Lakeshore / Abbott, KLO	Sutherland	Houghton, Hollywood	No ATC exists (Dilworth Planned)
Frequent and Rapid Transit Stops	Queensway, Harvey, Pandosy	Pandosy, KLO, Gordon	Harvey, Springfield	Rutland, Exchange, Highway 33, Rutland	Orchard Park, Exchange, Harvey, Springfield
Housing Split % (Multi / Single Family)	88 / 12	80 / 20	80 / 20	76 / 24	94 / 6

" We need to build on the potential that is there, make sure each centre has a heart or focus area."

- Stakeholder workshop participant



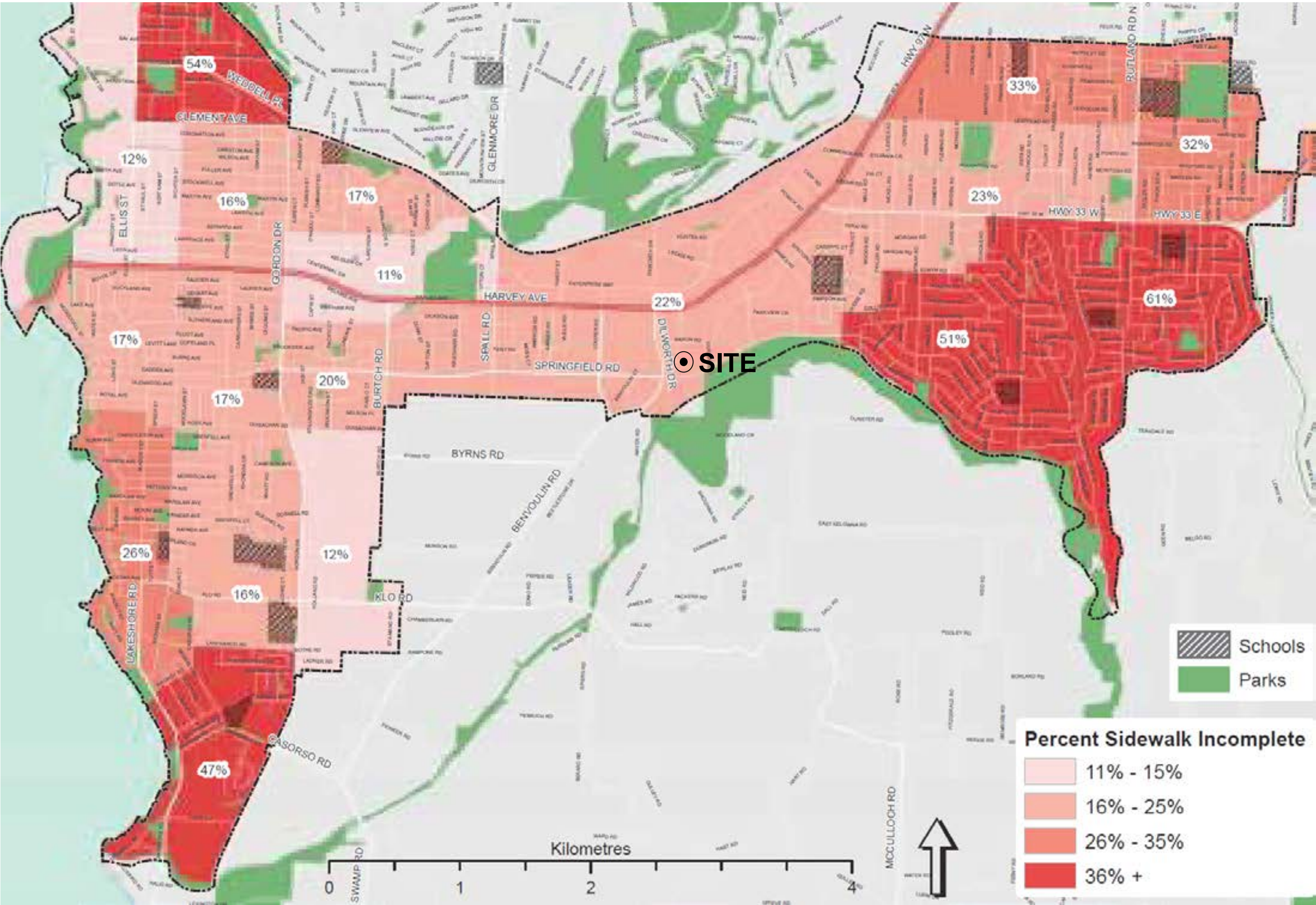
FREQUENT TRANSIT LINKING FIVE URBAN CENTRES



The urban centres are also well-positioned from a transit perspective with Rapid-bus and frequent transit corridors linking all five urban centres. The urban centres will also be linked by existing or planned ATCs that will form the primary pedestrian and bicycle network as identified by the Pedestrian and Cycling Master Plan.

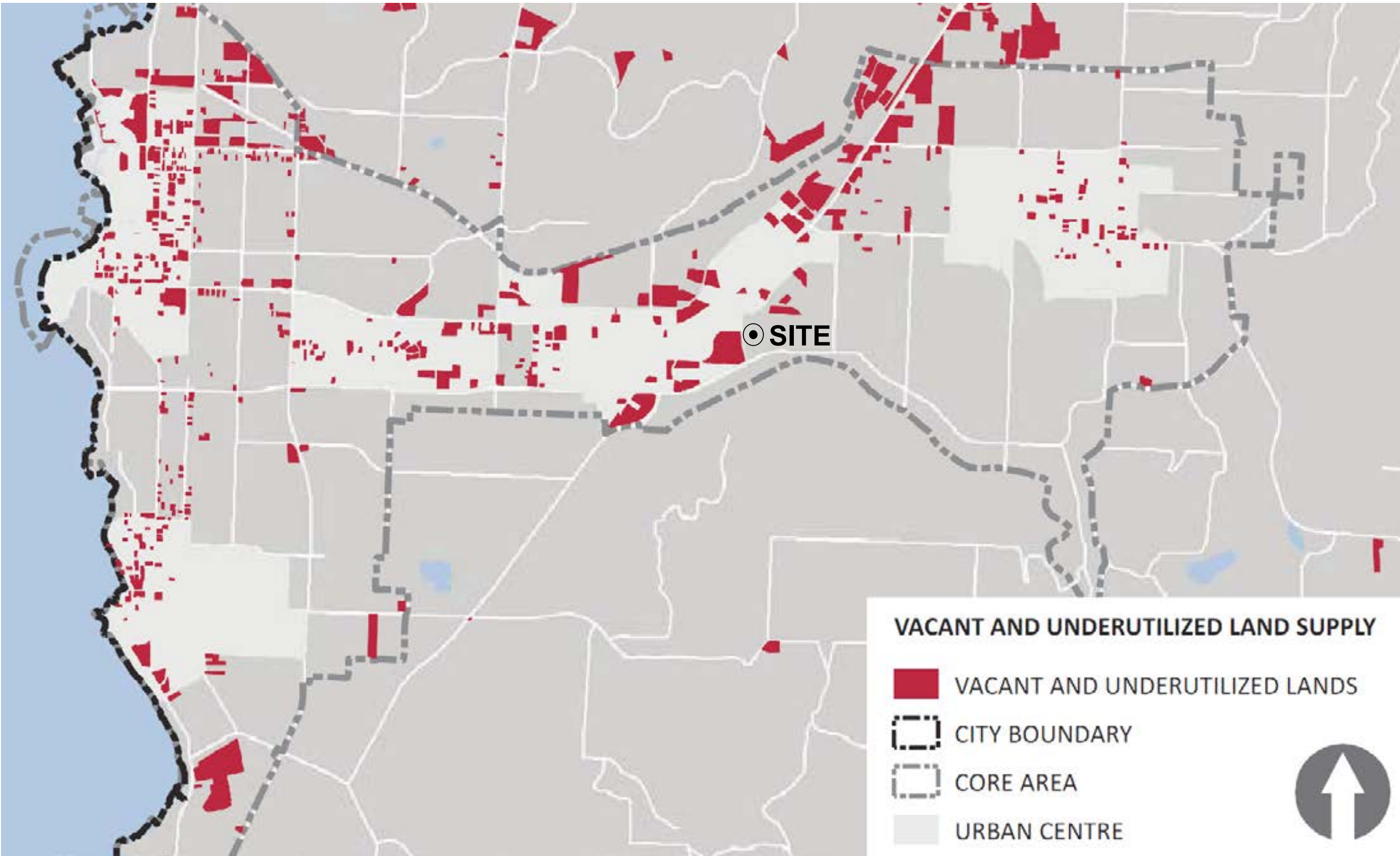
Data in this page is from Urban Centers Roadmap (July 2016) by the City of Kelowna

WALKABILITY GAPS



The mapping reinforces the need for significant improvements in sidewalk construction in all of the urban centres to create walkable and transit oriented urban centres.





Based on a technical analysis of vacant and underutilized parcels, there is capacity to support 11,000 units and 6,500 jobs in the Urban Core. This information reinforces there is ample development potential in the urban centres to support growth in the short-term and long-term.

Data in this page is from Urban Centers Roadmap (July 2016) by the City of Kelowna

URBAN CENTRE PLANNING PRIORITIZATION MATRIX

Urban Centre	Degree of Change and Development Pressure Expected (land use and transportation)	Need for Community Amenities (parks, public space, streetscaping)	Need to Define Civic Investment Priorities (parks, transit, streetscaping)	Age of Existing Plan
City Centre	High	Low	Low	2012, 2016
Capri-Landmark	High	High	High	No Plan
Midtown	High	High	High	1998
South Pandosy	Medium	Low	Low	1997, 2013
Rutland	Medium	Medium	Medium	2005, 2009

CURRENT CHARACTER

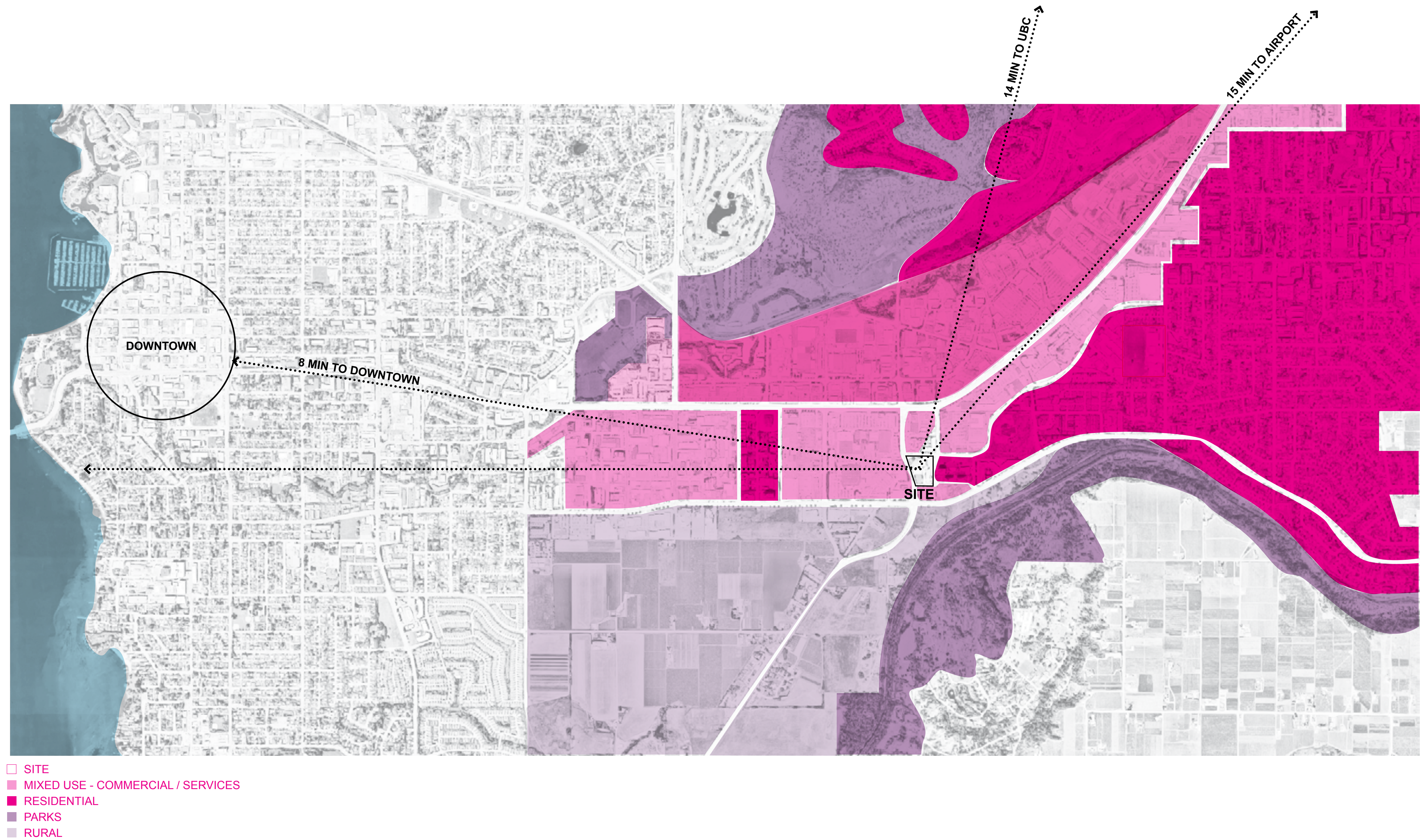
Urban Centre	Strengths	Challenges
City Centre	<ul style="list-style-type: none"><li>Proximity to transit exchange</li><li>Access to public and open space</li><li>Active transportation routes and walkability</li><li>Distinct identity</li><li>High employment density</li><li>Cultural and civic heart</li><li>Access to waterfront</li></ul>	<ul style="list-style-type: none"><li>Below residential population objectives for downtown</li><li>Gaps in sidewalk infrastructure</li><li>Highway serves as a barrier</li><li>Homelessness</li><li>Small lot sizes (Leon Ave and Lawrence Ave)</li></ul>
South Pandosy	<ul style="list-style-type: none"><li>Vacant parcels at south boundary</li><li>Streetscape on Pandosy St</li><li>Concentration of distinctive retail</li><li>Range of public spaces along lake</li><li>Surrounding residential areas</li><li>Parking management plan in place</li></ul>	<ul style="list-style-type: none"><li>Connections to waterfront from Pandosy St</li><li>Low residential density</li><li>Lack of east-west cycling connections</li><li>Lack of community facilities</li><li>East-west transportation connectivity east of Richter St</li></ul>
Capri-Landmark	<ul style="list-style-type: none"><li>Proximity to frequent transit</li><li>Proximity to Parkinson Recreation Centre</li><li>Sutherland ATC expansion</li><li>High employment density</li><li>Capri redevelopment</li><li>Commercial nodes along Sutherland</li></ul>	<ul style="list-style-type: none"><li>Limited public and open space</li><li>Discontinuous street network</li><li>Lack of sidewalks and street trees</li><li>Large block sizes</li><li>Lack of permeable surfaces in Landmark</li><li>Lack of pedestrian crossings on arterials</li></ul>
Rutland	<ul style="list-style-type: none"><li>Access to park space</li><li>Recent investments in Roxby Plaza and Rutland Centennial Park</li><li>Transit exchange improvements</li><li>Community market</li></ul>	<ul style="list-style-type: none"><li>Highway 33 bisects the area</li><li>Lack of defined core for the area</li><li>Walkability of Highway 33</li><li>Pedestrian and cycling connections are limited</li><li>Discontinuous street network</li></ul>
Midtown	<ul style="list-style-type: none"><li>Access to Rapid bus</li><li>Major employment centre</li><li>Farmers' market</li><li>Major opportunity sites for development</li></ul>	<ul style="list-style-type: none"><li>Lack of public space and green space</li><li>Very poor pedestrian environment</li><li>Poor street connectivity</li><li>Lack of sense of place</li></ul>



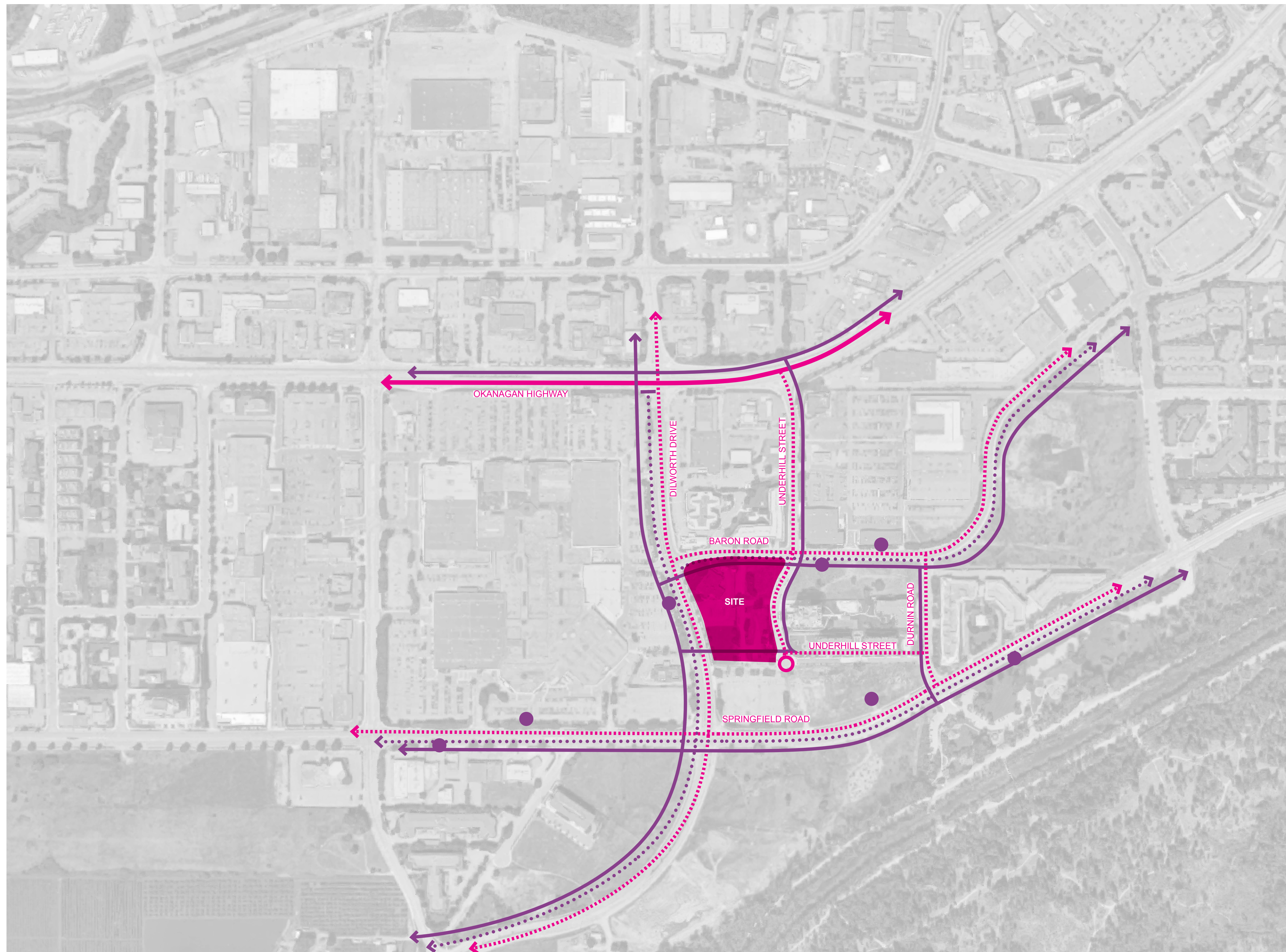
An aerial photograph of a vineyard in the foreground, with a lake and a town in the middle ground, and mountains in the background. The text '02 SITE CONTEXT' is overlaid on the image.

## 02 SITE CONTEXT



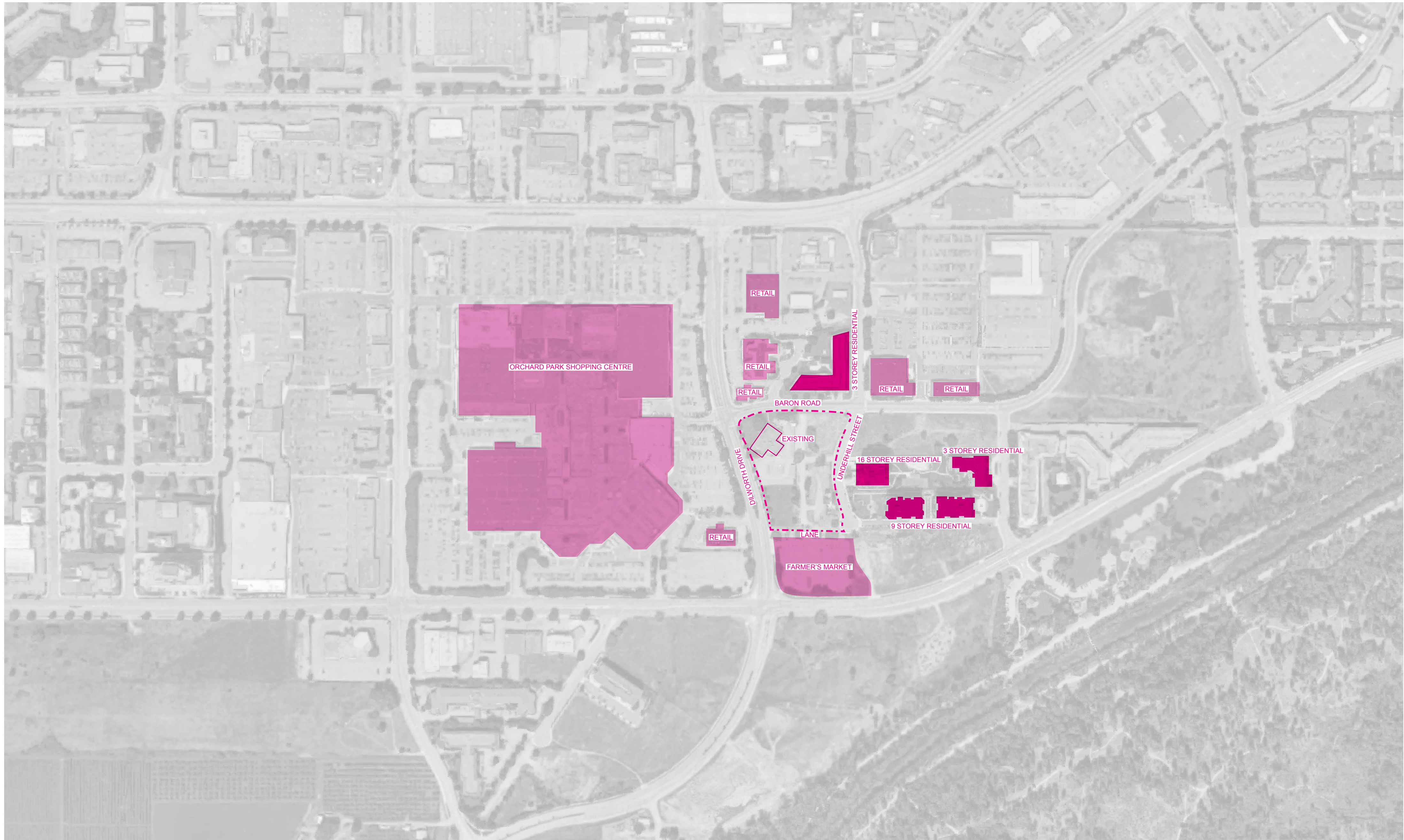




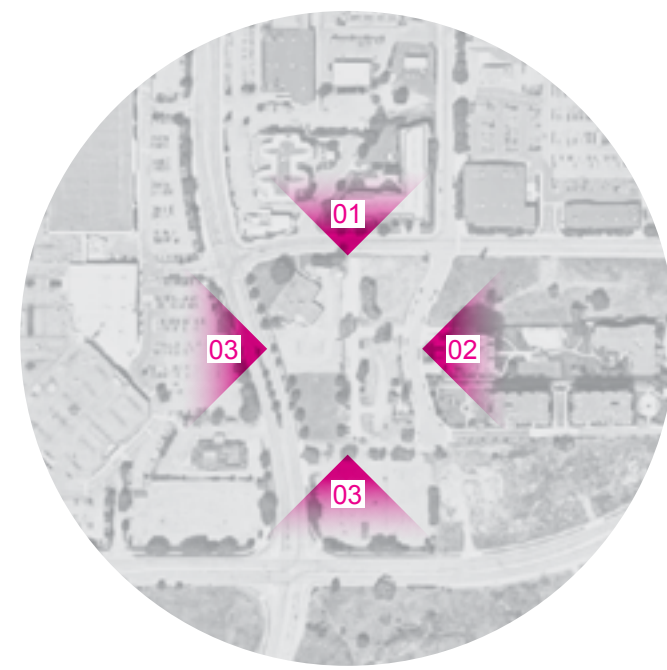


- HIGHWAYS
- - - ROADS
- PEDESTRIAN
- - - BIKE ROUTES
- BUS STOPS









01



02



03



04





01



02



03



04





# 03 ZONING DATA

## SITE DATA

### LEGAL DESCRIPTION

PLAN KAP74477 LOT A DISTRICT LOT 127 & DL 4646  
PID 025-799-657  
KID 606118

### CIVIC ADDRESS

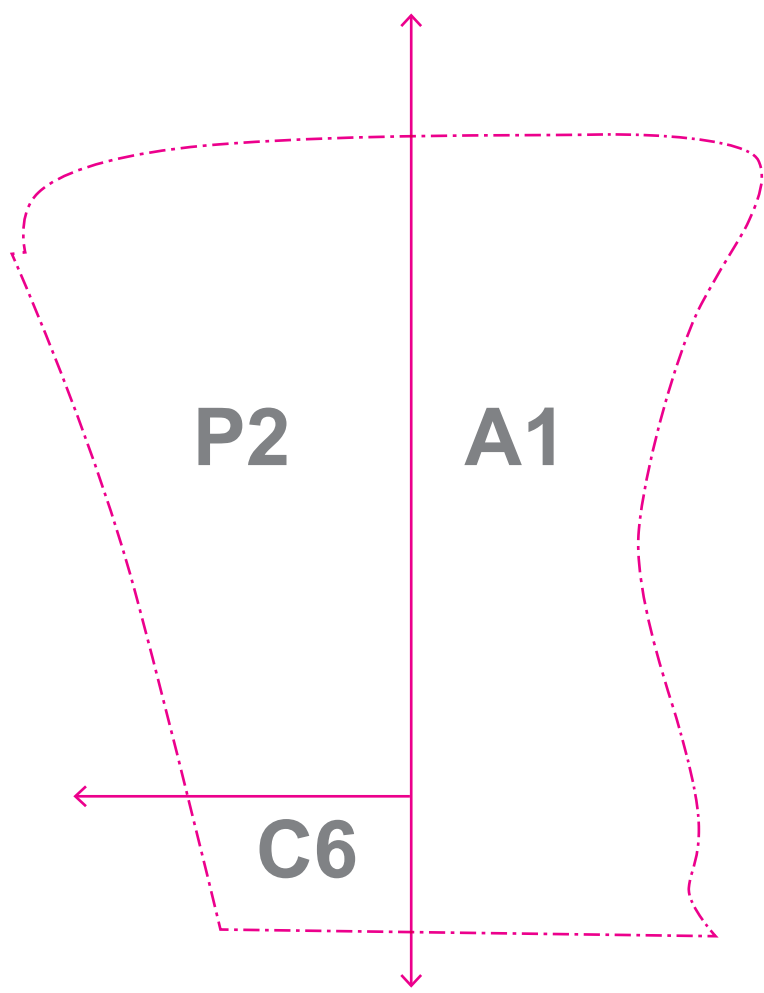
1940 UNDERHILL STREET, KELOWNA

### CURRENT ZONING

**A1** (AGRICULTURAL 1);  
**P2** (EDUCATIONAL AND MINOR INSTITUTIONAL)  
**C6** (REGIONAL COMMERCIAL)

### SITE AREA

16244.80m<sup>2</sup> (174857.57SF)



### PROPOSED ZONING

**C4**

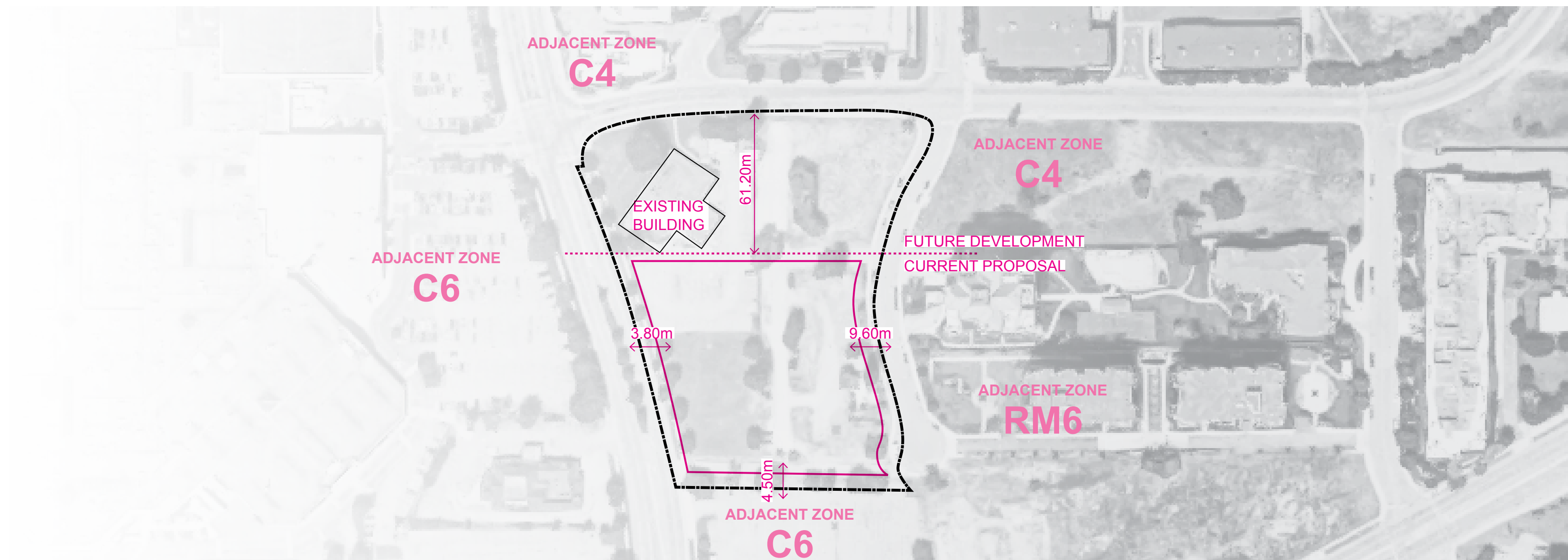
## C4 ZONING DATA

MAX FAR 1.3 + bonuses = max 2.35	2.35
SITE COVERAGE	max 75%
BUILDING HEIGHT	15m
SETBACKS	
FRONT YARD	0.0m
SIDE YARD	0.0m
SIDE YARD FROM RM6	2.0m
REAR YARD	0.0m

## PROPOSED

FAR PROPOSED DEVELOP.	1.20
SITE COVERAGE CURRENT + PROPOSED DEVELOP.	28.87%
BUILDING HEIGHT	19.35m
SETBACKS	
FRONT YARD	61.20m
SIDE YARD	9.60m / 3.80m
REAR YARD	4.50m

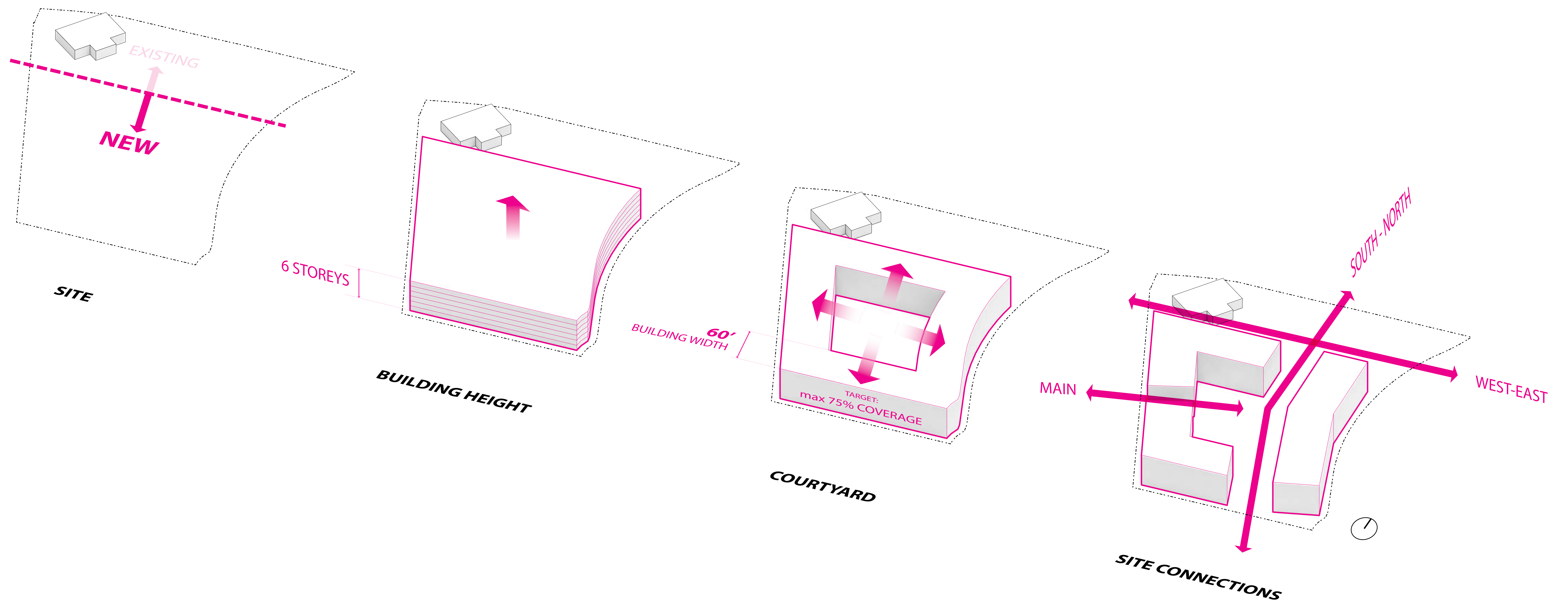
**NOTE:** CURRENT DATA REFLECTS PROPOSED DEVELOPMENT FOR THE SOUTH PORTION OF THE LOT. FUTURE DEVELOPMENT TO INCLUDE PROPOSAL FOR THE NORTH PORTION OF THE LOT.

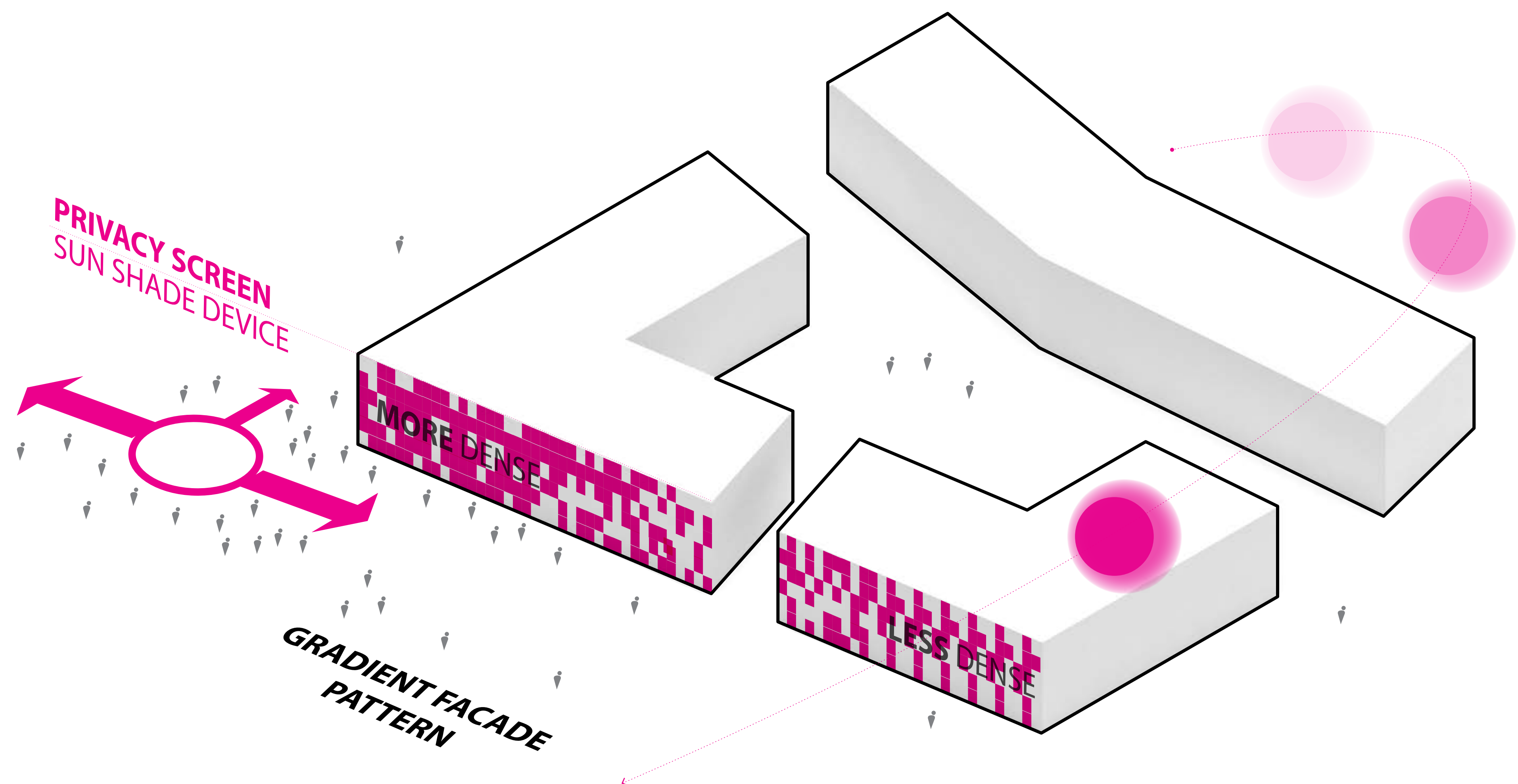




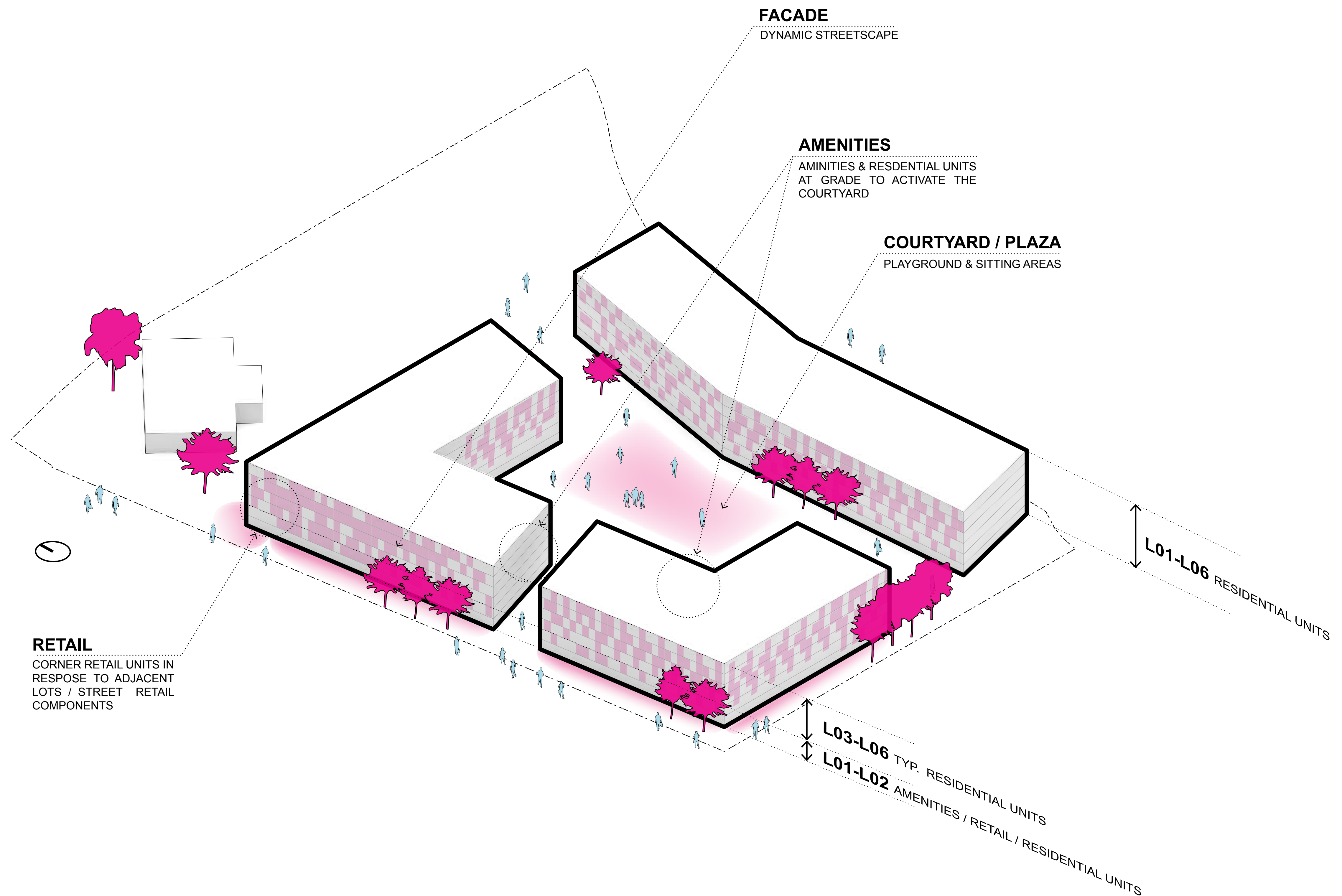
# 04 DESIGN RATIONALE









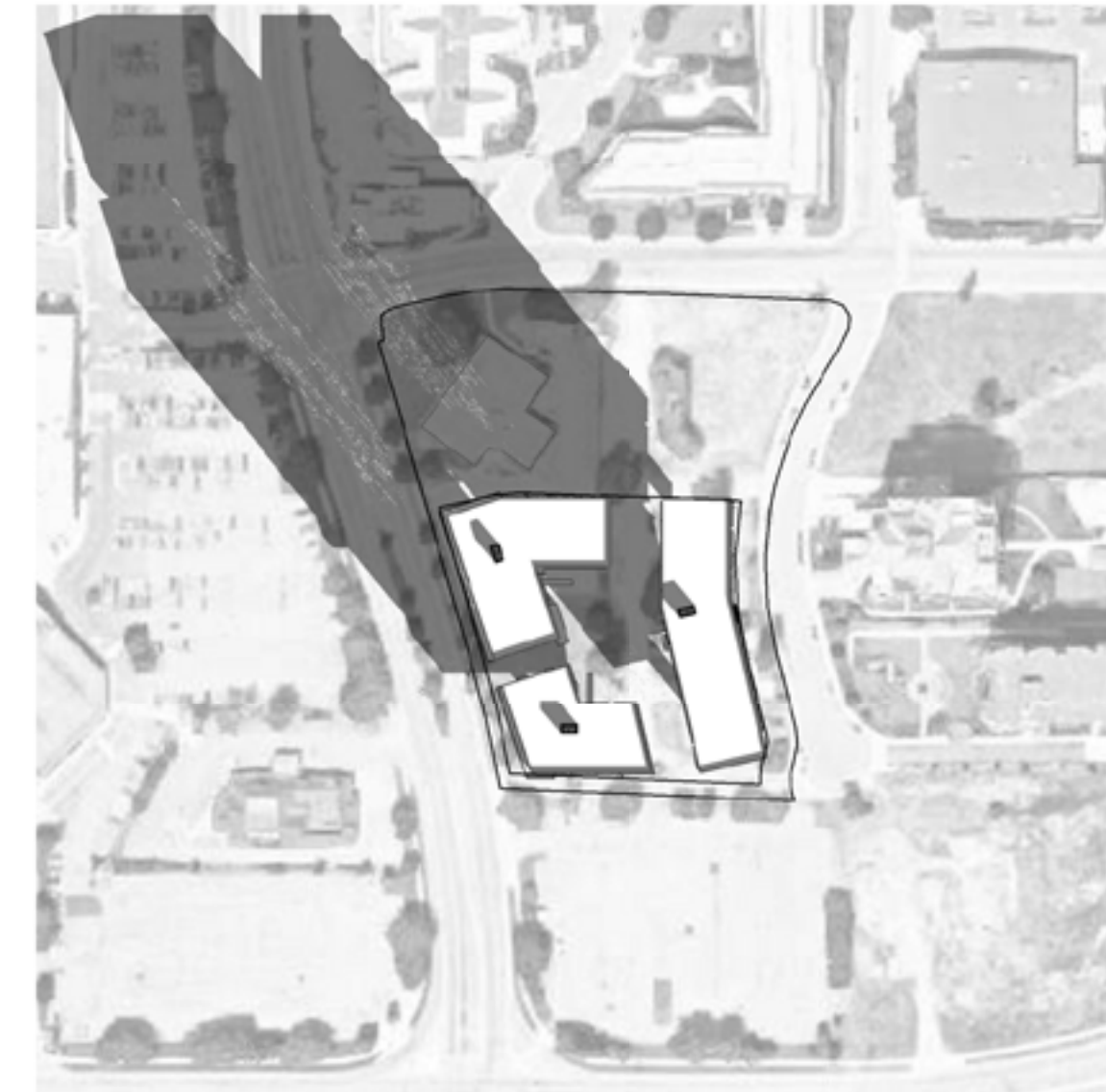
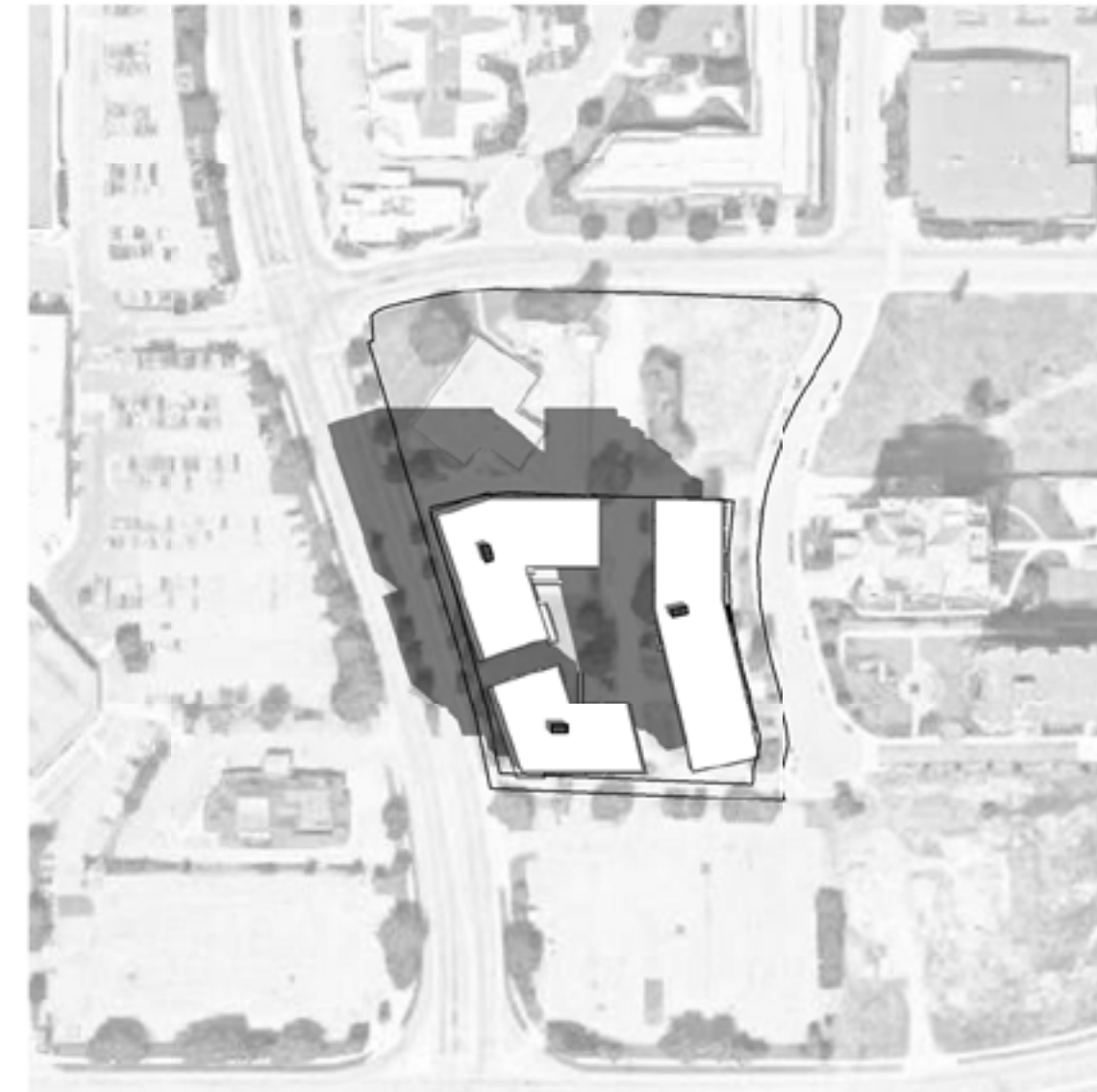
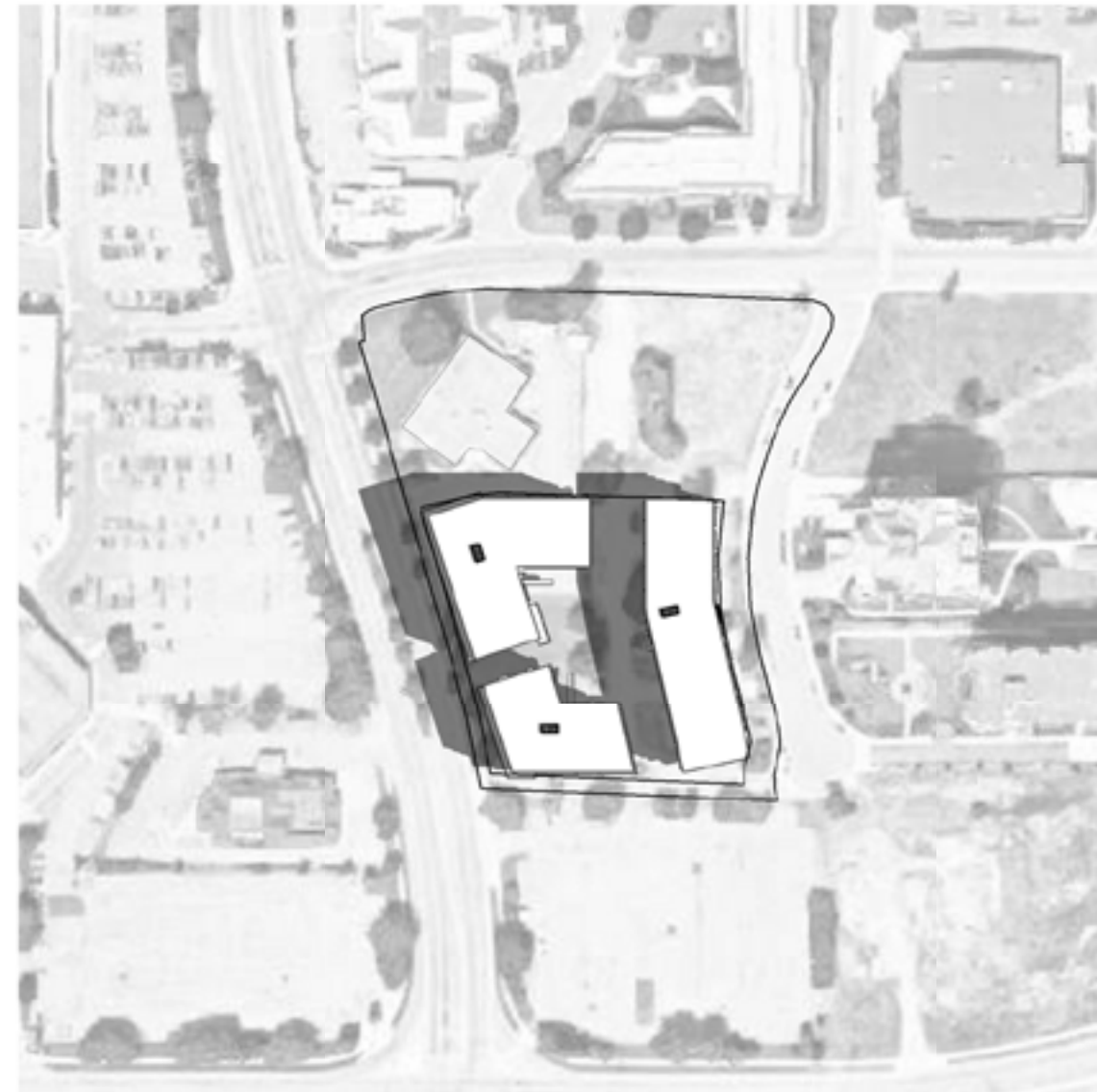




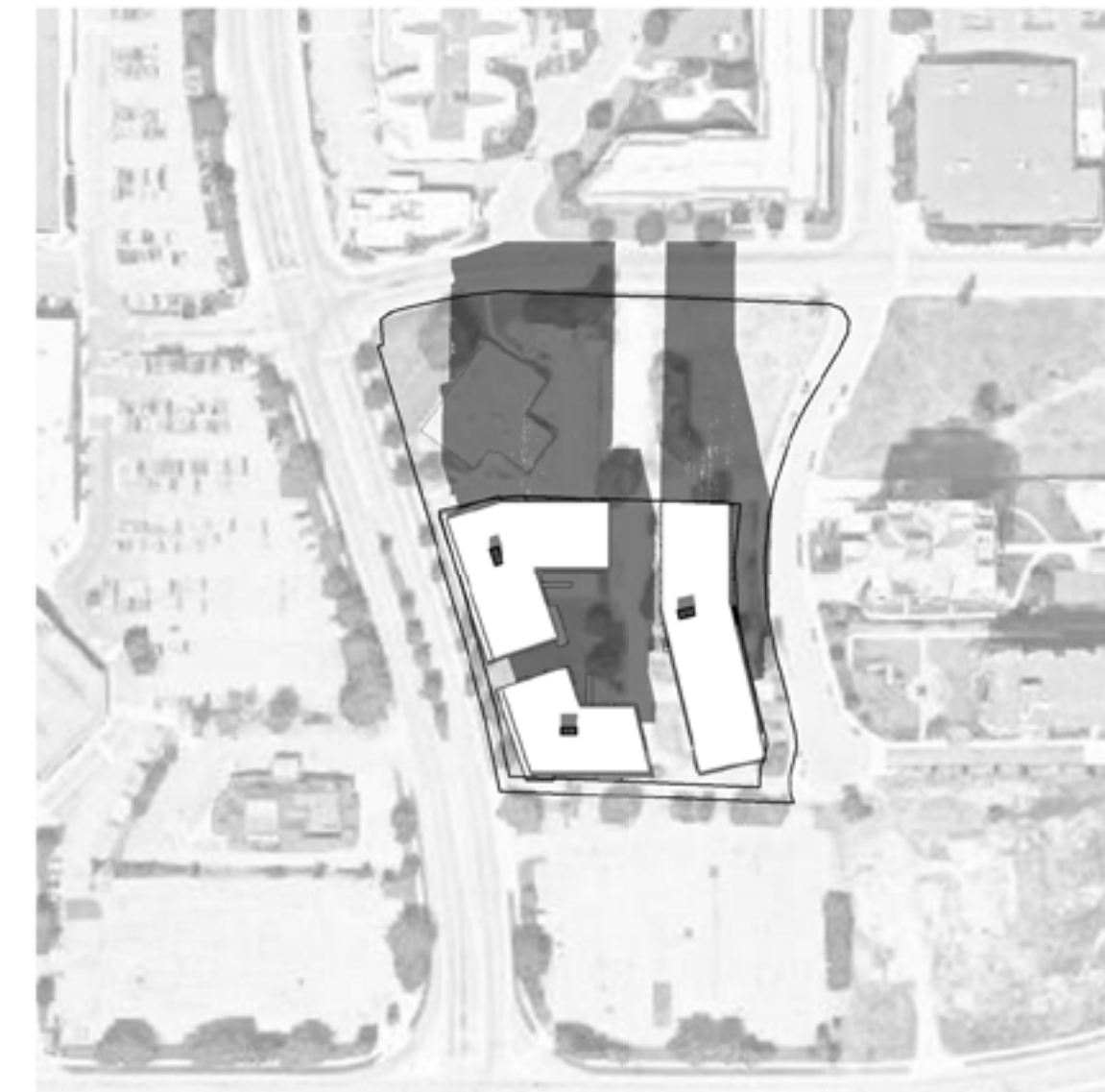
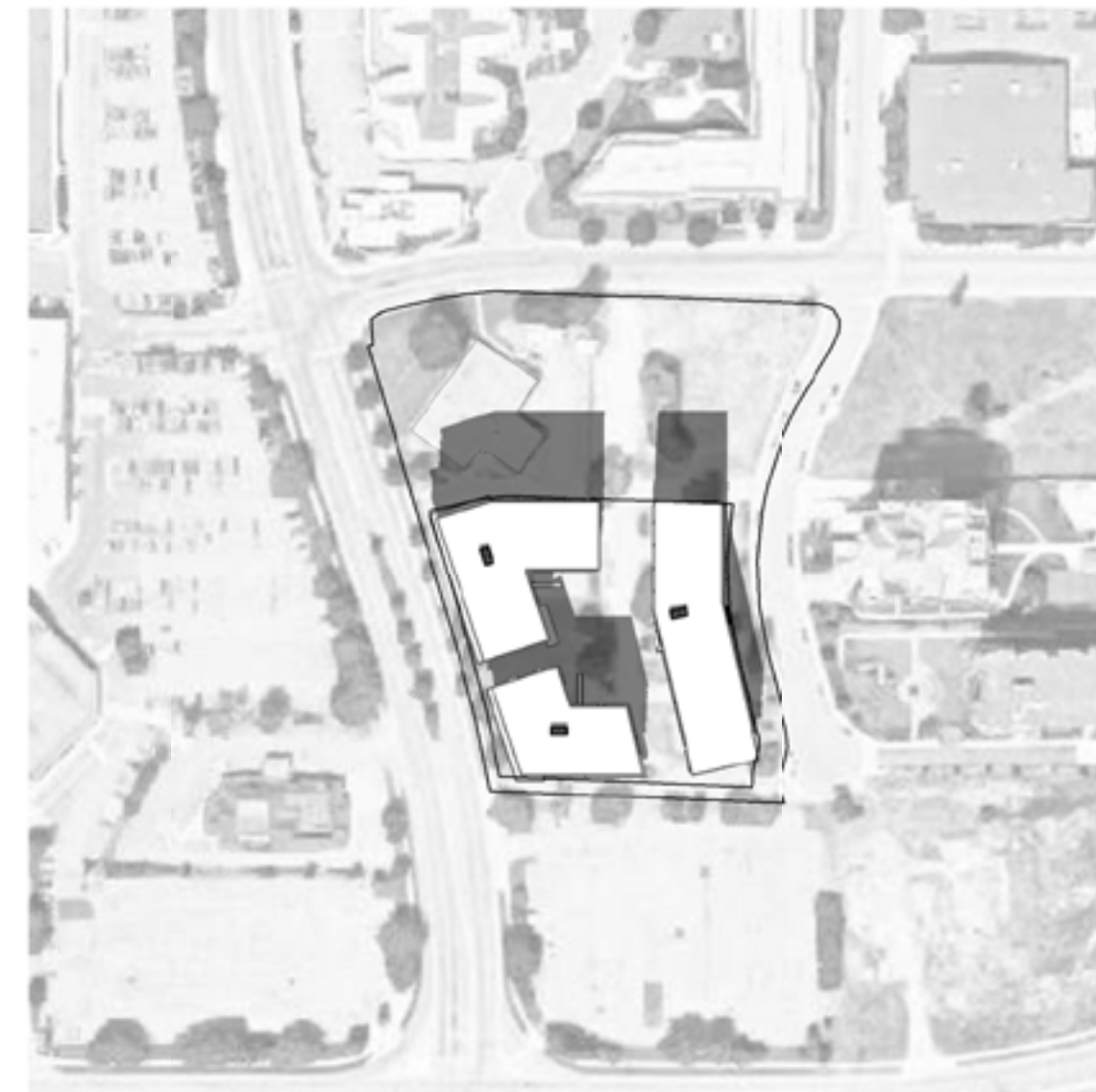
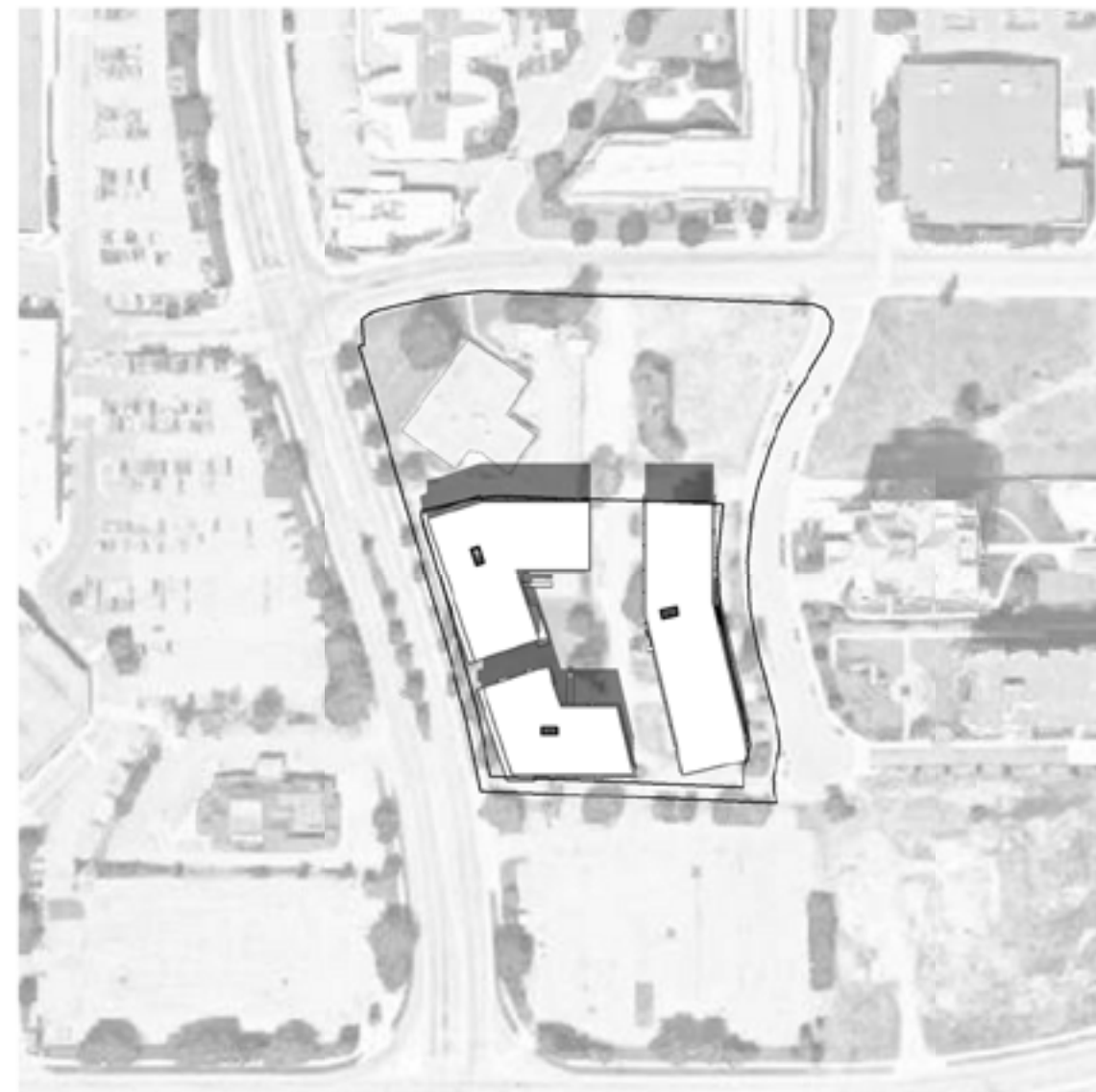




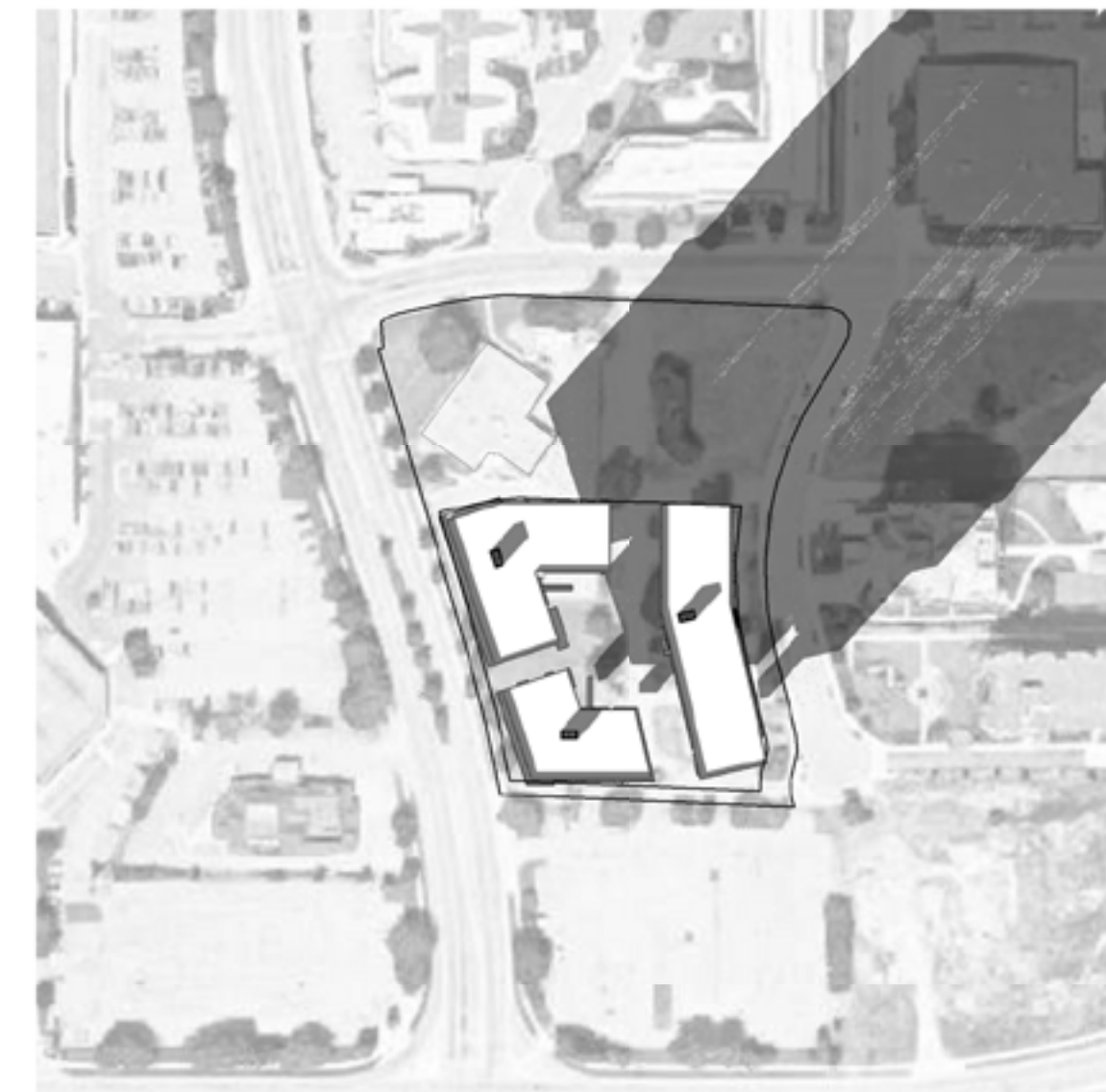
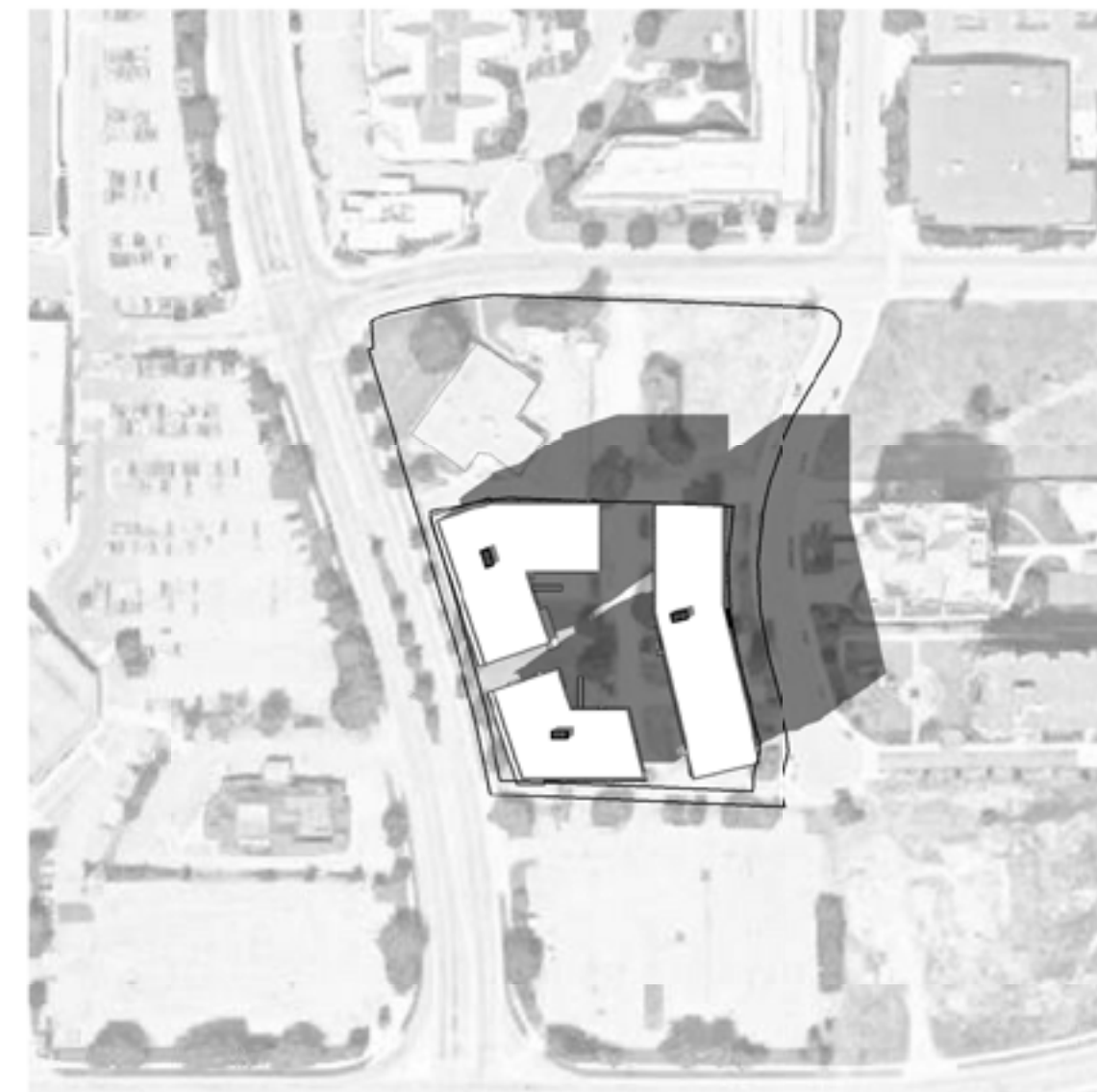
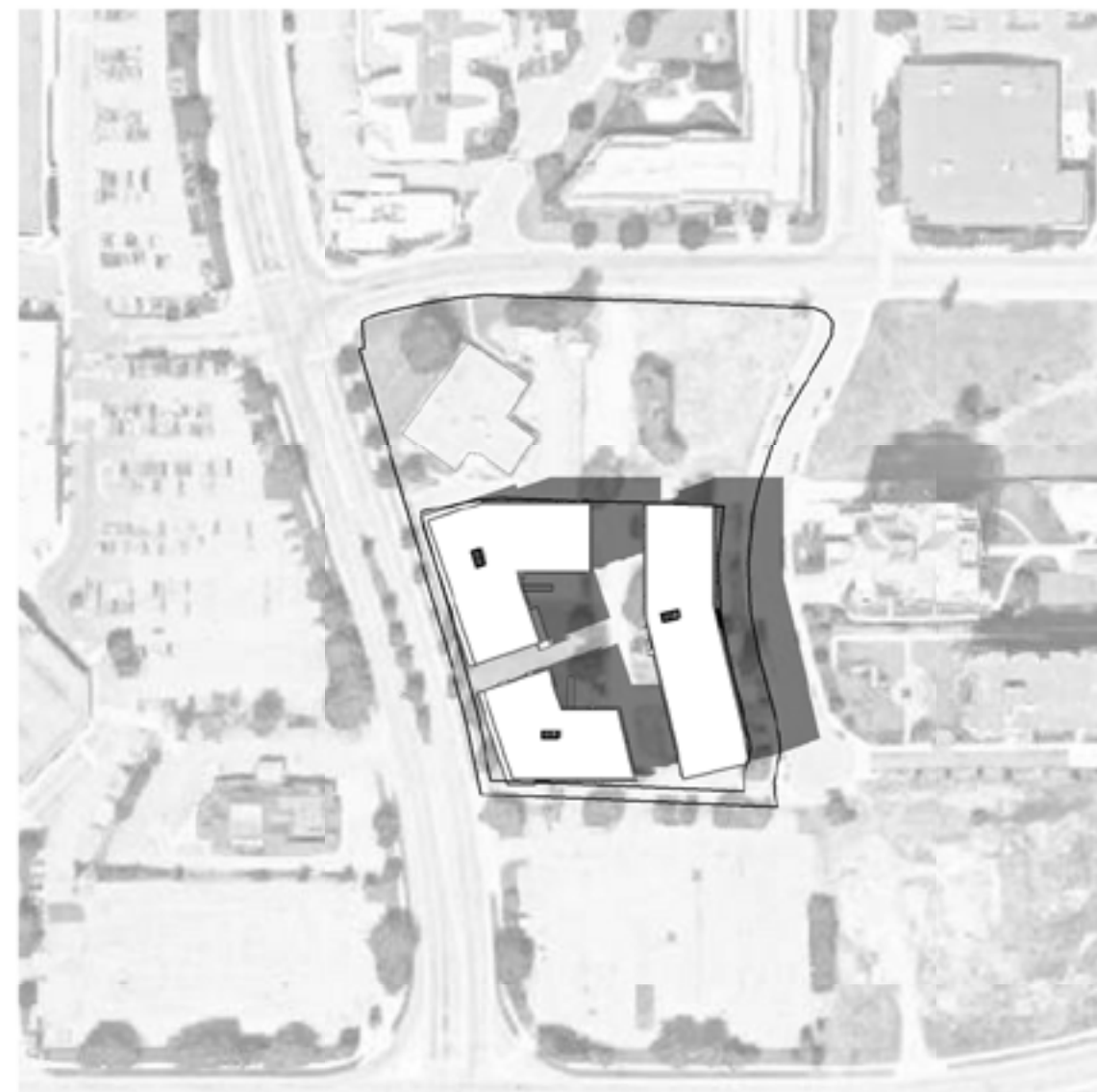
9AM



12PM



3PM



JUNE 21

EQUINOX

DECEMBER 21

🕒 1940 UNDERHILL STREET

SHADOW STUDIES

**DIALOG**  
**DISTRICT**  
DESIGN  
PROJECT NUMBER 04738V  
JUNE 13, 2018 10:38 AM





Milanofiori Residential Complex, Milano, Italy



Ceil, Sydney, Australia



Ceil, Sydney, Australia



Edificio Rua Simpatia, Sao Paulo, Brazil





# 05

## PROJECT STATISTICS

AREA DATA:

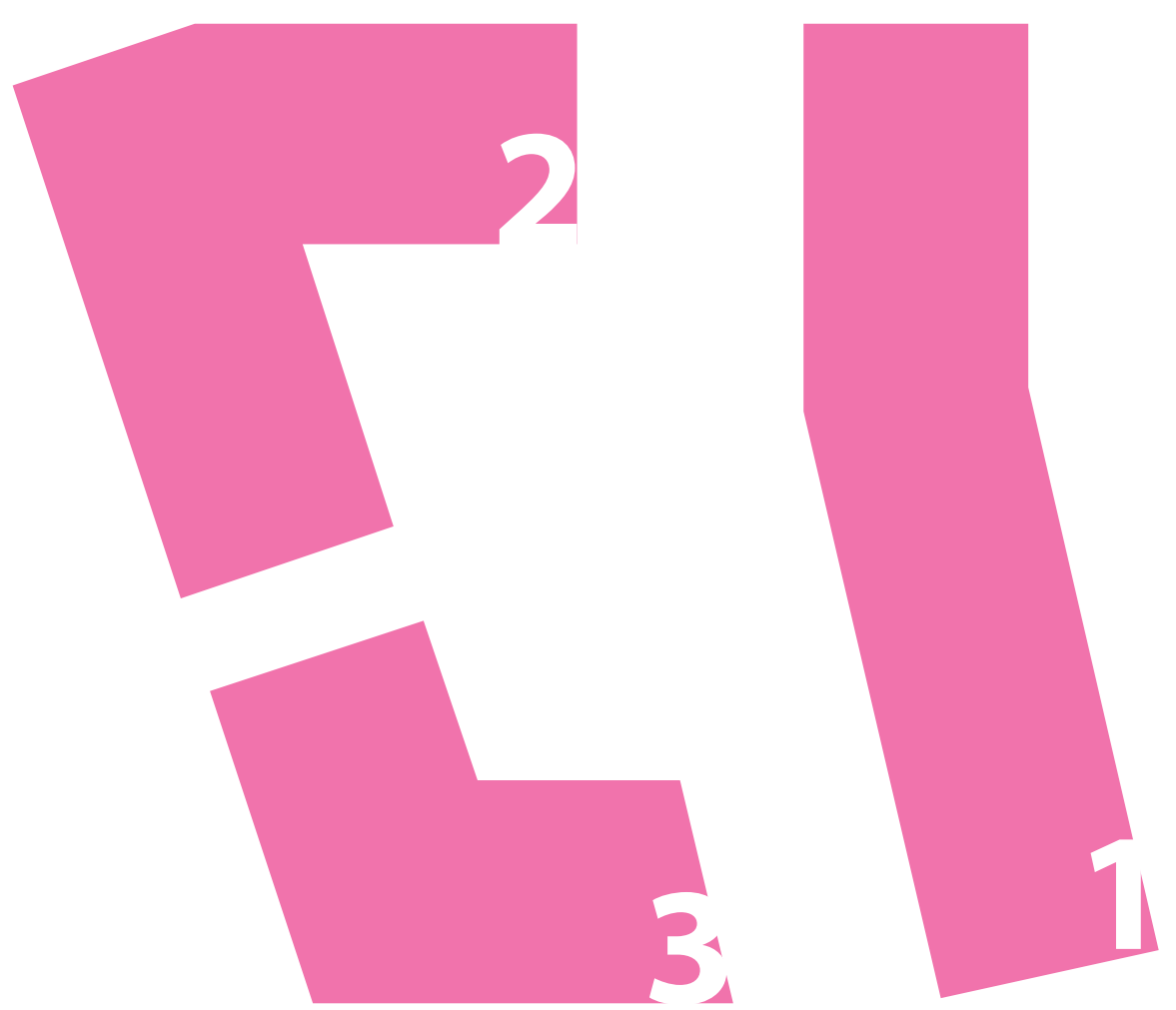
BUILDING 01					
GROSS AREA	NET RESIDENTIAL	NET RETAIL	OFFICE	CIRCULATION	EFFICIENCY %
95,298SF	83,214SF	-	247SF	11,838SF	87.58%
BUILDING 02					
GROSS AREA	NET RESIDENTIAL	NET RETAIL	AMENITY	CIRCULATION	EFFICIENCY %
83,660SF	70,477SF	2,263SF	1054SF	9,866SF	88.21%
BUILDING 03					
GROSS AREA	NET RESIDENTIAL	NET RETAIL	AMENITY	CIRCULATION	EFFICIENCY %
58,026SF	52,854SF	-	840SF	7,610SF	86.28%
TOTAL					
GROSS AREA	NET AREA		EFFICIENCY		
236,985SF	209,054SF		87.6%		
	LOT AREA	FAR			
	174,857.57SF	1.20			

PARKING COUNT:

VEHICLE		
REQUIRED		
C4 DWELLING UNITS:	297 RESIDENTS	43 VISITORS
RESIDENT - 1.0 STALL PER DWELLING UNIT		4 RETAIL
VISITOR - 1.0 STALL PER 7 UNITS	344 STALLS	
C4 COMMERCIAL:	PROVIDED	
1.75 PER 100m²	319 STALLS	
	L01 34 STALLS	P01 285 STALLS
	9% COMPACT SIZE	40% MEDIUM SIZE 51% FULL SIZE
BICYCLE		
REQUIRED		
APARTMENT HOUSING:	RESIDENTIAL	
CLASS I - 0.5 STALLS PER UNIT	149 CLASS I	30 CLASS II
CLASS II - 0.1 STALL PER UNITS	COMMERCIAL	
RETAIL, GENERAL:	1 CLASS I	2 CLASS II
CLASS I - 0.2 STALLS PER 100m²	182 STALLS	
CLASS II - 0.6 STALL PER 100m²	PROVIDED	
	185 STALLS	

UNIT COUNT:

BUILDING 01				
STUDIO	1 BED	1BED +DEN	2 BED	3 BED
0	72	1	40	5
118 UNITS				
BUILDING 02				
STUDIO	1 BED	1BED +DEN	2 BED	3 BED
6	60	27	15	0
108 UNITS				
BUILDING 03				
STUDIO	1 BED	1BED +DEN	2 BED	3 BED
12	32	10	12	05
71 UNITS				
TOTAL				
STUDIO	1 BED	1BED +DEN	2 BED	3 BED
18	164	38	67	10
6.1%	55.2%	12.8%	22.6%	3.4%
297 UNITS				

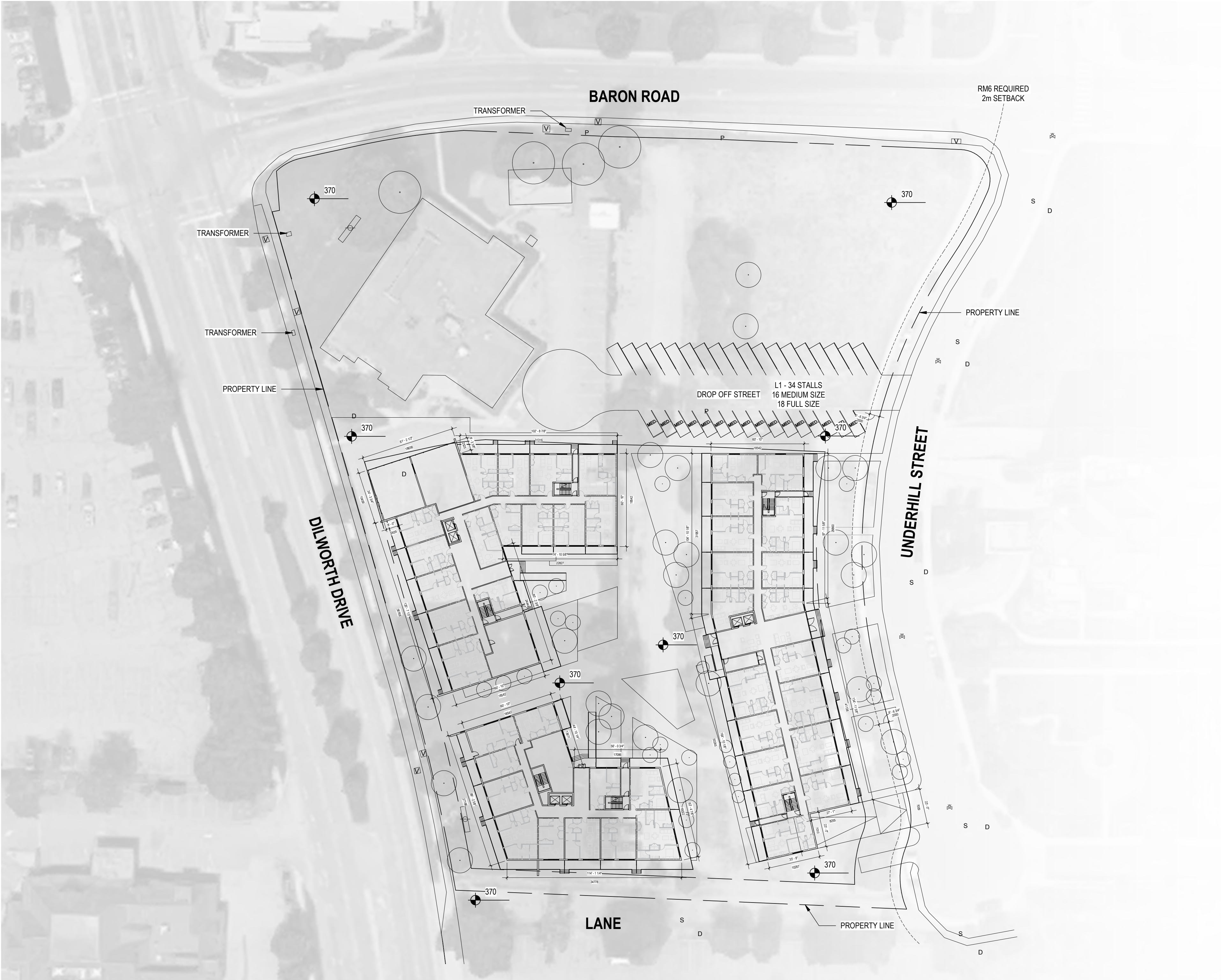




# 06

## DRAWING PACKAGE





**AREA DATA**

SITE:  
**174,857.57SF**

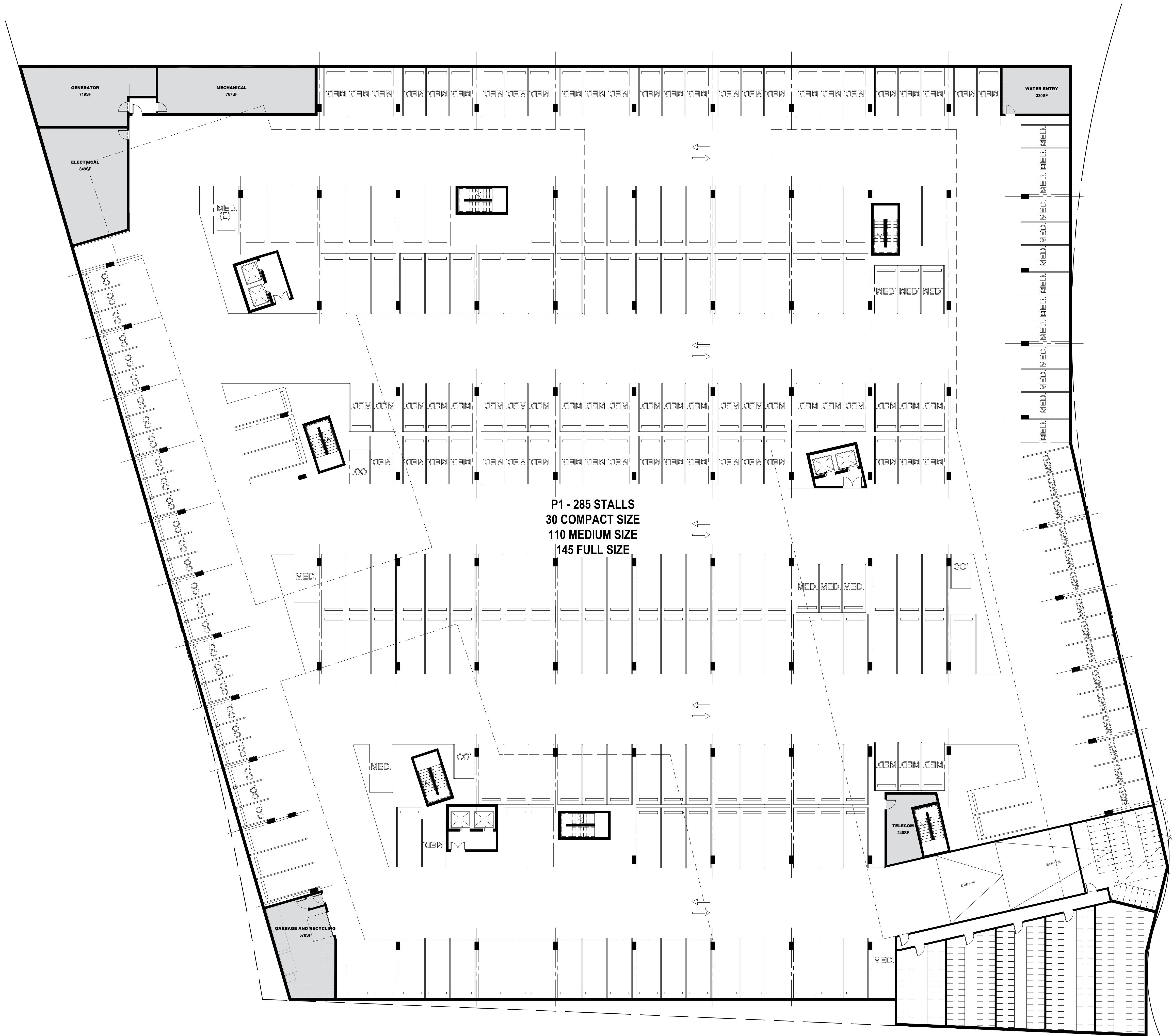
BUILDING 01:  
**95,298SF**

BUILDING 02:  
**83,660SF**

BUILDING 03:  
**58,026SF**

(GROSS AREAS  
FOR BUILDINGS)









- Schema 1 Legend
- AMENITY
  - NON-RENTABLE
  - RENTABLE
  - RETAIL
  - SERVICE



Schema 1 Legend

NON-RENTABLE

RENTABLE





Schema 1 Legend

NON-RENTABLE

RENTABLE



1940 UNDERHILL STREET

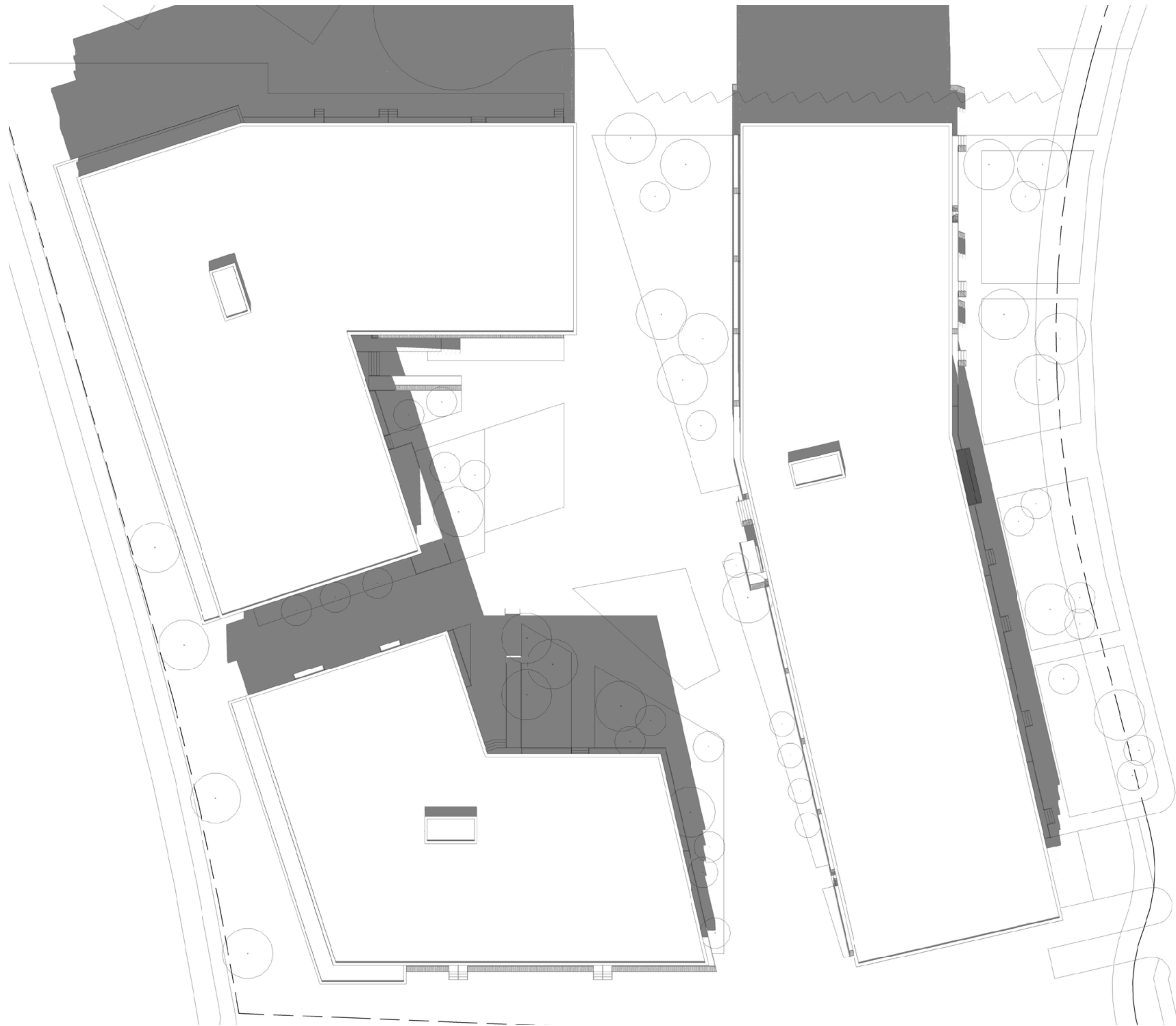
1/16"=1'-0"

L3-L6 TYP. FLOOR PLAN

DIALOG  
DISTRICT

PROJECT NUMBER 04738V  
JUNE 13, 2018 10:38 AM







**DISTRICT PROPERTIES GROUP**  
Functional Servicing Report  
1940 Underhill Street, Kelowna BC

Project No. 17-642  
August 02, 2017  
Aplin & Martin Consultants Ltd.



**APLIN MARTIN**  
ENGINEERING ARCHITECTURE PLANNING SURVEYING



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## 1 INTRODUCTION

This Servicing Brief is to support the proposed development located at 1940 Underhill Street in Kelowna. Aplin and Martin has reviewed the relevant documentation to produce the following Engineering Servicing Brief. The following is a list of some of the included documentation:

- City of Kelowna Official Community Plan Bylaw No. 10500
- City of Kelowna Zoning Bylaw No. 8000
- City of Kelowna Subdivision, Development & Servicing Bylaw No. 7900
- British Columbia Building Code
- British Columbia Plumbing Code
- Preliminary Site Layout Sketches

From the research completed on the above documentation and preliminary design works completed for the site, A&M presents engineering analysis and feasibility recommendations for the following:

- Site Access;
- Offsite Roadworks;
- Pavement Analysis;
- Sanitary Servicing;
- Water Servicing;
- Drainage;
- Lot Grading;
- Geotechnical; and,
- Outside Agencies.

The scope of work undertaken includes assessing the current onsite conditions and the offsite infrastructure, specifically water, wastewater, stormwater, and roads to identify any existing capacity constraints and anticipate and quantify any upgrades required for the proposed development permit, and subsequent servicing agreement. An analysis of the proposed site plan has also been undertaken to quantify the populations and loads that this development will generate. This study is based on information gathered through a review of relevant land development plans and policies, engineering materials, environmental assessments and on-site analysis.

### 1.1 SITE INFORMATION

#### *Background Information*

The development site comprises one existing property:

**Site Area:** 16,252 m<sup>2</sup>

**PID:** 025-799-657

**Address:** 1940 Underhill Street

**Legal Description:** LOT A LAND DISTRICT 41 PLAN KAP74477



## **1.2 LOCATION**

The subject development site is located in Kelowna in the Dilworth-Enterprise area south of Highway No.97.

## **1.3 SITE DETAILS**

The potential development site consists of one lot and is located on the southeast corner of the Dilworth Drive and Baron Road intersection. The potential development property fronts Baron Road on the north side, Dilworth Drive on the west side, Underhill Street on the east side, and Haynes Road on the south side which is currently only developed to a residential lane standard. The property currently has an existing building and parking lot in the northwest corner, with the rest of the property being largely undeveloped. The overall development site is relatively flat with a slight southwestern slope. The elevation ranges from 371m along the Underhill Street frontage to 370m at the west end of Haynes Road.

## **2 ENGINEERING**

The engineering section provides details on the anticipated improvements that will be required to service site build out as depicted in the preliminary site plan information provided by the architect.

### **2.1 ACCESS**

Primary access to the site is from the north from Highway 97 via Dilworth Drive and/or Underhill Street.

Direct access to the development parcel can be provided off of Underhill Street. Removal of the existing access off of Underhill Street may be required depending on the final layout. New accesses may be required to coordinate with the onsite layout and planned access points. It is anticipated Haynes Road from Dilworth Drive to Underhill Street will be maintained for fire access only, with the remaining portion to the east of Underhill Street being dedicated to the property to the south (2275 Haynes Road). If Haynes Road is closed, it is anticipated it will be dedicated to the existing parking lot to the south of the project site as well (2271 Harvey Avenue).

### **2.2 OFFSITE ROADWORKS**

The west side of the site is fronted by Dilworth Drive, classified as a “City of Kelowna 4 Lane Arterial Road”. As Dilworth Drive currently exists as an urban arterial standard, it is anticipated that no further upgrades will be required along this frontage.

The north side of the site is fronted by Baron Road, classified as a “City of Kelowna 2 Lane Major Collector Road”. As Baron Road currently exists as an urban collector standard, it is anticipated that no further upgrades other than boulevard treatments will be required along this frontage.



The east side of the site is fronted by Underhill Street, classified as a “City of Kelowna 2 Lane Local Road”. As Underhill Street currently exists as an urban local standard, it is anticipated that no further upgrades other than boulevard treatments will be required along this frontage.

## **2.3 PAVEMENT ANALYSIS**

Based on a visual review the existing pavement along Dilworth Drive is in good condition. No alligator cracking or other major visible surface deficiencies are present so it is believed that the pavement structure is adequate. The existing pavement along Underhill Street is in good condition. No major visible surface deficiencies are present, so it is believed that the pavement structure is adequate. The existing pavement along Baron Road is in fair visible condition. Alligator cracking and settlement is present along the frontage of the property. Any potential road improvements will need to be confirmed by a geotechnical engineer.

## **2.4 SANITARY**

The site lies within the City of Kelowna service boundary. Existing mains and pump stations are in place to service the overall area.

There is currently a 200mm PVC sanitary service installed in 2002 extending from a 750mm PVC trunk main also installed in 2002 located in the Underhill Street dedication along the east frontage of the development site. This existing trunk main extends from Baron Road and provides service to a large catchment area. The existing 200mm sanitary service has a depth of 3.4m at the property line, and with a minimum grade of 1.0%, minimum cover will be maintained throughout the site.

The flows from Baron Road and Underhill Street are directed into a 750mm PVC sanitary trunk main located within the Haynes Road Right of Way along the south property line of the development site, with the trunk main then extending south down Dilworth Drive.

The development plan includes two residential towers up to 30 stories high, with the first two floors being commercial/retail space, and three six storey buildings with the first floor being commercial/retail space. Assuming building footprints of 10,000 sq.ft. for the towers and 15,000 sq.ft. for the six storey buildings, residential unit footprints of 2,000 sq.ft., and 2 people/unit as per the City of Kelowna design criteria the resulting population is 800 people. An additional population of a 122 people is provided by the proposed commercial space based on 75 people per gross hectare as per the City's design criteria. The population density increase brought about by this development will generate a sanitary flow increase of 9.45 L/s.

The City of Kelowna has confirmed August 1, 2017 that based on their analysis of the sanitary system, the system can accommodate the additional proposed flows without necessitating upgrades at Mayer Road. This information updates the City of Kelowna's original comments dated July 6 2017.



## 2.5 WATER

The development site is located in the City of Kelowna Water District.

There is an existing 38mm Copper water service installed in 1991 extending from a 250 mm PVC water main also installed in 1991 located along Dilworth Drive. This existing water main loops and connects into the existing 250mm PVC water network on Haynes Road and Underhill Street installed in 2002, as well as the existing 200mm PVC main in Baron Road installed in 1985. In accordance with the City of Kelowna design requirements the minimum fire flow for this type of site use is 150l/s at a maximum velocity of 4.0m/s. The City of Kelowna has confirmed that the 250mm watermain in Dilworth Drive has a water pressure of 60psi based on hydrant tests performed at the south west corner of the property, with a residual pressure of 52psi given 150l/s fireflow. As there is sufficient capacity to attain the required fire flow demand for this parcel no water main upgrades are expected on as part of this proposed development project. The existing water service connection servicing the site will need to be upsized based on mechanical loading calculations or a new water service can be provided off the existing 250mm watermain in Underhill Street and Haynes Road if the existing service is decommissioned.

	Residential	Commercial
Population	800	122
Maximum Day Demand (MDD)(l/s)	16.7	2.5
Min. Fire Flow (l/s)	150	150
Peak Hour Demand (PHD) (l/s)	37.0	5.6
Fire Flow + MDD (l/s)	166.7	152.5

Existing hydrants are located near the southeast intersection corner of Dilworth Drive and Baron Road, the southwest intersection corner of Baron Road and Underhill Street, the northeast intersection corner of Dilworth Drive and Haynes Road, and on the west frontage of Underhill Street across from 1947 Underhill Street.

As the four existing hydrants surrounding the site meet the City of Kelowna maximum fire hydrant spacing requirements of 90m, it is anticipated that no additional offsite fire hydrants will be required. Based on the current site plan an onsite fire hydrant is anticipated to provide fire protection to all buildings. We have not allowed for fire protection systems or measures onsite. A review of FUS requirements will be necessary at the detail design stage.

## 2.6 DRAINAGE

There is an existing 250mm PVC storm service installed in 2003 extending from a 600mm perforated PVC main main installed in 2002 located along Haynes Road. This existing storm main discharges into the existing 600mm concrete storm main installed in 1991 running south along Dilworth Drive. An existing 375mm perforated PVC storm main with portions installed in 1991 and 1996 also exists running west down Baron Road, as well as a 600mm perforated PVC storm main installed in 2002 running south along Underhill Street that connects into the Haynes Road storm system. The City of Kelowna



has confirmed that the 600mm main in Haynes Road should have sufficient capacity; however downstream constraints may exist along the alignment to Mill Creek. As per the City of Kelowna Bylaw, a storm water management strategy that will limit the post-development runoff to the pre-development levels will be required, so offsite storm main improvements are not anticipated.

All storm water flows will be directed to storm water retention facilities where flows will be released into the municipal system at 5-year pre-development levels. Based on an environmental and geotechnical investigation to determine the hydrogeological characteristics of the ground, infiltration may be incorporated into the onsite system to reduce retention facility sizes.

## **2.7 LOT GRADING**

The site elevation along the Underhill Street frontage is 371m to 370mm and slopes slightly down to 369.7m along the Dilworth Drive frontage at the south-west property corner. The proposed development is not expected to change the overall topography of the site.

## **2.8 GEOTECHNICAL**

A report on existing soil conditions, infiltration rates, ground water levels, and recommended road structure will be required at a later date. It is expected that retention of a geotechnical engineer as part of this development project will be necessary.

## **2.9 OUTSIDE AGENCIES**

### **2.9.1 Franchise Utilities**

Fortis BC Electricity is the power authority in this area. There is no overhead utility infrastructure located in the vicinity of the proposed development site, with the proposed development being serviced underground from the existing infrastructure.

Distribution systems are dynamic and available capacity can change on a frequent basis. Coordination and consultation with the project electrical engineer and Fortis BC Electricity will be required to determine the scope of any upgrades required to service this site.

### **2.9.2 Street lighting**

All road frontages are currently serviced by davit street light poles.

### **2.9.3 Gas**

Apart from the necessary connections to the site for servicing purposes there are no offsite upgrades expected. Although there are no anticipated capacity issues, confirmation will be required from Fortis BC at the time of development application.



### 3 CONCLUSION

Aplin & Martin Consultants Ltd. has undertaken a comprehensive review of the proposed development plans, as well as the information pertaining to the adjacent and downstream infrastructure. We believe that our designs are complete. The only offsite deficiency is the sanitary main capacity constraint at Mayer Road. There are no further deficiencies or capacity constraints identified that would prohibit the development of this site.

If any additional information or clarification is required, please contact the undersigned.

Sincerely,

APLIN & MARTIN CONSULTANTS LTD.



Ben Rawlinson, ASCT  
Project Manager



March 7, 2019

Ministry of Transportation and Infrastructure  
Okanagan-Shuswap District  
#300- 358 St. Paul Street,  
Kelowna, B.C. V1Y 2E1

Attention: Audrie Henry, District Development Technician

**Response to Ministry Comments of January 11, 2019**

My apologies for the delay in responding but I was overseas for the entire month of February and just returned on Tuesday.

I have now reviewed the Ministry's comments provided through Robyn Clifford on January 11, 2019 and discussed each item directly with the author of the comments, Jill Morrison of your Kamloops office in a production telephone conversation later in January. Our responses to each of the items resulting from that discussion and our further review/analysis are as follows:

**1. Concept Drawings/Feasibility of Potential Improvements.**

- (a) Right-of-Way Widths at Highway 97 Intersections: I understand that the key issue here is to provide some information on the feasibility of any recommended improvements. To address this request, the City of Kelowna's online mapping was used to establish the existing curb-to-curb widths and right-of-way widths on each of the approach legs of the two key intersections on Harvey Avenue/Highway 97 at Dilworth Drive and Leckie Street – see printouts included in this document at the end of the letter. The measurements so obtained are as follows:

<b><u>Intersection Leg</u></b>	<b><u>Right-of-Way</u></b>	<b><u>Curb-Curb</u></b>
Highway 97 east of Dilworth Drive	36.9 m	27.2 m
Highway 97 west of Dilworth Drive	38.8 m	27.4 m
Dilworth Drive north of Highway 97	25.0 m	19.2 m
Dilworth Drive south of Highway 97	26.3 m	18.8 m
Highway 97 east of Leckie Road	40.5 m	35.4 m
Highway 97 west of Leckie Road	40.0 m	28.4 m
Leckie Road north of Highway 97	23.8 m	16.2 m
Leckie Road south of Highway 97	25.0 m	17.8 m

The measurements given in this table indicate that providing additional lanes on Dilworth Drive both north and south of Highway 97, and on Leckie Road both north and south of the highway are not possible, assuming that a minimum of 6 m is required to provide sidewalks, boulevards, etc. on each side in addition to the existing travel lanes. This is unfortunate as the provision of full right turn lanes on the north



and south legs of Dilworth Drive and Leckie Road would be advantageous to the operation of these intersections – and they would be relatively low-cost improvements.

- (b) Property Requirements of Recommended Development Initiated Improvements: It is acknowledged that under background conditions, a number of laning improvements were identified for these two intersections on Highway 97 as given in Table 5.1 of the TIA report. If these were to be implemented, they would require additional property given the constraints indicated above. It should be noted that whilst the scope approved by the Ministry for this TIA study did require the intersections to be analysed under background conditions, it did not require any improvements under these conditions to be identified. As you know, these analysis results are simply the benchmark against which to compare the results with the development traffic superimposed. So they have been identified in this report in order to be thorough. From the perspective of the proposed development's impact, these identified improvements under background conditions should be ignored – although admittedly the Ministry may be interested in them from a long-range planning perspective. However, under combined conditions, the improvements required to these intersections in order to operate at no worse a level of service than under background conditions are all signal phasing and timing changes which do not need any additional property – see Table 5.2 of the original TIA report dated June 7, 2018. So the concern raised in Item #1 of the Ministry's letter of January 11 is moot.
- (c) Provision of Eastbound Right Turn Lane on Highway 97 at Dilworth Drive: The City's webpage mapping indicates that may be possible to provide an eastbound right turn lane on Highway 97 for vehicles turning into Dilworth Drive – see mark-up on the aerial photograph of this intersection at the end. Although our analysis shows that this does little to improve the theoretical capacity of the intersection with the northbound left turn movement still being a problem, it would improve the practical operation of this intersection as well as the safety. From personal experience, often the eastbound curb lane along Highway 97 is stopped because a right turning vehicle at this intersection is blocked from making their turn because there are pedestrians crossing the turn lane. It only needs two automobiles or one longer vehicle (there is a storage length of no more than 9.0 metres) wanting to make the eastbound right turn being delayed by a pedestrian and the entire eastbound curb lane is stopped.
- (d) Road Widening Adjacent to Development Site: The Ministry's response notes that *"The site plan itself appears to leave no room for future expansion. The minimal set backs would not easily accommodate the improvement measures proposed to accommodate background conditions."* It is assumed that this comment refers to Dilworth Drive and/or Baron Street adjacent to the development site. As discussed with Jill, it would seem that there has been some misunderstanding here as the City is requiring the development to dedicate sufficient land to allow for the proposed northbound right turn lane on Dilworth Drive at Baron Street and any other improvements identified for Baron Street to be provided for from the site. These improvements and property requirements were discussed with the City even before



the traffic study was undertaken. The development site does not extend to Springfield Road and so any improvements on this road do not affect the proposed development site. Furthermore, I indicated that double left turn lanes had been recommended for Springfield Road at Dilworth Drive in a similar TIA for the lands on the south side of Springfield Road back in 2008. No changes have been made to this intersection to-date, and yet the traffic volumes have increased over the intervening 10 years. However, the City has stated in their response to the TIA that the Underhill Street development will be required to make a contribution towards the future upgrade of this intersection, assuming that it proceeds as proposed. This, in my opinion is a very reasonable proposal, given that this intersection is already a problem, caused by the numerous other developments that have been approved over the years that have contributed to the traffic volume increases.

- (e) Kelowna & Environs Development Impact on Highway 97: During our conversation, Jill expressed her concern that the proposed development was going to add traffic onto Highway 97 and that it appeared it would be difficult to make adequate improvements to the highway to accommodate this additional traffic. Unfortunately, Highway 97 has become the backbone of the City of Kelowna's transportation network. In a simplistic sense, any development that takes place anywhere in Kelowna or West Kelowna impacts Highway 97 between Gordon Drive and Highway 33. Had this proposed development on Underhill Street been located on a site outside of the 800 m corridor along Highway 97 that comes within the Ministry's zone of influence, it would have generated the same amount of traffic that would have had the same orientation to Highway 97, and yet the Ministry would have no input and no improvements would be required on the highway as a result of the development. From a personal perspective, I live in Lake Country in a development that is going to consist of 1,300 single-family homes when finished. The majority of shopping by both my wife and myself is made along this same Highway 97 Corridor, whether at Costco, Home Depot, Walmart, London Drugs, Staples, Bank of Montreal, Save-on-Foods, or Orchard Park Mall. This development is beyond the reach of the Ministry and therefore it has contributed nothing to any Highway 97 upgrades, and, for that matter, little to the Lake Country roads either.
- (f) Master Plan for Highway 97 Signal Phasing: The comment was made during the January 2019 conversation that the Ministry has an established Master Plan for Highway 97 through Kelowna specifying which intersections were to have advance left turns in either the east-west direction along the highway or the north-south direction across the highway, and that the left turn phases recommended in the TIA report as given in Table 5.2 are not included in this Plan. It is unfortunate that the contents of this plan were not provided to the consultant team when approving the scope of the study so that they could be taken into consideration. On the other hand, given the results of the analysis in this study, the Ministry should perhaps consider updating their plan to reflect current conditions.

2. Comparison of V/C Background versus Combined Conditions. As was noted in our conversation, the first table presenting a summary of the analysis results under background



conditions provides two sets of V/C ratios. The first column of numbers starting with 1.38 are the ratios with no improvements whilst the second column starting with 0.95 are the resultant ratios with the improvements mentioned in the table. The second table presenting a summary of the results of the combined conditions also provides two sets of V/C ratios. The first column of numbers starting with 1.56 are with the development traffic included but no improvements whilst the second column starting with 1.11 are with the improvements mentioned. This means that the 1.11 of the last column in the second table, i.e., combined with improvements, should be compared to the 1.38 of the fourth column in the first table, i.e., background with no improvements. This shows that combined with improvements is lower than background with no improvements. You indicated that you now understood these tables, and this was no longer an issue.

We have now done further analysis of alternative improvement scenarios and have not found any others that provide a better result. These have included:

- Eliminating a pedestrian crossing from one or more legs,
- Adding an eastbound right turn lane on Highway 97 at Dilworth Drive,
- Adding a second southbound left turn lane on Dilworth Drive, and
- Adding a second westbound left turn on Highway 97 at Dilworth Drive.

However, some traffic impact study textbooks suggest reassigning some of the development traffic if considered appropriate in order to reduce problem v/c ratios for critical movements. This makes sense in practice as drivers will tend to change their routes over time when alternatives exist to select the route that has the least congestion and the smallest delays. This is particularly true when applied to residential trips where the drivers take the same route every day. This concept is captured in this reassignment process and was investigated for both the intersections along Highway 97. It was found that if the development generated traffic travelling southbound on Dilworth Drive through the Highway 97 intersection destined to the development site is reassigned to make a left turn onto Highway 97 and then a right turn into Underhill Street, then this intersection performs better than under background conditions with no improvements. Similarly, if the development generated traffic arriving westbound on Highway 97 and making a left turn into Leckie Road is reassigned to continue westbound and make the left turn at Underhill Street instead, the same finding applies. In reality, this is what is going to occur as these drivers are regular residents of the Underhill Street development and will find the route with the least delays. If we were dealing with impulse buyers such as shoppers, this idea may not apply, but we are dealing with residents making their regular daily trip.

A summary of the analysis results of some of the above improvement scenarios is provided in Table 1 in Appendix A at the end of this report.

3. **Synchro Files – 2022.** We both agreed that the horizon year of 2022 was not to be included in the study as an analysis year and that no Synchro files for this year of 2022 should be included in the files submitted.
4. **Peak Hour Factors.** In your email you requested that "if you would like an exception to this to reflect what is actually happening then please show the calculated PHF using



multiple days of data,...”. After submitting our response to your first set of comments on October 9, 2018, I requested my analysis engineer to re-analyse a sampling of Highway 97/Dilworth Drive intersection scenarios at 2020 as a sensitivity analysis reducing any PHF values that were above your stated maximum of 0.95 down to 0.95. A comparison of the original set of results using the actual PHF with the second set of results using the maximum of 0.95 revealed that there was very little difference in the V/C results, i.e., just 0.01 or no difference at all. The results of this sensitivity analysis for 2020 were documented and included in a technical memorandum to the City and it was passed on to your Kelowna office so I assume you received it. This sampling has now been extended to cover most of the key original scenarios at the two intersections on Highway 97 (Harvey Avenue) for 2034 and the results are included in Tables 2 through 5 in the appendix at the end of this submission.

5. **Signal Timing Sheets.** Mark Merlo of WSP Consultants in Vancouver, the engineer who did all of the analysis for the study, has confirmed that the only times when the signal timing may have departed from the Ministry’s standards is for some of the background analysis where right turn lanes were added. In these cases, the six second minimum green has sometimes been reduced to five seconds. As the study was not required to identify potential improvements under background conditions since these improvements have no bearing on the outcome of the analysis under combined conditions which seek to identify improvements that enable the intersection to operate no worse than under background conditions, these departures from the Ministry’s standards are moot.
6. **File Naming Convention:** In response to your comment, I have asked Mark to provide a list of the codes he has used for the Synchro files and the list he has provided is as follows:
  - a. 095 means with a max v/c ratio of 0.95.
  - b. Timing means with only signal timing or phasing changes.
  - c. Opt AA: Testing need for new left turn phases.
  - d. Opt BB: Reassigning some traffic where necessary.
  - e. Opt CC: EBR at Dilworth.
  - f. EBR-NBL-Leckie means testing an EBR and NBL at Leckie.
  - g. Dil2WBL means testing a second westbound left at Dilworth.
  - h. DilEBR means testing an eastbound right turn at Dilworth.
  - i. IMP: Dilworth EBR (except 2020), NBR, SBR, NBL phase, SBL phase; Leckie SBR, EBL phase, WBL phase.
  - j. Rev1 (or another number) means a minor correction on a previous scenario.
  - k. Opt 1F: Dilworth 2EBL, EBR, 2 WBL, 2 NBL, free NBR, SBR; Leckie SBR, EBL phase, WBL phase.
  - l. Opt 2A: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie 2 NBL, SBR, EBR, EBL phase, WBL phase.
  - m. Opt 3A: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie SBR, EBL phase, WBL phase.
  - n. Opt 3C: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie SBR, EBL phase, WBL phase.



- o. Opt 3D: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie SBR, EBL phase, WBL phase.
- p. Opt 4A: Dilworth NBR, SBR, NBL phase, SBL phase; Leckie 2 NBL, SBR, EBL phase, WBL phase.
- q. Opt 4C: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie 2 NBL, SBR, EBL phase, WBL phase.
- r. Opt 4E: No changes on Hwy 97 intersections.
- s. Opt 9: Dilworth EBR, NBR, SBR, NBL phase, SBL phase; Leckie SBR, EBL phase, WBL phase.
- t. 2EBLWBL: test of protected/permissive double left at Dilworth.

**Conclusions and Recommendations:** Based on the investigations undertaken in response to the Ministry's second set of comments of January 2019 and the undersigned's very productive conversation with the Ministry's traffic engineer on this file, Jill Morrison of your Kamloops office, as well as additional analysis undertaken, the following are the conclusions and recommendations:

- A. Based on available on-line mapping, there is very little opportunity to add additional lanes of any type to Dilworth Drive or Leckie Road on either side of Highway 97. However, right turn lanes on the highway at either intersection would be feasible.
- B. The introduction of the advance green phases at the two intersections on Highway 97 at Dilworth Drive and Leckie Road as originally recommended back in the TIA of June 2018 are still the recommended, and most effective, improvements needed in order to better accommodate the additional traffic generated by the proposed development. As was noted in the original TIA, this development only adds 121 vehicles to this intersection in the pm peak hour when fully developed, and this is only a 1.6% increase over the 2034 pm peak hour volume of 7,468 vehicles through this intersection.
- C. It is understood that the Ministry has a master plan designating which intersections are to have advance green phases. If this plan conflicts with the recommendations of this TIA, it is recommended that the Ministry undertake a review of their plan and update where appropriate.
- D. Highway 97 between Spall Road and Highway 33 is probably one of the two most important elements of the City of Kelowna's road network, the other being the approach to the Lake Bridge. Because of the retail stores and centres that exist along this section of the highway corridor, almost all developments in Kelowna as well as beyond, for example Lake Country, add to the traffic volumes that pass through this section of highway.
- E. The City of Kelowna has already given notice that they are requiring a cash contribution from the developer towards the upgrading of the intersection of Springfield Road/ Dilworth Drive.
- F. If the Ministry is ultimately requesting some form of physical improvement on the highway as a result of the proposed Underhill Street development, it is recommended that the




developer be asked to add an eastbound right turn lane on Highway 97 at Dilworth Drive. This will go a long way to improving the operation and safety of the eastbound traffic flow along Highway 97 since this movement at this intersection is one of the most congested along Highway 97.

- G. Using the Ministry's guideline of a maximum PFH of 0.95 makes very little difference to the analysis results and makes no difference to the recommended improvements.
- H. The only times that the minimum green time was reduced below the Ministry's standard minimum was for right turn lanes added under background conditions. This analysis was not a requirement of the approved scope for the study.

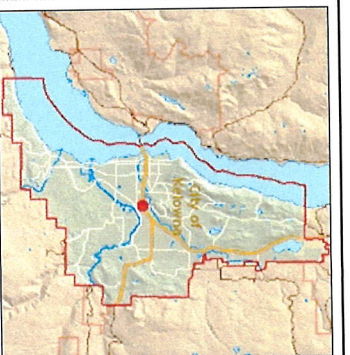
I trust that this now addresses all of the Ministry's concerns and that this development project can now move forward. Please feel free to contact me if you have any other questions or concerns.

Yours truly,

**T. J. WARD CONSULTING GROUP INC.**

  
Trevor J. Ward, P. Eng., M.B.A.  
President





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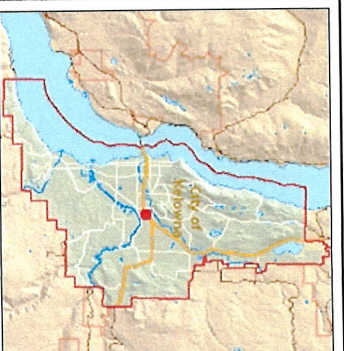
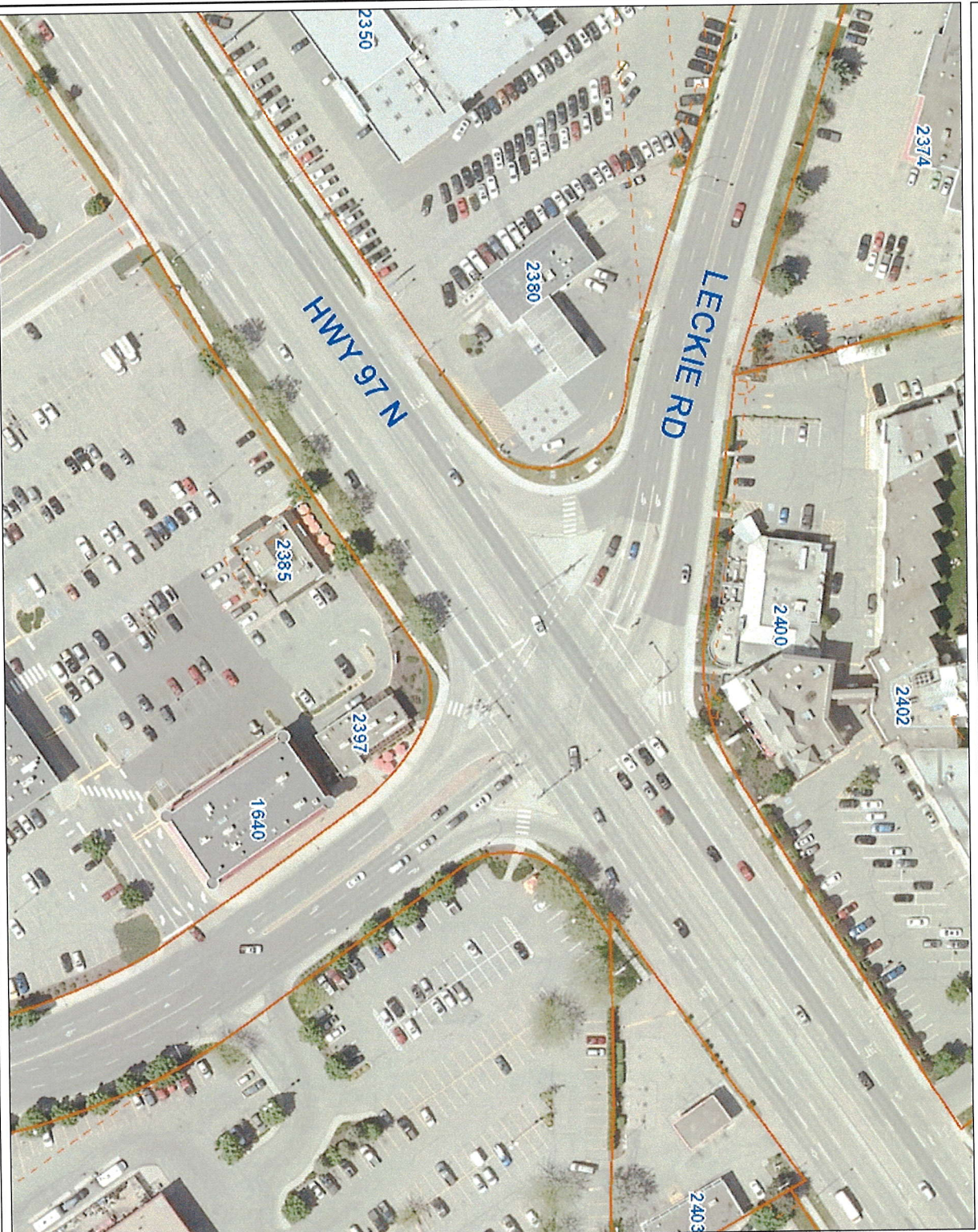
Notes

This map is for general information only. The City of Kelowna does not guarantee its accuracy, currency or completeness. All information should be verified.

0 35 70Meters

March 7, 2019





Legend



Notes

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0 35 70Meters

March 7, 2019



# Neighbour Consultation Form (Council Policy No.367)



*A summary of neighborhood consultation efforts, feedback and response must be provided to City staff, identifying how the efforts meet the objectives of this Policy. This form must be filled out and submitted to the File Manager a minimum of 20 days prior to initial consideration by Council.*

I, District Development Group, the applicant for Application No. OCP18-0015, Z18-0071

for Change of OCP and Zone to C4

(brief description of proposal)

at 1940 Underhill St. have conducted the required neighbour

(address)

consultation in accordance with Council Policy No. 367.

- ☐ My parcel is located **outside** of the Permanent Growth Boundary and I have consulted all owners & occupants within a 300m radius
- ☒ My parcel is located **inside** of the Permanent Growth Boundary and I have consulted all owners & occupants within a 50m radius

I have consulted property owners and occupants by doing the following: installed development signs on the property

June 13/19, sent a total of 386 mailouts on June 19/19 notifying of the public informaton meeting to all residents within a

50 metre radius, newspaper ads ran in both local papers on June 26 and July 3, public information meeting held on July 10/19

Please initial the following to confirm it has been included as part of the neighbour consultation:

Y Location of the proposal;

Y Detailed description of the proposal, including the specific changes proposed;

Y Visual rendering and/or site plan of the proposal;

Y Contact information for the applicant or authorized agent;

Y Contact information for the appropriate City department;

Y Identification of available methods for feedback.

*Please return this form, along with any feedback, comments, or signatures to the File Manager **20 days prior to the anticipated initial consideration by Council date.** On the back of this form please list those addresses that were consulted.*



[illegible]