



# 1068 BURNABY ST

Rezoning Application  
December 8, 2022





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# 1.0

# Introduction

# Project Overview

The existing site, which covers an area of 17,286 sf, is comprised of three small existing buildings located on a consolidated site with former addresses of 1318 Thurlow Street, 1068 Burnaby Street, & 1080 Burnaby Street.

This application for rezoning presents a rare opportunity to deliver 287 secured rental units and 24 social housing units (10% of the FSR) combined on a parcel on the downtown peninsula which has no view cone constraints and is supported with short distance access to rapid transit and bicycle networks which lead to less than 15-minute commutes to the downtown employment hub. The form of development contemplates one 34-storey residential 'Tower in the Park'. The proposal will fit well into the existing neighbourhood as well as the proposed future vision of this area, by providing the much-needed modern rental and social housing units to the West End Burrard Corridor.

The proposal builds on several years of collaboration with City Staff and two letters of enquiry on tower forms for rental and affordable housing as an alternative to a condo-social housing application that was approved in principle in 2018 but not enacted. The present proposal reflects the current policy direction to increase rental housing to better further the goals of the West End Plan.





# Project Team



**Owner**  
**Strand**

1630-609 GRANVILLE ST  
VANCOUVER BC, V7Y 1C6

Deeply rooted in Vancouver for over four decades, Strand has developed dozens of award-winning communities while delivering over 25,000 homes across North America. With more than \$1 billion in rental and market projects in Metro Vancouver alone, Strand is committed to timeless design that complements a global sensibility. Strand brings knowledge and experience back to our home city, deepening our investment in the future of the region.



**Owner**  
**Intracorp**

600-550 BURRARD ST  
VANCOUVER BC, V6C 2B5

For over forty years, Intracorp has been dedicated to building extraordinary homes, earning a reputation as one of North America's leading real estate developers in the process. Every new home begins with a unique vision, drawing inspiration from the local surroundings. Then, building materials and architectural details are carefully considered. The resulting development is more than just structurally-sound - it's a living, breathing community all its own. Intracorp's end-to-end development process delivers impeccable homes and communities with an emphasis on timeless, enduring architecture, and design-led city experiences. From intimate town home communities to iconic gateway towers, the urban built environment has been shaped, in part, by Intracorp.



**Architect**  
**BOP Architects**

180-510 NICOLA ST.  
VANCOUVER BC, V6G 3J7

BOP is built on a history of great projects spanning 30 years across North America. Our team has designed and built numerous projects with a broad range of clients. From large-scale master plans, to more intimate community-based projects and from project conception to opening day we have done it all. In all our work we are focused on creating lasting communities: places that are vibrant, sustainable and walkable. Our work is based on a belief in the connectivity of buildings to their surroundings; that structures support the life of the street, and that a vibrant public realm creates better living environments.





## Landscape

### ETA Landscape

1690 WEST 2ND AVE,  
VANCOUVER BC V6J 1H4

eta landscape architecture is an award winning professional team of skilled professionals providing creative solutions for a diverse range of projects that includes conceptual planning and urban design, park and open space design, multifamily housing, institutional facilities and commercial developments. We maintain a passionate commitment to a design process that integrates architecture and the land creating site specific responses to the full range of human activities. Sustainability is a core value and is fully integrated and central to each project. Our commitment is to bring to each project our expertise in “Cradle to Cradle” design practices to reduce water and energy consumption, emphasize the use of recycled and recyclable materials, and to enhance the natural systems that are impacted by all development.

## Envelope

### BC Building Science

611 BENT CT,  
NEW WESTMINSTER BC, V3M 1V3

## Structural

### KOR Structural

501-510 BURRARD ST,  
VANCOUVER, BC V6C 3A8

## Mechanical

### Integral Group

180-200 GRANVILLE ST,  
VANCOUVER, BC V6C 1S4

## Electrical

### Nemetz and Associates

2009 WEST 4TH AVENUE  
VANCOUVER, BC V6J 1N3

## Civil

### Aplin & Martin Consultants LTD.

201-12448 82ND AVENUE  
SURREY, BC V3W 3E9

## Survey

### Underhill Geomatics

301-8337 EASTLAKE DRIVE  
BURNABY BC, V5Z 4W2

## Energy Model

### Edge Consulting

102-211 E GEORGIA ST,  
VANCOUVER BC, V6A 1Z6

## Code Consultant

### GHL Consultants LTD.

700 W PENDER ST,  
VANCOUVER BC, V6C 1G8

## Geotechnical

### Geopacific Consultants LTD.

1779 WEST 75TH AVE,  
VANCOUVER BC, V6P 6G5

## Public Engagement

### Pooni Group

200-1055 WEST HASTINGS ST,  
VANCOUVER, BC V6E 2E9

## Arborist

### Diamond Head Consulting

3559 COMMERCIAL ST,  
VANCOUVER, BC V5N 438

## Traffic & Parking

### Bunt Engineering

1550-1050 WEST PENDER ST,  
VANCOUVER, BC V6E 3S7

## Rezoning Intent

A rezoning application for this site was originally submitted by Strand and Intracorp (Thurlow Street Project Limited Partnership) on September 5, 2017, for the purpose of designing and constructing a residential high-rise containing 82 luxury condominiums and 39 social housing units to a maximum tower height of 290.87 feet. The rezoning rationale as presented aligned with seven key principles in the West End Community Plan (WECP) including utilizing superior green building technologies, supporting a range of affordable housing options and fostering resilient, sustainable, safe and healthy communities.

This new rezoning application remains committed to the principles of the West End Community Plan as modified by the Interim Rezoning Policy, Criteria for 100% Secured Rental and Below-Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End Community Plan and the increased emphasis on the delivery of more affordable housing.

The 2017 rezoning application received approval-in-principle at a public hearing on July 31, 2018. A Development Permit application was submitted in August 2018 with a DP Prior To letter issued in January 2019. The applicant and the City worked through various approval conditions in 2019 in order that rezoning could be enacted, and a DP issued in early 2020. However, a softening of the high-value condominium market in the downtown peninsula due to macro-economic influences and various policy interventions and the burden of an excessive CAC rendered the project financially in-viable. The zoning as approved-in-principle was not enacted, and a DP was not issued.

*The Criteria for 100% Secured Rental and Below-Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End Community Plan* was approved by Council in November 2020 following which Strand and Intracorp have been engaged with staff over the last two years to determine a viable path forward for redevelopment of the site in response to the interim rezoning policy.

In an effort to explore the parameters of the additional density and housing opportunities supportable under the interim rezoning policy, two Letters of Enquiry (LOE) were prepared for the site. The initial, May 20, 2021, LOE proposed a 100% secured rental tower with an FSR of 13.45 containing 329 units with 20% of the FSR allocated as below-market rental. The tower form presented typical 7,000 square foot floor plates and an overall tower height of 300 feet. Early feedback from staff indicated non-support for the proposed plate sizes and the siting of the 300-foot tower height due to shadowing concerns on Davie Street.

A second LOE submitted on October 4, 2021, proposed a 100% secured rental tower with an FSR of 13.55 containing 368 units with 20% of the FSR allocated as below-market rental. The tower form presented typical 6,600 square foot plates and a proposed tower height of 315 feet. The proposal was not supported by staff primarily due to the height which exceeded the 300-foot maximum tower height as set out in the West End Community Plan and, associated concerns of shadowing on Davie Street.

On April 8, 2022, an application was made through the Policy Enquiry Process (PEP) to seek minor shadow relaxations to the guidelines of the *West End – Tower Form, Siting and Setbacks Administrative Bulletin*. The PEP sought staff support for a 100% secured rental building with 20% of the FSR allocated as below market rental with typical 6,600 square foot plates and a tower height of 300 feet. The PEP noted that if staff were unwilling to support a 300-foot tower, a reasonable alternative would be a tower at 290.87, matching the tower height and shadow performance approved by Council in July 2018. Under this scenario typical plates larger than 6,600 square feet would be necessary to redistribute the density loss associated with the lower height tower. On April 14, 2022, staff responded to the PEP application noting there is little additional policy advice that would result from a review of the application through the Policy Enquiry Process and that staff were steadfast in their advice that the proposed tower not shadow Davie Street between 10 am and 4 pm on the equinoxes.

Mindful of the rapidly closing window of opportunity to make a new rezoning application under the interim rezoning policy which expires on December 31, 2022, Strand and Intracorp continued discussions with staff to explore alternative scenarios that could uniquely deliver both market rental and social housing consistent with a key principle of the WECP to “support a range of affordable housing options to meet the diverse needs of the community”.

Upon consideration of various scenarios providing for varying housing tenures and plate sizes, while respecting shadow bulletin objectives, staff on October 3, 2022, noted a preference for a particular scenario. Staff’s conditions and advice on this preferred scenario form the basis for this rezoning application.

In alignment with staff direction this rezoning application proposes a combined secured rental and social housing building, with 10% of the FSR designated as social housing. This proposal will create 287 market rental units and 24 social housing units designed in accordance with COV Housing Design and Technical Guidelines, BC Housing Design Guidelines and High Density for Families with Children Guidelines. Upon project completion, ownership of the social housing component of the building will be transferred to the City by way of an Air Space Parcel subdivision. The tower form presents typical 6,600 square foot floor plates and a maximum height conforming to the shadow performance established in the CD-1 Bylaw previously approved in-principle for this site in July 2018 for a condominium and social housing building of 290.87 feet.

Strand and Intracorp look forward to working in collaboration with staff and council on this rezoning application with the mutual objective to finally create critically needed rental and social housing on this key West End residential site.

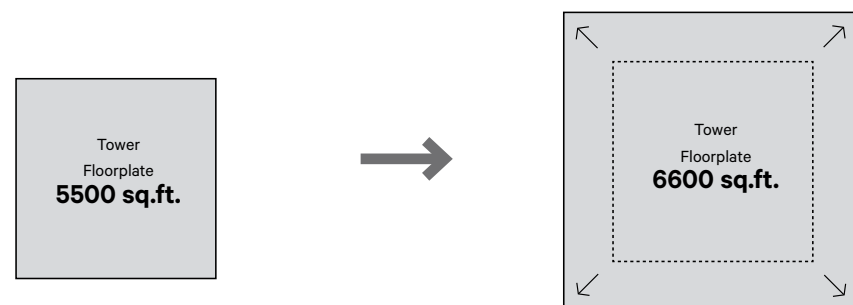
# Rezoning Rationale

## Overview Summary of Changes from 2017 Rezoning Application:

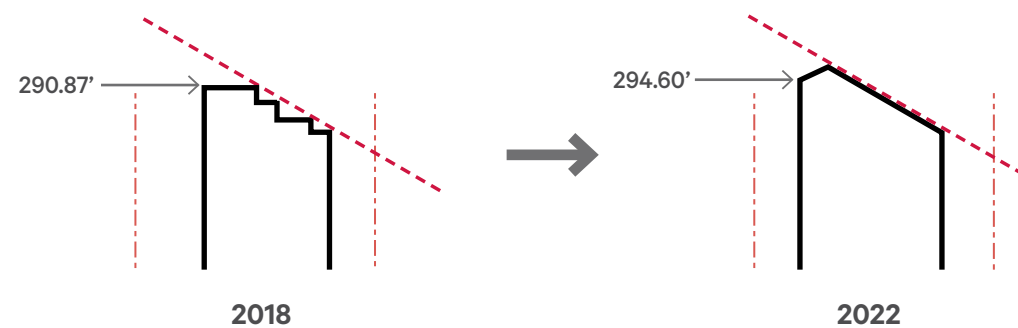
- 1 TOTAL FLOOR AREA:**  
From a Min. 25% of Total Floor Area as Social Housing to 10% with 90% as Rental Housing.



- 2 TYPICAL FLOORPLATE SIZE:**  
From 5500 sq.ft. to 6600 sq.ft. floorplate to accommodate additional Rental Housing within the height limit.



- 3 BUILDING HEIGHT:**  
Maximum height conforming to the shadow performance established in the CD-1 Bylaw previously approved in-principle for this site in July 2018 for a condominium and social housing building of 290.87 feet.



# Project Stats

**Site Data:**

**PROJECT ADDRESS:**  
1068 BURNABY ST.  
VANCOUVER, BC V6E 1N7

**PID:**  
030712831

**LEGAL DESCRIPTION:**  
LOT 1 PLAN EPP87122 DISTRICT LOT 185 NWD BCAGROUP 1

**SITE AREA:**  
17282.52 SF (1605.5m<sup>2</sup>)  
Note: See A001 Project Data sheet in Arch set for more detailed area breakdown.

AREA								
		AREA - RENTAL		AREA - SH		AREA - TOTAL		
LEVEL	LEVEL MULTIPLIER	RENTAL AREA (SF)	GFA - RENTAL (SF)	SH AREA (SF)	GFA - SH (SF)	TOTAL AREA (SF)	GFA - TOTAL	GFA (m <sup>2</sup> )
LEVEL 01	1	2,973	2,973	-	-	2,973	2,973	276
LEVEL 02	1	6,463	6,463	986	986	7,449	7,449	692
LEVEL 03-05	3	144	431	7,297	21,891	7,441	22,323	2,074
LEVEL 06	1	7,388	7,388	202	202	7,590	7,590	705
LEVEL 07	1	7,590	7,590	-	-	7,590	7,590	705
LEVEL 08	1	6,600	6,600	-	-	6,600	6,600	613
LEVEL 09	1	6,600	6,600	-	-	6,600	6,600	613
LEVEL 10-31	22	6,600	145,200	-	-	6,600	145,200	13,490
LEVEL 32	1	5,414	5,414	-	-	5,414	5,414	503
LEVEL 33	1	4,157	4,157	-	-	4,157	4,157	386
LEVEL 34	1	3,060	3,060	-	-	3,060	3,060	284
<b>TOTAL</b>		<b>56,990</b>	<b>195,877</b>	<b>8,485</b>	<b>23,079</b>	<b>65,475</b>	<b>218,956</b>	<b>20,342</b>

AREA SUMMARY		
SITE AREA	17,282.52 SF	1,606 m <sup>2</sup>
GFA	219,463.00 SF	20,389 m <sup>2</sup>

BUILDING SUMMARY	
UNIT COUNT	311
BUILDING HEIGHT (TO ROOF PARAPET)	294' - 7 7/16" < 300' (MAX BUILDING HEIGHT)
BUILDING HEIGHT (TO DECORATIVE ROOF)*	304' - 6 13/16" > 300' (MAX BUILDING HEIGHT)
NUMBER OF STOREYS	34
PROPOSED FSR	12.25

\* Building height exemption - Architectural Features, if no additional floor area is created. (Refer to Zoning and Development Bylaw Section 10, March 2023, 10.1.1)  
Refer to A4.01 East Elevation in Arch set for more details.

BALCONY SUMMARY	
GFA (SF)	219,463
BALCONY GFA (SF)	24,691
BALCONY RATIO	11.3%

EXCLUSIONS												
		EXCLUSIONS - RENTAL				EXCLUSIONS - SH				FSR		
LEVEL	LEVEL MULTIPLIER	STORAGE (SF)	AMENITY (SF)	EXCLUSIONS (SF)	NET FSR (SF)	STORAGE (SF)	AMENITY (SF)	EXCLUSIONS (SF)	NET FSR (SF)	NET EXCLUSIONS (SF)	NET FSR (SF)	NET FSR (m <sup>2</sup> )
LEVEL 01	1	156	-	156	2,817	-	-	-	-	156	2,817	262
LEVEL 02	1	109	709	818	5,645	-	498	498	488	1,316	6,133	570
LEVEL 03-05	3	-	-	-	431	956	-	956	20,935	956	21,366	1,985
LEVEL 06	1	171	-	171	7,217	-	-	-	202	171	7,419	689
LEVEL 07	1	196	-	196	7,394	-	-	-	-	196	7,394	687
LEVEL 08	1	176	-	176	6,424	-	-	-	-	176	6,424	597
LEVEL 09	1	118	-	118	6,482	-	-	-	-	118	6,482	602
LEVEL 10-31	22	3,940	-	3,940	141,260	-	-	-	-	3,940	141,260	13,123
LEVEL 32	1	121	-	121	5,293	-	-	-	-	121	5,293	492
LEVEL 33	1	66	-	66	4,091	-	-	-	-	66	4,091	380
LEVEL 34	1	92	-	92	2,968	-	-	-	-	92	2,968	276
<b>TOTAL</b>		<b>5,145</b>	<b>709</b>	<b>5,853</b>	<b>190,024</b>	<b>956</b>	<b>498</b>	<b>1,455</b>	<b>21,624</b>	<b>7,308</b>	<b>211,648</b>	<b>19,663</b>

UNIT TYPE SUMMARY												
LEVEL	LEVEL MULTIPLIER	RENTAL HOUSING					SOCIAL HOUSING					TOTAL
		STUDIO	1-BEDROOM	2-BEDROOM	3-BEDROOM	TOTAL	STUDIO	1-BEDROOM	2-BEDROOM	3-BEDROOM	TOTAL	
LEVEL 01	1	3	0	1	0	4	0	0	0	0	0	8
LEVEL 02	1	2	4	1	0	7	0	0	0	0	0	14
LEVEL 03-05	3	0	0	0	0	0	3	1	2	2	8	16
LEVEL 06	1	2	6	3	0	11	0	0	0	0	0	22
LEVEL 07	1	4	6	2	0	12	0	0	0	0	0	24
LEVEL 08	1	2	4	4	0	10	0	0	0	0	0	20
LEVEL 09	1	2	4	4	0	10	0	0	0	0	0	20
LEVEL 10-31	22	2	4	4	0	10	0	0	0	0	0	20
LEVEL 32	1	0	6	2	0	8	0	0	0	0	0	16
LEVEL 33	1	0	0	2	3	5	0	0	0	0	0	10
LEVEL 34	1	0	0	0	0	0	0	0	0	0	0	0
<b>TOTALS</b>		59	118	107	3	287	9	3	6	6	24	311
MIX %		21%	41%	37%	1%	100%	38%	13%	25%	25%	100%	
TOTAL FAMILY UNITS				38%					50%			

	STUDIO	1-BEDROOM	2-BEDROOM	3-BEDROOM	TOTAL
TOTAL REQ'D - RENTAL		65%		35%	100%
TOTAL REQ'D - SH		50%		50%	100% *INCLUDES 3 ACCESSIBLE UNITS (12.5%)

UNIT AREA SUMMARY										
LEVEL	LEVEL MULTIPLIER	RENTAL HOUSING				SOCIAL HOUSING				TOTAL
		<700 SF	>700 SF<1130 SF	>1130 SF	TOTAL	<700 SF	>700 SF<1130 SF	>1130 SF	TOTAL	
LEVEL 01	1	3	1	0	4	0	0	0	0	4
LEVEL 02	1	6	1	0	7	0	0	0	0	7
LEVEL 03-05	3	0	0	0	0	4	4	0	8	8
LEVEL 06	1	10	1	0	11	0	0	0	0	11
LEVEL 07	1	12	0	0	12	0	0	0	0	12
LEVEL 08	1	10	0	0	10	0	0	0	0	10
LEVEL 09	1	10	0	0	10	0	0	0	0	10
LEVEL 10-31	22	10	0	0	10	0	0	0	0	10
LEVEL 32	1	8	0	0	8	0	0	0	0	8
LEVEL 33	1	0	5	0	5	0	0	0	0	5
LEVEL 34	1	0	0	0	0	0	0	0	0	0
<b>TOTALS</b>		279	8	0	287	12	12	0	24	311
MIX %		97%	3%	0%	100%	50%	50%	0%	100%	

# 1.5 PROJECT STATS

BYLAW PARKING REQUIREMENT		
RENTAL HOUSING		
BYLAW 4.3.3 RESIDENTIAL	AREA (m2)/SUITES	STALLS REQUIRED
LESSER OF 1 SPACE / 140m2 OF GFA	17654	126
OR 1 SPACE/ UNIT	287	287

BYLAW 4.8.4 DISABLE STALLS		
1 FOR 1ST 7 UNITS 0.034/ADD'L SUITE		11

BYLAW 4.1.16 VISITOR PARKING		
LESSER OF 0.05 SUITE		15
OR 5% OF STALLS		6

BYLAW STALLS REQUIRED		
		143

BYLAW PARKING REQUIREMENT		
SOCIAL HOUSING		
BYLAW 4.3.5 RESIDENTIAL	AREA (m2)/SUITES	STALLS REQUIRED
EXCEPT FOR ACCESSIBLE PARKING, NONE REQUIRED	0	0
	0	0

BYLAW 4.8.4 DISABLE STALLS		
1 FOR 1ST 7 UNITS 0.034/ADD'L SUITE		2

BYLAW STALLS REQUIRED		
		2

STALLS PROVIDED	COUNT**	QUANTITY***
RENTAL STANDARD REGULAR	70	70
RENTAL STANDARD SMALL	22	22
RENTAL STANDARD ACCESSIBLE	11	22
RENTAL VISITOR REGULAR	2	2
RENTAL VISITOR SMALL	5	5
SOCIAL HOUSING ACCESSIBLE	2	4
<b>TOTAL STALLS PROVIDED*</b>	<b>112</b>	<b>125</b>

\*EV (100% OF STALLS)

\*\* NOTE: REFER TO TDM PLAN FOR PROPOSED REDUCED PARKING REQUIREMENT

\*\*\* ACCESSIBLE STALL = 2 STALLS

LOADING REQUIREMENTS			
BYLAW 5.2.1 LOADING SPACES	CRITERIA	SPACES REQUIRED	PROVIDED****
CLASS A	NO REQUIREMENT	0	-
CLASS B	<100 UNITS = 0 STALLS	2	2
	>100 UNITS < 299 UNITS = 1 STALLS		-
	>300 UNITS = 2 STALLS		-
			-
BYLAW 7.2.1 PASSENGER LOADING SPACES			
CLASS A	>50 UNITS < 125 UNITS = 1 STALL + 1 FOR EVERY ADD'L 150 UNITS	2	1
CLASS B	NO REQUIREMENT	0	-
CLASS C	NO REQUIREMENT	0	-
<b>TOTAL</b>		<b>4</b>	<b>3</b>

\*\*\*\*LOADING RATIONALE TO BE PROVIDED BY PROFESSIONAL TRANSPORTATION ENGINEER

BYLAW BICYCLE PARKING REQUIREMENT		
RENTAL HOUSING		
BYLAW 6.2.1.2 RESIDENTIAL CLASS A	SPOTS REQUIRED	
SUITES <65 m2 (700 SF) X 1.5 STALLS	419	
SUITES >65 m2 (700 SF) X 2.5 STALLS	20	
SUITES >105 m2 (11300 SF) X 3 STALLS	0	
	MIN	MAX
MIN 40% HORIZONTAL STALLS (5% OVERSIZED)	176	-
MAX 30% VERTICAL STALLS	0	131
MAX 60% VERTICAL + STACKED STALLS	0	263
MIN 10% BIKE LOCKERS	44	-

BYLAW 6.2.1.2 RESIDENTIAL CLASS B		
MIN 2 SPACES UP TO 20 UNITS; AND 1/ ADD'L 20 UNITS	16	

	CLASS A	CLASS B
<b>TOTAL STALLS REQUIRED</b>	<b>439</b>	<b>16</b>
<b>TOTAL STALLS PROVIDED</b>	<b>439</b>	<b>16</b>

BYLAW BICYCLE PARKING REQUIREMENT		
RENTAL HOUSING		
BYLAW 6.2.1.2 RESIDENTIAL CLASS A	SPOTS REQUIRED	
SUITES <65 m2 (700 SF) X 1.5 STALLS	18	
SUITES >65 m2 (700 SF) X 2.5 STALLS	30	
SUITES >105 m2 (11300 SF) X 3 STALLS	0	
	MIN	MAX
MIN 40% HORIZONTAL STALLS (5% OVERSIZED)	20	-
MAX 30% VERTICAL STALLS	0	14
MAX 60% VERTICAL + STACKED STALLS	0	28
MIN 10% BIKE LOCKERS	1	-

BYLAW 6.2.1.2 RESIDENTIAL CLASS B		
MIN 2 SPACES UP TO 20 UNITS; AND 1/ ADD'L 20 UNITS	1	

	CLASS A	CLASS B
<b>TOTAL STALLS REQUIRED</b>	<b>48</b>	<b>1</b>
<b>TOTAL STALLS PROVIDED</b>	<b>48</b>	<b>1</b>









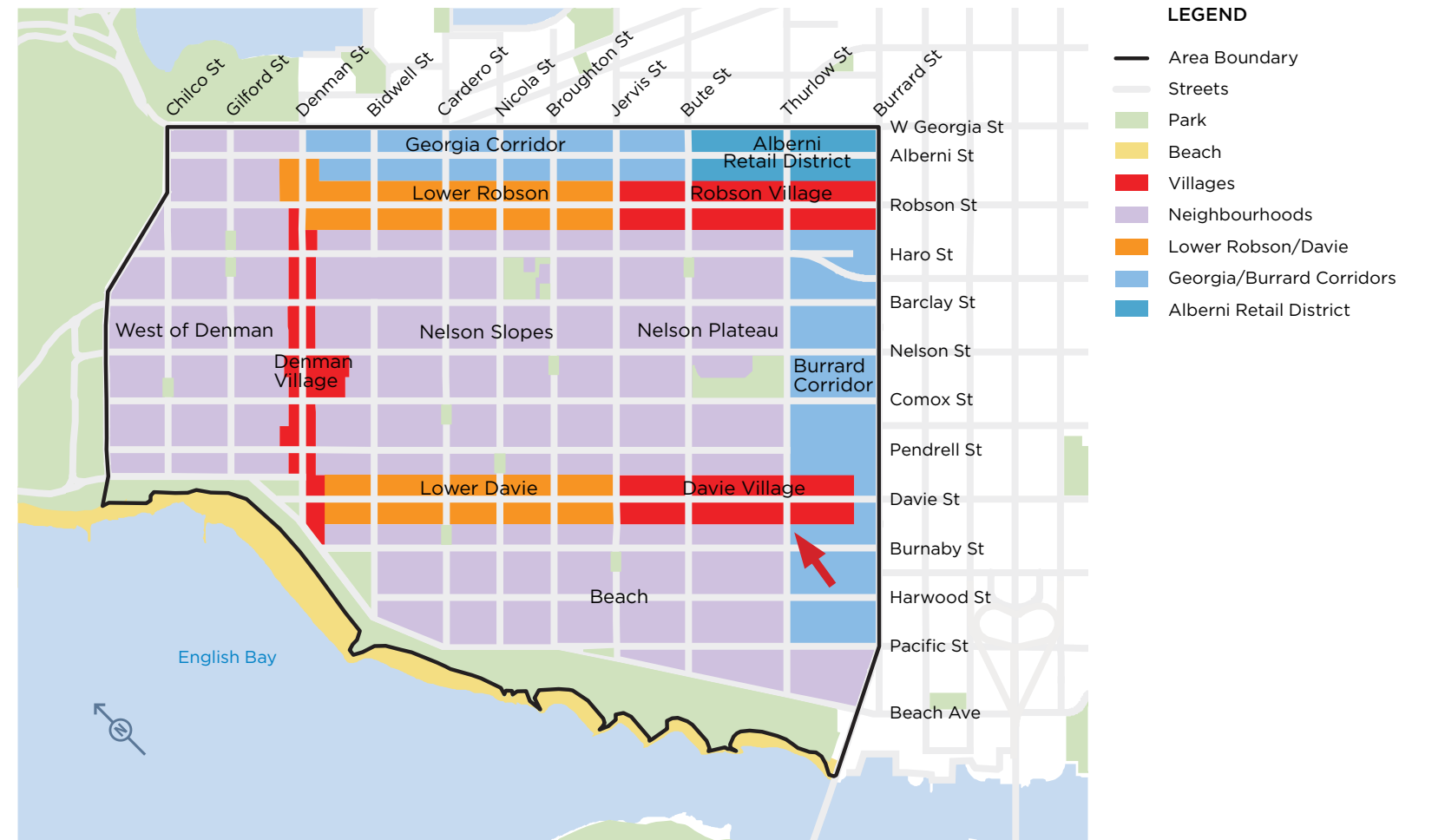
# 2.0

## Site Analysis

# Site Context

## Existing Site Conditions:

The project site previously went to Public Hearing as a Condominium-Social Housing Project under the WECP and was approved in principle in 2018. A development application was submitted and DP Prior-to conditions received in January 2019. Due to changes in market conditions, the condo project was no longer financially feasible and was put on hold. Although the four legal parcels that comprised the site were consolidated as a condition of bylaw enactment under the 2017 rezoning application, the zoning was not enacted and the site remains zoned for RM-5A. There are three existing buildings on site. The building at 1068 Burnaby St was built in 1955 and is a three storey wood frame rental building with 22 rental units. The building on 1080 Burnaby St is a vacant single-family structure built in 1905, but substantially renovated in 1965 and the exterior facade altered. The building at 1318 Thurlow was developed in 1984 as a 14 unit strata building. A strata wind-up was undertaken in 2019 as a condition of bylaw enactment under the 2017 rezoning application. The units have been tenanted on a temporary basis while the property obtains entitlements for redevelopment.



# West End Development



1415 Barclay



1243 Thurlow



859 Thurlow



1100 Davie



2055 Pendrell



1155 Thurlow



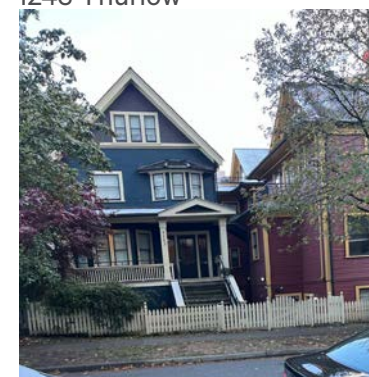
1066-1078 Harwood &  
1065 Harwood-1332 Thurlow



1157 Burrard



1001 Nicola



1145 Pendrell

Remarkable for its eclectic mix of architectural styles and successive stages of development, the predominant urban pattern of closely spaced apartment buildings set back from highly landscaped and tree-lined streets has been largely maintained over the last decades. The explosion of apartment and high-rise development starting in the 1950s established some of the most character-defining examples of residential architecture for the neighbourhood. Ranging from classic modernist examples of horizontal ribbon windows, pilotis, and minimally expressed exteriors to highly individualist and geometrically-mannered modernism, the mid-century flourishing of development in the area adds to the historicist examples of earlier stages of development. Together they establish a rich backdrop from which new projects can draw inspiration and which can absorb a range of formal and stylistic responses.

# Neighbourhood Context

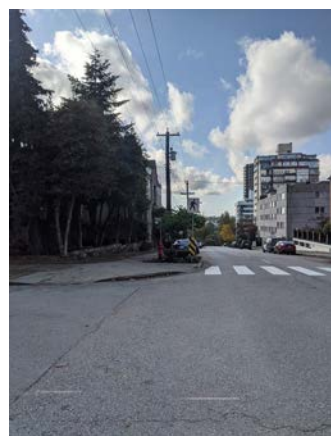
The proposed development continues the evolution of Burnaby St, and the West End Plan, as a walkable, tree-lined pedestrian oriented residential street in close-proximity to the amenities of Davie Village, Vancouver Sea Wall and Burrard Corridor. The site's central location offers itself suitably for occupants who may rely on cycling or waking to conveniently travel south to Kitsilano and the rest of South Vancouver, west to UBC, east to Mount Pleasant, or north to downtown. The form and siting of the tower enhances the pedestrian experience along the Burnaby and Thurlow streetscapes by creating a park-like setting that fully wraps both frontages, with the provision of landscaping along the laneway serving to soften the transition from the project site to the public realm.



1 Existing Site (Burnaby)



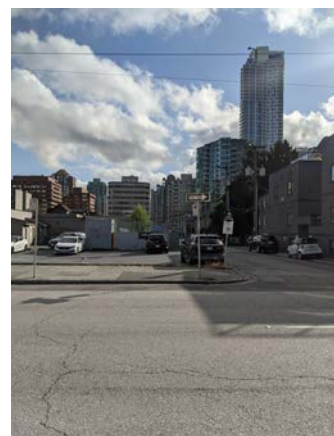
2 Existing Site (Thurlow)



3 Thurlow St



4 Maxine Laneway



5 Pantages Ln.



6 High-Rise Res. (Burnaby)



7 Single Family Res. (Burnaby)



8 HI Vancouver Hostel

# Existing Site

## Current Use on Site

The site is currently improved with three buildings, formerly on four separate legal parcels:

1068 Burnaby St contains a four-storey 1955 market residential rental building with 22 units, 1318 Thurlow St contains a three-storey 1984 building with 14 units, and 1080 Burnaby Street is a derelict building for which demolition has been and continues to be sought by the Applicant. The neighbouring sites primarily comprise of low-rise walk up apartment buildings to the north, east and south; and a youth hostel is located to the NW across Thurlow Street. The proposal will fit well into the existing neighbourhood as well as the proposed future vision of this area, by providing 287 much-needed modern rental units and 24 social housing units to the West End Burrard Corridor.



1068 BURNABY ST

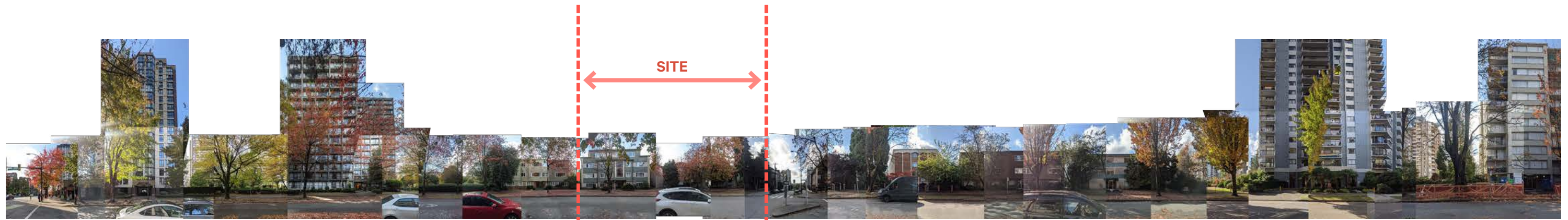


1318 THURLOW ST

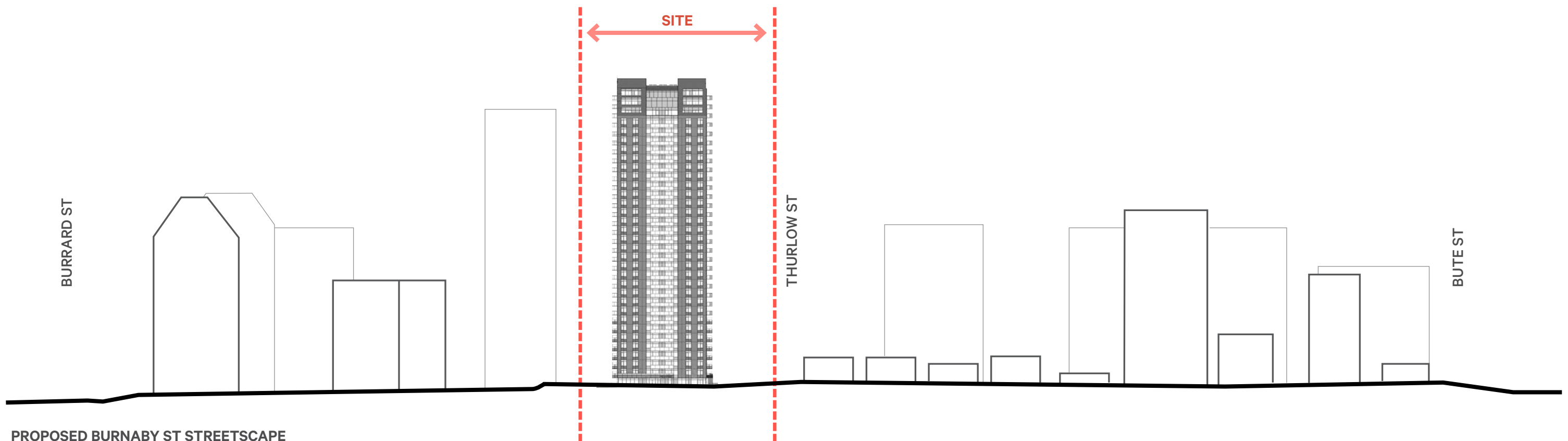


1080 BURNABY ST

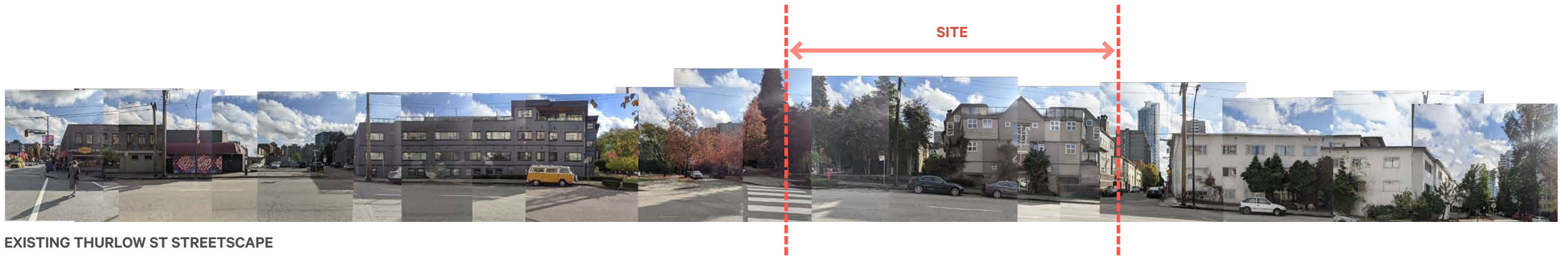
# Streetscape



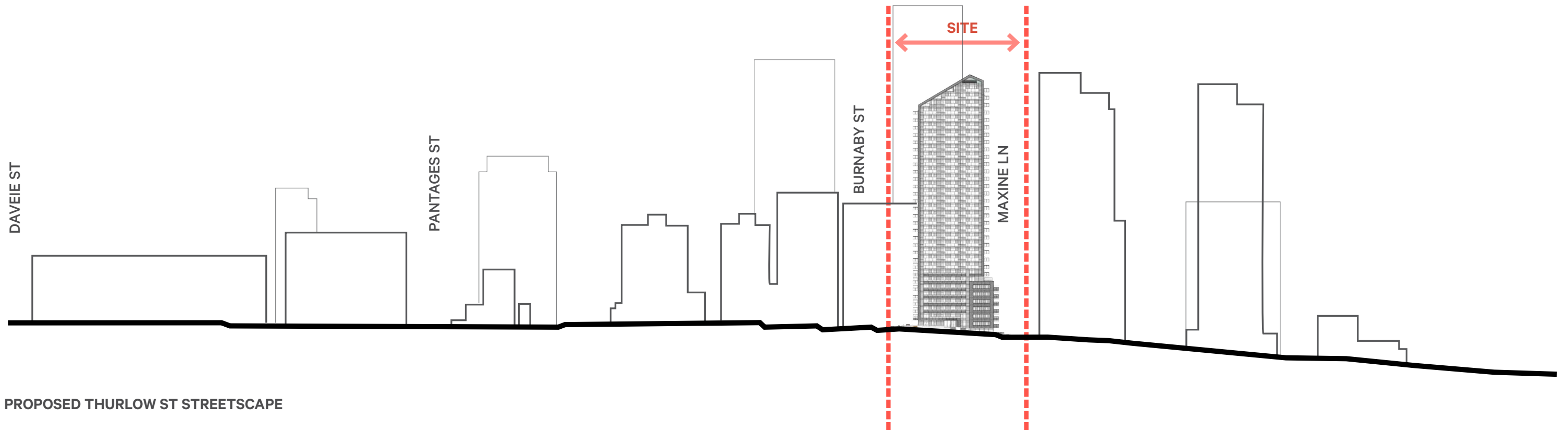
EXISTING BURNABY ST STREETScape



PROPOSED BURNABY ST STREETScape



EXISTING THURLLOW ST STREETSCAPE



PROPOSED THURLLOW ST STREETSCAPE







# 3.0

## Policies & Guidelines

# Applicable Policies and Guidelines

**POLICY ALTERATIONS:**

In November of 2022, Council approved, “Criteria for 100% Secured Rental & Below Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End community Plan - 2020.” This interim policy, which is applicable to this site, modified elements of the West End Community Plan and provided policy options to incentivize and facilitate the creation of affordable and secured rental housing.

**PRIMARY POLICY:**

The proposal is located in the Burrard Corridor of the West End, intersecting with Thurlow Street in a primarily residential neighbourhood. This area of the Burrard Corridor is well served by Transit, services and amenities and provide an opportunity to accommodate housing, deepen housing affordability and contribute to public benefits.

The West End Community Plan also addresses 7 Plan Principles:

1. Achieve a green, environmentally sustainable urban pattern.
2. Support a range of affordable housing options to meet the diverse needs of the community.
3. Foster a robust, resilient economy.
4. Enhance culture, heritage and creativity in the city.
5. Provide and support a range of sustainable transportation options.
6. Protect and enhance public open spaces, parks and green linkages.
7. Foster resilient, sustainable, safe and healthy communities.

**ADDITIONAL SITE SPECIFIC POLICIES:**

- Green Buildings Policy for Rezoning
- Zoning and Development By-Law, RM-5
- West End - Tower Form, Siting and Setbacks
- Zoning By-Law Section 10/11
- High Density Housing for Families with Children
- West End Rezoning Policy
- Housing Design & Technical Guidelines
- Criteria for 100% Secured Rental & Below-Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End Community Plan - 2020

**RM-5A DISTRICT SCHEDULE:**

Of the rental housing, in accordance with RM-5A, at least 35% of the total number of dwelling units must be of 2 or more bedrooms.

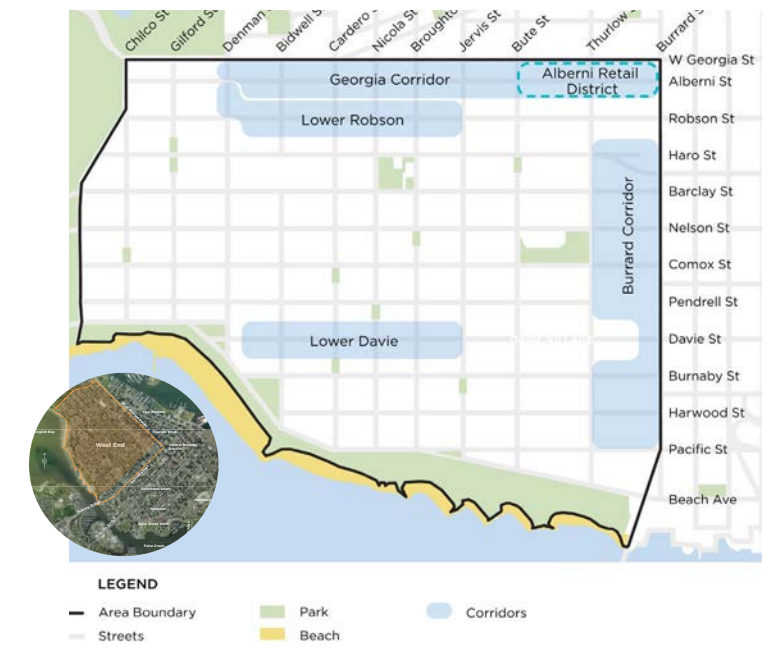
50% of Social Housing dwelling units are 2 or more bedrooms.

Minimum setbacks, front, side and rear yard provisions can be accommodated and are further augmented by the West End - Tower Form, Siting and Setbacks Administrative Bulletin.

Site Coverage is shown at approximately 43.9% - below the maximum 50% outlined in the RM-5A.

**WEST END COMMUNITY PLAN:**

Within area G of the Plan, buildings can be considered up to (91.4m) 300’ in height with the inclusion of social housing. New developments in this area should be in the form of “tower in the park”. The proposed rezoning adheres to the height limitation, however, to accomplish an increase in density this proposal seeks to exceed the maximum of a 5500 sq.ft. floor plate by 20% (6600 sq.ft.) in accordance with the provisions of the Interim Rezoning Policy. The larger floor plates will accommodate 311 units with 90% dedicated to rental housing and the remaining 10% for social housing.



**WEST END - TOWER FORM, SITING AND SETBACK**

Minimum Distance between towers: 24m (80') minimum – proposal is compliant

Size and Width of frontage: Min. 39.6m (130') – Site frontage is 40.2m (132')

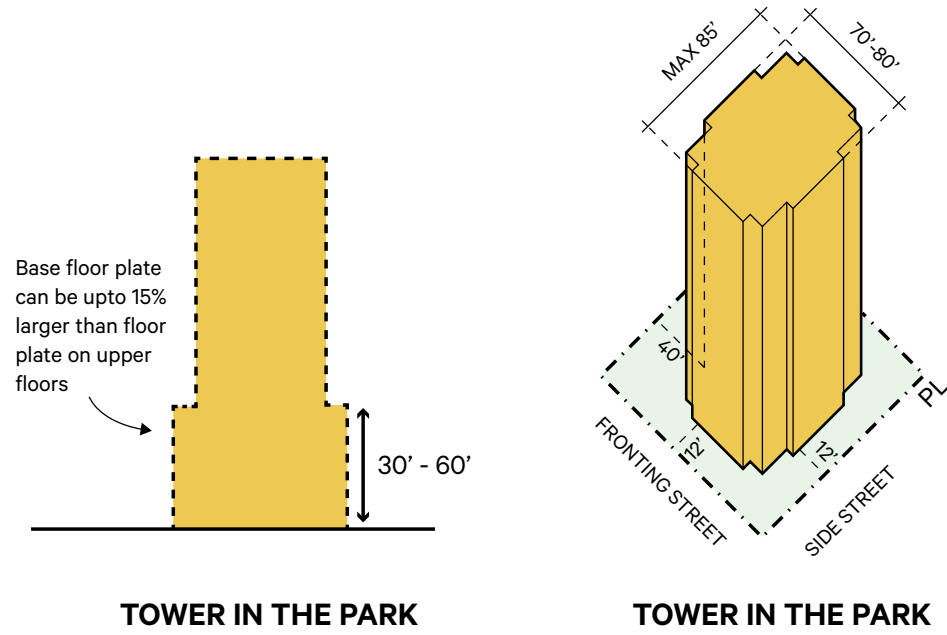
Tower in the Park: the tower meets the ground without the presence of a podium element; the lower 18.3m (60') can be 15% larger than the floor plates above. – The proposal is a consistent tower footprint that meets the ground on three sides to leave a significant open area at grade. Rather than step the tower at 60' on all sides, a more consistent floor plate dimension is achieved by only stepping the south face to provide better overall tower slenderness, improve construction efficiency, energy performance, and affordability.

Setbacks of 12m (40') for interior property line, 3.7m (12') for side yards and 40' to centerline of rear lane are maintained in the proposal with the exception of the East property line. The setback on this face achieves a separation of 10.4m (34'). The future development of the adjacent lot is heavily influenced by the existence of a tower to its East. The slender lot between the existing tower and this proposal would not achieve the minimum separation between towers if further development was sought, allowing the proposal to maintain a suitable setback from the current, and future builds, on that site. The proposed east setback is consistent with the previously approved rezoning application in 2017.

Maximum Tower Floor plates: 85' depth x 80' width for frontages of 130' or more

**HIGH-DENSITY HOUSING FOR FAMILIES WITH CHILDREN**

The site is located in an area well served by access to parks, recreation, beaches, schools, transit and commercial uses that are compatible with the proposed development. A large percentage of family units are proposed (approx. 35%, with 50% for social housing). Program layout, unit mix and building amenities provide opportunities for private and common outdoor spaces, at-grade outdoor play space, urban agriculture and social spaces with good solar access. Secured vehicle, bike parking, and storage spaces are provided within the building for both residential tenant groups.



**GREEN BUILDINGS POLICY FOR REZONING**

The proposal follows the Low-emissions Green Building Pathway to compliance with the policy.

The policy consists of the following requirements:

- 1. Integrated rainwater Management and Green Infrastructure
- 2. Reporting of Green & Resilient Building Measures:
  - 2.1. Energy & Emissions Performance Limits
  - 2.2. Embodied Carbon Limits
  - 2.3. Resilient Buildings Planning Worksheet
- 3. Enhanced Commissioning
- 4. Energy System Sub-Metering

**REZONING POLICY FOR THE WEST END (2017)**

Rezoning for Residential Development in area E:

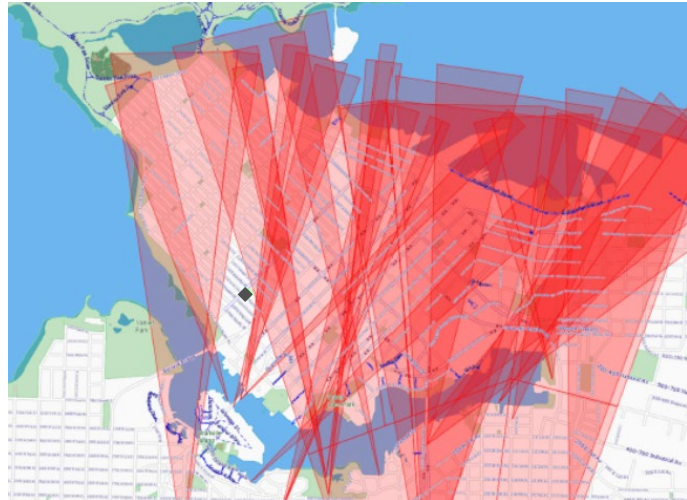
Min frontage 130': Complies

Min. 25% of total floor area as social housing: Variance sought to provide 90% rental housing based on alternative outlined in Report: Criteria for 100% Secured Rental and Below-Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End Community Plan -2020

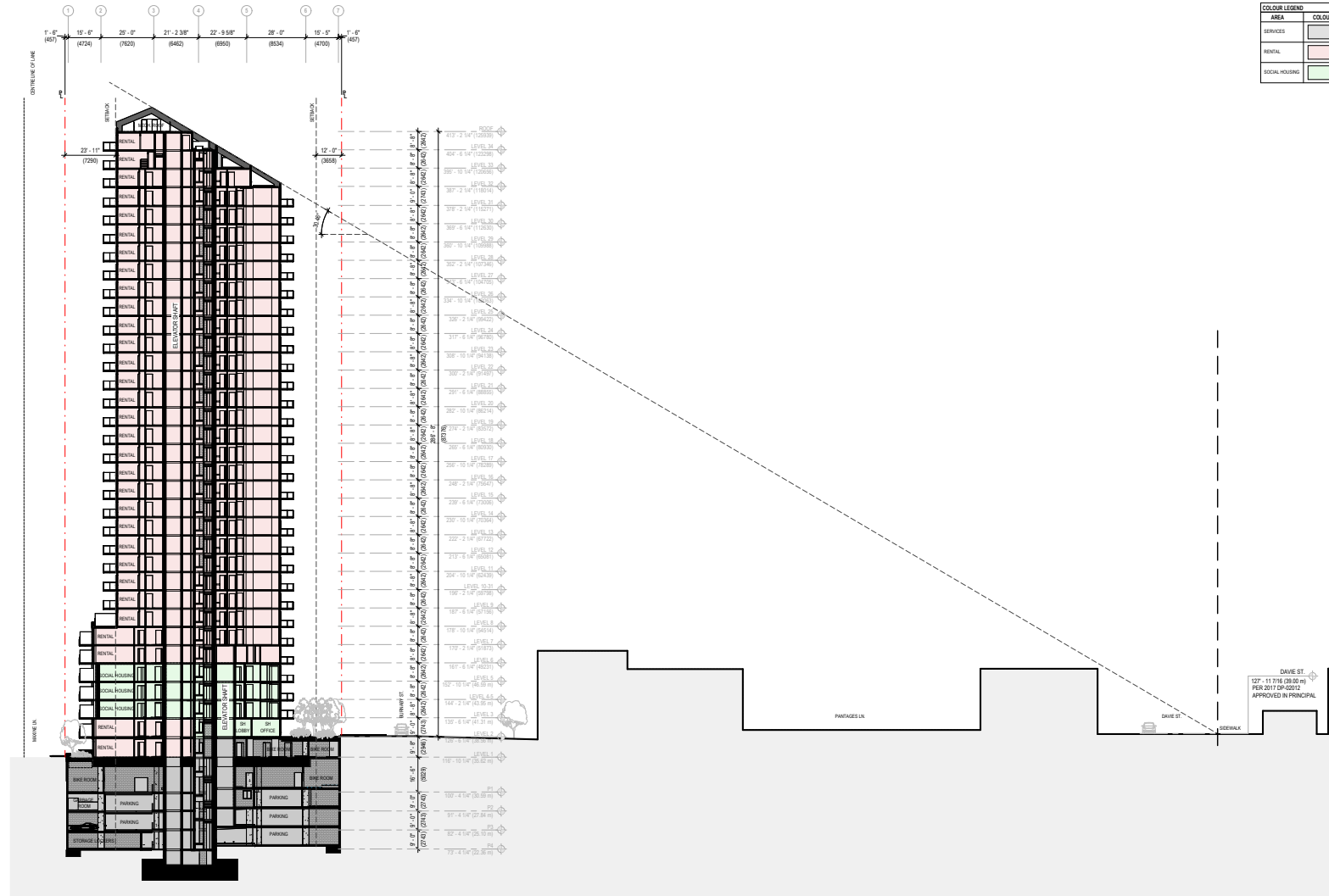
Max Floor plate size of 5500 sq.ft: Variance sought (6600 sq.ft. floor plate to accommodate additional 20% rental housing within height limit.

Tower separation min. 80': Complies

# View Cone Studies



This application presents a very rare opportunity to deliver 311 housing units, 287 dedicated to rental housing and 24 to social, on a land parcel on the downtown peninsula which has no view cone constraints and is supported with short distance access to rapid transit and bicycle networks which lead to less than 15-minute commutes to the downtown employment hub.



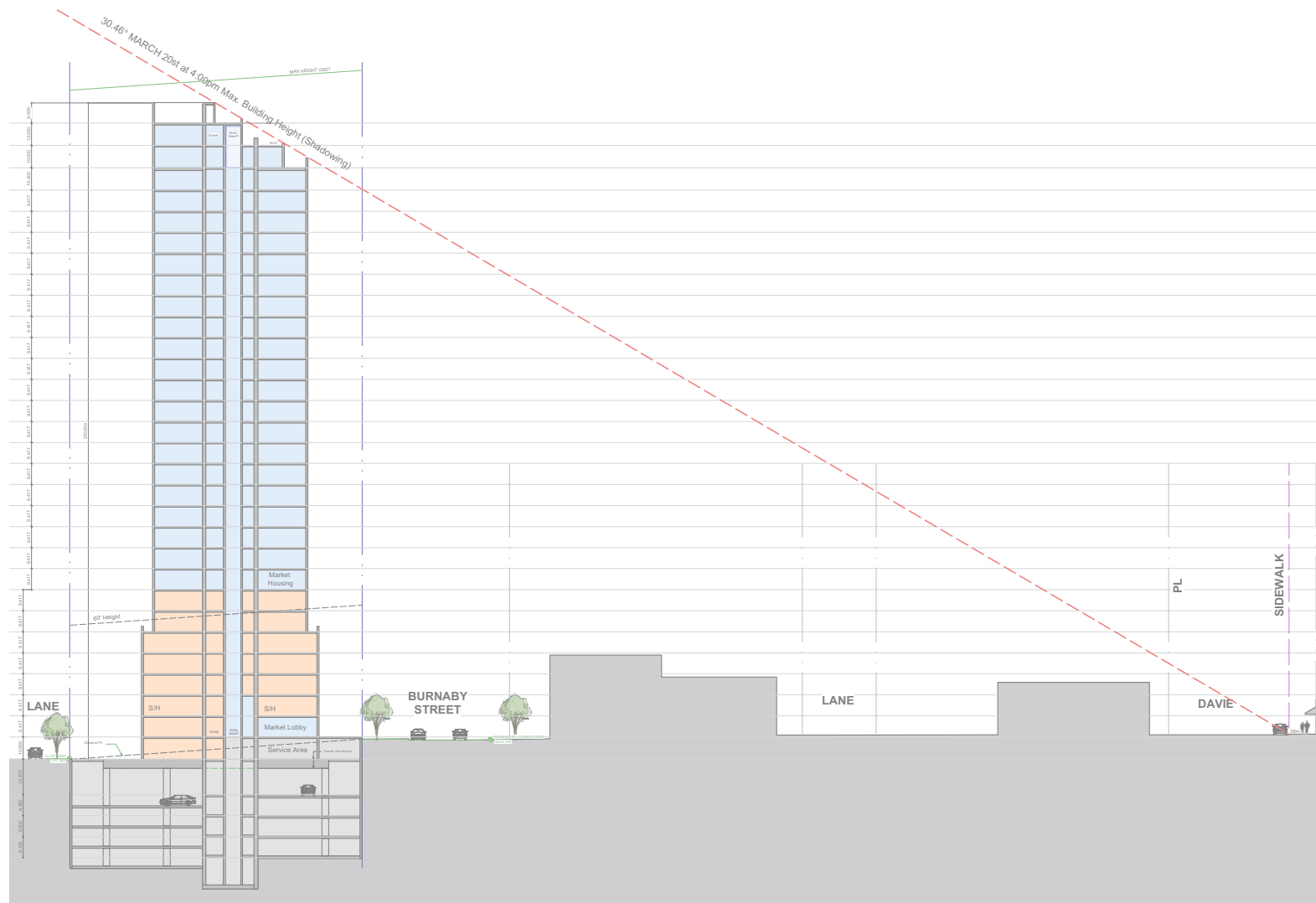
## Shadow Rationale:

### WEST END – TOWER FORM, SITING AND SETBACKS

*Building height and mass should minimize shadowing on parks, public open space and the West End Shopping “Villages” between the hours of 10:00 a.m. and 4:00 p.m. P.D.T. at the fall and spring equinoxes. In the “Villages” during these hours, shadows should not extend beyond the curb of the sidewalks on the north side of the street.*

The current proposal adheres to the maximum sun angle established in the previous rezoning application that was approved in principle by council. The solar angle established by the tower approved in 2018, is replicated by the tower in this rezoning application both of which result in identical shadow performance. This solar angle relates to the shadow on the Davie sidewalk, minimizing the impact on the north side before 4pm on the spring equinox. The resulting height limit and particular roof angle becomes one of the defining characteristics of the building’s expression and a driving factor in the tower siting and internal organization.

The tower has been pushed as far to the south as possible, in order that the elevator overrun and mechanical spaces are pushed south under the shadow angle. Double-storey suites on the upper floors allows the elevator to stop one level below the top floor and prevents the overrun from breaching the shadow plane. Successive step-backs in the upper floors become roof terraces and green roofs facing north.



2017 Rezoning Application [approved in principle]

### Roof Height Rationale:

It is proposed that a decorative roof feature extend slightly above the 300' height limit (without affecting shadow impact) to resolve the screening of rooftop mechanical equipment and enhance the appearance of the design through a distinctive roof form. No additional enclosed floorspace is created, and the height variance is minimal.

Bylaw:

10.18.5 The Development Permit Board may, for any building higher than 30.5 m, permit a decorative roof, which may include items referred to in section 10.18.4, to exceed the maximum height otherwise specified in this By-law, provided that:

- (a) the Development Permit Board is satisfied that the roof enhances the overall appearance of the building and appropriately integrates mechanical appurtenances;
- (b) the roof does not add to the floor area otherwise permitted; and
- (c) the Development Permit Board first considers all applicable policies and guidelines adopted by Council.

### Setback Rationale:

The proposal achieves an approx. 29' setback from Burnaby street -far greater than the required 12' to provide a generous landscape foreground to the tower and minimize shadow impact on Davie Street to the North.

12' is maintained along Thurlow, ensuring a landscaped zone along the busy sloping street. The rear setback above 60' height maintains a 40' setback to the centerline of Maxine Lane; when combined with similar setback for the site south of the lane, tower separation can be maintained.

On the east interior property line, the building is set back approx. 34' from the property boundary in keeping with the previously approved in principal rezoning and DP applications. This setback provides for a generous landscape buffer to the neighbour and an outdoor amenity zone for both housing uses including a shared children's play area.

The reduction from the typical 40' separation to the east is appropriate given the limited development potential of the neighbouring site: at only +/-66' in width, when combined with the existing tower at 1030 Burnaby St., it cannot achieve separation for another tower on this block.

# Shadow Studies



10AM March 21



12PM March 21



2PM March 21



4PM March 21



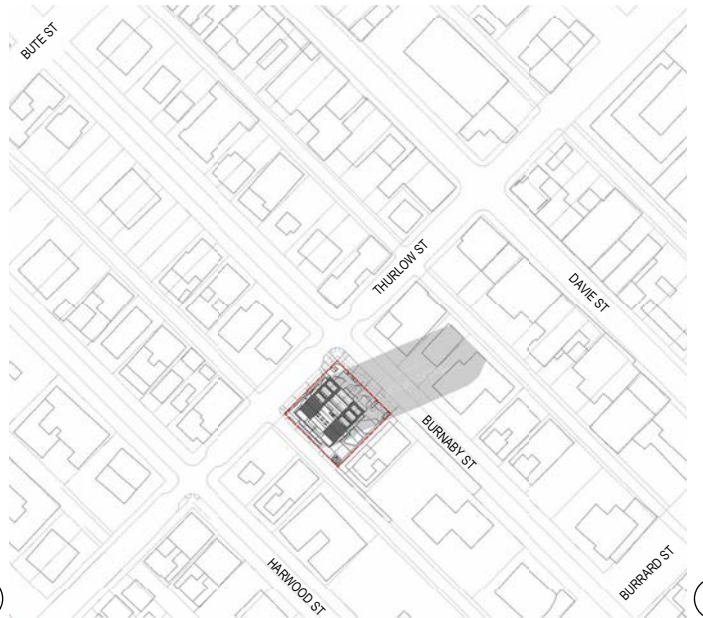
10AM June 21



12PM June 21



2PM June 21



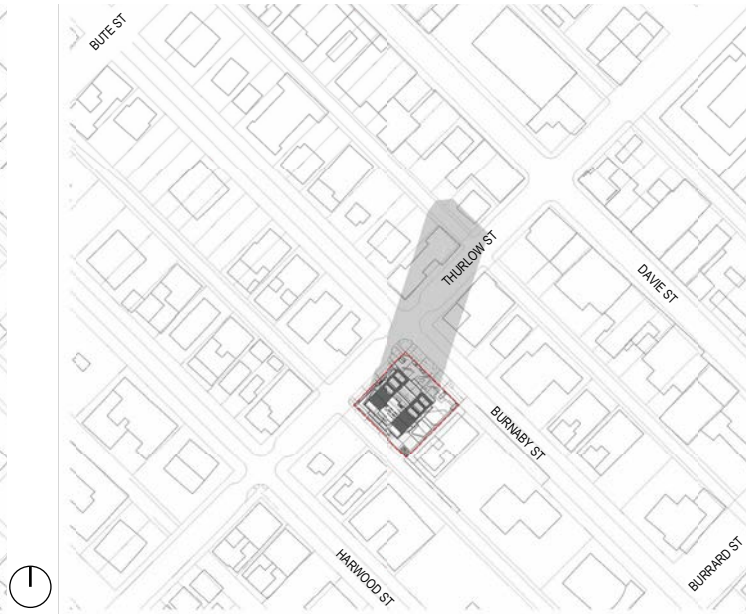
4PM June 21



10AM September 21



12PM September 21



2PM September 21



4PM September 21

# Sustainability

## Sustainable Design Report

Edge Consultants were retained to provide guidance on the sustainable design strategy and code compliance energy modeling for the project.

The Project is part of a rezoning permit application and is required to meet the requirements outlined in the CoV's Green Buildings Policy for Rezoning. Refer to full Sustainable Design Report for Project Rezoning Strategy including Energy and Emissions Performance Limits, Embodied Carbon Limits and Resilient Buildings Planning Worksheet.



## 1.2 Heating, Ventilation & Air Conditioning (HVAC) Systems

Heating, cooling, and ventilation for residential suites, amenity spaces, and offices, will be provided by an air source variable refrigerant flow (AS VRF) with dedicated energy recovery ventilators (ERVs) for each room or suite.

The corridors and vestibules are supplied with ventilation air from a central electric make-up air unit (MUAU) supplying 100% outside air. Supplemental heating is provided to vestibules and corridors on levels 1 and 2 by electric baseboards.

The heating requirement for subsidiary spaces such as stairs and mechanical/electrical rooms will be met using electric baseboards.

The parkade is unheated. Parkade exhaust fans are controlled by carbon monoxide sensors; the fans extract air once a pre-defined threshold is exceeded. .

Figure 1 shows a sample layout of the proposed HVAC system in a typical residential suite.

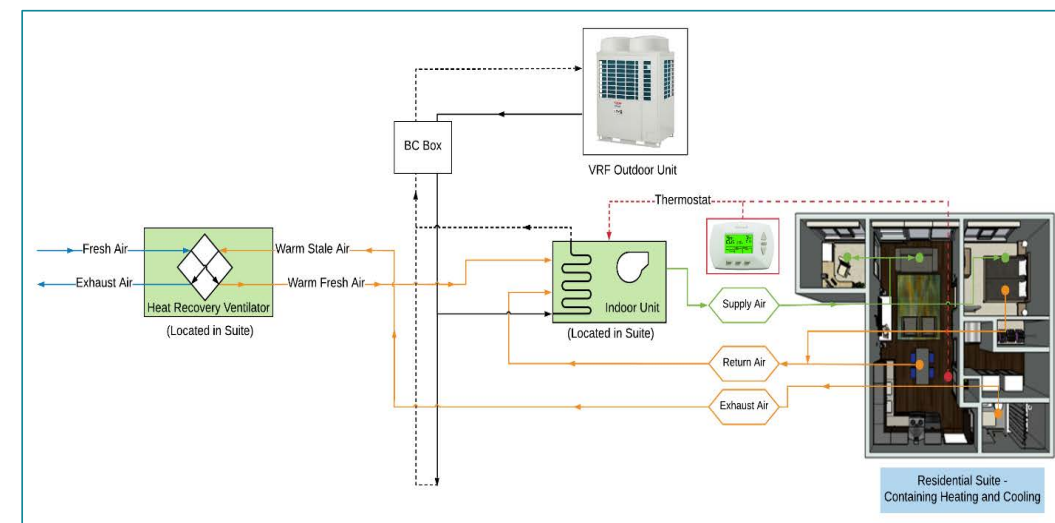


Figure 1: Layout of proposed HVAC system in residential suites.

## 1.3 Domestic Hot Water (DHW) System

The DHW energy requirement is met using electric central generation systems. Separate systems are used for the social housing and market rental housing. The residential suites have low-flow lavatory and shower fixtures to reduce DHW demand.

## 1.4 Sustainable Design Features

The Project will include the following sustainability features:

- High-performance glazing and building envelope
- High-efficiency in-suite ERVs
- Low carbon space heating system
- Low carbon DHW system
- Low-flow water fixtures

## 1.1 Building Types

The table below outlines the occupancy type within the Project, and the associated floor area.

Building Type	Model Floor Area (m <sup>2</sup> )	Model Floor Area (ft <sup>2</sup> )
Residential over 6 storeys	23,428	252,172
<b>Total Modeled Floor Area</b>	<b>23,428</b>	<b>252,172</b>
Architectural Floor Area	20,395	219,528
Modeled versus Architectural Area	1.4%	
Below-Grade Parkade Area	5010.6	53,933
<b>Notes:</b>		
1. The definition of MFA as per the CoV Guidelines is the enclosed building area including below-grade partially conditioned and unconditioned spaces such as storage area, mechanical and electrical rooms (except parkade space). The area typically noted in architectural drawings does not include the floor area from these spaces. The floor area has been added to the architectural floor area for a fair comparison.		
2. The difference between the gross floor area as indicated on the architectural plans and the modelled floor area are permitted a tolerance of +/- 5% accuracy as per CoV Guidelines.		

Table 1: Building types and associated modelled floor area for the Project.



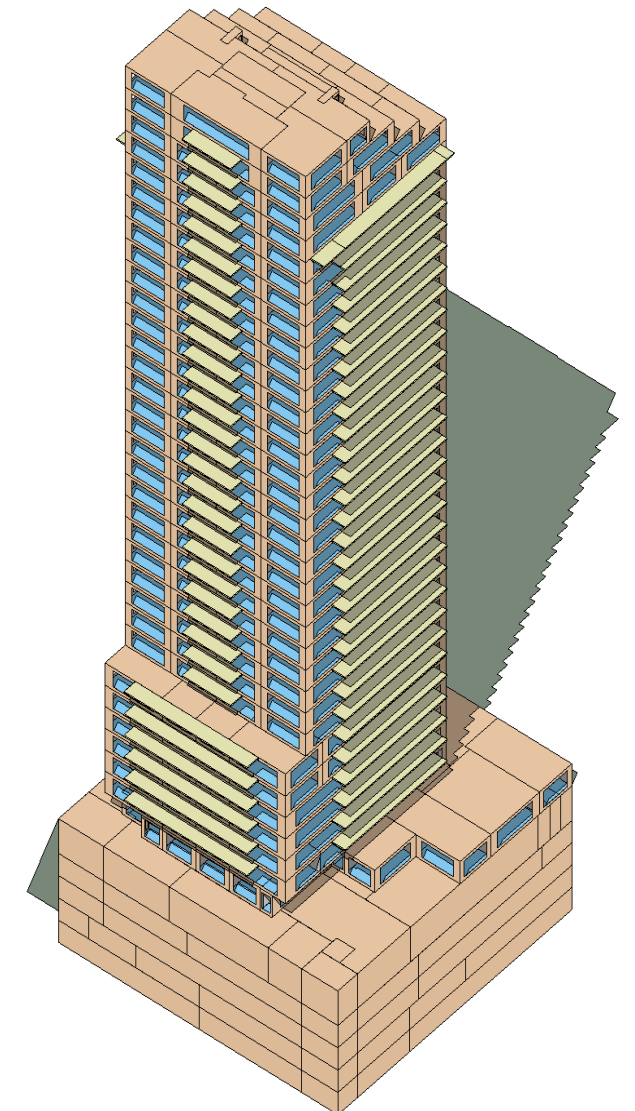
Model Input Sheet			edge
Title/Address	1068 Burnaby St., Vancouver, BC	© Copyright Edge Consultants	
Prepared by	Maria Balanos Parra		
Date Prepared	December 1, 2022		
Model Details	City of Vancouver Rezoning	Rezoning Policy: May 2022	
Building Type(s)	Residential		
Modelled Floor Area (m <sup>2</sup> )	23,428	Equivalent architectural area: 23,095 meters squared. MFA per CoV EM Guidelines Version 2.0 Definition	
Number of Levels (above grade)	34	Parkade Levels: 4	
Number of Suites	311	71 x Studio, 118 x 1 Bed, 115 x 2 Bed, 7 x 3 Bed	
Climate Zone	4C		
Weather file	CAN_BC_Vancouver.intLAP.718920_CWEC2016.epw		
Heating Degree Days (HDD) (18°C base temperature)	2471	HDD and Summer Design Temp as per Table C-2 Vancouver Building By-Law 2019, Winter Design Temp as per Table C-2 BC Building Code 2018. Temperatures confirmed by mechanical.	
Peak Summer Design Temperature	30°C Dry Bulb / 22°C Wet Bulb		
Peak Winter Design Temperature	-9°C		
Category	Description	Proposed Design	Notes
Building Envelope	Wall - Above Grade	R-4 effective blended wall (Spandrel, Metal Framing, Concrete)	Wall assembly information as per architectural drawing C2.01. De-rated in order to approximate effects of thermal bridging.
	R-Value (RSI)	0.7	
	U-Value (W/m <sup>2</sup> ·K)	1.420	
	R-Value (Imperial)	4.0	
	Wall - Below Grade	8" uninsulated concrete	Typical assumed value. Soil correction layer applied to assembly in energy model.
	R-Value (RSI)	0.2	
	U-Value (W/m <sup>2</sup> ·K)	4.056	
	R-Value (Imperial)	1.4	
	Roof	R-25 effective roof	Assembly as per architectural drawing C2.01.
	R-Value (RSI)	4.4	
	U-Value (W/m <sup>2</sup> ·K)	0.227	
	R-Value (Imperial)	25.0	
	Roof (Parkade)	Uninsulated concrete	Typical assumed value.
	R-Value (RSI)	0.2	
	U-Value (W/m <sup>2</sup> ·K)	4.056	
	R-Value (Imperial)	1.4	
	Floor (exposed to ground)	Uninsulated slab on grade	Typical assumed value. Soil correction layer applied to assembly in energy model.
	R-Value (RSI)	0.2	
	U-Value (W/m <sup>2</sup> ·K)	4.056	
	R-Value (Imperial)	1.4	
Floor (exposed to air)	Concrete with R20 insulation	Typical assumed value.	
R-Value (RSI)	3.5		
U-Value (W/m <sup>2</sup> ·K)	0.284		
R-Value (Imperial)	20.0		
Parkade Ceiling (beneath conditioned spaces)	Concrete deck with 5" spray insulation	Assembly as per architectural drawing C2.01.	
R-Value (RSI)	3.5		
U-Value (W/m <sup>2</sup> ·K)	0.284		
R-Value (Imperial)	20.0		
Glazing - Residential	Aluminium Glazing	Glazing u-value accounts for glass-frame.	
U-Value (W/m <sup>2</sup> ·K)	1.99		
U-Value (Btu/h·ft <sup>2</sup> ·°F)	0.35		
Solar Heat Gain Coefficient	0.32		
Shading Coefficient	0.37		
Glazing Percentage	52.0%	Overall glazing % based on conservative assumption.	
Infiltration (1/s per m <sup>2</sup> of facade)	0.2	As per CoV EM Guidelines Version 2.0	

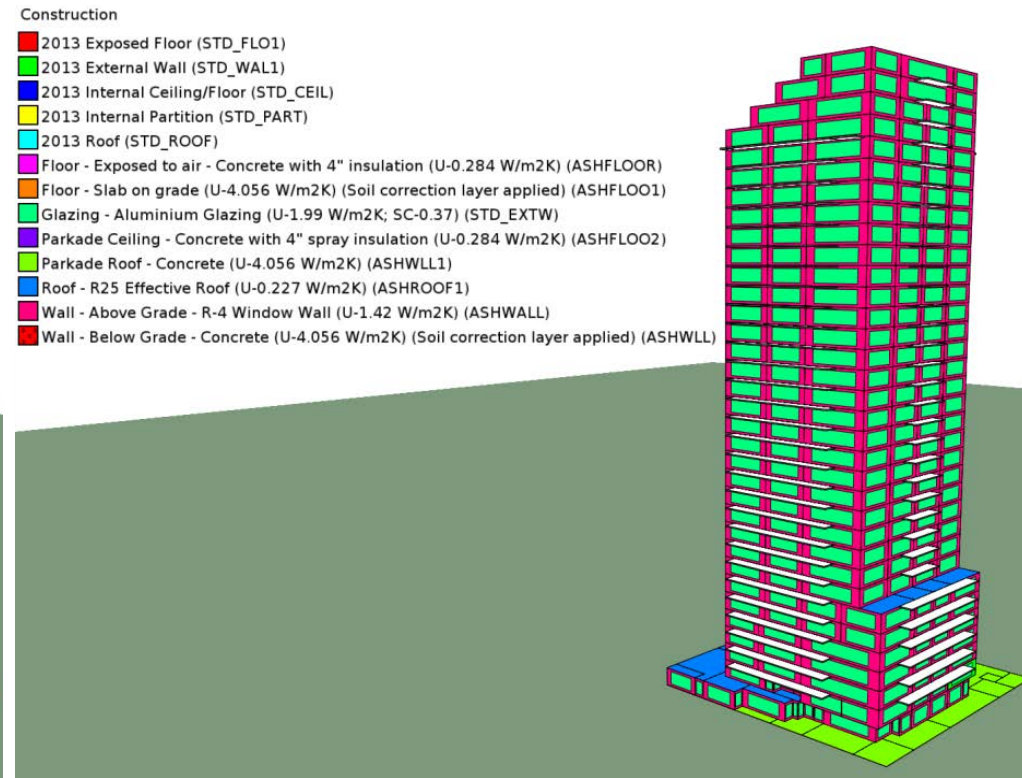
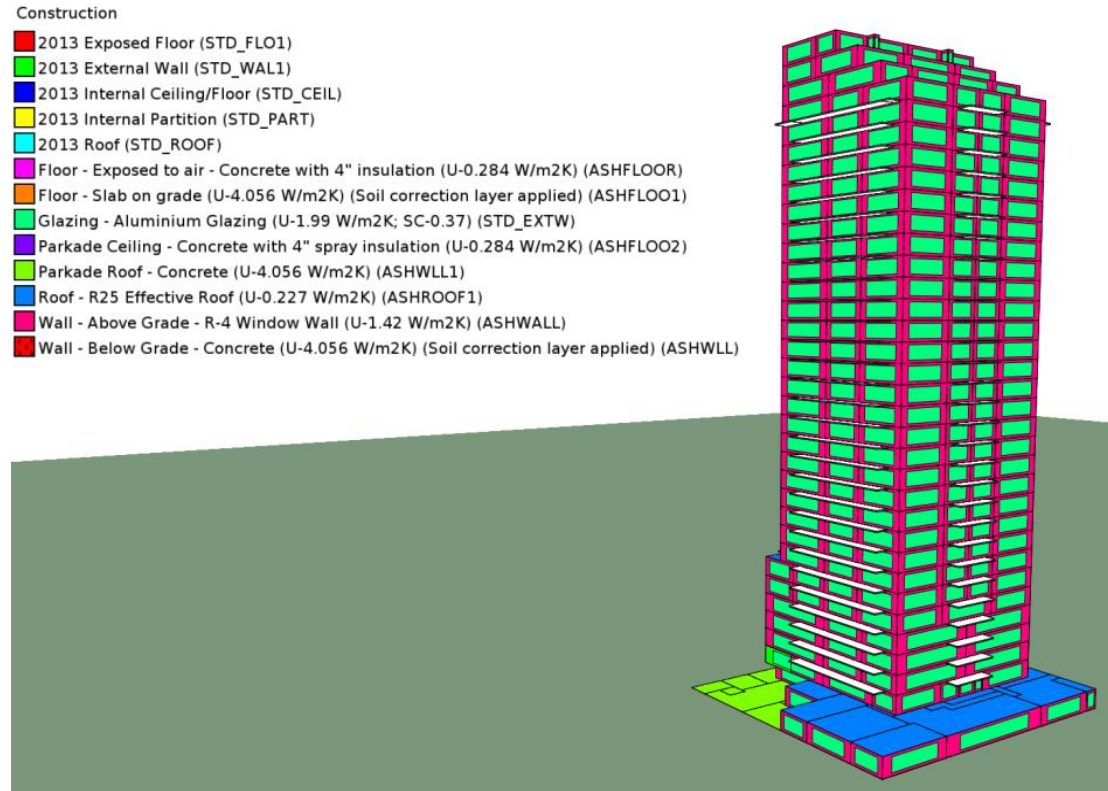
Table 8: Model input sheet.

Category	Description	Proposed Design	Schedule	Notes	
HVAC	Residential Suites - System	Air-source variable refrigerant flow (AS VRF) system with (suite energy recovery ventilators (ERVs)			
	Occupancy (Total Count)	311	NECB - G	CoV Guidelines	
	Ventilation	STUDIO - 30 CFM 1BED - 35 CFM 2BED - 55 CFM 3BED - 75 CFM		On continuously	Better than code minimum (ASHRAE 62.1-2001 w/o Add. N). Ventilation in model includes 2hrs increased ventilation per day to account for washroom exhaust.
	Apparent Sensible Effectiveness (ASE)	75%		On continuously	Latent assumed at 50%. Fan power assumed at 81W per ERV.
	Heating Source	Electricity			Typical efficiency assumed. Fan power of terminal units assumed at 0.3 W/cfm.
	Heating Efficiency (COP)	2.96			
	Heating Setpoints	22°C with 18°C setback.	NECB - G		
	Cooling Source	Electricity			Typical efficiency assumed.
	Cooling Efficiency (EER)	12.00			
	Cooling Setpoint	24°C	NECB - G		
	Amenity Spaces - System	Air-source VRF system with individual ERVs			
	Occupancy (m <sup>2</sup> /person)	10	NECB - B		NECB 2015
	Ventilation (cfm/person)	Amenity (Social Housing) - 80 CFM Amenity (Rental) - 155 CFM		NECB - B	Better than code minimum (ASHRAE 62.1-2001 w/o Add. N).
	Apparent Sensible Effectiveness (ASE)	65%		On continuously	Latent assumed at 50%. Fan power assumed at 1 W/cfm.
	Heating Source	Electricity			Typical efficiency assumed. Fan power of terminal units assumed at 0.3 W/cfm.
	Heating Efficiency (COP)	2.96			
	Heating Setpoints	22°C with 18°C setback.	NECB - B		
	Cooling Source	Electricity			Typical efficiency assumed.
	Cooling Efficiency (EER)	12.00			
	Cooling Setpoint	24°C	NECB - B		
Office Space - System	Air-source VRF system with individual ERVs			One enclosed office space on L2.	
Occupancy (m <sup>2</sup> /person)	20	NECB - A		NECB 2015	
Ventilation (Total CFM)	20		NECB - A	Better than code minimum (ASHRAE 62.1-2001 w/o Add. N).	
Apparent Sensible Effectiveness (ASE)	75%		On continuously	Latent assumed at 50%. Fan power assumed at 75 W.	
Heating Source	Electricity			Typical efficiency assumed. Fan power of terminal units assumed at 0.3 W/cfm.	
Heating Efficiency (COP)	2.96				
Heating Setpoints	22°C with 18°C setback.	NECB - A			
Cooling Source	Electricity			Typical efficiency assumed.	
Cooling Efficiency (EER)	12.00				
Cooling Setpoint	24°C	NECB - A			
Residential Corridors/Vestibules - System	Electric make-up air unit (MUAU) supplying 100% outside air. Electric baseboards added to L1 and L2 vestibules/corridors to provide supplemental heating.			Electric MUA required to meet GHGI target.	
Ventilation (cfm/door)	20.0		On continuously	Corridors with residential suites.	
Ventilation (ACH)	2.0			Corridors without residential suites.	
Ventilation (CFM per ft <sup>2</sup> )	0.75			Other vestibules/lobbies etc.	
Fan Power	0.3 W per CFM				
Heating Source	Electricity			Electric baseboards (L1 and L2 vestibules/corridors only for supplemental heating).	
Heating Efficiency	100%				
Supply Air Temperature	16°C				
Parkade - System	Extract fans and transfer fans controlled on CO sensors		Four hours per day	Schedule per CoV Guidelines. Fan power assumed at 0.5 W/cfm.	
Ventilation (cfm/ft <sup>2</sup> )	0.76				
Other Areas - System	Electric baseboards		On continuously	No cooling. Freeze protection only.	
Heating Setpoint	7.22°C				
Category	Description	Proposed Design	Schedule	Notes	
Receptacle (W/m <sup>2</sup> )	Residential Suites	5.0	NECB - G	Residential Suite receptacle power densities as per CoV Guidelines, all other LPDs assumed to match NECB 2015 default values.	
	Mech & Elec Space	1.0	NECB - A	Power densities and schedules applied using the space-by-space method.	
	Lobby - Residential	1.0	NECB - C		
	Lounges/Break Room	1.0	NECB - B		
	Office - Enclosed	7.5	NECB - A		
	Residential Cooking Fuel Type	Electricity			As per client discussion.
Number of Elevators	5	NECB - G		3 kW per elevator as per CoV Guidelines	
Category	Description	Proposed Design	Schedule	Notes	
Domestic Hot Water	Residential Suites (l/s/person)	0.00115	NECB - G	CoV Guidelines value, with savings applied as per LEED methodology. Use of low flow fixtures confirmed with Client.	
	Residential Lavatory (GPM)	0.5		Low-flow lavatory required	
	Residential Kitchen Sink (GPM)	2.2		Default BCBC flow rates used	
	Residential Shower (GPM)	1.5		Low-flow showers required.	
	Lounges/Break Room (W/person)	60.0	NECB - B		
	Office - Enclosed (W/person)	90.0	NECB - A		
	Storage Room (W/person)	300.0	NECB - A		
	DHW Generation System 1	Electricity		As required	Central generation system provides DHW for social housing.
	Generation Efficiency (%)	100%			
	DHW Generation System	Electricity		As required	Separate central generation system provides DHW for all other spaces.
Generation Efficiency (%)	100%				
Cold Water Inlet Temperature	5°C	Continuous		As per CoV Guidelines	
Hot Water Outlet Temperature	60°C	Continuous		Good engineering practice	

## Energy Modeling Compliance Report

To demonstrate compliance with the performance limits as per City of Vancouver's Green Building's Policy for Rezoning May 2022, the City of Vancouver Secured Rental Policy March 2022, and the proposed Vancouver Building Bylaw, a whole-building energy performance simulation was completed. IESVE software was used to generate and analyze an appropriate energy model. Refer further details in full Energy Modeling Compliance Report.





### Energy Modeling Compliance Report

The simulation demonstrates the current proposed design building is compliant with the targets outlined in the City of Vancouver’s Green Building’s Policy for Rezoning May 2022, the City of Vancouver Secured Rental Policy March 2022, and the proposed Vancouver Building Bylaw (effective July 1, 2023), as outlined in Appendix A of the Climate Emergency - Bylaw and Policy Updates Applicable to New Buildings report issued by the City of Vancouver on May 5, 2022. Refer to the full Energy Modeling Compliance Report for details.

Based on the model input sheet as noted in Section 5.3 of this report, and the supplementary information received from the project team, the results of the energy model simulation are shown in the table below.

Energy Performance	TEUI (kWh/(m <sup>2</sup> .year))	TEDI (kWh/(m <sup>2</sup> .year))	GHGI (kgCO <sub>2</sub> /(m <sup>2</sup> .year))
Required Target	120	30	3
Modelled Result	100.1	28.3	1.1
Comparison (%)	-16.54%	-5.70%	-64.34%
Result	Compliant	Compliant	Compliant

Table 15: Energy model simulation results and required performance targets.

The simulation demonstrates the current proposed design building is compliant with the targets outlined in the City of Vancouver’s Green Building’s Policy for Rezoning May 2022, the City of Vancouver Secured Rental Policy March 2022, and the proposed Vancouver Building Bylaw (effective July 1, 2023), as outlined in Appendix A of the Climate Emergency – Bylaw and Policy Updates Applicable to New Buildings report issued by the City of Vancouver on May 5, 2022.



ZEBP Rezoning Energy Checklist

**Energy & Emissions Design Report**  
**Large New Buildings (Residential >3 Storeys, Mixed-Use, Commercial)**

This design report was formerly known as the "ZEBP Rezoning Energy Checklist", or "Zero Emissions Building Plan Energy Checklist", or "ZEBP Energy Calculator".

This report is used to demonstrate compliance to building energy & emissions performance limits that are found in City of Vancouver rezoning policies, district schedules, or Section 10.2 of the Vancouver Building By-law.

Please complete all fields that apply to the project, using available information that represents the current stage of design and construction.  
 For fields that do not apply or for which there is no information yet, please enter "N/A"  
 For questions relating to this design report please email [green\\_buildings@vancouver.ca](mailto:green_buildings@vancouver.ca)

**Section 1: Project Information** (enter all that apply)

Project Address: 1068 Burnaby St., Vancouver, BC  
 Secondary Address: \_\_\_\_\_  
 Project Working Title: \_\_\_\_\_  
 Rezoning Application Number: \_\_\_\_\_  
 Development Permit Number: \_\_\_\_\_  
 Building Permit Number: \_\_\_\_\_  
 Building Permit Application Date: \_\_\_\_\_  
 Occupancy Permit Number: \_\_\_\_\_  
 Current Permit Stage: Rezoning Application  
 Gross Floor Area indicated on Arch. Drawings (m<sup>2</sup>): 23,100  
 Parkade Area (m<sup>2</sup>): 5,011

Applicable Rezoning Policy: Green Buildings Policy for Rezoning [2022]  
 Applicable District Schedule: Secured Rental Policy (RR or CD-1), non-LCES  
 Applicable VBBL Section 10.2: [Jul 1 2023 to Dec 30, 2024], non-LCES  
 Note: Refer to the "Reference Policies" tab for links to relevant policies.

**Section 2: Building Information and Performance Limits**  
 Section 2a): For building areas of Groups C, D, or E Major Occupancy classifications, enter information in this section.

Building Type(s)	Modelled Floor Area (m <sup>2</sup> )	LCES Type?	Performance Limits		
			TEUI	TEDI	GHGI
Residential, 7+ storeys (Group C except Hotel)	23,428	N/A	120	30	3.0
			0	0	0.0
			0	0	0.0
<b>Total</b>	<b>23,428</b>		<b>TEDI limit for this portion of the building: 30</b>		

Section 2b): For building areas of Groups A, B or F Major Occupancy classifications, create a baseline energy model to establish performance limits and enter this information in this section. Note: Effective July 1 2023, a GHGI reduction compared to an all-fossil fuel baseline model is required.

Building Type	Modelled Floor Area (m <sup>2</sup> )	Performance Limits		
		TEUI	TEDI	GHGI
Enter Baseline Model Performance for Groups A, B, or F Major Occupancy portion of the building				
		Energy (kWh)	Em. Factor	Emissions (kgCO <sub>2</sub> e)
		Total Annual Electricity Use	0.011	-
		Total Annual Natural Gas Use	0.185	-
		Total Annual District Energy Use	0.070	-
<b>Total</b>				
		Total Annual Heat Demand - for TEDI		
			Baseline: 0	0.0
			Target: 0	0.0

**Section 3: Modelled Whole-Building Performance**

Energy (kWh)	Fuel Type	Em. Factor	Emissions (kgCO <sub>2</sub> e)	TEUI	GHGI
516,605	Electricity	0.011	5682.6495	22.1	0.2
10,950	Electricity	0.011	120.45	0.5	0.0
450,735	Electricity	0.011	4958.0872	19.2	0.2
94,145	Electricity	0.011	1035.59921	4.0	0.0
37,658	Electricity	0.011	414.239683	1.6	0.0
220,855	Electricity	0.011	2429.4061	9.4	0.1
21,480	Electricity	0.011	236.2778	0.9	0.0
199,135	Electricity	0.011	2190.4872	8.5	0.1
29,915	Electricity	0.011	329.0694	1.3	0.0
502,707	Electricity	0.011	5529.77962	21.5	0.2
319,933	Electricity	0.011	3519.2597	13.7	0.2
58,035	Electricity	0.011	638.386749	2.5	0.0
<b>Total Annual Electricity Use</b>	2,462,154	0.011	27,084		
<b>Total Annual Natural Gas Use</b>	-	0.185	-		
<b>Total Annual District Energy Use</b>	-	0.070	-		
<b>Total</b>	2,462,154		27,084		
Total Electricity Generated On-Site (kWh)	-	% of Use	0.0%		
Total Purchased Renewable Electricity (kWh)	-	% of Use	0.0%		
Total Purchased Renewable Natural Gas (kWh)	100	% of Use	0.0%		

Note: purchased renewables used to demonstrate compliance must be secured to satisfaction of the AHJ.  
 Adjusted Electricity Emissions Factor (kgCO<sub>2</sub>e/kWh): 0.011  
 Adjusted Natural Gas Emissions Factor (kgCO<sub>2</sub>e/kWh): 0.185

Annual Heat Demand of Building portion with Groups C, D or E Major Occupancies (kWh): -  
 TEDI of building portion with Groups C, D, and E Major Occupancies: -  
 Total Annual Heat Demand - for TEDI (kWh): 846,266  
 Total Annual Cooling Demand (kWh): 331,109  
 14 kWh/m<sup>2</sup>

**Modelled Whole-Building Performance**  
 TEUI: 105.1, TEDI: 36.1, GHGI: 1.2

**Section 3a: Corridor Pressurization Adjustment**

Heating Degree Days: 2471  
 Number of Suite Doors Pressurized: 311  
 Airflow for Pressurization per Door (L/s/door): 9.44  
 Area of Corridors Pressurized (m<sup>2</sup>): 1,486  
 Make-Up Air Fuel Type: Electricity  
 Make-Up Air Emissions Factor: 0.011  
 Suite-level Metering for Space Heating: No  
 Adjustments for Corridor Pressurization: 7.8  
 Adjustments for Suite Submetering of Heating: 2.9  
 Note: Select yes if the energy used for heating is metered at the suite level

**Adjusted TEDI Performance of Building Portion with Groups C, D, and E occupancies** (7.8)

**Section 3b: Refrigerant Impact - GHGI-R**  
 For projects subject to VBBL after Jan 1, 2025, GHGI-R is included in Whole-Building GHGI limit. For projects subject to VBBL prior to Jan 1, 2025, reporting GHGI-R is recommended and does not contribute toward the Whole-Building GHGI limit.

Equipment Description (System, Manufacturer, Model)	Equipment Type	Number of Units	Refrigerant	GWP	Rc (kg)	L	Refr Im (kgC)	
Refrigerant GHGI from on-site systems (kgCO <sub>2</sub> e/m <sup>2</sup> /yr)							0.0	
Refrigerant GHGI from off-site systems (kgCO <sub>2</sub> e/m <sup>2</sup> /yr)								
Is GHGI-R included within whole-building GHGI limit? No								
<b>Adjusted Whole-Building Performance for Compliance</b>							<b>100.1</b>	<b>28.3</b>

**Section 3c: Passive Cooling and Overheating Analysis**  
 Does this building have full mechanical cooling? Yes (if yes, this section may be left blank)  
 Does this building house vulnerable populations? (if yes, the overheated hours limit is 20hrs rather than 200hrs)  
 If yes, please describe:  
 Year, type and source of weather file used for overheating analysis:

Critical Zone #	Overheated Hours	Peak Temp. (°C)
Critical Zone #1		
Critical Zone #2		
Optional - Critical Zone #3		
Optional - Critical Zone #4		
Optional - Critical Zone #5		

**Section 4: Modelled Inputs**

Modelled Above-Ground Wall Area (m<sup>2</sup>): 8,945  
 Window-to-Wall Area Ratio (WWR): 52%  
 Assumed Design Airtightness (L/s·m<sup>2</sup> @ 75 Pa): \_\_\_\_\_  
 Modelled Infiltration Rate (L/s/m<sup>2</sup>): 0.20  
 Vertical facade-to-Floor Area Ratio (VFAR): \_\_\_\_\_  
 Window-to-Floor Area Ratio: \_\_\_\_\_  
 Tested Airtightness (L/s·m<sup>2</sup> @ 75 Pa): TBC  
 Tested Infiltration Rate (L/s/m<sup>2</sup>): TBC

Wall Effective R-Value - incl. thermal bridging (m<sup>2</sup>K/W): 0.7  
 Roof Effective R-Value - incl. thermal bridging (m<sup>2</sup>K/W): 4.4  
 Average Window Effective U-Value (W/m<sup>2</sup>K): 1.99  
 Average Suite Occupant Density (m<sup>2</sup>/pers): 34.5  
 Average Suite Ventilation Rate (L/s/m<sup>2</sup>): 0.4  
 Average HRV Effectiveness: 75%

Average Floor Edge Psi-Value (W/mk): TBC  
 Avg. Window Transition Psi-Value (W/mk): TBC  
 Window Solar Heat Gain Coefficient: \_\_\_\_\_  
 Average Lighting W/m<sup>2</sup>: \_\_\_\_\_  
 DHW Low-Flow Savings (%): \_\_\_\_\_  
 DHW Drain Heat Recovery Effectiveness: n/a

Heating System Type (fuel, plant, distribution, etc.): VRF heating in residential, office, and amenity spaces. Electric MUA in corridors.  
 Cooling System Type (fuel, plant, distribution, etc.): VRF cooling in residential, office, and amenity spaces.  
 DHW System Type (fuel, plant, distribution, etc.): Electric central generation systems - separate systems for social housing and for other residential  
 Solar Shading Strategies (type, location, operation, etc.): Overhanging balconies on residential units

**Section 5: Modeller Information**  
 Refer to the Joint Professional Practice Guidelines - Whole Building Energy Modelling Services for description of the roles and qualifications of the Qualified Modeller and the Energy Model Supervisor.

**Qualified Modeller**  
 Name: Eoghan Hayes  
 Company: Edge Consultants  
 Phone Number: +1 (604) 338-1100  
 Email: [ehayes@edgrec.ca](mailto:ehayes@edgrec.ca)  
 Date: 06-Dec-22  
 Modelling Software Used: IESVE

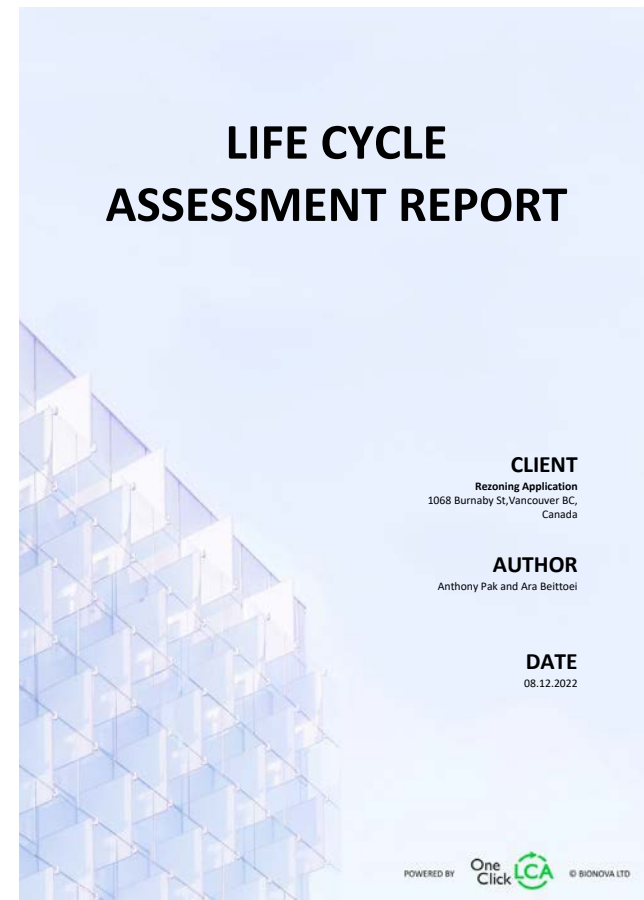
**Energy Modelling Supervisor**

These results have been created using the COV Energy Modelling Guidelines version:  
 These results have been created in compliance with the Joint Professional Practice Guidelines - Whole Building Energy Modelling Services as required by the Architecture Institute of British Columbia and Engineers & Geoscientists British Columbia.

Energy & Emissions Design Report v1 - 2022

### Life Cycle Assessment

The purpose of the analysis is to calculate the whole-building LCA for Rezoning Submission to the City of Vancouver. To evaluate the embodied environmental impacts associated with materials used in this building, the whole-building LCA study takes into account a wide range of environmental impact categories. These include global warming potential, stratospheric ozone depletion, acidification of land and water sources, eutrophication, formation of tropospheric ozone, and depletion of nonrenewable energy sources. Refer to LCA Report for full details of analysis scope and LCA results.



	Result category	Global warming kg CO <sub>2</sub> e	Ozone Depletion kg CFC11e	Acidification kg SO <sub>2</sub> e	Eutrophication kg Ne	Formation of tropospheric ozone kg O <sub>3</sub> e	Depletion of nonrenewable energy MJ	Biogenic carbon storage kg CO <sub>2</sub> e bio	Mass of raw materials kg
A1-A3	Construction Materials	6,262,796.02	0.32	27,786.63	4,537.36	468,289.85	52,760,699.32	0	32,190,001.52
A4	Transportation to site	182,610.06	0.04	460.64	130.74	9,515.73	3,291,752.84		
A4	Transportation to site - leg 2								
A4	Transportation to site	182,610.06	0.04	460.64	130.74	9,515.73	3,291,752.84		
B3a	Repair - materials	0	0	0	0	0	0		0
B3b	Repair - transport	0	0	0	0	0	0		
B3b-leg2	Repair - transport, leg 2								
B3c	Repair - waste	0	0	0	0	0	0		
B3	Repair	0	0	0	0	0	0		0
B4-B5a	Material replacement - materials	696,761.67	0.09	4,178.07	1,169.69	33,341.69	8,993,787.34		721,757.6
B4-B5b	Material replacement - transport	14,324.11	0	79.31	11.26	2,236.66	405,793.15	0	
B4-B5b-leg2	Material replacement - transport leg 2								

	Result category	Global warming kg CO <sub>2</sub> e	Ozone Depletion kg CFC11e	Acidification kg SO <sub>2</sub> e	Eutrophication kg Ne	Formation of tropospheric ozone kg O <sub>3</sub> e	Depletion of nonrenewable energy MJ	Biogenic carbon storage kg CO <sub>2</sub> e bio	Mass of raw materials kg
B4-B5c	Material replacement - waste	17,035.15	0	97.86	13.88	2,683.81	475,741.03	0	
B4-B5	Material replacement and refurbishment	728,120.94	0.1	4,355.24	1,194.84	38,262.16	9,875,321.52		721,757.6
C2	Waste transport	165,725.76	0.04	934.96	131.78	26,468.52	4,731,215.67		
C3	Waste processing	15,171.22	0	90.88	76.24	602.62	108,753.4		
C4	Waste disposal	825.45	0	5.65	0.62	164.82	1,596.67		
C1-C4	End of life	181,722.43	0.05	1,031.49	208.63	27,235.96	4,841,565.74		
Full building	Full building to GHG	7,355,249.46	0.5	33,634	6,071.57	543,303.7	70,769,339.42	0	32,911,759.12
	<b>Total</b>	<b>7,355,249.46</b>	<b>0.5</b>	<b>33,634</b>	<b>6,071.57</b>	<b>543,303.7</b>	<b>70,769,339.42</b>	<b>0</b>	<b>32,911,759.12</b>
	<b>Results per denominator</b>								
	Gross Internal Floor Area (IPMS/RICS) 20353.0 m <sup>2</sup>	361.38	0	1.65	0.3	26.69	3,477.1	0	1,617.05

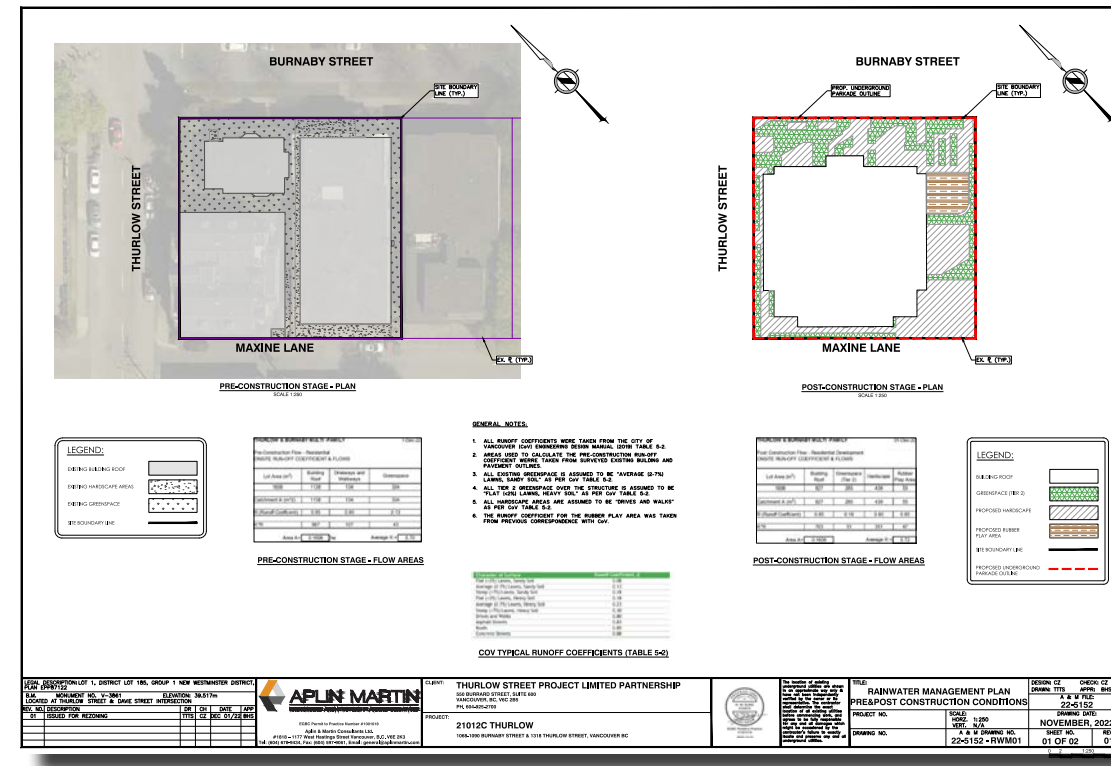


Table 5.1: RMB Summary Table

CoV RWMP REQUIREMENTS (GENERAL)	CoV RWMP REQUIREMENTS (DETAILS)	RAINWATER MANAGEMENT PLAN COMPONENTS	REQUIREMENTS ACHIEVED	NOTES
VOLUME REDUCTION TARGET	Capture 24mm of rainfall in 24-hours (or 70% of average annual rainfall volume): (1,606m <sup>2</sup> x 0.024m) or 38.5m <sup>3</sup>	TIER 1	N/A	-
		TIER 2	285m <sup>3</sup> or 17.7% of target	-
		TIER 3	1,321m <sup>3</sup> or 82.3% of target	-
RELEASE RATE	Post-Development peak flow rate to not exceed the Pre-Development peak flow rate of 0.029m <sup>3</sup> /s	Orifice Plate Flow Control System	Post-Development peak flow rate restricted to 0.0050m <sup>3</sup> /s	50mm diameter Orifice
WATER QUALITY	First 24mm of rainfall shall be treated to remove 80% TSS by mass prior to discharge. First 48mm of rainfall to be treated from impervious surfaces exposed to high pollutant loads	Mechanical Treatment Systems and/or Tier 2 Systems with 450mm of growing medium	80% TSS removed for requisite rainfall	Jellyfish Filtration unit or approved equal (to be finalized in later stages)

**Energy & GHGs:**

The project is located in a pedestrian / bike friendly neighbourhood in close proximity to the amenities of Davie Village, Vancouver Sea Wall, Burrard Corridor, and Kitsilano. Provision of extensive bicycle facilities (secure storage, charging, maintenance and end-of-trip facilities) will be available to encourage cycling trips. The project will be applying a Traffic Demand Management plan to reduce the number of cars in the development to promote more sustainable modes of transportation.

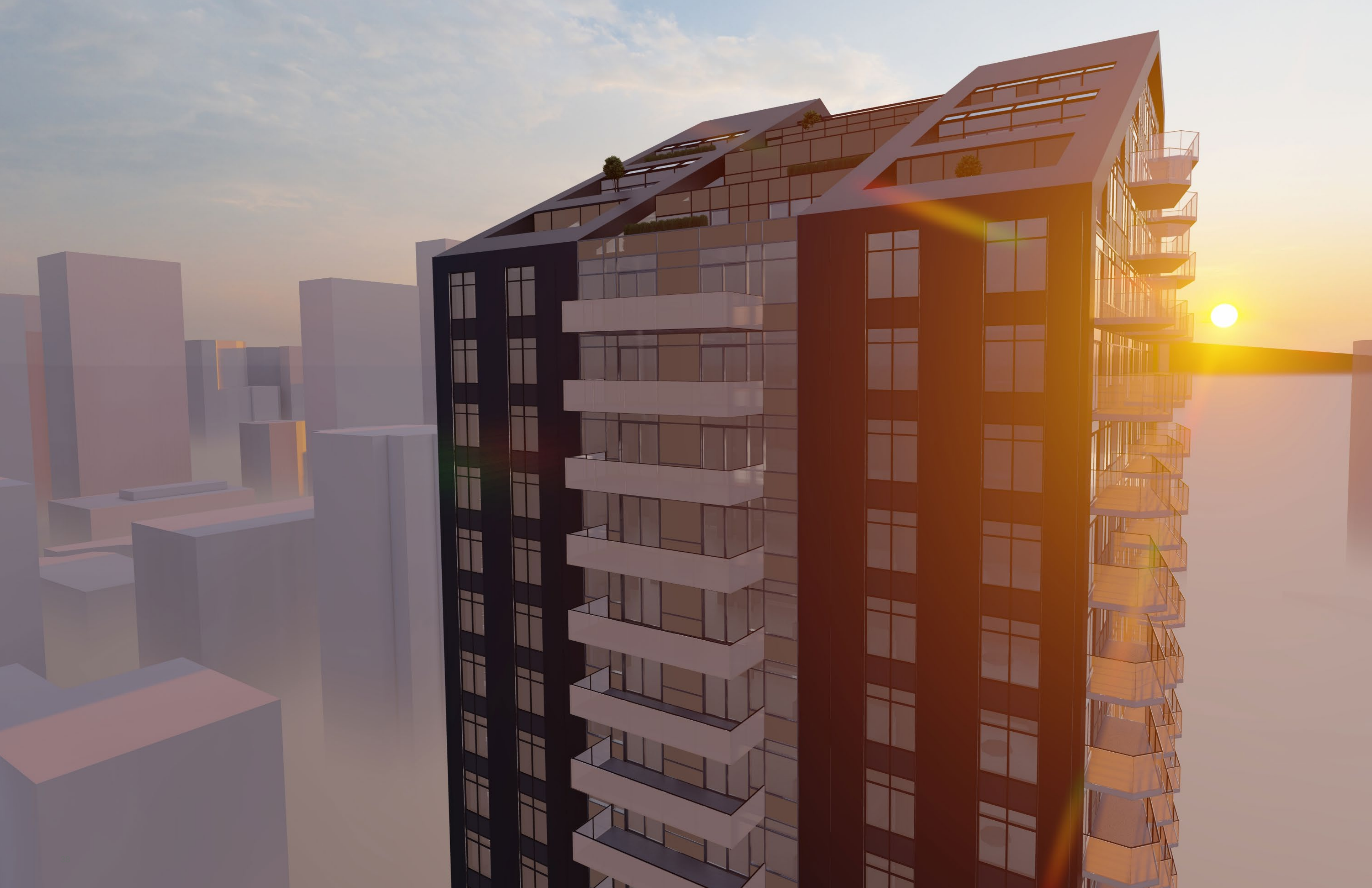
The project will comply with the City's Green Buildings Policy For Rezoning with strategies such as high efficiency HVAC systems combining heat pump and VRF technology, heat recovery, low energy lighting, and low-carbon energy source for heating, cooling and domestic hot water (no natural gas use is proposed for the project). The building envelope uses a modest window to wall ratio to maintain robust thermal insulation values while allowing for balcony space for all units. Refer to the energy model report for greater detail on energy targets and inputs.

**Ecology:**

The tower's small footprint (approx. 43.9% site coverage) affords opportunities for landscaped outdoor spaces at grade, green roofs, as well as enhancement of the public realm at the three outer edges of the property including the laneway. It helps to support the planning principles of the West End Community Plan by helping to achieve a green, environmentally sustainable urban pattern.

**Rainwater Management:**

The development will be designed to meet the rainwater management targets outlined in the City of Vancouver "Rainwater management Bulletin" (RMB), effective July 11, 2018. Refer to complete report prepared by Aplin Martin Consultants Ltd. dated December 01, 2022, included separately.

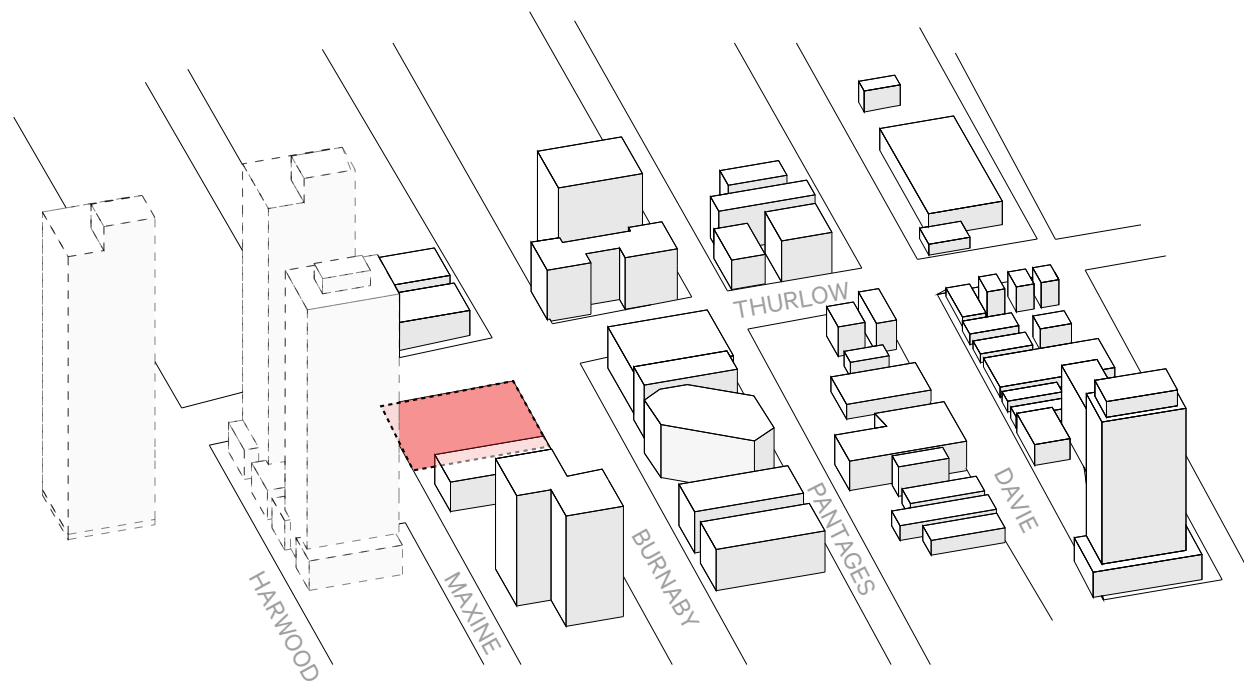




**4.0**

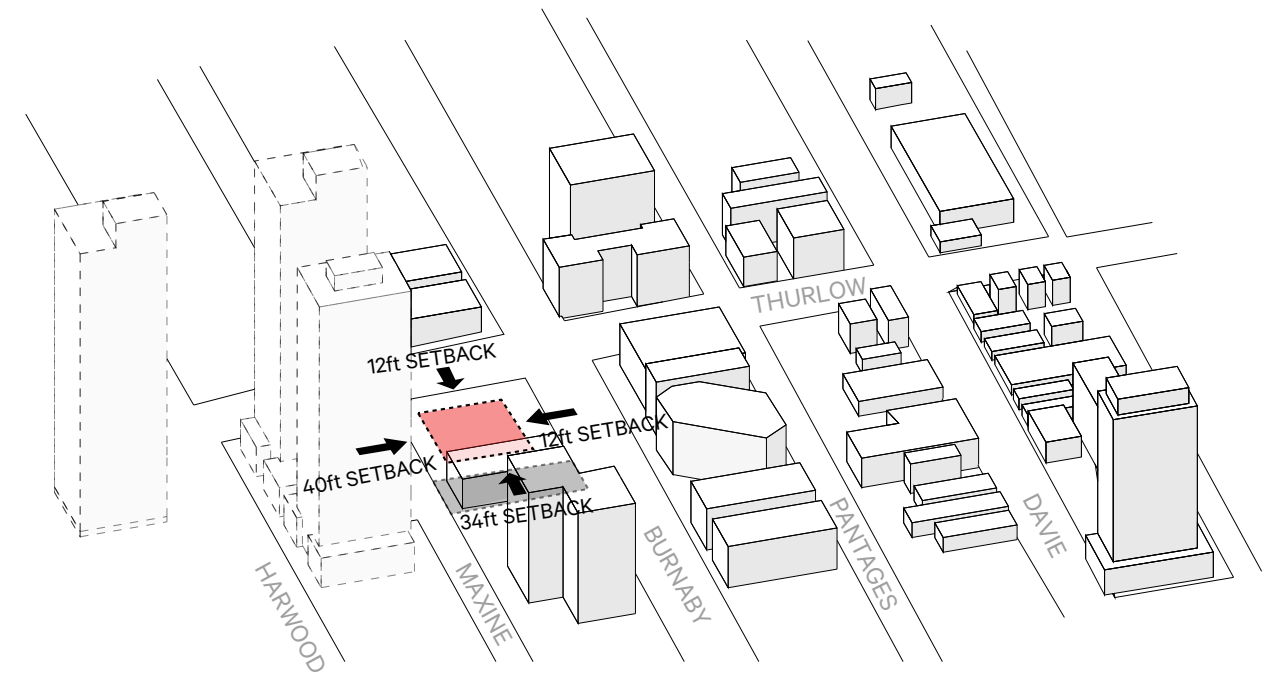
# **Design Rationale**

# Massing & Response to Site



① Site

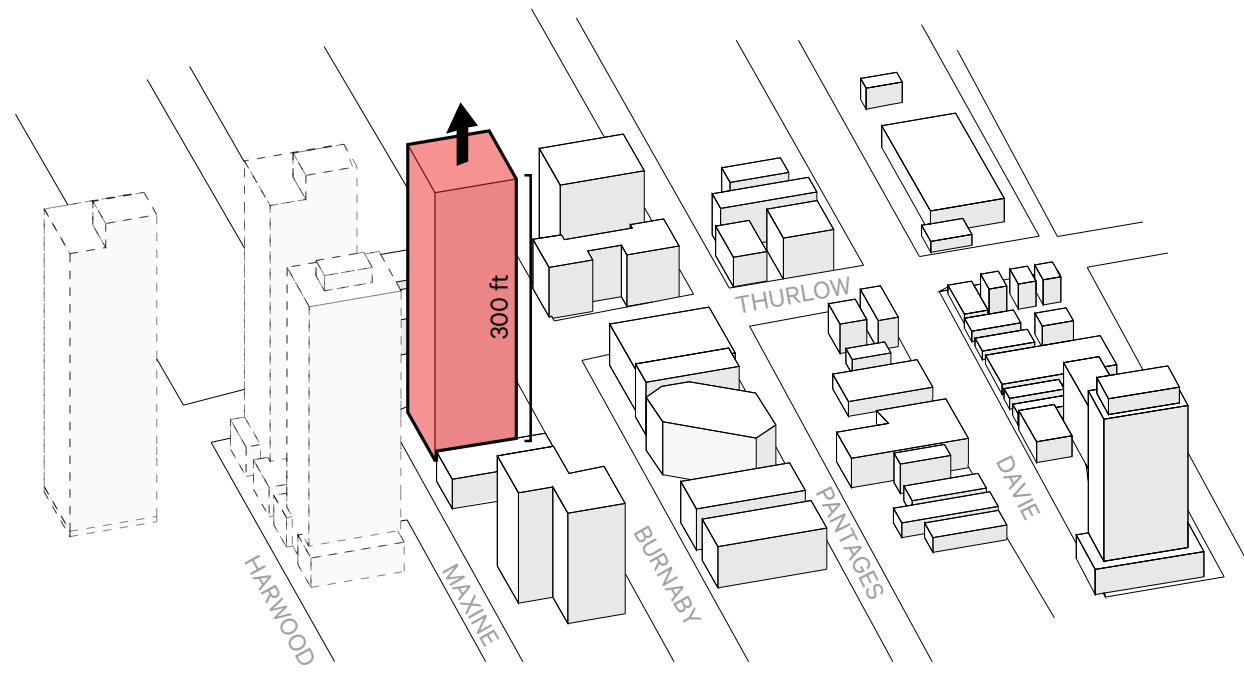
Site extents defined by the property lines of 1068-1080 Burnaby & 1318 Thurlow St.



② Footprint

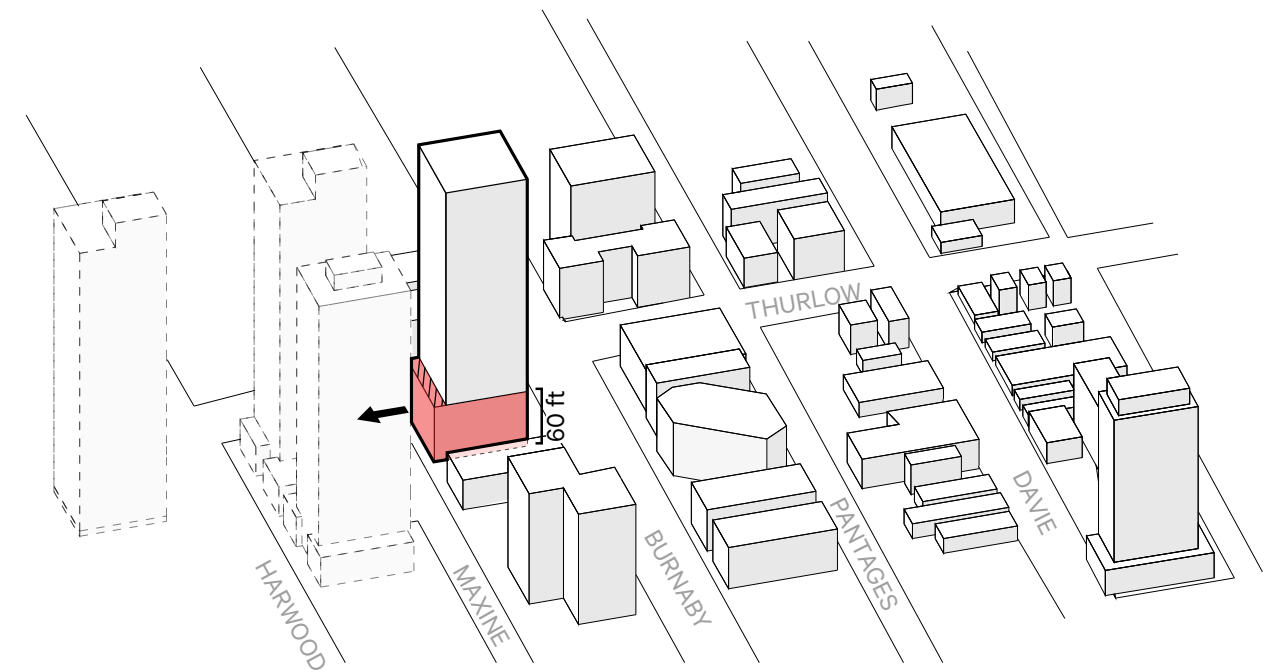
The massing footprint is defined to the East by a 34ft setback to capitalize on the slender nature of the adjacent existing lot and maximize buildable area. This is an appropriate separation given the lack of development potential for a tower on that site. The setback also allows room for a children’s play area & landscape buffer. Setbacks of the North, South & West abide by or exceed the minimums listed in the *West End Tower Form Guidelines*, 12 ft, 40 ft & 12 ft, respectively.





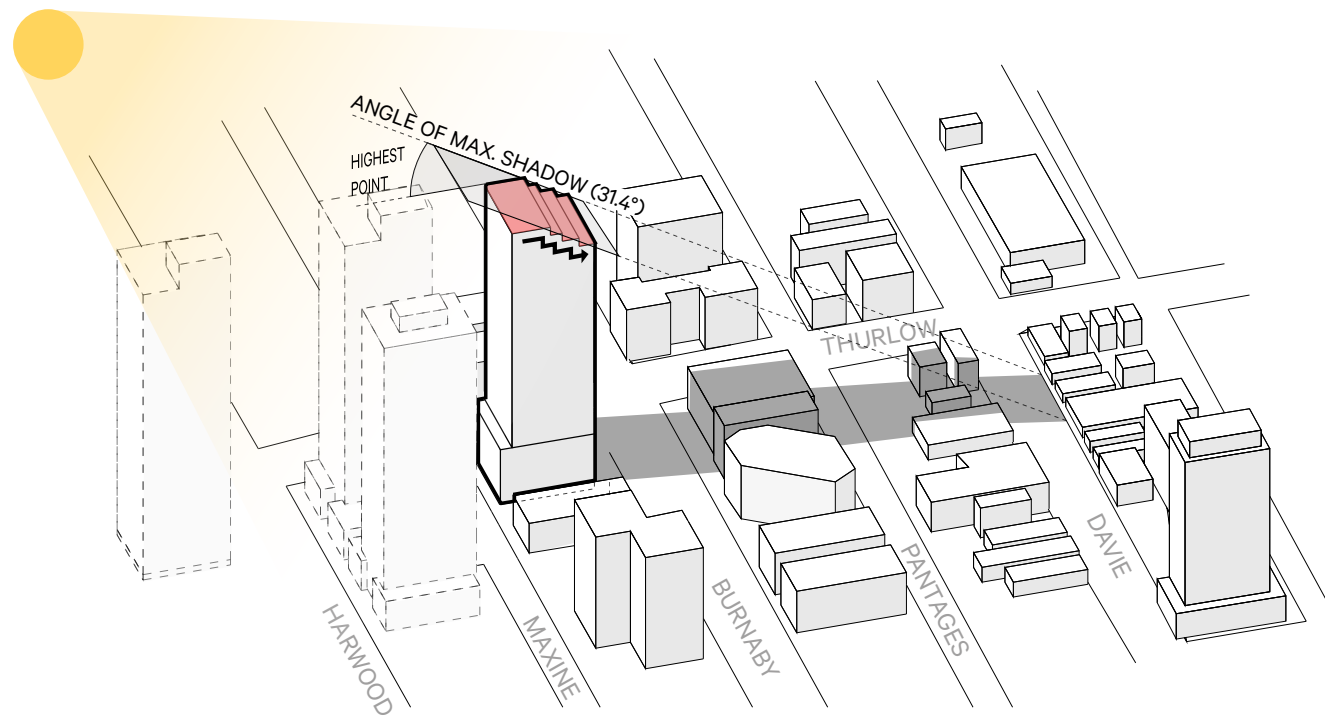
③ Tower Height

Height and massing compliant with the West End Community Plan and Criteria for 100% Secured Rental & Below Market Housing as an Alternative to Inclusionary Social Housing in the Burrard Corridor of the West End community Plan - 2020.



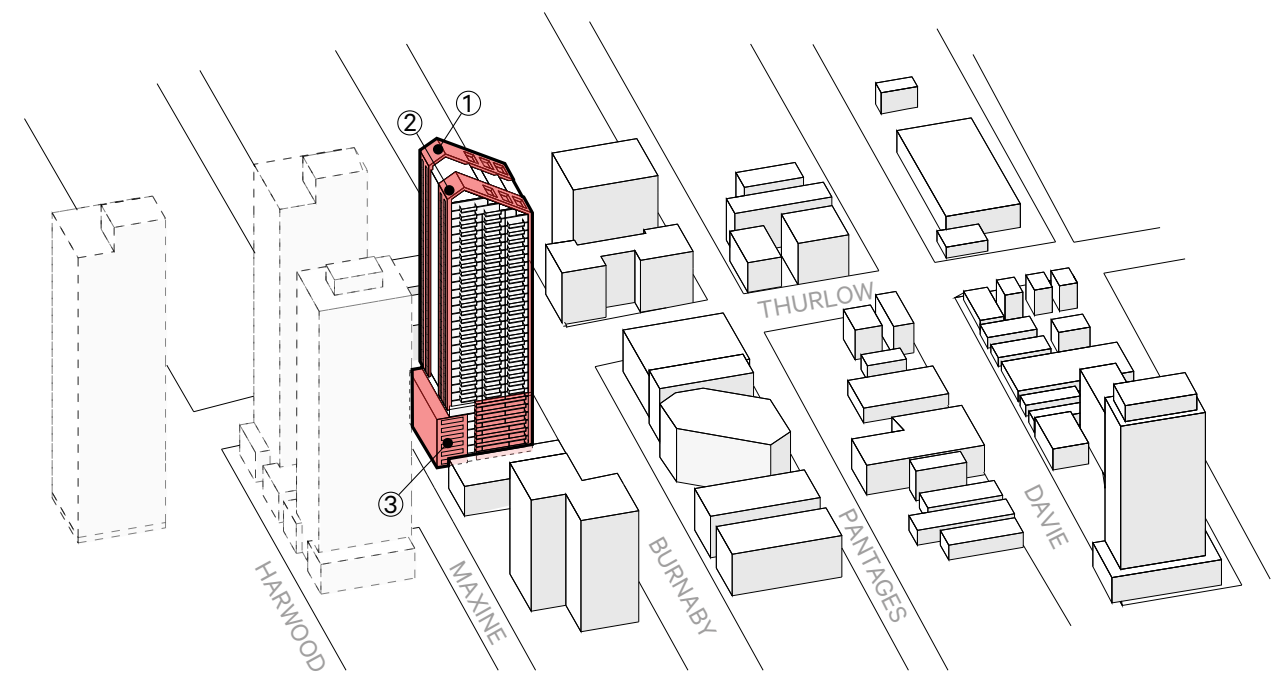
④ Tower Base

Below 60 ft the floor plate is 15% larger than the typical tower plate in conformance with the West End - Tower Form, Siting and Setback Guidelines for a 'Tower in the Park'.



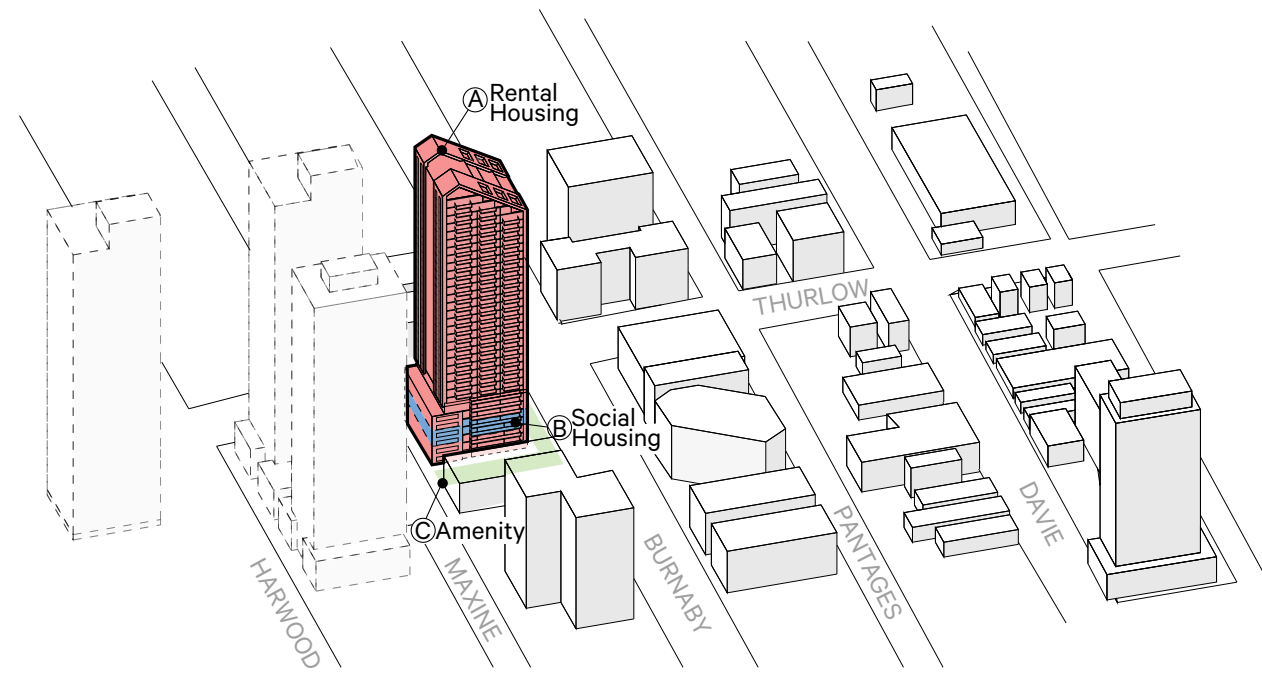
### 5 Shadow

The building height and mass has been minimized on parks, public open space and the adjacent West End “Villages” during the hours of 10am-4pm (PDT). The stepping of the roof ensures the massing’s shadow does not extend beyond the curb on Davie St during the above hours.



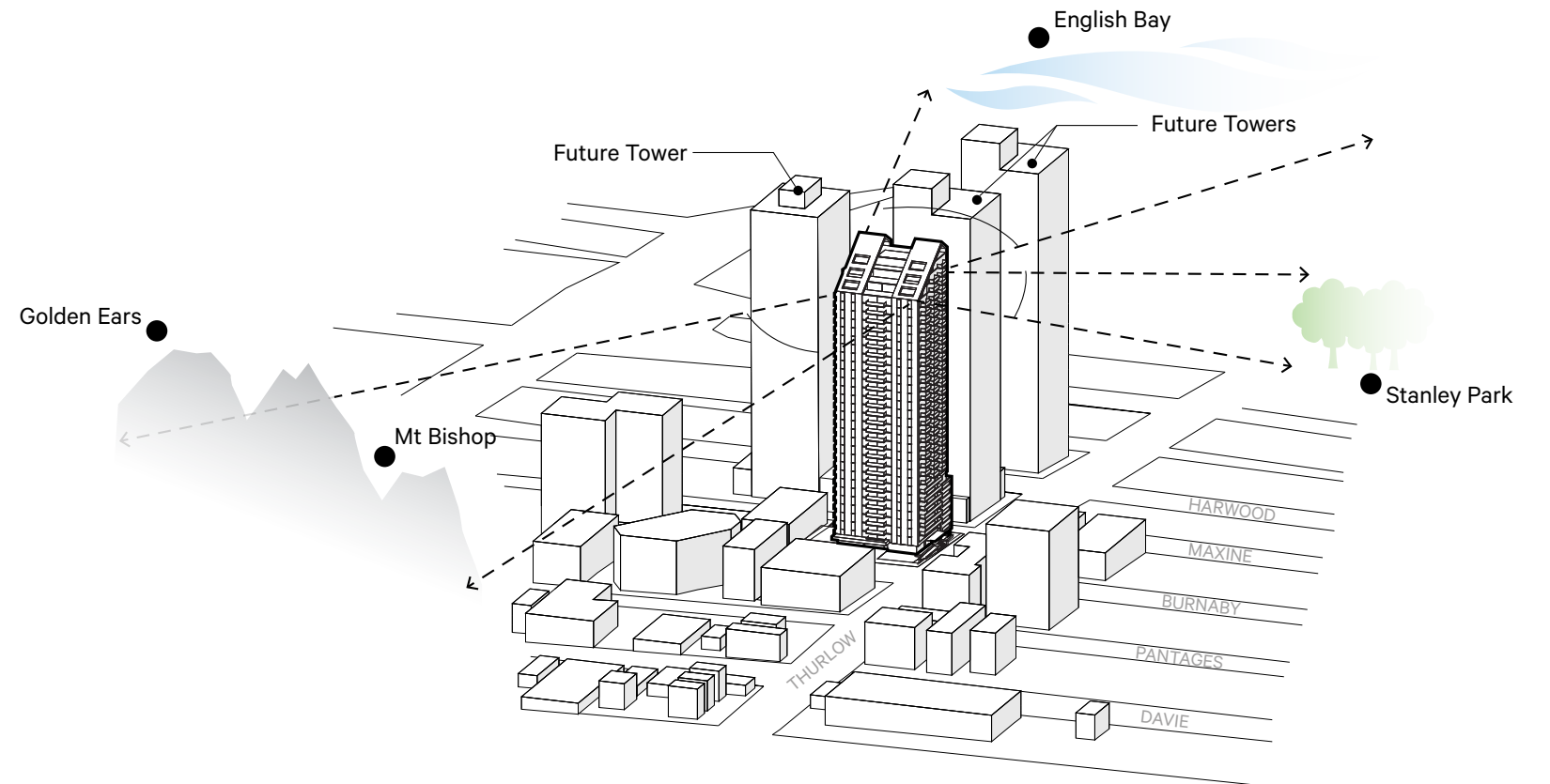
### 6 Form

Three distinct forms are drawn out from the base massing. Two vertical bands (1&2) resolve in a unique rooftop and emphasize verticality. The lower massing (3) along Maine Ln. mimics the nearby lower-rise apartment blocks and forms a solid base for the ‘tower in the park’.



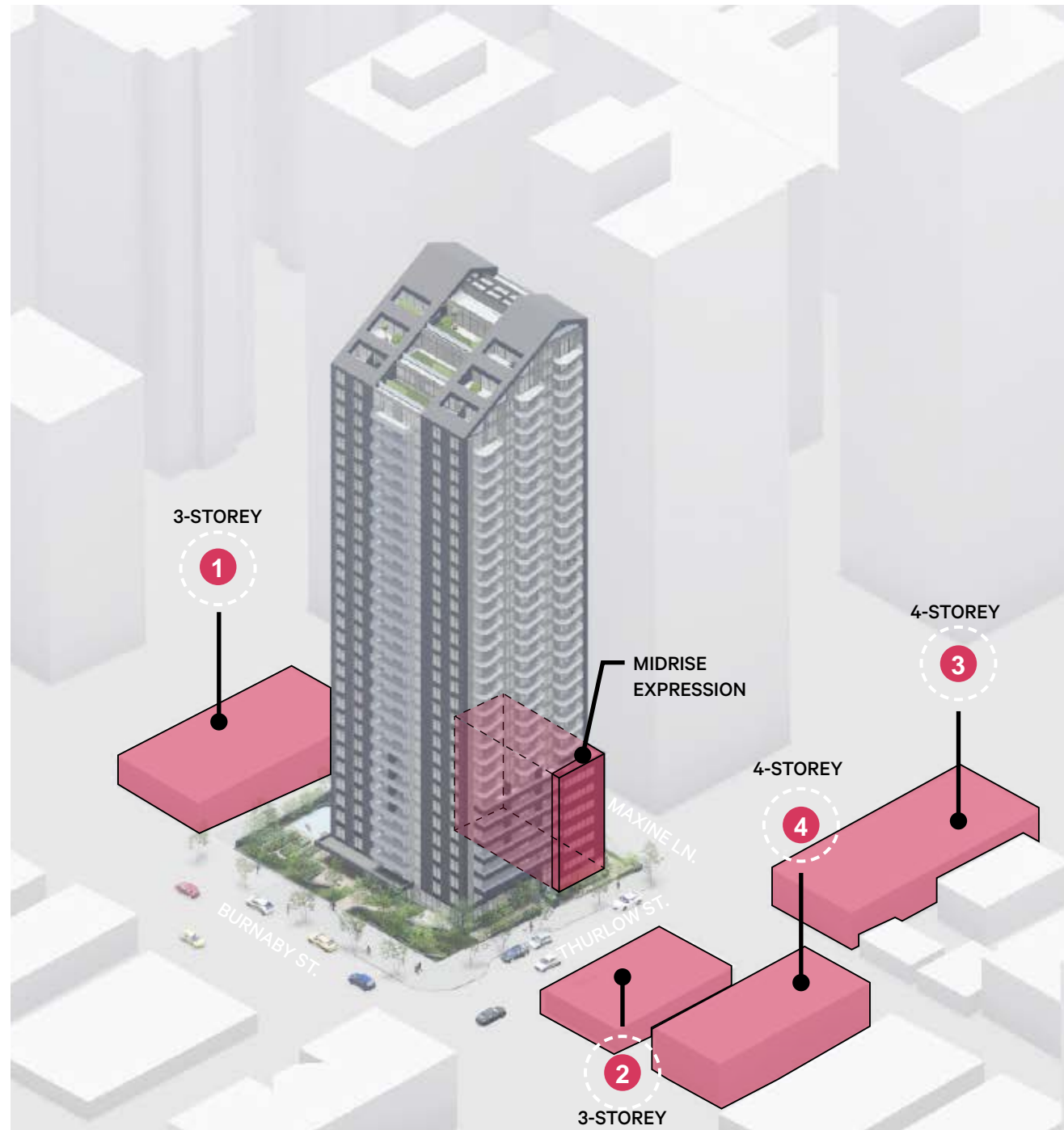
7 Program

The creation in a single building, of both secured market rental and social housing, offers a spectrum of housing choices to accommodate differing income levels and unit size needs. This range of housing choices, combined with shared outdoor amenities aims to strengthen social interactions and diversity in the neighbourhood.



8 Views

# Architectural Expression



The tower design allows the traditional base-middle-top division to be expressed by the extension of the larger floorplates below the 60' height towards the south to create a 'midrise' block on which the tower sits, while the rooftop is expressed with its dramatic peak. This midrise portion draws inspiration from similarly scaled apartment blocks in the neighbourhood - particularly of the mid-century period - that use simple cubic forms, ribbon windows and a classic modernist expression of strong horizontal lines and linear balconies. This modest block provides a solid base that is closer in scale to the other buildings to the east along the rear lane and allows a step-back and visual break in the tower at this lower side of the sloped site where the perceived building height would be greatest.



1 1056 Burnaby



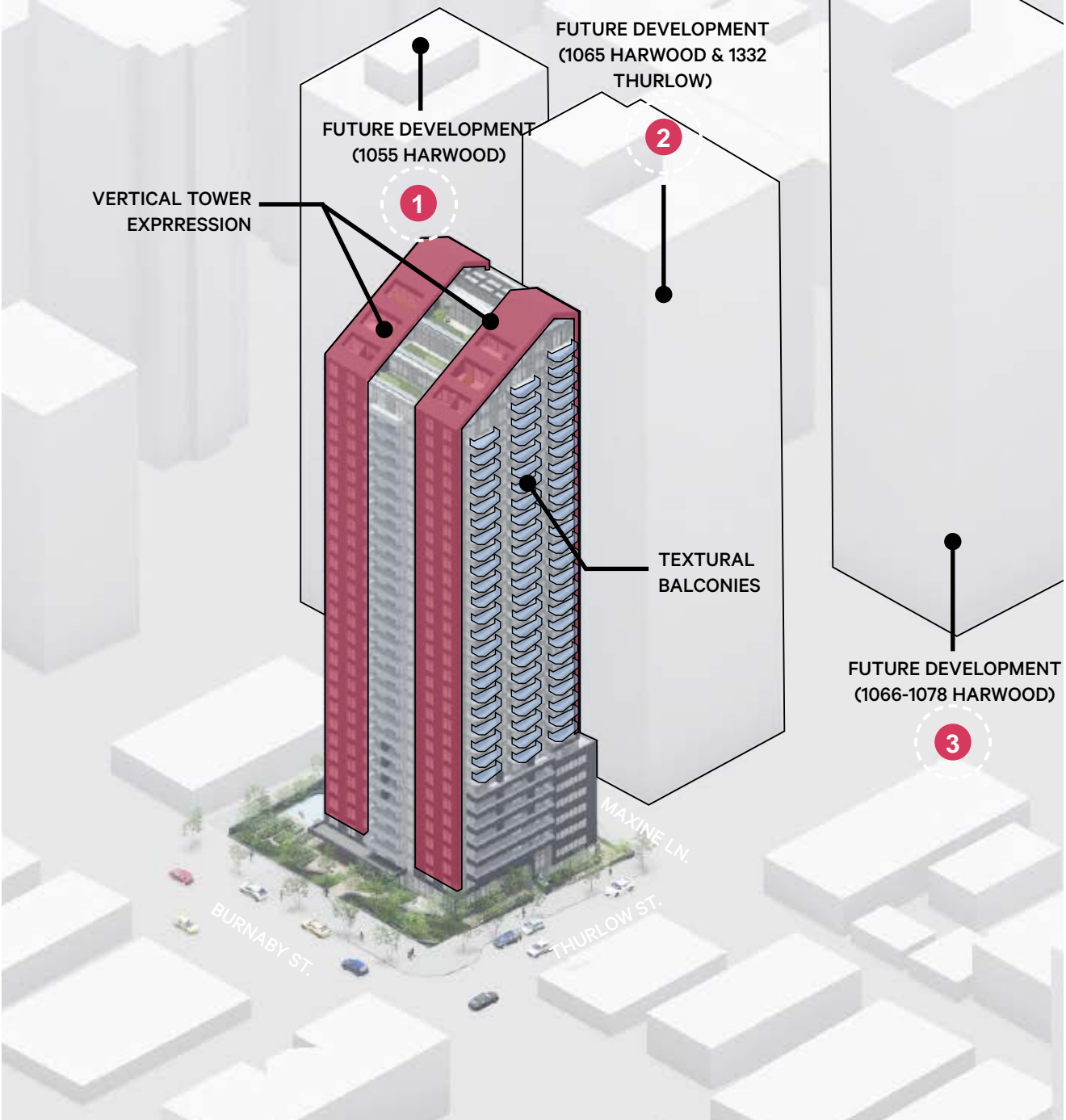
3 1307 Thurlow



2 1100 Burnaby



4 1114 Burnaby



Perhaps the most defining visual aspect of the design is the offset peaked roofline that responds to the shadow angle limit applicable to the Davie Street sidewalk. Rather than obscure or work against the constraint, it is used to create a distinctive roof form that contributes to the skyline. Twin ribbons of solid cladding rise up the north and south faces of the tower resolving at the top in a decorative cover for the rooftop mechanical equipment that enhances the overall appearance of the project.

The tower expression on the north and south is defined by the two vertical bands of solid panel cladding and vertically-arranged glazing that emphasize the slenderness of the tower and draw the eye to the peaked tower top. These more solid north and south elevations also respond to the presence of the planned development across the laneway; presenting a more opaque private elevation with fewer balconies. In contrast the east and west elevations that have access to views of English Bay and diagonal views between adjacent towers have a glassier expression with a grid of balconies contained within the wrap-over bands of the north and south elevations. The exterior configuration allows for a carefully limited ratio of vision glazing to opaque wall to respond to the realities of energy targets and envelope efficiency while maintaining daylighting, livability and private outdoor space for suites.

The east and west balcony forms orient to the north and south diagonal views and are shaped with an angular edge to echo the building's roof form. These balcony shapes reference the many precedents in the West End of angled or curved balconies that give a richly varied expression to many of the residential towers there. The balconies are often one of the most expressive elements of the West End apartment buildings -here they create a textural pattern tying it visually to its mid-century neighbours.



1 1055 Harwood



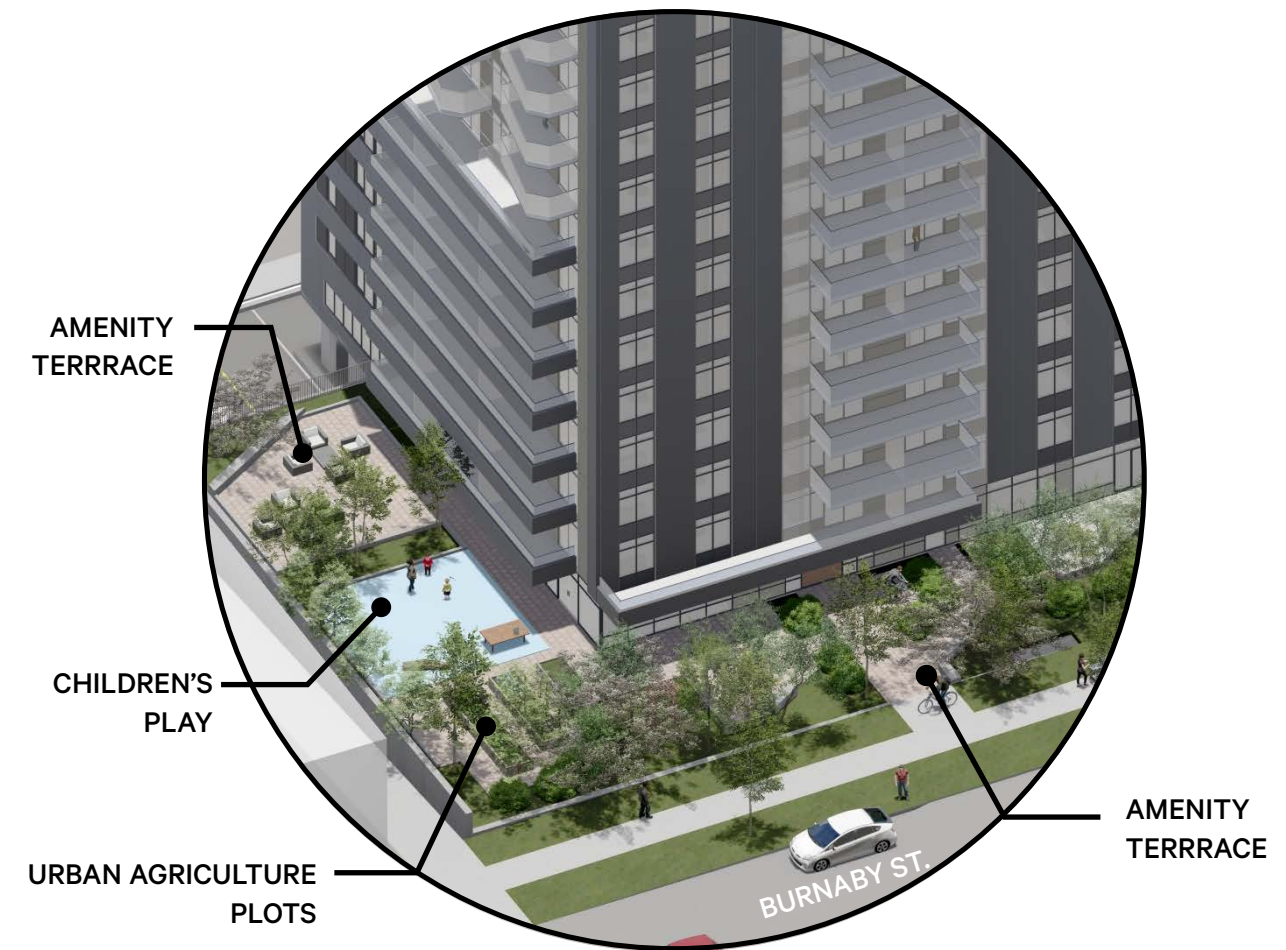
2/3 1066-1078 Harwood & 1065 Harwood-1332 Thurlow

# Public Realm & Amenity



The tower has been situated as far south as possible to maximize livable space below the shadow line limit while also ensuring 80 ft of horizontal separation with future towers to the south. This positioning of the tower is meritorious for also creating a very generous front yard zone on Burnaby St. This highly-developed landscape zone accommodates private patios, the social housing lobby approach and a series of planters that define the outdoor amenity spaces for both housing users. A small corner plaza provides some public benches and public art opportunity.

Along the sloping Thurlow elevation the rental lobby is approached by a stair or gently sloped walkway. In this way, the building has an address on 3 sides with units on the lane and lobbies and units addressing North and West sidewalks. Those ground level suites along the lane bring 'eyes on the street' and landscaped patios to green the lane and improve the pedestrian experience.



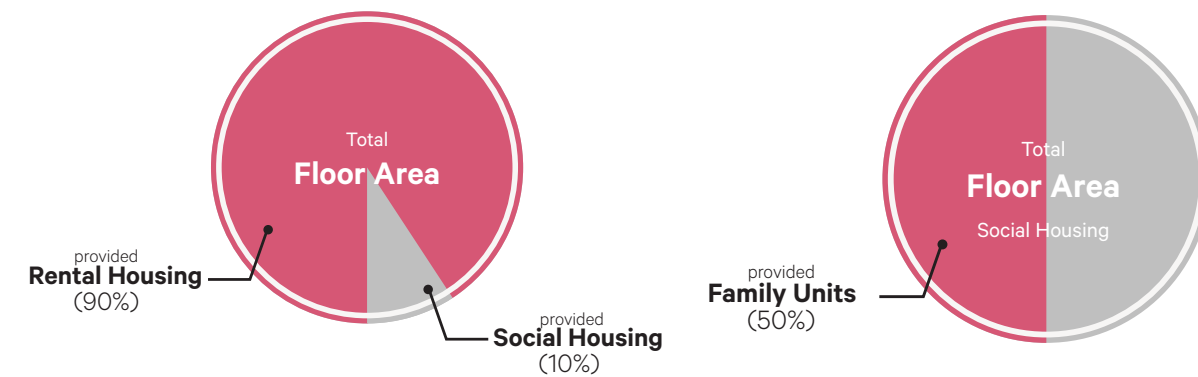
# Social Housing



## Social Housing Features

- 50% Family Units
- Direct access to outdoor amenity space with shared children’s play, dining and urban agriculture
- Shared outdoor amenity space with rental housing
- Ease of access to downtown
- Accessible units (5% required, 13% provided - 3 units)
- Diversity of housing options provided by integrating social & secured market rental housing
- 2 dedicated elevators for 24 units

The amalgamation of different types of housing both in cost and unit mix, along with shared outdoor amenities aims to strengthen social interactions and diversity in the neighbourhood. This motif is strengthened by the continuity of architectural expression the North, East and West facade as the transition from rental to social housing occurs. This continuity of architectural expression and materiality between the two uses helps convey a sense of community.



# Materiality



1 Dark Grey Metal Panel



2 Vision Glass



3 Spandrel Glazing



4 Window Wall



5 Metal Louvre



6 Glass Railing



The proposed materiality of this development draws inspiration from the geometric style of the surrounding context. The mid-rise apartment buildings typical of this area express strong horizontal lines through glazing and balconies that is often contrasted with the striking verticality of surrounding towers.

These expressions find their influence in this development through the contrast of spandrel and vision glass carried throughout the four facades as well as through the juxtaposing tones incorporated in the balconies. These differences are accentuated by light and shadow, displaying the greatest contrast when illuminated.

This strong pull to the horizon is balanced by dark, matte bands that stretch up the building height and draw the eye to the peaked top. The materials echo the language of the neighbourhood while providing visual interest through depth, contrast, and light.





# West End Precedents

The combined policy and contextual constraints drive much of the underlying form of the proposal: the roofline is defined by shadow guidelines, the tower proportion and siting by the setbacks, tower separation and floorplate size guidelines. The outward expression and formal resolution, however, are further derived from the cultural and architectural context of the West End, energy use, the internal logic of social and rental housing unit orientation and access to views and outdoor space.

While the architecture is informed by the historic architectural context in form, scale and spirit - celebrating the often eclectic and formally distinctive past - it is to be executed in restrained, contemporary materials like metal panel, high-performance glazing, and glass balcony railings. The project's bold forms will make it a distinctive, yet fitting addition to the residential and fabric and public realm of the neighbourhood.



1421 Broughton



1281 Broughton



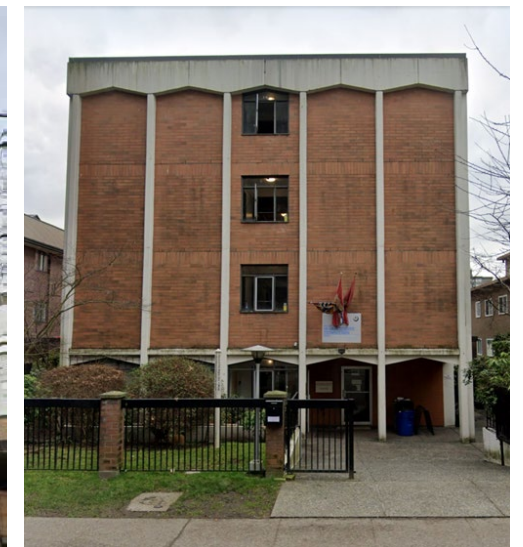
2045 Nelson



1303 Burnaby



2055 Pendrell



1114 Burnaby



1275 Pacific



1111 Beach



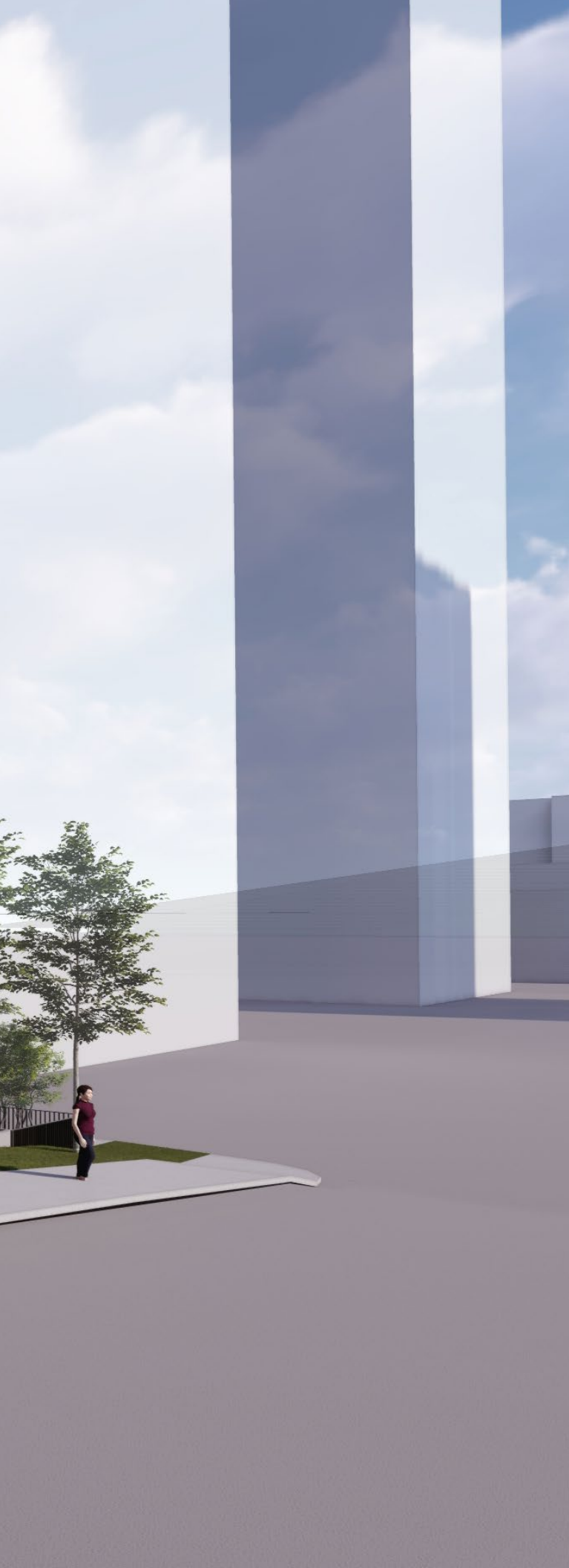
1138 Davie



1160 Davie

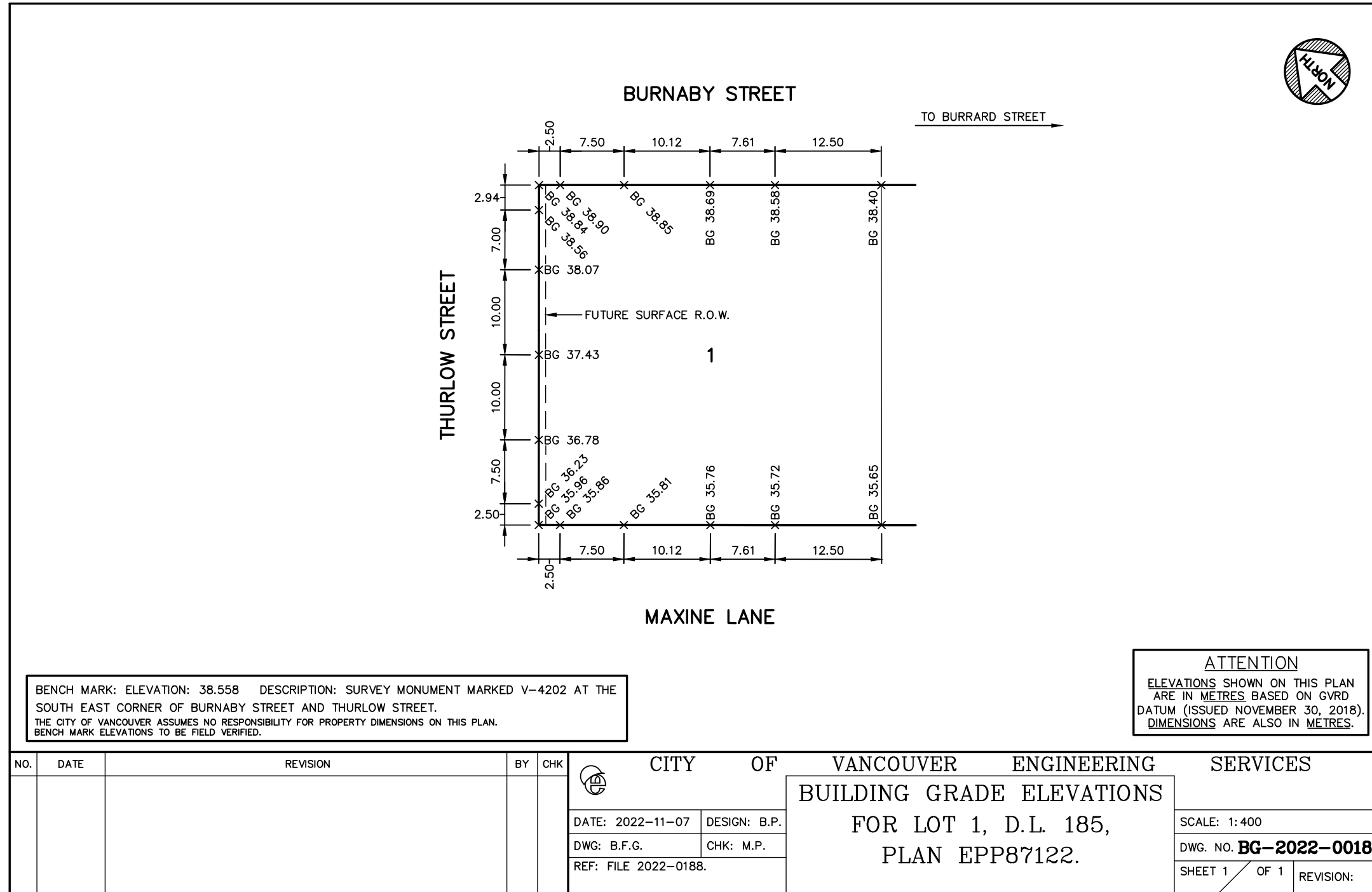


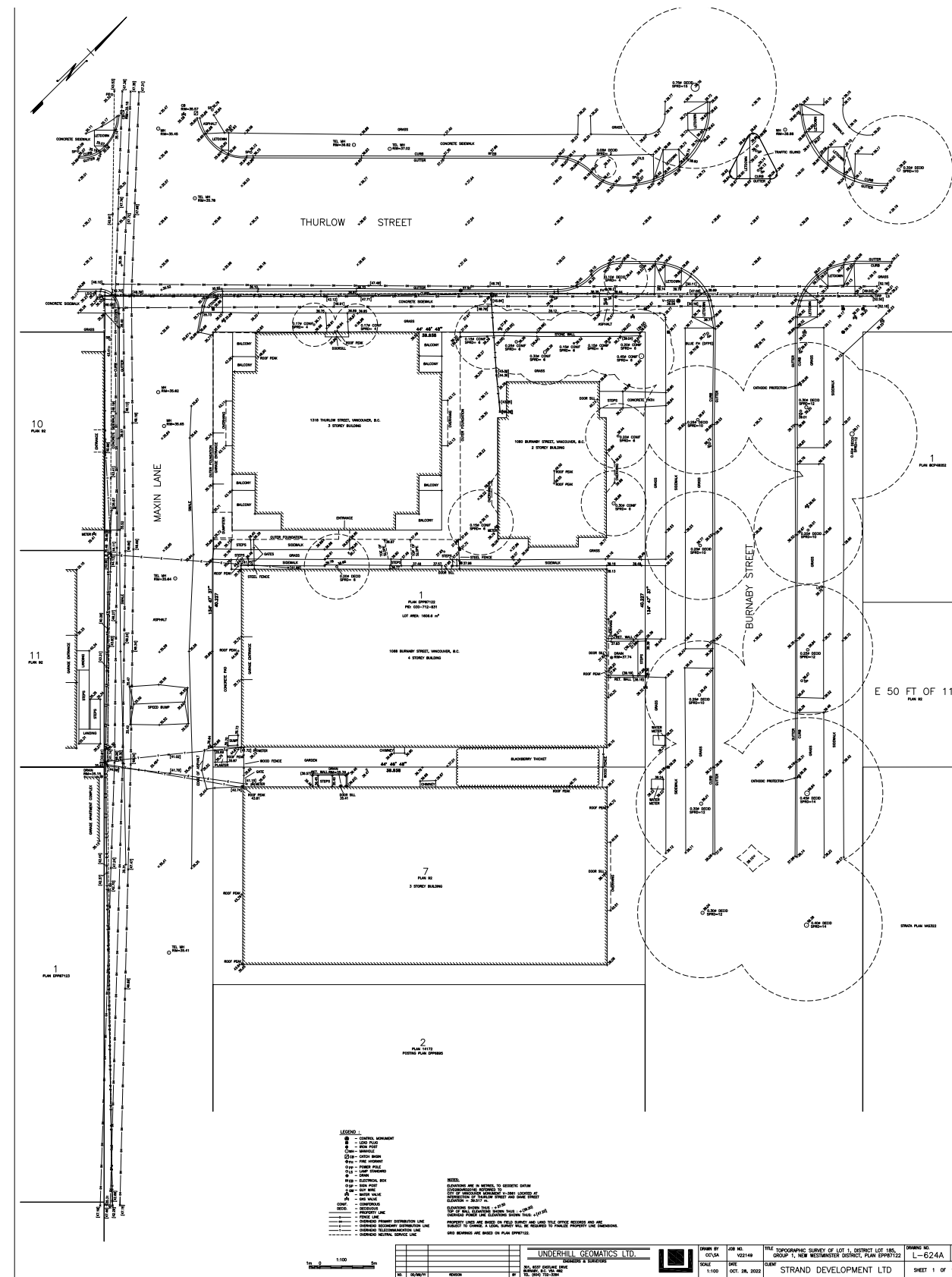




# 5.0

## Project Statistics + Drawings





GFA TOTAL

Table with columns: Level Group, Area, Level Multiplier, Total Area, Total Area (m2). Sub-headers: AREA - GFA BY LEVEL (GFA), A = B + C.

EXCLUSIONS

Table with columns: Total Area, Total Area (m2). Sub-headers: TOTAL EXCL., D = E + F.

Table with columns: Total Area, Total Area (m2). Sub-headers: TOTAL AMENITY.

Table with columns: Total Area, Total Area (m2). Sub-headers: TOTAL STORAGE.

NET FSR

Table with columns: Total Area, Total Area (m2). Sub-headers: TOTAL FSR, G = H + J.

BALCONIES & TERRACES

Table with columns: Area, Total Area, Total Area (m2). Sub-headers: BALCONY.

- ALLOWABLE EXCLUSIONS: BALCONIES MAX. 12% X RES GFA, RES STORAGE (40 FT/UNIT), AMENITY AREA, EXTERIOR WALL THICKNESS (GREATER THAN 152MM)

BALCONY PERCENTAGE = 2294 m² / 20342 m² = 11.3%

RENTAL & REQ'D SH MATRIX

Table with columns: Total Area, Total Area (m2), Required SH FSR, Required SH FSR (m2). Sub-headers: REQ'D SH FSR = 10% TOTAL FSR.

PROVIDED SH PERCENTAGE = 2009 m² / 19663 m² = 10.2%

Table with columns: Level Group, Area, Level Multiplier, Total Area, Total Area (m2). Sub-headers: GFA - RENTAL, B.

Table with columns: Total Area, Total Area (m2). Sub-headers: EXCL. - RENTAL, E.

Table with columns: Total Area, Total Area (m2). Sub-headers: AMENITY - R, R.

Table with columns: Total Area, Total Area (m2). Sub-headers: STOR - R, R.

Table with columns: Total Area, Total Area (m2). Sub-headers: FSR - RENTAL, H.

UNIT MIX SUMMARY

MARKET RENTAL FAMILY UNITS RATIO (2 BED + 3 BED) 35% TARGET

Table with columns: Name, Unit Count, %. Sub-headers: UNIT COUNT + TYPES (R).

MARKET RENTAL FAMILY UNITS (2 BED + 3 BED) PROVIDED 38%

SOCIAL HOUSING FAMILY UNITS TARGET 50% = 30% 2 BED + 20% 3 BED

Table with columns: Name, Unit Count, %. Sub-headers: UNIT COUNT + TYPES (SH).

SOCIAL HOUSING FAMILY UNITS (2 BED + 3 BED) PROVIDED 50%

SOCIAL HOUSING ACCESSIBLE UNITS PROVIDED 12.5% (3 UNITS)

SITE INFORMATION

ADDRESS: 1068 BURNABY ST., VANCOUVER, BC
EXISTING ZONE: RM-5A
EXISTING USE: MULTI-FAMILY RESIDENTIAL
PROPOSED USES: MULTI-FAMILY RESIDENTIAL, SOCIAL HOUSING
EXISTING SITE AREA: 17,282.52 ft² (1,605.5 m²)

SETBACKS

NORTH - BURNABY ST.: 3.7 M (12 FT)
EAST - (1056 BURNABY ST.): 10.4 M (34 FT)
WEST - THURLOW ST.: 3.7 M (12 FT)
SOUTH - (CENTRE OF) MAXINE LN.: 12.2 M (40FT)

DENSITY

MAX. HEIGHT PERMITTED: 91.4 M (300') AREA G

PROPOSED HEIGHT: 89.8 M (294' - 7 7/16") < 91.4 M (300')
MEASURED FROM LOWEST BASE SURFACE ELEVATION TO TOP OF ROOF PARAPET

92.8 M (304' - 6 13/16") > 91.4 M (300')
MEASURED FROM LOWEST BASE SURFACE ELEVATION TO HIGHEST POINT OF DECORATIVE ARCHITECTURAL ROOF

BUILDING HEIGHT EXEMPTION - ARCHITECTURAL FEATURES, IF NO ADDITIONAL FLOOR AREA IS CREATED (REFER TO ZONING AND DEVELOPMENT BY-LAW SECTION 10, MARCH 2023, 10.1.1)

FSR:

Table with columns: RENTAL FSR, SH FSR, Total FSR, %. Values: 17654 m², 2009 m², 19663 m², 89.8%, 10.2%



**PARKING SUMMARY**

**VEHICLE PARKING - MARKET RENTAL**

	PERMITTED / REQUIRED:	BYLAW REQ'D	AFTER TDM	PROVIDED:	NOTE:
<b>REQUIRED VEHICLE PARKING SPACES:</b> BYLAW 6059 4.5.8.1	1 SPACES FOR EACH 140M <sup>2</sup>	126	112	104	**13% REDUCTION PER TDM PLAN - REFER TO TDM REPORT
<b>REQUIRED ACCESSIBLE PARKING:</b> BYLAW 6059 4.8.4	AT LEAST 1 FOR EACH BUILDING THAT CONTAINS AT LEAST 7 RESIDENTIAL UNITS AND AN ADDITIONAL 0.034 SPACE FOR EACH ADDITIONAL DWELLING UNIT	11	11	11 (22)	
<b>REQUIRED VISITOR PARKING</b> BYLAW 4.1.16	5% OF THE TOTAL NUMBER OF RESIDENTIAL PARKING SPACES	6	6	6	

**VEHICLE PARKING - SOCIAL HOUSING**

	PERMITTED / REQUIRED:	BYLAW REQ'D	AFTER TDM	PROVIDED:	NOTE:
<b>REQUIRED VEHICLE PARKING SPACES:</b> BYLAW 6059 4.3.5 WEST END AND ROBSON NORTH PERMIT AREA	EXCEPT FOR ACCESSIBLE PARKING (4.8.4), NONE REQUIRED	0		0	
<b>REQUIRED ACCESSIBLE PARKING:</b> BYLAW 6059 4.8.4	AT LEAST 1 FOR EACH BUILDING THAT CONTAINS AT LEAST 7 RESIDENTIAL UNITS AND AN ADDITIONAL 0.034 SPACE FOR EACH ADDITIONAL DWELLING UNIT	2		2	

**VEHICLE PARKING BY USER GROUP**

R- RENTAL  
S- SOCIAL HOUSING

BYLAW 6059 4.1.15 CALCULATION OF ACCESSIBLE PARKING SPACES  
EACH ACCESSIBLE PARKING SPACE PROVIDED TO SATISFY THE MINIMUM REQUIRED NUMBER OF SUCH SPACES WILL COUNT AS TWO PARKING SPACES FOR THE PURPOSE OF SATISFYING THE MINIMUM REQUIRED NUMBER OF PARKING SPACES.

User Group	Tag	Count	Quantity	%	NOTE:
R	HC	11	22	18%	BYLAW 6059 4.1.8 NUMBER OF SMALL CAR SPACES THE NUMBER OF SMALL CAR PARKING SPACES (ON A SITE MAY NOT EXCEED 20% OF THE TOTAL PARKING SPACES REQUIRED FOR THE SITE FOR ALL USES COMBINED.  PERCENTAGE OF SMALL CAR PROVIDED = 22%
R	REG	71	71	57%	
R	SM	22	22	18%	
		104	115	92%	
R	VISITOR	REG	1	1%	
R	VISITOR	SM	5	4%	
		6	6	5%	
S	HC	2	4	3%	
		2	4	3%	
		112	125	100%	

**LOADING SPACES**

	PERMITTED / REQUIRED:	BYLAW REQ'D	AFTER TDM	PROVIDED:	NOTE:
<b>REQUIRED LOADING SPACES:</b> BYLAW 6059 2.1	CLASS A NO REQUIREMENT	0		0	LOADING RATIONALE WILL BE PROVIDED BY TRANSPORTATION ENGINEER.
	CLASS B <100 UNITS = 0 STALLS 100 - 299 UNITS = 1 STALLS 300 - 499 UNITS = 2 STALLS	2		1	
	CLASS C NO REQUIREMENT	0		0	

**PASSENGER LOADING SPACES**

	PERMITTED / REQUIRED:	BYLAW REQ'D	AFTER TDM	PROVIDED:	NOTE:
<b>REQUIRED PASSENGER SPACES:</b> BYLAW 6059 7.2.1	CLASS A 50 - 125 UNITS = 1 STALL + 1 FOR EVERY ADD. 150 UNITS	2		2	
	CLASS B NO REQUIREMENT	0		0	
	CLASS C NO REQUIREMENT	0		0	

**STORAGE LOCKERS**

RESIDENTIAL STORAGE REQUIRED 311	RESIDENTIAL STORAGE LOCKERS PROVIDED: 312	5.7M3 / DWELLING UNIT WHERE:
1 STORAGE / DWELLING UNIT	193 IN-SUITE STORAGE (ALL SOCIAL HOUSING UNITS CONTAIN IN-SUITE STORAGE ROOM)	- CEILING HEIGHT MIN: 2.4M - WIDTH MIN: 1.2M (4') - MIN. 2.375 M <sup>2</sup> (25.6 SQFT) MAY BE EXCLUDED IF ITS IN-SUITE. - MAX. 3.7 M <sup>2</sup> (40 SQFT) MAY BE EXCLUDED IF ITS IN-SUITE.
	119 STORAGE LOCKERS BELOW GRADE	

**BICYCLE PARKING**

UNIT LESS THAN 65M <sup>2</sup> (R)		UNIT 65-105M <sup>2</sup> (R)	
Name	Total Unit Count	Name	Unit Count
0 BED	59	2 BED	5
1 BED	118	3 BED	3
2 BED	102		
Grand total	279	Grand total	8

UNIT LESS THAN 65M <sup>2</sup> (SH)		UNIT 65-105M <sup>2</sup> (SH)	
Name	Unit Count	Name	Unit Count
0 BED	9	2 BED	6
1 BED	3	3 BED	6
Grand total	12	Grand total	12

	PERMITTED / REQUIRED:	RENTAL	SH	PROVIDED:	NOTE:
<b>REQUIRED DWELLING BICYCLE SPACES:</b> BYLAW 6059 6.2.1.2	1.5 SPACES FOR EACH DWELLING UNIT UNDER 65M <sup>2</sup> (700 FT <sup>2</sup> )	1.5 X 279 = 419	1.5 X 12 = 18	498	
<b>REQUIRED CLASS 'A' BICYCLE SPACES:</b> FOR MULTIPLE DWELLING	2.5 SPACES FOR EACH DWELLING UNIT OVER 65 M <sup>2</sup> (700 FT <sup>2</sup> ) AND UNDER 105 M <sup>2</sup> (1130 FT <sup>2</sup> )	2.5 X 8 = 20	2.5 X 12 = 30		
<b>REQUIRED DWELLING CLASS 'B' BICYCLE SPACES:</b> FOR MULTIPLE DWELLING	3.0 SPACES FOR EACH DWELLING UNIT OVER 105 M <sup>2</sup> (1130 FT <sup>2</sup> )	0	0		
	A MINIMUM OF 2 SPACES FOR ANY DEVELOPMENT CONTAINING AT LEAST 20 DWELLING UNITS, AND ONE ADDITIONAL SPACE FOR EVERY ADDITIONAL 20 DWELLING UNITS.	17		17	
<b>BICYCLE PARKING BY TYPE:</b>	PERMITTED / REQUIRED:				
	HORIZONTAL SPACES (NO REQUIREMENT)			181	
	BICYCLE LOCKERS (MIN. 10%)	MIN. 49		72	
	OVERSIZED SPACES (MIN. 5%)	MIN. 25		29	
	VERTICAL SPACES (MAX. 30% OF REQ'D)	MAX. 147		92	
	STACKED SPACES (MAX. 60% OF REQ'D + VERTICAL + STACKED)	MAX. 293		64 (128)	

**\*\*\* NOTABLE BICYCLE STORAGE REQUIREMENTS :**

THE BICYCLE ROOM SHALL BE DESIGNED TO ACCOMMODATE A MAXIMUM OF 40 BICYCLES, EXCEPT THAT THIS NUMBER CAN BE INCREASED TO 120 IF THE ROOM IS COMPARTMENTALIZED USING EXPANDED METAL MESH (SEE 6.3.14.) WITH LOCKABLE INDUSTRIAL-GRADE DOORS INTO ENCLOSURES CONTAINING A MAXIMUM OF 40 BICYCLES.

**BICYCLE ROOMS REQUIRED. EITHER :**  
10 ROOMS OF MAX. 40 SPACES EA. (MAX. 400 BIKES), OR  
4 COMPARTMENTALIZED ROOMS OF 120 = (MAX. 480 BIKES).

**ACCESS :**  
ALL BICYCLE STORAGE SHALL BE LOCATED NO LOWER THAN THE FIRST COMPLETE PARKING LEVEL BELOW GRADE AND SHALL HAVE DIRECT ACCESS TO OUTSIDE. ALL AISLES SERVICING CLASS A BICYCLE SPACES SHALL BE A MINIMUM WIDTH OF 1.2 METRES. THE AISLE DIRECTLY IN FRONT OF EACH OVERSIZED SPACE SHALL BE A MINIMUM WIDTH OF 1.5 METRES.

**BICYCLE SPACE SIZES (L X W X H)**  
CLASS 'A' (HORIZONTAL) : 1.8M X 0.6M X 1.9M  
CLASS 'A' (VERTICAL) : 1.0M X 0.6M X 1.9M  
HORIZONTAL OVERSIZED CLASS 'A' (5%) : 2.4M X 0.9M X 1.9M

**CLASS 'A' LOCKER SIZE (CLEAR INSIDE DIMS) :**  
1.8M IN LENGTH,  
0.6M IN WIDTH AT THE DOOR END,  
0.2M IN WIDTH AT THE END OPPOSITE TO THE DOOR,  
1.2M IN HEIGHT.

NO MORE THAN 30% OF THE REQUIRED CLASS A BICYCLE SPACES MAY BE VERTICAL. NO MORE THAN 60% OF THE REQUIRED CLASS A BICYCLE SPACES MAY BE VERTICAL AND STACKED.

AT LEAST 10% OF THE CLASS A BICYCLE SPACES MUST BE BICYCLE LOCKERS.  
ALL DOORS ON THE ROUTE FROM CLASS A BICYCLE PARKING SPACES TO THE OUTSIDE SHALL BE FITTED WITH AUTOMATIC DOOR OPENERS  
BY-LAW NO. 12494 PARKING BYLAW AMENDMENT.

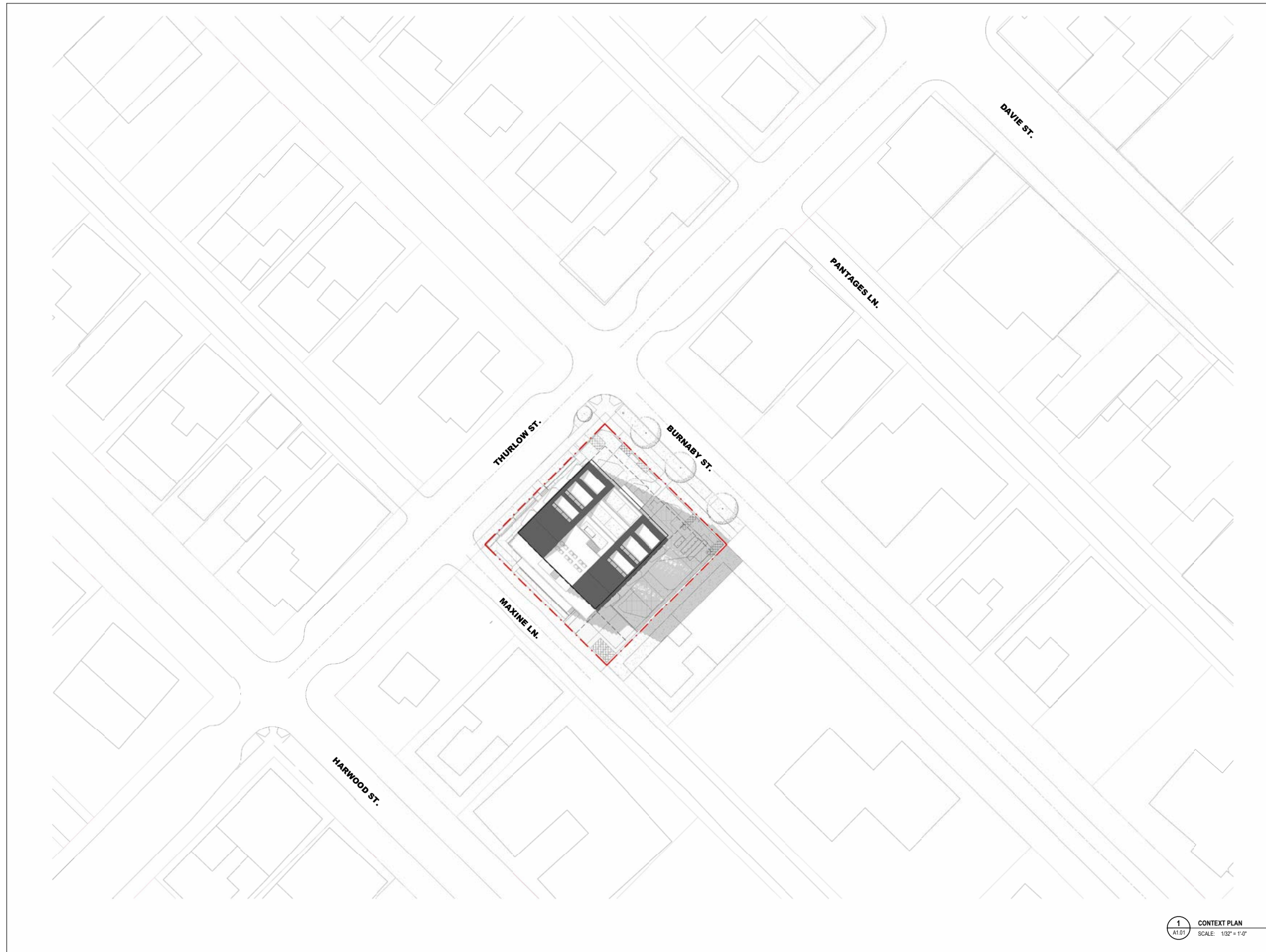
7.3.2 EXCEPT FOR THE FIRST CLASS A PASSENGER SPACE FOR ANY SITE, WHICH MUST BE A MINIMUM WIDTH OF 4 M WITH A MINIMUM VERTICAL CLEARANCE OF 2.3 M, THE MINIMUM WIDTH OF SPACES MUST BE 2.9 M AND THE MINIMUM VERTICAL CLEARANCE OF SPACES MUST BE 2.3 M, AND THE MINIMUM LENGTH OF ALL SPACES, INCLUDING THE FIRST CLASS A PASSENGER SPACE, MUST BE THE GREATER OF:

- (A) 5.5 METRES; AND
- (B) 6.5 METRES WHERE PARALLEL PARKING OCCURS;

**6.5 END OF TRIP FACILITIES**

6.5.1 WHERE CLASS A BICYCLE SPACES ARE REQUIRED FOR A NON-DWELLING USE, A MINIMUM NUMBER OF CLOTHING LOCKERS EQUAL TO 1.4 TIMES THE MINIMUM NUMBER OF REQUIRED CLASS A SPACES SHALL BE PROVIDED, AND SHALL BE A MINIMUM OF 45 CENTIMETRES IN DEPTH, 30 CENTIMETRES IN WIDTH AND 90 CENTIMETRES IN HEIGHT WITH RESPECT TO NO MORE THAN 50% OF THE LOCKERS AND 180 CM IN HEIGHT WITH RESPECT TO AT LEAST 50% OF THE LOCKERS.

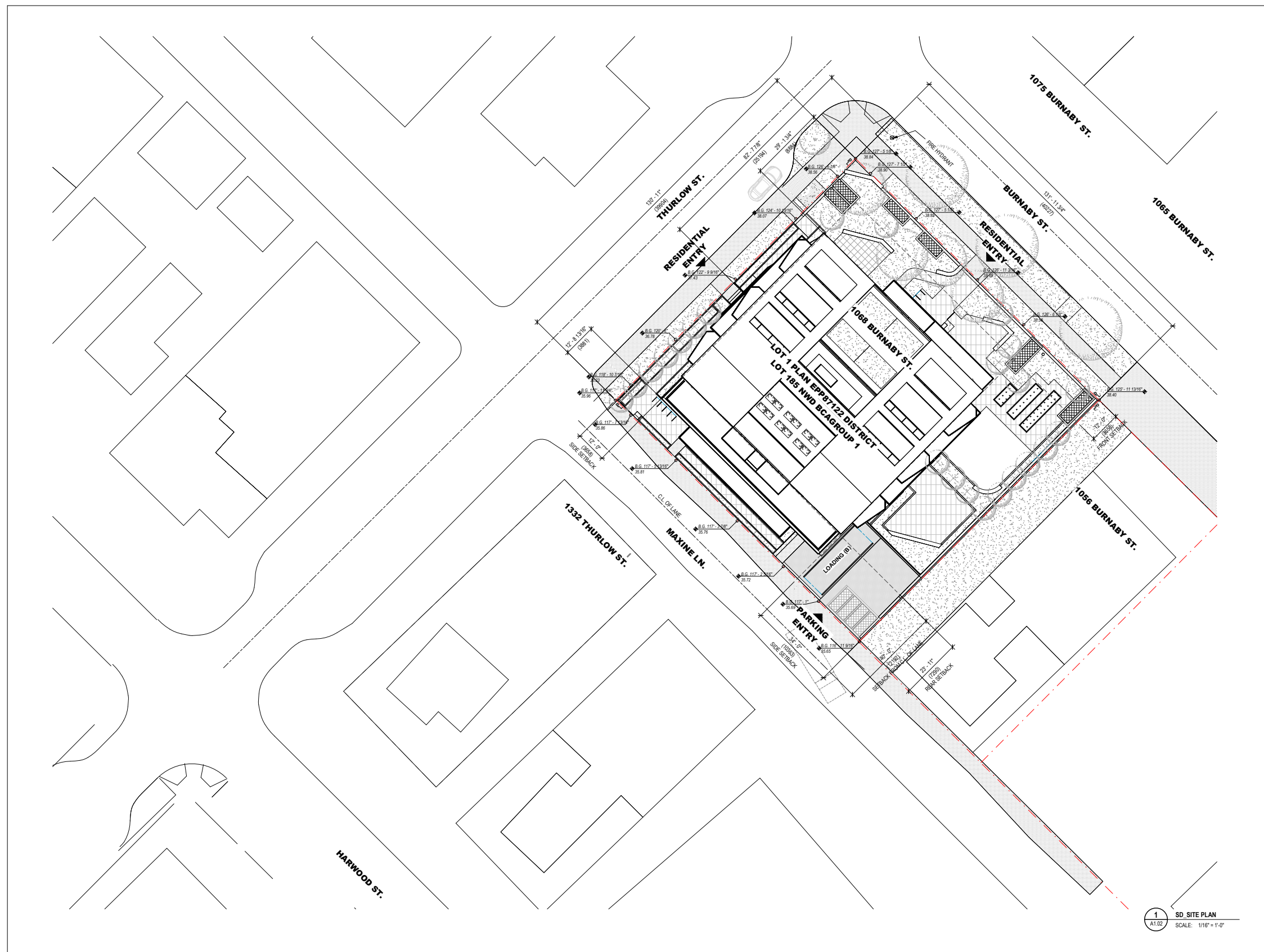
5.4 CONTEXT PLAN



1 CONTEXT PLAN  
A1.01 SCALE: 1/32" = 1'-0"



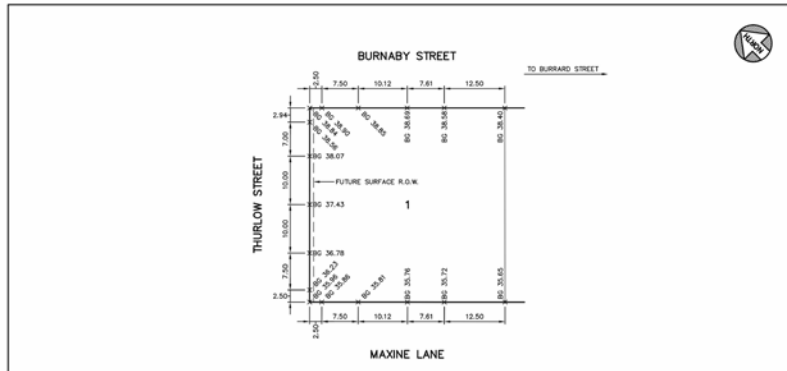
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1 SD SITE PLAN  
A1.02 SCALE: 1/16" = 1'-0"

NTS

# 5.6 BASE SURFACE PLAN



**ATTENTION**  
ELEVATIONS SHOWN ON THIS PLAN ARE IN METRES BASED ON GROUND DATUM CODED NUMBERED NO. 22048. DIMENSIONS ARE ALSO IN METRES.

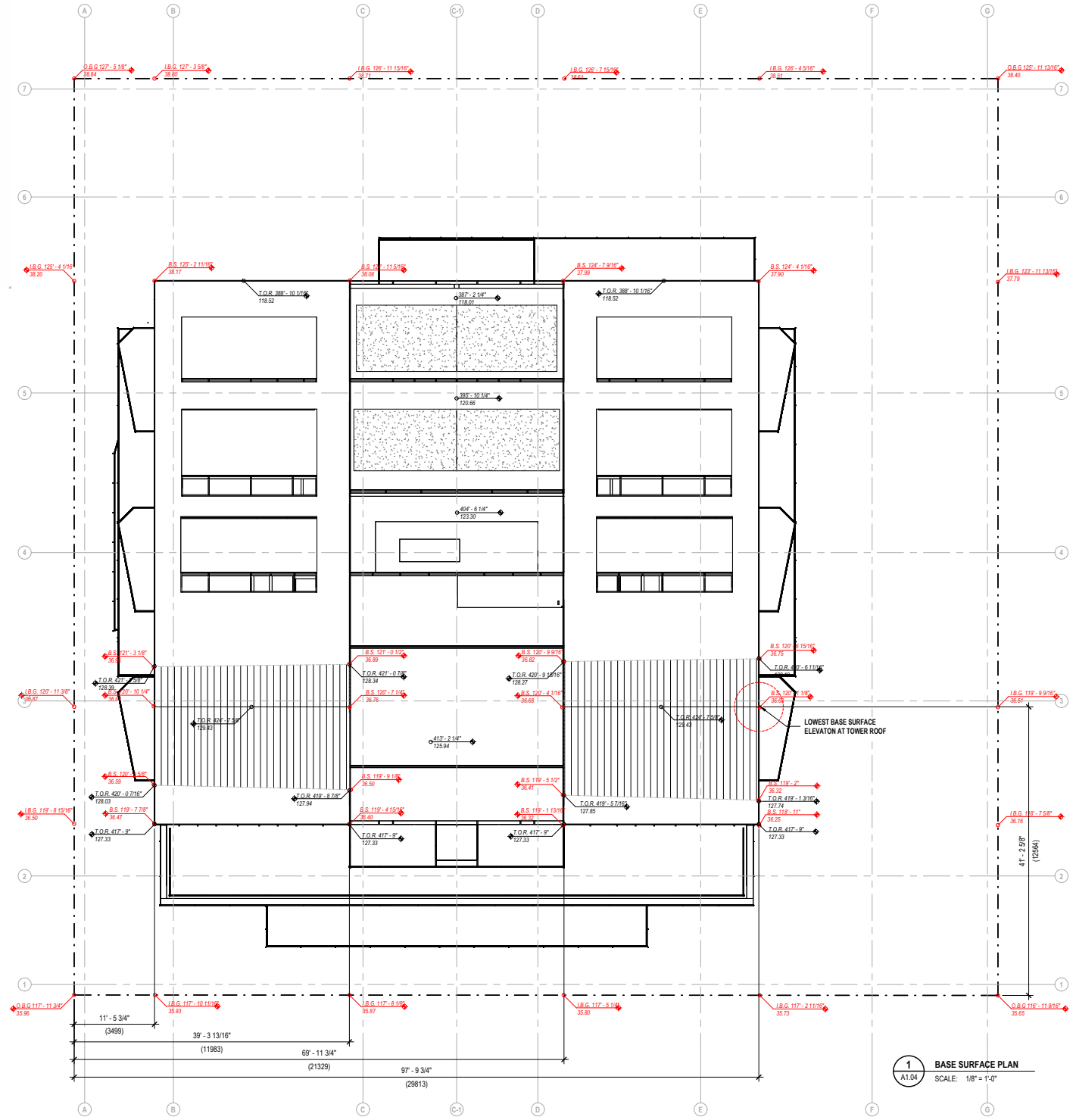
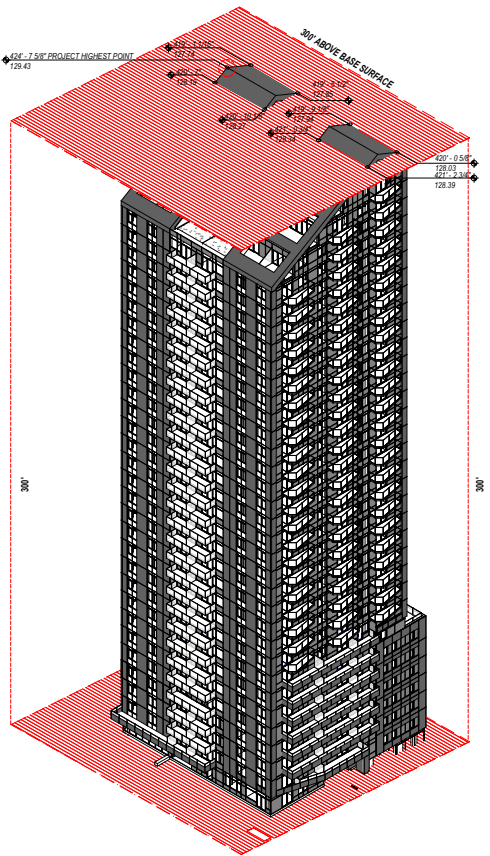
NO.	DATE	REVISION	BY	CHK.

**CITY OF VANCOUVER ENGINEERING SERVICES**  
**BUILDING GRADE ELEVATIONS**  
 FOR LOT 1, D.L. 185,  
 PLAN EPP87122.

SCALE: 1:400  
 DWG. NO. BG-2022-00188  
 SHEET 1 OF 1

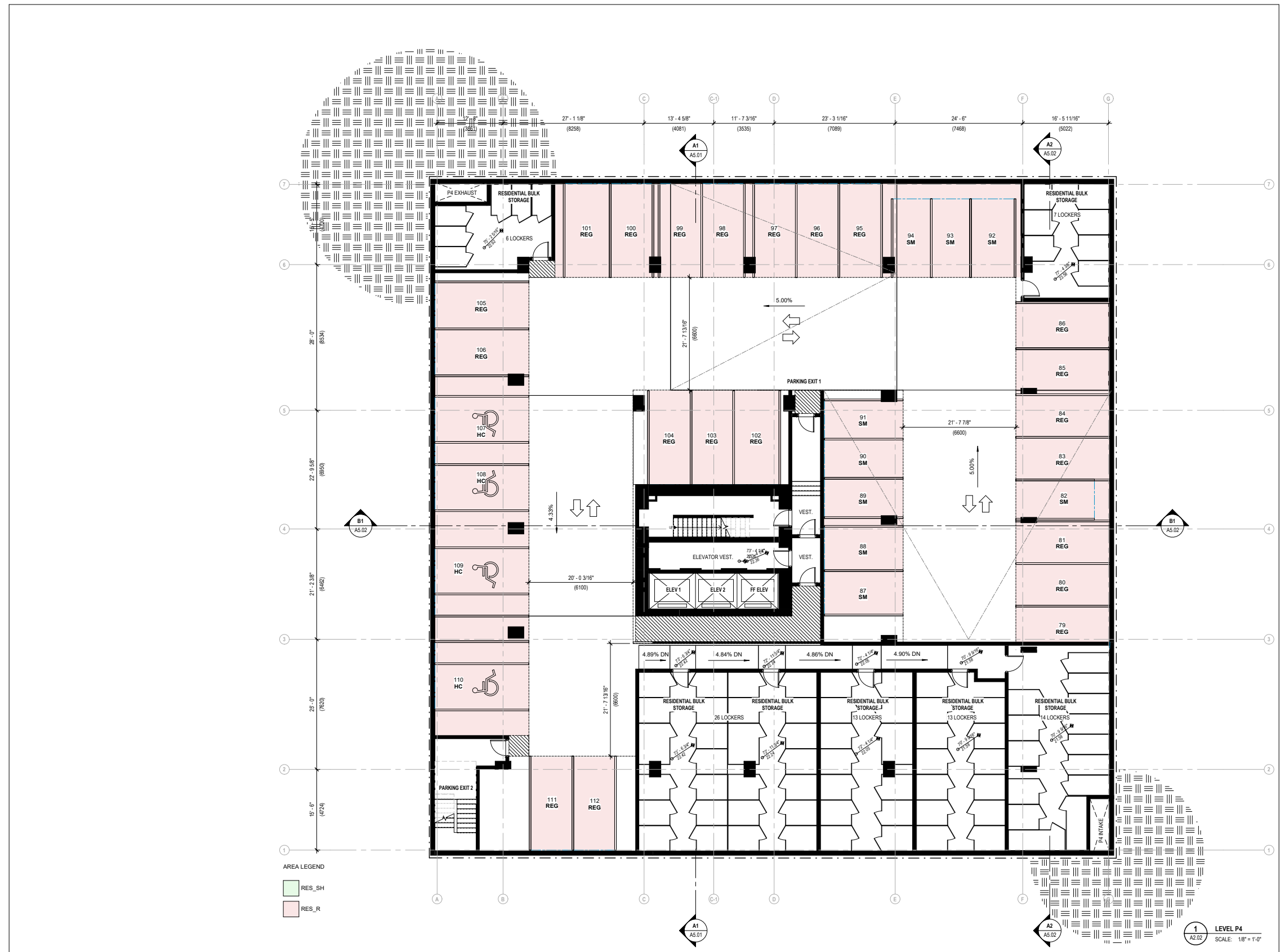
**LEGEND**

- OFFICIAL BUILDING GRADE
- BASE SURFACE
- BUILDING GRADE ON BASE SURFACE INTERPOLATED FROM OBGs
- TOP OF ROOF
- ELEVATION AT LEVEL

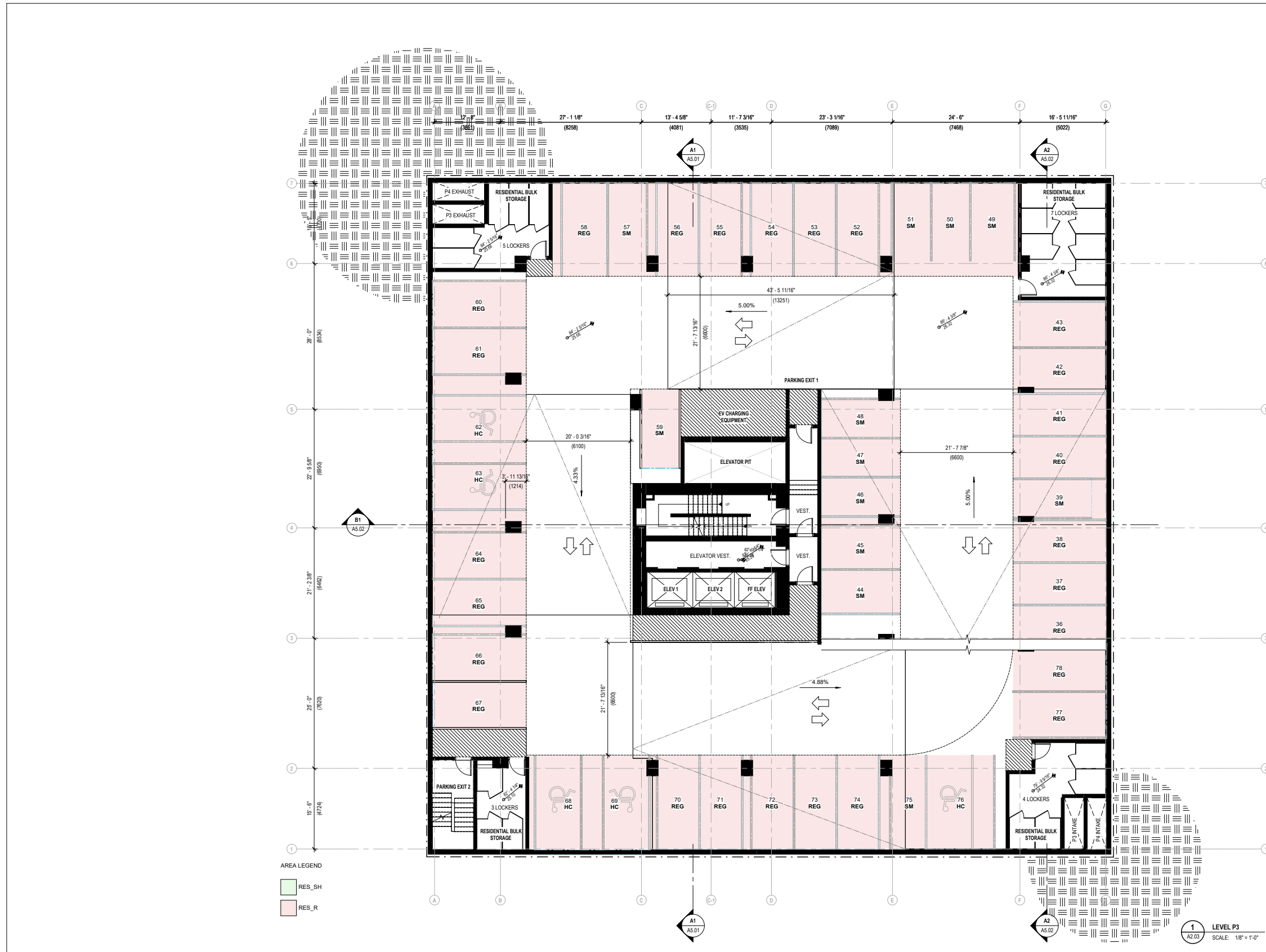


**1** BASE SURFACE PLAN  
 SCALE: 1/8" = 1'-0"

NTS



5.7 FLOOR PLANS



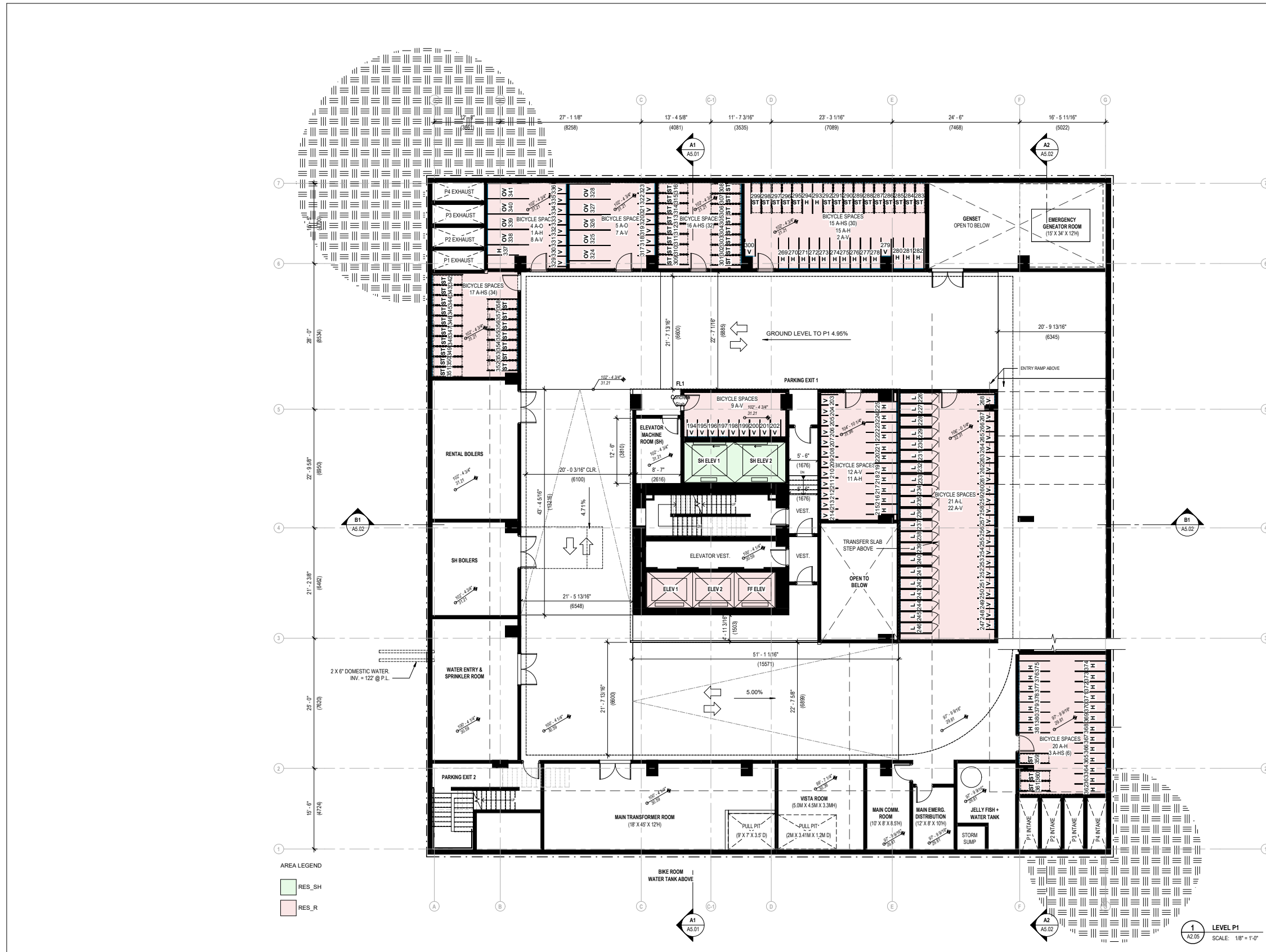
1 LEVEL P3  
SCALE: 1/8" = 1'-0"

NTS



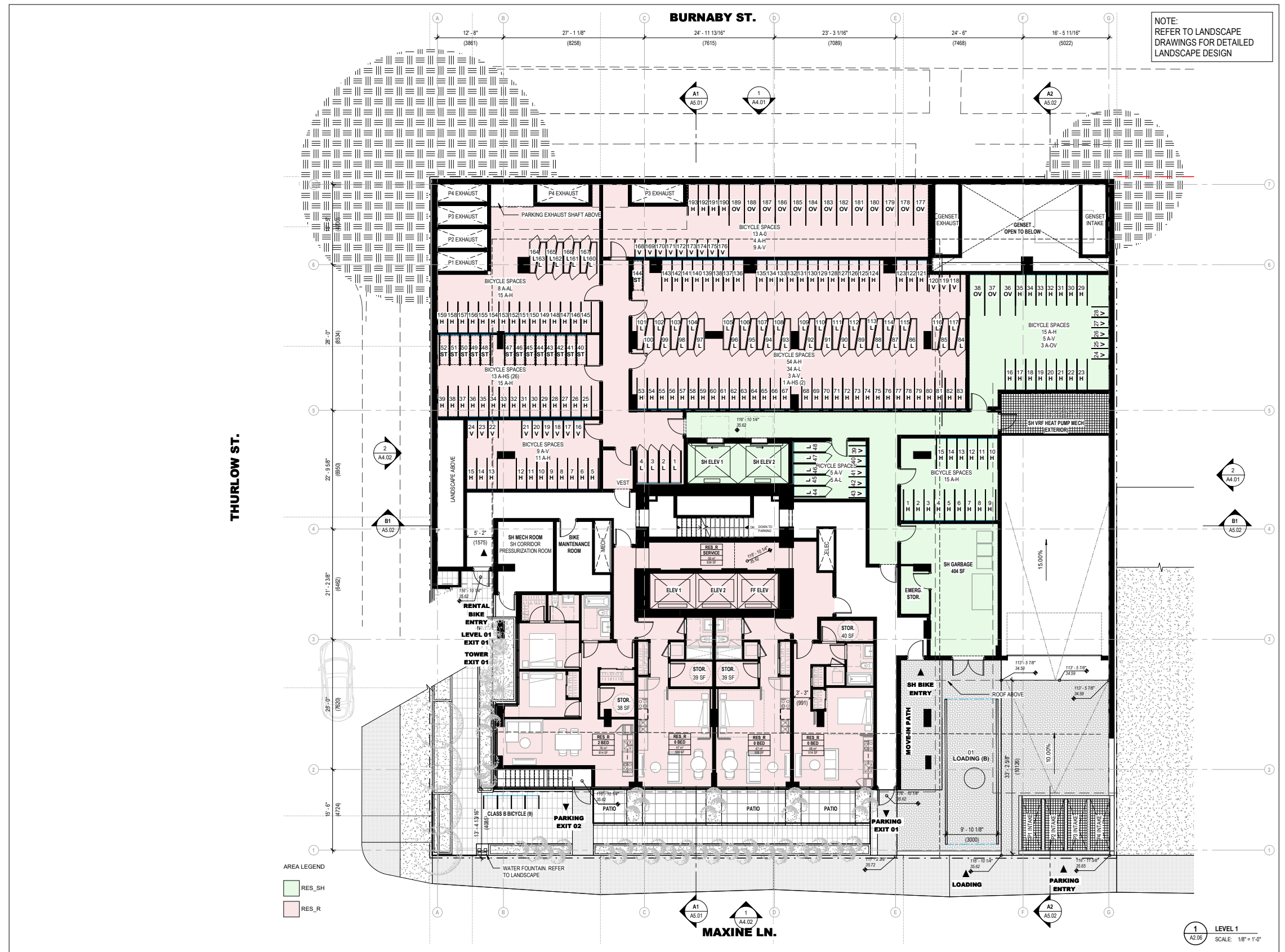
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5.7 FLOOR PLANS



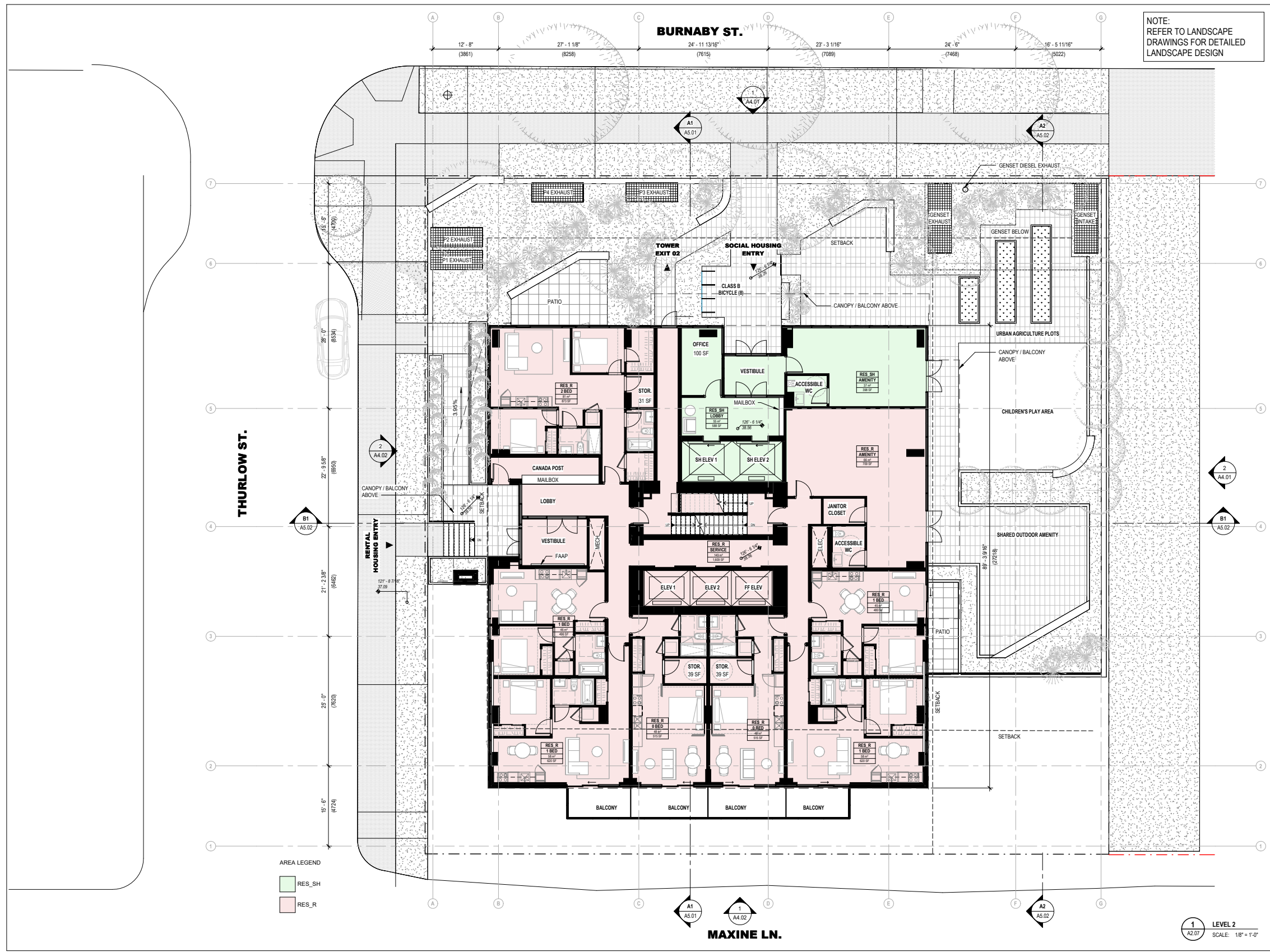
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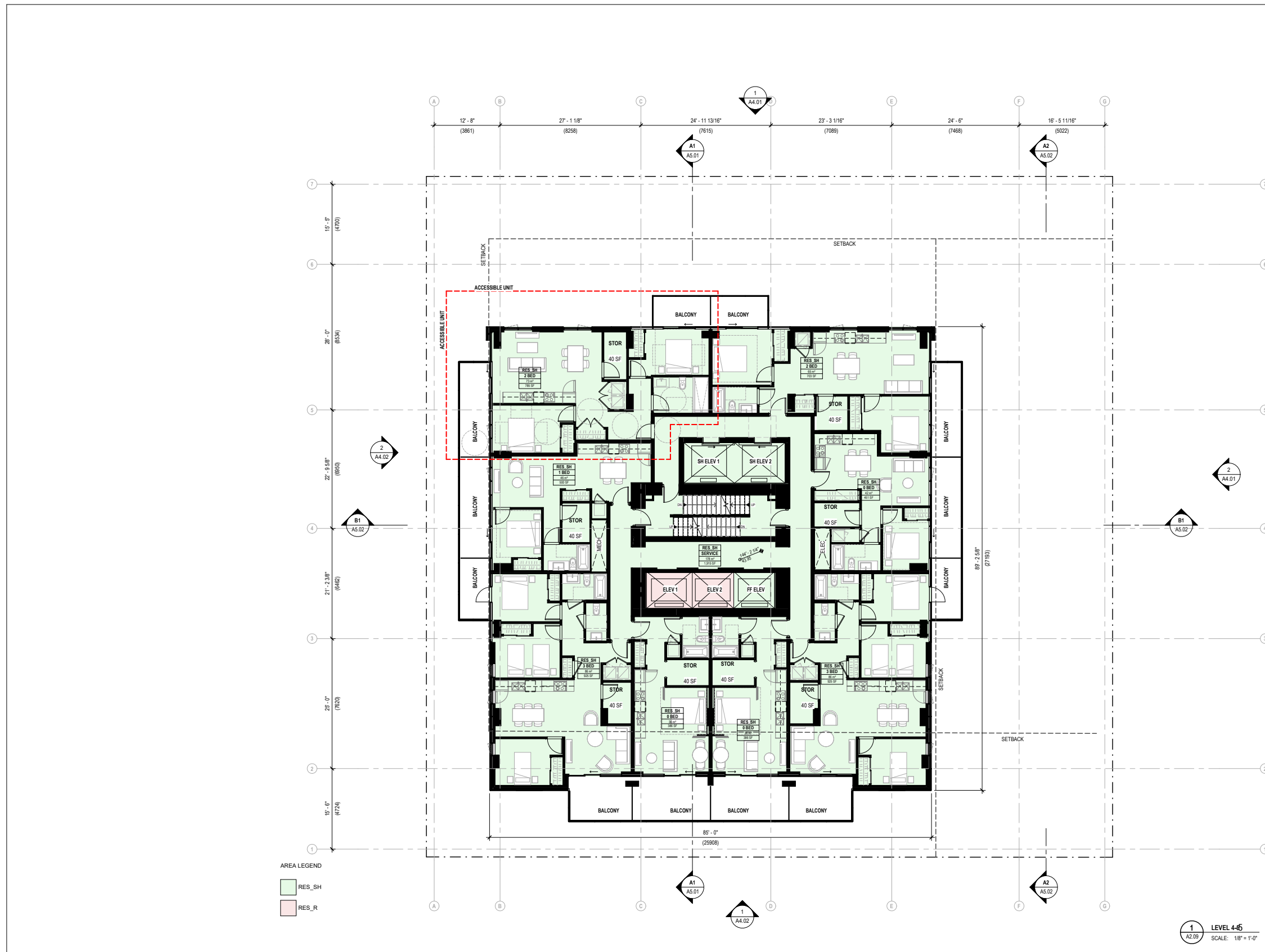
5.7 FLOOR PLANS



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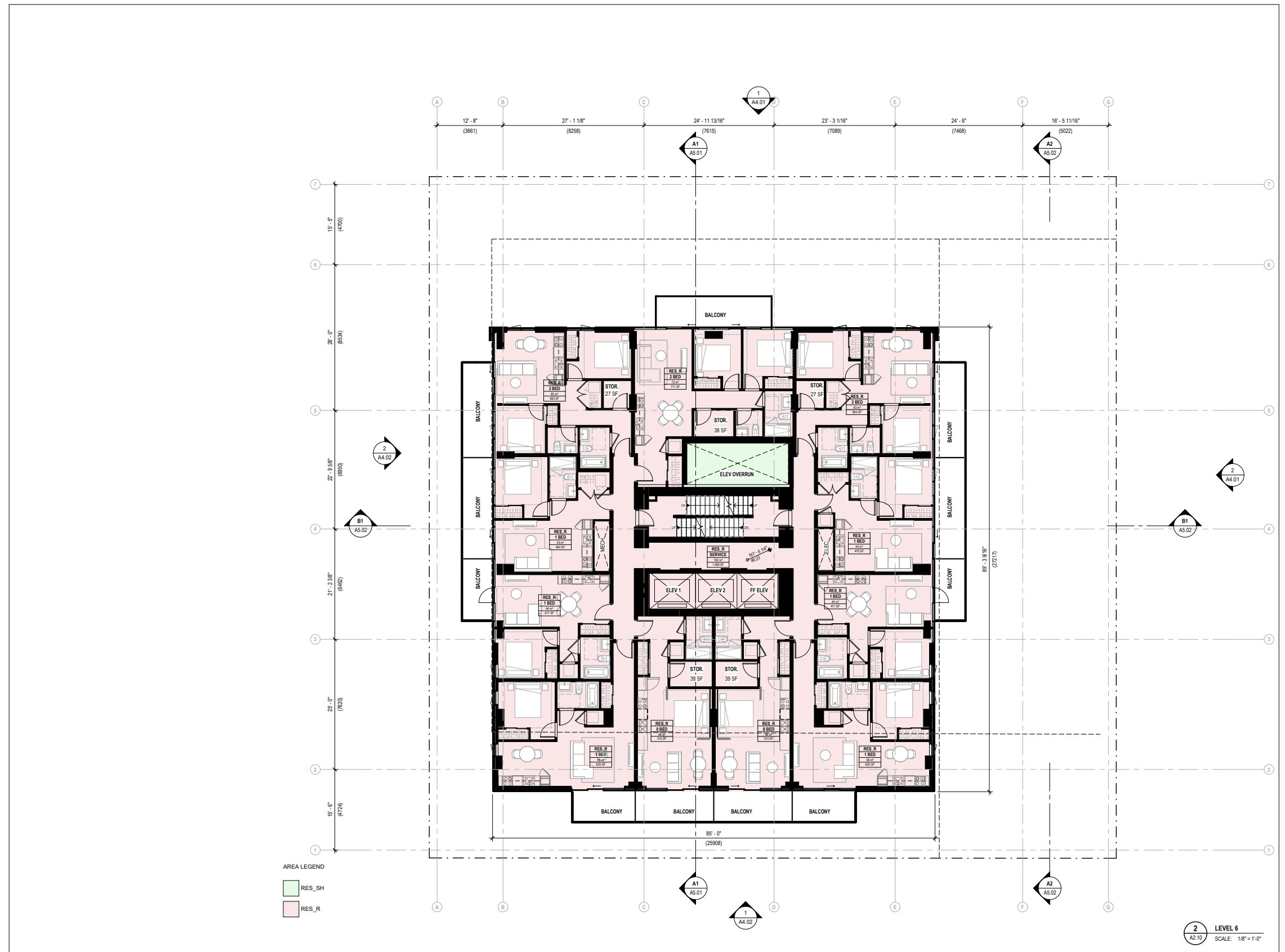


# 5.7 FLOOR PLANS



1 LEVEL 4-6  
A2.09 SCALE: 1/8" = 1'-0"

NTS



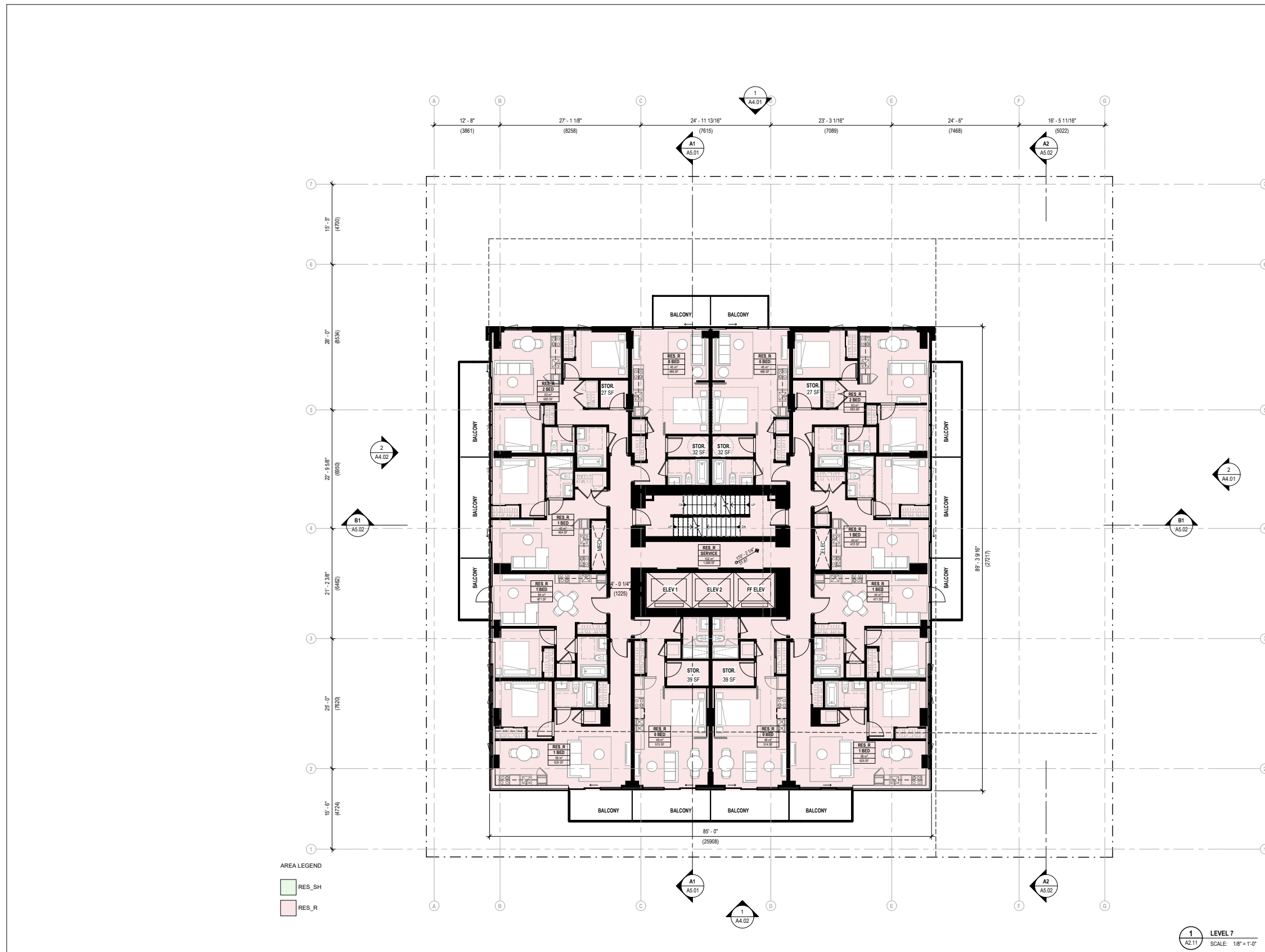
AREA LEGEND

- RES\_SH
- RES\_R

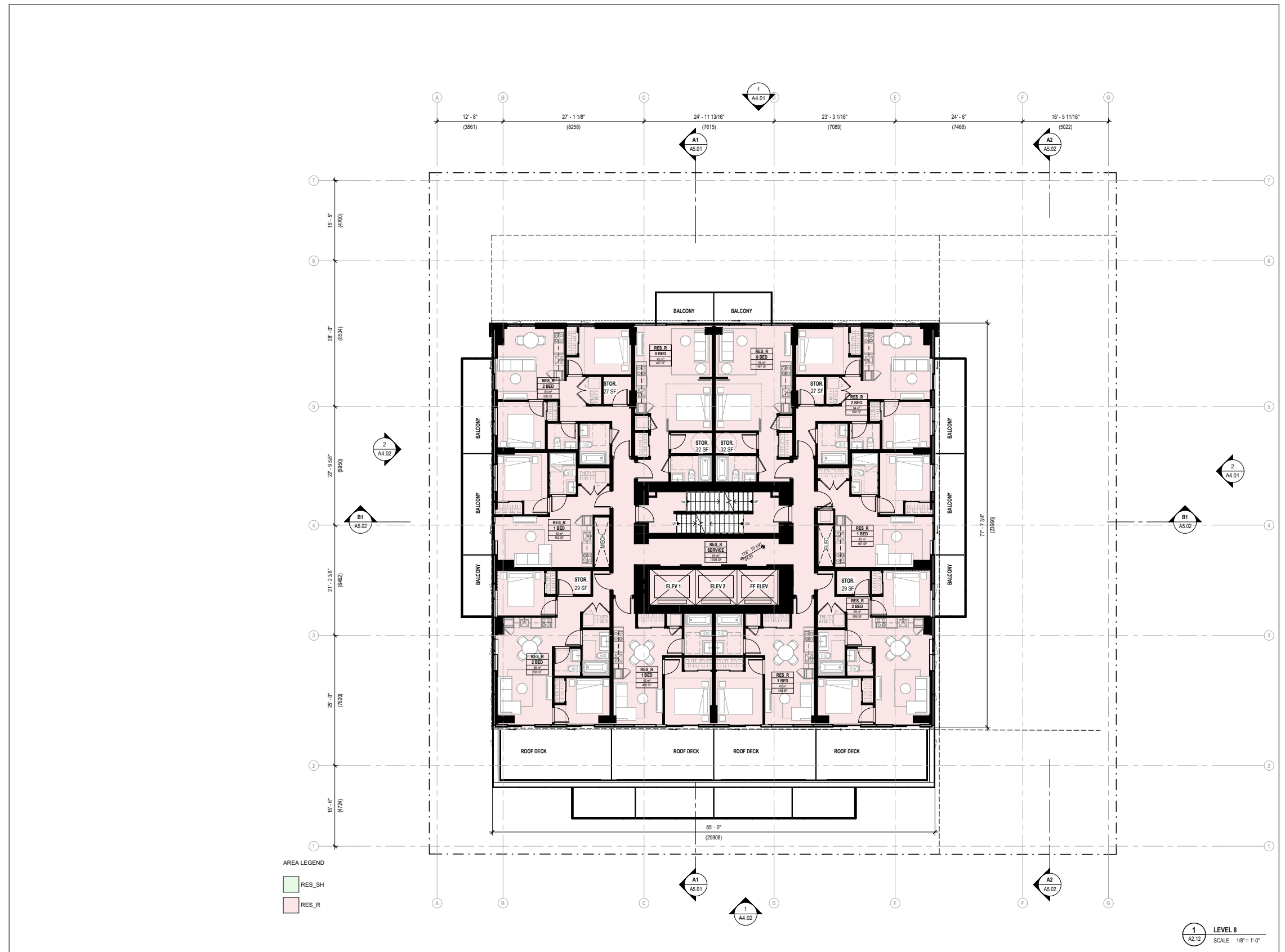
2 LEVEL 6  
A2.10 SCALE: 1/8" = 1'-0"

NTS

5.7 FLOOR PLANS

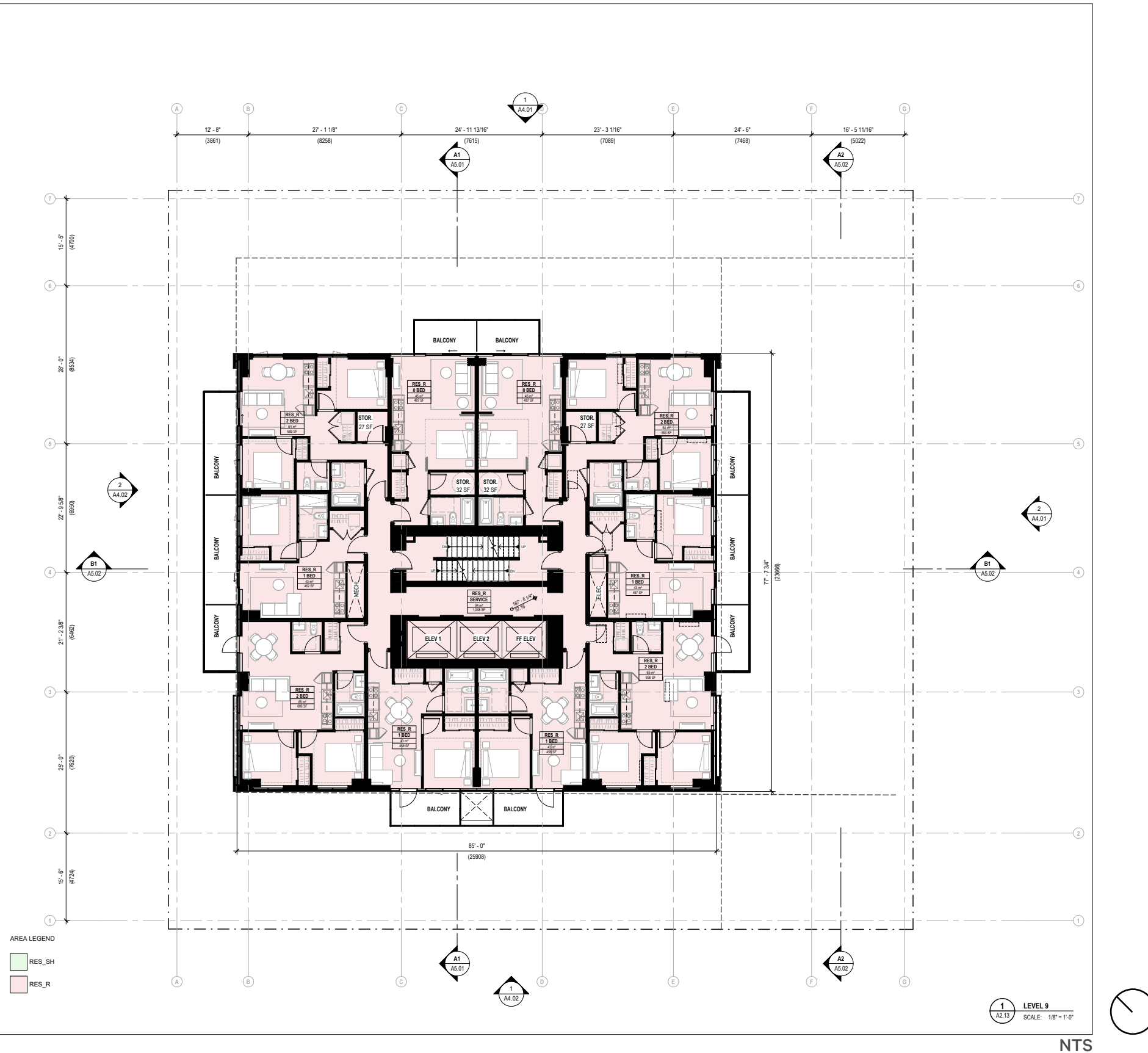


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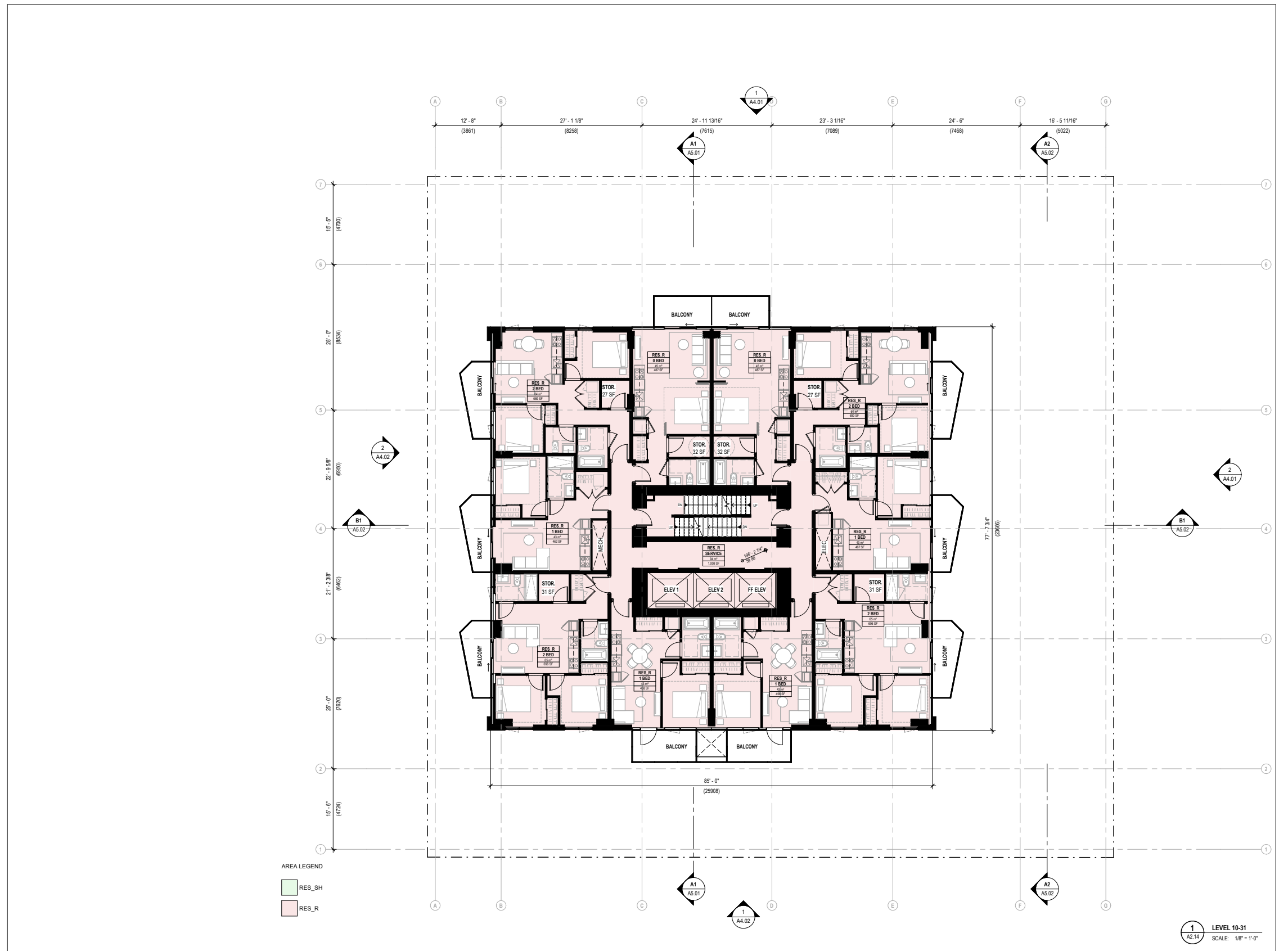


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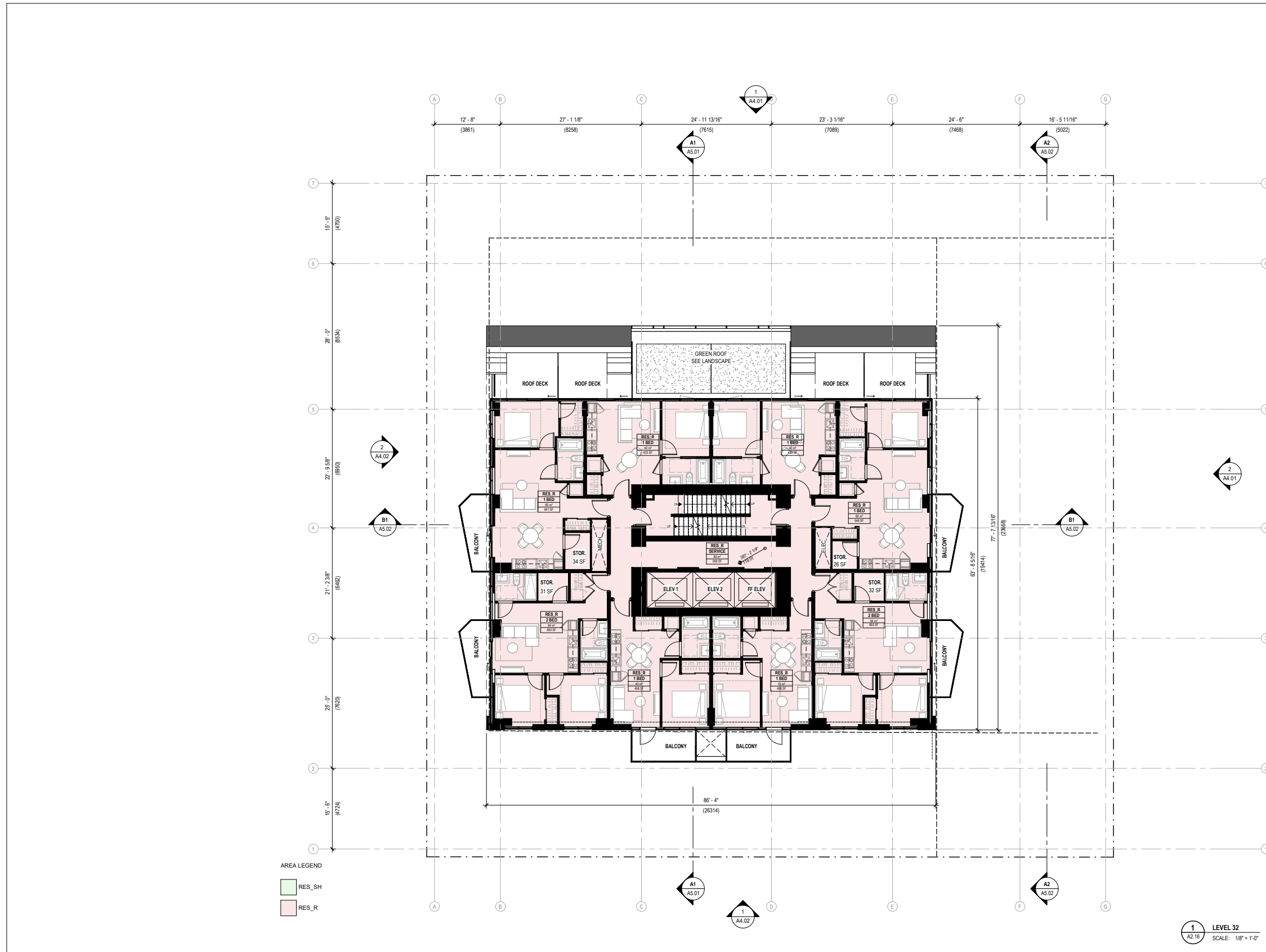
5.7 FLOOR PLANS





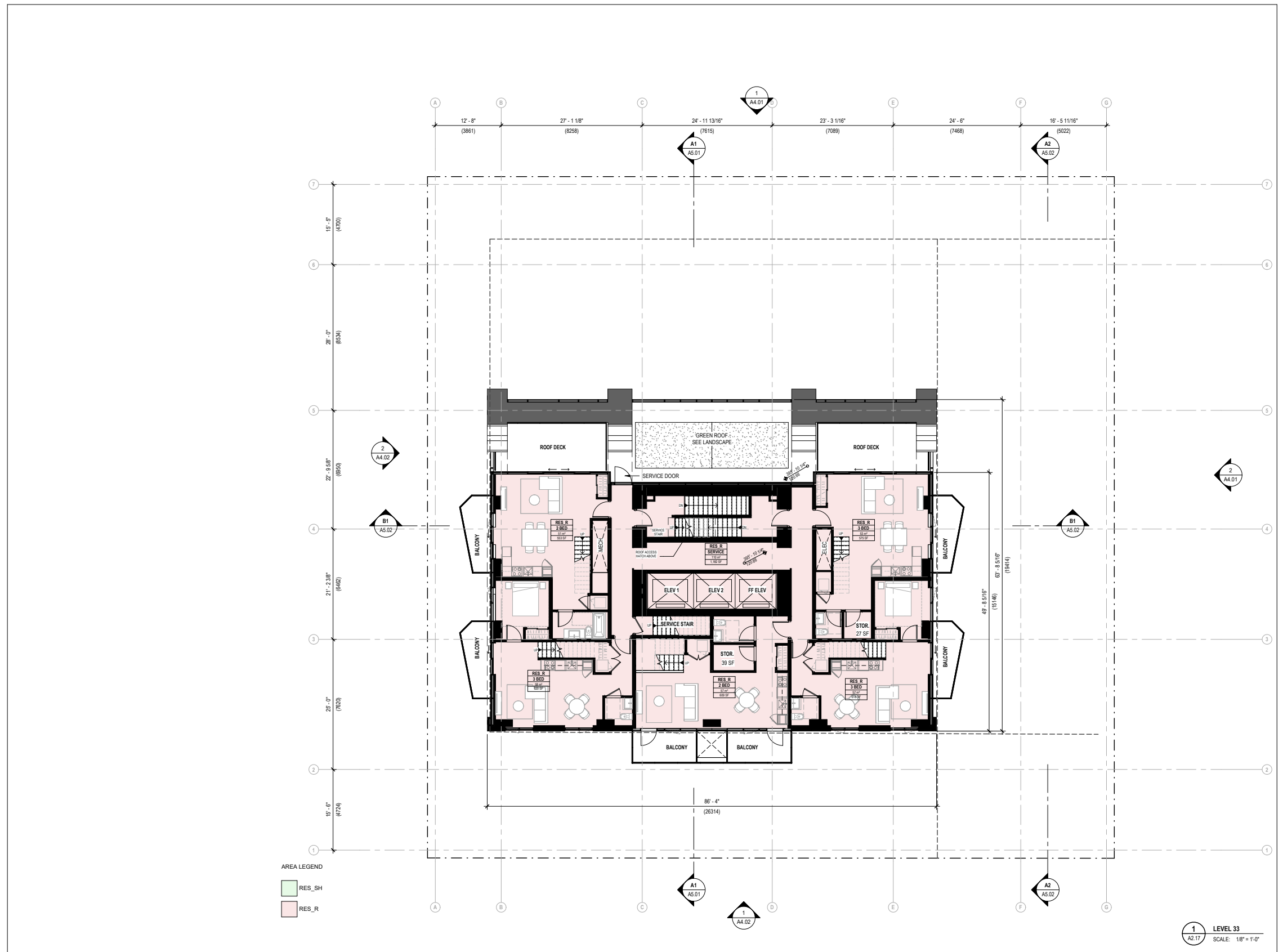


5.7 FLOOR PLANS



1 LEVEL 32  
A2.16 SCALE: 1/8" = 1'-0"

NTS



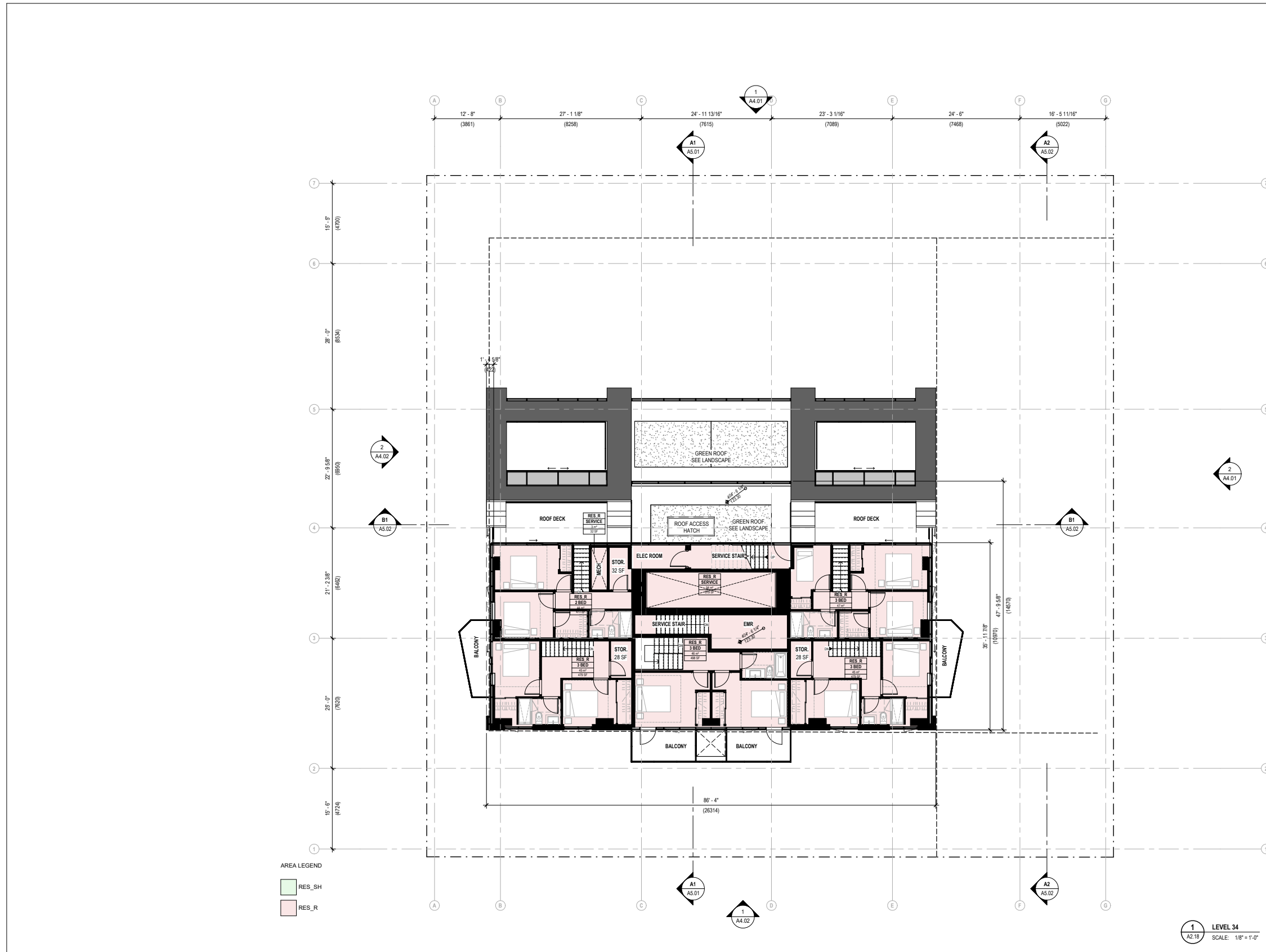
AREA LEGEND  
 RES\_SH  
 RES\_R

1 LEVEL 33  
 A2.17 SCALE: 1/8" = 1'-0"

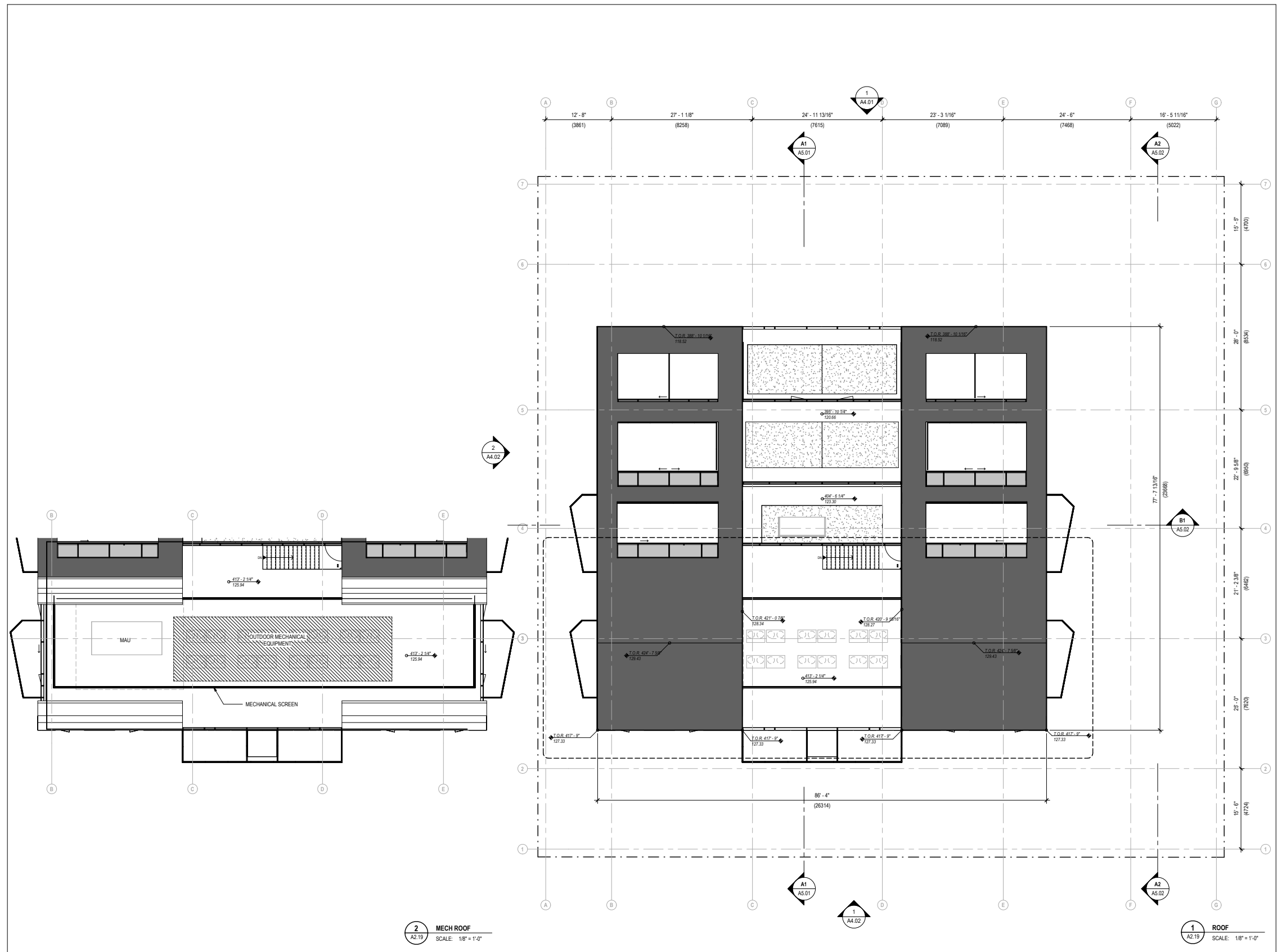


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5.7 FLOOR PLANS



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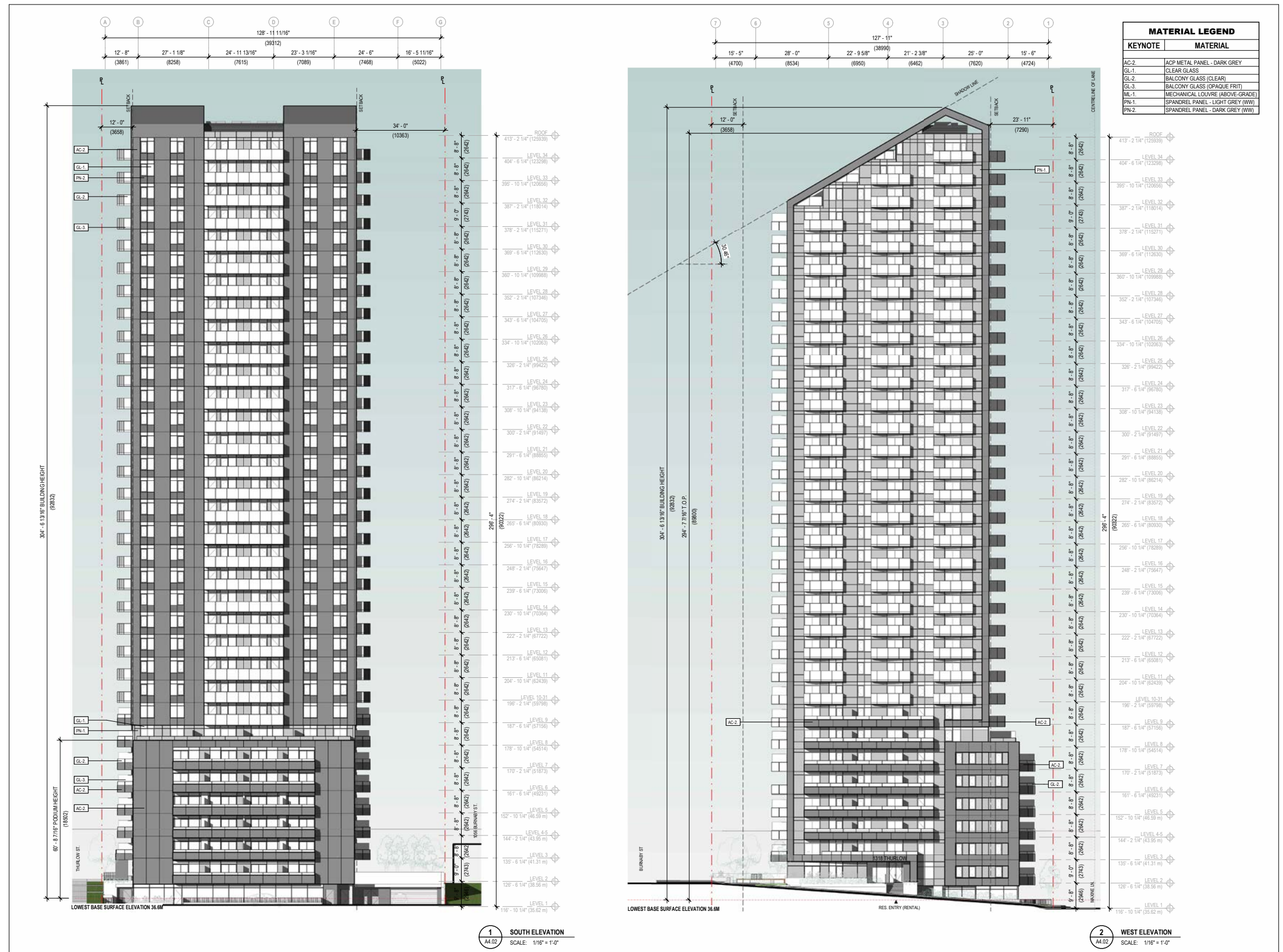


2 MECH ROOF  
A2.19 SCALE: 1/8" = 1'-0"

1 ROOF  
A2.19 SCALE: 1/8" = 1'-0"

NTS



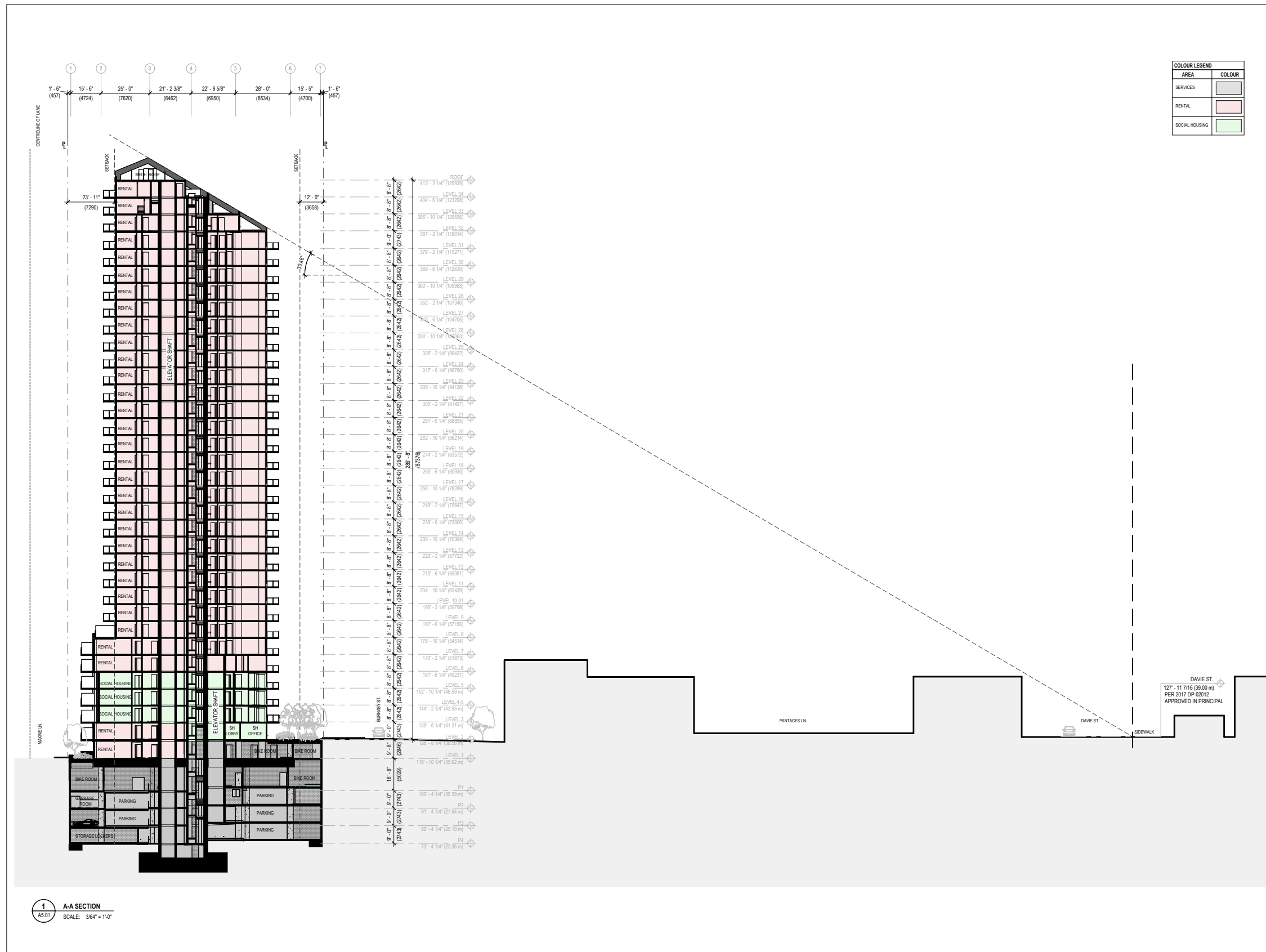


MATERIAL LEGEND	
KEYNOTE	MATERIAL
AC-2	ACP METAL PANEL - DARK GREY
GL-1	CLEAR GLASS
GL-2	BALCONY GLASS (CLEAR)
GL-3	BALCONY GLASS (OPAQUE FRIT)
ML-1	MECHANICAL LOUVRE (ABOVE-GRADE)
PN-1	SPANDREL PANEL - LIGHT GREY (WW)
PN-2	SPANDREL PANEL - DARK GREY (WW)

1 SOUTH ELEVATION  
A4.02 SCALE: 1/16" = 1'-0"

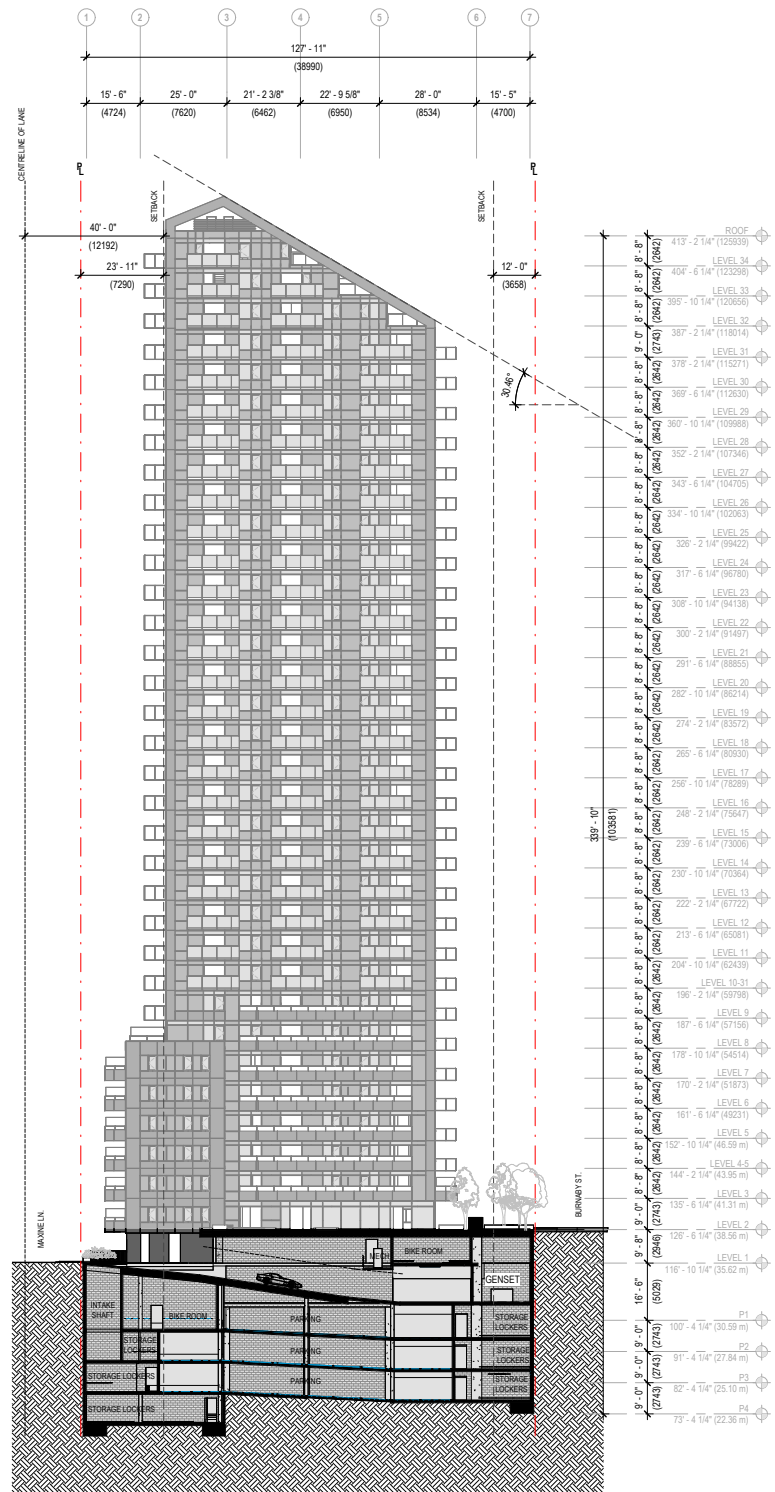
2 WEST ELEVATION  
A4.02 SCALE: 1/16" = 1'-0"

# 5.8 SECTIONS

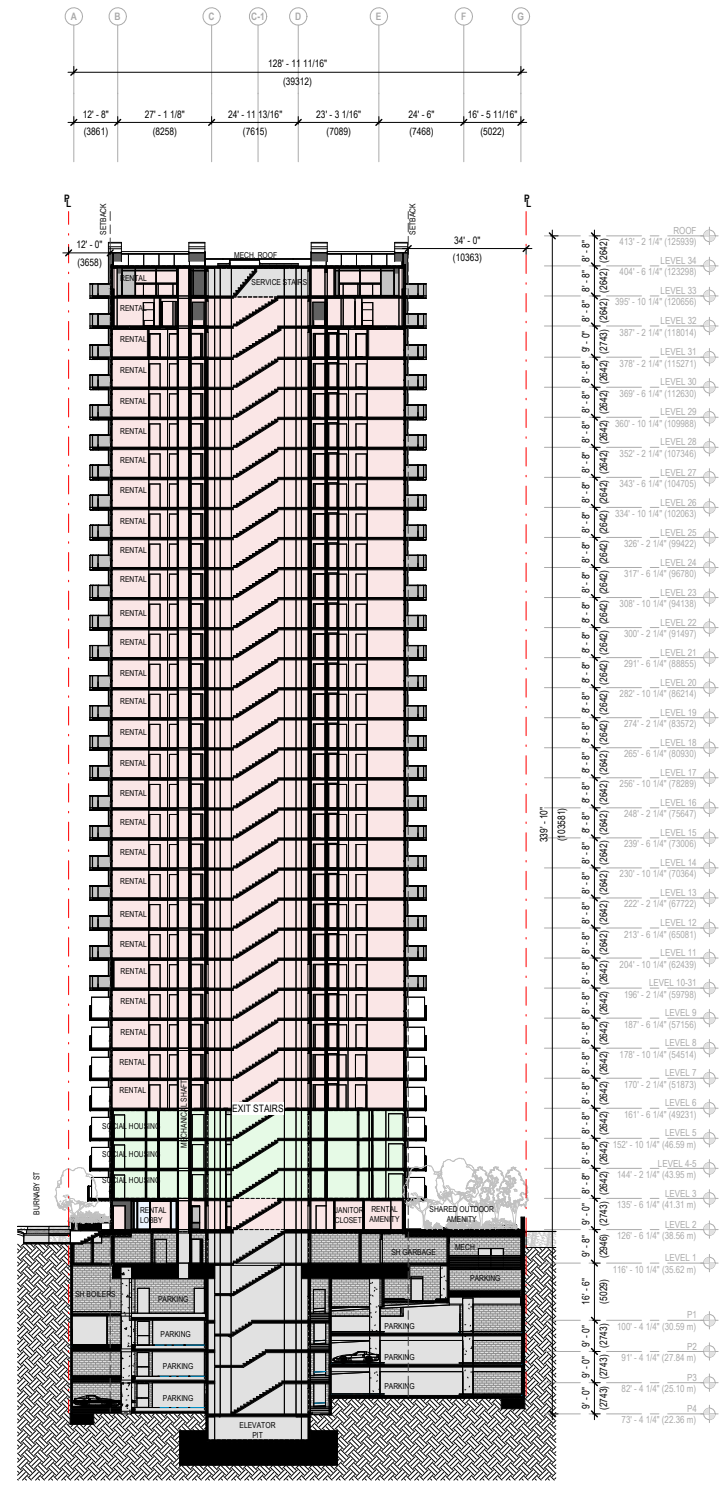


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1 A2 SCALE: 3/8" = 1'-0"



2 B1 SCALE: 3/8" = 1'-0"

COLOUR LEGEND	
AREA	COLOUR
SERVICES	[Grey Box]
RENTAL	[Pink Box]
SOCIAL HOUSING	[Green Box]



THE JOURNARY



# 6.0

## Landscape Design

# Landscape Design Rationale

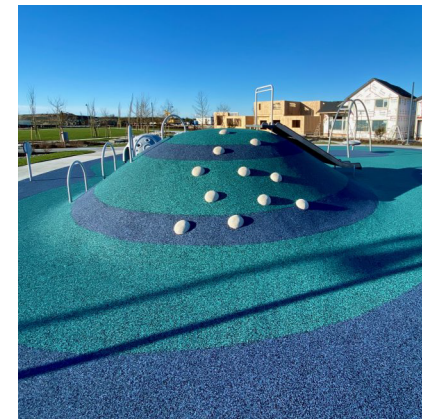
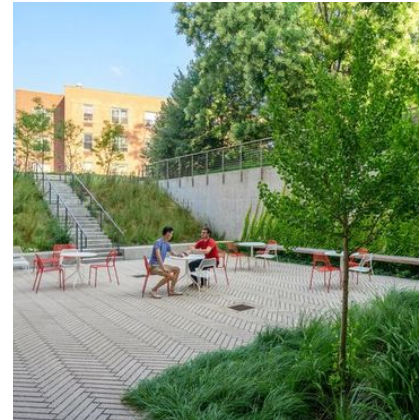
## Landscape Design Concept:

The landscape design concept focuses on creating a lush contemporary environment with clean lines, simplicity of materials and planting that embraces a bird-friendly urban environment nestled within Vancouver's established West End neighbourhood. The challenging site slope is navigated by embedding the building into the slope using it to create two distinct entries for the social and rental housing. The social housing entry encompasses a garden aesthetic and provides direct access to its amenity areas. The level access to the street makes this a highly accessible approach with no physical barriers. The Burnaby frontage planting also mitigates the venting and exhausting from the parkade below. The Thurlow Street rental entry has an urban aesthetic with simple planting and a strong vertical component; it becomes perched above the street as the west frontage slopes away. The lane frontage will be expressed and softened with plantings and vertical structures. This lower area provides access to the bike storage as well as a fix-it station for residents. Both groups are provided with ample Class B bike racks.

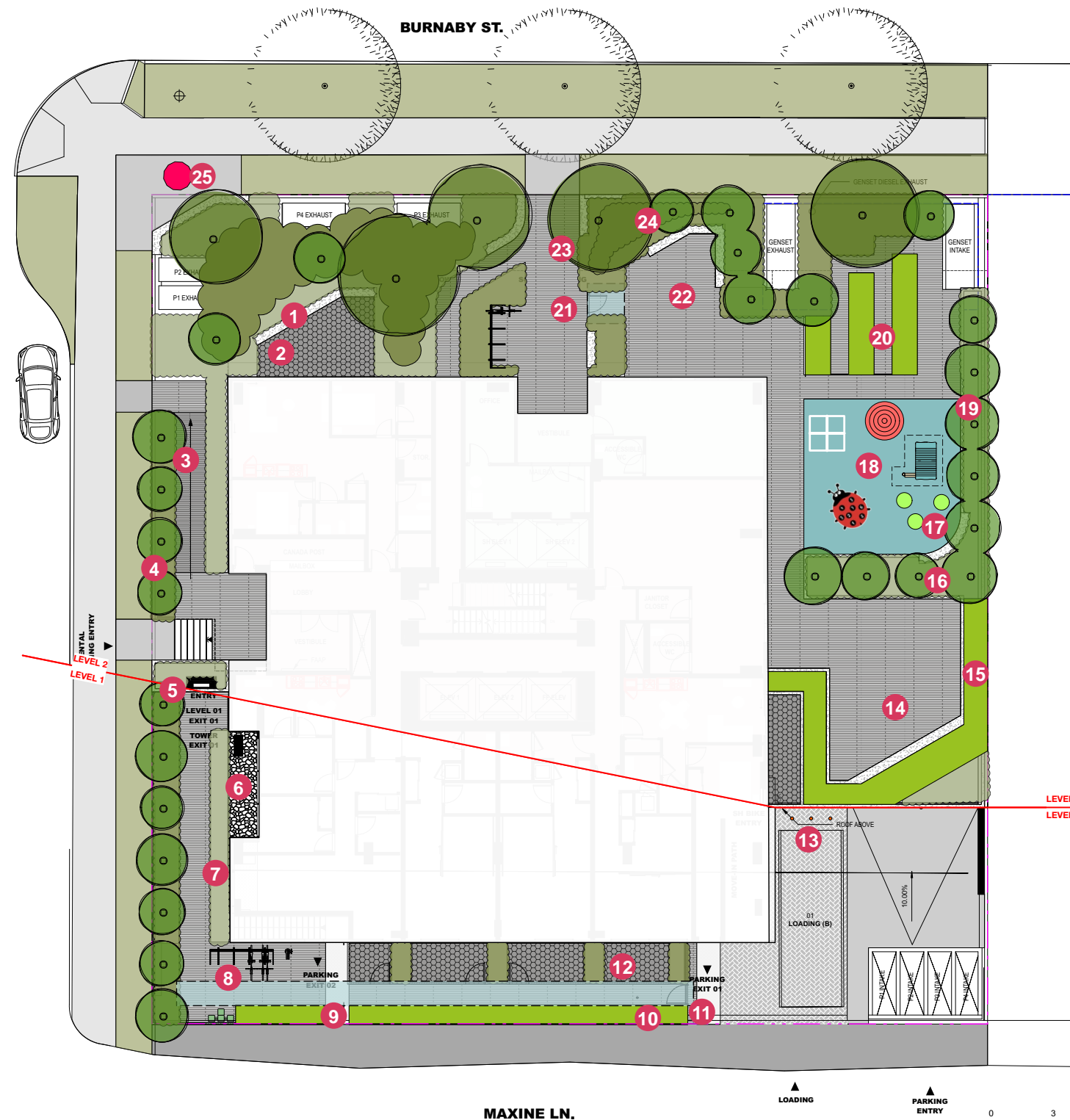
The corner of Thurlow and Burnaby is truncated to provide seating and is seen as an opportunity for an urban art component to be added.

Residents will experience their outdoor spaces with an amenity at the north for the social housing component and at the east side of the building for the rental housing component. A shared children's play area is nestled between the amenity spaces on the east side of the courtyard, both amenity spaces include an urban agricultural component. Private patios at the north on Burnaby Street and south entries onto the laneway are both screened and surrounded by evergreen planting and pops of perennial colours. The laneway living units are also screened by a strip of urban agriculture with edible plantings as well as a grape arbour. All planting areas will encompass Bird-friendly plantings. Greenroof planting steps up the building on the upper floors to capture stormwater.

## Landscape Design Precedents:

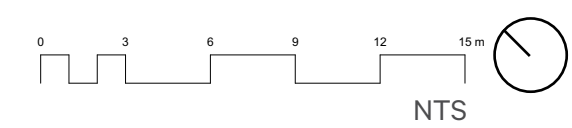


# Ground Floor Plan



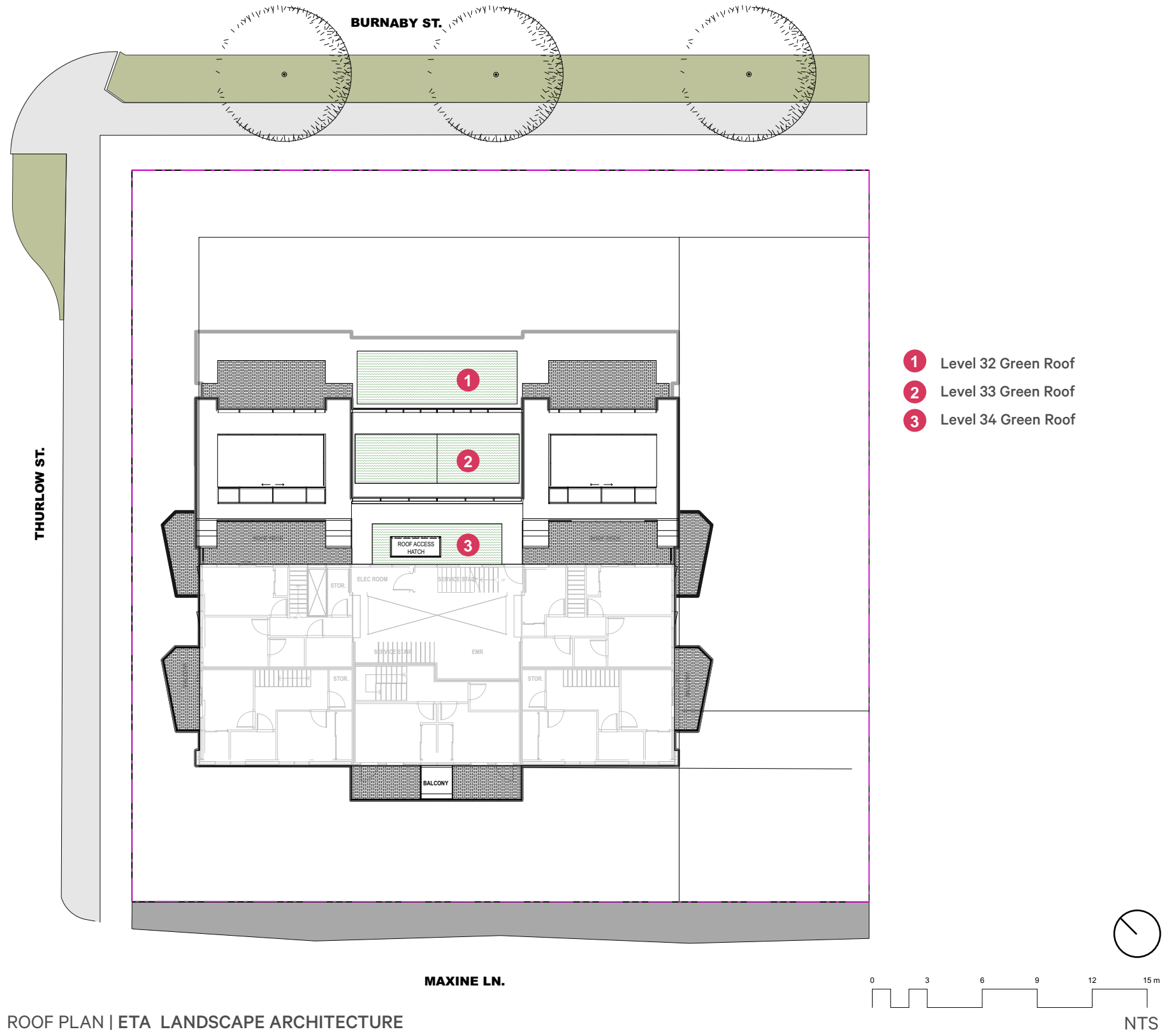
- 1 C.I.P. Concrete Seat Wall
- 2 L2 terrace
- 3 Sloped Walkway
- 4 Treed Colonade
- 5 Raised Planter w/ Cascading Vines Frames Entry at Level Below
- 6 Rock Garden Under Building Overhang
- 7 Planter at Back of Pathway
- 8 Bike-fix and Rack for 8 Bikes
- 9 Paved Path of Egress
- 10 Rental Urban Agriculture/Edible Plantings - Columnar Fruit Trees, Blueberries, etc.
- 11 Gated Grape Vine Arbour
- 12 L1 Terraces w/ Gates and Planted Screens
- 13 Bollards
- 14 Rental Amenity
- 15 Rental Urban Agriculture
- 16 Screen Planting between Amenity Spaces and Neighbouring Property
- 17 Kid Friendly Urban Agriculture
- 18 Children's Play for Both Social and Rental Housing
- 19 Adjacent Planter w/ Kid Friendly Plants for Urban Agriculture
- 20 Rental Urban Agriculture Plots
- 21 Access Gate and Arbour
- 22 Social Housing Amenity Terrace
- 23 Building Entry Walkway w/ Seating
- 24 Heavy Screen Planting to Give Privacy and Provide Visual Framing for Building
- 25 Public Art Opportunity

GROUND FLOOR PLAN | ETA LANDSCAPE ARCHITECTURE



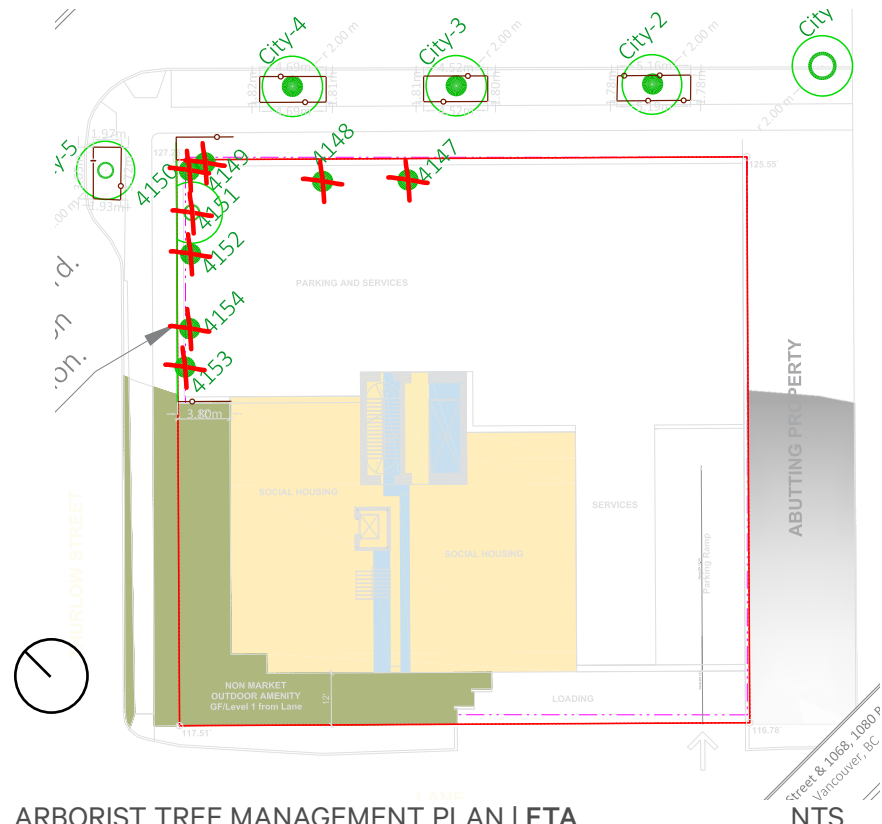
# Roof Plan

Material choices and form are focused on modern simplicity and compliment the architectural expression. Concrete and feature paver hardscapes in neutral colours compliment the evergreen and colours of the plant palette. Hedging will be used wherever possible instead of fencing or hard screening to promote a better feeling of open space with soft edges that encourage a connection to the neighbourhood and community. These landscape elements all function together to create an urban oasis for residents in a busy city environment.



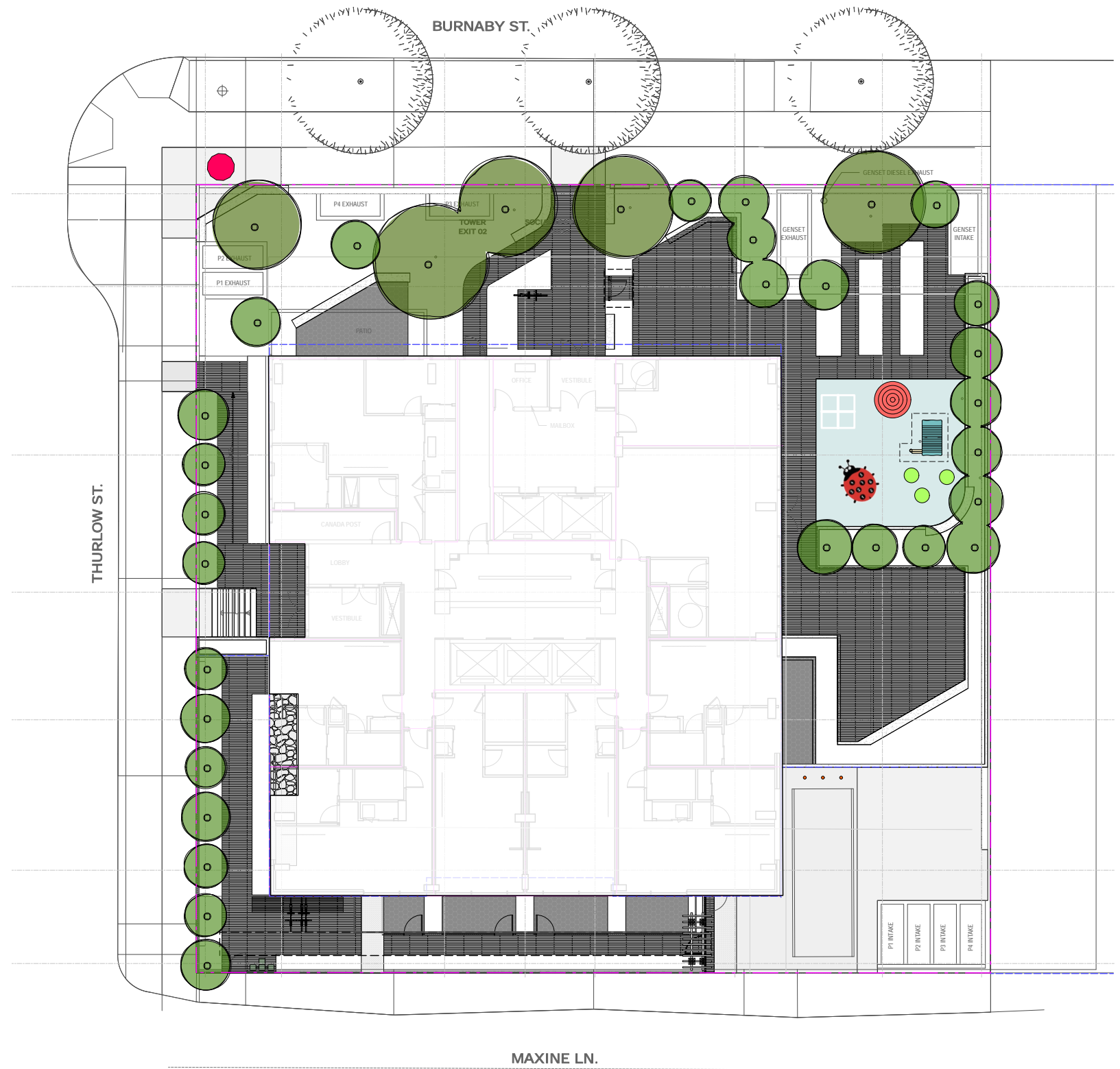
ROOF PLAN | ETA LANDSCAPE ARCHITECTURE

# Tree Plan



ARBORIST TREE MANAGEMENT PLAN | ETA LANDSCAPE ARCHITECTURE

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TREE PLAN | ETA LANDSCAPE ARCHITECTURE

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