

City of Vancouver Rezoning Application - RESUBMISSION

1665,1675,1685 W 11th Avenue

13 September 2024

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1 introduction

1.1 Rezoning Intent



proposed market and below-market rental residential development

1.1 Rezoning Intent

This application proposes to rezone the properties located at 1665, 1675 & 1685 West 11th Avenue from RM-3 District to CD-1 District under the City of Vancouver Broadway Plan.

The intent of the proposed rezoning is to enable development on the intended site that will be capable of delivering essential below-market and market rental housing—at the appropriate level of density—in a manner that is in alignment with the policies and objectives of the Broadway Plan.

The development made possible by the proposed rezoning would contribute to the sustainment and enhancement of the Fairview South community as a walkable, primarily residential area that provides a diversity of housing options along with local services. As identified within the Broadway Plan, these characteristics are key to the realization of more complete, equitable and sustainable neighbourhoods.

Figure 6.15 – Potential future of the Existing Apartment Areas in 30 years



Broadway Plan, character areas - residential


Granville Children's Park


Mural

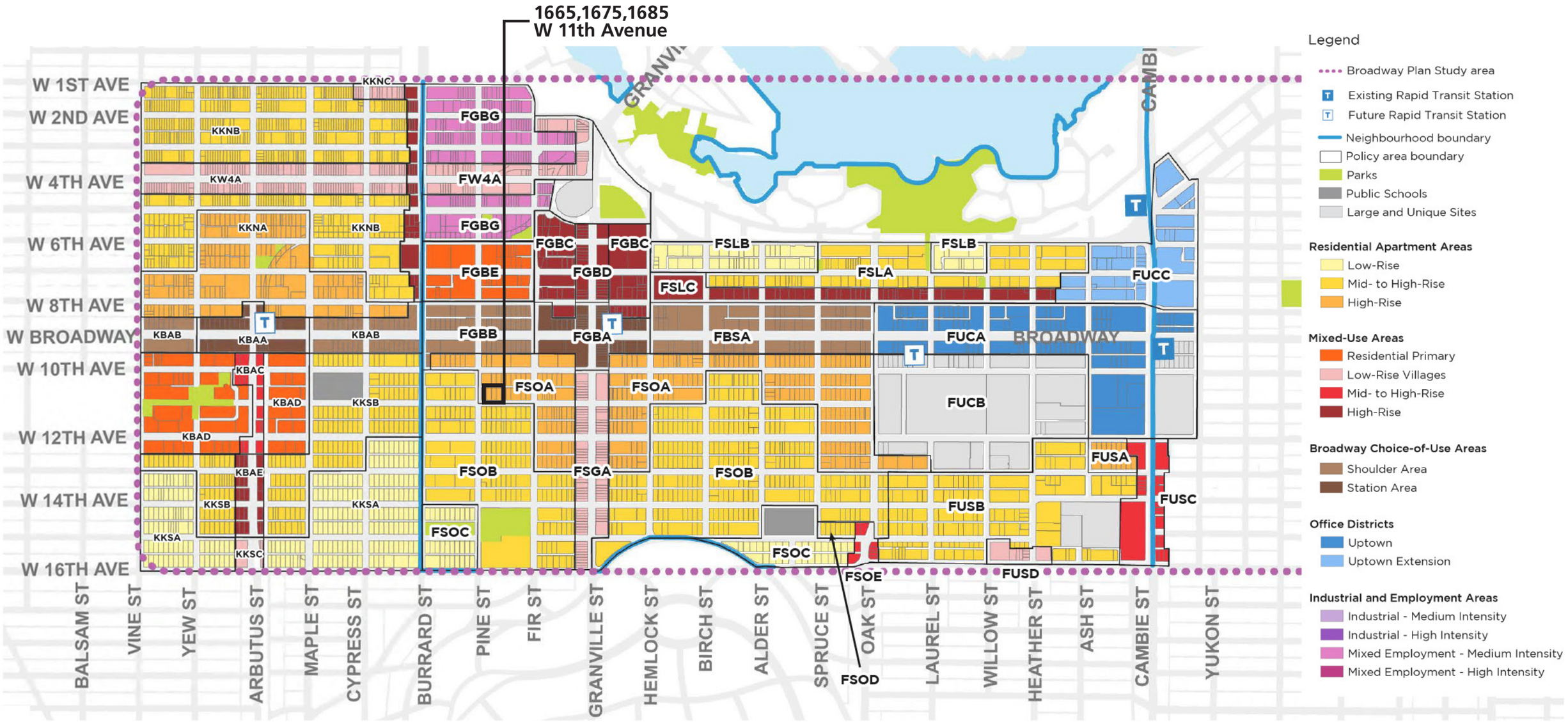

Granville Park Lawn Bowling


Street market, Granville St & W 10th Ave


Sidewalk cafe, Granville St & W 14th Ave

neighbourhood context

1.2 Rezoning Rationale



excerpt of Vancouver Broadway Plan showing location of proposed rezoning

1.2 Rezoning Rationale

1.2.1 current RM-3 zoning

The current zoning is RM-3 District, the intent of which is to permit residential development, including high-rise apartment buildings, and to encourage open space and daylight access. Multiple dwelling and mixed-use residential buildings are a conditional approval use in the RM-3 District.

The maximum floor space ratio for multiple dwelling use is 1.00, with provision for conditional increases dependent on site coverage, site size and frontage, and whether parking spaces are provided within the outermost walls of a building or underground.

The maximum building height for multiple dwelling use is 36.6 m / 120 ft, subject to vertical angle of daylight limitations. In practice, for a site with the area and dimensions of that which is proposed to be consolidated and rezoned, these limitations would result in a maximum building height of 3 storeys, or approximately 10.7 m.

1.2.2 Broadway Plan

A key objective of the Broadway Plan is the preservation of existing affordability by providing additional density in the form of below-market and market rental uses. The site that is the subject of this rezoning application is located in the Fairview South – Area A, FSOA Policy Area and this rezoning proposes to contribute to that objective of the Broadway Plan outlined above by permitting development of 190 new secured market and below-market rental residential units.

The proposed 21-storey development will replace three aging 3-storey walk-up buildings currently housing a combined total of 22 rental residential units. Of the 190 new homes, 35% will be two- and three-bedroom family units.

The proposed development is in alignment with the policies and objectives of the Broadway Plan. However, the intended height and density conflict with the regulations of the current RM-3 District Schedule. To advance the objectives of the Broadway Plan and provide significant essential below-market and market rental housing, it is proposed that the site be rezoned from RM-3 to CD-1.

1.2.3 proposed relaxations & variances

Broadway Plan

building height – sections 9.9.1 & 11.4.1	recommended	proposed
	20 storeys	21 storeys
A 20-storey tower with additional partial storey stepped back from building edge for common indoor and outdoor amenity use is proposed, in accordance wiht 11.1.13 of the Broadway Plan.		

1.3 Design Rationale



aerial view with rooftop amenity

1.3 Design Rationale



aerial looking northeast



aerial looking northeast

1.3.1 form of development

The proposed development has been carefully considered to achieve a high standard of architectural design with a welcoming, pedestrian-oriented ground floor and a well-defined residential tower above. The "tower in the park" form is consistent with the character of the area as acknowledged in the Fairview South Policy Area description, prioritizing outdoor space and allowing for generous landscaped setbacks on all sides. Outdoor spaces are designed to provide potential green infrastructure opportunities and amenity areas for residents.

1.3.2 site frontage and maximum tower floor plate

The site proposed to be rezoned has a frontage of 45.7 m (150 ft) and a depth of 38.1 m (125 ft). This complies with the minimum site frontage for consideration as a tower development under the Broadway Plan. The proposed tower floor plate is about 594 sm (6,394 sf) and complies with the recommendation of Broadway Plan Policy 11.4.11 that a maximum tower floor plate area of 604 sm (6,500 sf) be considered for lots with a depth of 120 ft or greater.

1.3.3 height

The proposed rezoning includes a 21-storey tower with residential floors to 20 storeys. In line with the Broadway Plan guidelines, the 21st storey is set back from the edge of the tower below and provides indoor and outdoor common amenity spaces. The overall height is consistent with the Broadway Plan Fairview South – Area A, FSOA Policy Area height limit which permits 20 storeys.

The rezoning proposes a total building height of approximately 72.5 m (238 ft), measured vertically from the estimated base surface to the corresponding highest point at the top of the mechanical equipment screen above the roof.

1.3.4 density

The proposed density of 6.5 FSR is in accordance with the maximum density under the Broadway Plan.

1.3 Design Rationale



approach from Pine St & W 11th Ave looking east

1.3.5 massing

The massing of the tower is made up of three distinct layers. The outer layers comprising the north and south sides of the building are largely glazed, framed by a solid band that wraps the perimeter of these two facades. The glazed facades are relatively unadorned and are articulated by projecting balconies. The middle layer of the tower forms a spine that runs the length of the building, extending vertically above the north and south layers to include the roof top amenity space and screened mechanical area above. The stepped massing at the top and the volumetric layering of the building form reduces the apparent mass of the tower, visually separating it into three slender elements that stack beside one another like books on a shelf.

On the whole, tower articulation is conservative in order to maximize the efficiency of the high-performance envelope while minimizing the overall envelope area, and provide the best possible affordability for future tenants of this secured market and below-market rental housing development.



aerial view looking north

1.3.6 tower separation

Section 11.1.7 of the Broadway Plan requires that the proposed tower demonstrates a 24.4 m (80 ft) total separation from a potential future tower on an adjacent site. The proposed development meets this separation requirement on the north side with more than 40 ft from the face of the tower to the centre line of the lane. While it is not feasible to set the tower back 1/2 the total minimum separation distance from the property line on the east and west sides, our analysis demonstrates that the placement of the tower does not preclude development on adjacent viable sites. The property to the west at 1695 W 11th is 50 ft wide and therefore not feasible as a tower site. Consolidation of the two adjacent properties to the east at 1655 and 1645 W 11th Ave would result in a 100 ft wide site. This could be considered a discretionary tower site but it would only allow a potential tower floor plate of approximately 336 sm (3,614 sf), which is well below the threshold considered to be economically viable. Therefore it is assumed that a tower will not be constructed on the adjacent sites to the east and that a 40 ft tower separation setback from the east property line is not applicable for this rezoning application.

1.3 Design Rationale



landscaped setback areas



ground level / building entry

1.3.7 site design

The foundation wall of the underground parkade along the front of the site has been set back 3.7 m (12 ft) from the property line to comply with the minimum front yard below-grade setback. In the southwest corner of the site the foundation steps back further to provide clearance to the root zone of a stand of mature existing trees. The 3.7 m front yard setback provides ample space for soft landscaping and an attractive planted buffer between the building and the public realm. Passive rainwater management strategies within the setback may be limited since a preliminary hydrogeological study of the site indicates that the existing soils are essentially impermeable from a stormwater management perspective and are not suitable for infiltration purposes. At this time the proposal anticipates a stormwater detention tank will be required; rainwater management strategies will continue to be explored through the next stages of design development.

The building is set back from the front property line further than the 3.7 m suggested by the Broadway Plan and the 6.1 m required under the current RM-3 District Schedule. The generous front yard allows for enhanced public realm elements along the building frontage and more extensive and usable outdoor space along the street.

The site design responds to the existing topography of the site, which slopes down 3.44 m from the southwest at W 11th Ave to the northeast at the lane. Where the roof of the underground parking structure extends above grade at the sides and rear of the site due to the slope, it is set back from the property line to allow for a graduated transition to the existing grades along the neighbouring properties. At the lane, the face of the parkade respects the current rear yard setback requirement of the RM-3 District Schedule. The transition from the west side yard down to the lane is mitigated with a series of stepped landscaped areas that provide a buffer for the private patios of the ground-oriented units, and for the children's play area outdoor amenity, while being considerate of solar access for the lane and overlook for adjacent properties.

1.3.8 residential dwelling units

The residential tower consists of 190 rental homes comprised of 123 studio and one-bedroom units, 48 two-bedroom family units, and 19 three-bedroom family units. The residential units are well-planned to be highly efficient while incorporating desirable amenities such as in-suite laundry and bulk storage, with good access to daylight and large balconies that offer a generous amount of private outdoor open space for each home.

1.3 Design Rationale



rooftop outdoor amenity space



rooftop amenity indoor/outdoor connection

Floors 2 through 10 contain a higher ratio of family units, including three-bedroom units, so that these may be located closer to the ground floor for easier access from street-level or from the parkade, and better proximity to outdoor spaces. Floors 11 through 20 consist largely of studios, one- and two-bedroom apartments.

1.3.9 residential outdoor amenity areas

Residential outdoor amenity space is proposed both at grade and at the roof level of the building, level 21. At ground level a landscaped area in the northwest corner of the site has been designed to provide opportunities for children's play. At the roof level 21, a variety of outdoor hard and soft landscaped zones are proposed to extend the indoor amenity spaces from which they are accessed. Programming may include such activities as urban agriculture, outdoor cooking and dining, sunbathing, social/lounge seating, open-air fitness, and general flexible use areas. These rooftop outdoor spaces will enjoy panoramic views and provide the opportunity to experience varying degrees of solar exposure throughout the day depending on the activity and on one's preference. Hard and soft landscaping will provide the potential to integrate green infrastructure opportunities.

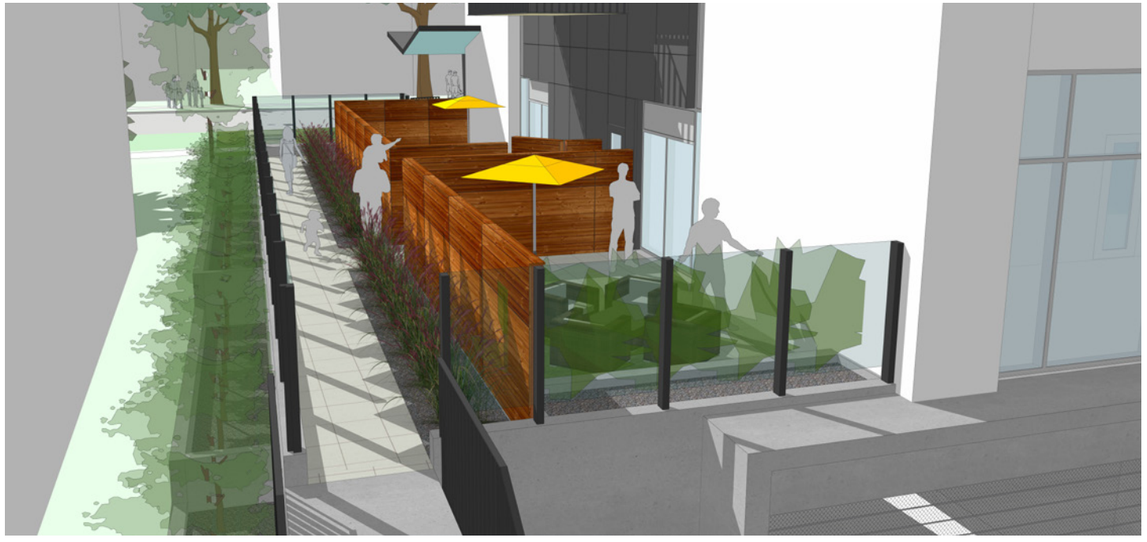
1.3.10 residential indoor amenity areas

Indoor amenity space for residents is proposed at the roof level. This space may include: a multi-purpose room capable of hosting larger functions; flexible/scalable spaces for working and meeting; a communal kitchen and eating area; a games area; and a fitness centre—all with direct access to a variety of outdoor amenity areas and landscaped spaces.

1.3 Design Rationale



canopy along W 11th Ave



east side yard

1.3.11 landscape

An arborist's assessment of the existing trees on and around the site identifies most specimens as having a moderate health and structure rating with 'medium' retention value. A few trees are identified as being in poor health with 'low' retention value. Efforts have been made in the placement of the building and the site design to retain existing mature trees where possible around the perimeter of the site; however, configuration of the building around those existing trees located central to the site is not feasible.

The proposal intends to retain two trees of significance at the southwest corner of the site (along with a third tree with low retention value) by notching the foundation wall of the parkade further than the required 3.7 m below-grade front yard setback. An additional notch in the foundation wall at the southeast corner will provide clearance to retain an existing tree located immediately east of the property line. An ample off-slab planting area has been provided within the below-grade front yard setback that can accommodate replacement trees.

The at-grade landscape design proposes barrier-free access to the residential apartment entrance, within a generous building setback. A linear forecourt extends the width of the ground floor facing the street and integrates planted areas and bench seating, protected by an extensive canopy and serving as an additional outdoor amenity area for building users. This canopy also provides weather protection for Class B bicycle parking spaces. Between the sidewalk and the linear forecourt a generous garden bed is provided, contributing to a layered landscape from W 11th Avenue to the building.

Paving at-grade will provide a durable, resilient, and accessible frontage. Feature paving treatments, including the potential use of permeable paving, will be explored to take advantage of the below-grade front yard setback and depressed parkade slab as part of the overall strategy for potential rainwater management.

Aside from the below-grade front yard setback and notched foundation for existing tree retention, the design will rely on landscape build-up and landscape structures above the top of the parkade and other roof areas throughout the project. Approaches will include raised planters at varying heights, mounded planting areas, and raised seat decks or platforms to provide diversity and nuance to the elevation of finished planting heights throughout the landscape at ground level and other outdoor amenity spaces.

1.3 Design Rationale



east side yard



landscaped pedestrian realm along W 11th Ave

On-slab soil volumes will be maximized where possible to passively retain rainwater. Ongoing collaboration with the project's landscape architect and mechanical and civil engineers aims to develop a balanced approach to rainwater management as design development progresses.

An outdoor children's play area is illustrated at the northwest corner of the site. The final design and programming of this space will be determined at a later date, but the area may include a variety of activity zones and landscape treatments to support use by various ages.

The east and west side yards provide private patio spaces for the residential units at grade. Terraced planters within the east side yard setback step down to meet the existing grades at the property line and provide a buffer to the patio areas.

The north side landscape provides both barrier-free and stair connectivity to the lane. To either side of the loading zone and parkade entry ramp, planters mitigate the change in grade to the lane from the children's play area, and from the northeast parkade exit stair and stair down from the east side yard.

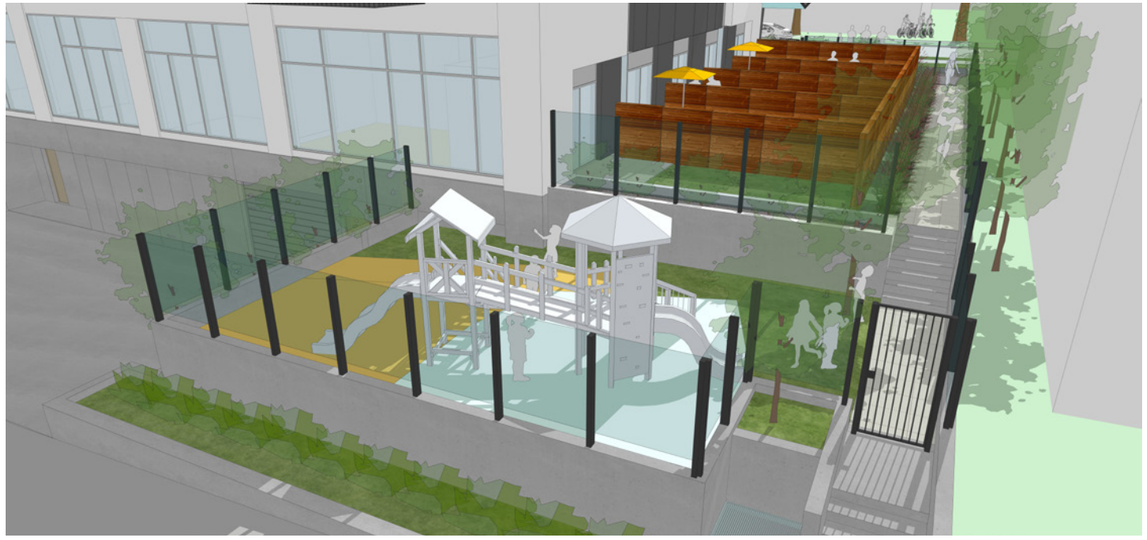
Exterior amenity courts are provided both north and south of the rooftop amenity pavilion offering strong indoor/outdoor relationships. Viewing decks are located to take advantage of expansive views to the north and to the south. Potential program elements include container gardening, a barbecue area with harvest table and a variety of custom benches and furniture groupings.

1.3.12 sustainable design

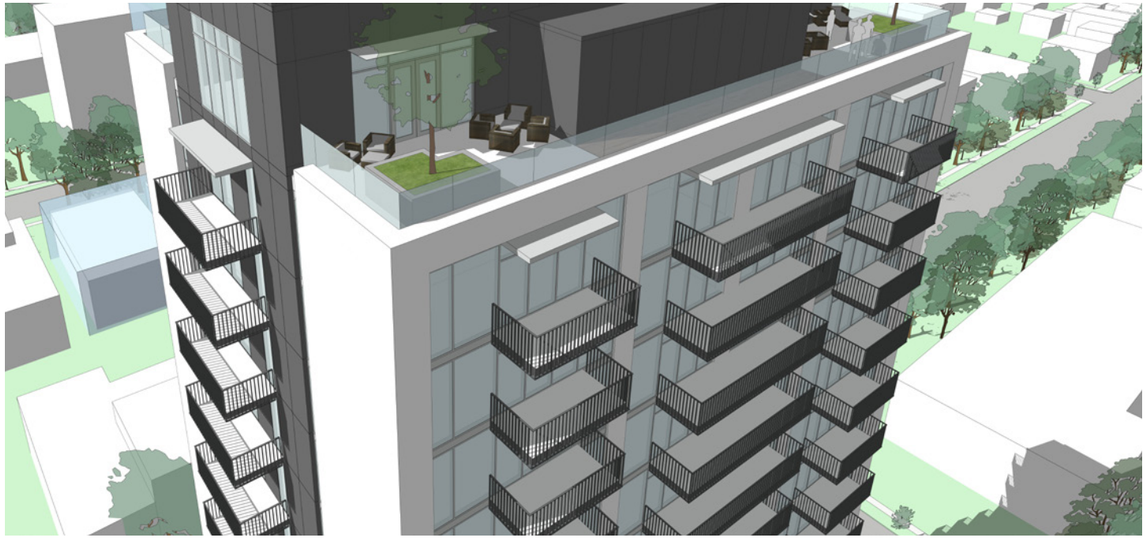
The project proposes a high standard of sustainability and satisfies the green and resilient building measures detailed in the Green Buildings Policy for Rezonings. An analysis has been undertaken to understand how the building will perform and the impact it will have on climate change—and the impact climate change will have on it.

Various preliminary sustainability strategies have been explored by the design team. Energy and emissions performance modeling and embodied carbon modeling have been carried out to demonstrate that the project is on track to meet the Vancouver Building By-law requirements expected to be in force at the time of the project's first Building Permit application. Although submission of a rainwater management package is no longer required at the Rezoning application stage, the design team has explored measures for managing the site's rainfall through integrated rainwater management and green infrastructure. An in-depth Resilient Buildings Planning session was held to establish the level of resilience planning undertaken by the project and to identify proposed resilience

1.3 Design Rationale



outdoor children's play area



private outdoor balconies

strategies. Through a measured combination of high-performance building envelope design and energy-efficient mechanical and electrical systems the project aims to deliver a building with low energy consumption and low GHG emittance.

1.3.13 housing

The proposed residential apartment development complies with the intent of the Broadway Plan policy area by providing 100% of the residential floor area as secured market rental housing with a minimum of 20% secured at below-market rental rates. The rental and below-market rental tenure will be secured through legal agreements for a term of 60 years, or life of the building, whichever is greater. A minimum of 35% family units will be provided, including a minimum of 10% three-bedroom units and 25% two-bedroom units, met separately in both the market and below-market rental tenures.

In accordance with the High-Density Housing for Families with Children Guidelines, family-oriented units feature in-suite bulk storage ranging from 25 sf to 40 sf, and private outdoor space in the form of balconies with minimum dimensions of 1.8 m (6 ft) by 2.7 m (9 ft). Indoor and outdoor amenity spaces provide a range of activities, including children's play opportunities.

Tenant stability and protection will be made a priority in order to minimize the potential impact of redevelopment on existing tenants. Where tenants are displaced due to the redevelopment a tenant relocation plan will be provided as outlined in the City's Tenant Relocation and Protection Policy, and will follow additional Tenant Stability and Protections policies contained in the Broadway Plan as required.

The project intends to apply for a waiver on Development Cost Levies (DCLs) for the rental residential portion of the development. Average unit size per unit type is less than the maximum set in the Rental Incentive Programs Bulletin.

1.3.14 parking, loading & bicycle storage

Two complete levels of underground parking, storage and service space are accessed from the lane north of the site.

The required single Class B loading space is exterior to the building and adjacent to the lane, with level and direct access from the exterior to the partial level located between the first floor of underground parking and the ground floor of the building. This is enabled by the 3.44m drop that occurs across the site from the southwest corner on W 11th Ave down

1.3 Design Rationale



approach looking west along W 11th Ave



approach looking west along the lane

to the northeast corner at the lane. The refuse and recycling room within the parkade will open directly to this exterior area for convenient, on-site servicing by collection vehicles. The single required Class A loading space is provided within the parkade, on the first level P1.

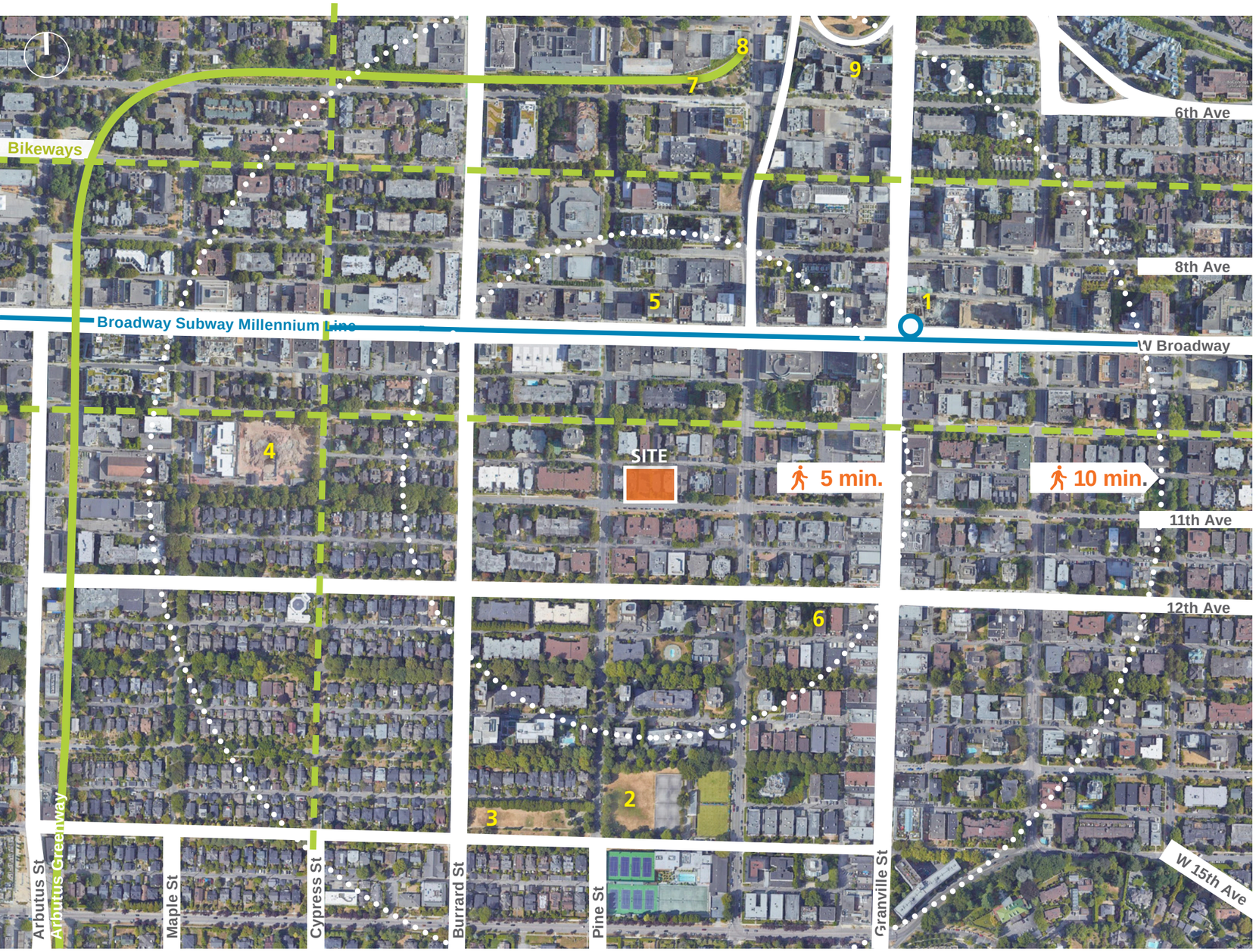
Class A bicycle parking is provided in secure bicycle storage rooms accessed directly from the exterior of the building at the lane and from within first level of the underground parkade.

The design anticipates TDM Plan B *Mobility Infrastructure Package*, which adds 30% to the total Class A bicycle parking stalls required, and requires that all Class B bicycle parking spaces be protected from the elements. The Class B spaces are located at-grade, adjacent to the main entrance from W 11th Ave and beneath the canopy that runs continuous across the south side of the building. Bicycle infrastructure is further enhanced by maintenance and bike wash facilities proposed on the first level of the parkade.



2 project context

2.1 Context Maps

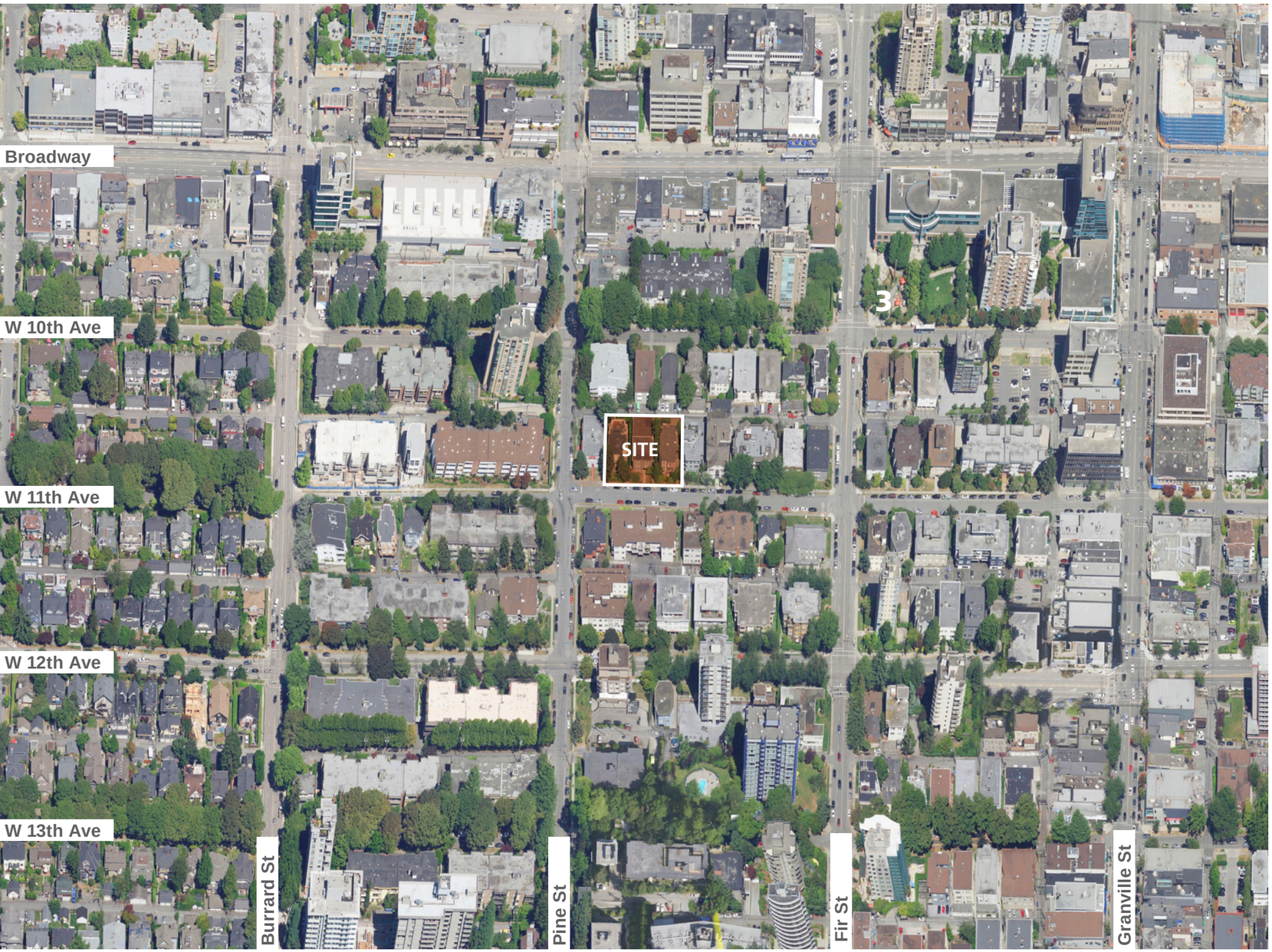


location map & 10 minute walk neighbourhood analysis

2.1.1 neighbourhood landmarks

1 Broadway Subway South Granville Station
2 Granville Park
3 Granville Children's Park
4 Lord Tennyson Elementary School
5 West Broadway restaurants & shopping
6 South Granville Shopping District
7 Arbutus Greenway
8 6th & Fir Park
9 Granville Loop Park

2.1 Context Maps



two-block context plan

2.1.2 location & context

The site is located in the Fairview South neighbourhood, two blocks south of West Broadway, directly between Granville and Burrard Street and is very well situated for high density, transit-oriented development.

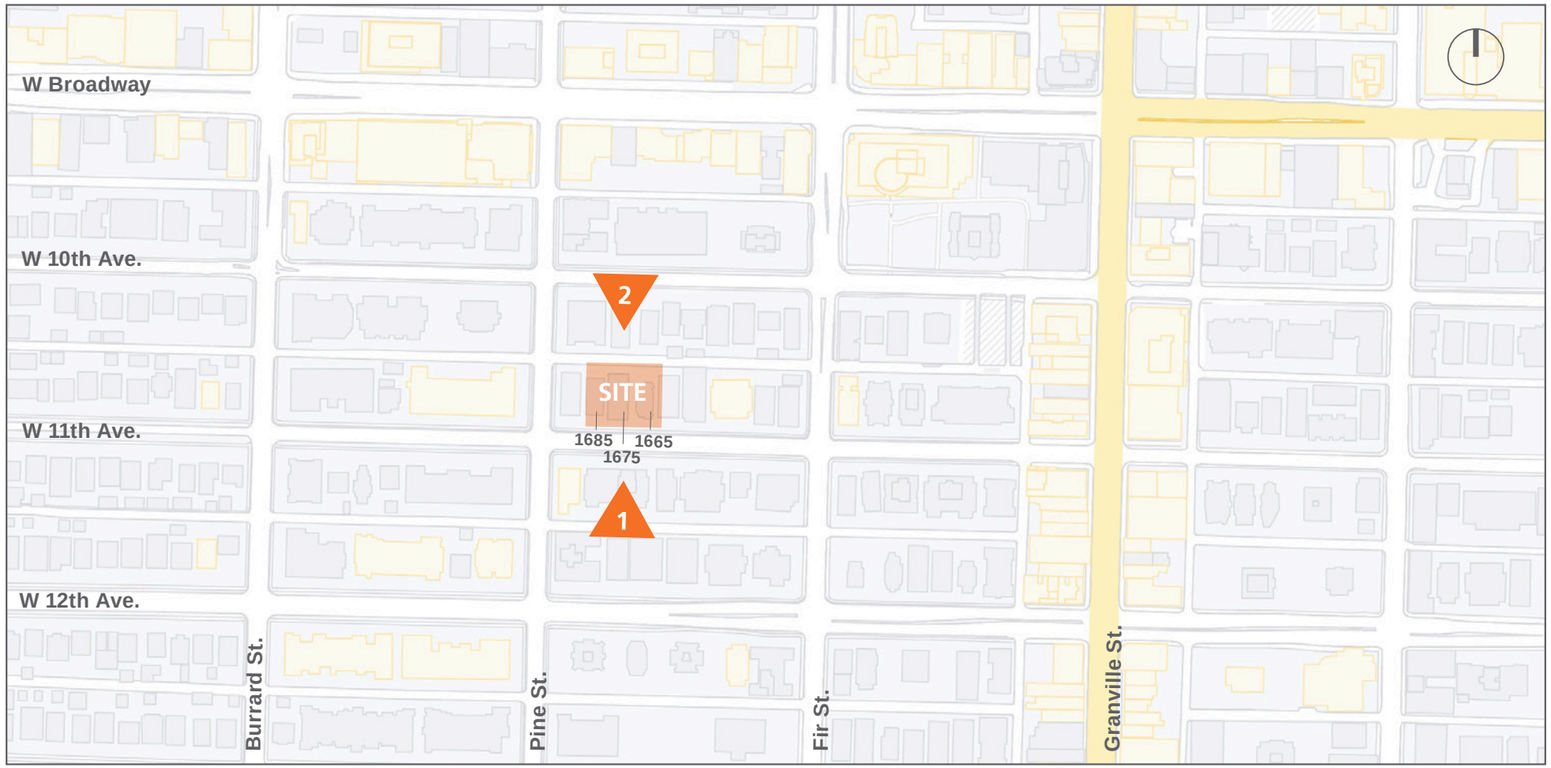
The South Granville Station of the future Broadway Subway and the existing 99 B-line express bus transit corridor are each located about 400 m from the site, a convenient walk of approximately 5 minutes.

The site also has excellent access to local cycling networks including the W 10th Avenue and Cypress Street Local Street Bikeways about 100 m to the north and 450 m to the west.

Local parks and schools are within close walking distance, with Granville Park just under a 10-minute/700 m walk to the south and Lord Tennyson Elementary School a 6-minute/500 m walk to the west.

Major local shopping districts are also within a 5-minute walk of the site, including W Broadway to the north and the South Granville Shopping District to the east.

2.2 Site Photos



key plan



1685 W 11th Ave (6 units)



1675 W 11th Ave (11 units)



1665 W 11th Ave (5 units)

2.2.1 site & existing streetscape

The proposed site combines the existing properties at 1665, 1675 and 1685 W 11th Ave, which are currently occupied by older 3-storey walk-up residential buildings. The building at 1665 W 11th Ave was built in 1975 (48-years-old) and currently houses 5 secondary rental apartment units. The apartment building at 1675 W 11th Ave was built in 1955 (68-years-old) and currently houses 11 purpose-built rental apartment units. The building at 1685 W 11th Ave was built in 1980 (43-years-old) and currently houses 6 secondary rental apartment units.

The three properties combined form a 4-sided, rectangular site that totals approximately 0.43 acres (1,742 sm or 18,750 sf) in area, with a crossfall of approximately 3.44 m (11.25 ft) from the southwest corner down to the northeast corner of the proposed consolidated site. The site frontage on W 11th Ave measures 150 ft, while the site depth is 125 ft.

The proposed site is bounded by W 11th Ave to the south, an older 2-storey walk-up apartment on the corner site to the west (built in 1930), an older 3-storey walk-up apartment to the east (built in 1959) and a lane to the north. Opposite the lane is a 1-storey worship hall (1666 W 10th Ave), an older 3-storey walk-up apartment (1676 W 10th Ave) and a 3-storey strata apartment building (1696 W 10th Ave). Current parking and garbage collection for the three properties proposed to be combined is from the lane to the north.

2.2 Site Photos

SITE



1. existing streetscape along north side of W 11th Ave



2. existing streetscape along south side of lane between W 11th Ave and W 10th Ave

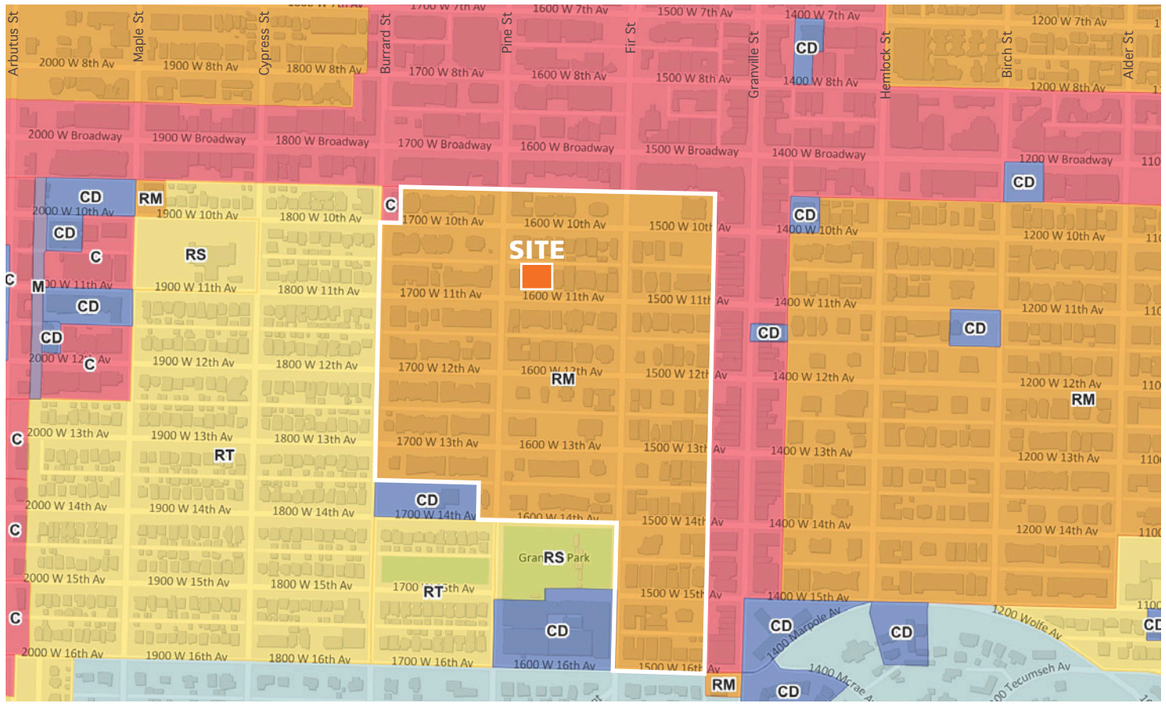
2.3 Zoning Context

2.3.1 RM-3 district schedule

The current zoning for the site and surrounding area is RM-3 District Schedule. The intent of the Schedule is to permit residential development, including high-rise apartment buildings, and to encourage open space and daylight access.

A maximum density of 1.00 FSR is permitted, with discretionary increases in floor area permitted as described in the District Schedule.

Building height maximum is 36.6 m (120') with restrictions to the height noted per section 3.1.2.7 to 3.1.2.10 of the District Schedule.

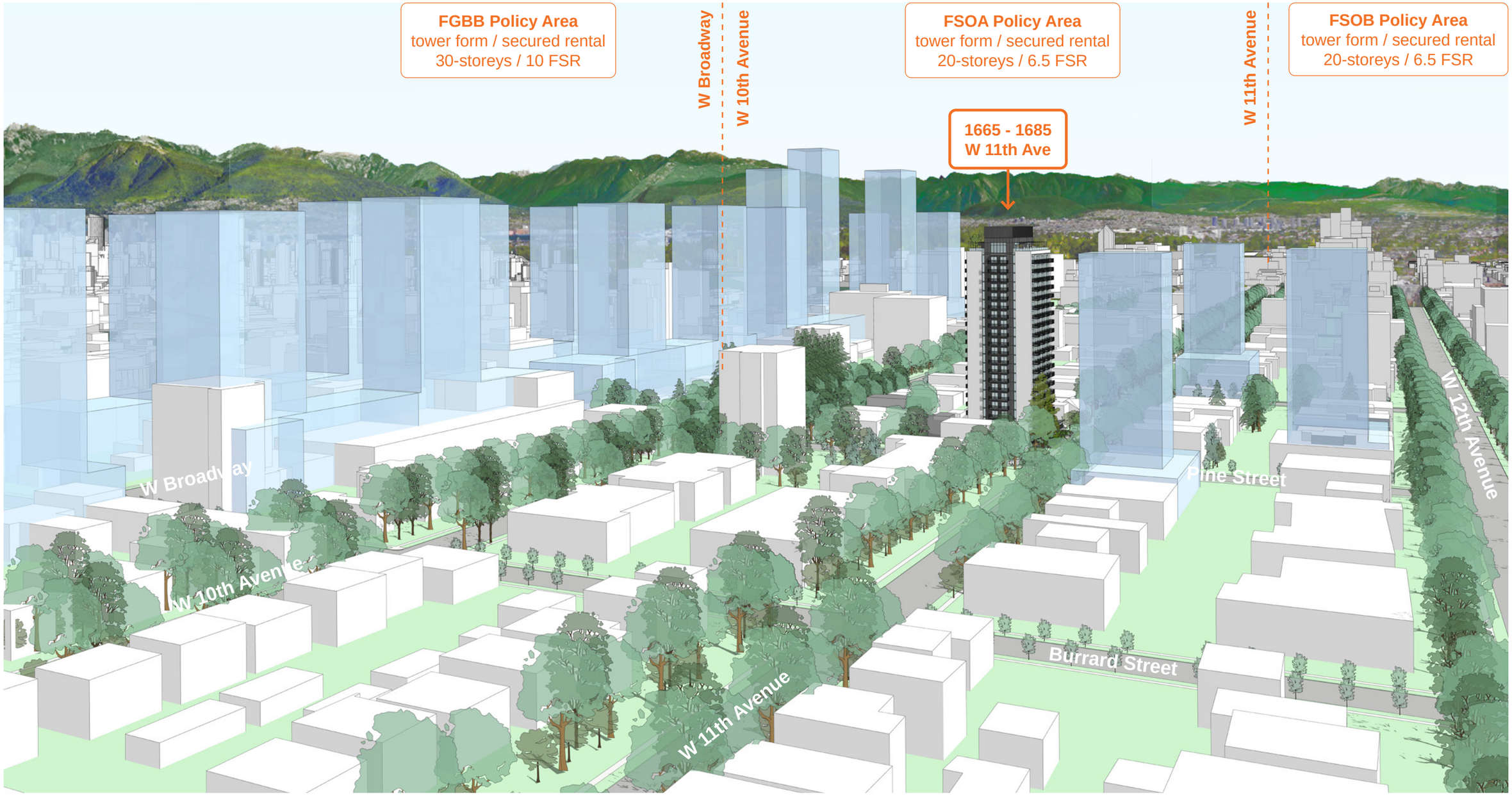


current zoning district overview map



applicable policies and guidelines

2.4 Policy Context



aerial view looking east between W 11th and W 12th Avenues

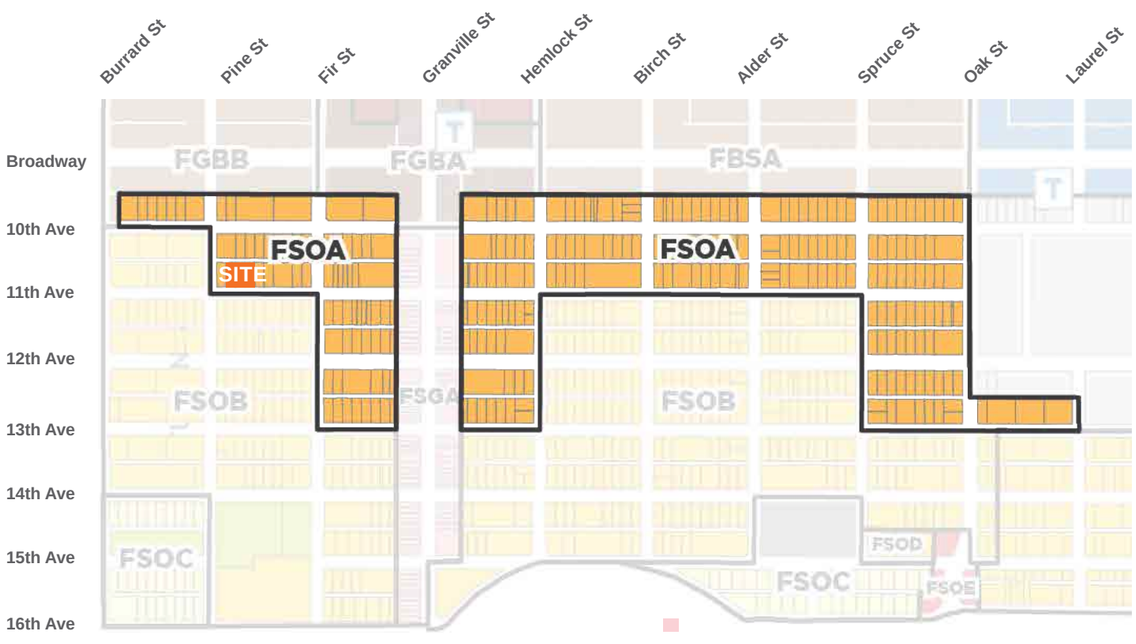
2.4 Policy Context

2.4.1 broadway plan

The site falls within the Fairview South – Area A, FSOA Policy Area of the Broadway Plan. The Policy Area's intent is to support long-term renewal of older residential buildings, while preserving rental housing affordability levels and providing strengthened tenant protections.

The FSOA Policy Area permits tower forms up to a maximum height of 20 storeys and a maximum density of 6.5 FSR for sites with a minimum frontage of 45.7 m (150 ft). Minor increases in height and density can be considered for delivery of ground-level local-serving retail/service uses, and for rooftop common amenity spaces.

The project proposes a 21-storey secured market rental housing project with 6.5 FSR. The 21st storey is a partial floor at the rooftop for common amenity space, set back from the edges of the building below. A minimum of 20% of the residential floor area will be secured at below-market rental rates. The proposal is in alignment with the Broadway Plan's FSOA Policy Area objectives to provide affordable rental housing.



Broadway Plan, map of Fairview South - Area A

2.5 View Cones

2.5.1 view protection guidelines

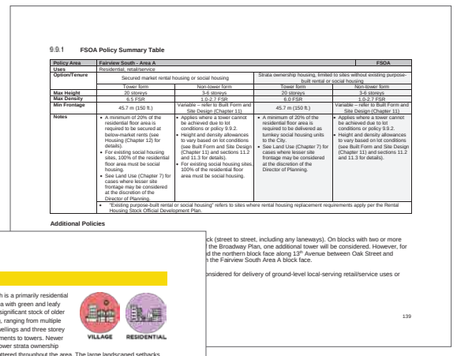
The View Protection Guidelines are not applicable for this rezoning as the site is not located in a view cone protected under the guidelines.

2.6 Higher Buildings Policy

2.6.1 higher buildings guidelines

The Higher Buildings Policy is not applicable for this rezoning as the proposed location and building height is significantly below that for which the guidelines are intended.





9.9.1 FSOA Policy Summary Table

Policy Area	Fairview South - Area A			FSOA
Uses	Residential, retail/service			
Option/Tenure	Secured market rental housing or social housing		Strata ownership housing, limited to sites without existing purpose-built rental or social housing	
	Tower form	Non-tower form	Tower form	Non-tower form
Max Height	20 storeys	3-6 storeys	20 storeys	3-6 storeys
Max Density	6.5 FSR	1.0-2.7 FSR	6.0 FSR	1.0-2.7 FSR
Min Frontage	45.7 m (150 ft.)	Variable – refer to Built Form and Site Design (Chapter 11)	45.7 m (150 ft.)	Variable – refer to Built Form and Site Design (Chapter 11)
Notes	• A minimum of 20% of the residential floor area is required to be secured at below-market rents (see Housing (Chapter 12) for details). • For existing social housing sites, 100% of the residential floor area must be social housing. • See Land Use (Chapter 7) for cases where lesser site frontage may be considered at the discretion of the Director of Planning. • "Existing purpose-built rental or social housing" refers to sites where rental housing replacement requirements apply per the Rental Housing Stock Official Development Plan.	• Applies where a tower cannot be achieved due to lot conditions or policy 9.9.2. • Height and density allowances to vary based on lot conditions (see Built Form and Site Design (Chapter 11) and sections 11.2 and 11.3 for details). • For existing social housing sites, 100% of the residential floor area must be social housing.	• A minimum of 20% of the residential floor area is required to be delivered as turnkey social housing units to the City. • See Land Use (Chapter 7) for cases where lesser site frontage may be considered at the discretion of the Director of Planning.	• Applies where a tower cannot be achieved due to lot conditions or policy 9.9.2. • Height and density allowances to vary based on lot conditions (see Built Form and Site Design (Chapter 11) and sections 11.2 and 11.3 for details).

Additional Policies

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Fairview South

Fairview South is a primarily residential apartment area with green and leafy streets and a significant stock of older rental housing, ranging from multiple conversion dwellings and three storey walk-up apartments to towers. Newer low-rise and lower strata ownership housing is scattered throughout the area. The large landscaped setbacks and gardens, including the "tower in the park" form, contribute to the character of the area. Just west of Granville Street, between West 14th and 16th avenues, is a collection of pre-1940 apartments that comprises some of the oldest purpose-built rental in the city. There are two small areas of lower density housing near West 16th Avenue. On Oak Street around West 15th Avenue is a small node of retail/service and mixed-use development.

VILLAGE RESIDENTIAL

Overall Intent

Strengthen Fairview South as a walkable, primarily residential area with a diversity of hou
opportunities for new housing, encouraging the retention and renewal of existing older res
scale retail/service uses.

The Big Moves

- Walkable, primarily residential apartment area with diverse housing options.
- Support the long-term renewal of the older rental housing while preserving existing
to below-market and market rental uses with enhanced tenant protection requirem
- Encourage additional local-serving shops and services to be integrated with new a



Outdoor Space

To enhance the liveability of mid- and high-rise apartment
activities for all ages including eating, socializing, outdoor
mid- to high-rise buildings is enhanced by the inclusion of

11.4.14 Where possible, ground floor units should ope

11.4.15 Where ground floor units are accessed primarily from an interior corridor, outdoor spaces should be designed as 'backyards' with improved privacy screening and more generous dimensions.

11.4.16 Shared outdoor amenity space should be provided at the ground floor, podium and/or rooftop.

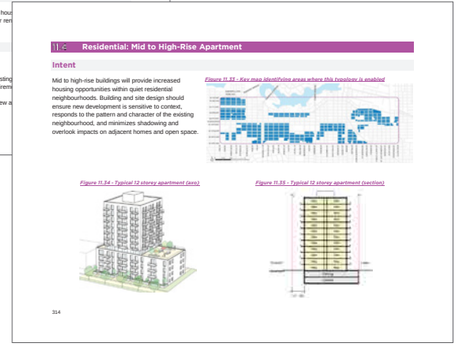
11.4.17 A portion of the shared outdoor amenity space should be designed to support children's play with a focus on flexible features, innovative play spaces, and exploratory structures.

Figure 11.37 – Children's play space

Figure 11.38 – Outdoor amenity space

Figure 11.39 – Communal gardening space

317



11.5 Residential: Mid to High-Rise Apartment

Intent

Mid to high-rise buildings will provide increased housing opportunities within quiet residential neighbourhoods. Building and site design should ensure new development is sensitive to context, responds to the pattern and character of the existing neighbourhood, and minimizes shadowing and overlook impacts on adjacent homes and open space.

Figure 11.32 – Key map identifying areas where this typology is enabled

Figure 11.34 – Typical 12 storey apartment (axo)

Figure 11.33 – Typical 12 storey apartment (section)

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2.7 Green & Resilient Building Measures

2.7.1 sustainability

The proposed rezoning of the site comprised of 1665, 1675 & 1685 West 11th Avenue intends to advance the objectives outlined in the City's ambitious targets for Green and Resilient Building Measures.

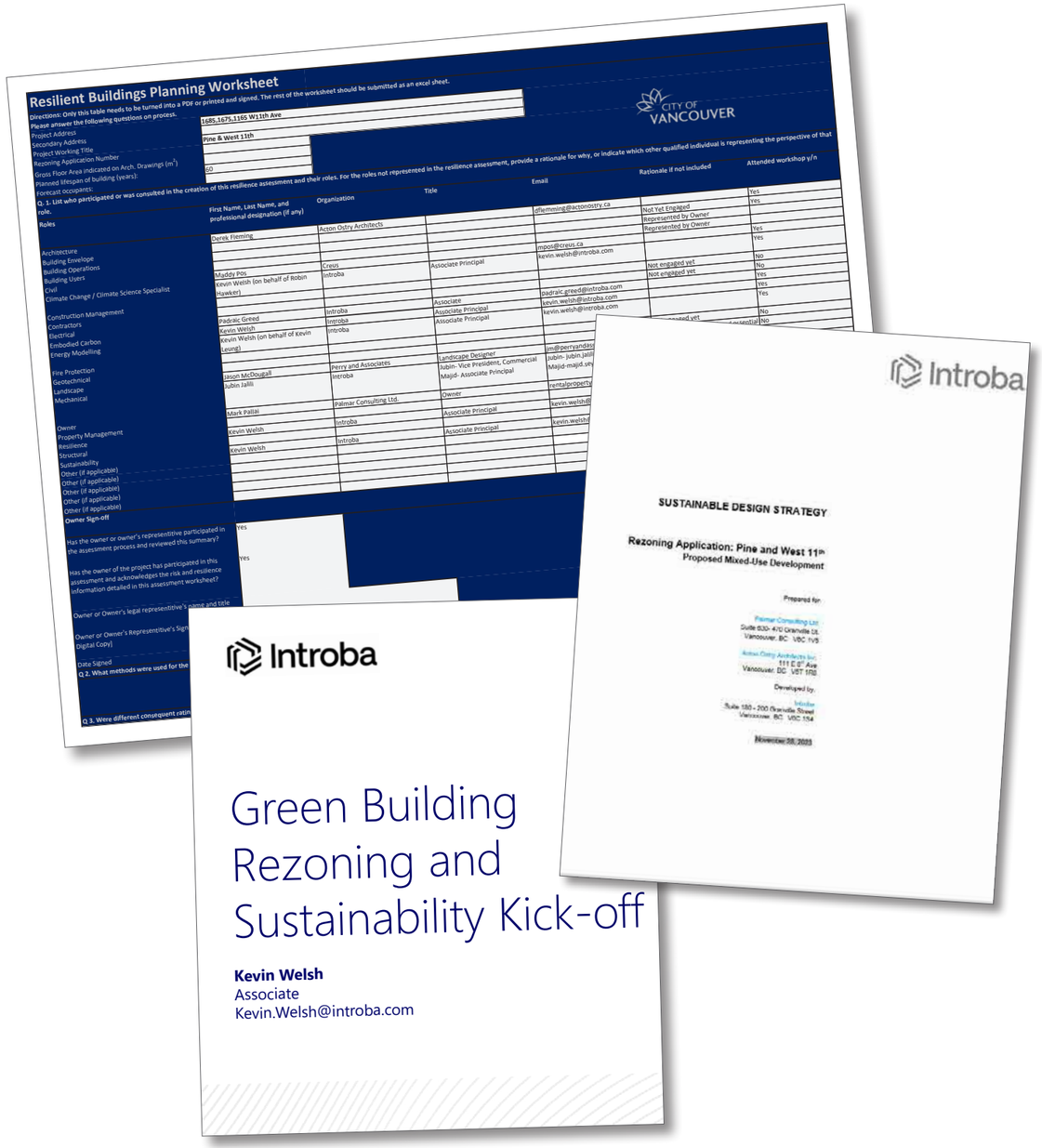
The transit-oriented development enabled by the rezoning will showcase a number of sustainability principles that will support the Broadway Plan Sustainability and Resilience policies, the Green and Resilient Building Measures policies, and the City of Vancouver Greenest City goals and objectives.

The proposed density of the development locates people close to public outdoor amenities (Granville Park and Granville Children's Park), community services (Lord Tennyson Elementary School), transit (Broadway Subway and 99 B-Line express bus service) and many local shops, jobs, amenities and services that are within walking distance on West Broadway—all of which will reduce the ecological footprint of users and inhabitants of the building.

Locating people near transit will contribute to increased transit use, resulting in lower reliance on personal vehicles, reduced greenhouse gas emissions, improved air quality and healthier lifestyles.

Building energy use will be reduced through the use of low-carbon, high-efficiency mechanical systems, energy recovery ventilation, low consumption plumbing fixtures, energy-efficient light fixtures, and a high-performance building envelope.

In combination, these objectives will assist to lower greenhouse gases, conserve water, reduce waste and provide a multitude of environmental benefits for the community and the city including: promotion of sustainable transportation through transit, walking, and cycling; greater use of green building materials and processes; higher performance buildings, envelopes and systems; and establishing healthier urban ecosystems.



2.7 Green & Resilient Building Measures

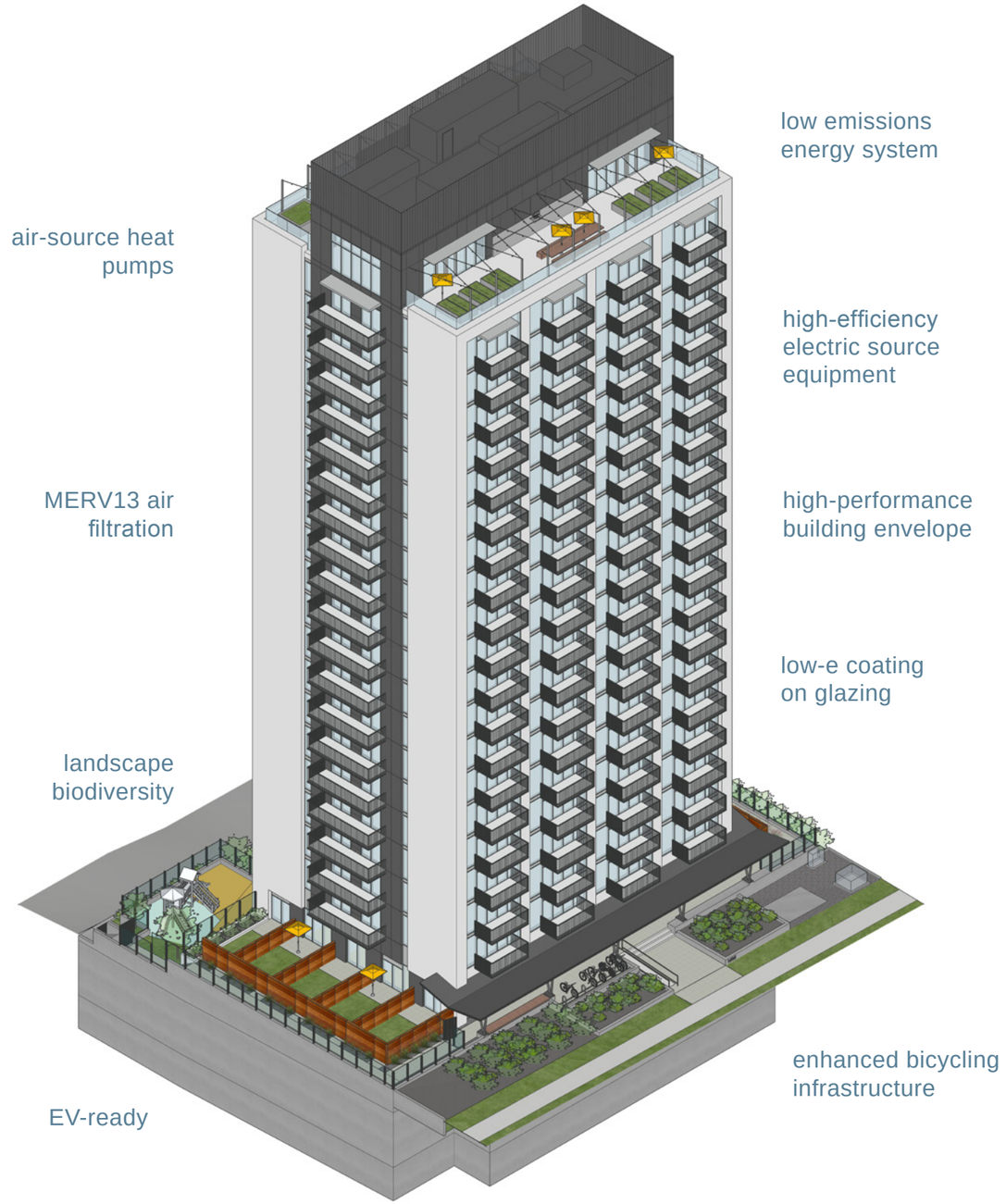
2.7.2 resilient building measures

On 16 November 2023 a comprehensive Resilient Building Measures Workshop was led by Introba, with participation from the owner and the multi-disciplinary consultant team.

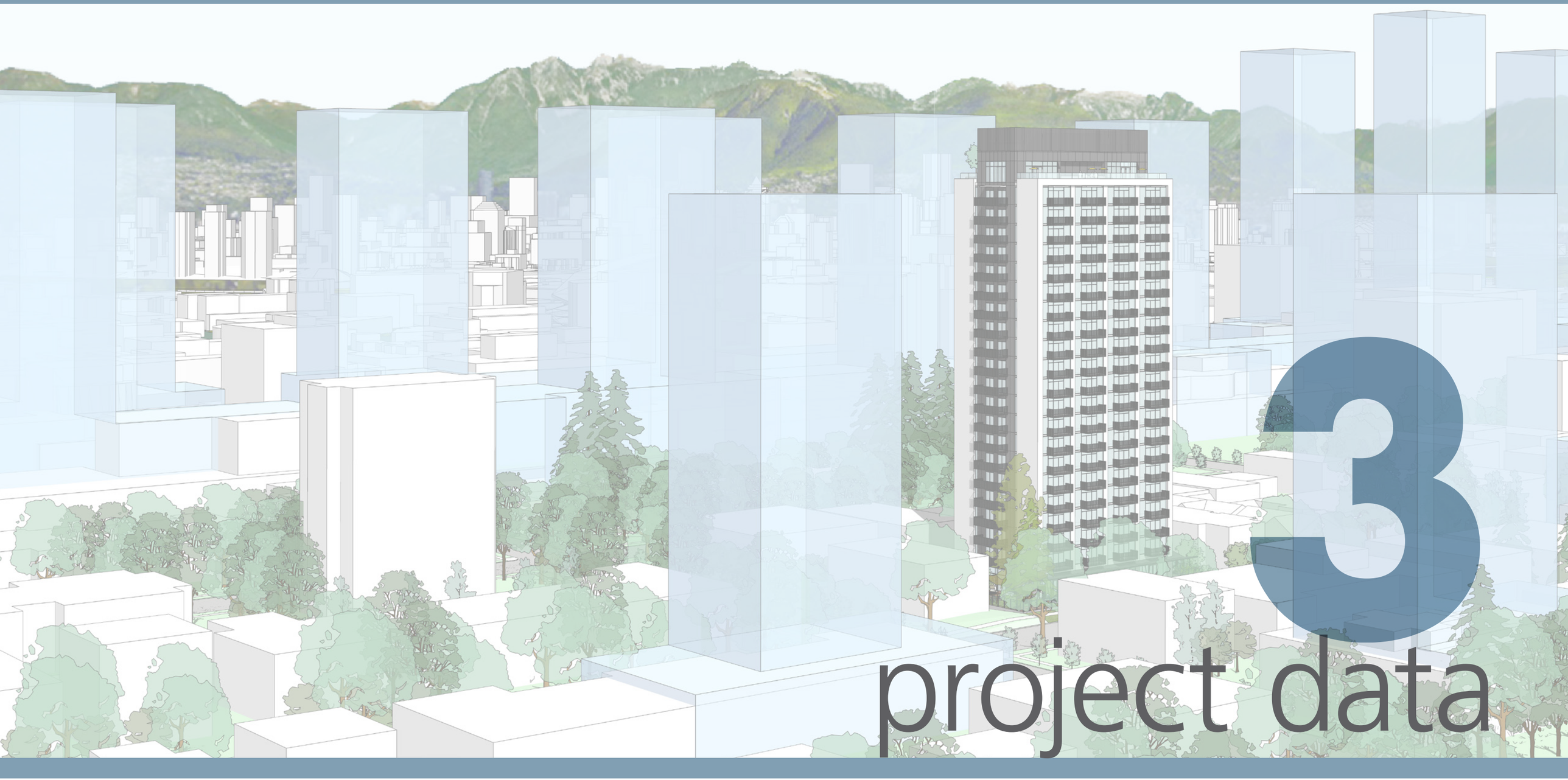
Using the Resilient Buildings Planning Worksheet as a template the team assessed hazards, impacts and risks to specific aspects of the building, and developed corresponding strategies to mitigate those risks. The following is a high-level summary:

- Longer and more intense heat events pose a risk to occupant health and may result in higher cooling demand. The building envelope will be designed to optimize energy performance and reduce solar gains, and a centralized heat-pump system will provide both heating and cooling. The project is further considering on-site refuge spaces with cooling systems on back-up power to best support residents during extreme heat events.
- In response to declining air quality due to wildfire smoke, ventilation for each unit will be provided through heat recovery ventilators that can be fitted with MERV 13 filters to better protect occupant health.
- To mitigate the risk of flooding and an increased burden on City rainwater infrastructure due to changing rainfall patterns the project aligns with the City's evolving rainwater management policy and proposes a detention tank. Major utilities, building entrances and other potential vulnerable points have been designed to limit possible water ingress.
- Operational programs have been identified to help maintain the building's readiness before, during, and after a climate event, including: ongoing maintenance; envelope inspections; roof drain and detention tank inspections; landscape maintenance; HVAC filter replacement; identification of vulnerable residents and a check-in plan; portable equipment (fans, AC units, air purifiers) lending program for vulnerable residents; climate response guides for residents (tips on staying cool, use of thermostats, when to open or close windows); guidance for connecting with emergency resources; emergency supplies (water, cool packs, masks etc.); power outage plan; post-seismic and post-climate event response plans to streamline building re-entry including structural assessment, envelope assessment, mechanical and electrical system checks, and resupply strategies.

These strategies aim to bolster the building's resilience against disasters and extreme climate events through the prioritization of safety and functionality in the design.



green and resilient building features



3 project data

3.1 Project Statistics & Data

property address: 1665, 1675 & 1685 W 11th Ave, Vancouver

legal description: Lot 18 Block 369 District Lot 526 Plan 1949 New Westminster
Strata Plan VR764 Block 369 District Lot 526 New Westminster
Strata Plan VR216 Block 369 District Lot 526 New Westminster

zoning

	existing	Broadway Plan	proposed
zoning	RM-3	Fairview South – Area A [FSOA]	CD-1
site area	1,742 sm (18,750 sf)	min. frontage 150', min. lot depth 110' = 16,500 sf	1,742 sm (18,750 sf)
uses	rental apartments and secondary rental apartments (22 units total)	residential, retail/service	secured market rental housing with min. 20% floor area secured at below market rents
building height	RM-3: 36.6 m (conditional)	20 storeys	21 storeys* 72.47 m (237.75 ft) to highest point above base surface at the top of the roof mechanical screen
floor space ratio (FSR)	1.0 (conditional)	6.5	6.5

** 21st storey is a partial amenity storey, stepped back from the building edges, in line with Broadway Plan guideline 11.1.13*

CD-1 area summary

	gross	area for FSR calc.	FSR
residential rental	12,271.4 sm* (132,088 sf)*	11,317.1 sm (121,816 sf)	6.5

*FSR calculations are based on Gross Areas excluding: balconies, roof deck, partial envelope, in-suite storage and residential amenity areas**. Refer to FSR overlay plans for details.*

*** Residential rental Gross Area includes 255.4sm (2,749sf) of residential amenity.*

housing unit mix

unit type	studio ± 38 sm (404 sf)	1 bed ± 50 sm (534 sf)	2 bed ± 69sm (738 sf)	3 bed ± 88sm (943 sf)	total
market rental	77 (51%)	22 (14%)	38 (25%)	15 (10%)	**152** (80%)
below market rental	16 (42%)	8 (21%)	10 (26%)	4 (11%)	**38** (20%)
total	**93** (49% total) studio	**30** (16% total) 1-bed	**48** (25% total) 2-bed	**19** (10% total) 3-bed	**190 units**

Areas listed at top of table above represent the average Gross Floor Area per unit type.

setbacks

	Existing RM-3	Broadway Plan (2022)	Proposed
front yard	6.1m (20′)	3.7m (12′)	3.7m (12′)
side yard (east)	2.1m (7′)	2.4m (8′)	2.4m (8′)
side yard (west)	2.1m (7′)	2.4m (8′)	2.4m (8′)
rear yard (north)	10.7m (35′)	N/A	N/A

parking

	bylaw	required	provided
parking spaces	4.1.1 rental-residential	0	31
	4.1.4(a) accessible dwelling	(7)	(7)
	4.1.3(a) residential visitor	10	10
total		**17**	**41***

* *Accessible stall count excluded from totals, associated stalls part of residential count.*

loading

	bylaw	required	provided
loading	5.2.1 dwelling use	1 Class A 1 Class B	1 Class A 1 Class B
passenger loading	7.2.1 dwelling use	1 Class A	1 Class A

bicycle parking

	bylaw	required	provided
parking spaces	6.2.1.2 multiple dwelling: Class A / Class B Additional TDM requirements**	343 / 11 103 / 0	 446 / 11
total		**446 / 11**	**446 / 11**

** *TDM Plan B – Mobility Infrastructure Package: min. 30% additional Class A bicycle parking required*

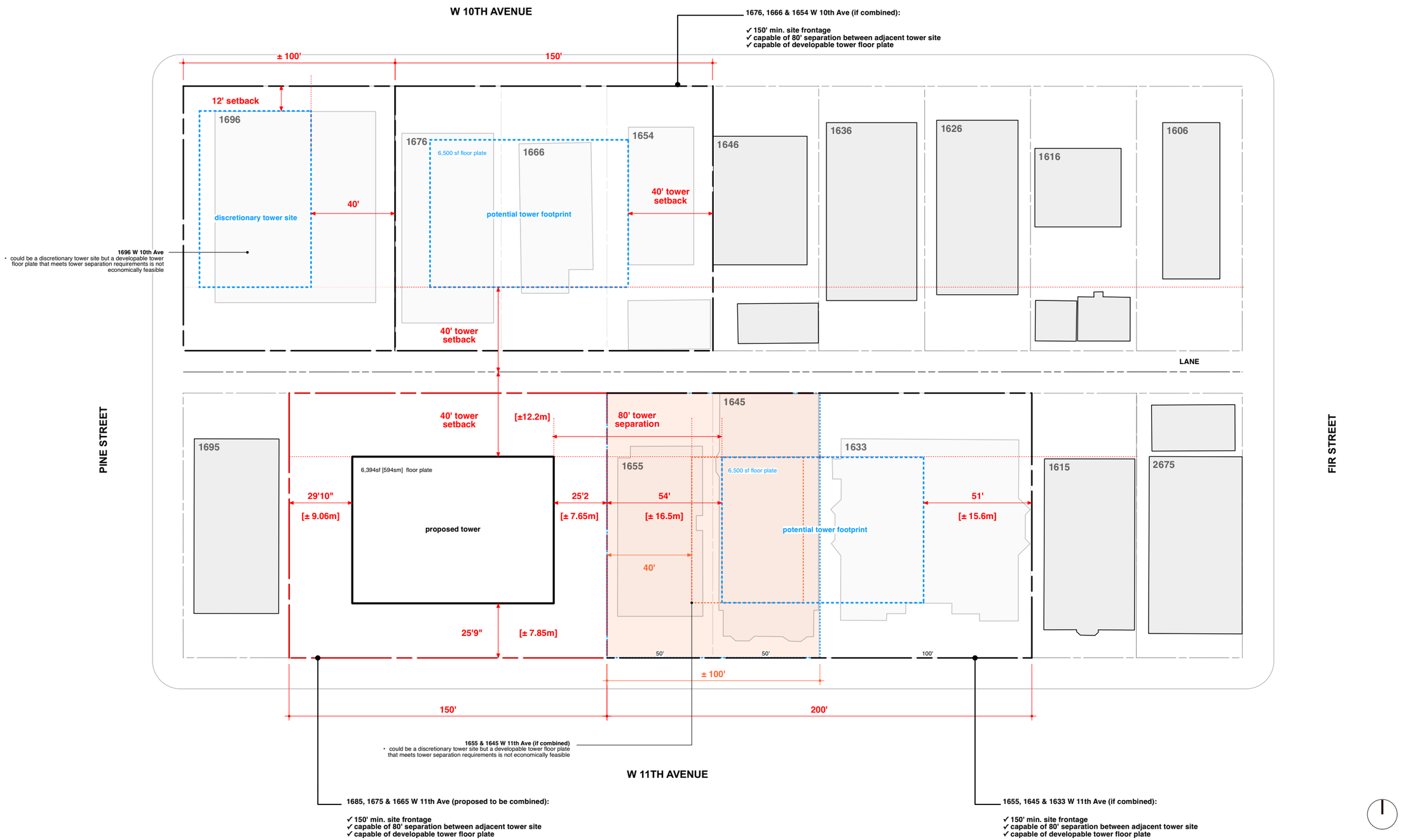


4 drawings

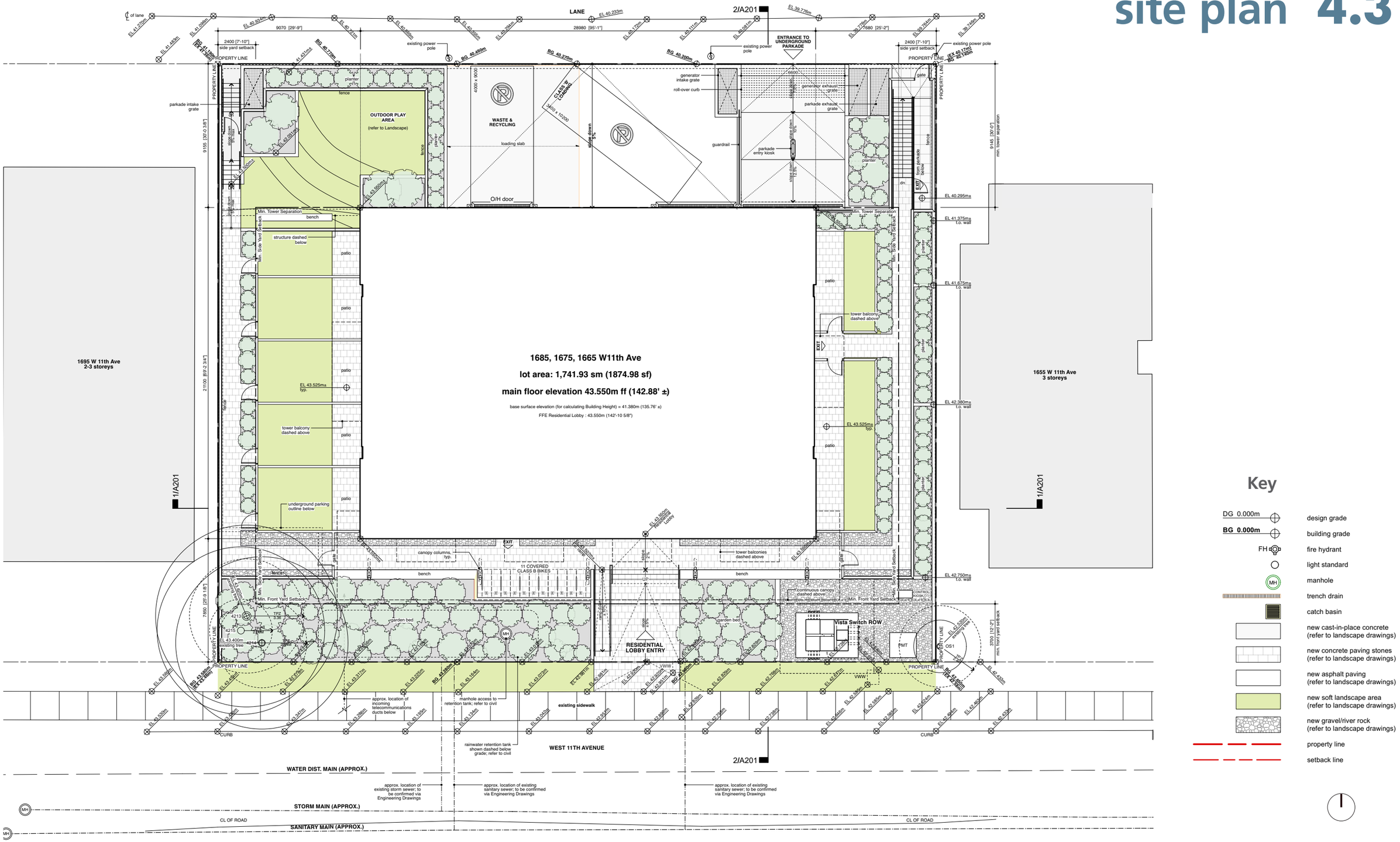
context plan 4.1



tower separation diagram 4.2



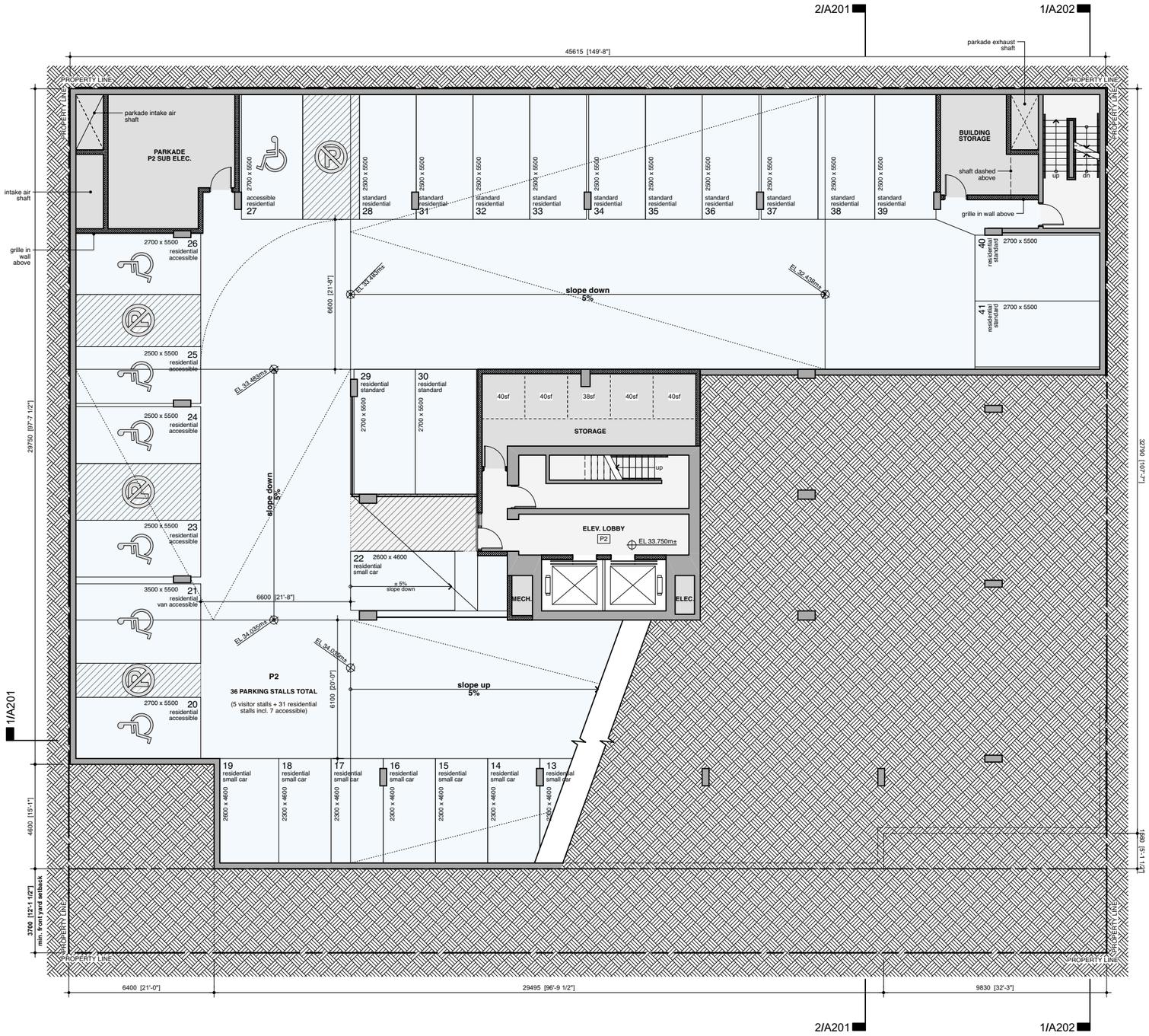
site plan 4.3



Key

- DG 0.000m — design grade
- BG 0.000m — building grade
- FH — fire hydrant
- light standard
- MH — manhole
- trench drain
- catch basin
- new cast-in-place concrete (refer to landscape drawings)
- new concrete paving stones (refer to landscape drawings)
- new asphalt paving (refer to landscape drawings)
- new soft landscape area (refer to landscape drawings)
- new gravel/river rock (refer to landscape drawings)
- property line
- setback line

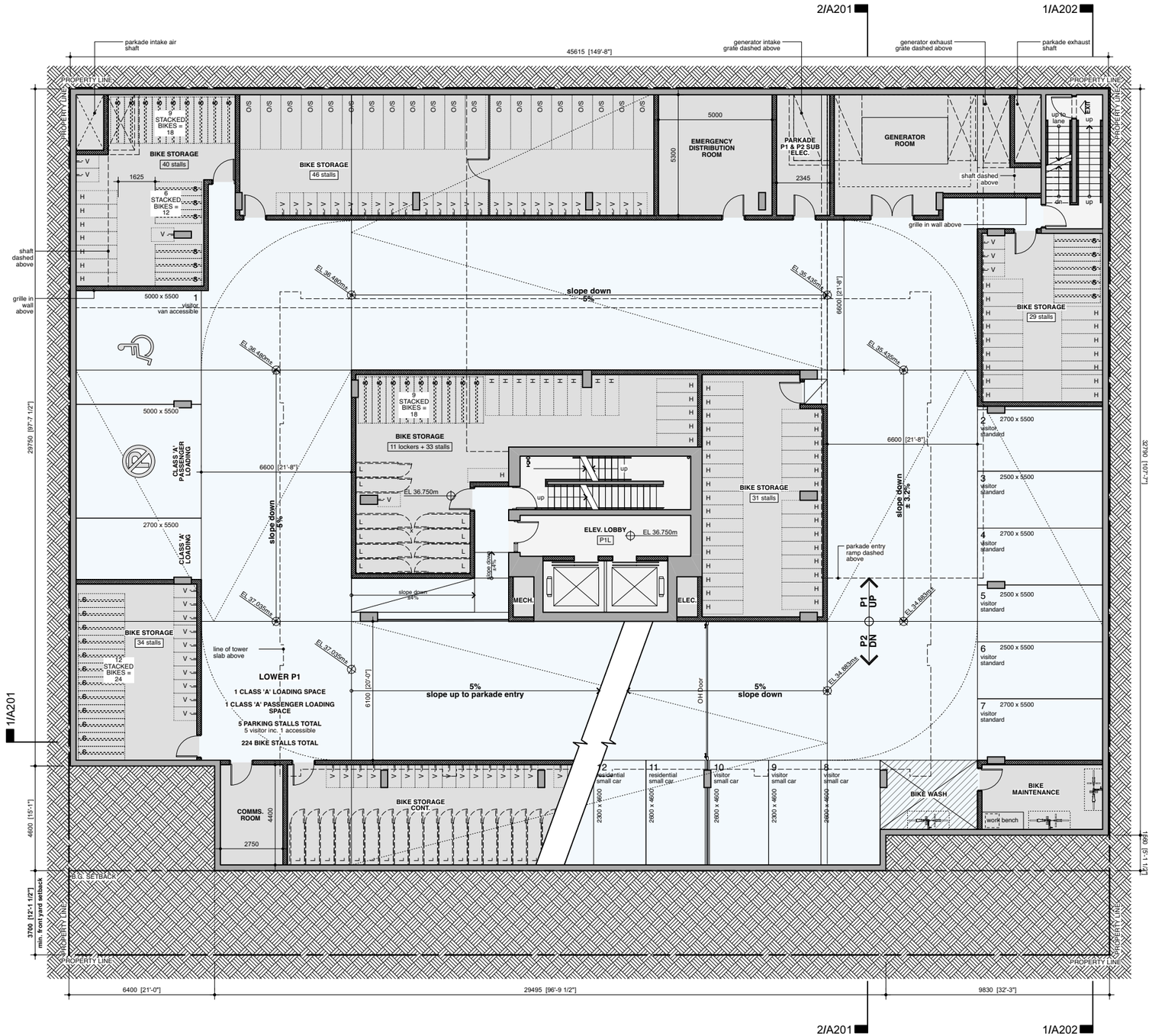
parking | level P2 4.4



Key

- 600x1800 H — horizontal bike stall
- 600x1000 V — vertical bike stall
- 610x2040 S — stacked bike stall (2 bikes)
- 600x1850 L / L 600x1850 — bike locker (200)
- 900x2400 O/S — over-size bike stall
- concrete wall
- cmu wall
- expanded metal mesh partition
- circulation
- utility
- vehicle parking
- painted lines

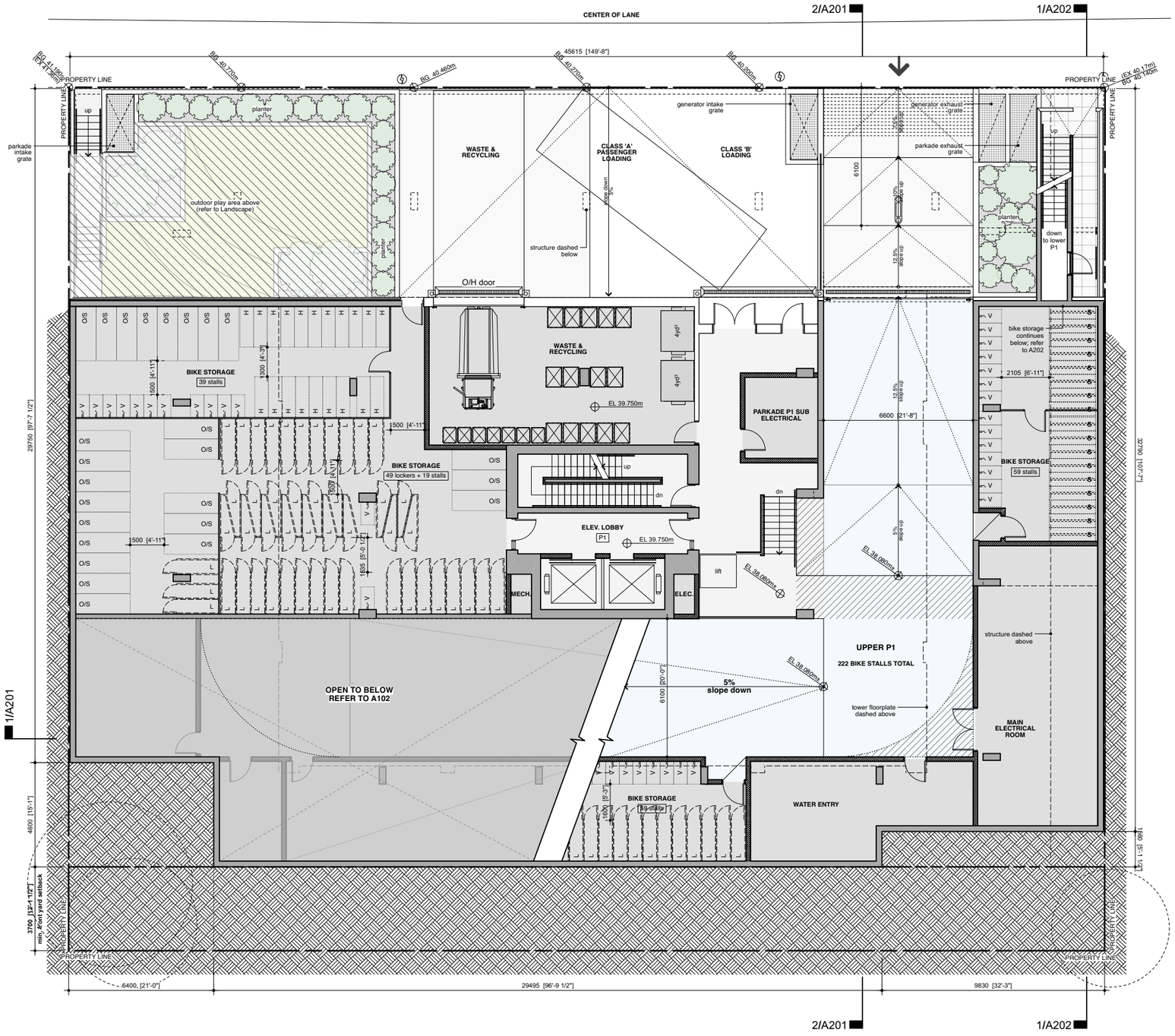
parking | level P1 4.4



Key

- 600x1800 H — horizontal bike stall
- 600x1000 V — vertical bike stall
- 610x2040 S — stacked bike stall (2 bikes)
- 600x1850 L — bike locker (200)
- 900x2400 O/S — over-size bike stall
- concrete wall
- cmu wall
- expanded metal mesh partition
- circulation
- utility
- vehicle parking
- painted lines

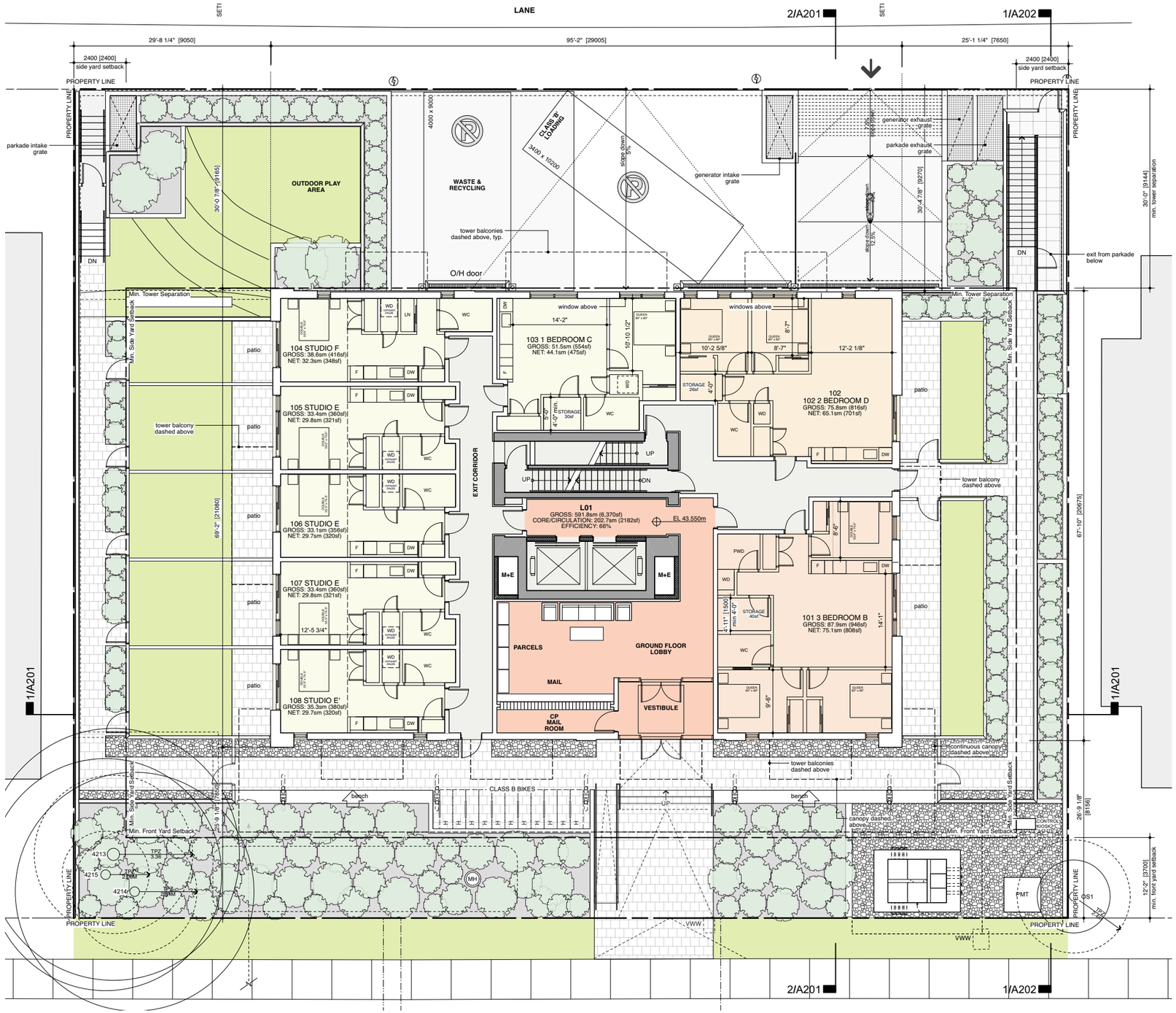
parking | level P1–partial **4.4**



Key

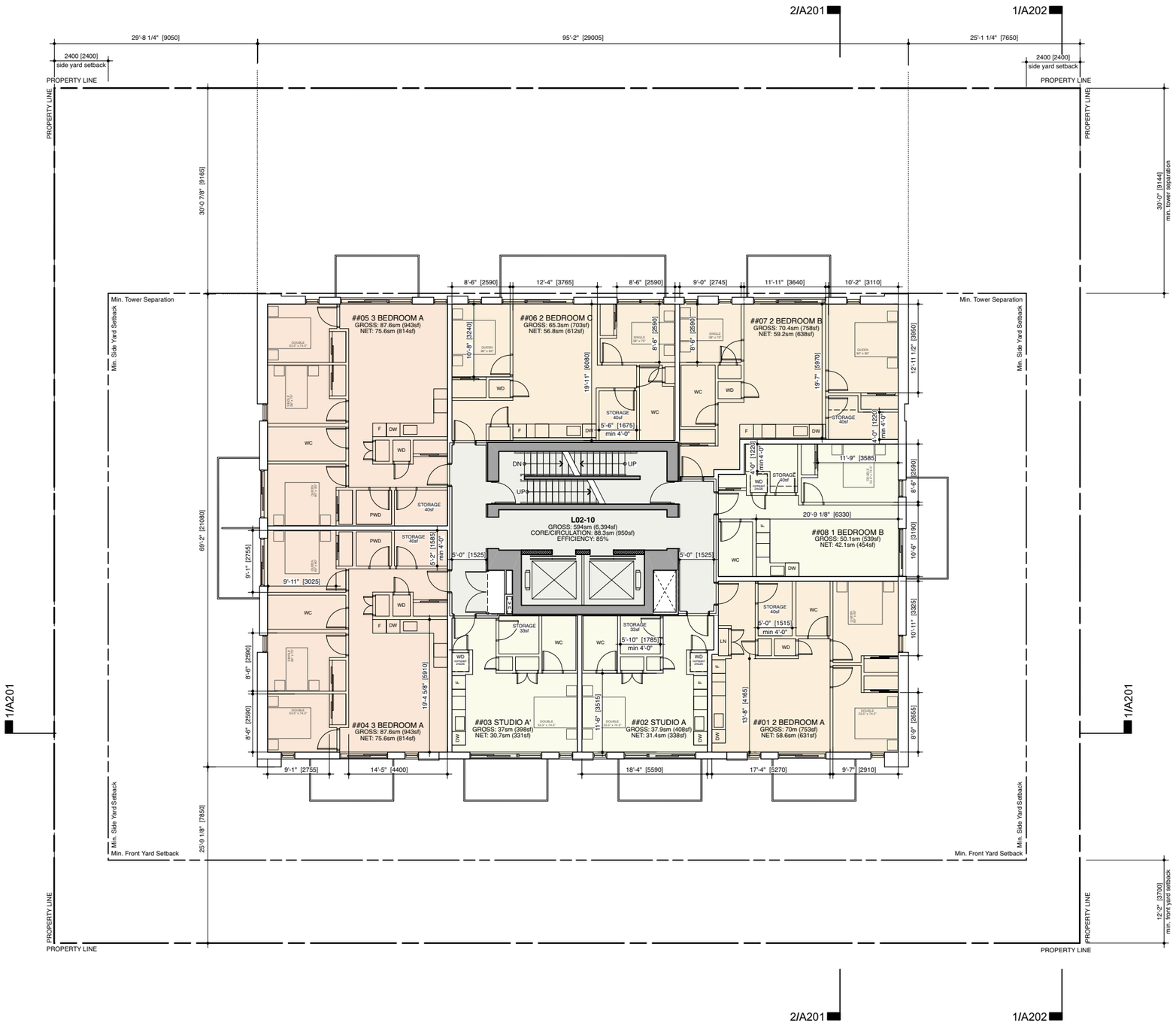
- 600x1800 H — horizontal bike stall
- 600x1000 V — vertical bike stall
- 610x2040 S — stacked bike stall (2 bikes)
- 600x1850 L / L 600x1850 — 200 — bike locker
- 900x2400 O/S — over-size bike stall
- concrete wall
- cmu wall
- expanded metal mesh partition
- circulation
- utility
- vehicle parking
- painted lines

floor plans | level 1 4.5



Key

- ground floor residential
- residential amenity
- studio / one-bedroom unit
- two-bedroom unit
- three-bedroom unit
- utility / service
- circulation
- softscape (ref. to landscape)
- pedestrian entrance
- vehicle entrance



Key

- ground floor residential
- residential amenity
- studio / one-bedroom unit
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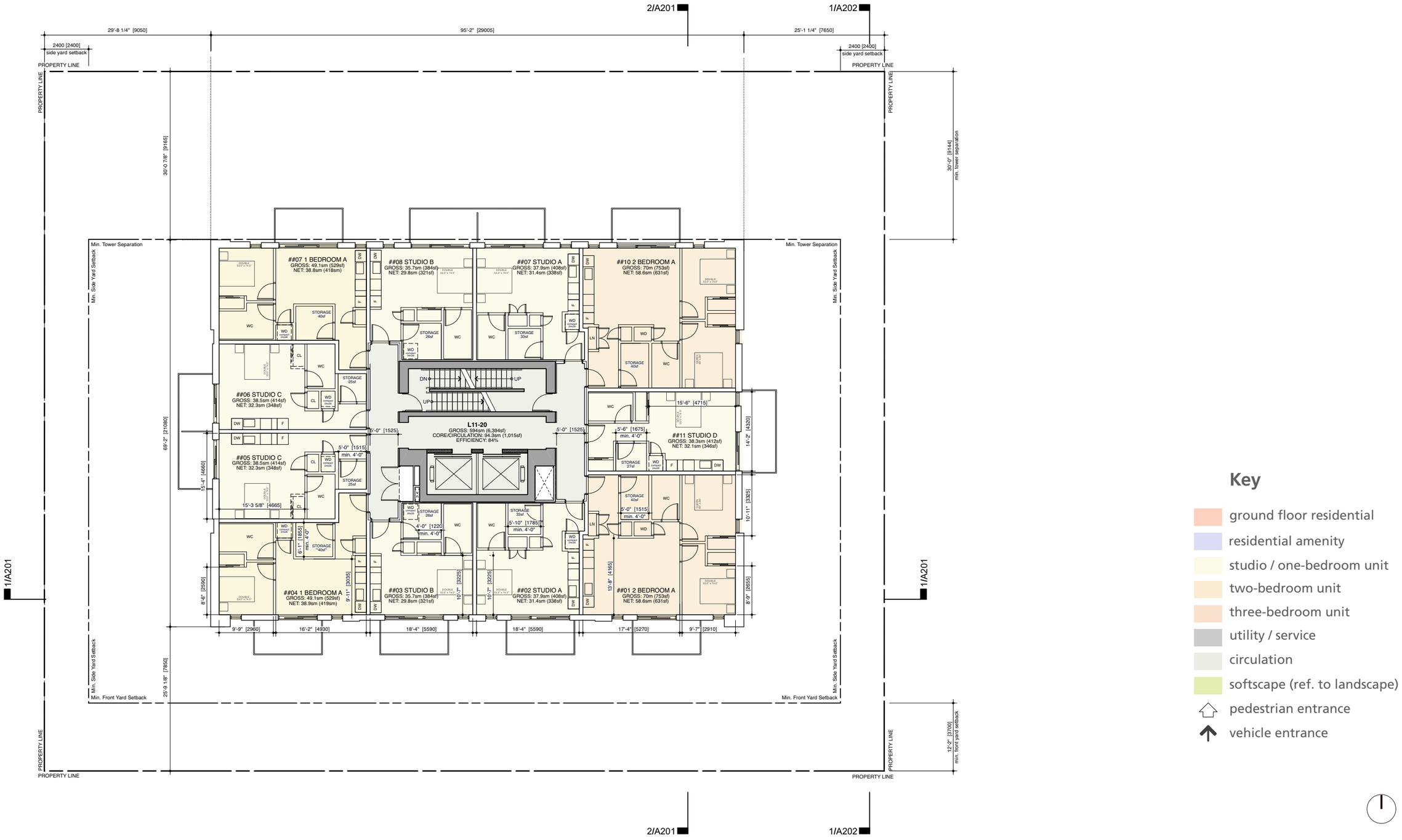
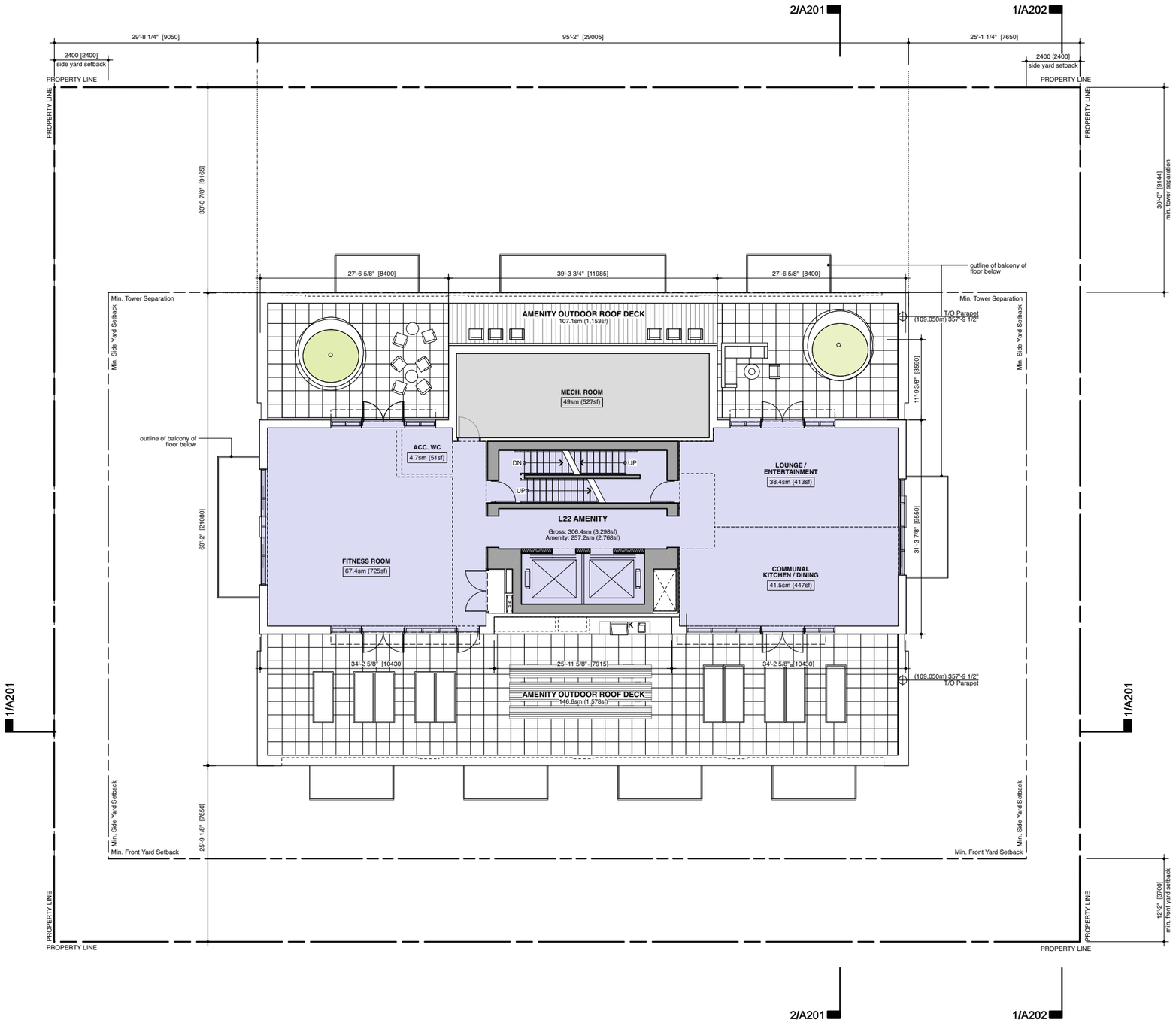
- three-bedroom unit
- utility / service
- circulation
- softscape (ref. to landscape)
- pedestrian entrance
- vehicle entrance



Key

- ground floor residential
- residential amenity
- studio / one-bedroom unit
- two-bedroom unit
- three-bedroom unit
- utility / service
- circulation
- softscape (ref. to landscape)
- pedestrian entrance
- vehicle entrance

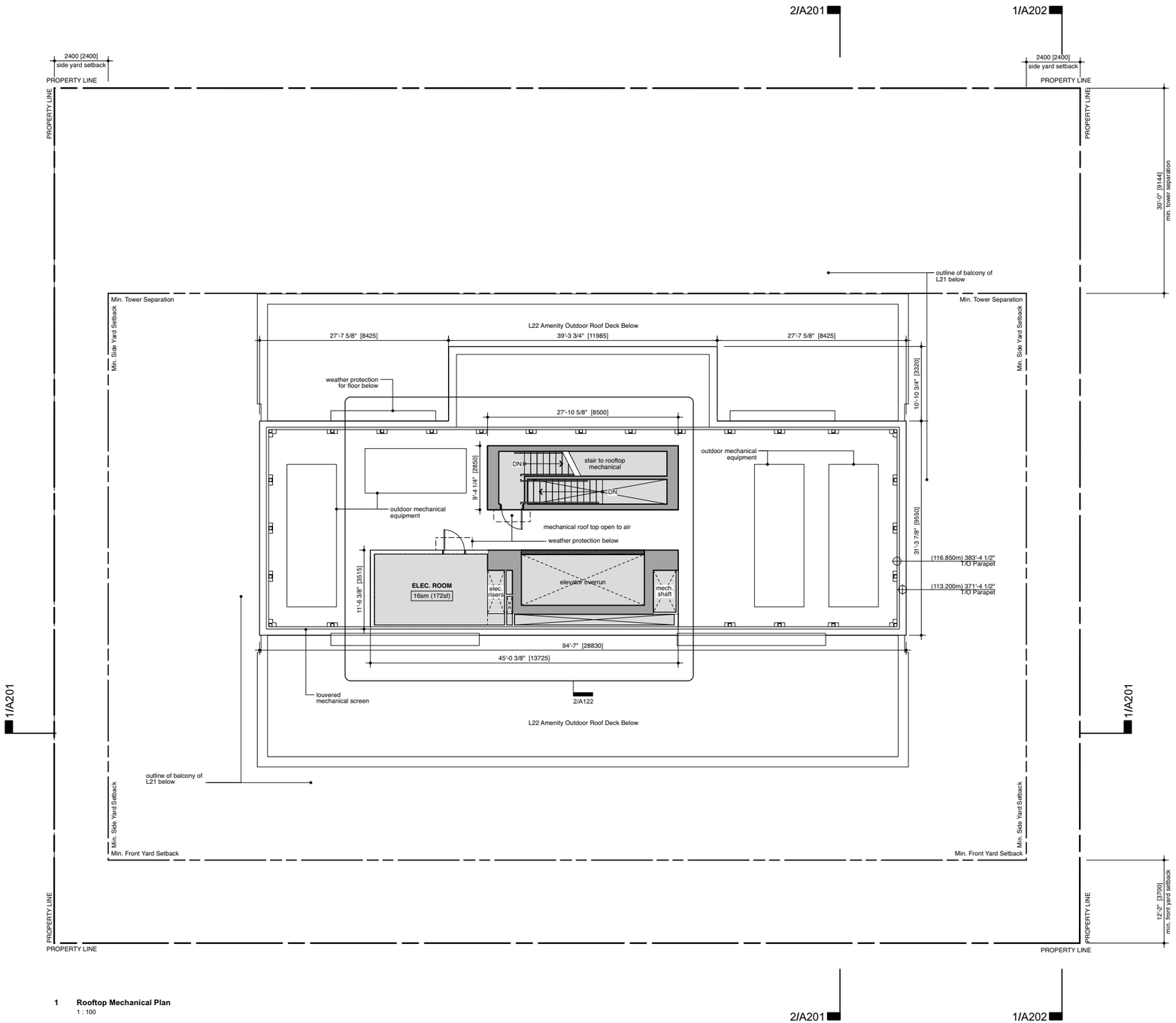
floor plans | roof plan 4.5



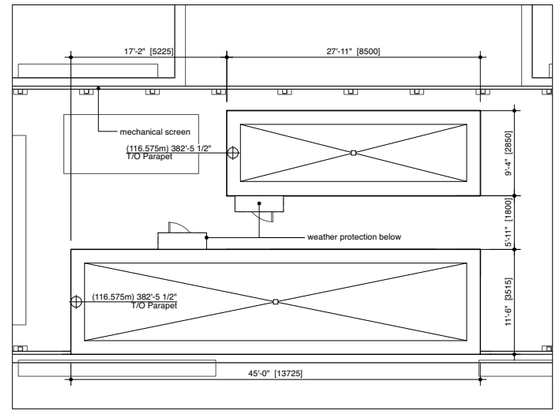
Key

- ground floor residential
- residential amenity
- studio / one-bedroom unit
- two-bedroom unit
- three-bedroom unit
- utility / service
- circulation
- softscape (ref. to landscape)
- pedestrian entrance
- vehicle entrance

floor plans | upper roof plan 4.5



1 **Rooftop Mechanical Plan**
1 : 100

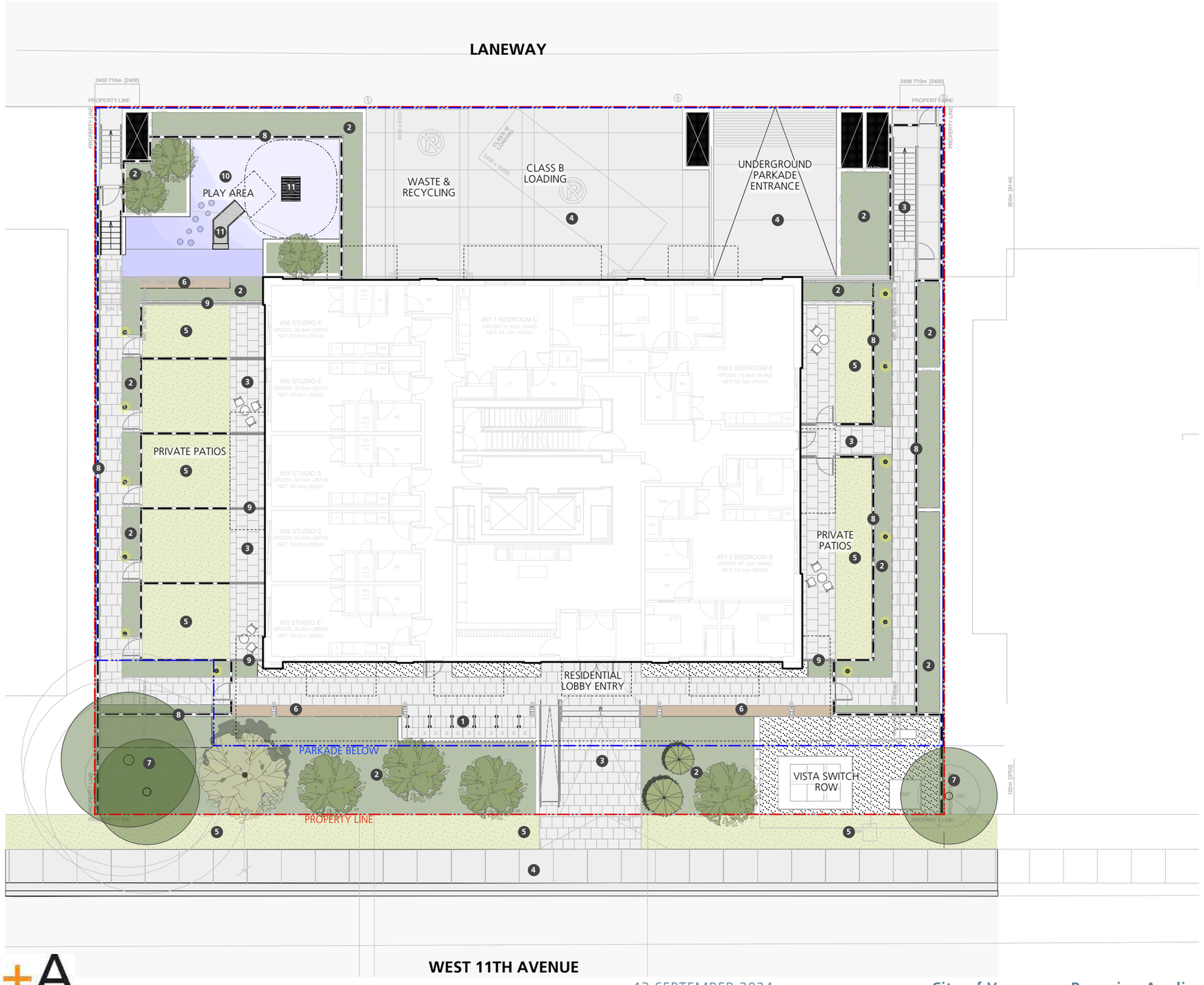


2 **Rooftop Mechanical - Roof Plan**
1 : 100

Key

- ground floor residential
- residential amenity
- studio / one-bedroom unit
- two-bedroom unit
- three-bedroom unit
- utility / service
- circulation
- softscape (ref. to landscape)
- pedestrian entrance
- vehicle entrance

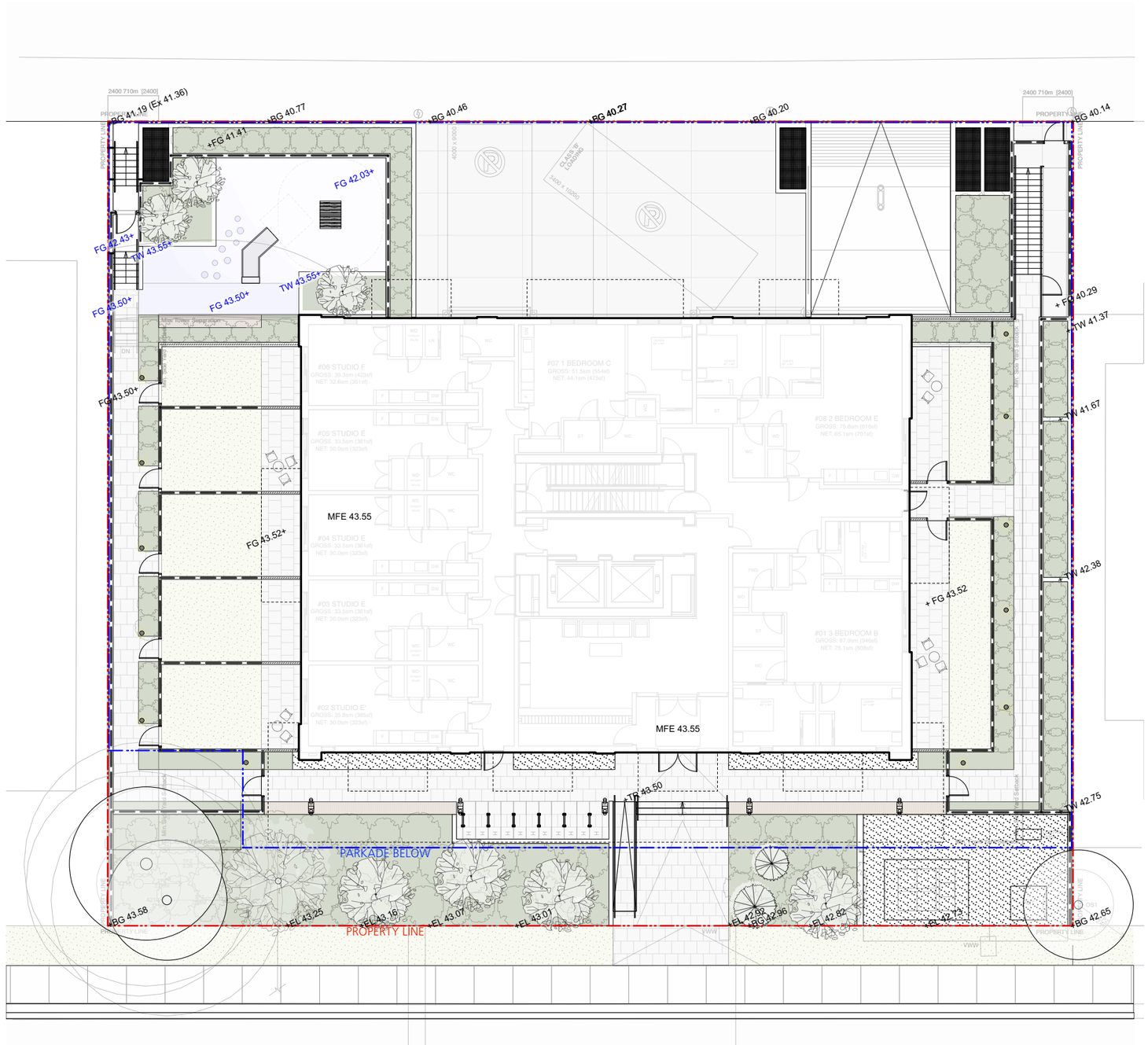
landscape | ground level **4.6**



Key

1. CLASS B BICYCLE RACK
2. PLANTER / PLANTED AREA
3. FEATURE PAVING
4. CIP CONCRETE
5. SOD
6. CUSTOM SEATING
7. EXISTING TREES TO REMAIN
8. FENCE
9. PRIVACY SCREEN
10. PIP RUBBER PLAY SURFACE
11. PLAY EQUIPMENT

PROPOSED TREES



Key

LEGEND

+ FG 00.00	Proposed Finished Grade
+ BG 00.00	Building Grade
+ TW 00.00	Top of Wall Grade
+ TS 00.00	Top of Stairs Grade
+ TR 00.00	Top of Ramp Grade

Grading Notes:

1. Slope all paver areas to area drains.

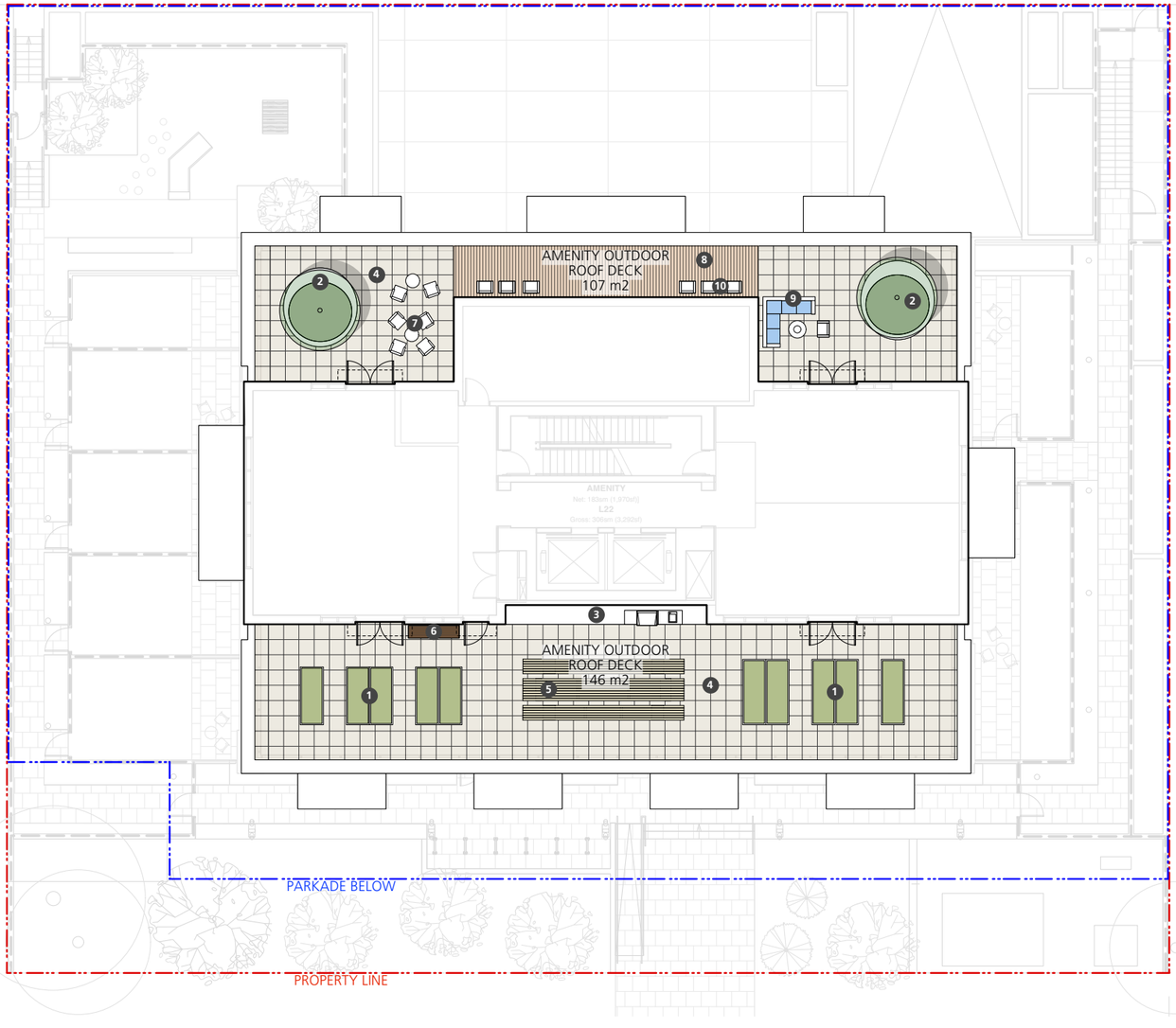
2. Slope 2% Away from all building edges and doors.

3. Contractor to cover all exposed wall/slab waterproofing with flashing painted to match handrail and metal work.

4. Contractor to advise consultant of any discrepencies between drawings and on site conditions.

5. Refer to Civil drawing for retaining wall details.
   Planting details on retaining walls are to be developed in coordination with Civil.

landscape | roof level 4.6

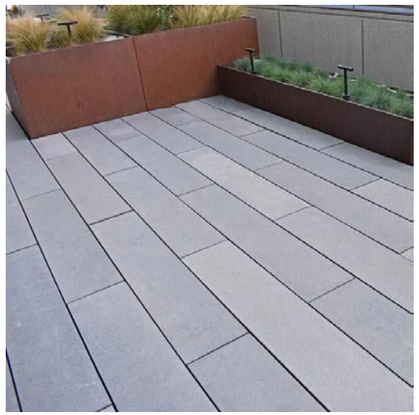


Key

1. URBAN AGRICULTURE
2. RAISED PLANTER WITH BENCH
3. BARBECUE
4. FEATURE PAVING
5. HARVEST TABLE
6. TOOL STORAGE
7. TABLES AND CHAIRS
8. WOOD DECK
9. PATIO FURNITURE
10. LOUNGE SEATING



OUTDOOR SEATING/GROUP DINING



FEATURE PAVING



BIKE RACKS



ORNAMENTAL GRASSES



PLAY RUBBER SURFACE



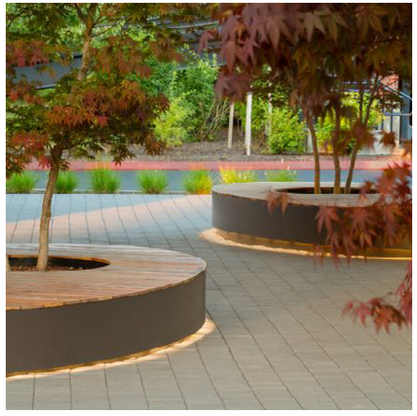
PLAY EQUIPMENT



INTEGRATED SLIDE



FEATURE PLANTING



RAISED PLANTER WITH SEATING



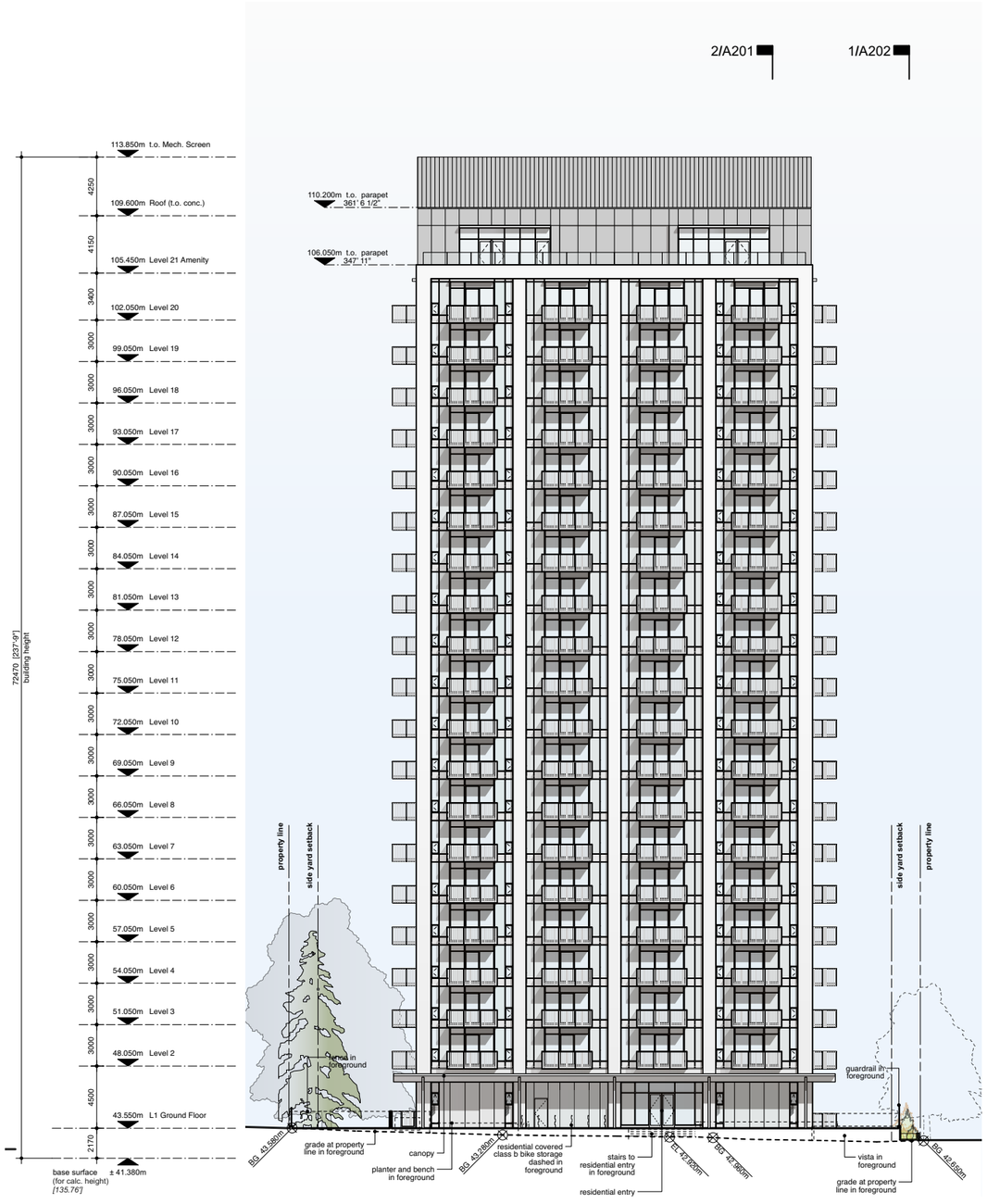
MOVEABLE CHAIRS & TABLES



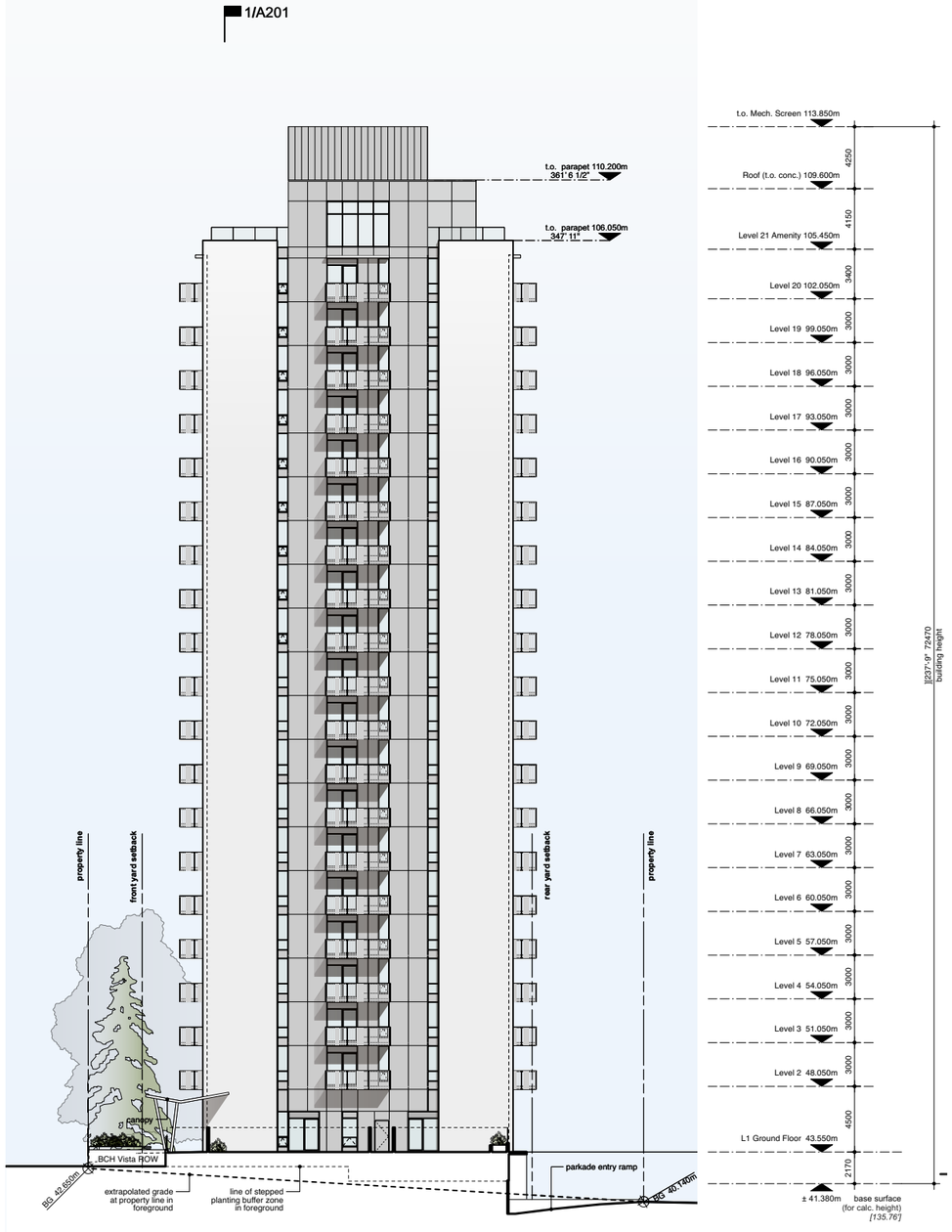
URBAN AGRICULTURE



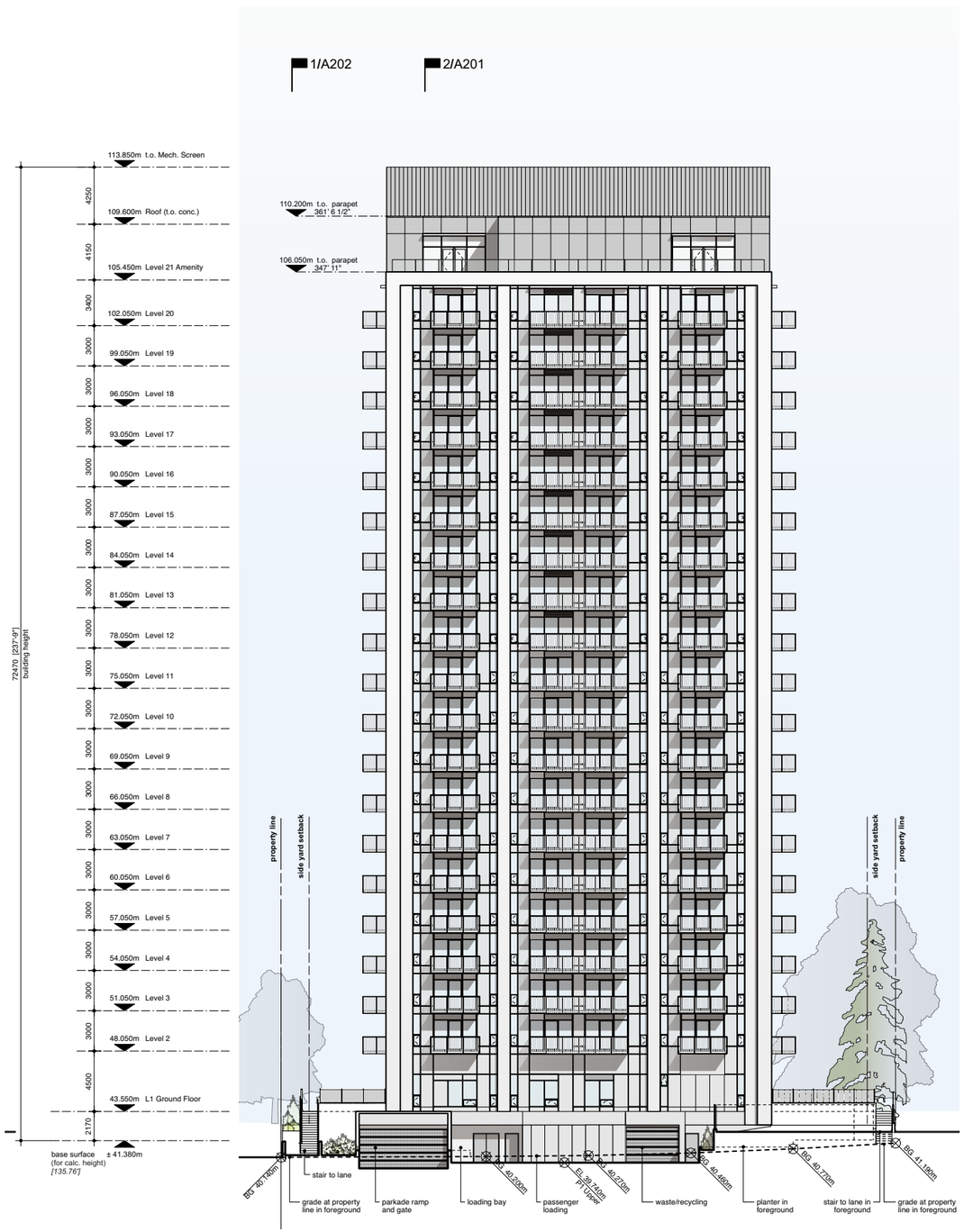
OUTDOOR KITCHEN



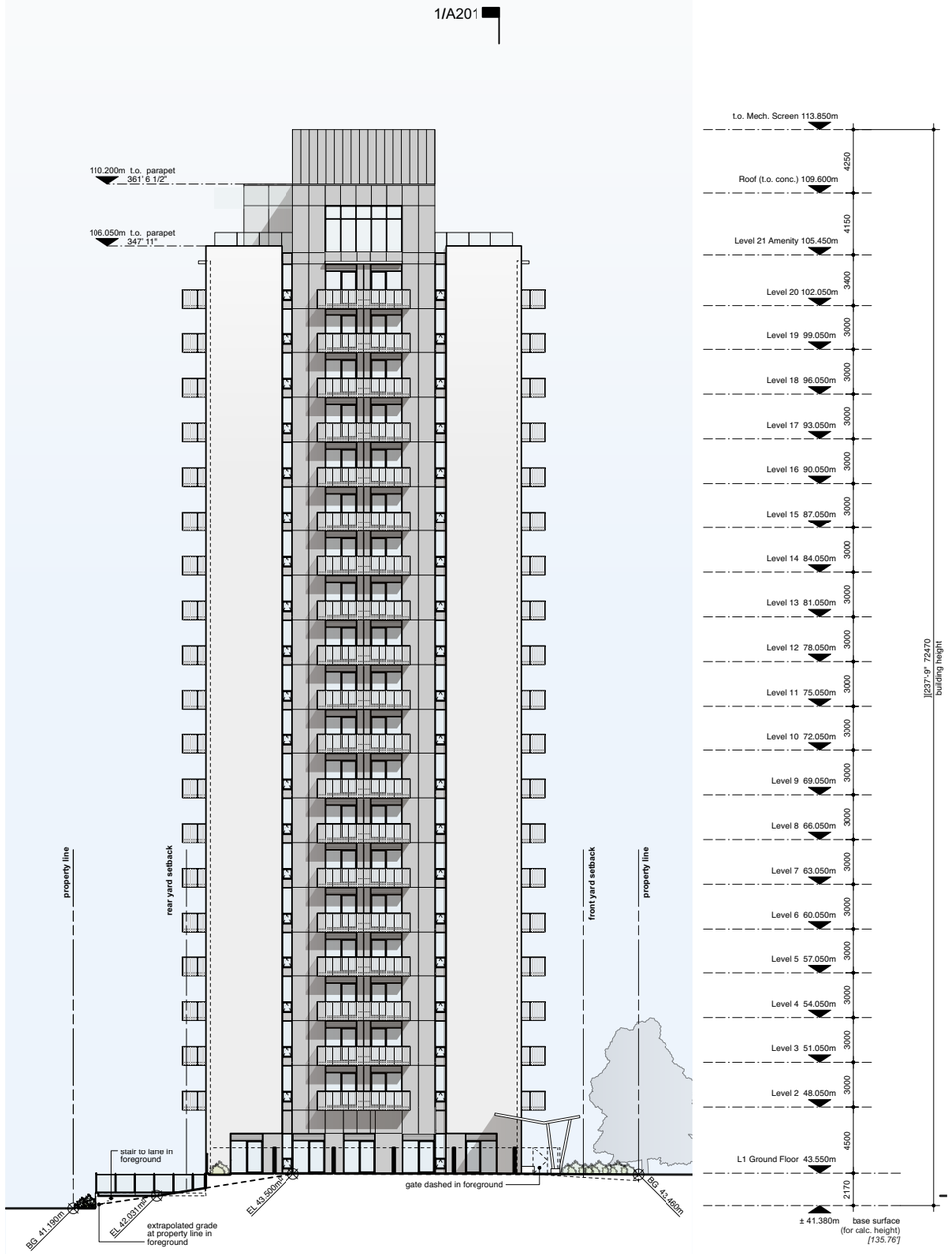
south elevation



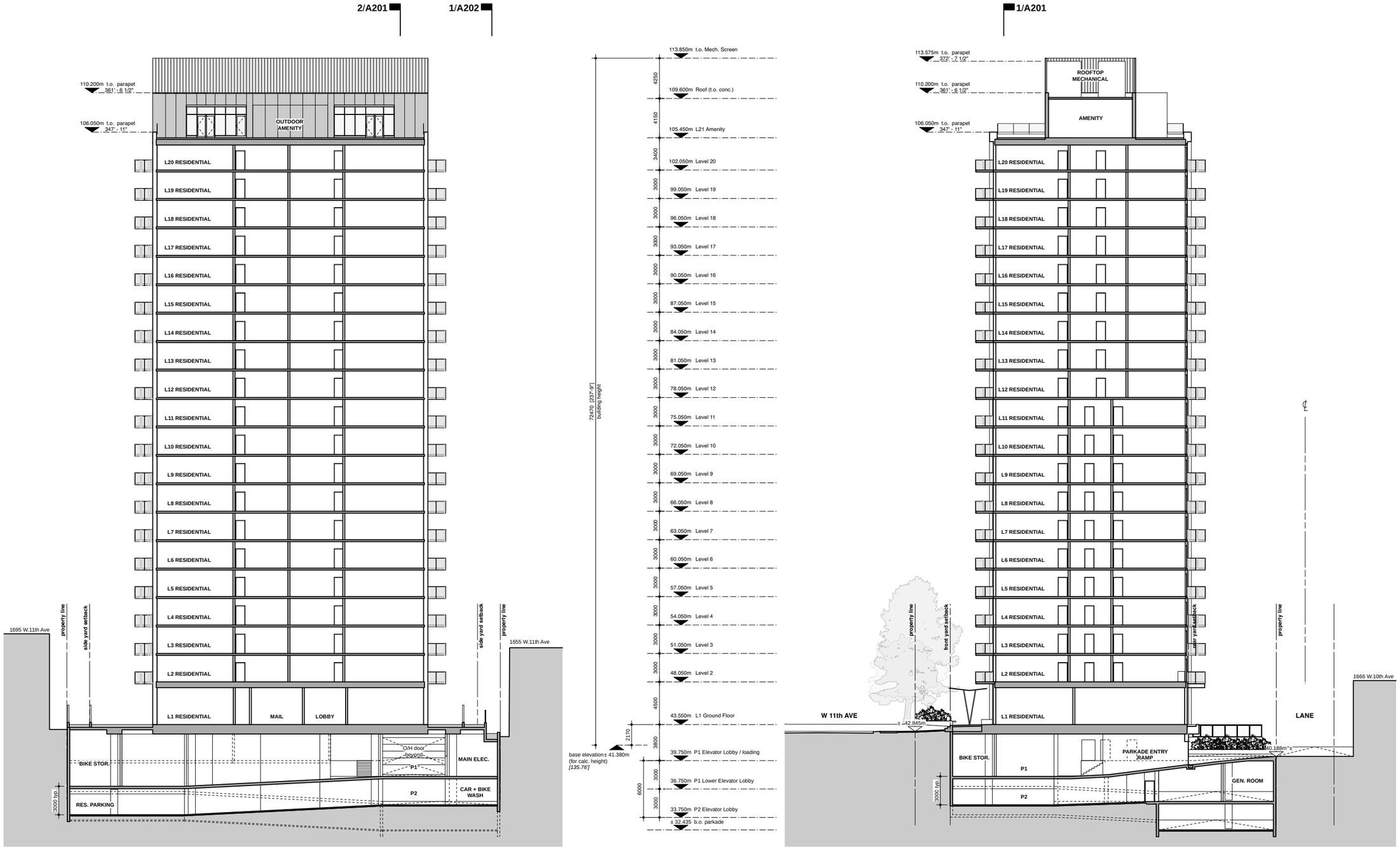
east elevation



north elevation

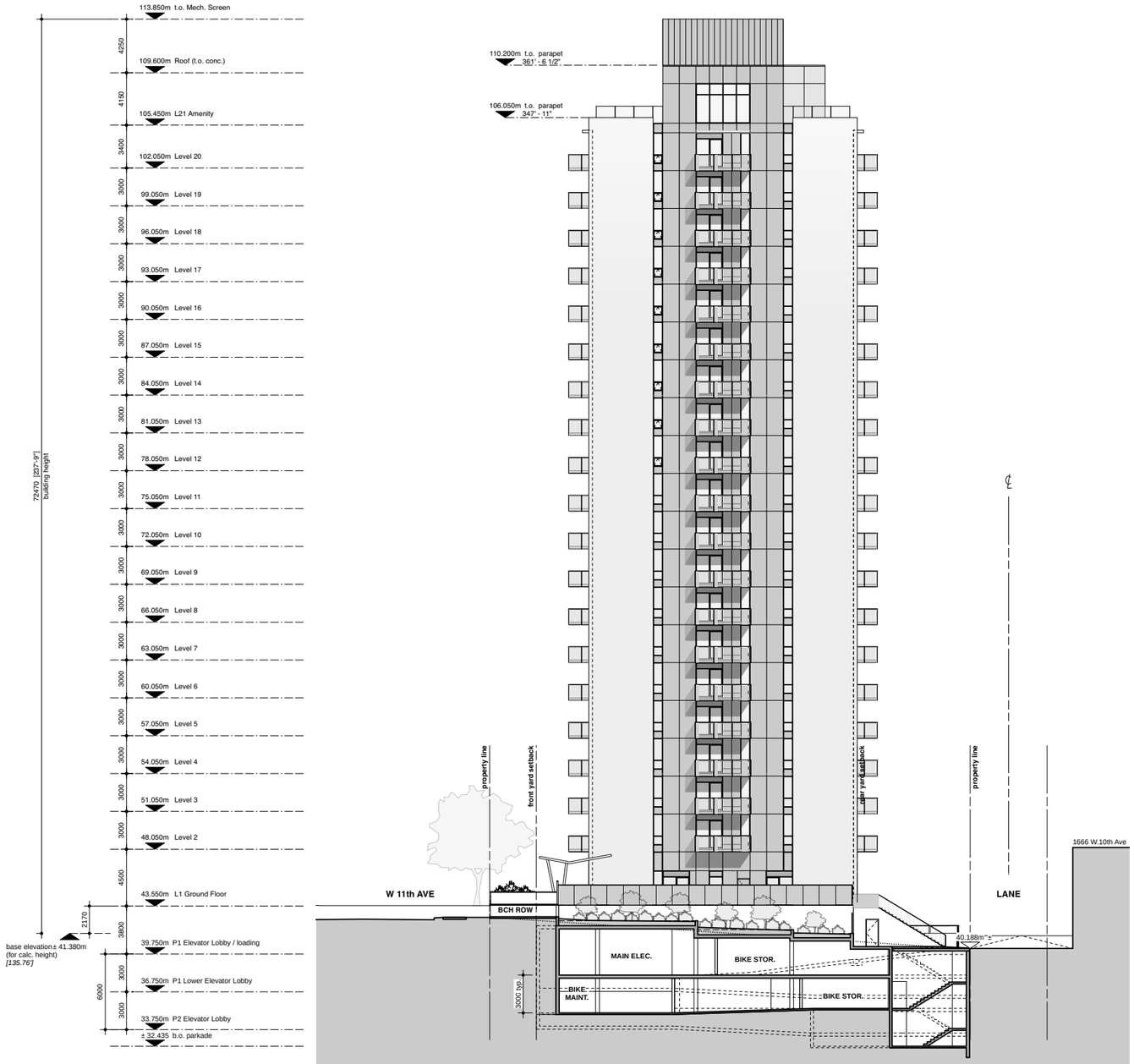


west elevation



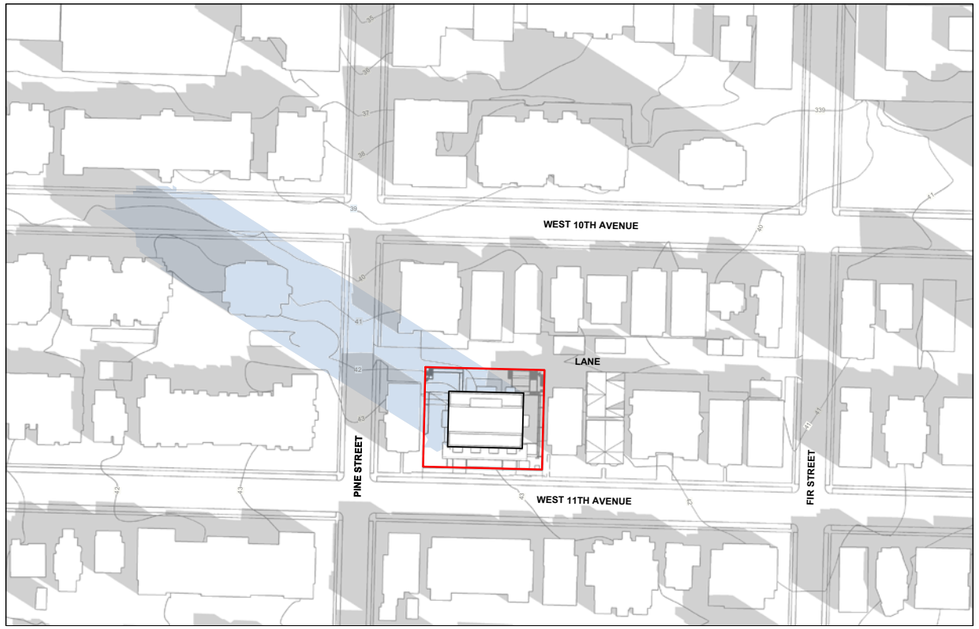
section 1/A201

section 2/A201

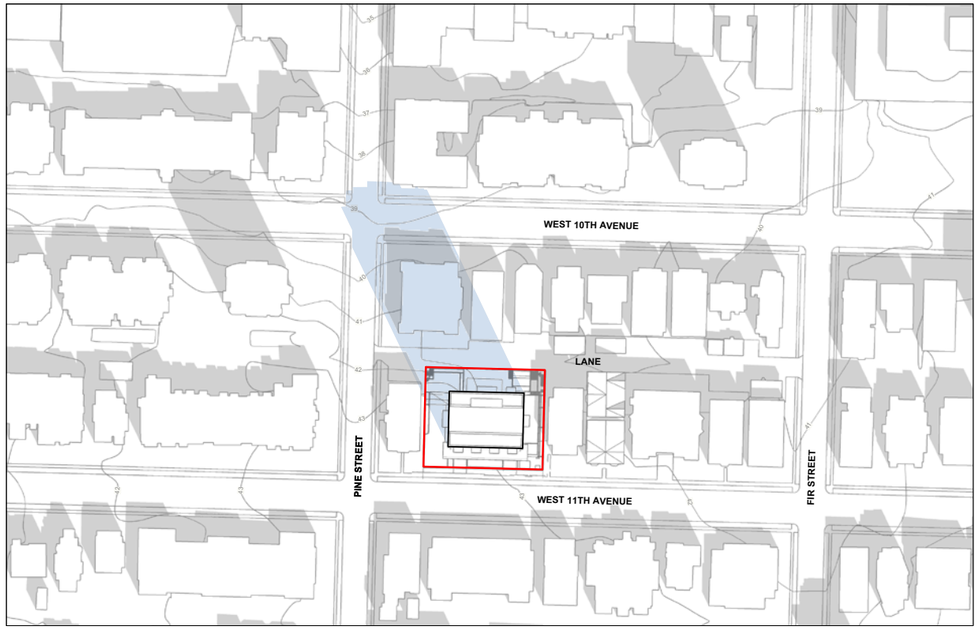


section 1/A202

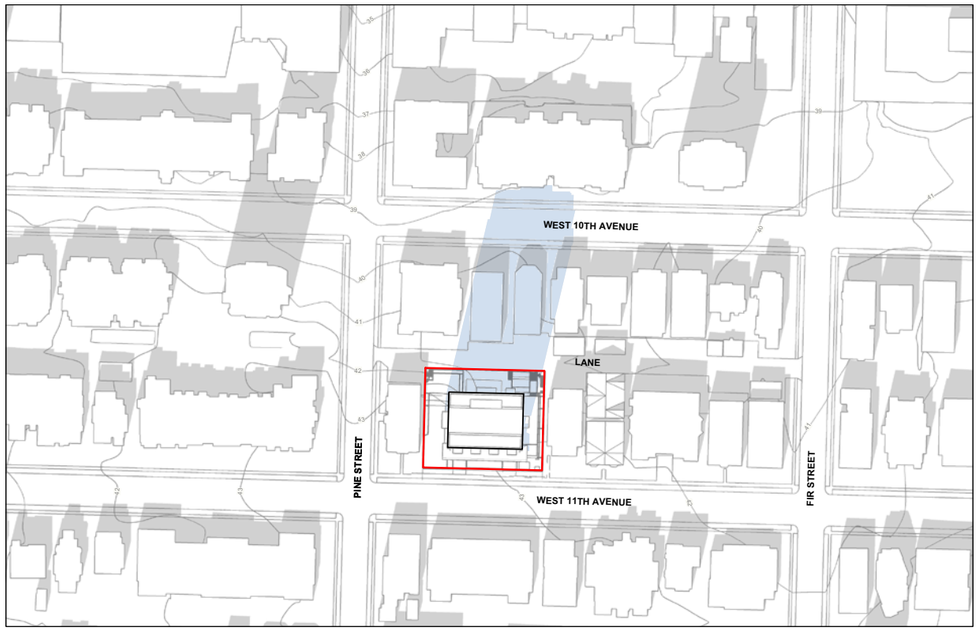
building shadow study | spring equinox 4.9



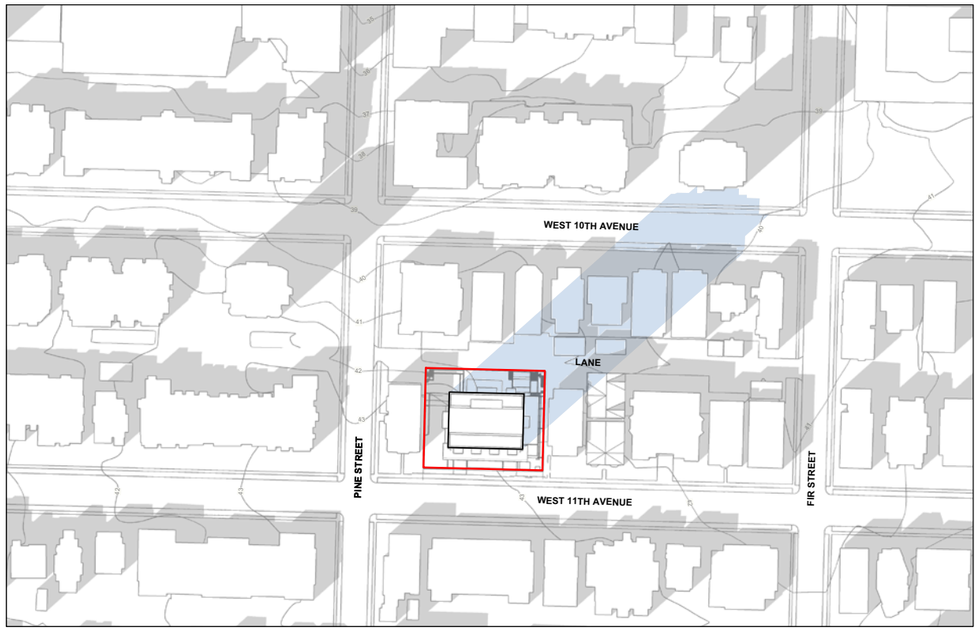
March 21 - 10am (UTC-7)



March 21 - 12pm (UTC-7)



March 21 - 2pm (UTC-7)

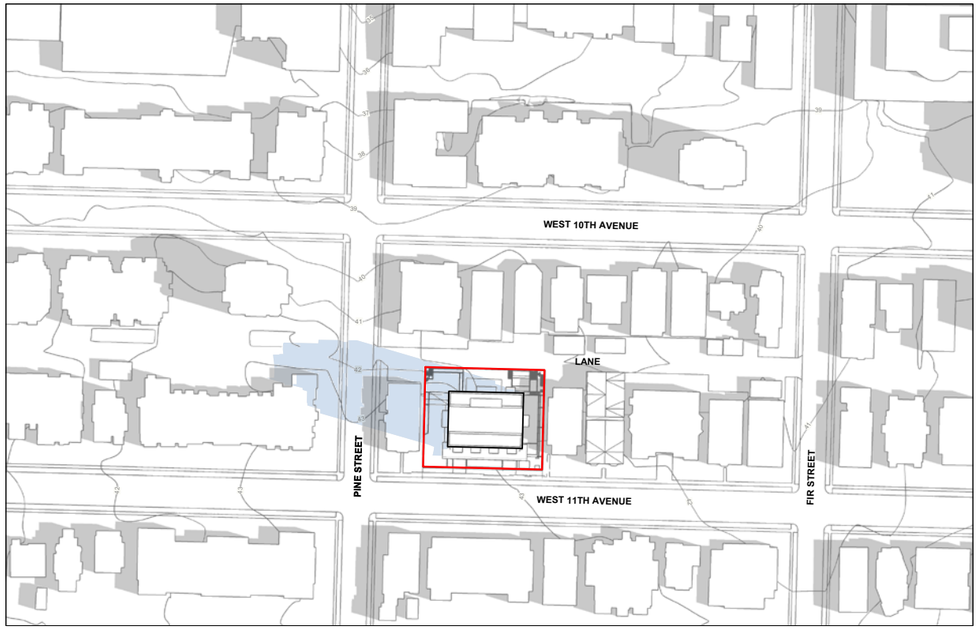


March 21 - 4pm (UTC-7)

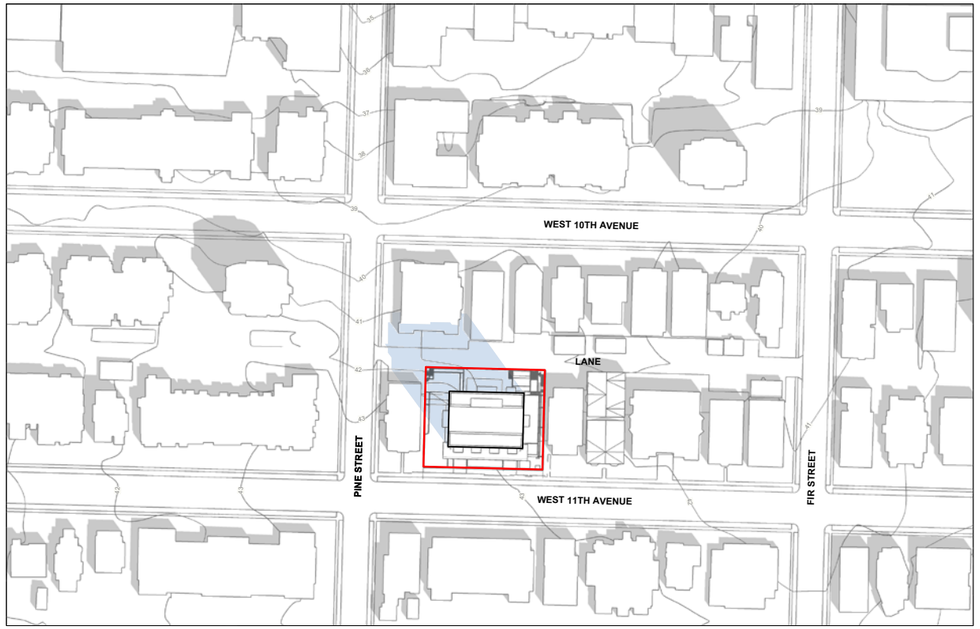
site

proposed development shadow

building shadow study | summer solstice 4.9



June 21 - 10am (UTC-7)



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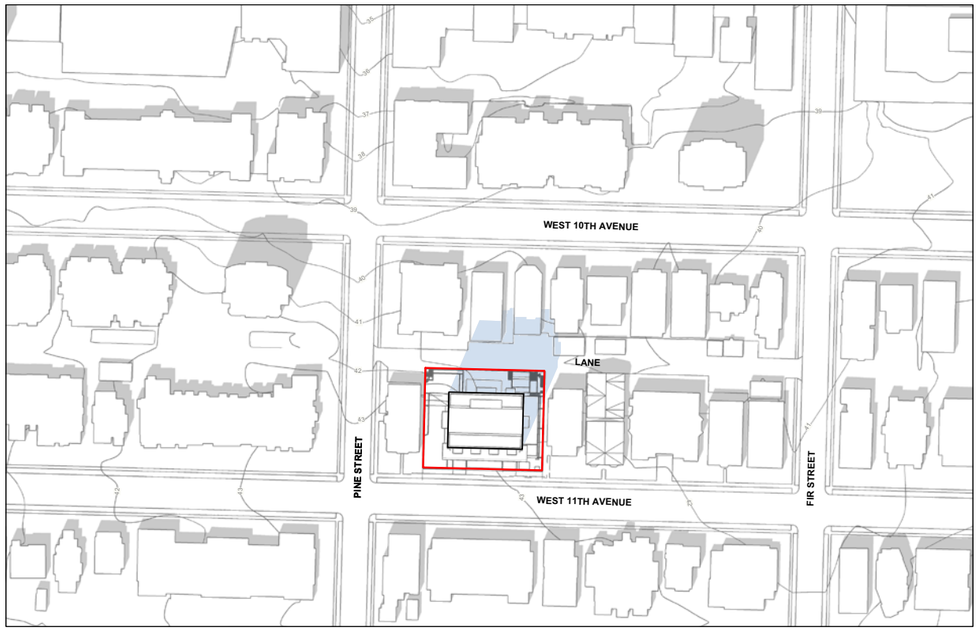

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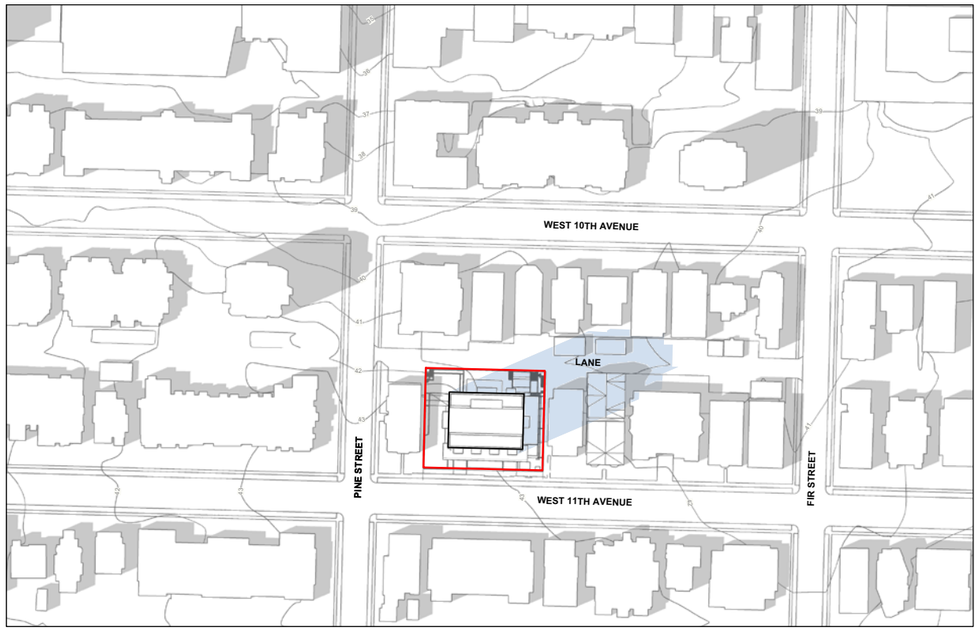
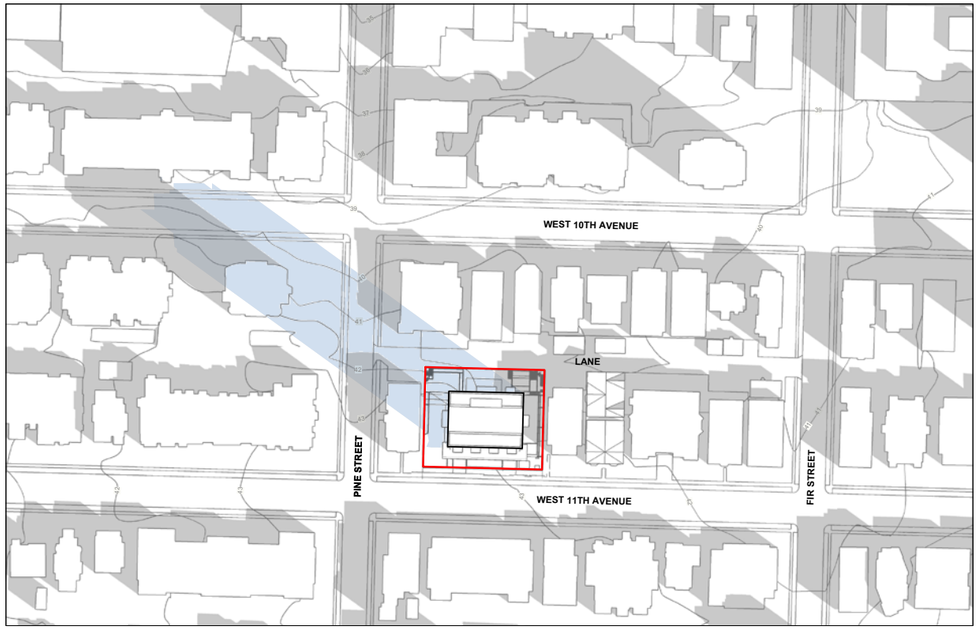


June 21 - 4pm (UTC-7)

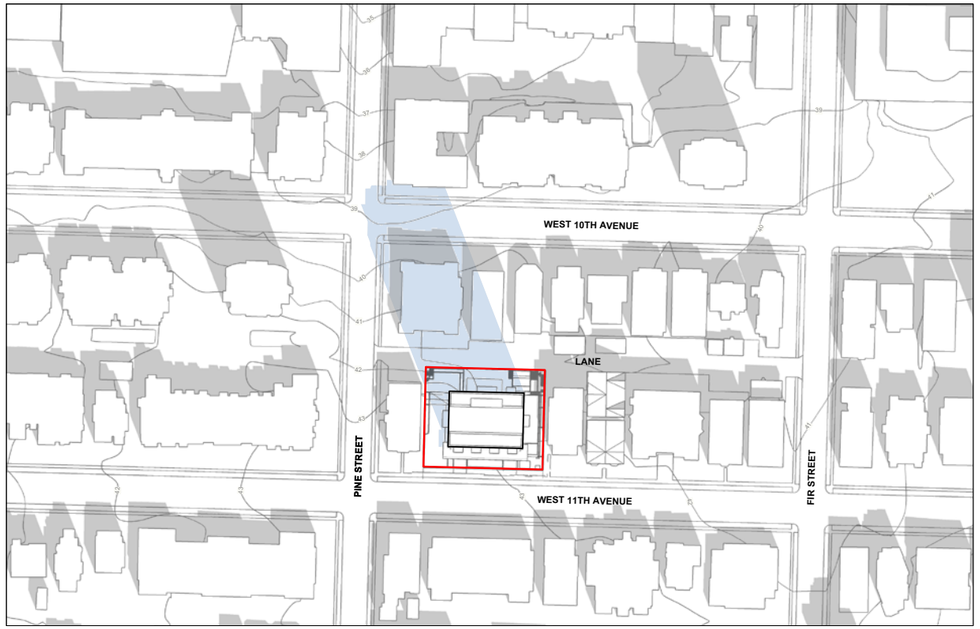
site

proposed development shadow

building shadow study | fall equinox 4.9



Sept 22 - 10am (UTC-7)



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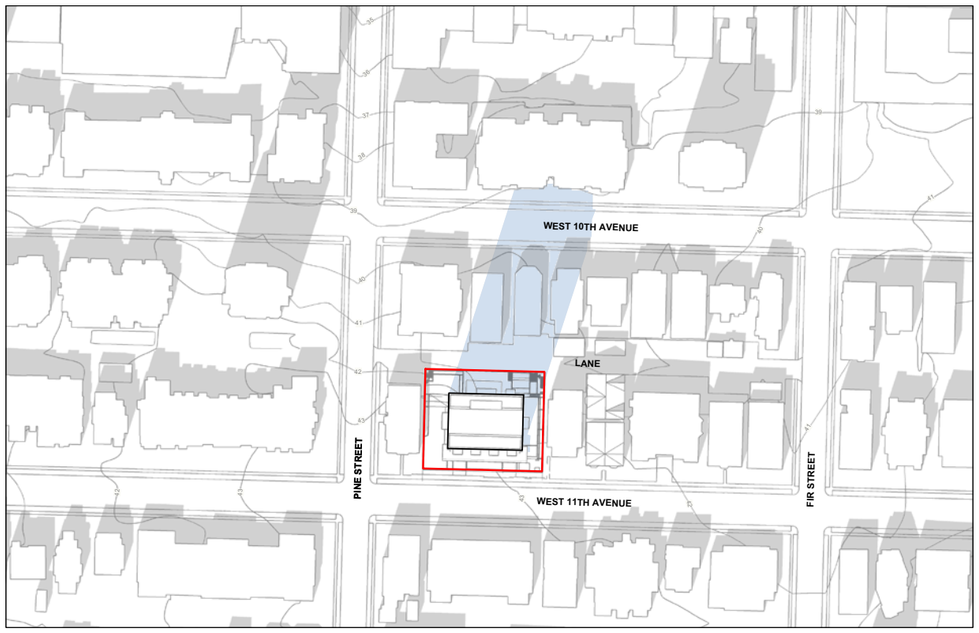

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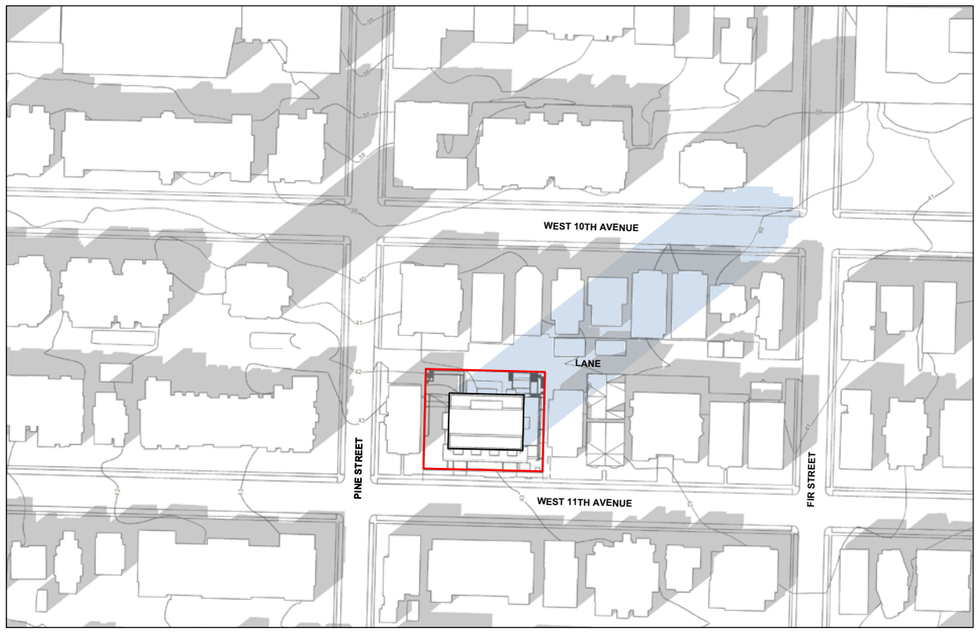


Sept 22 - 4pm (UTC-)

site

proposed development shadow




1685


1685



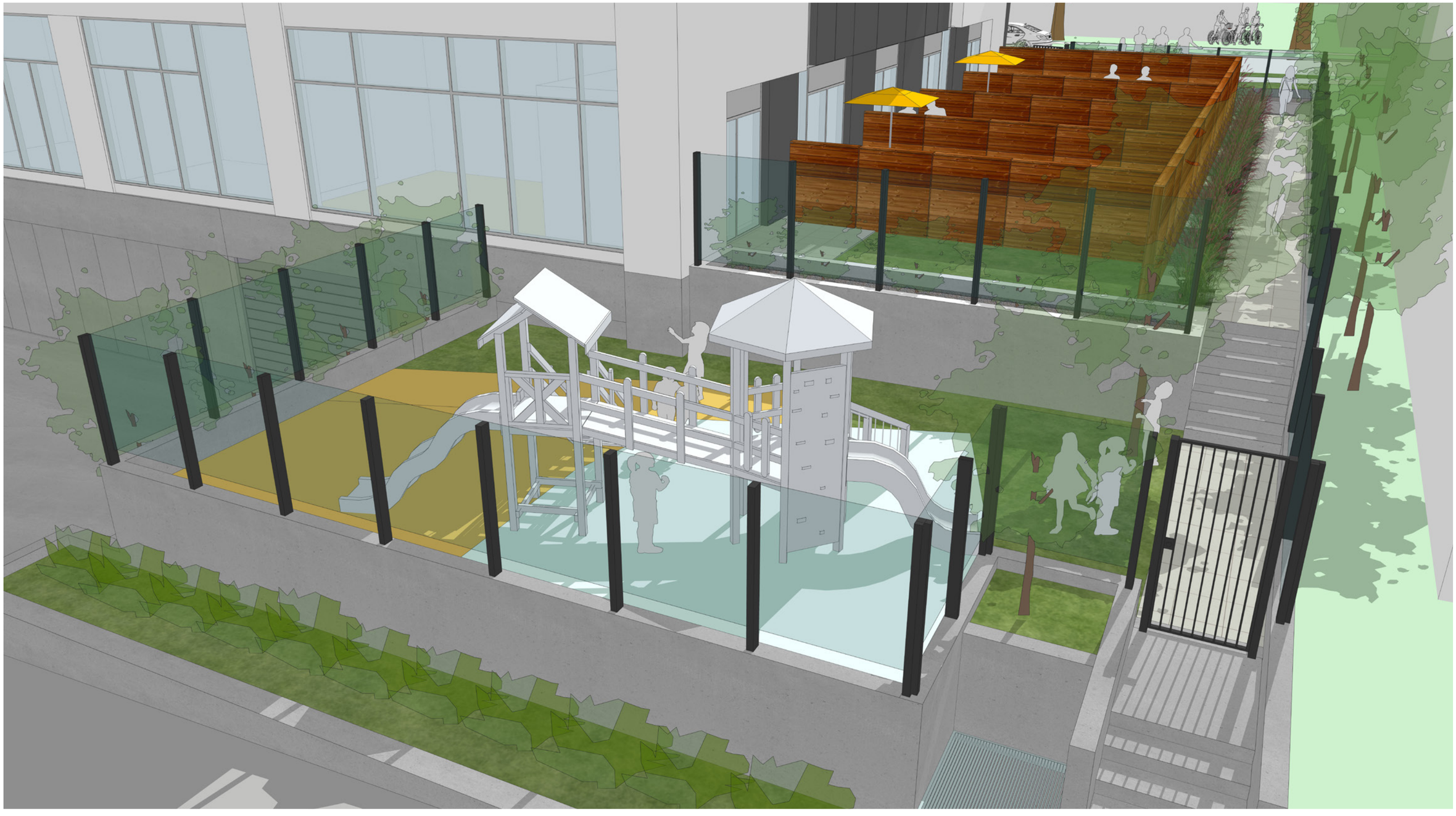






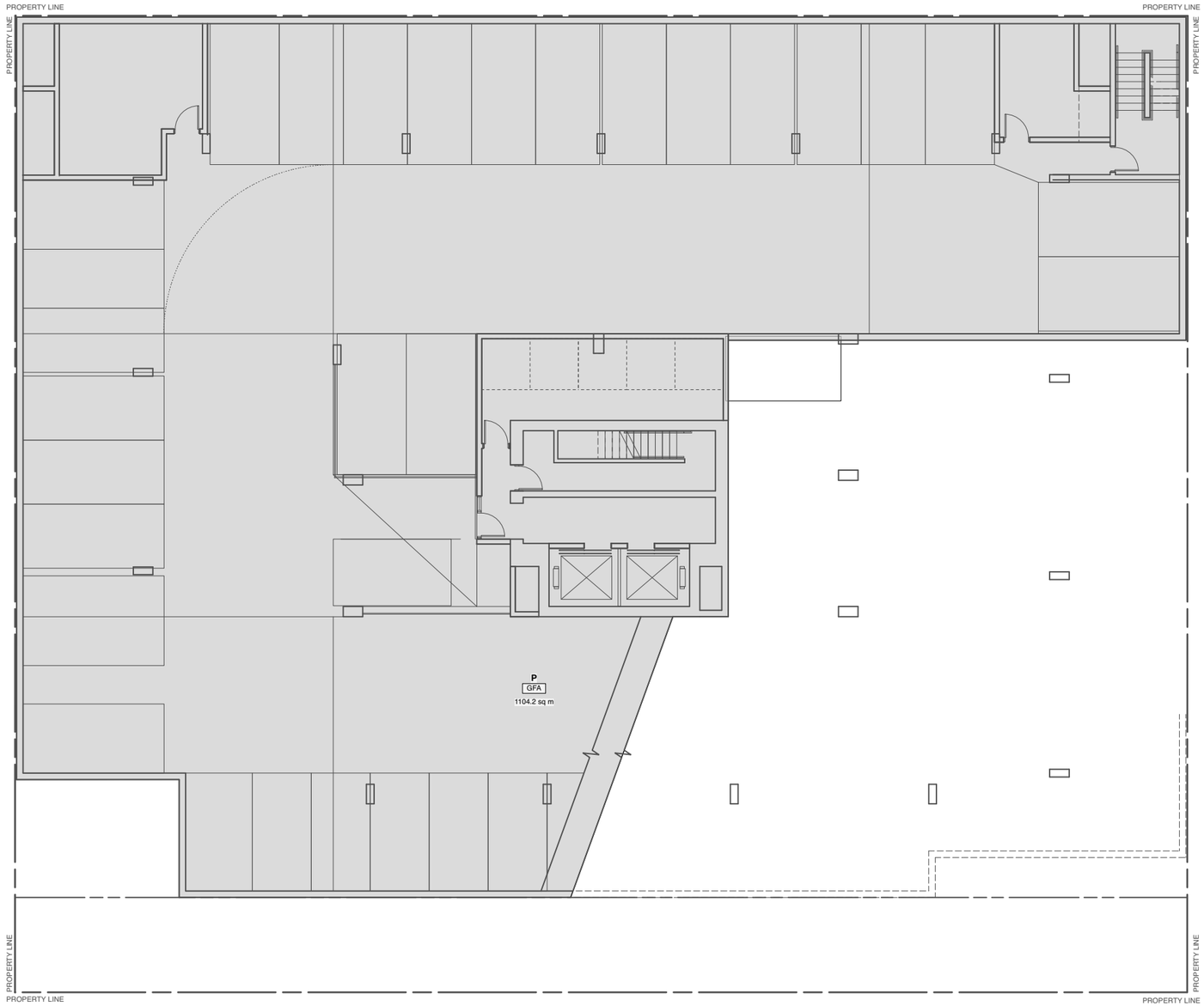

1685







FSR | level P2 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

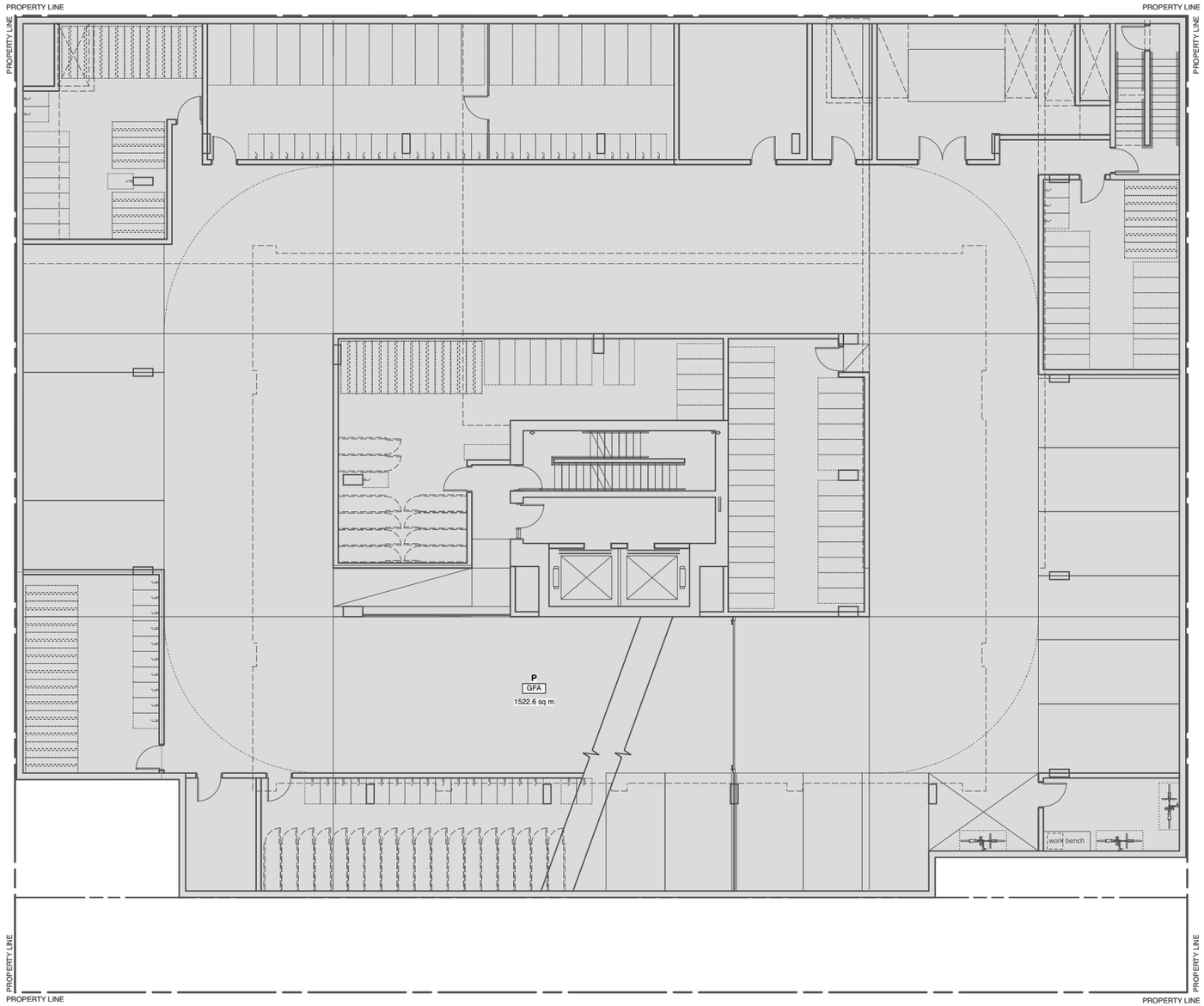
	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Parkade FSR Calculations *(all parkade levels)*			**sm**	**sf**
Gross Area	Parkade - P1 Upper	**P**	1,096.3	11,800.5
	Parkade - P1 Lower	**P**	1,522.6	16,389.1
	Parkade - P1	**P**	1,104.2	12,332.2
Subtotal Gross Area			**3,723.1**	**40,075.1**
Exclusions	Parkade - P1 Upper	**P**	1,096.3	11,800.5
	Parkade - P1 Lower	**P**	1,522.6	16,389.1
	Parkade - P1	**P**	1,104.2	11,885.5
Subtotal FSR Exclusions			**3,723.1**	**40,075.1**
Total Area of Parkade for FSR Calculations			**0.0**	**0.0**

FSR | level P1 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
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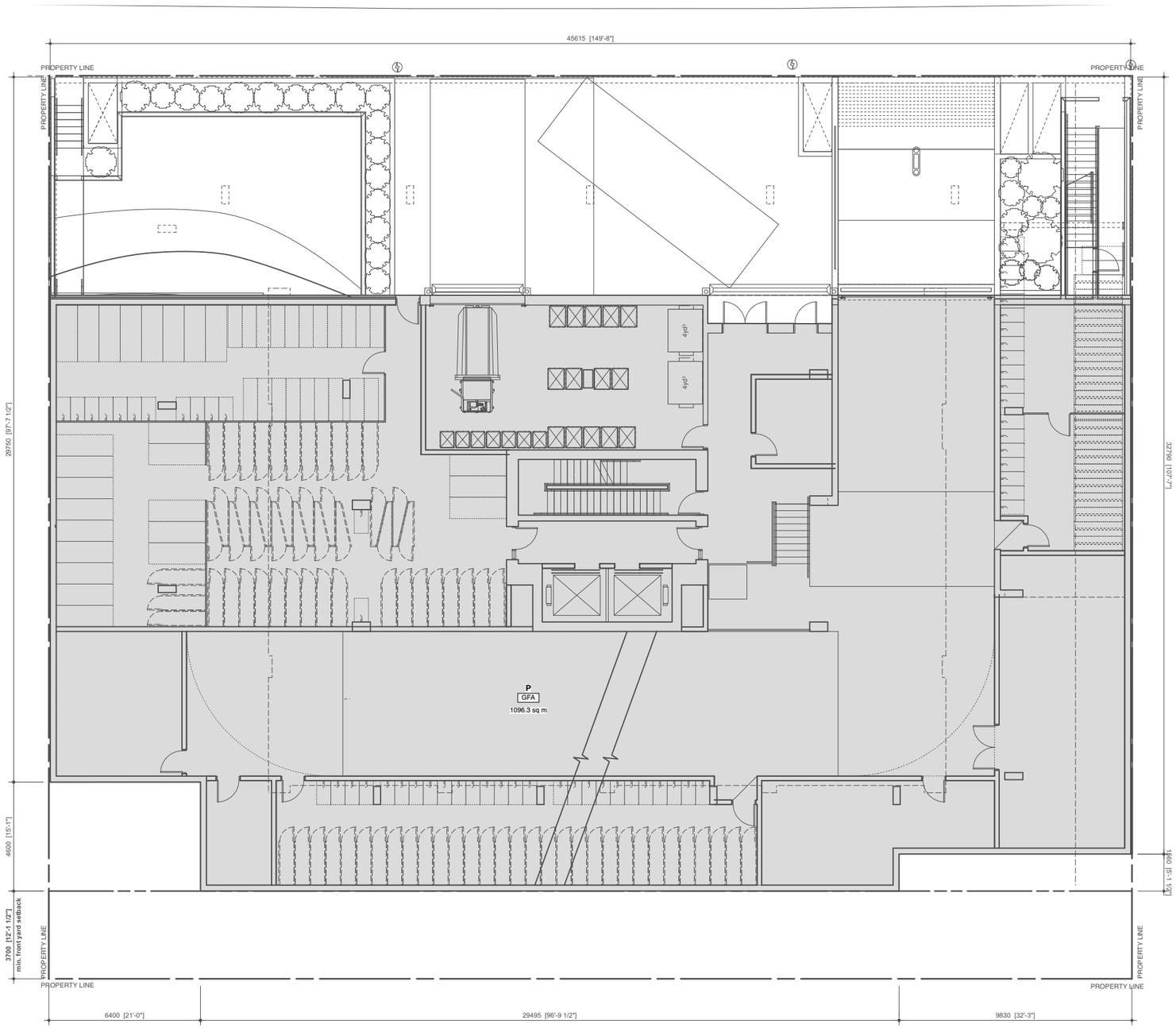
Exclusions	Parkade - P1 Upper	**P**	1,096.3	11,800.5
	Parkade - P1 Lower	**P**	1,522.6	16,389.1
	Parkade - P1	**P**	1,104.2	11,885.5
Subtotal FSR Exclusions			**3,723.1**	**40,075.1**
Total Area of Parkade for FSR Calculations			**0.0**	**0.0**

FSR | level P1 upper overlay **4.11**



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

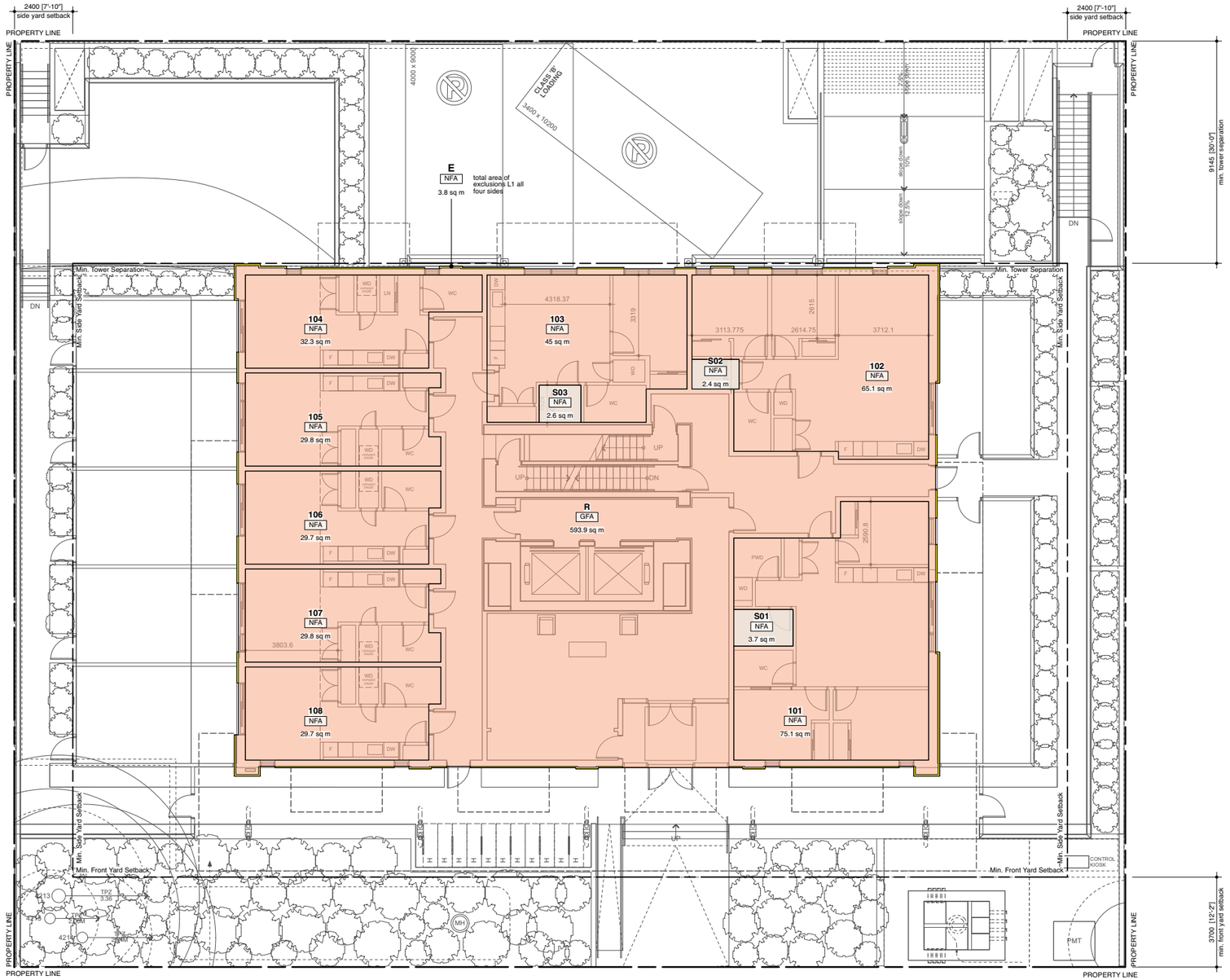
	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Parkade FSR Calculations *(all parkade levels)*			**sm**	**sf**
Gross Area	Parkade - P1 Upper	**P**	1,096.3	11,800.5
	Parkade - P1 Lower	**P**	1,522.6	16,389.1
	Parkade - P1	**P**	1,104.2	12,332.2
Subtotal Gross Area			**3,723.1**	**40,075.1**
Exclusions	Parkade - P1 Upper	**P**	1,096.3	11,800.5
	Parkade - P1 Lower	**P**	1,522.6	16,389.1
	Parkade - P1	**P**	1,104.2	11,885.5
Subtotal FSR Exclusions			**3,723.1**	**40,075.1**
Total Area of Parkade for FSR Calculations			**0.0**	**0.0**

FSR | level 1 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Level 1 FSR Calculations			sm	sf
Gross Area	Residential	R	594.6	6,400.2
	Childcare	C	0.0	0.0
Subtotal Gross Area			**594.6**	**6,400.2**
Exclusions	Envelope	E	4.0	43.1
	Storage	S	8.7	93.6
Subtotal FSR Exclusions			**12.7**	**136.7**
Total Area for FSR Calculations *(level 1 only)*			**581.9**	**6,263.5**

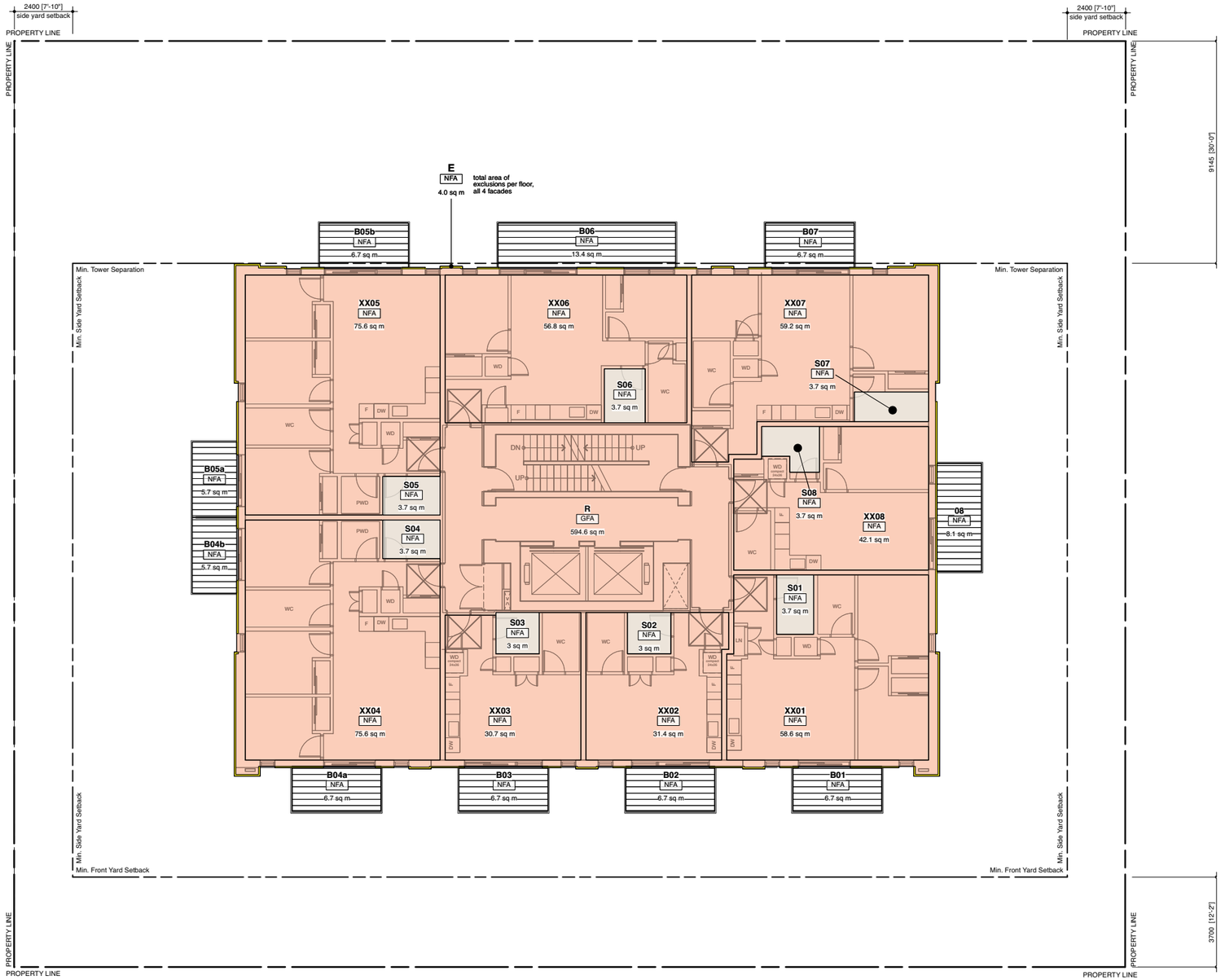
Level 1 Net Area Calculations *(per floor)*

Residential Storage			sm	sf
		S01	3.7	39.8
		S02	2.4	25.8
		S03	2.6	28.0
Total Storage Area	Storage	**S**	**8.7**	**93.6**

Level 1 Net Unit Areas	Unit #	Unit Type	sm	sf
	101	3bed	75.1	808.4
	102	2bed	65.1	700.7
	103	1bed	52.7	567.3
	104	studio	32.3	347.7
	105	studio	29.8	320.8
	106	studio	29.7	319.7
	107	studio	29.8	320.8
	108	studio	29.7	319.7
Number of Units per floor				**8.0**
Total Net Area of Units per floor			**344.2**	**3,704.9**

Notes: 1. unit net areas measured to interior face of walls
2. excludes in-suite storage area

FSR | levels 2-10 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Level 2-10 FSR Calculations *(per floor)*			sm	sf
Gross Area	Residential	R	594.6	6,400.2
	Balcony	B	73.1	786.8
Subtotal Gross Area			**667.7**	**7,187.1**
Exclusions	Envelope	E	4.0	43.1
	Storage	S	28.2	303.5
	Balcony	B	73.1	786.8
Subtotal FSR Exclusions			**105.3**	**1,133.4**
Total Area for FSR Calculations *(per floor, level 2-10)*			**562.4**	**6,053.6**

Level 2-10 Net Area Calculations *(per floor)*

Residential Storage	sm	sf
S01	3.7	39.8
S02	3.0	32.3
S03	3.0	32.3
S04	3.7	39.8
S05	3.7	39.8
S06	3.7	39.8
S07	3.7	39.8
S08	3.7	39.8

Total Storage Area	Storage	**S**	**28.2**	**303.5**

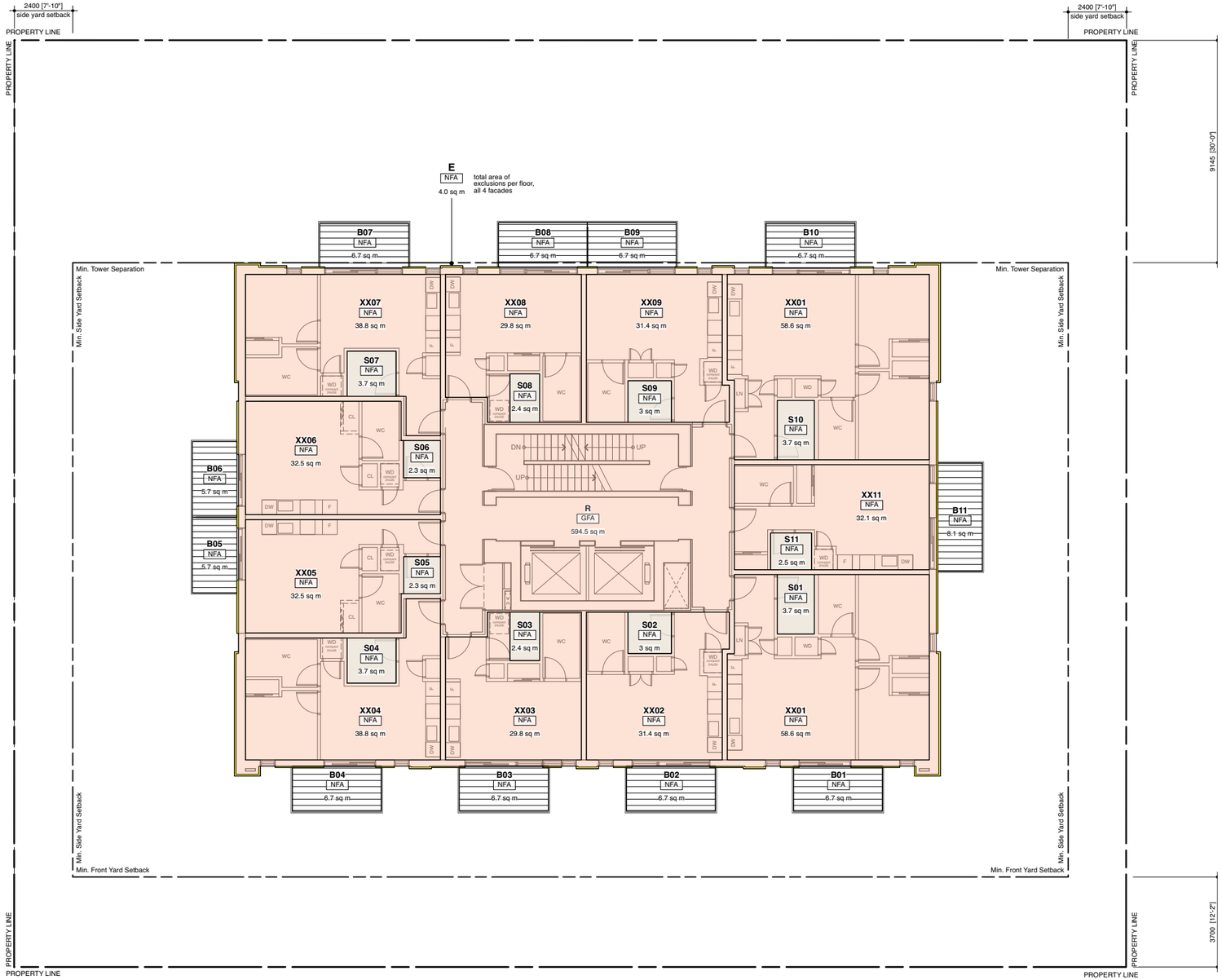
Residential Balcony	sm	sf
B01	6.7	72.1
B02	6.7	72.1
B03	6.7	72.1
B04a	6.7	72.1
B04b	5.7	61.4
B05a	5.7	61.4
B05b	6.7	72.1
B06	13.4	144.2
B07	6.7	72.1
B08	8.1	87.2

Total Balcony Area	Balcony	**B**	**73.1**	**786.8**

Level 2-10 Net Unit Areas	**Unit #**	**Unit Type**	**sm**	**sf**
	XX01	2bed	58.6	630.8
	XX02	studio	31.4	338.0
	XX03	studio	30.7	330.5
	XX04	3bed	75.6	813.8
	XX05	3bed	75.6	813.8
	XX06	2bed	56.8	611.4
	XX07	2bed	59.2	637.2
	XX08	1bed	42.1	453.2
Number of Units per floor				**8.0**
Total Net Area of Units per floor			**430**	**4,628.5**

Notes: 1. unit net areas measured to interior face of walls
2. excludes in-suite storage area

FSR | levels 11-20 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Level 11-20 FSR Calculations *(per floor)*			sm	sf
Gross Area	Residential	R	594.6	6,400.2
	Balcony	B	73.1	**786.8**
Subtotal Gross Area			**667.7**	**7,187.1**
Exclusions	Envelope	E	4.0	43.1
	Storage	S	32.7	352.0
	Balcony	B	73.1	786.8
Subtotal FSR Exclusions			**109.8**	**1,181.9**
Total Area for FSR Calculations *(per floor, level 11-20)*			**557.9**	**6,005.2**

Level 11-20 Net Area Calculations *(per floor)*

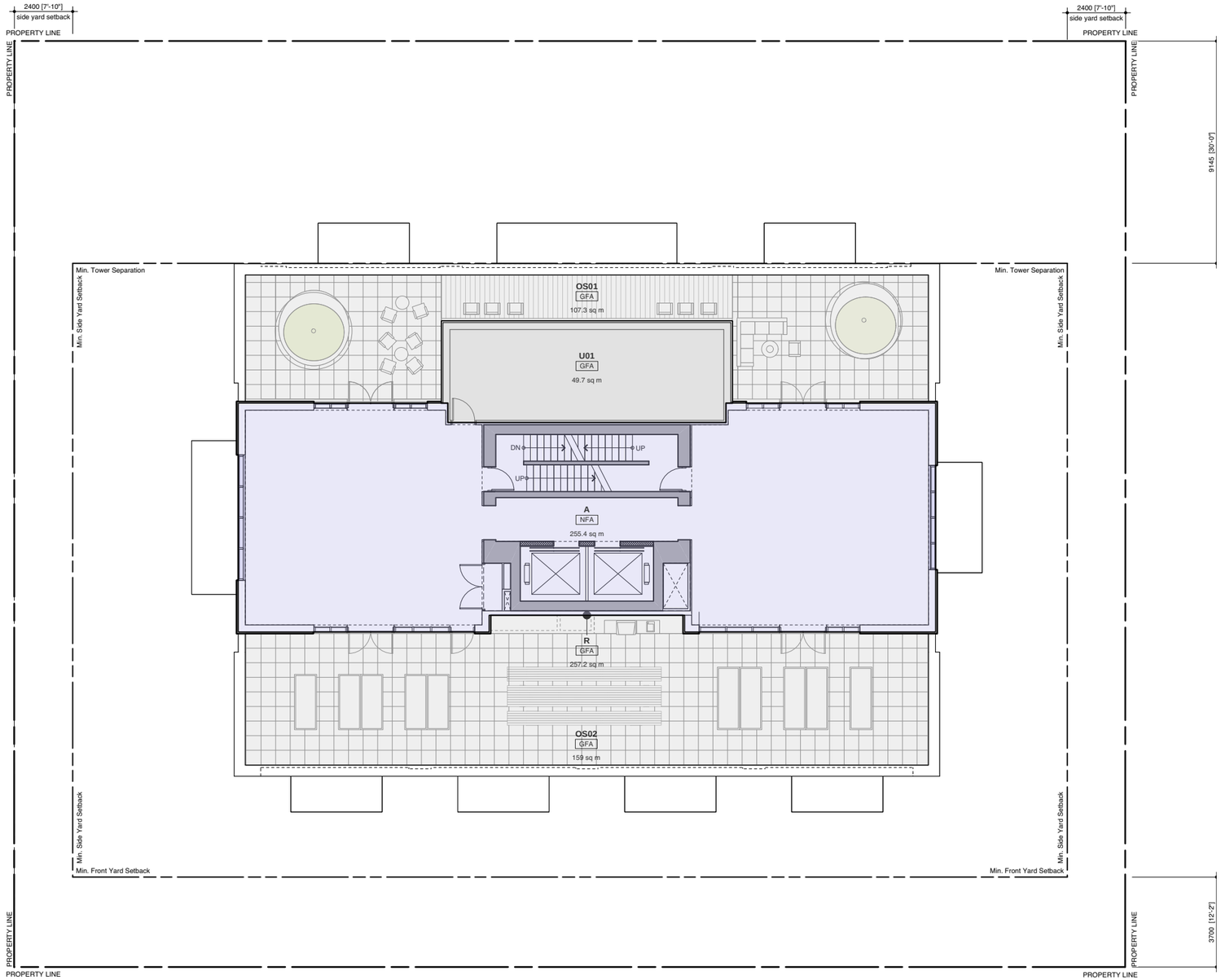
Residential Storage			sm	sf
		S01	3.7	39.8
		S02	3.0	32.3
		S03	2.4	25.8
		S04	3.7	39.8
		S05	2.3	24.8
		S06	2.3	24.8
		S07	3.7	39.8
		S08	2.4	25.8
		S09	3.0	32.3
		S10	3.7	39.8
		S11	2.5	26.9
Total Storage Area	Storage	**S**	**32.7**	**352.0**

Residential Balcony			sm	sf
		B01	6.7	72.1
		B02	6.7	72.1
		B03	6.7	72.1
		B04	6.7	72.1
		B05	5.7	61.4
		B06	5.7	61.4
		B07	6.7	72.1
		B08	6.7	72.1
		B09	6.7	72.1
		B10	6.7	72.1
		B11	8.1	87.2
Total Balcony Area	Balcony	**B**	**73.1**	**786.8**

Level 11-20 Net Unit Areas	**Unit #**	**Unit Type**	**sm**	**sf**
	XX01	2bed	58.6	630.8
	XX02	studio	31.4	338.0
	XX03	studio	29.8	320.8
	XX04	1bed	38.8	417.6
	XX05	studio	32.5	349.8
	XX06	studio	32.5	349.8
	XX07	1bed	38.8	417.6
	XX08	studio	29.8	320.8
	XX09	studio	31.4	338.0
	XX10	2bed	58.6	630.8
	XX11	studio	32.1	345.5
Number of Units per floor				**11.0**
Total Net Area of Units per floor			**414.3**	**4,459.5**

Notes: 1. unit net areas measured to interior face of walls
2. excludes in-suite storage area

FSR | level 21 overlay 4.11



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

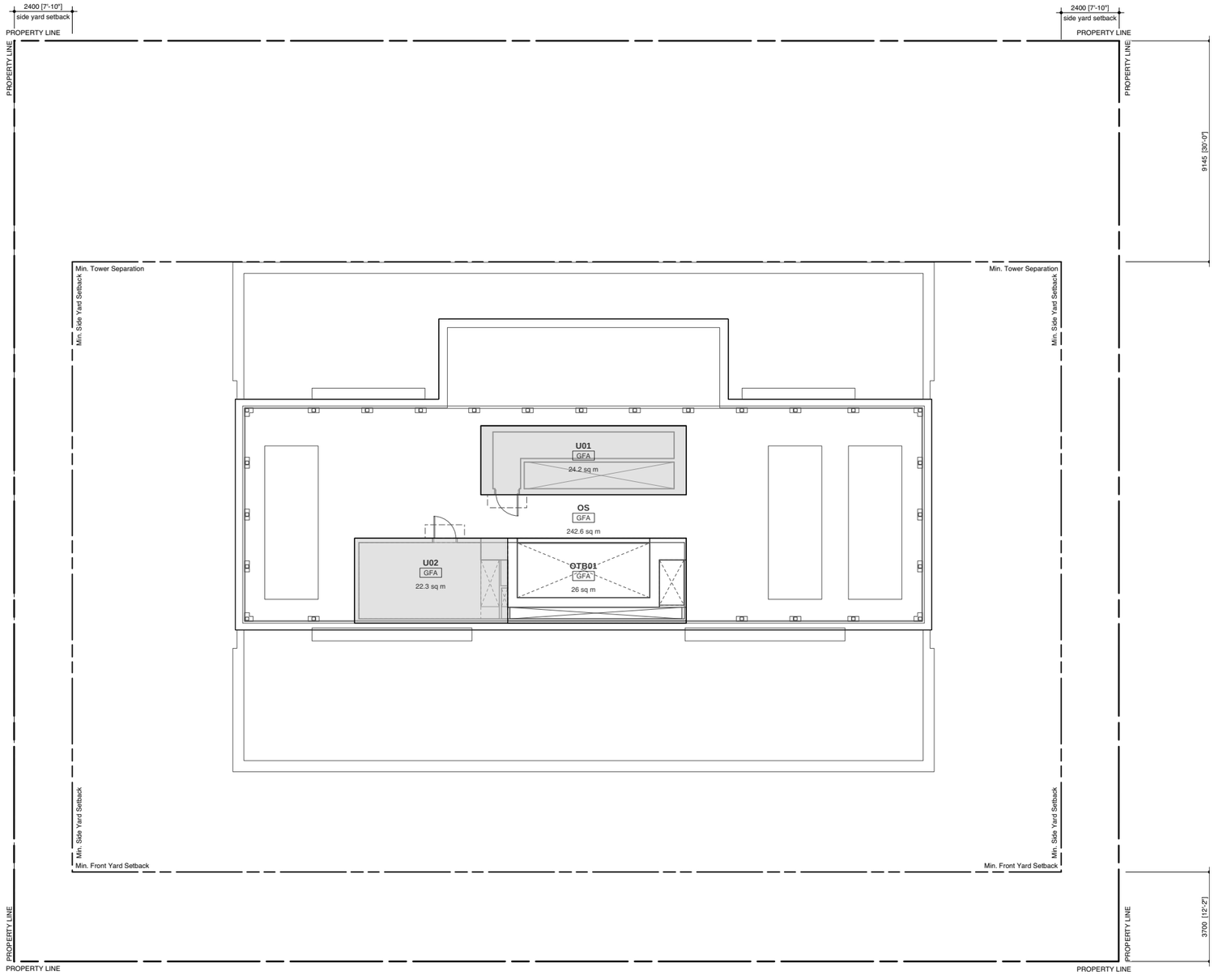
	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Level 21 FSR Calculations			sm	sf
Gross Area	Residential	**R**	257.2	2,768.5
	Utility	**U01**	49.7	535.0
Subtotal Gross Area			**306.9**	**3,303.4**
Exclusions	Envelope	**E**	3.1	33.4
	Amenity	**A**	255.4	2,749.1
Subtotal FSR Exclusions			**258.5**	**2,782.5**
Total Area for FSR Calculations *(level 21 only)*			**48.4**	**521.0**

FSR | roof level overlay **4.11**



Area Legend

	R	RESIDENTIAL
	U	UTILITY/ MECH

Exclusions

	S	STORAGE (RES.)
	B	BALCONY
	A	AMENITY
	P	PARKADE
	OTB	OPEN TO BELOW
	E	ENVELOPE (RES.)

Abbreviations

GFA	Gross Floor Area
NFA	Net Floor Area

Mechanical Rooftop FSR Calculations			sm	
Gross Area	Utility	**U**	46.5	500
	Open to Below	**OTB01**	26.0	279
Subtotal Gross Area			**72.5**	**780**
Exclusions	Open to Below	**OTB01**	**26.0**	**279**
Total Area for FSR Calculations *(mechanical rooftop only)*			**46.5**	**500**



5 additional information

TOPOGRAPHIC PLAN FOR PROPOSED CONSOLIDATION OF THE FOLLOWING LOTS:

LOT 18 BLOCK 369 DISTRICT LOT 526 PLAN 1949
STRATA PLAN VR764 BLOCK 369 DISTRICT LOT 526
STRATA PLAN VR216 BLOCK 369 DISTRICT LOT 526

FOR PERMIT APPLICATION PURPOSES ONLY

CIVIC ADDRESS:
1665/1675/1685 WEST 11TH AVENUE
VANCOUVER, BC

ZONE: RM-3

P.I.D:

007-372-418 (LOT 18)
005-831-687 (STRATA LOT 1 - MULTIPLE ADDITONAL PID'S FOR VR764)
003-740-064 (STRATA LOT 1 - MULTIPLE ADDITONAL PID'S FOR VR216)

NOTES:

ELEVATIONS ARE IN FEET TO CITY OF VANCOUVER CVD28GVRD2018 GEODETIC DATUM DERIVED FROM MONUMENT V-3310 WITH ELEVATION=143.36.

ALL TREES AND STUMPS HAVE BEEN PLOTTED AS REQUIRED BY VANCOUVER PROTECTION OF TREES BYLAW No. 9958.

BUILDING DIMENSIONS AND OFFSETS ARE TAKEN TO THE OUTSIDE FACE OF THE BUILDING.

LOT DIMENSIONS AND AREA ARE SHOWN ACCORDING TO LAND TITLE OFFICE RECORDS.

ALL DIMENSIONS OTHER THAN LOT AND ENVELOPE DIMENSIONS ARE SHOWN TO THE NEAREST 0.1 FEET.

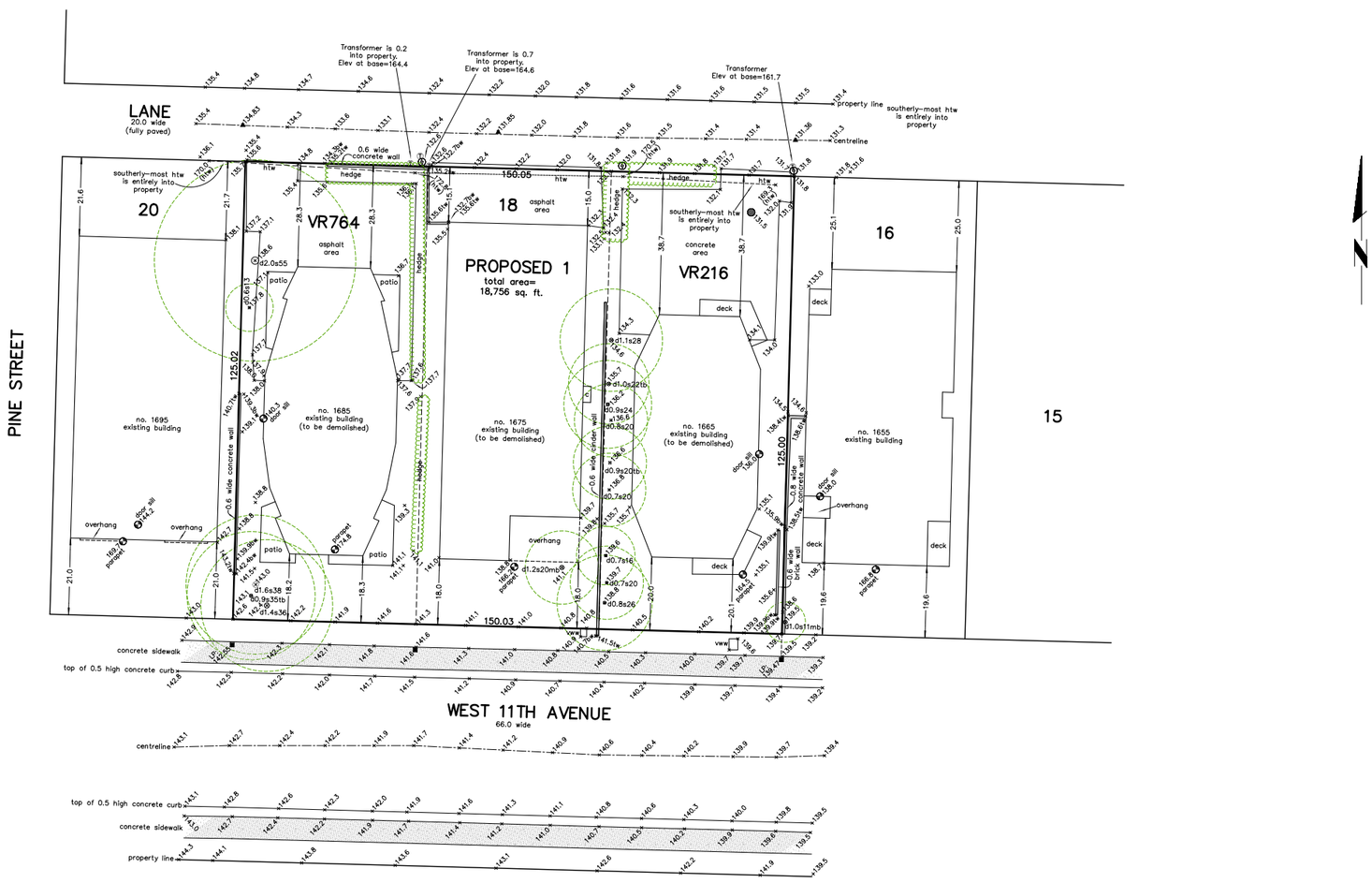
THIS PLAN WAS PREPARED FOR PERMIT AND DESIGN PURPOSES AND IS FOR THE EXCLUSIVE USE OF OUR CLIENT AND THEIR AUTHORIZED AGENTS. THE SIGNATORY ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES THAT MAY BE SUFFERED BY A THIRD PARTY AS A RESULT OF REPRODUCTION, TRANSMISSION, OR ALTERATION OF THIS DOCUMENT WITHOUT CONSENT OF THE SIGNATORY.

LEGEND:

- x142.8 DENOTES ELEVATION
- ■ DENOTES LEAD PLUG
- ▲ DENOTES CONCRETE NAIL
- c DENOTES CHIMNEY
- mb DENOTES MULTIBOLE
- tb DENOTES TWINBOLE
- tw DENOTES TOP OF WALL
- bw DENOTES BOTTOM OF WALL
- htw DENOTES HIGH TENSION WIRE
- vww DENOTES VANCOUVER WATER WELL
- DENOTES POWER POLE
- DENOTES CATCH BASIN
- DENOTES TRANSFORMER

TREE LEGEND:

d1.0s15mb
- DENOTES TYPE (IF APPLICABLE)
- DENOTES SPAN
- DENOTES DIAMETER



LYON PHILLIPS
B.C. LAND SURVEYORS
102-1537 WEST 8TH AVENUE
VANCOUVER, B.C. V6J 1T5
604-737-8777
LYON@TELUS.NET
WWW.LFCSURVEY.COM

CERTIFIED CORRECT:
18TH DAY OF JULY, 2022.

B.C.L.S.

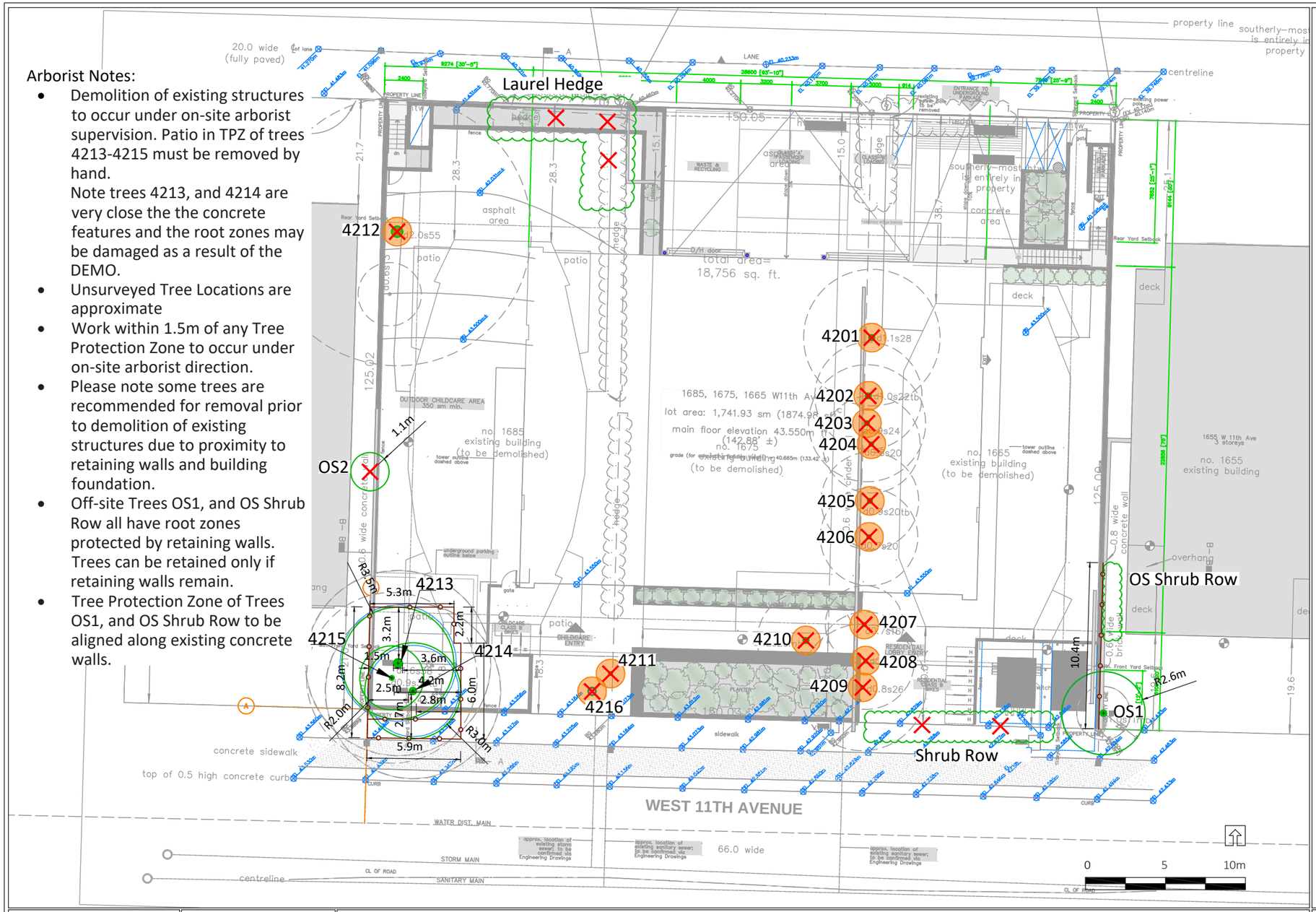
THIS DOCUMENT IS NOT VALID UNLESS ORIGINALLY SIGNED AND SEALED.

THIS PLAN IS TO BE USED FOR DESIGN PURPOSES ONLY.

SCALE: 1 in = 16 ft	DATE: 18TH JULY 2022	OUR FILE: 22136TOPO	CHK: KP DRWN: PN

Arborist Notes:

- Demolition of existing structures to occur under on-site arborist supervision. Patio in TPZ of trees 4213-4215 must be removed by hand.
  Note trees 4213, and 4214 are very close the the concrete features and the root zones may be damaged as a result of the DEMO.
- Unsurveyed Tree Locations are approximate
- Work within 1.5m of any Tree Protection Zone to occur under on-site arborist direction.
- Please note some trees are recommended for removal prior to demolition of existing structures due to proximity to retaining walls and building foundation.
- Off-site Trees OS1, and OS Shrub Row all have root zones protected by retaining walls. Trees can be retained only if retaining walls remain.
- Tree Protection Zone of Trees OS1, and OS Shrub Row to be aligned along existing concrete walls.



LEGEND

- CRITICAL ROOT ZONE
- TREE PROTECTION ZONE AND FENCING
- SURVEYED TREE TO BE RETAINED
- UN-SURVEYED TREE TO BE RETAINED (MUST BE SURVEYED)
- SURVEYED TREE TO BE REMOVED
- UN-SURVEYED TREE TO BE REMOVED (MUST BE SURVEYED)
- TREE TO BE REMOVED PRIOR TO DEMOLITION

NOTES

1. The location of un-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.
2. All tree protection fencing must be built to the relevant municipal bylaw specifications.The dimensions shown are from the outer edge of the stem of the tree.
3. The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. ($\frac{1}{2}$ the trees diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree)
4. Any construction activities or grade changes within the Root Protection Zone must be approved by the project arborist.
5. This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provide by the owners' Engineer (P Eng).
6. This plan is provided for context only, and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plan and engineering plans.

REFERENCE DRAWINGS

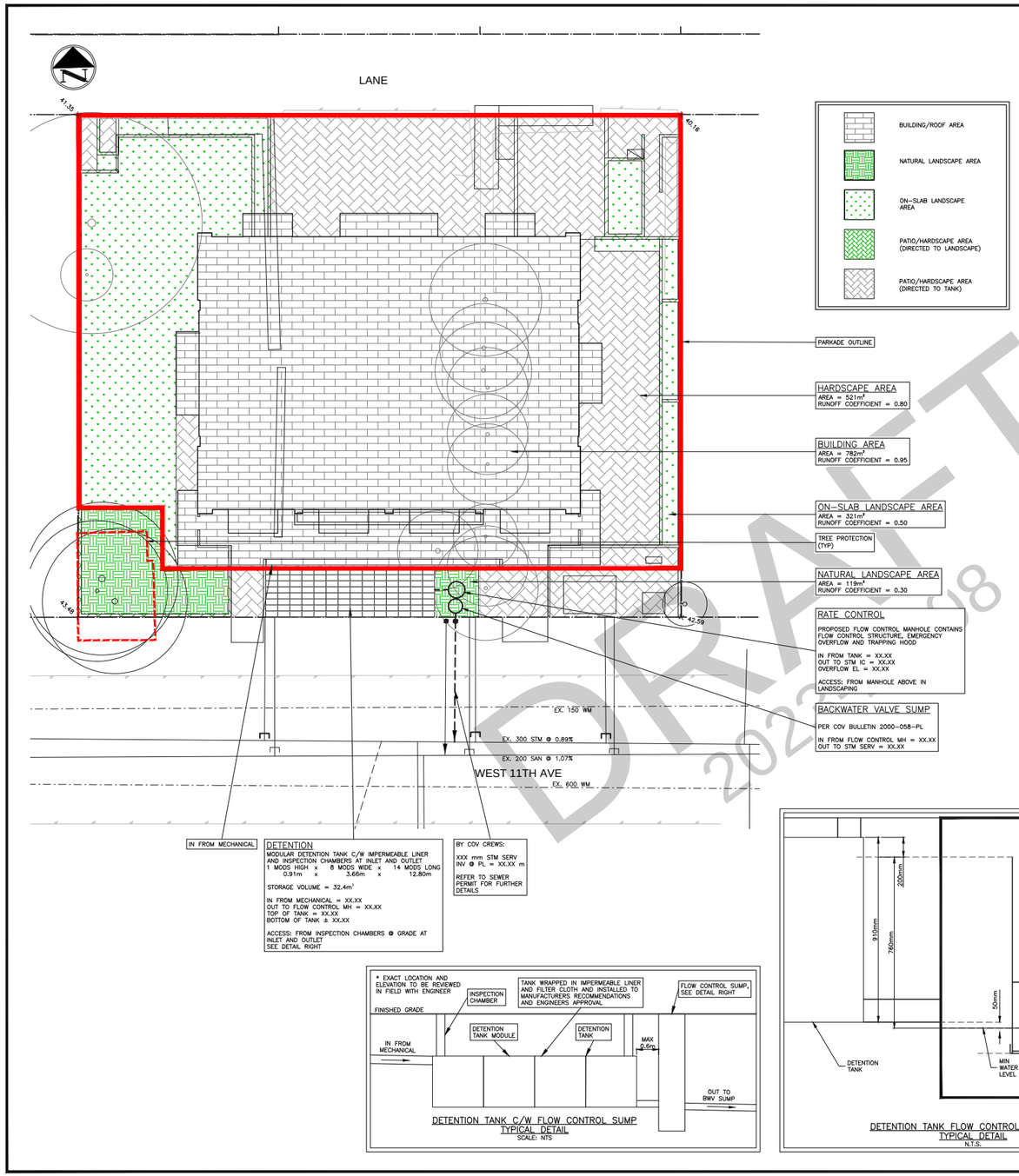
1. Base Survey provided by Lyon Phillips Surveying (July 18, 2022).
2. P1 Parking Plans provided by Acton Ostry Architects.

DIAMOND HEAD
3559 COMMERCIAL STREET
VANCOUVER BC | V5N 4E8
T 604.733.4886

Drawing title: Tree Management Plan
Project address: 1665, 1675, 1685 West 11th Avenue, Vancouver
Client: Acton Ostry

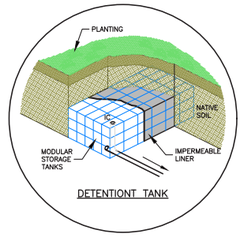
Drawing No: 001
Date: 2023/11/09
Drawn by: MS
Page Size: TABLOID 11"x17"

Page # 1 of 1

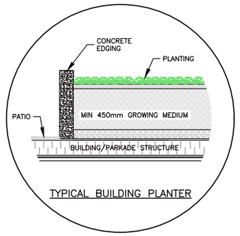


DETENTION TANK C/W FLOW CONTROL SUMP
TYPICAL DETAIL
SCALE: NTS

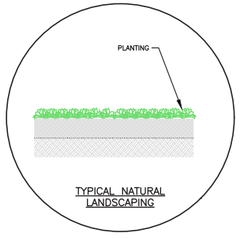
DETENTION TANK FLOW CONTROL STRUCTURE
TYPICAL DETAIL
N.T.S.



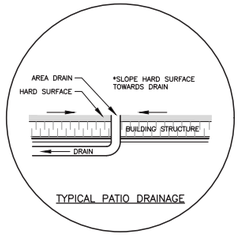
DETENTIONT TANK



TYPICAL BUILDING PLANTER



TYPICAL NATURAL LANDSCAPING



TYPICAL PATIO DRAINAGE

CREUS Engineering Ltd
Civil Engineers

Retention Facility Sizing

Project:	Pine & W 11th		File:	23293
Subject:	Integrated Rain Water Management Plan		Date:	4-Dec-23
Section:	Retention Facility Sizing Calculations		By:	AJH
Site Area	=	**1743** m²		
Total Rainfall on Site to be Captured	=	**41.8** m³		
Natural Landscape Storage Volume				
Natural Landscape Area	=	119 m²		
Minimum Soil Depth	=	450 mm		
Soil Water Holding Capacity	=	18%		
Storage Capacity	=	9.6 m³		
Rainfall Depth	=	24 mm		
Rainfall on Landscape	=	2.9 m³		
Total Natural Landscape Storage	=	**2.9 m³**		
On-Slab Landscape Storage Volume				
On-Slab Landscape Area	=	321 m²		
Minimum Soil Depth	=	450 mm		
Soil Water Holding Capacity	=	18%		
Storage Capacity	=	26.0 m³		
Rainfall Depth	=	24 mm		
Rainfall on Landscape	=	7.7 m³		
Total On-Slab Landscape Storage	=	**7.7 m³**		
Detention Tank Storage Volume				
Retention Tank Length	=	12.80 m	14 modules	
Retention Tank Width	=	3.66 m	8 modules	
Retention Tank Depth	=	0.91 m	1 modules	
Tank Porosity	=	97%		
Void Space	=	200 mm		
Total Tank Storage	=	**32.4 m³**		
Total Rainfall on Site	=	**41.8 m³**		
Total Rainfall To Be Captured	=	**41.8 m³**		
Total Storage	=	**43.0 m³**		***SUFFICIENT VOLUME***

RETENTION FACILITY STORAGE VOLUME

CREUS Engineering
Civil Engineers & Project Managers
#610 EAST TOWER - 221 ESPLANADE WEST, NORTH VANCOUVER BC, V7M3J3
PH: 604-987-9070 WEBSITE: www.creus.ca

PERMIT TO PRACTICE # 1001543

DRAWING LEGEND

	EXISTING	PROP.	TO BE REMOVED
LEGAL LINE			
EASEMENT			
WATERMAIN			
SANITARY			
STORM			
HYDRO			
TEL			
STREETLIGHT			
GAS			

	EXISTING	PROP.	TO BE REMOVED
FIRE HYDRANT			
GATE VALVE			
AIR VALVE			
REDUCER			
INSPECTION CHAMBER			
CATCHBASIN (STD/SI)			
CAP			
MANHOLE			
POWER POLE			
STREETLIGHT			

approved

client
PALMAR PROPERTIES INC.

project
1665-1685 WEST 11TH AVE
VANCOUVER, BC

title
PRELIMINARY
INT. RAINWATER MGMT

no.	(y/m/d)	revision	chk'd
1	23-12-08	ISSUED FOR COORDINATION	AJH

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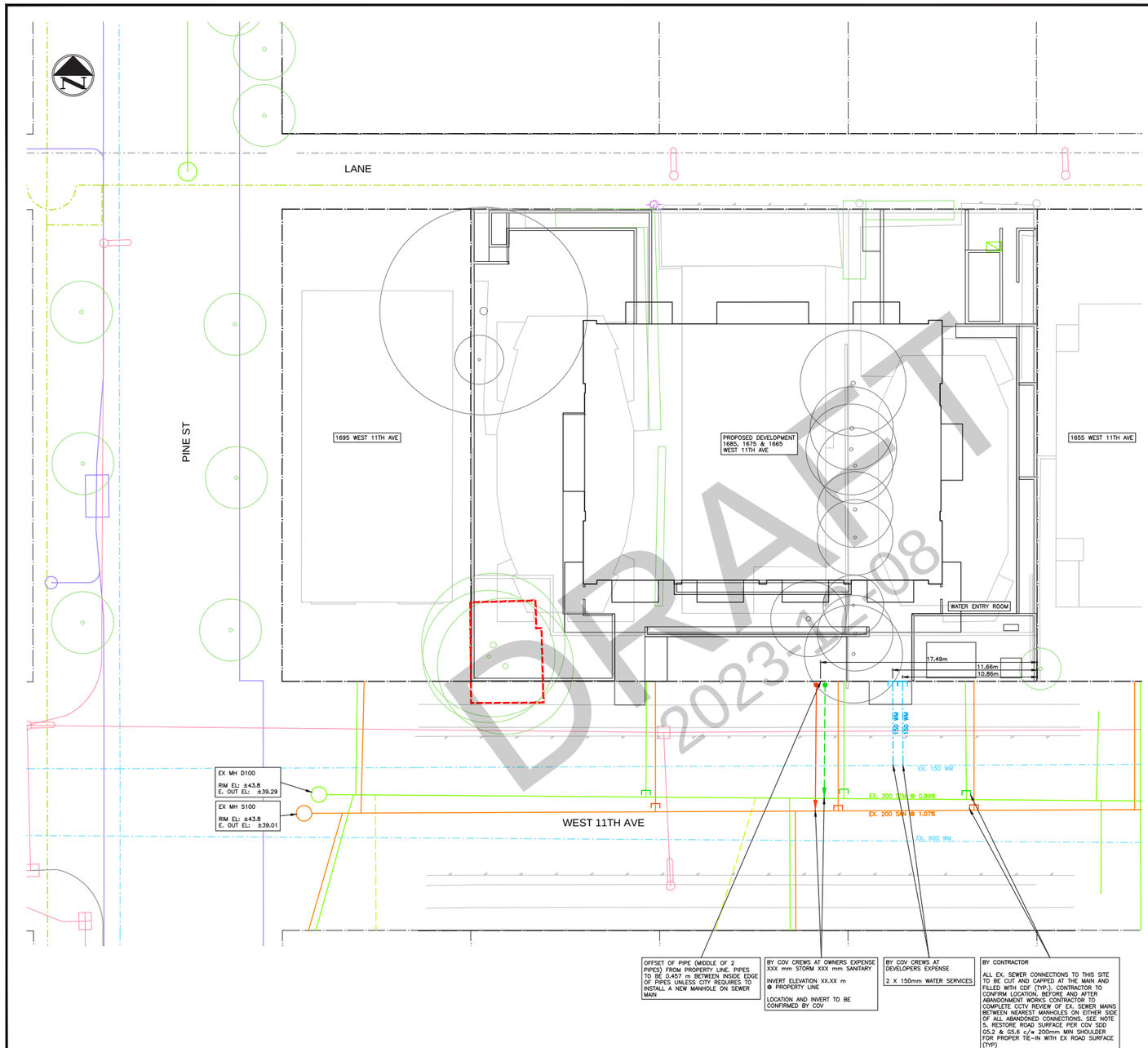
CURRENT REV. #
1

engineer of record: MCP	scales: hor: 1:150 vert: -
designed by: MCP	file no.: 23293
drawn by: AJH	drawing no.: IRMP
date: 23-11-21	

DRAFT
2023-12-08



CONTRACTOR TO VERIFY & LOCATE EXISTING MAINS & SERVICE CONNECTIONS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION

SEWER CONNECTION LOCATION & INVERTS ARE TO BE CONFIRMED BY COV AND ARE SUBJECT TO CHANGE

NOTE TO DRAINAGE AND PLUMBING CONTRACTOR

THE CITY OF VANCOUVER SHALL PROVIDE SANITARY AND STORM CONNECTIONS TO THE PROPERTY LINE. PRIOR TO THE INSTALLATION OF THE DRAINAGE/PLUMBING SYSTEM, THE CONTRACTOR MUST CONFIRM SEWER LOCATIONS; INVERT ELEVATIONS, AND RESTRICTIONS AS STATED ON THE COMMERCIAL SEWER PERMIT. FAILURE TO DO SO MAY CAUSE DELAYS AND ADDITIONAL COST TO THE SEWER SERVICE. PLEASE CALL THE CITY OF VANCOUVER SEWER DESIGN OFFICE AT 604 873-7463 IF YOU REQUIRE ASSISTANCE.

PUBLIC SEWER CONNECTION INFORMATION (PROVIDED BY COV ENGINEERING)

SANITARY AND STORM FIXTURE RESTRICTION = XX.XX M
ALL SANITARY AND STORM FIXTURES BELOW THIS ELEVATION MUST BE PROTECTED

GENERAL NOTES

1. CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE MOST RECENT VERSION OF THE CITY OF VANCOUVER'S ENGINEERING DESIGN MANUAL, CITY OF VANCOUVER STANDARD DETAIL DRAWINGS, CITY OF VANCOUVER ENGINEERING CONSTRUCTION SPECIFICATIONS, AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT (MMCD) UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO CONTACT COV BUILDING SITE INSPECTOR TO SCHEDULE PRE-CONSTRUCTION SITE MEETING PRIOR TO ABANDONMENT WORKS.
3. DAMAGE TO ANY CITY ASSETS, INCLUDING BUT NOT LIMITED TO; PAVEMENT, SIDEWALKS, DRIVEWAY CROSSINGS, AND UNDERGROUND UTILITIES, CAUSED BY THE CONTRACTOR'S ACTIVITIES SHALL BE PERMANENTLY RESTORED TO A CONDITION AS NEAR AS POSSIBLE TO, OR BETTER THAN THE ORIGINAL CONDITION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. CONTRACTOR TO ENSURE ALL TRENCH BEDDING AND BACKFILL IS PLACED AND COMPACTED IN ACCORDANCE WITH CITY OF VANCOUVER CONSTRUCTION SPECIFICATIONS. DENSITY TESTING OF TRENCH BACKFILL SHALL BE PROVIDED TO ENGINEER OF RECORD IMMEDIATELY FOLLOWING CONSTRUCTION.
5. CONTRACTOR TO PROVIDE ALL REQUIRED TESTING INCLUDING THE FOLLOWING:
   - COMPACTION TESTING OF ALL LAYERS OF THE RESTORED ROAD STRUCTURE
   - GRADATION CHARTS FOR ALL NEW MATERIAL INSTALLED
   - CCTV OF THE SEWER MAIN BETWEEN THE NEAREST MANHOLES ON EITHER SIDE OF ALL ABANDONED CONNECTIONS. CCTV INSPECTIONS OF SEWER MAINS TO BE CONDUCTED BEFORE AND AFTER ABANDONMENT WORKS
6. CONTRACTOR TO PERFORM CCTV INSPECTION OF THE SEWER MAINS AND SUBMIT CCTV INSPECTION VIDEOS AND REPORT TO EOR AND COV BEFORE AND AFTER THE ABANDONMENT WORKS ARE CARRIED OUT

DRAFT 2023-12-08

CREUS Engineering
Civil Engineers & Project Managers
#610 EAST TOWER - 221 ESPLANADE WEST, NORTH VANCOUVER BC, V7M1J3
PH: 604-987-9070 WEBSITE: www.creus.ca
PERMIT TO PRACTICE # 1001543

DRAWING LEGEND

	EXISTING	PROP.	TO BE REMOVED
LEGAL LINE			
EASEMENT			
WATERMAIN			
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AIR VALVE			
REDUCER			
INSPECTION CHAMBER			
CATCHBASIN (STD/SI)			
SAN MANHOLE			
POWER POLE			
STREETLIGHT			

approved

client: PALMAR PROPERTIES INC.

project: 1665-1685 WEST 11TH AVE VANCOUVER, BC

title: SERVICING PLAN

no.	(yy/mm/d)	revision	chk'd
1	23-12-08	ISSUED FOR COORDINATION	AJH

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