

URBAN DESIGN BRIEF

277-279 HAZEL ST., WATERLOO ON
APARTMENT



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1. Introduction

1.1. Existing site analysis and surrounding context

The subject property, located at 277-279 Hazel Street, Waterloo, Ontario, is approximately 1092.26 m². The property is surrounded by roads on three sides and currently has few residential developments. The site is located adjacent to three streets, Hickory St to the north, Hazel St Road to the East of the site and Balsam St to the South. In the existing context, the site is surrounded by other properties which comprise of mid-rise developments and suburban households. The site is located in a relatively medium-density neighborhood, with small residential houses to mid-rise developments in its vicinity. The site is also close to educational and commercial establishments like Waterloo Collegiate Institute, Lazaridis School of Business and Economics, many restaurants, office buildings, etc. The site currently doesn't comprise any significant trees and plantations with just a few trees present in existing residential properties.



Figure 1: Aerial view of the existing site

The subject property benefits from a vibrant urban context characterized by a mixed-use environment. The surrounding areas include a variety of land uses such as suburban residential neighborhoods, institutional services such as Waterloo Collegiate Institute and Wilfrid



Figure 2: View of existing site from Hazel St

Laurier University Waterloo Campus along with supporting commercial services like restaurants and groceries.

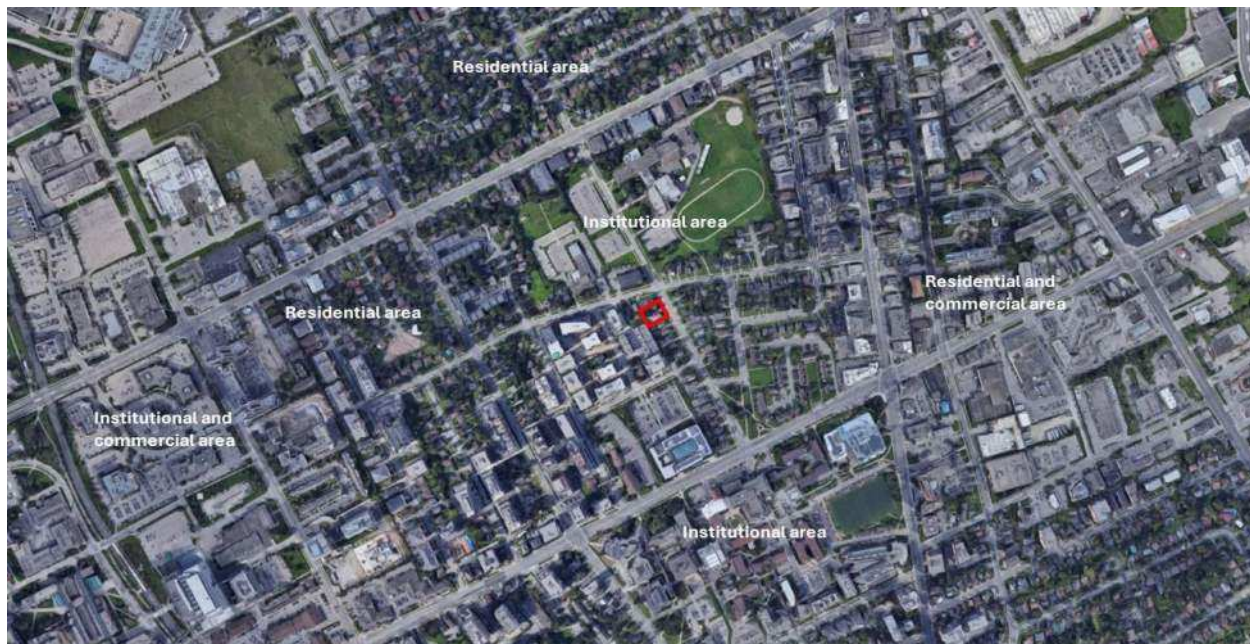


Figure 3: Aerial view with surrounding urban context

1.1.1. Land Use Plan

According to the Zoning by-law 2018-050 of the City of Waterloo, the site area comes under Residential Northdale Six Zone (RN-6) which makes it suitable for the proposed development of a residential apartment building. This zoning allows for a medium density residential development, making this proposed development a good fit for this area. The design of the proposed development is influenced by the surrounding area's character and the land use, intended to improve the residential functions and overall living environment of the area.

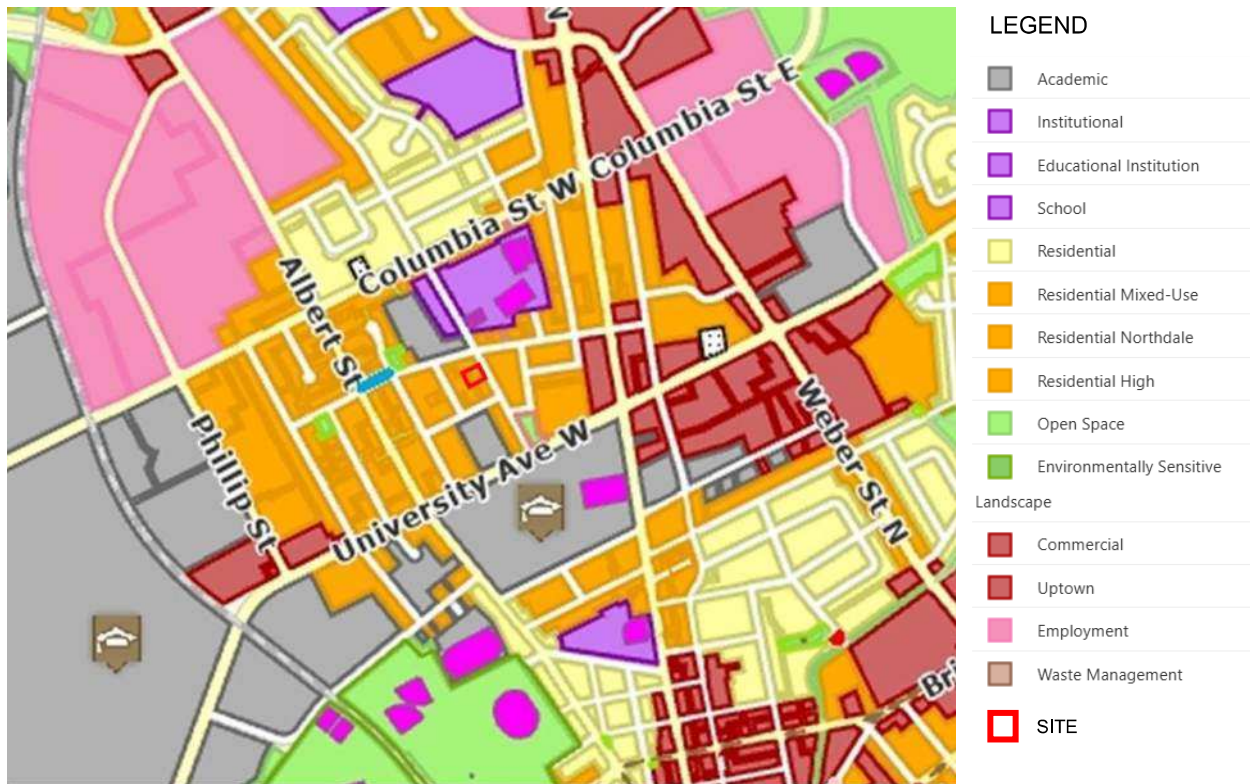


Figure 4: Zoning plan around site

1.2. Design vision and objectives

The design vision of this project is to establish a six-story apartment building comprising of five units on each floor excluding on the ground floor which is designed with other required amenities for the residential building. This apartment building is designed with various unit types which will cater to the diverse residential need of the community while respecting the scale of developments nearby. Additionally, the landscape design will consider the surrounding environment and support improvement of the road's streetscape. The proposed plan will also aim to enhance placemaking in the community. Some of the primary design objectives are as follows:

- Offer a variety of residential units to cater to the diverse needs of the community.
- Maximize natural light and ventilation in all units, promoting a healthy living environment.
- Design for accessibility ensuring residents can comfortably navigate and utilize the complex and the associated amenities.
- Design service areas to minimize their impact on the surrounding public areas.

1.3. Policy Framework

1.3.1. City of Waterloo Urban Design Manual

The urban design manual implements the city's primary design expectations which are established in the City of Waterloo's official plan aiming to promote a high standard of urban design for all development in the City. The guidelines intend to promote creative city buildings and placemaking to improve the quality of streets, neighborhoods and community in the city. Some guidelines that apply to the project and are considered in the proposed design are summarized below.

Site planning

The guideline aims to create pedestrian friendly streetscapes which are created through wide sidewalks, interactive elements such as verandahs, porches and curbed streets which can be softened through articulated building facades and landscaped setbacks. The design of sites and buildings should enhance the quality of surrounding neighborhood character with consideration to safety and security promoting features like natural surveillance especially when public spaces have direct access. Additionally, site planning should be integrated with planned and future transit routes to improve accessibility and convenience in urban areas. The site should be designed with an efficient and safe circulation system with high priority given to pedestrian accessibility and neighborhood connectivity with assurance that sites and buildings meet emergency access standards and fire protection measures. New site developments can also provide design elements which provide opportunity for a broad range of amenities to improve the quality of the public realm and semi-public realm while respecting the existing context.

Built form

The design of the buildings should relate to human scale proportions and dimensions with well proportioned and articulated facades which enhance the surrounding neighborhood context and character. The design of buildings with unified building mass that contributes to a common and coordinated architectural language is desirable. The building should provide safe lighting levels and avoid impacts to surrounding properties and public view. Design of buildings with coordinated design elements can strengthen neighborhood character and contribute to building sense of place. Additionally, buildings are designed with connections to the public landscape including universal design and barrier free accessibility.

Landscape design

The manual recommends designing sites with a balanced level of sustainable landscape treatment that complements the surrounding character while providing effective buffer and screening from the building. The design of sites should consider incorporating existing natural vegetation as focal points and tree preservation opportunities in addition to providing additional planting schemes which can improve the streetscape quality. The new planting scheme can also maximize opportunities for large tree canopy growth where possible and explore opportunities to add interesting visual features through variation in height, color and size of landscape elements.

1.3.2. City of Waterloo Zoning By-law 2018-050

The City of Waterloo Zoning By-law 2018-050 provides various regulations which control the development and use of land and buildings within the city. This guideline outlines design standards for different zoning districts, among which the proposed site falls on the RN-6 zone. The guideline sets out development standards such as lot sizes, building heights, parking requirements, etc. to ensure that new developments add value to the neighborhood and don't impact the existing context. The bylaws stated important considerations for the site planning such as minimum of 1000 m² lot area and 20m lot frontage, maximum building height of 21.5m and minimum landscaped open space of 30% required for this zone. Additionally, the bylaws also outlined many other important considerations like a minimum of 0.2 parking spaces per bedroom for residential and minimum 0.05 guest parking spaces per bedroom to ensure adequate parking for the users of the building.

2. Site Design

2.1. The proposal

The proposed apartment building is designed close to the street's edge along Hazel Street. The property site covers an area of approximately 1092.26 m², and the proposed 6-storey apartment building occupies an area of approximately 445 m². The site is designed with a mix of landscape elements and hard surfaces to support the required services in the building, such as parking and related services, while creating a pleasant environment through natural elements around the building. The design is sensitive to the presence of adjacent scale of neighborhoods, thus, the building mass is designed to match the existing scale of building around the site.

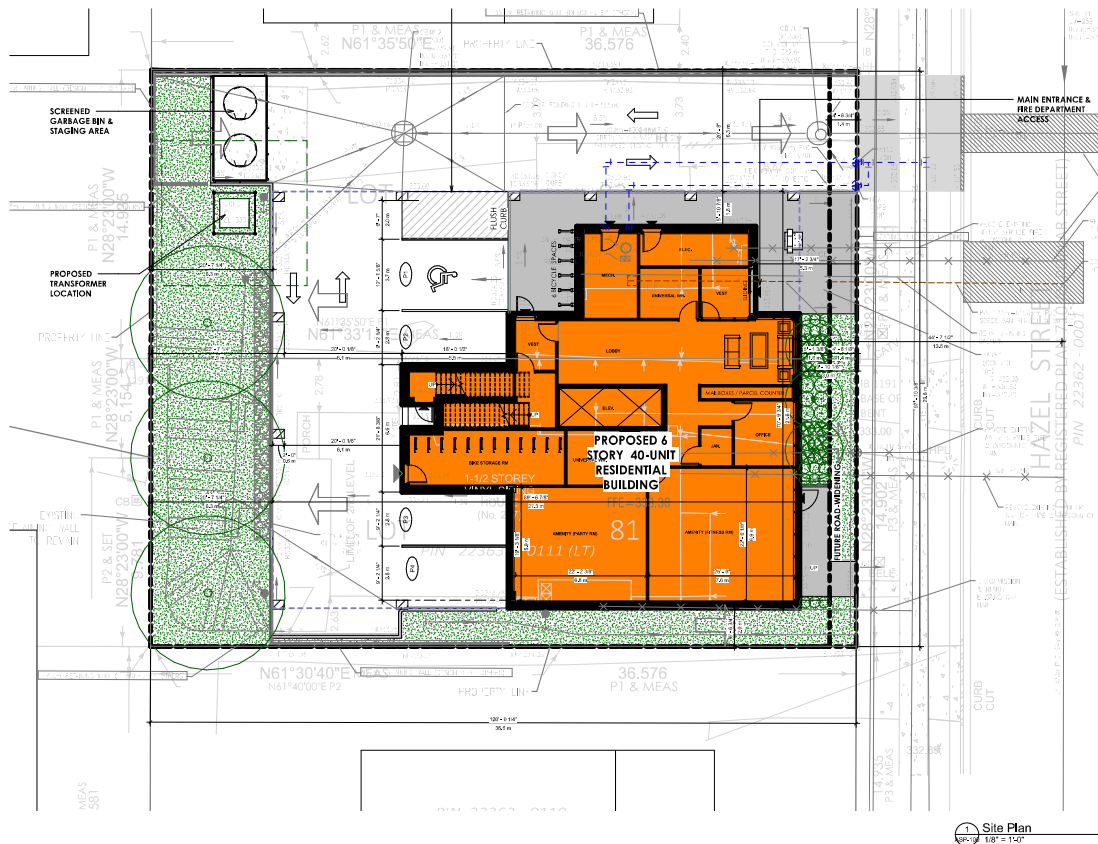


Figure 5: Proposed site plan prepared by Khalsa Design Inc.

The ground floor comprises of two distinct areas: a common area which comprises of services such as offices and mechanical/electrical rooms and an amenity area which provides different services to the residents of the apartment building through a common area easily accessible by all the residents. The amenities area is designed with large openings facing Hazel Street which establishes a visual connection with the public realm of the street but is still protected by a landscape buffer area between the building and the street. The building has two staircases and an elevator for circulation services. The typical floor plan of the building includes floors from the second to sixth floor of the building comprises of five separate residential units with three different types of layouts which cater to different needs, suitable for a diverse community. The different layouts vary in sizes and number of rooms which are provided with window openings to ensure natural lighting in all rooms. Four of the units also include a balcony creating an enjoyable space connecting the residential units to the outdoors.

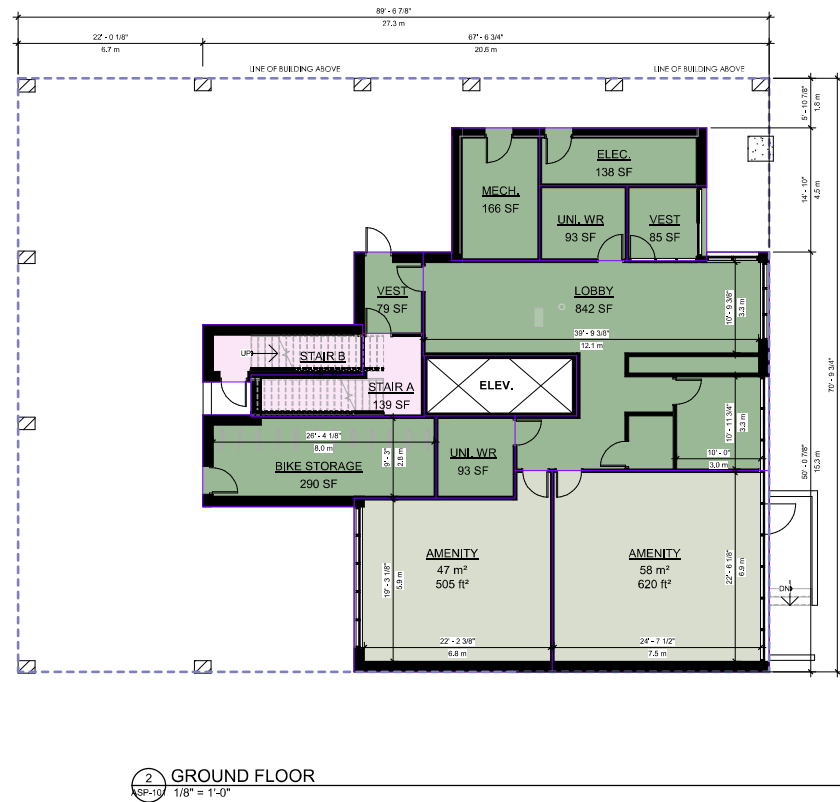


Figure 6: Ground floor plan of proposed building prepared by Khalsa Design Inc.

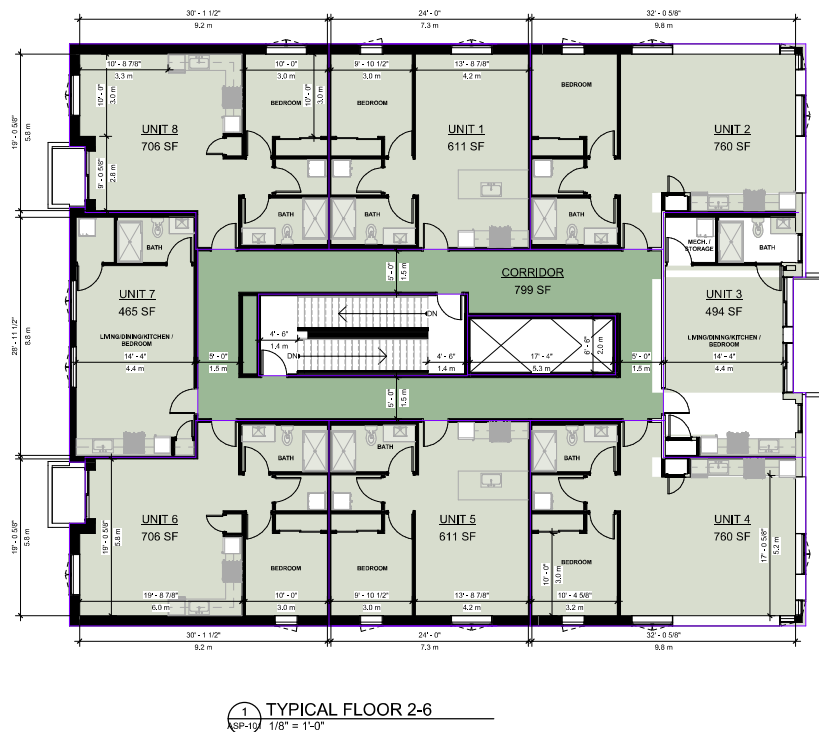


Figure 7: Typical floor plan (second floor to sixth floor) prepared by Khalsa Design Inc.

2.2. Site considerations

2.2.1. Accessibility and Circulation

Access to the property is easy, comfortable, and convenient through Hazel Street. The site planning also maintains a landscape buffer apart from access points along Hazel St. The main entrance to the building is also located on the East face along Hazel St which connects the building with the public. Private parking spaces are provided on the West side of the building through which another access into the building is also provided. Thus, the access from Hazel Street makes it convenient for both pedestrian and vehicular movement. In case of a fire event, fire vehicles can easily reach the building through the Hazel St.

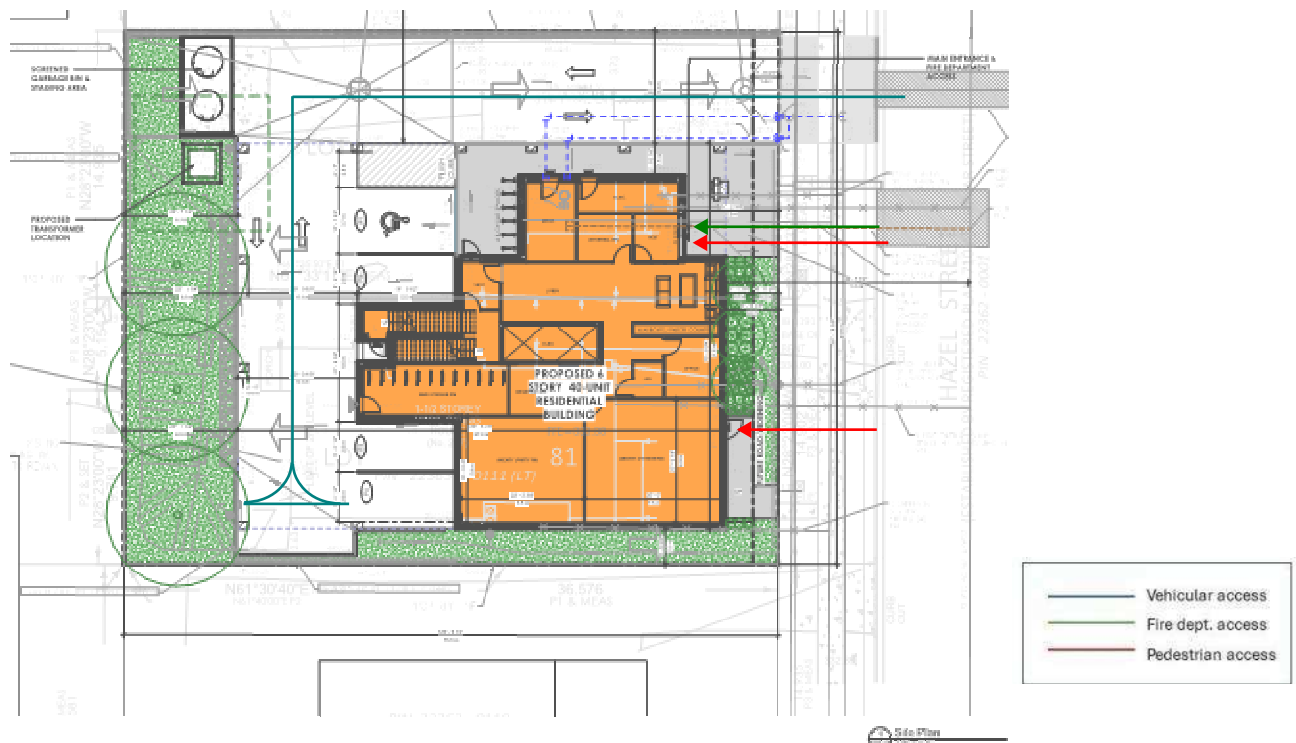


Figure 8: Site plan with accessibility and circulation pathways

2.2.2. Parking

The parking spaces are provided on the West of the building which can be accessed through the main access provided from Hazel St. There are 9 designated parking spots including one barrier free parking space. A minimum of 6-meter alleyway and suitable turning radius is maintained between rows of parking to ensure smooth vehicular movement.

2.3. Streetscape

The proposed residential apartment development which is designed with a high standard of urban design creates a favorable pedestrian-friendly environment which promotes social interaction while maintaining safety. It ensures compatibility of the residential services within the building and influences placemaking outside the building. The building is designed to complement the streetscape and blend into the neighborhood, adding value to the urban context. The building is surrounded by designed landscape areas that act as buffers between private residential complex and public road and provides a peaceful, secure environment for pedestrians.

2.4. Crime Prevention Through Environmental Design (CPTED) Considerations

The proposed project will encourage safe, pedestrian friendly by incorporating the principles of CPTED. Some of the measure that are considered for CPTED in this project are as follows:

- Building location and landscaping design will provide clear distinction between public and private areas.
- To increase neighborhood safety, big windows will be provided on the street side faced ensuring natural surveillance from within the dwelling.
- Main front entrance will be clearly visible from Hazel St, and all entries will have adequate lighting.
- Walkways on the property will be placed in strategic locations to provide clear and direct pedestrian routes to the front entrance.

3. Built Form

3.1. Proposed massing

The designed building mass of the proposed building blends well with the existing context and contributes towards creating a desirable community character and placemaking in the street. Compositions of transparent glazing and opaque materials with aesthetic finishes like brick are used in the building facade to create interesting and timeless architectural design. The proposed massing of the building makes use of extrusions among other components to increase the aesthetic and visual appeal. The building's design is also enhanced by the play of materials, textures, and colors, which contributes to improving the aesthetics of the streetscape.



Figure 9: Perspective view (East) prepared by Khalsa Design Inc

Different materials finishes are applied in different wall facades with creative play of building mass through extrusions such as balconies which breaks monotony in building facade. Additionally, various sizes of glazing are used, ranging from full floor height glazing in ground floor, top floor and window walls in front façade to smaller rectangular window cutouts in other facades for the residential units, which creates variation in the building façade design while still providing adequate lighting and maintaining safety and security in the building.



Figure 10: Perspective views (West) prepared by Khalsa Design Inc.

3.2. Materials, colors, lighting, glazing

The building's facade uses high quality materials that add to the building's visual appeal and streetscape while providing efficient functions such as thermal comfort and adequate natural lighting. The walls are designed with a play of two materials finishes which are an off-white-colored exterior insulation and finish system (EIFS) for improved thermal efficiency while showcasing a sleek, seamless finish alongside a dark gray colored brick finish, which is durable, aesthetically pleasing and conveys a classic and timeless look. Metal panel overhang are added above the ground floor and the fifth floor as an accent material, which breaks the monotony in the façade and frames the building mass aesthetically. The design of the building façade using play of light colored EIFS finish, dark gray brick finish and metal panel bands creates an aesthetically pleasing look which also adds value for improving the streetscape of Hazel St. Additionally, window walls are designed in the front façade for additional natural lighting which is critical for safety and good living conditions. It also accentuates the building features pulling focus to the building from the access points on Hazel St. Smaller but adequate windows are provided in other facades for lighting in residential units.



Figure 11: East elevation and west elevation prepared by Khalsa Design Inc.



Figure 12: South elevation and north elevation prepared by Khalsa Design Inc.

4. Landscape

4.1. Sustainability features

The proposed development considers sustainability dimensions like social, environmental, and economic factors in its planning process. Locally produced and sustainable building materials are proposed to be used in the building. To lessen the impact of asphalt and the corresponding parking requirements, landscaped spaces are planned alongside the parking rows on the West and South of the site. The green spaces also improve air quality and create a pleasant living environment around the apartment complex which enhances the pedestrian experience around the building.

Designed natural elements around the apartment building complement the façade design of the proposed building and contributes to develop the streetscape and encourages walkability in the neighborhood, improving the community's social well-being and placemaking. Thus, the proposed design of the project focuses on creating pedestrian-friendly and healthy communities while ensuring efficient land use which caters suitable functions to the community. The design also supports the sustainable design objectives which are aimed to benefit the community and visitors in the city through careful consideration of sustainable urban design principles.

4.2. Landscape plan

The site's frontage is designed with a wide landscaped buffer strip using grass ground cover alongside access points. This design strategy helps the residential apartment to maintain a

healthy and safe buffer distance from the main streets and also enhances the streetscape. There are also other landscaping strips along the interior and side boundaries which provide buffer between neighboring properties and other adjacent streets which are designed with grass cover. The landscape elements around the parking area help to reduce the visual presence of parked vehicles and improve visual and environmental quality in the property through natural measures.

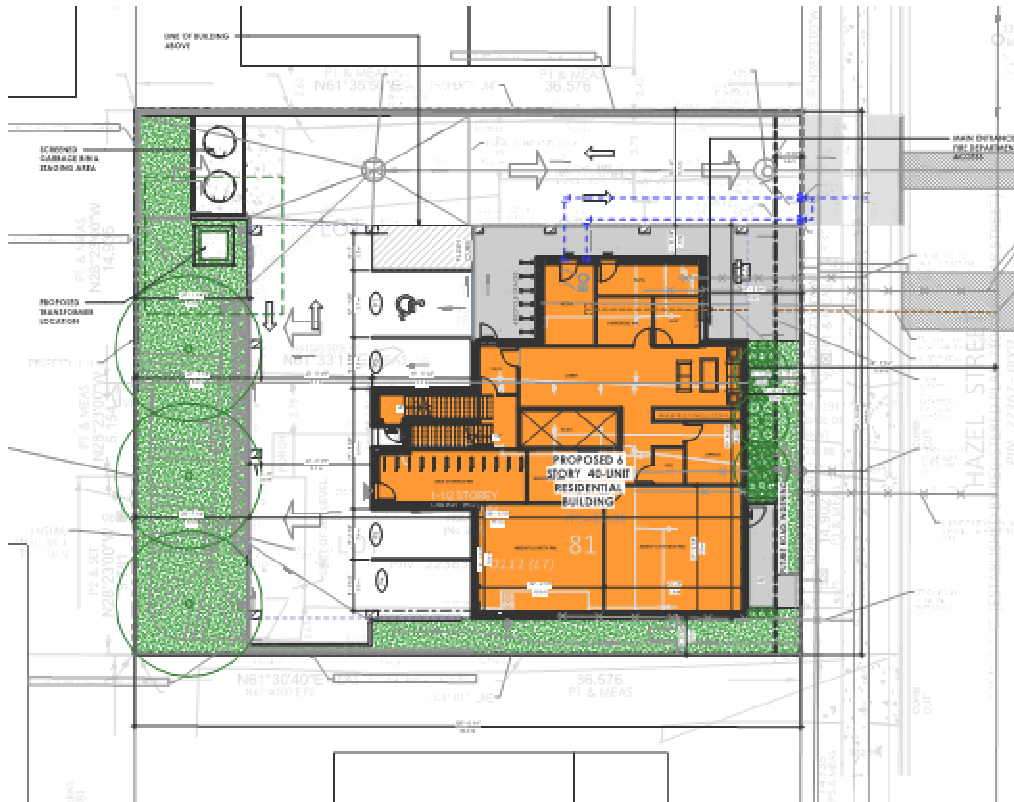


Figure 13: Site plan showing landscape plan prepared by Khalsa Design Inc.

4.3. Public and private realm

The landscape areas around the building provide a green transition between public and private realms. In addition to creating a visually seamless transition between the public and private domains, the building elevations are designed with intentions to enhance the streetscape from the public realm. The project, being an apartment complex with residential services, requires adequate safety and security which is achieved by providing landscape buffer from the property boundary providing a screen between public and private realm. Aligning service areas such as parking zones inside the property, away from the public, reduces the conflict between pedestrian and vehicles circulation minimizing impact from the public realm and neighboring areas.

5. Conclusion

In conclusion, the site is highly suitable for the proposed apartment building project as it falls in the residential zone (RN-6) according to the zoning plan. Additionally, the site's proximity to the educational and commercial amenities such as various institutions, grocery stores, transit facilities etc. makes the site ideal for creating a desirable residential space. However, due to the current zoning regulations, a minor variance approval will be required to proceed with the current proposed plan. While a minor variance application is necessary, the proposed apartment building presents a good opportunity to meet the community's need for housing and also enhance the urban environment of the neighborhood positively through its well-designed elements.