16 Avenue North Urban Corridor

Area Redevelopment Plan

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THE CITY OF CALGARY
LAND USE PLANNING & POLICY

OFFICE CONSOLIDATION
2009 January

16 Avenue North Urban Corridor

Area Redevelopment Plan

BYLAW 24P2006
2007 MAY 7

THE CITY OF CALGARY

NOTE: This office consolidation includes the following amending Bylaws.

Amendment	Bylaw	Date	Description
1	3P2009	CPC 2008 October 16 Council 2009 Jan 12	(a) Delete and replace Map 1. (b) Delete and replace Map 1-A. (c) Delete and replace Map 2. (d) Delete and replace Map 2-A. (e) Delete and replace Table 1. (f) Delete Table 5. (g) Delete Section 3.3.5 and replace with new text. (h) Add Map 3. (i) Delete Section 8.3.2.10(2).

Amended portions of the text are printed in *italics* and the specific amending Bylaw is noted.

Persons making use of this consolidation are reminded that it has no legislative sanction, and that amendments have been embodied for ease of reference only. The official Bylaw and amendments thereto are available from City Clerk and should be consulted when interpreting and applying this Bylaw.

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Executive Summary

Purpose and Principles

The purpose of this Area Redevelopment Plan is to establish a long-term policy framework, over the next twenty years and beyond, for the revitalization of the 16 Avenue North Urban Corridor. The main focus is on land use and urban design for the lands generally within one block on either side of 16 Avenue between 14 Street NW and 6 Street NE.

The Plan takes its direction from the 16 Avenue North Urban Corridor Long-range Concept Plan approved by City Council in February 2005. It follows key city-wide principles and policies that emphasize the importance of linking land use and mobility in support of sustainable community growth. And it reflects an understanding of the implications of activities and decisions from economic, social and environmental perspectives.

The Plan aims to enhance the viability of local businesses and residential communities in ways that take advantage of the widening of this section of 16 Avenue without detracting from its role in the city-wide skeletal road network. It presents a vision of:

A vibrant Urban Corridor that integrates land use, urban design and mobility and serves three major roles: a community builder, a people-friendly public space and a route for diverse modes of travel.

The planning approach is based also on the premise that well-designed development produces attractive, high-quality, sustainable people places. The interaction of the main factors contributing to this place making is illustrated on **Figure 1**. Good design is fostered by the urban design requirements incorporated into the Plan and by implementation measures that help to ensure that the design requirements are adhered to. These measures include City-initiated land use redesignations for the whole Corridor. Consideration will also be given to having significant projects referred to the Urban Design Review Panel or other approaches to achieving high design standards.

The general organizing principle underlying the creation of conditions for a vital urban corridor can be envisioned as a necklace, illustrated conceptually on **Figure 2**. The necklace represents a 'string' comprising, wherever possible, a continuous, active frontage of mixed uses on 16 Avenue to attract a variety of users arriving by vehicle or on foot, and 'beads' of concentrated activity at selected locations, to act as anchors that encourage users to stay and walk around.

The Plan emphasizes the principles of sustainable development and environmental sensitivity. It aims to accommodate growth in ways that meet our current and evolving needs while being mindful of the needs of future generations. It encourages adherence to sustainable building and site performance standards compatible with the LEED™ green building rating system.

Sensitivity to the community context is critical to the success of the Plan. **Figure 3** shows that the Corridor occupies an exposed position at the crossroads of the province's north-south trade route and the nation's major east-west roadway. It sits astride a leg of the skeletal road network serving a number of important city-wide and regional destinations. It is located within the inner city, touching the communities of Capitol Hill, Tuxedo Park, Renfrew, Winston Heights-Mountview, Crescent Heights, Rosedale, Hillhurst and Mount Pleasant.

Land Use

The patterns of land use illustrated on **Map 1** and of building heights on **Map 2** promote a rhythm of development along the Corridor that follows the Necklace Principle. The pattern is most evident on both sides of 16 Avenue east of 4 Street NW and on the north side west of that point, where the policies:

- Direct the tallest and most intense development into concentrated 'beads' of Medium, Medium – High, and High Density Commercial Mixed Uses at locations where breaks in the median allow signal-controlled intersections with left turns for vehicles and crosswalks for pedestrians. The highest concentrations are at Centre Street, 10 Street NW and 5 Street NE.
- Connect the 'beads' by a 'string' of Medium – Low Density Commercial Mixed Uses along 16 Avenue and Medium Density Multi-residential Uses behind the Commercial Mixed Uses.

The Commercial Mixed Use (Storefront) areas are suitable for predominantly commercial uses in pedestrian-oriented developments with residential uses encouraged above the main floor. New auto-oriented uses are not permitted in these areas because they tend to interrupt the continuity of pedestrian-oriented shopping frontages. Auto-oriented uses are allowed in four blocks east of 1 Street NE identified as Commercial Mixed Use (Storefront/Auto-oriented).

Residential Use areas allow multi-residential uses with limited at-grade commercial uses in some corner locations. The policies also allow for the continuation of the present single-residential uses, protected by a sound attenuation barrier, along the south side of 16 Avenue between 4 Street NW and 9 Street NW.

The Southern Alberta Institute of Technology (SAIT) between 10 Street NW and 14 Street NW also continues its present use. Design requirements will see future buildings address 16 Avenue and reflect the rhythm of development on the north side of the Avenue.

Munro Park and the Heritage Precinct around Balmoral School are the two key open spaces within the Corridor. The policies aim to strengthen the identity of Munro Park and improve access to it. The heritage policies respect the historic Unitarian Church and Balmoral School. Discussions are presently under way with the Calgary Board of Education to explore ways to increase public access to the open space in front of Balmoral School.

Urban Design Requirements

Urban design requirements help ensure that the intensification of land use occurs in a sensitive manner and that new buildings contribute to a pedestrian-friendly streetscape.

The requirements control building form and building character:

- Building form refers to the height and massing (volume and shape) of buildings. It impacts a number of design conditions that are important to the sense of place and the livability of the area in the vicinity of the building. Building envelopes are used to control building form without stifling creativity. They are 3-dimensional maximum outer limits on the form of a building and its location on the site.
- Building character addresses building materials and design. It is important to the quality of the urban experience in both residential and commercial areas, and especially to the creation of visually pleasing, active frontages that are attractive to pedestrians and contribute to the vitality of the street. Requirements ensure minimum standards and leave ample scope for individual architectural design.

Mobility

The major policy decisions on mobility that support the Area Redevelopment Plan were made through approval of the Concept Plan in February 2005, the related revisions to the functional design for the widening of this portion of 16 Avenue, and the Traffic Management Study approved by City Council in February 2006.

The Area Redevelopment Plan reinforces these previous decisions on mobility and supplements them where additional direction is needed on parking, circulation for pedestrians and cyclists and support for transit.

Implementation

Successful implementation is the key to realizing the vision for the revitalization of the 16 Avenue North Urban Corridor. The City's next step is to initiate the amendments to the Land Use Bylaw required to ensure that future development decisions conform with the Plan.

Subject to program and budget priorities a number of other follow-up actions will also help to ensure that the Plan is effectively implemented. These actions include:

- Development of a strategy for on-street and off-street public parking
- Assistance to businesses that want to establish a business revitalization zone
- Investigation of a banner program to add to the distinctive image of the Corridor
- Monitoring of traffic impacts in surrounding communities and addressing of issues identified
- Looking at additional options for creating small urban open spaces within public rights of way
- Exploring options to provide affordable and non-market housing in the planning area
- Investigation of processes to ensure that the Plan's urban design requirements are effectively applied
- Review and revision of the Plan as required.

The City will continue to engage the affected communities and stakeholders in the ongoing implementation process.

Planning Framework

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Preface

Planning Area

The 16 Avenue North Urban Corridor Area Redevelopment Plan (the Corridor ARP or the Plan) establishes a long-term policy framework for the revitalization of the Corridor Planning Area which comprises 16 Avenue North and land within one block on either side of the 16 Avenue right of way between 14 Street NW and 6 Street NE. This puts the northern planning area boundary at the southern edge of the 17 Avenue North right of way and the southern boundary at the northern edge of the 15 Avenue North right of way, or a line approximately an equivalent, one-block distance south of 16 Avenue where 15 Avenue is discontinuous. These boundaries coincide with the outer limits of the land use policy areas shown on **Map 1**.

Policy Direction

The Corridor ARP takes its direction from the 16 Avenue North Urban Corridor Long-range Concept Plan approved by City Council in February 2005. The Corridor ARP fulfills the next step identified in the Concept Plan which was the adoption of a more specific policy plan to address land use and urban design.

The Plan also follows city-wide policies in the Calgary Plan and the Calgary Transportation Plan that emphasize the importance of linking land use and mobility in support of sustainable community growth. The Corridor ARP's emphasis on sustainability supports Council's Triple Bottom Line Policy of incorporating economic, social and environmental sustainable development principles into its decisions.

Format and Effect of the Plan

The statutory Corridor ARP comprises this document, except for the appendices which have no legal effect. The ARP is adopted by bylaw and is required to be amended by bylaw in accordance with the Municipal Government Act. The City retains the discretion to determine when an amendment is required and when wording can bear an interpretation or when specific measurements can be varied without need for an amendment.

The Corridor ARP replaces those parts of three, previously approved area redevelopment plans where they affect land within the Corridor Planning Area, i.e.,

- North Hill ARP (2000), which covers the communities of Capitol Hill, Mount Pleasant and Tuxedo Park
- Winston Heights-Mountview ARP (2006)
- Crescent Heights ARP (1997).

The Corridor ARP also prevails over two non-statutory plans where those documents affect land within the Corridor Planning Area:

- The North Bow Design Brief (1977), which provides guidance for two of the communities touched by the Corridor Planning Area that are not covered by existing ARPs – Renfrew and Rosedale
- The Centre Street North Policy Study (1989), which covers a portion of Crescent Heights.

Decisions on future subdivision and development, including land use amendment and development permit applications, must conform to the Plan. Where there is any conflict between the Plan and any other area redevelopment plan or any non-statutory plan with respect to decisions within the Corridor Planning Area, the Plan will prevail.

Interpretation of Policy Area Boundaries

The boundaries separating different land use policy areas on **Map 1** and different maximum building height areas on **Map 2** are intended to be conceptual only. The precise location of these boundaries will be determined at the land use redesignation stage.

Environmental Assessments

Environmental screening has identified potential environmental concerns within the Corridor Planning Area. Applicants may be required to provide additional environmental assessments at the development permit stage of planning approval. Note that residential uses in Commercial Mixed Use Areas will be required to comply with residential environmental criteria.

Municipal Funding

Any municipal public facilities and improvements proposed or implied in the Plan are subject to The City's capital budget approval processes. Any recommended programs or follow-up actions will be evaluated in relation to the needs of other communities and city-wide spending priorities.

Traffic Impact Assessments

Applicants may be required to provide traffic impact assessments at the development permit stage of planning approval.

1. Corridor-Wide Principles

1.1 Purpose and Approach

(1) The purpose of the 16 Avenue North Urban Corridor Area Redevelopment Plan is to establish a long-term policy framework for the revitalization of the 16 Avenue North Urban Corridor between 14 Street NW and 6 Street NE. It is intended to enhance the viability of local businesses and residential communities and to take advantage of the widening of this section of 16 Avenue without detracting from its function as part of the city-wide skeletal road network. The Plan presents a vision of a vibrant urban corridor evolving over the next twenty years and beyond.

(2) A three-pronged, holistic approach that integrates mobility, land use and urban design is the hallmark of planning for the future of the Corridor. The Plan's main focus is on land use and urban design for the lands within one block on either side of 16 Avenue. Many elements of mobility were already addressed by the Long-range Concept Plan approved by City Council in February 2005 and are treated as givens in the Corridor ARP. In particular, the widening of 16 Avenue, the related streetscape design and the sound attenuation barrier were addressed in the Concept Plan and were built or under construction as the Area Redevelopment Plan was being prepared.

(3) The planning approach is based also on the premise that well-designed development produces attractive, high-quality, sustainable people places. It provides meaning, interest and identity to an area and creates conditions which support a flourishing economic and community life. Activity, form and accessibility are the three main elements, illustrated in **Figure 1**, that combine to impart a sense of place and a feeling of vitality to an area:

Activities should include a mix of diverse, compatible uses that optimize the potential of the area.

Form of buildings and spaces should be sensitive to the community context, engaging to the eye, functionally flexible, on a human scale and should help to define the street.

Accessibility should include a legible system of way finding that makes the development easy to get to and move through, and comfortable to spend time in.

(4) The Plan preparation process engaged the public, including local businesses and residents most directly affected by the widening of the Avenue. Input from the public has been considered in the plan preparation process and is reflected in the Plan. The public engagement process is summarized in **Appendix 2**.

1.2 Vision

(1) The purpose of the Plan and the planning approach outlined in the previous paragraphs are reflected in the long-term vision for the 16 Avenue North Urban Corridor:

Sixteenth Avenue North will evolve into a vibrant urban corridor that integrates land use, urban design and mobility. It will serve three major roles: a community builder, a people-friendly public space and a route for diverse modes of travel.

Figure 1 Creating a Sense of Place

1.3 Goals

(1) Goals under each of the three major roles in the Vision give further direction to the long-term future for the Corridor:

Build the community:

- Support a compatible mix of commercial, institutional and residential uses.
- Embrace the Corridor as an extension of community life.
- Enhance the economic viability of businesses.
- Enhance the integrity and viability of residential communities.
- Maximize opportunities to contribute to a high quality of community life.

Create a people-friendly public space:

- Provide a comfortable environment for pedestrians.
- Create finite, human-scaled spaces which are engaging to the eye.
- Include green space and an attractive, landscaped streetscape.
- Celebrate the historic role of 16 Avenue North as a gateway into Calgary.

Provide a route for diverse modes of travel:

- Encourage alternatives to the automobile, i.e., walking, cycling and transit use.
- Act as a linkage connecting adjacent communities, including safe, at-grade crossings for pedestrians and cyclists.
- Provide adequate access and parking for businesses and residents.
- Perform as a high-capacity / moderate speed skeletal road function for cars and trucks.

1.4 Necklace Principle

(1) The general organizing principle underlying the creation of conditions for a vital urban corridor can be envisioned as a necklace, illustrated conceptually on **Figure 2**. The necklace represents:

- A 'string' comprising a continuous, active frontage of mixed uses on the Avenue to attract a variety of users arriving by vehicle or on foot
- 'Beads' of concentrated activity at selected locations, to act as anchors that encourage users to stay and walk around.

(2) The Necklace Principle, then, envisions the replacement of the present fragmented, commercial frontage with a series of concentrated nodes linked, wherever feasible, by continuous development. The concentrations are expected to create a critical mass at these locations that will promote pedestrian activity and business viability along the Avenue. The different levels of concentration suggested by beads and strings will create a rhythm of development along the Avenue, which helps to segment the linear corridor into distinct areas. Each of these areas has the potential to develop its own sense of place.

1.5 Sustainability Principles

(1) The Plan recognizes the importance of ensuring that the principles of sustainable development and environmental sensitivity are embodied in future planning decisions. It provides a policy framework for the consideration of land use and development applications from triple-bottom-line economic, social and environmental perspectives. It aims to accommodate growth in ways that meet our current and evolving needs while being mindful of the needs of future generations.

(2) Sustainable building and site performance standards can have a significant impact on triple-bottom-line decision making when planning applications are considered at the development and building approval stage. The developers of new and retrofitted buildings are encouraged to follow the voluntary LEED™ green building rating system administered by the Canadian Green Building Council or to follow sustainable building practices compatible with LEED™ standards. Sustainable building practices include such things as:

- Minimizing stormwater volumes through the installation of roof gardens
- Using water-efficient landscaping
- Increasing energy performance through the reduction of demand, harvesting site energy and efficient building design
- Reducing waste by extending the life of existing buildings and using local building materials

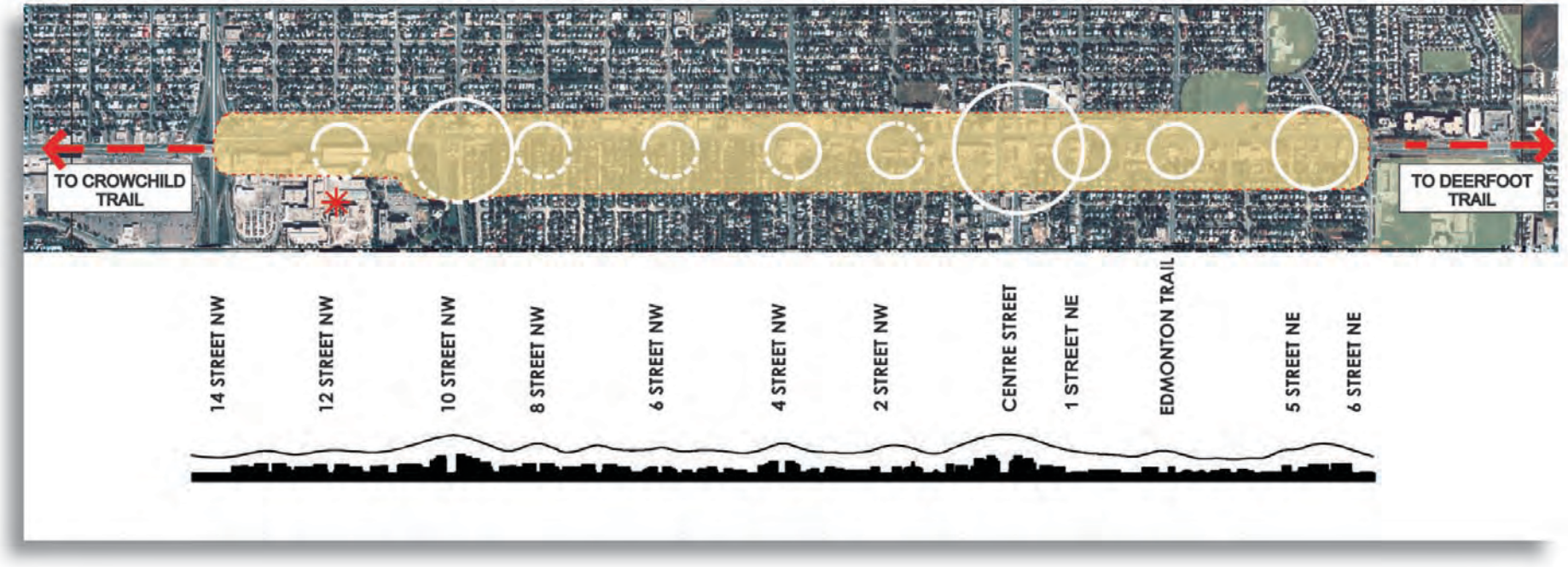
- Improving indoor environmental quality through efficient heating and ventilation systems and controlling contaminants
- Reducing light pollution and energy costs by installing outdoor lights that are designed to minimize escape of light to the sky or beyond the site.

(3) The Plan's emphasis on sustainability demonstrates a strong commitment to the following key city-wide objectives and principles:

- Create mixed-use corridors throughout the city that support walking, biking and transit use.
- Promote pedestrian-oriented forms of development that complement pedestrian systems in the public realm.
- Create opportunities for new jobs to be close to where people live and locate additional population near job opportunities.
- Sensitively increase housing densities in existing neighbourhoods to provide a wider choice of housing, to increase population near existing community and commercial services, and to reduce vehicle trips.
- Create diverse, distinctive and livable communities, with a strong sense of identity and belonging.
- Create a community in which all citizens feel safe and secure and apply the principles of crime prevention through environmental design (CPTED).
- Contribute to the variety of transportation choices to move people and goods safely, efficiently and affordably.

(4) The results of following sustainable planning principles are reflected throughout the Plan, e.g.,

Figure 2 Necklace Principle



- Economic

  Sets the stage for the revitalization of local businesses along 16 Avenue North. This will facilitate reinvestment, increase employment, arrest or mitigate the decline that is evident along some portions of the Avenue, and reinvigorate the visitor's image of Calgary.

- Social

  Encourages the development of places that support pedestrian activities, social interaction, a wider variety of housing and increased community populations so that a more diverse range of goods, services and amenities can be supported within the established neighbourhoods.

- Environmental

  Slows the growth of greenhouse gas emissions and energy consumption by creating pedestrian environments and land use patterns that encourage walking, transit and cycling. Redevelopment is expected to accelerate the remediation of contaminated sites. The approved functional road design for the widening of 16 Avenue accommodates increased traffic volumes at moderate
  (50 km/hr) speeds and recaptures traffic from parallel routes not designed to handle these heavy volumes.

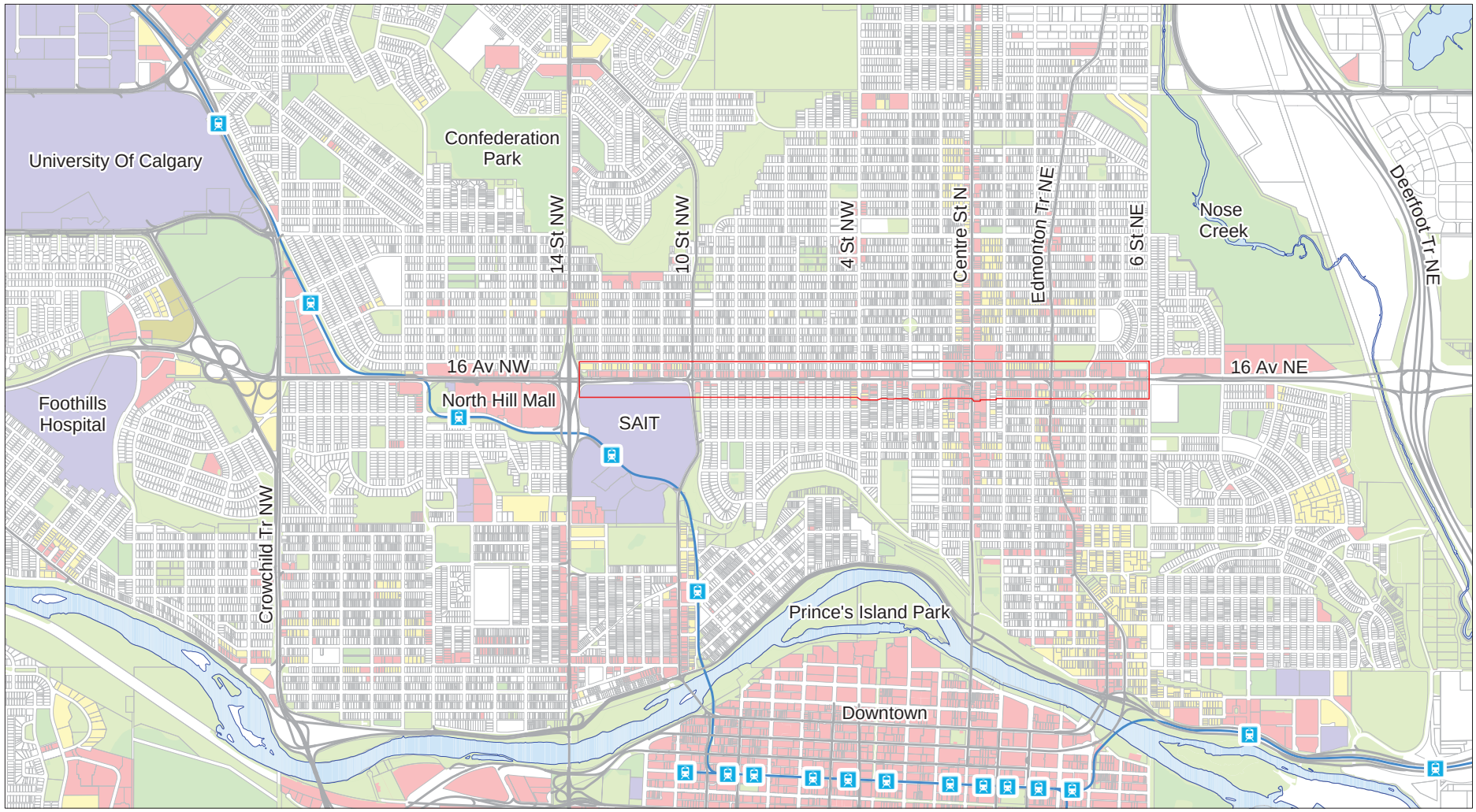
1.6 Community Sensitivity

(1) The Plan is sensitive to the city-wide and local community context illustrated on **Figure 3**. The Corridor is at the crossroads of the province's north-south trade route, Highway 2 (Deerfoot Trail), and the nation's major east-west roadway, the Trans-Canada Highway. This makes it one of Calgary's most exposed corridors and presents a lasting impression of the city to the motoring visitor.

(2) The Corridor is located within the inner city, north of the Bow River. It sits astride a leg of the skeletal road network serving a number of important city-wide and regional destinations including Foothills Hospital, University of Calgary, McMahon Stadium, Foothills Athletic Park, North Hill Mall, SAIT and the eastern industrial areas of the city. 14 Street, 10 Street, Centre Street, and Edmonton Trail serve as major north-south routes directly connecting the Corridor with Downtown.

(3) The Corridor touches the communities of Capitol Hill, Tuxedo Park, Renfrew, Winston Heights-Mountview, Crescent Heights, Rosedale, Hillhurst and Mount Pleasant. Portions of most of the neighbourhoods that fall within the Corridor have low or medium density housing behind commercial development along 16 Avenue. Most of Rosedale has low density housing with no commercial frontage. The portion of Hillhurst within the Corridor is occupied by the Southern Alberta Institute of Technology. All of these inner city neighbourhoods are attracting redevelopment interest. They are close to Downtown and major amenities such as Confederation Park, McHugh Bluffs, the Bow River, Prince's Island and the Nose Creek Valley.

Figure 3 Community Context



Land Use and Urban Design

2. Land Use and Urban Design Overview

2.1 Land Use

(1) The pattern of land use envisaged by the Plan follows the Necklace Principle illustrated on **Figure 2**. The land use policy areas shown on **Map 1** and the building height controls shown on **Map 2** combine to promote a rhythm of development along the Corridor resembling a 'string' of continuous, active frontages linking 'beads' of concentrated activity at selected locations.

(2) The pattern is most evident on both sides of 16 Avenue east of 4 Street NW and on the north side west of that point, where the policies:

- Direct the tallest and most intense development into concentrated 'beads' of Medium, Medium – High, and High Density Commercial Mixed Uses at locations where breaks in the median allow signal-controlled intersections with left turns for vehicles and crosswalks for pedestrians. The highest concentrations are at Centre Street, 10 Street NW and 5 Street NE.
- Connect the 'beads' by a 'string' of Medium – Low Density Commercial Mixed Uses along 16 Avenue and Medium Density Multi-residential Uses behind the Commercial Mixed Uses.

(3) The Commercial Mixed Use (Storefront) areas are suitable for predominantly commercial uses in pedestrian-oriented developments with residential uses encouraged above the main floor. New auto-oriented uses will not be permitted in these areas because they tend to interrupt the continuity of pedestrian-oriented shopping frontages. Auto-oriented uses are allowed in some blocks east of 1 Street NE identified as Commercial Mixed Use (Storefront/Auto-oriented).

(4) Residential Use areas allow multi-residential uses with limited at-grade commercial uses in some locations. The policies also allow for the continuation of the present single-residential uses, protected by a sound attenuation barrier, along the south side of 16 Avenue between 4 Street NW and 9 Street NW.

(5) The Southern Alberta Institute of Technology (SAIT) between 10 Street NW and 14 Street NW continues its present use, but with design requirements that will see future buildings address 16 Avenue and reflect the rhythm of development on the north side of the Avenue.

(6) Munro Park and the Historic School/Church Precinct around Balmoral School are the two key open spaces within the Corridor. The policies aim to strengthen the identity of Munro Park and improve access to it. The heritage policies respect the historic Unitarian Church and Balmoral School between 1 Street NW and 2 Street NW. Discussions are presently under way with the Calgary Board of Education to explore ways to increase public access to the open space in front of Balmoral School.

2.2 Urban Design Requirements

(1) Urban design requirements ensure that the intensification of land use occurs in a sensitive manner and that new buildings contribute to a pedestrian friendly streetscape. The requirements control building form and building character. Building form refers to the height and massing (volume and shape) of buildings. Building character addresses building materials and design.

(2) Building form impacts a number of conditions that are important to the sense of place and the livability of the area in the vicinity of the building, including:

- Feeling of enclosure
- Definition of street edges
- Relationships amongst buildings and spaces
- Sensitivity to the community context
- Affect on sunshine and shadow.

(3) Building envelopes are used to control building form without stifling creativity. They are 3-dimensional maximum outer limits on the form of a building and its location on the site.

They include build-to lines at grade, to ensure that buildings are constructed close to the street, and stepbacks in building façades above grade, to reduce the perception of height and mass from a street-level perspective and to reduce shadowing.

(4) Building character is important to the quality of the urban experience in both residential and commercial areas, and especially to the creation of visually pleasing, active frontages that are attractive to pedestrians and contribute to the vitality and security of the street. Requirements ensure minimum standards and leave scope for individual architectural design. In Commercial Mixed Use areas, for example, it is required that:

- Durable finishing materials are used on lower floors
- At-grade entrances are spaced at frequent intervals
- Commercial façades are transparent
- Frontages are continuous except for breaks to allow for publicly accessible court yards and other calm areas or 'eddies' in the main stream of activity on 16 Avenue
- Suitable locations for landmark building are identified at key intersections along 16 Avenue
- There is landscaping on all surface areas not occupied by buildings or areas needed for vehicle access, parking, loading or garbage enclosures.

Map 1: Land Use Policy Areas

Commercial Mixed Use

- High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront / Auto-oriented)
- Medium Density Commercial Mixed (Storefront)
- Medium Density Commercial Mixed (Storefront/ Auto-oriented)
- Medium - Low Density Commercial Mixed (Storefront)
- Medium - Low Density Commercial Mixed (Storefront/ Auto-oriented)

Southern Alberta Institute of Technology

- S.A.I.T. Campus

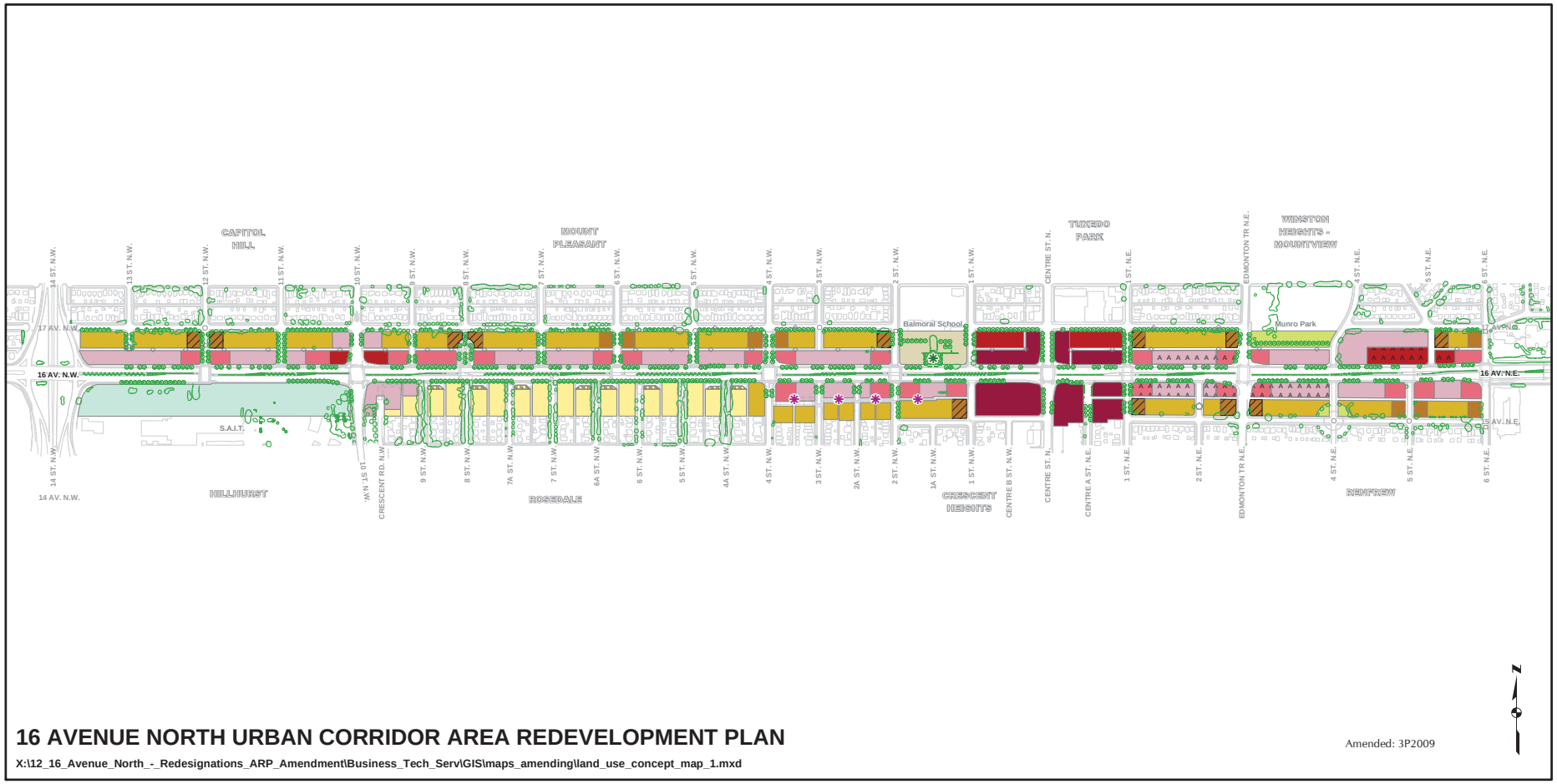
Residential Use

- Medium Density Multi-residential
- Medium Density Multi-residential Support Commercial
- Medium Density Low Minimum Multi-residential
- Single-residential
- Single-residential with Noise Attenuation

Open Space & Heritage

- Historic School/ Church Precinct
- Public Parks
- Location of new lane to be determined
- Public Park Under Discussion

Notes on base map: Road design subject to change, Landscaping conceptual only



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Map 1-A: Land Use Policy Areas

Commercial Mixed Use

- High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront / Auto-oriented)
- Medium Density Commercial Mixed (Storefront)
- Medium Density Commercial Mixed (Storefront/ Auto-oriented)
- Medium - Low Density Commercial Mixed (Storefront)
- Medium - Low Density Commercial Mixed (Storefront/ Auto-oriented)

Southern Alberta Institute of Technology

- S.A.I.T. Campus

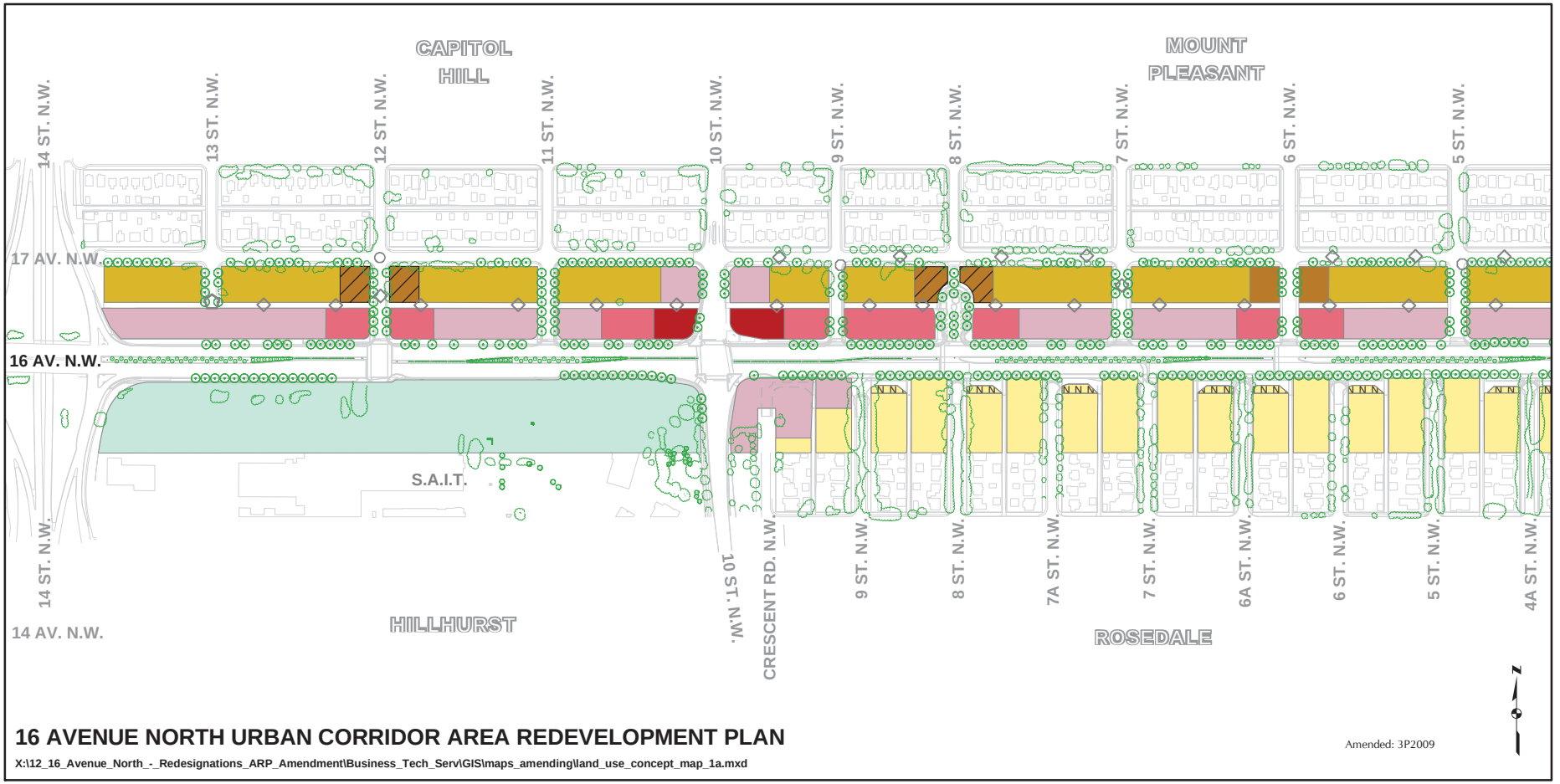
Residential Use

- Medium Density Multi-residential
- Medium Density Multi-residential Support Commercial
- Medium Density Low Minimum Multi-residential
- Single-residential
- Single-residential with Noise Attenuation

Open Space & Heritage

- Historic School/ Church Precinct
- Public Parks

Notes on base map: Road design subject to change, Landscaping conceptual only



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Amended: 3P2009

Map 1-B: Land Use Policy Areas

Commercial Mixed Use

- High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront / Auto-oriented)
- Medium Density Commercial Mixed (Storefront)
- Medium Density Commercial Mixed (Storefront/ Auto-oriented)
- Medium - Low Density Commercial Mixed (Storefront)
- Medium - Low Density Commercial Mixed (Storefront/ Auto-oriented)

Southern Alberta Institute of Technology

- S.A.I.T. Campus

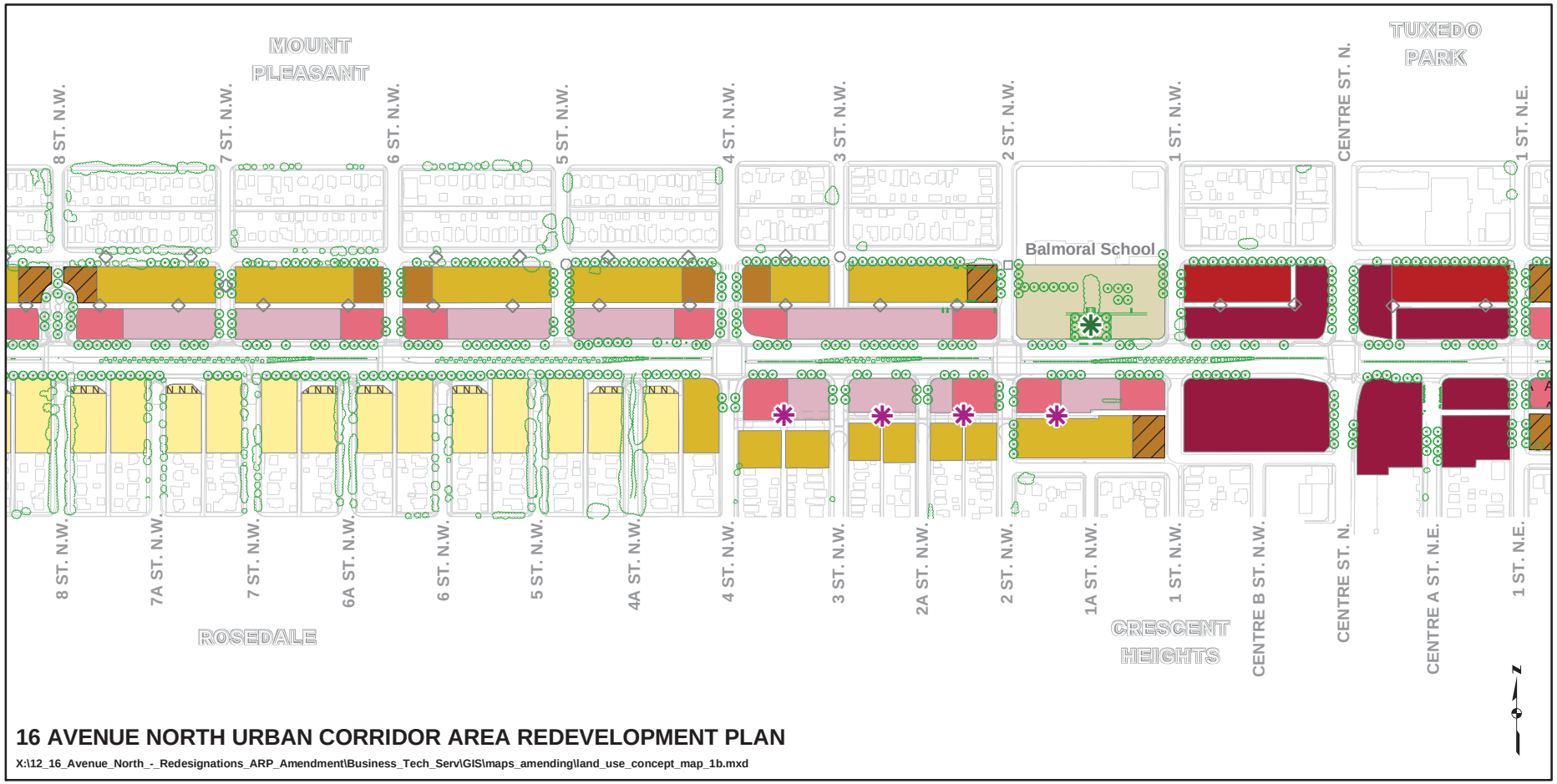
Residential Use

- Medium Density Multi-residential
- Medium Density Multi-residential Support Commercial
- Medium Density Low Minimum Multi-residential
- Single-residential
- Single-residential with Noise Attenuation

Open Space & Heritage

- Historic School/ Church Precinct
- Public Parks
- Location of new lane to be determined
- Public Park Under Discussion

Notes on base map: Road design subject to change, Landscaping conceptual only



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Map 1-C: Land Use Policy Areas

Commercial Mixed Use

- High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront)
- Medium - High Density Commercial Mixed (Storefront / Auto-oriented)
- Medium Density Commercial Mixed (Storefront)
- Medium Density Commercial Mixed (Storefront/ Auto-oriented)
- Medium - Low Density Commercial Mixed (Storefront)
- Medium - Low Density Commercial Mixed (Storefront/ Auto-oriented)

Southern Alberta Institute of Technology

- S.A.I.T. Campus

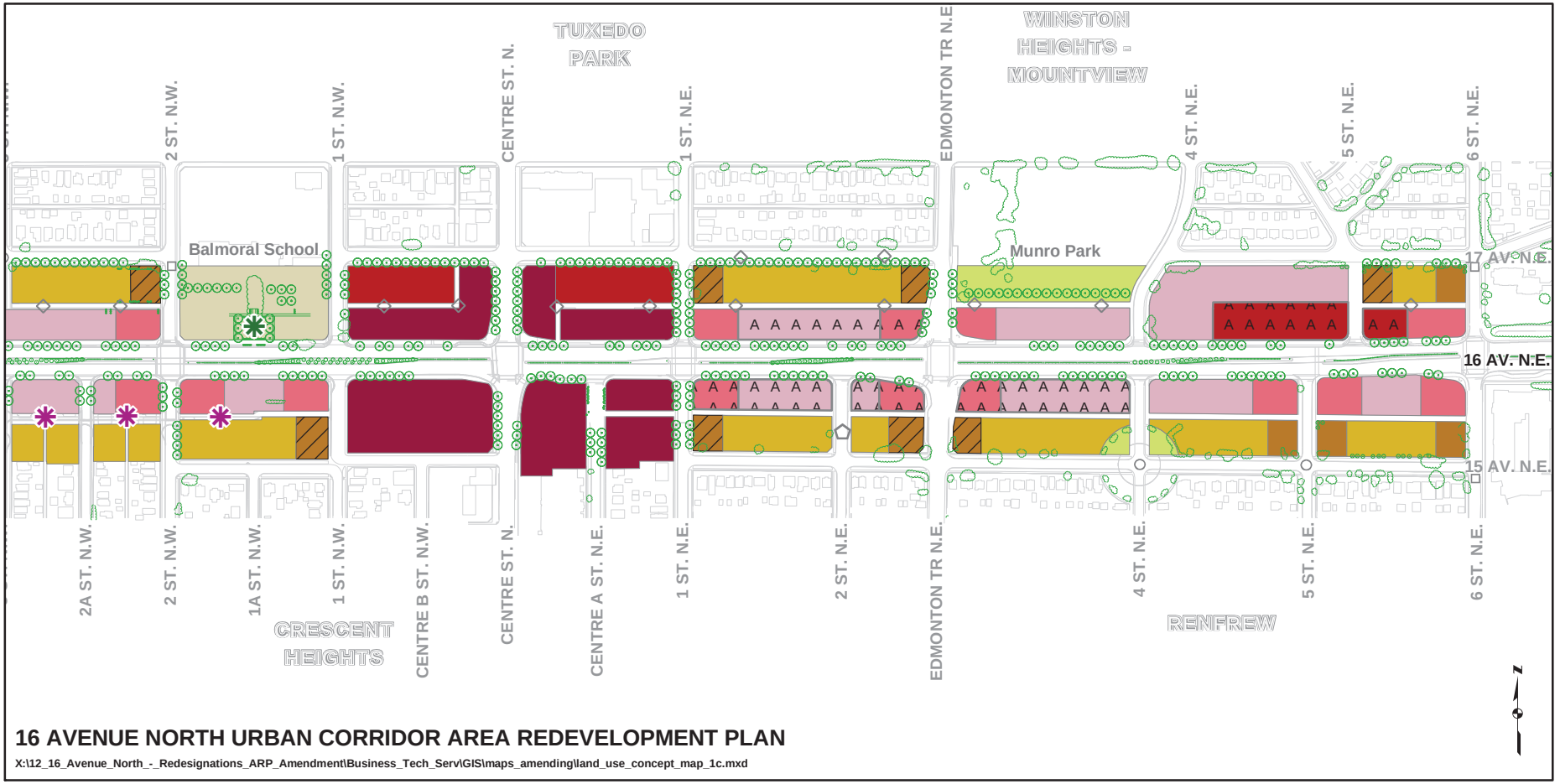
Residential Use

- Medium Density Multi-residential
- Medium Density Multi-residential Support Commercial
- Medium Density Low Minimum Multi-residential
- Single-residential
- Single-residential with Noise Attenuation

Open Space & Heritage

- Historic School/ Church Precinct
- Public Parks
- Location of new lane to be determined
- Public Park Under Discussion

Notes on base map: Road design subject to change, Landscaping conceptual only



16 AVENUE NORTH URBAN CORRIDOR AREA REDEVELOPMENT PLAN

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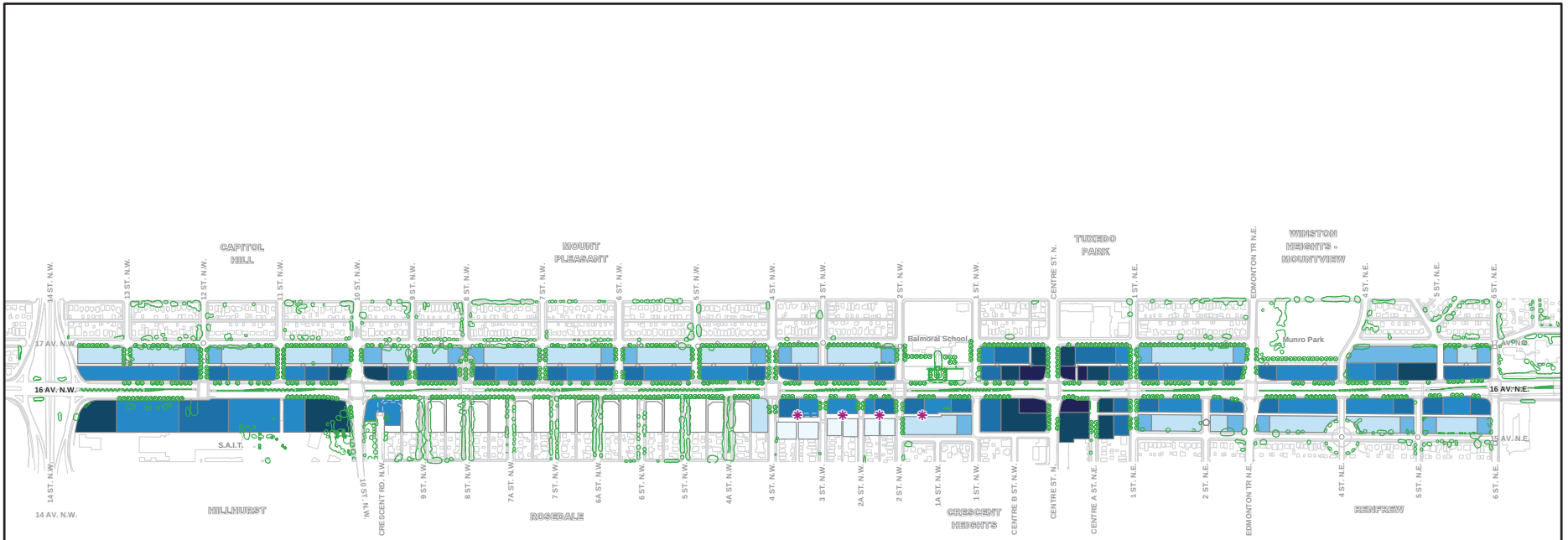
Map 2: Maximum Building Heights

Maximum Building Heights

- 46 Up to 46m (151 ft. +/-, Approximately 17 storeys)
- 38 Up to 38m (125 ft. +/-, Approximately 13 storeys)
- 28 Up to 28m (92 ft. +/-, Approximately 9 storeys)
- 24 Up to 24m (79 ft. +/-, Approximately 7 storeys)
- 22 Up to 22m (72 ft. +/-, Approximately 6 storeys)
- 16 Up to 16m (52 ft. +/-, Approximately 5 storeys)
- 14 Up to 14m (46 ft. +/-, Approximately 4 storeys)
- 10 Up to 10m (33 ft. +/-, Approximately 3 storeys)

* Location of new lane to be determined

Notes on base map: Road design subject to change, Landscaping conceptual only



16 AVENUE NORTH URBAN CORRIDOR AREA REDEVELOPMENT PLAN

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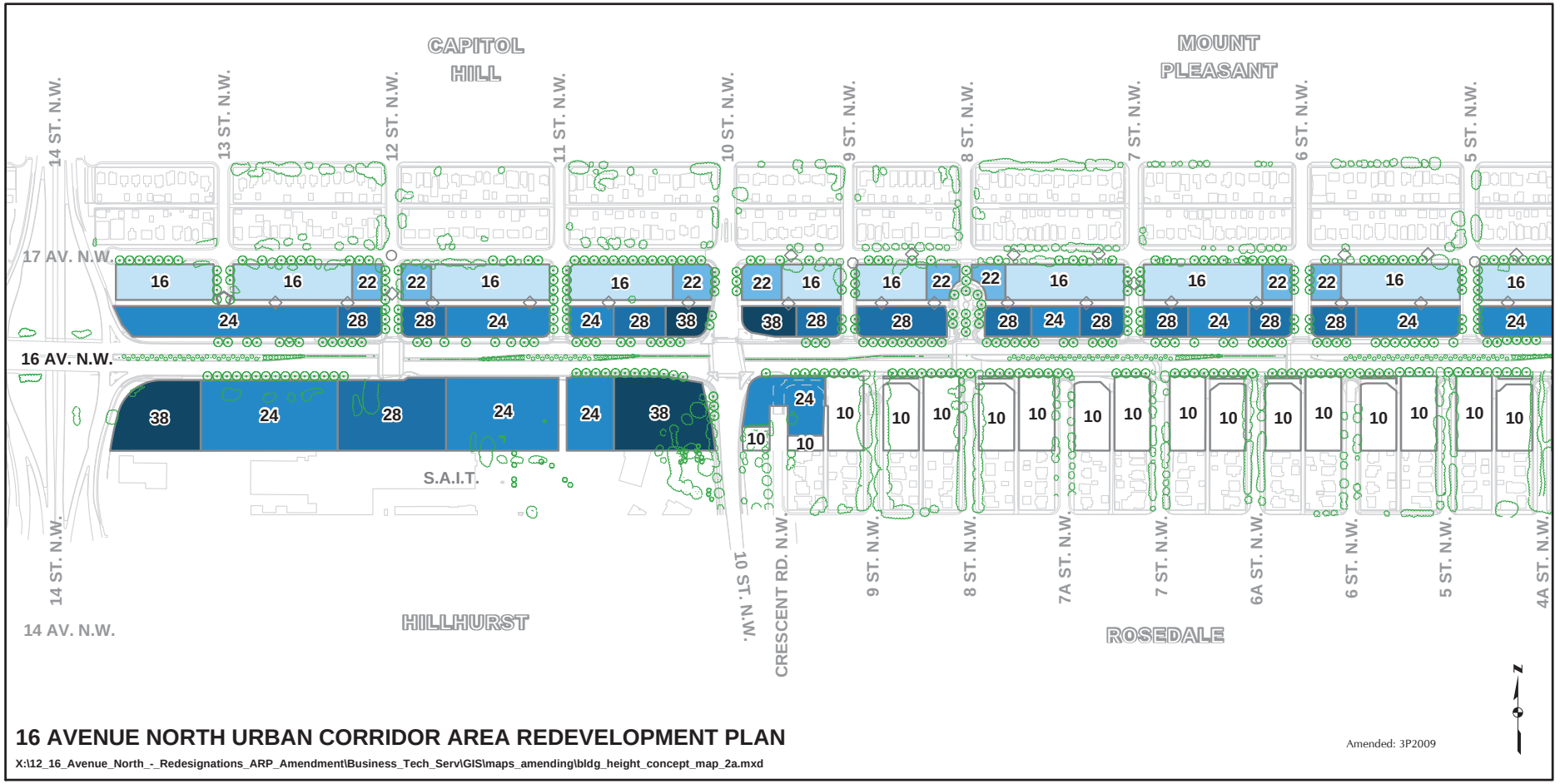
Amended: 3P2009

Map 2-A: Maximum Building Heights

Maximum Building Heights

- 46 — Up to 46m (151 ft. +/-, Approximately 17 storeys)
- 38 — Up to 38m (125 ft. +/-, Approximately 13 storeys)
- 28 — Up to 28m (92 ft. +/-, Approximately 9 storeys)
- 24 — Up to 24m (79 ft. +/-, Approximately 7 storeys)
- 22 — Up to 22m (72 ft. +/-, Approximately 6 storeys)
- 16 — Up to 16m (52 ft. +/-, Approximately 5 storeys)
- 14 — Up to 14m (46 ft. +/-, Approximately 4 storeys)
- 10 — Up to 10m (33 ft. +/-, Approximately 3 storeys)

Notes on base map: Road design subject to change, Landscaping conceptual only



16 AVENUE NORTH URBAN CORRIDOR AREA REDEVELOPMENT PLAN

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Amended: 3P2009

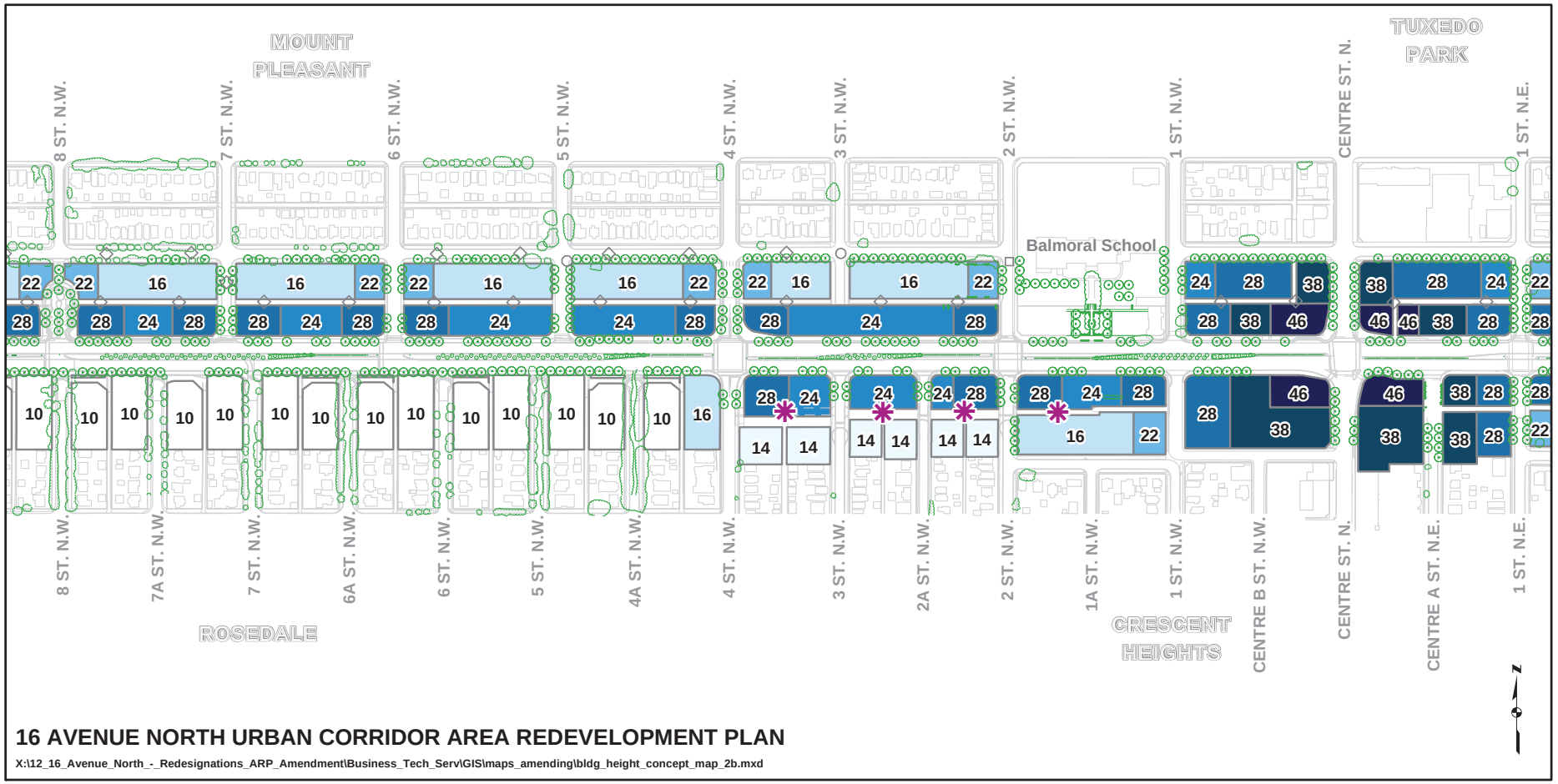
Maximum Building Heights

- 46 — Up to 46m (151 ft. +/-, Approximately 17 storeys)
- 38 — Up to 38m (125 ft. +/-, Approximately 13 storeys)
- 28 — Up to 28m (92 ft. +/-, Approximately 9 storeys)
- 24 — Up to 24m (79 ft. +/-, Approximately 7 storeys)
- 22 — Up to 22m (72 ft. +/-, Approximately 6 storeys)
- 16 — Up to 16m (52 ft. +/-, Approximately 5 storeys)
- 14 — Up to 14m (46 ft. +/-, Approximately 4 storeys)
- 10 — Up to 10m (33 ft. +/-, Approximately 3 storeys)

✱ Location of new lane to be determined

Map 2-B: Maximum Building Heights

Notes on base map: Road design subject to change, Landscaping conceptual only



16 AVENUE NORTH URBAN CORRIDOR AREA REDEVELOPMENT PLAN

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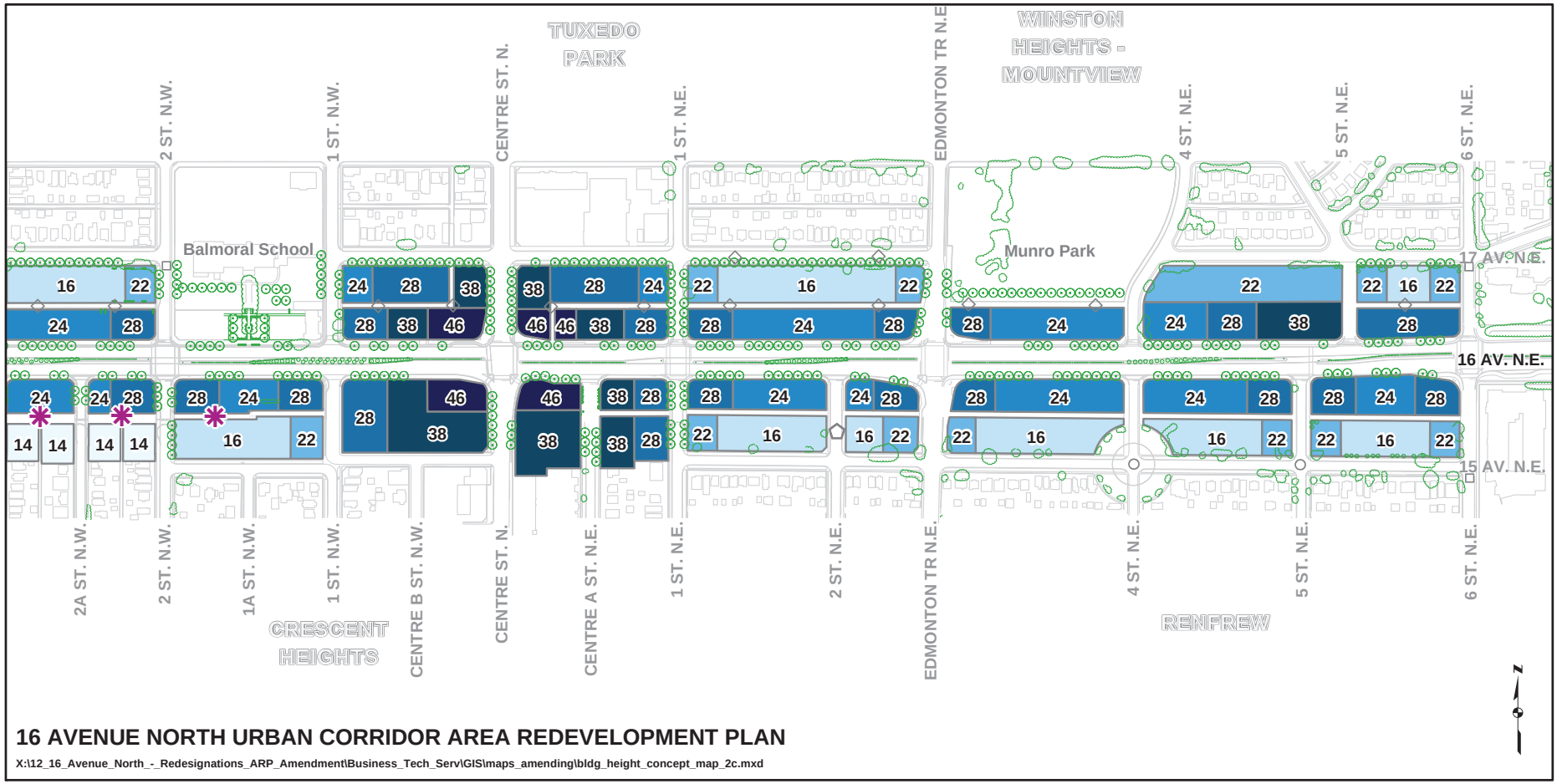
Maximum Building Heights

- 46 — Up to 46m (151 ft. +/-, Approximately 17 storeys)
- 38 — Up to 38m (125 ft. +/-, Approximately 13 storeys)
- 28 — Up to 28m (92 ft. +/-, Approximately 9 storeys)
- 24 — Up to 24m (79 ft. +/-, Approximately 7 storeys)
- 22 — Up to 22m (72 ft. +/-, Approximately 6 storeys)
- 16 — Up to 16m (52 ft. +/-, Approximately 5 storeys)
- 14 — Up to 14m (46 ft. +/-, Approximately 4 storeys)
- 10 — Up to 10m (33 ft. +/-, Approximately 3 storeys)

✱ Location of new lane to be determined

Map 2-C: Maximum Building Heights

Notes on base map: Road design subject to change, Landscaping conceptual only



16 AVENUE NORTH URBAN CORRIDOR AREA REDEVELOPMENT PLAN

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3. Commercial Mixed Use

Mixed use storefront building

3.1 Overview

(1) The Commercial Mixed Use policy areas provide for predominantly commercial uses in pedestrian-oriented (Storefront) developments or in a combination of pedestrian and auto-oriented developments (Storefront / Auto-oriented) at some locations. Mixed uses, including residential uses above the main floor, are encouraged by being allowed to develop at higher densities than purely commercial uses.

3.2 Objectives

(1) To support the short and long-term development and redevelopment of a vibrant, attractive, and safe commercial mixed use urban corridor that provides opportunities to shop, work, learn, live and play. This will facilitate investment and mitigate the decline of the business area that is evident in some portions of 16 Avenue.

(2) To encourage the provision of a range of local and regional commercial mixed uses that would serve the immediate communities as well as the regional area.

(3) To support well-designed development that produces attractive and high-quality people places, thereby creating conditions that sustain a flourishing economic and community life.

(4) To encourage urban design that establishes a sense of place, while promoting building forms that respect the local context and interface well with adjacent properties.

(5) To ensure that commercial mixed use development or redevelopment does not create negative impacts for adjacent residential uses, or for environmental conditions.

(6) To recognize and celebrate the historic role of 16 Avenue as a gateway into Calgary.

Recess in building façade used as outdoor cafe

3.3 Policies - Commercial Mixed Use (Storefront)

3.3.1 Land Use

(1) The Commercial Mixed Use (Storefront) areas shown on **Maps 1 - A, B** and **C** are suitable for mixed use buildings. Commercial uses are allowed on the main floor in pedestrian-oriented developments with office and residential uses encouraged above. The uses will include retail commercial, office, personal services, restaurants, multi-residential, live/work units, institutional, cultural, and recreational uses. Uses will be determined through the land use redesignation process to include the uses listed in the middle two columns on **Table 1**. As a general rule, most uses

Table 1 Commercial Mixed Use Policy Areas – Land Uses

USES	ALL AREAS EXCEPT MEDIUM – LOW DENSITY ON 17 AVENUE N	MEDIUM – LOW DENSITY ON 17 AVENUE N	AREAS WITH AUTO-ORIENTED OPTION
Amusement arcades	✓*(R)*	X	✓
Athletic and recreational facilities	✓	✓ ✱	✓
Auto body and paint shops	X	X	✓
Automotive sales and rentals	X	X	✓
Automotive services	X	X	✓
Automotive specialties	X	X	✓
Billiard parlours	✓*(R)*	X	✓
Child care facilities	✓	✓	✓
Commercial schools	✓	✓ ✱	✓
Drinking establishments	✓*(R)*	*X*	✓
Dwelling units	✓	✓	✓
Entertainment establishments	✓	X	✓
Financial institutions	✓	✓	✓
Grocery stores (< 465 sq. m.)	✓	✓	✓
Hotels	✓	X	✓
Laboratories	✓	✓	✓
Liquor stores	✓	X	✓
Live/work unit	✓	✓	✓
Mechanical reproduction and printing	✓	✓	✓
Medical clinics	✓	✓ ✱	✓
Motels	X	X	✓
Offices	✓	✓	✓

NOTE: ✓ uses allowed; X uses prohibited; ✱ uses allowed with size limits. *(R) use prohibited in Rosedale*. Final uses will be determined by the Land Use Bylaw

USES	ALL AREAS EXCEPT MEDIUM – LOW DENSITY ON 17 AVENUE N	MEDIUM – LOW DENSITY ON 17 AVENUE N	AREAS WITH AUTO-ORIENTED OPTION
Parking areas and parking structures	✓	X	✓
Personal service businesses	✓	✓	✓
Public and quasi-public buildings	✓	✓	✓
Radio and television studios	✓	X	✓
Restaurants	✓	✓ *	✓
Restaurant (drive-through)	X	X	✓
Retail food stores (> 465 sq. m. on sites > 0.2 ha.)	✓	✓	✓
Retail stores	✓	✓ *	✓
Special care facilities	✓	✓	✓
Veterinary clinics	✓	✓ *	✓

NOTE: ✓ uses allowed; X uses prohibited; * uses allowed with size limits; *(R) use prohibited in Rosedale*. Final uses will be determined by the Land Use Bylaw

Bylaw 3P2009

Table 2 Commercial Mixed Use (Storefront) Policy Areas – Density

LAND USE	GENERAL LOCATIONS (SEE MAP 1)	MAXIMUM DENSITY (FLOOR AREA RATIO - FAR)	
		Commercial	Mixed Use
High Density	Centre Street N	FAR 4.0	FAR 6.0
Medium to High Density	10 Street NW , 5 Street NE	FAR 3.0	FAR 5.0
Medium Density	12, 8, 6, 4 & 2, Streets NW, and 1 Street NE, Edmonton Trail & 6 Street NE		FAR 4.5
Medium to Low Density	17 Avenue N at 10 Street and between 4 Street NE and 5 Street NE; other locations along 16 Avenue N		FAR 4.0

NOTE: Floor Area Ratio (FAR) is the gross floor area of a building divided by the gross site area

Medium density mixed use building

will be discretionary except for those permitted within existing approved buildings.

(2) New auto-oriented uses will not be permitted except in the areas specified for auto-oriented uses on **Map 1-C** because they tend to interrupt the continuity of pedestrian-oriented shopping frontages. Auto-oriented uses include drive-through businesses, automotive sales or service centres, gas service stations, motels, traditional strip malls with front parking and other developments that rely heavily on automobile access.

(3) Outdoor storage will not be permitted.

(4) All residential uses must be above the main floor level in Commercial Mixed Use areas.

(5) In a mixed use building a minimum of 10% of the gross floor area must contain commercial uses and a minimum of 25% of the gross floor area must contain residential uses.

(6) Commercial and residential uses must not share a common street or internal entrance.

(7) Commercial uses are not permitted above the second floor in any mixed use building constructed at the southeast corner of 17 Avenue and 10 Street NW.

Higher density building located at corner

Building stepback used for landscaping

3.3.2 Density

(1) For individual parcels, maximum and minimum development density is established through the use of floor area ratios (FAR) for commercial or mixed uses. FAR is the total floor area of the building divided by the gross area of the site (See Glossary in **Appendix 5** for examples). The maximum densities are possible on large sites. Not all developments, particularly on smaller sites, may be able to achieve the maximum. The floor area ratio will be ascribed to individual parcels through the land use redesignation process using the densities indicated in **Table 2**.

(2) The maximum densities for mixed use buildings are higher than purely commercial buildings, as indicated in **Table 2**.

3.3.3 Building Form

3.3.3.1 General

(1) Building form refers to the height and massing (volume and shape) of buildings. It impacts a number of design conditions that are important to the sense of place and the livability of the area in the vicinity of the building, including the:

- Feeling of enclosure
- Definition of street edges
- Relationships amongst buildings and spaces
- Sensitivity to the community context
- Affect on sunshine and shadow

(2) Sunshine and shadow are key considerations in determining what controls should be placed on building form, especially as they affect residential development within the Corridor and in the immediately adjacent communities. It is important to ensure that these residential areas retain reasonable access to sunlight at all stages of redevelopment.

(3) A building envelope is a conceptual, 3-dimensional maximum outer limit on the form of a building and its location on the site. It is a means of controlling building form without stifling creativity: a variety of building heights, volumes and shapes can be designed within the confines of the envelope. The key elements of a building envelope are maximum heights, build-to lines and building setback conditions at grade, and stepbacks of the building façade at various heights above grade.

Table 3 Commercial Mixed Use (Storefront) Policy Areas – Building Heights

MAXIMUM BUILDING HEIGHTS (FOR LOCATIONS SEE MAP 2)	COMMERCIAL MIXED USE POLICY AREAS			
Heights to rooftop	**High Density**	**Medium – High Density**	**Medium Density**	**Medium – Low Density**
46 m (151 ft. ±; approximately 17 storeys)	✓✱			
38 m (125 ft. ±; approximately 13 storeys)	✓★	✓★		
28 m (92 ft. ±; approximately 9 storeys)	✓	✓	✓	
24 m (79 ft. ±; approximately 7 storeys)		✓		✓
22 m (72 ft. ±; approximately 6 storeys)				✓

NOTES:
- Maximum rooftop heights shall not be exceeded regardless of the number of storeys
- The minimum building height is 7.5 m (2 storeys) except where indicated:
  - Minimum 24 m (7 Storeys) ✱
  - Minimum 12 m (3 Storeys) ★

Building steps back away from corner

Break between buildings creates outdoor space

3.3.3.2 Building Height

(1) Maximum and minimum building heights will be prescribed through the land use redesignation process, using the heights indicated on **Maps 2-A**, **B** and **C** and **Table 3**, and illustrated by the related building form diagrams in **Appendix 1**, **Figures 1.1** to **1.4**. Height is the controlling factor from a design perspective, regardless of the number of storeys.

(2) Heights are measured from grade to the top of the parapet on a flat or mansard roof, and to the ridge on a pitch roof. Height limits exclude roof-top mechanical equipment and projecting features such as domes, belfries, masts and flagpoles.

(3) Maximum building heights range from 22 metres (72 feet ±, approximately 6 storeys) to 46 metres (151 feet ±, approximately 17 storeys). Maximum heights of 38 metres (125 feet ±) and more are intended to encourage creative landmark buildings at key focal points along the Corridor, i.e., the major 'beads' at 10 Street NW, Centre Street and 5 Street NE.

(4) At the discretion of the Approving Authority, the maximum height of 28 metres may be exceeded for buildings at the northeast and northwest corners of 16 Avenue and 8 Street NW, south of the lane and approximately 150 feet east and west of 8 Street NW, by up to 4 metres (approximately one additional story) provided that the highest point of the building does not exceed the height of the sun angle line for a 28 metre building between noon March 21 and noon September 21.

(5) The minimum building height is 7.5 metres (25 feet ±, approximately 2 storeys) except that;

Building entrances are at street level

a) The minimum height is 24 metres (79 feet ±, approximately 7 storeys) where the maximum height is 46 metres (151 feet ±, approximately 17 storeys) in the High Density areas at the Centre Street/16 Avenue intersection.

b) The minimum height is 12 metres (39 feet ±; approximately 3 storeys) where the maximum height is 38 metres (125 feet ±; approximately 13 storeys) in the High Density and Medium-High Density areas at Centre Street/16 Avenue, 10 Street NW and 5 Street NE.

3.3.3.3 Building Massing

(1) Build-to lines and building setbacks at grade, and building stepbacks above grade, combine with building heights to complete the building envelope. They will be prescribed through the land use redesignation process, using the distances between buildings and property lines indicated on **Table 4** and illustrated in the related building form diagrams in **Appendix 1**, **Figures 1.1** to **1.4**.

(2) Build-to lines and building setbacks determine the footprint of the building at grade. Build-to lines are where the depth of a yard from the property line is indicated as both a minimum and a maximum on **Table 4**. They occur close to streets and avenues to help ensure that buildings contribute to a pedestrian-oriented environment by relating directly to public sidewalks, encouraging street-front activities, providing visual continuity and framing the public thoroughfare. Build-to lines are 0.0 metres (0.0 feet ±) from property boundaries on 16 Avenue and 3.0 metres (10 feet ±) on streets intersecting 16 Avenue. Diagonal build-to lines, or corner cuts of 7.5 metres (25 feet ±) on 16 Avenue and 9.0 metres (30 feet ±) on 15 and 17 Avenues, allow for additional amenity space and more room for pedestrians at street corners. At least 75% of the at-grade façade facing 16 Avenue is required to be constructed at the build-to line.

(3) Where the Commercial Mixed Use area is located between Centre A Street NE and 1 Street NE the minimum setback at grade is 5.0 metres (16 feet ±) measured from the property line shared with an abutting residential district.

(4) There are no build-to lines on rear lanes or alongside adjacent properties. The minimum

Table 4 Commercial Mixed Use (Storefront) Policy Areas – Building Massing

<table>
<tr><th rowspan="3">BUILDINGS ADJACENT TO</th><th colspan="6">DISTANCE BETWEEN BUILDINGS AND PROPERTY LINES</th></tr>
<tr><th colspan="2">Setbacks At Grade</th><th colspan="4">Minimum Stepbacks Above Grade</th></tr>
<tr><th>Minimum & Maximum (Build-to Lines)</th><th>Minimum</th><th>Above 10 m (33 ft ±)</th><th>Above 12 m (39 ft ±)</th><th>Above 18 m (59 ft ±)</th><th>Above 28 m (92 ft ±)</th></tr>
<tr><td>16 Avenue</td><td>0.0 m/0.0 ft
7.5 m (25 ft ±) corner cut</td><td rowspan="3">N/A</td><td rowspan="6">N/A</td><td rowspan="2">1.5 m (5 ft ±)</td><td rowspan="3">N/A</td><td>N/A</td></tr>
<tr><td>Property lines perpendicular to 16 Avenue</td><td>N/A</td><td rowspan="2">7.5 m (25 ft ±)
(150 ft corner lots only)</td></tr>
<tr><td>Streets between 16 Avenue and rear lane</td><td>3.0 m (10 ft ±)
7.5 m (25 ft ±) corner cut</td><td>4.5 m (15 ft ±)</td><td rowspan="6">N/A</td></tr>
<tr><td>Rear lanes</td><td rowspan="4">N/A</td><td>1.2 m (4 ft ±) Minimum
7.6 m (25 ft ±) Surface parking option
(1.2 m minimum remains applicable to any overhanging storey)</td><td>2.7 m (9 ft ±)</td><td>8.5 m (28 ft ±)</td></tr>
<tr><td>Property lines perpendicular to 15/17 Avenues</td><td>3.0 m (10 ft ±)
5.0 m (16 ft ±) where site abuts a residential district</td><td rowspan="3">N/A</td><td rowspan="3">N/A</td></tr>
<tr><td>Rear lanes on side closest to 15/17 Avenues</td><td>4.5 m (15 ft ±) Minimum up to 15 m (49 ft ±) from corners
10 m (33 ft ±) Minimum on remaining lots</td><td>6.3 m (21 ft ±)
Minimum up to 15 m from corners
11.8 m (39 ft ±) Minimum on the remainder of the lot</td></tr>
<tr><td>Streets between lane and 15/17 Avenues</td><td rowspan="2">3.0 m (10 ft ±)
9.0 m (30 ft ±) corner cut</td><td rowspan="2">N/A</td><td>4.8 m (16 ft ±)</td></tr>
<tr><td>15/17 Avenues</td><td>6.0 m (20 ft ±)</td><td>8.5 m (28 ft ±)</td></tr>
<tr><td>Property lines perpendicular to Centre A St NE and 1 St NE shared with residential land use areas</td><td>N/A</td><td>5.0 m (16 ft ±)</td><td>6.8 m (22 ft ±)</td><td>N\A</td><td>9.3 m (31 ft ±)</td><td>N\A</td></tr>
</table>

Public art

setback from the rear lane is 1.2 metres (4 feet ±) or, when the rear of the site is used for surface parking, 7.6 metres (25 feet ±). Where Commercial Mixed Use Areas face 17 Avenue at 10 Street NW, the minimum rear setback from the lane is 10 metres (33 feet ±) and 4.5 metres (15 feet ±) for up to 15 metres (49 feet ±) from a street corner.

(5) In the Medium – High and High Density Commercial Mixed Use Policy areas, the maximum floor plate size for those residential floors above 38 metres above grade, is 700 square metre (7,535 square feet) on lots greater in width than 30.5 metres (100 feet).

(6) Building stepbacks recess the façade of the building at various heights above grade. The minimum depth of the stepback is measured from the property line, as indicated on **Table 4**. The stepbacks are intended to reduce the perception of the height and mass of the building from a street-level perspective and to help ensure a reasonable amount of sunlight penetration into adjacent buildings and spaces. The height at which the stepbacks occur may vary from those indicated, in order to adjust to specific floor levels. However, the 10 and 12 metre podiums should be maintained wherever feasible. The minimum depth of the stepbacks above 12 metres (39 feet ±) are:

a) 1.5 metres (5 feet ±) from the property boundary measured from 16 Avenue and from adjacent property lines joining with 16 Avenue

b) 4.5 metres (15 feet ±) measured from the property boundary on north-south streets, i.e., 1.5 metres (5 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line

c) 2.7 metres (9 feet ±) measured from the property boundary on the rear lane, i.e., 1.5 metres (5 feet ±) from the building face where the lower floors are built 1.2 metres (4 feet ±) from the property line

(7) The minimum depth of the stepback above 18 metres (59 feet ±) are:

a) 8.5 metres (28 feet ±) measured from the property line on the rear lane

b) 8.5 metres (28 feet ±) measured from the property line on 15 and 17 Avenue in situations where the commercial mixed use areas extend onto 15 and 17 Avenues

c) The minimum depth of the stepback above 28 metres (92 feet ±) is 7.5 metres (25 feet ±) on 45.72 metres (150 feet) wide corner lots only

(8) Where the Commercial Mixed Use areas extend to 15 and 17 Avenues, the minimum depth of the stepbacks above 10 metres (33 feet ±) are:

a) 6.0 metres (20 feet ±) from the property boundary on 15 and 17 Avenues, i.e., 3.0 metres (10 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line

b) 4.8 metres (16 feet ±) from the property boundary on streets intersecting 15 and 17 Avenues, i.e., 1.8 metres (6 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line

c) 6.3 metres (21 feet ±) from the property boundary on the rear lane for the first 15 metres (49 feet ±) from the street corner and 11.8 metres (39 feet ±) from the property boundary on the rear lane for the remainder of the lot

(9) Where the Commercial Mixed Use area is located between Centre A Street NE and 1 Street NE, the minimum depth of the stepback above 10 metres (33 feet ±) is 6.8 metres (22 feet ±) and the minimum depth of the stepback above 18 (59 feet ±) metres is 9.3 metres (31 feet ±) measured from the property line shared with an abutting residential property.

(10) More specific stepbacks and other design requirements apply to the area south of 16 Avenue between 10 Street NW and 9 Street NW, where there is no lane or roadway separating a commercial mixed use and an adjacent low density residential use (see Section 3.3.5 and **Appendix 1**, **Figure 1.5**).

3.3.3.4 Development Over Rear Lanes

(1) Where Commercial Mixed Use areas extend the full depth of the block, development may be designed to be built over the rear lane. These locations are the lands identified as Commercial Mixed Use in blocks between 1 Street NW and 1 Street NE north of 16 Avenue, between Centre A Street NE and 1 Street NE south of 16 Avenue, and the parcels immediately east and west of 10 Street NW on the north side of 16 Avenue only. The feasibility of building over the lane must be reviewed for each individual application at the development permit stage.

3.3.4 Building Character

3.3.4.1 General

(1) Building character is important to the quality of the urban experience and especially to the creation of visually pleasing, active frontages that are attractive to pedestrians and contribute to the vitality of the street. Requirements ensure minimum standards and leave scope for individual architectural design.

(2) Active frontages, pedestrian-oriented entrances, and the placement of windows and balconies that serve as 'eyes on the street' contribute also to the creation of a safe and secure environment for residents, workers and other users of the Corridor.

3.3.4.2 Building Materials and Design

(1) On the main floor, up to 4.5 metres (15 feet ±) above grade, use durable building finishing materials such as masonry (brick, stone or good quality simulated stone), metal, glass, and concrete. Cinder block, stucco and siding are discouraged on the main floor.

(2) For the podium above the main floor and for the building above the podium, use durable building finishing materials compatible with the main floor. Stucco and wood siding are acceptable above the podium. Cinder block and vinyl siding are generally not acceptable.

(3) Use architectural articulation and materials to add interest and variety to building design, especially where there is the potential for large buildings to dominate. Give particular emphasis to the relationship of the building to the street at grade level. Identify the edge of the stepback at the top of the podium, e.g., with a cornice or band of distinctive building material. Building façades should combine with landscaping, lighting, signs and street furniture to create an attractive and dynamic urban environment.

(4) Consider using construction materials that are salvaged, have recycled content, or are produced locally.

3.3.4.3 Storefronts and Entrances

(1) Provide all building entrances at street level and facing the public sidewalk. Doorways are not permitted below grade.

(2) For at-grade retail or service commercial uses, provide at least one entrance in each 15.25 metres (50 feet ±) of frontage, except that there shall be no entrances on 17 Avenue NW to commercial uses in Commercial Mixed Use areas.

(3) For at-grade office or institutional frontages where one entrance in each 15.25 metres (50 feet ±) is

Active commercial frontage

Canopies and awnings add to the visual interest and provide weather protection

not provided, articulate the building façade to create visual modules of at least this width.

(4) Provide entrances at block corners where corner cuts are provided. Doorways may be recessed from the build-to lines on the corner cuts. Accentuate entrances and corners with special design features or elements, such as outdoor art, seating areas, and awnings to help orientate pedestrians and motorists, and to reinforce the spaces as activity areas for social interaction.

3.3.4.4 Transparency

(1) On the main floor, up to 4.5 metres (15 feet ±) above grade, ensure that at least 50% and not more than 70% of the façade surface comprises glass to allow for pedestrian views directly into the businesses along the majority of the frontage. Mirrored glass surfaces are generally not acceptable on the main floor.

(2) For the podium above the main floor and for the building above the podium, windows may comprise less than 50% of the façade, but blank walls without windows are not acceptable.

3.3.4.5 Frontage Breaks

(1) The Approving Authority may impose a condition of development in order to provide at least one opening located approximately mid block in each city block that has more than 135 metres (440 feet ±) of frontage on 16 Avenue to provide a walkway to the rear lane. The opening must be accessible to the public and of sufficient width to allow safe and convenient pedestrian access between the rear lane and the sidewalk on 16 Avenue. In the case of the block between Edmonton Trail and 4 Street NE the opening must also be wide enough to allow Munro Park to be clearly visible from 16 Avenue.

(2) Where feasible and appropriate provide breaks in the building frontage in order to create publicly accessible plazas, pocket parks, arcades, court yards for outdoor cafes and other calm areas, or 'eddies' in the main stream of activity on 16 Avenue. These features add to the vitality and character of the street while improving pedestrian safety, comfort and convenience.

3.3.4.6 Recesses and Projections

(1) For the podium above the main floor, design balconies, outdoor patios and decks to be recessed from the building façade. Use glass as the predominant material for balcony guard rails.

(2) For the building above the podium, design balconies to a minimum depth of 1.8 metres (6 feet ±) and a maximum projection of 1.2 metres (4 feet ±) from the façade of the building.

(3) Consider canopies and awnings on the main floor of storefronts to provide weather protection for pedestrians and a unifying element in keeping with the overall design of the building and the character of the street.

(4) Recess doorways from the façade of the building.

Table 5 Building Massing Interface – 10 Street NW to 9 Street NW South of 16 Avenue *deleted*

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3.3.4.7 Rooftops

(1) Integrate rooftop equipment into the design of the building to minimize its negative visual impact, e.g., by enclosing the equipment, locating it away from critical view lines, or screening it with parapets or other visual barriers using finishing materials in keeping with the rest of the building.

(2) Encourage roof gardens or vegetated roof surfaces that capture rainwater and return a portion of it back to the atmosphere via evapotranspiration so that stormwater runoff is reduced.

3.3.4.8 Landmark Buildings

(1) The importance of 16 Avenue North as a major transportation corridor and gateway to visitors and Calgary residents should be reflected in high quality building design along 16 Avenue. Landmark buildings and related landscaping and character features are particularly appropriate at the key intersections of 10 Street NW, Centre Street N, 5 Street NE, the west Corridor exit/entry at 14 Street NW and the east Corridor entry/exit at 6 Street NE.

3.3.4.9 Rear Façades

(1) Ensure that the design of the rear façades of commercial mixed use buildings is compatible with the residential use on the opposite side of the lane and uses building materials of a standard similar to the front façades.

3.3.4.10 Landscaping and Lighting

(1) Landscape all areas of a parcel not required for buildings, vehicle access, parking, loading or garbage enclosures.

(2) Both hard and soft surfaces may be considered as landscaped areas except that where a parcel shares a property line with a parcel designated for residential use, the yard area must be soft surfaced.

Treelined sidewalk with outdoor seating area

(3) Use paving material for hard-surfaced pedestrian areas that matches or is compatible with pedestrian areas (e.g., sidewalks, crosswalks, plazas and pathways) in the public realm and give preference to pervious paving systems to reduce stormwater runoff volumes.

(4) Design outdoor lighting to prevent light intrusion beyond the site, e.g., by applying down-lighting and low-reflectance ground covers, selecting lighting locations that contain light within the site and employing lamp fixtures that do not allow direct-beam illumination to leave the site.

(5) Provide adequate security lighting for walkways, car parking areas and other spaces used by the public.

(6) Ensure that landscaping does not compromise security by preventing clear views from the street to pathways, open space or car parking areas.

(7) In addition to all other landscaping requirements, landscape City boulevards adjoining sites on streets and avenues outside the 16 Avenue right-of-way. Include sustainable boulevard tree planting in accordance with industry best practices.

3.3.5 Rosedale / 10 Street NW Redevelopment Node

(1) The intersection of 10 Street NW and 16 Avenue NW has been identified as a major redevelopment area with three of the four corners having significant development potential. However, the south east corner that forms part of Rosedale requires a different scale and intensity of development to ensure that future development is sensitive to the community context and interfaces positively with neighboring development.

(2) The Rosedale / 10 Street NW Redevelopment Node is conceptually shown on Map 3, while general land use and development requirements are shown on Maps 1, 1-A, 2, and 2-A. Map 3 identifies three distinct sub-areas that require different land uses and guidelines, in addition to the guidelines found in this document. Various interpretations of what might occur on the sites can be found in Appendix 1, Figures 1.11 to 1.14.

(3) Redevelopment Sub-Area 1 - This site is the largest of the three areas and has frontage on both 10 Street NW and 16 Avenue NW. The redevelopment of this site must address the three unique attributes of its location; that of being one of the primary "beads on a necklace" for 16 Avenue, that of being one of the primary gateways to downtown Calgary, and lastly, that of being adjacent to an established low density residential neighbourhood. To that end, in addition to the other design requirements associated with the Commercial Mixed Use Policy, the following guidelines shall be addressed to the satisfaction of the Approving Authority:

(a) The site should only be developed in its entirety under one approved concept plan. The concept plan may also include the Redevelopment Sub-Area 2. The use of existing land or structures for commercial purposes prior to approval of a concept plan and associated permits is strongly discouraged due to:

- *lack of commercial access/egress*
- *lack of adequate buffering through required setbacks*
- *creating commercial traffic on local residential streets*

(b) Vehicular access shall be from 10 Street NW and 16 Avenue NW only.

(c) The design will be cognizant of the variance in grades between Crescent Road NW and 10 Street NW and use those changes in elevation to minimize massing impacts and elevations.

(d) Commercial activities shall be the predominant land use activity at grade on both 10 Street NW and 16 Avenue NW.

(e) Exterior building finishes for the first two stories should be of durable high quality materials such as brick or stone, while higher elevations should incorporate a variety of materials in order to offer a complexity and richness of detail for the vertical surfaces.

(f) Treatment of buffer areas adjacent to low density residential housing shall address both visual and noise impacts.

(g) A parallel application for a lane closure should accompany the development permit application. This closure would separate the commercial access and traffic to 16 Avenue NW from the residential uses to the south. In addition, as a condition of the closure, the Approving Authority may require the applicant to construct a turning bulb at the north end of the residential land and/or dedication of a 5 metres, east-west lane connection to Crescent Road NW for the use of residential traffic.

(h) Setback requirements:

16 Avenue	*0 metres*
10 Street	*1.5 metres*
Lanes	*3.0 metres*

Note: there may be a requirement for a corner cut setback at the north corner of the site where the lane enters 16 Avenue NW.

(i) Stepback requirements on the south and east are not specified in detail as each design approach could result in the use of different dimensions to achieve the same objective: that of reducing the mass and bulk of the structure when viewed from either the east or south of the site. However, as a general rule, no stepback requirements are expected to be needed for the first two stories and after that, stepback requirements could be as great as 10 metres per story or 20 metres for every two stories.

(j) The design of private amenity spaces facing south and east should consider "greening" opportunities in terms of permanent plantings. In addition, any overlooking issues related to the low density residential shall be addressed.

(k) Land use modifiers of 4.0 (f) and 24 metres (h) should be used in conjunction with the C-COR1 District.

(4) Redevelopment Sub-Area 2 - This is the smaller of the two redevelopment sites and fronts onto 16 Avenue NW. Presently, the site contains two houses, one closest to 16 Avenue NW presently being used for professional offices and the other being used as a single family residence. The redevelopment of this site needs to be particularly mindful of its visual and aesthetic compatibility with its residential neighbours on 9 Street NW. To that end, in addition to the other design requirements associated with the Commercial Mixed Use Policy, the following guidelines shall be addressed to the satisfaction of the Approving Authority:

(a) In order for the entire site to be used for commercial purposes, a single comprehensive development shall be strongly encouraged. The site may form part of the Primary Mixed Use site and then be included in that concept plan. However, until an approved concept plan and associated permits are approved, the internal lot should not be used for commercial purposes for the same reasons as outlined in 3.3.5.3(a).

(b) Building access to the new structure shall be from 16 Avenue NW or from the lane only.

(c) Vehicular access shall only be from 16 Avenue NW.

(d) The east facing side yard needs to achieve two objectives and therefore has two dimensions to it. The first objective is to maximize the sound attenuation benefits of the new structure, therefore for up to the first 10 metres from 16 Avenue NW, along 9 Street NW, a zero setback may be considered. The second objective is for the new structure, on its east facing side, is to blend well with the existing streetscape and therefore

the setback requirements for the remainder of the site should be a minimum of 7 metres.

(e) The exterior appearance of the new structure facing east should be compatible with single family residential designs.

(f) All parking shall be fully screened from 9 Street NW and any residential parcels.

(g) The design of the east facing façade and roofline of the new structure should reflect more of a residential style in order to tie into the remaining part of the streetscape.

(h) The developer shall construct adequate sound attenuation walls at the south boundary of the site. In addition, the north east corner of the site (if not taking advantage of 3.3.5.4(d)) will require adequate sound attenuation measures. Lastly, the City of Calgary, within normal budgetary constraints, will complete any sound attenuation measures needed on public property in order to provide full coverage of sound attenuation.

(i) Land use modifiers of 1.5 (f) and 10 meters (h) should be used in conjunction with the C-COR1 District.

(j) Commercial activities that generate high volumes of traffic, noise or other spillover effects are strongly discouraged.

(5) Redevelopment Sub-Area 3 - The third part of this area is presently used as open space but is designated for commercial purposes. This site must be incorporated into the concept plan of the Redevelopment Sub-Area 1 as it is integral to providing both access to and parking for the primary site. The site has two purposes; that of commercial and that of open space.

(a) Commercial uses of the site are to be confined to 10 Street NW and below grade.

(b) The open space uses shall be maintained (or reconstructed) from the Crescent Road NW grade to 10 Street NW and form the "green roof" of the access point and some of the underground parking directly below.

(c) Wherever feasible, existing trees on the site will be relocated to the adjacent open space prior to excavation/construction. Resolution of those issues will form part of the concept plan for the site.

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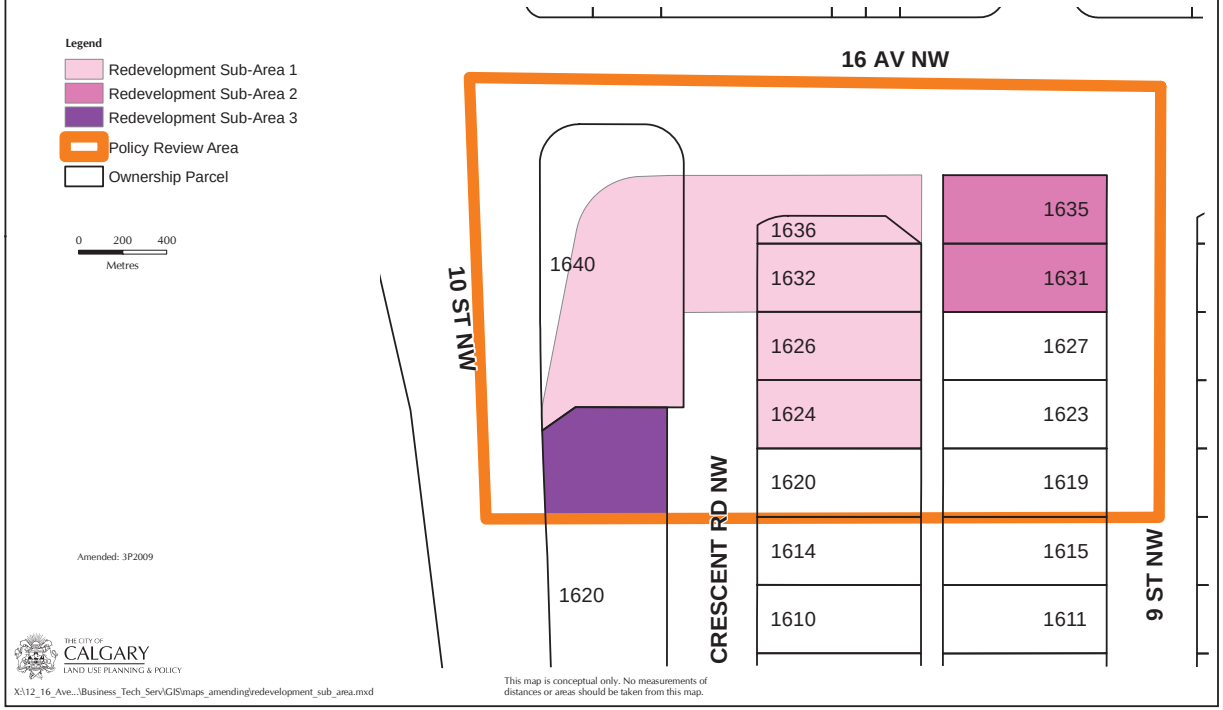
Map 3: Rosedale / 10 Street NW Redevelopment Node

Redevelopment Sub-Areas



3.3.6 Signage

(1) Signs on private property will be regulated by the Land Use Bylaw with particular attention to the need to:

a) Prevent sign proliferation to ensure the effectiveness of information and identification signage is not undermined through visual clutter

b) Avoid signs that conflict with the general character of their surrounding streetscape or the architecture of the buildings they are located on.

(2) The illumination of signs in Commercial Mixed Use areas must be directed so as to avoid intrusion of direct light beyond the site and must be oriented away from Residential Use areas.

(3) Signs must not protrude above the roofline of a building.

3.4 Policies - Commercial Mixed Use (Storefront/Auto-oriented)

3.4.1 Land Use and Density

(1) The Commercial Mixed Use (Storefront/Auto-oriented) policy areas indicated on **Map 1-C** are suitable for predominantly commercial uses in a combination of pedestrian-oriented and auto-oriented developments, with residential uses encouraged above the main floor.

(2) Land uses and densities allowed in the Commercial Mixed Use (Storefront) areas will be allowed also in the Commercial Mixed Use (Storefront/Auto-oriented) areas and, in addition, may include auto-oriented uses such as services to the automobile, motels, and other uses that rely heavily on automobile access. Uses will be determined through the land use redesignation process to include the uses listed in the right-hand column on **Table 1**.

3.4.2 Building Form and Character

(1) The building form policies specified in Section 3.3.3 and the building character requirements specified in Section 3.3.4 for Commercial Mixed Use (Storefront) areas apply also to non auto-oriented land uses in the Commercial Mixed Use (Storefront/Auto-oriented) areas.

(2) The building form requirements specified in Section 3.3.3 apply to auto-oriented uses in the Commercial Mixed Use (Storefront/Auto-oriented) areas except that the following requirements may be relaxed if necessary to accommodate auto-oriented uses:

a) For auto-oriented uses in general, the minimum building height of 7.5 metres indicated in Section 3.3.3.2 (4)

b) For automotive service uses only, the distances between buildings and property lines for buildings adjacent to 16 Avenue and to streets between 16 Avenue and the rear lane, as indicated in the first and third rows of **Table 4** and illustrated in the related building envelope diagrams in **Appendix 1**.

c) The building character requirements specified in Section 3.3.4 apply to auto-oriented uses in the Commercial Mixed Use (Storefront/Auto-oriented) areas except that those sections related primarily to frontage design may be relaxed if necessary to accommodate auto-oriented uses, e.g.,

- Section 3.3.4.3 Storefronts and Entrances
- Section 3.3.4.4 Transparency
- Section 3.3.4.5 Frontage Breaks
- Section 3.3.4.6 Recesses and Projections.

4. Residential Use

4.1 Overview

(1) The Residential Use policy areas provide for single and multi-residential uses with limited at-grade commercial uses permitted in association with multi-residential in some locations.

4.2 Objectives

(1) To support city-wide growth management policies and local community services by sensitively increasing residential densities in existing neighbourhoods.

(2) To contribute to a compact, mixed use pattern of development that encourages walking, cycling and transit use, conserves energy and makes better use of existing infrastructure.

(3) To ensure that new multi-residential development contributes to a sense of place, is sensitive to the community context, and interfaces positively with neighbouring development.

(4) To support the revitalization of the Urban Corridor by increasing population and creating more choices for housing on the edges of established communities close to Commercial Mixed Use areas along 16 Avenue.

(5) To provide the opportunity for limited commercial uses on the street level below residential uses at appropriate corner-lot locations.

4.3 Policies – Multi-residential

4.3.1 Land Use

(1) The principal uses allowed in the Multi-residential Use areas shown on **Maps 1-A, B** and **C** are multi-residential dwellings in a variety of building forms. The form is not specified so that there is opportunity for creativity in building design and mixture of housing types on a site. The mixture may include, for example, a combination of townhouses, stacked townhouses, triplexes, fourplexes and apartment buildings.

(2) No new single detached, semi-detached or duplex residences are permitted except that housing existing in these forms on lots 15.25 metres (50 feet ±) wide or less at the time this Plan is approved will be allowed to continue and may be improved subject to the Land Use Bylaw.

(3) The creation of lots less than 15.25 metres (50 feet ±) in width is discouraged.

(4) A limited range of commercial uses will be allowed on the main floor of multi-residential buildings in areas identified as Medium Density Multi-residential Support Commercial in **Maps 1-A, B** and **C**. These uses will be listed in the Land Use Bylaw generally to preclude uses other than small-scale office, personal service, and retail, such as convenience stores.

(5) Other uses allowed are accessory buildings/garages, home occupations, live/work combinations within a single unit, small-scale places of worship and child care facilities.

(6) Parking areas and parking structures where parking is provided independent of any other use or service are not allowed in Multi-residential areas.

(7) Rules governing the main-floor commercial uses will be prescribed in the Land Use Bylaw and will include the following limitations:

- A maximum of 10% of the total gross floor area of the multi-residential building shall be used for commercial purposes.
- Each commercial use shall have a maximum use area of 300 square metres (3,230 square feet ±).
- Entrances must provide separate, direct access to the commercial uses and must be located on the street, not the avenue.

(8) In general the corner lots considered appropriate for limited, main-floor commercial uses share at least one of the following locational characteristics:

- On a street connected to a light-controlled intersection at 16 Avenue, which provides good access for both vehicles and pedestrians
- Facing open space across the street, which provides good amenity

- Facing a Commercial Mixed Use area across the street or lane, which complements the potential commercial uses on the main floor.

4.3.2 Density

(1) The maximum density for all Multi-residential areas is 210 dwelling units per hectare (85 units per acre). This is a medium density that would typically allow up to 23 units on a lot 30.48 metres (100 feet ±) in width and proportionately fewer units on smaller lots. Placing this limit on density helps ensure compatibility with the adjacent lower density community.

(2) The minimum density in the Medium Density and Medium Density Support Commercial Multi-residential areas is 148 dwelling units per hectare (60 units per acre). This would typically require at least 16 units on a lot 30.48 metres (100 feet ±) in width and proportionately fewer units on smaller lots.

(3) The minimum density in Medium Density Low Minimum Multi-residential areas is 72 units per hectare (29 units per acre). This would typically require 8 units on a 30.48 metres (100 feet ±) lot and proportionately fewer units on smaller lots.

(4) Minimum densities help ensure that the potential for these areas is realized, e.g., that:

- Multi-residential areas contribute to increased population densities in the Corridor as a whole
- Medium Density and Medium Density Support Commercial Multi-residential areas reinforce the corners from a design viewpoint and focus activity on the main access streets to the community.

Densities and related land uses are summarized on **Table 6**.

4.3.3 Building Form

4.3.3.1 General

(1) Building form refers to the height and massing (volume and shape) of buildings. It impacts a number of design conditions that are important to the sense of place and the livability of the area in the vicinity of the building, including the:

- Feeling of enclosure
- Definition of street edges
- Relationships amongst buildings and spaces
- Sensitivity to the community context
- Affect on sunshine and shadow.

Building stepback at 3rd storey

Table 6 Multi-residential Use Policy Areas – Land Uses and Densities

POLICY AREAS	USES	DENSITIES	
		Minimum	Maximum
Medium Density	Multi-residential development	148 units per ha (60 units per ac)	210 units per ha (85 units per ac)
Medium Density Support Commercial	Multi-residential development and limited, main-floor commercial		
Medium Density Low Minimum	Multi-residential development	72 units per ha (29 units per ac)	210 units per ha (85 units per ac)

4 to 5 storey residential buildings

Residential corner site

(2) Sunshine and shadow are key considerations in determining what controls should be placed on building form, especially as they affect other residential development within the Corridor and in the immediately adjacent communities. It is important to ensure that these residential areas retain reasonable access to sunlight at all stages of redevelopment.

(3) A building envelope is a conceptual, 3-dimensional maximum outer limit on the form of a building and its location on the site. It is a means of controlling building form without stifling creativity: a variety of building heights, volumes and shapes can be designed within the confines of the envelope. The key elements of a building envelope are maximum heights, build-to lines and building setback conditions at grade, and stepbacks of the building façade at various heights above grade.

(4) Minor variations in the standard building form requirements are acceptable to accommodate multi-residential/carriage houses (See Section 4.3.3.4 and **Figure 1.9 in Appendix 1**).

4.3.3.2 Building Height

(1) Maximum and minimum building heights will be prescribed through the land use redesignation process, using the heights indicated on **Maps 2-A, B** and **C** and **Table 7**, and illustrated in the related building form envelope diagrams in **Appendix 1, Figures 1.6 to 1.8**. Height is the controlling factor from a design perspective; the number of storeys is shown only as a general guide.

(2) Heights are measured from grade to the top of the parapet on a flat or mansard roof, and to the ridge on a pitch roof. Height limits exclude projecting features such as masts and flagpoles. Mechanical equipment must be included within the building envelope for multi-residential buildings.

(3) Maximum building heights are 16 metres (52 feet ±, approximately 5 storeys), in most of the Multi-residential area, and 22 metres (72 feet ±, approximately 6 storeys) on the corner locations indicated on **Maps 1** and **2**. Maximum heights are 14 metres (46 feet ±, approximately 4 storeys) south of 16 Avenue between 2 Street and 4 Street NW (See Section 4.3.5(2)). See also variations to allow for Multi-residential/Carriage Houses in Section 4.3.3.4.

4.3.3.3 Building Massing

(1) Build-to lines and building setback conditions at grade, and building stepbacks above grade, combine with building heights to complete the building envelope. They will be prescribed through the land use redesignation process, using the distances between buildings and property lines indicated on **Table 8** and illustrated in the related building envelope diagrams, **Appendix 1, Figures 1.6 to 1.8**.

(2) Build-to lines and building setbacks determine the footprint of the building at grade. Build-to lines occur close to 15 and 17 Avenues and to the north-south streets. They help ensure that buildings contribute to a pedestrian-oriented environment by:

- Relating directly to public sidewalks
- Encouraging street-front activities
- Providing visual continuity
- Framing the public thoroughfare.

(3) Build-to lines are 3.0 metres (10 feet ±) from property boundaries on 15 and 17 Avenues and on the north-south streets. Diagonal build-to lines, or corner cuts, of 9.0 metres (30 feet ±) allow for additional amenity space and more room for pedestrians at street corners. At least 75% of the at-grade façade facing a public street is required to be constructed at the build-to line.

Table 7 Multi-residential Use Policy Areas – Building Heights

POLICY AREAS	MAXIMUM BUILDING HEIGHTS (FOR LOCATIONS SEE MAP 2)
	Heights To Rooftop
Medium Density	22 m (72 ft ±, approximately 6 storeys)
Medium Density Support Commercial	
Medium Density Low Minimum	16 m (52 ft ±, approximately 5 storeys) [except 14 m (46 ft ±, approximately 4 storeys) 2 St NW - 4 St NW south of 16 Ave.]

NOTES: Maximum rooftop heights shall not be exceeded, regardless of the number of storeys.
See also Section 4.3.3.4 - Multi-residential / Carriage House.

Build-to lines contribute to pedestrian-oriented environment

(4) There are no build-to lines on lanes or alongside adjacent properties but minimum setbacks ensure space between the buildings and the property lines. This allows for:

- Landscaped amenity areas
- Surface parking, in the case of the rear yards along the lanes
- Pedestrian access from front to rear of the buildings, in the case of side yards.

(5) Building stepbacks recess the façade of the building at 10 metres above grade. The minimum depths of the stepbacks are:

- 6.0 metres (20 feet ±) measured from the property line on 15 and 17 Avenues, i.e., 3.0 metres (10 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line
- 4.8 metres (16 feet ±) from the property line on north-south streets, i.e., 1.8 metres (6 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line

(6) The stepback at 10 metres above grade is intended to:

- Reduce the perception of the height and mass of the building from a street-level perspective
- Help ensure a reasonable amount of sunlight penetration into adjacent buildings and spaces
- Reflect the 10-metre maximum height permitted on most of the existing residences in the adjacent communities
- Provide some continuity in the design of taller buildings by creating a podium for the lower floors.

(7) An additional stepback on the front facade of the buildings located in the Medium Density Support Commercial and Medium Density areas is required, where the maximum building height is 22 metres. The minimum depth of the stepback at 18 metres above grade is 8.5 metres (28 feet ±) measured from the property line on 15 and 17 Avenues.

(8) More specific stepbacks and other design requirements apply to the area south of 16 Avenue between 4 Street NW and 2 Street NW, where there is no lane or roadway separating multi-residential uses within the Corridor Planning Area and low density development south of the Corridor (see Section 4.3.5).

Multi-residential (carriage house)

4.3.3.4 Multi-residential/Carriage Houses

(1) Minor variations from the distances required between buildings and property lines, summarized in **Table 8**, are acceptable in Medium Density Low Minimum Multi-residential areas to allow for multi-residential carriage houses (See **Table 9**). This building form:

- Satisfies the objectives of the Residential Use policy area
- Meets the minimum density requirement of 72 units per hectare (29 units per acre)
- Contributes to the definition of the street edge
- Is sensitive to the community context
- Produces a positive relationship amongst buildings and spaces with respect to a feeling of enclosure and the affect on sunshine and shadow.

Table 8 Multi-residential Use Policy Areas – Building Massing

BUILDINGS ADJACENT TO	DISTANCE BETWEEN BUILDINGS AND PROPERTY LINES			
	Setbacks At Grade		Minimum Stepbacks above 10 m	Minimum Stepbacks above 18 m
	Maximum & Minimum (Build-to Lines)	Minimum		
15 and 17 Avenues	3.0 m (10 ft ±) 9.0 m (30 ft ±) corner cut	N/A	6.0 m (20 ft ±)	8.5 m (28 ft ±)
Property lines perpendicular to 15 and 17 Avenues	N/A	2.4 m (8 ft ±) [for 50 ft lots] 3.0 (10 ft ±) [for 100 ft lots]	N/A	N/A
North-south Streets	3.0 m (10 ft ±) 9.0 m (30 ft ±) corner cut	N/A	4.8 m (16 ft ±)	N/A
Rear lanes	N/A	10.0 m (33 ft ±) [midblock] 4.5 m (15 ft ±) [within 15.0 m of a corner] 9.0 m (30 ft ±) corner cut	11.8 m (39 ft ±) [midblock] 6.3 m 21 ft ±) [within 15.0 m of a corner]	N/A

(2) These requirements allow for a total of eight dwelling units on two side-by-side lots each 15.25 metres (50 feet ±) wide. The units are accommodated in a principal building and an accessory carriage house above a garage or carport at the rear of each property. The height of the principal building in this building form is 12 metres (39 feet ±, approximately 3 storeys) and the carriage house is 8 metres high (26 feet ±, approximately 2 storeys).

(3) The multi-residential/carriage house example falls within the standard minimum density and maximum height requirements. The standard build-to line and minimum setbacks at grade are maintained at the front and outer sides of the principal buildings, where they interface with the street and adjacent properties. Variations from the standard are allowed with respect to side and rear setbacks at grade and to upper storey stepbacks:

- Minimum side and rear setbacks are reduced to allow for the carriage houses.

Table 9 Multi-residential Use Policy Areas – Building Massing for Multi-residential/Carriage Houses

BUILDINGS ADJACENT TO	DISTANCE BETWEEN BUILDINGS AND PROPERTY LINES	
	Setbacks At Grade	
	Minimum & Maximum (Build-to Lines)	Minimum
15 and 17 Avenues	3.0 m (10 ft ±)	N/A
Outside Property Lines Shared with Adjacent Properties	N/A	Principal buildings: 2.4 m (8 ft ±) Accessory buildings 1.2 m (4 ft ±)
Internal Property Line Shared by the Fifty-Foot Lots		1.2 m (4 ft ±)
Rear Lanes		1.1 m (4 ft ±)

- Side setbacks are reduced between the principal buildings where the interface design can be coordinated.
- There are no stepback requirements above 10 metres but the roof must be pitched and the upper storey may be incorporated into the roof space.

4.3.4 Building Character

4.3.4.1 General

(1) Building character is important to the quality of the urban experience and especially to the creation of visually pleasing, active frontages that are attractive to pedestrians and contribute to the vitality of the street. Requirements ensure minimum standards and leave scope for individual architectural design.

(2) Active frontages that foster street-level activities, and windows, porches and balconies that serve as 'eyes on the street', contribute also to the creation of a safe and secure environment for residents and other users of the Corridor.

4.3.4.2 Materials and Design

(1) On the main floor use durable materials such as masonry (brick, stone or good quality simulated stone) as the predominant building finish. Stucco and siding are acceptable on the main floor provided they are not the dominant materials.

Durable materials

Each unit has a separate front door

Pedestrian access to the rear of the block

(2) For the podium above the main floor and for the building above the podium, use durable building finishing materials compatible with the main floor. Stucco and siding are acceptable above the main floor.

(3) Identify the edge of the stepback at the top of the podium, e.g., with a cornice or band of distinctive building material.

(4) Consider using construction materials that are salvaged, have recycled content, or are produced locally.

Residential live-work building

4.3.4.3 Main Floor Grades and Entrances

(1) Relate the main floor to the pedestrian environment at grade. Doorways are not permitted below grade.

(2) Provide each ground floor dwelling unit with an individual, direct, ground-level entrance to the dwelling unit from the building exterior. Ground floor units adjacent to the public street or lane must have a main entrance facing the street or lane and linked to it by a direct pedestrian connection.

(3) Identify communal entrances to residential buildings with landscaping, a canopy or other distinguishing feature.

(4) Provide commercial uses in Medium Density Multi-residential Support Commercial areas with separate, direct access from the building exterior. The access must face the public street and be linked to the public sidewalk by a direct pedestrian connection. It also must have windows with clear glass that allow views into the building from the public street.

Recessed balconies with glass railing

4.3.4.4 Recesses and Projections

(1) For the podium above the main floor, design balconies and other private amenity space to be recessed from the building façade. Use glass as the predominant material for balcony guard rails.

(2) For the building above the podium, design balconies to a minimum depth of 1.8 metres (6 feet ±) and a maximum projection of 1.2 metres (4 feet ±) from the façade of the building.

4.3.4.5 Rooftops

(1) Integrate rooftop equipment into the design of the building to minimize its negative visual impact, e.g., by enclosing the equipment, locating it away from critical view lines, or screening it with parapets or other visual barriers using finishing materials in keeping with the rest of the building.

(2) Encourage roof gardens or vegetated roof surfaces that capture rainwater and return a portion of it back to the atmosphere via evapotranspiration so that stormwater runoff is reduced.

4.3.4.6 Multi-residential/Carriage Houses

(1) Minor variations from the building character requirements specified in the previous sub-sections of Section 4.3.4 are acceptable in the Medium Density Low Minimum Multi-residential areas to accommodate accessory carriage houses, e.g., Section 4.3.4.3. Main Floor Grades and Entrances.

4.3.5 Interface Design - Crescent Heights

(1) Specific design requirements are needed to ensure sensitivity to the community context in the area south of 16 Avenue NW between 4 Street NW and 2 Street NW, where there is no lane or roadway separating Medium Density Multi-residential uses within the Corridor Planning Area and abutting low density residential development south of the Corridor. **Figure 1.10 in Appendix 1** and **Table 10** illustrate and summarize the design requirements that apply to this area.

Landscaping on all sides of the building

(2) The maximum building height is 14 metres (46 feet ±, approximately 4 storeys).

(3) Buildings are oriented to the north-south streets and the east-west lane, i.e., the front faces the street and the rear faces the north-south lane right of way. The purpose of this orientation is to help reduce the loss of privacy through overlooking of properties outside the southern boundary of the Corridor Planning Area.

(4) The setback distances between property lines and buildings at grade are:

a) 3.0 metres (10 feet ±) minimum and maximum build-to line setback measured from the front property line on the street right of way. At least 75% of the at-grade façade facing the street is required to be constructed at the build-to line.

Table 10 Building Massing Interface – 4 Street NW to 2 Street NW South of 16 Avenue

BUILDINGS FACING	DISTANCE BETWEEN BUILDINGS AND PROPERTY LINES		
	Setbacks at Grade		Minimum Stepbacks above Grade
	Minimum & Maximum (Build-to Lines)	Minimum	
North-south streets (front property line)	3.0 m (10 ft ±) 9.0 m (30 ft ±) corner cut at east-west lane	N/A	6.0 m (20 ft ±) at 10.0 m (33 ft ±) above grade
East-west lanes (side property line to the north)	9.0 m (30 ft ±) corner cut at north-south street	3.0 m (10 ft ±)	
Adjacent low density properties (side property line to the south)	N/A		4.8 m (16 ft ±) at 10.0 m (33 ft ±) above grade
North-south lanes (rear property line)		10.0 m (33 feet ±)	11.8 m (39 feet ±) at 10.0 m (33 ft ±) above grade
Other side property lines		3.0 m (10 ft ±) [For lots wider than 50 ft] 2.4 m (8 ft ±) [For lots 50 ft or less]	N/A

b) 9.0 metres (30 feet ±) minimum and maximum corner cut build-to line setback measured from the corner where the street and the east-west lane right of way meet.

c) 10.0 metres (33 feet ±) minimum setback measured from the rear property line on the north-south lane right of way.

d) 3.0 metres (10 feet ±) minimum setback measured from the side property line on the east-west lane right of way to the north or from the side property line shared with the adjacent low density property outside the southern boundary of the Corridor Planning Area.

e) 3.0 metres (10 feet ±) minimum setback measured from side property lines other than those noted in 4(d) above, except that where the lot width is 15.2 metres (50 feet ±) or less, the minimum setback measured from the side property line is 2.4 metres (8 feet ±).

(5) The minimum stepback distances between property lines and buildings above grade are:

a) 6.0 metres (20 feet ±) minimum stepback at 10.0 metres (33 feet ±) above grade measured from the front property line on the street or from the side property line on the east-west lane right of way to the north, i.e., 3.0 metres (10 feet ±) from the building face where the lower floors are built 3.0 metres (10 feet ±) from the property line.

b) 11.8 metres (39 feet ±) minimum stepback at 10.0 metres (33 feet ±) above grade measured from the rear property line on the north-south lane right of way, i.e., 1.8 metres (6 feet ±) from the building face where the lower floors are built 10.0 metres (33 feet ±) from the property line.

c) 4.8 metres (16 feet ±) minimum stepback at 10.0 metres (33 feet ±) above grade measured from the side property line shared with the adjacent R-2 property outside the southern boundary of the Corridor Planning Area .

(6) Building character design requirements for this part of the Corridor Planning Area are the same as for other Multi-residential policy areas, except that additional requirements help reduce the loss of privacy through overlooking of adjacent residences outside the southern boundary of the Corridor Planning Area:

a) Balconies or other private amenity spaces on south-facing building façades at the southern edge of the Corridor Planning Area are permitted only at heights greater than 10.0 metres (33 feet ±) above grade.

b) Balconies or other private amenity spaces on south-facing building façades at the southern edge of the Corridor Planning Area are not permitted where they would overlook the rear yards of adjacent R-2 residences.

c) Balconies or other private amenity spaces on building façades facing north-south lanes shall be recessed from the façades in such a way as to eliminate the potential for overlooking the rear yards of the adjacent low density residences.

(7) Parking and circulation requirements, including the requirement that access to parking be from the lane at the rear of the building, are the same for this part of the Corridor Planning Area as they are for other Multi-residential Policy areas, except that additional requirements ensure the north-south lanes can be used for access to parking for multi-residential development without allowing them to be used for shortcutting:

a) The existing lane may be widened at the time of redevelopment to ensure adequate access to multi-residential buildings within the Corridor Planning Area.

b) The existing lanes serving residential development south of the Corridor Planning Area may be one-way northbound, subject to agreement from the affected property owners and to the results of monitoring identified in Section 8.3.2.9(2).

4.3.6 Landscaping and Lighting

(1) Provide a minimum of 40% of the area of a parcel as landscape, except that this minimum requirement may be reduced by up to 10% where the following three conditions are satisfied individually or in combination:

- A street-oriented multi-residential building is developed on the parcel (4% reduction)
- A comprehensive enhanced landscape plan is approved (3% reduction)
- A low water landscaping plan is approved (3% reduction).

(2) All areas of a parcel not required for buildings, vehicle access, parking loading or garbage facilities must be landscaped.

(3) Both hard and soft surfaces may be considered as landscaped areas, except that hard surfaces may not comprise more than 30 per cent of the required landscaped area.

(4) Use paving material for hard-surfaced pedestrian areas that matches or is compatible with pedestrian areas (e.g., sidewalks, crosswalks, plazas and pathways) in the public realm. Pervious paving systems should be used wherever feasible to reduce stormwater runoff.

(5) Design outdoor lighting to prevent light intrusion beyond the site, e.g., by applying down-lighting and low-reflectance ground covers, selecting lighting locations that contain light within the site, and employing lamp fixtures that do not allow direct-beam illumination to leave the site.

(6) Provide adequate security lighting for walkways, car parking areas and other spaces used by the public.

(7) Ensure that landscaping does not compromise security by preventing clear views from the street to pathways, open space or car parking areas.

(8) In addition to all other landscaping requirements, landscape the City boulevards adjoining sites on streets and avenues outside the 16 Avenue right-of-way. Include sustainable boulevard tree planting in accordance with industry best practices.

4.4 Policies – Single-residential

4.4.1 Land Use and Development Rules

(1) Single detached housing is allowed in accordance with the land use designations in place at the time this Plan is approved in the Single-residential Use areas shown on **Maps 1-A** and **B**.

(2) Single detached housing with sound attenuation is allowed on the parcels identified for this purpose on **Map 1-A** and **B**.

(3) All of the parcels identified in Section 4.4.1(2) were City owned at the time this Plan was approved. The City strongly encourages the following conditions be met:

- Sound-barrier houses will provide noise attenuation to City standards for the surrounding properties as well as for the internal occupants of the building.
- The north side of all sites should be built to incorporate a continuous sound-barrier wall that is a minimum of 4 metres (13 feet ±) in height and have a minimum surface density of 10 kg/m^2. The edge of the barrier wall should extend to the north limit of the rear property line. The wall may consist of the principal building, accessory building and fence or any combination thereof. Any design varying from this height and alignment shall be reviewed by an acoustical expert to confirm its compliance with the requirements for noise protection of the surrounding properties.
- The design of all walls facing 16 Avenue should be compatible in style and colours with the sound attenuation wall that exists on the south side of 16 Avenue between 9 Street NW and 4 Street NW.

5. Open Space and Heritage

Munro Park

5.1 Overview

(1) The Open Space Strategy for Established Communities, 2006 confirmed that the "quality and type of open space are more important to inner city residents than is quantity of open space" and that accessibility to the open spaces is a key factor. The Strategy also found park space deficiencies in the vicinity of 16 Avenue, especially in northern Crescent Heights. The Parks Department is considering opportunities to create a new park in that community.

(2) The Plan gives priority to improving access to the two key existing open space areas within the Corridor, Munro Park and the Heritage Area around Balmoral School, and to improving linkages between the Corridor and open space in the surrounding communities. Streetscape improvements within the 16 Avenue right of way and the creation of small urban spaces adjacent to the right of way will also contribute to the open space experience along the Corridor.

(3) The heritage policies respect the historic United Church and Balmoral Junior High School which fall within the Corridor between 1 Street NW and 2 Street NW.

(4) Smaller urban public open spaces may be constructed such as the 8 Street Court, other closed or partially closed side streets, and the new Crescent Heights lane (see follow-up action identified in Section 8.3.2.5).

5.2 Objectives

(1) In co-operation with the Calgary Board of Education, to improve public access to the open space on the Balmoral School Site where it fronts onto 16 Avenue and consider improvements to it for passive recreation and educational purposes.

(2) To improve access to Munro Park and consider improvements that would enhance the interface with the lane to the south and would expand the range of recreational opportunities within the rest of the park.

(3) To develop smaller hard-surfaced urban open spaces as public gathering spaces and resting stops along the Corridor where feasible.

(4) To improve pedestrian access and linkages to existing neighbourhood open spaces within and close to the Corridor and to regional open space such as Confederation Park and McHugh Bluffs.

5.3 Policies – Open Space

5.3.1 General

(1) The Commercial (Storefront) and Multi-residential Mixed Use policies in earlier sections of the Plan provide for uses surrounding Munro Park that draw people into the park and create opportunities for overlooking onto the park from balconies and terraces (See **Map 1-C**).

(2) Retain existing public parks and open spaces in the long term.

(3) Enhance the landscaping and urban forest cover in existing parks.

(4) Involve the communities when re-designing open spaces to determine the needs and preferences of the users.

(5) Subject to the investigation identified in Section 8.3.2.4, design the 8 Street Court, other closed or partially closed side streets, and the new lane between 4 Street NW and 2 Street NW south of 16 Avenue (See **Map 1-B**) to function as small-scale urban public open spaces with landscaping, street furniture and to be surrounded by active pedestrian-oriented uses.

(6) Enhance crosswalks on 16 Avenue to help ensure good access to open space on both sides of the Avenue.

(7) Directional signage may be installed at crosswalks and at key intersections to increase awareness of open space in and close to the Corridor, e.g., at

- Edmonton Trail and 5 Street NE for Munro Park
- 8 to 13 Streets NW for Confederation Park
- 1, 4, 5, 6A and 7A Streets NW for McHugh Bluffs and Bow River
- 2 and 3 Streets NW for Crescent Heights Park, McHugh Bluffs and Bow River
- Centre and 10 Street NW for Bow River and
- Centre and 1 Street NW for Rotary Park.

(8) As a condition of development, encourage the upgrading of sidewalks and landscaping of boulevards to a standard comparable with 16 Avenue on side streets that intersect with 16 Avenue.

5.3.2 Balmoral School Grounds

(1) In co-operation with the Calgary Board of Education, create a passive recreational park along the south side of the Balmoral School site with public access from 16 Avenue (see **Maps 1-B** and **C**).

[Discussions are currently underway with School Board representatives related to improving the public access to this site.]

Balmoral School

(2) The design of the park should:

- Enhance the function and aesthetic appeal of the open space as an important green space along the Corridor
- Complement the character of the Historic Area surrounding the park
- Serve the school and surrounding residents, including those living to the south of 16 Avenue, and the employees and customers of businesses along the 16 Avenue Corridor
- Retain a portion of the site as a park into the future where feasible
- Improve the urban forest by including additional trees and landscaping in the park design.

5.3.3 Munro Park

(1) Develop and implement design strategies to strengthen the identity of Munro Park (see **Map 1-C**) as a community gathering place providing active and passive recreational opportunities for residents both north and south of 16 Avenue.

(2) Improve pedestrian access and visibility of the park for residents of the community and communities to the south of 16 Avenue.

(3) Create a formal park edge at the southwest corner and along the southern boundary of the park to improve the interface with the lane in this area.

(4) Upgrade and widen the lane along the southern edge of the park to improve access to the park and to Commercial Mixed Use development south of the lane.

(5) Develop formalized access points into the park to improve public accessibility.

(6) Improve the urban forest by planting additional trees and landscaping.

5.4 Policies – Historic School/ Church Precinct

5.4.1 General

(1) The City of Calgary Heritage Authority maintains an 'Inventory of Potential Heritage Sites' which ranks the sites in three categories; 'A', 'B' and 'C'. The Inventory identifies two sites within the Corridor Planning Area. They are included in the Historic Precinct identified on **Maps 1-B** and **C**:

Heritage Church

- Balmoral School at 220, 16 Avenue NW - built in 1914 and ranked as a Category 'A' site
- Unitarian United Church at 204, 16 Avenue - built in 1908 and ranked as Category 'C' site.

(2) Any development or redevelopment directly affecting the 'Inventory of Potential Historic Sites' in the Historic Precinct identified on **Maps 1-B** and **C** shall be reviewed by the Approving Authority in accordance with Council-approved policy for such sites.

(3) Some of the sites listed in the Inventory may be eligible for the Heritage Incentive Program.

5.4.2 Land Use

(1) The principal uses allowed are for school authority purposes, parks and places of worship. The intention is to allow existing uses to continue and to provide for the creation of a park, in co-operation with the Calgary Board of Education, if that is the best option for increasing public access to the Balmoral School site.

(2) In order to encourage retention and adaptive reuse of the properties that comprise the Historic Precinct, the Plan supports alternative future uses, subject to a land use redesignation. These alternative uses should complement those allowed in Commercial Mixed Use (Storefront) areas. Any future use should include provision for public open space on the Balmoral School site accessible from 16 Avenue.

6. Southern Alberta Institute of Technology

6.1 Overview

(1) The Plan recognizes The Southern Alberta Institute of Technology (SAIT) as an important western anchor on the Corridor, and as an important asset to the adjacent communities and the city as a whole. Policies support the continued intensification of use on the SAIT site and require that it be designed to reflect the built form north of the Avenue, while complementing the character of the campus.

(2) Recent years have seen major, high quality redevelopment of academic and support facilities and high density student housing, some of it visible from 16 Avenue. Proposed future redevelopment, including a Trades and Technology complex, will have direct exposure to the Avenue and presents a significant opportunity to contribute to the character and vitality of the Corridor.

(3) SAIT offers a diverse range of educational and career training programs to approximately 72,000 registrants a year. It is also a major employer with over 1,800 faculty and staff. With continued growth in the Alberta economy, the enrolment and its physical space are expected to increase to 20,000 full-load equivalents by 2010. The Institute's academic, recreational and cultural programs and facilities are available to the surrounding communities. Student residents and daily users of the Institute provide a strong market base for adjacent local services and retail businesses.

6.2 Objectives

(1) To reinforce SAIT as an important focal point on the 16 Avenue North Corridor and to recognize its distinct character as a significant post-secondary educational facility in the city.

(2) To ensure that future educational facilities and their related uses fronting onto 16 Avenue and its adjacent streets are pedestrian-friendly and transit-friendly in design.

(3) To promote a unique sense of place at the western end for the Corridor that would enhance and celebrate the collegiate theme and reflect the built form north of the Avenue.

6.3 Policies

(1) The predominant use of land on the SAIT campus shown on **Map 1-A** shall be a post-secondary polytechnic education and research facility with a range of compatible and complementary uses such as offices, research and development facilities, high-density campus housing and ancillary commercial uses.

(2) Density will be determined at the development permit application stage, since the 16 Avenue frontage covers only a portion of the SAIT campus.

(3) In general, buildings will be higher at the intersection of 14, 12 and 10 Streets NW and lower in the area between these intersections, reflecting the built form north of the Avenue. Maximum allowable building heights, shown on **Map 2-A**, are:

- 38 metres (125 feet ±, approximately 13 storeys) in the vicinity of the intersections with 16 Avenue at 14 and 10 Street NW

High quality campus buildings

- 28 metres (92 feet ±, approximately 9 storeys) at the 12 Street NW intersection
- 24 metres (79 feet ±, approximately 7 storeys) between those intersections.

(4) In order to maintain a visual continuity of the Corridor, a minimum building height of 7.5 metres (25 feet ±, approximately 2 storeys) is required for buildings fronting onto 16 Avenue North.

(5) The use of landmarks, other architectural features and public spaces is encouraged at the major north-south intersections with 16 Avenue to showcase the prominent role of SAIT in the post-secondary polytechnic field and in the Corridor. Landmark building forms are particularly appropriate close to the intersections at:

- 14 Street: taking advantage of this prominent location to create a first impression of the college from the west and to mark the western gateway to the Corridor
- 12 Street: drawing attention to the principal pedestrian entrance to the college on 16 Avenue
- 10 Street: complementing the concentration of development activity on the northern side of the Avenue in this location.

(6) Developments shall be designed to contribute to the enhancement of a pedestrian environment, e.g., by:

- Creating pedestrian-oriented edge conditions when locating new buildings fronting onto 16 Avenue and its intersections with 10, 12 and 14 Streets NW
- Positioning buildings to create a streetscape with multiple entrances aligned to the street to facilitate way-finding and reinforce the vitality of the street
- Minimizing vehicular access, avoiding blank walls without windows or doors.

(7) At least 75% of the at-grade façade facing 16 Avenue NW is required to be constructed at the build-to line.

(8) The location of building footprints along 10 Street NW will be determined at the time of development.

(9) Building mass and building character requirements that apply to the 16 Avenue frontages of the Commercial Mixed Use (Storefront) areas shall generally apply also to buildings on the 16 Avenue frontage of the SAIT campus except that:

- Setbacks at the 12 metre podium are not required
- The height of buildings extending back into the campus will be determined at the time of development.

(10) To reflect the function of SAIT as an inner city urban campus served by major transit corridors, future development should maximize public transit as the primary mode of travel, e.g., by providing publicly accessible, comfortable, convenient and safe pedestrian linkages to the LRT station and to the various campus facilities.

A unique sense of place

Mobility

7. Mobility

7.1 Overview

(1) The land use and urban design policies in the Plan are supported by major policy decisions on mobility made through City Council's approval of the Concept Plan in February 2005. The previous decisions include:

- The widening of 16 Avenue to 6 lanes
- A landscaped median with 11 signalized breaks to provide left-turn opportunities for vehicles and clearly marked crosswalks for pedestrians
- Boulevards widened to 6.9 metres on the north side and 4.5 metres on the south to allow for improved sidewalks and landscaping
- A noise attenuation wall where low density residences abut the 16 Avenue right of way
- Improvements to rear lanes to accommodate circulation and access for commercial and residential traffic
- Streetscape improvements designed to add to comfort and visual appeal for all users of the Corridor.

(2) The Concept Plan was supported by a Transportation Planning Study which is summarized in **Appendix 3**. The traffic modelling exercise included in the study concluded that the proposed new land uses expected at the 1.25 million population horizon for the city can be accommodated by the widening of 16 Avenue and related infrastructure improvements.

(3) The Traffic Management Study for the Corridor, approved by City Council in February 2006, provided for the construction of traffic management measures designed to calm traffic within the Corridor and to minimize traffic intrusion into adjacent neighbourhoods. These include full and partial road closures, traffic circles, speed humps, and raised crosswalks. Measures for each community are listed in **Appendix 4**.

(4) The Corridor ARP reinforces these previous decisions on mobility and supplements them where additional policies are needed to clarify directions on parking, pedestrian circulation, and support for transit.

7.2 Objectives

(1) To ensure that adequate parking is provided to support the land uses and urban design principles in the Plan.

(2) To ensure good pedestrian circulation at the block level to complement the Corridor-wide improvements to the pedestrian environment approved in the Concept Plan.

(3) To reinforce support for transit along the Corridor.

7.3 Parking

7.3.1 Overview

(1) All development within the Corridor will be required to provide adequate on-site parking. Underground parking is encouraged to help achieve optimum densities of development. Surface parking is largely confined to the rear of the building. Access to parking is primarily from rear lanes. These location and access constraints are imposed to help foster a pedestrian-friendly Corridor including active street frontages, uninterrupted by parking lots, and continuous sidewalks, uninterrupted by driveways. **Figure 4** illustrates an example of parking and circulation for an individual block.

7.3.2 Policies - Commercial Mixed Use (Storefront) Parking

(1) All Commercial Mixed Use (Storefront) areas shall provide adequate parking on site in accordance with Land Use Bylaw standards in place at the time of application. This will include consideration of reduced standards for mixed use developments and shared parking arrangements.

(2) Underground parking is encouraged in order to help achieve the optimum allowable densities. In many cases lot consolidations may be necessary to

accommodate these densities and related parking requirements.

(3) Above-grade parking structures are permitted subject to conditions to ensure, amongst other things, that the structure:

(a) Is compatible with the urban design requirements for Commercial Mixed Use (Storefront) areas

(b) Provides for active Commercial Mixed Uses on the main floor fronting onto 16 Avenue

(c) Shields adjacent residential development from the headlight beams of parking vehicles.

(4) On-site surface parking is not permitted between buildings and property lines on 16 Avenue or the adjacent side streets.

(5) On-site surface parking is permitted only at the rear of buildings, between the building and the rear lane, except that public parking or other shared parking may be permitted at the side of buildings internal to the block.

(6) Access to surface and underground or structured parking should be from rear lanes or, where it can be safely allowed, from side streets. No new driveways onto 16 Avenue will be permitted. The options for closing or consolidating existing driveways onto 16 Avenue will be explored at the time of redevelopment, in order to minimize disruption to pedestrian movement along 16 Avenue.

(7) Clear directional signs for parking should be appropriately located where motorists can see them. Signs in parking areas should identify stalls for customers and staff where appropriate.

(8) Surface parking areas adjacent to pedestrian areas and residential uses should be hard surfaced preferably with pervious paving materials and screened through the uses of landscaping and fencing. All screening material should be attractive, durable and require low maintenance. Screening should not compromise security by preventing clear views into the car parking area.

(9) Public parking and public/private parking arrangements should be reviewed as part of a parking strategy study (see follow-up action identified in Section 8.3.2.1). Pending completion of the study:

- Municipal parking lots should not be disposed of unless an equivalent number of public parking stalls can be provided along the Corridor at suitable locations.
- Short-term on-street parking should be retained and expanded in the adjacent streets where possible.

7.3.3 Policies - Commercial Mixed Use (Storefront/Auto-oriented) Parking

(1) The parking requirements specified in Section 7.3.2 for Commercial Mixed Use (Storefront) areas apply also to land uses in the Commercial Mixed Use (Storefront/Auto-oriented) areas except that those sections requiring rear lane access and parking at the rear of the building may be relaxed if necessary to accommodate automotive service uses only, i.e.,

- Section 7.3.2(4)
- Section 7.3.2(5)
- Section 7.3.2(6)

7.3.4 Policies - Multi-Residential Use Parking

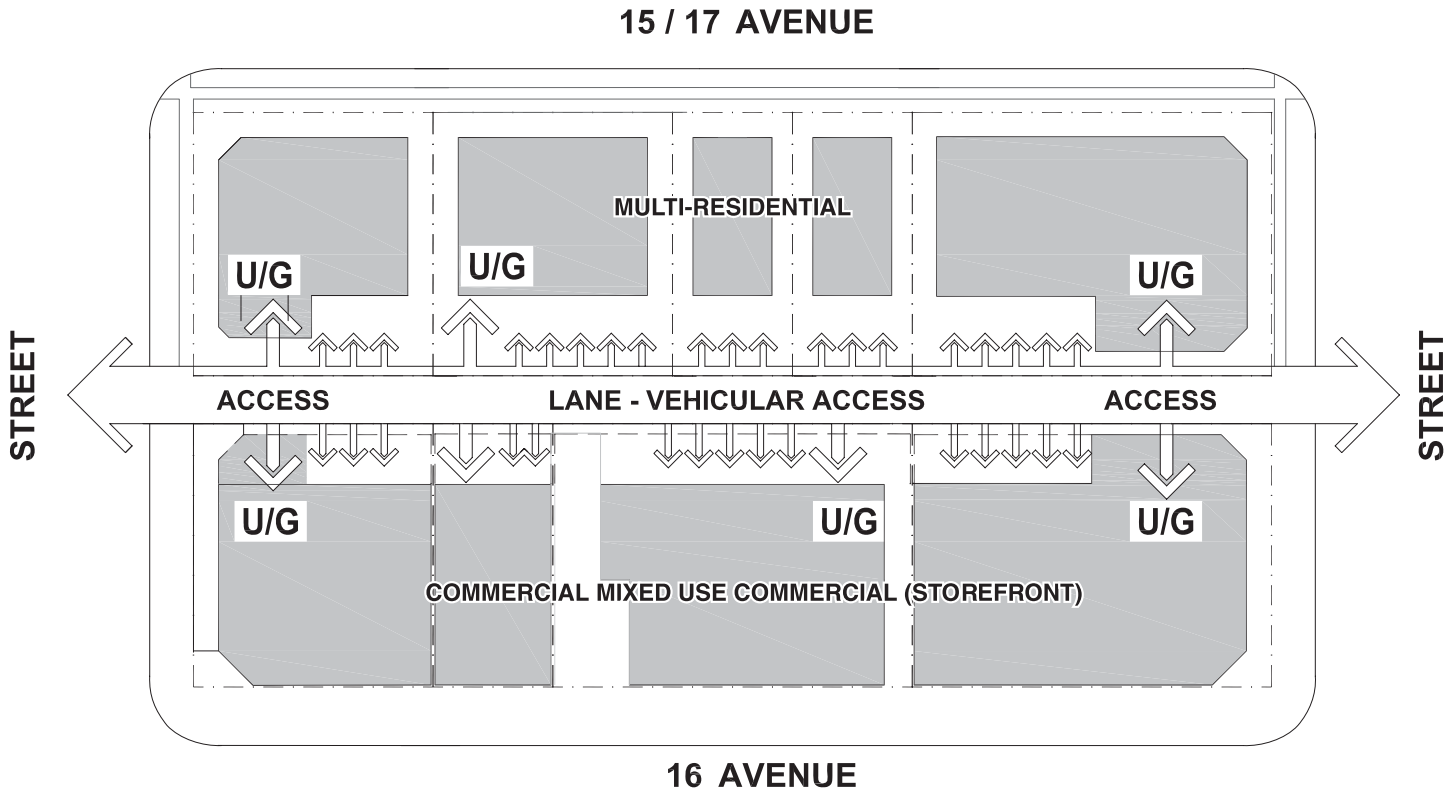
(1) All multi-residential development shall provide adequate on-site parking in accordance with Land Use Bylaw standards in place at the time of approval.

(2) Underground parking is encouraged in order to help achieve the optimum allowable densities. In many cases lot consolidation will be necessary to accommodate these densities and to meet the related parking requirements.

(3) Above grade parking structures are not permitted in Multi-residential Use policy areas.

Clearly marked crosswalks

Figure 4 Block Parking and Circulation



1) VEHICULAR ACCESS IN LANE
2) NO VEHICULAR ACCESS FROM 15/17 AVENUE
3) RESTRICTED VEHICULAR ACCESS FROM 16 AVENUE
4) PERPENDICULAR PARKING / ACCESS TO UNDERGROUND PARKING OFF LANE

(4) On-site surface parking is not permitted between buildings and property lines on 15 Avenue North, 17 Avenue North or the adjacent side streets.

(5) On-site surface parking is permitted only at the rear of buildings, between the building and the rear lane.

(6) Access to surface and underground parking shall be from rear lanes or, where it can be safely allowed, from adjacent side streets.

(7) Clear directional signs for visitor parking should be appropriately located where motorists can see them. Signs in parking areas should identify stalls for visitors.

7.4 Circulation for Pedestrians

7.4.1 Overview

(1) The land use and urban design guidelines in the Corridor ARP complement the widened sidewalks, landscaping and crosswalks approved in the Concept Plan to improve the pedestrian realm. Within and surrounding development sites, pedestrian linkages will provide access from the front of buildings to the rear lanes. Pedestrian access from the rear lane parking areas will help to keep activity on 16 Avenue. An example of the pedestrian circulation pattern for an individual block is illustrated on **Figure 5**.

(2) 16 Avenue is not part of the Regional Pathway and Bicycle Route System, however the system includes several existing and potential bike routes across 16 Avenue. There are existing bike routes on 2 Street NW and 6 Street NE. These connections across 16 Avenue link to the McHugh Bluff Escarpment, the downtown core, Confederation Park and other regional pathway sections throughout the Corridor.

7.4.2 Policies - Pedestrian Circulation

(1) Encourage breaks within large developments to provide direct linkages from the rear lane to the front of buildings both in the Commercial Mixed Use and the Residential areas.

(2) Extend the 16 Avenue landscaping and sidewalk conditions onto side streets where development is located on a corner to enhance the pedestrian environment.

(3) Setbacks on Edmonton Trail and Centre Street that may be required by The City in the future should be landscaped.

(4) Should it be determined that there is no requirement for a road widening setback along Centre Street or Edmonton Trail, the setback area should be retained to enhance the pedestrian environment.

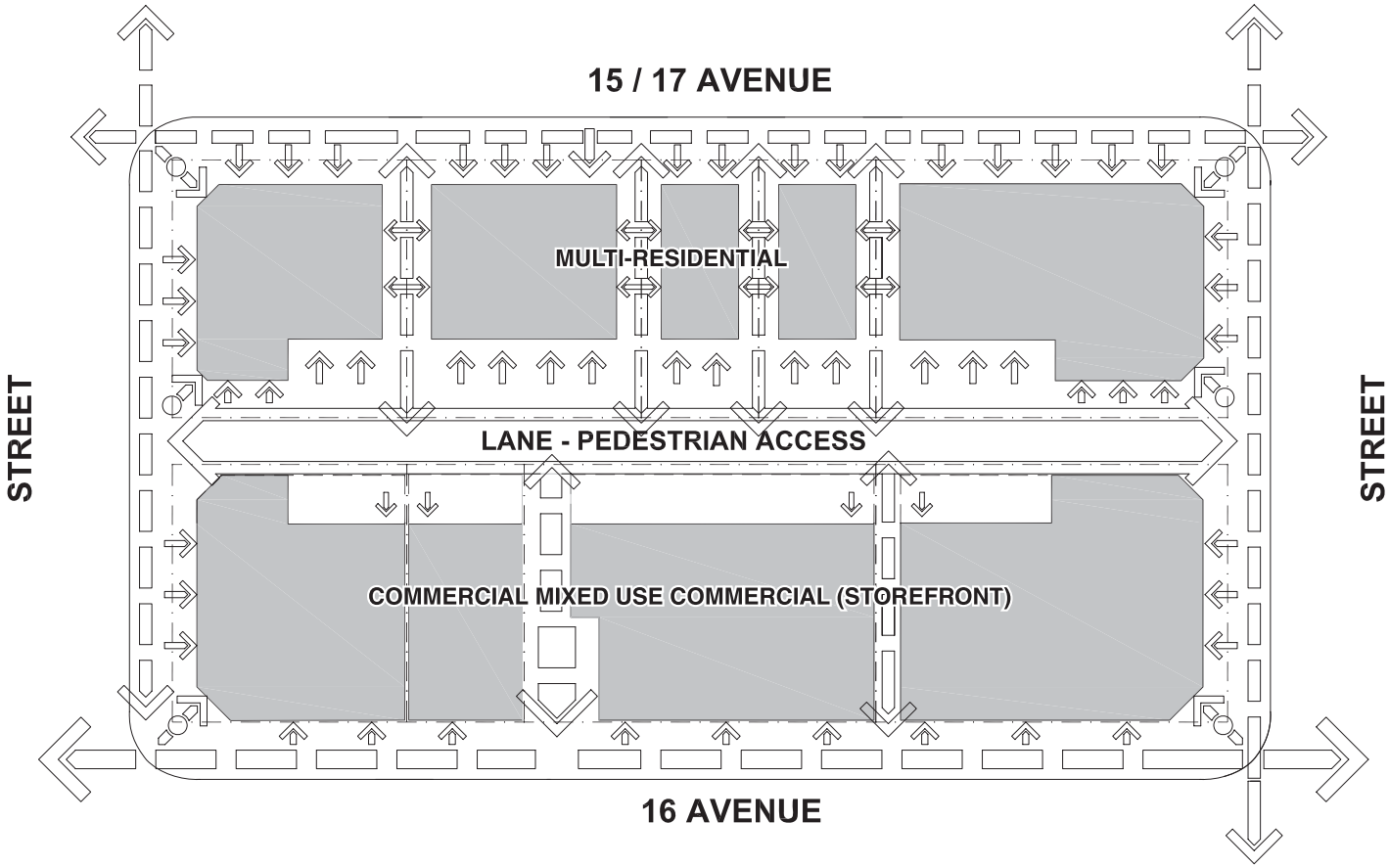
(5) Pedestrian routes should be barrier-free for people of all levels of physical activity.

7.4.3 Policies - Circulation for Cyclists

(1) Consider future bike routes on 4 Street NW, 12 Street NW, 10 Street NW and possibly on 1 Street NE.

(2) Bicycle parking is required for all new developments in accordance with the Land Use Bylaw standards in place at the time of application.

Figure 5 Block Pedestrian Circulation



1) PEDESTRIAN ACCESS TO ALL AT-GRADE UNITS
2) PEDESTRIAN-FRIENDLY LANE / INTERNAL BLOCK COURTYARD
3) 16 AVENUE PEDESTRIAN 'EDDIES' INTO LANE / COURTYARD

7.5 Transit

7.5.1 Overview

(1) The 16 Avenue Corridor is serviced by bus routes on 16 Avenue, 14, 10, 7, 6, and 4 Streets NW, Centre Street and Edmonton Trail. Calgary Transit is considering additional bus bays within the Corridor. These include an additional bay eastbound on 16 Avenue North east of Centre Street, southbound on 10 Street NW south of 16 Avenue North, southbound on Edmonton Trail south of 16 Avenue North, and northbound on Centre Street North of 16 Avenue. Currently there are a number of bus stops along 16 Avenue North located either at the intersections or mid-block between the intersections. Calgary transit will determine if the majority of bus stops on the widened Avenue can be located at the signalized intersections.

(2) The LRT station at SAIT is not within the Corridor ARP boundary however it is within walking distance of the SAIT campus area and the surrounding blocks along the 16 Avenue Corridor. Along Centre Street there is a rapid bus transit route to the downtown. Both the LRT and the Centre Street buses are heavily used transit routes. The City of Calgary Transit Oriented Design Guidelines promote transit supportive uses in areas surrounding LRT stations and major bus routes. The ARP generally promotes these transit-oriented uses across the Corridor by increasing residential densities and encouraging mixed use commercial development.

7.5.2 Policies

(1) Locate bus stops on the far side of signalized intersections where feasible to improve safety by reducing conflicts between buses, pedestrian and turning vehicles.

(2) The bus stops at 8 Street NW and 6 Street NW will coincide with pedestrian openings in the sound barrier wall on the south side of 16 Avenue.

(3) New development should incorporate transit shelters / protected waiting areas, where appropriate.

(4) Require transit supportive uses and design as outlined in the City of Calgary Transit Oriented Design Guidelines in areas located within a 600-metre radius of the SAIT LRT station and the Centre Street and 16 Avenue intersection.

Bike crossing

Implementation

8. Implementation

8.1 Overview

(1) Successful implementation is the key to realizing the vision of the Plan. The first step is approval of the Plan and of consequent amendments to previously approved area redevelopment plans where they affect land within the Corridor Planning Area. The following sections set out future actions required to successfully implement the Plan. Timing for these actions or programs will depend on City work programs and priorities.

8.2 Objectives

(1) To provide guidance and direction to the land use amendment process.

(2) To provide some key follow-up actions that should be undertaken.

(3) To ensure that the Plan is meeting its vision and goals.

8.3 Policies

8.3.1 Land Use Redesignations

(1) Following Council's approval of the Plan, land use redesignations will be initiated by The City in conformity with the Plan. A Direct Control District may have to be created to implement the land use and urban design requirements specific to the Corridor. Where feasible, the land use districts will be integrated with the new Land Use Bylaw expected to be considered for approval by Council in 2007.

(2) The exact land use district boundaries will be determined at the land use redesignation stage, using the land use policy area boundaries on **Map 1-A, B** and **C** as a guide**.**

(3) Amongst other things, the land use redesignations will take account of restricted lot depths in the Commercial Mixed Use areas shown on **Maps 1-A, B** and **C**. This may include specific regulation or provision for the relaxation of general regulations with respect to landscaping, signs and the encroachment of signs and awnings over the 16 Avenue right of way.

8.3.2 Follow-up Actions

8.3.2.1 Parking Strategy

(1) A parking study will be undertaken in order to rationalize the location of existing public parking and to explore ways to improve the availability of on-street and off-street parking within the Corridor, including on-street parking in off-peak periods along 16 Avenue.

(2) The City will investigate the potential for encouraging parking underneath the by-lawed setback along the 16 Avenue frontage.

8.3.2.2 Residential Parking Permits

(1) Residential parking permit programs in adjacent communities will be reviewed periodically as redevelopment of the Corridor proceeds and adjustments will be made to the programs, where appropriate, in consultation with affected residents.

8.3.2.3 Business Revitalization Zone

(1) The City will assist those businesses that wish to establish a Business Revitalization Zone to promote and raise the profile of 16 Avenue North Urban Corridor as a special character area to shop, work, live and play.

8.3.2.4 Banner Program

(1) The City will examine the possibility of initiating a banner program to complement the streetscape and add to the image and distinctive character of the Corridor. The program would be developed and implemented in co-operation with a business revitalization zone, if one is established.

8.3.2.5 Small Open Spaces

(1) In addition to the open space opportunity provided at the 8 Street Court, The City will explore the opportunity of developing small open spaces as public gathering and resting places in and adjacent to the Corridor. The possibility of using some of the residual public rights-of-way at the closed or partially closed side streets for such purposes will be investigated.

8.3.2.6 Urban Design Requirements

(1) Ways of ensuring how the urban design requirements can effectively be applied in the Plan area will be explored, including requesting all significant projects be reviewed by the Urban Design Review Panel.

(2) The first ten development applications submitted for consideration after the adoption of the ARP, excluding permitted use, change of use and sign permit applications, will be brought before the Urban Design Review Panel, regardless of the project size.

(3) The first ten development applications submitted for consideration after the adoption of the ARP, excluding permitted use, change of use and sign permit applications, will be brought before the Calgary Planning Commission regardless of the project size.

8.3.2.7 Affordable Housing

(1) In support of the Plan's objective of creating more choices for housing, City departments, including Corporate Properties & Buildings, Calgary Housing Company, and relevant social agencies should work together to explore the opportunity of providing affordable and non-market housing units where feasible. Partnership between the City and the private sector to develop non-market housing is encouraged.

(2) In order to facilitate the delivery of affordable and non-market housing within the Corridor, the Approving Authority is encouraged to consider the following:

- Support relaxations to bylaw regulations where it is demonstrated that the relaxation is appropriate for the development and that the development is secured through an agreement to ensure long-term affordability for low-income households.
- Consider parking relaxations for proposed affordable/non-market housing development where it is demonstrated that the proposed development would have a reduced automobile ownership rate and that the development is secured through an agreement to ensure long-term use for low-income households.

8.3.2.8 Traffic Management Monitoring

(1) The effectiveness of the traffic management measures implemented in accordance with the 16 Avenue North Traffic Management Study approved by City Council in February 2006 will be monitored and issues identified will be addressed.

(2) The incidence of shortcutting through the north-south lanes serving the residential properties south of the new lane in Crescent Heights will be monitored after the new lane is in operation. If issues are identified, remedies to be considered, in consultation with the affected residents and the community association, will include converting the lanes to one-way northbound.

8.3.2.9 Plan Monitoring

(1) The policies of this Plan will be monitored for their effectiveness and adaptation to changing conditions. Amendments arising from the monitoring program will be brought forward for City Council's consideration where appropriate. City-wide sustainability indicators will be used to monitor the effectiveness of the ARP policies over time.

Community involvement

(2) Administration will consult with the Crescent Heights Community Association and affected property owners and report back to Council through the SPC on Land Use Planning and Transportation on the location, design and timing of the new lane south of the 16 Avenue between the east side of 2 Street and 4 Street NW.

8.3.2.10 Community Involvement

(1) During the course of the Plan preparation, many opportunities were provided for citizen input. The City will continue to engage the affected communities, businesses, property owners and other affected stakeholders regarding ongoing implementation processes, including amendments to the Corridor ARP and to the Land Use Bylaw, and applications for subdivision and development permits.

deleted **Bylaw 3P2009**

8.3.2.11 Enmax Facility

(1) The City will work with Enmax to examine options for visually buffering and/or screening the Enmax facilitly located at 17 Avenue and 1 Street NW. The solution may include landscaping, public art or other innovative types of screening.

8.3.2.12 Sustainable Building and Site Performance Practices Methods

(1) Methods of encouraging sustainable building and site performance standards will be explored including but not limited to protocols for evaluation of applications.

8.3.2.13 Commercial and Residential Compatibility

(1) When evaluating development permit applications for sites adjacent to lanes containing both commercial mixed use and residential, the Approving Authority should consider conditions to address planning concerns associated with commercial operations (for example, late night noise) from 10 p.m. until 7 a.m. on a case by case basis.

Appendices

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1.1 – A Plan

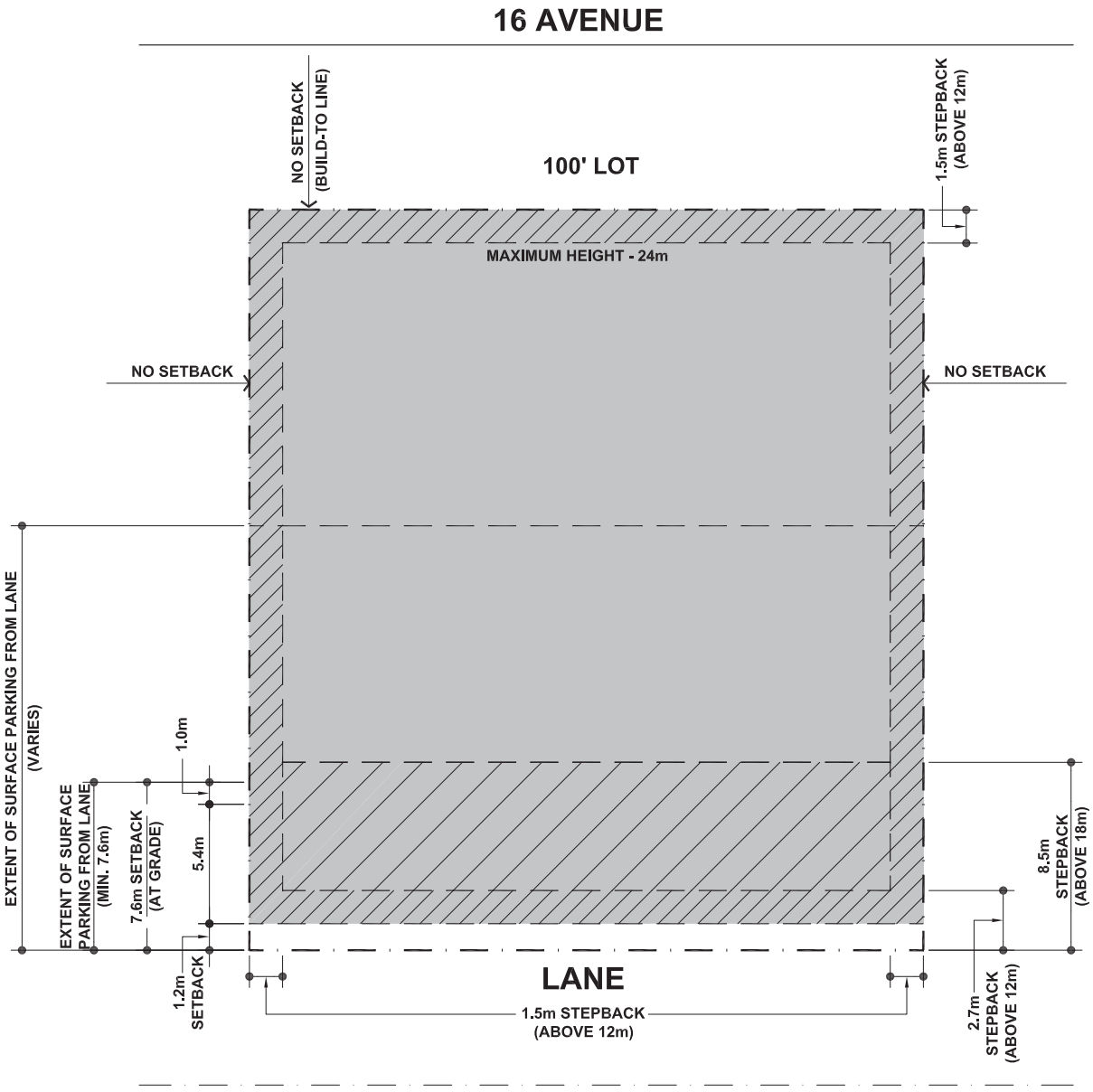


Figure 1.1 Building Form Example – Medium-Low Density Commercial Mixed Use Areas at Midblock

1.1 – B Building Envelope

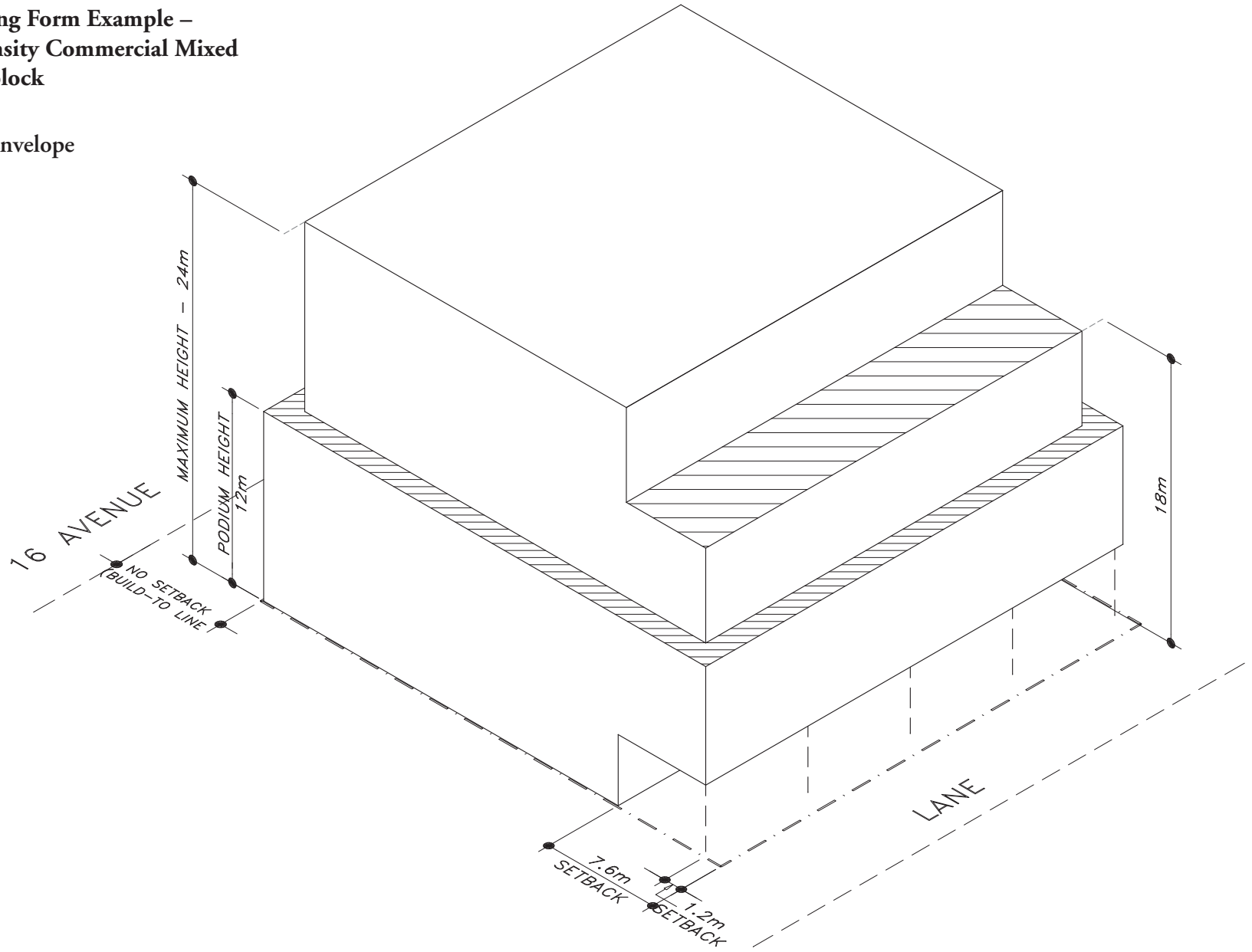


Figure 1.1 Building Form Example – Medium-Low Density Commercial Mixed Use Areas at Midblock

1.1 – C North-South Section

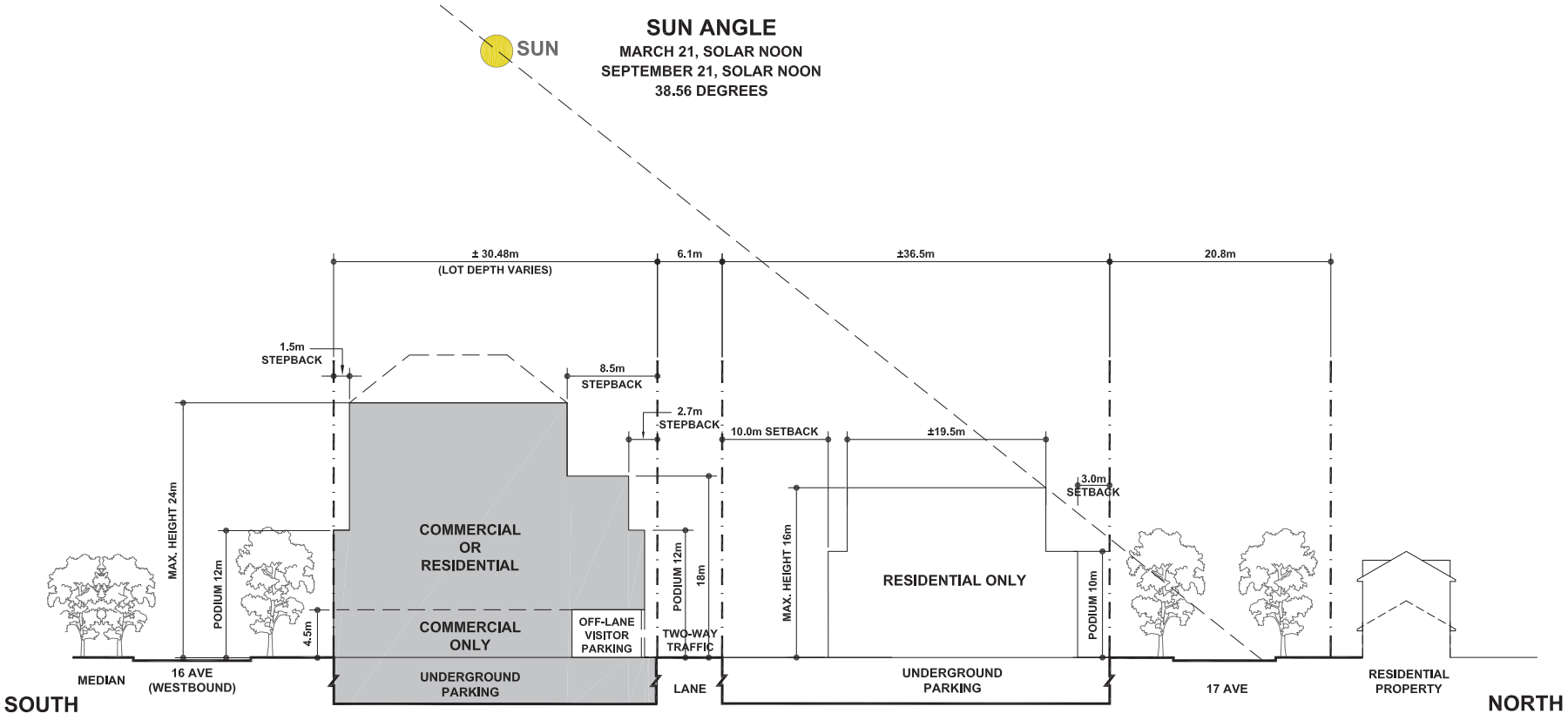


Figure 1.2 Building Form Example –
Medium Density Commercial Mixed Use Areas at Corner

1.2 – A Plan

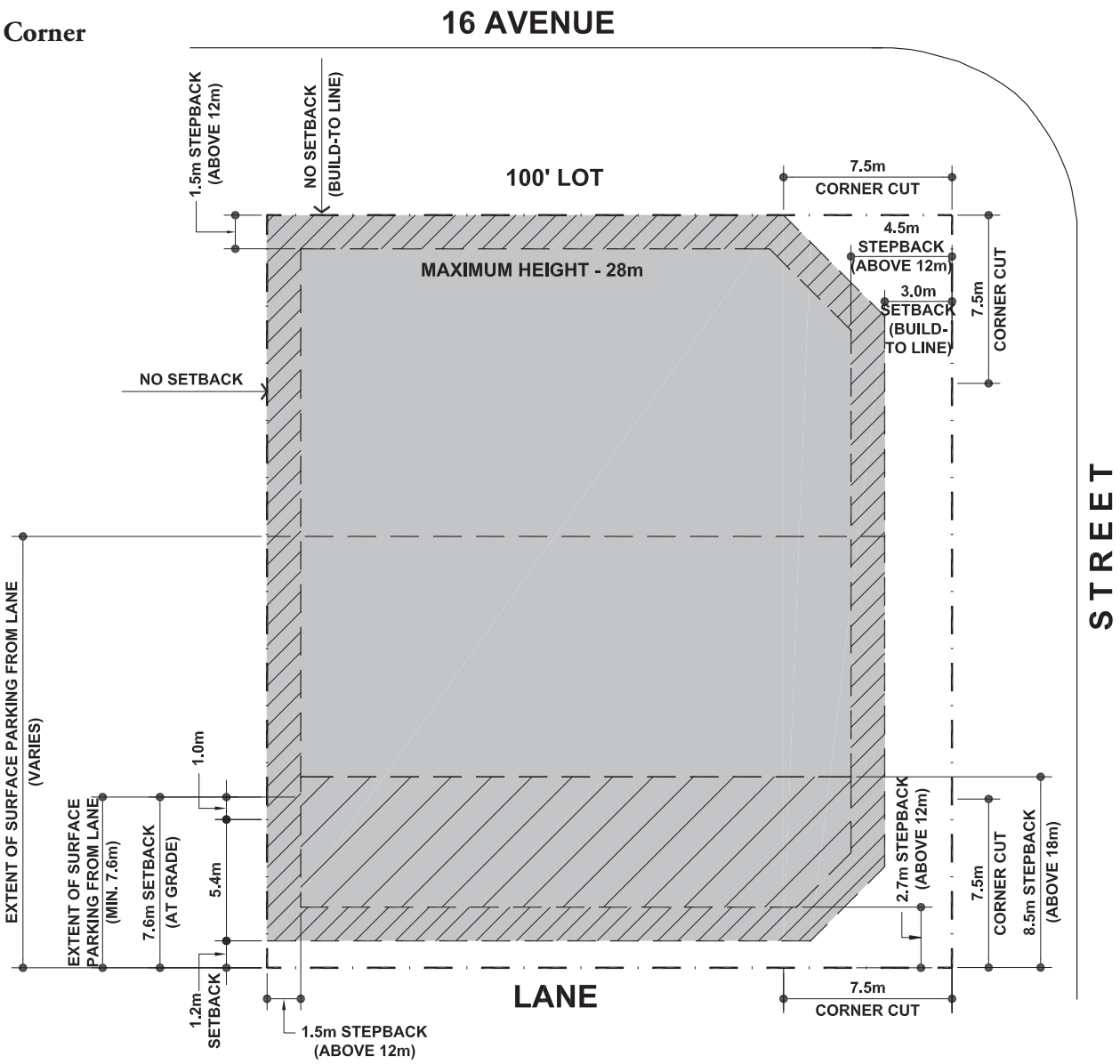


Figure 1.2 Building Form Example –
Medium Density Commercial Mixed Use Areas at Corner

1.2 – B Building Envelope

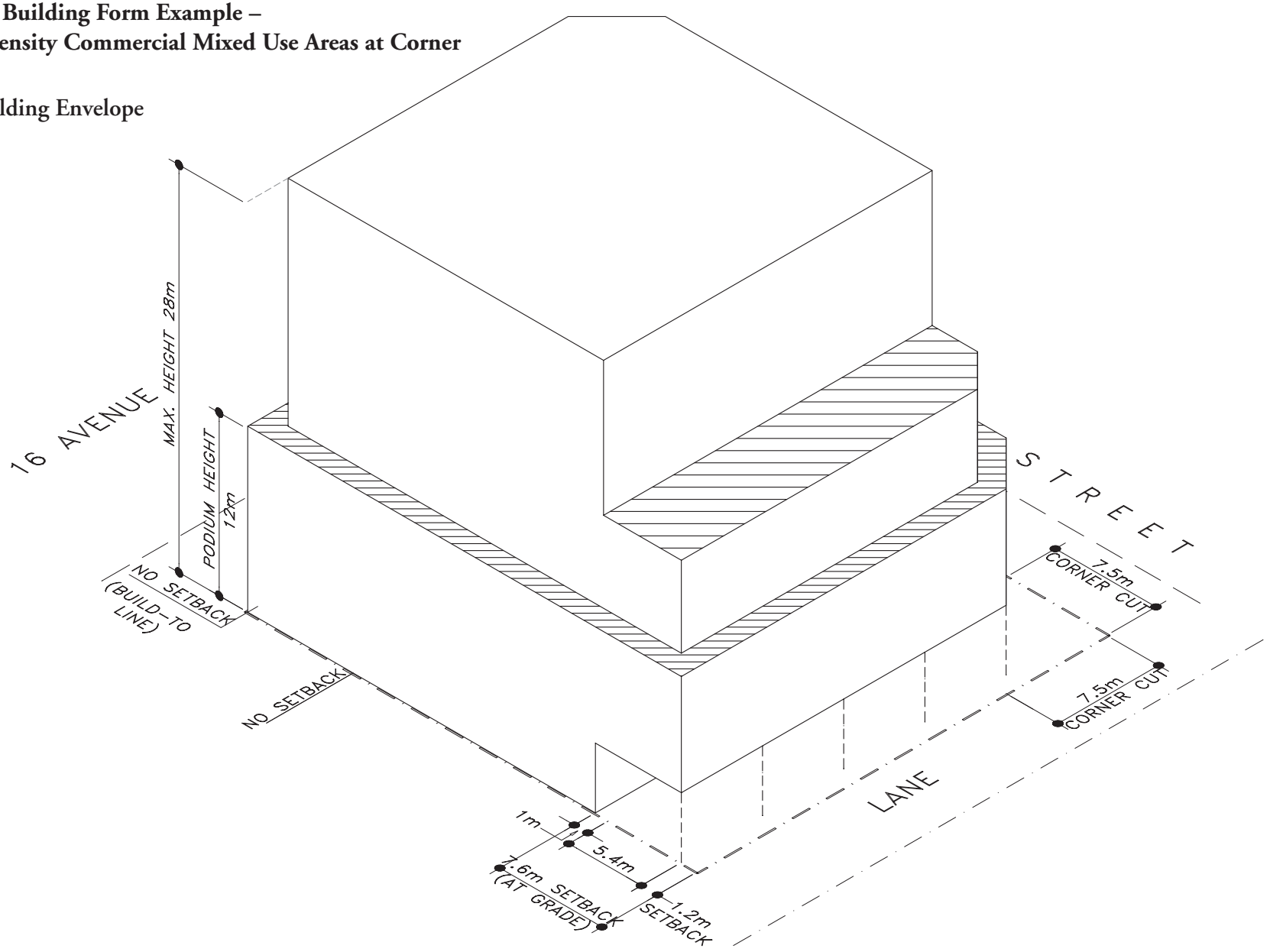


Figure 1.2 Building Form Example – Medium Density Commercial Mixed Use Areas at Corner

1.2 – C North-South Section

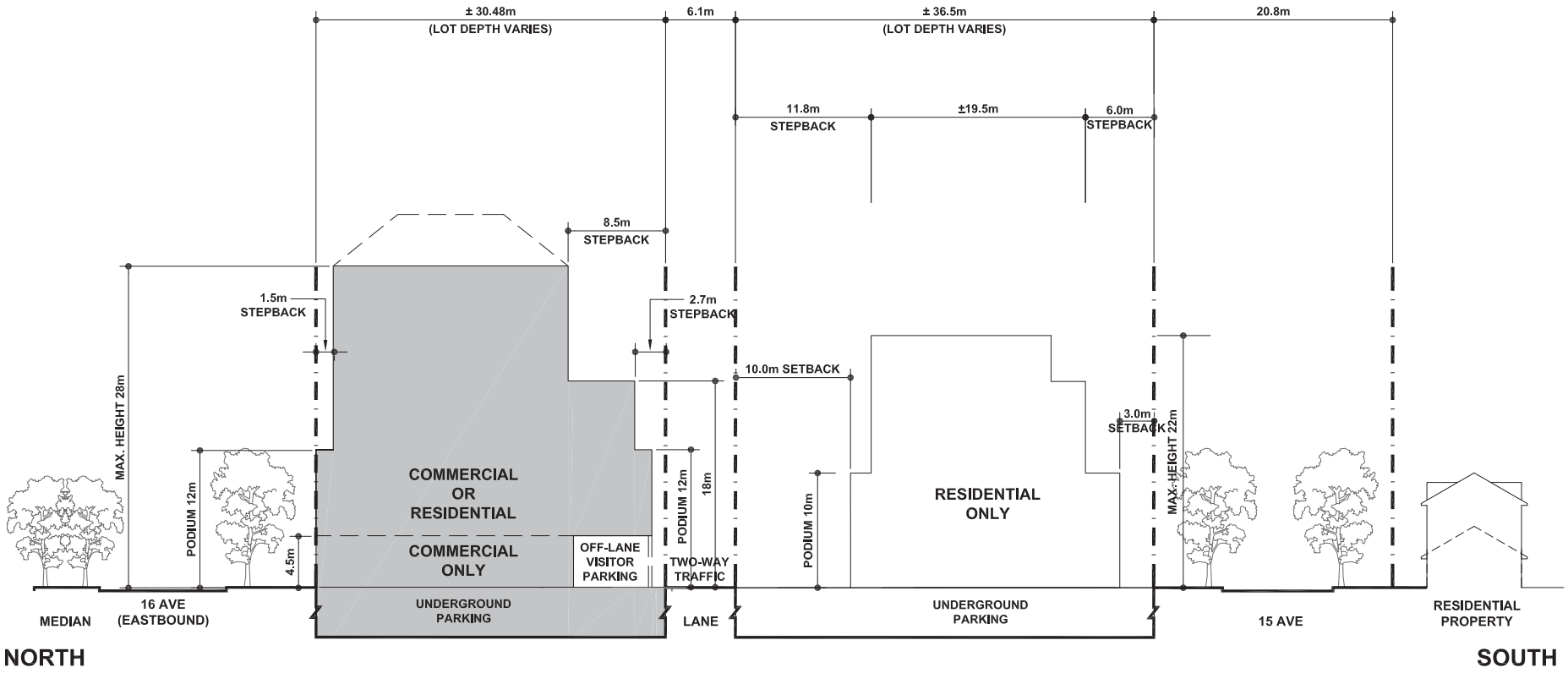


Figure 1.3 Building Form Example – Medium-Low and Medium Density Commercial Mixed Use Areas, Full Block

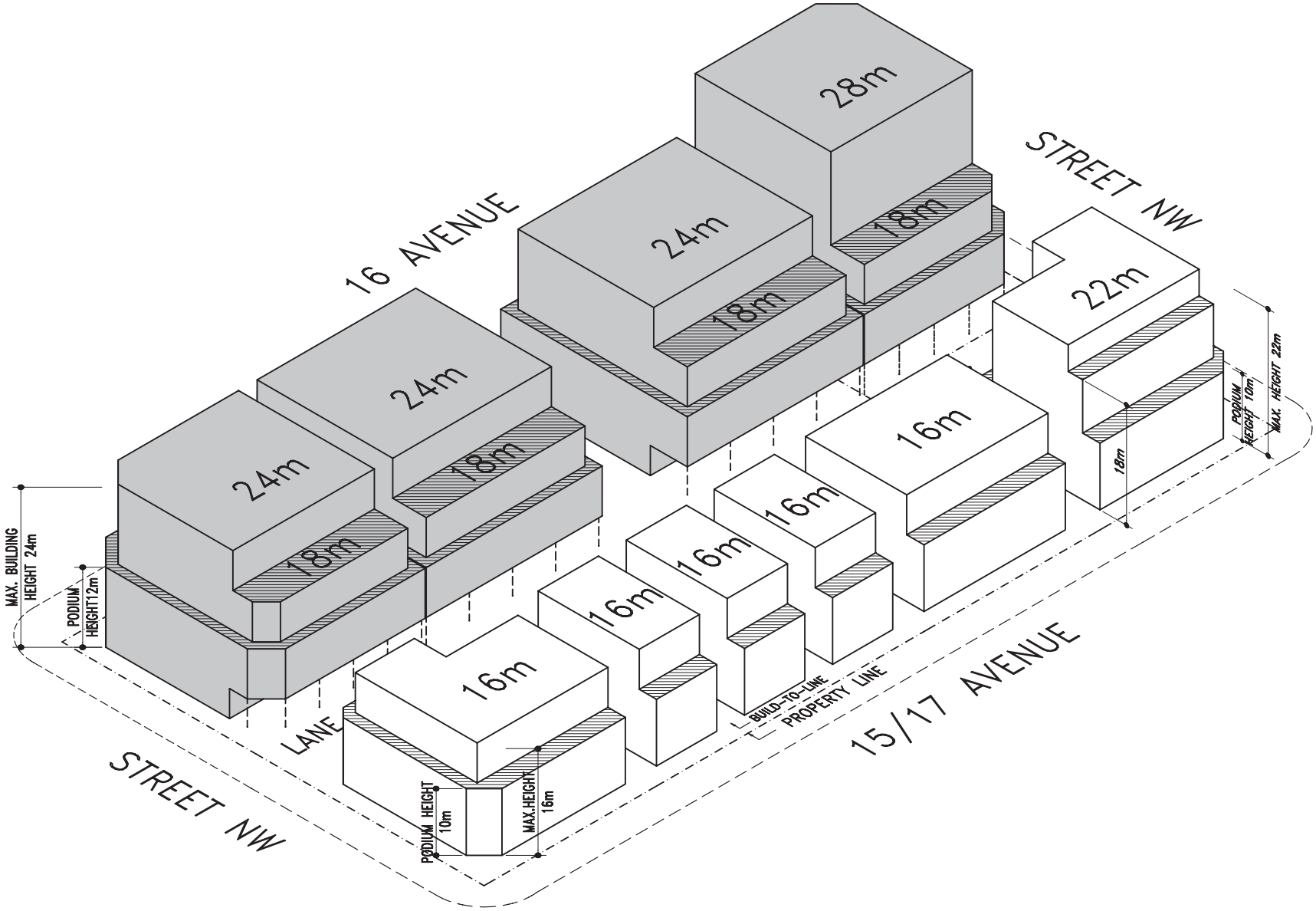


Figure 1.4 Building Form Example – Medium-High Density Commercial Mixed Use Areas at Corner

1.4 – A Plan

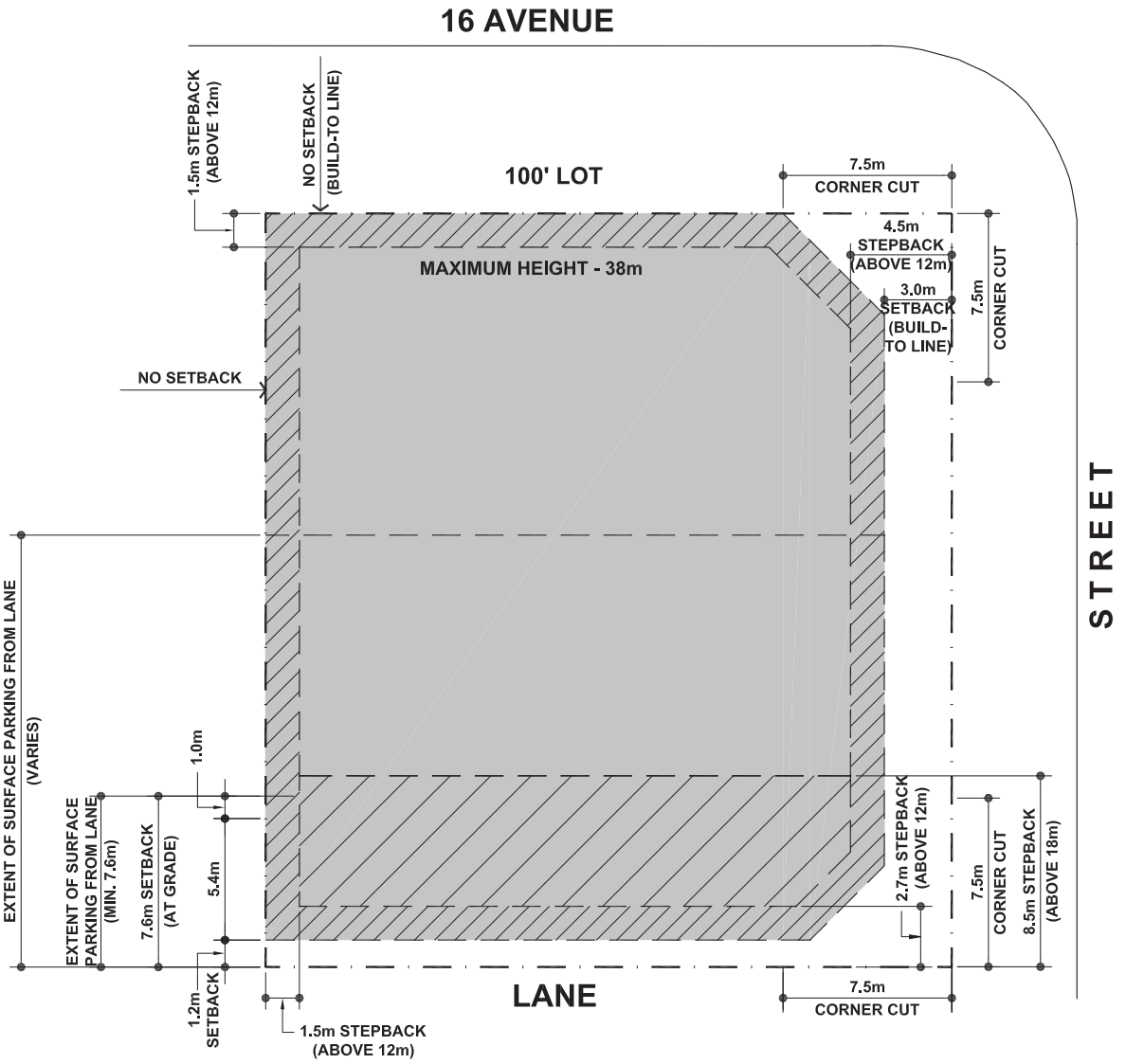


Figure 1.4 Building Form Example – Medium-High Density Commercial Mixed Use Areas at Corner

1.4 – B Building Envelope

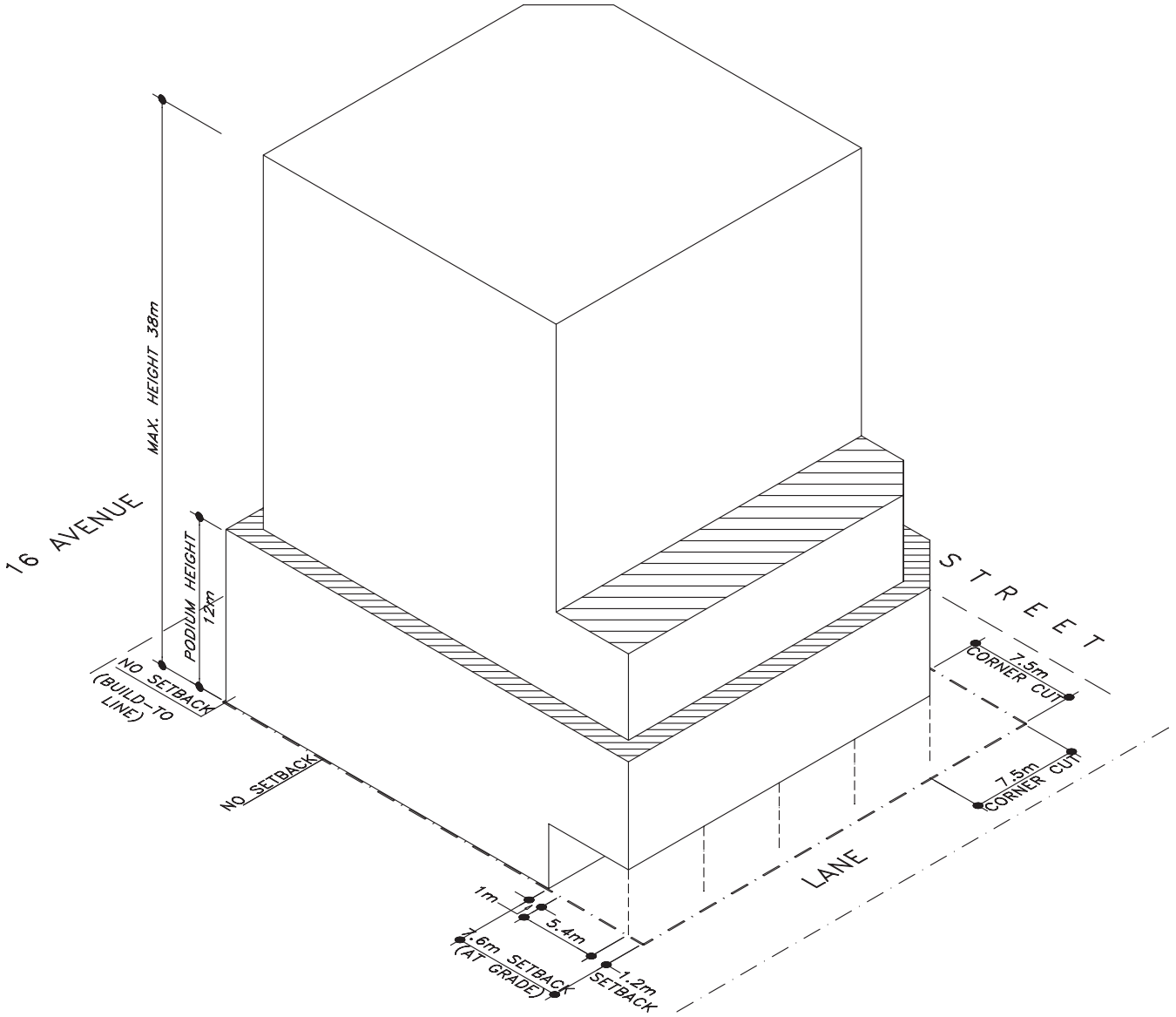


Figure 1.4 Building Form Example – Medium-High Density Commercial Mixed Use Areas at Corner

1.4 – C North-South Section

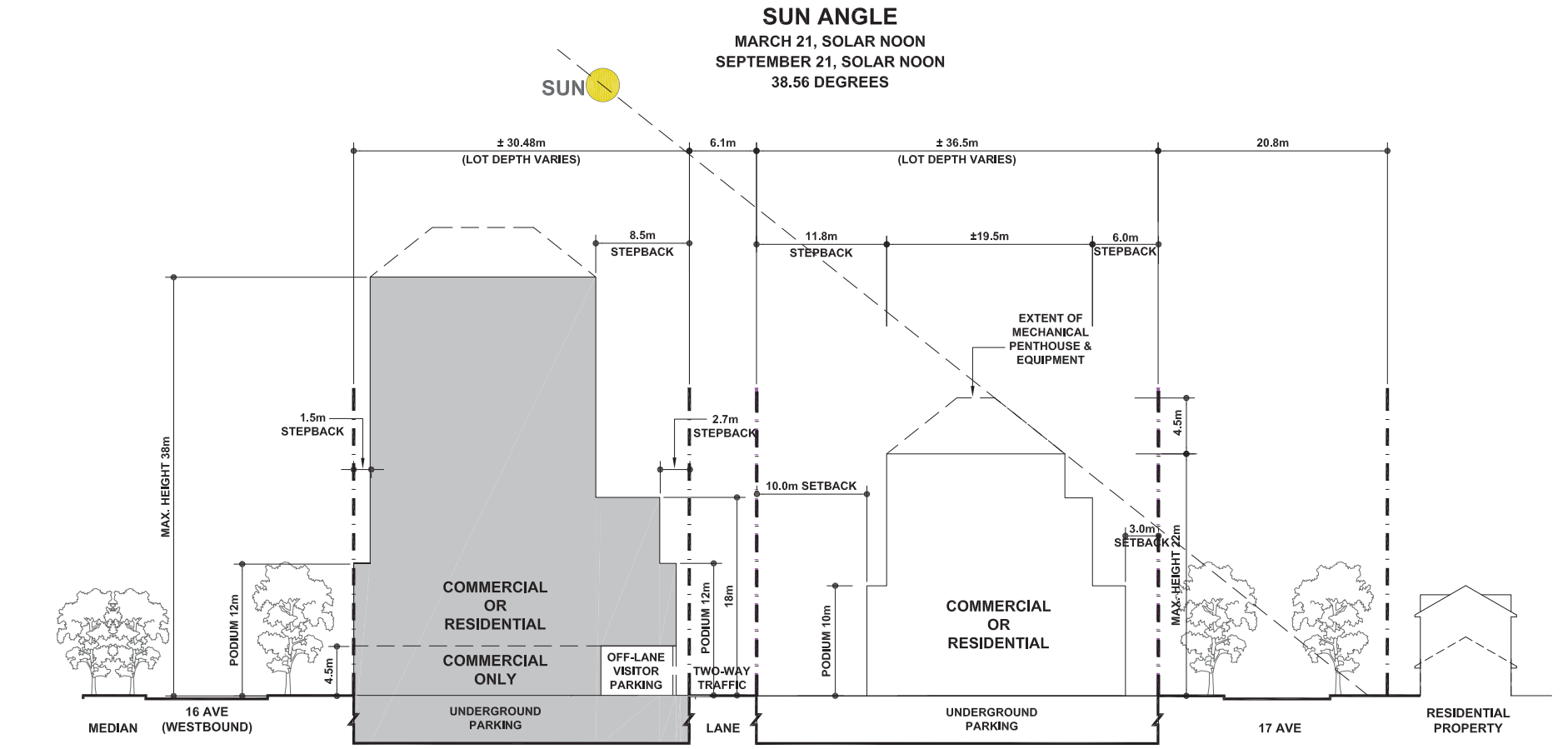


Figure 1.5 Interface Design – Rosedale

1.5 – A Plan

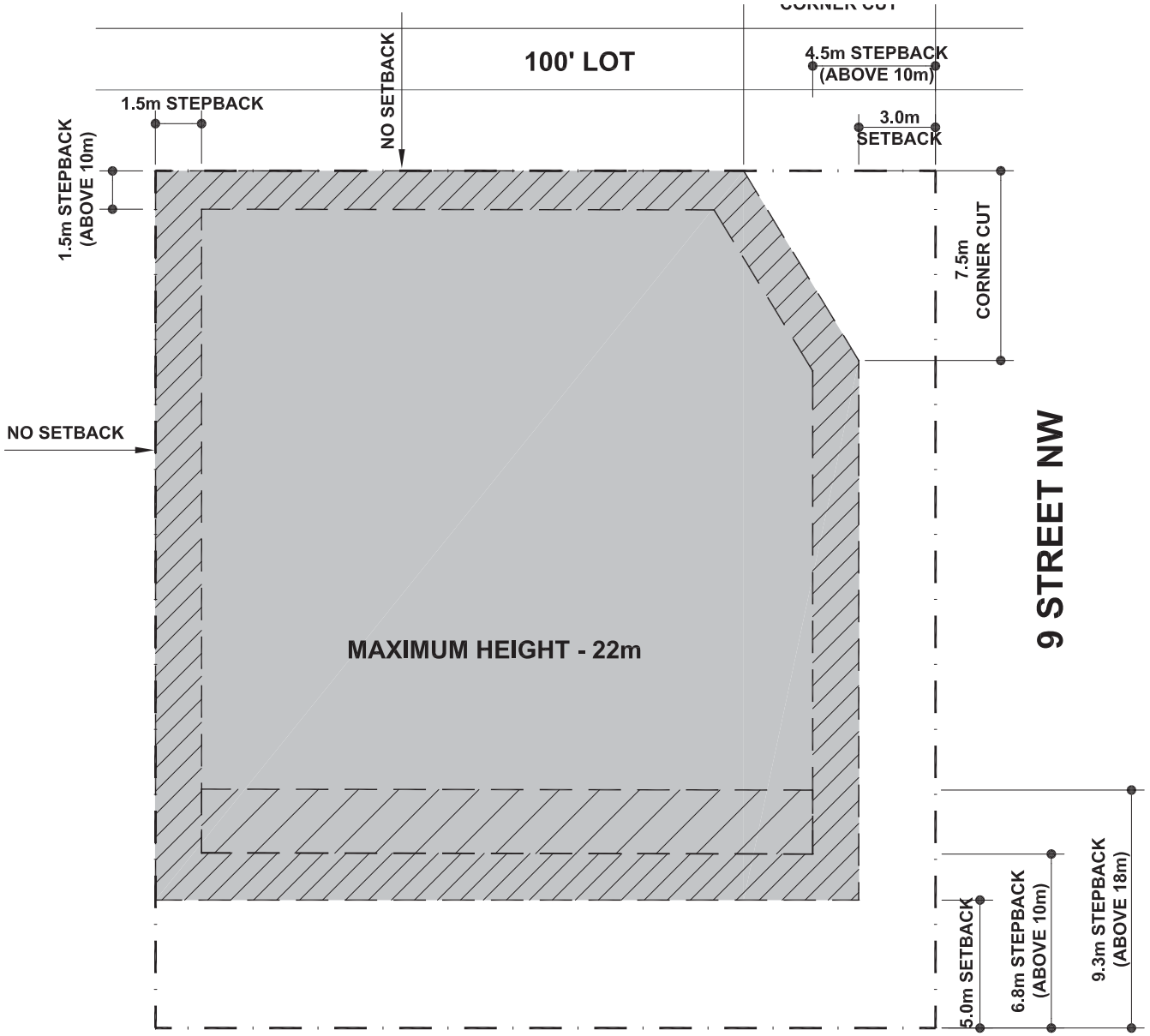


Figure 1.5 Interface Design – Rosedale

1.5 – B Section

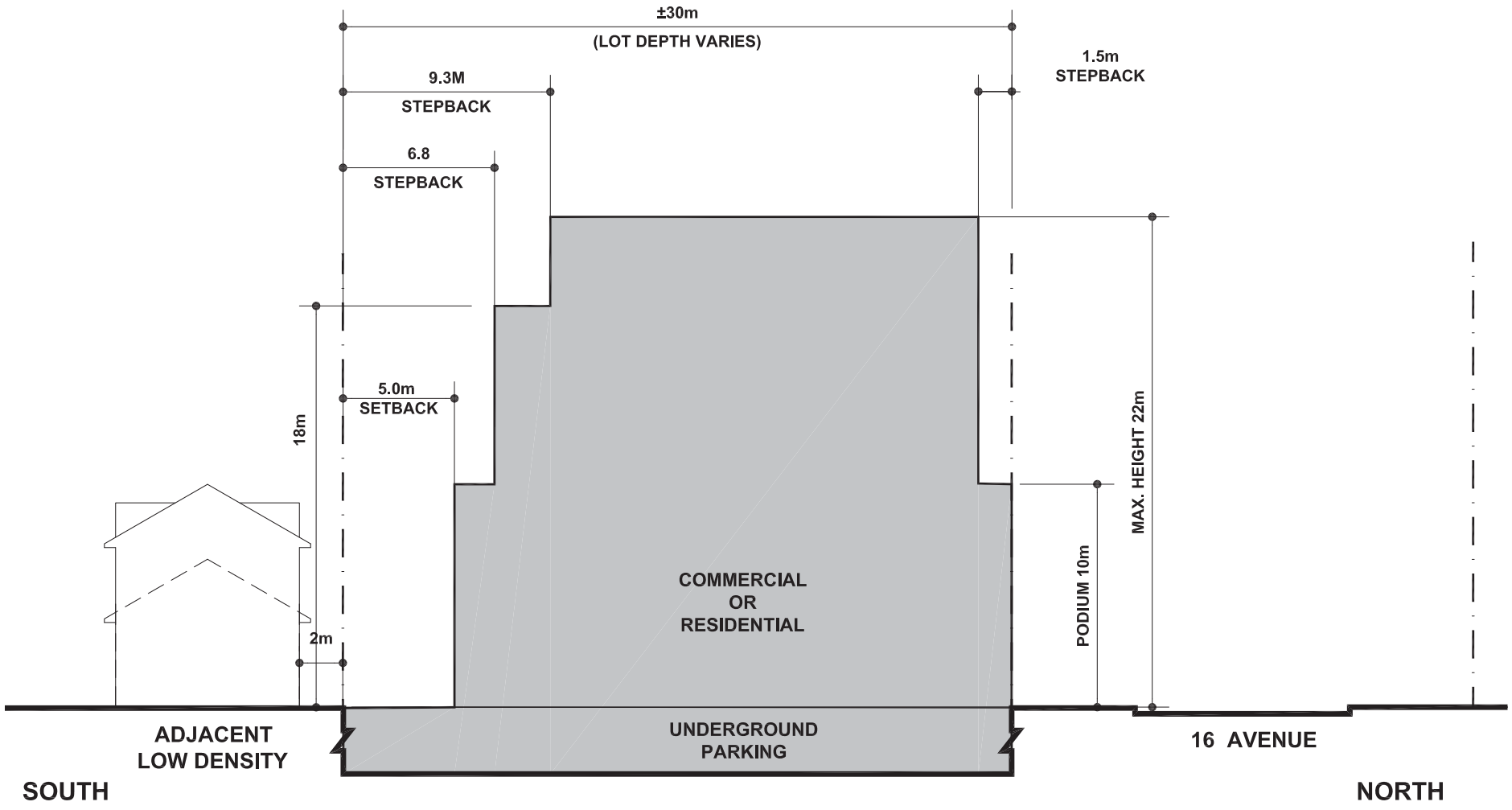


Figure 1.6 Building Form Example – Medium Density Multi-residential Use Areas at Midblock

1.6 – A Plan

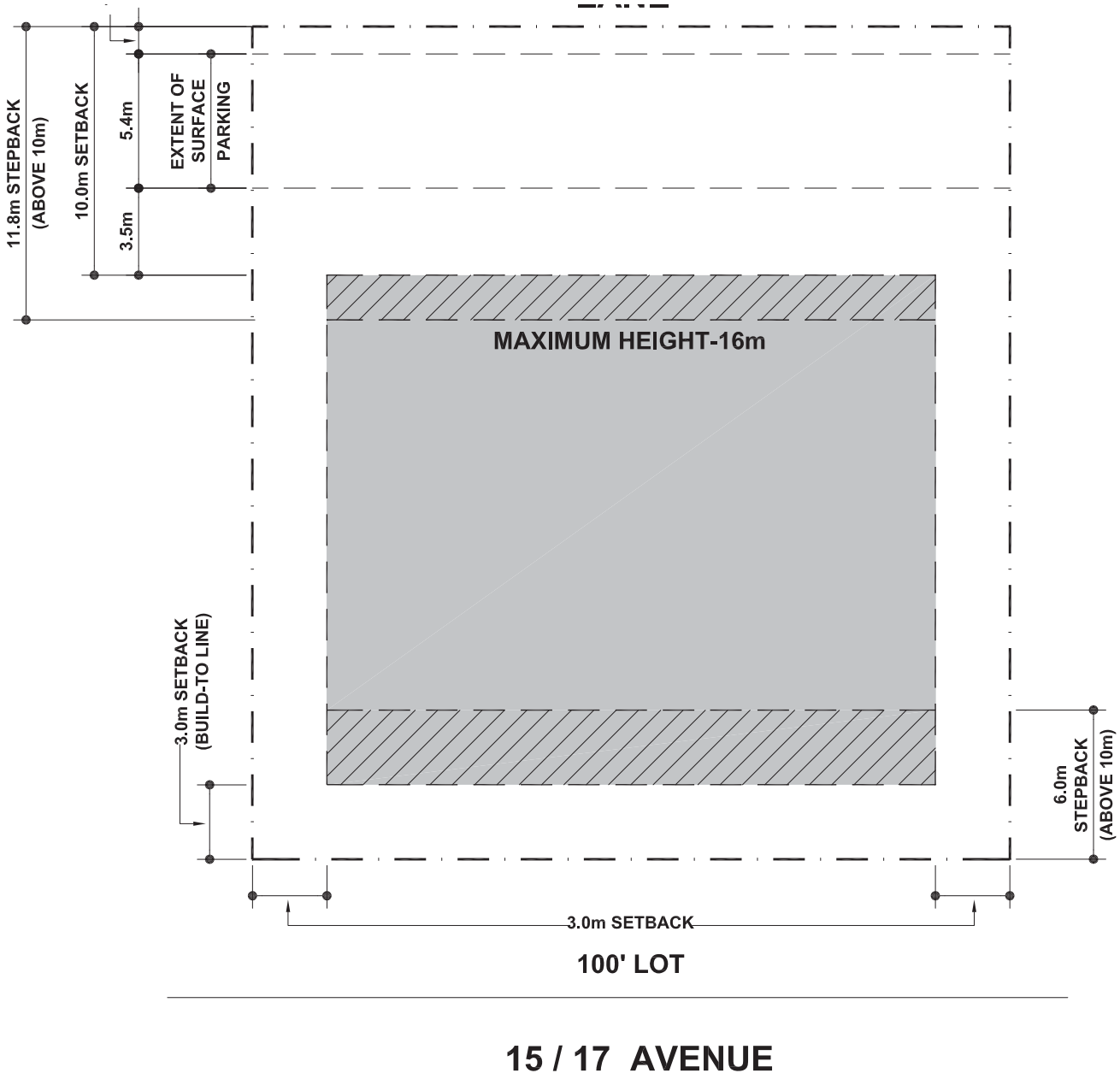


Figure 1.6 Building Form Example – Medium Density Multi-residential Use Areas at Midblock

1.6 – B Building Envelope

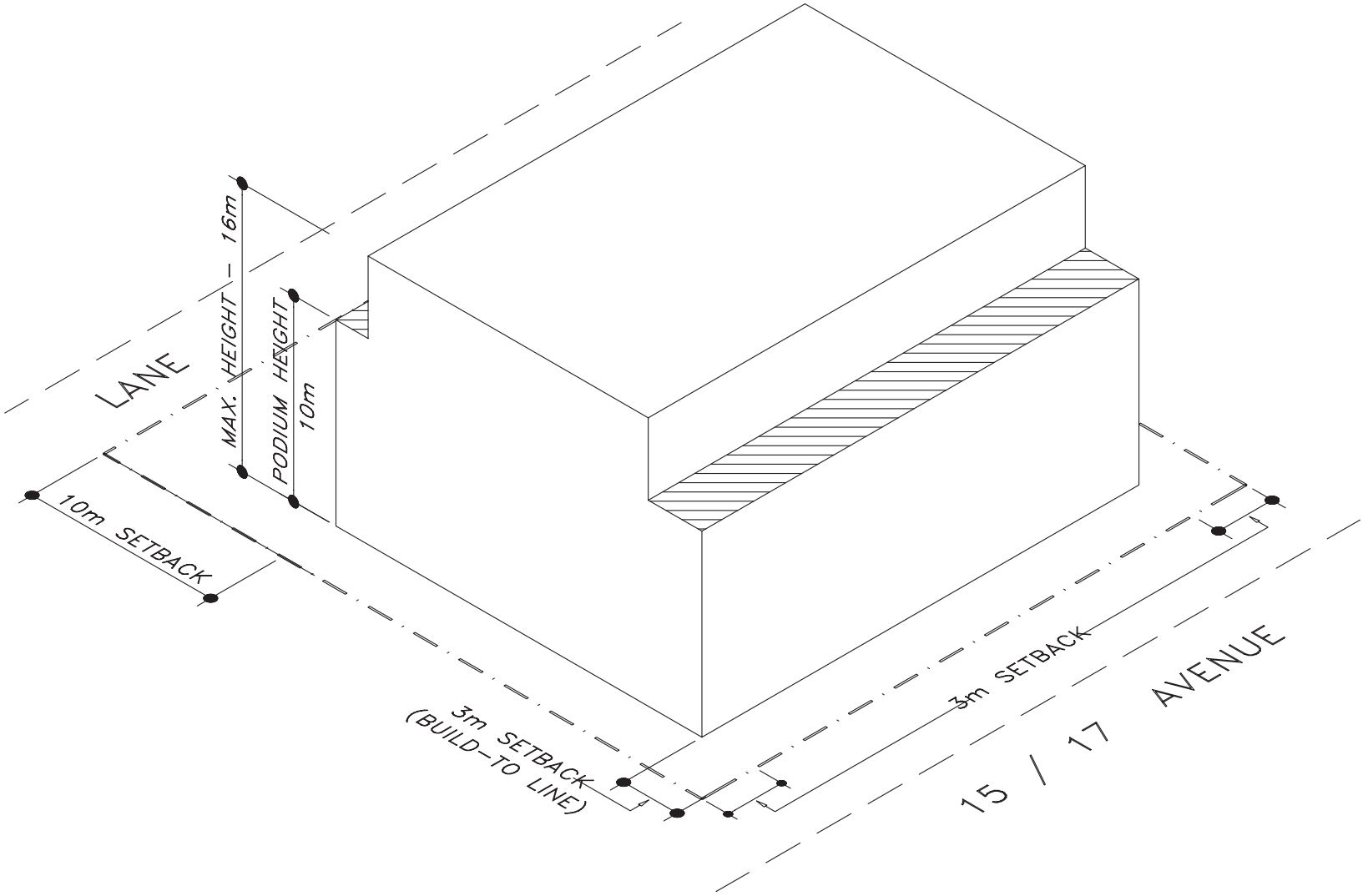


Figure 1.6 Building Form Example – Medium Density Multi-residential Use Areas at Midblock

1.6 – C North Section Full Block

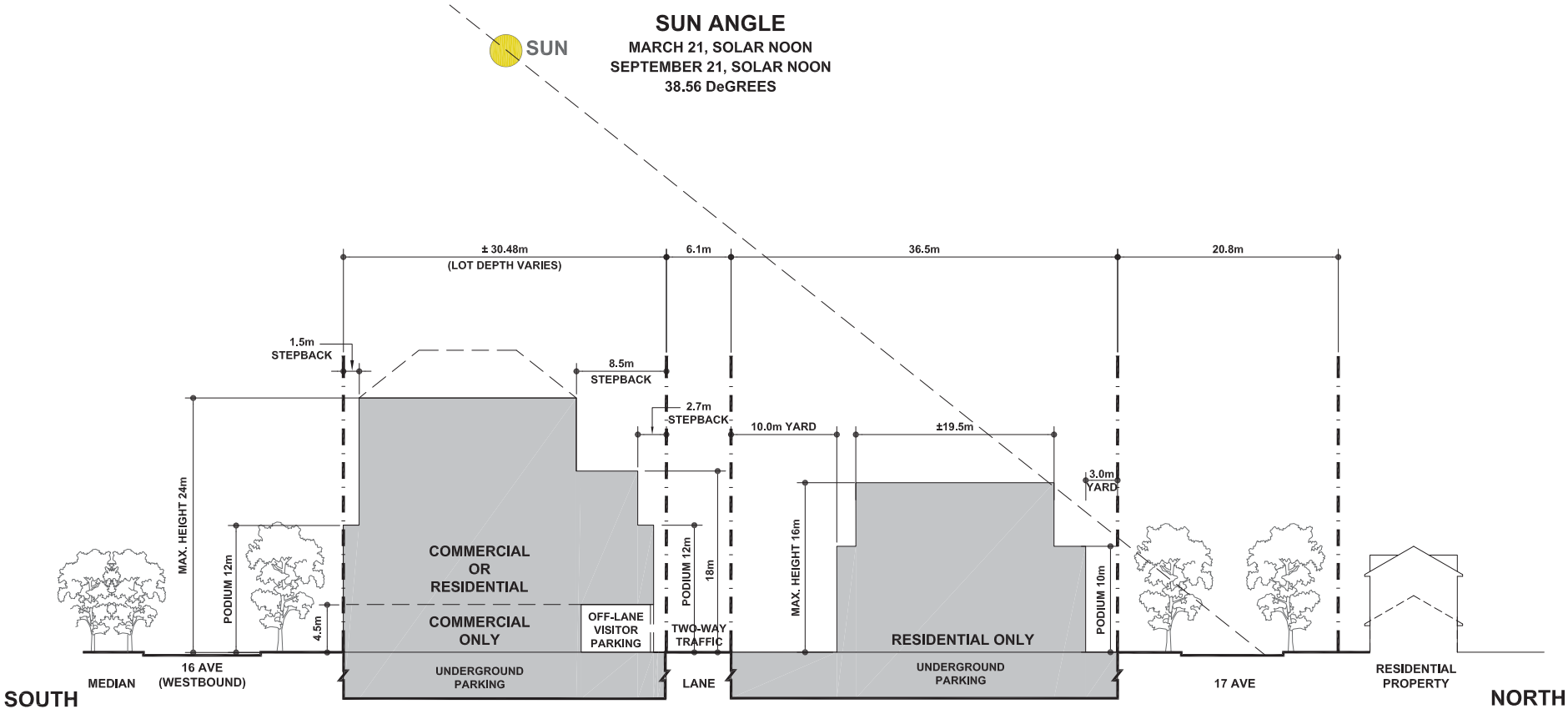


Figure 1.7 Building Form Example – Multi-residential Support Commercial Use Areas at Corner

1.7 – A Plan

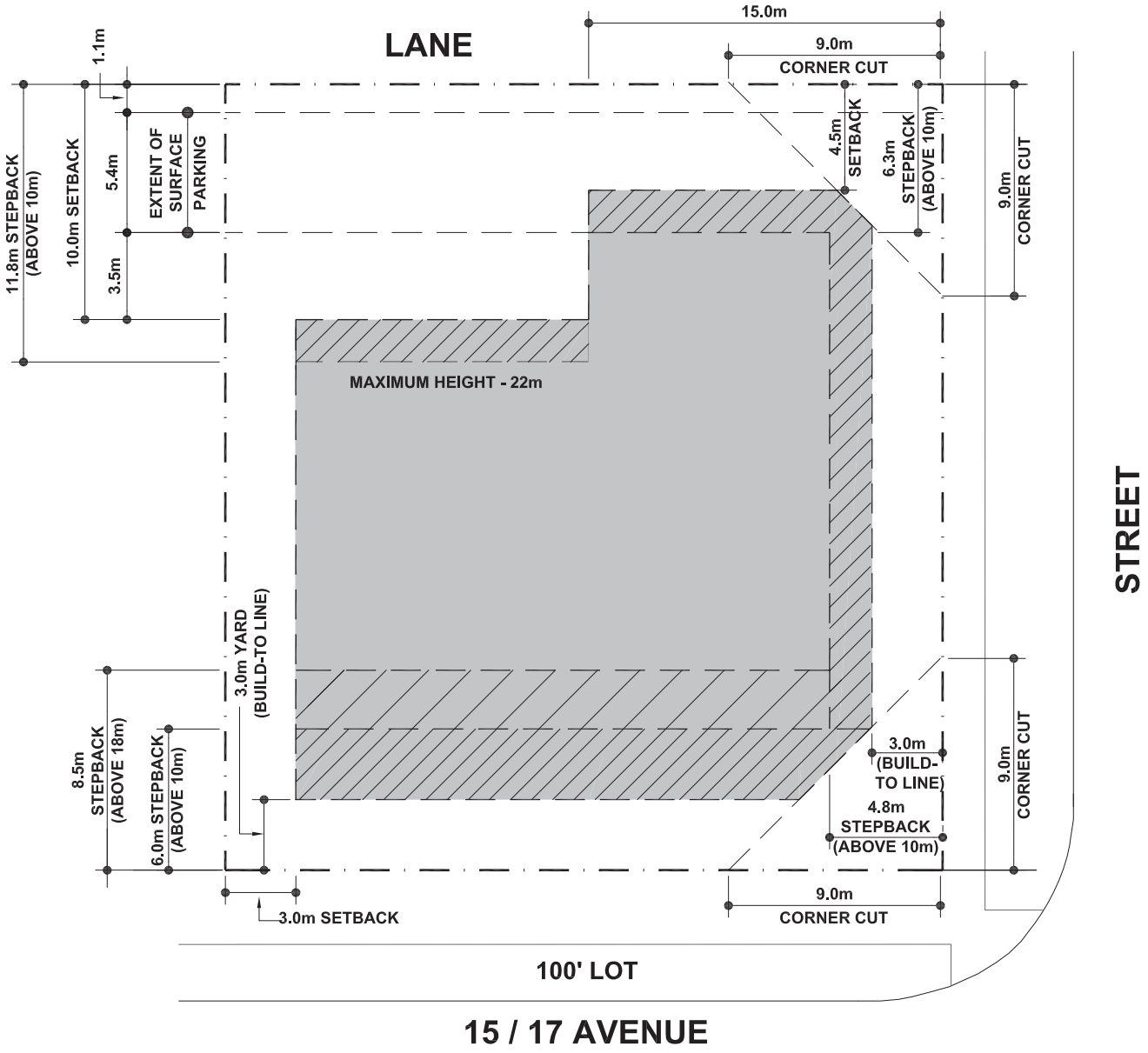


Figure 1.7 Building Form Example – Multi-residential Support Commercial Use Areas at Corner

1.7 – B Building Envelope

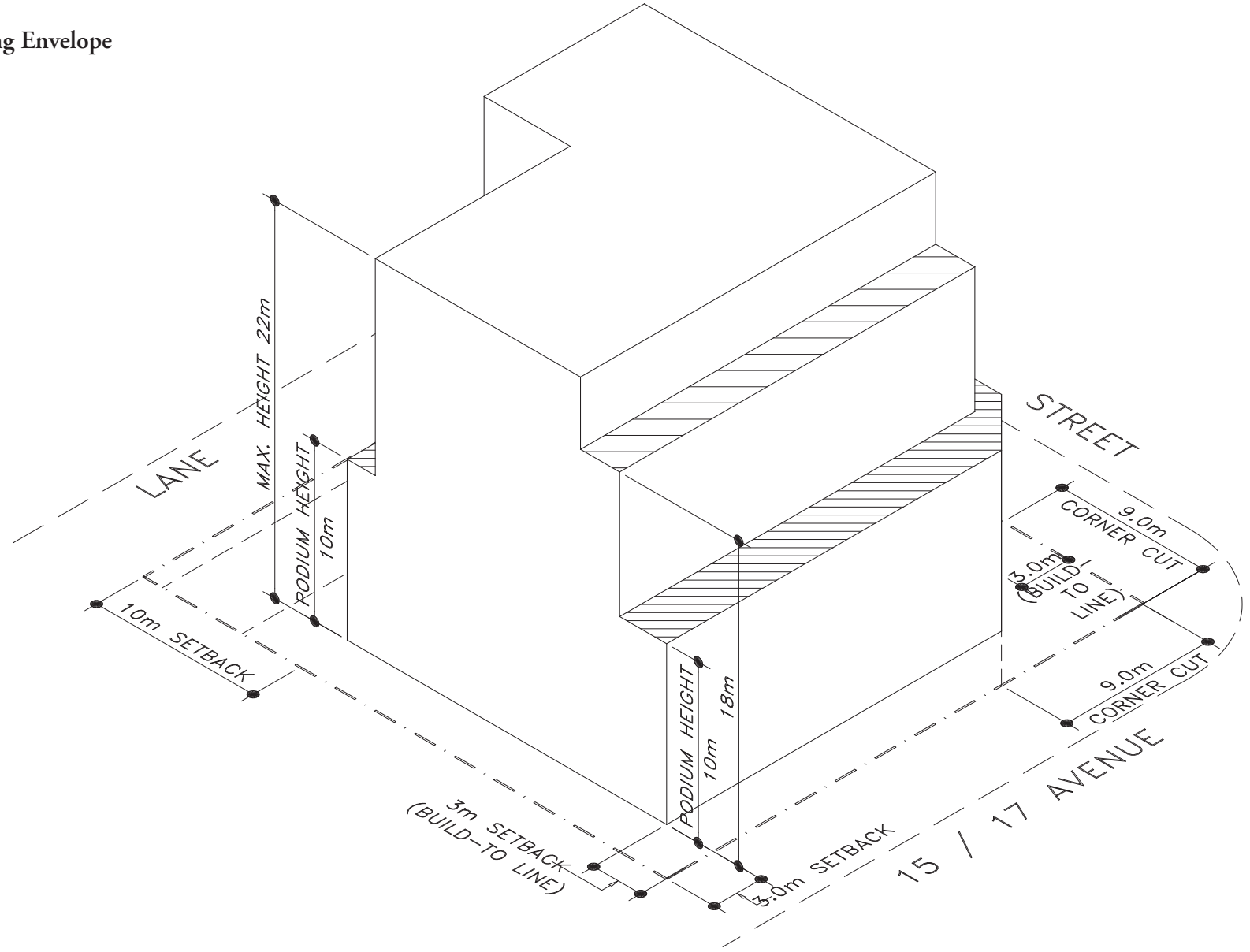


Figure 1.7 Building Form Example – Multi-residential Support Commercial Use Areas at Corner

1.7 – C North-South Section

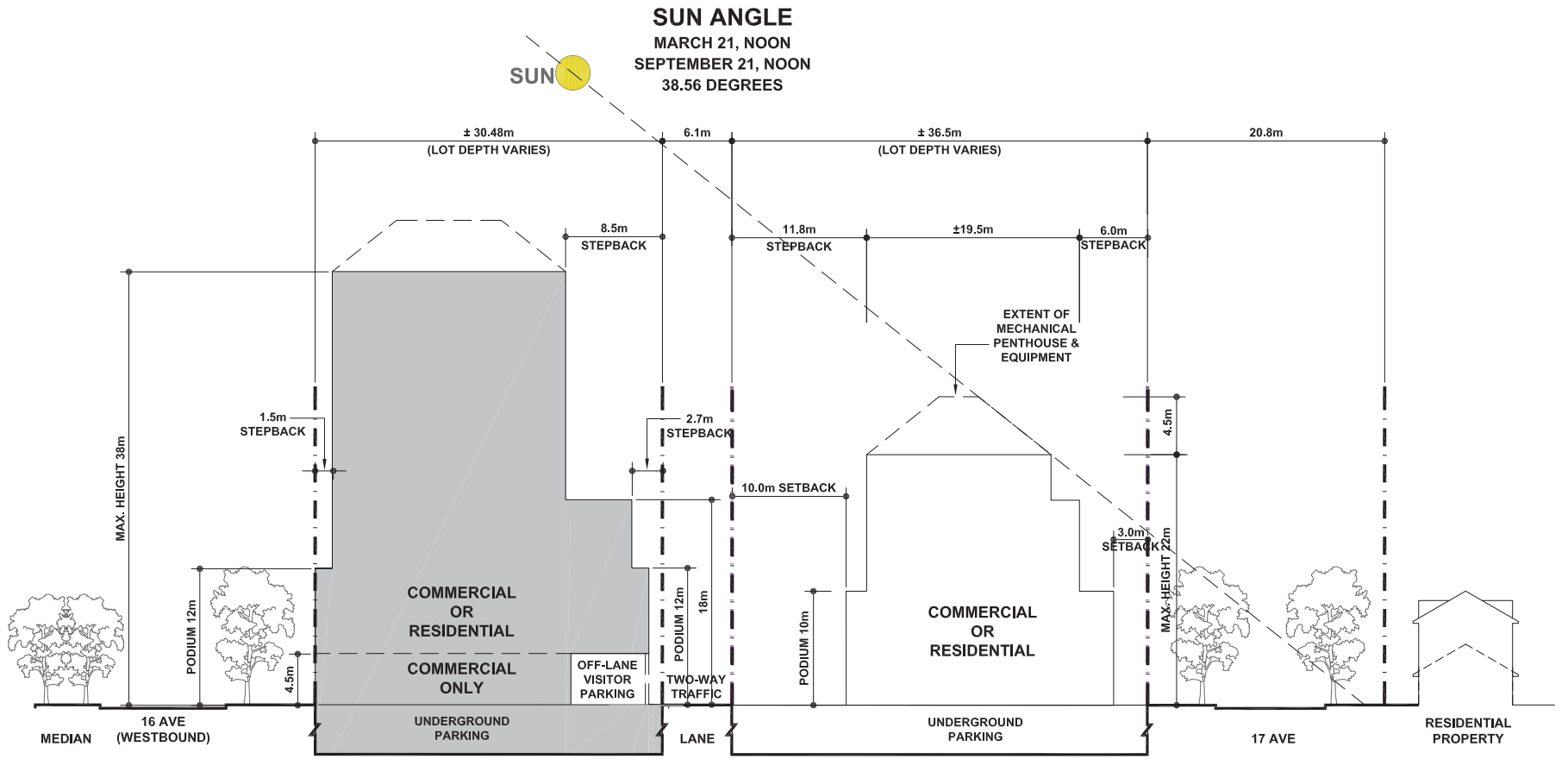


Figure 1.8 Building Form Example –
Medium Density Multi-residential Use Areas, Full Block

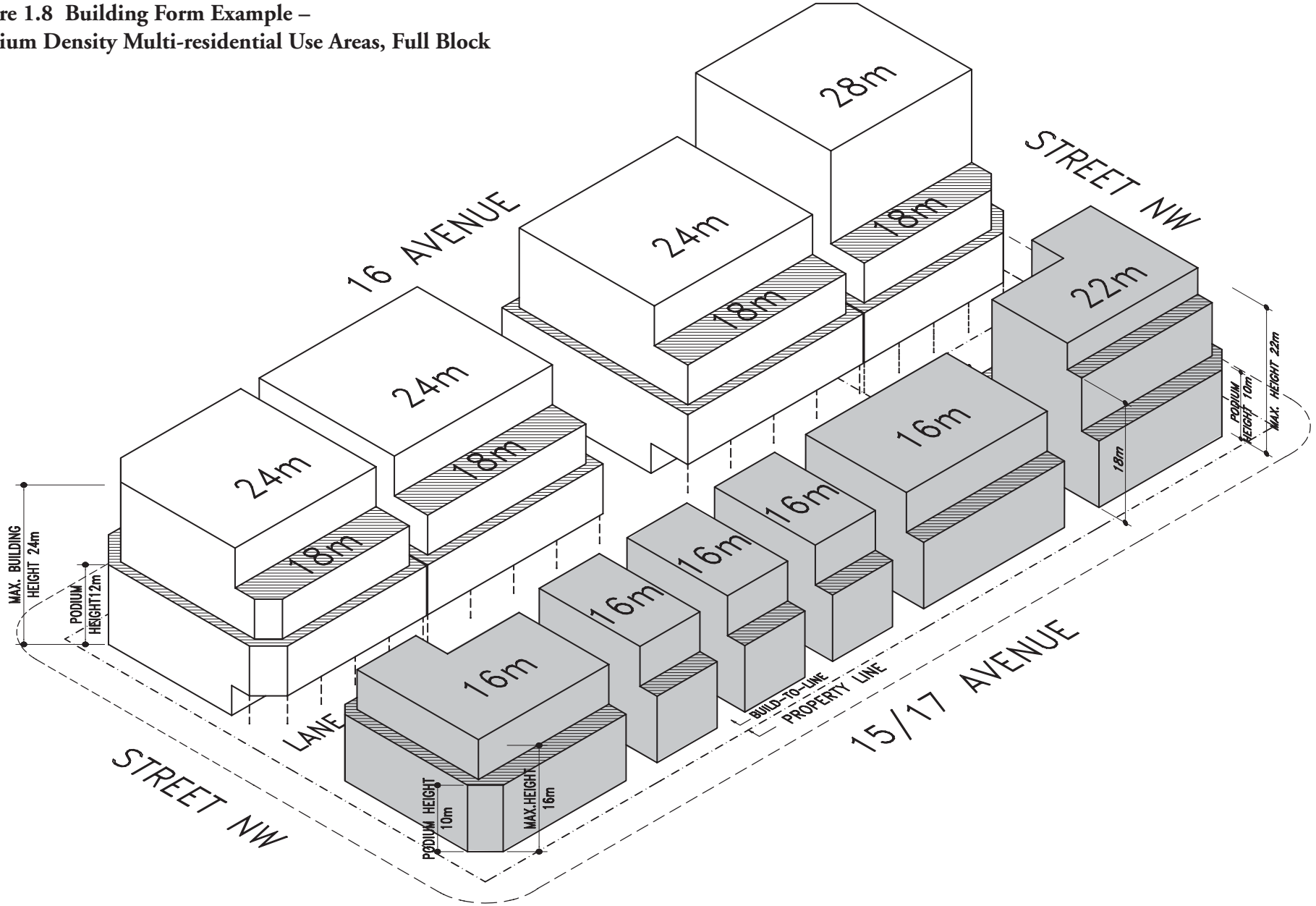


Figure 1.9 Building Form Example – Multi-residential/Carriage Houses

1.9 – A Plan

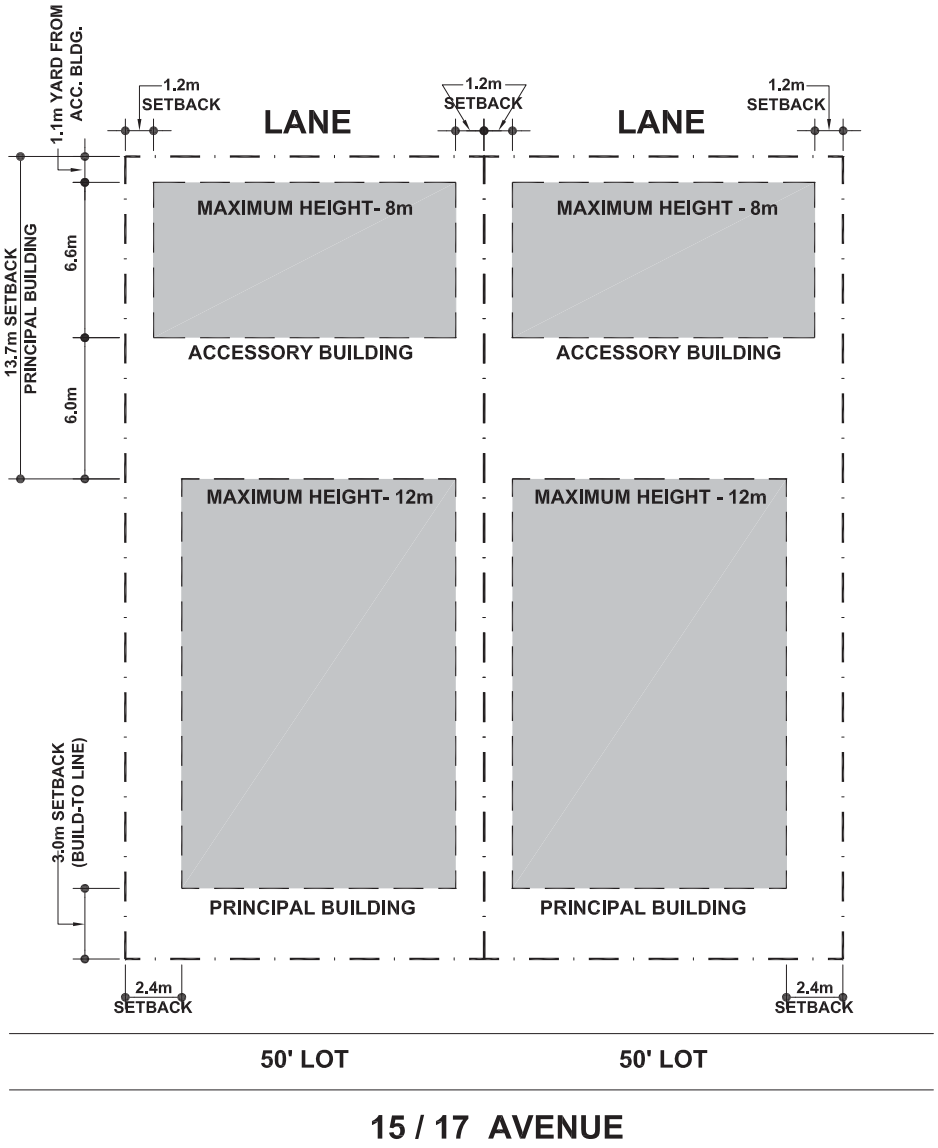


Figure 1.9 Building Form Example – Multi-residential/Carriage Houses

1.9 – B Building Envelope

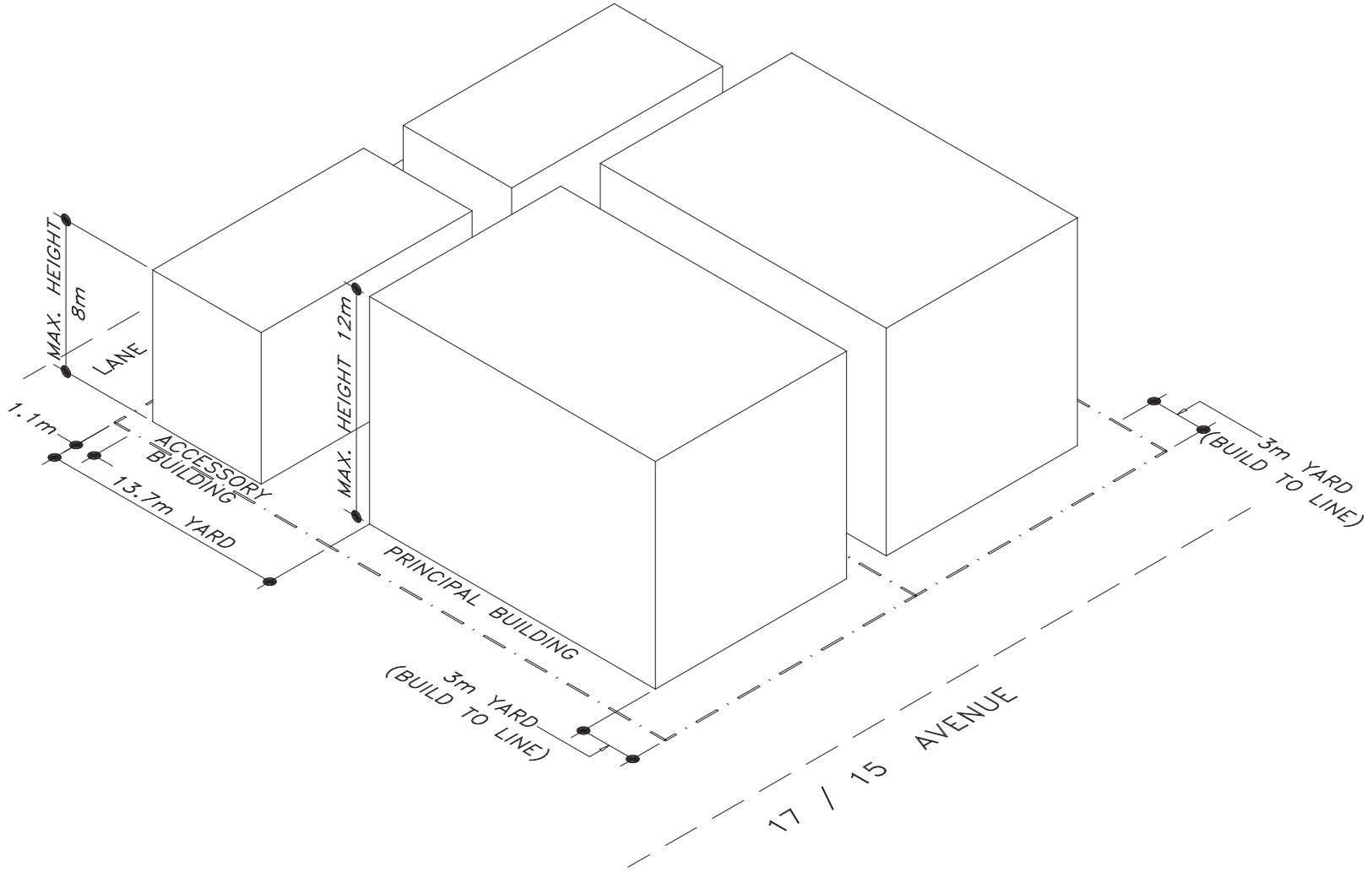


Figure 1.9 Building Form Example – Multi-residential/Carriage Houses

1.9 – C Section

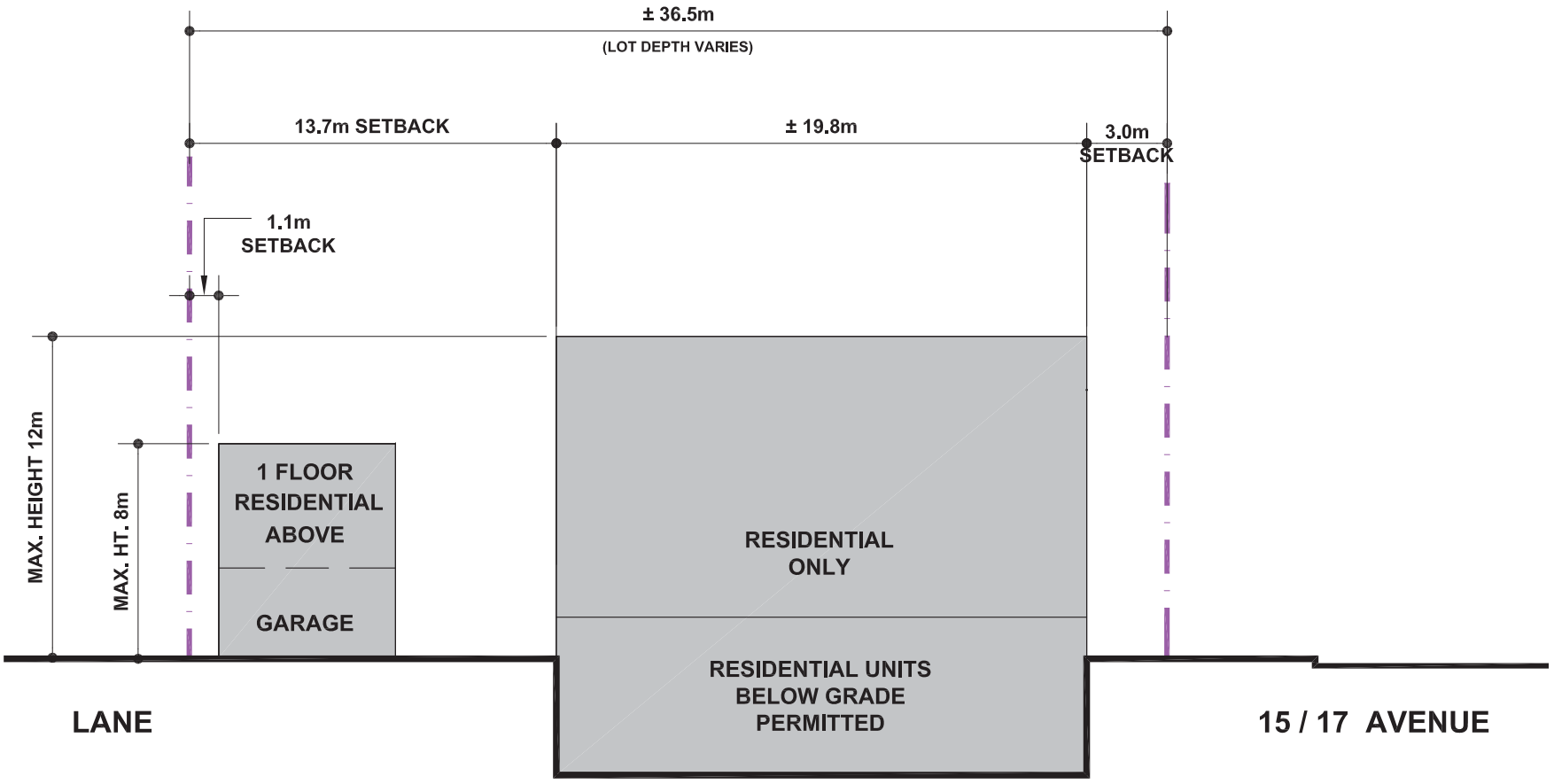


Figure 1.10 Interface Design – Crescent Heights

1.10 – A Plan

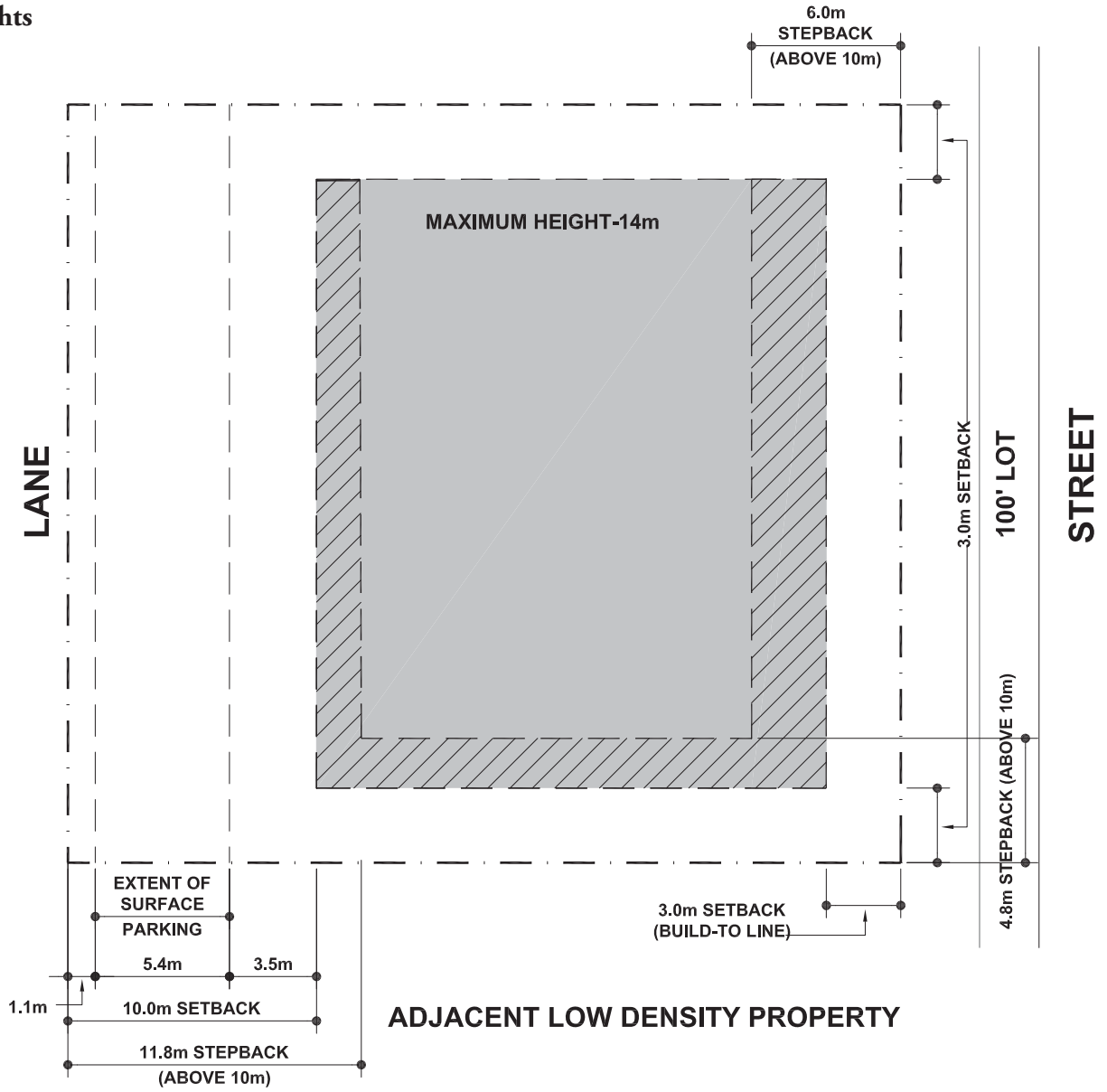
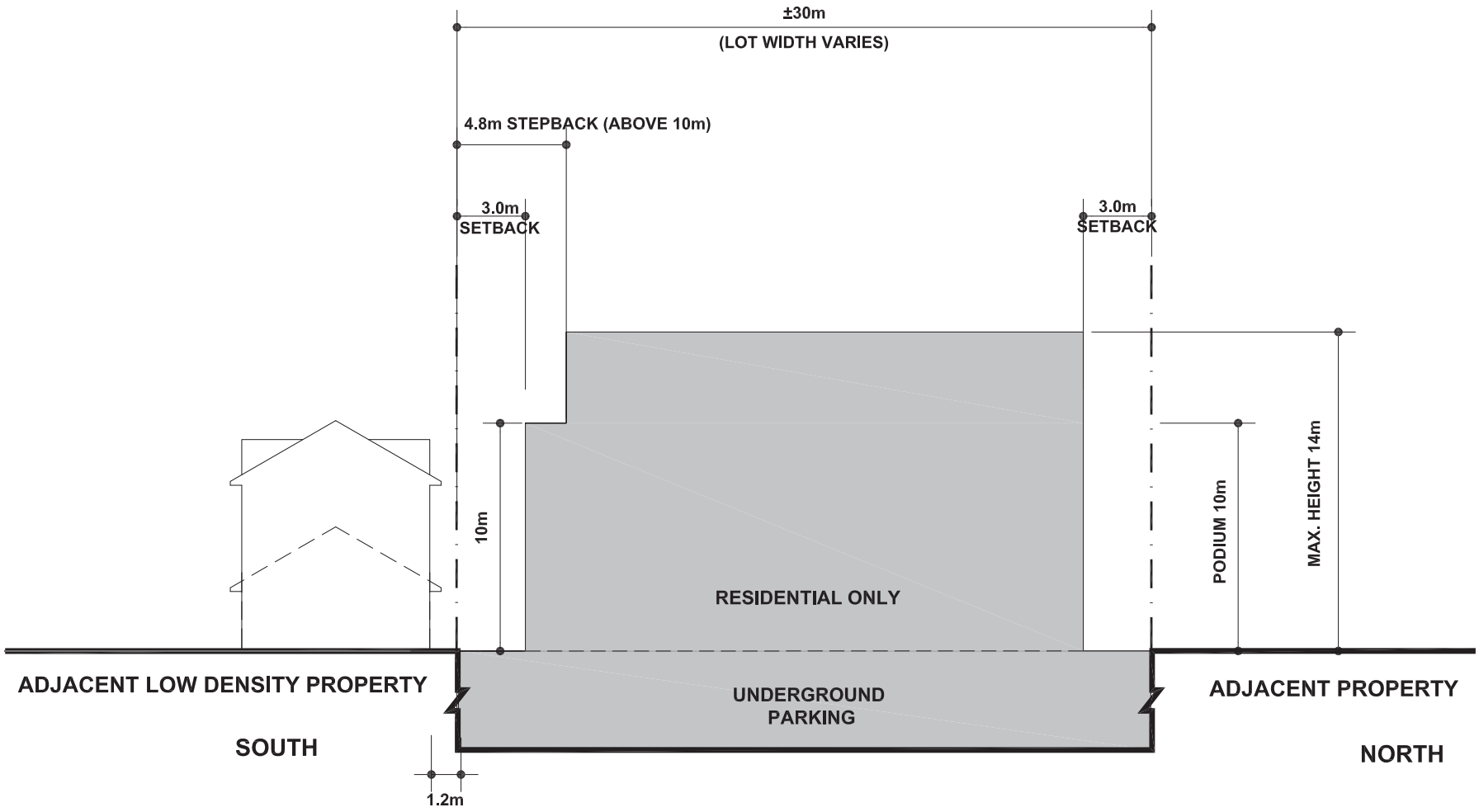


Figure 1.10 Interface Design – Crescent Heights

1.10 – B North-South Section



Appendix 2 – Public Engagement Chronology

16 Avenue North Functional Study

DATE	ACTIVITY
1977	Council approved Functional Study for 16 Avenue North that provides for a widening from the existing four lanes to six lanes. The widening is to take place from 6 St. NE to 13 St. NW. The City established current property requirements and development boundaries and begins purchasing lands, on an opportunity basis, that would accommodate widening

16 Avenue North Urban Corridor Long Range Concept Plan

DATE	ACTIVITY
April 2002	Council approved budget for Widening Project
November 2002	Additional funding approved for Project
February 2003	Broad Public forum (Open House) – reviewed 1977 Functional Plan and gathered feedback
March 2003	First newsletter: Why widen 16 Avenue North; Concepts to Construction, Timelines, Listening to Calgarians, FAQ's, Your Input, Next Steps
March 2003	Web page on www.calgary.ca/roads (under current major projects) established. All minutes posted on City's website. Via16th@calgary.ca email established
June 2003	Key Stakeholder Meeting; presented Terms of Reference for Land Use and Urban Design Study
November 2003	First Business and Property owners news letter; Contacts, Up coming events, Survey
December 2003	Meeting with 16 Avenue Business and Property Owners' Association: outlined expanded scope for Land Use/Urban Design process Key Stakeholder Meeting Presented preliminary findings of the Land Use and Urban Design Study including proposed ideas for applying principles

City Council identified citizen engagement as a Council priority. It committed to "championing" the city by encouraging an inclusive and informed citizenry and to support a citizen engagement process that leads to and informs Calgarians in decisions that affect them. The plan preparation process engaged the public extensively, including local businesses and residents most directly affected by the widening of 16 Avenue and the proposed land use and urban design policies. Input from the public has been considered in the plan preparation process. The public engagement and communication is summarized in the following table.

16 Avenue North Urban Corridor Long Range Concept Plan

DATE	ACTIVITY
January 2004	Brainstorming session on how the land use and urban design principles might be applied to communities and businesses Advised Administration on next step in consultation
February - October 2004	Continued to analyze and develop land use and urban design principles and concept Advised project team of any emerging issues or concerns Sought input regarding land use and urban design proposals
March 2004	Brainstorm session on how the land use and urban design principles might be applied
April/May 2004	Newsletter: In the Works, a broader plan for a Broader Avenue; definition of key terms, cornerstones of action plan, creating the vision – Now What, Next Steps – Ad for Open House Open Houses held on draft land use concept plan
October 2004	Meetings held with key stakeholder group and business and property owners
November 2004	Meetings with key stakeholder group Prepared final report to Council
January 2005	Large newsletter sent: Council endorsement sought for urban corridor concept plan for 16th Ave; revitalize & rejuvenate, benefits, comparison with 1977 plan, stakeholder input, design principles, sound attenuation, mobility urban design, road design, public engagement Community based-information meetings to present Concept Plan and answer questions
February 2005	The 16 Avenue North Urban Corridor Long-Range Concept Plan approved by Council, following a public hearing

16 Avenue North Urban Corridor Area Redevelopment Plan

DATE	ACTIVITY
May 2005	Newsletter: City council approved Urban corridor concept plan, go ahead to develop land use policy plan, project budget start of construction for phase one, traffic management Seven Community Based Urban Corridor Project Information Sessions held (over 600 attended): what was approved by Council, road construction activity, the next steps in creating a land use policy plan and, the associated traffic management measures processes that will be done concurrently with the plan preparation Wide Open for Business Campaign with Businesses
September – December 2005	Traffic Management Meetings and Individual Surveys conducted Options for traffic management measures by community developed Sharing of ideas and concerns option developed
September 2005	Newsletter: construction under way
October 2005	Key stakeholder meeting on Land Use Policy Plan
November 2005	Meetings to review and adjust process
January 2006	Postcard: Land Use Policy Plan and 2006 Engagement Plan Wide open information session on Land Use policy plan (100 attended) Letters to Crescent Heights Landowners re: laneway issue Newsletter:construction, land use and traffic management updates
February 2006	Three workshop sessions held on land use and urban design Approval of Traffic Management Plan
May 2006	Six update sessions held on Land Use Plan

16 Avenue North Urban Corridor Area Redevelopment Plan

DATE	ACTIVITY
June 2006	Two public open houses on Draft Land Use Plan
September/October 2006	Two public information open houses on proposed 16 Avenue North Urban Corridor Area Redevelopment Plan
December 2006	16 Avenue North Urban Corridor Area Redevelopment Plan given first reading by Council, following a public hearing
May 2007	16 Avenue North Urban Corridor Area Redevelopment Plan approved by Council

Appendix 3 – Transportation Planning Study

The following Executive Summary was attached as an appendix to the 16 Avenue North Urban Corridor Long-range Concept Plan approved in February 2005. It is reproduced here for ease of reference.

Introduction

The 16 Avenue N Urban Corridor Transportation Planning Study was initiated in 2002 to review and update the 1977 Transportation Functional Study that had been completed previously and approved by Council. The 1977 Transportation Functional Study recommended a raised concrete median along 16 Avenue N with seven (7) median breaks to accommodate turning movements at specific intersections. Early in the process of reviewing the 1977 Transportation Functional Study it became apparent that a broader and more holistic transportation review approach would be necessary for this project compared to the traditional functional update process. The upgrading requirements for 16 Avenue N would be an integral part of the broader needs for this corridor. Other needs that would be balanced with the transportation needs for this corridor include the need for a sustained business environment through land use designation review and more emphasis on ways to improve the quality of the pedestrian environment along 16 Avenue N. Various key transportation issues were reviewed and evaluated in detail. The results of the analysis are briefly described in the following paragraphs:

Median Treatment Evaluation

The existing 16 Avenue N road cross-section consists of four lanes of travel (two in each direction) plus a left turn lane that serves both directions of travel in the centre of the road. The eroding level of service and concern over road user safety prompted a review of alternative median treatment designs. A review of median design options was completed including the 1977 Functional Design (raised concrete median with seven openings), a raised concrete median with 11 openings, and a median design incorporating a Two Way Left Turn Lane (TWLTL). The options were evaluated based on industry accepted engineering standards. It was determined that a median design that includes a raised physical divide between the opposing lanes of travel with eleven (11) openings along the limits of the project, would offer the safest and most functional solution for this major arterial road. Geometric Design Criteria 16 Avenue N between 14 Street W. and 6 Street E. is designated as a Major Urban Arterial Divided road and is part of the City of Calgary Skeletal Road Network. This segment of 16 Avenue is designated as non-free flow therefore grade separated intersections will not be part of the overall design for this segment of road. The design speed of this road is 60 km/h while the suggested posted speed is 50 km/h.

The suggested right of way is 40.5 metres and there are a total of six travel lanes (3 eastbound, 3 westbound). The median width from lip of gutter to lip of gutter is 6.6 m., the two outside travel lanes are 3.7 metres wide, the inside travel lanes are 3.5 metres wide and the left turn lanes are 3.3 metres wide. The existing standard curbs are 250 mm gutter while the proposed new standard curbs are 500 mm gutter. The existing north boulevard includes a 1.3 metres monowalk. The existing property line is about .3 metres north of the back of walk. The proposed north boulevard will include a minimum 4 metres monowalk with trees. Negotiations with property owners to acquire setback to building faces will be initiated to accomplish this. Where building faces do not encroach, negotiations to acquire the full 5.2 metres (17 feet) setback will be initiated and a 6.9 metres monowalk will be constructed. The existing south boulevard includes a 1.3 metres monowalk. The proposed south boulevard will include a 4 metres monowalk with trees.

Truck Route Study

16 Avenue N is classified as a dangerous goods route. As such large trucks utilize this route to gain access to other truck routes such as 14 Street W, 10 Street W, 4 Street W, Centre Street, and Edmonton Trail, and to deliver goods to businesses along this corridor. The assessment of 16 Avenue N as a truck route concluded that there is a need to maintain this road as a truck route. Current and future truck trips using 16 Avenue N are local in nature and therefore will continue to use this road. The construction of the ring road system around Calgary is not expected to reduce the volume of trucks on 16 Avenue N to a significant degree. A number of proposed design elements on 16 Avenue N will mitigate the impact that trucks will have on the comfort and enjoyment of pedestrians using 16 Avenue N For example the existing excessive crown of the road caused by years of asphalt overlay will be returned to normal levels which will reduce the intrusion of the truck envelop on pedestrians. Trucks will tend to travel in the middle of the new three lane carriageway which will further separate the trucks from the pedestrians. A wider boulevard on the north and south side of the road will also further separate the trucks and the pedestrians.

Parking Assessment

The existing parking arrangements along this corridor consist of on street parking along the sidestreets for business and residents, city owned parking lots located throughout the corridor, residential and business parking along the rear lanes, and on site parking at certain business locations. Residential parking programs are in place throughout the corridor to curtail parking intrusion within the communities. Off peak parking on the upgraded 16 Avenue N was considered and it was determined that this would provide marginal benefit compared with the cost to administer the parking control. Comments from business

during a public survey also indicated that off peak parking on 16 Avenue N would not provide substantial benefit to the business community. The utilization of existing City-owned parking lots along 16 Avenue N is low. The City has approved reserved space rental at these lots due to the low use by the general public. It is recommended that the location and number of City-owned parking lots be reviewed and rationalized based on existing and future supply and demand. Land use redesignation along 16 Avenue N throughout the corridor is proposed to occur to assist in sustaining this urban corridor as a vibrant and economic prospering place to live and do business. It is thought that the economic impact of this land use redesignation will permit the development of additional underground parking as lands are redeveloped. Opportunities to consolidate driveways and introduce joint share parking opportunities will be explored so as to maximize the available on site parking spaces.

Community Traffic Management Measures

Transportation Solutions, within the City of Calgary Transportation Planning business unit has been working with the eight different communities throughout the corridor to address their individual community traffic issues. It was determined that the proposed upgrading of 16 Avenue N would have a potential impact on community traffic patterns. It was determined that the construction of community traffic management measures such as closures, traffic buttons, and bump outs, would be considered between 17 Avenue and 15 Avenue along with the upgrading of 16 Avenue N.

Previously identified treatments within Rosedale were approved as part of the 1977 Functional Planning Study which will be built along with 16 Avenue N. Specific treatments within Crescent Heights have been identified by the community and will be budgeted and constructed pending community endorsement and council approval.

Discussions with all remaining communities are ongoing and some specific measures have been proposed by these communities. Communities are at various stages of development of their traffic management measures plans, and identified traffic measures will be budgeted and can be built pending technical analysis, community endorsement and council approval.

Model Analysis

A transportation modeling exercise was undertaken using Synchro/Sim Traffic 5.0 at the beginning of the 16 Avenue Functional Study in 2003 to investigate the impacts along 16 Avenue and the cross streets of the proposed 6 lane widening and median break openings. The initial model was expanded and a new model was developed using Synchro/Sim Traffic 6.0 to include all intersections and roadways bounded by 14 Street W, 6 Street E, 12 Avenue N, and 20 Avenue N. The new model was developed to assess the impacts of the new land use revitalization concept along 16 Avenue and the laneways north and south of 16 Avenue. The model also included proposed traffic management measures along the corridor and some traffic calming measures within some of the communities. The modeling exercise concluded that the new land use revitalization concept can be accommodated by the 6-lane widening concept with 11 median breaks at the 1.25 million population horizon and while maintaining 16 Avenues skeletal road network function within the overall levels of service as defined by City of Calgary policy.

Pedestrian and Cyclist Assessment

Several specific design elements have been incorporated into the upgrading plans for 16 Avenue N to ensure that the corridor will be a safe and comfortable environment for pedestrians on the avenue and for cyclists crossing the avenue. Wider treed boulevards with greater separation from traffic will increase the comfort of pedestrians walking along the avenue. A wider treed median with raised planter boxes will improve the pedestrian environment and increase the visual aesthetics along the avenue.

Increasing the number of median breaks over the 1977 Plan and providing signals at all intersections on opening day will improve the safe pedestrian access across the avenue. Opportunities to enhance the demarkation of pedestrian crossings at all intersections will be investigated and evaluated. Illumination of openings in the sound wall on the south side of 16 Avenue N from 10 Street to 4 Street will mark these openings and improve safety for pedestrians at night. The relocation of the street lights from the boulevards to the median will improve the pedestrian environment. The median will also provide a refuge for pedestrians crossing at signals who are not able to completely cross the six lanes of travel. Signals will be installed at 2 Street W. and at 6 Street E. which will accommodate cyclist crossings along the identified on street pathways at these locations.

Appendix 4 – Community Traffic Management

Executive Summary

Introduction

The 16 Avenue N Urban Corridor Traffic Management study arose from the previous 16 Avenue N Urban Corridor functional study and concept design. The concept design was presented to and approved by Council in February 2005. At that time Council committed to further study of the community traffic issues associated with 16 Avenue N from 14 Street NW to 6 Street NE. The Council approved budget for the 16 Avenue N Urban Corridor study included a "best guess" budget estimate for the community traffic management measures. The budget estimate will have to be re-examined to determine if there is sufficient contingency in the 16 Avenue North program budget to cover the cost of implementing the specific measures identified during this study.

Associated Engineering was hired by The City of Calgary to complete the functional design of the community traffic management measures within this study area. This study was undertaken to determine what traffic management measure the communities along the 16 Avenue N Urban Corridor required to address their traffic issues associated with the widening of 16 Avenue N.

The study area was bounded by 14 Street NW on the west to 6 Street NE on the east. The northern and southern boundaries were generally the first 1 to 1.5 block north and south of 16 Avenue N the north and south limits were extended beyond this zone if the impacts os 16 Avenue N were considered to extend beyond this limit.

The communities included in the study were Capitol Hill, Mount Pleasant, Tuxedo Park, Winston Heights/ Mountview, Crescent Heights and Renfrew. The community of Rosedale was excluded from the study as they have completed their community traffic study and measures have been implemented prior to and with the initial phase of the 16 Avenue N widening.

Engagement

The previous 16 Avenue N Urban Corridor study underwent various public engagement from it initiation in 2003 to the detailed design stage currently underway. The engagement included discussions about the project as a whole and included community traffic concerns during and after construction of 16 Avenue N. Those concerns regarding traffic infiltration and shortcutting were discussed and reviewed at the initiation of this study. To further define the community traffic concerns, Listen and Learn sessions were undertaken in May and June 2005. These open houses were joint meetings to discuss both the traffic issues and the land use issues. The land use issues are being incorporated in a separate study to define land use and zoning proposed within the 16 Avenue N Urban Corridor study.

The engagement process lead to the identification of the core issues and creation of preliminary maps of the optional traffic management measure within the first 1 to 1.5 block off 16 Avenue N for each community. Meetings with the community transportation representative(s) were conducted to ensure all the key transportation issues were identified and addressed. Public information meetings in each community were conducted in late September 2005 to explain the study, illustrate the identified traffic issues, illustrate and define the proposed traffic management options, explain the next steps in the study and receive comments. Preliminary opinion survey boundaries for each community were also presented at the meetings.

Opinion surveys for each community were developed. The opinion surveys contained an explanation for the opinion survey, an explanation of what traffic management was, background information on the study, the process followed for the study to the point of the survey, meeting dates and locations for the second information meeting for the community and the issues and possible traffic management measure options to address the issue. The response sheet was the last page of the survey.

The percentage of opinion survey responses received varied for each community. Renfrew and Crescent Heights communities had the highest response rate with just over 26% response. Mount Pleasant had close to 15% while Winston Heights/Mountview and Capitol Hill had just over 12% response rate. Tuxedo Park had the lowest response rate with just over 10%.

The opinion survey responses determined the preferred traffic management measure for each issue within the community. A majority of responses was required for a traffic management measure to be selected.

A second series of public information meetings was undertaken in late November and early December 2005 to provide the public an opportunity to view the opinion survey results and view the preferred traffic management measures plan for the community.

Preferred Plan Costs

The preferred traffic management measure plans were assessed in terms of utility impacts and traffic impacts to ensure that the proposed measure were appropriate.

Current 2005 construction costs for the City of Calgary for several traffic management measures were obtained. Costs for all types of traffic management measures were not available. To supplement the costs provided by the City of Caglary, costs from the Transportation Association of Canada (TAC) for traffic management measures were

obtained. An initial cost estimate of the preferred traffic management plans for each community was computed. The initial cost estimates were calculated within a range due to the variety of conditions of the location at which they are to be installed (i.e. size of the item, catch basin relocation, etc.).

The total estimated range of capital costs for the communities is:

Capitol Hill
$50,000-74,000

Mount Pleasant
$179,000-$276,000

Tuxedo Park
$40,000-$59,000

Winston Heights/Mountview
$63,000-$99,000

Renfrew
$59,000-$118,000

Crescent Heights
$55,000-$165,000

The total estimated cost for all six communities is $450,000 to $800,000.

Conclusions and Recommendations

This study has followed the City of Caglary's guidelines for full community traffic studies but only the part of the communities directly impacted by the 16 Avenue N widening project have been studied. An accelerated schedule has been undertaken to ensure the traffic management measure would be included in Phase 2 and 3 of the 16 Avenue N Urban Corridor construction.

The study process has included public engagement, community opinion surveys and impact assessment for traffic management measures associated with the widening of 16 Avenue N for the communities of Capitol Hill, Tuxedo Park, Winston Heights/Mountview, Renfrew, Crescent Heights and Mount Pleasant.

The traffic management measure recommended for each community are summarized below and illustrated in the following maps.

Capitol Hill

- Formalize blockage on 13 Street NW
- Construct traffic circle at 17 Avenue N and 12 Street NW and implement speed humps on 12 Street NW between 16 Avenue N and 18 Avenue N
- Construct two speed humps on the alley between 16 Avenue N an 17 Avenue N for each block between 13 Street NW and 10 Street NW

Tuxedo Park

- Construct a traffic circle at 18 Avenue N and 1 Street NW and a speed hump on 18 Avenue N between 1 Street NW and 2 Street NW
- Construct speed humps on 17 Avenue N between Edmonton Trail and 1 Street NW
- Construct two speed humps on the alley between 16 Avenue N and 17 Avenue N for each block within the community

Winston Heights/Mountview

- Construct speed hump on 4 Street NW between 17 Avenue N and 18 Avenue N
- Construct curb extensions and raised crosswalk on the south side of the intersection of 17 Avenue N and 6 Street NE and extend the sidewalk on the west side from this intersection southwards to 16 Avenue N
- Construct one to two speed humps on the alley between 16 Avenue N and 17 Avenue N for each block within the community

Renfrew

- Construct two speed humps on the alley between 16 Avenue N and 15 Avenue N for each block within the community
- Construct traffic circles at the intersection of 4 Street NE and 15 Avenue N and 5 Street NE and 15 Avenue N
- Construct curb extensions on the northwest, southwest, and southeast corners of 6 Street NE and 15 Avenue N with a speed hump between 14 Avenue N and the alley to the north

Crescent Heights

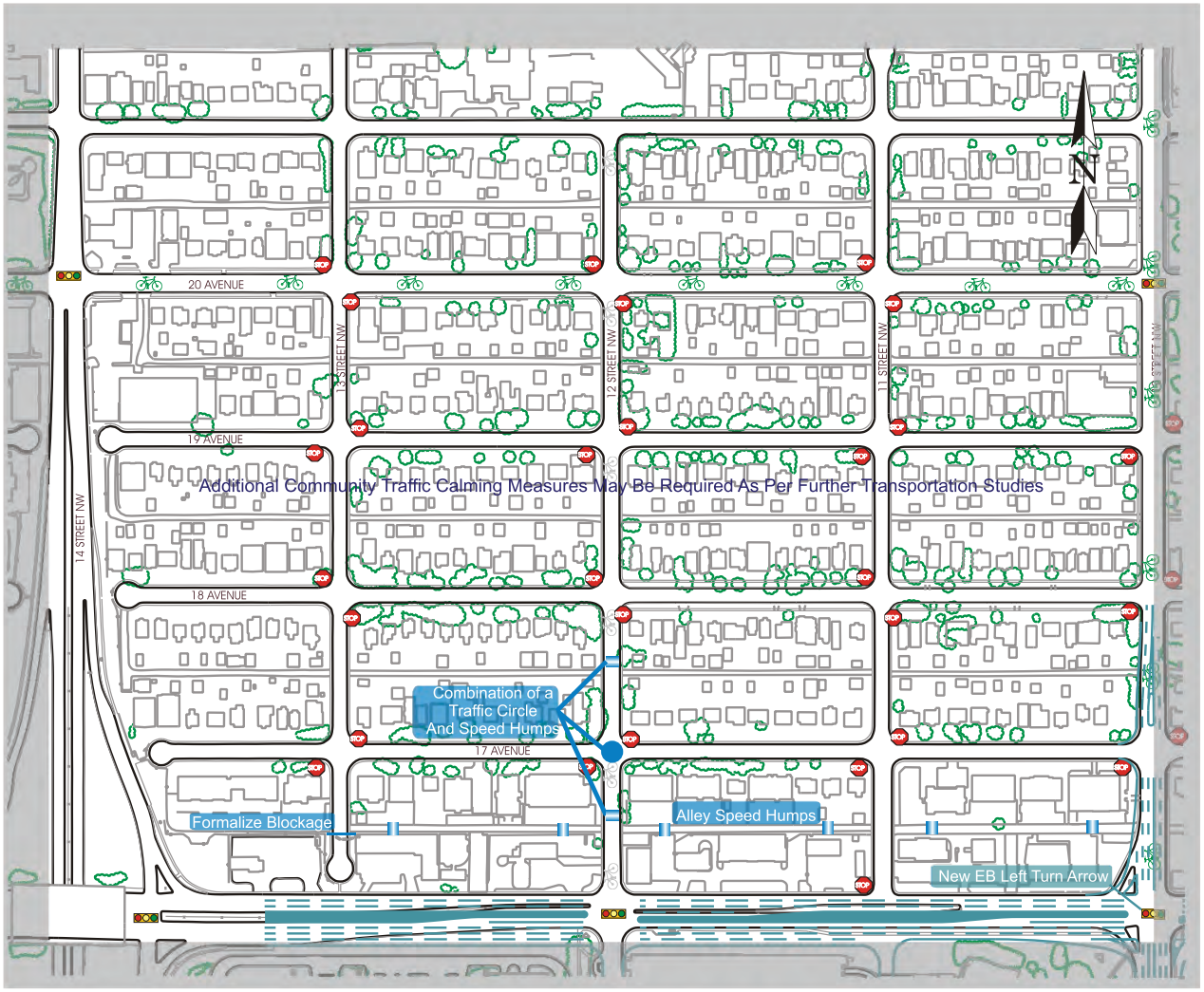
- Construct permanent full closures on 3, 2A and 2 Street NW south of the proposed alley
- Construct permanent full closures on 1 and 2 Street NE just south of the alley. Remove southbound right turn restriction at the intersection of 15 Avenue N and Edmonton Trail
- Remove temporary closure of alley between Centre A Street and 1 Street NE and construct permanent partial eastbound closure along 13 Avenue N and 1 Street NE

Mount Pleasant

- Implement peak time of day turn restrictions at the intersection of 10 Street NW and 17 Avenue N
- Construct a temporary partial northbound closure south of 17 Avenue N on 9 Street NW including the removal of the northbound stop sign at this intersection
- Construct a temporary partial northbound closure south of 17 Avenue N on 5 Street NW including implementation of southbound stop sign at the intersection
- Construct a raised crosswalk on the south side of the intersection of 18 Avenue N and 7 Street NW
- Construct speed hump between 17 Avenue N and the alley to the south
- Implement 4-way stop control at the intersection of 19 Avenue N and 9 Street NW
- Implement 4-way stop control at the intersection of 17 Avenue N and 7 street NW
- Implement 4-way stop control at the intersection of 19 Avenue N and 6 Street NW
- Implement 4-way stop control at the intersection of 17 Avenue N and 6 Street NW
- Implement peak time of day turn restrictions at the corner of 17 Avenue N and 3 street NW
- Construct a traffic circle at the intersection of 17 Avenue N and 3 Street NW
- Construct a raised crosswalk on the south side of the intersection of 17 Avenue N and 2 Street NW
- Construct speed humps along the alley between 16 Avenue N and 17 Avenue N

It is also recommended that all communities complete or undertake a full community traffic study as required by the community and include an assessment and possible re-evaluation of the above recommended traffic management measures during the full community traffic study.

Map E1: Capitol Hill Preferred Traffic Management Plan

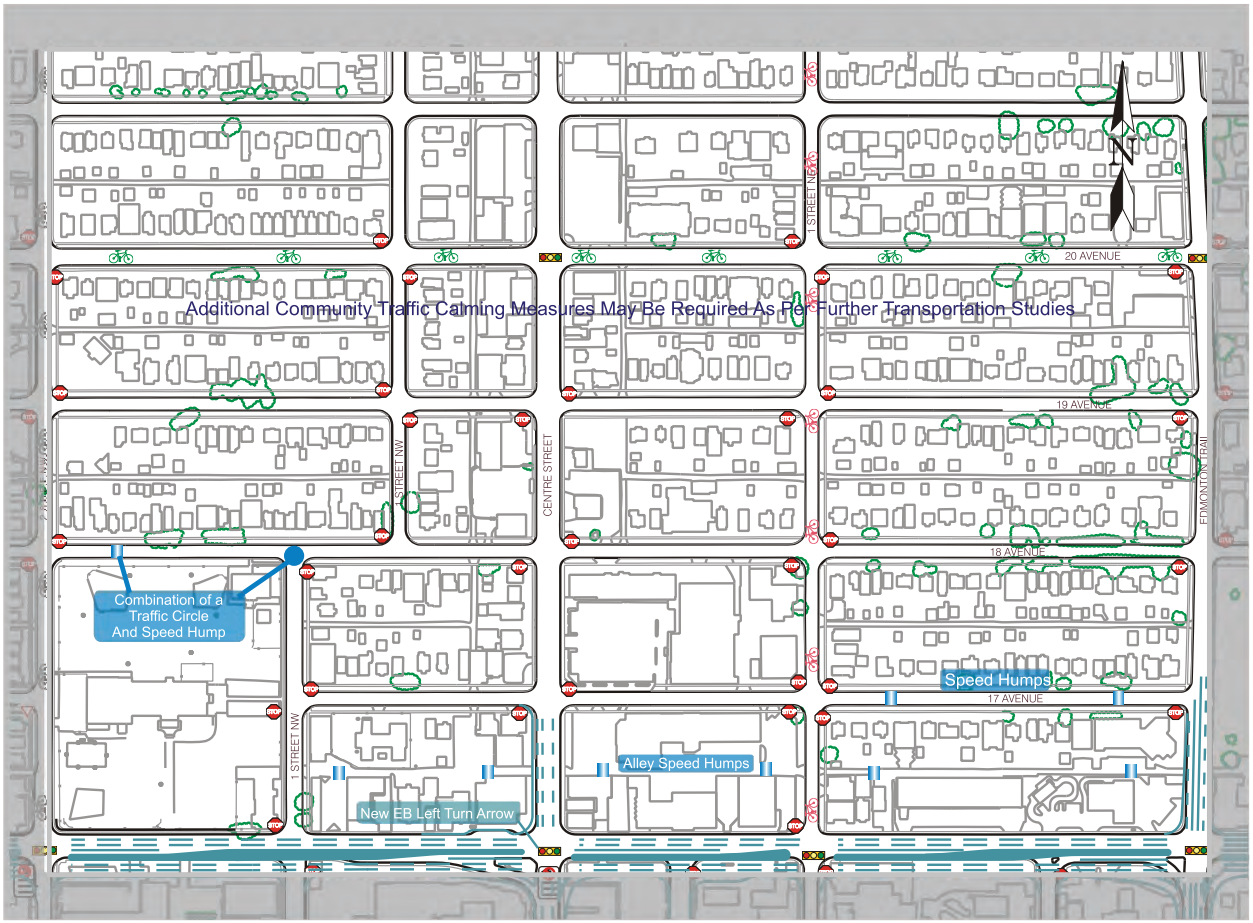


LEGEND

- Potential Traffic Management Measures
- Urban Corridor Design
- Existing On-Street Bicycle Route
- Future On-Street Bicycle Route
- Future Bicycle Lane
- Community Proposed On-Street Bicycle Route
- Existing & Proposed Traffic Signal
- Existing Stop Sign

The City Is Not Planning To Install Additional Left Turn Arrows Initially But Signals Will Be Constructed So That If Left Turn Arrows Become Necessary They Can Be Installed.

Map E2: Tuxedo Park Preferred Traffic Management Plan



LEGEND

Potential Traffic Management Measures
Urban Corridor Design

- Existing On-Street Bicycle Route
- Future On-Street Bicycle Route
- Future Bicycle Lane
- Community Proposed On-Street Bicycle Route
- Existing & Proposed Traffic Signal
- Existing Stop Sign
- Existing Yield Sign

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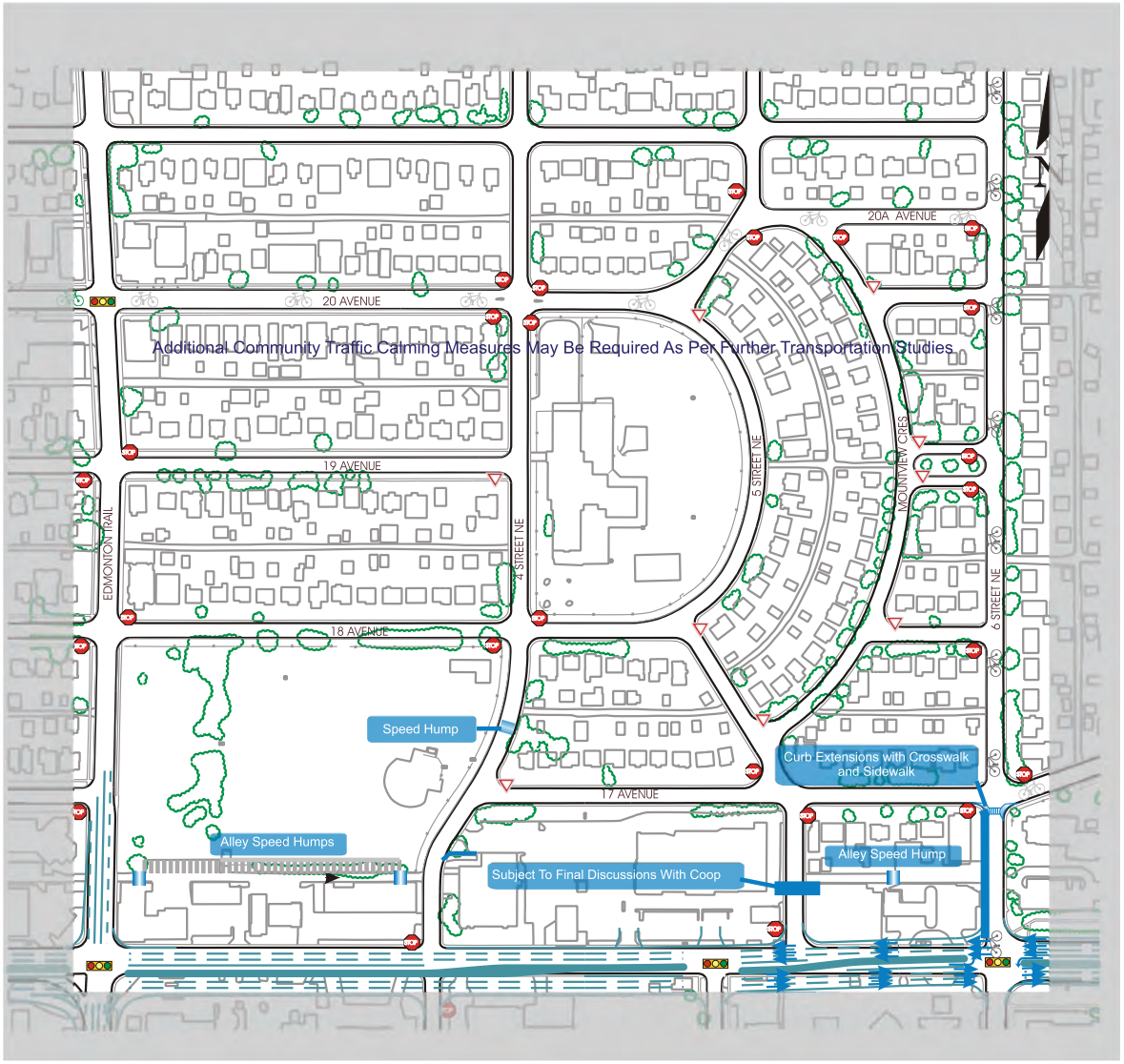
Map E3: Winston Heights/Mountview Preferred Traffic Management Plan



LEGEND

- Potential Traffic Management Measures
- Urban Corridor Design
- Existing On-Street Bicycle Route
- Future On-Street Bicycle Route
- Future Bicycle Lane
- Community Proposed On-Street Bicycle Route
- Existing & Proposed Traffic Signal
- Existing Stop Sign
- Existing Yield Sign

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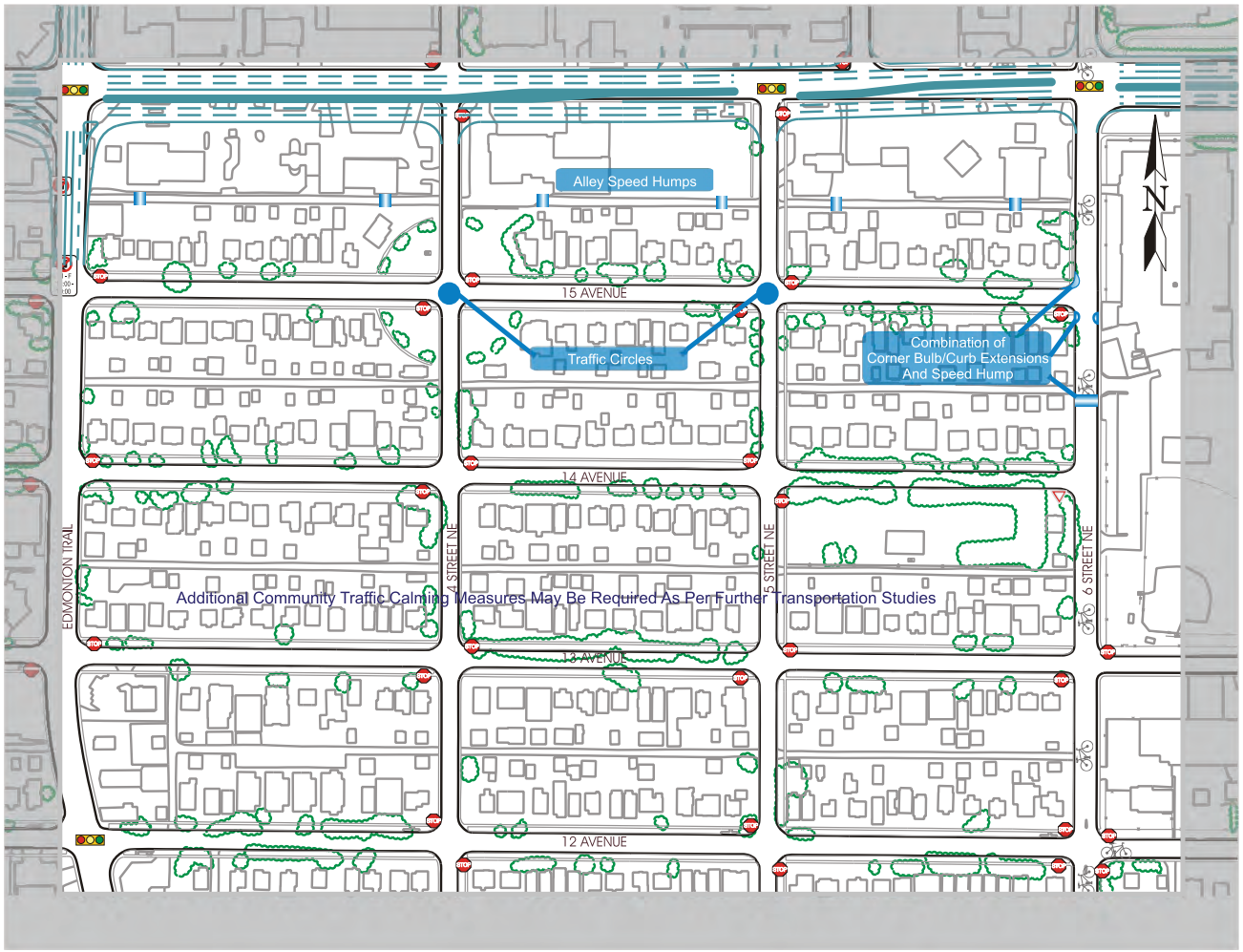
Map E4: Renfrew Preferred Traffic Management Plan

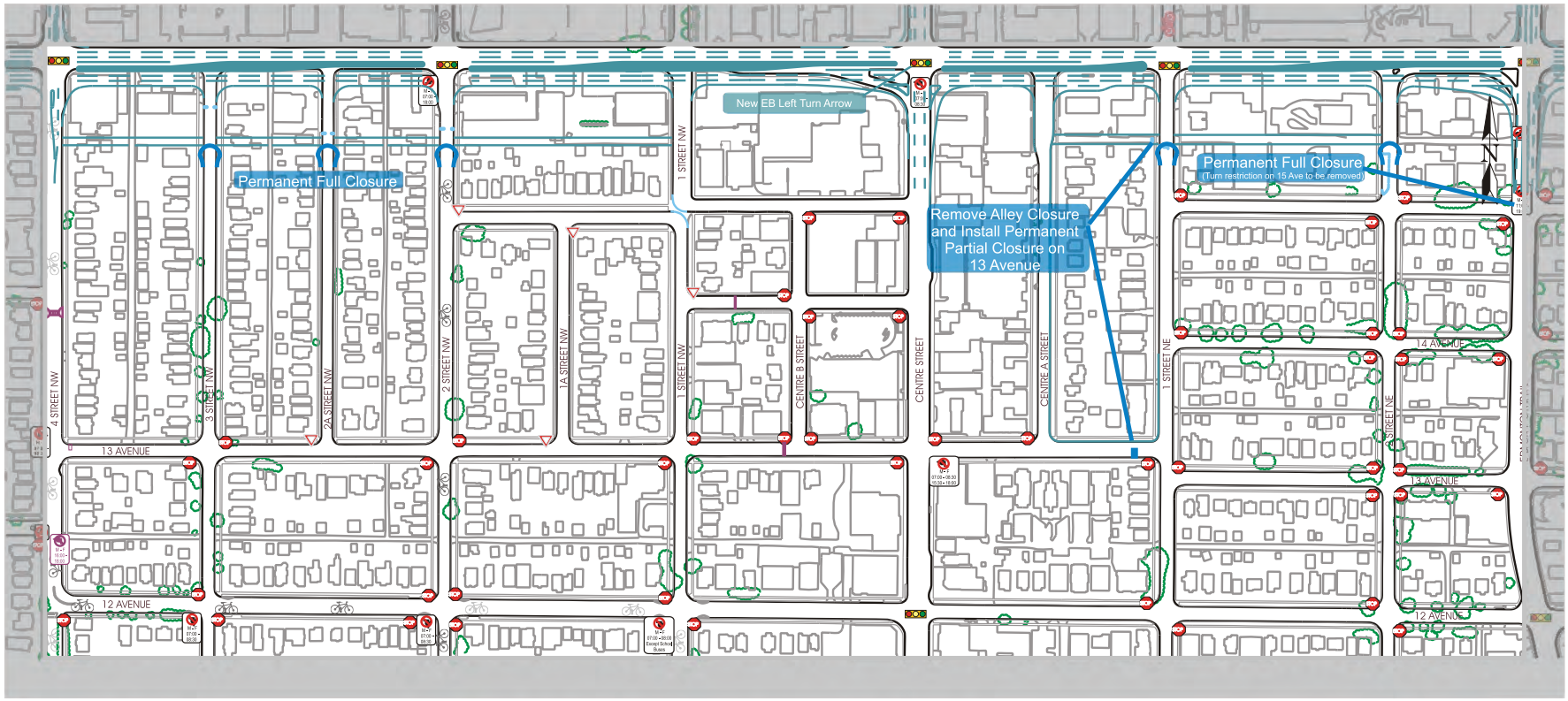


LEGEND

- Potential Traffic Management Measures
- Urban Corridor Design
- Existing On-Street Bicycle Route
- Future On-Street Bicycle Route
- Future Bicycle Lane
- Community Proposed On-Street Bicycle Route
- Existing & Proposed Traffic Signal
- Existing Stop Sign
- Existing Yield Sign

The City Is Not Planning To Install Additional Left Turn Arrows Initially But Signals Will Be Constructed So That If Left Turn Arrows Become Necessary They Can Be Installed.

Map E5: Crescent Heights Preferred Traffic Management Plan



The City Is Not Planning To Install Additional Left Turn Arrows Initially But Signals Will Be Constructed So That If Left Turn Arrows Become Necessary They Can Be Installed.

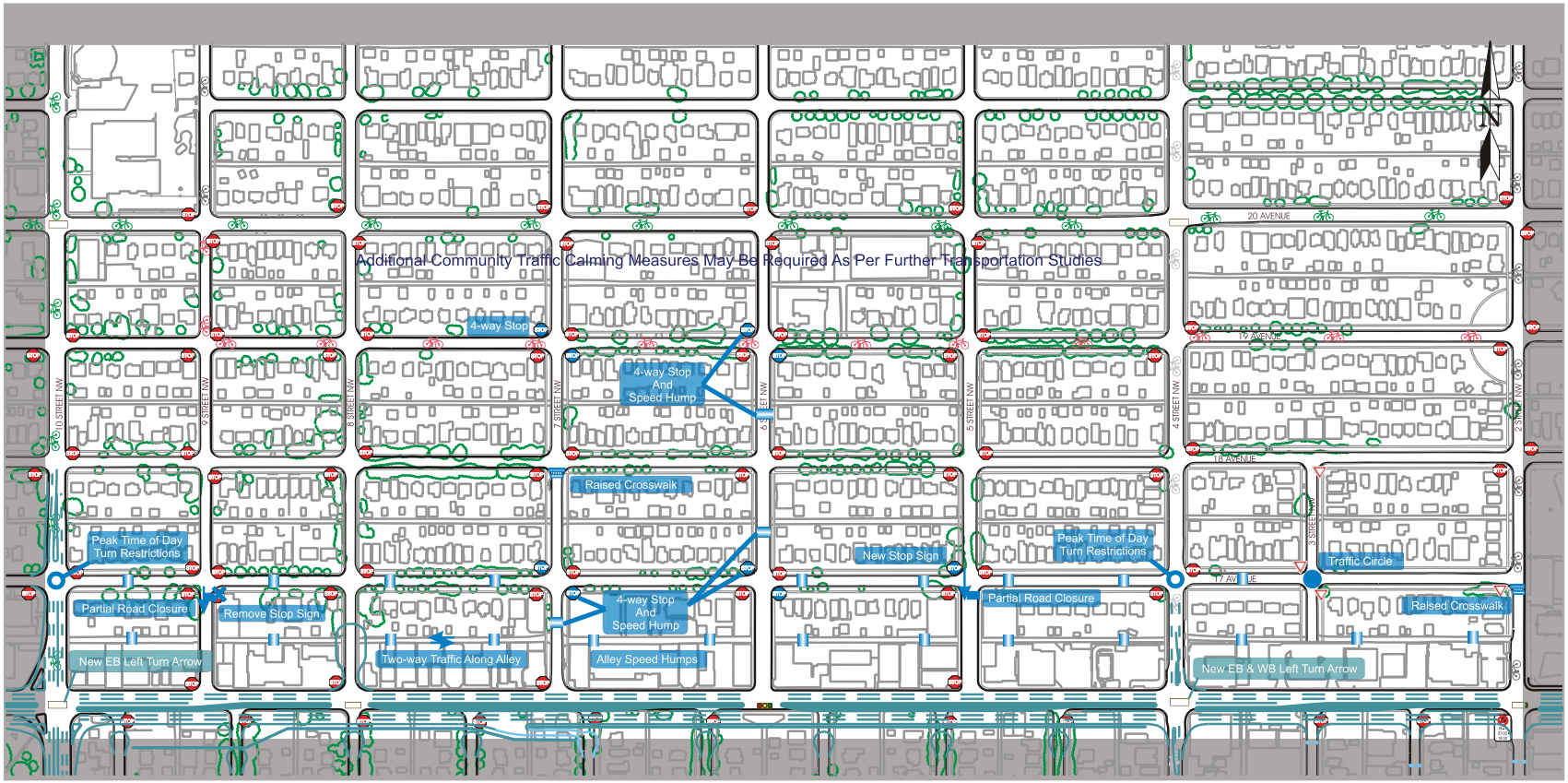
Date: 02/12/2005
File: CrestHeightsplan.cdr
File Date: 15/11/2005

LEGEND

Potential Traffic Management Measures
Urban Corridor Design
Permanent T
Temporary Traffic Calming Measures
Existing On-Street Bicycle Route
Future On-Street Bicycle Route

Future Bicycle Lane
Community Proposed On-Street Bicycle Route
Existing & Proposed Traffic Signal
Existing Stop Sign
Existing Yield Sign

Map E6: Mount Pleasant Preferred Traffic Management Plan



The City Is Not Planning To Install Additional Left Turn Arrows Initially But Signals Will Be Constructed So That If Left Turn Arrows Become Necessary They Can Be Installed.

LEGEND

- Potential Traffic Management Measures
- Urban Corridor Design
- Temporary Traffic Calming Measures
- Existing On-Street Bicycle Route
- Future On-Street Bicycle Route
- Future Bicycle Lane
- Community Proposed On-Street Bicycle Route
- Existing & Proposed Traffic Signal
- Existing Stop Sign
- Existing Yield Sign

Appendix 5 – Glossary

Where possible, the terms used in this plan match definitions used in the City of Calgary Land Use Bylaw 2P80, The Calgary Plan, other Bylaws and policy documents. The Land Use Bylaw is currently under review. Council will consider the new Land Use Bylaw for approval, scheduled for 2007.

Accessibility – ease of access or egress to any location.

Accessory Building – a use which does not accommodate the principal use of a site and which is not attached above grade to a principal building.

Accessory Use – a use which is subordinate or incidental to the principal use of the site.

Ancillary Use – a land use that is directly related to the primary use of the land.

Apartment Buildings – a single building comprised of three or more dwelling units with shared entrance facilities. The Plan may require direct access from the street for at-grade ground-level dwelling units.

Area Redevelopment Plan (ARP) – an Area Redevelopment Plan is a planning document, adopted as a bylaw by City Council, that sets out comprehensive land use policies and other proposals that help guide the future of communities or a designated area. An ARP supplements the Land Use Bylaw by giving a local policy context and specific land use and development guidelines on which the Approving Authority can base its judgement when rendering decisions on land use and development applications.

Amenity Space – an area comprising on-site, common or private, indoor or outdoor space, designed for active or passive recreational use.

Approving Authority – the Calgary Planning Commission or the Development Officer or both, as the context provides.

Bicycle Routes – informal on-street connections to local attractions within the community (e.g. to the community centre, neighbourhood nodes, joint use sites, neighbourhood parks, etc.) and to designated cycle routes.

Calgary Land Use Bylaw (2P80) – It controls the use of all land in Calgary. It is adopted by Council and can only be changed by Council. It divides the City into a series of land use districts as shown on land use maps. It sets out procedures to process and decide on land use changes (rezoning); lists of permitted and discretionary uses and development rules.

Density – the number of dwelling units on a site expressed in dwelling units per acre (u.p.a.) or units per hectare (u.p.ha). Density can also be expressed by floor area ratio or FAR. FAR means the quotient of the gross floor area of a building divided by the gross site area. FAR is one of the ways to control the size/density of a building in relation to the size of the parcel of land it occupies. See the FAR examples below. The building may also be regulated by building setbacks (e.g. front yard, side yard, rear yard), building height, site/lot coverage/landscaping, parking and others depending on different land use districts.

FAR Examples:

A lot area of 100' by 100' has a gross site area of 10,000 square feet (100'x100')

Development potential based on FAR:

- FAR 1 = 10,000 sq. ft x 1 = 10,000 sq ft of gross floor area
- FAR 2 = 10,000 sq .ft x 2 = 20,000sq. ft of gross floor area
- FAR 3 = 10,000 sq. ft x 3 = 30,000 sq. ft of gross floor area

When using FAR for residential development, the number of dwelling units will vary depending on the size of the unit.

For example :

On a site of 100'x100' = 10,000 sq. ft.

FAR 1 = 10,000 sq. ft may allow up to 10 units, if the unit size is 1,000 sq ft each;

10,000 sq ft may allow up to 20 units, if the unit size is 500 sq. ft each

Development Officer – an official of the City of Calgary Planning & Building Approvals is charged with the responsibility of administering the Land Use Bylaw and deciding upon applications for development permits.

Development Permit – a document authorizing a development, issued by a Development Officer pursuant to the Land Use Bylaw, or any previous Bylaw or other legislation authorizing development within the city, and includes the plans and conditions of approval.

Direct Control (DC) – the purpose of this district is to provide for developments, that due to their unique characteristics, innovative ideas, or because of unusual site constraints, require specific regulations unavailable in other land use districts. This district is not intended to be used in substitution of any other land use district in the Land Use Bylaw that could be used to achieve the same result.

Direct Linkages – short and relatively straight routes between identified points, using the street system, walkways, pathways through parks, etc.

Discretionary Use – may be refused if the use is inappropriate in the proposed location or if the Approving Authority believes it would adversely impact the area. The Approving Authority must evaluate the application on its merits, having regard to Council approved plans and policies, the rules of the Land Use Bylaw and the local context.

Floor Area Ratio (FAR) – the quotient of the gross floor area of a building divided by the gross site area. (See also Density above)

Focal Point – a structure, feature or area of interest or activity.

Home Occupation – the accessory use of a dwelling unit or private garage, by the resident, for small scale business purposes. The Land Use Bylaw contains specific guidelines for home occupations.

Housing Types – categories of dwelling units (regardless of ownership). The categories are: single family (single-detached dwellings); two-family (duplex, semi-detached and additional dwelling units); and multi-family (triplex, fourplex, townhouse, and apartment buildings).

Infill or Infill Development – the development or redevelopment occurring on a vacant site following completion of the initial development of the area.

Infrastructure – the urban facilities that are required to service land for its subsequent development and use, usually referring to roads, bridges, and utilities.

Inner-City – that area indicated on Map 1, Boundaries of the Inner-City, contained in Section 18 of the Land Use Bylaw 2P80.

Institutional Uses – means a public or private use that serves the educational, social, cultural, or religious needs of the residents in a community and may include a church, a post office or postal kiosk, a library, a public or private school, and a child-care facility.

Land Use Bylaw – the City of Calgary Land Use Bylaw 2P80 (See Calgary Land Use Bylaw above).

Landscaping (soft and hard) – the modification and enhancement of a site through the use of any or all of the following elements:

a) Soft landscaping consisting of vegetation such as trees, shrubs, hedges, grass and ground cover;

b) Hard landscaping consisting of non-vegetative material such as brick, stone, concrete, tile, wood and other material;

c) Architectural elements consisting of sculptures and the like.

In order to reduce stormwater runoff, directly discharged to the rivers and streams, the use of non-vegetative material should minimize the amount of impervious area, thereby allowing more precipitation to infiltrate the surface.

Live/Work – individual units that combine work space and living space which may include but is not limited to offices, personal service businesses, retailing of goods produced on site, craft production or other similar small scale production activities, excluding any automotive related uses.

Lot Area – the area contained within the boundaries of a lot as shown on a plan of subdivision or described in a certificate of title.

Lot Coverage – that portion of the lot covered by the principal building, accessory buildings or other similar covered structures.

Lot Width – the width of a lot where it abuts the street except in the case of a pie-shaped lot, when it the average distance between the side boundaries of the lot.

Main Street/High Street – main business district for a community. Main Street/High Street is usually an area of higher density land uses, with concentration of shopping, services, and entertainment. Apartments are often located around the main street area and may exist above the grade level of retail or offices. Main street is characterized by a good pedestrian environment.

Mass/massing – the arrangement of the bulk of a building on a site and its visual impact in relation to adjacent buildings.

Mixed Use Development – the development of land, a building or a structure with two or more different uses in a compact form, such as residential, office, retail, educational, institutional, entertainment and other compatible uses.

Node – an activity centre containing a mix of activities.

Pedestrian-oriented or Pedestrian-friendly – an environment designed to make movement (on foot or by wheelchair) attractive and comfortable for various ages and abilities (i.e., visual and hearing impaired, mobility impaired, developmentally challenged, situationally impaired). Considerations include separation of pedestrian and auto circulation, street furniture, clear directional and informational signage, safety, visibility, shade, lighting, surface materials, trees, sidewalk width, prevailing wind direction, intersection treatment, curb cuts, ramps, landscaping.

Principal Building – a building that accommodates the principal use of a site, and may accommodate one or more accessory uses.

Principal Use – the main purpose for which a building or site is used.

Right of Way – a strip of land occupied or intended to be occupied by a street, crosswalk, water main, sanitary or storm sewer main, or other types of utilities.

Sustainable development – defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A range of social, environmental and economic issues need to be considered when evaluating whether any kind of development is sustainable.

Streetscape – all the elements that make up the physical environment of a street and define its character. This includes, paving, trees, lighting, building type, style, setback, pedestrian amenities, street furniture, etc.

Transit-oriented, transit-friendly, or transit-supportive – the elements of urban form and design which make transit more accessible and efficient. These range from land use elements (e.g., locating higher density housing and commercial uses along transit routes) to design (e.g., street layout which allows efficient bus routing). It also encompasses pedestrian-friendly features as most transit riders begin and end their rides as pedestrians.

Sidewalk – principally used for pedestrians and located to the side of a carriageway within a road right of way.

Traffic Calming – is the combination of mainly physical measures that reduce the negative effect of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.

Traffic Management – uses many of the same measures and techniques as traffic calming, but is focused on maintaining the functionality of the City's road network and managing traffic access to both commercial and residential areas.

Transit Oriented Development (TOD) – is a walkable, mixed use form of development typically focused within a 600-metre radius of a transit station, a major transit terminus, or a major transit corridor. Higher density development is concentrated near those areas to make transit convenient for more people and encourage ridersip. This form of development optimizes existing infrastructure and transit network, creates mobility options for transit riders, and better meets the objectives of sustainability.

Triple Bottom Line – City Council approved the Triple Bottom Line policy in September 2005 as a way to sum up what we mean by "sustainability". This is to ensure that the capacity of the natural environment and society to meet the needs of future generations is not compromised. The Triple Bottom Line is a way to reference the need to think about impacts on sustainability.

Utilities – facilities for gas, electricity, telephone, cable television, water, storm or sanitary sewer.

Walkways, Pedestrian – principally a public linkage for pedestrians only, a right-of-way or easement