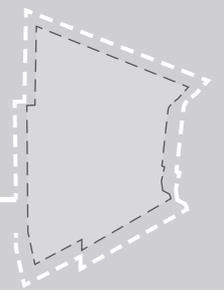


Angular Plane Study

Silvercreek Junction

Guelph, Ontario



Prepared for: Fieldgate Developments

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TABLE OF CONTENTS

- 1.0 INTRODUCTION 1
- 2.0 EXISTING ANGULAR PLANE REQUIREMENTS 2
- 3.0 PROPOSED ANGULAR PLANE AMENDMENTS 2
 - 3.1 Location 1 - Silvercreek Parkway Streetscape Interface 3
 - 3.2 Location 2 - Local Streetscape Interface..... 5
 - 3.3 Location 3 - Urban Square Pedestrian Interface 7
- 4.0 CONCLUSION 9

FIGURES

- Figure 1: Community Desmonstration Plan 1
- Figure 2: Proposed Angular Plane to Silvercreek Parkway 4
- Figure 3: Proposed Angular Plane to Silvercreek Parkway - adjacent to the Neighbourhood Park 4
- Figure 4: Proposed Angular Plane to the Local Streetscape 6
- Figure 5: Proposed Angular Plane to the Urban Square 8

1.0 Introduction

The Silvercreek Junction Urban Village Community is contemplated as a distinctive, compact, mixed-use development that is surrounded by and incorporates open spaces, parkland, and an urban square. The proposed development introduces medium to high density housing typologies and mixed-use blocks, which promotes a walkable community with places to live, shop and play. This is achieved through the introduction of a network of interconnected streets and seamless access to a comprehensive active transportation system.

The purpose of this document is to provide a more detailed analysis/study and justification to the proposed angular planes in support of a Zoning By-Law Amendment and Draft Plan Application. Angular planes are an important tool that assist in establishing appropriate height transitions for taller buildings to existing and established low rise residential communities, as well as to provide positive pedestrian-scaled environments. Through consultation with an experienced development team including a wind consultant (RWDI), careful consideration has been made to distribution of uses and built form within the proposed community through the distribution of blocks, building orientation, step-backs, and angular planes. The Community Demonstration Plan as illustrated below in Figure 1 provides a visual illustration of one way which the community may be developed to achieve the goals and objectives of the community as well as meet the various planning and development regulations. The Draft Plan includes 6 development blocks that are subject to angular plane requirements.



Figure 1: Community Demonstration Plan

2.0 Existing Angular Plane Requirements

Section 4.16 of the City of Guelph Zoning Bylaw (1995) – 14864 provides a methodology for the calculation of different types of angular planes.

Section 4.16.1 defines:

“Angular Plane from a River or Park” as an imaginary inclined plane, rising over a Lot adjacent to a river or park, drawn at a specified angle from the horizontal, the bottom side of which is coincidental with the Lot Lines, which together with other Building regulations and Lot size requirements, delineates the maximum bulk and Building Height. An angular plane of 40 degrees measured from the park property line is required.

Section 4.16.2 defines:

“Angular Plane from a Street” as an imaginary inclined plane, rising over a Lot, drawn at a specified angle from the horizontal, the bottom side of which is coincidental with the Centre Line of the Street and which together with other Building regulations and Lot size requirements, delineates the maximum bulk and Building Height.” An angular plane of 45 degrees measured from the street centre line is required.

3.0 Proposed Angular Plan Amendments

The subject site is bound by CN railway tracks to the north and south, Howitt Creek to the east, and the Hanlon Expressway (Highway 6) to the west. The proposed Draft Plan includes 6 development blocks allowable building heights of up to a maximum of 10 storeys (Blocks 1, 2, 3, 18, 19, & 20). While there are no directly adjacent existing low rise residential developments requiring a height transition, three newly created interfaces within the proposed community have been identified for special consideration of a modified angular plane standard:

LOCATION 1: SILVERCREEK PARKWAY STREETScape INTERFACE

LOCATION 2: LOCAL STREETScape INTERFACE

LOCATION 3: URBAN SQUARE PEDESTRIAN INTERFACE

Each of these locations provides a unique interface opportunity which is illustrated and discussed in more detail below. The included rendered sections have been prepared as a technical illustration only and do not represent the final proposed built form. Additional site and building detailing, step-backs, or other articulation would be included as part of a separate site plan application.

3.1 LOCATION 1: SILVERCREEK PARKWAY STREETScape INTERFACE

Silvercreek Parkway serves as the primary access point and active spine through the community. The character of the streetscape includes multi-use pathways, dedicated bike facilities, curb side parking opportunities, street trees, park space, and direct uninterrupted building frontages from a variety of built form interfaces. The development blocks along Silvercreek Parkway with taller buildings ranging to a maximum height of 10 storeys subject to angular plane requirements are:

- Apartment Blocks: 2 & 3
- Mixed-Use Blocks: 18 & 20

Proposed Building Interface with Silvercreek Parkway:

- Buildings to be located 6.0m minimum from the property line
- Building Step-backs after the 4th storey to ensure a pedestrian scales environment
- Appropriate building articulation to meet wind and solar study requirements
- Where appropriate provide direct pedestrian building access points along the streetscapes and at key intersections
- Mixed Use Block 20 is located directly adjacent to the proposed Neighbourhood Park on the east side of Silvercreek Parkway. This interface provides the opportunity for extensive open space views from the future mixed-use building.

Proposed Angular Plane Along Silvercreek Parkway:

- 50 degrees measured from the centreline of the R.O.W. (See Figure 2)
 - 5 degree deviation from the City of Guelph requirement of 45 degrees
 - Of note, when reviewing the angular plan of Block 20 (mixed-use) to the Neighbourhood Park, the angular plan to the property edge of the park is 37 degrees which meets the City's requirement of 40 degrees to a park (see Figure 3)

Amended Angular Plane Rationale:

- Buildings are located an appropriate setback to the property line of 6.0m. In total the space between buildings on either side of Silvercreek Parkway (including 2 setbacks and the R.O.W width) would be a minimum of 42.50m.
- There are no existing low rise buildings or communities that will be impacted.
- The deviation allows for an angular plane standard to be in place while allowing buildings to be built at the zoning maximum height of 10 storeys. Consideration also has been made to the block structure, appropriate interfaces to the surrounding proposed local streets, and the balance of the proposed community built form.
- Step-backs and further building articulation will ensure a comfortable and appropriate pedestrian scaled environment while also maintaining adequate sun penetration onto Silvercreek Parkway.
- The 5 degree deviation is not significant enough to impact the sky view from Silvercreek Parkway.

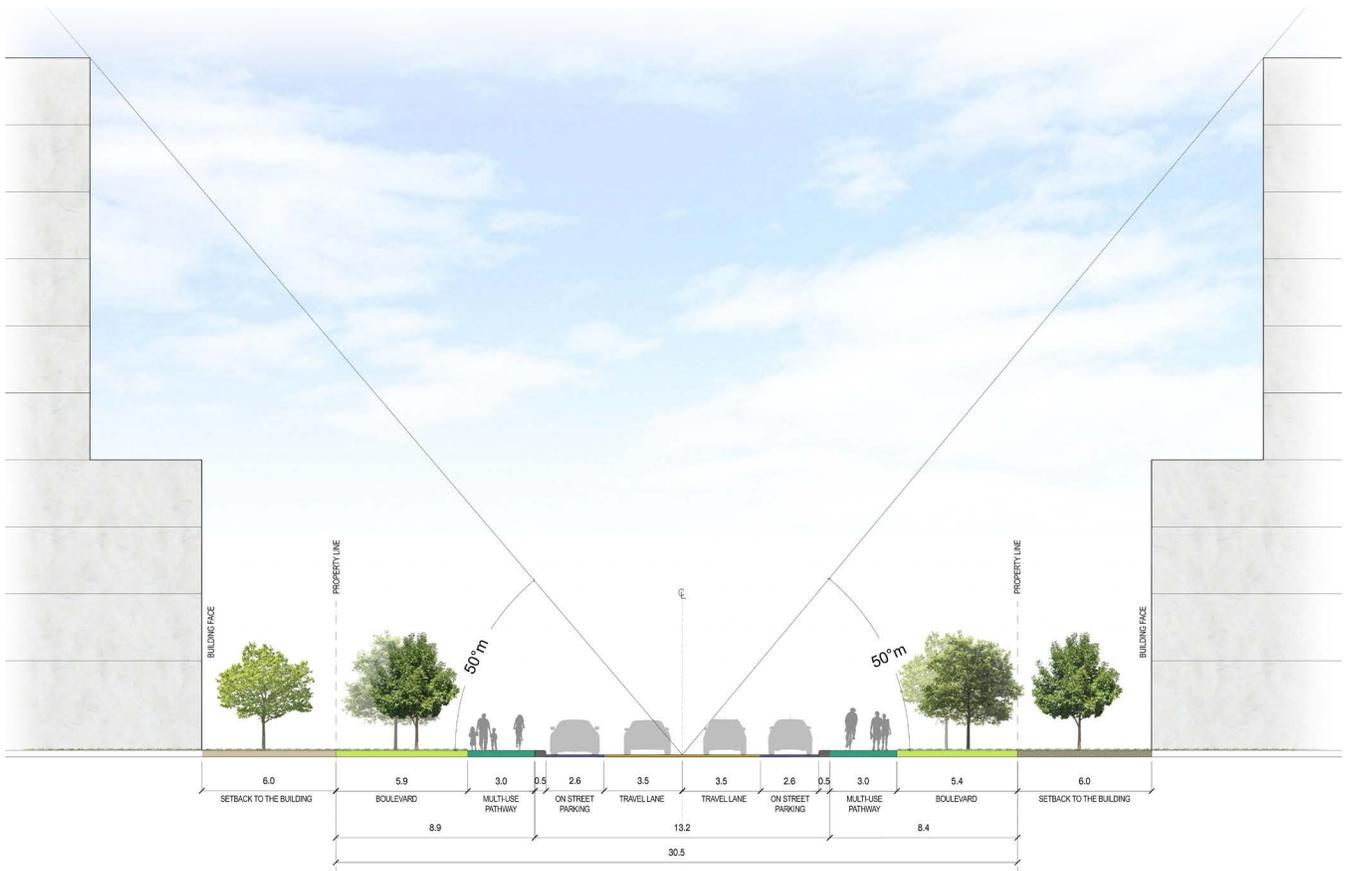


Figure 2: Proposed Angular Plane to Silvercreek Parkway

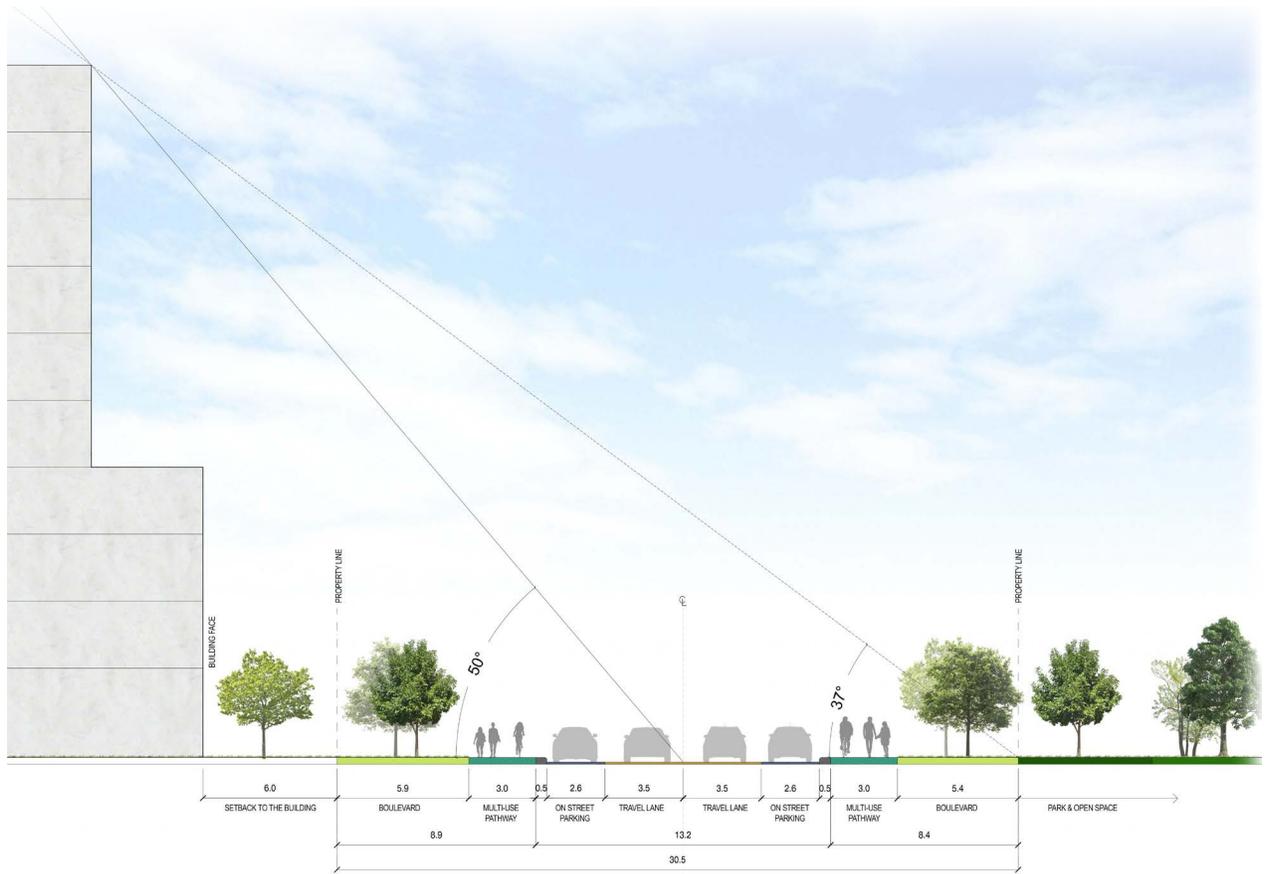


Figure 3: Proposed Angular Plane to Silvercreek Parkway - Adjacent to the Neighbourhood Park

3.2 LOCATION 2: LOCAL STREETScape INTERFACE

The proposed local streets provide a finer level of structure and circulation within the future community. These streets provide access and to the various residential and mixed-use blocks as well as the grade related residential built form. The local streetscapes are also an important pedestrian environment with a character that includes sidewalks on at least one side but in some priority locations both, street trees, shared bikes on-road bike routes, and direct building frontages. The development blocks along Local Streetscapes with taller buildings ranging to a maximum height of 10 storeys subject to angular plane requirements are:

- Apartment Blocks: 1, 2* & 3*
- Mixed-Use Blocks: 18*, 19 & 20*

**These blocks are also subject to an angular plane requirement along Silvercreek Parkway based on the proposed draft plan structure. This has been considered while evaluating appropriate angular plane requirements holistically.*

Proposed Building Interface with the Local Streetscape:

- Buildings to be located 6.0m minimum from the property line
- Building Step-backs after the 4th storey to ensure a pedestrian scaled environment
- Appropriate building articulation to meet wind and solar study requirements
- Pedestrian and vehicular access points where appropriate

Proposed Angular Plane Along the Local Streetscape:

- 58 degrees measured from the centreline of the R.O.W. (See Figure 4)
 - 13 degree deviation from the City of Guelph requirement of 45 degrees

Amended Angular Plane Rationale:

- Buildings are located an appropriate setback to the property line of 6.0m. In total the space between buildings on either side of the local streetscape (including 2 setbacks and the R.O.W width) would be a minimum of 29.0m.
- There are no existing low rise buildings or communities that will be impacted.
- Consideration for the appropriate transition to the proposed townhouses built form has been considered and will be studied in greater detail during the site plan stage
- It would be inappropriate to subject buildings to conform to the same angular plane requirement on all or most sides of the buildings in an urban, mixed-use, and compact setting.
- The deviation allows for an angular plane standard to be in place while allowing buildings to be built at the zoning maximum height of 10 storeys. Consideration also has been made to the block structure, appropriate interfaces to the surrounding proposed local streets, and the balance of the proposed community built form.
- Step-backs and further building articulation will ensure a comfortable and appropriate pedestrian scaled environment while also maintaining adequate sun penetration onto Silvercreek Parkway.

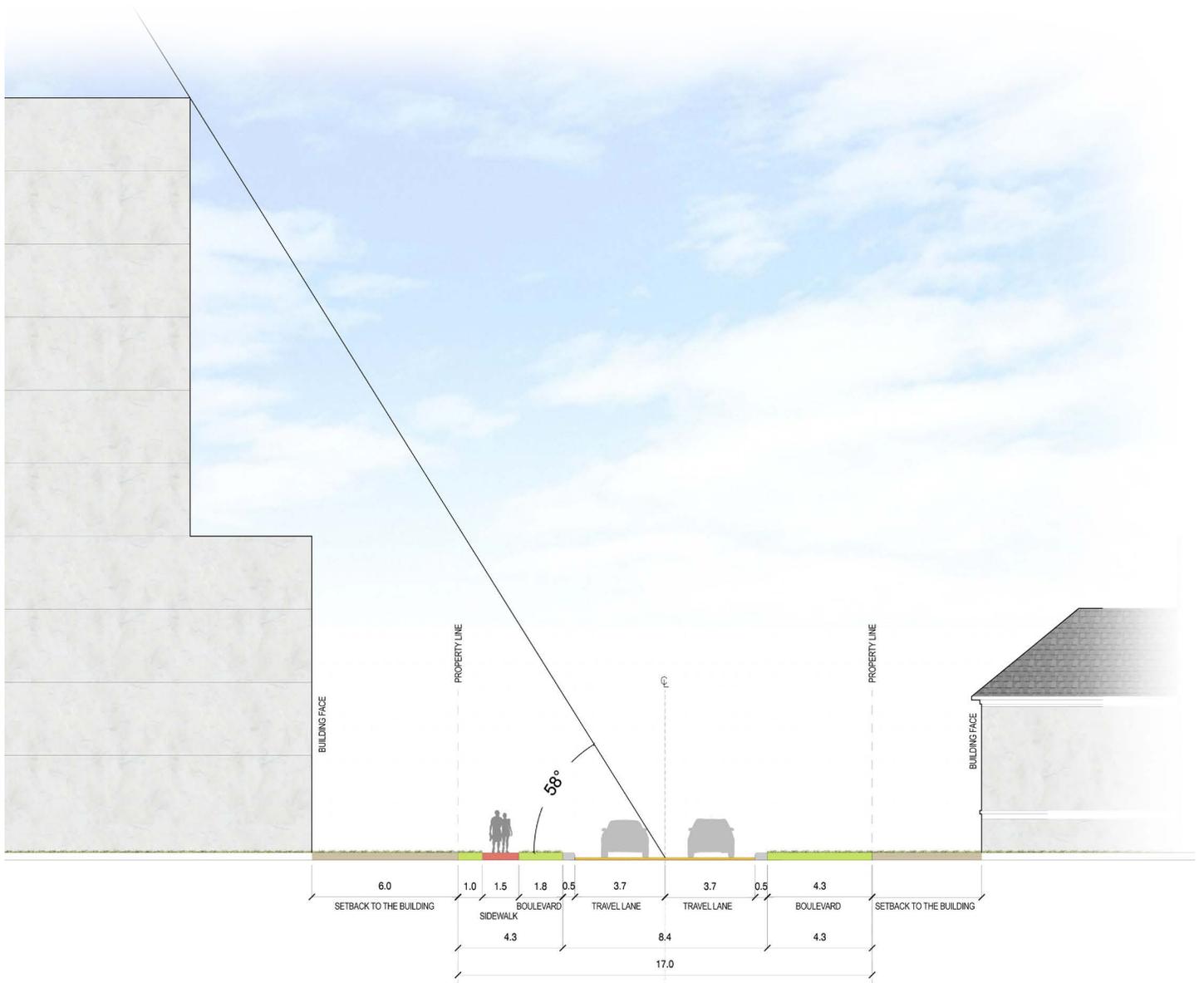


Figure 4: Proposed Angular Plane to the Local Streetscape

3.3 LOCATION 3: URBAN SQUARE PEDESTRIAN INTERFACE

Centrally located on the plan and directly adjacent and connected to Mixed-Use Block 20 is a proposed urban square. The urban square forms part of the community's open space system while serving to deliver an enhanced active transportation system and an important gathering space for the residents and visitors. The character of this space is envisioned to be highly urban with direct building frontages that encourage spill out patios, farmers markets, community events, social engagement, and passive recreation.

Proposed Building Interface with the Urban Square:

- Buildings to be located 6.0m minimum from the property line promoting opportunity for appropriate access and patios that interact/interface with the public urban square.
- Prominent building massing of up to 10 storeys addressed the urban square directly with building step-backs after the 4th storey to ensure a pedestrian scaled environment.
- Building design and orientation that promotes safety and security by providing "eyes on the street" from the overlooking buildings terraces, balconies, and windows.
- Appropriate building articulation to meet wind and solar study requirements
- Direct pedestrian building access points along the urban square interface

Proposed Angular Plane Along the Urban Square:

- 70 degrees measured from the property line of the Urban Square (See Figure 5)
 - 30 degree deviation from the City of Guelph requirement of 40 degrees.
 - Mixed-Use Block 20 is also subject to an angular plane requirement along Silvercreek Parkway and the local streetscape based on the proposed draft plan structure. This has been considered while evaluating appropriate angular plane requirements holistically.

Amended Angular Plane Rationale:

- The urban square does not function the same as a standard park space. The space is meant to be urban in nature and be addressed by high order built form that can benefit from its proximity and direct relationship with the space.
- The mixed-use building provides an appropriate setback while also encouraging a direct interface with retail components adjacent to the urban square
- The urban square provides a large open space and separation to the mixed-use building located in Block 18 to the north. Based on the block structures, setbacks, and R.O.W., the closest the buildings could be to each other would be 110.0m
- There are no existing low rise buildings or communities that will be impacted.
- The deviation allows for an angular plane standard to be in place while allowing buildings to be built at the zoning maximum height of 10 storeys. Consideration also has been made to the block structure, appropriate interfaces to the surrounding proposed local streets, and the balance of the proposed community built form.
- Step-backs and further building articulation will ensure a comfortable and appropriate pedestrian scaled environment while also maintaining adequate sun penetration onto Silvercreek Parkway

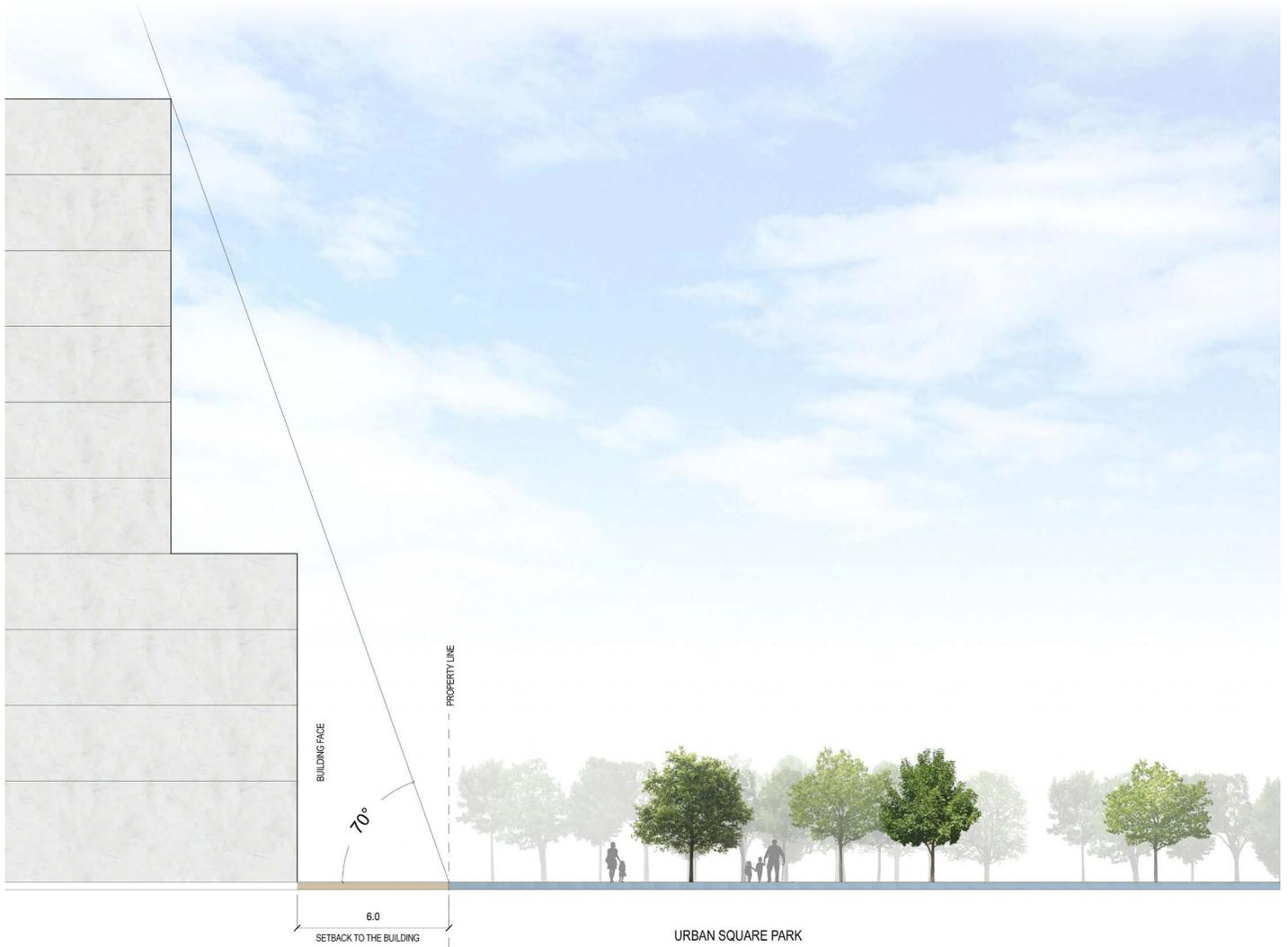


Figure 5: Proposed Angular Plane to the Urban Square



Precedent Urban Square Imagery showing the importance of building prominence on the space

4.0 Conclusion

The above proposed angular planes have been thoughtfully considered to coordinate appropriately throughout the proposed development including a variety of residential typologies, mixed-use buildings, community streetscapes, urban square, and the neighbourhood park. The community demonstration plan provides a visual illustration of one way which the community may be developed to achieve the goals and objective of the community as well as meet the various planning and development regulations. Through the various future block site plan applications, a finer level of detail will provide even more clarity on how the vision of the community will be achieved and how buildings will respond appropriately their context by:

- Preserving sky views
- Mitigating adverse, far-reaching, long-lasting shadow impacts
- Reducing the imposing nature of building mass on pedestrian facilities
- Locating the most prominent building massing more appropriately towards the urban square encouraging a direct relationship and interface
- Maintaining a pedestrian-scaled environment
- Reducing overlook between private spaces

It is our opinion that the proposed angular planes are appropriate, desirable, and represent good planning for the future Silvercreek Junction Community.

