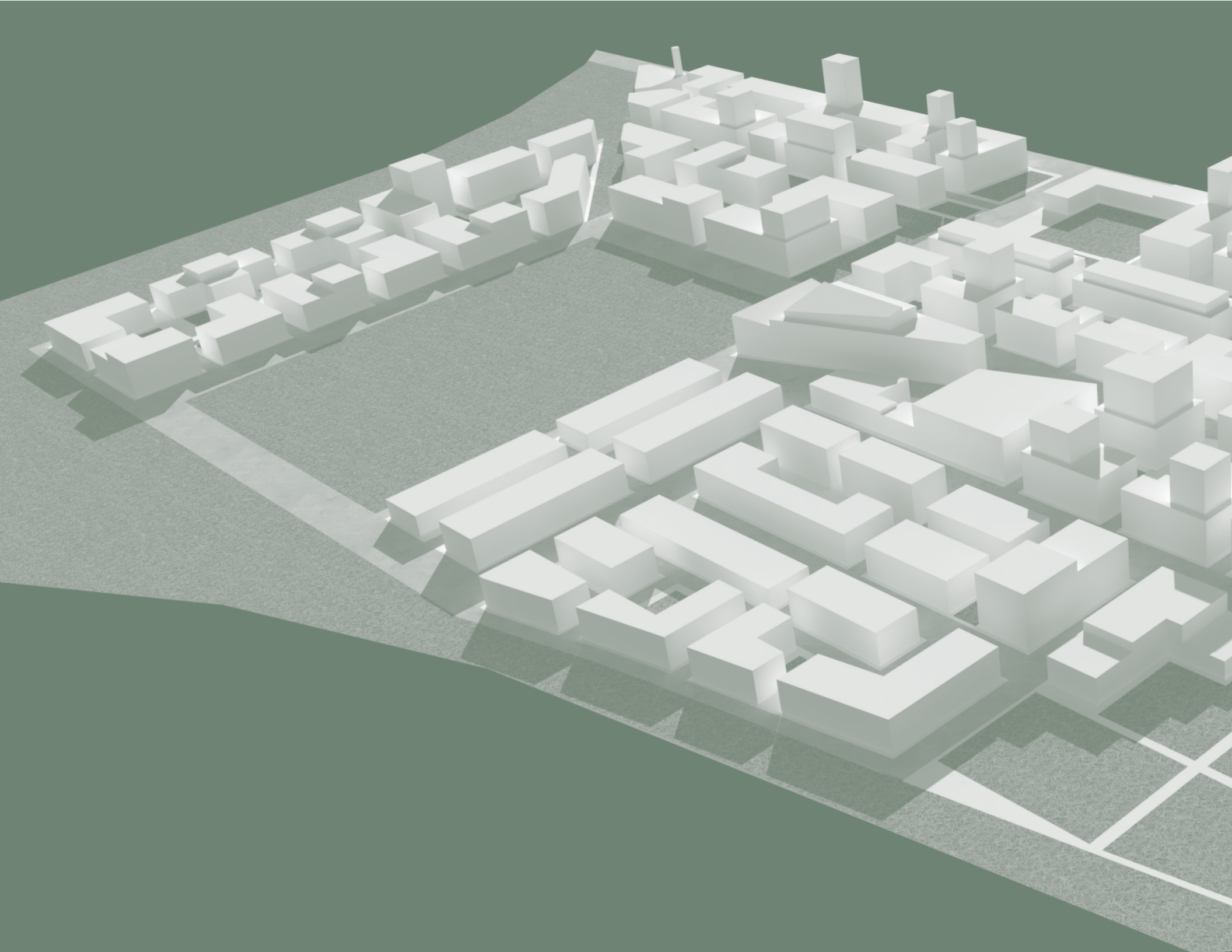


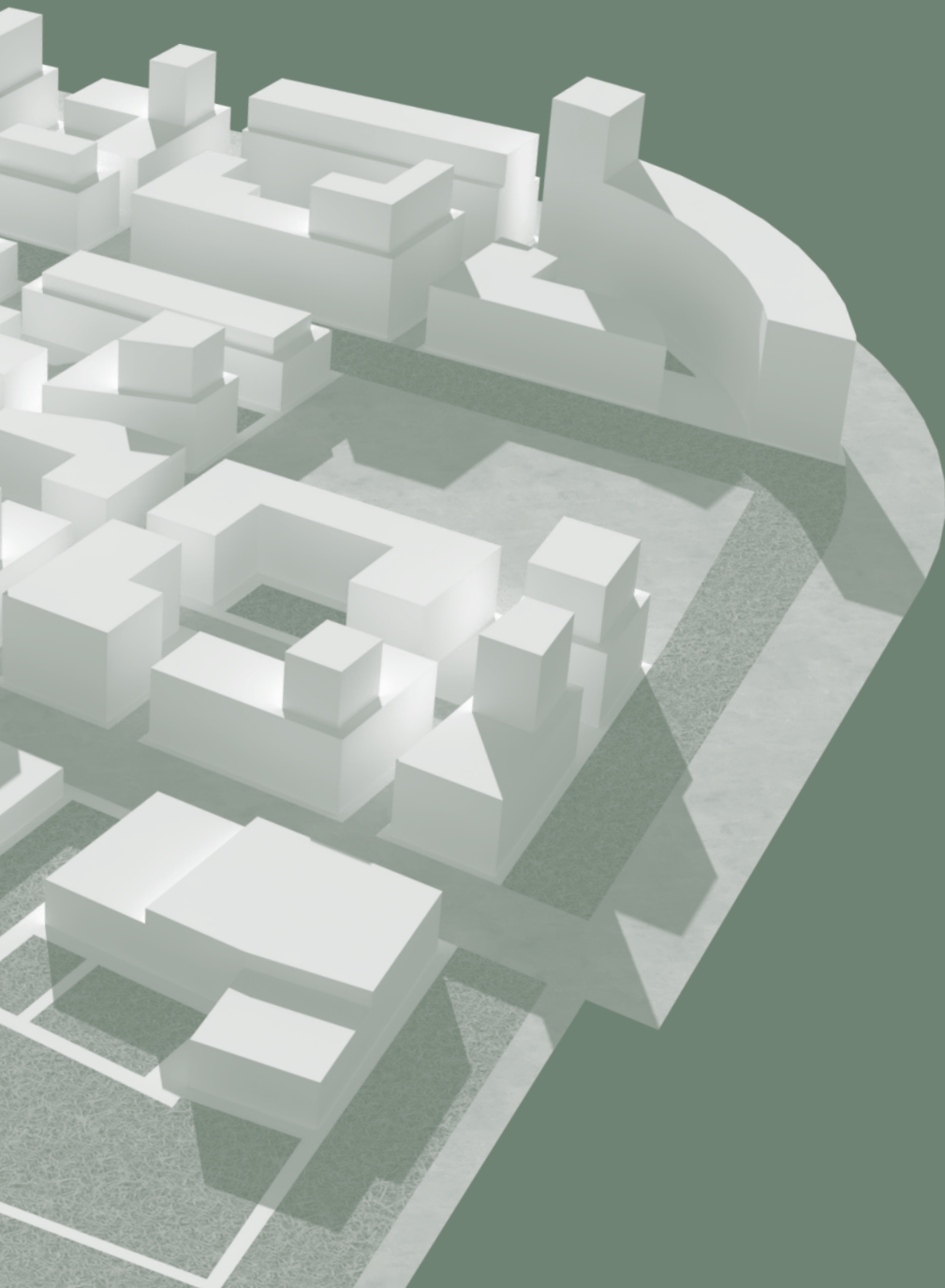
Hippodrome Urban Form and Residential Design

Studio II – March 2022

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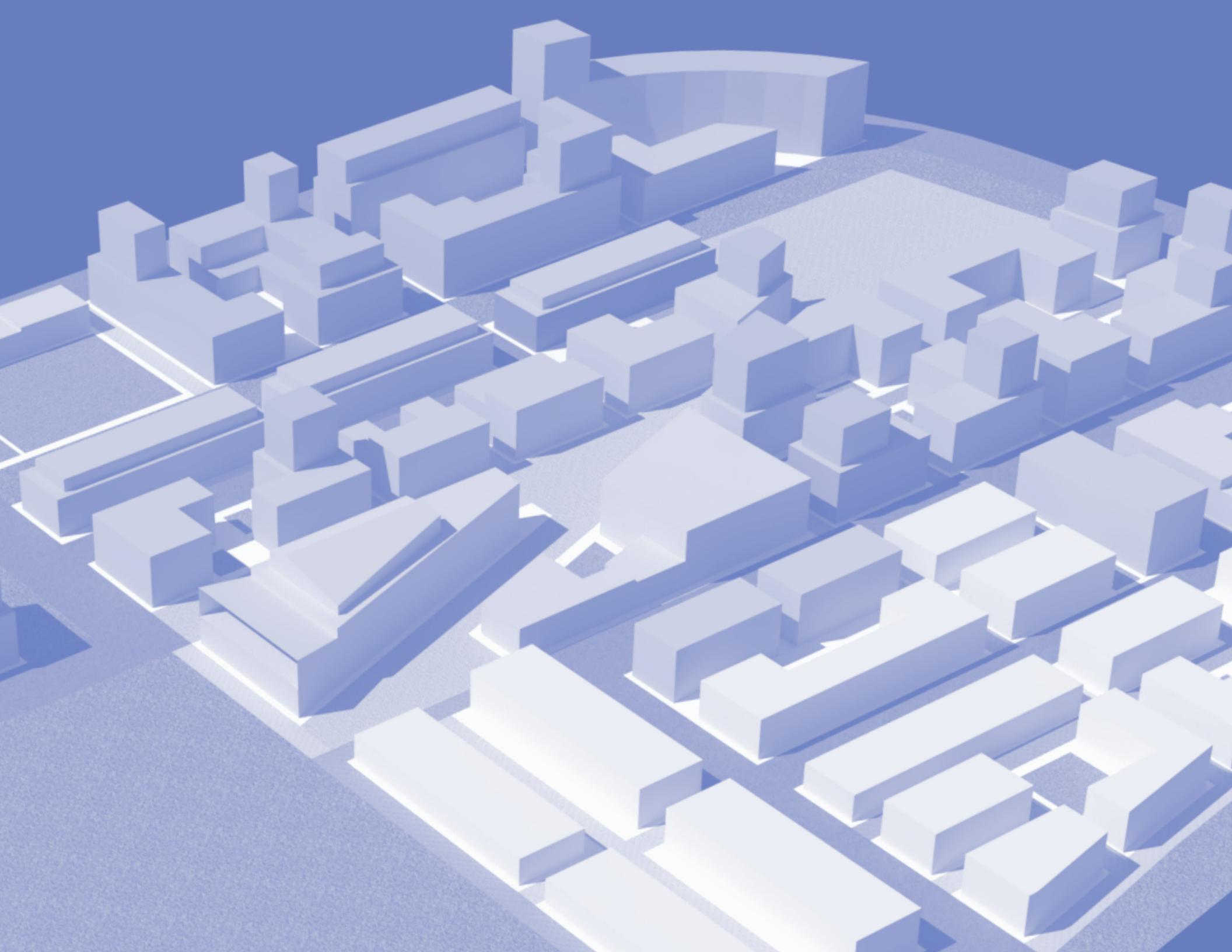


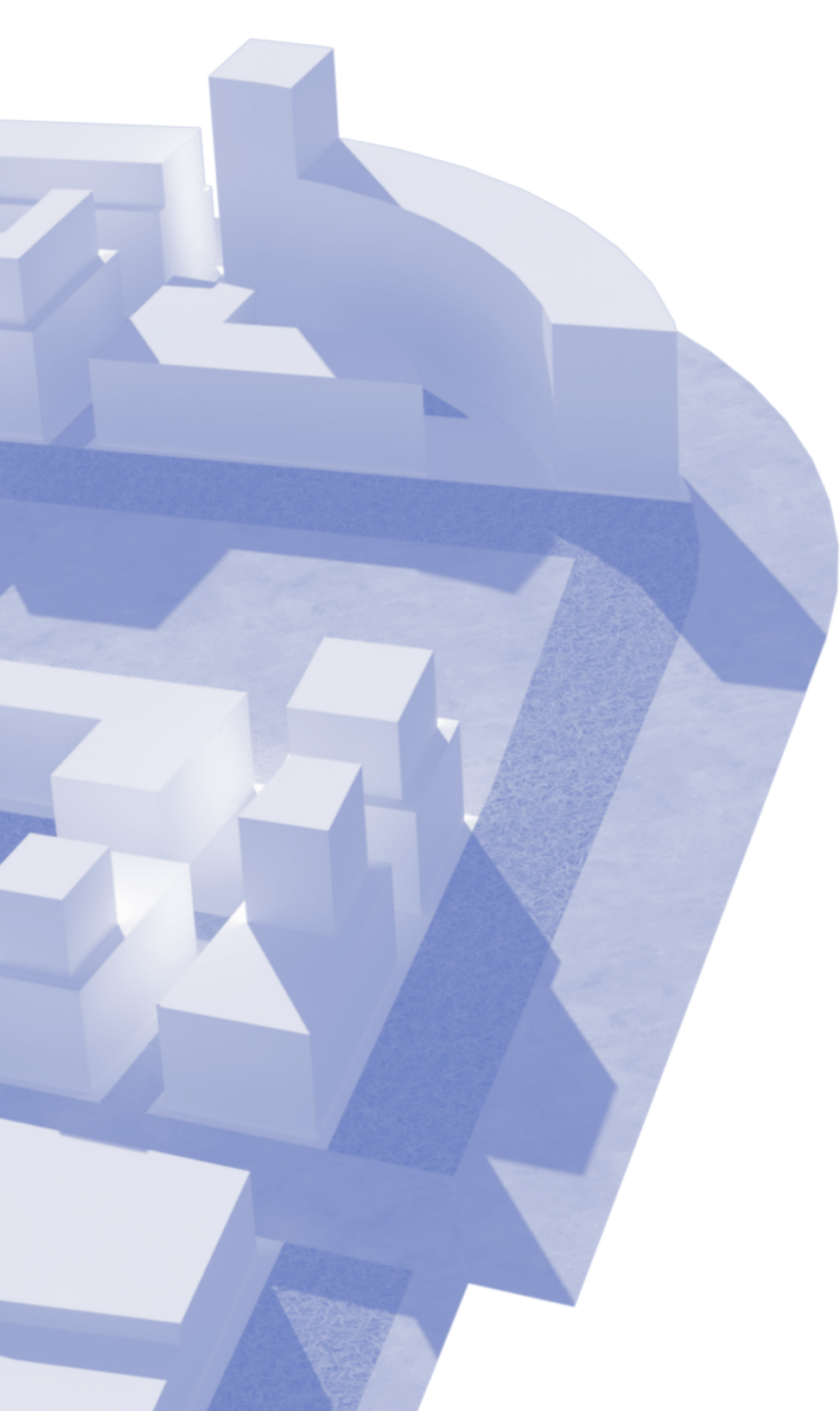
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1

Introduction and Context





The Blue Bonnets Hippodrome site is a 43 hectare parcel of land in the borough of Côte-des-Neiges–Notre-Dame-de-Grâce, Montréal. Due to its large size and relative isolation from other residential communities, the site has the potential to create an entirely new community with its own unique identity. The Hippodrome site also offers an opportunity to add a significant number of affordable residential units to Montréal's increasingly strained housing stock.

The Master Plan for the Hippodrome site will reimagine the vacant lot, and propose the development of a dense, mixed-use neighbourhood that focuses on improving quality of life. Divided into two main components—urban design and development—this plan will offer a comprehensive and detailed proposal for the future of the Hippodrome site. The urban design component of the site is composed of four key elements: social infrastructure, circulation and connection, ecology and public space, and urban form and residential design. This document focuses on the last element of the urban design plan by answering the following questions:

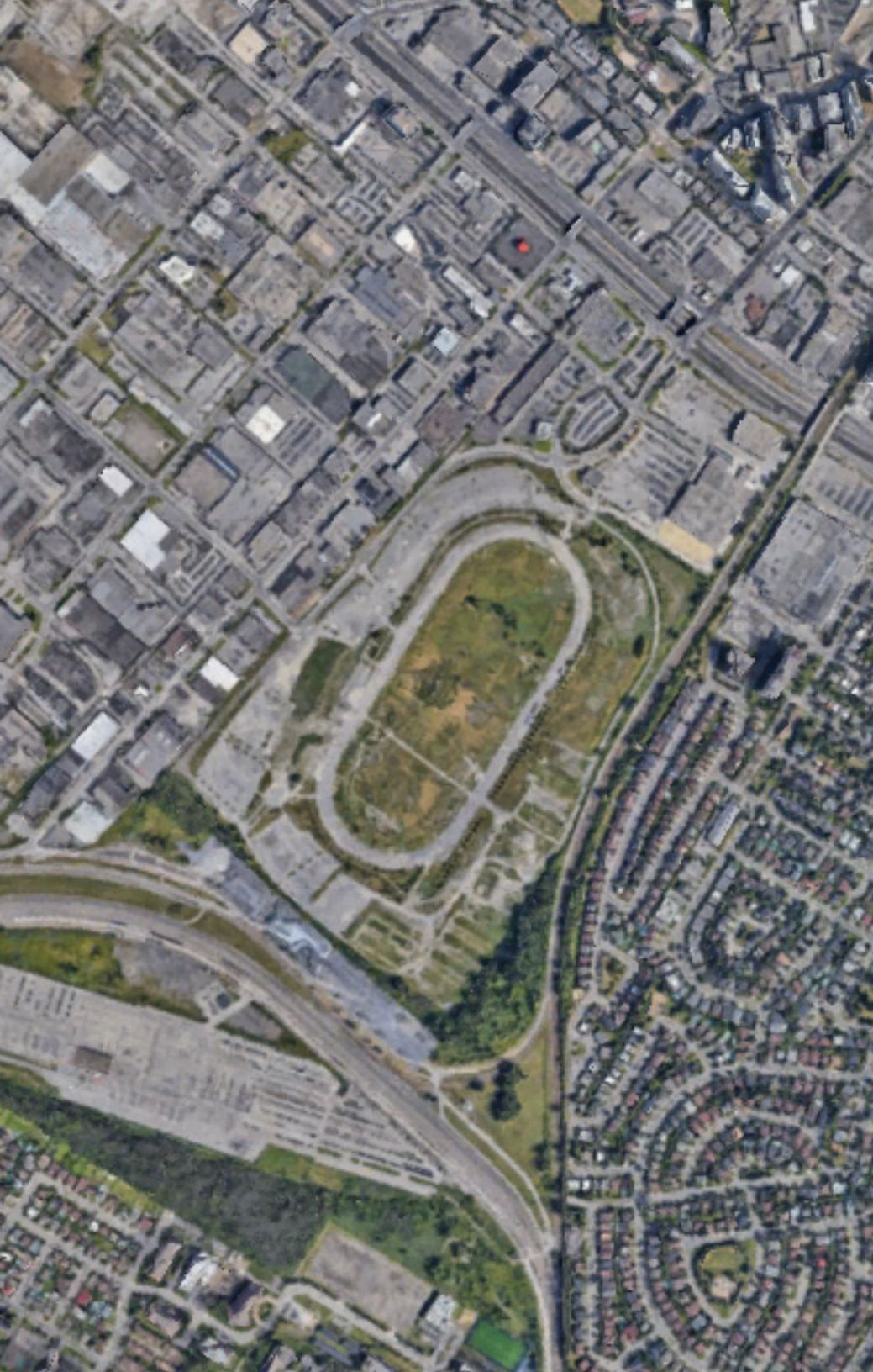
- What will the urban form of the site look like?
- How will density be distributed across the site?
- What guidelines should developers and architects follow?
- What kind of building organization, typology and morphology is appropriate for the site?

This document consists of two parts: 1) the Neighbourhood Plan and 2) a set of Residential Design Guidelines. The answers to the questions above are provided in the Neighbourhood Plan, which are informed using the findings from the Residential Design Guidelines. The Neighbourhood Plan is presented through a 3D Sketchup rendering of the proposed development, as well as figures depicting density, access to amenities, and shadow studies. The intention of the Design Guidelines is to ensure the Neighbourhood Plan is consistent with the best practices from similar developments and findings from design experts. They also inform cohesive urban design and architecture across the site, and direct rather than restrict the future residential development on the Hippodrome site.

Guiding principles

Urban design plays an important role in shaping everyday experiences, physical wellbeing, and social outcomes. As such, the Neighbourhood Plan has been informed by several guiding principles which ensure that the design of the site works towards a high quality of life. These principles include human-scale design, flexibility, innovation and creativity, inclusivity, and longevity. The Neighbourhood Plan also aligns with broader visions for the future of development in Montréal, particularly in terms of an appreciation for Montréal's compact urban fabric. This is done without compromising on creativity and innovation, and with considerations for environmental sustainability, the prioritization of resident and community needs and the current demands for housing in Montréal.

human-scale design
flexibility
innovation & creativity
inclusivity
longevity



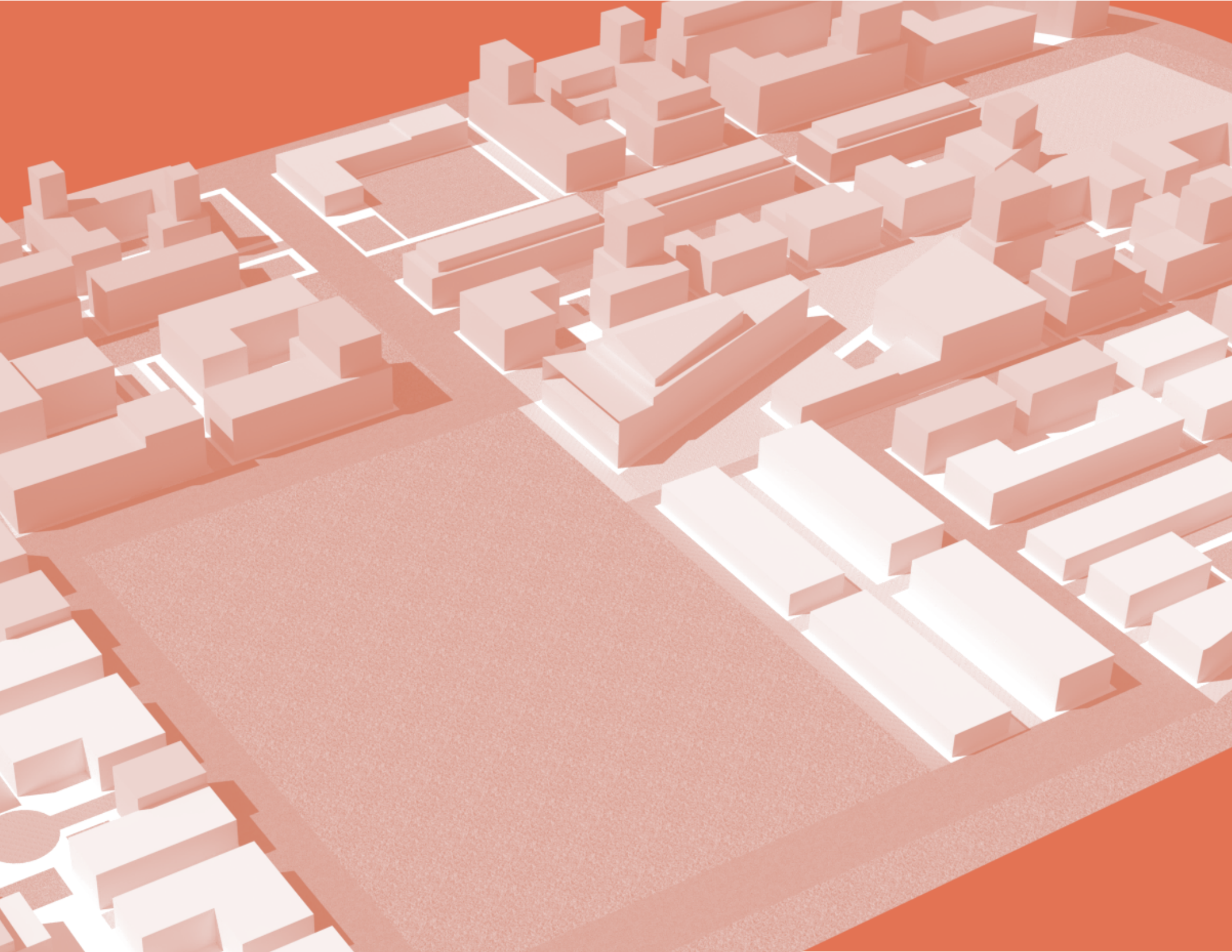
Context

The Hippodrome site offers tremendous potential for social and affordable housing, as it is one of the largest undeveloped sites on the island of Montréal. At the same density as the rest of the borough, redevelopment of the Hippodrome could deliver more than 3500 units of housing. However, more ambitious targets aim to develop over 6,000 units on the site. In this document, the proposal is for 6,721 units. Additionally, in Montréal's plan d'urbanisme, the Hippodrome site is designated as mixed-use. Permitted uses in this zone include residential developments, retail, office buildings, commercial buildings, minor industry, and public or institutional facilities.

Surrounding the former Hippodrome are a diverse range of land uses, some of which present challenges of access to the site and some of which are advantageous for connectivity. Rue Jean-Talon west runs along the northwest side of the site, separating the area from a concentrated industrial zone. Also bounding the site are Clanranald Avenue along the northeast, a rail corridor to the southeast of the site, and a Canadian Pacific Railway yard to the southwest. Past these immediate boundaries, the Namur metro station is located to the northeast, just beyond a large commercial centre and the Decarie Expressway.



Adjacent to the Hippodrome are the residential neighbourhoods of the Triangle, Hampstead, and Côte Saint-Luc. These neighbourhoods are home to a number of different housing typologies, creating a diverse urban fabric that should inform housing design in the Hippodrome. Housing in the surrounding neighbourhoods ranges in size from small single-family homes to multi-unit apartment and condominium towers with more than ten storeys. The mixity of housing options in neighbouring areas suggests the opportunity for innovative and varied housing designs and forms.

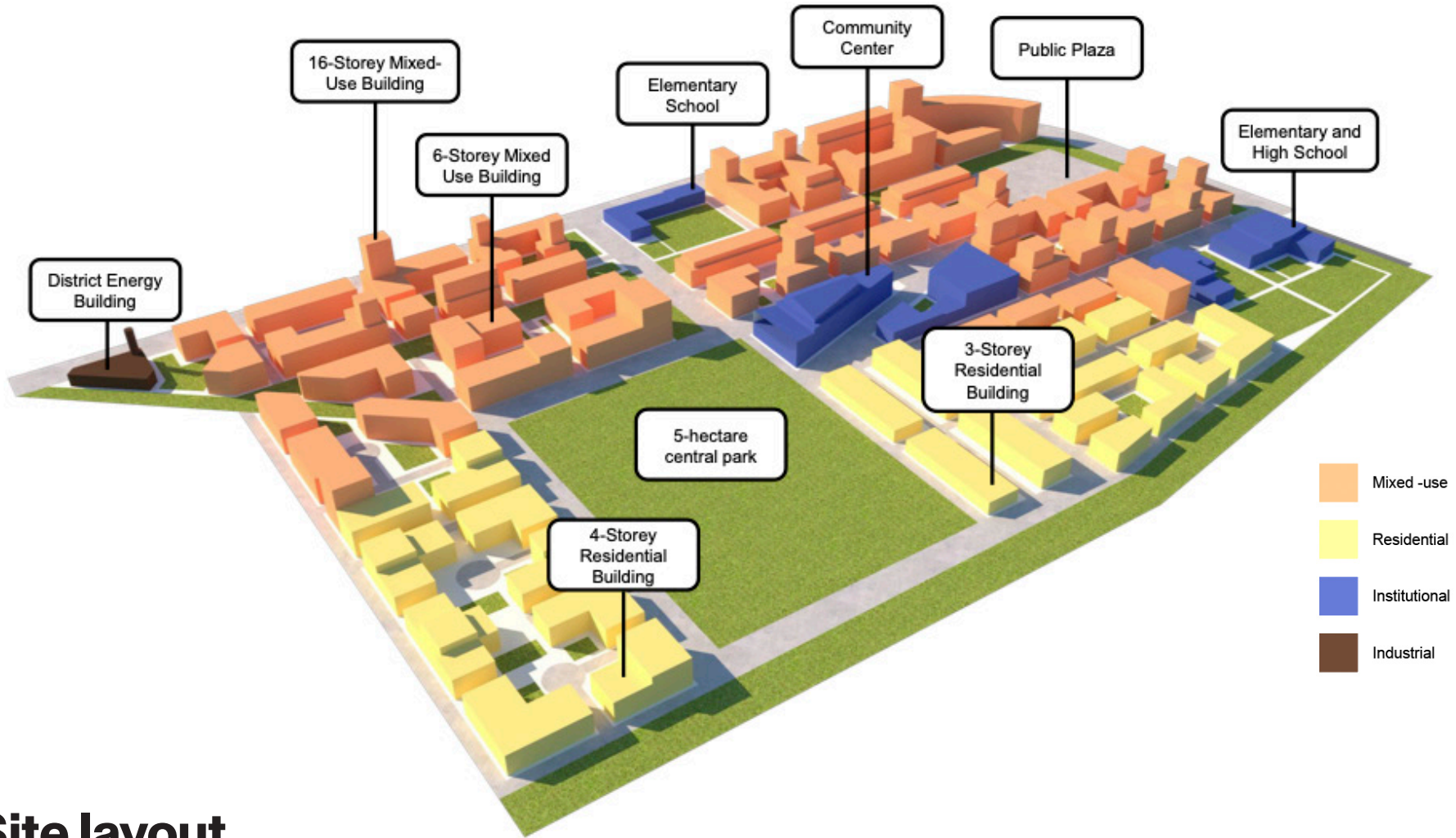


2

**The
Neighbourhood
Plan**



The Neighbourhood Plan has been formulated to meet various criteria, including housing unit benchmarks, ensuring access to amenities, and using cohesive yet diverse designs to create an attractive community. The Plan incorporates best practices from real world examples of successful community-oriented housing developments. The placement of buildings and their relationships with one another was established with consideration to other design aspects, such as circulation, ecological sustainability, and social infrastructure.

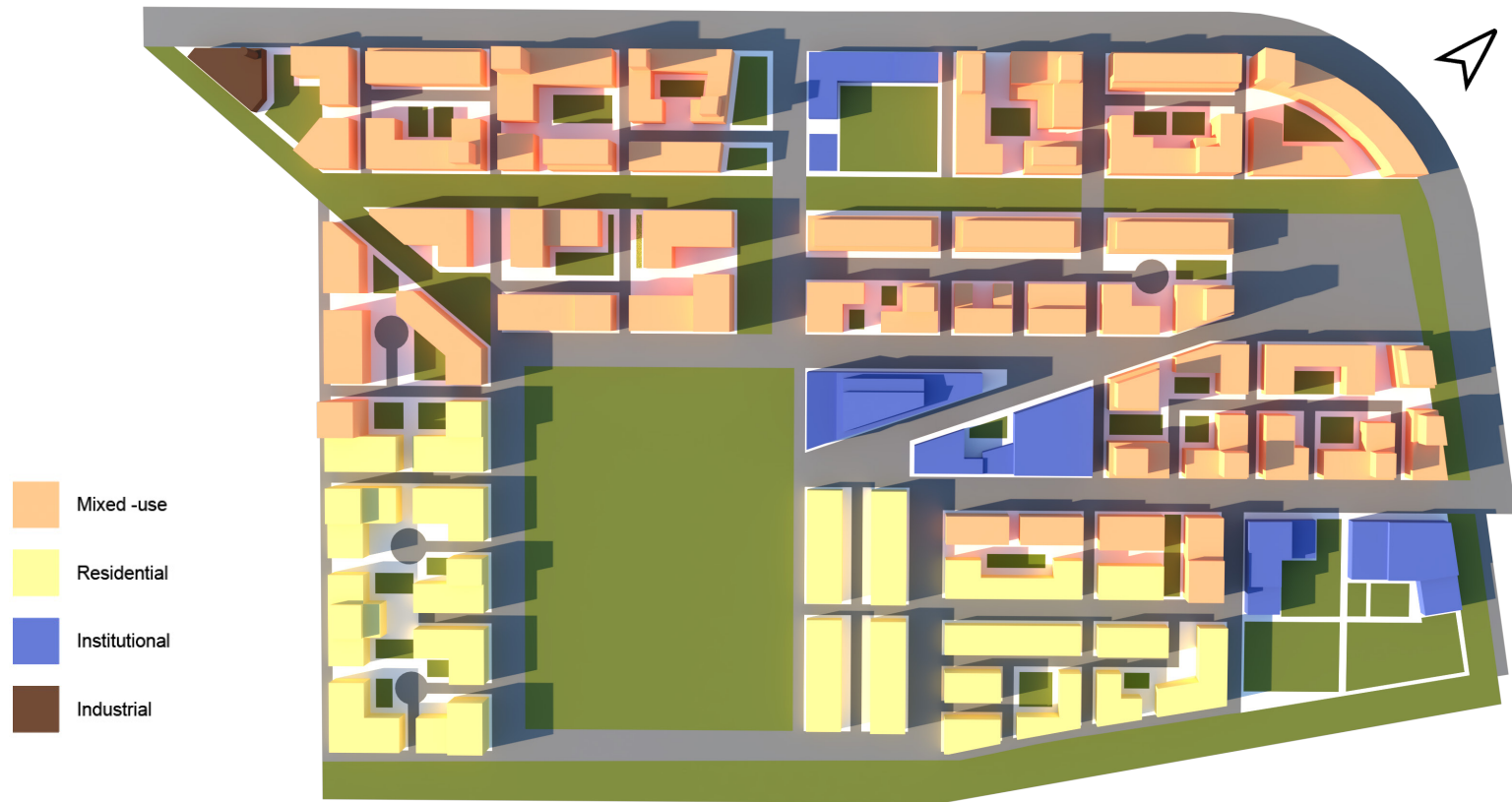


Site layout

In order to meet the demand for housing in Côte-des-Neiges-Notre Dame-De-Grâce, a benchmark of 6,000 units was established for the Hippodrome site. These 6,000 units will range in size from one to four bedrooms. The breakdown of these unit sizes was informed by research on community demand, and is as follows:

- 1 bedroom: 15% or roughly 900 units*
- 2 bedrooms: 20% or roughly 1,200 units*
- 3 bedrooms: 45% or roughly 2,700 units*
- 4 bedrooms: 20% or roughly 1,200 units*

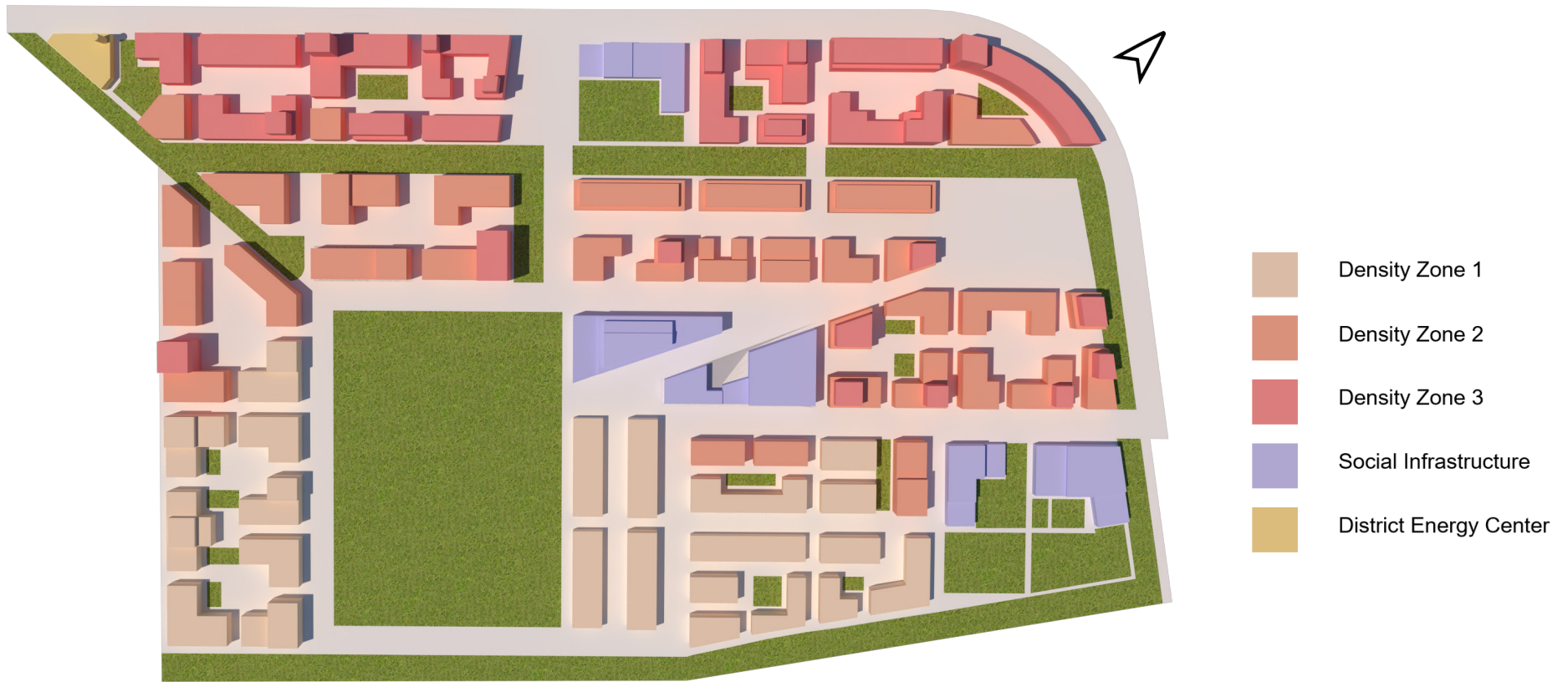
This mix of unit sizes will be achieved by using a variety of housing typologies: tall buildings, mid-rise apartment buildings with courtyards, and 4-storey plexes to ensure a diverse range of choices are made available for future residents. Higher density housing is concentrated at the north and west sides of the site due to the access to potential rapid transit provided by Rue Jean-Talon. Towards the south and east sides of the site, the density gradually decreases in order to blend the development with the suburban community across the railway. The result is a density gradient which is separated into three distinct density zones.



Land uses

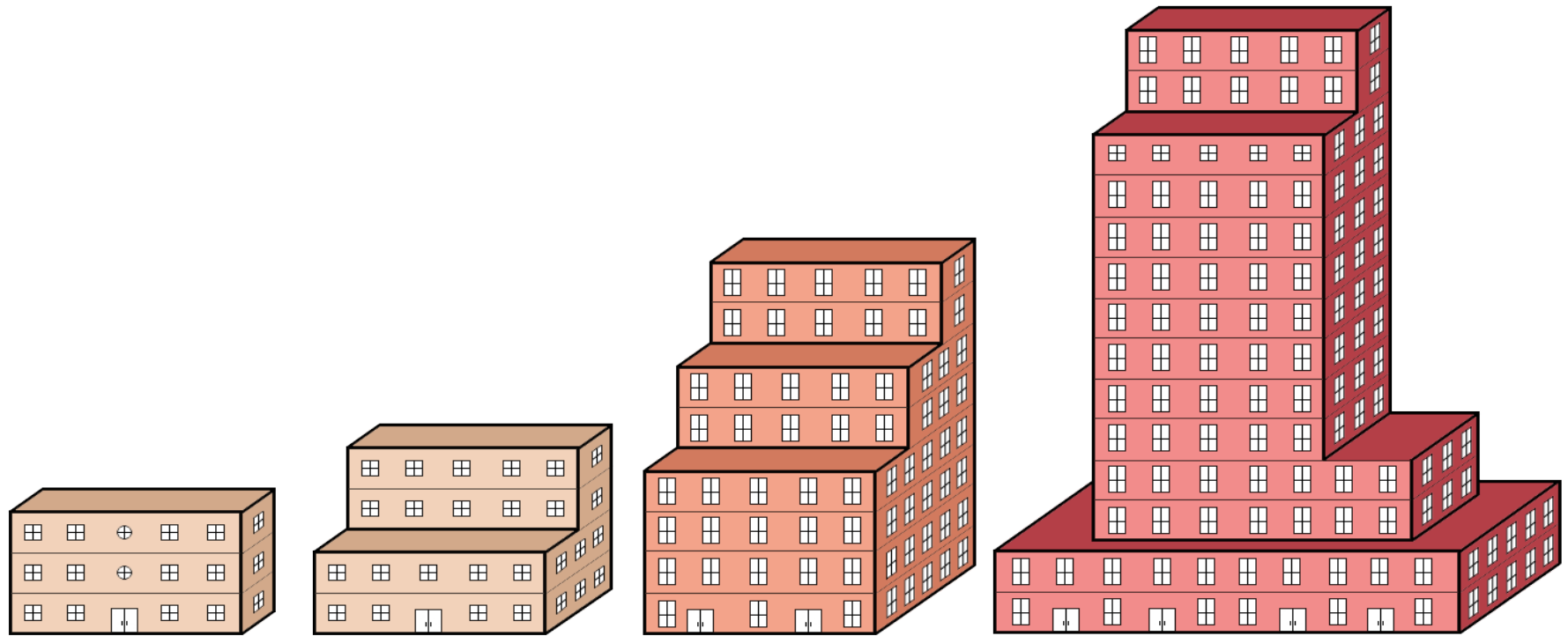
As per the permitted uses in the site, the Hippodrome Urban Design plan proposes for a multi-use development composed of five uses: residential, mixed-use, industrial, institutional, and public. The aim is to create a community of flexible uses which can accommodate the needs of its residents and visitors.

The strictly residential buildings are mainly in the south-western part of the site while the mixed-use buildings are primarily concentrated in the north section. The institutional uses are mainly concentrated in the centre-east section of the site with one institutional building in the north section along Jean-Talon. The public uses are highlighted by the park and the plaza. These spaces are situated such that relatively equal access is provided for residents throughout the site.



Density distribution

The lowest density zone (Zone 1) will provide significant housing, but is composed predominantly of 3 to 6 storey buildings. This zone is mainly concentrated in the southern and southeastern sections of the site, flanking the freight rail corridor and single family communities in Côte-Saint-Luc. The medium density zone (Zone 2) consists of mid-rise apartment buildings up to 9 storeys in height. This zone will house the two largest community spaces, and acts as the main public zone of the site. Finally, the highest density zone (Zone 3), consists of high-rises that are consistent with current developments in CDN-NDG. This zone will also house a significant proportion of the site's commercial spaces, primarily along the Jean Talon axis.



Typologies

The different zones across the site will require different typologies in order to meet their designated densities and unit requirements. Zone 1 is dominated by plex-style housing with direct street access for residents, creating an environment akin to the existing housing stock of CDN-NDG. Zone 2 consists primarily of mid-rise apartment complexes, punctuated with courtyards and greenspaces that provide openness in otherwise highly dense areas. The buildings in this zone will also be stepped to reduce the impact of shadows at street level. Lastly, Zone 3 is the only zone with high-rise buildings characterized by podiums with towers that feature step backs.

Each building type has a unique format that collectively forms a cohesive space, while providing architectural features that enhance the aesthetics of the neighbourhood.

With the exception of large institutional buildings, such as the schools and community centres, multiple buildings are proposed in each individual block. This strategy aims to create a more human-friendly space at the ground level, and provides more architectural variation that is pleasing for visitors and residents alike.

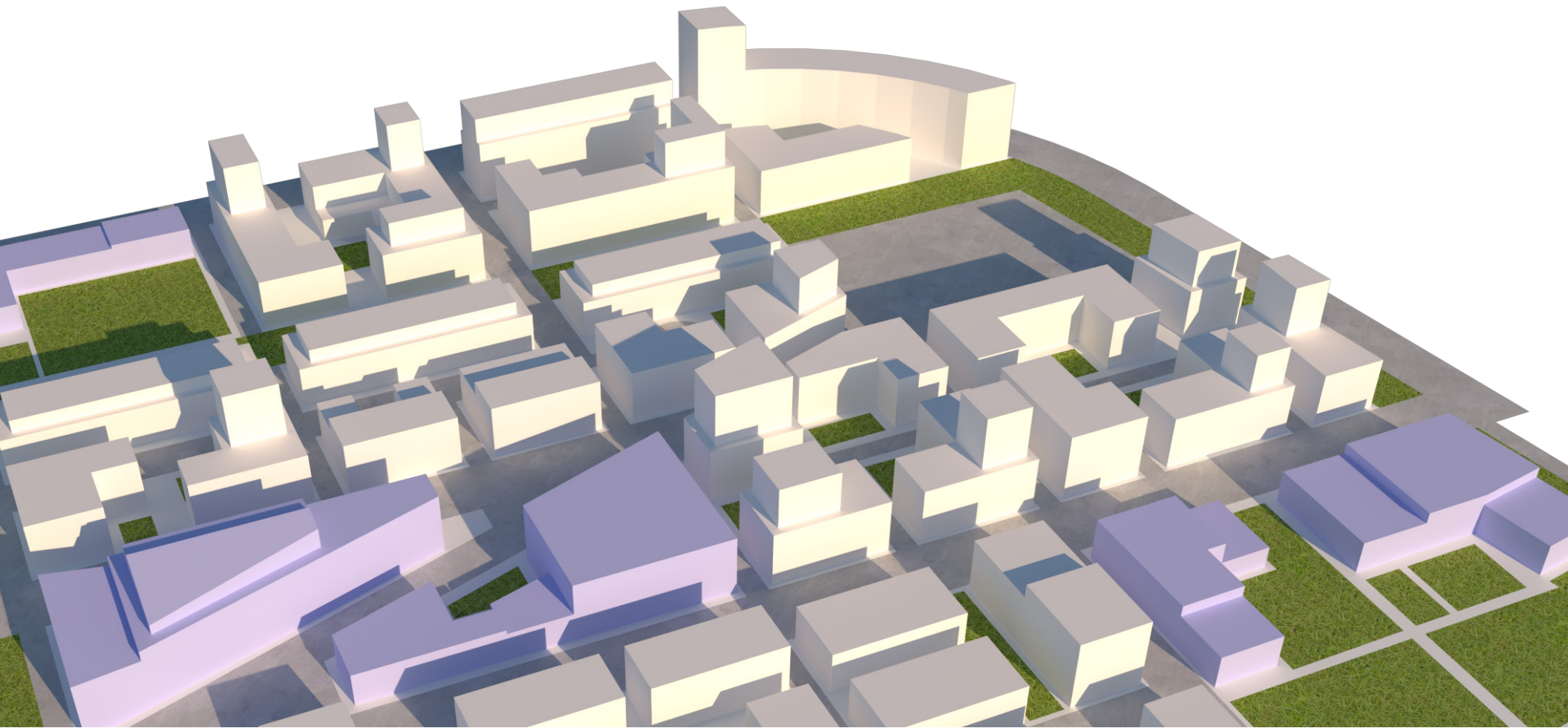


Shadow study

Throughout the Neighbourhood Plan design process, there is an emphasis on the significance of sunlight and sky views to future residents of the Hippodrome development.

These considerations have informed the block configuration and siting of high density development, creating a neighbourhood that is well-oriented and positioned for sunlight exposure. Conscientious building and massing techniques like towers on podiums and building

step backs allow for greater sky views and sunlight permeability. Displayed here is a shadow study conducted in density zones 2 and 3 at the vernal equinox (March 21), summer solstice (June 21), and the winter solstice (December 21) at 10am, 2pm, and 5pm Eastern Standard Time. The goal of the shadow study is to visually represent the extent and coverage of shadows over the streets and other buildings in the Hippodrome development.



Access to amenities

Throughout the site, residents will have quick access to greenspaces in the form of a green corridor and courtyards between buildings. The site is also flanked to the south-east and south-west by a naturalized space that serves as a buffer between the development and the industrial rail corridor. Finally, the site contains a 5 hectare park at its heart. Roughly twice the size of Parc Outremont, this greenspace is accessible to all residents owing to its central location.

The site contains various institutional zones with unique lot shapes that encourage architectural creativity. This includes two adjacent

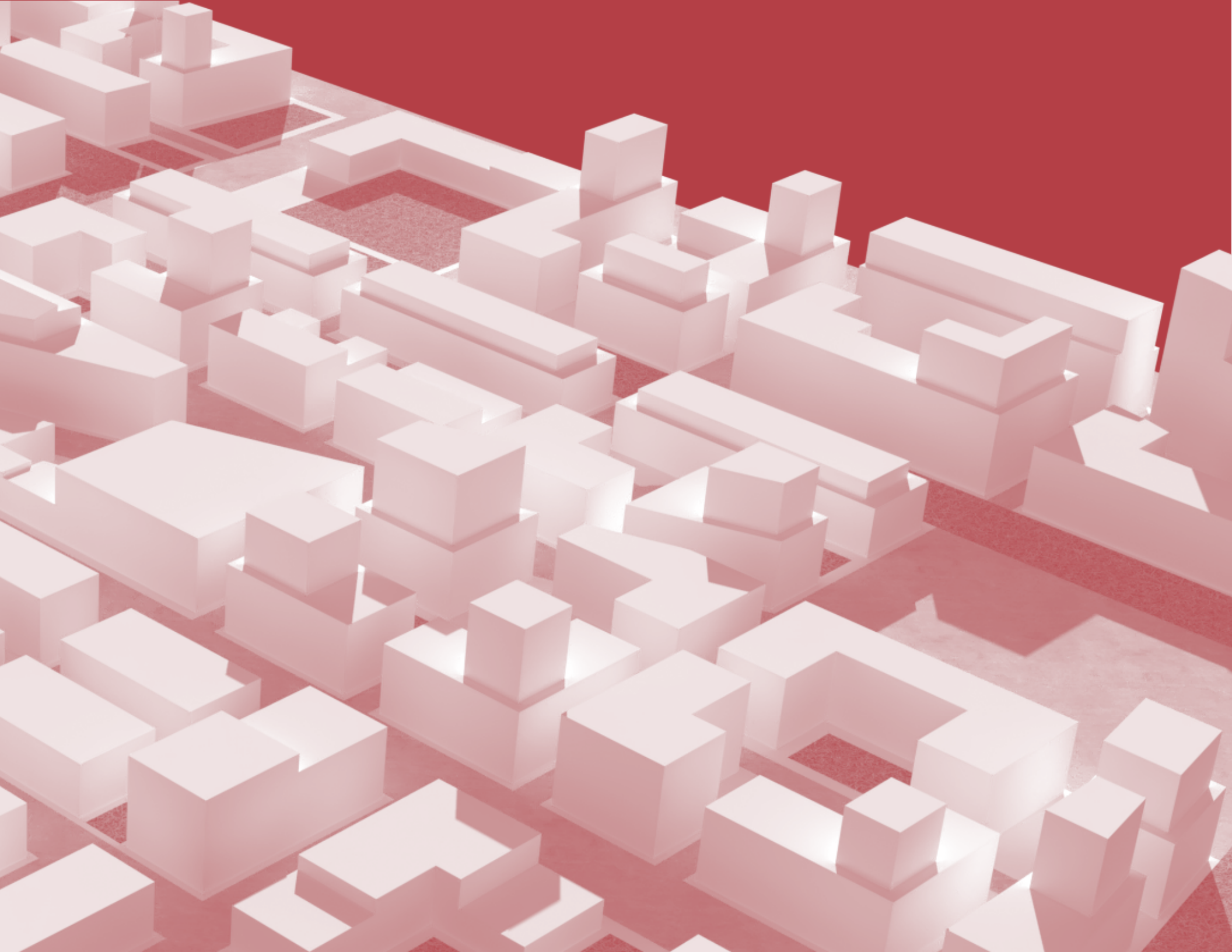
triangular lots that will house public amenities such as a community centre and a flex space. These spaces are centralized in the site to maximize access for residents in the area. Two schools, one elementary and one secondary, are paired together at the eastern corner of the site, thus serving the local residents and the surrounding community. A third school, which will also be an elementary school, is located along Rue Jean Talon on the northwest side of the site. This school will contain a courtyard that provides protected outdoor space for students.



Providing equitable access to commercial space for residents is a core component of the Hippodrome development. Of the 105,000 square metres of ground floor space in the site, 34,000 is designated as traditional commercial space. This commercial space is concentrated in Zones 2 and 3, where the majority of residents will live. The distribution of commercial space mixed with residential buildings is in line with the Hippodrome site's designation as a mixed use zone, and ensures that access to businesses is relatively evenly distributed.

3

Residential Design Guidelines



Residential Design Guidelines

#1 Maximum allowable storeys

Maximum allowable storeys vary by Density Zone, from 6 storeys in Zone 1, to 9 storeys in Zone 2, and to 25 storeys in Zone 3.

#2 Minimum allowable storeys

Minimum allowable storeys across the site is 3 storeys.

#3 Minimum ground floor height

In all mixed-use buildings across the site, the minimum ground floor height is 4.5 metres floor-to-floor.

#4 Street wall

Street wall height should not exceed the width of the right of way at the building frontage.

#5 Front facades and articulation

Front façades should be designed with consideration of a comfortable pedestrian experience and with visually appealing materials.

#6 Setbacks

Across the site, a minimum setback of 2 metres in front of residential buildings should be applied.

#7 Separation distances

Distance between high-rise buildings should be a minimum of 30 metres. Mid-rise buildings should be configured within blocks with a minimum separation of 12 metres between buildings.

#8 Maximum tower floor plate area

Towers atop podiums will have a maximum surface area floor plate of 750 square metres.

#9 Transitions between Density Zones

Buildings across the site should reflect the surrounding form and massing, and provide an appropriate transition in scale between higher and lower density areas.

#10 Courtyards and exterior shared space

Building configurations within blocks should allow for a courtyard with the potential for flexibility in uses.

#11 Points of access and accessibility

The Hippodrome site should be barrier-free and inclusive of all residents and visitors using different transportation modes including designated car access to protect car-free spaces.

#12 Adaptability and flexibility

Residential buildings should be designed for adaptability to specific mobility and accessibility needs in the future.

#13 At-grade uses

At-grade spaces in buildings should be designed for flexibility to accommodate changing uses, such as transitions between community, residential or commercial uses.

#14 Below-grade uses

Below-grade spaces should not be used for residential units. Underground parking in Density Zone 2 and 3, and community or commercial spaces are the recommended permitted below-grade uses.

#15 Balconies

The inclusion of balconies in residential unit design is encouraged so long as they do not encroach on public space.

#16 Roofs

Where possible, buildings should be designed to allow for outdoor amenities or infrastructure such as open air gardens and greenhouses located on rooftops.

#17 Architectural character

The architectural character of all buildings on the site should embrace innovation and creativity in design, while respecting the aesthetic qualities of Montréal's urban fabric.

#18 Sustainable practices

Buildings on the site should be designed using ecological approaches and sustainable materials, and with the capacity to accommodate changes.

Design Guideline #1

Maximum allowable storeys

Maximum allowable storeys vary by Density Zone, from 6 storeys in Zone 1, to 9 storeys in Zone 2, and to 25 storeys in Zone 3.

Rationale: Limiting the maximum allowable height by Density Zone ensures that residential buildings remain context-appropriate while delivering a large amount of residential units across the site. Sorting the tallest buildings into Density Zone 3 allows for optimal sunlight conditions across the site, ensures that infrastructure and amenities can be efficiently distributed, and that the overall form is cohesive and logical. Preventing the construction of tall buildings in Density Zones 1 and 2 will produce a finer-grain urban fabric in these areas, without heavily limiting what is possible in terms of building morphology and architecture. The development of the site as a whole, following the guidelines for maximum height by Density Zone, should produce a smooth transition between higher and lower density areas. Ultimately, no residential building should seem 'out of place', unnecessarily tall, or distract from surrounding elements in the urban design.

Design Guideline #2

Minimum allowable storeys

Minimum allowable storeys across the site is 3 storeys.

Minimum residential building height across the site is 3 storeys. While this applies to the entire site, it is especially important in Density Zones 1 and 2, where a minimum density should be secured regardless of the details of the future developments.

Rationale: Applying a minimum for the number of storeys in a residential building ensures that the density goals are achieved in the site. The development of many low-rise buildings, that are below 3 storeys, would create significant challenges in reaching the goal of 6000 residential units on the site. At the same time, effective design and architecture, and features such as step backs and façade articulation can create a feeling of being in a relatively low density space.

Design Guideline #3

Minimum ground floor height

In all mixed-use buildings across the site, the minimum ground floor height is 4.5 metres floor-to-floor.

In all mixed-use buildings across the site, the minimum ground floor height is 4.5 metres floor-to-floor to allow for various at-grade uses. The ground floor height should facilitate flexibility in at-grade uses, allowing for transitions from residential, community or commercial space as needed. In buildings with loading docks, the minimum ground floor height must allow for sufficient clearance for servicing and loading.

Rationale: The ground floor of mixed-use mid-rise and high-rise buildings, regardless of the intended use of the space, must be higher than a typical residential floor to allow for various uses. A generous ground floor height supports active commercial uses by enhancing the visibility and utility of commercial and community spaces, while enabling a welcoming appearance for these spaces. A minimum of 4.5 metres floor-to-floor height is standard for adequate clearance of trucks in servicing and loading areas, which should be located at the rear of the building.

A minimum ground floor height also supports the principle of long-term flexible spaces and community self-determination. Dynamic and adaptable at-grade spaces help to accommodate a diverse and changing community for decades to come.



Design Guideline #4

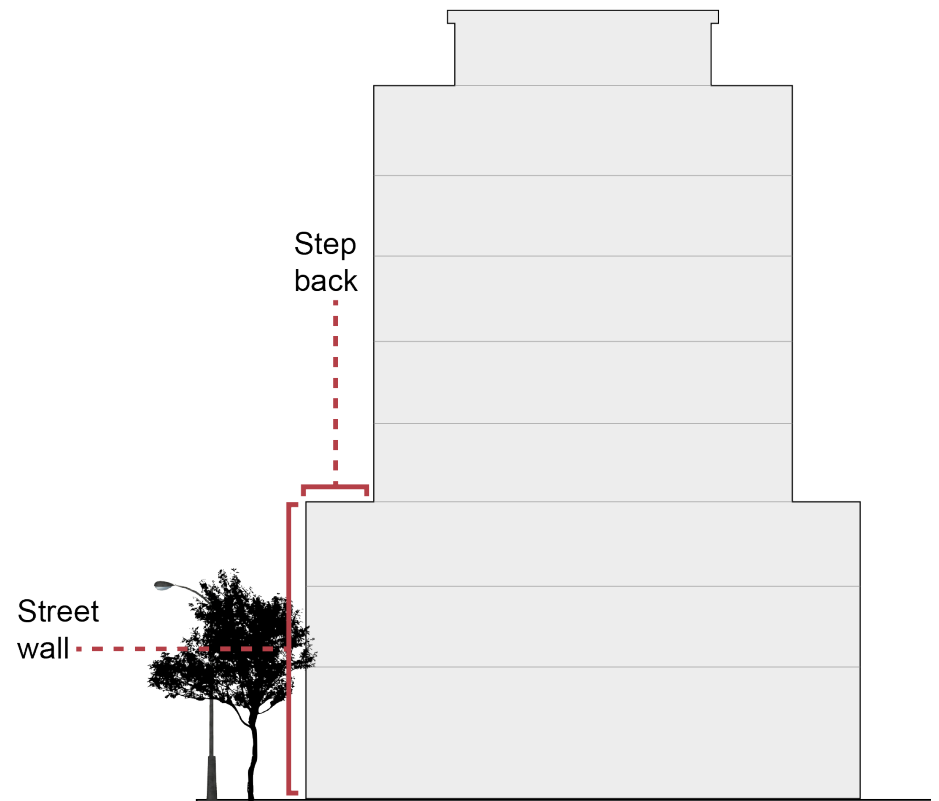
Street wall

Street wall height should not exceed the width of the right of way at the building frontage.

Street wall height should not exceed the width of the right of way at the building frontage. Step backs and podiums should be used to achieve this. For mid-rise buildings, at least one step back should be implemented above the street wall limit, and should step back a minimum of 1.5 metres-3 metres from the frontage. For high-rise buildings, the podium should not exceed the width of the right of way, and the tall building on top should step back a minimum of 3 metres from the frontage.

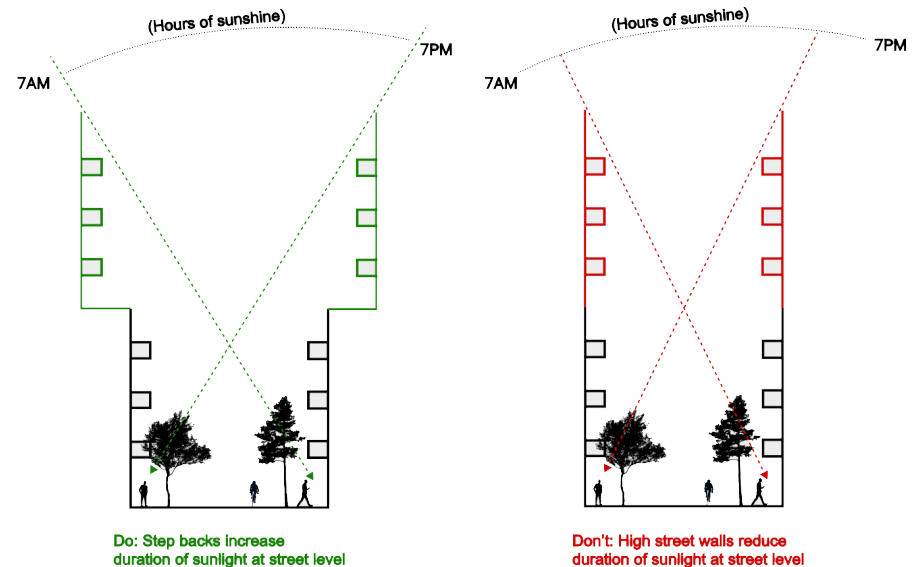
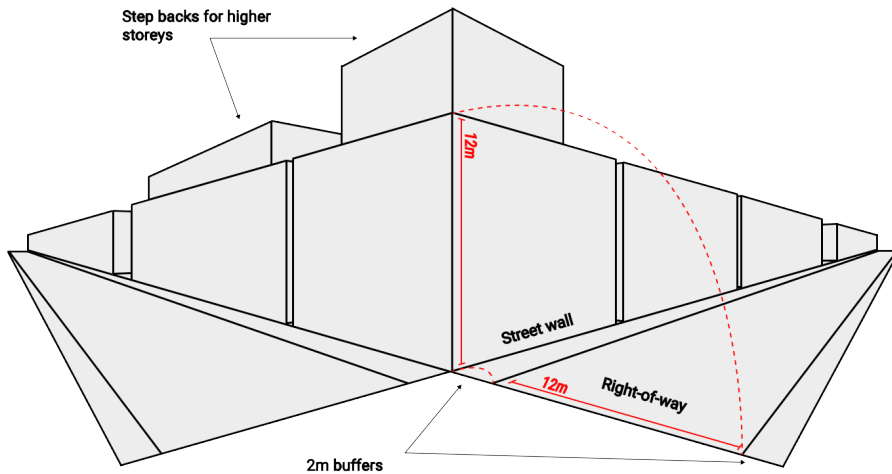
Rationale: Limiting the height of the street wall through podiums and setbacks impacts the human perception of buildings and the space around them. Step backs and podiums create visual interest in mid-rise and high-rise buildings, and articulate and add texture to building massing.

A street wall which is proportional to the right of way enhances the feeling of comfort for pedestrians by making buildings appear less tall while maintaining high-density. A comfortable human scale is important for the quality of streetscapes and should be prioritized. Allowing for a street wall equal to the right of way provides some enclosure without overwhelming the street and the people using it. In mixed-use buildings, a reasonable street wall height facilitates the integration of commercial and community spaces into the public realm, and makes accessing these spaces more enjoyable.



Moreover, a street wall proportional to the width of the right of way maintains an appropriate amount of sunlight and airflow to the street, as well as reduces wind vortex effects. The use of step backs and the careful distribution of taller structures reduces the effect of shadows on both the right of way and the opposite building.

Buildings are designed with step backs such that street walls should not exceed the width of the right-of-way. This allows for more sunshine hours at street-level between buildings, which is especially important in the northern edge of the site where buildings are taller. This is also an important design feature for human experience and comfort, such that pedestrians are not overwhelmed by tall buildings. The result of this design strategy is the creation of buildings with podiums, which in turn will become a primary characteristic of the site's built form.



Design Guideline #5

Front facades and articulation

Front façades should be designed with consideration of a comfortable pedestrian experience and with visually appealing materials.

Front façades should be designed with consideration of a comfortable pedestrian experience and with visually appealing materials. Long building façades should be broken up through varied articulation, and multiple entrances where possible. Front façade building materials should contrast with materials used for storeys above the step back, especially on high-rise buildings with a tower atop a podium. This contrast could be achieved through using materials typical of the unique urban fabric of Montréal such as red brick.

Rationale: A varied and attractive façade gives the appearance of a finer-grain form along the street wall, and creates a more comfortable pedestrian experience while respecting Montréal's urban fabric. Façades which use building materials familiar to Montréal such as brick and concrete emulating the greystone, and contrast with higher storeys (especially in high-rise buildings) emphasize the residential quality of the neighbourhood and ensure the longevity of the façade. Façade articulation allows for buildings to have an interesting rhythm along the street front. The projection or recession of building elements can draw attention or reduce perception of different building elements, and allow for greater appreciation of buildings by pedestrians and residents.



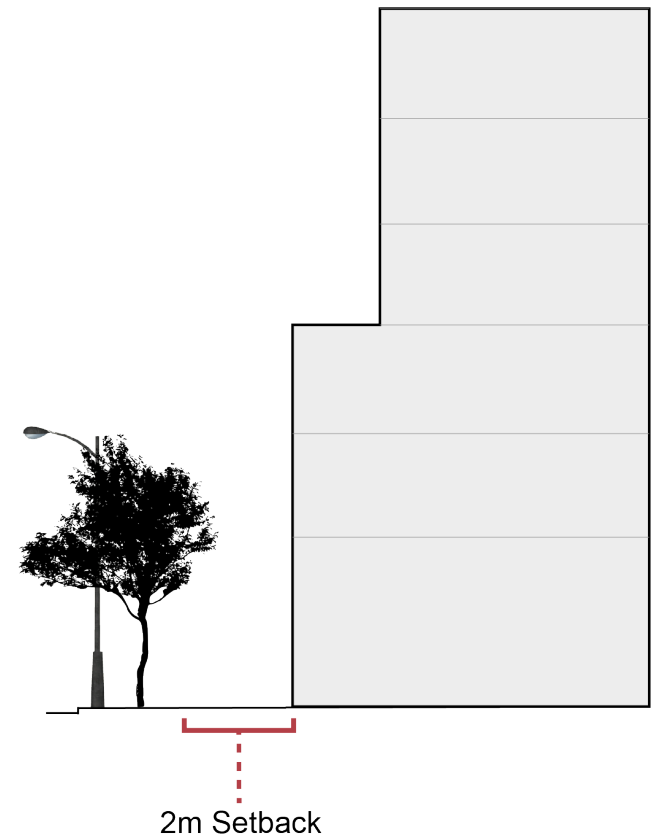
Design Guideline #6

Setbacks

Across the site, a minimum setback of 2 metres in front of residential buildings should be applied.

Across the site, a minimum setback of 2 metres in front of residential buildings should be applied. In Density Zone 3, where high-rise buildings will be located, exceeding the minimum 2 metre setback is encouraged to create a more spacious feeling from the pedestrian perspective, particularly along rue Jean Talon where intense traffic is expected.

Rationale: Setbacks across the site create space for various uses which improve streetscape quality, residential building utility, and circulation options. In higher-density areas, an adequate setback can provide more space for pedestrians, while balancing the appearance of tall buildings. In mixed-use buildings, generous setbacks can create space for commercial uses (such as patio seating), or community and public uses (such as benches and street furniture), in addition to green landscaping or decorative features. In lower-density residential buildings setbacks can create space for stoops or ramps, trees and other green elements, and allows for flexibility over time. In any case, setbacks create space and openness throughout the site.



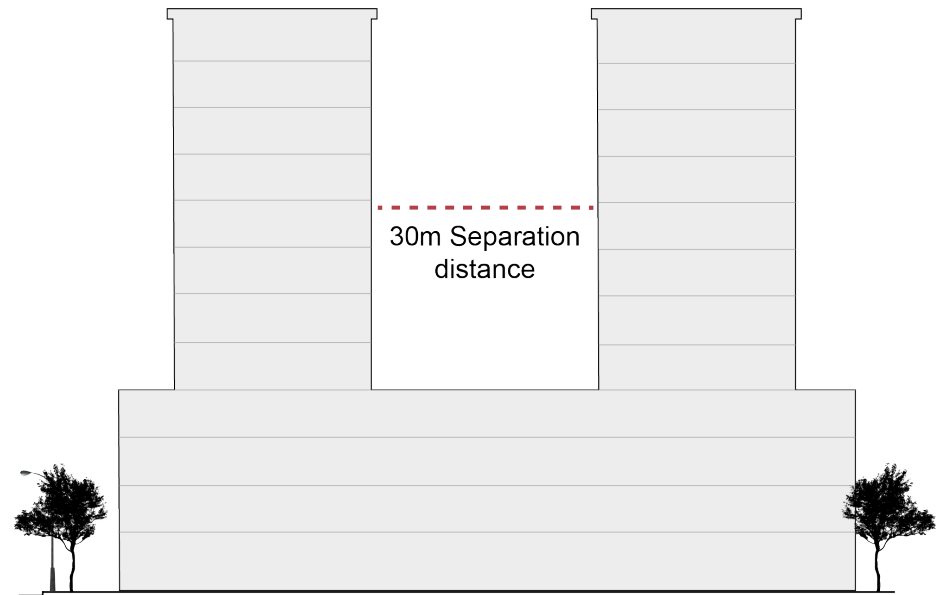
Design Guideline #7

Separation distances

Distance between high-rise buildings should be a minimum of 30 metres. Mid-rise buildings should be configured within blocks with a minimum separation of 12 metres between buildings.

Distance between high-rise towers should be a minimum of 30 metres. Mid-rise buildings should be configured within blocks to allow for optimal sunlight permeation, with a minimum separation distance of 12 metres between buildings.

Rationale: Access to sunlight and skyviews greatly impacts the enjoyment of residential spaces and general quality of life. A minimum separation of 30 metres between towers prevents excessive blockage of sunlight and skyviews among towers in close proximity to each other. With adequate distance separation, better daylighting in the building interior is possible, which in turn allows for greater livability and quality of life in residential units. Separation between buildings prevents the obstruction of skyview and sightlines, particularly in high-rise towers. In addition to this, for both high-rise towers and mid-rise buildings, minimum building separation protects the privacy of residents by securing adequate space between windows in opposing buildings. Sufficient spaces between buildings not only facilitates the enjoyment of sunlight and skyviews for building occupants, but for pedestrians on the street level as well. The result of adequate separation distances is a more open urban form, rather than a claustrophobic or looming appearance of buildings for pedestrians and residents.



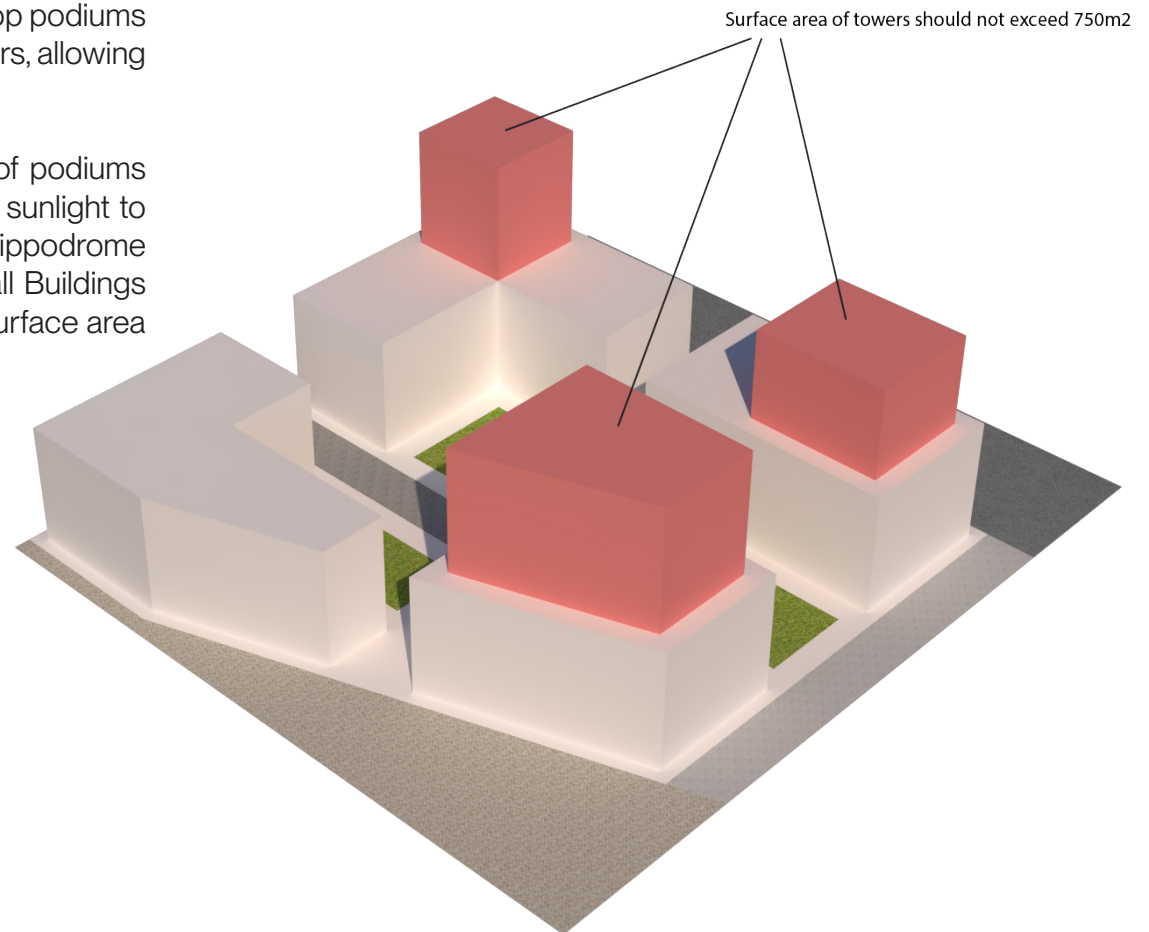
Design Guideline #8

Maximum tower floor plate area

Towers atop podiums will have a maximum surface area floor plate of 750 square metres.

The maximum floor plate surface area of towers sitting atop podiums in the site will be 750 square metres to limit the size of towers, allowing sunlight access throughout the Hippodrome site.

Rationale: Limiting the floor area of towers built on top of podiums is a useful method for maintaining skyviews and allowing sunlight to permeate to the ground in the higher density zones of the Hippodrome site. The city of Toronto has instituted a policy in their Tall Buildings Guidelines to ensure tower floor plates are capped at a surface area of 750 square metres.



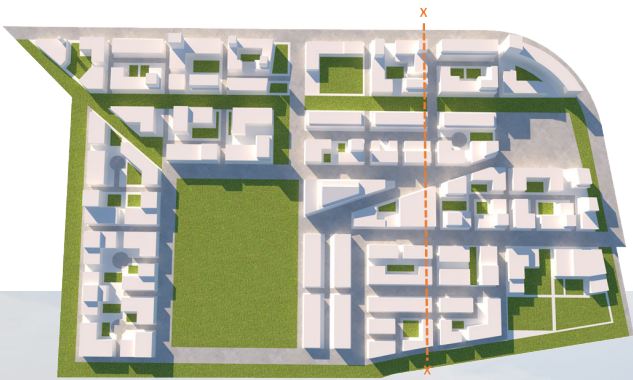
Design Guideline #9

Transitions between density zones

Buildings across the site should reflect the surrounding form and massing, and provide an appropriate transition in scale between higher and lower density areas.

Buildings across the site should reflect the surrounding form and massing, and provide an appropriate transition in scale between higher and lower density areas. Building height, massing and form should not contrast excessively with surrounding buildings. Particularly along borders of the different Density Zones, buildings should be designed with consideration for a smooth gradient in density and massing across the site.

Rationale: A smooth transition in scale across the site will produce a cohesive and logical organization of buildings by density. Building design which respects the immediate context means that no building should feel 'out of place'. Moreover, transitions between Density Zones, coupled with the maximum allowable storeys in each Density Zone, will effectively prevent the placement of very tall buildings directly beside much shorter buildings. Overall, transitions between levels of density across the site supports a holistic approach to design.



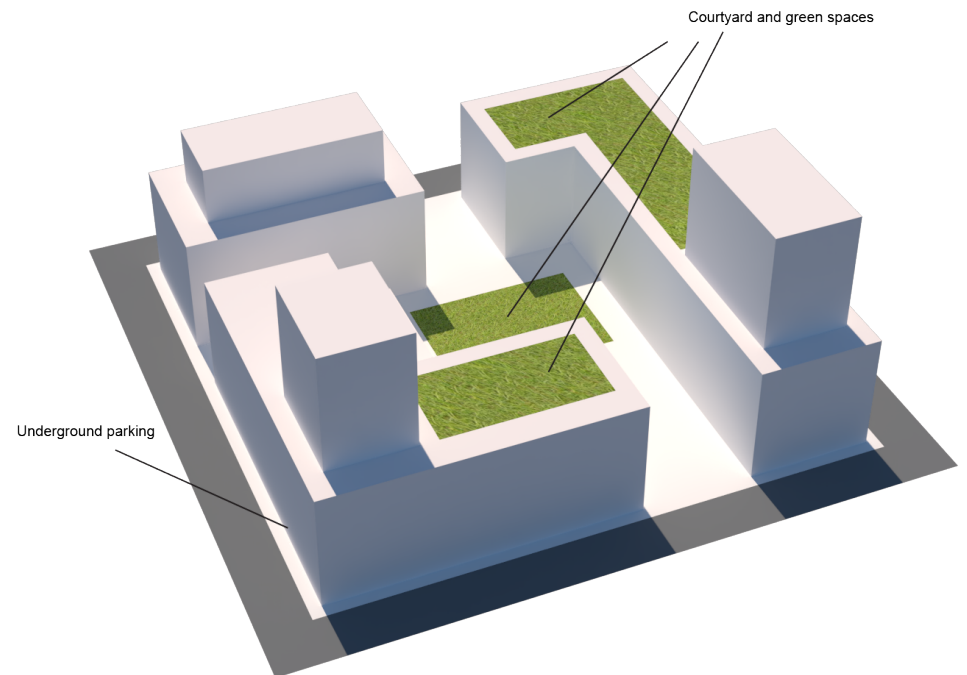
Design Guideline #10

Courtyards and exterior shared spaces

Building configurations within blocks should allow for a courtyard with the potential for flexibility in uses.

Building configurations within blocks should allow for a courtyard with the potential for flexibility in uses. Courtyards should be made permeable to allow covered or uncovered access from at least two streets. Raised courtyards atop high-rise podiums or between taller buildings as “sky gardens” are also encouraged, and should be easily accessible to the building residents. In lieu of backyards, courtyards lend themselves as replacements in a public/private model that brings the outside in and creates a space for social and cultural exchanges.

Rationale: Courtyards provide the opportunity for increased access to greenspace and shared spaces within walking distance for residents. Semi-private yet publicly permeable green and shared spaces are both safe and essential for residents. They also play a major role in influencing the movement of the sun and the wind in buildings. Courtyards offer a thermal comfort in the building through creating a microclimate buffer zone between the outdoor and indoor environments of the building. Thermal comfort is important for the well-being and quality of living of residents as it indicates a good balance of hot and cool temperatures supporting the passive housing model.



Design Guideline #11

Points of access and accessibility

The Hippodrome site should be barrier-free and inclusive of all residents and visitors using different transportation modes including designated car access to protect car-free spaces.

The Hippodrome site offers a unique opportunity to build a barrier-free and inclusive community creating progress on an issue that has long been present in Montréal: The lack of retrofitting of older buildings and an overwhelming number of units solely accessible by the traditional Montréal staircase.

Sidewalks

Sidewalks should be designed for all types of pedestrians, and should be wide enough to allow accessibility for wheelchair users, children, visually impaired pedestrians and any other access needs. The minimum width guideline should be 1.5-1.8 metres with additional space allocated for a buffer zone between buildings and the sidewalk in the form of setbacks.

Rationale: Sidewalks should provide a comfortable experience for all pedestrians of all accessibility needs. People should be able to get to and from their destinations with ease and without obstacles in the way. As sidewalks are the basic unit of mobility as well as the main form of transportation for some people, they must create a comfortable experience for all users.

Elevators

Where possible, elevators should be included in buildings to improve internal circulation and accessibility of units. In low and mid-rise buildings elevators which are specifically designed for efficient use of space in smaller buildings should be utilized. Elevators should be large enough to accommodate wheelchair users.

Rationale: Elevators facilitate accessibility for all community members and visitors of the Hippodrome site and are necessary for a high quality and inclusive lifestyle. The inclusion of elevators in building designs, in conjunction with other accessibility elements such as ramps, ensures that buildings are barrier free at all levels, from all points of access.

There should be a minimum of two access points to the Hippodrome site's commercial, residential, and other public amenities. On the site area, the two main access points are from the north and east directly connected to the main streets. Each building configuration has access points through a roundabout or direct street access.

Vehicle access

There should be a minimum of two access points to the Hippodrome site's commercial, residential, and other public amenities. On the site area, the two main access points are from the north and east directly connected to the main streets. Each building configuration has access points through a roundabout or direct street access.

All residential and commercial buildings will be accessible through either the main streets or side streets. For commercial access, the loading dock will be located at the back entrance which will have a minimum ground floor height of 4.5 metres to facilitate the loading process.

For residential buildings, they should be accessible from the point of entrance to the right of way. Entrances to buildings should be free of barriers and of raised steps to facilitate access and transfer from cars to residence.

Emergency vehicle access is possible to all buildings across the Hippodrome site, where through-streets do not exist, cul-de-sacs with 24-meter diameter roundabouts allow for firetrucks and ambulances to turn around and exit.

Rationale: To accommodate for the needs of all community members and visitors and commercial use, vehicle access is necessary. While the Hippodrome site is being planned to include multiple shared and green corridors, there remains a need for vehicles in the area and ensuring they are easily accessible is essential. Ensuring there are designated car spaces also protects the car-free areas and shared streets on the site and ensures the safety of more vulnerable populations such as children, seniors, and people with impaired mobility.



Design Guideline #12

Adaptability and flexibility

Residential buildings should be designed for adaptability to specific mobility and accessibility needs in the future.

Residential buildings should be designed for adaptability to specific mobility and accessibility needs in the future. Shared spaces should be designed with flexibility for community members and residents. Residential units can be designed with flexible knockout panels to change the configuration based on the demand of future residents and demographics. Knockout panels are added between walls of units and can be removed per need to expand hallways or increase the number of rooms in a unit depending on availability.

Rationale: Ensuring adaptability is a design principle that allows for improved participation of residents and opportunities for place-making. It allows for the building to fulfill its function and purpose in a more efficient and sustainable way. Adaptable and flexible design also encourages the Indigenous Seventh Generation Principle: the principle of living everyday life with the mindfulness of the impacts our actions have on the 7th generation of humans living in our space. It also supports the growing and aging in place lifestyle. Young couples moving into new buildings can have the option of growing their families in the same units through the use of knockout panels. Using knockout panels and flexible unit configurations encourages a “house life cycle” which would decrease the need for families to move out to bigger units.

Adaptable and flexible design is also beneficial from an accessibility point of view. It may not be possible to always design spaces inclusive of all accessibility and mobility and family needs, but ensuring they can be adjusted allows for a unique and curated experience for each resident in the present and future.

Design Guideline #13

At-grade uses

At-grade spaces in buildings should be designed for flexibility to accommodate changing uses, such as transitions between community, residential or commercial uses.

At-grade spaces in buildings should allow for flexible interior spaces to accommodate changing uses, such as community, residential or commercial uses. This flexibility can be achieved through the design and separation of ground-floor spaces from the remainder of the building. To facilitate the transition and create a distinguished front facade, the minimum floor to floor height of the ground floor should be 4.5 metres.

Rationale: Flexible at-grade spaces support the place-making model in the mixed use Zones present in the plan area. Providing local community groups and residents with the option of flexible ground-level spaces fosters community self-determination and allows for long term plans which accommodates needs based on current and future demands. It also allows easier and improved access to food markets, community services and other amenities for families and other residents living in high density zones.

Design Guideline #14

Below-grade uses

Below-grade spaces should not be used for residential units. Underground parking in Density Zone 2 and 3, and community or commercial spaces are the recommended permitted below-grade uses.

Underground parking

Underground parking with a maximum of three underground storeys should be implemented in density zones 2 and 3.

Rationale: While the desire is to shift dependency from cars, it is essential to provide adequate parking spaces especially for families and residents with dependents in higher density blocks. In the future, if car dependency decreases, the design of the underground parking can be adapted for other purposes.

Basement uses

Below-grade levels in all buildings across the site should not be used for residential unit purposes. Acceptable uses include storage or community event spaces.

Rationale: Below-grade units limit the quality of living envisioned for the site through their reduced access to a regulated air-flow and sunlight.

Design Guideline #15

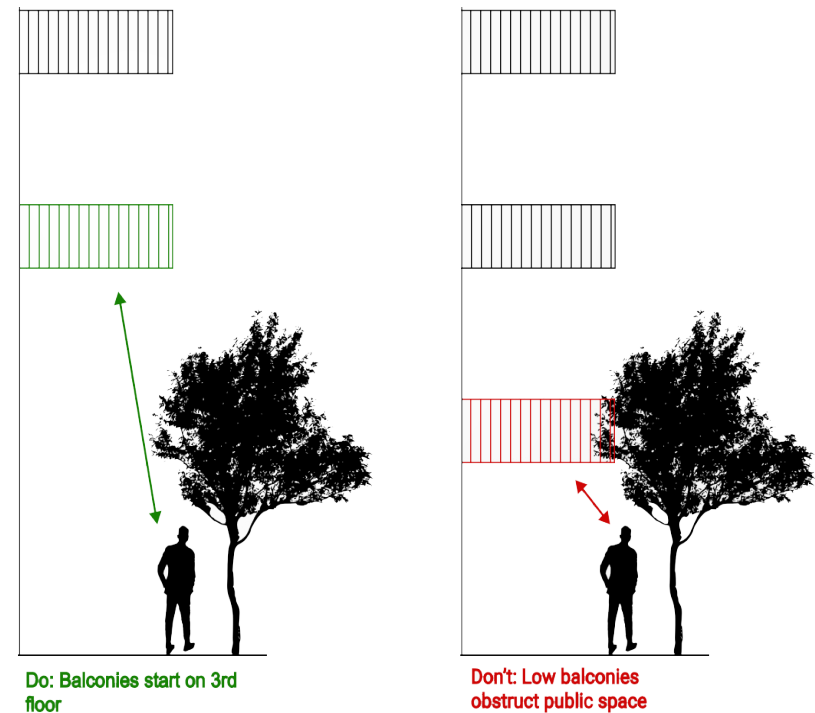
Balconies

The inclusion of balconies in residential unit design is encouraged so long as they do not encroach on public space.

The inclusion of balconies or terraces in residential unit design is encouraged. This can include Juliette balconies, semi-recessed and recessed balconies, terraces atop step backs, as well as cantilevered balconies. Where possible, private balconies should be large enough to allow for usable outdoor space, such as seating and vegetation. However, the size of balconies should not encroach on the public right of way. In Density Zones 2 and 3, balconies should not be included within the first 2 storeys.

Rationale: Balconies offer accessibility to outdoor space, higher quality of life and an improved access to the sun and air. Balconies in the times of COVID-19 have been a necessity, especially for populations unable to access the outdoors due to isolation restrictions. As liminal spaces bridging the public and private realm, balconies, even if in small Juliette styles, are important places for interactions as well creating a different form of community. In higher density zones, when access to a backyard or gardens is not available or limited, balconies also offer a space for growing vegetation and crops.

Balconies should fit within the building envelope and property line. Protruding balconies encroaching upon the right of way affect the pedestrian perception experience and creates additional shadows which may negatively affect the vegetation on sidewalks and other public amenities.



Design Guideline #16

Roofs

Where possible, buildings should be designed to allow for outdoor amenities or infrastructure such as open air gardens and greenhouses located on rooftops.

Where possible, buildings should be designed to allow for outdoor amenities or infrastructure such as open air gardens and greenhouses located on rooftops. Rooftop mechanical equipment should be well-integrated into the building design and envelope and not create additional shadowing. Greenspaces on roofs are permitted for use as shared space, particularly on buildings in the Density Zone 1. As per Montréal's policy, green and white roofs are also encouraged and required in some cases.

Rationale: Roofs are underused space in densely urban areas and can be leveraged to provide social, cultural and green public spaces that benefit the local residents. Repurposing parts of the roof for the public adds to the community building aspect of the Social Economy Space zones and reduces the need and desire for a backyard and fully private outdoor spaces



Design Guideline #17

Architectural character

The architectural character of all buildings on the site should embrace innovation and creativity in design, while respecting the aesthetic qualities of Montréal's urban fabric.

The architectural character of all buildings on the site should embrace innovation and creativity in design, while respecting the aesthetic qualities of Montréal's urban fabric. Architectural practices should reflect the values of longevity and sustainability.

Rationale: The architectural quality of buildings on the site should align with Montréal's designation as a UNESCO City of Design. Innovative architectural character stimulates the renewal of ideas and responds to human needs as well as invites participation and the creation of solutions for issues facing the community.

Design Guideline #18

Sustainable practices

Buildings on the site should be designed using ecological approaches and sustainable materials, and with the capacity to accommodate changes.

Sustainable building design

The buildings on the site should be designed to reduce the consumption of energy and resources throughout their life cycle to ensure future energy security and maintain commitments to combating climate change.

Implementing low-carbon and easily accessible materials such as timber could reduce the overall carbon footprint of buildings, while strategies for natural ventilation and thermal control reduce energy demand.

Rationale: Using an ecological design approach in all of the phases in the plan creates opportunities for zero waste building design where unnecessary waste is avoided. Using energy efficient programs such as an energy looping system and the proposed District Energy System provides fresh and filtered ventilation and it is a low-tech solution that is environmentally friendly.

Modular design

In Density Zones 1 and 2, where possible, modular design models should be applied.

Rationale: Modular buildings are more sustainable and flexible option as they are prefabricated, highly adaptable, can be relocated, and can be refurbished depending on need. As they are constructed off-site, there is less waste generated, the construction time is reduced, especially due to the elimination of weather delays, and they have limitless design opportunities that create unique yet efficient housing.

Sustainable materials

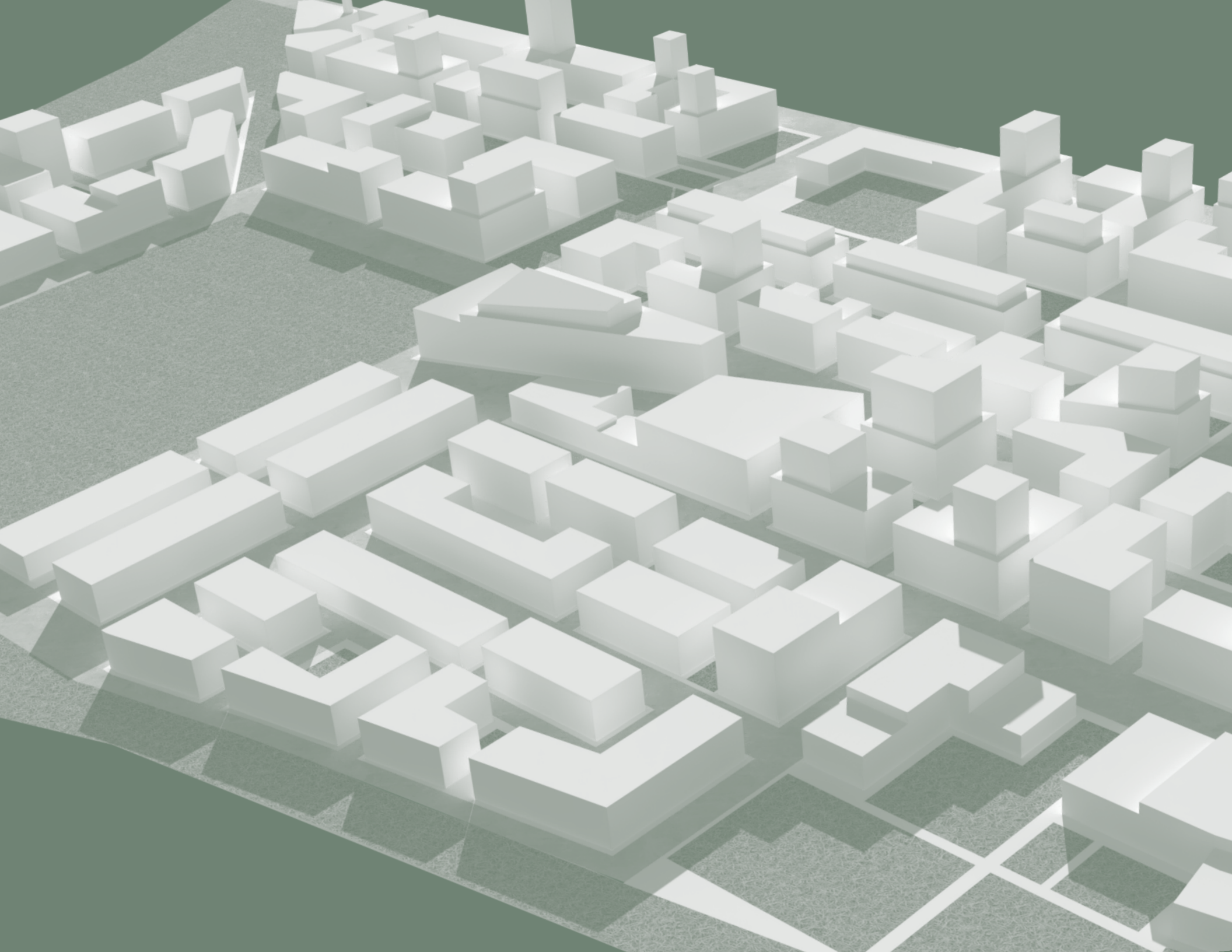
The buildings at the Hippodrome site should use sustainable and lightweight materials such as timber, aluminium, lightweight steel, and lightweight concrete. Organic and recycled building materials can be used where possible for a lesser environmental impact.

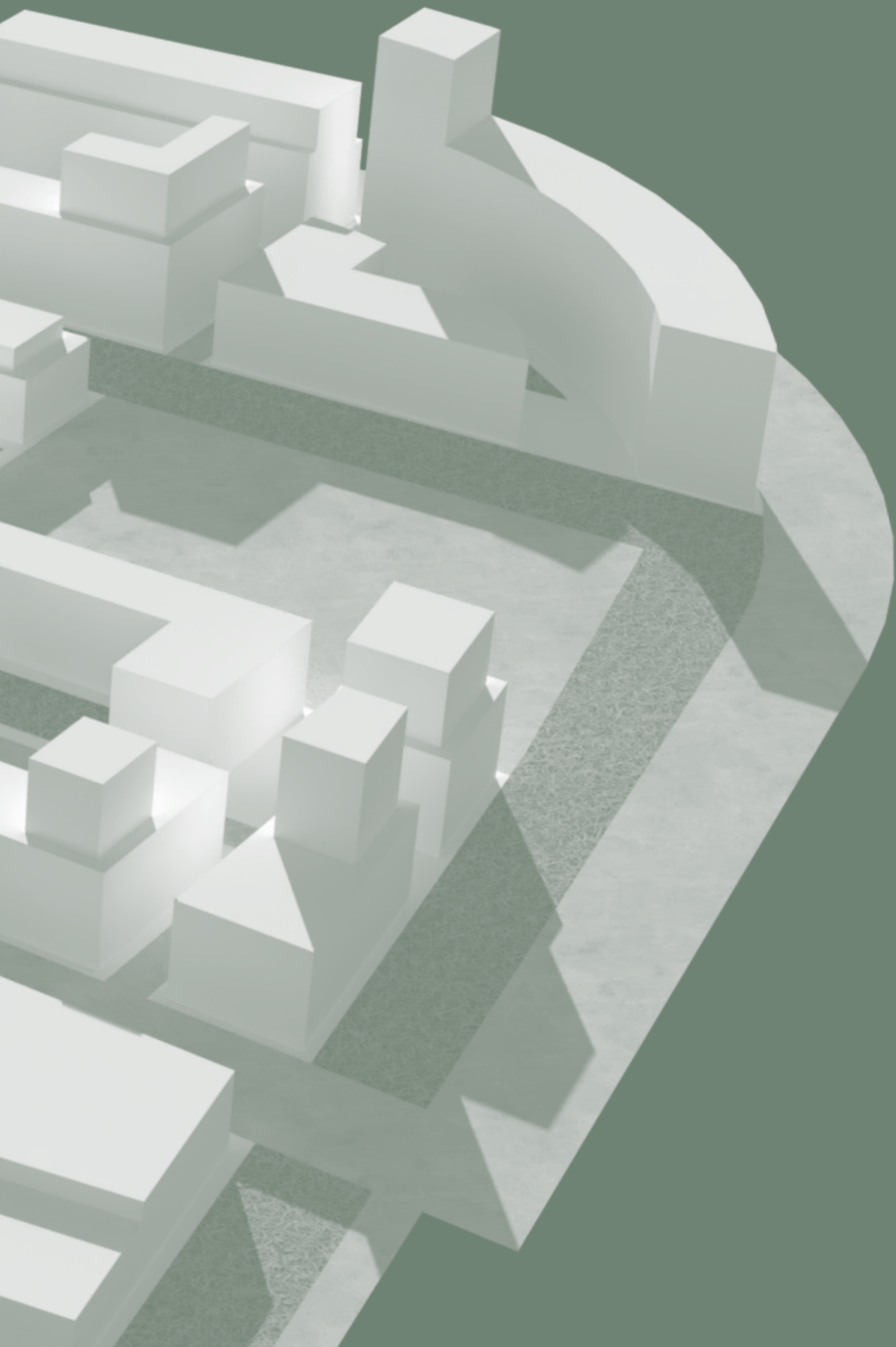
Rationale: buildings tend to be over-engineered, which wastes materials, time, and costs. Lightweight materials reduce the energy consumption of the building construction process and lifetime. Timber, for example, creates insulation in the building envelope reducing the energy needed to heat and cool the building. White rooftops are also cost efficient and help reduce the urban heat island effect in cities.

Waste management

All buildings should have recycling, garbage, and compost chutes on each floor with programs on how to efficiently recycle and compost available for individual buildings. Feedback reports for each building should also be implemented to ensure accountability.

Rationale: Having access to garbage and recycling chutes as well as composting options allows residents to contribute to creating a more responsible and sustainable community.





Conclusions

The Blue Bonnets Hippodrome site offers a unique opportunity for housing development that emphasizes quality of life, equity, and good design. With 43 hectares of unused land, it is one of the last large undeveloped spaces on the Island of Montréal. The Hippodrome Urban Design Plan provides recommendations for the ambitious development of a community with over 6,700 units of housing, ample greenspace, and easy access to amenities. This document highlights the importance of how urban design informs a high quality of living, and centres the development around the residents and users of the community.

To construct the community in a cohesive and low-disruption manner, the highest density zone will be the first to be developed. By doing so, construction related disruption for the lower density dwellings is avoided. This process also ensures that ample parking is available for the community in advance of the neighbourhood's completion. Focusing on the highest density zone first also helps attract visitors to the commercial spaces that exist there, allowing for greater financial sustainability early in the project's development. The second phase will be to construct the medium density zones alongside the public spaces and community buildings. This allows for the introduction of amenities soon after the majority of units on the site are constructed. Finally, the lowest density zone should be the last to construct as it would be the least disruptive to residents who have already made themselves at home to the north.

The Hippodrome Urban Design Plan explores a wide range of guidelines that inform the design of the neighbourhood. With phasing structured to minimize disruption, the Hippodrome redevelopment can not only create a brand new community for Montréal, but can also set a precedent for sustainable and high quality developments across Canada.

