

Bedford Commons Growth Area
Initiation Report

November 21, 2023

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01 Introduction

Growth Area Application

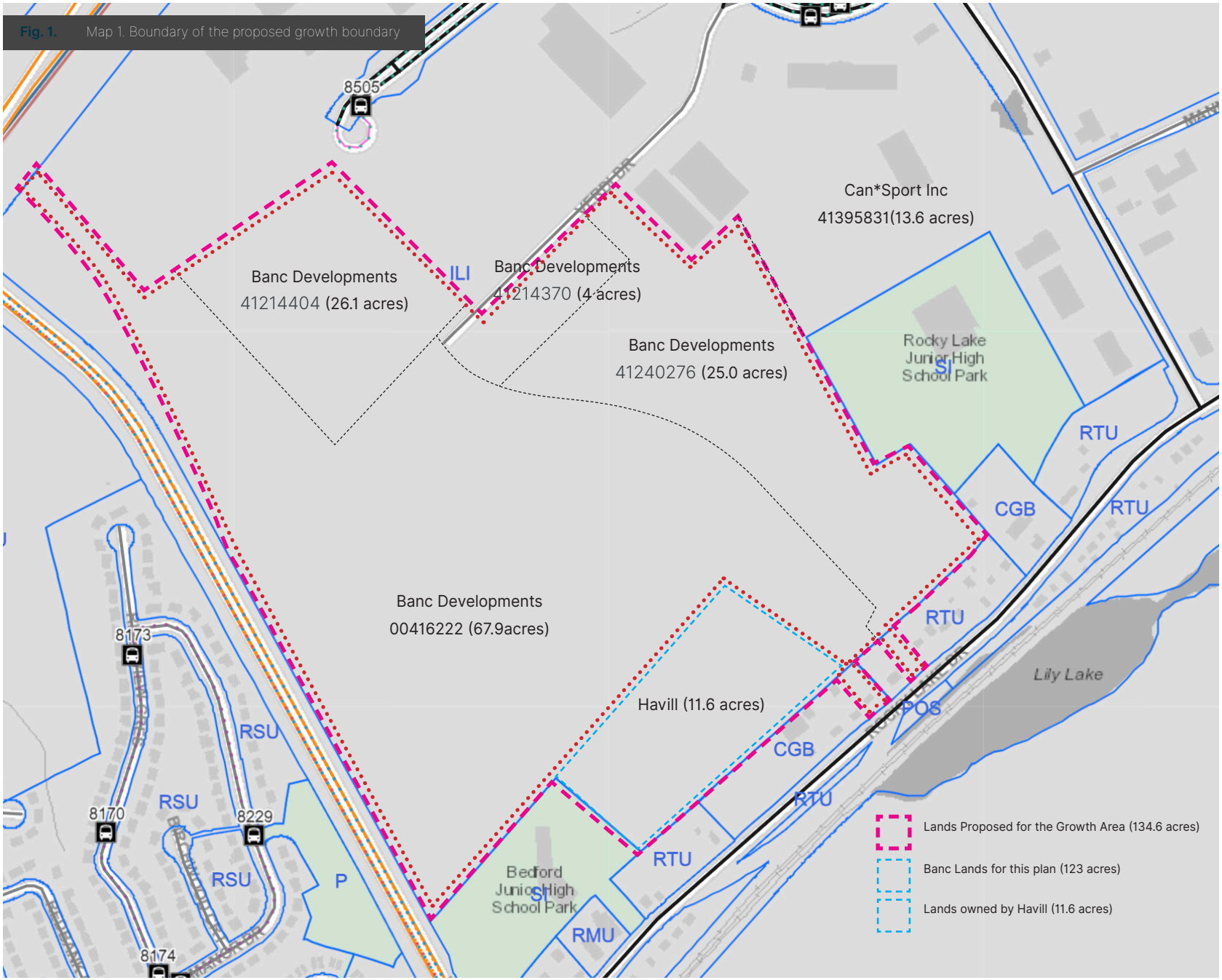
The Bedford Common is currently zoned as ILI and the main land owner (Banc Developments) has been working since 2012 on applications to rezone the lands from Light Industrial to a mixed-use residential development. The 2012 plan imagined about 600 units and an additional 200,000 sf of commercial development. The plan made provisions for a central village green. The Regional Plan of 2014 valued protecting the Light Industrial land reserve and the project was shelved. The developer reapplied again to the Regional Plan team in 2018 and again in 2019 for a larger development which expanded from 42 acres to 120 acres and the development scale enlarged to 1,600 units and 140,000 sf of light industrial. The concept seemed to gain traction with the regional planning team, and in 2023, a formal request for a mixed use plan was provided to the Regional Plan team which is generally supported in the latest version of the Regional Plan update (3.3.1 Opportunity Sites and Policy S-13B).

This plan responds to the requirements set out by the growth area team in response to their Feb 14, 2023 letter setting out the terms for an initiation report. The attached Land suitability analysis, archaeological study, wetland/watercourse delineation, mobility analysis and water/wastewater capacity analysis is provided in this report. The report also includes a conceptual master plan and pro forma that directly responds to the findings of the accompanying studies. In addition, we have included our proposed built form requirements which was used to develop the massing models and pro forma for this development. We understand all of this information will be critical in drafting the final development agreement for this important growth area.

The growth area being proposed for this application includes a range of PIDS with the bulk of them being owned by Banc Developments and Havill's. The total acreage of all parcels is 148.2 acres. The area of the Banc land totals 123 acres and the Havill land is 11.6 acres. There may be additional parcels that HRM would like to add to this growth area not considered in this report.

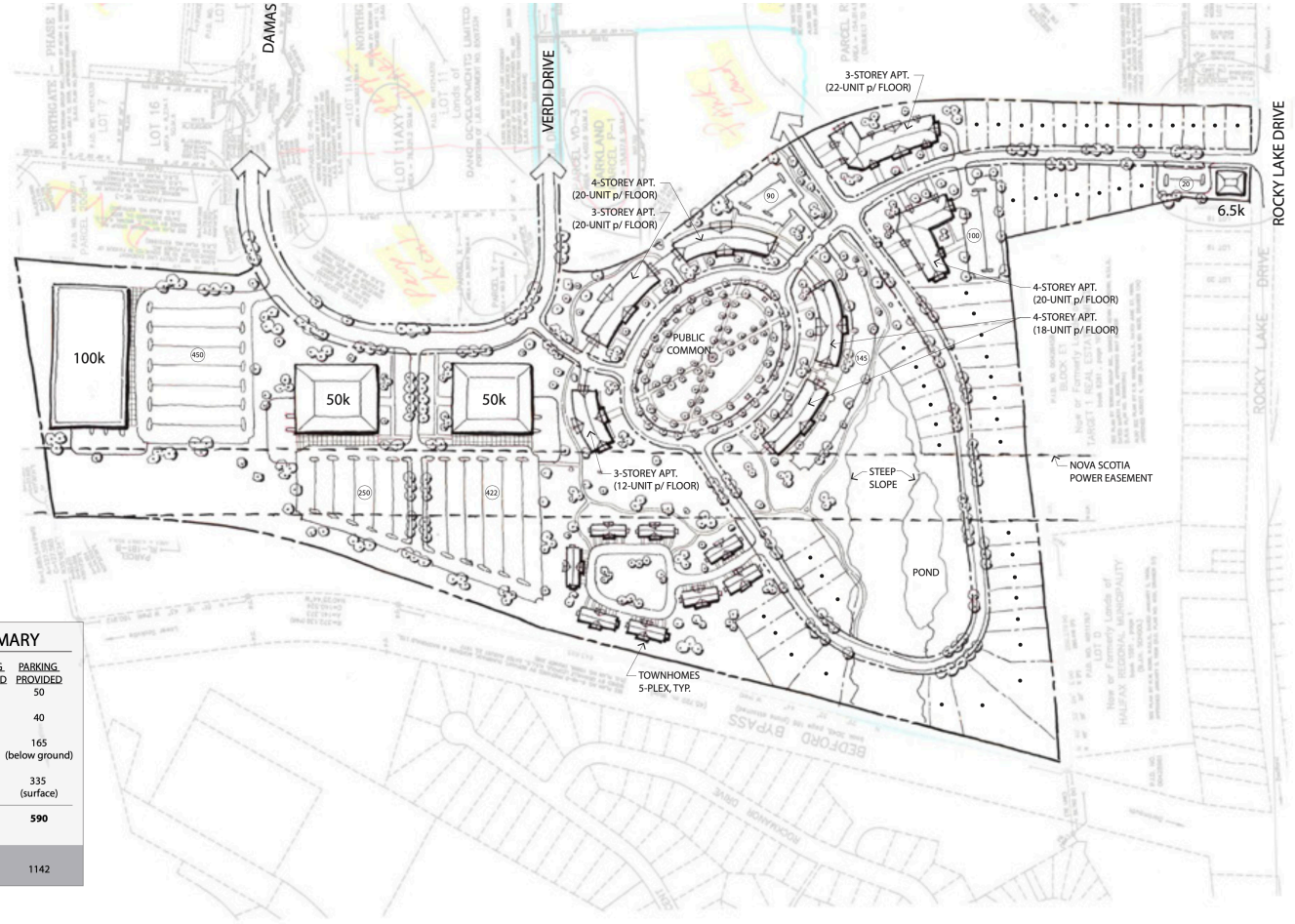
PID	ACREAGE	OWNER
41214404	26.1	Banc
00416222	67.9	Banc
41240276	25.0	Banc
41214370	4.0	Banc
00428458	11.6	Havill
Total	134.6	

Fig. 1. Map 1. Boundary of the proposed growth boundary



Banc has been working on developing their lands as a mixed use residential development since 2012 when Ekistics (now Fathom) made application on behalf of Banc to rezone the properties. The owners have been working for the past 11 years on this development.

Fig. 2. 2012 Bedford Common Plan, prepared by Ekistics



DEVELOPMENT SUMMARY

UNIT TYPE	QTY.	PARKING REQUIRED	PARKING PROVIDED
SINGLE-FAMILY	50	50	50
TOWNHOMES	40	40	40
APARTMENTS 3-STOREY	162	162	165 (below ground)
APARTMENTS 4-STOREY	304	304	335 (surface)
RESIDENTIAL TOTALS	**556 UNITS**	**556**	**590**
COMMERCIAL	206.5k	930	1142

October 24, 2012

EKISTICS PLANNING & DESIGN

Concept A - Bedford Commons

Scale = 1:2000 (0, 40, 80; 1:2000)

North

Fig. 3. 2021 Bedford Common Plan Prepared by Fathom (formerly Ekistics)





02

Land Suitability Analysis

Foreword

This land suitability analysis has been prepared in order to delineate, assess, and inventory any sensitive environmental and cultural features that may exist within the boundaries of the Bedford Commons Lands. The information in this report is derived from a series of both desktop and physical sources. All GIS data used to create this report was obtained from either the Halifax Regional Municipality, the Province of Nova Scotia, or the Government of Canada. The accuracy of the information in this report is dependent on the quality of this data and any inconsistencies or deficiencies in these original datasets may effect the information presented. Even though this report is only concerned with the development of a section of the Bedford Commons Lands, most maps in this report depict information for the entire area in order to provide more context.

Site Context

The Bedford Commons is located on a diamond-shaped block of land that is roughly 1.2km on all sides. The site will soon be surrounded on all sides by highways including the Bicentennial Highway (NS-102) to the north-west, the Bedford Bypass which feeds directly into NS-101 to the south-west, and soon to be the Burnside Connector (Highway 107 Sackville-Bedford-Burnside) to the east which will link Sackville to Burnside providing much needed traffic relief from the Magazine Hill. The CN Rail line also runs parallel to Rocky lake Drive which could eventually form the future backbone to a **commuter rail line** when the project becomes more feasible in the future (CPCS, 2015). The 2015 Commuter Rail Feasibility Study identified a potential rail station adjacent to the Bedford Common. The surrounding highways enable easy transportation access to Halifax, Bedford, Sackville, Burnside and the rest of the province. A 26m wide NS Power transmission easement runs along the south side of the property adjacent to the Bedford Bypass, restricting buildings but providing a potential trail backbone for walking or multiuse AT connections.

To the north of the Bedford Commons, the land has developed over the last 15 years as as-of-right Light Industrial (ILI) big box uses including a Walmart, Canadian Tire, Dollarama and a range of other retail uses. The area is also home to the Sobeys Atlantic Tennis Centre, which includes a range of indoor and outdoor tennis facilities, the Rocky Lake Dome,and an elementary and junior high school.

To the northeast, the site is bounded by Duke Street and the Bedford Industrial Park which borders Rocky Lake. In the southeast, the site is bounded by Rocky Lake Drive. There are a number of properties abutting the Bedford Commons Site that front on Rocky Lake Drive; the majority of these properties are residential but there are also a few commercial buildings as well as two public schools (Rocky lake Elementary, and Rocky Lake Jr High). The province has expressed interest in a potential future high school in the area potentially adjoining the Junior High site. If secured, the Bedford Common area would be serviced by an elementary school, a junior high and a high school, making this a highly desirable area for residential development.

The ease of transportation access, central proximity to Sackville, Bedford and Burnside, the adjacency of a primary school and a Junior High School, the easy walking access to the retail portions of the Bedford Commons, and existing recreational infrastructure of the Atlantic Tennis Centre and Rocky Lake Jr High sports field make this an ideal location for a dense mixed-use development. The site lies at a crossroads between the communities of Bedford, Lower Sackville, and Dartmouth (via the Burnside Industrial Park), giving it easy access to a significant portion of the region's urban, industrial and suburban hubs. Damascus Road and Verdi Drive currently dead end at the proposed site creating a natural extension of these roads into the commercial centre of this future community.

The many visible, large bedrock outcrops throughout the site will make development expensive and the proposed density (57 UPA) will be instrumental in paying for roads and services. The plan must also address the need for a large park to meet the 10% parkland dedication requirements, and the park should ideally be located adjacent to the existing recreational infrastructure of the Tennis Centre and Sports fields in an area that is well wooded.

There are a series of parks, lakes, and other natural areas near the site. On the southeast border of the Bedford Commons lies Lily Lake and Parkers Brook. Similarly, Sucker Brook and Rocky Lake are situated to the northeast of the site. On the other side of the highway interchange to the west of the Bedford Commons is Sandy Lake Regional Park. The large park features trails, beaches, and lakes while also bordering the Bedford Rifle Range.

The Bedford Commons Lands are located within the Bedford Plan area and are consequently regulated by the Bedford Municipal Planning Strategy and Bedford Land Use By-Law. The entire site, except the Rocky Lake Dr frontage, is currently zoned ILI for light industrial uses.

In total, the Bedford Common lands currently consists of 28 different properties ranging in size from 867m2 to 274,551m^2 covering about 280 acres.

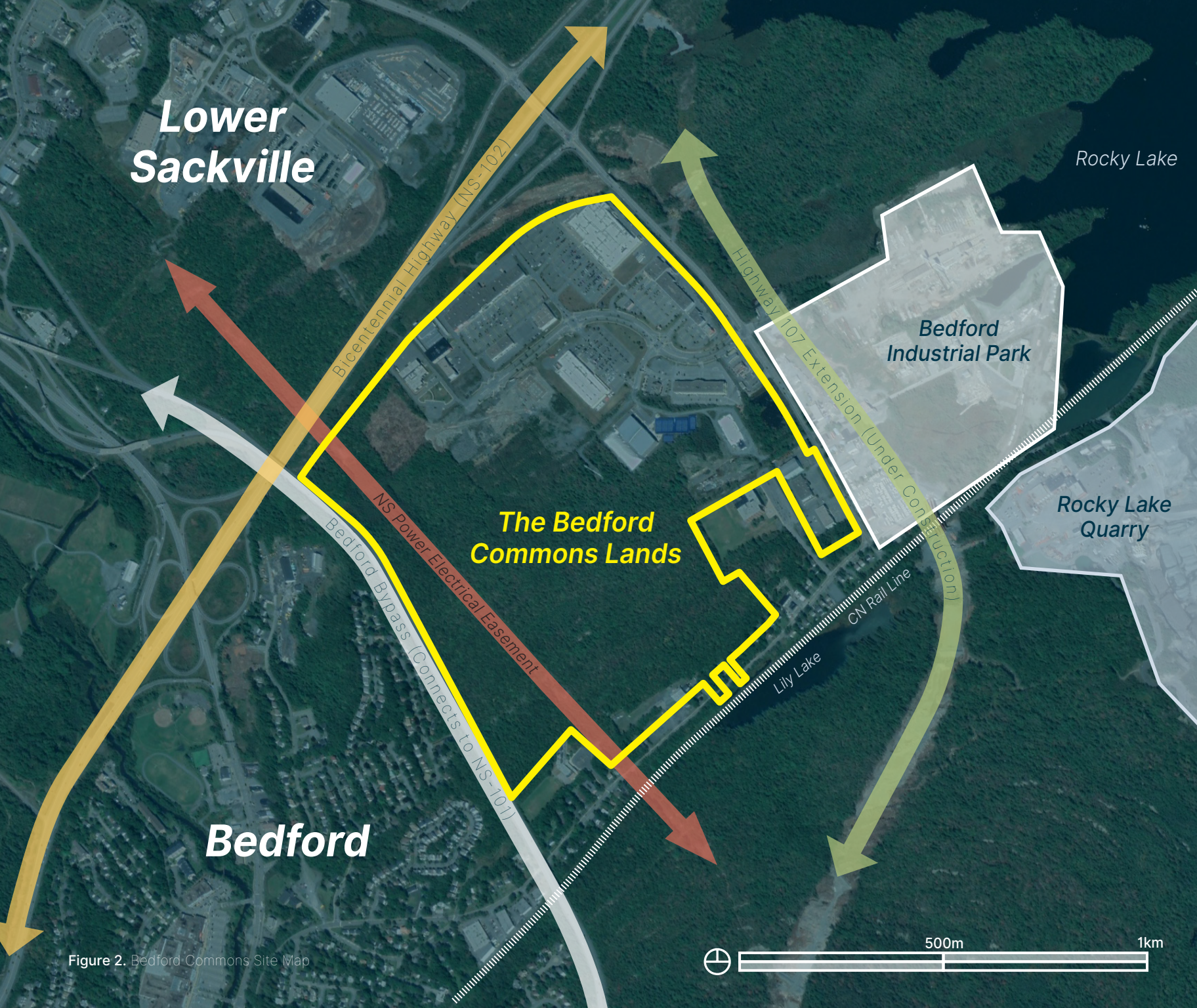


Figure 2. Bedford Commons Site Map

Elevation

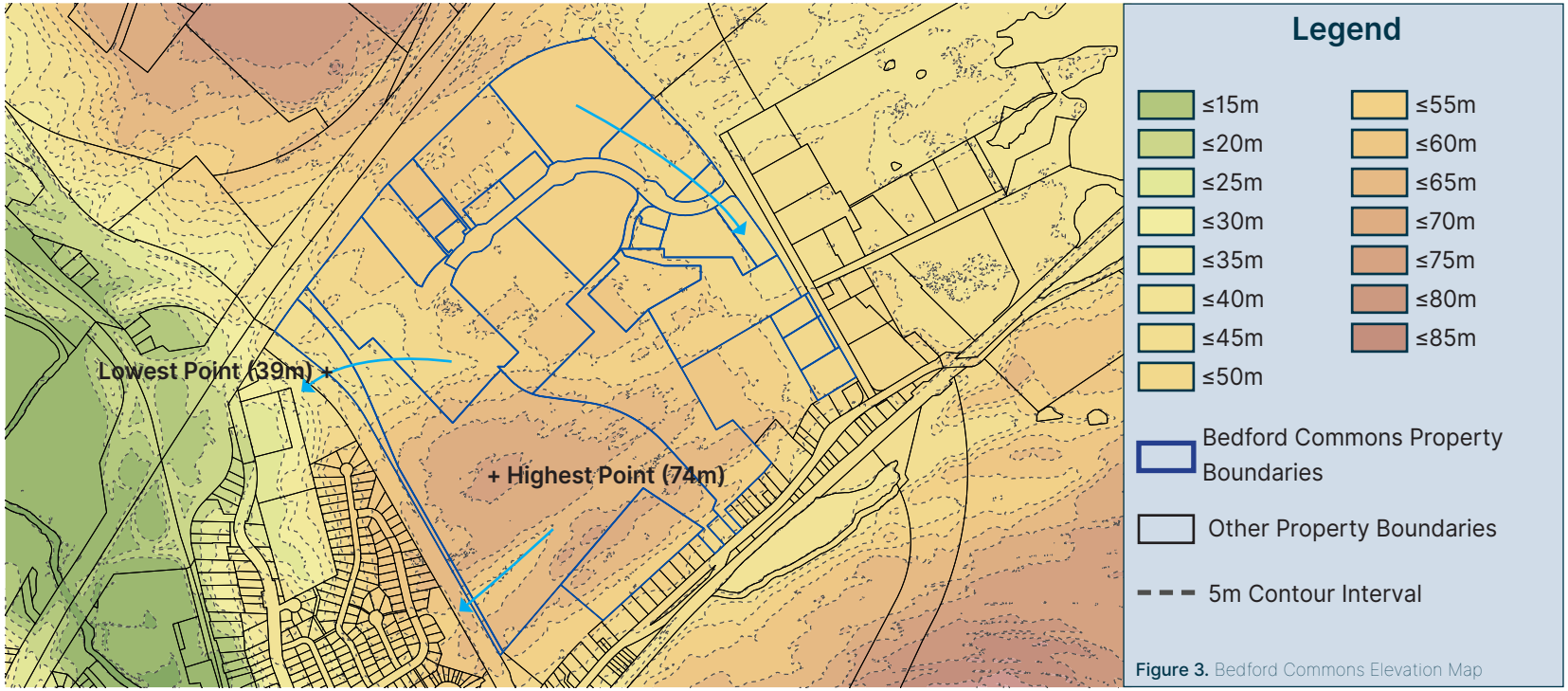


Figure 3. Bedford Commons Elevation Map

Figure 3 depicts the elevations and elevation changes within the subject area. Both the shading and contour lines indicate changes in elevation in 5m increments. When the lines and colours sit closer together, it indicates more intense changes in elevation. An examination of the elevation map reveals few areas in which the contour lines are grouped together closely, indicating that the general terrain of the site is rolling with a few steeper areas.

The highest point in the Bedford Commons is a 74m peak in a forested portion near the south of the site. From this point, the site slopes down mostly towards two drainage swales draining to the Bedford Bypass to the west. The lowest point in the study area is a 39m area in a valley along the southwest boundary. A review of the elevation map reveals that the southern half of the site has a greater average elevation change than the northern half.

The developed northern half of the site sees less elevation change than the south as a result of the grading and site preparation that was carried out prior to the construction of the commercial area. Even though the total elevation change of the entire site is 35m, the elevation change of most of the developable portion of the site is about 10-15m.

The site sits up on a plateau about 20m above Rocky Lake Drive meaning that the access road up to this development will likely be steep requiring a deep cut to achieve the 8% red book standard for this type of collector road. Development along this road will also require some deep cuts and retaining walls similar to Larry Uteck Blvd. Once at the top of the entry road, the site flattens out but there is significant micro-topography as a result of the exposed bedrock

Slope

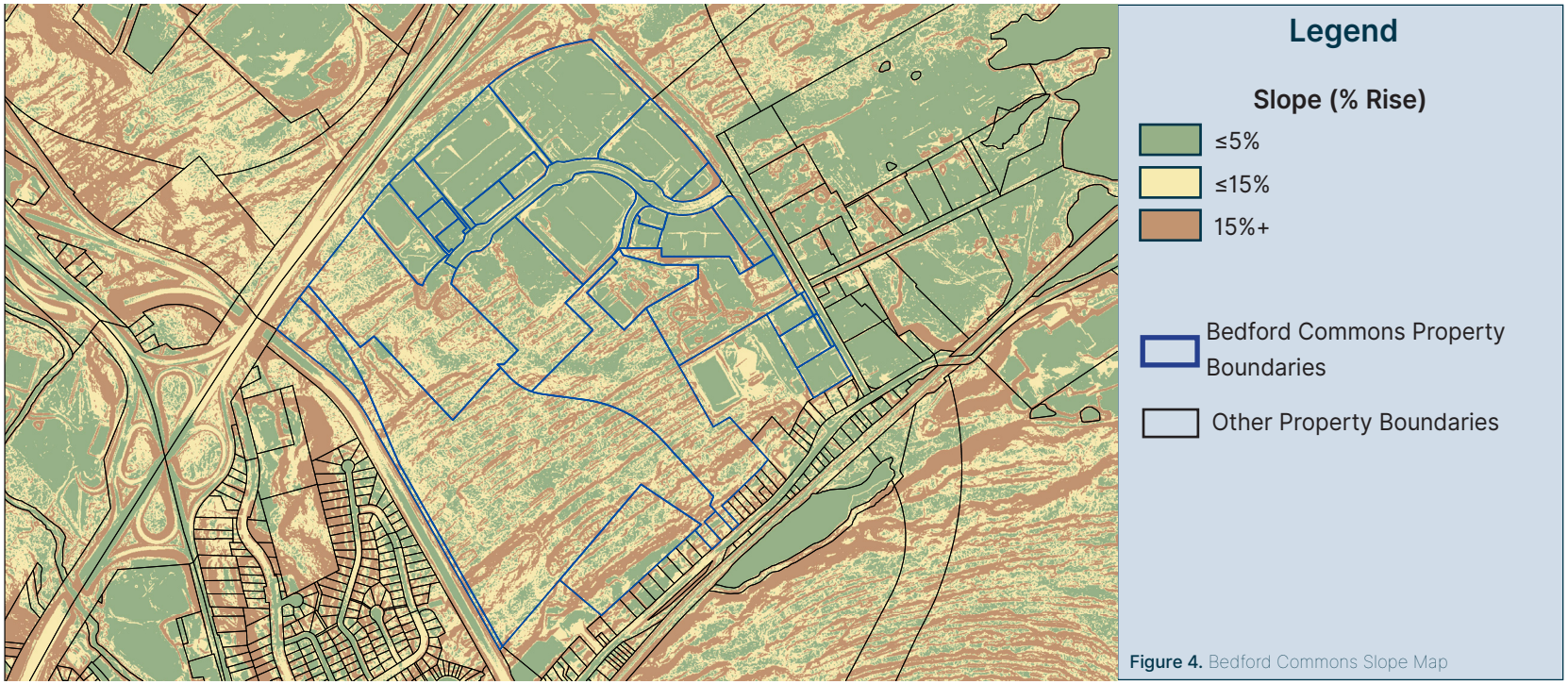


Figure 4. Bedford Commons Slope Map

The site's natural slope has a considerable impact on its future development potential and the ultimate cost of construction. A property with extreme slopes may contribute to increased construction costs due to the cut and fill required to make the land usable, the infrastructure required to meet accessibility standards, and the potential need to build retaining walls and similar infrastructure.

The slope of the Bedford Commons site varies considerably. The site is noticeably flatter in its northern half, largely as a result of the existing development and the necessary grading that enabled its construction. The slope of 1-5% in this area is ideal for development. The undeveloped portion in the south has much more variation in its slope. Visible striations can be seen across this section of the subject area as a result of linear rock outcrops that are visible on the surface as 1-2m high greywack outcrops. These steep outcrops look extensive on the map, however, they will be easily removed to make flatter land for the development.

The southern valley can also be seen clearly in the slope map. The sides of this valley rise more than 15% in some sections, potentially causing issues for construction in the southernmost extremity of the site. Other notable slopes can be observed in the eastern section of the site where Damascus Road ends and the terrain drops from the graded portion down to its natural elevation.

The slope map shows the bands of exposed bedrock outcrops running in a north-easterly direction. This implies a high runoff coefficient for stormwater runoff with thin skeletal soils and stunted vegetation growing in the area.





Solar Aspect

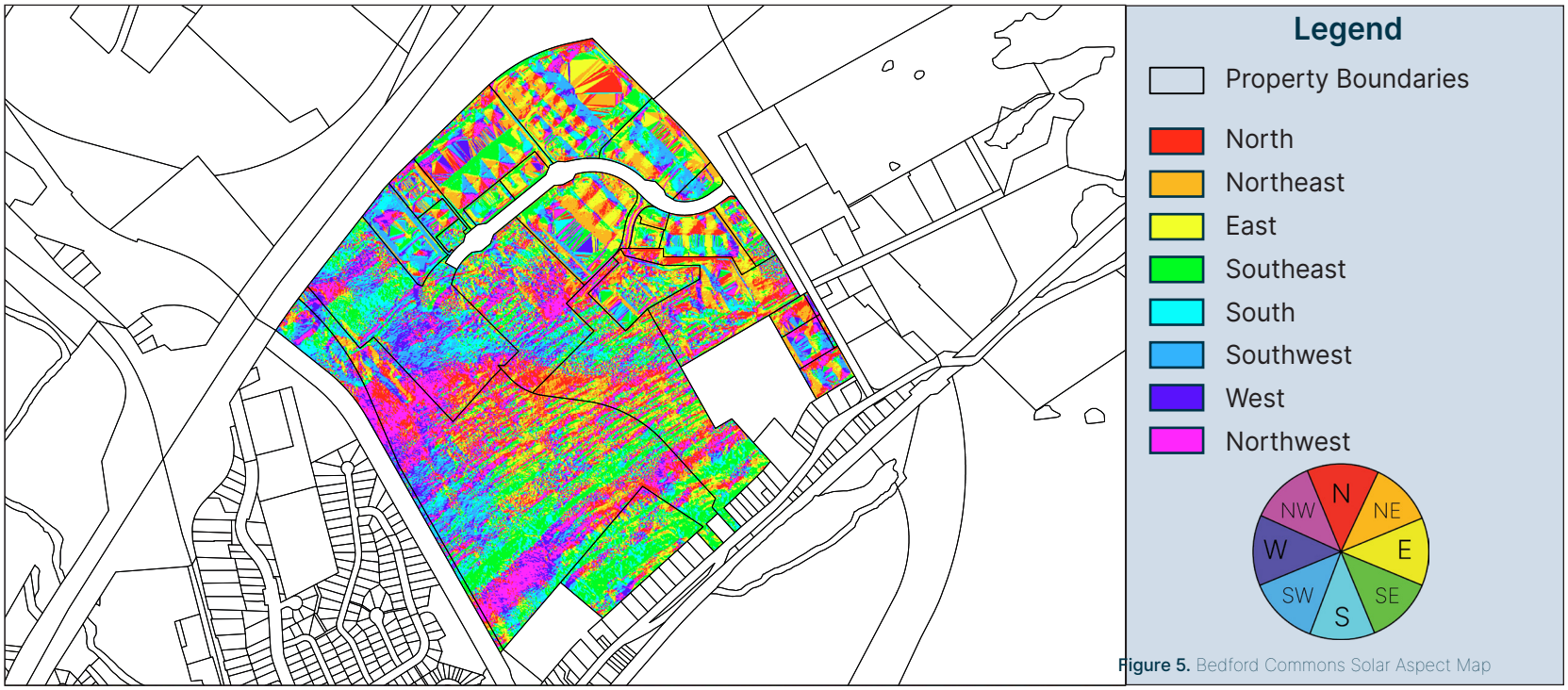


Figure 5. Bedford Commons Solar Aspect Map

Solar aspect refers to how a site's natural topography informs the amount of solar exposure that specific portions of the site will receive. The different colours in Figure 5 depict specific directions of sun exposure, as demonstrated by the colour wheel in the legend.

North-facing slopes (indicated by red on the map), receive less sunlight compared to other cardinal orientations. Conversely, south-facing portions of the site (indicated by light blue on the map) can rely on year-round solar access. While the solar aspect of the Bedford Commons is mixed, there are sizable chunks of land that face either the northwest or the southeast. This is especially apparent in the southernmost portion of the site, where the valleys from the slope map can be seen.

The central portion of the site is rockier; the previously mentioned striations in the terrain can be observed again in the solar aspect map. Although the slope patterns of these features appear to be somewhat chaotic, the site will benefit from a more uniform solar aspect once the land has been cut and filled for development. Thankfully, it appears that many portions of the site, especially in the southern portion of the subject area, slope towards the southwest and subsequently benefit from more solar access.

Soils



Figure 6. Bedford Commons Soil Map

While there are a number of different soil types present within the vicinity of the Bedford Commons, the entire subject area sits atop soil classified as **Hx/C-4** by the Soil Survey of Halifax County. The **Hx** code represents the Halifax Soil Series which describes brown sandy loam that is found over yellowish sandy loam. The parent material for the Halifax Soil Series is olive to yellowish-brown stony sandy loam till derived from quartzite. Typically, properties atop this soil series have a topography that can be classified as gently undulating to gently rolling. The Halifax Soil Series classification also indicates good to excessive drainage.

The **C-4** portion of the code defines the topography and stoniness of the site. The **C** code corresponds to rolling topography with a slope limit of 9-16%. The **4** portion of the soil code corresponds to land that is excessively stony to the point of being non-arable.

This classification corresponds to the information observed from other datasets that indicate a stony and rolling terrain for large sections of the undeveloped portion of the Bedford Commons. For example, the Nova Scotia Ecological Land Classification Guide categorizes the soil of the Bedford Commons Lands as **WMRD**. This designation corresponds to well-drained, medium-textured soil on ridged topography.

The soils in the Bedford Common land are relatively shallow and are found between the many bedrock outcroppings running in a north-easterly direction. This makes it difficult for large trees to take root and decreases the amount of groundwater storage.

Surficial Geology & Wells

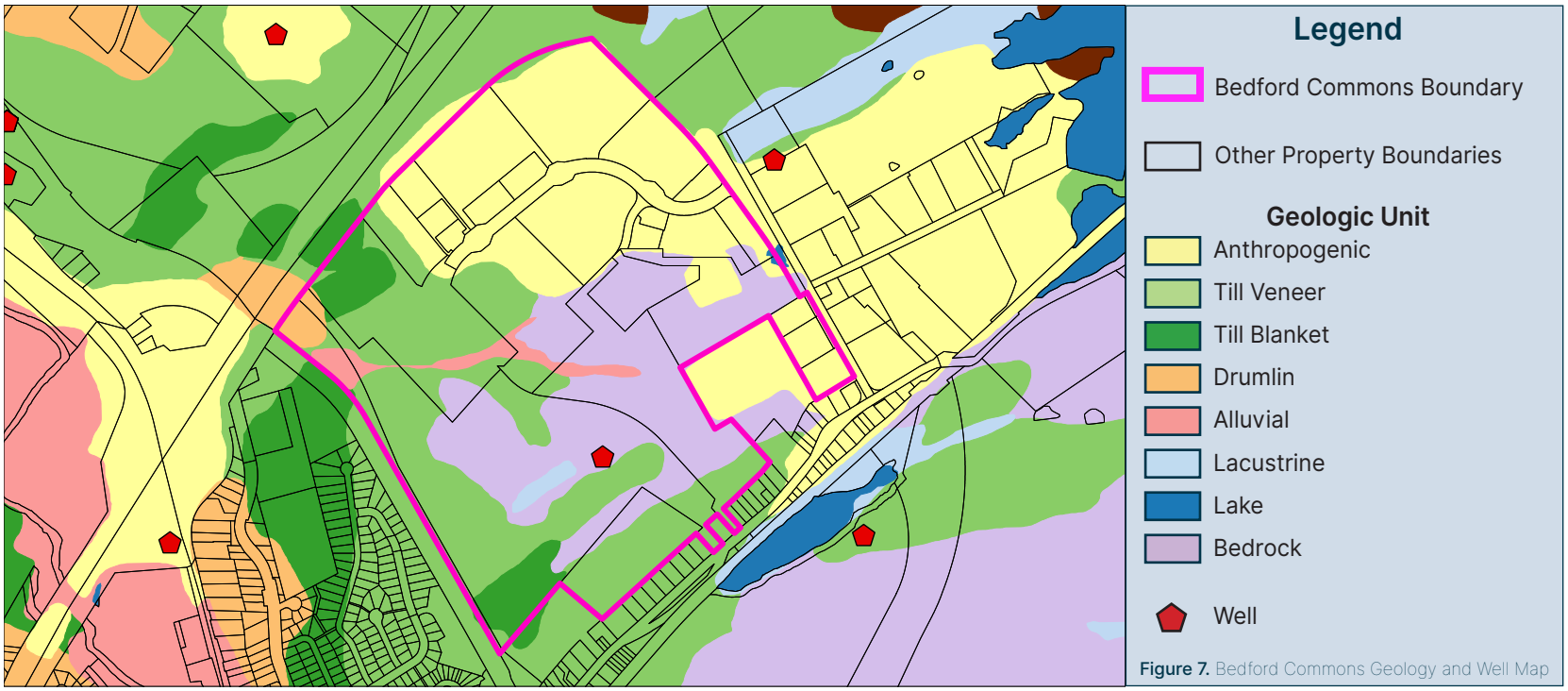


Figure 7. Bedford Commons Geology and Well Map

The surficial geology for the subject area varies considerably. The anthropogenic classification (represented by yellow on the map) indicates soil deposits that were formed and remixed by human activity, making their original form unrecognizable. This geologic unit corresponds to regions in and around the subject area that have already been developed.

The light and dark green portions of the map represent the Till Veneer and Till Blanket classifications respectively. Till refers to a type of unsorted glacial sediment that formed under the local ice caps that were prevalent in Nova Scotia during the ice age. These tills are characterized by a loose texture and a sandy matrix as well as abundant, locally derived, angular stones and boulders. The only difference between the Till Blanket and Till Veneer labels is that the blanket classification implies a continuous till cover thicker than 1.5m while the veneer designation implies a less continuous cover thinner than 1.5m. These geologic classifications are relatively common in the region and are the same classification as most of the Halifax Peninsula. Additionally, the Drumlin designation (represented by orange on the map) refers to hills of glacial sediment like till. These are also common in the region, with Citadel Hill being a notable example of a drumlin in Halifax.

The Alluvial designation (represented in pink) corresponds to pockets of gravel, sand, silt and clay that have been deposited by running water over time. On the Bedford Commons site, the alluvial deposits follow the terrain and slope down towards the Sackville River. Similarly, lacustrine deposits refer to sediment formed by lakes, both ancient and existing. The light blue areas on the map indicate lacustrine deposits while the

dark blue areas correspond to existing lakes. Lastly, Bedrock is shown on the map in purple. The Bedrock designation is common in the region, with large portions of the Halifax mainland sitting atop Bedrock.

There is one documented well located in the subject area and four more wells within a close proximity. The well on-site (#641081) stretches 117ft below ground, hitting bedrock at 17ft. According to the Government of Nova Scotia's Well Log Database, the well first passes through a layer of drift before reaching granite. The static water level (depth to the water table) is listed as 20ft for this well.

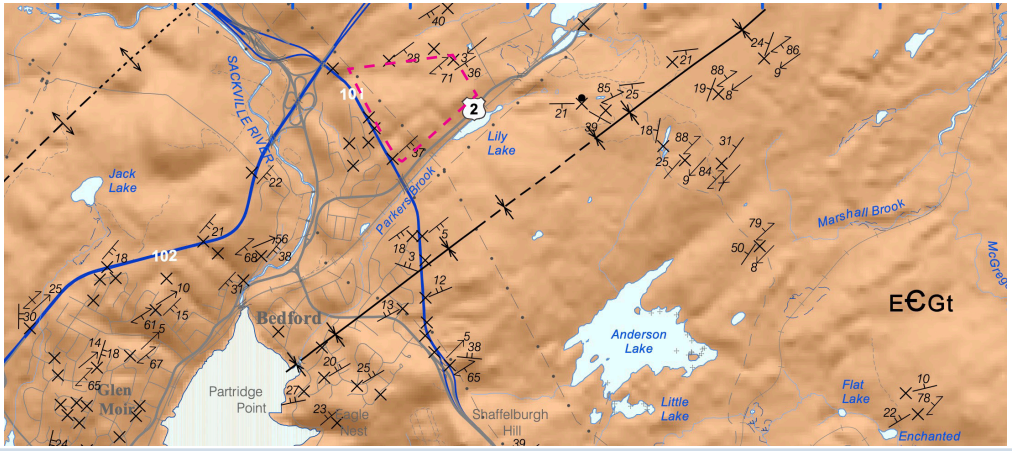
The four closest wells are all newer than the well on-site and report depths to bedrock ranging from 0ft to 24ft. Three of the four nearest wells did not report their depth to the water table. The well to the southwest of the site listed a depth to the water table of 16ft.

Bedrock Geology

The entire subject area is located within the Goldenville geologic formation. Part of the metamorphic family, this formation is comprised of gold-bearing metasediments and is a part of the larger Meguma group. The main types of rock found in this formation are greywacke and quartzite (both types of sandstone) as well as slate.

While there exist concerns of Acid Rock Drainage (ARD) in Nova Scotia, this issue tends to only arise in regions with sulphide-bearing rock, as is seen in the Halifax Formation of Southern Nova Scotia. However, other types of rock, like slate, can contribute to ARD. As a result, multiple studies have examined the potential for ARD to arise in the Goldenville formation, especially in and around Halifax, since slate can be found throughout the formation. White & Goodwin (2011) found the section of the Goldenville Formation in which the Bedford Commons lies (The Taylor's Head Formation) to be non-acid producing. Consequently, there does not appear to be a significant risk of ARD stemming from development in the Bedford Commons.

The Graywacke bedrock comes from the Taylor head formation which is a metasandstone prized for its hardness and ability to be crushed into aggregate for road and building construction. The nearby Dexter Quarry has been quarrying this stone since the 1970's and we expect the stone will be easy to work and can be readily used as material for construction for this project.



TAYLORS HEAD FORMATION (E€Gt): grey, medium- to thick-bedded, very fine- to medium-grained metasandstone locally interlayered with green, cleaved metasiltstone, and rare black slate; calc-silicate nodules common

Typical rocky outcrops and boulder fields of Bedford Common





Karst Topography

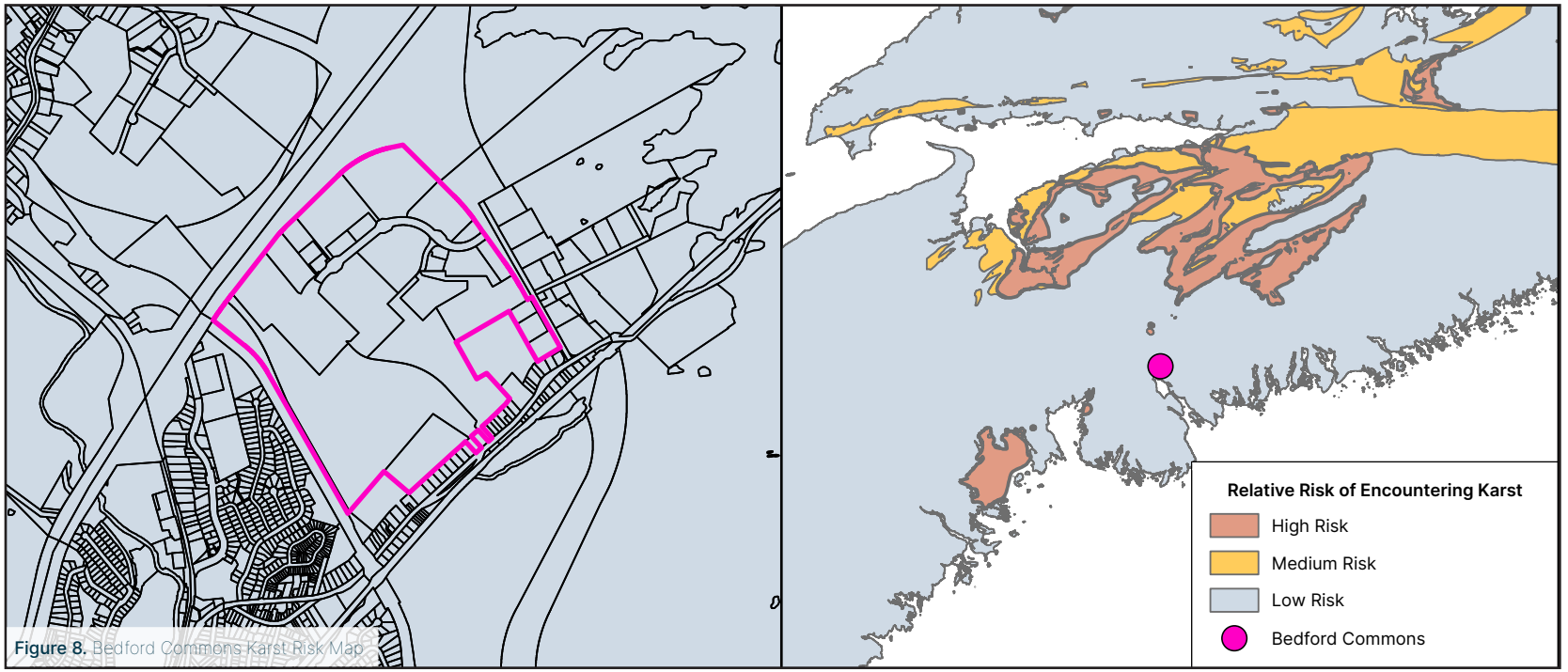


Figure 8. Bedford Commons Karst Risk Map

Karst refers to a type of topography which is formed by the dissolution of carbonate rocks like limestone and gypsum over time. While this process can generate distinct landscapes, it is also a major contributor to sinkhole formation. Sinkholes represent a significant geohazard in some regions of Nova Scotia since the development of sinkholes in karst terrain can cause extensive damage to buildings, roads, and other infrastructure.

According to the Government of Nova Scotia's Karst Risk Map, the area in which the Bedford Commons is located has a relatively low risk of encountering karst. While sinkholes may still occur in this region due to unmapped or near-surface soluble rocks, it is highly unlikely. Only 0.1% of the recorded sinkholes in the Nova Scotia Sinkhole Database were observed in regions with a low relative risk of encountering karst.

Forest Habitat

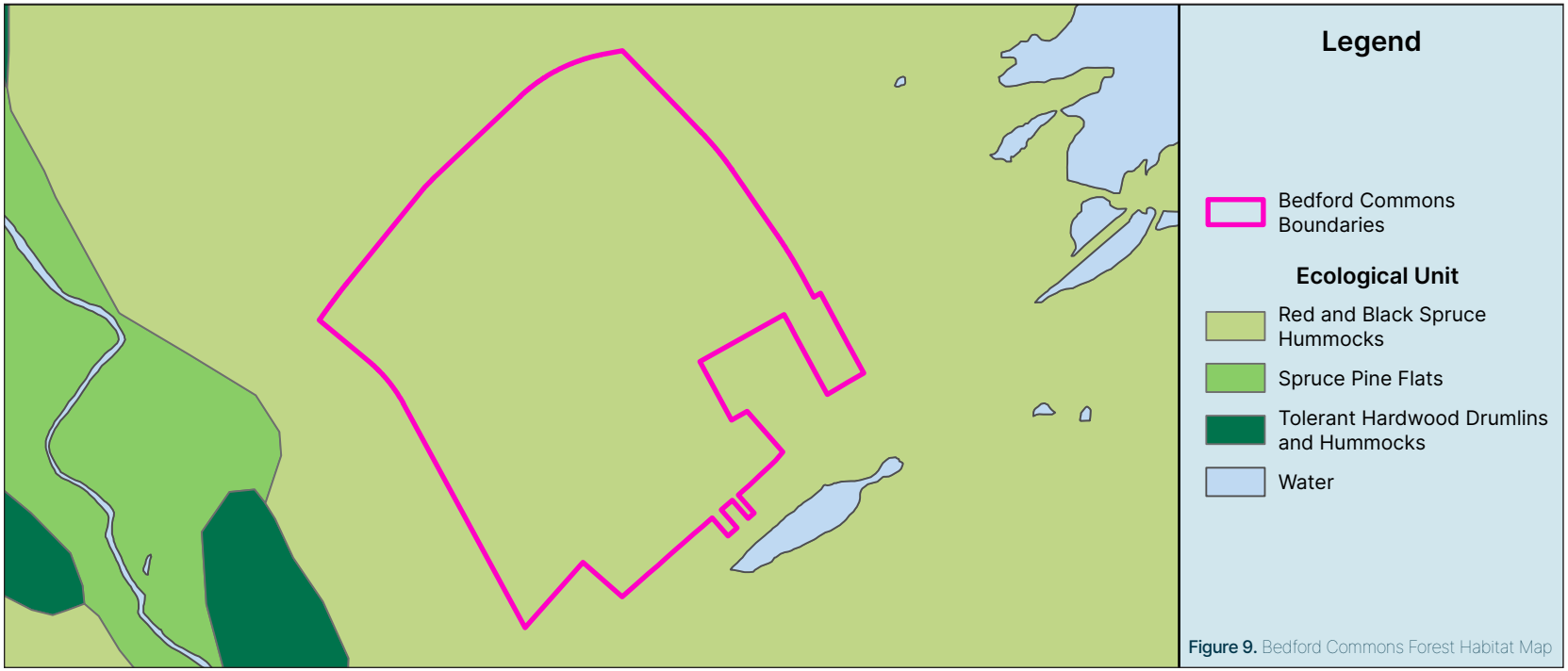


Figure 9. Bedford Commons Forest Habitat Map

The Bedford Commons lies within Ecodistrict 440 (Eastern Interior) as outlined by the 2017 Nova Scotia Ecological Land Classification Report. Within Ecodistrict 440, the Bedford Commons is situated completely within a Red and Black Spruce Hummocks region. This designation applies to hilly regions with spruce forests and is very common in Nova Scotia. In the provincial forest ecology dataset, Red and Black Spruce Hummocks were the 3rd most common designation, covering more than 12% of the entire province.

The Ecological Land Classification guide explains that forests in the Eastern Interior ecodistricts are often subject to a series of natural hazards that disturb and damage forests, limiting opportunities for old growth. Fires, hurricanes, insect populations, and natural senescence (aging) are all common disturbances, especially for forests in the Spruce Pine Forest Group.

Additionally, forests in areas with a thin layer of soil or exposed bedrock (like the Bedford Commons) face additional difficulties in terms of growth and disturbances since trees are unable to establish deep roots, making them even more susceptible to existing hazards.

A review of the province's old growth inventory did not reveal any sites of old growth on or near the Bedford Commons. The closest locations with old growth are the Hemlock Ravine in Halifax and Oakfield Provincial Park, nearly 20km away from the Bedford Commons. While there are forests around Second Lake that are provincially protected under Nova Scotia's old-growth forest policy, there is no evidence of old growth in these forests.

Upon reviewing the Ecological Land Classification Guide and the old-growth inventory of Nova Scotia, there do not appear to be any rare, old, or valuable forests in the Bedford Commons.




Betula papyrifera



Serviceberry, Amelenchier canadensis



Black Crowberry, Empetrum nigra



Lowbush Blueberry, Vaccinium angustifolium



Sweetfern, Comptonia peregrina



Labrador Tea, Rhododendron groenlandicum

Watercourses and Wetland Habitat

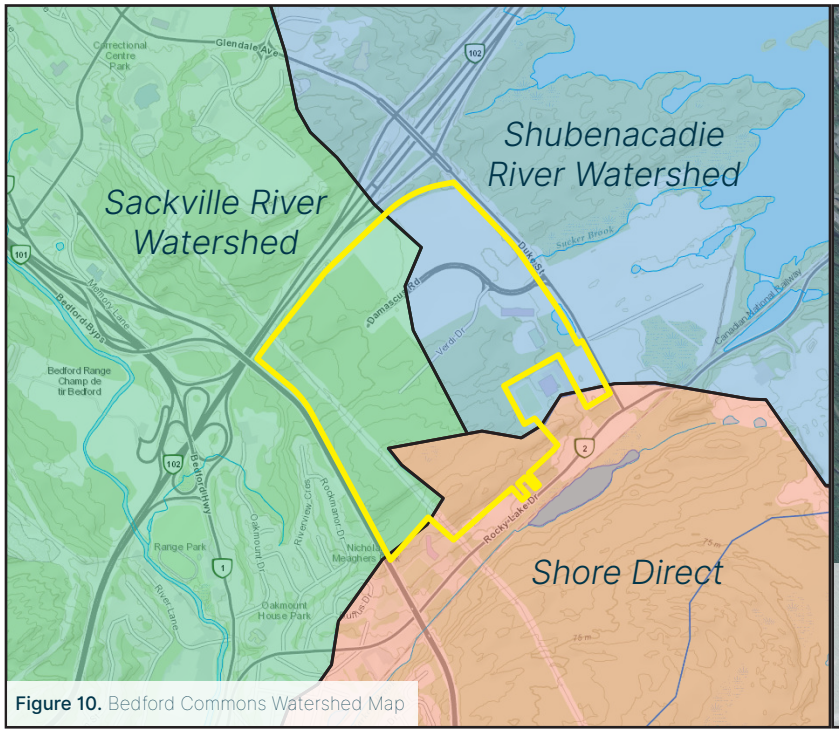


Figure 10. Bedford Commons Watershed Map

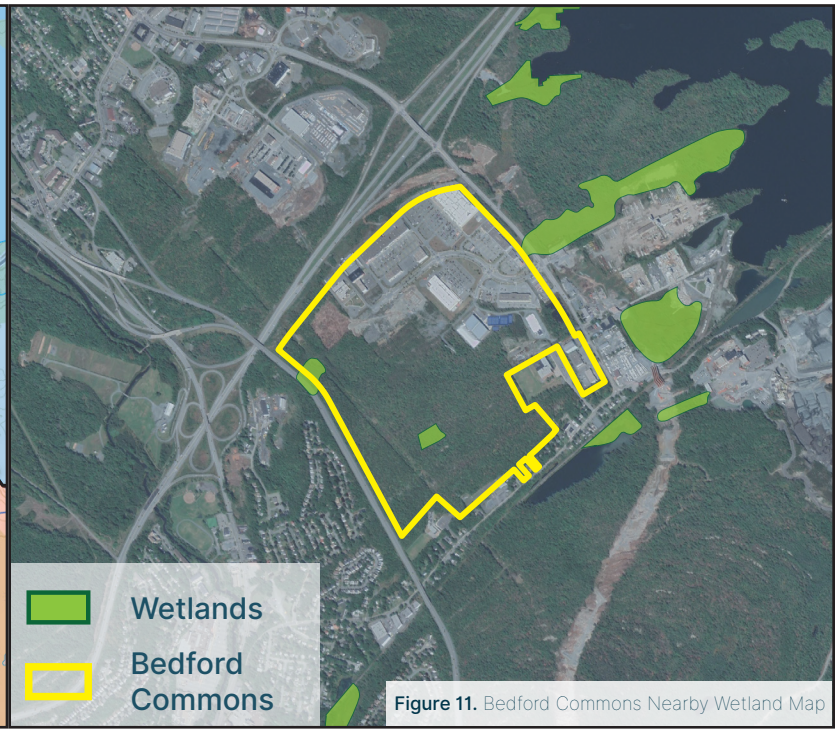


Figure 11. Bedford Commons Nearby Wetland Map

Runoff from the Bedford Commons leads into three different watersheds. The west side of the site connects to the Sackville River watershed which empties into the Bedford Basin. The southeastern portion of the site leads directly to the shore of the Bedford Basin via a small network of streams. Lastly, the northern and eastern portions of the Bedford Commons connect to the Shubenacadie River watershed.

In terms of wetlands, the Government of Nova Scotia lists a series of nearby wetlands on its Provincial Landscape Viewer Interactive Map. These types of wetlands vary, including swamps, marshes, and bogs. Using this tool, a series of wetlands were identified both on the site of the Bedford Commons as well as in the surrounding areas. The shores of Rocky Lake were particularly filled with wetlands.

Additionally, an analysis of the existing wetlands and watercourses on-site was undertaken in November 2022 by McCallum Environmental. They found that there are three separate wetland areas (with one already being identified by the Provincial Landscape Viewer) as well as one watercourse. These delineated features on-site can be seen in Figure 12. The lone watercourse slopes down towards the lowest point of the site which contains an additional wetland as identified by the Provincial Government.

In total, there are approximately 31 hectares of wetlands within a close proximity of the Bedford Commons as well as approximately 1.06 hectares of wetlands on-site. We expect that WL 2 and 3 will need to be removed and compensated as part of the development plan. WL 1 is located in a portion of the proposed parkland.



Figure 12. Map of Delineated Watercourses and Wetlands within the Undeveloped Portion of the Bedford Commons

Species at Risk

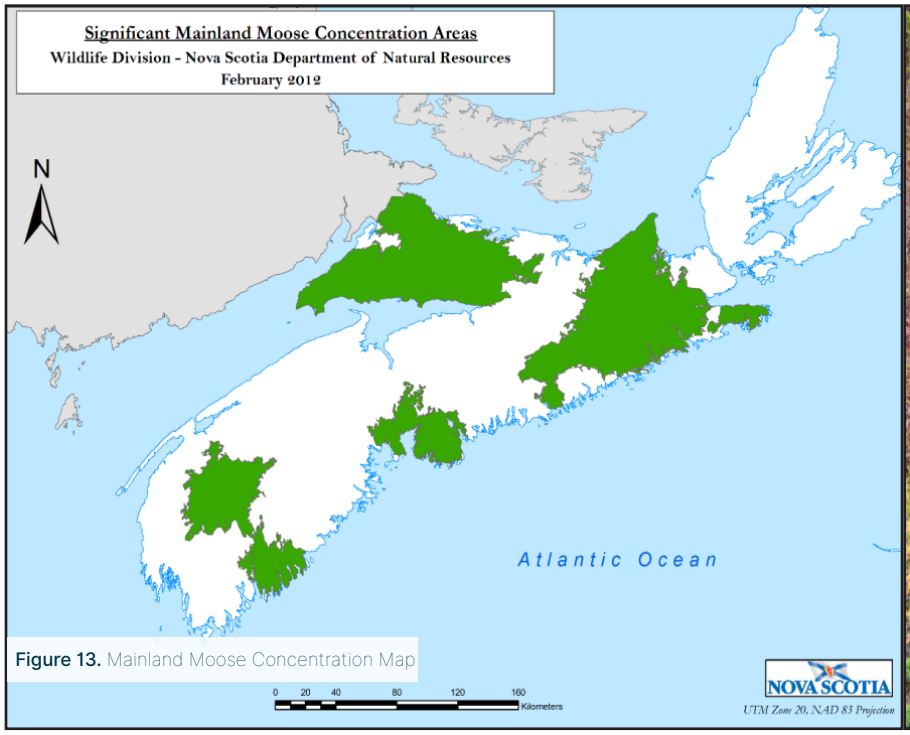


Figure 13. Mainland Moose Concentration Map

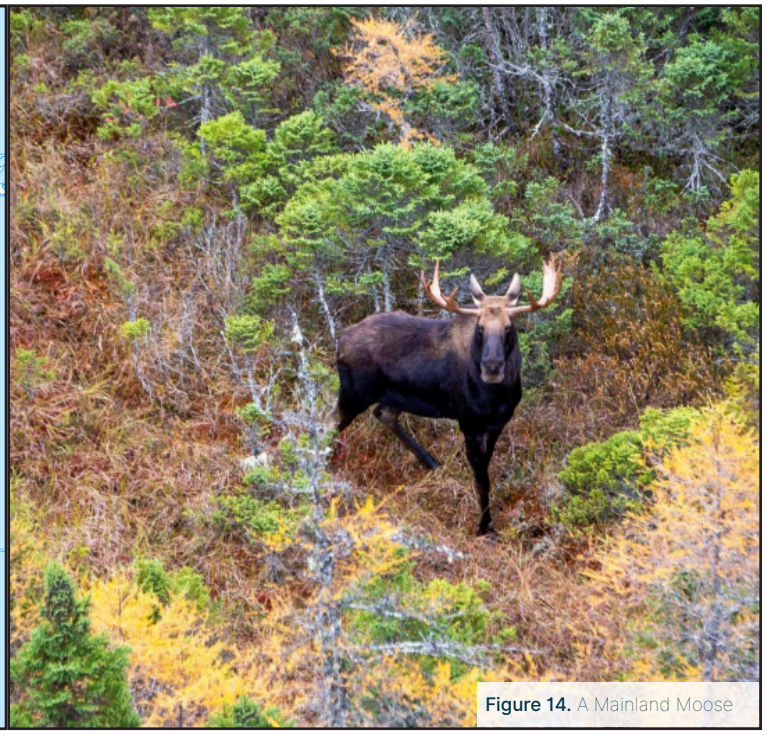


Figure 14. A Mainland Moose

The mainland moose population is limited to approximately 1,000 individuals in certain concentration areas across the province. These concentration areas are shown in Figure 13. Additionally, a report from the Nova Scotia Department of Natural Resources states that the Eastern Interior Ecodistrict is of particular importance to moose as it provides a balance of thermal cover, browse, security, and travel corridors. The Bedford Commons lies in both the Eastern Interior Ecodistrict as well as one of the Mainland Moose Concentration areas.

Further, the 2017 Nova Scotia Ecological Land Classification Report stipulates that open wetlands and shrublands are some of the most important habitats for the endangered mainland moose. The analysis of nearby watercourses and wetlands revealed over a hectare of delineated wetlands on the site of the Bedford Commons. Considering the location of the Bedford Commons within key moose habitat as well as the presence of wetlands on-site, there is a possibility that development could disturb populations of mainland moose.

However, the Bedford Commons is completely enclosed by streets and highways, potentially blocking wildlife access to the site. Additionally, the upcoming Highway 107 expansion will wrap around two sides of the Bedford Commons, making it more difficult and less desirable for wildlife to cross into the boundaries of the site. Additionally, the Bedford Commons lies at the easternmost extremity of the mainland moose concentration area, calling into question its importance to the mainland moose population.

Other at-risk species that may be impacted by development on the Bedford Commons Lands include aerial insectivores like the Olive-Sided Flycatcher, Common Nighthawk, Eastern Wood-Pewee, as well as some plant species like the Boreal Felt Lichen.

Landscape Connectivity

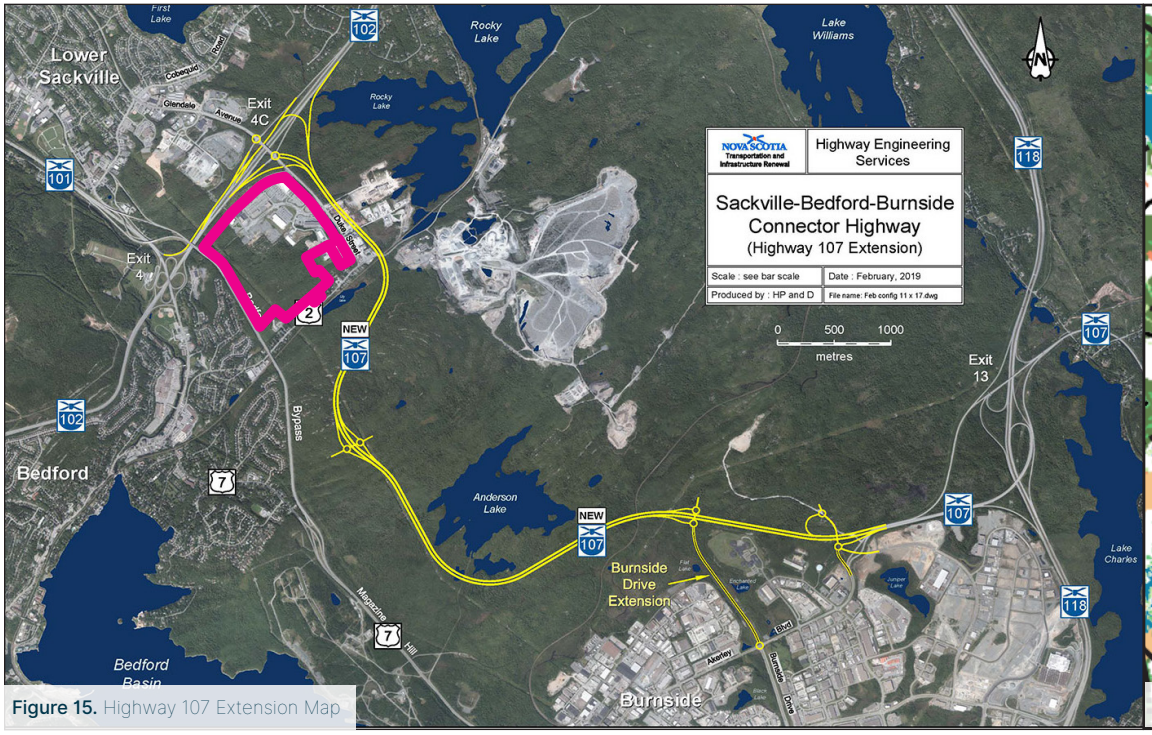


Figure 15. Highway 107 Extension Map

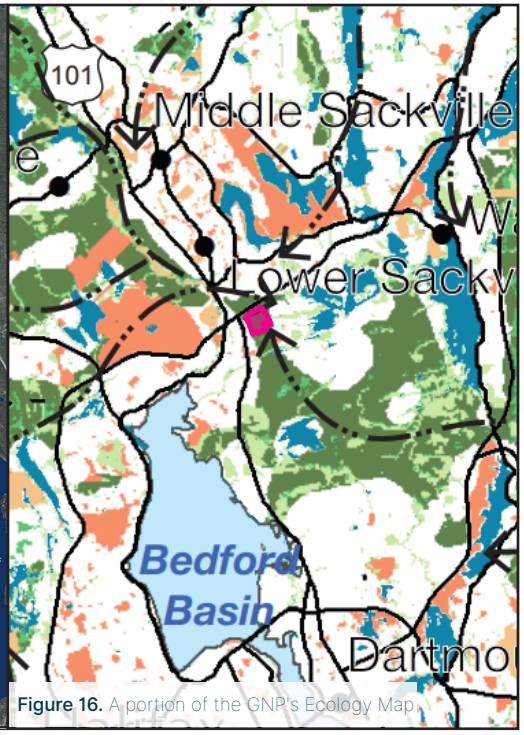


Figure 16. A portion of the GNP's Ecology Map

The site of the Bedford Commons lies within a "Core Area" and an "Important Corridor" as described by the Ecology Map of the Halifax Green Network Plan (GNP). These core areas are identified as being *"Large, well-connected patches of natural vegetation and wildlife habitat surrounded by more altered landscapes"* that provide a series of essential functions including the protection of biodiversity, soil, and water. The GNP goes on to advise against reducing the size of these core areas, warning that their loss could lead to *"substantial impacts and loss of overall regional landscape function".*

However, one week before the GNP was passed on August 14th, 2018, the Provincial Government of Nova Scotia approved an extension for NS Highway 107 that would pass directly through this core area, wrapping around the subject area and connecting to NS Highway 102.

When discussing Landscape Connectivity, the GNP directly advocates against highway expansion, claiming that it can threaten, degrade, or eliminate essential and important corridors. The GNP goes on to explain how 100-series highways (like the Highway 107 expansion) can create barriers to wildlife movements in ecologically important areas. Additionally, the expansion includes three interchanges designed to bring future growth further into the core ecological area near the Bedford Commons.

Even though the site currently lies within a core area as per Map 5 of the GNP, the ecological value of the area is likely to change following the construction of the Highway 107 expansion and the subsequent growth that it brings. As a result, the landscape connectivity and ecological significance of the Bedford Commons cannot be accurately determined until after the completion of the Highway 107 extension.

Flooding & Stormwater

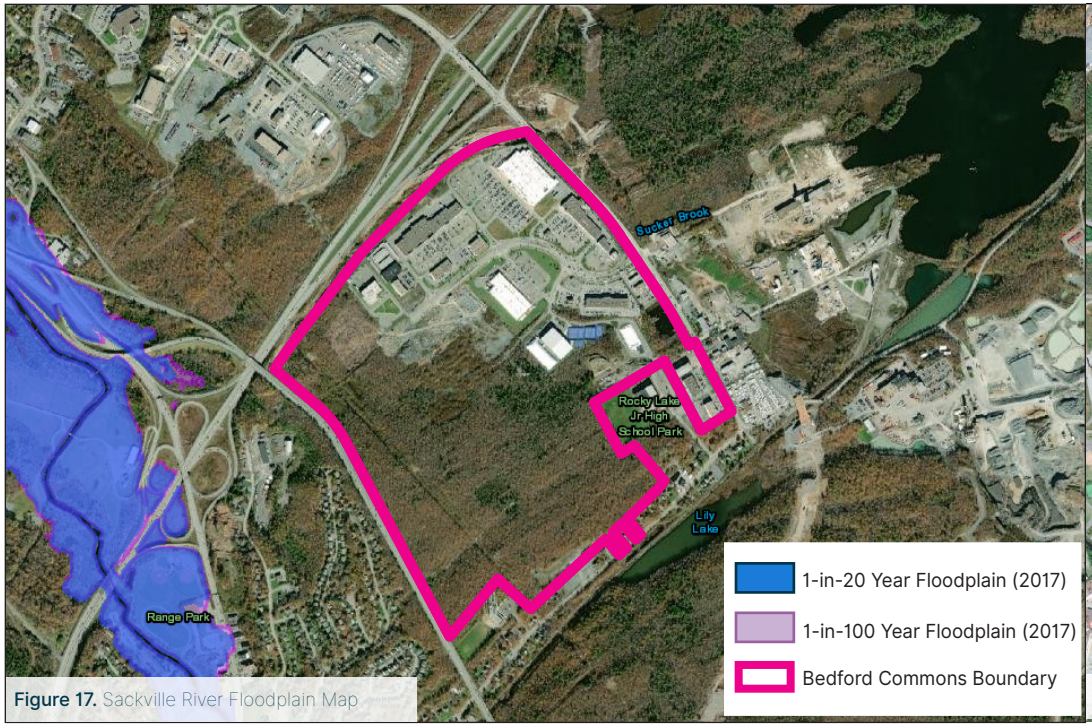


Figure 17. Sackville River Floodplain Map

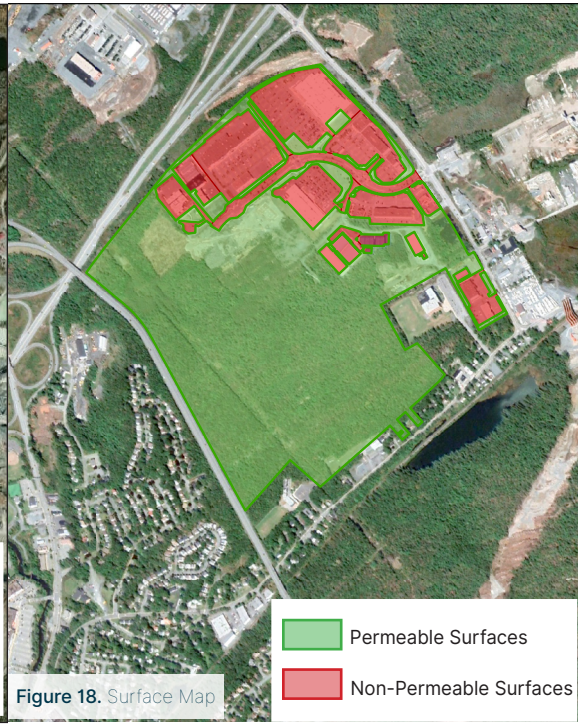


Figure 18. Surface Map

At its closest point, the Bedford Commons is located less than 500m away from the Sackville River. Reports from the 1980s established floodplains for the river but following a series of floods in the 2010s, the municipality released a study in 2017 outlining new boundaries for the floodplain.

The map in Figure 17, sourced from Halifax's interactive floodplain tool, shows the borders of the 1-in-20-year floodplain and the 1-in-100-year floodplain. A 1-in-20-year flood has a 5% chance of occurring in any given year and a 1-in-100-year flood has a 1% chance of occurring in any given year. The Bedford Commons is situated completely outside of these floodplains, indicating a low risk of flooding from the Sackville River.

In terms of stormwater and surface runoff, approximately 26% of the Bedford Commons site is covered by non-permeable surfaces like concrete and asphalt. As Figure 18 shows, these non-permeable surfaces are heavily concentrated in the developed northern portion of the site. Surface parking was the most prevalent non-permeable surface at the Bedford Commons. The shallow soils and surficial bedrock means the area already has a higher than normal runoff coefficient.

The proposed residential development plan will have significantly more parkland and green areas, than a big box type of development which is permitted to exist under the current zoning (as evidenced by the red areas on map 18). All future development must meet the no-net-runoff requirement whether developed as industrial land or residential land. We content that residential land will have more permeable areas and better stormwater management than industrial uses.

Surficial Aquifers

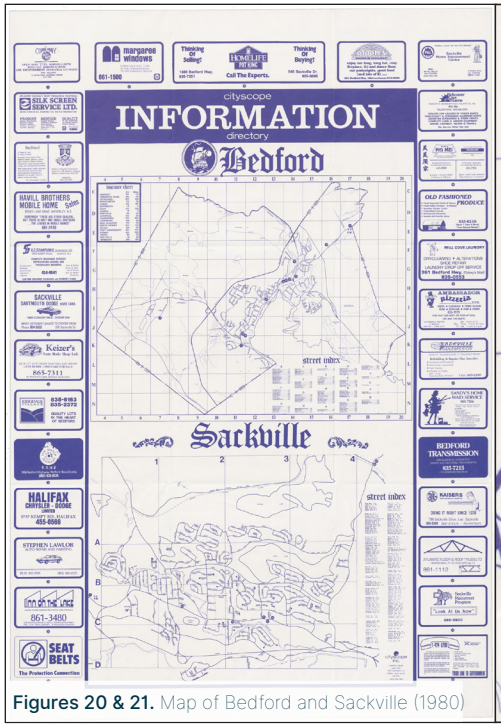


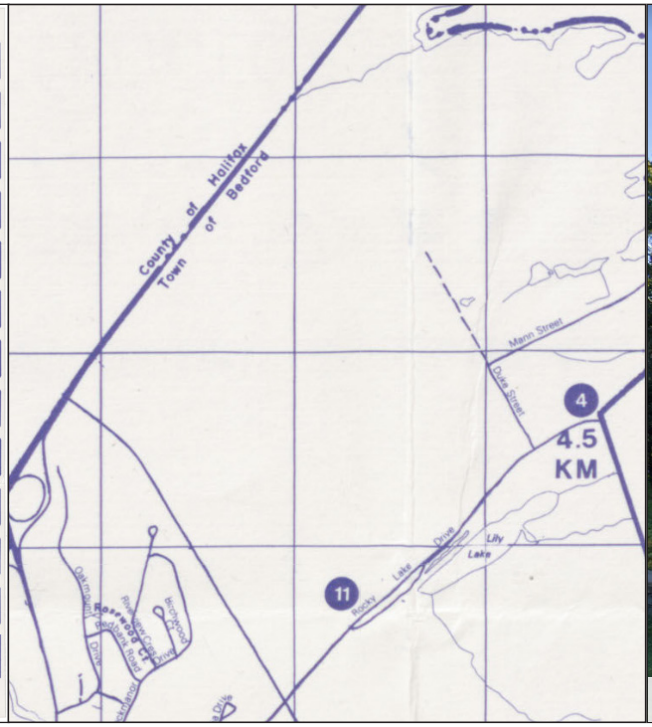
Figure 19. Bedford Commons Surficial Aquifer Map

Aquifers are water-bearing geologic formations that store groundwater. While they can sometimes lie deep below ground, many aquifers in Nova Scotia can be found just below the surface. These formations are key sources of water for many in the Province as 34% of the 82 sources of municipal water in Nova Scotia stem from groundwater.

Construction processes can pose a risk of contamination to the groundwater supplies in surficial aquifers. Fortunately, there are no potential surficial aquifers within a 5.1km radius of the Bedford Commons.

Heritage & Cultural Significance





Figures 20 & 21. Map of Bedford and Sackville (1980)



Figure 22. Fultz House

The site of the Bedford Commons was untouched for most of Halifax's history. The first developments to appear near the site were established along Rocky Lake Drive. The 1950s and 60s saw the construction of multiple homes, an elementary school, and the first businesses in the Bedford Industrial Park. The 70s and 80s saw more development along Rocky Lake Drive and within the industrial park; figures 20 and 21 demonstrate the extent of the road network at this time. Duke Road was extended and connected to the Highway 102 in the late 90s and ground broke on the commercial area of the Bedford Commons in 2006.

Outside the boundaries of the Bedford Commons, there are a few notable locations that are historically or culturally significant. Approximately 1km away from the easternmost edge of the Bedford Commons boundary is the Fultz House Museum. Built in 1860, the building is home to hundreds of artifacts and photographs detailing the history of Sackville.

Approximately 1.7km to the south of the Bedford Commons is the former site of Fort Sackville as well as the Scott Manor House. The fort, initially established in 1749, no longer exists but the House, which is the second oldest home in Halifax, is still standing and acts as both a museum and historic site.

Additionally, the Bedford Petroglyphs National Historic Site is located approximately 2km southwest of the Bedford Commons. Located within the Bedford Barrens, this site features two Mi'kmaq petroglyphs dating back at least as far as the year 1500. The site was designated as a National Historic Site in 1994 since the carvings are recognized as being of particular spiritual importance to the Mi'kmaq people.

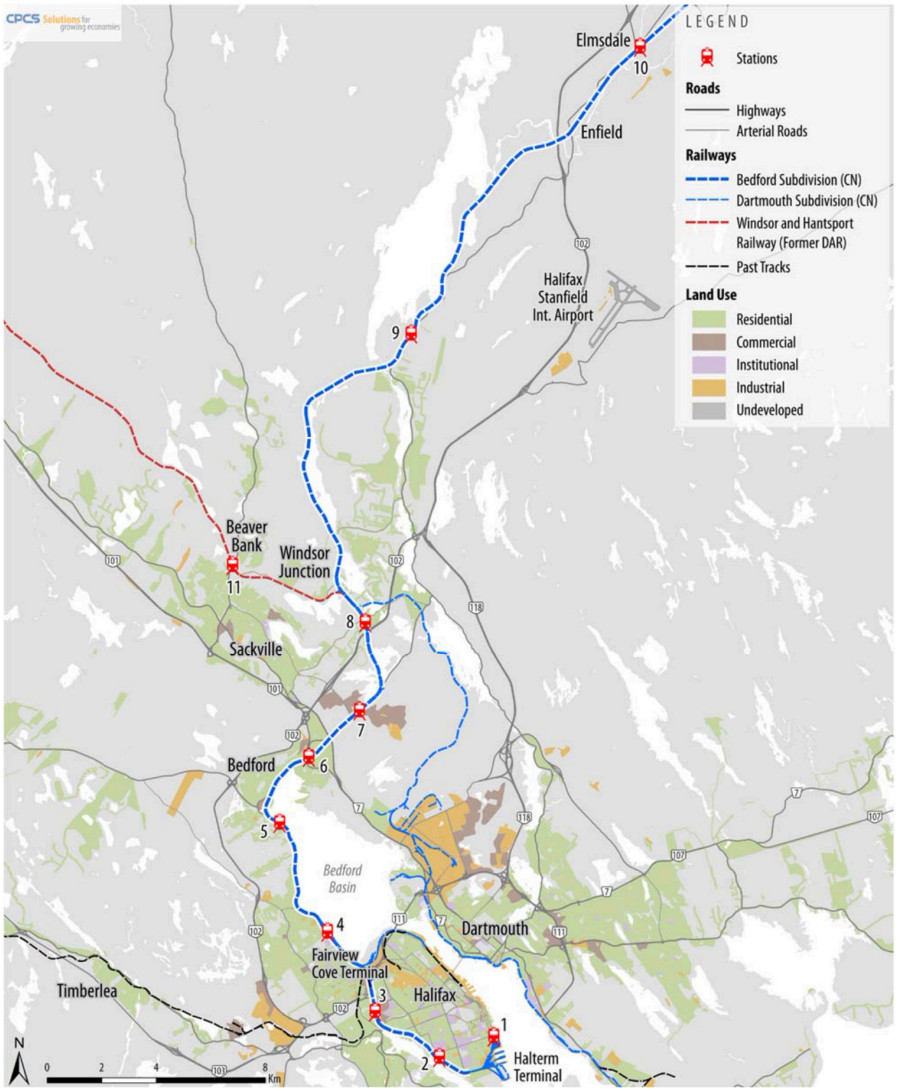
See the attached Archaeological Study for additional information.

Commuter Rail

The 2015 Commuter Rail Feasibility Study revealed that "*though commuter rail is technically feasible (subject to suitable track access and operating arrangements with CN), based on the assumptions used in the study, none of the operating concepts assessed would result in economic benefits that exceed the cost of implementing the service. The highest benefit-cost ratio calculated was approximately 0.7, which indicates that the estimated project benefits equal about 70% of the project's costs. In short, our analysis revealed that, on balance, commuter rail in Halifax – as currently conceived – is not economically viable. There may be opportunities to increase the viability of the project, by leveraging Transit Oriented Development (TOD) or through downtown revitalization, though these scenarios would require further study.*"

Essentially Halifax, at the time of the study, did not have a high enough population and there weren't enough federal subsidies to make the rail line feasible. There will be a time though when commuter Rail will make sense for Halifax and we believe that reserving a future rail station (as shown as station 7) will remain important if Bedford Common is built out to the extent shown on the accompanying plans.

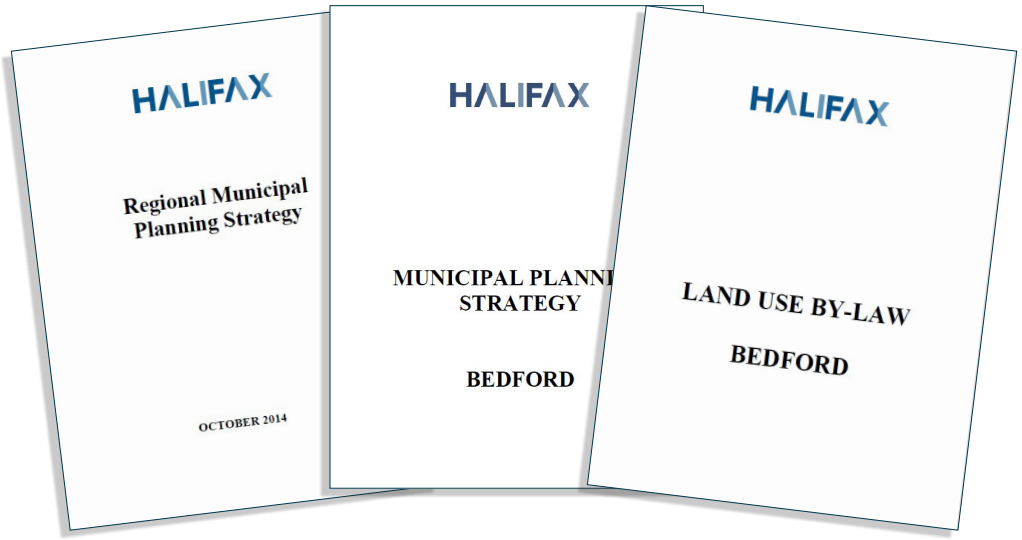
Figure ES-1: Study Area and Potential Station Locations

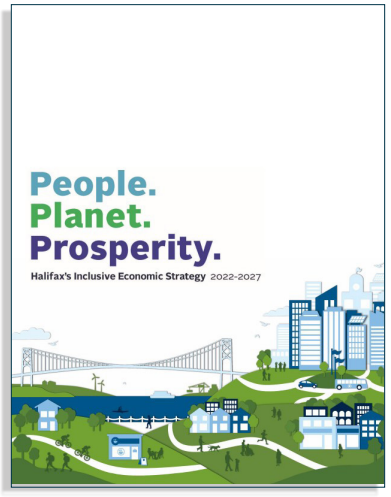


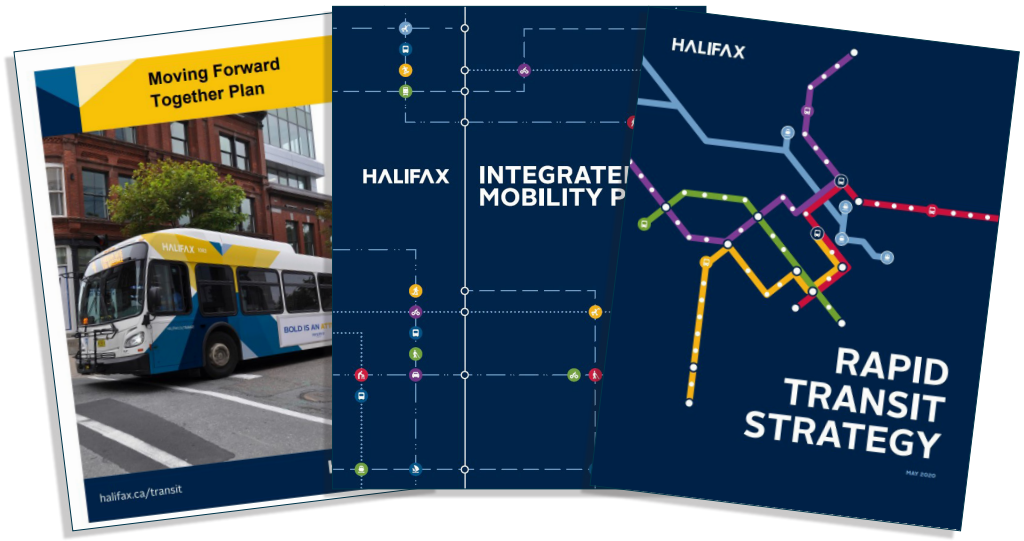


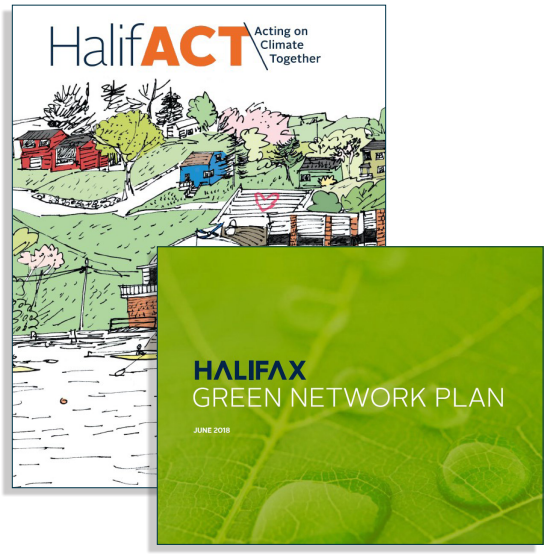
03 Policy Background

Plans Reviewed









Regional Municipal Planning Strategy

The Regional Municipal Planning Strategy, also referred to as the Regional Plan, establishes long-range, region-wide planning policies pertaining to the growth and development of the Halifax Regional Municipality from the present day up until 2031. The plan aims to improve the quality of life for those in HRM by "*fostering the growth of healthy and vibrant communities, a strong and diverse economy, and sustainable environment*."

The plan lists a series of objectives organized across eight different themes. Some of these objectives have less relevance to the development of the Bedford Commons; for example, objectives related to growth in the Regional Centre do not strongly pertain to the subject properties located in Bedford.

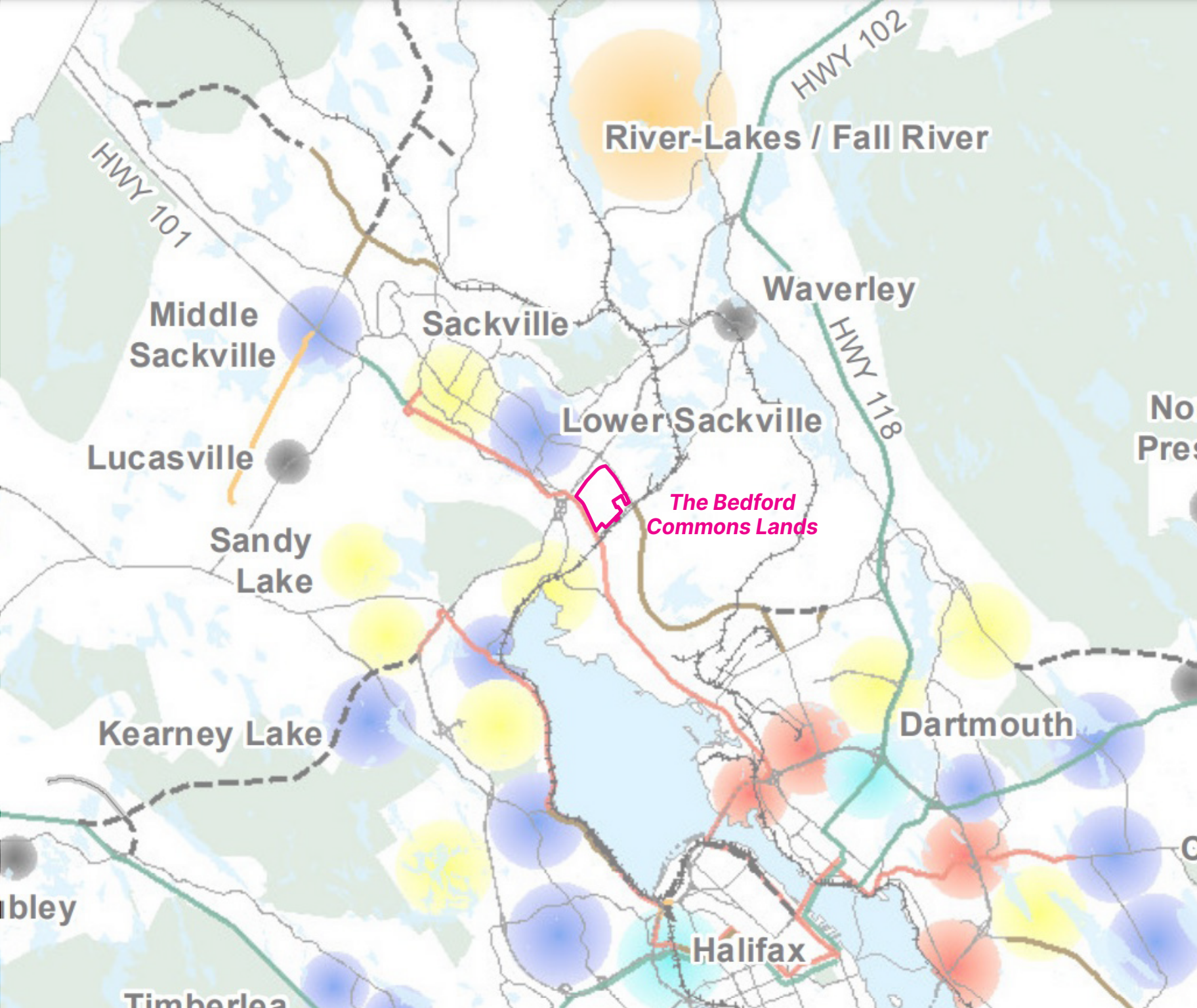
The Regional Plan establishes a growth target to have 50% of new housing starts located within the suburban communities of HRM (where the Bedford Commons is located). Further, the Regional Plan also establishes a series of "Growth Centres" across HRM; these are areas in which the municipality wants to concentrate growth and development in the future. The Bedford Commons lies directly between the Sunnyside Mall and Lower Sackville growth centres, indicating the desire of the municipality to concentrate development in this area.

When further examining Map 1 from the Regional Plan (shown in Figure 1.), it becomes apparent that the Bedford Commons lies at the intersection of a linear pattern of growth centres running along both Highway 101 and Highway 102. Given the 50% housing start goal as well as the nearby distribution of proposed growth centres, further development of the Bedford Commons lands would help meet growth targets while also connecting the series of growth areas as outlined by the municipality.

Beyond its strategic location, the Bedford Commons benefits from being designated as an Opportunity Site by the Regional Plan. This designation was established in the second Regional Plan Review and pertains to large parcels of land that may be suitable for mixed-use developments. This designation specifically mentions the significant demand for housing in HRM as a motivator to develop these sites.

Under the Opportunity Site designation, the Bedford Commons is subject to a variety of considerations that may influence the municipality's decision to approve or deny development. According to policy S-13B, development on the Bedford Commons Lands should feature a mixture of units, a range of housing types, adequate public parks/open spaces, and a transportation network that prioritizes a variety of modes, among other considerations. Where possible, these key considerations will be met by the conceptual plans for the site.

The Regional Plan also established the Urban Transit Service Boundary (UTSB). This Boundary includes all contiguous communities in Halifax which currently have both municipal water and municipal sewer, where homes are generally closer together. The goal of this policy was to focus investment in areas where transit could operate most efficiently while also setting clear expectations for future expansion. As a result, Halifax Transit does not plan to add or increase transit service outside of the UTSB except for the case of rural express commuter routes. Fortunately, the Bedford Commons lies within the UTSB and may benefit from future transit expansions.


HWY 102
River-Lakes / Fall River
HWY 101
Middle Sackville
Sackville
Waverley
HWY 118
Lower Sackville
Lucasville
The Bedford Commons Lands
Sandy Lake
Kearney Lake
Dartmouth
Halifax

Draft Regional MPS - June 2023

The second five-year review of the Regional Municipal Planning Strategy began in 2020 and although the updated plan has yet to be adopted, the draft document for community engagement was released in June 2023. The updated plan includes a series of new policies and visions aimed at guiding the growth of the municipality towards an eventual population of one million people. While there are a significant number of changes in this document compared to its predecessor, many of the policies in the Draft Regional MPS that support the development of the Bedford Commons lands are similar to those of the current plan.

Two of the main principles listed in chapter one are the need to direct housing and employment to strategic locations in the municipality as well as the need to increase housing supply across the region to meet the needs of a diverse population. The development of the Bedford Commons would more than meet both of these goals.

As mentioned throughout this document, the location of the Bedford Commons Lands is uniquely positioned for denser development as a result of its proximity to schools, green spaces, public transit connections, existing highways/arterial roadways, employment opportunities, and commercial areas. The site is also located within Halifax Water's serviceable boundary, further increasing the strategic nature of its location and meeting Policies RP-2 and RP-14 from the draft regional plan. The proposed site plan features a variety of unit types and intensities, allowing for residents of all ages, incomes, and abilities to find suitable housing while also introducing hundreds of much-needed dwelling units to the municipality's housing market. The creation of this large volume of new housing would also meet policy RP-14 from the plan which seeks to direct 90% of new housing units to suburban sites, like the Bedford Commons.

The draft plan also introduces a chapter with policies specific to suburban sites. Section 3.4.2 outlines the Suburban Plan Guiding Principles, highlighting open space, culture, complete communities, transit supportive growth, pedestrians first, and human-based design as elements that suburban developments should incorporate. The preliminary plan for the Bedford Commons already meets most of these principles as it was designed with complete communities, open spaces, and human-based design in mind. Examples of the deployment of these principles include the required building stepbacks in the built form section, the prevalence and location of key neighbourhood parks in the preliminary master plan, as well as a network of pedestrian trails and sidewalks.

The significant development potential of the Bedford Commons Lands has not gone unnoticed by HRM and as with the existing Regional Plan, the subject area is classified as an Opportunity Site under the Draft Regional MPS. It comprises one of two opportunity sites located within the suburban area of the municipality and is subject a series of criteria during the undertaking of the neighbourhood planning process.

Aside from the significant supporting goals and policies of the plan that have already been mentioned, there are a number of smaller or individual sections of the plan that support development on the Bedford Commons lands. For example, the fact that it's located outside of the Sackville River Floodplain meets policy EC-48. Its strategic active transit and public transport connections and expansion opportunities coincide well with the increased mode share targets adapted from the IMP in Table 7.1. The complete communities approach in creating the master plan has meant that the conceptual plan adheres to many of the policies outlined in section 7.5. Clearly, the draft regional MPS supports the development of the Bedford Commons Lands in a number of ways.

Bedford Municipal Planning Strategy

The Bedford Municipal Planning Strategy (MPS) is divided into eleven chapters separated by theme. Each theme carries an overarching goal and the policies/objectives of each chapter pertain to the theme's primary goal. Some of the chapter themes do not strongly apply to the Bedford Commons Lands as a result of its physical form; for example, the themes of Heritage and Waterfront Development are not massively relevant to the site as it is largely a greenfield development and does not sit along the waterfront. Additionally, many policies in the Bedford MPS are zone-specific. Development of the Bedford Commons Lands will require a plan amendment to proceed, likely resulting in the current zoning designation changing. Since the new zone has yet to be decided, policies that are extremely zone-specific were omitted from this analysis. The details of the most relevant themes and objectives are discussed in the following paragraphs.

Residential

The Bedford MPS describes the need for a variety of housing types in order to meet the needs of a diverse population. The document gives examples of children moving away from home, senior residents downsizing, and individuals with different abilities who may not desire a single-detached dwelling. As per the Regional Plan, development on the Bedford Commons Lands should involve a mixture of housing types, therefore meeting this portion of the residential objective in the Bedford MPS.

Further, the document states that another residential objective is to permit residential development in areas where the town can economically provide services. The Bedford Commons Lands are already serviced by municipal transit, water, solid waste collection, and more, indicating that the municipality is able to already economically provide services to the site.

Transportation

The overall objective for the transportation section of the MPS is:

> ***To provide for an economical, safe, and attractive transportation network which: a) minimizes any detrimental impacts of the movement of vehicles on residential and business areas; b) maximizes accessibility from home to work, services and community facilities, recognizing that the special needs of seniors may require periodic deviation from normal transit routes; c) provides for public transport that also recognizes the special needs of seniors; d) encourages the movement of pedestrians and cyclists in the Town***

The Bedford Commons is located on the edge of the Bedford plan area while also having excellent highway access, meaning that development is unlikely to increase traffic and cause any "detrimental impacts" for homes and businesses in the rest of Bedford. Further, the Integrated Mobility Plan and the Moving Forward Together Plan describe a series of transit and active transportation goals surrounding development that may be met in the event that the Bedford Commons is developed, further meeting the objectives of the transportation theme in the MPS.

Community Participation

The Bedford MPS seeks to enable effective communication with residents on community and planning issues in a way that enables them to participate in a meaningful way. The MPS recognizes participation as an important and necessary part of the social, economic and cultural development of the Town and affirms the need to facilitate public participation in all stages of the planning process.

The development of the Bedford Commons Lands will likely involve an iterative and in-depth public engagement process that will document

community feedback and integrate it into the overall design wherever it aligns with overarching policy objectives.

Community Development

Park of the community development objective describes the desire for the "*creation of geographically dispersed neighbourhood cores which would provide commercial, recreational and educational facilities*" for areas outside the mainstreet commercial strip along the Bedford Highway. Developing the Bedford Commons Lands would likely result in a new core area of Bedford with residential, commercial, recreational, and educational facilities, therefore meeting the objective laid out in the MPS.

Parks and Recreation

The development of the Bedford Commons will likely feature an array of open and green spaces for residents to enjoy. These may take the form of landscaped parks, forested trails, or grassy fields, among other potential examples. The development of parkland on the Bedford Commons Lands meets the objective set out by the MPS to " provide for the [development] of parks, recreational facilities and recreation programs for the enjoyment of the Town's residents" while also meeting a number of policies relating to park development such as policies P-5, P-18, and P-23.

Secondary Planning Areas

The Bedford MPS has two secondary planning areas that were created in the 2000s in order to regulate the development of two significant portions of Bedford that were empty at the time. These planning areas are the Bedford West Secondary Planning Area (BWSPA) and the Bedford South Secondary Planning Area (BSSPA). Within these regions, development can only occur via development agreement and must reasonably follow the intent of the secondary planning strategies which are included in the Bedford MPS. This process of regulating large-scale developments under a secondary MPS is common in HRM, with the Port Wallace development in Dartmouth being a recent example of this.

In the case of Bedford, the secondary planning strategies have enabled many forms of development that are not possible or present elsewhere in the community. Large portions of the BWSPA and BSSPA feature mixed- and multi-unit buildings that rise above 6, 8, and 10 stories. Conversely, the Residential Multiple Dwelling Unit zone elsewhere in Bedford only allows buildings up to 35ft tall with a maximum of 36 dwelling units per lot.

It is likely that the development of the Bedford Commons Lands will involve the creation of a secondary planning area or a similar piece of legislation in order to guide the planning process. These secondary planning strategies have been extremely effective at promoting growth; the census tract which contains most of the BWSPA grew in population by more than 81% from 2016 to 2021.

Bedford Land Use By-Law

The Bedford Commons is currently zoned as Light Industrial (ILI) as per the Bedford Land Use By-Law (LUB). This designation enables a number of industrial uses like warehouses, manufacturing facilities, and heavy vehicle storage. Additionally, the ILI designation allows all uses in the Shopping Centre Zone, General Business District Zone (except office buildings), and Utilities Zone, therefore enabling a wide variety of commercial uses.

In regards to the secondary planning areas, the majority of the properties within the BWSPA and BSSPA are zoned as either the Bedford West Comprehensive Development District zone or the Bedford South Comprehensive Development District zone. The LUB establishes that no development permits shall be issued in either of these zones except in accordance with a development agreement that has been approved following a review of the applicable policies in their respective secondary planning strategies.

Integrated Mobility Plan

In 2017, Halifax Regional Council passed the Integrated Mobility Plan (IMP) which guides development and investment in active transportation, transit, transportation demand management, goods movement and the roadway network in Halifax.

Similar to the Regional Plan, the IMP sets goals for the future growth of the regional municipality in terms of households and jobs. The IMP sets the goal that 50% of future household growth and 43% of future employment growth should take place in suburban communities, like that of the Bedford Commons. The IMP also outlines mode share targets, establishing a 2031 goal of 26% of all trips being taken by either transit or active transportation within inner suburban communities.

Transit Connectivity

The Bedford Commons is currently serviced by the 88 local bus route operated by Halifax Transit. The route runs from the Sackville Terminal to the Cobequid Terminal and arrives at the Bedford Commons via Damascus Road. The entire site lies on the edge of the Urban Transit Service Boundary and can access the rest of the network through either of the two terminals along the 88. Although the 88 only runs once every hour, development on the Bedford Commons Lands could justify transit service improvements in the area.



Complete Communities

One of the guiding principles of the IMP is to promote the adoption of complete communities. According to multiple policy documents published by the regional municipality, complete communities are places that *"support a variety of lifestyles, enabling people of all ages, abilities and backgrounds to live, work, shop, learn and play in close proximity to one another, with multiple mobility options."* When examining the Bedford Commons, it becomes apparent that the site meets a number of the criteria need to be considered a complete community.

The site itself features a variety of key amenities including a grocery store, bank, sports facility, as well as a number of shops and restaurants. There are also several nearby employers, two schools, and a significant amount of green space within a close proximity of the site. These nearby amenities mean that future residents of the Bedford Commons will be able to meet most, if not all, of their daily needs in and around the site. Moreover, development of the Bedford Commons Lands will bring further amenities to the site, making it a more desirable place to live and work. Development will also likely include a variety of housing types in order to accommodate residents from a variety of backgrounds, incomes, and ages, further adhering to the principles of complete communities.

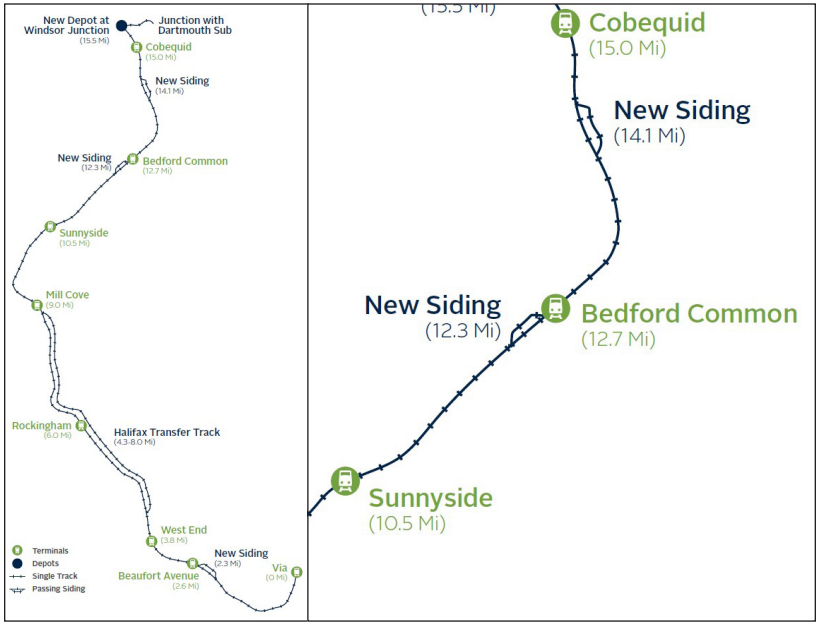
Sidewalks

Although the Bedford Commons has just two named streets, both have sidewalks. The southern portion of Verdi Drive only has sidewalks on its eastern side, but the entire road currently extends less than 250m. Conversely, Damascus Road extends throughout the entire site and has sidewalks that run along both sides of the road for its entire length. There are also four pedestrian crossings with three of them being at a lighted intersection. This high level of sidewalk coverage is uncommon for business parks like Bedford Commons, with other comparable sites like Bayer's Lake lacking similar sidewalk coverage. This pedestrian infrastructure is important as it makes walking considerably safer and easier which subsequently makes it a more desirable mode of transportation.

Commuter Rail

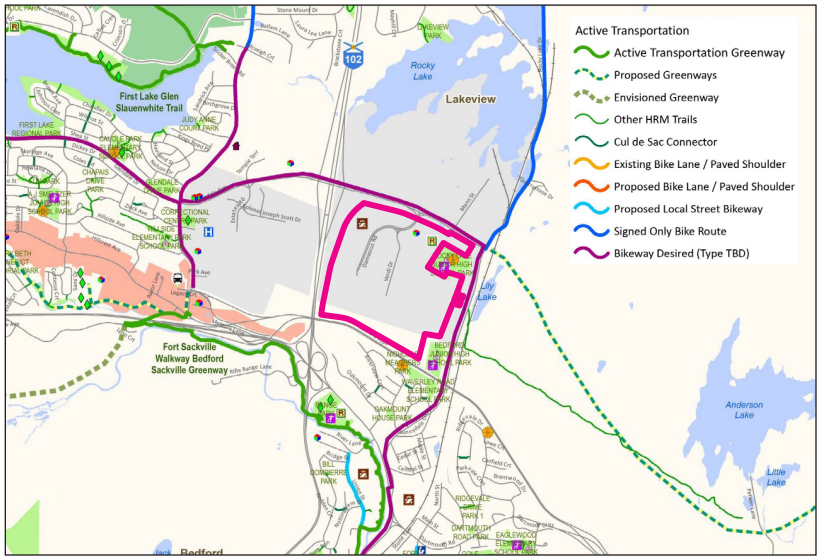
The IMP explains the feasibility of commuter rail within the Halifax Regional Municipality and how it could function if implemented. Commuter rail was long considered for the Halifax region but typically faced challenges in terms of implementation and cost. Most plans operate under the assumption that large portions of a hypothetical commuter rail line would run on existing tracks. Notably, the Bedford Commons abuts a rail corridor in the southeast and as a result, the primary conceptual model for commuter rail in Halifax features a terminal located at the Bedford Commons.

Unfortunately, The Commuter Rail Feasibility Study in 2015 concluded that commuter rail service along this hypothetical route is operationally possible, but not expected to be economically viable. In 2019, Halifax Regional Council voted unanimously against commuter rail adoption, citing infrastructure, financial, and operational concerns. However, plans for a commuter rail line may arise again in the future as Halifax grows and the Bedford Commons is uniquely positioned to benefit from the establishment of an adjacent rail line.



Greenway Network Vision

The 2014 Active Transportation Priorities Plan established the "Active Transportation Greenway Network Vision" of over 300km of separated walking and bicycling facilities to connect communities across the Region. This cycling infrastructure is repeatedly mentioned in the IMP's section on active transportation, specifically in regard to making cycling safer and easier in HRM. Significant portions of this planned bicycle infrastructure have either already been built or are planned within a close proximity of the Bedford Commons. The plan established a desired bikeway which would wrap around the site along Duke Street and Rocky Lake Drive. Additionally, a proposed greenway was established to the east of the site, roughly following the path of the Highway 107 extension. Developing the Bedford Commons would be a significant incentive to follow through with the construction of this bicycle infrastructure, making cycling safer and more accessible to all users of the cycle network in Halifax.



Rapid Transit Strategy

In May 2020, Halifax Regional Council unanimously endorsed the Rapid Transit Strategy (RTS) which was designed to bring rapid transit to Halifax in the form of increased ferry service and new Bus Rapid Transit (BRT) routes. The plan proposed three new ferry lines and four new BRT lines that would stretch as far north as Mill Cove and as far south as Spryfield. Unfortunately, none of the proposed BRT stops are located near the Bedford Commons; the nearest stop is 12.4km away and commuters would need to take at least two buses in order to travel from the Bedford Commons to the nearest BRT line via transit.

However, the proposed Mill Cove ferry terminal is only 6.7km away from the Bedford Commons by vehicle and is the only portion of the RTS that has been approved for funding. While it still would take two Halifax Transit buses to access the terminal from the Bedford Commons, further investments and adjustments to the transit network may better link the Bedford Commons with this new ferry link and subsequently the rest of the Regional Centre.

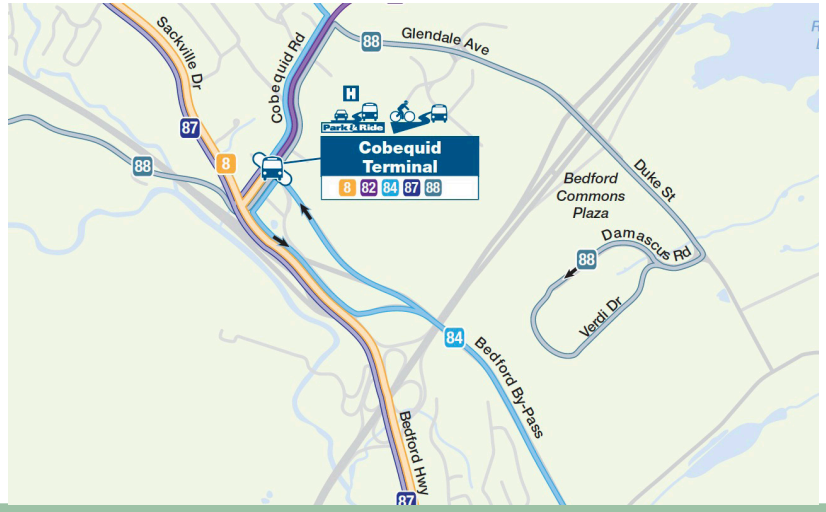
The RTS explains the importance of rapid transit in improving mobility. Faster and more frequent forms of transit improve system reliability, connectivity, and legibility, making it more desirable overall to take transit in lieu of driving. Improving connections between the Bedford Commons and the proposed stops/terminals of the RTS can serve to boost transit ridership in and around the subject area while simultaneously reducing car traffic and promoting transit-oriented forms of development.

Moving Forward Together Plan

Approved by council in 2016, the Moving Forward Together Plan (MFTP) was created to kickstart the restructuring of the transit network and act as a guide for future service improvements. With the goal of improving the appeal and efficiency of the Halifax Transit Network, the plan outlines changes such as increasing the frequency of service, extending the service day, and enhancing the reliability of service in key high transit ridership corridors.

Among many things, the MFTP establishes the minimum distance from a bus stop that a residence needs to be in order to be considered "serviced" by Halifax Transit. The plan sets the minimum service distance from bus stops to be 500m and the minimum service distance from terminals to be 1000m. Under these rules, the entire developed portion of the Bedford Commons is considered to be serviced by bus stops but not by terminals. Future development on the site would likely involve the creation of more stops along Damascus Road since current maps from Halifax Transit display the 88 line completing a loop on a portion of Damascus Road that has yet to be built.

Along with the IMP, the MFTP advocated for the use of transit priority measures to provide transit vehicles with competitive time advantages over private vehicles. Since only a portion of the Bedford Common's potential road network has been constructed, future road expansions and intersection construction could see transit priority measures implemented to improve transit service in the area.



HalifACT 2050

In June 2020, Halifax Regional Council unanimously adopted HalifACT, a plan that details the municipality's pathway to achieve a net-zero economy by 2050. The plan outlines a series of actions and policies aimed at decarbonizing Halifax in an attempt to meet the global emissions reduction targets necessary to limit global warming to 1.5°C above pre-industrial levels.

Among the many actions that are detailed in the plan, a handful specifically pertain to new developments within the region. Section 5.2.1 of the plan discusses the need for more efficient buildings now and in the future. Buildings accounted for approximately 70% of total energy use in Halifax in 2016 and 77% of total emissions. The plan details how retrofitting existing buildings and ensuring that new buildings are more efficient are necessary components of a successful energy transition for Halifax. Where possible, new buildings can be built to be more efficient when developing the Bedford Commons.

The plan also goes on to explain the importance of natural areas and green infrastructure in reducing the effects of anthropogenic climate change. Among other things, natural areas and green infrastructure increase water infiltration, reduce surface runoff, reduce the heat island effect, and sequester carbon. It is possible that development of the Bedford Commons Lands can include open green spaces and protected forested areas to maximize the benefits caused by these natural features.

Green Network Plan

Created with the intention of providing land management and community design direction in order to promote the long-term sustainability of the Region, the Halifax Green Network Plan (HGNP) defines an interconnected open space network, outlines ecosystem functions and values, and provides strategies to manage open space. Within the plan, there are five themes which define the importance and function of open spaces in the region; Ecology, Working Landscapes, Community Shaping, Outdoor Recreation and Cultural Landscapes.

The open spaces of the Bedford Commons Lands are classified by the HGNP as having minimal to low ecological value (Map 1), minimal working landscape value (Map 2), and minimal socio-cultural landscape value (Map 3). This is largely the result of the site being undeveloped and lacking any spaces that promote economic activity, recreation, community, or culture. The development of the Bedford Commons Lands would likely include the establishment of open spaces that enable community-building, comfort, safety, well-being, and active transportation, therefore increasing the overall landscape value of the site.

Additionally, the plan identifies the area in and around the Bedford Commons Lands as being located within an important ecological corridor. This designation applies to areas that connect natural habitats but whose loss would be unlikely to impact regional connectivity. Where possible, the development of the Bedford Commons Lands could see the retention of wooded areas and green spaces to maintain this ecological corridor. The plan proposes 13.7 acres of parkland (15%) which is considerably higher than what is required under the subdivision bylaw.

People Planet Prosperity

Every five years, the Halifax Regional Municipality publishes an economic strategy in collaboration with The Halifax Partnership. In effect from 2022 to 2027, the current Inclusive Economic Strategy outlines a series of visions, goals, and targets pertaining to growing Halifax's economy into the future.

One main vision described by the plan is to grow Halifax to a population of 650,000 by 2037. The plan also describes the need to increase access to housing options in HRM, citing homelessness and affordability as two key concerns identified by residents. As a result, the plan established "Increasing Housing Stock" as a 5-year strategic objective aimed at promoting/maximizing growth and increasing the municipality's GDP. The development of a site at the scale of the Bedford Commons Lands would likely result in the construction of hundreds of new units, helping to achieve many of these objectives outlined in the economic strategy.

Further, the plan goes on to explain the importance and impact of "Major Projects" in driving economic growth. These developments are a significant source of investment, spurring growth in construction and manufacturing while also promoting the creation of new infrastructure. This infrastructure makes it easier for businesses to operate more effectively in Halifax and across the province, driving economic growth even further.

The plan cites a number of examples of major projects as per the Atlantic Provinces Economic Council's (APEC) Major Project Inventory including the Seton Ridge development, Port Wallace development, Cogswell Interchange redevelopment, and King's Wharf waterfront redevelopment. All of these projects are comparable in scope and scale to the potential development of the Bedford Commons, indicating the significant possible economic output that could be generated by the development of these lands.

Draft Suburban Design Guidelines

In addition to the nine plans listed above, the draft suburban design guidelines (SDG) from the regional plan review were also reviewed. Being only a draft document, the various ways in which the SDG support the development of the Bedford Commons should be taken lightly as they are subject to change in the future.

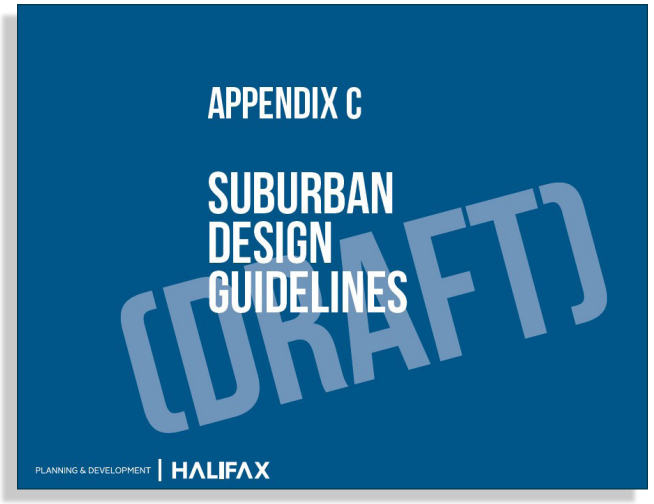
In regard to site context, the development of the Bedford Commons would meet criteria 1 and 2 which describe the need for new developments to support complete communities, especially transit-oriented complete communities. The development will fill gaps in housing, employment services, amenities and activities that will enhance how complete the community is for residents or visitors. At the same time, the Bedford Commons lands has a dedicated Halifax Transit route and is perfectly positioned to accommodate investments in transit and active transportation.

The development of the Bedford Commons Lands would also meet a series of criteria established in the Site Planning and Design section of the SDG document. Criteria 2 from this section of the plan advocates for on-site connections that are pedestrian-friendly and transit-oriented. If fully realized, the proposed plan for the site would see the construction of hundreds of metres of new sidewalks, trails, and pedestrian paths around the site, significantly improving the walkability of the area. At the same time, the extension of Damascus Road would enable the 88 Halifax Transit Route to fully implement its unfinished loop that can be seen in the current route maps.

Criteria 4 from the site planning and design chapter promotes the location of open spaces and buildings in a way that optimizes pedestrian comfort related to weather. The conceptual plan for the Bedford Commons places the tallest buildings in the north of the site and the shortest buildings in the south, maximizing solar access for all residents. The impact of harsh shadows is also minimized for the surrounding sites as there is a large forested buffer in between the tallest building and neighbouring properties, mostly containing the largest shadows to the

boundaries of the subject properties. Additionally, all of the proposed mid- and high-rise buildings feature a variety of recesses, stepbacks, and podium elements to minimize the impacts of downdrafts and other strong winds for pedestrians.

In terms of open spaces and building design, many of the small-scale details of the project (such as building materials, streetwall elements, and landscaping plans) have yet to be fully established due to the project being in its early stages. Nevertheless, some of the criteria in these sections are met by the conceptual site plan. The third open space criterion explains the need for open spaces to be used as amenity spaces designed to optimize pedestrian comfort and interaction. Aside from the multiple small parks dotted around the site, the conceptual plan for the Bedford Commons features a large urban park that will enable recreation and interaction for all residents of the development due to its central location.





04 The Plan & Built Form

Development Objectives

The Master Plan for the Bedford Common has been developed to:

- Capture and control all future runoff from the site in a way that maintains or improves the pre-development discharge from this site in the future. Ideally this development can reduce the impacts on the Sackville River floodplain which is very vulnerable to flooding.
- Create a "Complete Community" development where most of the needs of residents are met with services, facilities and employment within walking distance to the new residential units. This includes sidewalks on all new streets, a new AT shared Use trail along the future "Main Street", future transit stops, additional trail connections through the development and along the powerline right of way, and new proposed groundfloor retail uses near the village centre to service new residents.
- Preserve a large active parkland component next to the Tennis Centre for future sports fields or other active recreational facilities.
- Create a central urban square encircled by higher density mixed use towers where passive recreation and events can be hosted for residents of the local community and indeed for all residents of HRM.
- Create mixed forms of housing including single family homes, clusters, semis/duplexes, townhomes and multi family housing.
- Minimize surface parking in favour of below grade parking except in areas like the powerline ROW where no other land uses are permitted and around the proposed active parkland facilities. The plan should also reduce the parking requirements to foster use of transit and active transportation.
- Reduce the shade impacts of tall buildings on the existing R1 homes to the south of the Bedford Bypass.
- Connect the development via a new main street road to Rocky Lake Drive and via existing Verdi Drive and Damascus Road.
- Ensure the development is planned to be transit and bike friendly.
- Provide a range of affordable housing options for new residents.
- Cater to a wide range of age groups including young families who will benefit from the nearby schools and seniors.
- Ensure that roads follow the red book standards and other Complete Streets best practices.
- provide opportunities for new office type uses like medical clinics to service this new population.
- Provide private green spaces and amenity spaces for each new building on the groundfloor and on the rooftops of the new development.
- Ensure the plan is phased to create recreational amenities in the early phases of the development for early residents.
- Manage stormwater runoff creatively and in a way that creates recreational amenities rather than sole-purpose engineered stormwater features.

This is an area of HRM that can accommodate significant density due to the sites transportation connectivity, its adjacent existing facilities and services, and its lack of neighbouring residential uses which might be impacted by the development. This area will provide much needed housing for workers in Burnside and in the Bedford Common, and will provide a mixed use development to enhance the existing commercial uses in Bedford Common.

The Master Plan

To meet the development objectives outlined above, a master plan was crafted showing the proposed build-out of the development for this proposed growth area. Notably the plan includes:

1. 148 acres of developable land, of which, 11.6 acres is owned by Havill and the remainder (137 acres) is owned by Banc Developments.
2. A large 13.8 acre active recreation parkland has been reserved for the south side of the Sobeys Tennis Centre lands, just north of the proposed development. This park would be deeded over to HRM for the parkland contribution. This area 1.2 acre wetland that could be preserved or infilled for future sports fields or other active rec uses. A local football/group has been trying to build 2 artificial turf fields in this area for years and we have met with the group on several occasions to ensure that the land would support 2 large fields. We have provided enough area to accommodate the soccer/rugby/football fields along with future expansion potential for the tennis courts and other active recreation facilities. This park represents 15% of the Banc lands (excluding PID 41395831 in case it is used as a school as described below).
3. PID 41395831(Rocky Lake Dome) could be developed as a future school site or as a residential development site. This 13.8 acre parcel would be an ideal school site. However, if this school site does not materialize, it could and should be developed for additional housing. Much of the eastern portion of this property is wetland and cannot be developed. If built as a school, it could secure access from the Rocky Lake Drive Junior High entry road.
4. A second small neighbourhood park has been reserved on the south side of the development in a deeply entrenched valley that exists today on the site. Rather than filling in this valley, the area has been reserved for stormwater management. It would also include walking trails, an amphitheatre and possibly a small fenced dogpark.
5. A large 2.2 acre Urban Square has been reserved in the centre of the development around which most of the taller buildings will be located. The park would be programmed for large outdoor events and would contain a range of softscapes and hardscapes, natural areas, bedrock outcrops, trails, courts and possibly even some commercial kiosks. Building G on the plan fronts directly onto the west side of the park. This building will have groundfloor commercial uses like restaurants that can spill out onto the edge of the park, activating it for seasonal outdoor cafe type uses. No less than 60% of the groundfloor of this building will be required to include commercial uses.
6. A linear trail network connects all 3 of these parks running from the large Municipal Park in the north, down through the urban square and to the main stormwater park to the south of the development. A similar trail runs east west along the existing powerline right of way. Together these trails mean that no building is more than a few minutes walk from the trails that connect this development.
7. The total percent parkland for the Banc lands is 15.7% excluding the potential school site. If this 13.8 acre school site was instead developed, it would reduce the parkland dedication percentage down to 12.7% parkland.
8. The new development includes 2.4km of new roads extending from Damascus Road to Rocky Lake Drive (Road A-1.05km), extending Verdi Drive (Road B-1.0km), Road C (0.35km) and Road D (0.09km). The roads surrounding the urban square will include onstreet parking to activate the surrounding retail groundfloor uses. Road A (Main Street) will include a combination of centre medians, left turn lanes, a 3.2 m wide shared use AT trail on the north side, bus stops, and sidewalks on both sides. Road 8 has been aligned to navigate the steep climb from Rocky Lake Drive up to the plateau at no more than 8% grade. This cut will be extensive and up to 9m deep at its deepest. We expect buses will encircle the urban square in the future and bus stops will be provided around the village square.

Fig. 4. Master Plan



Bedford Common - Nov 21 2023

Plate Efficiency 80%
Avg Unit Size 80 m2

Building	Comm GFA	Sched Height Max	Total Storey s	Lowrise (4-storey) Storeys	Lowrise GFA	Midrise (6-storey) Storeys	Midrise GFA	Towers Storey s	Tower 1 GFA	Storeys	Tower 2 GFA	Total Res GFA (m2)	Units	Height (m)
A		60	20	4	4090	2	3450	14	900	11	900	45,760	458	61.5
B		60	20	4	3780	2	3350	14	900			32,480	324	61.5
C		60	20	4	4090	2	3450	14	900	11	900	45,760	458	61.5
D		20	6	4	2250	2	2120					13,240	132	19.5
E		50	17	4	4090	2	3450	11	900	9	900	41,260	413	52.5
F		50	17	4	3290	2	2750	11	900	9	900	36,660	367	52.5
G		50	6	4	2060	2	1830					10,600	106	19.5
H		50	17	4	1700	2	1400	11	900			19,600	196	52.5
I		50	17	4	3760	2	3150	11	900	9	900	39,300	393	52.5
J		50	17	4	1500	2	1220	11	900			13,140	131	52.5
K		50	17	4	1180	2	900	11	800			15,320	153	52.5
L		50	17	4	3060	2	2480	11	900			27,100	271	52.5
M		27	8	3	1580	5	1300					11,240	112	25.5
N		27	8	3	1380	5	1180					10,040	100	25.5
O		20	8	3	1030	5	980					7,960	80	25.5
P		27	8	3	2280	5	1940					16,540	165	25.5
Q		27	8	3	1780	5	1480					12,740	127	25.5
R		27	8	3	1680	5	1380					11,940	118	25.5
S		27	8	3	1370	5	1130					9,760	98	25.5
T		27	8	3	1500	5	1320					10,600	106	25.5
U		27	8	3	1370	5	1130					9,760	98	25.5
V		99	33	4	3610	2	3050	27	800	14	800	53,340	533	100.5
W		99	33	4	3410	2	3050	27	800	14	800	53,340	533	100.5
X		50	17	4	2410	2	2120	11	900			23,780	238	52.5
Y		50	17	4	2980	2	2430	11	900			26,680	267	52.5
Z		20	6	3	1500	3	1220					8,160	82	19.5
AA		20	6	3	1500	3	1220					8,160	82	19.5
Townhomes												13,200	110	
Cluster Homes												1,100	11	
Total												623,830	6,216	

Total Lot Area	375,666.00 m2	92.83 acres
Density	66.7 UPA	
Park 1	55,737 m2	13.77 acres
Park 2	3,379 m2	0.83 acres
Park 3 - Village Sc	8,730 m2	2.16 acres
Total Park ded	15.7%	

Fathom

Bedford Common - Nov 29 2023

Plate Efficiency 80%
Avg Unit Size 80 m2

				Lowrise (4-storeys)		Midrise (6-storeys)		Towers						
Building	Comm GFA	Sched Height Max	Total Storeys	Storeys	Lowrise GFA	Storeys	Midrise GFA	Storeys	Tower 1 GFA	Storeys	Tower 2 GFA	Total Res GFA (m2)	Units	Height (m)
A		60	20	4	4090	2	3450	14	900	10	900	44,860	449	61.5
B		60	20	4	1780	2	1350	14	900			22,420	224	61.5
C		60	20	4	4090	2	3450	14	900	10	900	44,860	449	61.5
D		20	6	4	2250	2	2120					13,240	132	19.5
E		50	17	4	4090	2	3450	11	900	8	900	40,360	404	52.5
F		50	17	4	3290	2	2750	11	900	8	900	35,760	358	52.5
G		50	6	4	2000	2	1400					10,800	108	19.5
H		50	17	4	1700	2	1450	11	900			19,600	196	52.5
I		50	17	4	3750	2	3150	11	900	8	900	38,400	384	52.5
J		50	17	4	1500	2	1220	11	900			18,340	183	52.5
K		50	17	4	1180	2	900	11	800			15,320	153	52.5
L		50	17	4	3060	2	2480	11	900			27,100	271	52.5
M		27	8	3	1580	5	1300					11,240	112	25.5
N		27	8	3	1380	5	1180					10,040	100	25.5
O		20	8	3	1030	5	980					7,990	80	25.5
P		27	8	3	2280	5	1940					16,540	165	25.5
Q		27	8	3	1780	5	1480					12,740	127	25.5
R		27	8	3	1680	5	1360					11,840	118	25.5
S		27	8	3	1370	5	1130					9,760	98	25.5
T		27	8	3	1500	5	1220					10,600	106	25.5
U		27	8	3	1370	5	1130					9,760	98	25.5
V		99	33	4	3610	2	3050	27	800	14	800	53,340	533	100.5
W		99	33	4	3610	2	3050	27	800	14	800	53,340	533	100.5
X		50	17	4	2410	2	2120	11	900			23,780	238	52.5
Y		50	17	4	2980	2	2430	11	900			26,680	267	52.5
Z		20	6	3	1500	3	1220					8,160	82	19.5
AA		20	6	3	1500	3	1220					8,160	82	19.5
Townhomes												13,200	110	
Cluster Homes												1,100	11	
Total												619,330	6,171	

Total Lot Area	123.0	acres	
Density	44.2	UPA	
Park 1 - Fields	55,737	m2	13.77 acres
Park 2 - Storm park	3,379	m2	0.83 acres
Park 3 - Village Sq	8,730	m2	2.16 acres
Total Park ded	13.6%		

9. The 61m wide powerline Right-of-way would be preserved for walking trails, parking lots and general open space connectivity throughout the development. This trail and the large park trail to the north would be linked together for a range of different stacked loop sizes for walking. The trail connects to the Bedford Education Centre and the Rocky Lake Junior High. Buildings are not permitted under the R.O.W. so the area will be reserved mostly for surface parking. The parking lots will be broken up with planted islands and the area may include stormwater gardens to manage the surface runoff.
10. The remaining 92.8 acres (includes the Power easement) of the Banc lands would be reserved for development with low density housing on the south side of the NS Power easement and higher density development on the north side. The reason for the graduated density is to ensure a minimal number of homes are impacted by highway noise from the bedford Bypass highway and that no taller buildings in this area can shade existing homes on the south side of the Bedford Bypass. We believe a variety of housing topologies are important for the overall success of the development. The plan shows a range of stacked townhomes and townhomes, cluster homes, as well as a few 6-storey multi-unit sites south of the power easement.
11. North of the powerline corridor and surrounding the large central urban park, the developer is proposing a mixed use multi-unit development form with heights ranging from 8-storeys along the main street at the entrance on Rocky Lake Drive, up to 33-storeys north of the urban square. Some groundfloor would be programmed for commercial spaces as much as may be viable for the development. Groundfloor units would have their own individual townhouse style entries and patios to enliven the groundfloor along the streets. No parking is proposed between the buildings and the street and much of the parking would be located underground except for the surface parking in the power easement and near the large new municipal park to the north. Onstreet parking would be provided around the central park.
12. There are 3 types of streets in the development. A 28m wide urban collector road extends from Damascus Road to Rocky Lake Drive and includes onstreet parking, a multi-use AT lane and sidewalks on both sides. Around the urban square, the road will have a 20m easement, sidewalks on both sides and parking on both sides of the street. The remaining minor urban roads will have a 20m easement, sidewalks on one side of the street and 2 travel lanes. All roads must meet Redbook standards.

The proforma for the proposed development anticipates 6,216 units (using an average unit size of 100 s.m per multi-unit). This many units create a density of 56.7 UPA (including parkland area) for the Banc Lands. This calculation excludes PID 41395831 which, if developed, would be 47 UPA on its own. The total GFA of the multi-unit buildings would be 623,830 m2 (6.7 million sf).

The developer anticipates building all the roads and services for this development in a single phase. All roads shown on the plan use a 20m road right of way. Currently there is no plan for phasing the building sites but the developer expects to build at least one building per year with an expected build-out of about 10-12 years.



Fig. 5. Master Plan 3D



Fig. 6. Master Plan 3D looking north



Fig. 7. Master Plan 3D looking north east



Fig. 8. Master Plan 3D looking south east



Fig. 9. The Urban Square Looking West



Fig. 10. Main Street Looking West at the Urban Square

Fig. 11. The Urban Square view of the large towers





Fig. 12. Municipal Park Dedication 13.8 acres

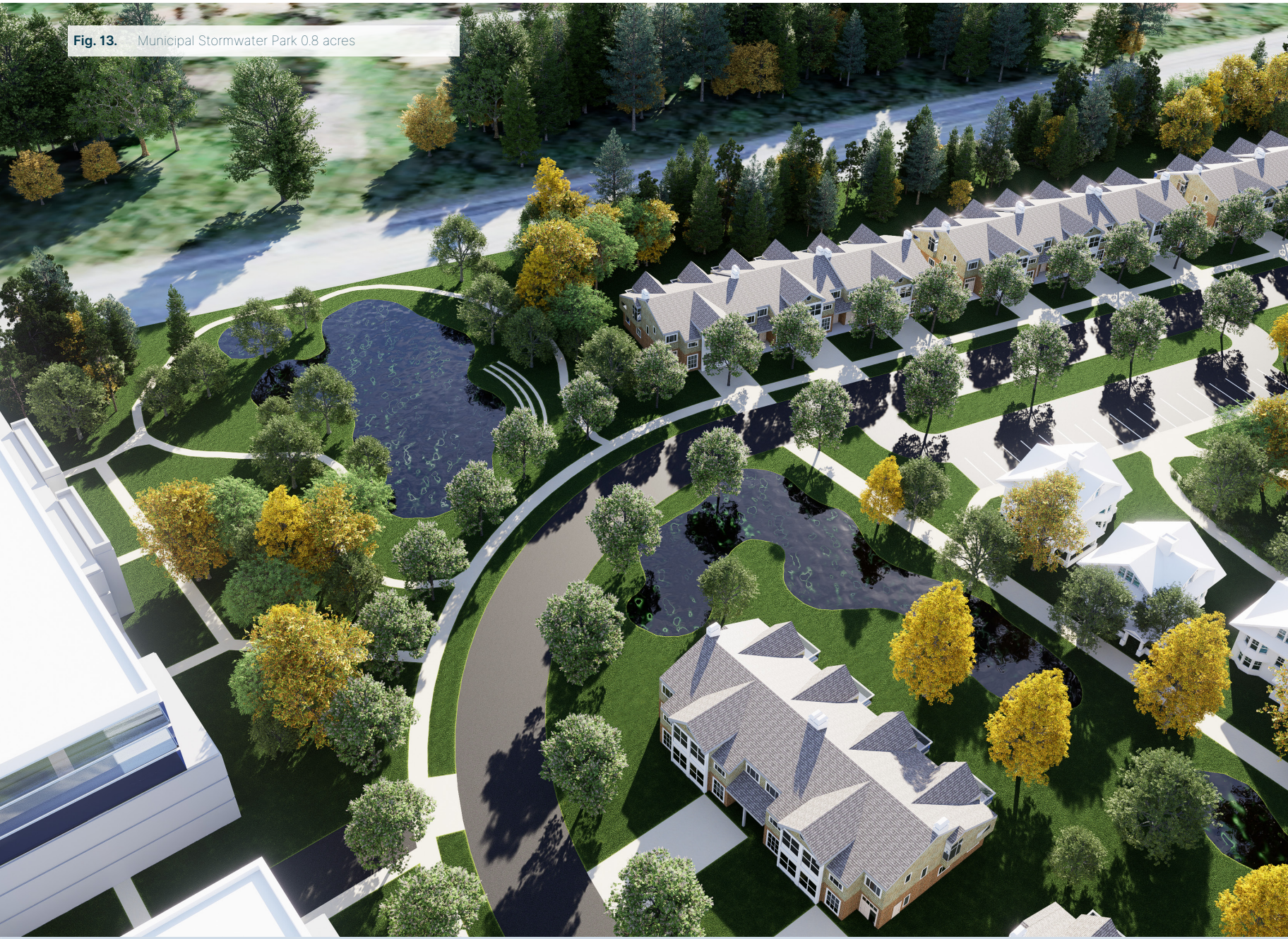


Fig. 13. Municipal Stormwater Park 0.8 acres



Fig. 14. Municipal Playground



Fig. 15. Urban Square Looking West





Built Form Requirements

The proposed built form of the Bedford Commons development is divided among two different land use designations: Low Density Neighbourhood (LDN) and Neighbourhood Centre (NC). The maximum unit count for the Banc portion of the land shown in this master plan (123 acres) will be 6,200 units and 44.2 UPA.

The LDN Zone

The LDN zone (Schedule B) will primarily feature a less intense level of development, likely in the form of single detached, semis, townhouses and/or stacked townhomes. This area could also accommodate a cluster style development where each unit doesn't necessarily have to include road frontage for every unit. Cluster type developments are ideally suited for deep lots that might otherwise require frontage on a road. Clusters still have to meet the fire code requirements despite their lack of road frontage. In areas where parking can be accommodated behind the units, these lots can potentially accept stacked townhomes formats which allows for additional density. Stacked townhomes will require rear yard parking whereas traditional townhomes can accommodate the parking between the street and the unit. The maximum unit count for this zone is 200 units and the unit mix shall be 100% 2-bedroom or more.

The LDN zone would have the following built form requirements:

1. A maximum height limit of 14m for all dwelling types. Chimneys are excluded from the height limit.
2. A Minimum lot frontage of:
    a. 4.8m per townhouse or stacked townhouse unit
    b. 8m per semi unit
    c. 12m per single detached unit
    d. Notwithstanding the frontage requirements above, a cluster style development requires at least 20m of frontage for a cluster of no more than 24 units, but the individual units do not require any road frontage.
3. Sideyard setbacks for all units types shall not be less than: 0.0 metre along a common wall between each townhouse or semi units, or 3.0 metres elsewhere;
4. Rear yard = 6m min.
5. Front Setback = 6m min., 10m maximum
6. Attached garages, if present, must be setback no less than 2m from the main building front
7. Detached garages, if present, shall not be closer than 1.5m to any sideyard or rear yard and are not permitted in any front yards.
8. Lot coverages shall not exceed 50% for any unit type.
9. Cluster style developments must include a central shared open space no less than 120m2 fully landscaped and designed by a registered landscape architect. The value of this finished landscape shall not be less than any single unit in the cluster and the cost of implementation shall be confirmed in writing by a landscape architect.
10. Parking requirements for this zone include: Parking lots (not parking spaces) are not permitted between the street and the building anywhere in this zone unless it is for a cluster development. Parking spaces for any under/over style unit (e.g. stacked townhome or duplex) must be located in the sideyard or rear yard, except for groundfloor units where driveway parking is permitted in the front yard no more than 60% of any townhouse/stacked townhouse front yard shall be used for parking, the remainder shall be landscaped no more than 50% of any semi/duplex front yard shall be used for parking, the remainder shall be landscaped no more than 40% of any single detached front yard shall be used for parking, the remainder shall be landscaped.
11. Townhouse units shall not exceed 6 adjacent units.
12. All streets must include a minimum 1.5m wide sidewalk on at least one side of the street, and street trees spaced no less than 15m apart with caliper sized trees (no less than 60mm).
13. The maximum unit count in this zone is 200 units.

The NC Zone

The NC zone will accommodate development of a much denser scale, with all buildings being some type of mixed-use or dedicated multi-unit construction. Groundfloor commercial is permitted anywhere in this zone, but is only required as per schedule C. The maximum unit count in this zone is 6050 units and the unit mix shall include at least 30% of the units as 2-bedroom or more.

The built form requirements for the LDN designation have been heavily influenced by the Centre 2 (CEN-2) zone in the Regional Centre Land Use By-Law as well as the Port Wallace Centre (PW-CEN) and Higher Order Residential (PW-HR) zones from the Dartmouth Land Use By-Law. These designations correspond to a urban environment and level of density that fit exceptionally well within the vision for the development of the Exhibition Park. Table 1 compares some of the proposed built form requirements for buildings in the LDN zone along with the same requirements from similar designations.

While the maximum height within the proposed development is varied (see Schedule A), the tallest proposed height among any of the areas of the site is 99m. This enables a higher level of density to be achieved on this important site next to the proposed municipal active park to the north and the proposed urban square to the south. When interpreting building height, one storey is considered to be generally equal to 3m for all floors in a building except for the ground floor, which is considered to be 4-4.5m.

Some buildings could feature multiple tower portions atop one podium. To prevent this type of building from being too imposing or too repetitive on the surrounding area, buildings with two towers will have one of their towers restricted to a height of no less than 3-storeys lower than the maximum height with increasing height restrictions on the second tower as the maximum height gets taller.

Tower floorplates are envisioned as being a maximum of 900m². While larger than the floorplates in the CEN-2 zone, this figure is still significantly smaller than the allowed max floorplate area of 1,100m² in some of the Port Wallace zones.

The proposed streetwall height for the Bedford Common is 4 storeys (approximately 19m) but unlike CEN-2, it allows a midrise portion above the streetwall up to 6 storeys with a tower above it. Rather than being a single height streetwall as in the Centre Plan, the developer can chose to vary the streetwall on either the 3rd or 4th storey with a minimum stepback of 2m for buildings up to and including 6-storeys, and 3m for buildings that exceed 6-storeys. Buildings that are limited to 27m in height (8 storeys) must also include a 70% streetwall at either the 4th or 5th storey. The maximum building length of the tall midrise (up to 8-storeys) is 90m and for all taller buildings, the maximum building depth and length is 80m to maintain the ideal design proportions of the building. The maximum tower separation will still be 25m and 12.5m from any side or rear yards. The streetwall stepbacks will be required for no less than 70% of each building's street facing facade. 8-storey buildings do not require any road frontage due to the deep lots in the area that serve better as a cluster development.

Table 1 also details the side and rear setback distances for developments within the proposed LDN zone. Across most of the example zones, these setback distances are highly variable and depend on factors including abutting zones, building height, and lots ownership, among other factors. For simplicity purposes, the figures for the LDN zone in Table 1 only correspond to the most basic setback for a high rise building though the various exceptions and rules from the CEN-2 zone and Port Wallace zones are likely to be featured in the final DA submission.

In terms of minimum separation distances and maximum building dimensions, Table 1 divides the figures up by their typology. If built to the maximum allowable height in Schedule A, buildings in the LDN zone would only fall under the "Tall Mid-Rise" and "High-Rise" typologies as defined by the Regional Centre Land Use By-Law. While the minimum separation distances align exactly with the example zones, the LDN zone proposes building dimensions that are somewhat larger than the allowable dimensions in the CEN-2 zone but still on par with that of the Port Wallace zones.

The massing model that was used to generate the pro forma for this development employs all of the built form criteria in Table 1.

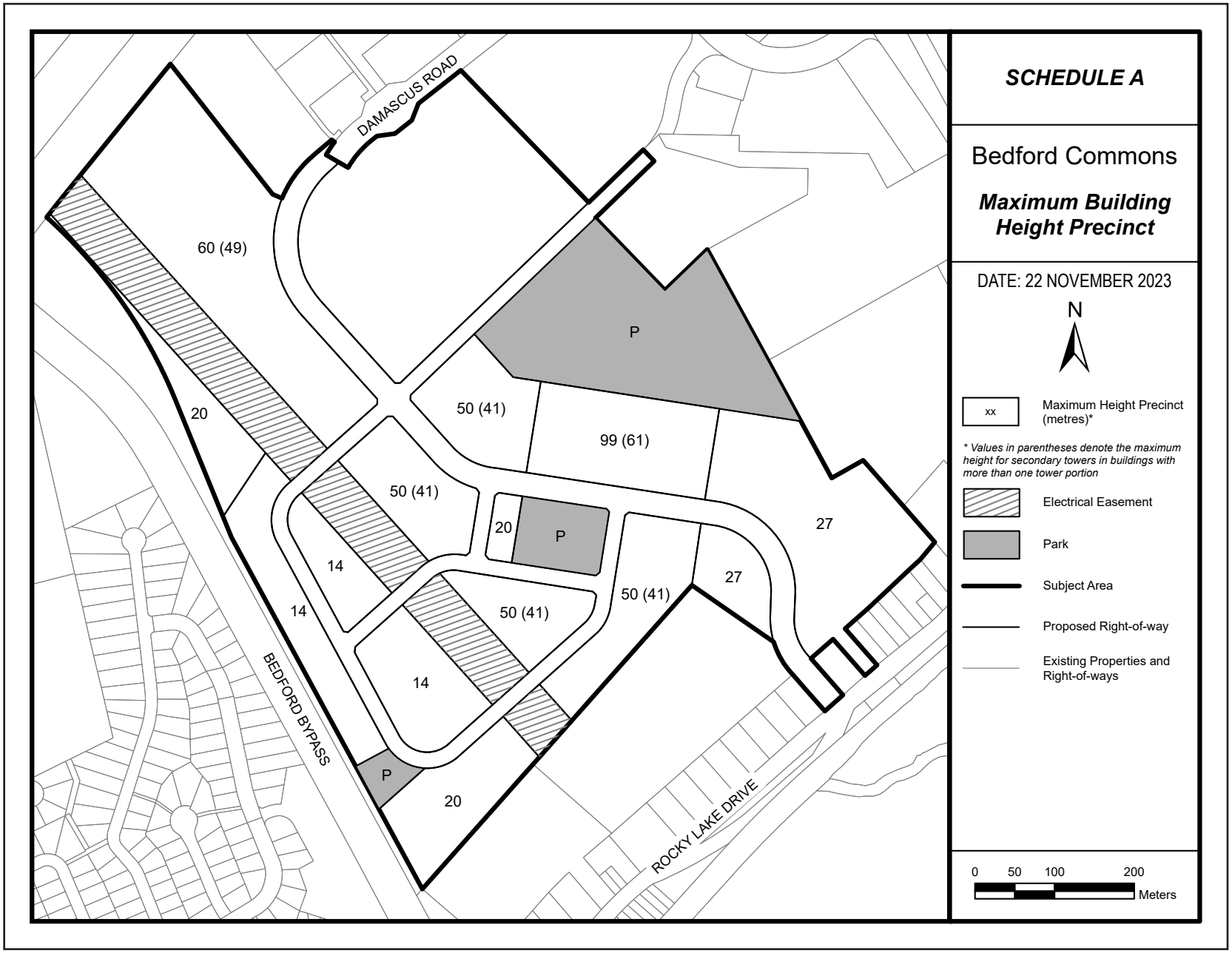
The NC Zone Built Form Requirements

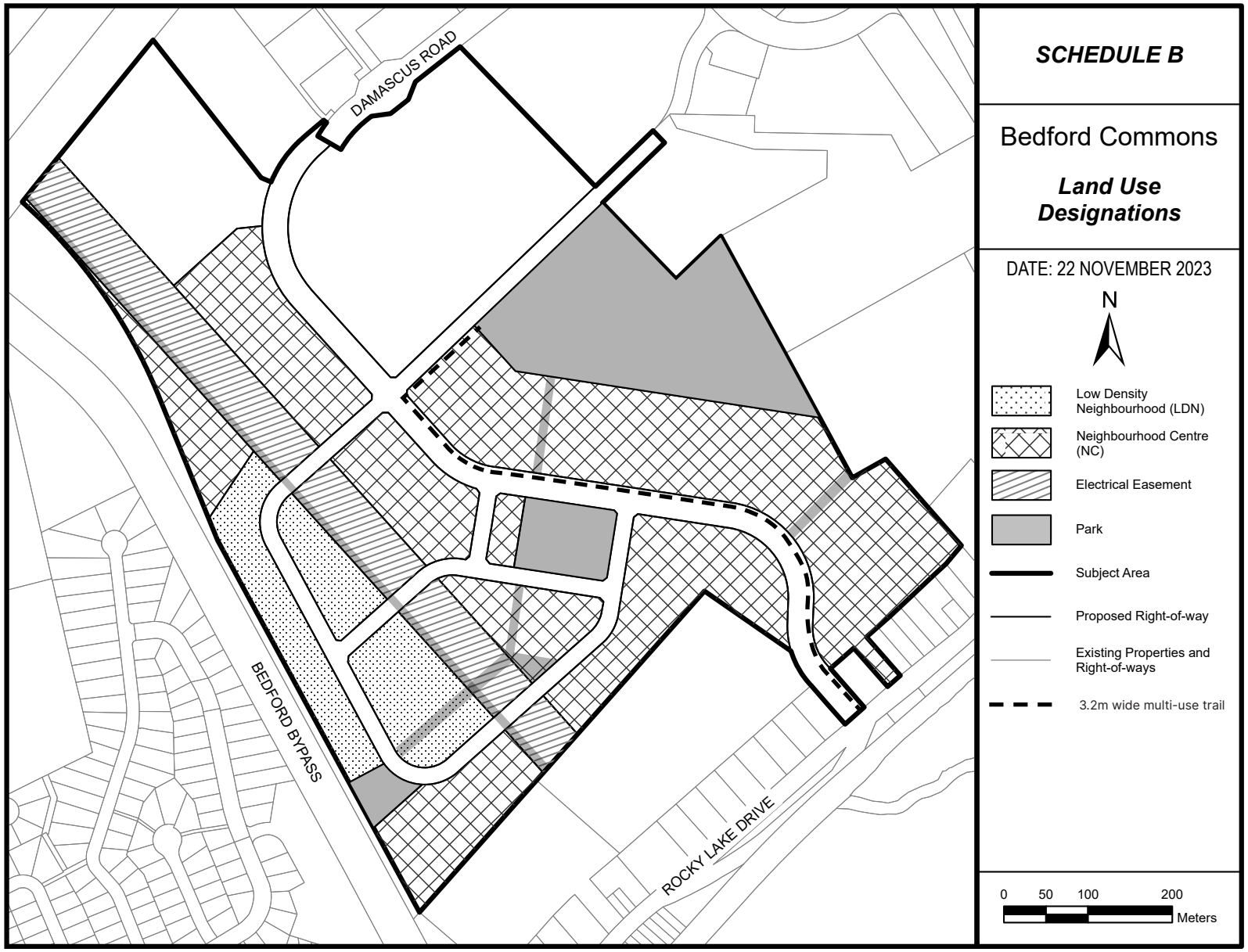
The NC Zone built form requirements include:

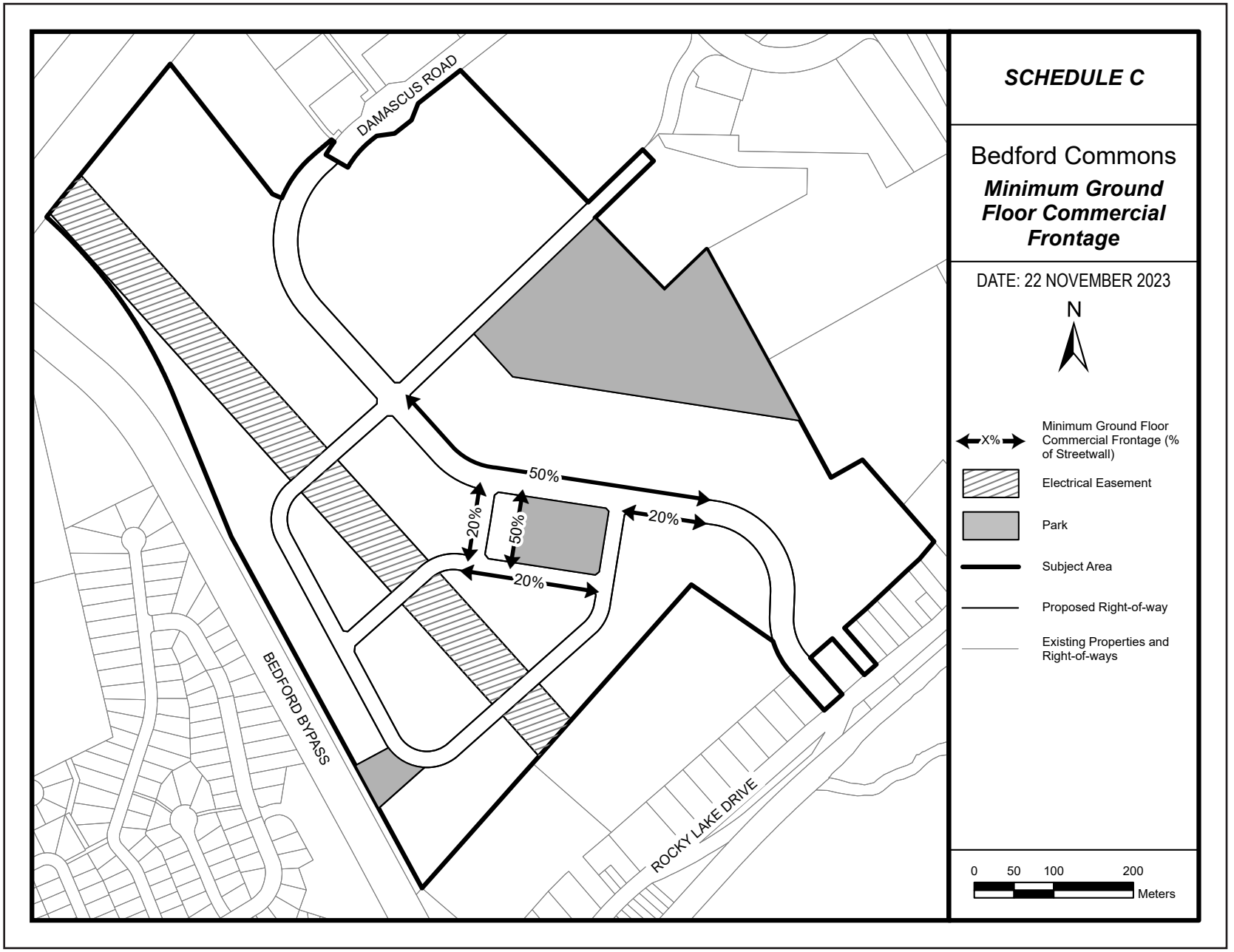
1. A maximum height schedule for individual parcels within the zone follows Schedule A. For buildings with double high rise towers, there is a separate maximum height for the second tower as shown on the schedule. Heights shall exclude the rooftop exclusions identified in Table 8 of the Centre Plan LUB. Height shall be calculated using Centre Plan definitions.
2. Minimum Front or Flanking Setbacks= 6m.
3. Sideyard and rearyard setbacks = 6m min. for any building below 27m in height. Above 27, the tower portion shall be setback from rear or side yards by no less than 12.5m.
4. Underground parking structures are not required to have a minimum rear setback, providing they do not protrude more than 0.6 metre above the average finished grade in any rear yard
5. Any main building's maximum required streetwall height shall be:
    a. no greater than 13m in height and may be met at either the 3rd or 4th storey or any combination.
    b. The maximum required streetwall height may be exceeded by 1.5 metres to permit a clear glass guard and railing system or a parapet.
6. Any main building shall have a minimum required streetwall stepback of:
    a. 2.0 metres for mid-rise buildings less than 19m in height;
    b. 3.0 metres for tall mid-rise buildings 20-27m in height; or
    c. 4.5 metres for high-rise buildings.
    d. No streetwall stepback is required for up to 30% of the length of any main building facing each streetline or a transportation reserve.
    e. the total combined width of all cantilevered and recessed portions within any streetwall that have a depth of 4.0 metres or greater shall not exceed 30% of the width of the streetwall. Recessed balconies are excluded.
7. The minimum required ground floor height shall be 4 metres.
8. Every grade-related dwelling unit shall have a required minimum of one exterior pedestrian entrance.
9. Above the streetwall height, any portions of the same main building shall be separated by a minimum required distance of:
    a. 6.0 metres between a mid-rise typology and another mid-rise typology;
    b. 12.5 metres between a tall mid-rise typology and a high-rise typology; or
    c. 25.0 metres between a high-rise typology and another high-rise typology.
10. Tower portions of two or more main buildings on the same lot shall be separated by a minimum required distance of 25.0 metres.
11. Excluding any structure below 0.6 metre above the average finished grade or any public building use, any main building shall not exceed:
    a. 80m for building width or depth if the building height exceeds 28m
    b. 90m for building width or depth if the building height is less than 28m
    c. The tower portion of any high-rise building shall not exceed the following maximum building dimension requirements of 40mx40m and a floor area of 900 square metres per storey.
12. Parking is not permitted between any building and the street unless on a sideyard. Port cochere's are permitted between the building and the street and up to 6 temporary parking spaces may be associated with a port cochere with only 1 port cochere per building.
13. The maximum unit count in this zone is 6050 units independent of the unit mix.
14. Amenity space requirements shall follow the CEN-2 zone requirements.
15. Groundfloor Commercial Requirements
    a. groundfloor commercial uses are permitted in any building in this zone to 100% of the groundfloor area.

Neighbourhood Centre (NC) Zone Comparison

	Port Wallace Centre (PW-CEN)	Port Wallace Higher Order Residential (PW-HR)	Centre 2 (CEN-2)	Bedford Commons Neighbourhood Centre (NC)
Maximum Height	50m (Variable within Schedule B-2)	50m (Variable within Schedule B-2)	90m (Variable within Map 4)	(Variable within Schedule A). If building has 2 towers, the second tower height shall be reduced as per schedule A.
Minimum Side Yard Setback	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	6m
Minimum Rear Yard Setback	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	0m-6m for the base of high-rise buildings, 6m-12.5m for the tower of high-rise buildings	6m
Maximum Streetwall Height	14m	14m	11m	13m-16m, for up to 70% of the streetwall length
Minimum Streetwall Stepback	3m for tall mid-rise buildings, 4.5m for high-rise buildings.	3m for tall mid-rise buildings, 4.5m for high-rise buildings.	3m for tall mid-rise buildings, 4.5m for high-rise buildings.	2m for streetwall above 4th storey plus an additional 1.5m min for towers beyond the streetwall stepback
Minimum Separation Distances	Tall Mid-Rise/Tall Mid-Rise: 12.5m Tall Mid-Rise/ High-Rise: 12.5m High-Rise/High-Rise: 25m	Tall Mid-Rise/Tall Mid-Rise: 12.5m Tall Mid-Rise/ High-Rise: 12.5m High-Rise/High-Rise: 25m	Tall Mid-Rise/Tall Mid-Rise: 12.5m Tall Mid-Rise/ High-Rise: 12.5m High-Rise/High-Rise: 25m	Tall Mid-Rise/ High-Rise: 12.5m High-Rise/High-Rise: 25m
Maximum Building Dimensions (Width x Length)	Low rise: 120m x 120m Mid-rise: 90m x 90m Tall mid rise: 40m x 46m High-rise: 36m x 38m	Low rise: 120m x 120m Mid-rise: 90m x 90m Tall mid rise: 40m x 46m High-rise: 36m x 38m	64m x 64m for low- to mid-rise portions, 35m x 35m for tower portions	90m for midrise and Tall Midrise. 80m for buildings > 28m tall. 40m x 40m for Tower Portions.
Max Tower Floorplate Area	1,100m²	1,100m²	750m²	900m²


DAMASCUS ROAD
BEDFORD BYPASS
ROCKY LAKE DRIVE
60 (49)
20
50 (41)
P
99 (61)
27
50 (41)
20
P
14
14
50 (41)
50 (41)
27
14
P
20
SCHEDULE A
Bedford Commons
Maximum Building Height Precinct
DATE: 22 NOVEMBER 2023
N
xx
Maximum Height Precinct (metres)*
* Values in parentheses denote the maximum height for secondary towers in buildings with more than one tower portion
Electrical Easement
Park
Subject Area
Proposed Right-of-way
Existing Properties and Right-of-ways
0 50 100 200
Meters


DAMASCUS ROAD
BEDFORD BYPASS
ROCKY LAKE DRIVE
SCHEDULE B
Bedford Commons
Land Use Designations
DATE: 22 NOVEMBER 2023
N
Low Density Neighbourhood (LDN)
Neighbourhood Centre (NC)
Electrical Easement
Park
Subject Area
Proposed Right-of-way
Existing Properties and Right-of-ways
3.2m wide multi-use trail
0 50 100 200
Meters


DAMASCUS ROAD
BEDFORD BYPASS
ROCKY LAKE DRIVE
50%
20%
50%
20%
20%
SCHEDULE C
Bedford Commons
Minimum Ground Floor Commercial Frontage
DATE: 22 NOVEMBER 2023
N
X%
Minimum Ground Floor Commercial Frontage (% of Streetwall)
Electrical Easement
Park
Subject Area
Proposed Right-of-way
Existing Properties and Right-of-ways
0
50
100
200
Meters

Fathom

b. According to schedule C, groundfloor commercial uses are required to a minimum depth of 12m of the frontage at the rate shown on schedule C. For instance, a 80m long building that fronts on the urban square (50% commercial frontage) is required to have 480m2 of commercial ground floor uses (80m x0.5×12m).

16. Office uses are permitted anywhere in this zone.
17. Parking rates shall not exceed 1.2 spaces per unit and/or 2 spaces per 100m2 of office or commercial. There are no minimum parking requirements.
18. No more than 40% of the parking for any building shall be provided as surface parking with the remainder (60%) as underground parking.
19. Notwithstanding the above, buildings that front onto the NS power easement may use this easement for surface parking (as permitted by NS Power) to a maximum surface parking proportion of 70% surface parking.




05
05
05
Implementation
Walmart
PETSMART
Michaels

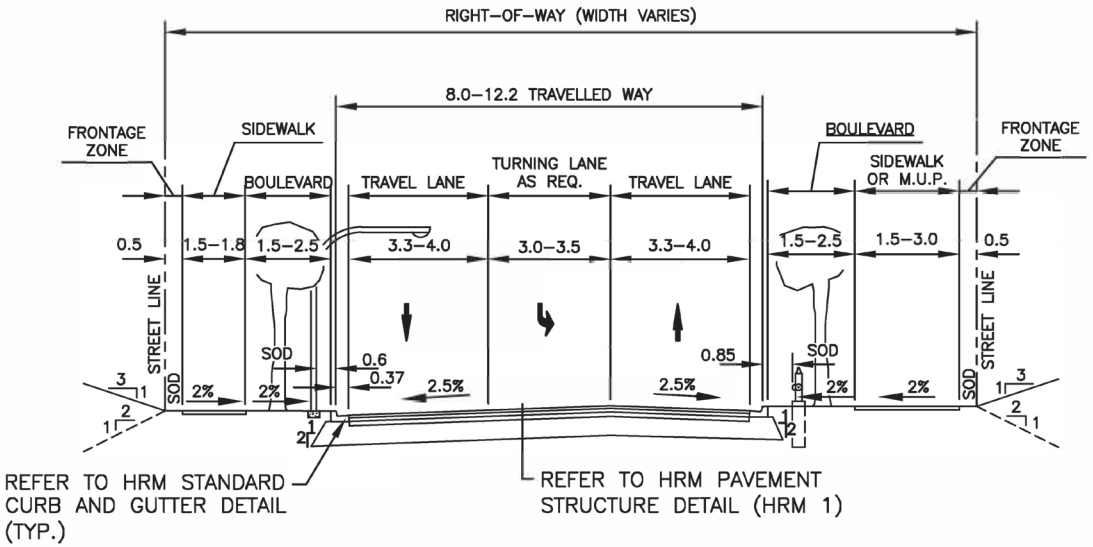
Transportation Considerations

Roadway Cross Sections

Roadway cross sections were based on the most recent Halifax Regional Municipality Design Guidelines (2021) and Standard Details with minor modifications along Damascus Drive to remain consistent the with Arterial style cross section used for the sections of Damascus Road from Duke Street to westernmost commercial driveway. This section of road includes two through lanes plus turning lanes and channelization at major intersections.



This cross is excessive for the residential nature of the new development area. Therefore, the Suburban Major Collector cross section was used as a basis for Damascus Road from the westernmost commercial driveway intersection through the development to Rocky Lake Drive, in recognition of the likely use of transit and some traffic on the roadway.



HALIFAX

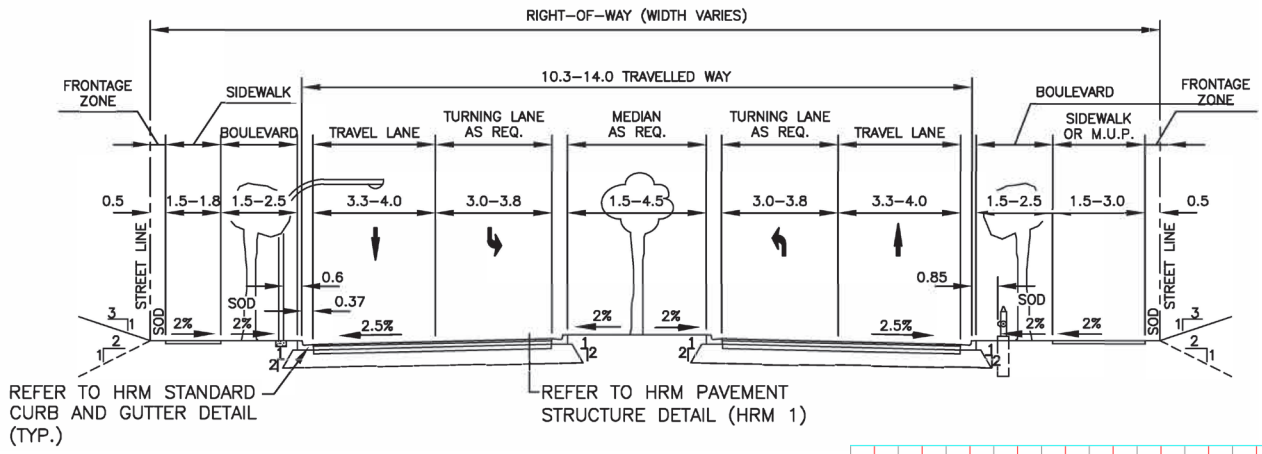
STANDARD DETAIL

SUBURBAN (MAJOR COLLECTOR)

DATE: 2021	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 10

The cross section elements include a 3.0 meter wide Multi-Use Path (M.U.P.) on the north side of the road and sidewalk on the south side. Left turn lanes have been included at major intersections along Damascus Road and lane widths have been set at 3.3 meters wide in recognition that there will be a median curb and gutter width along the median of the roadway (discussed on the following page). This results in a width of about 4.05 meters from curb face to curb face.

To remain consistent with the median style cross section used on the remainder of Damascus Road, a 4.5 median section has been added to the typical major collector cross section. This median was taken from the typical Suburban Arterial Cross section as shown in figure below. The 4.5 meter width allows for a 3.0 meter left turn lane and a 1.5 meter curbed barrier in the middle of the cross section.



HALIFAX

STANDARD DETAIL

SUBURBAN (ARTERIAL)

DATE: 2021	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 11

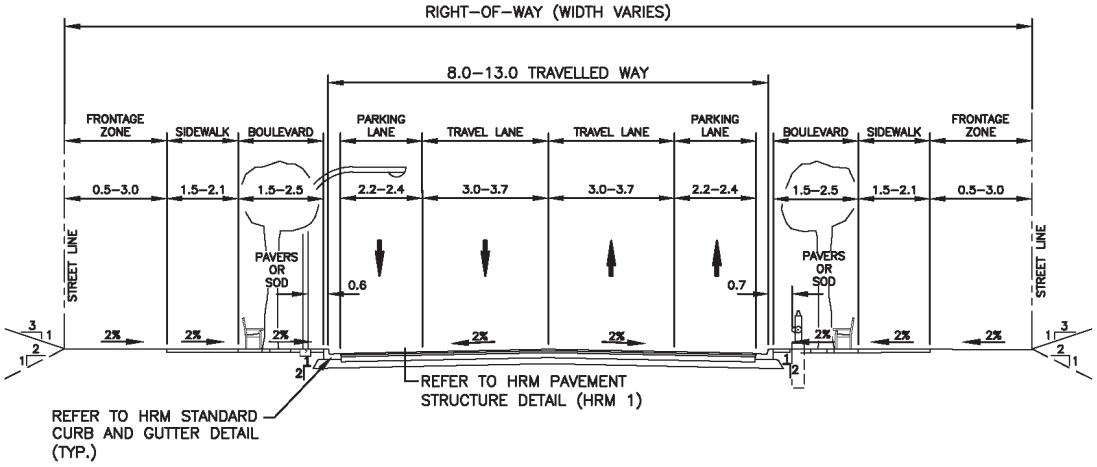
Based on the various cross sectional requirements, the Damascus Road right-of-way has been established at 30 meters which is slightly smaller than the existing Damascus ROW east of the development.

There is a significant section of rock cut as Damascus Road approaches Rocky Lake Drive. To accommodate this cut, the roadway eliminates the median and reverts back to the typical suburban major collector cross section. This change in combination with the 30 meter cross-section width allows for daylighting through this cut section within the ROW and allows the cut-section to remain off of adjacent properties fronting onto Rocky Lake Drive.



The "Urban Square" area is anticipated to be a robust multi-modal transportation area that will include transit service, significant pedestrian traffic and the need for parking. Functionally, the area operates similar to an urban core, therefore HRM cross section HRM 5 - Regional Centre Mixed Use (Local) was considered the most appropriate cross section to use and is shown in the figure below.





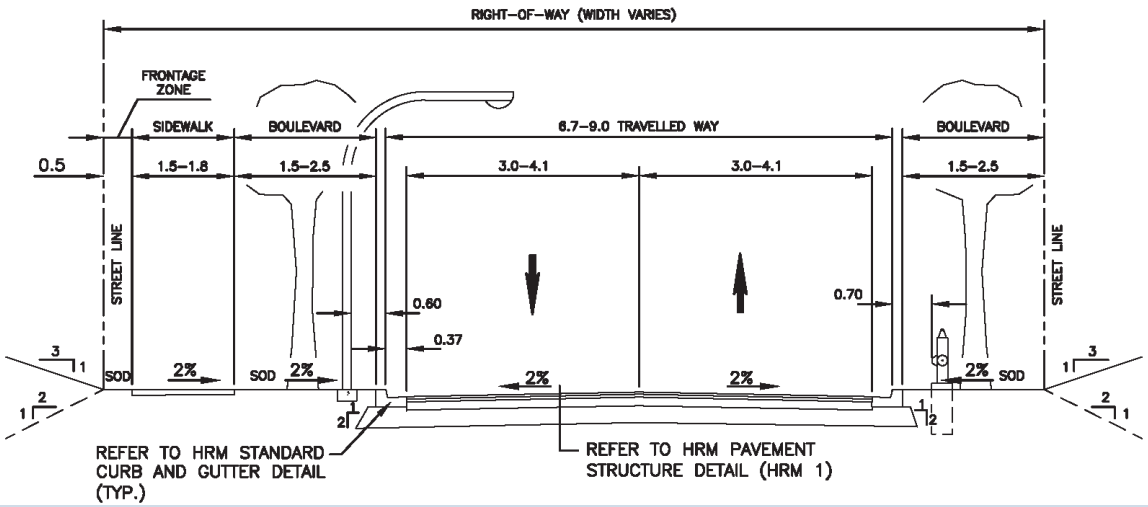
HALIFAX

STANDARD DETAIL

REGIONAL CENTRE COMMERCIAL/MIXED USE (LOCAL)

DATE: 2021	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 5

The remaining roadway within the development utilize an Suburban / Regional Center local roadway cross section with an overall road right-of-way of 20 meters. The only change from this cross section is the addition of sidewalks on both sides of the street in some areas where adjacent development is expected to generate a significant amount of pedestrian traffic.



HALIFAX

STANDARD DETAIL

REGIONAL CENTRE RESIDENTIAL/ SUBURBAN RESIDENTIAL (LOCAL)

DATE: 2021	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 2

Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Guide (11th Edition) was used to prepare an preliminary estimate of anticipated trip generation to and from the site. These estimates are considered preliminary only and will be further refined during the more detailed ***"Mobility Analysis"*** required by HRM as part of this development evaluation process. As noted in recent meeting with HRM, this Mobility Analysis will be submitted subsequent to this report. Submission in this manner allows the HRM Regional Transportation Demand Modelling to be incorporated into the analysis which will account for the significant mobility changes that are anticipated with the opening of the Burnside Connector in 2024.

Given the highly residential nature of the development, the typical weekday peak hours of traffic will dictate the critical analysis periods for the development. Trip adjustments were made to account for Transit and Active Transportation modal splits (15% reduction) and for on-site synergies (-10%) in recognition of the Bedford Common commercial developments immediately adjacent to the development. The preliminary trip generation estimates suggest that development is anticipated to generate about 11,300 daily trips entering and exiting the development on a typical weekday with between 1400 and 1600 two-way trips occurring during the peak periods of traffic. This traffic is expected to be distributed over three primary entry and exit points (Damascus, Verdi, and Rocky Lake). This This information is subject to refinement as the Mobility Analysis is further advanced.

			Daily				AM Peak				PM Peak			
Building	**Units**	**ITE Trip Code**	**Ave Rate**	**Fitted Curve**	**Entering**	**Exiting**	**Ave Rate**	**Fitted Curve**	**Entering**	**Exiting**	**Ave Rate**	**Fitted Curve**	**Entering**	**Exiting**
A	458	222	2079	2099	1050	1050	124	120	31	89	147	142	87	55
B	224	222	1017	1219	610	610	60	68	18	50	72	81	50	32
C	458	222	2079	2099	1050	1050	124	120	31	89	147	142	87	55
D	132	221	599	583	300	300	49	46	11	38	51	52	31	20
E	413	222	1875	1930	965	965	112	110	29	81	132	131	80	51
F	367	222	1666	1757	878	878	99	100	26	74	117	119	72	46
G	108	221	490	469	245	245	40	36	9	31	42	42	26	16
H	196	222	890	1114	557	557	53	62	16	46	63	74	45	29
I	393	222	1784	1855	927	927	106	105	27	78	126	125	76	49
J	183	222	831	1065	533	533	49	59	15	44	59	71	43	28
K	153	222	695	952	476	476	41	53	14	39	49	63	38	25
L	271	222	1230	1396	698	698	73	78	20	58	87	94	57	36
M	112	221	508	488	254	254	41	38	10	32	44	44	27	17
N	100	221	454	431	227	227	37	32	9	28	39	39	24	15
O	80	221	363	335	182	182	30	24	7	23	31	32	19	12
P	165	221	749	741	375	375	61	61	14	47	64	65	39	25
Q	127	221	577	559	288	288	47	44	11	36	50	50	30	19
R	118	221	536	516	268	268	44	40	10	34	46	46	28	18
S	98	221	445	421	222	222	36	32	8	28	38	39	23	15
T	106	221	481	459	241	241	39	35	9	30	41	42	25	16
U	98	221	445	421	222	222	36	32	8	28	38	39	23	15
V	533	222	2420	2381	1191	1191	144	136	35	101	171	162	99	63
W	533	222	2420	2381	1191	1191	144	136	35	101	171	162	99	63
X	238	222	1081	1272	636	636	64	71	19	53	76	85	52	33
Y	267	222	1212	1381	690	690	72	78	20	57	85	93	56	36
Z	82	221	372	345	186	186	30	24	7	23	32	32	20	12
AA	82	221	372	345	186	186	30	24	7	23	32	32	20	12
Townhomes	123	220	829	864	415	415	49	61	11	38	63	73	38	24
Total	**6218**				**15062**	**15062**			**468**	**1397**			**1314**	**840**
Transit and Active Transportation Adjustments - 15%					*-2259*	*-2259*			*-70*	*-210*			*-197*	*-126*
On-Site / Internal Synergies - 10%					*-1506*	*-1506*			*-47*	*-140*			*-131*	*-84*
TOTAL TRIP GENERATION					**11296**	**11296**			**351**	**1048**			**986**	**630**

Servicing - Sanitary

Existing Conditions

There are three main discharge points that could potentially be used by the development, all of which ultimately Convey wastewater flows to a sewer main on Rocky Lake Drive. This trunk main connects to a main on Bedford Highway for the Mill Cove suits treatment plan. There are existing services along Damascus Drive, starting near the north eastern most signalized intersection, Convey water along Damascus Drive to Duke Street. This route is challenging to access from the development without popping, and given the need for a pumping station near the north end of the developments it is advantageous to discharge to existing sanitary sewers Verity Drive.

The Drive connection consists of a XXX millimetre, PVC sanitary sewer collects wastewater from the sports facilities and connect to... This wastewater travels in an Eastwood direction across country connecting to the Rocky Lake Dr., Maine just south of Street.

In the vicinity of the development, the wastewater main on Duke Street is a 450 mm concrete pipe that is located on the west side of Rocky Lake Road at the location where the proposed new driveway connect Rocky Lake Drive to the development site.

Proposed conditions

The Damascus Drive connection is challenging to make, and would require a pump solution from the low point along Damascus Road within the development to the new main. This would represent a force main length of a boat XXX meters. Given that a pumping station will be required near this low point is preferred to utilize a connection along Verity Drive connecting to the Damascus Drive intersection which helps reduce the amount of waste water that would need to pumped and increasing the volume within the gravity portion of the network.

The second main connection for the development would collect water from the south eastern portion of the development

Sewers sheds

There are four distinct sewer sheds within the proposed development, which include:

1. Gravity flow to Rocky Lake Drive - this accommodates building immediately adjacent to Damascus Road and a number of buildings north of Damascus Road.
2. Gravity flow to Verde Drive – this includes buildings located north of the Damascus Rd., Highpoint and north of the Verity Drive extension High Point.
3. Southern lands downhill of Damascus Drive – these flows can be collected at a pumping station and pumped back up to a gravity manhole on Damascus Drive and subsequently discharging to the Rocky Lake Dr., Maine. Alternatively, a gravity connection directly south to the existing school sanitary pipe network may be possible. This would likely include the need to upgrade a portion of the schools, gravity, Maine, provides a short connection to an existing gravity line and would eliminate the second pumping station. This solution would require an easement across private property between the development area and the school.
4. North of Verde Drive – there is an existing point just north of the development along Damascus Road that will require a pump solution for at least two buildings north of Verity Drive. This pumping station would also need to accommodate any future development located in the north west corner of Bedford common The location of this pumping station will have to be carefully considered during the detail design phases of this project to meet the demands of the development, plus the needs of any future development that may occur collecting to this low point.

This access point bracket extension of Damascus Bracket has an extended 8% slope therefore velocity rechecked, and there will be a likely need to provide drop manholes along the stretch of the network in order to maintain velocity less than the maximum specified in the Halifax Water design specifications


EX. Forcemain
Verdi Connection to Existing 250mm PVC Sanitary
250m
375mm
200mm
Pumping Station 1, Location TBD
375mm
300mm
375mm
450mm
450mm
Connect to Existing 450mm Concrete Main on Rocky Lake Drive. Connects to Bedford Highway, then to Mill Cove STP.
Pumping Station 2, Forcemain
200mm
450mm
200mm
200mm
150mm
450mm
OPTION: Connect to School Sanitary, Eliminates Pumping Station

More to Follow

More to Follow


AA
AA
Appendix A

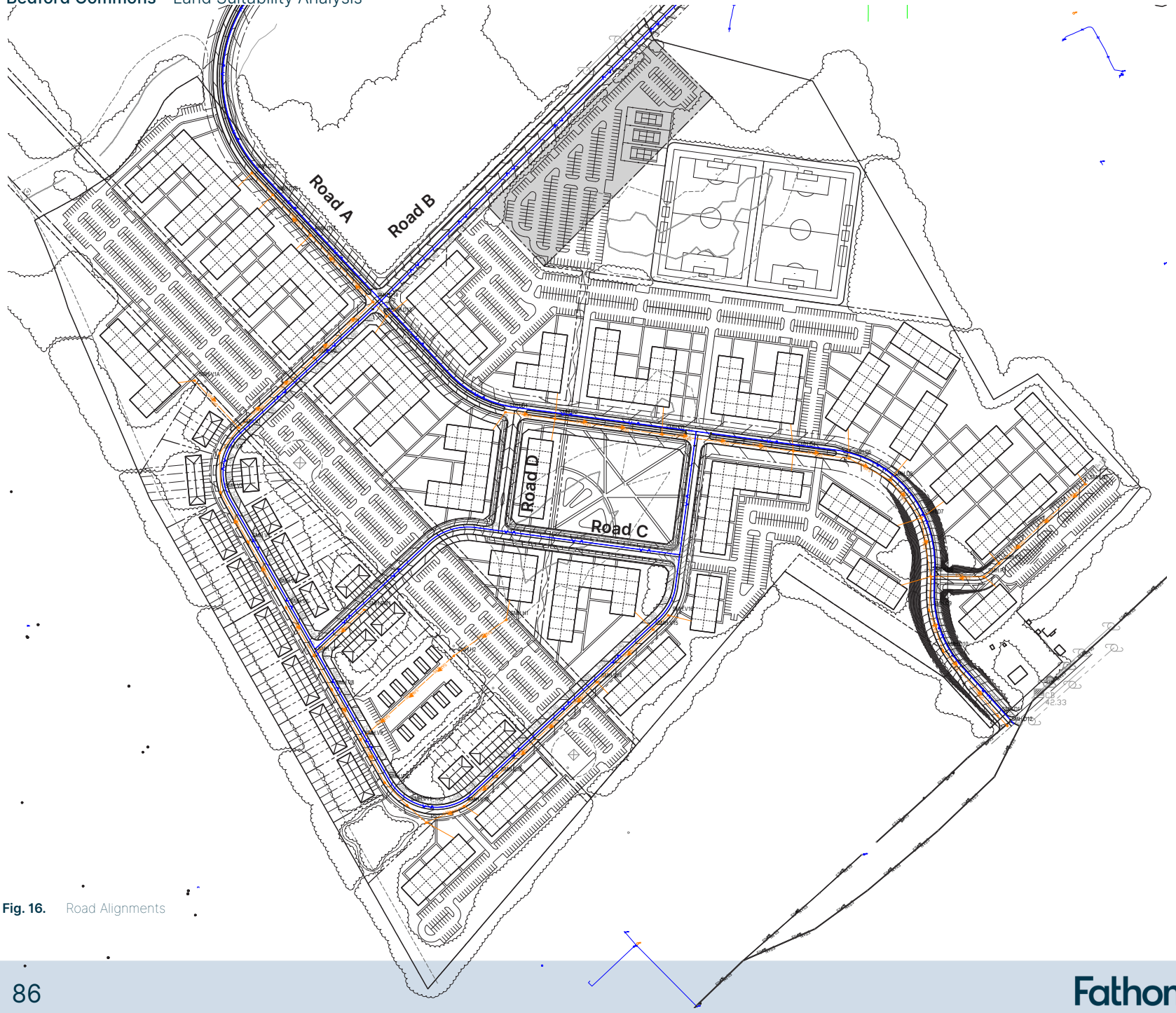


Fig. 16. Road Alignments

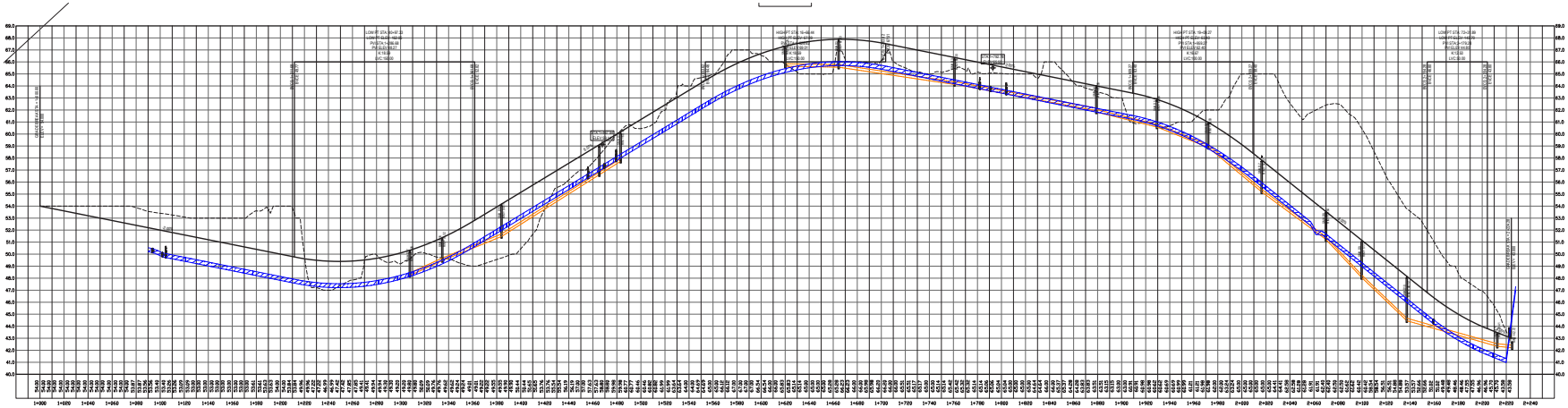


Fig. 17. Road A - Damascus Road profile

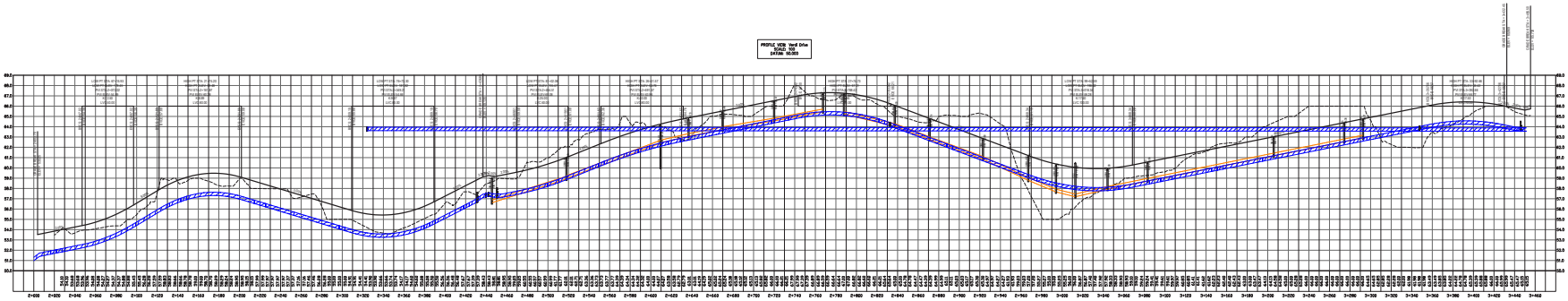


Fig. 18. Road B - Verdi Road profile

EAST WEST STREET

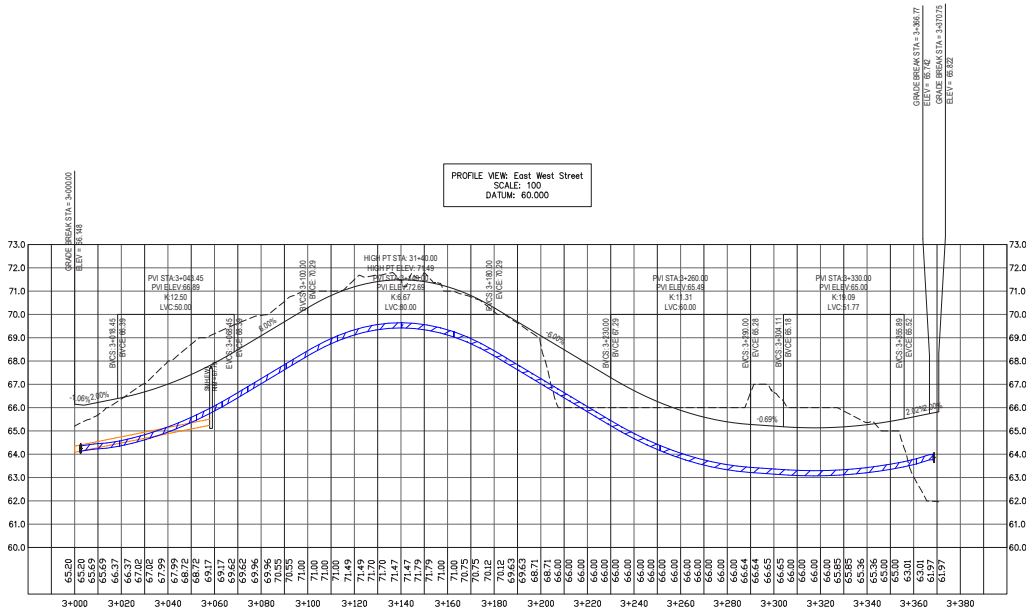


Fig. 19. Road C - East West New Road profile

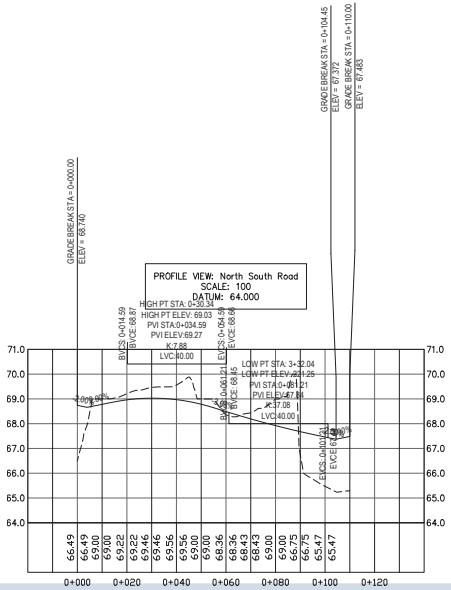


Fig. 20. Road D - Urban Square Road profile

Fathom

Fathom

Fathom Studio
fathomstudio.ca

40 King St.
Dartmouth, NS
B2Y 2R2