

Barrhaven South Urban Expansion Area

Community Design Plan (CDP)
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Barrhaven South Urban Expansion Area Community Design Plan

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1 Introduction

The Barrhaven South Urban Expansion Area (BSUEA) is a Greenfield development area established by the City of Ottawa and the Ontario Municipal Board (OMB) as part of the City's 2009 Official Plan review. This Community Design Plan (CDP) fulfills Section 3.11 of the Official Plan, which requires that a comprehensive study be prepared prior to bringing expansion lands into the Urban Area.

This CDP establishes a land use planning framework for the BSUEA and also fulfills requirements under the Municipal Class Environmental Assessment for an integrated process.

The purpose of the BSUEA CDP is to guide the future development of the area. The CDP is one of a number of guiding documents, the other documents include the Environmental Management Plan (EMP), Master Servicing Study (MSS), and Master Transportation Study (MTS). The role of the CDP is to provide a basis for land use planning and good urban design for this new community.

Key components of this document are the goals, objectives, policies and guidelines that provide direction in applying the high-level policies of the Official Plan at a local scale. This plan for development will provide a liveable community based on: a Land Use Plan; Demonstration Plan; Area Parks Plan; servicing and transportation infrastructure plans, and design guidelines. The CDP is also intended to serve as a guiding policy document for the City of Ottawa when reviewing applications for development within the CDP area.

1.1 How This Plan Was Developed

The Community Design Plan for the BSUEA has been prepared by a Core Project Team (CPT) composed of two land owners (Minto and Mattamy), the Consultant Team, and staff of the City of Ottawa's Community Planning Unit (see Appendix A for a list of participants). The primary role of the CPT was to review reports, resolve issues and achieve consensus at each step of the CDP work program.

Because this was a privately-initiated (or developer-driven) CDP, the City of Ottawa staff's role was to interact with the consulting team and coordinate meetings with city departments, agencies and residents. The Community Planning Unit also provided guidance to ensure that the CDP and study process has complied with City and Provincial policies, procedures and public consultation requirements.

A Technical Advisory Committee (TAC) was created to provide guidance and review critical deliverables. More specifically, TAC meetings were held to discuss the evolving Land Use Plan and information related to the preparation of the Environmental Management Plan (EMP), Master Servicing Study (MSS), and Transportation Master Study (TMS). In addition, members of the TAC were available to provide input throughout the CDP process. Appendix A contains a list of the representatives that were invited to participate in the TAC.

Consultation with the public is an important component of both the city planning and Environmental Assessment processes as it provides an opportunity for residents to be meaningfully involved in planning for new communities. In the preparation of this CDP, three public consultation events, including two public open houses and a workshop session, were held in the Barrhaven community.

Based on the public consultation and further discussion with stakeholders, the CDP document has been prepared to reflect the public's input and their enhanced knowledge of this growing community in the City.

1.2 Community Consultation

The preparation of the Barrhaven South Urban Expansion Area (BSUEA) CDP and Environmental Assessment has included substantive opportunity for public participation.



The first open house was held on March 10, 2016. Approximately 40 people attended. At the meeting, the study process and a summary of existing conditions were presented on 22 panels for the public viewing. The open house was a drop-in format, with a brief 10-minute introduction provided by the lead consultant. A comment sheet with questions was provided.

The second opportunity for public participation was at a workshop held on Saturday, November 5, 2016. During the workshop, attendees were asked, with the help of a facilitator, to consider land use constraints and opportunities. Attendees were then asked to illustrate their preferred locations of residential and commercial areas, roads, schools, parks, stormwater management facilities, a library and a Park & Ride.

On June 17, 2017, a final public open house was held to present and receive feedback on the preferred Land Use Plan. In keeping with requirements for the Municipal Class Environmental Assessment (Class EA), options and preferred alternatives for servicing and transportation projects were also presented. The meeting concluded with a discussion of next steps, including: preparation of the final CDP document; an Official Plan Amendment (OPA); Environmental Management Plan (EMP), Master Servicing Study (MSS), Master Transportation Study (MTS), Area Parks Plan (APP), and final Environmental Assessment (EA) documentation.

1.3 The Integrated Municipal Class Environmental Assessment

A critical element of the South Barrhaven Urban Expansion Area (BSUEA) CDP process was the integration of the planning process under the Official Plan with the Class Environmental Assessment (Class EA) process for proposed infrastructure projects. The objective of an integrated process is to create a set of guiding documents that will shape the development of a healthy, vibrant, and liveable community.

Combining the CDP process with the Class EA creates an opportunity to coordinate the approval requirements of the Environmental Assessment Act and the Planning Act and provides an integrated approach to the planning and development of all aspects of the community.

The integrated planning process is efficient because background studies and existing conditions reports can be shared between the two processes; stakeholders and advisory committees are able to consider all aspects of planning and servicing; and the public review and approval processes can be consolidated and simplified. The Master Plan and CDP process was integrated in accordance with Approach #4, as outlined in the Class EA.

1.4 The Study Area

The Barrhaven South Urban Expansion Area (BSUEA) is generally located east of Borrisokane Road, north of Barnsdale Road, southwest of the existing Barrhaven South CDP lands, and west of existing Greenbank Road.

The total land area of the BSUEA is approximately 122 hectares, which is distributed amongst six landowners (Figure 1). Minto Communities owns the majority of the lands in the BSUEA, including the lands on the east and west sides of realigned Greenbank Road (between Kilbirnie Drive and Barnsdale Road) and the majority of the lands located north and south of the proposed east-west collector road. There are two aggregate extraction pits located in the northwest corner of the BSUEA Study Area. The northern pit is owned by George W. Drummond Ltd. (approximately 20 hectares) and the southern pit is owned by Marcel Brazeau (approximately 25 hectares). Mattamy Homes owns an approximately 10 hectare parcel located in the northeast corner of the Study Area, immediately east of the Brazeau pit. Mattamy also owns a 0.4 hectare, triangular-shaped parcel in the northeast corner of the Drummond pit operation. Finally, there are three individual residential properties located along Barnsdale Road which are known as the Moloughney (east and west) and Boyle properties. Each of the landowners has been engaged or informed about the CDP and EA process.

The Study Area is generally flat, with a grade differential of approximately nine metres across the site. The highest point is located near the centre of the Study Area and the lowest point is in the southeast corner, near the intersection of existing Greenbank Road and Barnsdale Road. There are no significant built or natural landmarks in the Study Area and no buildings or features are identified as cultural heritage resources. Due to the fact that the Study Area is located on top of the Ottawa Valley Kars Esker, the soils are highly permeable and no watercourses are present.

At the commencement of the CDP process, the boundary of the CDP Study Area reflected the "Urban Expansion Study Area" overlay designation that was applied through Official Plan Amendment (OPA) 76. These lands are currently designated "General Rural Area" and "Sand and Gravel Resource Area" on Official Plan Schedule A – Rural Policy Plan (Figure 2).

At the time of OPA 76, the lands to the east and west of the Study Area, along Barnsdale Road, were designated "Agricultural Resource Area" and therefore were not considered good candidates for urban land uses. More specifically, the methodology that was used to identify and evaluate candidate areas for urban boundary expansion through OPA 76 applied the assumption that no lands in an "Agricultural Resource Area" designation be considered. This methodology was added to the Official Plan through OPA 76 as Annex 15, but it has since been removed from the Official Plan through OPA

150. In 2015, an Ontario Municipal Board (OMB) Decision (PL141313) re-designated these surrounding lands to "General Rural Area" in response to an appeal of an OPA application submitted by several landowners.

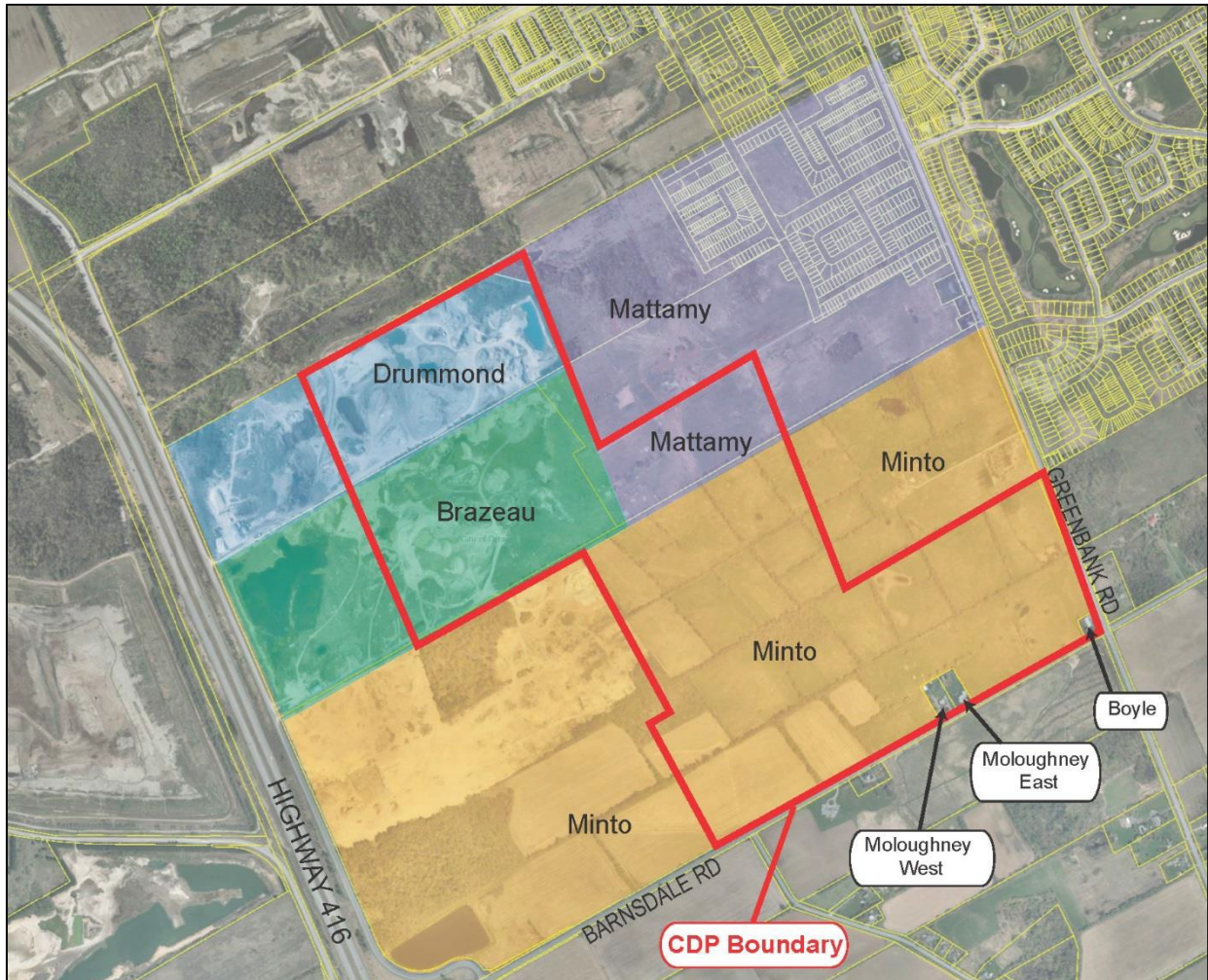


Figure 1: CDP Boundary with Land Owners Identified

In response to the impractical shape of the original Study Area boundary and existing constraints, a revised Study Area boundary was established through the CDP process. The net land area within the new Study Area boundary is identical to the original boundary (approximately 122 hectares) and therefore no additional land area is proposed to be brought into the Urban Area as a result of the boundary amendment.

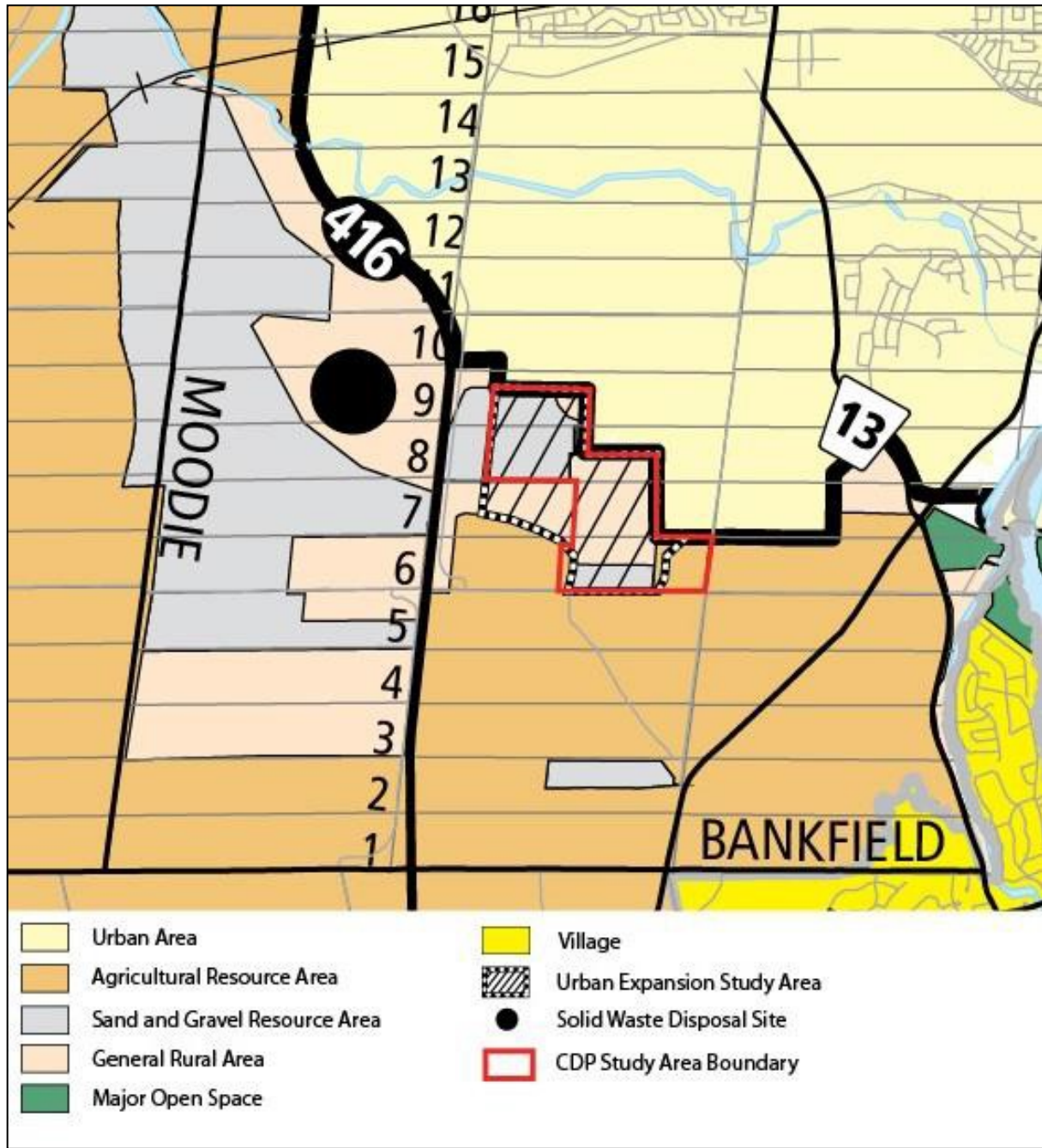


Figure 2: Extract from Official Plan Schedule A- Rural Policy Plan

2 A Vision for this New Community

The vision for the development of the Barrhaven South Urban Expansion (BSUEA) CDP area is to create new, liveable neighbourhoods that link with the identity and character of the existing Barrhaven South Community. To achieve this vision a number of goals were established.



The CDP will:

1. Provide a comprehensive framework to manage new development through a Land Use Plan that supports safe connectivity and movement for pedestrians, cyclists, transit-users, and motorists;
2. Direct an appropriate integration between existing communities to the north and the new community;
3. Direct the creation of a high-quality public realm and built environment that places emphasis on quality of life, aesthetics, and sense of place;
4. Direct the provision of a range of housing types and densities to support a diversity of ages and income levels;
5. Direct the incorporation of pedestrian-friendly and bicycle-friendly design that encourages greater use of walking and bicycles for daily transportation;
6. Facilitate community-wide access to the planned Park & Ride station;
7. Direct for the provision of design with regard for existing natural features and processes, including low-impact technologies and green infrastructure;
8. Plan for parks and greenspaces that preserve and enhance the natural environment, if possible.

This CDP will achieve these goals through the fulfillment of a number of related objectives. The objectives are to:

1. Establish a Land Use Plan assigning policy designations to each land parcel in the CDP area;
2. Extend existing road and pathway corridors into the CDP area to ensure efficient connections with adjacent communities;
3. Plan for landscaping elements, recreational infrastructure, and compatible land uses and urban design to create a high-quality public realm and built environment;
4. Permit a range of housing types in the CDP area by demarcating low-density and higher-density areas in appropriate locations;
5. Plan for multi-modal streets, sidewalks, and pathways to enable active modes of transportation. Design a fully connected street and block network;
6. Connect the Park and Ride to multiple modes of transportation to ensure accessibility from across the community;
7. Account for green infrastructure and low-impact technologies in designing street rights-of-way, parks, and other public facilities;
8. Locate parks to capitalize on existing trees and natural features, if possible;
9. Implement the relevant objectives and strategic directions advanced by the City's "Building Better and Smarter Suburbs (BBSS)" and "Complete Streets" initiatives; and
10. Guide the character and form of development and the mix of housing types within the community through a Demonstration Plan and area-specific urban design guidelines.

The guiding documents of the integrated process include a CDP, an Environmental Management Plan (EMP); a Master Servicing Study (MSS); and a Transportation Master Study (TMS). The Master Plans and Studies will establish a network of streets and municipal infrastructure, including water, sanitary and stormwater management systems. These facilities will ultimately be dedicated to the City of Ottawa through the subdivision approvals process as they will become municipal infrastructure. The Province of Ontario's Environmental Assessment Act requires an Environmental Assessment (EA) for any major public sector undertaking, including public streets, transit, water, sanitary, and stormwater installations. Finally, meeting the requirements of the Environmental Assessment Act is a requirement of Section 3.11- Urban Expansion Study Area of the Official Plan.

3 Existing Conditions

3.1 Surrounding Context

Existing and developing neighbourhoods are located immediately east and northeast of the CDP Study Area. Some of this development is located within the Barrhaven South CDP (2006) Study Area, which generally applies to the lands bound by the Jock River to the north, Highway 416 to the west, existing Greenbank Road to the east, and the existing urban boundary to the south. Recent residential development has also occurred on the east side of existing Greenbank Road, in a community known as Stonebridge. These surrounding neighbourhoods contain a mix of low- and medium-density residential uses as well schools and parks which contain a range of amenities. The Minto Recreation Complex, which offers pools, ice rinks, and playing fields, is located at the intersection of Cambrian Road and existing Greenbank Road. Existing Greenbank Road is planned to be relocated approximately 800 metres to the west, where it will accommodate a future Bus Rapid Transit (BRT) route.

In accordance with the "Barrhaven South CDP" (2006), a Community Core comprised of a mix of commercial and higher density residential uses is planned to the north of the Study Area, centred on the intersection of Cambrian Road and realigned Greenbank Road. To the west of the Community Core and approximately 460 metres north of the CDP Study Area is Cambrian Woods, a City-owned Urban Natural Feature.

Provincial Highway 416, a major north-south expressway, is located to the west of the CDP Study Area. The nearest interchange with Highway 416 is Bankfield Road, which is located approximately two kilometres south of Barnsdale Road. Approximately five kilometres north of the Study Area is the Fallowfield Road interchange, which connects motorists with the central portion of Barrhaven to the east. The Barrhaven Town Centre Mixed Use Centre is located approximately three kilometres to the northeast of the CDP Study Area.

The Trail Road Waste Facility is located immediately west of Highway 416. The western boundary of the CDP Study Area is located 500 metres east of the landfill property, which is the area of influence identified in Section 3.8 of the Official Plan.

3.2 Natural Environment

Four woodlots are located in the north, southwest, and central portions of the CDP Study Area (Figure 3). Portions of two of the woodlots at the north and southwest are partially located outside of the Study Area. The existing woodlots and hedgerows contain several mature trees and specimen trees measuring 85 centimetres or greater in diameter and are in good condition.

The Study Area is not located near any Provincially Significant Wetlands, Significant Woodlands, Significant Valleylands, Areas of Natural And Scientific Interest, Significant Wildlife habitat, or any other designated natural heritage system components. Additionally, no watercourses were identified within the Study Area.

Two Species at Risk (SAR) birds were observed in the Study Area. One Barn Swallow was observed during 2015 field surveys and a number of Bank Swallows and associated nest cavities were observed during a 2016 field survey. The birds were observed in the existing sand pits at the northwest of the CDP area. No other SAR or SAR habitat was identified within the Study Area.

3.3 Transportation

Barnsdale Road and existing Greenbank Road abut portions of the south and east perimeters of the Study Area, respectively. Kilbirnie Drive, Alex Polowin Avenue, and Dundonald Drive abut or connect to the Study Area to the east, while the aggregate pits front onto Borrisokane Road to the west. Other existing major roadways in the vicinity of the Study Area include Cambrian Road, Bankfield Road, Prince of Wales Drive, and Viewbank Road.



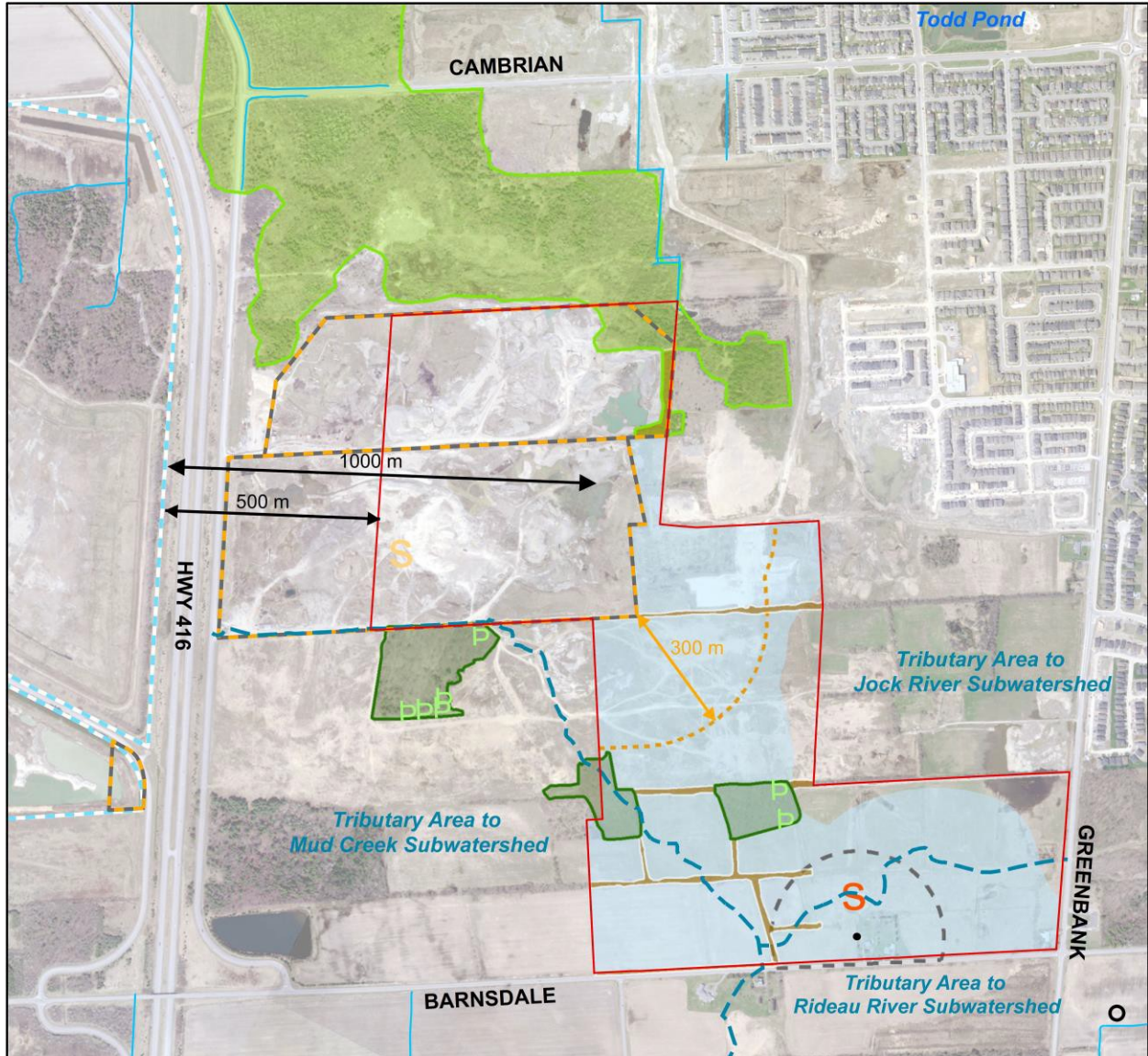
The Realigned Greenbank Road and Southwest Transitway Extension Planning and Environmental Assessment (EA) Study was approved by the Ministry of the Environment and Climate Change in 2014. The realigned road is planned to be located west of existing Greenbank Road and will intersect with Barnsdale Road approximately 800 metres west of the current intersection. The approved EA also plans for a Park and Ride facility to be located at the southern terminus of the planned Bus Rapid Transit (BRT) line in Barrhaven. The realigned Greenbank Road cross-section will include dedicated BRT lanes (in the centre of the right-of-way), transit stations, vehicle lanes, cycle tracks, and sidewalks. The timing of the re-alignment of Greenbank Road is currently unknown.

The Jock River screenline between Borrisokane Road and Prince of Wales Drive currently operates at less than half of the existing available capacity, suggesting that significant residual traffic capacity exists to accommodate future growth. The majority of the Study Area intersections currently operate below capacity, with the exception of the Bankfield Road at Prince of Wales Drive intersection, which is scheduled to be upgraded to a two-lane roundabout in the future.

3.4 Geotechnical Information

The Study Area is comprised of a mix of undeveloped, former agricultural land, forested areas, and ongoing aggregate extraction operations. The ground surface elevation in the central portion of the Study Area is approximately 110 metres at its highest, dropping to 101 to 104 metres in the southeast portion of the Study Area. The aggregate extraction operations are several metres below the grade of the surrounding lands.

The ground surface within the Study Area generally consists of sandy topsoil, or fine-grained soil with significant root matting, followed by a predominantly coarse-grained deposit of glacial till, silty fine sand and / or sandy silt. In the east and southeast portions of the Study Area, a layer of glacial till overlies silty sand deposits, with some areas featuring glacial till below the silty sand deposits. The bedrock in the area consists of dolomite of the Oxford formation with an overburden drift thickness depth of 15 to 25 metres.




<ul style="list-style-type: none"> CDP Area Watercourse Tributary Area Optimal Infiltration Area (Conductivity (Kfs) > 1.0e-006 m/sec) Significant Woodland Candidate Woodland for Retention Hedgerow (Trees >10cm) ▽ Specimen Tree (>85cm dbh, fair or good condition) 	<ul style="list-style-type: none"> S Barn Swallow Observation S Bank Swallow Observation • Candidate Barn Swallow Nest Site Candidate Category 3 Barn Swallow Habitat Licensed and Operational Sand and Gravel Pit Sand and Gravel Influence Area (300m Offset) Trail Rd Landfill (500m from CDP Area) 	<p>Scale: 0 75 150 300 450 600 Metres</p> <p>Title: Constraints and Opportunities</p> <p style="text-align: center;"> MORRISON HERSHFIELD</p> <p>Project No.: 2160089</p> <p>Department: Environmental Services</p>	<p>Drawing No.:</p> <p>Date: May, 2018</p>
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Figure 3: Constraints and Opportunities Map

3.4.1 Aggregate Pits

The provincial Aggregate Resource Inventory Paper 191 (Ministry of Northern Development and Mines, 2013) and the Official Plan have identified a sand and gravel resource area associated with the Kars Esker. Under the Official Plan, new development may be approved within the area of influence (300 metres for Sand and Gravel Resource Areas) where an impact assessment study is completed and demonstrates that the mineral aggregate operation, including future expansion in depth or extent, will not be affected by the development. The Ministry of Natural Resources and Forestry (MNRF) will be consulted in review of the impact assessment study. Where development is approved, the City may impose conditions to ensure the development provides adequate buffering and/or separation between the new proposed use and the mineral aggregate area/operation.

At present, there are two licensed sand and gravel pit operations associated with these lands (the aforementioned Brazeau and Drummond pits). The pits have been in operation since before 1990 and continue to supply sand and gravel for customers in the Ottawa area. After operations have ended and rehabilitation has occurred as per the requirements of the MNRF, the extraction licences will be surrendered (timing currently unknown).

All slopes along the east end of the existing aggregate extraction pits were analyzed by geotechnical experts and are considered stable from a geotechnical perspective. Consequently, no development setbacks are required from the top of the existing slope.

3.5 Drainage and Hydrogeology

The Study Area is generally located in the Ottawa Valley Kars Esker physiographic region, with portions of the site intersecting Sand Plains. Groundwater in the Study Area ranges from 1.0 metre to greater than 9.8 metres, with the overburden aquifer and bedrock aquifer located at greater depths below the ground surface. Groundwater recharge from ground surface to the bedrock aquifer is considered to extend well beyond the boundary of the Study Area. The groundwater feature associated with the Kars Esker, located partially within the Study Area, is part of the City of Ottawa's Natural Heritage System.

Within the Jock River, Mud Creek, and Rideau River Watersheds, water drains into a total of 17 sub-catchment areas in the vicinity of the Study Area. The lands surrounding the Study Area contain a total of 13 culvert crossings, which provide conveyance along Barnsdale Road, Cambrian Road, and Borrisokane Road. Although these culvert crossings comprise part of the drainage system that includes the Study Area lands, none of the crossings are within the formal Study Area boundaries. There are no

surface water bodies or well-defined watercourses in the Study Area itself due to the relatively high hydraulic conductivities encountered across the area.

The floodplain from the Jock River subwatershed extends close to the Study Area, but remains north of the Cambrian Road / Borrisokane Road intersection. The floodplains of the Rideau River and Mud Creek do not extend into the Study Area.

The Thomas Baxter Municipal Drain is located immediately south of the Study Area at Barnsdale Road and carries flow from Barnsdale Road to Mud Creek. There is no need at this time to abandon or enclose the Drain.

4 Planning Context

4.1 City of Ottawa Official Plan

Section 3.11- Urban Expansion Study Area of the Official Plan establishes the process for removing the Urban Expansion Study Area overlay and re-designating lands to an urban land use designation. The policies of Section 3.11 require the preparation of a comprehensive study, such as a CDP, as well as the fulfillment of Environmental Assessment (EA) and Official Plan Amendment (OPA) requirements, in order to determine the most appropriate form of development on the lands.

Section 3.11 formerly stipulated that prior to an OPA to designate the lands for urban land uses, the City shall consider:

- a. Whether the lands to be designated are required in order to maintain a 10-year supply of lands designated and available, for a full range of housing types through residential development and residential intensification;
- b. The status of the City's implementation strategy; and
- c. The achievement of intensification targets in Section 2.2.2, Policy 5.

Item a. above was addressed in a Staff Report to City of Ottawa Council dated April 12, 2013. The report recommended that all Urban Expansion Study Areas come on-stream over the term of the Official Plan, thereby satisfying the consideration for a 10-year supply of lands established in the policy. The above noted policy was removed in its entirety in Council-approved OPA 150. While portions of OPA 150 are still under appeal, the removal of the above noted policy has been settled and is in effect.

Policy 4 of Section 3.11 establishes that proponents of development must complete studies and a plan to:

- a. Identify the location, timing, and cost of infrastructure;
- b. Identify the natural heritage system;
- c. Identify recreational pathways;
- d. Evaluate the adequacy of community facilities;
- e. Establish the mix and location of residential dwellings (45% - 55% single-detached, minimum 10 percent apartment dwellings and the remainder other forms of multiple dwellings). A minimum average density target of 34 units per net hectare must be met.
- f. Show how the plan will achieve other Official Plan policies; and
- g. Meet the requirements of Phase 1 and Phase 2 of the Environmental Assessment Act, where required.

The Official Plan also includes policies containing direction for other considerations in the CDP, including:

/ Community Design and Compatibility

- Section 2.5.1- Urban Design and Compatibility establishes objectives and principles for urban design and compatibility at various scales. The objectives aim to create places that enhance the sense of community, define quality public and private spaces, are safe and accessible, respect the character of existing areas, are adaptable and diverse, respect existing natural processes and features, and exhibit sustainable design.
- Section 4.11- Urban Design and Compatibility contains a set of criteria to evaluate development proposals that are intended to assess compatibility. The criteria include traffic generation, vehicular access, parking supply, outdoor amenity spaces, noise, and lighting.

/ Affordable Housing

- Official Plan policies establish that the City of Ottawa will encourage the provision of affordable housing, defined as housing for which a low- to moderate-income household pays no more than 30% of its gross annual income. A variety of legislative tools are available to encourage the development of affordable housing.

/ Schools and Community Facilities

- The Official Plan contains policies that recognize the importance of schools for education, amenity space, and resources, and encourage the provision of schools within all new communities.

/Transportation and Cycling

- Policies in Section 2.3.1- Transportation require transportation infrastructure to serve new communities. The development of communities that are highly favourable to cyclists is also a focus of the policies.

/ New Park and Leisure Areas

- Official Plan policies are established to promote the creation of parks and leisure areas that are equitably distributed, accessible, visible, engaging, and useful. Park spaces are generally encouraged to connect to the larger greenspace network.

/ Infrastructure

- Sections 2.3- Providing Infrastructure and 2.4- Maintaining Environmental Integrity of the Official Plan contain direction for the provision of

municipal infrastructure, including water servicing, sanitary servicing, and stormwater management infrastructure.

4.2 Provincial Policy Statement (2014)

The Provincial Policy Statement (PPS), issued under Section 3 of the Planning Act in April 2014, provides direction on matters of provincial interest related to land use planning and development. The Planning Act requires that decisions affecting planning matters “shall be consistent with” policy statements issued under the Act.

Section 1.1.1 of the PPS lists the sustaining elements of healthy, liveable, and safe communities, including, efficient development and land use patterns, an appropriate range and mix of land uses, and avoidance of development patterns that jeopardize health or safety. It also contains policies that ensure the necessary infrastructure is available to meet current and future needs. The Barrhaven South Urban Expansion Area (BSUEA) CDP fulfills the following PPS policies:

- / New development should take place in designated growth areas located adjacent to the existing built-up area and shall have a compact form, mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities (Policy 1.1.3.6).
- / Planning authorities must provide for an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents (Policy 1.4.3).
- / Land use pattern, density, and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation (Policy 1.6.7.4).
- / Planning for stormwater management shall minimize or prevent increases in contaminant loads, minimize changes in water balance and erosion, not increase risks to human health and safety and property damage, maximize the extent and function of vegetative and pervious surfaces, and promote stormwater management best practices, including green infrastructure and low-impact infrastructure (Policy 1.6.6.7).
- / Natural features and areas shall be protected for the long term, including their diversity, connectivity, and long-term ecological function and biodiversity (Policy 2.1.2).
- / Mineral aggregate resources must be protected for long-term use and protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety, or environmental impact (Policy 2.4.2.1).



4.3 Building Better and Smarter Suburbs (BBSS) (2015)

On March 10, 2015, Planning Committee approved the report titled “Building Better and Smarter Suburbs: Strategic Directions and Action Plan”, which aims to support land efficiency and functionality in new suburban subdivisions. The Vision for the BBSS initiative is “the principles of good urbanism should apply to the suburbs as they do to other parts of the City”. This Vision is supported by four principles which speak to Ottawa’s suburbs being: land efficient and integrated; easy to walk, bike, bus, or drive; well designed; and financially sustainable.

Nine core topic areas are identified in the BBSS, each of which has its own objectives, strategic directions, and action plan, including:

- / Street Network and Land Use
- / Parks and Open Space
- / Stormwater Management
- / School Sites
- / Parking
- / Road Rights-of-Way
- / Rear Lanes
- / Trees
- / Utility Placement

While many of the strategic directions established through BBSS apply at the Plan of Subdivision, Zoning, and Site Plan Control stage, these matters have been considered throughout the development of a Land Use Plan for the Barrhaven South Urban Expansion Area (BSUEA) CDP. An analysis of the response of the CDP to the BBSS initiative, where relevant, is included in Appendix A.

4.4 Urban Design Guidelines for Greenfield Neighbourhoods (2007)

The “Urban Design Guidelines for Greenfield Neighbourhoods” were approved by City Council on September 26, 2007 and are intended to illustrate the City’s expectations for Greenfield neighbourhoods within the Urban Area of the City of Ottawa. The guidelines address several elements of subdivision design, including structuring layout, street design, residential building and site design, non-residential building and site design, greenspaces, and utilities and amenities. The guidelines were considered in the development of the CDP’s Land Use Plan and Demonstration Plan.

4.5 Park Development Manual, 2nd Edition (2017)

The intent of the City of Ottawa “Park Development Manual, 2nd Edition” (2017) is to define, standardize, and improve the park and pathway development process in the City. The Manual establishes a parks classification system and contains guidelines for the development of each park type. In keeping with Official Plan policy 2.4.5.7, which targets a 30% tree canopy for the entire City, the Manual notes that a 30% tree canopy is desirable in City parks. Additionally, conformity with the policies of OPA 159: Cost-Sharing for Park Development Outside the Greenbelt and in the Rural Area is required.

5 The Plans

5.1 Land Use Plan

The Land Use Plan for the Barrhaven South Urban Expansion Area, shown in Figure 4, illustrates the approximate location of arterials and collector streets, school sites, parks, stormwater management facilities, the Park and Ride, and varying residential densities. In comparison, the Demonstration Plan prepared for the CDP (see Section 5.2) illustrates one way in which the Land Use Plan could be developed, including potential local road patterns and blocks sizes/orientation. The following land use categories are identified on the Land Use Plan:

- / Low / Medium Density Residential
- / High Density Residential
- / Commercial
- / Park and Ride
- / Stormwater Management Facility
- / School Site
- / School & Library Site
- / Park
- / Existing Woodlot
- / Active Sand & Gravel Pits

The intent and permitted uses of each land use category contained within the CDP is outlined in the following sections and shall be subject to the Community Design Guidelines included in Section 7.

Section 3.1 of the Official Plan establishes a range of generally permitted uses which are permitted in all land use designations, subject to certain policies. The majority of the CDP area (excluding the aggregate pits) will be designated "General Urban Area" in the Official Plan, which is primarily a residential designation. It is expected that the majority of the CDP area, excluding parks, schools, the commercial block and the Park and Ride, will be zoned Residential First (R1), Second (R2), Third (R3), Fourth (R4) or Fifth (R5) Density Zone in the Comprehensive Zoning By-law (2008-250). The R1 through R5 zones all permit the following generally permitted uses, subject to certain provisions:

- / Home-based business
- / Home-based day care

- / Bed and breakfast
- / Group home
- / Retirement home, converted
- / Diplomatic mission
- / Secondary dwelling unit
- / Urban agriculture
- / Park

A secondary dwelling unit, defined as a separate dwelling unit that is subsidiary to and located in the same building as an associated principle dwelling unit, is permitted in any detached, linked-detached, semi-detached or townhouse dwelling in any zone where that dwelling type is a listed permitted use in the applicable zoning, subject to the provisions of the City of Ottawa Zoning By-law (2008-250).

A coach house, defined as a separate dwelling unit that is subsidiary to and located on the same lot as an associated principal dwelling unit, is permitted on any lot also containing a detached, linked detached, semi-detached, duplex, or townhouse dwelling, where that dwelling type is a listed permitted use in the applicable zoning, subject to the provisions of the City of Ottawa Zoning By-law (2008-250).

The distribution of land uses on the Land Use Plan is summarized in Table 1 on the following page.

Table 1: Land Use Distribution

Land Use	Net Area	Percentage
Low-Medium Density Residential	32.45 ha	26.5%
High Density Residential	0.89 ha	0.7%
Commercial	2.13 ha	1.7%
School / Library	4.66 ha	3.8%
Park	4.68 ha	3.8%
Park & Ride	2.57 ha	2.1%
Stormwater Management Pond	5.63 ha	4.6%
Streets	25.07 ha	20.5%
Aggregate pits	44.26 ha	36.2%
Total	122.34 ha	100%



Figure 4: Land Use Plan

5.1.1 Residential Areas

Residential land uses comprise the majority of the development within the Barrhaven South Urban Expansion Area (BSUEA) CDP area. Residential areas shall include Low-Medium Density and High Density residential land uses.

Within Low-Medium Density Residential Areas, low-rise, ground-oriented dwellings are permitted, including:

- / Detached dwellings
- / Semi-detached dwellings
- / Linked-detached dwellings
- / Ground-oriented multiple-attached dwellings (such as traditional townhouses)
- / Back-to-back townhomes
- / Rear-lane townhomes

Ground-oriented multiple-attached dwellings will be distributed throughout the Low-Medium Density Residential areas in order to provide a complete range of ground-oriented housing opportunities, including affordable housing, and to create more diverse and attractive neighbourhoods. Stacked townhouses and apartments are not permitted in the Low-Medium Density Residential Area designation.

In High Density residential areas, stacked townhouses, back-to-back townhouses, back-to-back stacked townhouses, and low-rise apartment buildings will be permitted.

Table 2 provides a breakdown of the Low-Medium and High Density Residential areas planned for the CDP. Approximately 43% of the total CDP area (excluding the active pits) is reserved for residential uses, with the remaining 57% planned for stormwater management, parks, schools, commercial uses, streets, and the Park and Ride facility. Official Plan policy requires that developing communities in Urban Expansion Areas establish a mix of residential dwellings with at least 45%, but not more than 55% detached dwellings, at least 10% apartment dwellings (which may include alternative forms of multiple-attached dwellings that achieve similar residential densities, such as stacked townhouses), with the remainder being multiple dwellings other than apartments. The Official Plan also requires a minimum density of 34 units/net hectare. As demonstrated in Table 2, it is expected that a density of 36 units/net hectare will be achieved in the BSUEA CDP area.

Development within Residential Areas shall be consistent with the Community Design Guidelines found in Section 7 of this Community Design Plan.

Table 2: Estimated Units by Housing Type

Land Use	Net Area (ha)	Units (estimate)	Units by Percentage
Detached	18.28 ha	660 units	55%
Multiple- Attached	14.37 ha	420 units	35%
Apartments (or similar density)	0.89 ha	120 units	10%
Total	33.54 ha	1,200 units	100%
Density	36 units/net ha		

Note: This table does not include the aggregate pit lands

Table 3 below presents population estimates based on the estimated household sizes and estimated number of units. The estimated household sizes are based on industry standards.

Table 3: Estimated Population Based on Units

Land Use	Household Size (ppu)	Units (Rounded)	Population (Rounded)
Detached	3.2	660 units	2,112
Multiple-Attached	2.6	420 units	1,092
Apartments (or similar density)	1.6	120 units	192
Total		1,200 units	3,396 people

Note: This table does not include the aggregate pit lands

5.1.2 Commercial

The Commercial area proposed northwest of the intersection of Kilbirnie Drive and realigned Greenbank Road is intended to accommodate a mix of small-scale commercial uses to serve the personal and commercial needs of residents of the CDP area and adjacent neighbourhoods.

Permitted uses will include:

- / Retail, retail food, and convenience stores
- / Restaurants
- / Banks and other financial services
- / Service and repair uses
- / Personal service businesses
- / Recreational and athletic facilities
- / Professional offices
- / Medical facilities
- / Instructional facilities
- / Animal care establishments and hospitals
- / Post office
- / Municipal service centre
- / Higher density residential development
- / Private parks and open spaces
- / Click-and-collect pick-up points

Buildings in the commercial area will be low-rise, with a maximum height of four storeys. The buildings are encouraged to be sited along the realigned Greenbank Road frontage to define the street edge and create more active streetscapes.

As noted in Section 5.1.5, if a portion of the lands located northwest of the intersection of existing Greenbank Road and Barnsdale Road are not required for the stormwater management facility, these lands are permitted to be developed with commercial uses.

Development within the Commercial area shall be subject to the Community Design Guidelines found in Section 7 of this CDP.

5.13 Schools and Library

Two school sites are identified on the Land Use Plan in response to the projected needs of two of Ottawa's four school boards. The 2.43-hectare school site identified at the southeast corner of realigned Greenbank Road and Kilbirne Drive is planned for the French Public school board (Conseil des écoles publiques de l'Est de l'Ontario or CEPEO) while the 2.12-hectare school site shown in the southeast corner of the Land Use Plan is reserved for the French Catholic school board (Conseil des écoles catholiques du Centre-Est or CECCE).

School site requirements will be finalized through the Plan of Subdivision process. In the event that the school boards confirm that they no longer have a need for a planned school site, the Ottawa Carleton District School Board (OCDSB) and the Ottawa Catholic School Board (OCSB) will be given the opportunity to purchase these lands. Where no school board has an interest in the school site(s), the lands may be developed as per the Low-Medium Density Residential Area CDP land use policies.

As illustrated in Figure 5, the two school sites are distributed in a manner that allows for the majority of residential units to be located within a five-minute walking distance of these facilities.

The City of Ottawa has identified a need for a new public library in the Barrhaven South Urban Expansion Area (BSUEA) CDP area. In accordance with the principles of the City's "Building Better and Smarter Suburbs (BBSS)" initiative, the library is planned to be co-located with the CECCE elementary school located in the southeast corner of the CDP. This would allow for the sharing of facilities, such as a layby and/or off-street parking. Figure 6 illustrates a preliminary concept for the co-location of the library with the CECCE elementary school. Of particular note, the lay-by and parking, as well as the school frontage, are oriented to the street.



Figure 6: School and Library Plan (Preliminary Concept)

5.14 Parks

Given the projected number of units in the CDP Area, the requirements of the City of Ottawa's Parkland Dedication By-law (2009-95), and a previous over-dedication by Mattamy, a total of 3.19 hectares of public parkland is required in the CDP area (Table 4).

The Land Use Plan currently identifies 4.12 hectares of parkland within the CDP area, including:

- / A 3.12-hectare Community Park located in the southeast corner of the CDP;
- / A 0.65-hectare Neighbourhood Park along the western boundary of the CDP; and
- / A 0.35-hectare Parkette in the approximate centre of the CDP.

Given that there is a projected over-dedication of 0.93 hectares, each of the parks may be subject to a reduction in size at the time of Plan of Subdivision. Alternatively, if actual unit counts at the time of Plan of Subdivision are higher than projected in the CDP, additional parkland or cash-in-lieu of parkland may be required.

Table 4: Parkland Requirement by Land Use

Land Use			
Residential purposes at densities of 18 dwellings per net hectare or more	1 ha/300 units	1,080 units – 163 units* = 917 units	3.06 ha
Apartments	10% of land area	0.89 ha (~120 units)	0.09 ha
Commercial	2% of land area	2.13 ha	0.04 ha
Total Parkland Required			3.19 ha
<p>*Mattamy is not required to provide parkland for the development of their lands located on the east side of realigned Greenbank Road due to a 0.54 ha over-dedication of parkland in their Half Moon Bay South subdivision to the immediate north. Approximately 163 units could be accommodated on the Mattamy lands.</p> <p>Note: The aggregate pit lands are not included in the above calculations</p>			

As demonstrated in Figure 7, the parks are distributed in a manner that allows for the majority of residential units to be located within a five-minute walking distance of parkland. Parks will be developed in accordance with the City of Ottawa "Park Development Manual, 2nd Edition" (2017), the Design Guidelines contained in Section 7 of the CDP, and the Area Parks Plan (APP) developed for the CDP.

5.1.4.1 Community Park

In accordance with the principles of the City's "Building Better and Smarter Suburbs" (BBSS) initiative, the Community Park is strategically located adjacent to the CECCE elementary school site in order to advantage of shared facilities, such as parking. The CECCE site may also accommodate a public library, which would create a central activity node for the community.



The majority of the parkland dedication was directed to the Community Park due to the fact that City of Ottawa Parks & Facilities Planning Staff have identified the need for a senior level baseball diamond (with lighting), which is a facility that has substantial land requirements. Additional amenities that are tentatively planned for the Community Park include:

- / Play and / or fitness / challenge course equipment – to be determined at the Concept Design Stage
- / Pathway circuit
- / Electrical outlets for movie nights / other events
- / Basketball key
- / Shade shelter
- / Parking area

5.1.4.2 Neighbourhood Park

The Neighbourhood Park is proposed to be located at the west side of the CDP area. Programming is tentatively planned to include:

- / Play equipment – 1.5-12 year old
- / Splash pad
- / Shade structure
- / Walking paths

5.1.4.3 Parkette

The Parkette location may allow for the potential retention of portions of existing woodlots, where feasible. The size and amount of equipment and programming of the Parkette is subject to change as unit counts are finalized through the Plan of Subdivision process. The amenities tentatively planned for the Parkette include:

- / Play and / or fitness / challenge course equipment – to be determined at the Concept Design stage
- / Walking paths
- / Open space



Figure 7: Park Area Plan

5.15 Stormwater Management Facilities

In support of the CDP, stormwater management facilities are proposed in the southeastern corner of the Land Use Plan, at the lowest elevation in the Study Area. The Master Servicing Study evaluated, at a high-level, two separate storm servicing solutions. One solution is a conventional servicing strategy that incorporates two wet ponds for water quality and quantity control. The other solution incorporates an Etobicoke Exfiltration System (EES) to capture and infiltrate frequent storm events, combined with two dry detention facilities for quantity control of the larger storm events. Either servicing strategy could be implemented, however, the EES fulfills the infiltration requirements set out by the City and the Conservation Authority.

Further, a spill-over dry pond is proposed immediately west of the CDP Study Area (in the Rural Area), abutting Barnsdale Road. This facility is required to provide for the control of major flows east of realigned Greenbank Road as City standards prohibit major system flows being conveyed across urban arterials. The land reserved for the dry pond is owned by Minto and could be resized for future development if it were to occur in the future.

In accordance with the vision for the CDP and best practices, low-impact technologies and green infrastructure will be incorporated into the stormwater management system, where possible. These servicing strategies may include soft landscaping, infiltration galleries or dry ponds. The overall stormwater management system in the CDP area will feature a system that promotes infiltration where frequent storm events will be collected, stored and exfiltrated to the surrounding soils.

5.16 Park and Ride

The “Realigned Greenbank Road and Southwest Transitway Extension Environmental Assessment (EA)” identifies the need for a Park and Ride at the terminus (final station) of the Bus Rapid Transit (BRT) line. The most southern BRT station identified on the Land Use Plan is strategically located just south of Kilbirnie Drive (at the Park and Ride), which allows for the majority of the proposed residential units to be located within a five-minute walking distance of the station (Figure 8). The Park and Ride block has an area of approximately 2.5 hectares, and as shown in the functional design of the Park and Ride lot in the EA, the facility is expected to accommodate approximately 400 parking spaces, customer platforms, an operator facility and bus layup space.

5.1.7 Landfill Buffer

The Land Use Plan identifies a 500-metre and 1,000-metre setback from the Trail Road Waste Facility located on the west side of Highway 416.

Air quality, noise and vibration studies shall be prepared for lands within the CDP area that are located within 1,000 metres of the Trail Road Waste Facility. If issues are identified, a range of appropriate mitigation strategies should be considered that address health and annoyance pathways. If required, mitigation strategies should include building systems and materials, as well as community-wide strategies to ensure residents are able to access health benefits in a healthy built environment, such as the ability to spend time outdoors, active transportation, and use public spaces for connecting with others.

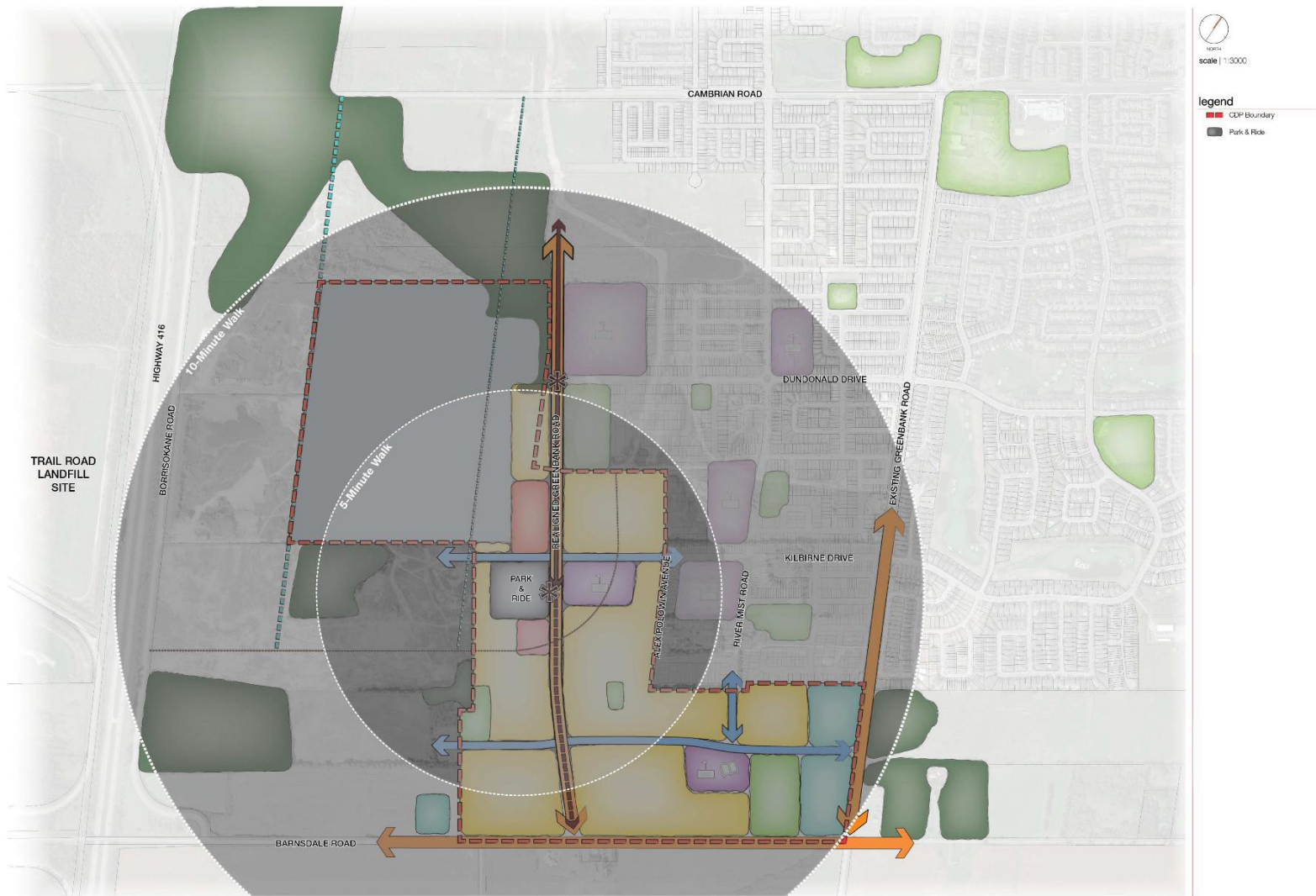


Figure 8: Park and Ride Area Plan

5.2 Demonstration Plan

A Demonstration Plan has been developed for the CDP in order to illustrate the intent for development (Figure 9). The Demonstration Plan illustrates a preferred local road layout and active transportation network, locations of community facilities (such as schools and parks), stormwater infrastructure, and public transit.

Although the Demonstration Plan is the preferred development pattern, it may be necessary to deviate from this plan to address unforeseen constraints and opportunities that may arise prior to applications for Plan of Subdivision. This includes opportunities to achieve higher development yields as a result of new and more land efficient road cross-sections for arterials and collector streets. Any development that deviates from the Demonstration Plan must respect the overall vision and intent of the CDP. Such deviations from the Demonstration Plan may not necessarily require an amendment to the Official Plan or an update to the CDP (see Section 8.1).

The Demonstration Plan illustrates development blocks which could accommodate low-density residential (detached, semi-detached, and traditional townhouse units) as well as blocks that could accommodate medium-density residential uses, in particular back-to-back townhomes. The low- and medium-density blocks are deliberately disbursed throughout the Demonstration Plan in order to reduce localized traffic and parking impacts and create a good mix of housing options across the community.

As required in the Official Plan, an area of land has been reserved for the development of apartment units or alternative forms of multiple-attached dwellings that achieve similar residential densities, such as stacked and back-to-back townhouses. The high-density residential block is shown immediately adjacent to the Park and Ride, on the west side of realigned Greenbank Road. This location is ideal for higher-density residential development as it is located immediately adjacent to an arterial with higher-order transit (Bus Rapid Transit) and is located within a five-minute walking distance of the commercial block, one of the elementary schools, and a park.



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demonstration plan

date | 02 may 2018

Figure 9: Demonstration Plan

The proposed local road network is designed to achieve connectivity and permeability, while reducing cut-through traffic patterns. The Demonstration Plan shows window streets with units oriented towards, rather than backing onto, the arterials. The use of window streets reduces the use of noise walls, maintaining a social interface of houses with the arterials. The window streets also limit vehicular access to adjacent arterials, which allows arterials to operate more efficiently. While window streets have some advantages, they also increase paved areas and do not provide for a fully connected street systems. As such, at the time of Draft Plan of Subdivision, consideration shall be given to limiting window streets to a maximum of 50 per cent of the length of an arterial road. Other ways of connecting local streets to arterials, including an off-set grid configuration, may be developed in the future and should be considered at the Draft Plan of Subdivision stage.

5.3 Street Hierarchy Plan

The proposed road network consists of a standard hierarchy of street typologies, including arterials, collector streets, and local streets (Figure 10). Each street type serves a different function, as defined in Annex 1 of the Official Plan and described below.

- / **Arterials** are the major roads of the City that carry large volumes of traffic over the longest distances. They are meant for urban driving conditions and speeds, consistent with a built-up area.
- / **Collector streets** connect communities and distribute traffic between the arterial system and the local road system. They are meant for moderate speeds.
- / **Local streets** are found within communities and distribute traffic from arterial and collector streets to individual properties, typically over short distances. They are meant for low speeds.

The Demonstration Plan illustrates all three types of streets within the proposed road network. Barnsdale Road, existing Greenbank Road, and realigned Greenbank Road are indicated as arterials, reflecting their role as major transportation corridors. Three collector streets are proposed through the CDP area, including a westward extension of Kilbirnie Drive, a southward extension of River Mist Road, and a new east-west collector street connecting existing Greenbank Road and realigned Greenbank Road (Figure 11 and Figure 12). The remaining streets illustrated on the Demonstration Plan are classified as local streets.

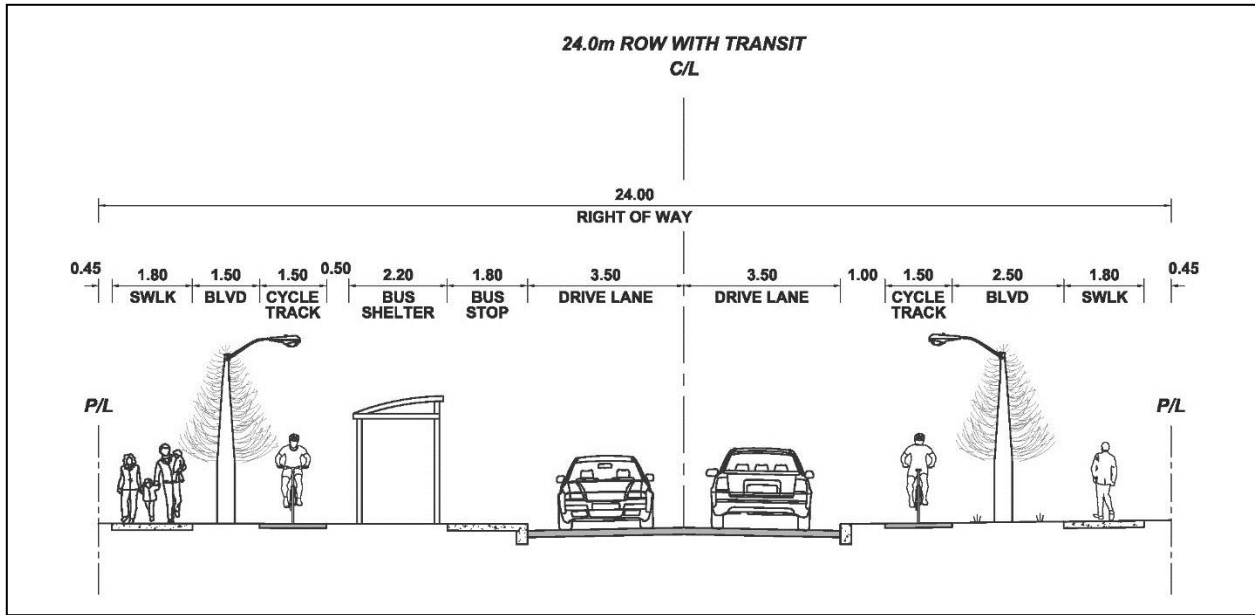


Figure 11: East-West Collector at Transit Stop (Proposed Cross-Section)

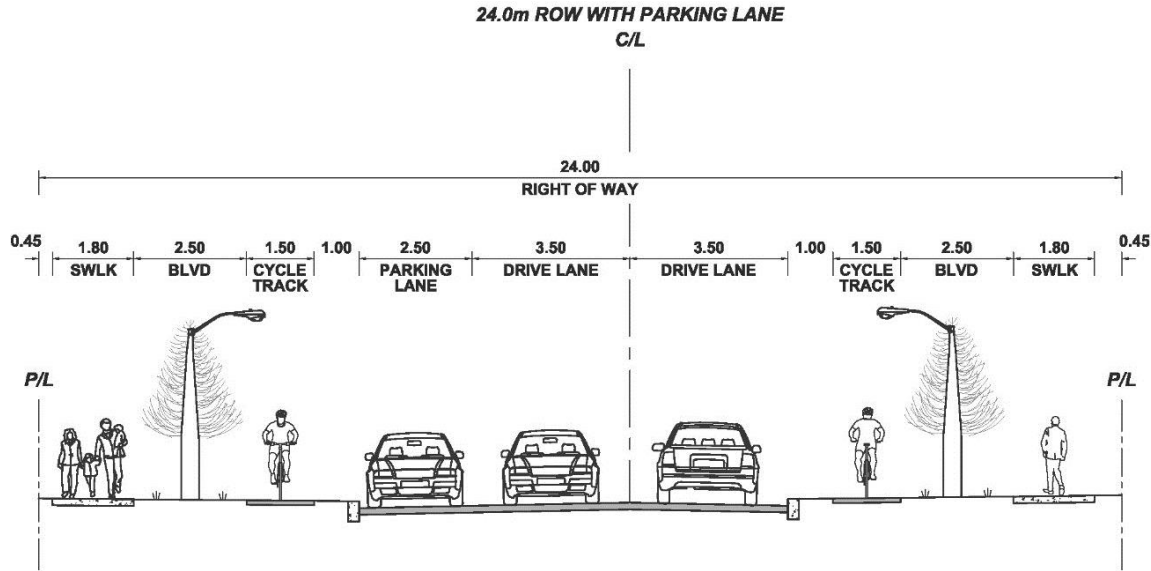


Figure 12: East-West Collector (Proposed Cross-Section)

5.4 Pedestrian Facilities Plan

The Pedestrian Facilities Plan (Figure 13) illustrates the potential location of sidewalks and mid-block connections within the CDP area and their linkages to existing or planned facilities in the adjacent communities. The Pedestrian Facilities Plan is consistent with the direction established in Chapter 4- Maximize Walkability of the Transportation Master Plan (TMP) (2013). The TMP calls for a continuous, well-connected pedestrian network that creates a walkable environment and improves pedestrian safety.

Sidewalks are proposed on both sides of the collector streets and along one or both sides of select local streets. Sidewalks are strategically placed adjacent to parks, stormwater management facilities, schools, and the Park and Ride in order to facilitate pedestrian access. Sidewalks are also proposed to service the high-density residential block, providing an efficient connection from surrounding residential neighbourhoods to the Bus Rapid Transit (BRT) station within the Park and Ride at Kilbirnie Drive.

The sidewalks are planned to connect to the existing pedestrian network in Phase 1 of Quinn's Pointe and in Half Moon Bay South, existing communities that are both located to the northeast of the CDP area. In particular, sidewalks are proposed along River Mist Road, Kilbirnie Drive, and Alex Polowin Avenue (existing streets which will be extended into the CDP area).

The mid-block connections shown on the Pedestrian Facilities Plan would provide connections for active transportation users, allowing convenient movement through the community.

The sidewalks and mid-block connections shown on the Pedestrian Facilities Plan are potential locations; the final number and location of sidewalks and mid-block connections will be confirmed at the Plan of Subdivision stage.

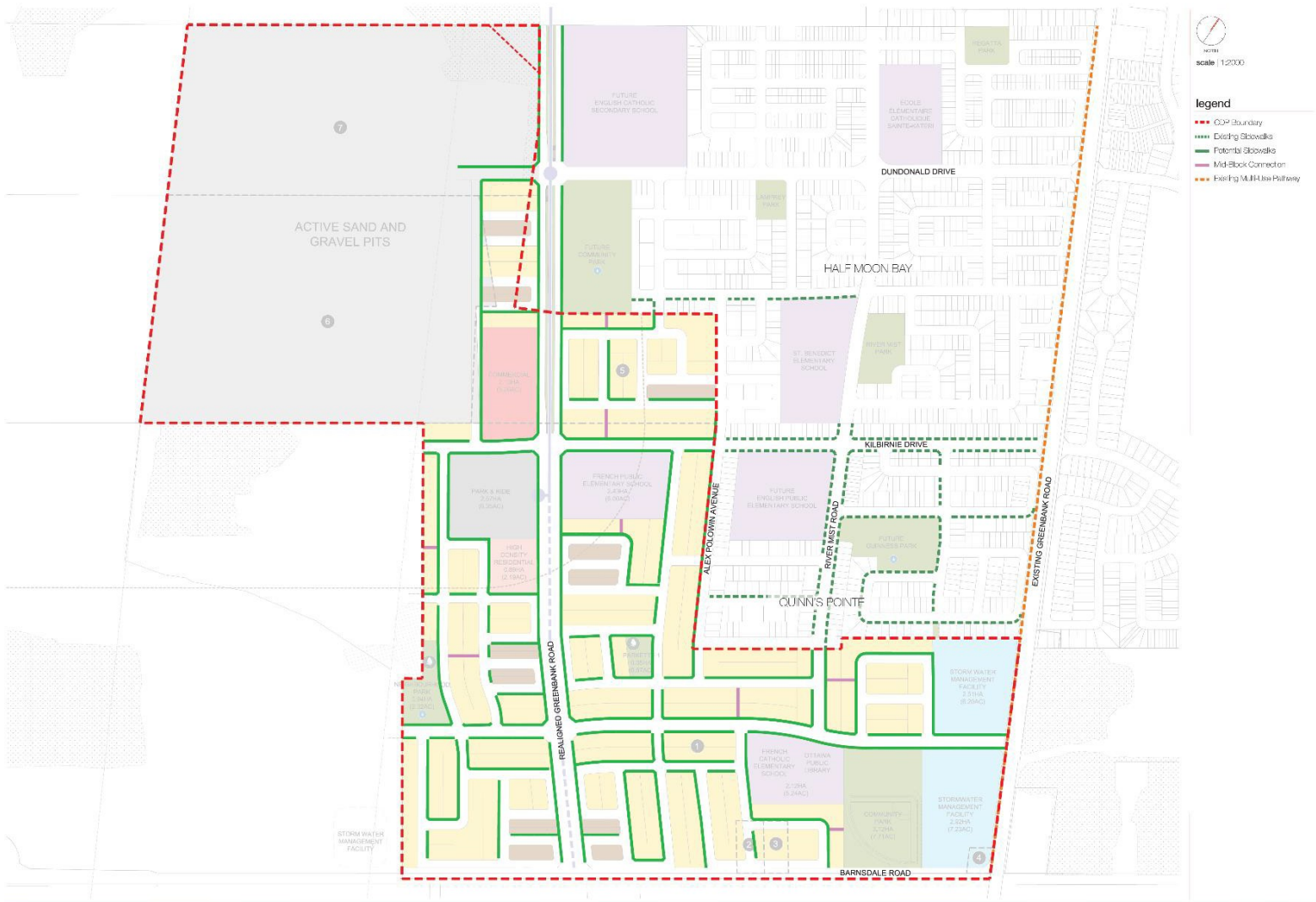


Figure 13: Pedestrian Facilities Plan

5.5 Transit Facilities Plan

A Transit Facilities Plan has been developed to illustrate the Bus Rapid Transit (BRT) line, BRT stations, potential transit stations, the Park and Ride, and potential local transit routes (Figure 14). The "Realigned Greenbank Road and Southwest Transitway Extension Environmental Assessment (EA)" identifies two transit stations in the CDP area, including a station at Dundonald Drive and a station within the Park and Ride at Kilbirnie Drive, which are reflected in the City's Transportation Master Plan (TMP) (2013). While not identified in the EA, one additional transit station may be considered at the location of the new east-west collector road, at the south end of the CDP area. This additional station could allow for a local transit route that runs south of the Park and Ride, east on the new east-west collector, and north on River Mist Road towards Barrhaven Town Centre.

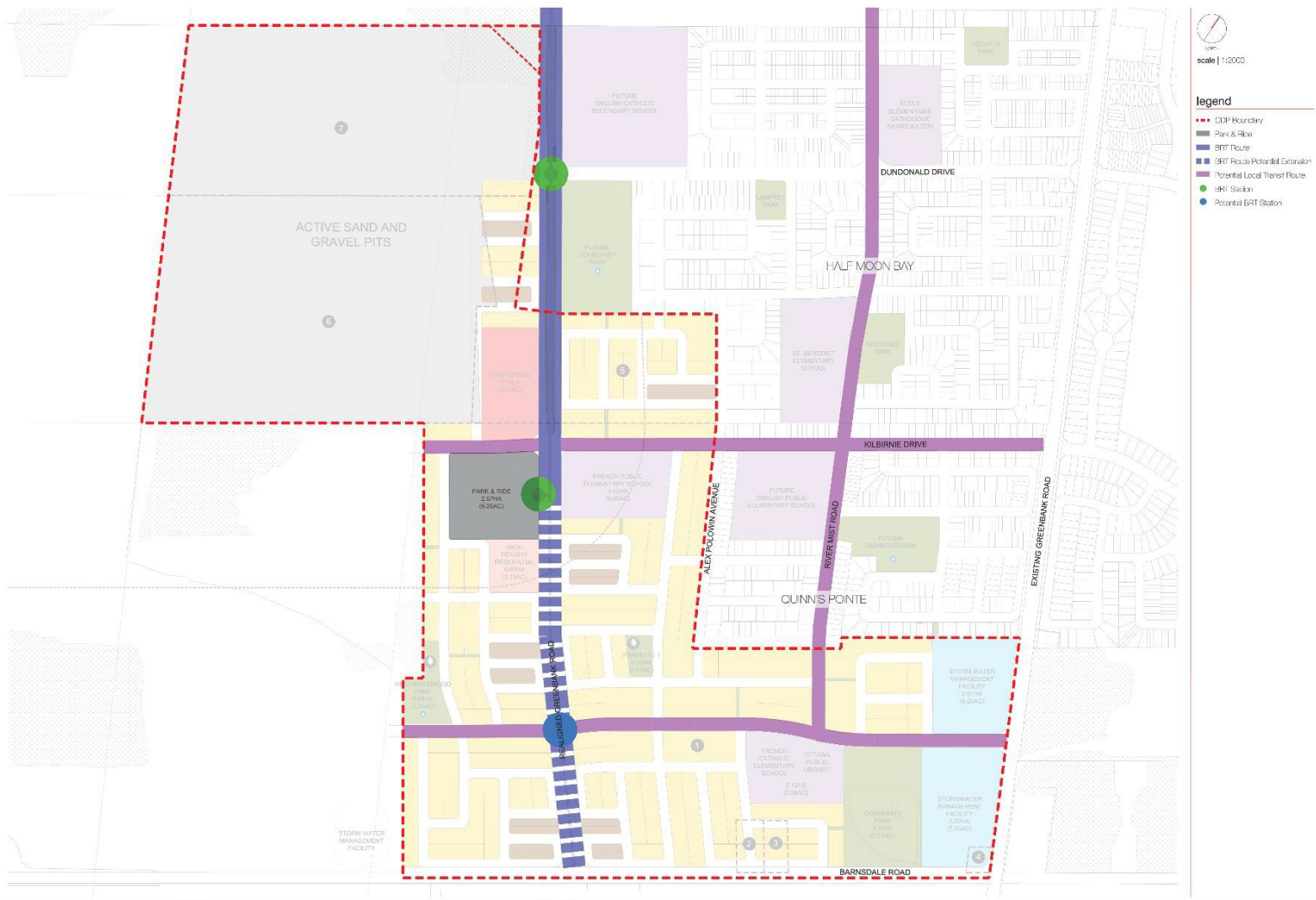


Figure 14: Transit Facilities Plan

5.6 Cycling Facilities Plan

A Cycling Facilities Plan (Figure 15) has been prepared to illustrate where cycle tracks and local cycling routes (shared lanes with mixed traffic) are planned. The existing residential development to the immediate northeast uses local cycling routes.

The Community Arterial section of this CDP references the possible development of a new design standard for select arterials. If constructed, these new roads would have a grade-separated cycle track to segregate cyclists from motor vehicles.

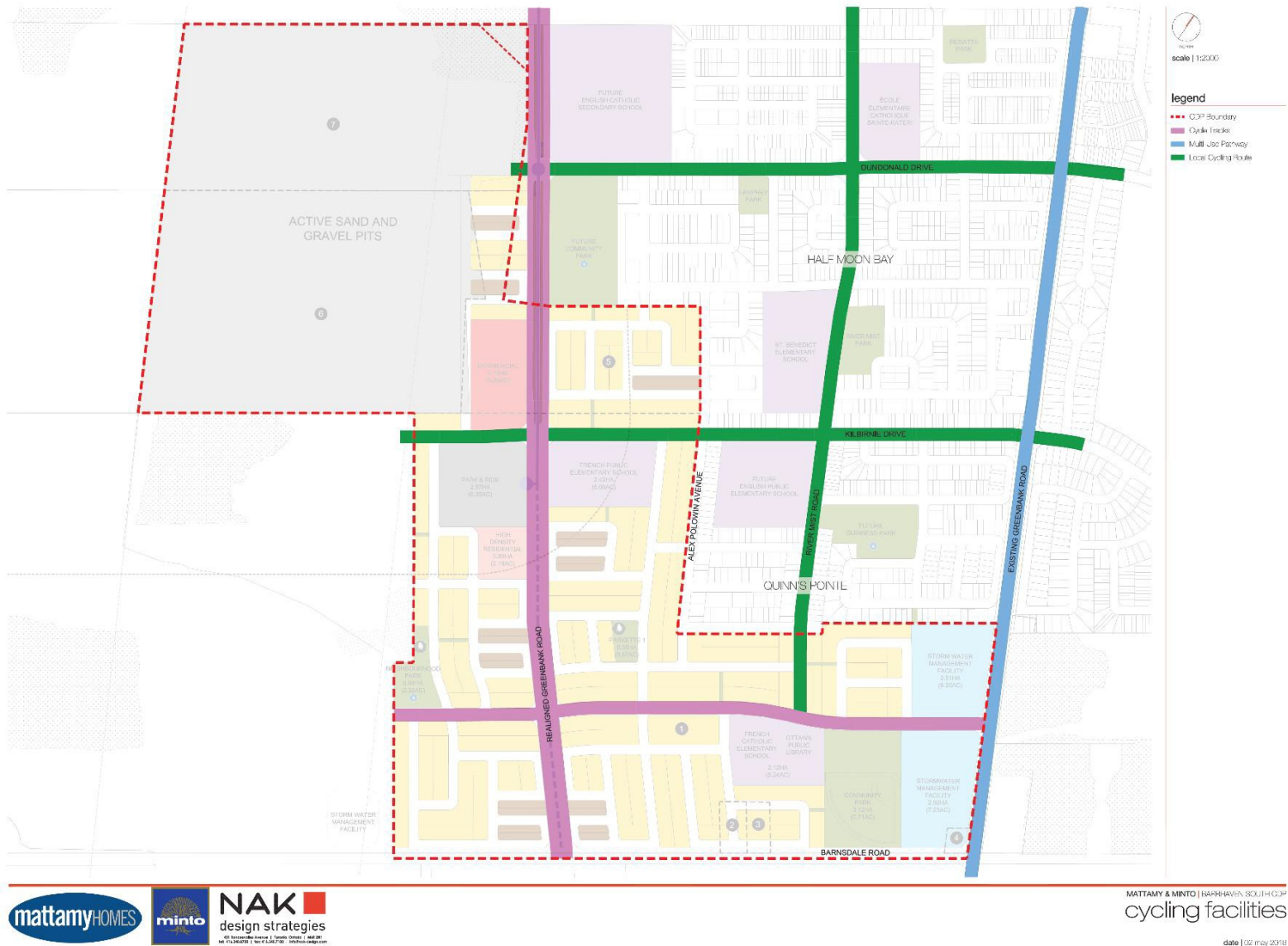


Figure 15: Cycling Facilities Plan

5.7 Phasing Plan

Figure 16 depicts the anticipated Phasing Plan for the CDP area. During Phase 1, the eastern and northern ends of the CDP would be developed as road and services will be extended from the existing Quinn's Pointe and Half Moon Bay neighbourhoods to the northeast. The second phase of development is expected to occur in the area located between existing and realigned Greenbank Roads, extending from the new east-west collector, south towards Barnsdale Road. The last phase of development would be the area on the west side of realigned Greenbank Road.

Through the Official Plan Amendment (OPA) associated with the CDP, the existing sand and gravel pits will be brought into the Urban Area. The lands will remain designated "Sand and Gravel Resource Area" but will have a "Developing Community (Expansion Area)" overlay applied. A site-specific policy in the Official Plan will allow the sand and gravel pit lands to be integrated into the Barrhaven South CDP, Master Servicing Study (MSS), and Transportation Master Study (TMS) at a later date, after the licenses are retired. The sand and gravel pits will be subject to the same density and housing mix requirements as the remainder of the CDP area.

Where restrictions and warning clauses related to noise and dust are registered on the title of properties within the influence area surrounding the aggregate pits, the restrictions and clauses may be removed once the applicable extraction licenses are surrendered.

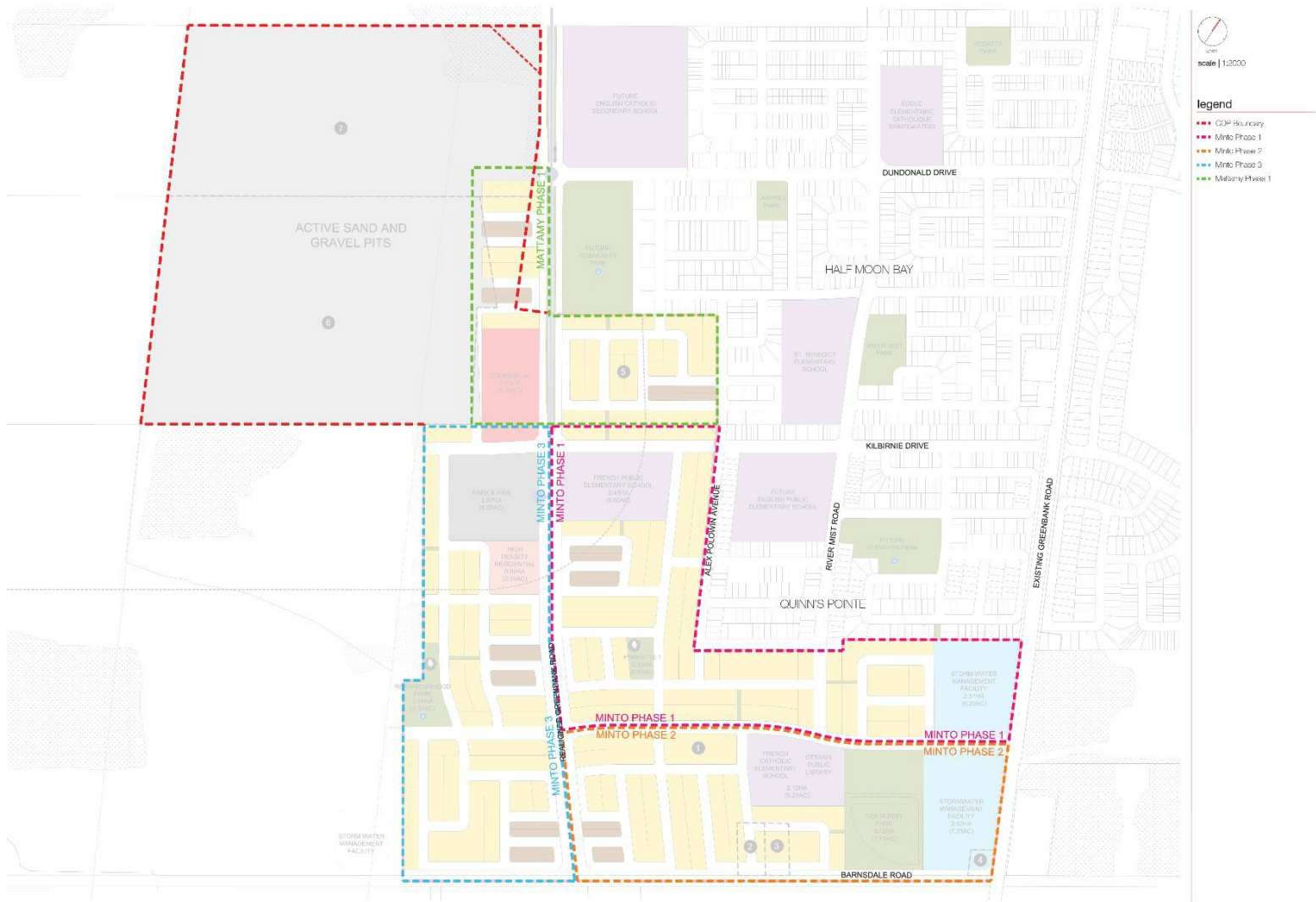


Figure 16: Phasing Plan

6 Additional Major Studies and Plans

6.1 Environmental Management Plan

The purpose of the Environmental Management Plan (EMP) is to document the existing natural conditions for the CDP area and develop recommendations for mitigating any environmental impacts associated with the proposed plans for the CDP. The results of the existing conditions analysis and evaluation of post-development impacts formed the basis for the recommended environmental management strategy established in the EMP.

The EMP satisfies the requirements of Phase 1 and 2 and, where required, Phases 3 and 4, of the Integrated Environmental Assessment (EA) and Planning Act process. The projects identified in supporting studies of the EMP are also subject to the Class EA process.

6.2 Master Servicing Study

The Master Servicing Study (MSS) provides a planning-level functional design for servicing the CDP area and was completed in accordance with the Municipal Class EA process. The MSS includes an internal servicing design to facilitate future detailed design work at the development approvals stage. An expansion and upgrade of the municipal infrastructure system was evaluated as the best servicing alternative to achieve the land use objectives, while minimizing negative impacts to both the social and natural environment. The MSS satisfies the requirements of Phase 1 and 2 of the Integrated EA and Planning Act process. Projects identified in supporting studies of the MSS are also subject to the class EA process.

6.3 Transportation Master Study

The Transportation Master Study (TMS) analyzes the future long-term transportation infrastructure needs of the new community, including the collector road network, access location, provisions for pedestrian and cycling linkages, transit facilities, and road cross-sections and integration with the city-wide Transportation Master Plan (TMP) (2013).

The TMS identifies the transportation plan for the community in conjunction with the needs already established in the City of Ottawa TMP. The TMS also serves as the EA document for the proposed transportation and transit infrastructure and satisfies the requirements of Phase 1 and 2 of the Integrated EA and Planning Act process.

7 Community Design Policies and Guidelines

The following design policies and guidelines provide a framework for the overall identity and structure of the CDP area, as well as for the characteristics of new buildings, streetscapes, and parks within the community. Their purpose is to ensure a consistently high-quality design standard throughout the community. These design policies and guidelines, in conjunction with Official Plan policies and other Council-approved documents, such as the “Urban Design Guidelines for Greenfield Neighbourhoods” (2007) and the “Building Better and Smarter Suburbs (BBSS)” initiative will ensure the final build-out of the Barrhaven South Urban Expansion Area (BSUEA) to be an attractive, livable and healthy community composed of well-designed structuring elements. The key structuring element of the BSUEA are the streets and blocks.

The streets and blocks in the Land Use Plan and Demonstration Plan will be developed based on a fully-connected, off-set grid street pattern. This pattern provides optimal permeability in support of the transit service, walking and cycling, while the movement of automobiles is controlled to appropriate speeds for safety of pedestrians / cyclists. The block sizes created by the street network and pathway blocks are designed to ideally be 180 by 60 metres in size and roughly 1 hectare in size. This block size provides safe, comfortable, and convenient movement of pedestrians and cyclists of all ages. Long streets are avoided to discourage automobile acceleration and speeding.

The following subsections provide specific direction to the streetscape and block development in the BSUEA by providing both policies and guidelines. The difference between policy and guidelines relates to two things; specificity and whether the strategic direction is compulsory.

Policies are specific and should be considered compulsory in future subdivision design. Guidelines are less specific and, although every effort should be made to achieve them, there is an understanding that this is not possible in all instances through future subdivision design. In all instances, however, where a policy or guideline is not achievable, alternatives should be developed in respect of, and consistent with, the goals and objectives of this CDP document. Finally, lists of policies and guidelines have been numbered. This is to support reference in future applications; there is no implied precedence of one policy or guideline over another based on numbering.

7.1 Streetscape Policies and Guidelines

The streetscape of the new Barrhaven South Urban Expansion Area (BSUEA) will continue the look and feel of the existing communities in Barrhaven South, such as Quinn’s Pointe and Half Moon Bay. This is to help support the overall identity of Barrhaven South as a community.

Like the existing Barrhaven South, the community edges along Barnsdale Road, existing and realigned Greenbank Roads, and collector streets will be designed to reinforce the overall character and identity of the community as welcoming, highly livable, residential neighbourhood. At the streetscape level, this identity will be articulated through appropriate design of community edges such as window streets, stormwater management facilities, boulevard trees, schools, parks, and small scale commercial development.

One particular feature of the BSUEA are well-drained soils that allow for enhanced street tree planting. In addition to their environmental benefits, street trees contribute a range of health benefits for residents, including: more comfortable environments for physical activity, more engaging public spaces and public realm, and improved mental health outcomes. Given the favourable soil conditions in the BSUEA, large street trees could be a unique feature of neighbourhood identity. This will be addressed further at the Plan of Subdivision stage, when Streetscape Plans are prepared.

The following policies and guidelines will be applied to support the streetscape:

7.1.1 Streetscape Policies

1. Along arterials, access from local roads will be limited, except as an offset modified grid street pattern that does not allow for full directional access.
2. Arterials shall be lined with large trees.
3. High-density residential or commercial buildings fronting directly onto an arterial will be set back an appropriate distance from the public right-of-way to maintain a consistent streetscape and ensure safety for users and motorists.
4. Along collector and local streets, residential dwellings will face the street.
5. Buildings backing onto the community edges, such as arterials, should be designed to provide a strong edge condition and reinforce the image of the community. A landscape edge should also be provided.
6. The design of the collector streets will be consistent with the City of Ottawa "Road Corridor Planning and Design Guidelines- Urban Collectors" (2008) and any subsequent updates.
7. Development in the CDP area will provide for a framework of complete streets.
8. Acoustic Fencing (noise walls) will be discouraged on collector streets.
9. Window Streets will not be permitted along collector streets.

7.1.2 Streetscape Guidelines

The following guidelines will be applied to the design of streets in the Barrhaven South Urban Expansion Area (BSUEA).



Guidelines for All Streets

1. The location of underground services and utilities within the rights-of-way may be refined during the detailed subdivision design. The intent is that services and utilities should be made as invisible as possible within the community.
2. Streets will be designed to include bump-outs to better define crossing points, shorten the crossing distance, and ensure visibility between parked cars. Signage to warn drivers of pathway crossing locations will also encourage reduced speeds and improve safety. These measures will be constructed at the onset of development.
3. Bus stops and associated infrastructure (such as concrete waiting areas, shelters and / or benches), should be provided at designated locations as determined by OC Transpo through the development approval process or as needed.

4. Community mailboxes, newspaper boxes and bus shelters, seating, waste receptacles, and mailboxes should be located together, and should facilitate and prioritize pedestrian and cycling access.
5. The location of trees, street fixtures, telecommunications equipment, utility and light poles and on street parking locations will be coordinated as a condition of subdivision approval.

Arterial Guidelines

1. The use of acoustic fencing (noise walls) along arterials should be avoided except where no other design options are available.
2. The use of a more urban cross section design for arterials is to be considered as a way to moderate speeds and avoid the need for noise walls.

Collector Street Guidelines

1. Collector streets accommodating transit routes should be designed within a 24.0m right-of-way.
2. New collector street rights-of-way should include a paved road surface with one driving lane in each direction, and a boulevard and sidewalk or Multi-Use Pathway on both sides of the road. Where feasible, one parking lane protected by bulb-outs and intersection narrowings will be provided.
3. Collector streets will generally include sidewalks and/or multi-use pathways and cycle tracks (unless not required for cyclist or pedestrian connectivity) to encourage the use of active transportation modes for utilitarian trips such as shopping, attending school, and visiting neighbours. Exceptions may be made where not practical.
4. On collector streets identified for transit service, on-street parking may only be permitted along one side of the collector street, and the sides may alternate to produce traffic calming.
5. Where multi-use pathways cross the collector streets, traffic calming measures will be provided, such as standard pedestrian crossovers, where appropriate, to provide safe and comfortable road crossings. Speed bumps / humps should not be installed on collector streets to maintain efficiency of transit operations.
6. Collector streets will generally be designed to have an effective operating speed of 40-50 km/h. Collector streets abutting school site will generally be designed and signed to have a maximum speed of 30 km/h.
7. Cycle tracks are strongly encouraged, and should be designed, within the street right-of-way with the appropriate facilitates to ensure cycling is safe for all ages.

8. Where most effective, traffic calming measures, such as landscape boulevards, parking lanes, narrowed intersections, or elevated crosswalks, will be provided on collector streets abutting school sites.



Local Street Guidelines

1. The local street pattern will be designed as a fully-connected, offset grid.
2. Single-loaded streets window streets may be designed within a minimum 14.0m right-of-way.
3. Primary consideration will be given for the provision of safe crossing points for pedestrians.
4. Local streets may be designed within an 18.0m right-of-way and shall include a paved road surface with one driving lane in each direction, a boulevard on both sides of the street, and a sidewalk on one side or both sides of select local streets, in accordance with the Transportation Master Plan (TMP) and Pedestrian Master Plan and street tree planting. Local soil conditions may require a larger road right-of-way.
5. A row of trees shall be planted on each side of the street with regular spacing between trees (in accordance with City of Ottawa standards).

6. Sidewalks will be provided along select local streets connecting residential areas and other land uses.
7. Local streets will be designed to have an effective operating speed of 30 km/h or less.

Street Trees and Boulevard Design Guidelines

In addition to their environmental benefits, street trees contribute a range of health benefits for residents, ranging from more comfortable environments for physical activity, more engaging public spaces and public realm, and improved mental health outcomes.

1. Trees and other plant materials, lights, directional signage, transit amenities and street furniture should be provided.
2. Coordinate the location of trees, street fixtures, telecommunications equipment, utility and light poles, transit amenities and signs.
3. A row of trees should be planted in the boulevard on both sides of the street with regular spacing between trees (in accordance with City of Ottawa standards).
4. Landscape features and planting, in accordance with City of Ottawa standards, should be integrated into any traffic circles, and require minimal maintenance by the City.
5. The number, type and location of street trees to be planted with any street right-of-way shall be in conformity with the City's standards and where necessary, address any constraints presented by the underlying soil conditions.
6. The planting of trees and the installation of distribution poles along public roadways will require planning and coordination with the utilities.
7. Where soil conditions permit, consistent street tree planting will be encouraged in order to create neighbourhood character among many other benefits, along all street frontages, at the developers cost.
8. Opportunities to accommodate tree planting and landscaping will be encouraged, such as locations along noise fences, window streets, bio-swales, or other remnant pieces of land.

7.13 Park and Ride Policies

1. The Park and Ride facility shall be designed to facilitate safe and convenient access by a range of transportation modes, including walking, cycling, buses, and private vehicles.

2. The Park and Ride facility shall be designed to ensure safe and efficient internal circulation for pedestrians, cyclists, buses, and private vehicles, and shall follow Crime Prevention through Environmental Design (CPTED) principles.
3. The Park and Ride shall include bicycle storage facilities and / or bicycle racks.
4. A high-density residential block is planned adjacent to the Park and Ride. Safe and efficient pedestrian connections should be provided between these two uses.

7.2 Policies and Guidelines for Parks and Greenspace

The parks and open space system of the Barrhaven South Urban Expansion Area (BSUEA) is comprised of several elements, including public parks, stormwater management ponds, and pathways. Development of all parks is to be based on the Area Parks Plan (APP) and stormwater management will be developed based on the Master Servicing Study (MSS).

Parkland dedication calculations for the CDP area do not include the aggregate pit lands, which will be subject to separate parkland dedication requirements through the Plan of Subdivision process. In all cases, parkland acquisition will be based on the City of Ottawa Parkland Dedication By-law (2009-95).



The Land Use Plan integrates, where possible, the existing natural elements of greenspace. The pedestrian pathways and cycling infrastructure are the connectors to link residential neighbourhoods, schools, parks, and transit, and provide a linkage to the pathways established by the City of Ottawa Official Plan (OP) and Transportation Master Plan (TMP). Parks facilities are generally distributed so that there is at least one park within a five-minute walking distance of each dwelling within the CDP area.

7.21 Parks Policies

The purpose of the Park land use category is to identify lands that accommodate a full range of recreational opportunities, ranging from active spaces such as sportsfields and organized play areas, to more passive leisure areas including pathways, trails, and seating areas.

Public parks and trails, community centres, washroom and change facilities, parking facilities, and commercial uses in support of the primary park function are all permitted uses within the Park land use category.

The Community Park proposed along Barnsdale Road in the CDP is intended as a focal point of recreation and leisure in the community. The Community Park shall be designed for all ages and incorporate a variety of active recreational opportunities such as a baseball diamond, play and / or fitness / challenge course equipment, basketball key, or other facilities determined by the City of Ottawa. Smaller parks (the Neighbourhood Park and Parkette) will provide a common green space within the residential neighbourhoods and key social gathering places for local residents. The parks have been strategically located on the Land Use and Demonstration Plans to connect with the Pedestrian Facilities Plan and with areas of higher density housing.

1. As per the City's "Park Development Manual, 2nd Edition" (2017), the Community Park is to be approximately 3.2 to 10 hectares in area, but may be reduced as approved by Parks & Facilities Planning.
2. As per the City's "Park Development Manual, 2nd Edition" (2017), the size of the Neighbourhood Park is to be approximately 0.8 to 3.2 hectares in size, but may be reduced as approved by Parks & Facilities Planning.
3. As per the City's "Park Development Manual, 2nd Edition" (2017), the size of the Parkette is to generally be 0.4 to 0.8 hectares in size, but may be reduced as approved by Parks & Facilities Planning.
4. Sidewalks and street trees will be provided within the right-of-way of all streets that abut parks. The sidewalks will extend beyond the park in either direction.
5. Parks will have a minimum of 50% street frontage, or a percentage approved by Parks and Facilities Planning.
6. Intersection narrowings shall be provided around all park edges to facilitate safer pedestrian crossings.



7.2.2 Parks Guidelines

1. Pedestrian connections should be provided through the park to the sidewalks in the abutting rights-of-way and other pedestrian access points.
2. Consider the placement of facilities such as playing fields and parking lots, both on the school site and during park design, to facilitate sharing of facilities.
3. Explore and maximize opportunities to align park pathways and school access points (i.e. gates) to provide direct pedestrian access.
4. Opportunities for a slip-lane and a streetside parking lot on the Community Park will be explored at the Plan of Subdivision stage.
5. View corridors terminating at the parks should be highlighted through landscape treatment.
6. Where possible, amenities such as shade structures and trees should be incorporated into the design of the parks.
7. Exploring opportunities for better integration between schools, parks and other City facilities is a priority of the "Building Better and Smarter Suburbs (BBSS)" initiative. The Land Use Plan has been designed to address these priorities with the co-location of an elementary school and a Community Park. The co-location

of these facilities will be further reviewed with the relevant School Board through the development approvals process.

7.23 Stormwater Management Policies

1. Where a stormwater pond fronts onto a street, the facility should be designed with a landscaped treatment along the street edge that is compatible with the street landscaping.
2. Stormwater management facilities will be located within the Barrhaven South Urban Expansion Area (BSUEA) CDP Study Area, except the dry pond proposed to the immediate west of the CDP area, in the Rural Area.

7.24 Stormwater Management Guidelines

1. The design of the stormwater ponds will generally be naturalized (slopes, contours).
2. Edges of stormwater management areas may feature hard edges as part of a public realm plan that incorporates stormwater ponds as a water feature in a public space.
3. Stormwater ponds will be designed with native plant materials, where possible.
4. Multi-use pathways should be provided around the stormwater management ponds and, where possible, be integrated into the community trail network, which may include co-ordination with trails in municipal parks.
5. Pedestrian walkways around ponds and corridors should double as access streets, where necessary.

7.25 Policies for Linkages and Pathways

1. Pathway connections will be included mid-block along long residential streets to facilitate pedestrian access to schools, parks and transit facilities.
2. Bicycle routes should be permitted within the street right-of-way.

7.26 Guidelines for Linkages and Pathways

1. Where possible, pedestrian pathways should be provided from residential neighbourhoods to adjacent uses such as commercial and institutional uses, median Bus Rapid Transit (BRT) facilities, and the Park and Ride.
2. Amenities, such as seating, lighting, signage, and garbage and recycling containers should be provided along pathways.
3. Design pathways to reduce the negative impacts on open space and natural features and habitats.

4. Crime Prevention Through Environmental Design (CPTED) should be considered in the design of pathways and their linkages.
5. All pathways and cycling facilities should be clearly signed / identified and any street crossings should be marked.
6. Where possible, connections should be provided between residential neighbourhoods.
7. Where practical, some selected pathways should be developed to accommodate year-round uses.



7.3 Policies and Guidelines for Site Design and Built Form

The goals of this CDP include a number of key design and built form considerations. The Barrhaven South Urban Expansion Area is intended to blend with the existing neighbourhoods to the north and east to help form a cohesive district in the Barrhaven Community. At the same time, there are goals to create neighbourhoods with

discernable centres, edges and public spaces. A high quality public realm is also sought because this will emphasize quality of life, aesthetics and a sense of place. Finally, there is the desire to make sure that the Barrhaven South Urban Expansion Area (BSUEA) provides a range of housing types and densities to support a diversity of ages and income levels.

In the workshop that was held, participants indicated that they envisioned this new community as being a predominantly residential community that provides a range of housing opportunities with a clear focus on realigned Greenbank Road and schools. The following subsections provide additional policies and guidelines to ensure that the future development that facilitates the highest possible level of quality of life and sense of place in this suburban community. The Land Use Plan provides direction to the Zoning By-law regarding the location of different land use types.

731 Policies for All Residential Site Design and Building

1. A variety of housing densities and designs will be provided to enhance the streetscape.
2. Front entrances should face and be visible from the street.
3. Projecting garages will be avoided.
4. Small scale service and retail will be permitted on corner lots on Collector streets. To permit these uses in strategic locations, use of the “-c” suffix may be considered through the Zoning By-law Amendment process for the CDP area. No additional parking is to be provided on such sites.

732 Guidelines for Residential Site Design and Building

1. Residential dwellings should be located close to the street to reinforce a strong street edge.
2. Residential dwellings located on window streets should face the street, and incorporate a high quality of architectural design and detail.
3. Residential dwellings that face or flank a park or school should incorporate a high quality of architectural interest.
4. Driveways should be designed to avoid conflict with the driveways of adjacent uses, such as schools, parks, commercial blocks, etc.
5. Where possible, utility elements and equipment should be located away from publicly exposed views, and are discouraged from being located in the front yard or flankage yard.

6. Where utilities are required to be located in the front or flankage yards, the utilities should be located in a discreet area or screened from public view through landscaping or other screening mechanisms.



733 Guidelines for Low- and Medium-Density Residential Site Design and Building

1. To avoid the impacts of long, straight streets, minor variation in the siting of residential dwellings within the streetscape will be encouraged.
2. Rear and flankage elevations of corner lots should be consistent in the quality and detail of the front elevation.
3. Driveways should be paired, wherever possible, to maximize on-street parking capacity, provide for ample space for trees within the boulevard, and allow for the locating of bus stops along streets identified for transit service.
4. There should be enough space between driveways for a full parking spot, where possible.
5. Where possible, residential dwellings on streets that intersect with collector streets on which transit will operate, should be oriented to face the local street to provide the opportunity for the placement of transit stops on the collector street.

6. Residential dwellings located on elbowed, 'T'-intersections, and cul-de-sac streets should be sited to minimize the visual impact of the garage and increase the opportunity for special landscaping treatments. Architectural elements (such as porches, turret/bay windows) are encouraged to provide visual interest.
7. Additionally, for townhouse blocks:
 - / A variety in the elevation and massing within each block is encouraged;
 - / Sufficient articulation should be provided to avoid large unbroken expanses of roof or wall planes (such as the stepping of units and / or the use of bay windows or other architectural features);
 - / The end units should be designed with the same architectural features (such as turrets, bay windows or other suitable architectural features) as the other units on the block;
 - / Blocks of even numbers of units are encouraged to allow for paired driveway locations and improvements to the streetscape.

734 Guidelines for High-Density Residential Site Design and Building

1. All residential apartments should be located close to a public street with a principal façade and entry facing a street or public open space. For buildings that are interior to the site, the main entrance should be oriented toward the interior driveway and where applicable, the amenity area.
2. Surface parking areas, excluding private driveways, should primarily be to the side or rear of buildings.
3. Architectural design on all elevations should be consistent.
4. Parking areas should be screened from the public street through landscaping.
5. Visitor parking spaces should be provided in visible and convenient locations that are in proximity to building entrances.
6. Bicycle parking spaces for both residents and visitors should be provided.
7. Service areas should be located at the rear of the building and screened from public view.
8. Where possible, utility elements and equipment should be located away from publicly exposed views, and are discouraged from being located in the front yard or flankage yard of a corner lot.
9. Where utilities are required to be located in the front or flankage yards, the utilities should be located in a discreet area or screened from public view through landscaping or other screening mechanisms.

10. Interior driveways should have the look and feel of a narrow public street and include sidewalks on at least one side. They should be posted and designed at a maximum of 20 km/h or less.

735 Guidelines to Provide Parking Opportunities in Residential Areas

1. In general terms, there should be proximity between:
 - / Dwelling types with narrow lots and dwelling types with wider lots; or
 - / Dwelling types with narrow lots and dwelling types with consolidated vehicular access.
2. Where ever possible, lot widths should account for one on-street parking space in front of each house. Alternatives to this include:
 - / Wider lots with less depth;
 - / Pairing of driveways on narrow lots to allow for at least one on-street space per pair of dwellings;
 - / Use of consolidated vehicular access to provide a longer curbside supply of on-street parking;
 - / Use of block flanks (i.e. the narrow sides of blocks) to provide angled on-street parking, instead of parallel parking; and
 - / Use of public rear lanes (minimum cross-section of 8.5 metres) or privately-owned lanes is preferred.
3. Where possible, fire hydrants will be located in order to allow for a full parking spot between driveways.

736 Policies for Commercial Site Design and Building

1. Entrances to commercial buildings will be clearly defined and visible from the street.
2. Ground floor spaces of commercial buildings facing the street will have windows and an active door which faces directly onto the street.
3. Commercial buildings are to be located at the street edge.
4. Interior driveways for commercial properties will have the look and feel of narrow public streets and include sidewalks on at least one side. They will be designed and posted at a maximum speed limit of 20 km/h.

73.7 Guidelines for Commercial Site Design and Building

1. The provision of a continuous street frontage is strongly encouraged and preferred. Pedestrian and vehicle access and circulation within an individual site should provide safe and well-defined routes.
2. Continuous weather protection for pedestrians along the retail and other appropriate frontages should be provided, where possible.
3. The scale of mixed use buildings should relate and be compatible to adjacent development.
4. Surface parking areas should be located at the side or rear of the buildings.
5. Driveways should be designed to avoid conflict with the driveways of adjacent uses, such as schools, parks, commercial blocks, etc.
6. Surface parking areas should be well lit to ensure public safety.
7. Bicycle parking should be provided in convenient and visible locations.
8. Lighting for commercial buildings and parking areas should be directed away from adjacent properties.
9. Where a section of the parking area is located adjacent to the street, the street edge of the commercial site should be designed with a landscape treatment to provide visual screening of the parking area from the street.
10. Loading, garbage facilities and other service functions and utilities should be away from the street and screened from public view. Location of these facilities within or at the rear of buildings is encouraged.
11. Trees and landscaping on commercial sites are encouraged, including in parking areas.

73.8 Policies for School Sites

Barrhaven South will have an abundance of schools at the completion of development. These schools, like other public buildings, will become a focus point for community and neighbourhood activity. Policies and Guidelines for schools in the Barrhaven South Urban Expansion Area (BSUEA) function to ensure that schools will become a major component of this community's livability and desirability.

1. The main entrances of the school buildings must be located facing the public street.
2. To encourage active transportation, pedestrian and cycling connections will be provided from sidewalks, parking areas, and bus loading areas to school

buildings. Safety measures may include narrowing of intersections and bulb-outs, to be installed, at the latest, when a school is constructed.

3. Co-location or connection between schools and other community amenities such as libraries and parks is recommended.
4. Bus lay-bys will be located within the City right-of-way. Lay-bys will have signage to show that they are for the exclusive use of school buses for designated periods in the morning and afternoon but may be signed to permit public parking at other times. Primary frontage will be long enough to accommodate bus lay-bys within the right-of-way.
5. Trees and other landscaping features must be provided on school sites for public health and amenity.
6. Driveway widths and corner radii shall be minimized to reduce vehicle speed, while accommodating expected vehicles.
7. Sidewalks or multi-use pathways will be provided on both sides of the school frontage roadways with direct and continuous connections to controlled pedestrian crossings at intersections, school crossings, or at appropriate mid-block locations.



739 Guidelines for School Sites

1. Multi-storey school buildings are encouraged.
2. Consideration will be given to the architectural character and materials of school building elevations.
3. Where possible, co-locate school blocks and larger parks and consider opportunities for sharing amenities such as sports fields and parking.
4. Where on-site bus lay-bys are demonstrated to be the only viable option, such lay-bys must be sufficiently long to accommodate all of the busses at dismissal time and must not impede other traffic driveways in or out of the school. Those on-site lay-bys cannot have curb returns and must be designed to stop at the sidewalk, maintain the sidewalk at its existing grade and then slope toward the street. Pedestrian priority across lay-bys will be required.
5. Large surface parking areas, excluding private driveways, should primarily be to the side or rear of buildings.
6. Sufficient bicycle parking spaces should be provided for both students and staff.
7. Where possible, incorporate existing trees or woodlots into outdoor spaces.
8. Lighting for school buildings and parking areas should be directed away from adjacent properties.
9. Signage should be integrated into the landscape treatments or building architecture.
10. Where possible, utility elements, service areas and equipment should be located away from publicly exposed views, and are discouraged from being located in the front yard or flankage yard of a corner lot.
11. Where utilities are required to be located in the front or flankage yards, the utilities should be located in a discreet area or screened from public view through landscaping or other screening mechanisms.

8 Implementation

This section describes the processes and mechanisms that will guide the implementation of the Barrhaven South Urban Expansion Area (BSUEA) CDP in fulfilment of the policies of the Official Plan and the CDP. The principal mechanisms include:

- / An implementing Official Plan Amendment (OPA);
- / Technical Plans: Environmental Management Plan (EMP), Master Servicing Study (MSS), and Transportation Master Study (TMS);
- / Guidance on the interpretation of the CDP;
- / Process to modify or amend the CDP and Environmental Assessments (EA);
- / Preparation of a financial implementation plan and landowner agreement, involving cost sharing agreements; and
- / Schedule for staging of key infrastructure to service the lands.

It is intended that development will proceed in a manner generally consistent with the BSUEA CDP. In this regard, minor changes to the Land Use Plan may be accommodated through the development approvals process at the discretion of the General Manager of Planning, Infrastructure and Economic.

The Plan will guide the form and character of BSUEA. The Plan will guide the Zoning, Subdivision and Site Plan Control processes, as well as capital expenditures in this area. While the end product may differ in detail from the various plans contained within this document, it is intended that development will have a framework consistent with the policies and guidelines that are described in this CDP.

8.1 Community Design Plan Amendments

The Barrhaven South Urban Expansion Area (BSUEA) CDP and the accompanying Master Plans were prepared through an extensive process involving technical analysis and public consultation. Development should proceed in a manner that is consistent with the policies, plans, and recommendations contained in the documents in order to ensure that the policies of Section 3.11 the Official Plan and the CDP are implemented.

However, it is not possible to anticipate every circumstance or issue that may arise over the course of the development of the lands. Accordingly, there must be a mechanism to permit landowners to make amendments, as deemed necessary.

The amending process distinguishes between minor and major changes. A substantive design change would require approval by Planning Committee and external agencies, as necessary, and may necessitate the completion of an amendment to the EA. A minor change would not require these amendments, and may be made at the discretion of the General Manager, Planning, Infrastructure and Economic Development and incorporated into Subdivision and / or Site Plan approvals.

8.1.1 Minor Changes

Minor changes to the Land Use Plan and Demonstration Plan, such as: minor adjustments to the local street network and the location of pathway blocks; the size and location of multi-unit residential blocks; the location, size and shape of parkland; the location, size, shape and / or area of school blocks; and the location, size and shape of stormwater management ponds that result from applications for development can be made through the City of Ottawa development approvals process, provided they are consistent with the general intent of the CDP.

Minor design changes are considered to be changes which do not appreciably change the expected net impacts or outcomes associated with the project. Slight changes in alignment or facility footprints, which have the agreement of all affected landowners, would also be considered as minor. All affected landowners and appropriate stakeholders will be provided details of the modification. The majority of such changes could likely be dealt with during the detailed design and development approvals phase and would remain the responsibility of the proponent to ensure that all relevant issues are taken into account.

The precise limits of the stormwater management pond blocks shown in the southeast corner of the Land Use Plan and Demonstration Plan shall be determined through the approved Master Servicing Study (MSS) and detailed engineering analyses conducted in conjunction with a development application(s). Any refinements to these blocks shall be considered a minor change.

8.1.2 Major Changes

Major changes to the Land Use Plan or changes requiring amendments to schedules of the Official Plan, such as a major realignment in the network of collector streets, reduction in the minimum amount of overall parkland, or a change in the number of stormwater management ponds, will be subject to approval by Planning Committee and external agencies as required.

Major changes are considered to be those which change the intent of the EAs or appreciably change the expected net impacts or outcomes associated with the project. If the proposed modification is major, an addendum to the Master Plans may be

required to document the change, identify the associated impacts and mitigation measures and allow related concerns to be addressed and reviewed by the appropriate stakeholders. Major changes will be subject to approval by Planning Committee and external agencies, as required.

Major changes should be supported by a Planning Rationale prepared in conformity with the City's Planning Rationale Terms of Reference, and any technical documents to provide justification for the proposed change and to assist the City and the public in the review of the proposal. The Rationale should include a plan showing the context of the surrounding area, including information concerning other development applications that are approved or about to be approved. To initiate the review and approval of substantive changes, the proponent shall prepare and submit to the City a Composite Plan comprised of the proposed change(s) and including Subdivision and Site Plan(s) within the neighbourhood (or the broader community, if affected) that are approved or about to be approved.

Where the proposed change affects land not subject to an approved plan, or a plan about to be approved, the Composite Plan shall also include the design as shown on the Land Use Plan of the surrounding neighbourhood or broader community, as may be required.

The City will circulate copies of the Composite Plan, as may be required, to owners of development and redevelopment land directly affected by the proposed change(s) for comment. Objections will result in referral of the subdivision and / or site plan(s) to the Planning Committee for approval. Where a proposed change affects the broader community, a public open house to present the proposed changes to the CDP and to receive input may also be required.

Each successive change to the Land Use Plan must reflect prior revisions, as approved through the Composite Plan/Subdivision approval process. The City will keep all approved changes on file.

Staff-initiated changes to the Land Use Plan and to the text of the CDP may be made at the discretion and approval of the General Manager of Planning, Infrastructure and Economic Development and shall involve notice to owners of affected development and redevelopment parcels, as may be required. Where changes are substantive, or where there is disagreement between Staff and the landowners affected by such proposed changes, approval by the Planning Committee may be sought.

Where lists of examples of permitted uses are provided in this Community Design Plan, they are intended to illustrate the possible range and type of uses that are to be considered. Specific uses that are not listed, but considered by the City to be similar to

the listed uses and to conform to the general intent of the applicable land use category may be recognized as a permitted use in the implementing Zoning By-law.

8.2 Aggregate Pits

The two active aggregate pits will be brought into the Urban Area through the Official Plan Amendment implementing the CDP. However, unlike the majority of the CDP area, which will be redesignated to “General Urban Area”, the aggregate pits will remain designated “Sand and Gravel Resource Area” but will have a new “Developing Community (Expansion Area)” overlay applied.

A site-specific policy in the Official Plan will allow the sand and gravel pit lands to be integrated into the Barrhaven South CDP, Master Servicing Study (MSS), and Transportation Master Study (TMS) at a later date, after the licenses are retired. The sand and gravel pits will be subject to the same density and housing mix requirements as the remainder of the CDP area.

In accordance with Official Plan policies, an impact assessment study is required for sensitive land uses within the area of potential impact surrounding an aggregate pit. In this regard, schools are considered sensitive land uses.

8.3 Transit Service

Transit service is to be integrated into the community structure from the outset of development in support of the Official Plan target for 2031 of reaching a city-wide 50% share of travel by sustainable modes – walking, cycling transit and automobile passenger.

During the early phases of development, the provision of transit will be sought through the creation of Early Service Agreements between developers and the City of Ottawa, OC Transpo.

8.4 Affordable Housing

Affordable housing will be required in accordance with Section 2.5.2 of the Official Plan, which defines affordable housing as rental or ownership housing, for which a low or moderate-income household pays no more than 30% of its gross annual income.

The Official Plan encourages that 25% of all new housing development and redevelopment should be affordable to households at or below the 30th income percentile for rental and at or below the 40th income percentile for ownership (as adjusted annually in accordance with inflation and the consumer price index).

Therefore, within the CDP area, approximately 25% of all housing should be within the above-noted affordability range, assessed at the time of Subdivision approval.

To support the development of affordable housing, the City will negotiate the use of the following municipal incentives and direct supports, including but not limited to:

- / Deferral or waiver of fees and charges; and
- / Other incentives to be negotiated depending on the depth of affordability achieved.

When municipal incentives are provided to support affordable housing, the City will enter into agreements with developers to preserve the level of public interest in affordable housing. Agreements will reflect the level of public investment required, with more investment resulting in greater levels of affordability. Agreements will include mechanisms to maintain affordability, will specify the mix of units to be provided, and will typically be registered on title and / or become a municipal housing facilities by-law.

In addition, consideration should be given to locating affordable housing sites in close proximity to existing or planned transit routes, parks and cycling facilities.

8.5 Alternative Arterial Design

As part of its “Building Better and Smarter Suburbs (BBSS)” initiative, the City of Ottawa is exploring the possibility of introducing new standards and designs for select arterials. These streets will feature new cross-sections within an existing public right-of-way, and will not require additional land dedication beyond the existing or planned widths.

The alternative arterial design is intended to achieve several goals, including:

- / Establishing arterials as good “people places” with vibrant public realm and direct building adjacency;
- / Allowing local streets to connect directly to the arterial without hindering the function of that arterial;
- / Ensuring appropriate vehicle speeds;
- / Enabling street-side access to buildings fronting on the road;
- / Increasing comfort and safety for pedestrians and cyclists;
- / Permitting minor driveways onto arterials; and
- / Reducing traffic noise.

The City has identified the Barrhaven South Urban Expansion Area (BSUEA) as a possible location to implement an alternative arterial concept. At the time of preparing this CDP, City of Ottawa Staff are discussing the merits of implementing these alternative standards, with a final implementation strategy to be determined after adoption of the CDP.

No changes to the Demonstration Plan will be required if an alternative arterial concept is implemented.

8.6 Development Approvals

Development approvals for lands within the Barrhaven South Urban Expansion Area (BSUEA) CDP will initially proceed by Plan of Subdivision to secure the necessary road network, servicing infrastructure and parkland dedication. Development applications shall include all information required under the Official Plan.

All development applications shall include a description and / or illustration as to how the development proposal meets the intent of the BSUEA CDP and related design guidelines. All residential development applications shall also address how the proposed residential uses and density contribute to the projected housing mix established in the BSUEA CDP and the Official Plan of the City of Ottawa.

Landowners are not required to develop their lands precisely as shown on the Demonstration Plan found in Figure 9. The purpose and role of the Demonstration Plan is to:

- / Provide guidance on the intent for development;
- / Demonstrate possibilities and methods for addressing specific development challenges;
- / Illustrate ways to achieve the design guidelines for various land uses;
- / Illustrate some specific objectives the CDP is seeking to achieve; and
- / Provide a means for establishing and monitoring density targets over time.

Development approvals for the majority of lands within the BSUEA CDP will initially proceed by Plan of Subdivision in order to establish the necessary road network, servicing infrastructure and parkland dedication.

Applications for some development blocks will require Site Plan Control Approval as required by the City's Site Plan Control By-Law.

The City will impose conditions on the development of the land through the Plan of Subdivision or Site Plan Control process. These conditions will address provision of matters such as, but not necessarily limited to:

- / Parks and open space;
- / Water, sanitary sewers, and stormwater management facilities;
- / Transit;
- / Construction of streets and infrastructure;
- / Widening and daylight triangles; and
- / Utilities.

The execution of development agreements (as discussed below) will be required before development is allowed to proceed.

Zoning By-law Amendments will be required to permit the development established by the Land Use Plan in conjunction with Plan of Subdivision and / or Site Plan approval. It is anticipated that Zoning By-laws will amend the zoning to appropriate urban residential and mixed-use zones to enable development in accordance with the Land Use Plan. The City may also use Holding Zones to specify the future uses of lands that, at the present time, are considered premature for development due to inadequate road, servicing or community facilities infrastructure being available within a reasonable period. School sites shall be zoned for both institutional and residential uses in order that, in the event that no School Board acquires a school site established in a Plan of Subdivision, the lands shall be developed for residential land uses. The type and range of such residential uses shall be in accordance with the Low Density Residential Area land use category as described in Section 5.1.1.

8.7 Development Agreements

As development proceeds within the Barrhaven South Urban Expansion Area (BSUEA) CDP, implementation strategies, including the use of appropriate development agreements, shall be established in order to ensure the timely advancement of municipal infrastructure and community amenities and facilities.

Development agreements may address:

- / Parks and open space;
- / Water, wastewater collection and stormwater management facilities;
- / Transit;
- / Road infrastructure; and

- / Telecommunications and other utilities

There may be a front-ending agreement(s) established for the BSUEA CDP, in which the City would participate, to require through development approvals, financial contributions for key infrastructure requirements and to allow the developer(s) to advance the construction of certain facilities in accordance with agreed-upon financial principles.

Joint use agreements may also be required with School Board(s) to allow for the shared use of park, library, and school blocks.

8.8 Cost Sharing/Financial Plan

A Financial Plan is a requirement of Section 3.11 of the Official Plan. The following Cost Sharing Agreements will form the basis of the financial plan for the CDP.

Core Services Agreement

Core Services means any work, service or facility described below, but only to the extent required by an Approval Authority to be completed or constructed for development to proceed within the CDP Study Area, including the preparation of the Barrhaven South Urban Expansion Area (BSUEA) CDP and associated Environmental Assessment (EA), and all related studies thereto, such as, but not limited to, the Environmental Management Plan (EMP), Master Servicing Study (MSS), and Transportation Master Study (TMS). All landowners will be required to become a party to the Core Services Agreement and to contribute their proportionate share in the cost of these core services, before development is approved by the City.

Other Shared Works

As development proceeds, the cost to construct other infrastructure that is not a Core Service but is shared by at least two landowners will be negotiated by the benefiting landowners. Examples include planned stormwater management facilities, oversized and over depth infrastructure and roadways where they cross property lines or run along property lines.

8.9 Parkland and Greenspace Acquisition

The greenspace system is comprised of a variety of elements, such as parkland and stormwater management facilities. The majority of the greenspace will ultimately be in public ownership and the City will pursue acquisition of such lands through:

- / Parkland dedication as per the City of Ottawa Parkland Dedication By-law (2009-95);

- / Open space dedication through the development approvals process; and
- / Conveyance of completed stormwater management facilities.

Dependent upon confirmation of satisfactory agreements, it is intended that the Community Park, Neighbourhood Park, and Parkette will be built concurrently with the development of lands within approved Draft Plans of Subdivision.

8.10 Development Phasing

It is anticipated that within each individual phase, development will occur incrementally through Plans of Subdivision with associated infrastructure and services being installed.

Generally, the development will proceed from east to west based on:

- / The ability to connect to existing water and sanitary infrastructure with available capacity;
- / The opportunity to connect the internal road network to existing Greenbank Road at existing intersection locations;
- / The logical extension of new water and sanitary infrastructure;
- / Installation of stormwater management facilities; and
- / The 300 metre area of influence surrounding the active aggregate pits.

Phasing is required in order to promote an orderly progression of development. However, it is possible that, under unforeseen circumstances, the preferred phasing cannot be followed. In addition, one phase of development does not need to be entirely completed before the next phase may be initiated.

Options for payment of up-front costs by developers will be explored by development applicant(s) in order to secure appropriate timing for both construction and repayment. The City will provide Development Charge credits, in accordance with the relevant legislation, where infrastructure is front-ended.

All public utilities should be contacted early in the planning process regarding the area servicing of development.

8.11 Development Monitoring

The Barrhaven South Urban Expansion Area (BSUEA) CDP and the accompanying integrated Master Plans were prepared through an extensive process involving technical input and public consultation. It is appropriate that monitoring of the CDP be undertaken to determine whether the policies of the Official Plan and those of the CDP are being achieved. Monitoring may identify any significant changes that would warrant

a review and possibly amendments to the CDP. The purpose of monitoring is to confirm that the underlying parameters supporting the Plan remain applicable and relevant and to determine whether the policies and guidelines are being implemented.

Fundamental to the CDP is the goal of implementing the Land Use Plan and the ability to achieve the established mix and location of residential dwelling types for the area as outlined in the CDP and corresponding Official Plan Amendment (OPA). The Official Plan establishes the mix and location of residential dwelling types for BSUEA which, as a minimum:

- / Constitutes, on a community-wide basis, at least 45% and no more than 55% detached units and at least 10% apartments, with the remainder being multiple dwellings other than apartments; and
- / Establishes an overall minimum average net residential density of not less than 34 units per net hectare. Net residential density is based on the area of land in exclusively residential use, including lanes and parking areas internal to developments but excluding public streets, rights-of-way and all non-residential uses.

The 34 units per net hectare minimum average density does not constitute a maximum average density, but a minimum density target and therefore, compact development that achieve additional densities while having regard to all other policies of this Plan, shall be permitted.

Table 1 in Section 5 of this CDP identifies overall estimates by percentage of detached dwellings, multiple-attached dwellings, and apartments, based on the Demonstration Plan included in Figure 9. It illustrates that, on the basis of this CDP, the required mix of units and density targets in the Official Plan are met over the entire CDP area. The total number of units that could develop based on the Demonstration Plan should remain within the range of approximately 1,200 units. Additional density, in conformity with other policies regarding land use in the CDP, shall be encouraged.

The City of Ottawa will evaluate the total number and mix of residential units at a community-wide scale at the time of development approvals. Minor variations in the number of units are anticipated through the development approvals process. Variations can be accommodated provided it is demonstrated that both the total number of residential units and the required mix of residential unit types can be reasonably achieved by adjusting density and / or housing mix on remaining vacant lands within the CDP.

Traffic and servicing calculations used to reach the recommendations presented in the Master Servicing Study (MSS) and Transportation Master Study (TMS) and are based on unit and population totals generated from the Demonstration Plan.

8.12 Build-Out

Upon complete build-out, this CDP may be retired and voided. While small-scale change and development within the CDP area is possible after full build-out, the directions contained in the CDP will have already been effected, and development policies will revert to the general policies of the Official Plan.

Appendix A: Team Members

Core Project Team (CPT):

- / Cheryl Brouillard, City of Ottawa
- / Robin van de Lande, City of Ottawa
- / Hugo Lalonde, Minto Communities
- / Susan Murphy, Minto Communities
- / Kevin Murphy, Mattamy Homes
- / Melissa Pettem, Mattamy Homes
- / Julie Carrara, Fotenn Planning + Design
- / Jaime Posen, Fotenn Planning + Design
- / Kelly Roberts, Morrison Hershfield

Technical Advisory Team (TAC):

- / Cheryl Brouillard, City of Ottawa
- / Robin van de Lande, City of Ottawa
- / Alain Miguelez, City of Ottawa
- / Dana Collings, City of Ottawa
- / Sean Moore, City of Ottawa
- / Mark Young, City of Ottawa
- / Amy McPherson, City of Ottawa
- / Lise Guevremont, City of Ottawa
- / David Wise, City of Ottawa
- / Michel Kearney, City of Ottawa
- / Mark Richardson, City of Ottawa
- / Stephen Boyle, City of Ottawa
- / Kevin Wherry, City of Ottawa
- / Genya Stefanoff, OC Transpo
- / Katja Sostaric, City of Ottawa
- / Frank McKinney, City of Ottawa
- / Jeff Shillington, City of Ottawa
- / John Bougadis, City of Ottawa
- / Jeanette Krabicka, City of Ottawa
- / Dave Ryan, City of Ottawa
- / Marc Gagné, City of Ottawa
- / Peter Giles, City of Ottawa
- / Louise Sweet, City of Ottawa
- / Riley Carter, City of Ottawa
- / Ted Cooper, City of Ottawa
- / Joseph Zagorski, City of Ottawa
- / Inge Roosendaal, City of Ottawa
- / Hugo Lalonde, Minto Communities

- / Susan Murphy, Minto Communities
- / Kevin Murphy, Mattamy Homes
- / Melissa Pettem, Mattamy Homes
- / Julie Carrara, Fotenn Planning + Design
- / Jaime Posen, Fotenn Planning + Design
- / Kelly Roberts, Morrison Hershfield
- / Sarah MacKelvie, Morrison Hershfield
- / Alex Zeller, Dillon
- / Rob Vastag, Stantec
- / Lauren O'Grady, Stantec
- / Michael Killam, Paterson Group
- / David Gilbert, Paterson Group
- / Carlos Da Silva, Paterson Group
- / Lucie Dalrymple, J.L. Richards
- / Guy Forget, J.L. Richards
- / Bobby Pettigrew, J.L. Richards
- / Scott Ritchie, Hydro Ottawa
- / Spencer Warren, Hydro Ottawa
- / Margaret Flores, Hydro Ottawa
- / Jocelyn Chandler, Rideau Valley Conservation Authority
- / Eric Lalande, Rideau Valley Conservation Authority

Appendix B: Building Better and Smarter Suburbs

Strategic Directions and Action Plan (2015) Analysis

The City of Ottawa has created the “Building Better and Smarter Suburbs (BBSS)” initiative to review current subdivision design guidelines and practices, as well as make recommendations aimed to resolve the concerns of new communities.

The “Building Better and Smarter Suburbs: Strategic Directions and Action Plan” (February 20, 2015) discusses the challenges and main issues of new suburban subdivisions, as well as providing objectives and direction to address a range of development issues and accommodate increasing densities in the suburbs. The Action Plan identified nine key issues related to the development of suburban subdivisions:

1. Street network and land use
2. Parks and open space
3. Stormwater management
4. School sites
5. Parking
6. Road rights-of-way
7. Rear lanes
8. Trees
9. Utility placement

The following provides a comparison of the objectives and strategic directions of the Action Plan and the Demonstration Plan for the Barrhaven South Urban Expansion Area (BSUEA).

Street Network and Land Use

BBSS Objective	Demonstration Plan
Implement a network of street typologies that complements the land uses, densities and built form within a community	Plan incorporates a range of street types, including arterial (realigned Greenbank Road), collector streets, and local streets
Create a highly-connected street and block pattern with short blocks to support efficient routing of transit, short distances	Street network is designed as a connected, offset grid, enhancing connectivity and generally facilitating access to each level of the road hierarchy

BBSS Objective	Demonstration Plan
to transit stops and stations, and intuitive wayfinding	
Design the street network to respond to and respect natural and cultural features	Street network is designed to allow for the potential preservation of portions of existing woodlots in parks.
Design the street network to enhance access to public facilities and services; prioritize pedestrian and cycling access for short trips, and walking / cycling connections to transit stations and Park and Ride lots for longer-distance trips.	Schools, library, parks, and Park and Ride have frontage on multiple streets to enhance access. The Park and Ride is located a maximum 10-minute walk from all points of the CDP area.
Integrate the street network with the park and open space system	The sidewalks proposed along both sides of collector streets and sidewalks one side of select local streets serve to connect the parks and the stormwater management facilities.
Design the street network and block lengths to include a diversity of routes for vehicular and active transportation in order to minimize bottleneck locations	The street design ensures that vehicles and active transportation modes have alternative routes throughout the community.
Provide opportunities for small local retail or commercial spaces in new neighbourhoods, where appropriate	The Land Use Plan and Demonstration Plan identify a commercial block located on realigned Greenbank Road, north of the Park and Ride.
Reduce vehicle operating speeds, particularly on local streets, in order to improve safety by reducing vehicular and pedestrian / cyclist conflicts	Refer to the streetscape policies and guidelines in Section 7.1 of the CDP.
Create a street system that promotes passive traffic calming and includes traffic calming features built into the initial designs for local and collector streets	The local road network avoids cut-through traffic and encourages reduced vehicle speeds. Refer to the streetscape policies and guidelines in Section 7.1 of the CDP.

Parks and Open Space

BBSS Objective	Demonstration Plan
Achieve an accessible, connected and safe network of open spaces	The stormwater management facilities along existing Greenbank Road, the Community Park, and the school / library are co-located to increase accessibility and connectivity.
Establish a hierarchy of parks and open spaces that reflects the needs of the community	The Land Use Plan and Demonstration Plan include a Community Park, Neighbourhood Park, and Parkette. Future residents will also be served by additional parks located in the adjacent communities to the immediate north.
Implement the park hierarchy and standards defined in the Park and Pathway Development Manual, but consider smaller park typologies	The park characteristics respond to the direction in the Park and Pathway Development manual.
Aim to achieve an urban tree canopy linking the green space system	Trees to be incorporated at the detailed design stage.
Provide access to a range of parks and open space features within reasonable walking distances	All land in the CDP area is within a 5-minute walking distance of parkland.
Incorporate existing trees, woodlots, or hedgerows into new parks or open spaces wherever possible	Portions of existing woodlots may potentially be preserved in parks, which will be explored at the time of detailed design.

Stormwater Management

BBSS Objective	Demonstration Plan
Reconsider use of parks and open space areas for emergency storage and conveyance of stormwater	Neighborhood Park and SWMF have been paired to maximize such opportunities.

Plan and design beautiful stormwater management ponds that are integrated into the open space system	The stormwater management facilities are co-located with the Community Park, which provides opportunities for integration of amenities, such as trails.
Continue assessing creative and innovative ways to manage and reduce stormwater on a community-wide basis, including consideration of using public open spaces	Water discharge anticipated to be low due to natural infiltration patterns and soil conditions. Proposed Etobicoke Exfiltration System will also reduce storage requirements due to reduced end of pipe discharge.

School Sites

BBSS Objective	Demonstration Plan
Promote the efficient use of land and compact built form	School and potential library combined in a single facility to improve efficiency of land use.
Prioritize pedestrian and cycling safety on streets around schools	Sidewalks are proposed around the perimeter of both school sites and cycle tracks are proposed along one frontage of both school sites.
Plan and design school sites as part of the open spaces system	The southern school site is proposed immediately adjacent to Community Park.
Consider expanding shared facility agreements that lead to improved efficiencies.	School and potential library combined in a single facility to improve efficiency of land use.

Parking

BBSS Objective	Demonstration Plan
Accommodate two cars per ground-oriented dwelling (one in-garage and one in-driveway in single-detached, semi-detached and townhouse units with driveways) while ensuring the visual predominance of front entrances and the inhabited parts of the residence	Implemented through Plan of Subdivision and Zoning By-law.

BBSS Objective	Demonstration Plan
Minimize the potential for conflicts between sidewalk users and vehicles in driveways	Implemented through Plan of Subdivision and Zoning By-law.
Minimize driveway widening and lot area dedicated to driveways in order to maximize space for tree planting, landscaping, and stormwater retention	Implemented through Plan of Subdivision and Zoning By-law.
Use on-street parking as a traffic calming measure on streets already wide enough to accommodate on-street parking	On-street parking is generally permitted on local streets.
Accommodate on-street residential parking for multiple car households with a permit system, in order to reduce the need to pave front yards	To be addressed by the City of Ottawa.

Road Right-of-Way

BBSS Objective	Demonstration Plan
Balance the needs of all elements within the street right-of-way	Pedestrian and cycling facilities provided on appropriate streets throughout the subdivision.
Ensure a range of street cross-sections that are appropriate for the application, area, and community design context	Street cross-sections have been designed to be appropriate for each context.
Create complete streets that accommodate all modes of transportation	Realigned Greenbank Road is designed as a complete street. Pedestrian and cycling facilities provided on appropriate streets throughout the subdivision.
Create street environments that enhance safety and livability	Street cross-sections are designed to be appropriate for each context.
Create beautiful tree-lined streets as a key component of the public realm	Street cross-sections incorporate street trees.

Accommodate stormwater management strategies in the right-of-way	Appropriate stormwater management strategies to be determined through Plan of Subdivision and detailed design.
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Rear Lanes

BBSS Objective	Demonstration Plan
Promote higher density development and compact form with less impact on the streetscape	Implemented through Plan of Subdivision process.
Enhance the streetscape by removing cars from the front face of the house and maximize the living space overlooking the street	Building setbacks to be determined at the Zoning By-law Amendment stage.
Consider rear lanes in areas where front yard driveways could conflict with adjacent land uses, such as school sites	Implemented through Plan of Subdivision process.
Resolve snow and stormwater storage and conveyance concerns	Implemented through Plan of Subdivision process.
Examine potential to place some underground utilities in rear lanes	Implemented through Plan of Subdivision process.
Maximize green space and opportunities for tree planting and landscaping	Implemented through Plan of Subdivision process.

Trees

BBSS Objective	Demonstration Plan
Ensure sufficient space for healthy trees in the right-of-way	Street cross-sections incorporate street trees.
Resolve the issue of tree planting in marine clay soils with technical solutions that will allow larger and more diverse street trees	Marine clay soils are not present in the CDP area.

Expand the urban forest and enhance its biodiversity	Portions of existing woodlots may be preserved and incorporated into the Parkette.
Select appropriate tree species for the local environment	Specific tree species to be determined at detailed design stage.
Achieve suitable conditions to ensure mature tree development	Street cross-sections designed to ensure appropriate widths to incorporate street trees.

Utility Placement

BBSS Objective	Demonstration Plan
Balance the needs of all elements within the street right-of-way	Location of utilities to be determined through detailed design.
Wherever possible, combine location of services to minimize space requirements in right-of-way	Location of utilities to be determined through detailed design.
Locate utilities to be compatible with urban design objectives	Location of utilities to be determined through detailed design.

Street Network and Land Use

BBSS Strategic Direction	Demonstration Plan
Design the street network as an integral part and extension of the municipal grid, taking into consideration its future adjustments and evolution	Proposed street network integrates into existing road network, particularly collector streets. Streets terminate to allow for future connections.
Design the street network based on a modified or offset grid to maximize choices of travel routes and opportunities for utility connections	Plan includes an offset grid street pattern.
Design the street network in conjunction with the land use and open space system to ensure direct pedestrian and cycling connectivity to key destinations in the	Offset grid pattern designed to optimize connectivity for all modes to major destinations throughout the community.

BBSS Strategic Direction	Demonstration Plan
community (schools, shops, bus stops and stations, etc.)	
Examine opportunities to design the street network with more closely-spaced arterials in order to minimize the need for very wide ROWs that can be perceived as community dividers and barriers to active transportation	Community design around the proposed realigned Greenbank Road right-of-way, which was established through an Environmental Assessment process.
Ensure that a range of appropriate-sized roadways complements the character and functional needs of each community area	Street right-of-way cross-sections designed to respect planned context.
Implement traffic-calming measures at the outset of road design for local and collector streets	Local street design reduces cut-through traffic and encourages traffic calming. Additional measures will be determined at the detailed design stage.
Use roundabouts that prioritize pedestrian and cyclist safety in appropriate functional locations	No roundabouts are proposed within the CDP area.
Implement prescribed facilities from the 2013 Ottawa Pedestrian Plan and 2013 Ottawa Cycling Plan with development	Realigned Greenbank Road is planned to be a spine route as per the Ottawa Cycling Plan. The Realigned Greenbank Road and Southwest Transitway Extension Environmental Assessment shows cycle tracks. River Mist Road is a local route.
Avoid reverse frontage lots (rear yards abutting public streets) within a community	Plan incorporates window streets and avoids rear lotting.
Encourage representation from OC Transpo at pre-consultation meetings for plans of subdivision in order to incorporate transit planning into initial subdivision design	OC Transpo has been involved in the CDP process through the Technical Advisory Committee (TAC).

BBSS Strategic Direction	Demonstration Plan
Provide flexibility in zoning to accommodate a mix of land uses within a community, such as areas that allow live-work units or local commercial land uses	Specific zoning provisions to be determined through the Zoning By-law Amendment process.
To support housing affordability, encourage developers to “rough-in” utilities in basements in order to facilitate their future conversion to second dwelling units in single, semi-detached, and townhouse units	Outside of the scope of the CDP.

Parks and Open Space

BBSS Strategic Direction	Demonstration Plan
Investigate the conditions and criteria around adding new smaller park typologies to the Park and Pathway Development Manual	The CDP suggests a minimum Parkette size; however, when appropriate, and as approved by Parks & Facilities Planning, smaller Parkette sizing may be included during the subdivision approval process. Smaller typologies have been included in the Parks and Pathways Manual for urban sites.
Review existing metrics for accessibility / walking distance to all parks and open spaces that take into consideration health and age of residents	All areas of the CDP area will be within a 5-minute walk of a park.
Create street and lot patterns and building orientations that frame and enhance the presence of all parks, regardless of size	All parks have multiple street frontages.
Identify opportunities to connect separate features of the open space network (e.g. a park to a nearby woodlot) with streets that support canopy trees	Street trees to be determined during the detailed design stage.

Stormwater Management

BBSS Strategic Direction	Demonstration Plan
Investigate ways of minimizing space attributed to stormwater management facilities	Stormwater management facilities designed to be an appropriate size for the stormwater requirements.
Provide street frontage for sites that contain stormwater management ponds	Stormwater management facilities have multiple street frontages.
Ensure that land attributed to large stormwater management facilities can serve additional functions, such as recreation trails or multi-use paths as part of the open space system, and support the connection of trails in stormwater management facilities to parks and open spaces, and to pedestrian and cycling facilities	The stormwater management facilities are located immediately adjacent to the proposed Community Park, which provides opportunities for integration of amenities, such as trails.
Examine opportunities to reduce “end of pipe” water volume discharge	Water discharge anticipated to be low due to natural infiltration patterns and soil conditions. Proposed Etobicoke Exfiltration System will also reduce end of pipe discharge.
Examine opportunities for innovative stormwater management in new road ROW cross-sections, such as bioswales and integrated systems that support tree hydration	Water discharge anticipated to be low due to natural infiltration patterns and soil conditions. Proposed Etobicoke Exfiltration System will also reduce end of pipe discharge.
Review best practices from former municipalities to determine improved stormwater management practices, and examine opportunities for emergency stormwater management in public open spaces and parks, where available	Stormwater management strategies based on best practices from Ottawa and elsewhere.

School Sites

BBSS Strategic Direction	Demonstration Plan
Encourage the planning and design of school and park blocks as one comprehensive site and part of a neighbourhood's grid of streets and blocks	The southern school is located immediately adjacent to the proposed Community Park.
Examine opportunities and best practices for incorporating existing trees or woodlots into functional spaces (e.g. natural play areas or outdoor classrooms) on school sites	School sites were located to address other objectives, such as co-location with a park and a library.
<p>Work with school boards to minimize land requirements for school sites, including:</p> <ul style="list-style-type: none"> - Promote adjoining school and park sites where possible - Proactively seek out partners for facility partnerships and combined use agreements between the City and school boards (e.g. playgrounds, libraries, sports fields) - Consider the requirement for multi-storey school buildings (minimum two storeys) - Investigate options for more efficient bus lay-bys and student pick-up / drop-off areas 	School site lot requirements were determined in consultation with School Boards.
Prioritize pedestrian and cycling safety by including traffic calming measures on streets abutting school sites at the outset of school and street design	Traffic calming measures and school design to be determined at the Site Plan Control stage.
Review best practices for bicycle parking on school sites	School site design to be addressed at the Site Plan Control stage.

BBSS Strategic Direction	Demonstration Plan
Consider ways to make temporary use of optioned school sites that will benefit the community while these sites are vacant	To be addressed at the Plan of Subdivision stage.

Parking

BBSS Strategic Direction	Demonstration Plan
Develop criteria to determine where street-accessed parking and rear-accessed parking are appropriate	Location of parking to be determined through individual building design and in response to Zoning By-law and design guidelines.
Where street-accessed parking is appropriate, establish setbacks that will allow a vehicle to be parked in front of the garage or carport, while preventing the visual prominence of garages on the streetscape	Building setbacks to be determined at the Zoning By-law Amendment stage.
Determine appropriate driveway width based on lot width; provide range of options	Driveway widths will be addressed at the Zoning By-law Amendment stage.
Consider minimum parking space dimensions inside garages to ensure they can function as intended, to park vehicles	Garage space dimensions to be addressed at the Zoning By-law Amendment stage.
Consider options for multi-car households through the on-street residential parking permit program, and seek to provide adequate curbside parking supply by ensuring sufficient space between driveways (single or paired), or the use of rear lanes or buildings with parking at rear, where appropriate	To be addressed by the City of Ottawa.
Encourage on-street parking on all local and collector streets, including 24-hour on-street parking with permits	The cross-sections allow for on-street parking.

BBSS Strategic Direction	Demonstration Plan
Consider alternating on-street parking on each side of the street during winter, to assist in snow removal	To be addressed by the City of Ottawa.

Road Right of Way

BBSS Strategic Direction	Demonstration Plan
Add a series of new ROW cross-sections that respond to built form context, better accommodate street trees, and address items below	Street cross-sections designed to respond to local context.
Consider adding an extra narrow ROW for a one-way street design	All streets to be two-way to facilitate circulation and connectivity.
ROW cross-sections, roadway widths, and design speeds should respond to built form and land use context	Street cross-sections designed to respond to local context.
Ensure new cross-sections consider offset geometry and differences between ROW width versus paved road width	Street cross-sections designed to respond to local context.
Reduce width of vehicle travel lanes in new ROW cross-sections	Street cross-sections designed to respond to local context.
Accommodate public transit and related amenities in the design of streets with existing or anticipated transit service	Realigned Greenbank Road features a Bus Rapid Transit line in the centre. Local transit routes are expected along the new east-west collector road, River Mist Road, and Kilbirnie Drive.
Implement traffic calming measures (such as those in the Canadian Guide to Neighbourhood Traffic Calming) at the outset of road design for local and collector streets	Traffic calming measures to be determined at the Plan of Subdivision stage.
Allow for increased storage of stormwater volumes within the ROW, taking into	The new sewer capture rates and ROW ponding depths have been incorporated in the MSS.

BBSS Strategic Direction	Demonstration Plan
consideration opportunities to use bioswales for tree hydration	
Determine preferred sizes and location for combined mail boxes in the right-of-way that support active transportation and safety, and reduce the creation of short vehicular trips	Mailboxes to be addressed at the Plan of Subdivision stage.
<p>Ensure components of a “complete street” are provided in the ROW, such as:</p> <ul style="list-style-type: none"> - Pedestrian facilities - Cycling facilities - On-street parking - Traffic calming features - Trees on both sides of the street, including canopy trees - Utility placement and operational considerations that do not interfere with the attributes of complete streets 	Street cross-sections designed to accommodate pedestrian and cyclist infrastructure where appropriate. Traffic calming measures and street trees to be determined at the detailed design stage.

Rear Lanes

BBSS Strategic Direction	Demonstration Plan
Determine locations where rear lanes or development with rear-access parking (e.g. townhouse or stacked townhouse blocks with limited curb-cuts and driveway access, and parking at the rear of each dwelling unit) are appropriate. For example, locations may include lots facing schools, parks, community centres, and on major collector and arterials	Rear lanes are not shown on the Demonstration Plan but would be permitted in the Low- and Medium-Density Residential designations.
Analyze budgetary implications and community design benefits of City ownership of lanes; evaluate model of	To be addressed by the City of Ottawa.

private lane ownership with public pedestrian easement	
Determine which utilities can and should be located in rear lanes	Design of rear lane product would be addressed at the Plan of Subdivision stage.
Revisit design for rear lane blocks in order to improve snow and stormwater storage and conveyance issues	Design of rear lane product would be addressed at the Plan of Subdivision stage.

Street Trees

BBSS Strategic Direction	Demonstration Plan
In new ROW cross-sections, ensure conditions to support healthy street trees, including canopy trees, in the ROW	Street cross-sections designed to include street trees.
Implement tree planting strategies identified in the Street Tree Manual for Greenfield Neighbourhoods	Specific tree-planting strategies to be determined at detailed design.

Preservation of Existing Trees

BBSS Strategic Direction	Demonstration Plan
Where appropriate, incorporate retained tree stands or woodlots in parks and open spaces	The Neighbourhood Park and Parkette have been located so that they allow for the potential retention of portions of the existing woodlots.
Improve retention of healthy trees and treed areas in new neighbourhoods	The Neighbourhood Park and Parkette have been located so that they allow for the potential retention of portions of the existing woodlots.

Utility Placement

BBSS Strategic Direction	Demonstration Plan
Favour design solutions that make all utilities and infrastructure (except traffic signals and fire hydrants) as invisible as possible	Location of utilities to be determined through detailed design.
Find design solutions that accommodate all utilities using less space in the ROW (e.g. joint utility trench) while ensuring sufficient space for street trees	Location of utilities to be determined through detailed design.
Minimize the numbers of utilities crossing soil trenches for trees	Location of utilities to be determined through detailed design.
Ensure utility placement and network design can accommodate increasing densities without compromising service quality and safety standards	Location of utilities to be determined through detailed design.
Combine above-ground utilities to reduce their visual impact on the streetscape	Location of utilities to be determined through detailed design.
Continue to support the burial of overhead wires on new streets	Location of utilities to be determined through detailed design.

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