

BYLAW 52-2013

A BYLAW OF STRATHCONA COUNTY IN THE PROVINCE OF ALBERTA, FOR THE PURPOSE OF ADOPTING THE BUCKINGHAM BUSINESS PARK AREA STRUCTURE PLAN.

WHEREAS it is deemed advisable to adopt the Buckingham Business Park Area Structure Plan;

NOW THEREFORE, the Council of Strathcona County, duly assembled, pursuant to the authority conferred upon it by the *Municipal Government Act, R.S.A. 2000 c.-M-26* and amendments thereto, enacts as follows:

1. That Bylaw 52-2013 is to be cited as the "Buckingham Business Park Area Structure Plan".
2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.
3. That Bylaw 13-2010 is hereby repealed.
4. This Bylaw comes into effect after third reading and upon being signed.

Read a first time this 27 day of August, 2013.

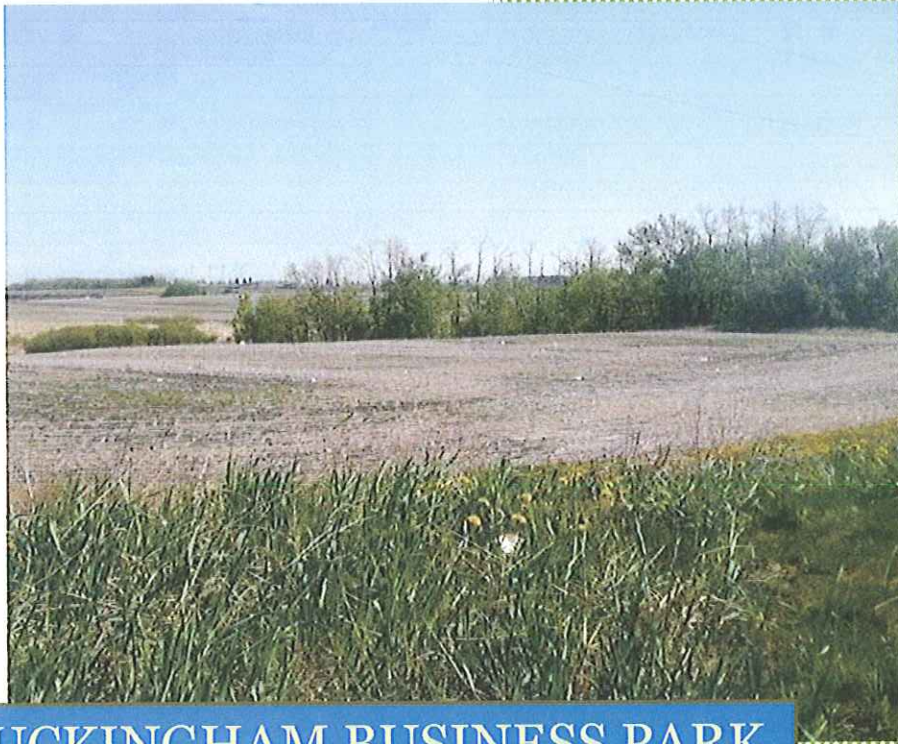
Read a second time this 5 day of November, 2013.

Read a third time and finally passed this 5 day of November, 2013.

Mayor

Director,
Legislative and Legal Services

Date Signed: November 18, 2013



BUCKINGHAM BUSINESS PARK AREA STRUCTURE PLAN

Prepared for:
Sherwood Partners Limited Partnership
Presented by:
Select Engineering Consultants Ltd.
Update:
November 2013 by Urban Systems Ltd.





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1.0 Introduction

1.1 Vision

The high visibility and convenient location of Buckingham Business Park at the intersection of Lakeland Drive and Broadmoor Boulevard creates an ideal site for the arterial and service commercial and light/medium industrial land uses proposed in this Area Structure Plan. The retention of natural areas in Buckingham Business Park adds a unique environmental element to the plan area. The natural areas will complement the mix of office, commercial and industrial uses.

1.2 Purpose

The purpose of this Buckingham Business Park Area Structure Plan (ASP) is to provide a statutory planning framework for the use of land, sequence of development, density and general location of major transportation routes and public utilities in the NW ¼ Sec. 3-53-23-4.

This ASP will act as a guideline for the sustainable development of a mixed use employment centre to serve a variety of commercial, business, office, industrial and recreational functions in a comprehensive manner. This ASP will effectively coordinate the technical and sustainable aspects of the future land development and growth.

The subject area will be named the Buckingham Business Park henceforth, and will be referred to as such in the text of this document.

1.3 Location

The approximately 61 hectare (150 acre) Buckingham Business Park is located in the NW quarter Section 3-53-23-W4M in the northwest portion of the Sherwood Park urban service area. The lands are well located in relationship to provincial and regional transportation networks which link the rest of Strathcona County, City of Edmonton and areas beyond. (See Figure 1) The adjacent arterials act as truck and transit routes; Broadmoor Boulevard to the west, Lakeland Drive to the north, Sherwood Drive to the east, and Baseline Road further to the south. (See Figure 2)

1.4 Land Ownership

Buckingham Business Park is owned by Sherwood Partners Limited Partnership (1224753 Alberta Ltd.), represented by IGRI Inc. This Area Structure Plan has been prepared on behalf of IGRI Inc. Single ownership provides the opportunity to offer maximum site planning and development within a comprehensive framework.

1.5 Background

The Buckingham Business Park Plan area initially made up the north portion of the original Broadview Park ASP, adopted as Bylaw 103-84 in February 1985. The original Broadview Park ASP addressed the land within the entire W ½ Sec 3-53-23-W4 and was intended to house a 'Hybrid Employment Centre' in order to serve a wide variety of commercial, business and industrial activities. At the time the original Broadview Park ASP was prepared, the entire plan area was held under a single owner.

Since 1985, land ownership in the Broadview Park ASP area has fragmented into several owners. Recognizing the distinctive features of the southern and northern quarter sections, Strathcona County Administration, requested that landowners submit separate Area Structure Plans for the NW and SW quarter Sections. In 2005, landowners simultaneously submitted separate amendments to the Broadview Park ASP. These two amendments were prepared to better reflect the individual owner's respective development intentions within the south and north quarter sections.

The new Broadview Park ASP (Bylaw 37-2006) was approved in May 2006 and represents development contained only within the SW ¼ Sec 3-53-23-4. This Buckingham Business Park ASP is forwarded herewith and is intended to guide development of the land which previously made up the northern portion of the former Broadview Park ASP plan area.



NW ¼ Sec. 3-53-23-W4M - Buckingham Business Park

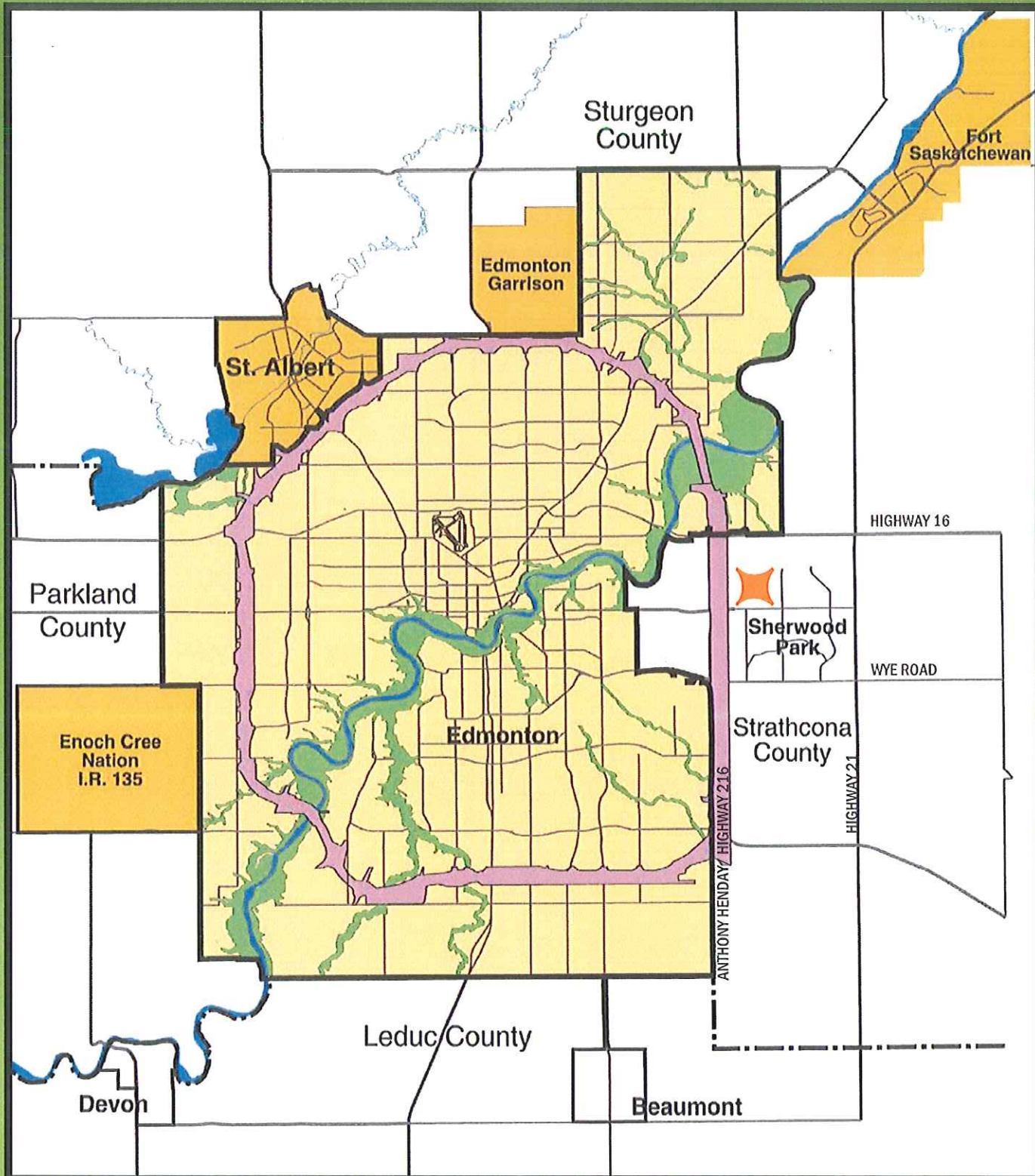


Figure 1
LOCATION PLAN

Buckingham Business Park
Area Structure Plan



AREA STRUCTURE PLAN BOUNDARY AREA



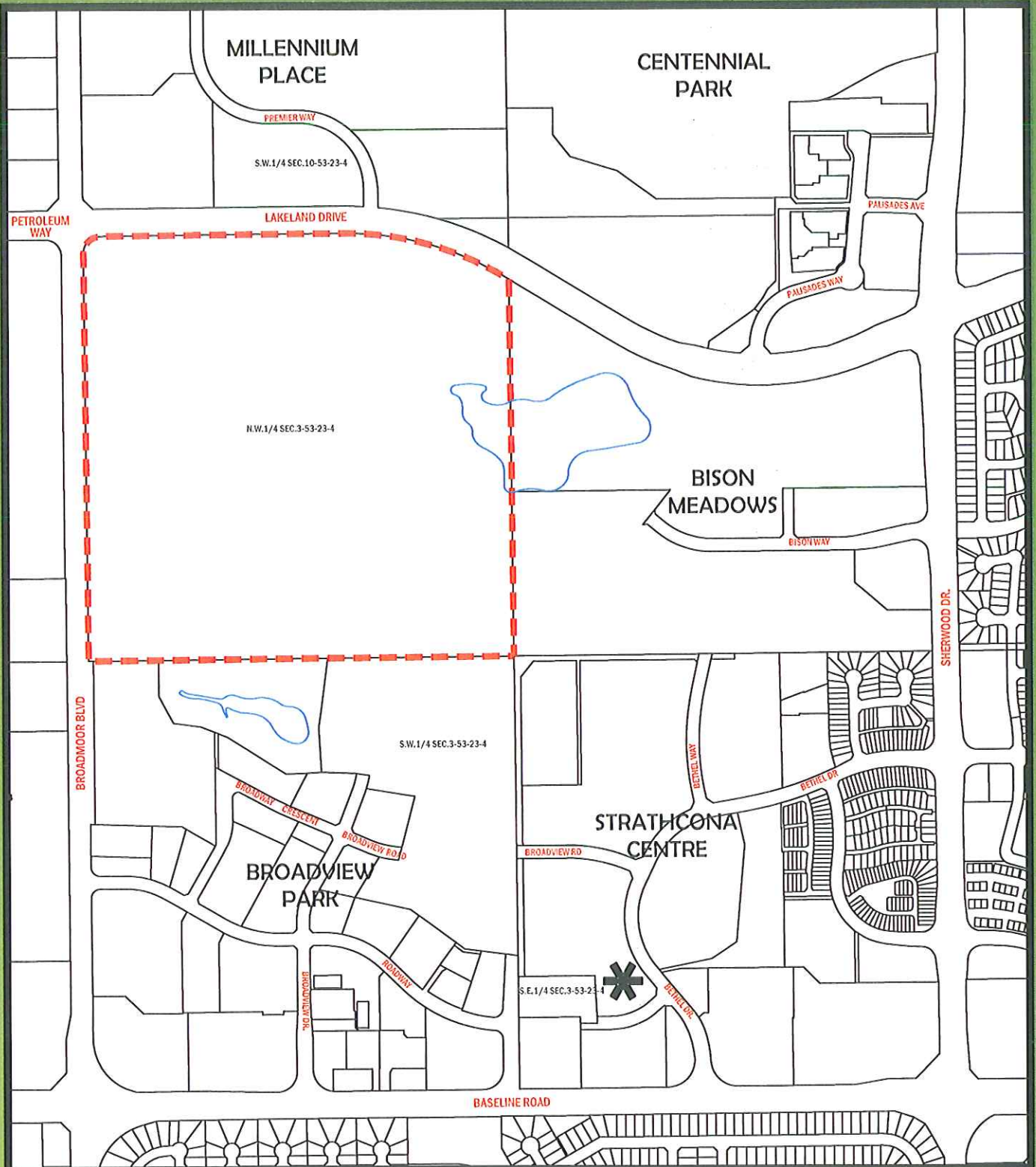
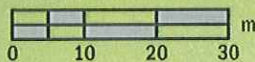


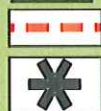
Figure 2
CONTEXT PLAN

Buckingham Business Park
Area Structure Plan



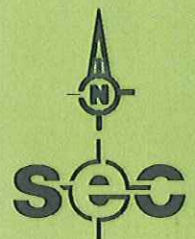
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LEGEND



AREA STRUCTURE PLAN BOUNDARY AREA

EXISTING TRANSIT NODE



1.6 Public Consultation

Prior to the compilation of this ASP document, consultation was held with Strathcona County and Province of Alberta Administrations to establish and determine the environmental significance of the development area. Preservation of the natural areas and wetlands has been the leading influence on the planning and engineering design concept that has evolved.

In accordance with Strathcona County requirements, a Public Information Program (PIP) was held to inform adjacent area residents and local stakeholders of the proposed Area Structure Plan. The meeting was advertised in the Sherwood Park/Strathcona County News, a local newspaper for two weeks prior to the Public Meeting. Notifications were sent out by mail to landowners in and around the plan area. All Strathcona County Councillors were informed of the meeting via e-mail. The meeting was held at the Coast Edmonton East Hotel on September 9, 2009. The Attendees for the PIP included two (2) adjacent landowners and three (3) councillors. All comments and concerns identified through the Public Information Meeting have been documented and provided to the County's Planning Services Branch.

1.7 Related Documents

Several technical documents have been submitted to Strathcona County under separate cover to support this Buckingham Business Park Area Structure Plan. These include:

- ❖ Servicing Design Brief;
- ❖ Water Network Analysis (Appendix A-Design Brief);
- ❖ Water Hydraulic Results (Appendix B-Design Brief);
- ❖ Storm Water Servicing Plan (Appendix C-Design Brief);
- ❖ Strathcona County Pond 115
(Appendix D-Design Brief);
- ❖ Traffic Impact Assessment (Appendix E-Design Brief);
- ❖ Biophysical Assessment (Appendix F-Design Brief);
- ❖ Geotechnical Investigation (Appendix G-Design Brief);
- ❖ Phase 1 Environmental Assessment
(Appendix H-Design Brief); and
- ❖ Alberta Public Lands (Appendix I-Design Brief)
- ❖ Wetland Compensation Plan

2.0 Site Analysis

Existing Conditions

The majority of the plan area has been cleared for agricultural purposes and is currently under cultivation. The western half of the quarter section is bisected by a north-south drainage course and a wet meadow lined intermittently with trees and shrubs also exists in the midst of this western area. The plan area contains a number of natural depressions and a larger permanent wetland exists along the east central plan edge. This existing wetland will become part of a larger existing constructed stormwater management facility adjacent to the Buckingham Business Park's east boundary in Bison Meadows. Two wet areas in the north plan area immediately south of Lakeland Drive have been identified as impoundments. These impoundments along with another wet area directly to the east have been created with the development of the Lakeland Drive arterial road and will be removed as development proceeds. (See Figure 3)

Adjacent Land Uses

Lands west of the Buckingham Business Park are approved for light/medium industrial uses under the Municipal Development Plan (Bylaw 1-2007). (See Figure 4)

Broadview Park located in the quarter section to the south of the plan boundary is generally approved for a mix of arterial commercial and commercial service uses. A storm water management facility exists south of the Buckingham Business Park boundary generally in line with the drainage course that extends north through the plan area.

The Bison Meadows Area Structure Plan is approved to the east. A large constructed stormwater management facility abuts Buckingham Business Park's east boundary and lands designated for institutional uses are approved further to the east.

The lands north of Lakeland Drive are in various stages of development and are generally approved as a combination of arterial commercial, commercial service and recreational uses.

All the land uses proposed in Buckingham Business Park are compatible with the adjacent land uses.

Pipeline Corridors

An existing Altalink Management Ltd. power transmission line (Plan 5786RS) extends along the south quarter section line. There is an operating high pressure pipeline within the Pembina Pipeline Corporation right of way which extends along the south and east quarter section lines (Plan 415RS). Another operating high pressure pipeline exists within the Plains Midstream Canada ULC (Plan 4403NY) right of way which extends along the east quarter section line. Each of these utility right of ways will be addressed with the site design to accommodate the required setbacks. (See Figure 3)

Topography

Much of the plan area consists of agricultural land, with an undulating terrain. Substantial variations in grade throughout the quarter section create a challenge with the design of this site. The proposed Buckingham Business Park site has been planned and designed to respect the existing terrain to the extent possible and support and retain the natural areas. The drainage pattern of the existing topography generally drains northwest and includes an existing drainage course which extends north from Broadview Park up to the Lakeland Drive/Broadmoor Boulevard intersection shown of Figure 3. As noted in the Stormwater Servicing Plan (see Figure 11), this drainage course currently acts as a discharge route for the Broadview Park storm water management facility. A storm sewer then conveys the surface runoff north and west across Lakeland Drive.



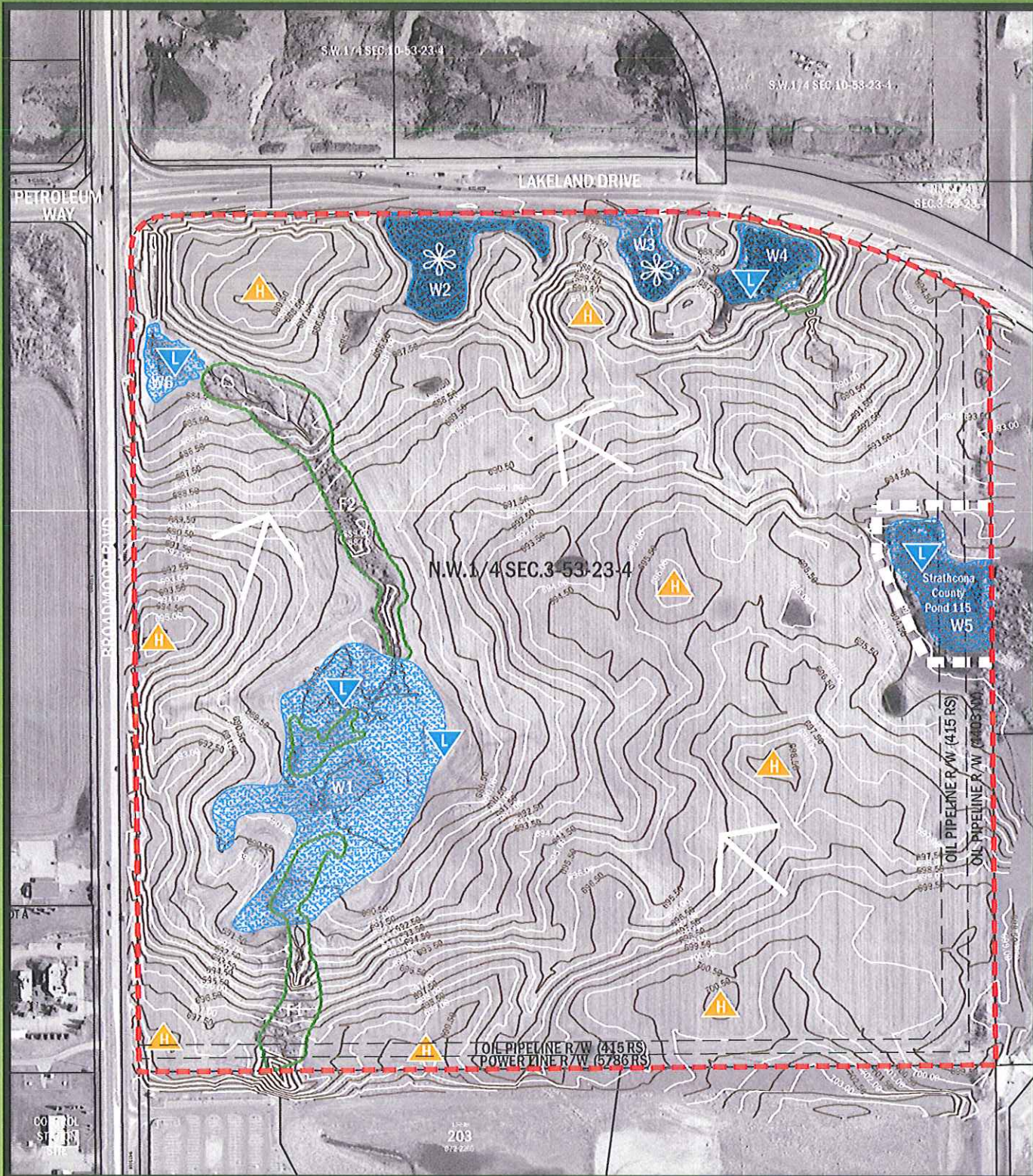
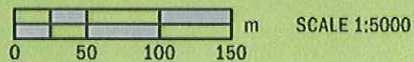


Figure 3
EXISTING CONDITIONS

Buckingham Business Park
Area Structure Plan



LEGEND

- ASP BOUNDARY
- EXISTING TREE STAND
- HIGH POINT
- LOW POINT
- IMPOUNDMENT
- STRATHCONA COUNTY POND 115

SOURCE: AERIAL PHOTO, THE CITY OF EDMONTON, 2007
BUCKINGHAM SITE SURVEY (TREE STAND), FOCUS, OCT. 2008



DRAINAGE
DIRECTION



Natural Areas

On behalf of Sherwood Partners Ltd. Partnership, Stantec Consulting Ltd. prepared a Biophysical Assessment for the ASP area. This assessment was conducted in November 2008 and is submitted as 'Appendix F' of the Design Brief where it can be referenced for the detailed conclusions and recommendations. Generally the biophysical assessment identified and prioritized the natural areas as a function of their potential sustainable ecological conservation and wildlife habitat. The Biophysical Assessment made four recommendations for the plan area:

- ❖ Retain the larger west central wet meadow and vegetated ravines;
- ❖ Retain the east central wetland;
- ❖ Maintain the drainage patterns; and
- ❖ Ensure that any alterations to the hydrologic regime do not negatively impact upstream or downstream user.

Alberta Sustainable Resource Developments have completed a review of the area and no wetlands were claimed by the crown.

The Biophysical Assessment also identified that the naturalized development of the stormwater management facilities will likely suffice for the Alberta Environment compensation of the scattered wetlands. Compensation will not be required for two of the wet areas to the north as they have been identified as impoundments.

The large central wet meadow, vegetated ravines and the other priority wetland site identified on the east boundary are retained in the plan area. Strathcona County holds a caveat on the existing wetland located on the east side of the plan boundary. This wetland extends east and is part of an existing stormwater management system (Strathcona County Pond 115) in the Bison Meadows ASP (see Figure 3). Pond 115 was originally designed to accommodate runoff from 2.52 ha from Buckingham Business Park; the proposed development drains approximately 2.13 ha into this facility. Details for Pond 115 are found in Appendix D of the Design Brief.

These natural areas are protected in the plan by a combination of Environmental Reserve, Municipal Reserve and Public Utility Lot and shown on Figure 5.

The development concept limits the disturbance to natural habitat by retaining a majority of the high priority areas identified though the Biophysical Assessment.

Environmental Site Assessment

A Phase 1 Environmental Site Assessment (ESA) was completed by UMA Engineering Ltd. (January, 2006) for the plan area as part of the preparation of the Area Structure Plan. The ESA indicates the subject land has been used for agricultural purposes for as long as records are available and that there are no environmental concerns due to past and present on-site activities. The recommendation states that no further environmental investigations are required.

Wetland Conservation (SER-009-036)

Buckingham Business Park respects the Wetland Conservation Policy approved by council on March 3, 2009. Buckingham Business Park recognizes the existing wetlands as an important component for environmental, economic and social sustainability. The plan incorporates the goal of No Net Loss by providing a 'mitigation by design' strategy whereby natural systems will be re-established as part of the central naturalized stormwater facility and compensation will be provided as deemed necessary. Adequate development setbacks and Tree Protection Areas from the natural areas form part of the design intent to minimize disturbances, prevent pollution and protect natural systems. Wetland Conservation and Mitigation strategies have been incorporated into the Biophysical Assessment report.



SOUTHERN TREE STAND

Soils

Soils within the plan area have been evaluated in a Geotechnical Investigation conducted by UMA Engineering Ltd. (January, 2006). The report indicates that the subsurface soil conditions encountered in the test holes are considered generally fair to satisfactory for the installation of underground utilities and construction of roads, curbs and sidewalks. No major problems are anticipated for the construction of big box stores, commercial retail units and industrial developments. It is anticipated that the development will include heavy-duty access lanes, driveways and light duty parking areas surrounding the buildings. Site-specific geotechnical investigations will be required at the detailed design stage. Further information can be found in the Geotechnical Investigation attached as 'Appendix G' of the Design Brief.



CULTIVATED LAND - EXISTING SOIL

3.0 Statutory Compliance

The policies of the Strathcona County Municipal Development Plan, the Strathcona County Land Use Bylaw, and other related policy documents, guide the Buckingham Business Park development concept at various levels. Their relationship to the Buckingham Business Park is discussed below.

3.1 Municipal Development Plan

The Strathcona County Municipal Development Plan (MDP), Bylaw 1-2007 approved May 22, 2007, outlines the direction for the future development within the municipality. (See Figure 4)

An amendment to the Municipal Development Plan is required to be submitted with the Buckingham Business Park Area Structure Plan. The plan area is currently designated within the Commercial Arterial Policy Area and the Industrial Light/Medium Policy Area in the Municipal Development Plan. The existing MDP designates a majority of the plan as Light/Medium Industrial with Commercial lands bordering Broadmoor Boulevard. This ASP has been created in alignment with the municipal objectives as defined in the MDP, including policies relating to light/medium industrial, commercial, recreational or conservation development. An amendment to 'Policy Areas Map #13' of the MDP is required to realign the boundary lines of the Commercial Arterial and Industrial Light/Medium Policy Areas. The amendment will include the addition of the Commercial Service Policy area to accommodate the service commercial site proposed within the plan area. The development concept also features a distinctive SWMF and Regional Park that will be incorporated into the MDP map amendment as open space.

3.2 Broadview Park Area Structure Plan

The Buckingham Business Park ASP remains consistent with the fundamental objectives of the original Broadview Park ASP (Bylaw 103-84) from which it has been separated and maintains a mixture of commercial, business service and industrial land uses. In the original Broadview Park ASP the NW 1/4 section was devoted entirely to medium and light industrial uses.

The Buckingham Business Park ASP reshapes the 1985 concept plan to represent the present development atmosphere, market demands and sustainability goals required in Strathcona County. In addition, the planning principles pertaining to internal circulation, connectivity and access onto main arterials remain valid and have been

maintained; however updated recommendations have been made by Bunt and Associates Engineering Ltd. through the Transportation Impact Assessment to address safety and shortcutting concerns.

3.3 Strathcona County Land Use Bylaw

Strathcona County's Land Use Bylaw (8-2001) is currently under review and this ASP expects the new Bylaw districts to be appropriate for the commercial and industrial uses proposed.

The entire plan area is presently districted for future development (AD). The Land Use Bylaw will require amendments in order to accommodate the land use designations proposed in this ASP. The proposed land uses for Buckingham Business Park are Arterial Commercial, Service Commercial, Light/Medium Industrial, Conservation, Recreation and Utilities.

3.4 Heavy Industrial Transition Overlay

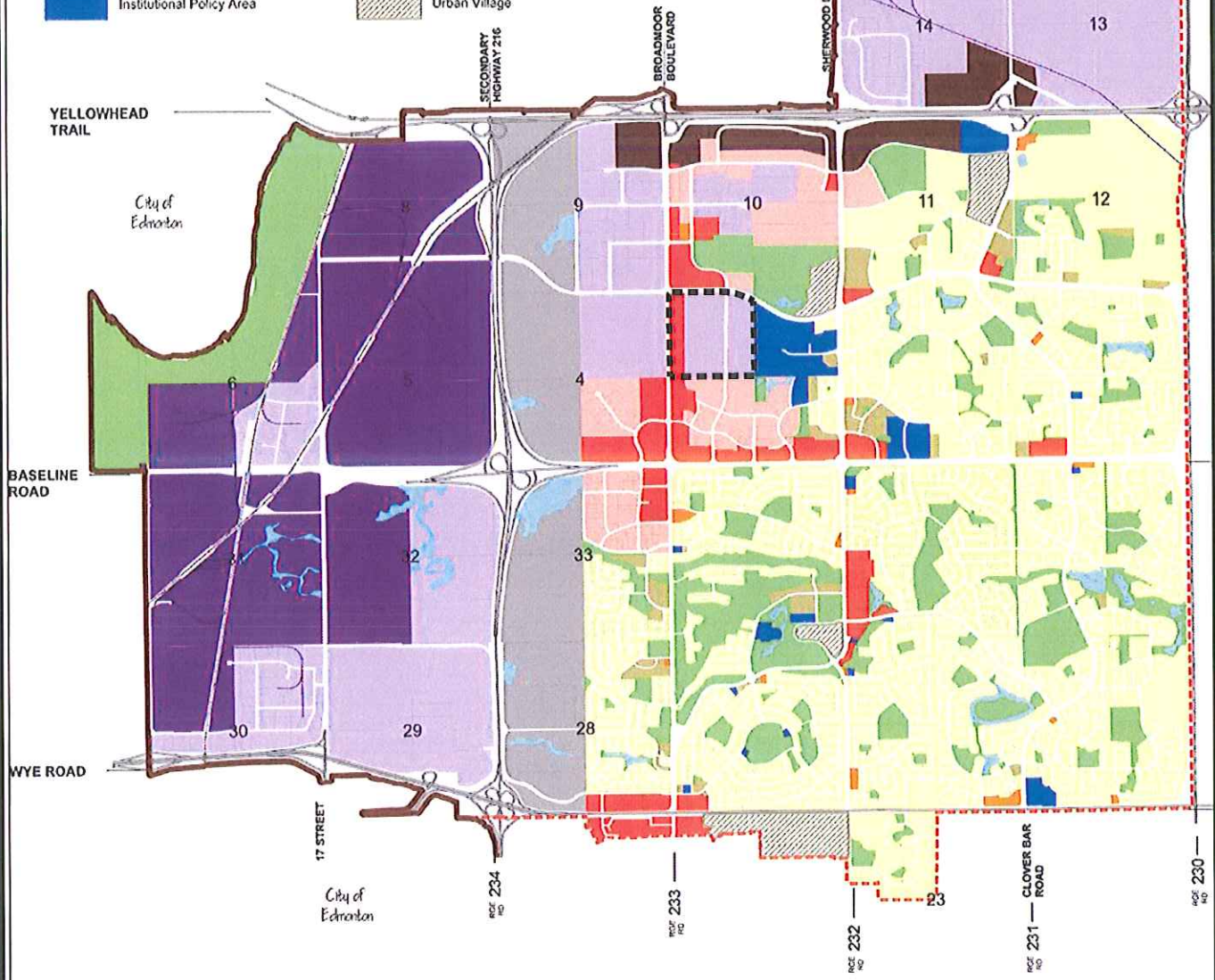
Development within Buckingham Business Park must comply with the regulations as stipulated in the Heavy Industrial Transition Overlay for lands between 1.5 km and 3.0 km from the Heavy Industrial District. The IHO-Industrial Heavy Overlay uses as defined in the LUB designate all uses as discretionary within a 1.5 to 3.0 km distance from any Heavy Industrial Land Districts. As such, uses proposed in Buckingham Business Park are restricted by its proximity to the Heavy Industrial uses west of Highway 216 as it is situated in the 3.0km overlay area.

The purpose of the Transition Overlay is to protect heavy industrial development by avoiding conflicts from the development of significant residential and assembly uses within 3.0 Km. from the boundary of heavy industry. In the plan area the specific application of use and density restrictions and additional regulations are to reduce the risks to the public, safety, and minimize nuisance associated with heavy industry as well as to facilitate emergency management in the event of an industrial accident through the implementation of buffers and transition of land uses that are less intensive then beyond the 3.0 Km. setback.



Legend

- | | | | |
|--|--|--|--|
| | Municipal Boundary | | Open Space |
| | Urban Service Area Boundary | | Industrial Light/Medium Policy Area |
| | Agriculture Large Holdings Policy Area | | Industrial Heavy Policy Area |
| | Commercial Arterial Policy Area | | Medium Density Residential Policy Area |
| | Commercial Community Policy Area | | Country Residential Policy Area |
| | Commercial Service Policy Area | | Low Density Residential Policy Area |
| | Commercial Hwy 16 Policy Area | | Transportation Utility Corridor |
| | Institutional Policy Area | | Urban Village |



SOURCE: MDP PLAN, STRATHCONA COUNTY WEBSITE.

Figure 4
MUNICIPAL DEVELOPMENT PLAN

Buckingham Business Park
Area Structure Plan

LEGEND

- ASP BOUNDARY



4.0 Development Concept

4.1 Overview

Buckingham Business Park is ideally situated to maximize commercial, business, light and medium industrial opportunities due to its location within the urban services area of Sherwood Park and its proximity to major arterial routes. The superior exposure of the development sites on the periphery along Lakeland Drive and Broadmoor Boulevard make them extremely desirable for a range of both small and large format arterial commercial and office development. Buckingham Business Park ensures contiguous and complimentary commercial development along Broadmoor Boulevard and in the north portion of the site along Lakeland Drive, which is consistent with adjacent development to the south and north.

The retained natural areas and stormwater management facility designated in the central area, compliment the urban mix of land uses proposed and creates opportunities for a natural pedestrian experience within Buckingham Business Park. Although the stormwater management facility is designated as one public utility lot it actually functions as two separate stormwater management facilities.

Sustainable design principals incorporated as part of the Buckingham Business Park are supported in the plan by providing access to a variety of transportation methods, access to natural areas and parks, maximizing walkability, incorporating naturalized stormwater management facility designs and landscaping principles. The predominance of trail linkages, open space and pedestrian corridors interspersed among the arterial commercial, service commercial and light and medium industrial areas will enhance the livability aspect for visitors and employees. The location of the large regional park in the southeast plan area provides an activity node and gathering place in the plan area and further enhances connectivity with surrounding development.

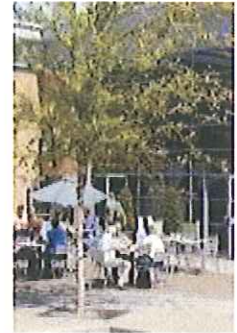
The County is proposing a transit hub in the quarter section to the south of the plan area in Broadview Park. The designation of this transit hub will further support the land uses in Buckingham Business Park and contribute to the sustainable design principles that are integrated throughout the design.

The hierarchical sequence of land uses proposed in the plan area provides an appropriate interface with existing and proposed development to the north and south. The provision of arterial and service commercial land uses in the north plan area also creates a transition between

Lakeland Drive and the light and medium industrial uses proposed to the south.

The Development Concept (see **Figure 5**) provides for Buckingham Business Park and is comprised of the following land use areas:

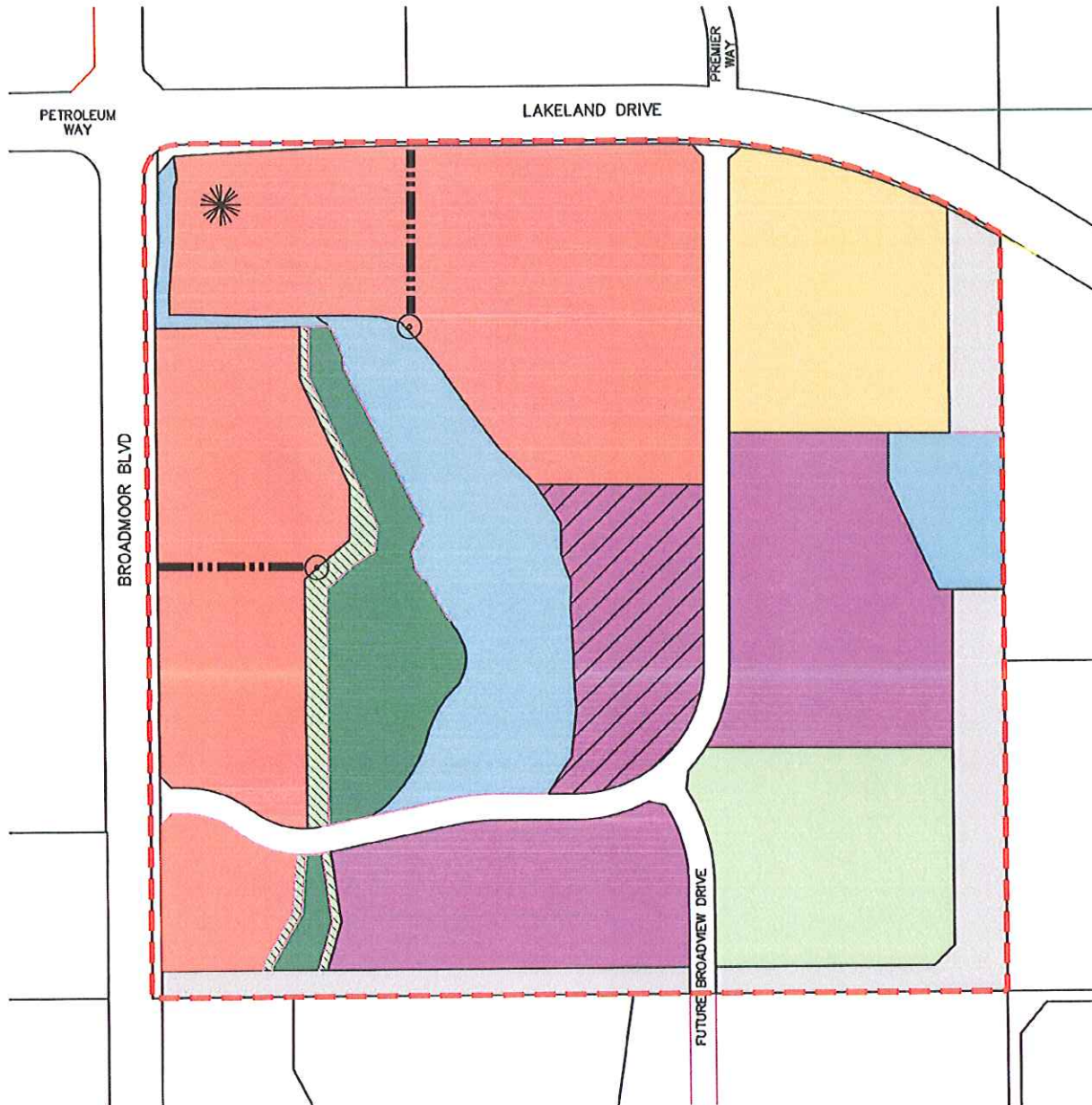
- ❖ Environmental Reserve
- ❖ Arterial Commercial;
- ❖ Service Commercial;
- ❖ Light/Medium Industrial;
- ❖ Regional Park; and
- ❖ Public Utility



The influence of market demand is very strong in the type of commercial and industrial land uses proposed in Buckingham Business Park. Maintaining maximum flexibility to address these future demands will be critical to its success.

The development concept currently designates a mix of arterial and service commercial land uses immediately adjacent to Lakeland Drive and Broadmoor Boulevard and light and medium Industrial uses are designated within the central plan area. The Land Use Statistics can be found in Table 2 after Section 7.0.

The development concept provides a comprehensive design with an orderly and compatible combination of land uses, united by a safe, efficient and interconnected pedestrian and vehicular network. These factors all together create a superior destination for residents of the area and also provide employment opportunities within Buckingham Business Park.



Proposed amendment

4.2 Arterial Commercial

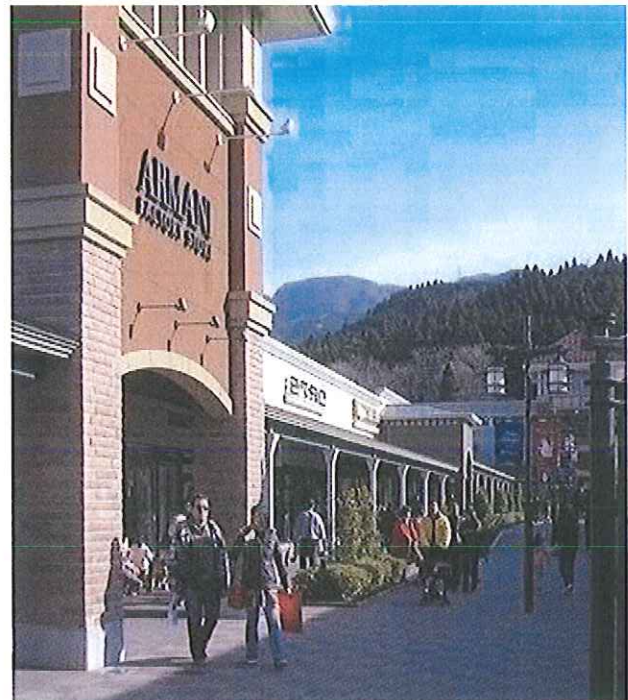
The character and form of the arterial commercial proposed in Buckingham Business Park will be appropriate for its unique setting and geographic location with relation to urban arterials, proximity to natural areas and proximity to adjacent developments. Care will be taken to address perceived height, massing and privacy issues in the arterial commercial areas within the plan. These issues will be addressed by considering building orientation, micro climate conditions, roof treatments and exterior materials and colour.

The central natural area retained in the plan defines the individual shape and size of future arterial commercial sites proposed along Lakeland Drive and Broadmoor Boulevard. These variable site sizes can accommodate a full range of small and large format commercial developments.

By virtue of its prominent location, the shallower development module at the intersection of Lakeland Drive and Broadmoor Boulevard will become the major commercial focal point in Buckingham Business Park. (See Figure 5) This strategic location will become the hub between larger format opportunities to the east and smaller format opportunities to the south. Site design and building form on this site should reflect the high public exposure of this corner. Safe and clearly defined pedestrian links will be established between this focal area and the areas east and south to provide connectivity and encourage walkability.

The arterial commercial sites along Broadmoor Boulevard and Lakeland Drive will all be developed as single uses, multi tenant buildings or campus style developments and must be visually linked through the establishment of a variety of creative landscaping and architectural treatments that will complement, accent and unify these sites. Opportunities to incorporate these urban design elements may also be introduced into building forms, entry points, pedestrian and vehicular access points, signage and parking areas to create a more cohesive overall development. Buildings that front onto Broadmoor Boulevard and Lakeland Drive or have a public view from the natural area must maintain consistent quality on all sides. Complementary building materials, finishes and color will be selected as development proceeds.

Opportunities for areas of congregation will be provided in the forecourt of a building, within the parking areas, at the side or rear yards or along pedestrian walkways, particularly those along transit stops. These areas should incorporate hard and soft landscape elements.



POTENTIAL PEDESTRIAN TRAFFIC

These designs could include but are not limited to shade trees, awnings, trellis, canopies, seating, planting beds and sod areas.

By virtue of the shallower lot depths along Broadmoor Boulevard and their proximity to the natural area buildings will generally front onto the arterial and/or back onto the natural areas. In these more constrained site areas parking will naturally be broken up by internal circulation and the placement of buildings in these development modules. Care will also be taken to ensure that transitions from the commercial areas to the natural area are appropriate. To enhance the relationship of the arterial commercial areas to the municipal reserve and natural area two public/private interface points are identified within the plan where key focal points and gathering areas will be provided. (See Figure 5)

These proposed pedestrian access points have been aligned with the intersection from both Lakeland Drive and Broadmoor Boulevard to maximize opportunities for view corridors into the natural area. These pedestrian routes through private property will terminate within MR or PUL designations, adjacent to the natural ER area. These terminuses will provide access to the walkway system designed as part of the stormwater management facility and Wetland Compensation Plan.

The plan acknowledges the restrictions to density and floor area due to the proximity to the heavy industry.

The plan has reflected these restrictions by limiting arterial commercial development to a narrow strip of development fronting Broadmoor Boulevard and limiting its extent east on Lakeland Drive.

A Retail Market Study conducted by Hudema Consulting for Strathcona County in 2006 supports the commercial uses proposed in this Buckingham Business Park ASP. The Retail Study indicated that current retail expenditure potential in a 10km radius of the Sherwood Park Trade Area warrants almost 5.0 million square feet more of retail space, and that this amount of warranted retail space is expected to increase over time. Future uses will comply with the Arterial Commercial District in the LUB.



POTENTIAL COMMERCIAL DESIGN

Arterial Commercial ASP Objectives:





- ❖ To create an attractive commercial development edge along the prominent location of two major arterial roads, Broadmoor Boulevard and Lakeland Drive.






Arterial Commercial Policies:

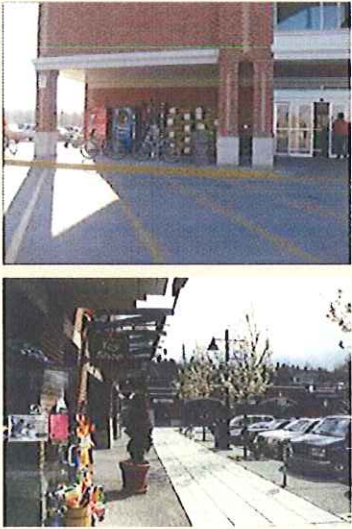
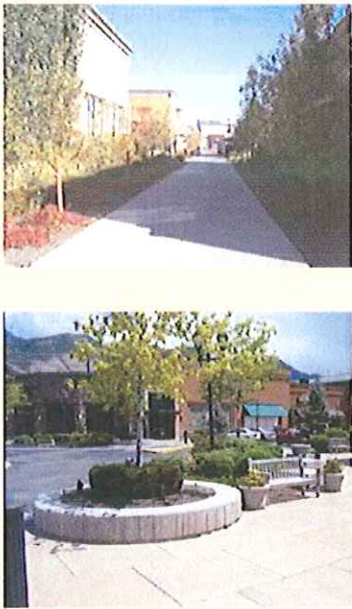

- ❖ Arterial Commercial land uses will adhere to the restricted requirements under the Heavy Industrial Transition Overlay regulations in the Land Use Bylaw.
- ❖ Arterial Commercial Urban Design Guidelines listed below will be followed in order to achieve a high standard of appearance for arterial commercial developments fronting onto Broadmoor Boulevard and Lakeland Drive.

The Arterial Commercial sites along Broadmoor Boulevard and Lakeland Drive will be subject to the following development design guidelines.

Table 1: Arterial Commercial Urban Design Guidelines

1.0 THE PROPOSED STREETScape	GUIDELINES
	<ul style="list-style-type: none"> 1.1 Pedestrian and vehicular access should be well defined and separated. 1.2 Building and landscape architecture should remain dominant and cohesive while allowing effective street signage to be displayed. 1.3 Multiple-tenant buildings or buildings on campus style lot developments should be designed comprehensively to provide a consistent thematic appearance.
2.0 BUILDING FORM & APPEARANCE	GUIDELINES
  	<ul style="list-style-type: none"> 2.1 Building scale and height should consider adjacent development, considering mass, overshadowing and privacy of abutting uses. 2.2 Building scale and height should consider micro-climatic conditions including sun penetration and wind effects on adjacent uses or within the development itself. 2.3 Building form shall provide interest and detail when viewed from the public street or from public open spaces. Key focal points and public gathering places shall be required within campus-style lot developments exceeding 10 acres. 2.4 Developments requiring outdoor display shall provide dedicated display areas that shall be identified on the site plan or integrated with the building design. 2.5 The main structure shall address the street frontage in a direct relationship, with main public entrances clearly articulated and identified. 2.6 Within multi-tenant buildings or campus style lot developments the architecture expressed shall relate contextually and be of compatible material styles of consistent quality shall be provided on all sides of the buildings.

3.0 CIRCULATION AND PARKING:	GUIDELINES
    	<p>3.1 For single tenant or campus style lot development, a well designed pedestrian walkway from each street frontage to the principle entries or major building shall be provided.</p> <p>3.2 Pedestrian and vehicular crossings shall be minimized.</p> <p>3.3 In large parking areas, landscaped pedestrian walkways shall be provided from the parking area to the main entry.</p> <p>3.4 To ensure pedestrian safety and to minimize random vehicular circulation and speeding, access to parking areas within large scale parking shall be controlled by landscaped islands, curbed pedestrian walking areas and or bollards as defined in the LUB.</p> <p>3.5 Locate loading, garbage and other ancillary services at the rear or side of the development and well screened as to not detract from the public view of the development.</p> <p>3.6 Enhance the relationship of commercial areas to adjacent parks, Municipal Reserve, Public Utility Lots, and Environmental Reserve areas by preserving key view corridors at points of public/private access, and by providing convenient pedestrian access at these points.</p> <p>3.7 Large parking areas shall be separated into smaller modules by landscaped areas having a minimum width of 2.0 meters.</p> <p>3.8 Each row of parking spaces shall be terminated with landscape islands having a minimum width of 2.0 meters.</p> <p>3.9 Where appropriate, secure bicycle parking facilities shall be provided in convenient locations for patrons and employees.</p>

4.0 OUTDOOR DISPLAY AREAS:	GUIDELINE
	<p>4.1 The display area ideally should be visually contained when viewed from the street. Colonnade structures or roof overhangs designed as an integral element or continuation of the building façade provide the best design solution, as well as shelter for the products and shoppers, an opportunity to maximize frontage exposure for signage and a mounting base for product display lighting.</p>
5.0 LANDSCAPING	GUIDELINES
	<p>5.1 The landscape design should complement, accent and unify all other urban design elements including building form, entry points, pedestrian and vehicular access points, signage and parking areas.</p> <p>5.2 Grading differences between abutting properties will be accommodated and can become positive landscape features.</p> <p>5.3 The rear of the commercial properties generally backs onto open space and naturalized areas. The landscape treatment at the points of public/private access from the commercial development shall be enhanced and integrated to take advantage of these amenity areas for the benefit of visitors and those working in the area.</p> <p>5.4 Landscape areas designed for passive use or gathering areas will be provided on all campus-style development sites exceeding 5 acres. These areas could be located in the forecourt of a building, within the parking area, at the side or rear yards, or along pedestrian walkways, particularly those adjacent to transit stops. Design should incorporate hard and soft elements including, shade trees or devices such as awnings, trellis, canopies, seating, planting beds and sodded areas.</p>
6.0 LIGHTING	GUIDELINE
	<p>6.1 Lighting design should complement the design of the development and provide for safe, attractive environment for pedestrian and vehicular circulation.</p> <p>6.2 Exterior lighting shall be energy efficient lighting as per the bylaw for all new developments.</p>

4.3 Service Commercial

One service commercial site is located in Buckingham Business Park in the northeast portion of the site. The range of low intensity business and service commercial uses permitted in this service commercial area expands and complements the arterial commercial and medium/light industrial land uses adjacent to it and provides a compatible transition between them. As well, due to the synergistic relationship between uses, opportunities also exist to introduce visual compatibility and connectivity between the arterial commercial and service commercial sites.

Future uses will comply with the Service Commercial District in the LUB.

This site has high visibility from a major arterial roadway and possesses safe and convenient access from the proposed internal collector roadway.



Service Commercial Policies:

- ❖ Commercial design and architecture will be compatible with adjacent uses and attractive when viewed from public areas. The high visibility Service Commercial site adjacent to Lakeland Drive will incorporate consistency in one or more of the following elements as directed by the Arterial Commercial Urban Design Guidelines:
 - signage;
 - landscaping;
 - materials;
 - colours; and
 - building setback
- ❖ Development on or near the pipeline right-of-ways located on the eastern boundary of the plan area must adhere to the necessary development setbacks as stipulated in Strathcona County's Land Use Bylaw.
- ❖ Service Commercial uses will adhere to the restrictive requirements under the Heavy Industrial Transition Overlay regulations in the Land Use Bylaw.

Service Commercial ASP Objectives:

- ❖ To enhance the streetscape of Lakeland Drive by providing a visual consistency with the adjacent Arterial Commercial.
- ❖ To provide an opportunity specifically for office and business support services within Buckingham Business Park plan area.

4.4 Light/Medium Industrial

Three industrial sites are designated in the plan area, one within the central quadrant adjacent to the stormwater management facility and natural area and two south and east of the collector. The blending of these industrial lands with arterial commercial allows for a diverse mix of business prospects in line with market demand and expands the range of employment opportunities in Buckingham Business Park.

All of the sites front onto the collector roadway. Because of its proximity to the stormwater management facility and its transition to the arterial commercial, land uses on the central industrial site will be restricted to light industrial uses. Because the other two industrial sites are removed from the central core they may be developed under the existing Light or Medium Industrial District of the Strathcona County Land Use Bylaw.



Industrial ASP Objectives

- ❖ To maintain an ongoing supply of serviced industrial land as a transition for health, safety and nuisance reasons between heavy industrial uses to the west and residential developments further to the east.
- ❖ To provide for industrial businesses which are compatible with commercial and service commercial

Industrial Policies

- ❖ Industrial design and architecture will be compatible with adjacent uses and attractive when viewed from public areas.
- ❖ The central industrial site will be dedicated for Light Industrial only and will not permit outdoor storage.
- ❖ Development on or near the pipeline and power right of ways along the south and east boundary of the plan area will be subject to the regulations set by the operators and also be required to comply with development setbacks as stipulated in Strathcona County's Land Use Bylaw.
- ❖ Light and medium industrial uses will adhere to the restricted requirements under the Heavy Industrial Transition Overlay regulations in the land use bylaw.

5.0 Parks and Open Spaces

5.1 General

The retention of the existing natural areas in Buckingham Business Park combined with the proposed naturalized stormwater management facilities and regional park area create a unique green infrastructure in the plan area. The prominent interface between the green infrastructure and the commercial and industrial uses in the central plan area make opportunities for an interesting mix of recreational and business activities along the edges. Municipal Reserve is dedicated along the west portion of the central wet meadow and also along both sides of the south drainage course to ensure the protection of the sensitive environmental areas.

The green infrastructure in Buckingham Business Park includes a variety of natural and manmade parks and open spaces intended to support passive and active recreational activities and also maintain the movement of smaller wildlife through the natural corridor. Parks and open spaces include:

- ❖ An existing wet meadow and drainage course through the central plan area;
- ❖ Municipal reserve buffers to protect the natural areas
- ❖ A naturalized bioswale (public utility)
- ❖ The proposed central stormwater management facilities;
- ❖ An existing wetland in the east plan area;
- ❖ A regional park; and
- ❖ Pipeline rights of ways.

The proposed network of natural areas, parks, stormwater management facilities and pipeline rights-of-way promotes integration of trail and sidewalk development in the plan area. The mix of trails and sidewalks link the land uses and will encourage pedestrian and cyclist activity in the plan area. Existing pipeline rights of way on the south and east borders of the plan area create a green interface with the surrounding area. The location of the large regional park adjacent to these pipelines expanded the park and connects it to areas beyond.



5.2 Environmental Reserve Buffers



Environmental Reserve designation is used to protect the existing drainage course and the larger central wet meadow and vegetated ravines. A variety of measures recommended in the Biophysical Assessment are incorporated to ensure that the high and medium priority areas identified are devoted to Environmental Reserve and are protected post development. (See Figure 6)

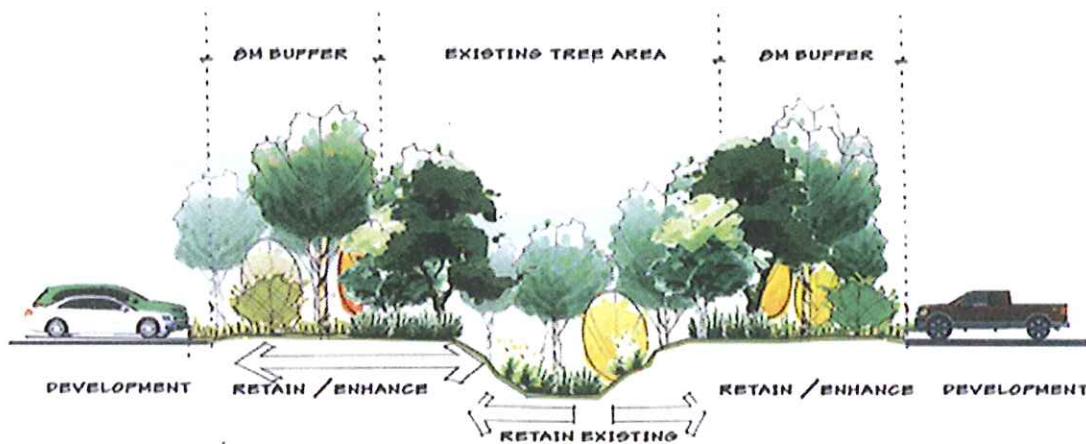
The large elongated stormwater management facilities designated near and parallel to the central area creates a buffer all along the east boundary of the natural corridor. The proximity of these facilities next to the Environmental Reserve will also increase the value and diversity of the natural area and contribute new habitat in the plan area for a variety of birds and small amphibians. The stormwater management facilities are designated as one large public utility lot on the development concept but technically function as two separate ponds. They will be naturalized and constructed in accordance with County standards. The dual facility design of these stormwater management ponds provides opportunities for passive recreation activities and viewpoints into the central plan area.

A 20.0m band of Municipal Reserve has been utilized to create a buffer on the west edge of the central wet meadow Environmental Reserve area. This buffer is intended to protect the habitat of the sensitive natural area and filter the effects of development to the west to ensure conservation.

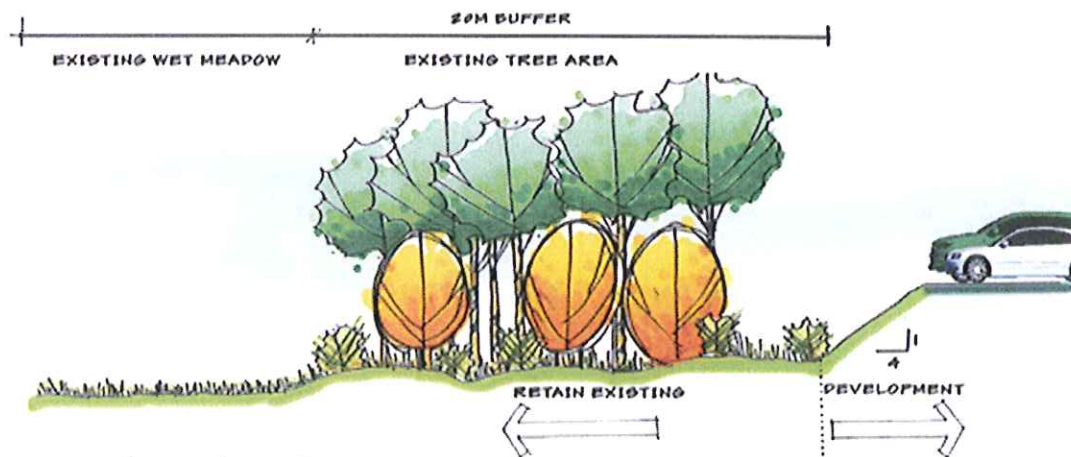
An 8.0m municipal reserve strip has been incorporated along both sides of the south drainage course and on the west side of the vegetated ravine north of the wet meadow. These 8.0m tree protection areas provide a buffer from potential on-site development encroachment.

5.3 Wetland Compensation Plan

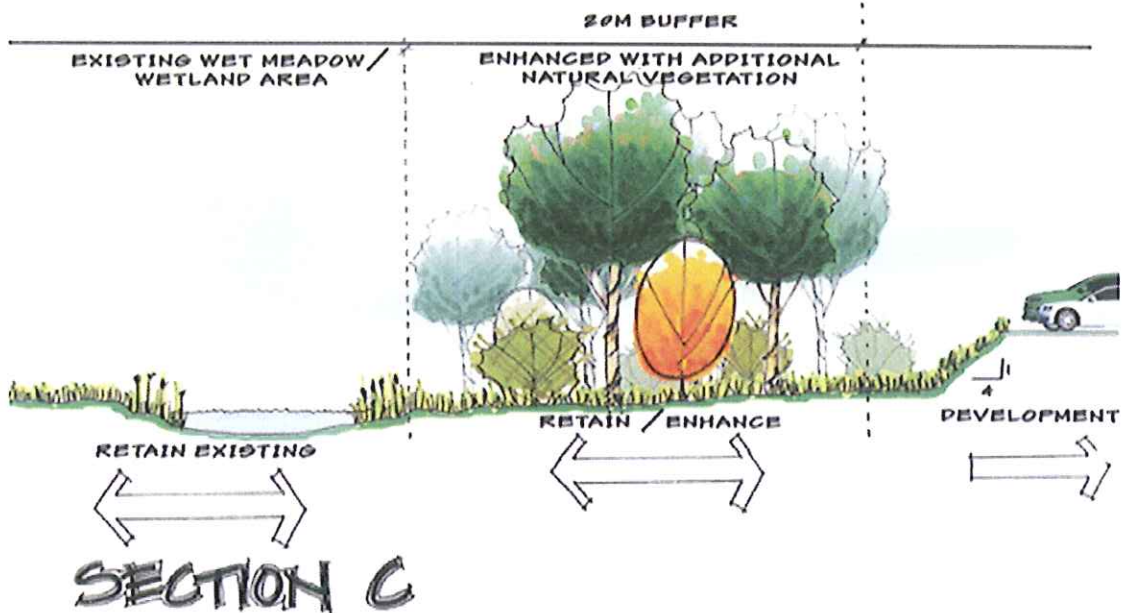
This plan will optimize site efficiency, conserve land, and preserve natural habitat. Only 90 acres of the 150 acres plan area is proposed for site development. Almost 80% of the existing natural area and wetlands will be retained. The unsustainable wetlands will be compensated by more than 300% in the naturalized stormwater complex. Transition areas between the existing wet meadow and associated drainage course, the central storm water management facility and the future urban areas have been determined through consensus with Strathcona County, Alberta Environment, Alberta Sustainable Resource Development and a team of biologists, landscape architects and engineers. To ensure that the wet meadow and drainage course can be protected through the development process, a Wetland Compensation Plan was included as part of a Biophysical Assessment prepared by Stantec and submitted to the Province. The following cross sections were created as part of that document to conceptually illustrate how the natural/urban interfaces could be treated to enhance and protect the key ecological features within Buckingham Business Park. Considerable detail and care has been taken in the design of this area to ensure the protection of the wetlands, provide adequate buffering, and permit public access to PUL areas for the enjoyment of the naturalized areas. The central wetland area within this plan has been the key focus which has driven a significant portion of the sustainability features applied to the Buckingham Business Park. (See Figure 6)



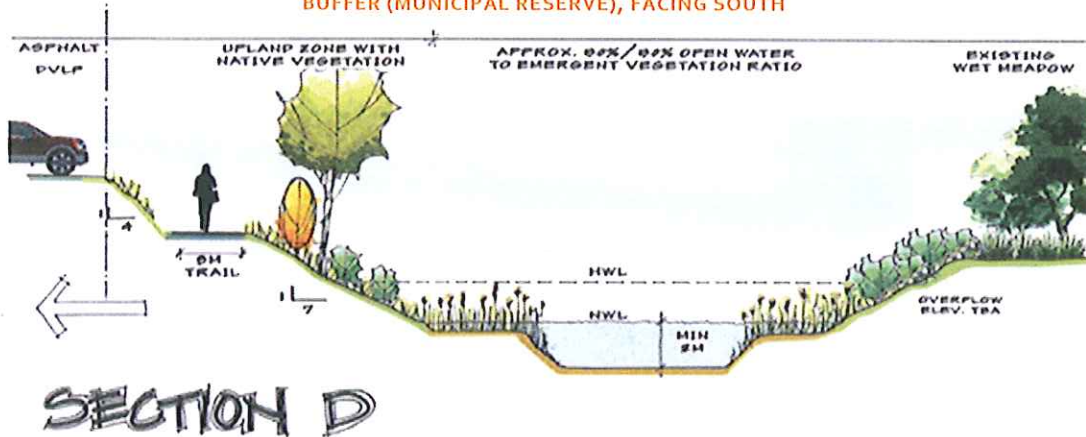
SECTION A
CROSS SECTION OF THE SOUTH ENVIRONMENTAL RESERVE LOT ADJACENT TO THE ARTERIAL COMMERCIAL SITE, LOCATED ALONG BROADMOOR BOULEVARD, FACING SOUTH



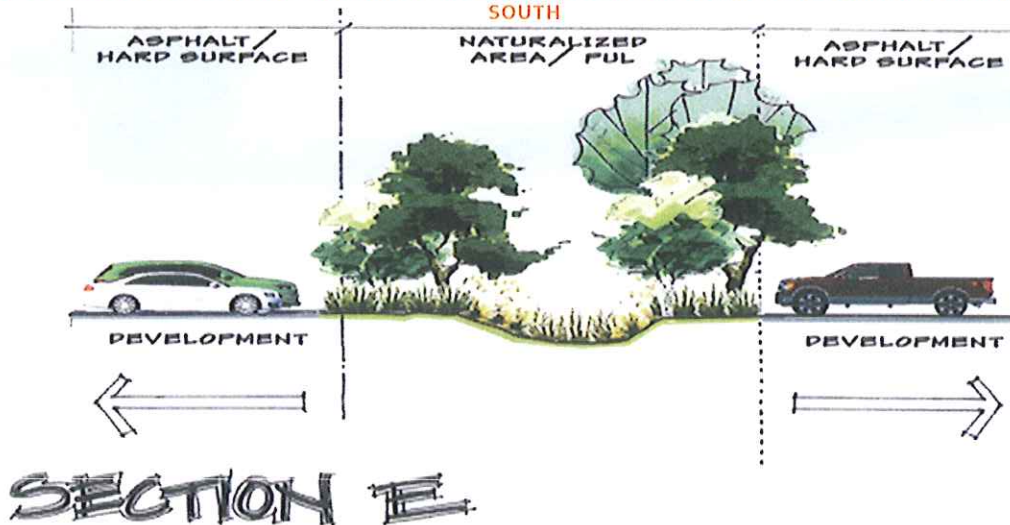
SECTION B
CROSS SECTION OF THE ARTERIAL COMMERCIAL SITE ALONG BROADMOOR BOULEVARD, ADJACENT TO THE 20m BUFFER (MUNICIPAL RESERVE), FACING SOUTH.



CROSS SECTION OF THE ARTERIAL COMMERCIAL SITE ALONG BROADMOOR BOULEVARD, ADJACENT TO THE 20m BUFFER (MUNICIPAL RESERVE), FACING SOUTH



CROSS SECTION OF THE CENTRAL LIGHT INDUSTRIAL SITE AND STORM WATER MANAGEMENT FACILITY, FACING SOUTH



CROSS SECTION OF THE BIO- SWALE, LOCATED IN THE ARTERIAL COMMERCIAL SITE ALONG BROADMOOR BOULEVARD AND LAKELAND DRIVE, FACING EAST

5.4 Municipal Reserve Allocation

Under Section 666 of the Municipal Government Act, the subdivision authority may require the owner of a parcel of land that is the subject of a proposed subdivision to dedicate up to 10% of the land as Municipal Reserve (MR). Buckingham Business Park dedicates 5.51 hectares of land which represents 10% of the gross developable area.

The majority of the Municipal Reserve in Buckingham Business Park is dedicated in the southeast corner of the plan area. This large park will be consolidated with adjacent Municipal Reserve dedication to form a regional level park.

The remainder of the Municipal Reserve is provided as tree protection areas and buffer along the edges of the Environmental Reserve.

5.5 Trails and Linkages

A variety of developed trails already form a network within Sherwood Park. These existing trails are generally 3.0m wide asphalt developed within major arterial road rights of way. The Trans Canada Trail is constructed on Lakeland Drive up to the Premier Way intersection from the east. The Heritage Parkway Trail exists along the west boundary of Buckingham Business Park along Broadmoor Boulevard. Existing walkways approved in the Broadview Park,

Strathcona Centre and Bison Meadows neighbourhoods also provide linkages and important connections to and from other natural areas for people and wildlife between these significant areas. In accordance with County standards, separate sidewalks will be provided along the both sides of the internal collector road.

A pedestrian trail is also proposed north from the collector road adjacent to the natural area within the stormwater management facility. (See Figure 6)



EXISTING NORTH/SOUTH WALKWAY IN BROADVIEW PARK ALONG BROADVIEW DRIVE. A POTENTIAL LINKAGE INTO THE SOUTHERN PORTION OF BUCKINGHAM BUSINESS PARK.

Parks and Open Space Objectives

- ❖ To promote a healthy and active lifestyle by providing the public and area employees with access to high quality open spaces, trails and pedestrian links that support active and passive use.
- ❖ To create an aesthetically pleasing environment by providing views from trails, roads and surrounding development toward the naturalized stormwater management facilities and the adjacent wetland meadow where possible.
- ❖ To protect and conserve natural areas.

Parks and Open Space Policies

- ❖ Parks, natural areas and facilities will be linked by walkways and sidewalks providing an alternative transportation method to safely access these uses and on-site development.
- ❖ Pedestrian links will be provided through the plan area, linking Buckingham Business Park with surrounding areas and destinations including Millennium Place, the future regional park and residential areas in the vicinity. Pedestrian links within the plan area will also integrate the regional park with the commercial and retail sites.
- ❖ Municipal Reserve will be dedicated as land and will consist of 10% of the gross developable area. A large park in the southeast corner of the plan area is located to contribute to a larger regional park planned for the plan area. The wet meadow and Tree Protection Areas have been provided and are designated as municipal reserve to protect the natural areas.
- ❖ Stormwater management facilities will be designed as naturalized wet ponds and will integrate trails into the walkway and sidewalk network.

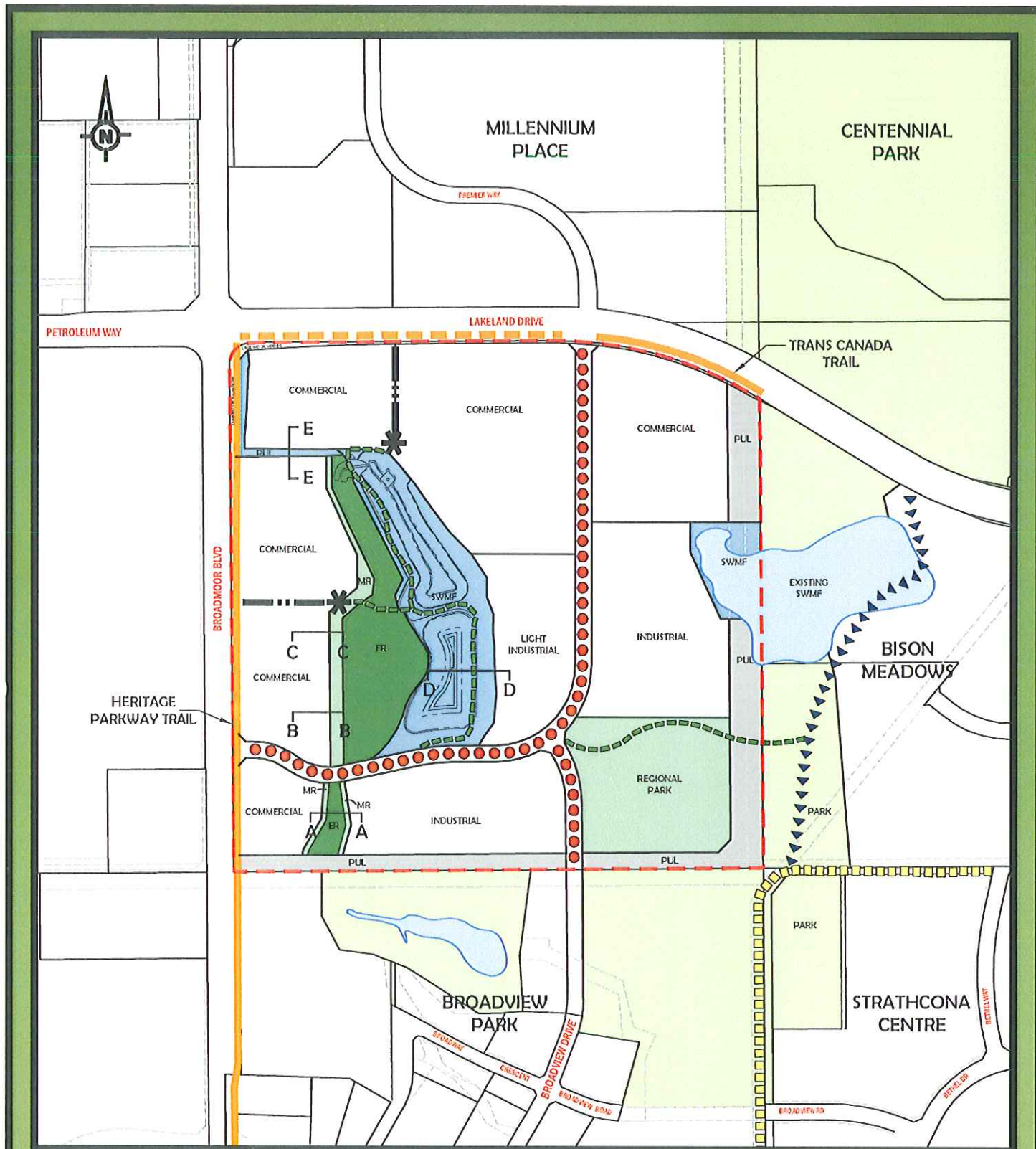
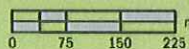


Figure 6
PARKS/OPEN SPACE

Buckingham Business Park
Area Structure Plan



SCALE 1:7500

LEGEND

- ASP BOUNDARY
- PARK (MR)
- SWMF/PUL
- PUBLIC UTILITY LOT
- PROPOSED ON-STREET SIDEWALK
- PROPOSED SOFT/SHALE WALKWAY
- PEDESTRIAN CORRIDORS BY OTHERS

- EXISTING PERIMETER TRAIL
- EXISTING 3.0M ASPHALT TRAIL
- PROPOSED 3.0M ASPHALT TRAIL
- POTENTIAL FOCAL POINT
- ACCESS THRU PRIVATE PROPERTY
- CROSS SECTION LOCATIONS



6.0 Transportation

6.1 Transportation Network

Primary access to the Buckingham Business Park is provided from Lakeland Drive and Broadmoor Boulevard by a major internal collector roadway. This internal collector roadway network has been designed in consultation with the County's Transportation Engineering Branch with an aim to:

- ❖ Reduce speeding and shortcutting between Baseline Road and Lakeland Drive;
- ❖ Promote the use of the internal collector as a roadway predominantly serving the development area as opposed to a convenient parallel route to Broadmoor Boulevard and;
- ❖ Enhance pedestrian safety; and
- ❖ Facilitate public transit.

Two signalized all directional intersections are proposed along the Lakeland Drive frontage.

The alignment of the main internal collector roadway south from Lakeland Drive is designed to be discontinuous to discourage shortcutting, and curved to reduce speed and increase road safety. The location of the north south access aligns with the existing Premier Way intersection to the north. (see Figure 7)

To better serve the traffic volumes generated by the commercial sites fronting Lakeland Drive, a second all-directional access (in addition to the all-directional access at Premier Way) will be developed in conjunction with an existing commercial development to the north (Millennium Ridge). The location of this all-directional access further west towards Broadmoor Boulevard recognizes the approved access plan documented in the Transportation Impact Assessment (TIA) for the "Millennium Ridge" development.



LAKELAND DRIVE & PREMIER WAY INTERSECTION

Cross access agreements will be required within internal parcels to facilitate internal circulation.

The main internal collector roadway continues directly south from Lakeland Drive and then loops west and ties back into Broadmoor Boulevard. Another collector road branches off south from the internal collector in the southeast plan area and ties in with a roadway proposed in Broadview Park to the south.

To better serve the traffic volumes generated by the commercial sites fronting Broadmoor Boulevard, an all-directional access is proposed east from Broadmoor Boulevard in the central plan area. To accommodate commercial frontage and improve internal access, additional right in/right out and right in/out/left in site accesses are also planned along Broadmoor Boulevard and Lakeland Drive, with one access route crossing the bioswale to reach the northwest corner of the plan area.

A comprehensive TIA by Bunt and Associates Engineering Ltd. has been completed which addresses all internal and external roadways, intersections, site accesses and traffic operational requirements. Provision of these accesses will facilitate efficient circulation to and from the plan area and accommodate the anticipated levels of traffic as they pertain to the land use designations proposed.



BROADMOOR BLVD. & LAKELAND DR. INTERSECTION

6.2 Transit

The accesses proposed from Lakeland Drive, Broadmoor Boulevard and Broadway Boulevard all allow opportunities for transit connections between Millennium Place, Broadview Business Park and Buckingham Business Park. The developer will work with Strathcona County Transit to ensure the appropriate transit stops are made available. The approval of the transit hub proposed to the south of the plan area in Broadview Park will provide connections and further support the sustainability principles of this ASP document and the Strathcona County's Municipal Development plan.



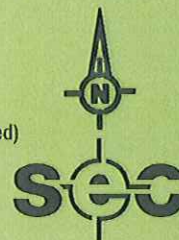
Figure 7
TRANSPORTATION PLAN

**Buckingham Business Park
Area Structure Plan**

0 50 100 150 m SCALE 1:5000

LEGEND

- ASP BOUNDARY
- EXISTING ARTERIAL ROAD
- PROPOSED INDUSTRIAL COLLECTOR ROAD
- POTENTIAL BUS ROUTE (Bus Stop locations to be determined)
- PROPOSED ALL DIRECTIONAL ACCESS
- PROPOSED RIGHT IN/RIGHT OUT ACCESS



6.3 Pedestrian and Bicycle Linkages

The natural areas, parks and open space in Buckingham Business Park provide ample and varied opportunities for pedestrian and non-vehicular activity throughout the plan area. The provision of sidewalks and trails in Buckingham Business Park will fulfill an important link between the future regional park, Centennial Park and the Millennium Place recreation facility. Pedestrian connections exist along portions of the pipeline corridor on the south boundary through Broadview Park and Strathcona Centre. Future connections have been identified through future parks in the approved Bison Meadows ASP. Direct connections from the proposed internal collector road will be made with the existing Heritage Parkway Trails on Broadmoor Boulevard and with the planned Trans-Canada Trail along Lakeland Drive

Consistent with the established standards, the internal collector roadways will also have sidewalks on both sides.

Intersections will be designed to ensure vehicular and pedestrian safety as specified by the County's Engineering Servicing Standards.



POTENTIAL TRAIL



HERITAGE TRAIL ALONG BROADMOOR BOULEVARD

7.0 Servicing Concept

7.1 General

Servicing for Buckingham Business Park plan will be provided in accordance with Strathcona County's municipal requirements and standards.

7.2 Sanitary Services

The Buckingham Business Park ASP area can be serviced by an existing 450 mm diameter sanitary trunk located within Premier Way, extended to the south side of Lakeland Drive. A second 450mm diameter sanitary trunk is located south and east of the development, within a right of way. Due to site topography, the proposed neighbourhood will be serviced by the north trunk sewer. The sanitary sewer system will be designed based on Strathcona County's Engineering Servicing Standards. (See Figure 8)

The sanitary sewer system will likely be comprised of sewer mains ranging in size from 250 mm to 300 mm. The flow generation rate used to size the system is based off of Strathcona County's standard, 18.0 m³/ ha/ day for commercial and industrial development. Actual pipe sizes and flow generation rates will be finalized at the detailed design stage.

7.3 Water Distribution System

A water hydraulic analysis was previously carried out titled "Buckingham Business Park Water Network Analysis Report, Focus Corporation March 2007". This report was reviewed and approved by Strathcona County in June 2007. A copy is attached for reference in 'Appendix A' of the Design Brief.

Sherwood Park is made up of several water pressure zones. As noted in the water network analysis, the Buckingham Neighbourhood is straddled by two pressure zones with the boundary running east/west. An existing pressure reducing valve (PRV) along Broadmoor Boulevard distinguishes the approximate boundary of the two zones.

The existing water distribution system in the area consists of an existing 400mm water main on Broadmoor Boulevard, 600mm water main on Lakeland Drive and a 300mm water main at the south property limit on Broadview Drive. The proposed water distribution system consists of 300mm diameter water mains following the internal roadway system (see Figure 9).



7.4 Stormwater Management

The storm water management plan for the proposed development utilizes existing drainage patterns and routes as much as possible. The development is divided up into four distinct drainage basins and four storm water management facilities (SWMF) are proposed to contain the surface runoff from each of the basins. The locations are identified on Figure 10. The two central facilities provide approximately 95% of the storm water storage. The remaining is distributed to two small areas, one in the northwest corner of the development and the other along the east boundary.

Strathcona County holds a caveat on the existing wetland located on the east side of the neighbourhood. This wetland extends east and is part of an existing storm water management system (Strathcona County Pond 115). Pond 115 was originally designed to accommodate runoff from 2.52 ha from Buckingham; the proposed development drains approximately 2.13 ha into this facility.

As identified within the neighbourhood storm water management report, major flows of approximately 4.93 ha from Lakeland Drive will be accommodated within the development. This area along with 2.80 ha from Buckingham will be directed to the north west corner of the development where storm water storage will be provided within a proposed public utility lot.

The Buckingham ASP has incorporated an overland flow route to accommodate the continuous flow from the existing Broadview park storm water management facility. This route will eventually be linked to one of the proposed facilities noted above.

The storm sewer system has been designed to accommodate both the major and minor storm flows as outlined in the Strathcona County Engineering Servicing Standards.



7.5 Shallow Utilities

Existing service providers will provide power, cable television, natural gas and telephone services; no problems are expected in the provision of these services. It is anticipated that each of these utilities will be provided by extensions of the existing systems in and around the Broadview area, the details of which will be determined at the subdivision stage.

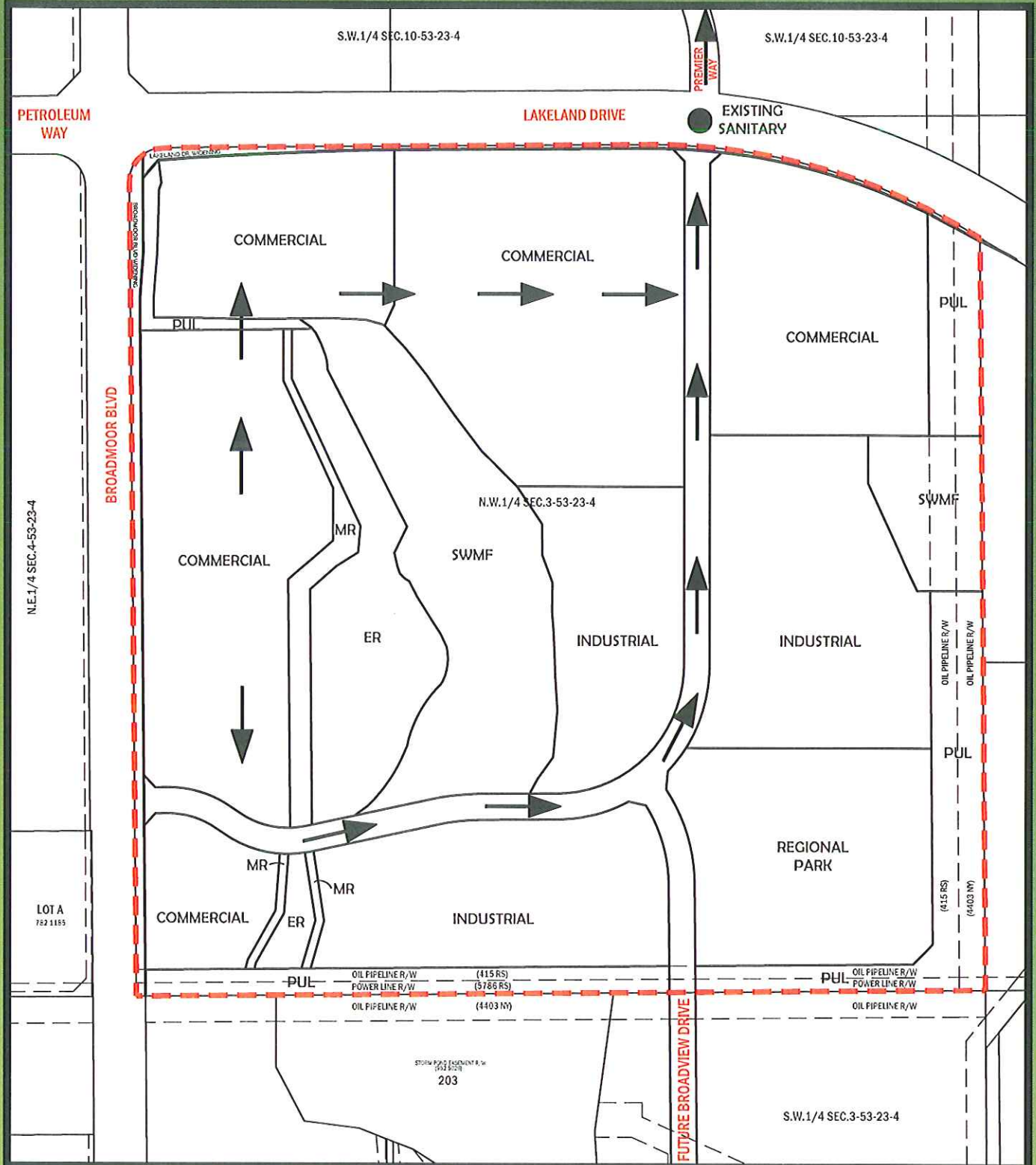


Figure 8
SANITARY SERVICING PLAN

Buckingham Business Park
Area Structure Plan

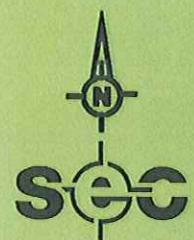
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LEGEND



ASP BOUNDARY

PROPOSED SANITARY SERVICING



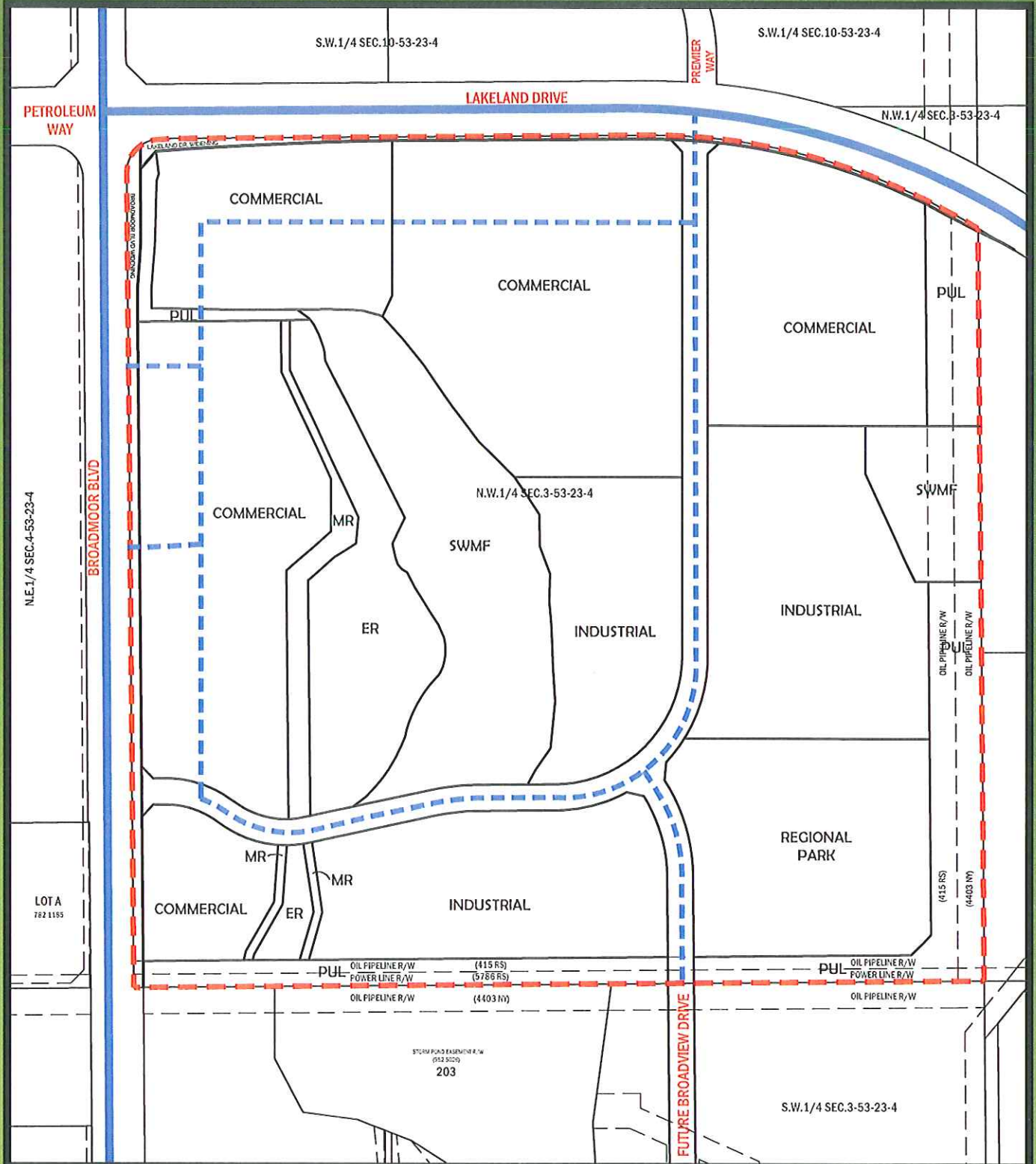





Figure 9
WATER SERVICING PLAN

Buckingham Business Park
Area Structure Plan

0 50 100 150 m SCALE 1:5000

LEGEND

-  ASP BOUNDARY
-  EXISTING WATER LINE SERVICING
-  PROPOSED WATER LINE SERVICING



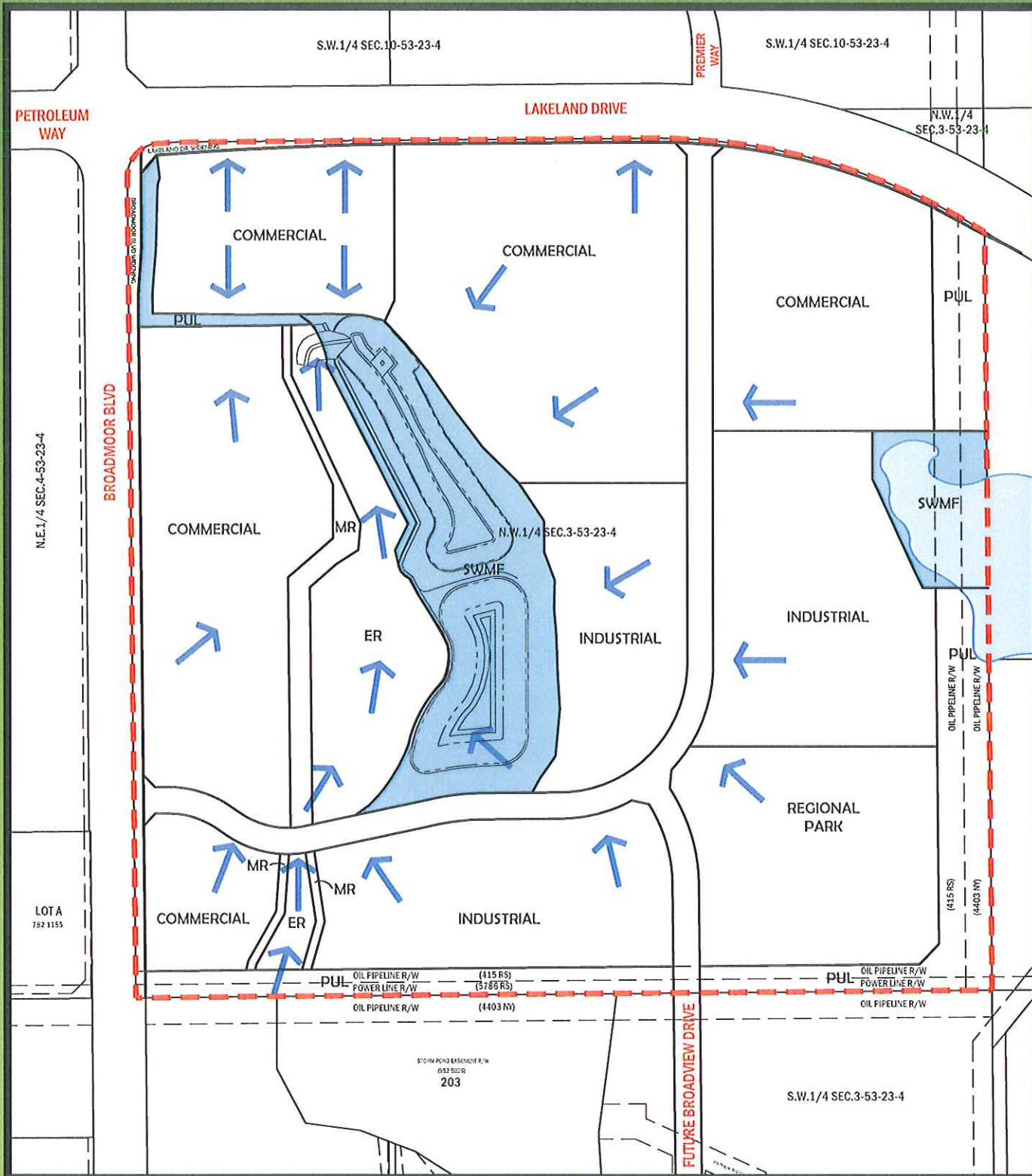


Figure 10
STORMWATER SERVICING PLAN

Buckingham Business Park
Area Structure Plan

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LEGEND




-  ASP BOUNDARY
-  STORMWATER MANAGEMENT FACILITY
-  DIRECTION OF STORMWATER FLOW





Table 2: Development Statistics – Buckingham Business Park Area Structure Plan

Use	Hectares	%
Gross Area	60.77	
<u>Required Open Space & Infrastructure</u>		
Environmental Reserve	3.36	
Broadmoor Boulevard Road Widening	0.71	
Lakeland Drive Road Widening	0.35	
Subtotal	5.71	
Gross Developable Area	56.35	
<u>Dedicated Open Space & Infrastructure</u>		
Parks/Municipal Reserve	5.51	9.8%
Public Utility Lot	4.47	7.9%
Stormwater Management Facility	5.38	9.5%
East Stormwater Management Facility	1.28	2.3%
Circulation (Roadway)	3.25	5.8%
Subtotal- Other Uses	18.61	33.0%
Land Uses		
Arterial Commercial	18.99	33.7%
Service Commercial	4.56	8.1%
Light/Medium Industrial	12.91	22.9%
Subtotal – Land Uses	36.46	64.7%

NOTES:

* Municipal Reserve (MR) Dedication is not required on the East Storm Pond 115, owned by Strathcona County.

*The 5.51 hectares of MR dedicated meets the minimum 10% requirement.

8.0 Implementation

8.1 Staging

Staging will be determined by the logical extension of servicing and roads within the plan area that development will occur from north to south. The stages shown in Figure 11 are intended to be conceptual and may be adjusted as the area develops. On a preliminary basis, the Engineering Design Brief addresses the flexibility of staging and the implementation it has on water distribution, sanitary and stormwater management facilities. It is intended that each stage can be implemented without constructing infrastructure located in future stages.

8.2 Development Approvals

The implementation process will consist of further planning approvals including redistricting, subdivision applications, engineering approvals, development permits and building permit applications.

8.3 Sustainable Development

The development concept for Buckingham Business Park has been informed by principals for guiding sustainable development as outlined in the MDP.

The incorporation of the Energy and Environmental Guidelines and the Urban Design Guidelines at this ASP stage represents a commitment by the developer to incorporate more adaptable, innovative and integrated approaches to development in this project. Synergies created as a result are intended to provide long term and significant benefits to the environment and broader community and contribute to market sustainability.

8.4 12 Themes Of Sustainability

This ASP responds to Strathcona County's 4 principals for Guiding Sustainable Development as defined in the MDP with practices that can be evaluated using the 12 Themes of Sustainability.

In general terms, the main practices that respond to the 4 principals are:

- ❖ **Principle #1:** Integrates ecological features such as the central wetland and stormwater

management facility that will serve as green infrastructure elements

- ❖ **Practice meeting Principle #1:** Integrates ecological features such as the central wetland and stormwater management facility that will serve as green infrastructure elements.

This plan will conserve ecological features and preserve natural habitat. Only 60% of the plan area is proposed for site development. The remaining 40% retains the central and eastern wetlands and expands the central area with a naturalized stormwater management facility.

- ❖ **Principle #2:** Move towards, and ultimately achieve, solutions and activities that free us from our dependence on substances that are extracted from the earth's crust and accumulate in nature.
- ❖ **Practice meeting Principle #2:** Provides pedestrian and bicycle oriented development, mixed use development and allows for public transit.

The arterial and collector roadways will accommodate urban transit, pedestrian and bicycle traffic. A variety of both hard and soft walkways are provided in the plan area. This will encourage walkability and create a more natural experience within Buckingham Business Park.

- ❖ **Principle #3:** Move towards, and ultimately achieve, cradle-to-cradle solutions and activities in design, manufacturing and consumption such that substances produced by society do not accumulate in nature;
- ❖ **Practice meeting Principle #3:** Promotes healthy building design and integration of water conserving landscape elements.

The Arterial Commercial Urban Design Guidelines integrated with a number of environmental design elements answering to the 12 Themes of Sustainability have been established for the plan area.

Principle #4: Move towards, and ultimately achieve social solutions and activities that allow every person to meet basic human needs and achieve their potential in life, now and in the future.

- ❖ **Practice meeting Principle #4:** Permits a variety of local businesses and offers opportunity for social interaction through pathway design, landscaping and arterial commercial urban design guidelines.

- ❖ *A complimentary mix of retail, business and industrial in close proximity to the natural areas creates ideal conditions to encourage social interaction and maximizes opportunities between work and play. Increased attention to urban design will further enhance and expand the aesthetics and experience in Buckingham Business Park.*

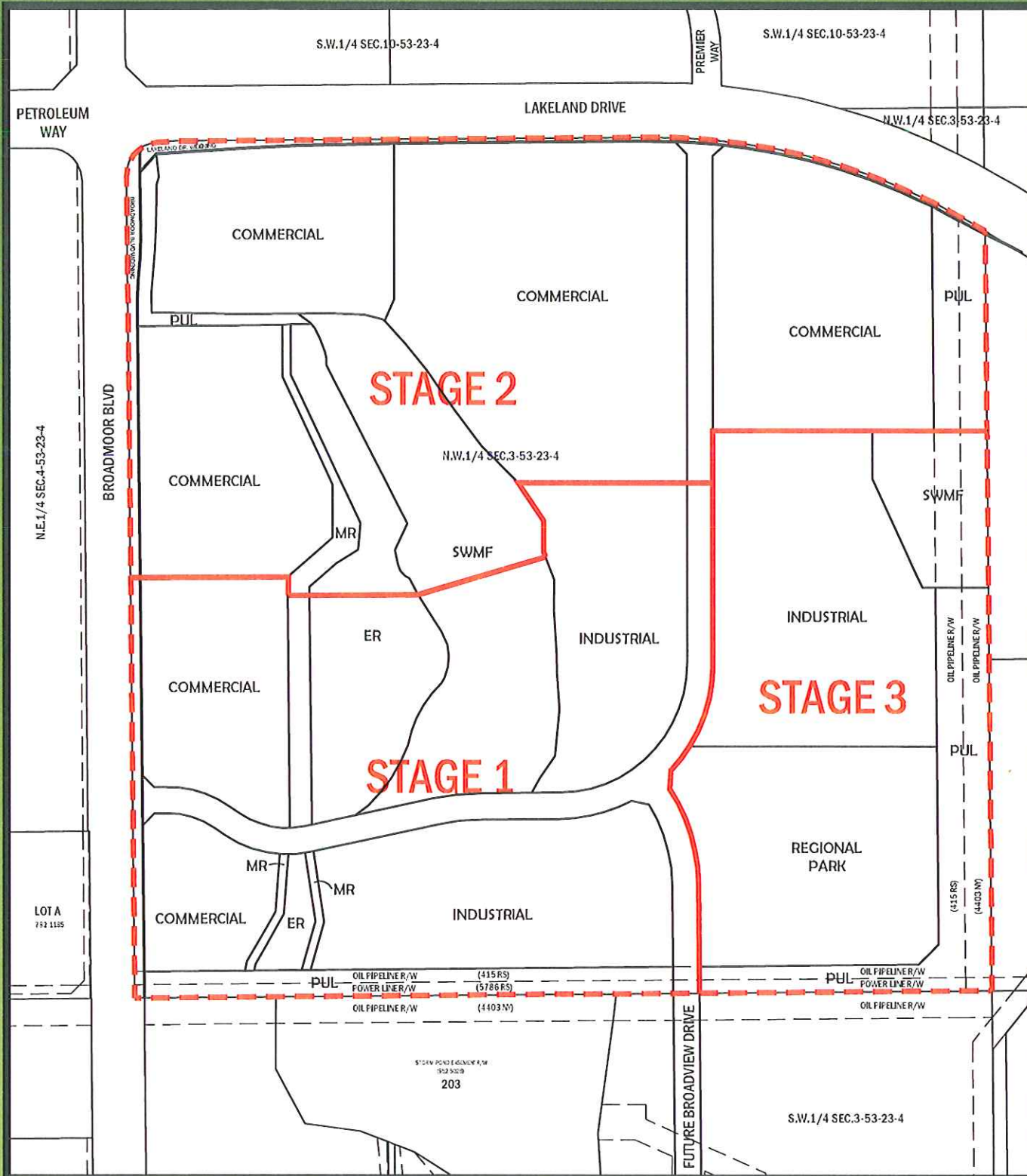


Figure 11
STAGING DEVELOPMENT PLAN

Buckingham Business Park
Area Structure Plan

0 50 100 150 m SCALE 1:5000

LEGEND



ASP BOUNDARY



STAGING BOUNDARY



In more specific terms the 12 themes have been addressed as follows:



Land Use Theme One– Introduction of Mixed Use, Higher Density Development



Buckingham Business Park Area Structure Plan (ASP) has been planned using sustainability principles, which will strive to achieve effective land use by creating efficient and compact development, mixing uses, reducing infrastructure footprints, conserving land for valuable resources, and aiding in preserving natural habitat. Buckingham Business Park offers a rich blend of land uses including commercial, business services, light and medium industrial and recreational uses, alongside natural habitat and naturalized storm ponds, all integrated by a multi-modal transportation network.

LAND USE – THEME ONE	ACHIEVING THE THEME
<p>ACHIEVE EFFICIENT & COMPACT DEVELOPMENT:</p> 	<ol style="list-style-type: none"> 1. The plan provides for Compact, Complete and Connected Development. 2. The plan provides for a reduce development footprint. 3. This plan will optimize site efficiency, conserve land, and preserve natural habitat. Only 90 acres of the 150ac plan area is proposed for site development. 4. Development density is restricted to the governing principals of the Heavy Industrial Overlay as stipulated in Strathcona County's Land Use Bylaw.
<p>A DIVERSITY OF LAND USES:</p> 	<ol style="list-style-type: none"> 1. The arterial commercial, business services, light industrial and recreational land uses will contribute to the overall functioning of the Buckingham Business Park as a diverse employment and commercial centre with recreational opportunities and significant natural features. 2. Parkland, nature interpretive opportunities and a trail network through the commercial and natural areas will be established to direct pedestrian activity and connect the mix of land uses within and adjacent to Buckingham.

Natural Habitat Theme Two – Conservation of Natural Habitat


Sustainable communities strive to provide and protect a layered, blended, and green network to minimize fragmentation of the regional ecosystem. An interconnected system of naturalized spaces including recreational areas, parks, and a range of habitat areas can support a diversity of native species and complements surrounding land uses. The following are ways to achieve the conservation and enhancement of natural habitat.

NATURAL HABITAT - THEME TWO	ACHIEVING THE THEME
<p>INTEGRATE NATURAL SYSTEMS THROUGH PROTECTION OR REPLACEMENT OF EXISTING HIGH VALUE HABITAT:</p> 	<ol style="list-style-type: none"> 1. Site design considers adjacent habitat or wetland conservation areas. 2. Flood plain areas are protected from development. 3. Development provides buffer areas adjacent to ER areas.
<p>USE NATIVE PLANT SPECIES WITH MAXIMUM HABITAT VALUE:</p>	<ol style="list-style-type: none"> 1. As part of the Wetland Compensation Plan, re-plant existing native plant species into the natural areas where appropriate.
<p>EROSION AND SEDIMENT CONTROL:</p> 	<ol style="list-style-type: none"> 1. Development will provide erosion and sedimentation control abutting ER.

NATURAL HABITAT - THEME TWO	ACHIEVING THE THEME
<p data-bbox="203 367 511 394">LOW IMPACT DEVELOPMENT:</p>  	<ol style="list-style-type: none"> <li data-bbox="868 483 1421 546">1. Site disturbance to natural areas will be minimized during design and construction. <li data-bbox="868 714 1421 777">2. Work cooperatively with the County to retain native soil on site. <li data-bbox="868 945 1421 1071">3. Heat island effect from surface pavement and roof tops will be mitigated with high emissivity roofing and areas of semi-permeable paving.



Water Theme Three– Conservation of Water Through Reduced Water Consumption & Retention of Natural Infrastructure

Sustainable communities protect the quality and quantity of the community's water resources through effective stormwater and sanitary water management, the efficient and appropriate use of lower volumes of water, and by designing low-impact and cost-effective water infrastructure. Water impacts developments both through potable and process use as well as runoff generation as a part of the natural water cycle.

WATER – THEME THREE	ACHIEVING THE THEME
<p>FACILITATE STORMWATER INFILTRATION THROUGH DESIGN:</p> 	<ol style="list-style-type: none"> 1. The allocation of over 30% of the subject area as park, PUL, environmental reserve and storm water management facilities permits significant natural infiltration to the site. 2. The natural wetlands within Buckingham Business Park are an important feature of the plan. The retained and constructed wetlands will perform as a stormwater complex for the site. Integrated with the existing central wet meadow, the constructed wetlands will allow for natural purification of stormwater run-off using natural aerobic systems. 3. The natural hydrology of Buckingham Business Park has been considered in the sizing and locations of the SWMF's. 4. Stormwater flow rate and quantity will meet the County requirements. 5. Stormwater treatment will meet Alberta Environment Standards and County requirements before released off-site.
<p>DESIGN AN EFFICIENT WATER SUPPLY AND DRAINAGE NETWORK:</p>	<ol style="list-style-type: none"> 1. The water network will be designed in 2 zones to accommodate the pressure difference caused by the drop in site elevation. 2. Waste water and drainage systems will be designed to optimize the existing outlets of the plan area.
<p>REDUCE WATER CONSUMPTION:</p>	<ol style="list-style-type: none"> 1. Water efficient landscape design and materials will be provided. 2. Water for irrigation may be from non-potable sources (rainwater harvesting). <p>Water use in all buildings will strive to be with low flow fixtures or as required by bylaw.</p>


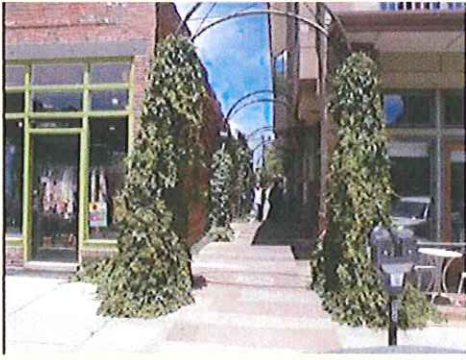

Carbon Theme Four– Reduce Dependence Upon Fossil Fuels

Sustainable communities can permit a carbon neutral energy supply and demand by optimizing energy use in infrastructure and buildings, and should include renewable and clean sources of energy. The reduction of carbon dioxide in the environment has become the focus of many international efforts to reduce human impacts on the environment. Reducing a site's dependency on fossil fuel inputs assists in this effort, and also helps the site itself to be more efficient.

CARBON – THEME FOUR	ACHIEVING THE THEME
<p>ACHIEVE ENERGY EFFICIENT DESIGN:</p> 	<ol style="list-style-type: none"> 1. Orientation of buildings and infrastructure should facilitate solar, day-lighting and natural ventilation design. 2. Buildings may be registered for green building certification or equivalent.
<p>PROMOTE ALTERNATIVE TRANSPORTATION:</p> 	<ol style="list-style-type: none"> 1. Development will make provision for transit. 2. A comprehensive trail and sidewalk network is provided through the plan area to encourage alternative modes of transport to reduce car usage. 3. Parking for cyclists working within Buckingham will be provided.
<p>REDUCE HUALAGE DISTANCE::</p>	<ol style="list-style-type: none"> 1. Seek cooperation from stakeholders to reduce offsite haulage distance and fossil fuel usage for grading by utilizing clay from and distributing excess topsoil to parkland and public utility lots in the plan area.



Transport Theme Five-- Use of Alternative Forms of Transportation & A Reduction In Single Car Usage

Sustainable communities support a transport network that enables multiple mobility choices including walking, cycling, transit, and automobiles. Pedestrian access shall be provided throughout the Buckingham Business Park ASP in conjunction with the vehicle roadway system. On-site internal roadways and parking areas can employ alternative materials and designs to reduce their contribution to our ecological footprint.

TRANSPORT – THEME FIVE	ACHIEVING THE THEME
<p>PROVIDE STRONG CONNECTIONS TO VARIOUS LAND USES ADJACENT TO THE PLAN AREA:</p>  	<ol style="list-style-type: none"> 1. Development will provide connectivity to public open spaces and community. 2. Lands in Buckingham Business Park with frontage on major arterial roads intended for Arterial Commercial or Service Commercial will be provided with adequate access to meet the needs of businesses on the routes. 3. Access points to the site will provide effective intersections with existing access to lands in the north and south of the plan area and planned access to the west. Adjacent conservation lands to the east will have no vehicular access from the plan area. 4. A comprehensive trail and sidewalk network through the plan area will link up with adjacent connections to Millennium Place to the north, to the commercial uses near Baseline Road and to the paths in connection with Centennial Wetlands to the east, all to support a lifestyle in which vehicle travel is reduced.
<p>PROVIDE STRONG, EFFICIENT AND SAFE NON-VEHICULAR CONNECTIONS TO VARIOUS LAND USES WITHIN THE PLAN AREA:</p> 	<ol style="list-style-type: none"> 1. Site will provide locations for not motorized transport such as bicycles. 2. Provide direct connections between different land uses within the plan area by incorporating a network of pedestrian trails. 3. With cooperation from the pipeline companies, provide trail connections over existing pipeline corridors where appropriate.



Food Theme Six– Local Food Production & Value Added Opportunities

Sustainable communities move towards food sustainability by focusing on the social and economic benefits of local food production and processing, and on the opportunity to source local food products for distribution. While a business area is very different than a residential area where local small scale food production is more viable through community gardens and other cooperative methods, food still plays a role in the function of a business area. Food establishments in business areas help to diversify the business base and also provide a nearby meal destination for a worker or a local resident, which helps to cut down on vehicle trips to other areas. This site also has significant habitat food resources that contribute to the local natural ecosystem and provide viewing opportunities for restaurants and food purveyors.

FOOD – THEME SIX	ACHIEVING THE THEME
<p>PROVIDE OPPORTUNITIES FOR LOCAL FOOD PRODUCTION AND VALUE ADDED FOOD PROCESSING & FOOD SERVICES:</p> 	<ol style="list-style-type: none"> 1. Provide zoning that permits food related businesses. 2. Provide commercial development sites which can accommodate restaurants and food stores.
<p>RETAIN NATURAL AREAS OF SITE TO PROVIDE FOOD SOURCES FOR WILDLIFE:</p>	<ol style="list-style-type: none"> 1. Retain existing multi-storey vegetation where possible to provide habitat and feeding for birds. 2. Retain central drainage, central wet meadows and east wetland for wildlife food sources. 3. Create naturalized wetlands to enhance food sources for wildlife.
<p>PROVIDE OPPORTUNITIES FOR RESTAURANTS:</p> 	<ol style="list-style-type: none"> 1. Encourage restaurants to locate within proximity of natural areas and other viewing opportunities.


Materials Theme Seven– Use of Healthy Building Design & Construction Materials

Sustainable communities foster material selection that encourages sustainable harvesting practices, supports local manufacturers, increases building life, and creates the conditions for a healthy indoor environment. The types of materials that are used in building construction, roadways, landscaping, and other aspects of a development contribute to a development's total consumption both at the time of construction and in the future. Careful consideration must be made in the choice of design and materials that will minimize waste while also providing safety and durability. Proper design and material choices will provide long term benefits to the buildings and the development as a whole

MATERIALS – THEME SEVEN	ACHIEVING THE THEME
<p>APPLY SUSTAINABLE CONSTRUCTION PRINCIPALS DURING SITE SERVICING:</p> 	<ol style="list-style-type: none"> 1. Use local and regional suppliers for site servicing and landscaping materials to reduce transportation related waste. 2. Incorporate acceptable reclaimed and sustainable materials for site servicing, grading and landscaping. 3. Comply with all County standards when specifying materials for site servicing and landscaping.
<p>USE OF LOW EMITTING MATERIALS:</p> 	<ol style="list-style-type: none"> 1. Promote LEED construction standards throughout the Buckingham development. 2. Promote 'green' building materials and construction methods.

Waste Theme Eight– Utilizing Waste As A Resource




Sustainable communities provide the opportunities which promote lifestyles that reduce, reuse and recycle waste, and foster a cradle-to-cradle culture of thinking that considers waste as a resource. Waste reduction and waste management are important considerations in any development. Given the many innovative waste management facilities and strategies in place throughout the Capital Region, there are many opportunities for developments to manage their waste efficiently and safely.

WASTE – THEME EIGHT	ACHIEVING THE THEME
<p>REDUCE WASTE:</p> 	<ol style="list-style-type: none"> 1. In 2008, Strathcona County adopted new waste collection services that will direct 89 percent of waste away from landfills. The waste reduction program will be applicable to all business owners in Buckingham Business Park and will require participation as per the guidelines of the program. 2. All Buildings will provide an easily accessible area dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastic and metals. 3. The design of buildings may consider future adaptability and building lifecycle to allow for different uses within an existing structure.

Economy Theme Nine – Supporting Locally Based & Eco-Industrial Businesses

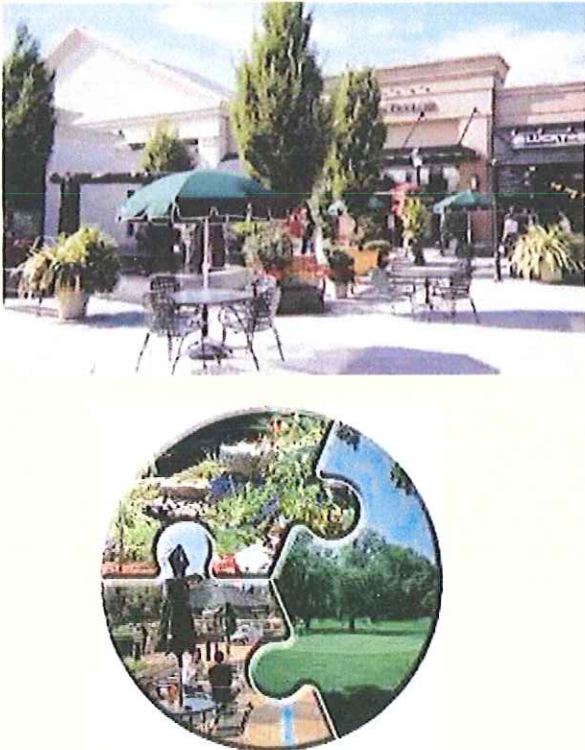
Sustainable communities incorporate a diverse mix of local economic opportunities that are oriented to different incomes and skills, provide goods and services to the residents, and are located in a way that fosters the financial viability and social integration of urban villages.

To maintain economic viability the development intends to maximize both density and diversity of uses to provide a balanced, market responsive development that will meet the needs of the business community and residents at both a broad community and local levels. The different types of land uses will permit large format retailing to serve broader community interests, local and service retailing as well as flex office and light and medium industrial uses.

ECONOMY – THEME NINE	ACHIEVING THE THEME
<p>SUPPORT BUSINESS DEVELOPMENT THROUGH LAND USE:</p>  	<ol style="list-style-type: none"> 1. Optimize retail frontage on Broadmoor Boulevard and Lakeland Drive and provide numerous points of access from major arterials to make shopping convenient and promote the commercial viability of lands for retailing businesses. 2. Large format retailers needing large lot depths can be accommodated on the Lakeland Drive frontage. 3. Medium and smaller format retailers can be accommodated from Lakeland Drive southward along the Broadmoor Blvd. frontage. 4. The internal lands will be zoned to attract business uses that need good access but less visibility from the major roads. Industrial and flex office space is intended where the employees can also benefit from the parks and natural features located in the interior of the site. 5. Establishes an employment centre for the residents of Strathcona County for an estimated 2000 jobs.
<p>SUPPORT SUSTAINABLE DEVELOPMENT:</p> 	<ol style="list-style-type: none"> 1. Allow for continued economically phased development, consistent with municipal policies and market demands. 2. Stakeholders will cooperate to achieve sustainable design solutions for site servicing.




Well-Being Theme Ten– Design Buildings & Amenities To Promote Inter-Generational Interaction & Cohesion

Sustainable communities are designed with the well-being of residents and workers in mind; they foster aesthetic quality; provide access to goods and services; physical protection and security; and overall health and happiness. An attractive, safe development with adequate trails and open spaces contributes to a more pleasant environment and improved user experiences. The parks and stormwater management (PUL) lands will serve as a gathering place for employees of Buckingham Business Park, residents of the broader community and visitors to the commercial precinct.

WELL-BEING – THEME TEN	ACHIEVING THE THEME
<p>PROVIDE OPPORTUNITY FOR SOCIAL INTERACTION:</p> 	<ol style="list-style-type: none"> 1. Provide viewpoints and amenities with seating and observation areas to promote social interaction in the central MR and PUL facilities. 2. Restaurants will be located in the commercial areas and can further social interaction and well-being if located with a view of the habitat areas including the central wet meadow. 3. Arterial Commercial Urban Design guidelines will promote human scale and create a visually appealing interface with the street and the natural environment. 4. Landscaped amenity areas will be provided on site for workers and patrons.

Equity Theme Eleven – Access To Affordable Housing, Amenities & Every Day Needs For All Residents

Sustainable communities foster fairness and equal treatment for all people by creating an inclusive community where residents have a sense of belonging and equal opportunity to access services, learning, employment, recreational and cultural activities. The idea of equitable design relates to creating inclusive developments that meet the needs of a wide range of people and businesses, regardless of their age, ability, or social status. In a business context, this can be addressed through providing for a range of employment options for many types of workers and promoting barrier-free buildings. Public parks and commercial uses will be accessible to the full community via interconnected roads which support private and public vehicular traffic as well as a network of trails which permit bicycle, pedestrian and wheelchair access.

EQUITY – THEME ELEVEN	ACHIEVING THE THEME
<p>ENSURE ACCESSIBILITY FOR ALL:</p>  	<ol style="list-style-type: none"> 1. Ensure a multi-modal access and transport network. 2. Park and open space amenities will be accessible to all workers and visitors to the plan area in MR, ER and PUL areas.
<p>ENSURE EMPLOYMENT DIVERSITY:</p>  	<ol style="list-style-type: none"> 1. Plan provides for a diversity of land uses and employment within the context of the land use district.

Culture Theme Twelve– Celebrate Cultural Heritage

Sustainable communities provide places and spaces in which a diverse culture and vibrant community can be conserved or created, fostering community expression, connection, and participation. It is important that a community has its own distinct identity and sense of place. Development can contribute to defining that identity by promoting its own unique characteristics within the community context. In a business area, this can be done through a number of methods including signage, area branding, and building design.

CULTURE – THEME TWELVE	ACHIEVING THE THEME
<p data-bbox="196 569 730 594">PROMOTE CULTURAL HERITAGE WITHIN THE AREA:</p>  	<ol style="list-style-type: none"> <li data-bbox="857 636 1404 852">1. The south east corner of the site will be devoted to parkland and be integrated with adjacent parklands to provide a recreational feature for Strathcona County. This will provide opportunities for a variety of organizations to play sports and utilize the park area for multiple purposes. <li data-bbox="857 898 1404 1146">2. The industrial and retail areas of Buckingham Business Park will provide a variety of land uses permitting places of employment and commerce where architects and urban designers can create places that respect CPTED principles, integrate pedestrian and vehicular flow and support both built and natural features. <li data-bbox="857 1192 1404 1377">3. A vital link to Millennium Place, one of Strathcona County's most popular cultural and recreational gathering places, will be created from the site with a signalized intersection at Lakeland Drive and Premier Way. <li data-bbox="857 1423 1404 1520">4. A sense of place will be established by providing entrance features at key points of pedestrian access to the central natural area.