



Open Space Plan



THE CITY OF
CALGARY
PARKS

STANDARD ABBREVIATIONS USED:

BIA	Biophysical Impact Assessment
ER	Environmental Reserve
ESAs	Environmentally Significant Areas
FAC	Final Acceptance Certificate
JUCC	Joint Use Coordinating Committee
LRT	Light Rail Transit
MR	Municipal Reserve
MSR	Municipal School Reserve
PE	Public Park, School and Recreation District
PUL	Public Utility Lot
UDI	Urban Development Institute

ABBREVIATIONS TO REFERENCE DOCUMENTS ARE LOCATED THROUGHOUT THE PLAN IN PARENTHESSES.

BP	Business Plan, Parks
CBP	Corporate Business Plan, The City of Calgary
CE	Calgary's Entranceways
CEP	Calgary Environment Policy
CP	Calgary Plan, The City of Calgary
CTP	Calgary Transportation Plan (GoPlan)

CYP	Calgary Cycle Plan
DP	A Policy on Dry Ponds
ECS	Employment Centres Strategy, The City of Calgary
EPEA	Environmental Protection and Enhancement Act
GRAMP	Growth Area Management Plan, The City of Calgary
ICOSS	Inner City Open Space Study, Parks
JUA	Joint Use Agreement
MGA	Municipal Government Act
NAMP	Natural Area Management Plan
OSP	Open Space Plan
P&P	Policies and Priorities, Parks
PB	Calgary Pathway & Bikeway Plan
PLU	Provincial Land Use Policy
POP	Pulse on Parks, Parks
RVP	River Valleys Plan, The City of Calgary
SER	State of the Environment Report, The City of Calgary
SOER	State of the Environment Report
SSS	Sustainable Suburbs Study
SWL	A Policy on Stormwater Lakes
TR-97	Technical Report: Protecting Calgary's ESAs
UFMP	Urban Forestry Management Plan
UPMP	Urban Park Master Plan

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Over
the
hill

Introduction

A considerable volume of material documents the various aspects of open space policy for Calgary. This documentation includes Provincial legislation, which outlines the general framework and authority of municipalities, and those municipal documents that describe the City's purpose in acquiring open space and provide guidelines for its use and maintenance. These documents have guided the City's decisions and actions in park and open space development over many years.

Current policy documents vary in scope, function, age and status. The most recent general policy statement is found in the "Open Space" section of the Policies and Priorities Plan, completed in 1988. A compendium of open space policies, developed several years ago as part of the background material to the 1994-98 Business Plan, was partially updated early in 1998. However, this document, which was intended to be a reference source to existing policy, did not attempt to analyze that policy or to address any gaps or inconsistencies that may have been found.

Because current policy is somewhat fragmented, the guidance needed to resolve conflicting or competing demands for open space is often lacking. City staff must be able to work closely with developers to ensure that open space requirements within the community, or in areas under construction, are assessed within the context of a larger plan. As well, policy gaps develop over time as circumstances change or as new issues emerge. Finally, some existing policies do not have the weight of Council approval to help ensure their implementation.

Therefore, the Open Space Plan has been developed to provide a single, comprehensive and integrated source of policy on open space, and an up-to-date vision that provides cohesive direction for the system as a whole. The Open Space Plan forms part of the hierarchy of statutory and non-statutory plans that guide the City's administration and politicians in decision-making. It is a non-statutory policy document that takes its direction from The Calgary Plan and other Council-approved, city-wide policy documents at a very broad level. The Open Space Plan conforms to senior level government policies and legislation, such as the Provincial Land Use Policies and the Municipal Government Act.

The Open Space Plan, in turn, forms the foundation for other, more specific policies, plans, and procedures. Most of these documents are, or will be, formalized through Council approval. Examples include the Natural Area Management Plan and the proposed "Urban Forestry Management Plan." In some cases, the Open Space Plan will provide direction at a broad level for procedural guidelines that are used for day-to-day decision-making.

At the most detailed, area-specific level, the Open Space Plan will provide broad policy direction for decision-making on individual community plans, area redevelopment plans and development proposals.

Brief descriptions of the other policies and plans that influence, or could be influenced by, the Open Space Plan, are provided in Appendix A.

Vision Statement

Calgary is a city of parks and green spaces linked by pathways or interconnected “green belts.” The natural environment is perhaps our city’s greatest asset. All plans, programs and activities must be sustainable. We are deeply committed to protecting and preserving the river valleys, environmentally sensitive areas and the integrity of communities (CP).

The Parks Business Unit, created in May 2000 as part of the City of Calgary’s corporate reorganization and restructuring, is committed to this corporate vision. The unit fulfills that commitment through its role as planner, protector, facilitator, educator and provider of parks and open space. Through the organizational design process, we have developed the following Mandate, Desired Outcomes, and Objectives.

Mandate

We are stewards of Calgary’s open space system and environment. We are committed to protecting the value and quality of the assets charged to our care. We strive for high-quality standards and sustainability within our parks and open space system, while ensuring that it remains accessible for the enjoyment and outdoor pursuits of all Calgarians. We strive for the highest standards of excellence in all we do. Our objectives are based on fundamental principles formulated by sound planning. We measure our success against tested and accepted benchmarks. In fulfilling our objectives we will ensure high-quality recreational opportunities for all Calgarians, today and in the future. We intend to:

1. Provide and maintain the integrity of a high-quality and diverse park and open space system.
2. Provide a safe, aesthetic and comfortable environment through quality landscape development.
3. Protect and enhance the urban forest.
4. Protect and enhance natural environment areas.
5. Contribute towards the development and operation of an environmentally sustainable city.
6. Provide environmental stewardship, education, programs and services.
7. Liaise with various stakeholders, citizens, industries, and other levels of government to ensure the provision of high-quality open space and recreational opportunities for Calgarians.

Desired Outcomes

Calgarians value and respect the city’s parks, urban forest, natural areas and the wildlife populations they contain. Our citizens not only enjoy the passive appreciation of nature, but they also participate actively in healthy, active, outdoor recreation and cultural activities. They understand and demonstrate a stewardship ethic through their responsible use of the city’s outdoor environments and amenities. In serving our customers, we have identified five specific desired outcomes:

1. Calgarians recognize and appreciate that parks, urban forest and natural areas are significant contributors to the environmental quality and recreational fabric of Calgary.
2. Calgary has a sustainable and bio-diverse open space system that represents the natural ecosystem of the Calgary region.
3. Calgary has a healthy, well-managed and sustainable urban forest that contributes to urban aesthetics as well as to the air and water quality of the city.
4. Calgary has vibrant, self-sufficient communities that actively participate in community-based sports, arts, cultural and recreational programs in a quality open space system.
5. Calgarians have an enhanced sense of stewardship and awareness about the city’s open space system as a result of quality nature education programs and the provision of outdoor recreation opportunities.

Vision Statement

Objectives

Parks will guide Calgary's acquisition, development and use of open space by identifying and addressing public needs and priorities, by providing strategic direction for long-term open space needs and by ensuring the efficient and coordinated use of land. In doing so, we will ensure, in a cost-effective manner, the provision and integrity of a high-quality and diverse park and open space system for present and future Calgary residents and visitors. We will also ensure the provision of burial services and products for all Calgarians. Parks will support the provision of a park and open space system by pursuing the following objectives:

1. Provide neighbourhood, community, regional and city-wide recreation opportunities to service new community developments.
2. Ensure the orderly redevelopment of lands within the inner city and established communities in order to meet their open space needs.
3. Protect environmentally significant areas and provide a sustainable and bio-diverse open space system that represents the natural ecosystem of the Calgary region.
4. Provide a continuous integrated river valley park system that reflects the city's unique prairie and foothills setting (UPMP).
5. Provide a healthy, well-managed urban forest and ensure that road rights-of-way are designed to contribute to urban aesthetics, as well as to the air and water quality of the city.
6. Provide a city-wide regional pathway system that facilitates non-motorized movement for recreation and transportation purposes (PB).
7. Provide burial services and products.
8. Promote connected open space systems and the protection of natural areas and water quality in areas of future urban growth.
9. Consider, where appropriate and in the interests of land efficiency, locating stormwater management facilities within MR, MSR and ER lands, provided this can be done in a manner that maintains the area's environmental, recreational and aesthetic integrity.
10. Use public financial resources effectively to accomplish objectives 1 through 9 above.

Purpose and Scope

Current Parks and Open Space Planning in Calgary

Currently, a number of documents, plans, and policies are used for parks and recreation planning and for development purposes. Some conflicts in policy exist and there is no single, comprehensive and integrated open space source. Nor is there an up-to-date vision for open space that would provide cohesive direction for the system as a whole. As a result, this comprehensive policy document has been developed to ensure that the city's open space needs are met in a consistent manner over the long term.

The City acquires open space lands primarily through the 10% Municipal Reserve dedication as part of the subdivision process, and through direct purchase on an opportunity basis. The majority of the 10% dedication is used in supplying local and community park needs and, therefore, land for district, regional and city-wide parks is generally purchased out of the Joint Use Reserve Fund. Furthermore, the acquisition of land through the Joint Use Reserve Fund or other sources is necessary to ensure the protection of environmentally significant areas since Environmental Reserve dedication does not protect all environmentally significant lands.

As a result, several issues have arisen with respect to the provision of open space. Key issues addressed by the Open Space Plan include the following (as identified in the "Issues Paper to Management Committee and Stakeholders"):

1. Determining the City of Calgary's public needs and priorities for open space.
2. Geographic deviations in the amount and quality of open space.
3. Ensuring public access to open space lands.
4. Determining opportunities for shared or complementary use of open space.
5. Acquisition and/or protection of significant environmental lands.
6. Minimizing conflicts between public open space and surrounding land uses.
7. The development of a sustainable open space system.
8. Establishing partnerships for the acquisition, planning, development and operation of the open space system.

The Open Space Plan falls within the framework laid out under the statutory document, The Calgary Plan—Municipal Development Plan, approved in 1998. The Open Space Plan uses the following policy statements, provided in The Calgary Plan, to set direction and give specifics to open space and parkland development:

Healthy Environments:

- Commit to environmental leadership to conserve, protect and improve the environment for the benefit of Calgarians and the regional and global communities (2-1A);
- Integrate social, economic and environmental objectives into a coordinated decision-making process to maintain high standards of living, social harmony and environmental quality (2-1B);
- Recognize the importance of ensuring that the principles of sustainable development and environmental sensitivity are embodied in all planning decisions, particularly those related to: specific land use and development decisions; management of the overall growth strategy; and planning for individual communities, both old and new (2-1C);
- Promote the provision and maintenance of a healthy, viable, urban forest in all areas of the city (2-1K).

Healthy Communities:

- Contribute to the personal health and well-being of Calgarians by ensuring that leisure and recreation services are accessible to all (2-3.2.3A);
- Make available a broad range of leisure and recreation services to all citizens of Calgary, where feasible (2-3.2.3B);
- Encourage joint planning between public, non-profit and commercial enterprises and encourage the participation of other agencies in the provision of parks and recreation facilities (2-3.2.3E).

Purpose and Scope

Role of the Calgary Open Space Plan

As a single, comprehensive source of policy on open space, the Open Space Plan will guide the City's acquisition, development, and use of open space.

The Open Space Plan is a policy document. It identifies broad principles, policies and strategies for the acquisition and development of open space in the city. Detailed implementation will occur through the development of policies in more specific, related planning and management documents (e.g. stormwater management; sports fields; bikeways/pathways; urban forestry, etc.). Implementation will also occur as community plans, outline plans, area redevelopment plans, and other development proposals adhere to the policies of the Open Space Plan and its related documents. The table that follows under Open Space Planning Framework, (page 8) provides examples of the relationship between the Open Space Plan and other policies and plans. These other plans are further described in Appendix A.

The Open Space Plan provides policies and strategies to:

1. Identify and address public needs and priorities by:
 - a. ensuring decisions are directed towards achieving common and accepted goals;
 - b. indicating the city's open space needs to decision-makers, development proponents and the public; and
 - c. addressing emerging open space issues.
2. Provide strategic direction to address long-term open space needs by:
 - a. identifying the need for different types of open space (city-wide, regional, and local), while allowing for flexibility in open space design and use;
 - b. allowing for the early identification of key parcels of land and strategies to acquire and/or protect them;
 - c. facilitating environmental planning by balancing science, sustainability and public demand; and
 - d. providing direction for other policies and plans.
3. Ensure the efficient, coordinated use of open space by:
 - a. providing a mechanism for resolving competing demands and conflicts related to open space use;
 - b. encouraging open space efficiency and coordination with other land uses; and
 - c. increasing use levels on underutilized developed parkland inventory.

Purpose and Scope

Open Space Planning Framework

The following table illustrates the relationship between the Open Space Plan and other policies and plans (see Appendix A) and demonstrates where the policy work fits in the overall framework of municipal plans.

	Municipal Government Act & Other Provincial and Federal Legislation					
<i>City wide/larger in scope; multiple functions; partnerships</i>	Intermunicipal Development Plans		The Calgary Plan and Other Council-approved Policies (e.g. Go Plan)		Joint Use Agreement	
<i>City wide; all open space</i>	Open Space Plan					
<i>City wide; specific to an issue or aspect of open space. Examples include:</i>	Urban Park Master Plan River Valleys Plan	Natural Areas Mgmt Plan	Stormwater Mgmt Plan	Bikeways/ Pathways Plan	Sports Fields Mgmt Plan	Urban Forestry Mgmt Plan
<i>Policy for a broad geographic area</i>	Area Redevelopment Plans		Community Plans Area Structure Plans		Special Studies (e.g. Bow Valley Centre, CFB)	
<i>Plans for location/ configuration of open space in a specific area (Implementation)</i>	Land Use Amendments, Outline Plans and Tentative (Subdivision) Plans					
<i>Implementation of policy through development of a specific site or project</i>	Development Permits Review of Developer-built/Partnership Projects Development Agreements				Design Development Plans for City Park Projects Business Plans	

Trends

Trends research and analysis enable the changing demands for both open space and recreational facilities to be anticipated to some extent. The results form an integral part of community needs assessments and also assist the process of identifying, acquiring and managing land for both passive and active use.

Some of the current trends in Calgary that affect Parks in its provision of parkland, facilities, and programs are listed below. (Note: Trends information is discussed more fully, with appropriate references, in the 1999–2001 and 2002–2004 Parks Business Plans).

1. Social and Demographic trends

- a. The population is aging and cultural diversity is increasing;
- b. The city has high growth rates;
- c. As of the last (1996) census, approximately one in five Calgarians (21%) lived below the "low-income-cut-off" (LICO) line;
- d. In 1996, a total of 63,440 persons in Calgary (close to 10% of the population) reported activity limitations;
- e. Population growth is overwhelmingly concentrated in new areas;
- f. New suburbs tend to have younger populations, while the inner city and inner suburbs tend to have more seniors;
- g. In the new suburbs, 19% of the population belong to visible minorities, compared to only 11% of the population of the inner city;
- h. Family size tends to decrease from the new suburbs to the inner city;
- i. Household income tends to decline from the new suburbs to the inner city. However, poor neighbourhoods are not limited to the inner city. A significant number of poor neighbourhoods are found in established suburbs as well.

2. Lifestyle Trends

- a. The family structure is changing (the growing number of single parent and dual-income families leads to increased financial polarization);
- b. Increasing flexibility in work times and school times will create the need for more flexible programming.

3. Leisure trends

- a. Leisure time is decreasing in Alberta as more people work longer hours;
- b. Leisure time is at a premium—more people feel "rushed;"
- c. Recreation is highly valued;
- d. The top 17 outdoor recreation activities, in order of participation, are: Walking for Pleasure, Gardening, Bicycling, Overnight Camping, Golf, Picnicking (in the countryside), Day Hiking, Picnicking (within a city), Swimming (in lakes, rivers, ponds, etc.), Jogging/Running, Fishing, Downhill Skiing, Tobogganing/Sledding, In-line Skating, Soccer, Baseball/Softball, and Bird Watching (2000 Alberta Recreation Survey);
- e. Multi-purpose facilities are preferred because of their versatility and ability to interest a variety of age groups simultaneously.

4. Financial trends

- a. Increased costs are associated with aging facilities;
- b. The public expects the high standards of the past to be maintained;
- c. Revenue has become a challenge as mill rate support has plateaued as a political directive.

5. Environmental trends

- a. Calgarians prefer natural parkland where the right of public access and use is ensured but where environmentally significant areas located within the area are protected;
- b. Public interest in "natural" parkland is increasing;
- c. Interest in lowering the levels of pesticide use in parks is increasing;
- d. There is a desire to make "green" sustainable decisions, where possible.

Trends

These trends change constantly along with Calgary's changing demographic profile. In this context, we need processes to collect and analyze, on an ongoing basis, information about how Calgary's population is changing and what the implications might be for Parks' services.

Are the services that we currently offer still relevant and responsive to Calgary's changing population? How can we establish even stronger relationships with the communities we serve? What opportunities are there to improve communication with our customers—both hearing from them about their needs and priorities, and informing them about our services (BP)?

Understanding and responding to changing citizen needs is essential if Parks is to provide excellent customer service and remain accountable to the public. It is the foundation of all of the other services we provide (BP).



Community Needs Assessment

An area redevelopment plan (ARP) sets comprehensive land use policies for an area within the inner city or established communities and provides for its orderly redevelopment. It is a process that involves extensive public participation. The specific needs for open space of an area within the inner city or established suburbs, as determined by an ARP, should be based on the policies set forth in the Calgary Open Space Plan. If an ARP has not been revisited in five years or if an area within the inner city or an established community has no ARP, the community needs assessment process (below) and the policies of this plan will be used to ensure that the community's open space needs are met.

Community needs assessments are designed to assist in the allocation of increasingly limited resources in a way that maximizes the opportunities for all Calgarians to participate in recreation services, regardless of ability, age, gender, culture, or socio-economic status. The assessments allow a visible, open approach to the balancing of Calgarians' high expectations of open space and parkland provision with the increasing challenges of fiscal reality.

The process starts with accurate statistical baseline information on supply and users. The process is program driven; that is, the program (or activities), and ultimately the facilities, are determined on the basis of public input and user statistics.

It is envisioned that the process will be used to develop the program, and hence the facilities and amenities, on all local, regional and city-wide open space. As outlined in the Parks Business Plan, the process will include:

- public consultation to assess local needs;
- accurate data on current usage and trends;
- business analysis of different alternatives;
- consistency with our vision, objectives and principles;
- access for target groups; and
- partnering to leverage funds.

Further work is required to determine how the guidelines would differ or respond according to the nature of the project. The following seven tasks are a starting point for this work:

1. Consider the current and anticipated demographic profile.
2. Consult with the public. Public expectations and demand form part of the basis for the selection of facilities and services at the initial program development stage.
3. Fulfill the mission statement of "ensuring provision of parks and recreational services that are accessible to all Calgarians," which includes financial, social and geographical accessibility.
4. Commit resources to areas with fewer recreation opportunities. The "density of opportunity" refers to the quantity of recreation services available within a given area. Given reasonably equitable service locations, Parks should choose the location with fewer current opportunities.
5. Commit to increasing the financial viability of recreational facilities, programming and certain types of park development.
6. Maximize the potential use of existing opportunities. Demand should be accommodated first within existing facilities, programs or services. New facilities should also be designed and programmed to accommodate efficient and maximum sustainable use.
7. Commit to partnerships and opportunities to cost share in the capital and operational costs of regional and city-wide open space where such actions would not prejudice the mission statement and the role of the department in providing introductory or entry-level services and programs that encourage public use and participation.

It is recommended that further development of the community needs assessment process be completed to provide a series of frameworks for analyzing the various types of development and redevelopment projects. It is also recommended that Parks develop strategies to ensure that its service planning and delivery processes continue to seek out and respond to community needs as these emerge over time.



Open
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Open Space Functions and Benefits

Open space is one of the defining features that establish our city's character, sense of place and quality of life. The balance that urban open space gives to the more intense use of land in cities is needed to support diversity in an urban context and to contribute to the environmental health of a city. Along with such elements as natural geography, transportation, population demographics, density and distribution of land uses; the quality, quantity and type of open space affect the safety and well-being of Calgarians. Open space provides part of the physical, environmental, visual and social framework for the city.

This policy document focuses on public open space; primarily that portion which is, or expected to be, within the Parks inventory, including sites for recreation facility development. This is the portion of public space for which Parks is primarily responsible and over which it has the greatest degree of influence.

Open space systems include natural environment parks, city-wide and neighbourhood parks, pathways, linear parks, school sites, tot lots, built green spaces, and more.

The Open Space Plan will recognize the significant role of privately and institutionally owned open space and, in particular, the opportunities for partnerships and new ways of doing business that these forms of ownership offer.

Parks identifies land for acquisition by the City to provide space for:

- recreation;
- environmental conservation and protection;
- urban design and cemeteries.

Many parcels of land serve two or all three purposes. For example, while the river valleys play a major role in providing recreational opportunities, they also have a key environmental role and are one of the defining urban design elements within the city.

Recreation

The City acquires open space to provide places for accessible public recreation opportunities. These opportunities range from passive to structured, from cultural to sporting, from outdoor to indoor. The recreational benefits provided by parks and open space are not just restricted to physical activity. Open space also contributes to a healthy lifestyle by providing social and educational benefits. On a personal level, open spaces may hold emotional, spiritual and symbolic values to individual Calgarians.

Examples of recreational open space include:

1. Groomed parkland of all sizes (tot lots to regional parks).
2. Sports fields, including athletic parks.
3. Land for arenas, pools, leisure, community and cultural centres.
4. Open space areas around schools and other facilities.
5. Pathways.
6. Golf courses.
7. Specialized venues such as Fort Calgary, Heritage Park and the Zoo.
8. Redeveloped landfill sites for recreational parks.

Environmental protection and conservation

The City acquires open space to preserve ecologically diverse and environmentally significant areas, to provide vegetation for micro-climate benefits (e.g. shade, wind protection), and to enhance air, soil and water quality.

Examples of environmental open space include:

1. Natural environment parks.
2. Natural environment areas (areas within more developed parks).
3. Wetlands and river systems.
4. Environmentally significant areas (ESAs).
5. Environmental Reserve (ER) land.
6. Urban forest..

Open Space Functions and Benefits

Urban Design

The City acquires open space to enhance the quality, form and function of the built environment through visual aesthetics, character, variety, sun allowances, noise/sight buffering, and the creation of public areas.

Examples of urban design open space include:

1. Roadway greens, escarpments and landscaped boulevards.
2. Buffer plantings, setbacks and side yards.
3. Urban plazas, community gardens, and general park landscaping.
4. Street trees.

Cemeteries

Within the City of Calgary, cemetery operations are a legislated responsibility of Parks to ensure that Calgarians will continue to have access to burial services and products at affordable prices. Citizens may also use Calgary's cemetery grounds for passive uses such as walking for pleasure, bicycling, nature observation and historical research. Calgary cemeteries offer walking tours through partnering organizations (The Calgary Genealogy Society) to trace the historical trends of memorials and highlight historically prominent persons (Cemeteries Business Plan, 1996–1999).

Other Functions

Open space also provides economic, non-motorized transportation and utility functions. It contributes to the economic development of Calgary by making the city a good place for living, working and visiting. Open space increases local home appeal and amenity, which in turn increases the market value of homes and development sites. Recreation opportunities provided through the open space system also generate economic benefits by increasing workers' health and productivity. Furthermore, open space provides numerous economic benefits, which could be termed "ecological services." These include flood attenuation and water filtration, as well as the moderation of wind, noise and temperature.

The facilitation of alternative healthy and environmentally appropriate non-motorized transportation is another major function of open space. This is provided by a regional pathway system that links parks, recreation facilities, natural features, commercial areas, cultural attractions, LRT stations and bikeways within and between communities.

Finally, open space functions as a utility by accommodating services such as stormwater facilities. However, this function will be considered to be of secondary importance to the recreational, environmental and urban design functions of open space if the utility is located within MR, MSR or ER.

General Open Space Principles

The Open Space Plan identifies several principles that are common to all types of open space acquisition, development, and use, regardless of the scale or function of the open space. Very broadly, the principles address access and distribution, the environment, and economic vitality. Many of the principles are interrelated. For example, open space sustainability is related to the efficiency of land uses, which can result in both economic and environmental benefits.

Planning Principles

1. Plans and related documents shall be prepared and adopted for Environmental Reserves, Municipal School Reserves and Municipal Reserves as per sections 661 to 671 of the Municipal Government Act—RSA 2000, Chapter M-26, with amendments in force as of January 1, 2002.
2. For open space lands acquired through the dedication of reserves, as per the MGA and the Joint Use Agreement (JUA), the following guidelines should apply:
 - a. Dedication may occur in the form of reserve land, cash in lieu, or, if warranted, by filing a deferred reserve caveat. The means of reserve dedication will be determined by the Subdivision Authority upon the advice of the JUCC (CP);
 - b. Allocation and provision for the dedication of reserve lands, and determination of the use of the reserve fund shall be made through the JUA (CP);
 - c. Priorities for the location and allocation of MR and MSR land should be as follows. Note: The uses within each priority will be reviewed individually according to the relative merits of the proposed subdivision. (Recommended amendments to section 4.9, Priority of Use, of the Joint Use Agreement are shown in italics):
 - **Priority #1: Neighbourhood needs**, which include School Board operated elementary schools, or the equivalent thereof, and associated Municipal and School Reserve (MSR) sites, and neighbourhood parks (which include sub-neighbourhood parks);

- **Priority #2: Community needs**, which include School Board operated junior high schools, or the equivalent thereof, and associated Municipal and School Reserve (MSR) sites; community parks where no junior high and associated Municipal and School Reserve (MSR) sites exist; Community Association Licences of Occupation; parkland required for open space linkages; Environmentally Significant Areas; and to provide setbacks beyond environmental limits at the top of escarpments and adjacent to water courses in accordance with The Calgary Plan;
- **Priority #3: Regional needs**, which include School Board operated senior and vocational high schools, or the equivalent thereof, and associated Municipal and School Reserve (MSR) sites, pools, arenas, athletic parks, urban plazas, employment centre open space, and other recreational facilities;
- **Priority #4: Urban Design Natural Environment Parks**, which include *Municipal Reserve in a natural state that meets the urban design needs of a neighbourhood or community. This includes aesthetic considerations, potential for passive recreation space, diversity of urban form, hazard considerations and pollution mitigation (noise, air, visual, water, soil, etc.).* Examples: Aspen woodland between the gravel pit at Westhills and apartment buildings acts as a significant sound, dust and sight buffer; North Glenmore Escarpment where protection of the escarpment and its buffer prevents potential environmental issues, such as mass movement (i.e. future erosion of the escarpment);

General Open Space Principles

- d. The City shall negotiate for the purchase of lands owned but no longer required by the school boards, when deemed appropriate. (CP) Parks should encourage this action where these lands are required to address deficiencies in the open space system;
 - e. Policies regarding the dedication of reserve and use of open space should be reviewed with the Joint Use Coordinating Committee and key stakeholders as necessary (CP).
3. Calgary's open space system shall contribute to the development of healthy communities, a healthy environment and healthy lifestyles.
 4. Open space planning, design, and management decisions shall have regard for the long-term sustainability of our natural environment and parkland.
 - a. Planning and development decisions shall protect significant natural areas and ecosystems intended for public open space, preserve biological diversity, minimize environmental impact, and provide for mitigating measures.
 5. A systems planning approach shall be used to protect and enhance Calgary's open space by creating a continuous and integrated open space system that takes advantage of both natural and constructed features.
 - a. The following issues will be addressed in the planning of open space:
 - providing local, regional, and city-wide recreation opportunities;
 - protecting environmentally significant areas;
 - ensuring diversity of natural and man-made features;
 - providing linkages to create a continuous pathway system;
 - ensuring the availability and effective use of public financial resources;
 - b. A systems planning approach also implies the coordination of planning, development, design, implementation, management and promotion initiatives related to open space.
 6. Access to open space opportunities in typical residential areas should be available to Calgarians within approximately a five-minute walk or 450 metres.
 7. Parks will identify and endeavour to protect key parcels of land required for the long-term needs of the open space system.
 8. The City, in accordance with the Municipal Government Act, may consider any of the following options to ensure the provision of open space:
 - a. Owner dedication as Environmental Reserve;
 - b. Owner dedication as credit Municipal Reserve;
 - c. Density transfers both within developments and between developments (subject to negotiation);
 - d. Required development setback zones on private land (Note: public access is not permitted);
 - e. Donations to appropriate not-for-profit agencies, Land Trusts or the City (subject to negotiation);
 - f. Outright purchase (subject to negotiation);
 - g. Land swapping and transfer of credit reserve (subject to negotiation);
 - h. Bonusing (subject to negotiation);
 - i. Conservation easements and associated caveats to restrict development on private land, as per the provisions of the Environmental Protection and Enhancement Act (Note: public access is not permitted);
 - j. Environmental reserve easements as per the provisions of the MGA.
 9. The City may consider, in exceptional circumstances, alternatives to, or the relaxation of, the policies within this plan to create a new, revised or site-specific policy after receipt of a written submission by the developer, which identifies in detail the reasons for the special consideration request.

General Open Space Principles

Design and Development Principles

10. All public open space shall be designed and constructed in accordance with the most current edition of the "Development Guidelines and Standard Specifications—Landscape Construction."
11. User safety shall be paramount in the planning, design, development and maintenance of open space.
12. Open space shall be planned, developed, and managed in a manner that is fiscally sustainable.
 - a. In allocating limited funds for open space development and redevelopment within the inner city and established suburbs, the following priorities will be considered:

Restoration (lifecycle or a redesign to meet current needs) should be considered the highest priority since it involves protecting or improving an existing asset (whether constructed or natural);

Acquisition and Development should be the second priority since it involves the creation of a new asset. The emphasis in open space capital prioritization should be on protecting existing assets before creating new ones.
13. Considerations of efficiency and cost-effectiveness shall guide all capital development, operations and maintenance decisions related to open space.
 - a. The City should support initiatives to promote greater land use efficiencies, such as:
 - optimizing the use of existing servicing systems (CP);
 - locating related facilities adjacent to one another;
 - considering the design and development of multi-purpose public and private facilities (CP);
 - satisfying recreational, environmental and urban design functions while accommodating utilities such as stormwater facilities;
 - designing communities to encourage walking, cycling, and transit (CP).
14. Appropriate coordination between open space and other land uses shall continue to occur at each stage in the planning, design, development, and management process.
 - a. Decisions should focus on accommodating mixed uses and encouraging appropriate linkages between open space and other land uses;
 - b. Residential developments should be protected from the environmental, visual, and noise impacts of recreational amenities and activities within adjacent open space areas. Where possible, protection should be accomplished by buffering and the appropriate arrangement of elements and activities within the open space;
 - c. The planning and design of open space and surrounding land uses should take into account opportunities to establish and protect important vistas and views of the natural and built environments.
15. Open space should be designed to accommodate multiple parks and recreation functions, including unprogrammed activities and year-round use. Exceptions may exist in natural environment parks and other specialty parks (CP).
16. Opportunities to promote local arts, culture and heritage should be considered in open space planning and design decisions. The City will continue to explore opportunities for financial support, including developer involvement, mill rate support, partnerships, endowment funds, community adoption, grants, etc.
17. Parks shall provide open space opportunities for all Calgarians, regardless of age, income, culture, or physical ability.
 - a. Parks shall provide affordable, introductory and entry-level recreation programs (BP);
 - b. An equitable distribution of parks and open space shall take into account local needs and preferences, rather than the creation of identical opportunities throughout the city;

General Open Space Principles

- c. Understanding and responding to changing citizen needs is essential for Parks to provide excellent customer service and remain accountable to the public. It is the foundation of all the other services we provide.
18. The development and use of open space should reflect public preferences and priorities, in a manner that allows for flexibility, creativity and innovation over time.
 - a. Where differing demands compete for the provision or use of open space, mechanisms to ensure the proper identification of public preferences, sound planning and a fair process should be employed as part of the decision-making process;
 - b. The community needs assessment process should be used to determine and respond to needs for programming and opportunities for site development within the inner city and established suburbs.
 19. Calgary's open space system shall provide opportunities for a variety of recreational, cultural and educational experiences.
 20. Parks should be located and designed in a manner that provides access, parking, and circulation appropriate for the intended level of activity.
 - a. Parks should have sufficient street frontage for clear identification and access;
 - b. Consideration should be given to the needs of open space users travelling and circulating by non-motorized means.
 21. The City of Calgary shall promote the development and restoration of landscapes to provide opportunities for ecological approaches to the management of vegetation and pests. During site development and maintenance, herbicides and pesticides shall be applied in accordance with manufacturer's recommendations, government legislation, City bylaws, and the "Integrated Pest Management Policy," as approved by City Council.

Operational Principles

22. Stewardship of open space lands should be a joint responsibility, to be shared by Parks, other City departments, school boards, other levels of government, adjacent municipalities, non-government organizations, the public and the private sector.
 - a. Calgary's open space and facilities resources should be protected by encouraging preventative, rather than mitigative, approaches in planning, design, and operations;
 - b. The City should continue to seek opportunities to establish and foster partnerships for the provision, development, and operations of parks and open space.
23. Calgary's open space system should be actively promoted to encourage public awareness, use and financial sustainability.



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Open Space Land Use Policies

A. PATHWAYS

Parks manages over 400 km of regional pathways and 160 km of local pathways throughout the city (see Map 3—Regional Pathway Map). The primary role of the regional pathway system is to provide opportunities for active or passive linear recreation over a large area and to link major open space features. Pathways also provide transportation routes for work, school and shopping trips, as well as to recreation destinations. They offer both recreation and transportation benefits.

Pathways are used primarily for walking, running/jogging, cycling, in-line skating, skateboarding and by wheelchair users. Pathways are an important component of the city's open space system because of their appeal to a very broad range of users, regardless of age, culture, income or physical ability.

The City of Calgary has a mandate to promote non-motorized transportation options for a number of different health, environmental, and economic reasons. The regional pathway system, together with bikeways, transit, other pedestrian circulation systems and supportive land use planning choices, plays an important role in this regard.

Major challenges associated with the planning, design and operation of the regional pathway system include:

- a. accommodation of diverse multiple users, together with increasing use levels and an increase in overall speed of pathway users;
- b. integration of pathway and bikeway facilities to create a seamless recreation and transportation system;
- c. provision for access to natural areas while ensuring that the habitat quality and sustainability of those areas are protected;
- d. identification, funding and construction of "missing links" in the regional pathway system, especially in areas that are already built up;
- e. financial sustainability (life cycle, maintenance, management).

Policies

1. The regional pathway system plays an important role in encouraging a healthy, low-cost, environmentally sustainable choice for recreation and transportation and should therefore be protected, enhanced, expanded and promoted.
2. Where location and design considerations prevent both transportation and recreation functions from being accommodated together, the recreation function should be a given higher priority on the regional pathway.
3. The regional pathway system should be developed as a continuous facility that connects individual communities to:
 - a. city-wide and regional parks and recreation facilities;
 - b. natural features, including water courses, escarpments, ravines, river valley parks and associated open space;
 - c. regional joint use sites, commercial and employment areas, adjacent communities and key cultural attractions;
 - d. other pathways, bikeways, and trail systems;
 - e. LRT stations and transit routes.
4. Local pathways should connect with a regional pathway, and/or other key destinations within the community, such as local parks, schools, community centres and commercial areas.
5. The regional pathway system should be designed for multiple users and a range of recreational activity and abilities. Where feasible, the regional pathway system should be designed to accommodate walkers, strollers, runners/joggers, people with disabilities, cyclists, in-line skaters and skateboarders.
6. Regional pathways should be designed to City specifications and accommodate maintenance, emergency and patrol vehicles.

Open Space Land Use Policies

7. Regional pathways should be designed to be as functional as possible. Key planning and design principles include:
 - a. continuity—avoid gaps, which necessitate frequent on-street bikeway links;
 - b. public property—locate pathways in parks, utility and road rights-of-way or access easements;
 - c. accessibility—link pathways to streets, bikeways, LRT and transit, where possible;
 - d. safety—provide safe and practical street crossings;
 - e. topography—avoid creating obstacles;
 - f. environmental—avoid impinging on environmentally significant areas.
8. Alignment of the regional pathway system should follow safe off-street connections through parks, where possible. If it proves necessary to follow the street system, the street design should accommodate regional pathway users (SSS).
9. The construction of pathways through parking lots and rear lanes should be avoided (SSS).
10. Opportunities to use existing rail and utility rights-of-way and other corridors, as a part of the regional pathway system, should be considered.
11. The City should pursue opportunities to connect the regional pathway system with pathway and trail initiatives of other jurisdictions (e.g. the adjacent municipal districts, Trail Net and Rails-to-Trails programs).
12. To the extent that natural amenities and other open space considerations permit, regional pathways should be located within communities to maximize the neighbourhood catchment area. (Other open space considerations may include: Joint Use site locations, ESA and ER locations, ROWs, adjacent linkages, bikeways, etc.).
13. Regional pathways should be extended into each new community and employment area to ensure that a contiguous system for recreation and transportation is maintained.
14. All future LRT facilities should be linked with bicycle routes (bikeway and pathway) and include bicycle parking facilities (CYP).
15. The City should encourage volunteers to participate in the maintenance of trails through "Adopt a Park" programs, etc.
16. Regional pathway connections should, where desirable, be routed along the edges of environmentally significant areas or into locations with less sensitivity in natural environment parks in order to minimize the impact on the park and reduce future damage and desire lines. Regional pathways should link natural environment parks with the developed system.
17. Parks and Transportation Planning should work together to coordinate the planning, development, design, operations and maintenance of the pathway and bikeway systems through the Pathway and Bikeway Coordinator positions (PB).
18. Missing links in the regional pathway system will be identified and prioritized for construction on a yearly basis.

Strategies

1. The City should develop a communications plan for the integrated pathway/bikeway system to address issues related to ongoing programming, marketing and other related issues.
2. In new areas, the location and alignment of the regional pathway/bikeway system should be identified conceptually prior to approval of the community plan through a yearly update of the Calgary Pathway and Bikeway Plan. The exact location and alignment should be finalized at the outline plan, tentative plan and construction plan stages.
3. In an effort to support healthy and environmentally sustainable linear recreation and transportation choices, the review of individual development applications and City capital projects should include consideration of:
 - a. the Calgary Pathway and Bikeway Plan including appropriate extensions and improvements to the plan;

Open Space Land Use Policies

- b. local pathway connections, as per the principles and policies of the Calgary Open Space Plan; and
 - c. accessibility for, and circulation of, on-site pedestrians, cyclists and other users.
4. Missing links within the inner city and established suburbs will be prioritized for construction, as per the functional and location criteria set out in the Calgary Pathway and Bikeway Plan.
 5. Missing links in new community developments will be identified as early as the signing of the Developer Final Acceptance Certificate for regional pathways. When these missing links are identified, they will be classified as "priority one" development items by the City and budgeted for within the upcoming five-year capital envelope (PB).

The community needs assessment approach (see page 11), when used at the time of development or redevelopment provides an opportunity for community input and community-specific program requests. The ongoing challenge, to ensure that developed parkland continues to remain flexible, is to balance those needs with the recognition that the client base and their preferences will change over time.

The use of available open space is also related to the type of housing provided. High-rise housing creates a different form of user need than single detached neighbourhoods with extensive private open space. The tendency for different age groupings, or population types, to be affiliated with various forms of housing means that the housing type (or mix) can be used to provide insights into recreational open space needs (ICOSS).

Open space policies have been developed for the following areas (see Map 4—Open Space Policy Areas):

- Downtown (discussed under "Alternative Use Open Space" on page 56);
- Established Communities—Inner city and established suburbs (discussed below); and
- New Communities (discussed below).

The policies for each of the planning areas provide a starting point for determining community-specific open space needs and should be reviewed in the context of a housing inventory and market analysis of the associated socio-economic and life cycle stages of the community.

Socio-economic factors and life stages appear to be the most important demographic variables in the planning of open space. Different income groups have different amounts of leisure time and use that time differently. As a community ages, changes occur in the recreation usage patterns of parks and facilities. Thus, local open space planning, in particular, must be a process that responds in a dynamic way to changes in the community (ICOSS).

Although the age structure of a city's population may remain relatively stable, neighbourhoods vary according to the life cycle stage of their dominant groupings. Young neighbourhoods (either new communities or communities with an influx of young families) create a distinctly different pattern of opportunities and constraints for recreation and open space planners than older neighbourhoods. For example, younger children are less mobile and will use recreation opportunities closer to home. Older children and teens appear to prefer close-in intimate spaces to gather, as well as larger open areas for organized games. Finally, in neighbourhoods with a high proportion of older residents, the preference is for nearby meeting places and generally quieter park areas with strong visual amenity (ICOSS).

B. RECREATIONAL OPEN SPACE



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Open Space Land Use Policies

1. INNER CITY

Redevelopment of Calgary's inner city suburbs has resulted in significant changes in land use, population density and demographic characteristics. This has led to community environments quite unlike those found in other established residential areas and in new community areas, upon which our current open space ideas are based.

The following issues need to be addressed in the inner city:

- The inner city has less open space land than newer areas;
- Household income tends to decline from the new suburbs to the inner city (i.e. communities with the highest rates of poverty tend to be concentrated in Calgary's inner city and northeast);
- A trend towards gentrification and neighbourhood revitalization is evident in several established communities. Higher incomes, an increasing percentage of home ownership and rising values in land and housing stock characterize a growing number of inner city communities;
- For many residents of low-income neighbourhoods, economic considerations restrict their access to parks and limit their ability to select recreational and leisure activities (e.g. they cannot afford the fees to join organized sports);
- Structural form limits inner city residents' access to parks, as the built-up environment of the inner city affords the lowest levels of flexibility for open space (e.g. existing land uses cannot easily be converted to open space);
- The costs associated with parkland purchase in the inner city are high;
- School board owned school sites play a critical role in meeting the open space needs of some communities. The lack of certainty about which sites will remain as open space makes it difficult to maintain the supply of needed open space within these communities;
- The communities are predominately adult oriented.

Existing area redevelopment plans identify the location of parkland in inner city communities and indicate where it is lacking and where it needs upgrading. At this time only a few outstanding parcels remain to be acquired.

Policies

1. Inner city communities may be considered to be compensated for having less than the 10% MR that new communities receive through the subdivision process, when the local MR dedication in question would duplicate the facilities/amenities offered by an existing park (regional or city-wide), and when all residents of the community are within approximately a five-minute walk or 450 metres of local park facilities and amenities.
2. All park development/redevelopment within the inner city should meet neighbourhood or community open space needs to provide effective, safe and sustainable open space environments.
3. School sites play an important role in the provision of open space. Several of the inner city school sites are school-board-owned non-reserve land. The school boards, the City and Alberta Infrastructure are currently looking at these inner city sites to ensure that disposal of this public resource occurs in a sustainable and responsible way. The Province of Alberta requires school closures to improve utilization. In accordance with the Joint Use Agreement regarding the disposal of school-board-owned non-reserve land, the school boards are prepared to extend to the City "right of first refusal" privilege within a specified time period. Those properties the City intends to purchase for municipal planning or infrastructure purposes should be purchased within the time period agreed to between the City and the school boards.
4. Planning related to the size, location and type of local open space in any development or redevelopment process should be managed through the community needs assessment process. (See page 11) In that way, the community-specific preferences of the inner city could be met and ways found to connect those most at need (i.e. low-income households) with the park system.

Open Space Land Use Policies

5. The distribution and type of open space within the inner city will be dependent on community demographics and associated needs. The following is a general approach towards satisfying those needs:
 - a. In communities with a significant proportion of young children, play activities should be accommodated locally and accessible open spaces, of a reasonable size and terrain, must be well distributed throughout the community (ICOSS);
 - b. In communities with a predominately independent adult population, it may not be necessary to provide opportunities and open space for all recreational activities locally (ICOSS);
 - c. In communities exhibiting a mix of both of the above characteristics, a balanced approach to satisfying these needs must be adopted (ICOSS).
4. If an existing ARP does not envisage that open space would be needed, non-reserve land upon conclusion of school use should be designated to a similar land use as adjoining lands. If an ARP does envisage that cultural, recreational or open space is needed, the non-reserve land upon conclusion of school use should be designated as Direct Control (DC). The DC guidelines should always include both a range of school, park, recreational and community uses, as well as provision for the uses proposed for the surrounding districts (JUA).

2. ESTABLISHED SUBURBS

Established suburbs share similar residential land uses and population density and some demographic characteristics. They evolved through a defined land use planning process and were primarily developed after the 10% municipal reserve requirement was implemented. As a result, their open space system conforms to our current planning and development standards.

Work relating to open space in these communities includes:

- intensification of use on the existing land base;
- life-cycle work;
- missing link pathway projects; and
- new development attached to redevelopment projects.

Policies

(See also Non-Traditional Uses page 58)

1. All park development/redevelopment within the established suburbs should meet neighbourhood and community park objectives to provide effective, safe and sustainable open space environments.
2. The City should life cycle/renovate existing neighbourhood and community parks within established suburbs on a priority and opportunity basis, using a community needs assessment process.

Strategies

(See also General Land Acquisition Policies on page 64)

1. Complete the acquisition of land, as outlined in approved area redevelopment plans (ARPs). To ensure that the land acquisition strategies are up-to-date, area redevelopment plans should be revisited every five years.
2. The Inner City Open Space Study was written in 1984. While the policies and theories for evaluating open space in the inner city have not changed significantly, the housing market and development in these communities has changed. This study should be updated to redefine which communities make up the inner city, their community type and open space needs/supply. Once completed, all associated ARPs should be updated as appropriate.
3. ARPs should determine the specific needs for open space of an area within the inner city on the basis of the policies set forth in this plan. If an ARP has not been revisited in five years, or if an ARP does not exist for an area within the inner city, the community needs assessment process (See Community Needs Assessment page 11) and the policies of this plan will be used to ensure that the community's open space needs are met.

Open Space Land Use Policies

3. When life-cycle work at a recreational facility is needed, any redevelopment should trigger the community needs assessment process (See Community Needs Assessment page 11). When the facility under review for life cycle is part of a larger park site (e.g., an arena with surrounding sports fields), the entire site should be reviewed as part of the process.

Strategies

1. Review recreation/parks inventory, housing mix, market information, socio-economic status and the life-cycle stage of the community prior to the planning of any development or redevelopment related to the open space areas and recreational facilities.
2. ARPs should determine the community-specific needs for open space within the established suburbs on the basis of the policies set forth in this plan. If an ARP has not been revisited in five years or an ARP does not exist for a community, the community needs assessment process (See Community Needs Assessment page 11) will be used to determine the community's open space needs.

3. NEW COMMUNITIES (see Map 4)

New communities adhere to the current land use planning process and Subdivision Development Agreement Guidelines.

Issues, in no particular order, include:

- meeting the recreational needs of the community;
- integrating environmental lands so they become a functional part of the community;
- creating/maintaining equity in the quantity and quality of open space provided in the different communities;
- ensuring efficient land use;
- implementing the Sustainable Suburbs Study work; and
- improving non-vehicular options for movement.

Policies

1. Where possible, and in keeping with the principles and policies of this plan, open space should be contiguous to allow for its efficient long-term utilization, care and maintenance.
2. Open space should be planned and developed in a way that will allow it to be efficiently and effectively reconstructed in response to changing community needs.
3. Linkages should be provided through the use of:
 - a. street, walkways and sidewalk systems (pedestrian and cyclist considerations);
 - b. regional and local pathway systems (see Section A, policies 3 & 4, page 20);
 - c. linear parks; (see Linear Parks, item 1, page 28); and
 - d. utility rights-of-ways.
4. Community parks and recreation services must be accessible to all Calgarians, regardless of age, interest or ability. Furthermore, all facilities/amenities built on Municipal Reserve shall be open and accessible to the public, as per the Parks' "Public Use Policy."
5. Establish and maintain a linked local system of functional, accessible and safe open space for educational and recreational purposes (SSS).
6. Park configuration and design should respect and reinforce views and linkages to streets and other public spaces and buildings (SSS).
7. Parks and joint use sites should be bounded with sufficient street frontage for clear identification and access. This would make public areas safer (e.g. greater visibility), and would also increase on-street parking and reduce traffic problems associated with these facilities (SSS).
8. A park should be located centrally to its catchment area within the community and provide opportunities for both active and passive recreation (e.g. skating, tennis, basketball, play area, seating, landscaping, etc.). While the park may incorporate a hard-surfaced area, the emphasis should be on providing a green, treed area for social interaction, relaxation, recreation, and visual relief (SSS).

Open Space Land Use Policies

9. Facilities/amenities must be appropriate to the location, size, accessibility and projected maintenance level of the open space, as determined by Parks.
10. The long-term repair and maintenance of facilities/amenities developed over and above the Parks' maximum Landscape Development Standards shall be the responsibility of a residents', community or homeowners' association.
11. Opportunities for long-term community financing and involvement in the design, construction, operation and maintenance of community facilities or open space should be pursued (SSS).
12. Concept plans for park development shall be approved at the outline plan stage by Parks.
13. All open space shall be designed and constructed in accordance with the current edition of the "Development Guidelines and Standard Specifications—Landscape Construction."

The following open space planning policies for specific types of recreational open space within new communities were originally outlined in Policies and Priorities, and have now been reconfirmed or modified.

Sub-neighbourhood Parks

In the past, sub-neighbourhood parks tended to have a relatively short life span in terms of meeting neighbourhood needs, as these parks were designed, almost exclusively, for preschool children. Most communities cycle through the preschool child boom within seven to ten years of community occupancy. Generally speaking, these parks now require a high ongoing maintenance commitment to underutilized sites. This plan, therefore, supports the Sustainable Suburbs Study statement that "these small single-use parks should be discouraged in new community design, and their primary function (e.g. play areas) incorporated into larger multi-use parks" (SSS).

Design solutions that resolve the single-use issue or locations that tie into the greater local open space system are supported. The policies for sub-neighbourhood parks are as follows:

1. Sub-neighbourhood parks should be considered in the following cases:
 - a. In smaller neighbourhoods or awkwardly shaped neighbourhoods that are separated from the rest of the community by barriers such as collector streets and ravines; and
 - b. Adjacent to large multi-family developments, if deemed necessary;
 - c. Where development is limited due to fragmented ownership.
2. These parks should provide play opportunities for children between the ages of 0 to 5. Other components may include, but are not limited to, areas for relaxation and socialization, landscaping, informal sports areas and pathway linkages.
3. Sub-neighbourhood parks should be located in a way that maximizes their neighbourhood catchment area and provides them with sufficient street frontage. They are taken as part of the 10% municipal reserve dedication and may be located adjacent to environmental reserve, where appropriate.
4. A sub-neighbourhood park measures 0.2 hectares (0.5 acres) in area.

Neighbourhood Parks:

Historically, the design of a neighbourhood park catered to elementary-age play and informal use by everyone in the immediate community area. This document supports the design of neighbourhood parks for local community use and encourages the use of a site design that is flexible enough to adapt as community uses change over time.

Open Space Land Use Policies

The policies for neighbourhood parks are as follows:

1. One component of neighbourhood parks is the provision of play opportunities for elementary-age children. Other components include areas for informal sports, relaxation and decorative areas, youth-oriented facilities, event areas for neighbourhood programming, protection of natural environment zones and opportunities for community-specific developments, such as community gardens, meeting areas for seniors and court facilities.
2. Neighbourhood parks should be located in a way that maximizes their neighbourhood catchment area and provides them with sufficient street frontage. They are taken as part of the 10% municipal reserve dedication, and may be located adjacent to environmental reserve, where appropriate.
3. A neighbourhood park measures 0.4 to 1 hectare (1 to 2.5 acres) in area.

Community Parks (May be a Joint Use Site)

The purpose of a community park is to provide community-level sports fields (see Sports Fields, page 29) and other active and passive recreation opportunities. Furthermore, the area generally contains a community lease site, and an elementary and/or junior high school. The policies for community parks are as follows:

1. Community parks should be located centrally in each community and in a way that maximizes their neighbourhood catchment area and provides them with sufficient street frontage. They are taken as part of the 10% municipal reserve dedication.
2. Parks will approve concept plans for community park development at the outline plan stage, subject to input from the Site Planning Team of the Joint Use Coordinating Committee if a joint use site is involved.
3. The school, sports fields, and community association requirements shall be as per the Site Planning Team's Joint Use Site Guidelines, as shown in the City's "Development Guidelines and Standard Specifications—Landscape Construction."
4. Community parks may include some or all of the components of sub-neighbourhood and neighbourhood parks and may be located adjacent to an Environmental Reserve.

District Parks (Joint Use Site)

The purpose of a district park is to provide sports fields (see Sports Fields, page 29) in conjunction with senior high schools. The policies for district parks are as follows:

1. District parks should be located centrally to an area of about three to five communities to maximize their catchment area. They should have sufficient street frontage and are generally not taken as part of the 10% municipal reserve dedication, but are purchased out of the Joint Use Reserve Fund.
2. The Site Planning Team of the Joint Use Coordinating Committee shall approve concept plans for district park development at the outline plan stage.
3. The school, sports fields, and community association requirements shall be as per the Site Planning Team's Joint Use Site Guidelines, as shown in the City's "Development Guidelines and Standard Specifications—Landscape Construction."
4. District parks may adjoin or incorporate a community-lease site and Environmental Reserve, and form part of a larger regional recreation park (See Regional Recreation Parks, page 33).

Linear Parks

The purpose of linear parks is to provide for activities that are generally unstructured in nature. They also provide open space connections within and between communities through a formal pathway network. The following planning policies for linear parks should be adhered to:

1. Linear parks should:
 - accommodate a regional pathway or perform a linear recreation function for the community as a whole by providing local or regional pathway links to educational, recreational, and open space features (e.g. natural environment parks); and
 - have a strong visual park amenity.
2. Overland drainage features should be contained in linear parks only when they do not diminish the primary recreational and aesthetic function of the park, and do not occupy more than one-quarter of the park's width. Otherwise, the overland drainage feature should be contained in a Public Utility Lot.

Open Space Land Use Policies

3. Utility rights-of-way should not interfere with the recreational, environmental and urban design functions of a linear park.
4. Linear parks should have a minimum width of 10 metres and a maximum width of 20 metres.
5. If possible, pathways within linear parks should be aligned in such a way as to eliminate or reduce damage to Natural Environment Zones. Furthermore, the pathways should be set back an appropriate distance from significant habitat areas to allow sufficient buffering from human use to sustain the habitat capabilities of the site.

Parkland Strategies

1. Parks should continue to provide representation on the Steering Committee involved with the implementation of the Sustainable Suburbs Study in order to ensure that the City's open space needs in new communities are satisfied.
2. Parks will work with the appropriate stakeholders (which may include other City departments, the Joint Use Coordinating Committee, the development industry, school boards, etc.), to address the open space planning issues identified within the Sustainable Suburbs Study, as well as the following:
 - minimization of stand-alone sub-neighbourhood parklands;
 - allocation of reserve lands to Joint Use Sites;
 - appropriate type and level of park development on reserve lands and related operating responsibilities;
 - evaluation of the standard 10% MR dedication to establish a more flexible system (see Section F General Land Acquisition Policies, Page 64).
3. The Calgary Pathway and Bikeway Plan identifies principles and conceptual routes for the development of an integrated pathway/bikeway system within new communities. Development of this system should continue to be an ongoing joint project between Planning & Transportation Policy and Parks.

4. SPORTS FIELDS

This section focuses primarily on the provision of fields for ball and soccer. (For sports fields—athletic parks (city-wide facilities) refer to Map 5—Sports Fields).

Community sports fields serve a large cross-section of both children and adults by providing organized and informal sport opportunities for ball and soccer. However, the primary role for Parks is in the provision of fields for entry-level sports. District level fields, usually adjoining high schools, serve a regional community and are purchased through the JUCC reserve fund. An attempt is made to centralize the high school sites containing these fields within the regional community and, where possible, to locate them adjacent to other regional recreation facilities. Fields at the city-wide level, including the major athletic parks, are built to accommodate advanced levels of play and are generally acquired through a partnership arrangement.

The Sports Fields Study, undertaken by Parks in 1997, indicated that the asset base of community—and district-level fields is not keeping pace with the demand in the short season of prime booking. However, there appear to be sufficient play fields in the city to accommodate the needs of users at some minimum level. The issue seems to be related more to the distribution of better, more useful fields, than to a need for additional fields.

Apparent shortages of fields during the early part of the playing season (May/June) would suggest an opportunity to change user expectations, rather than trying to alleviate use pressure on fields through the provision of more fields. School board sports fields have historically been underutilized and maintained at a lower level than City fields, and have experienced "overlap" conflicts between baseball and soccer.

The "Sports Fields Management Plan" (Appendix B) needs to be completed and it should address, among other issues, cost recovery, underutilization, seasonality of use and ways to improve booking and programming. Base line registration tracking over the next few years will provide good statistics on use and demand and allow completion of the "Sports Fields Management Plan."

Open Space Land Use Policies

Policies

1. The intensification of use within the current inventory of sports fields should be pursued through retrofit opportunities before new site development.
2. Retrofitted and new play field sites should be designed to accommodate alternative field uses in the off-season.
3. Community—and district-level fields and the surrounding park space shall be designed and constructed in accordance with the current edition of the "Development Guidelines and Standard Specifications—Landscape Construction." Fields at the city-wide level will be constructed to a higher standard and in accordance with specifications, as determined on a site-by-site basis.
4. District and community fields should have good connections to the regional pathway system to encourage alternative transportation to the site.
5. District and city-wide fields should be situated to take advantage of multiple use opportunities, particularly those offered by senior high school development or regional recreation facilities.
6. Community fields should be acquired through the 10% reserve dedication, district fields through land swapping/negotiation or JUCC purchase and city-wide fields through partnership negotiation, donation or direct purchase.
7. All community—and district-level fields should be designed conceptually and approved at the outline plan stage by the Site Planning Team of the Joint Use Coordinating Committee.
8. Partnership opportunities with sports organizations should be encouraged for the development, operation and maintenance of district and city-wide sports fields, including both retrofitted and newly developed sites.
9. Strategies to increase cost recoveries in the day-to-day operations of city-wide fields, as per Council-approved directives, should be pursued, with the long-term life-cycling cost shared between partners.
10. Development of any new city-wide fields should follow the community needs assessment process.
11. City-wide fields should not be located in residential development areas. Sites should have good access to regional transportation and both on-and off-street parking.
12. Where possible in new communities, new sports fields should minimize the residential/field interface and provide good access and parking. The site should be large enough to provide flexibility for off-season alternate uses.
13. New ball fields or retrofitted fields located with community centers should be restricted to informal play within the neighbourhood. They should have grassed infields for better multiple use of the site.
14. No new ball fields smaller than 76 square metres should be built with shale infields.
15. Soccer fields located adjacent to school sites and within the community may conform to one of the three sizes of play (i.e. mini, minor or major fields, as described in the "Development Guidelines and Standard Specifications—Landscape Construction"). However, there should be no clustering of large size fields within a community.
16. Locations for community field sites should be identified at the community plan level.
17. MR land in commercial or industrial areas may be considered suitable for the development of sports fields, depending on the site's location and its immediately adjacent neighbours. (Refer to Open Space Land Use Policies, E4, Commercial and Industrial Districts).

Strategies

1. The "Sports Fields Management Plan" should be undertaken to complete the work initiated in the internal document, "Proposed Development Model for Sports Fields" (Refer to Appendix B).
2. Baseline information about field reservations and use should be collected on an annual basis and used to support and direct new field development and current inventory management.
3. As a pilot project, selected sites should be retrofitted to increase field sizes and usability.
4. Parks should work with the school boards to include the option of upgrading fee-simple sites and increasing their level of maintenance.

Open Space Land Use Policies

5. Missing pathway links to community sport fields and/or senior high school sites should receive a strong commitment for funding and construction.
6. Eligible non-traditional sports groups seeking sites should be encouraged to review the underutilized sports field locations for opportunities to retrofit and adapt those sites for multiple use.
7. Reviews of new site development at community plan and outline plan stages should include a reference to the "Sports Fields Management Plan" when completed, and the Sustainable Suburbs Study design guidelines, as applicable.
4. Partnering mill rate support with community, corporate and/or commercial organizations for financial planning purposes should be an integral part of the development of any amenities beyond a passive landscaped park.
5. Parks should continue to identify needs and opportunities to provide city-wide recreation parks on an opportunity/demand basis. The community needs assessment process (see Community Needs Assessment, page 11) should be used to address all issues of demand, program development, financing, partnering and operations.
6. City-wide recreation parks should be provided, developed and operated in addition to local MR dedication by the City in partnership with other groups and/or organizations.
7. The purchase of land for unique city-wide attractions should be on an opportunity basis and fall outside the regularly budgeted acquisitions through JUCC reserve. A "society partnership" model should be pursued for these facilities where appropriate.
8. Facilities developed in city-wide parks should be adequate to support half-day or full-day outings. Developed amenities currently appropriate at a city-wide scale include:
 - a. facilities to support festival events;
 - b. site development for public use appropriate to the park amenity—(e.g. Glenmore Park docks, skateboard facilities at Shaw Millennium Park);
 - c. appropriately-sized buildings that support an aspect of the site attraction;
 - d. buildings that will directly serve park clients, such as food concessions, equipment rentals, washrooms;
 - e. buildings that have a heritage value;
 - f. water features, wading pools, spray parks;
 - g. playground facilities (all ages);
 - h. seating, picnicking and barbecuing opportunities;
 - i. informal open space;
 - j. regional and local pathway connections;
 - k. general winter recreation opportunities such as toboggan hills, skating rinks, cross-country ski trails.

5. REGIONAL AND CITY-WIDE RECREATION PARKS

Map 1: Major Open Space System—Conceptual includes the existing city-wide and regional recreation parks and future locations, where these are known.

Funding for city-wide parks is developed on a site-by-site basis and is proving to be a challenge in the current economic times. Currently, the JUA lists regional site funding as one of the third priorities of the JUCC Reserve Fund, but the 10% reserve allocation rarely stretches to the third tier and alternate funding strategies for regional sites are not in place.

Policies

City-wide recreation parks

1. City-wide park sites should have good connections to the regional pathway system to encourage non-vehicular access and allow the park to function as a destination for pathway users.
2. Ideally, city-wide parks should be located on the edges of communities or away from residential areas unless they are centred on a natural feature that limits this option.
3. Collector or arterial road access to these parks should be provided, as well as adequate off-street parking and/or arrangements for temporary special event parking.



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Open Space Land Use Policies

Regional recreation parks

9. Regional recreation parks and natural environment parks should be integrated into single park developments, where feasible, with a combination of natural features and developed parkland. The recreational portion of the regional park should provide access for the immediate community and contain the regional pathway where appropriate. (Note: See General Open Space Principles, # 8, page 16 for acquisition options).
10. If an opportunity to establish a Major Natural Environment Park, occurs, the existing attraction of the land base may determine the location of the regional park. Additional open space may be acquired to provide the site with more opportunities to develop amenities. (Note: See General Open Space Principle, # 8, page 16 for acquisition options).
11. Each site should be designed to respond to the regional market (three to four neighboring communities) in terms of flexible facilities, year-round use, ongoing programming and attractions. Therefore, the community needs assessment process (see Community Needs Assessment, page 11) should be used to address all issues of demand, program development, financing, partnering and operations.
12. Programming developed to life cycle an existing park should respond to current social and cultural changes within the region.
13. Developed amenities that are currently appropriate at a regional scale include:
 - a. Significant landscaping: natural and/or horticultural;
 - b. water features, passive or active, natural or developed;
 - c. wading pool, spray park;
 - d. playground facilities (all ages);
 - e. picnicking and barbecuing opportunities, picnic shelter;
 - f. informal open space (level areas for pick-up sports);
 - g. regional and local pathway connections;
 - h. ad-hoc* sports facilities: basketball courts, skateboard sites, tennis courts, disc golf, sports fields, golf, horseshoe pits, beach volleyball;

- i. winter recreation opportunities: toboggan hills, skating rinks, cross-country ski trails;
- j. designated off-leash areas;
- k. washroom facilities with water point.

**Ad-hoc sports facilities usually result from a series of either/or scenarios at the discretion of the regional market and through a partnership opportunity arrangement on financing/operation with an outside agency.*

14. Some local community needs may be met through the community's proximity to a regional park. In these circumstances, local MR may be part of the regional park land base.
15. JUCC Reserve Fund monies should be allocated on a regular basis for the acquisition of regional sites.

Strategies

Also refer to Section C3 Natural Environment Parks and Environmentally Significant Areas and Section F General Land Acquisition Policies.

1. Land for major parks should be identified and secured several years in advance of actual amenity development. Map 1 conceptually locates city-wide recreation, regional recreation and natural environment parks, plus major linear park connections and roadway greens on public and private lands. Opportunities for acquisition should be evaluated, finalized or waived at the community plan stage.
2. A city-wide festival site is required for events that have the potential to draw more than 10,000 people per day. Opportunities to acquire and develop such a site, or partner with an existing site, should be pursued as opportunities arise.
3. Where emerging demands can be met at an existing regional facility site, the development of additional amenities at that site should take priority over providing new regional sites.
4. The acquisition of land for regional facilities should occur three to seven years in advance of specific program development and fundraising and take place while the surrounding communities are still developing. Purchase of land for sites should be done on an opportunity basis.

Open Space Land Use Policies

5. Priorities for the acquisition of regional parkland should be directed towards areas of the city where there is an under-supply of significant ER parcels and/or existing regional sites. The criteria to be used in determining what constitutes appropriate land for regional parks are as follows:
 - a. Regionally significant natural environment lands that are developable and therefore not designated as ER;
 - b. Acquisition and/or purchase of land adjacent to a major natural environment park, in order to develop a combination natural environment and regional recreational park;
 - c. Land adjacent to high schools sites for regional sports fields;
 - d. Land to expand an existing facility where there is an unmet demand and a financial partner;
 - e. Land for regional sports fields or recreation facilities where there are partnership arrangements for capital development and operations.
6. New regional parkland should be identified at the community plan stage to minimize costs and later design changes. To assist in program development to meet the regional community needs, the City should generate a market profile after a site has been secured and the housing market is well under way.
7. Partnership opportunities for cost sharing should be pursued in either or both the development and operations of city-wide and regional parks.
8. Through negotiation, the City may request a percentage cash-in-lieu at the time of development when the local MR dedication in question would duplicate the facilities/amenities offered by an existing park (regional or city-wide) and all residents of the community are within approximately a five-minute walk or 450 metres of local park facilities and amenities. (Note: this policy amends the UPMP, which states that the river valley park system is in addition to the 10% MR dedication within a community).
9. Senior high school sites should be located with regional recreation facilities, where feasible, and should be finalized at the outline plan stage.
10. The City of Calgary Parks in consultation with Waste & Recycling Services, and Environmental Management will identify closing landfill sites for the future development of Regional or City-wide Recreation Parks if they meet the following criteria:
 - a. The landfill site will successfully meet the principles and policies of the Open Space Plan for the effective and efficient provision of recreational opportunities;
 - b. The proposed Regional or City-wide Recreation Park for the landfill site has a minimal requirement for building sites;
 - c. The concentration of any substances of concern within soil, surface water, groundwater or air; in or related to the landfill site, does not exceed applicable criteria, as determined through the appropriate Environmental Site Assessment; and
 - d. An approved, long term Risk Management Plan is in place and operational prior to site development and public use.

6. BUILDING SITES

These facilities provide year-round recreation and sports programming for both organized groups and the regional community. Examples include arena complexes, pools, leisure centres, arts centres, the soccer dome and the regional recreation facility sites.

Policies

1. The provision of recreation buildings in the downtown will be considered on an opportunity basis, and will take advantage of partnership opportunities for the financing of the capital development and operations.
2. The community needs assessment process should replace standards-based facilities supply. Refer to Community Needs Assessment (page 11), for further details.
3. Map 6 conceptually locates three future regional recreation facilities within a long-term framework. Land for these sites should be assessed, identified and finalized at the community plan stage.
4. The Recreation Business Unit should continue to use the formulas currently in place to assist in determining pent-up demand for different facilities—e.g. arenas, pools, sports fields. Based on these results, as well as civic and special user-group drivers, the community needs assessment process should be initiated to determine the type and framework of the facilities.
5. Where possible, additional facilities identified to meet demand in existing neighbourhoods or on a city-wide basis should be located on current inventory lands.

Open Space Land Use Policies

6. Potential partnership arrangements may initiate an opportunity, but the proposal must prove viable and appropriate to the Recreation Business Unit's mandate in the long term if it is to result in the construction and operation of a facility on City land.
7. Development of future regional recreation building sites should follow the current community needs assessment process (1999), which is being refined through the development of the three regional recreation facilities currently under way:
 - a. Partnership principles, as identified by the Recreation Business Unit from the 1999 Regional Recreation Centres process, should be used to create specific and viable partnership opportunities, where possible, for the development and operation of regional recreation facilities;
 - b. Facility development should be based on approved feasibility studies that outline demand, financial feasibility and partnership opportunities;
 - c. Recreation facility development should work through a "Building and Site Development Plan" (or similar program-driver process) that will result in a preferred option by identifying the program, the building solution and financial options for budgeting capital and operating costs;
 - d. Partner organizations should develop and maintain three to five-year business plans for the site;
 - e. Ongoing operation of regional recreation facilities should be self-financed, where possible;
 - f. Ongoing operation of the facility should ensure operating policies that facilitate universal access for diverse populations on the basis of specific regional needs.
3. Alternative sources of financing for facility development, redevelopment and upgrading should be investigated, and include revenue and cost-recovery opportunities, sponsorships, community fundraising and grants (BP). As part of this strategy, the City should continue to work with the Urban Development Institute, Alberta Urban Municipalities Association and the Province to look for alternative sources of funding.

7. GOLF COURSES (see Map 7—Specialized Sites)

Policies

The following policies ensure that public golf courses foster interest in and enjoyment of golf, offer opportunities for learning how to play golf and also provide high-quality facilities at a moderate user cost.

1. Public golf courses are supported as an appropriate business for the Recreation Business Unit because they operate within the Unit's mission statement of introductory level sports/play and affordable public accessibility. Periodic review should maintain this focus.
 2. Public golf course expansion and acquisition of new sites will be supported when the percentage use of current inventory by facility type (i.e. par 3 courses versus 9 hole courses versus 18 hole courses) is greater than 90%. Funding for acquisition comes primarily from within the golf course business.
 3. When proposing new facilities, partnership opportunities should be explored, and implemented when appropriate.
 4. Year-round use of golf courses should be encouraged through a mix of design, programming and amenity services.
 5. Land for new sites should be acquired through non-purchase means if feasible (i.e. land swaps, after-use scenarios) and, if purchased, should be located in the growth corridors of the city.
 6. Public golf courses should contribute to the environmental health of the city and demonstrate excellence in integrated pest management.
 7. Regional pathways should connect public golf courses with the adjacent communities where appropriate.
1. The current process for developing regional recreation facilities and the initial five years of operation should be documented in such a way that it serves as a guide document for future facility considerations.
 2. An inventory of current lands should be assembled to allow those seeking facility location options to identify underutilized sites.

Strategies

Open Space Land Use Policies

Strategies

1. The Golf Course Operations 2000–2003 Business Plan discusses the need for new sites in the long term and identifies options to pursue such sites. Purchase of sites should be done in advance of development to take advantage of lower land costs.
2. Opportunities for multiple use and/or year-round use of golf courses should be explored and supported. The results of pilot projects should be analyzed and implemented if deemed appropriate and feasible.
3. Recreation will seek to demonstrate excellence in golf course environmental stewardship and will work with proven principles.

8. CEMETERIES

Much of the development and operation of cemeteries is governed by provincial legislation through the Cemeteries Act, Crematoriums Designation Regulation, etc. The primary purpose of this land base is for cemetery services, however, non-conflicting passive recreation (walking, cycling, nature observation, and heritage research), heritage landscape conservation, and environmental health are often incorporated as secondary uses.

A current 1996–1999 Business Plan is in place. The City is seeking a cemetery site at the edge of, or just outside, the city. This site should be approximately 80 hectares (200 acres) and would be developed incrementally, as needed, over the next 20 years.

Policies

1. Cemetery lands are first and foremost for cemetery purposes but are suitable for a variety of passive recreation uses. Any new cemetery lands should be designed to accommodate appropriate multiple uses such as regional pathway connections to the edge of the site, internal walking trails, nature appreciation and view points for aesthetic landscapes.
2. Cemeteries should contribute to the environmental health of the city through significant greening and canopy cover.
3. New cemetery lands should not be located in the river valleys.

4. An update to the Cemeteries Business Plan should identify needs and opportunities within this service as provided by Parks.

Strategies

1. Complete the update to the current Cemeteries Business Plan.

9. SPECIAL ATTRACTIONS

The role of special attraction facilities is to provide a unique recreational, educational or cultural experience for the citizens of Calgary:

...Our role is not to provide any particular type of facility; but rather to ensure the availability of a range of facilities, adapting them over time to emerging preferences, in order to encourage participation and ensure access and opportunities exist (BP).

Existing sites include Devonian Gardens, Heritage Park, Lindsay Park, Fort Calgary, the Calgary Zoo, and the Science Centre (see Map 7—Specialized Sites).

Policies

1. Lands for special attraction sites should be assessed on a demand basis and should be developed in partnership with an existing society or agency. Lands for these sites should be provided through land swaps, negotiation, donation or purchase.
2. Special attraction sites initiated solely by Park Development and Operations should be developed to operate ultimately within a society partnership.

10. CULTURAL LANDSCAPES

Cultural landscapes serve to maintain our connection with the past. Even though Calgary is a relatively young city, it does have an interesting history that is represented by a variety of landscapes. Many of Calgary's existing open space sites, such as Nose Hill, Union Cemetery, Reader Rock Garden, Riley Park, Fort Calgary and Inglewood Bird Sanctuary, fall into this category.

Open Space Land Use Policies

Cultural landscapes are composed of a variety of features that define their historic character. The elements of landscapes include large-scale characteristics such as spatial relationships and views as well as individual features including topography, vegetation, water feature, roads and paths, structure, site furnishings and objects. The use of plants in the landscape reflects social, cultural and economic history just as clearly as structures or any other feature. The fact that vegetation grows, changes and eventually dies does not alter the fact that it is part of the historic record (L. Meier & N. Mitchell, National Parks Service).

Cultural landscapes are by their very nature evolutionary. They change as a result of human intervention or 'the lack of' in the cycles of natural growth. A concerted effort is required to prevent the loss of these valuable resources.

Major Challenges

1. Protecting existing resources.
2. Developing a long-range direction for the management of these sites.
3. Ensuring corporate and public understanding of the principles of historic conservation.
4. Determining which method is most appropriate for the resource—preservation, conservation or restoration.
5. Researching, in conjunction with the Calgary Heritage Authority, the historic significance of each site.
6. Obtaining a balance between promoting visitation and protecting the resource.
7. Ensuring availability of financial and human resources.
8. Balancing changes in the urban landscape with the protection of cultural resources; e.g. transportation needs versus protection of an open space.

Cultural resource projects may include some or all of the following:

- a. Protection: measures needed to guard against further damage or deterioration;
- b. Preservation: ongoing maintenance activities that preserve the historic appearance or features of the landscape;
- c. Restoration: the removal of later additions and the recreation of missing elements;

Policies

1. The management of cultural resources should be governed by a Cultural Resources Management Plan that sets out the guidelines and standards for maintaining the resource.
2. Cultural landscapes should be protected, enhanced and promoted because of their importance to the City of Calgary.
3. Cultural landscapes should be managed for the public benefit within the context of protecting the resource.
4. Prior to development, cultural landscapes shall be identified as part of the natural area and biophysical inventories, and a Historical Resources Impact Assessment shall be conducted and approved by the Province of Alberta.

Strategies

1. Develop a Cultural Resource Management Plan for the acquisition and management of the city's cultural landscapes in a holistic and integrated manner with an "Urban Forestry Management Plan" and the *Natural Area Management Plan*.
2. Identify and evaluate cultural landscapes and assess the effect of any actions upon their historic value.
3. Conduct an inventory of the resources, evaluate them for their cultural and historic value, and monitor and review them to ensure that conservation and preservation objectives are met.
4. Develop a communication plan for ensuring all stakeholders are involved in decisions regarding any activities that may take place on a site of significant cultural value.
5. Promote the Cultural Resource Management principles of value, public benefit, understanding, respect and integrity.
6. Encourage partnerships with groups concerned about the preservation of the cultural landscapes; e.g. historic society.



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Open Space Land Use Policies

C. ENVIRONMENTAL OPEN SPACE

Environmental open space is set aside or acquired for the purposes of:

- preserving ecologically diverse and environmentally significant areas (ESAs);
- providing natural habitat;
- enhancing air, soil and water quality through erosion control, watershed and groundwater protection, noise abatement and carbon dioxide sequestering;
- ameliorating the extremes of climate through reduction in wind velocity, reduced evaporation and less dust;
- adding to the aesthetics of the urban fabric by means of natural features, and mature and diverse landscapes; and
- contributing to the physical, emotional and spiritual well-being of Calgarians by providing areas of respite from the built environment.

The protection of environmentally significant areas, which if not classified as Environmental Reserve can be developable land, is a major factor in ensuring that Calgary remains an attractive livable community. Furthermore, the vegetation within these areas provides shade and wind protection for adjacent areas, and enhances our overall air, soil and water quality. The recreational value of natural areas is both well documented and visually apparent as Calgarians enjoy walking, sitting, cross-country skiing, bird and nature watching and other active and passive activities in the city's environmental open space. Conserving future environmental open space, therefore, is one of the key elements in making "Calgary—The Best Place to Live!" (CBP).

See *Map 1* - Major Open Space System—Conceptual. This map includes existing and possible future major environmental open space areas.

See *Map 8* - Habitat Types—Generalized map of habitat types and locations.

1. GENERAL ENVIRONMENTAL OPEN SPACE POLICIES

The following general policies relate to the maintenance and acquisition of environmental open space and are followed by specific sections on the river valleys, natural environment parks and the urban forest.

1. Although environmental protection, restoration, enhancement and management is a corporate responsibility, Parks commits to having the main role in identifying environmental lands for acquisition and then managing those lands on behalf of the City.
2. There is a strong commitment to the protection of our river valleys and environmentally significant areas (CTP).
3. A commitment to the conservation of environmental open space should be demonstrated through the following activities (NAMP):
 - conservation of viable and representative habitats;
 - management for long-term viability and integrity;
 - appropriate public use and education;
 - site-specific management strategies;
 - restoration of damaged areas where they are part of a natural system;
 - long-term management of "developed" open space for long-term viability.
4. Where the need for new transportation links or river crossings is demonstrated, a balance should be sought among the three competing forces of: community and environmental quality; mobility; and cost and affordability (CTP).
5. The City should identify, in consultation with Alberta Environmental Protection, areas of significant fish, wildlife, and plant habitat and, in consultation with Alberta Sustainable Resources Development, Public Lands, all water bodies that are crown-owned. Then appropriate land use patterns should be designed to minimize the loss of valued habitat and water bodies within and adjacent to these areas (PLU).
6. Once significant wildlife habitat, plant habitat and crown-owned water bodies have been identified, and appropriate land use patterns have been established to protect them, the City will manage these areas for wildlife while minimizing the potential for conflicts between wildlife and the built environment.

Open Space Land Use Policies

- Existing natural systems (including environmentally significant areas) must be integrated into new communities and will form part of a comprehensive and contiguous regional open space system (SSS).
- The impact of urban development on the visual aesthetics, natural ecosystems, special places, parks, natural areas and known wildlife habitats should be minimized at all stages in the land use planning and development process (CBP).
- When human use comes into serious conflict with the protection of the natural environment in those areas designated as Major Natural Environment Parks and Special Protection Natural Environment Parks, protection of the natural environment will take priority (UPMP).
- Natural Area Management Plans (NAMPs) for Major Natural Environment Parks, for Special Protection Natural Environment Parks and, where appropriate, for Supporting Natural Environment Parks should be completed by Parks prior to detailed land use planning for lands adjacent to such areas. The NAMP should give overall direction to all areas of interface among the parcels of land.

Strategies

- Parks should provide representation on the corporate committee responsible for the development and continuous updating of the Environmental Management System Plan.
- Parks should work with the development industry, school boards, affected City Business Units and other partners to identify ways to designate and protect environmentally significant areas in the growth corridors of the city (BP).

2. THE RIVER VALLEY SYSTEM

Calgary's river valley system is one of the primary components of the city's open space system, and is one of the defining elements giving character to the city. Calgary's rivers and river valley lands serve a variety of different functions by providing opportunities for recreation, environmental conservation, and aesthetic enhancement.

Very broadly, the major river and creek valleys are shown on Map 1 – Major Open Space System – Conceptual, Map 2 – Topographic Map and Map 8 – Habitat Types.

The citizens of Calgary defined the role of the river valley system when they created the vision statement that guides the Urban Park Master Plan:

The people of Calgary envision a continuous integrated river valley park system that reflects the city's unique prairie and foothills setting. The River Valley Park System will express citizens' commitment to its preservation, use and enjoyment, and will promote understanding of our natural and historic heritage. We envision a river valley park system in which we will all take pride and in which every citizen will assume responsibility for its protection (UPMP Vision Statement).

The following are the three types of public open space within the river valley system (UPMP):

- preservation lands (undisturbed natural areas that allow limited human access);
- naturalized lands (designed to rehabilitate previously disturbed areas for less intensive park use); and
- manicured lands (high-maintenance groomed park space designed for more intensive use).

One of the City's major challenges is to provide public access and use of the river and creek valleys in a manner that ensures the long-term conservation of their natural and cultural resources while maintaining a linked and sustainable open space system. The following policies have been developed to deal with this challenge successfully.

Policies

The Urban Park Master Plan, drawing on the results of a significant public participation process, outlined 18 principles that would underlie all decision-making and management related to the river valleys and creek corridors; that is, the River Valleys Park System (RVPS). In conjunction with these 18 principles (the first 18 policies listed below), additional policies have been identified to ensure that this system effectively and efficiently provides opportunities for recreation, environmental conservation, and aesthetic enhancement:

- The overall structure of the RVPS will be based upon the protection, rehabilitation and/or reestablishment of naturally sustainable landscapes, waterways and ecosystems.

Open Space Land Use Policies

2. Significant sources of contamination or degradation of rivers and related waters will be eliminated, where practical, recognizing that watershed management coordination with upstream and downstream municipalities and governing agencies will be essential (UPMP).
3. The primary use of the RVPS will be for passive, low intensity, informal and unstructured activities.
4. Intensively used facilities will be directed to appropriate sites which are not environmentally significant and which are carefully designed as "special use areas."
5. The RVPS will include a continuous river valley pathway, not always adjacent to the river's edge.
6. The RVPS will be accessible, usable and safe for all persons, where practical and environmentally appropriate, bearing in mind the needs of persons with disabilities.
7. Year-round enjoyment of the RVPS will be encouraged, but with regard to the environmental impact.
8. Appropriately designed park linkages will extend into adjacent communities, connecting school sites, community centres, recreational facilities and urban open spaces.
9. Adjacent development will respect and reflect the character of the RVPS, and provide reasonable public access to the park system.
10. The RVPS will complement and reflect the unique character and the amenities of the individual park areas and adjacent communities.
11. The RVPS will be designed to accommodate the planned intensity of use in each specific area to ensure the integrity of the landscape and waterways. Overuse may be accommodated by creative alternatives outside the river valley.
12. Landscape features contributing to the visual continuity and aesthetic quality of the RVPS will be protected, maintained and enhanced where appropriate.
13. Through protection, sensitive planning and design, education and interpretation, the RVPS will promote a sense of stewardship to all Calgarians.
14. Calgarians will be urged to accept responsibility and liability for their use of the RVPS.
15. To assure long-term benefits for all Calgarians, the success of the Urban Park Master Plan will depend on fiscal responsibility in planning, management and maintenance.
16. When human use versus protection of the natural environment comes into serious conflict in those areas designated as Major Natural Environment Parks and Special Protection Natural Environment Parks, protection of the natural environment will take priority.
17. The RVPS will be a park resource for all Calgarians and will be in addition to the neighbourhood park entitlement within adjacent communities. However, the City should request a percentage cash-in-lieu at the time of development when the local MR dedication in question would duplicate the facilities/amenities offered by an existing river valley park, and all residents of the community are within approximately a five-minute walk or 450 metres of local park facilities and amenities (UPMP-amended).
18. All bridges will accommodate pedestrian and bicycle use and all new road and bridge construction required within the river valleys, will comply with the Urban Park Master Plan vision statement (see page 40).
19. Urban Park Master Plan (UPMP) in its entirety, and not just its 18 guiding principles noted above, will govern planning and development decisions within the RVPS. Furthermore, the planning and development of land parcels not specifically addressed within the UPMP but which fall within the RVPS will also be governed by the UPMP in its entirety.
20. Conservation of river edge lands is critical inside and beyond city limits. Parks should actively participate in organizations and strategic planning to maintain public access and natural environments along the regional waterways.
21. As approved by the City on a site-by-site basis, and in keeping with provincial and federal legislation governing waterways, amenities/facilities for appropriate water-based recreation activities (e.g. wading, rafting, canoeing, fishing, swimming, etc.) will be encouraged in the city's river valleys (RVP).
22. Environmentally significant areas and cultural resources adjacent to the watercourses should be preserved, and disturbed areas in the river/creek valleys should be ecologically restored.

Open Space Land Use Policies

23. Potentially negative impacts of new river crossings and/or associated roadways, public utilities or any other development on/or adjacent to river valley parkland will be mitigated with biophysical impact assessments. (See Appendix D.) These assessments should be conducted by the development proponent, to the satisfaction of the General Manager of Parks.
24. Design development plans should be completed and approved by Council prior to any construction of new parkland in the RVPS.
25. Notwithstanding Policy #3 above, contextually appropriate active recreation may be considered on a site-by-site basis in consultation with stakeholders.
26. If an environmentally significant area is proposed for development, or starts to undergo deterioration in quality that is not the result of natural processes, it should be acquired for the purpose of conservation before significant qualitative change occurs, subject to budget approval by City Council (RVP).
27. Future riverside land uses (e.g. commercial, industrial, resource extraction sites) that would have an adverse environmental or aesthetic impact on the landscape should be avoided. (RVP) However, if current or potential private land uses include resource extraction, a restoration plan shall be submitted and approved by the City as part of the resource extraction application.
28. Undeveloped escarpments should be conserved as natural environment parks, and those areas affected by public utilities should be minimized (RVP).
29. Floodway line adjustments through engineered construction solutions should not be supported if they remove river edge land from public access or alter an existing sustainable natural condition.
30. Opportunities to remove existing snow dump sites from river valley areas should be pursued.
31. Any measures taken to prevent erosion of the riverbanks should be environmentally and aesthetically appropriate (RVP).
32. Private owners of structures on riverbank land should be advised of riverbank erosion problems and their potential hazard, and they should be required to take suitable corrective measures (RVP).
33. Suitable buffers should be provided for uses on adjacent lands that are incompatible with the river valley.

Strategies

1. Parks should coordinate with other City Business Units and Committees (e.g. Waste Water and Drainage, Environmental Management, Environmental Advisory Committee, River Valleys Committee, etc.) in the planning, implementation and evaluation of water quality and stormwater improvement initiatives (e.g. Nose Creek Integrated Water Quality Study).
2. Parks should review with Corporate Properties opportunities for any corporate landholding within the river valley system to be designated PE, in accordance with the Urban Park Master Plan.
3. In order to facilitate the educational/interpretative elements of natural environments, the following types of facilities should be provided:
 - a. self-guided nature trails;
 - b. entrance features, interpretive centres/points, signage; and
 - c. outdoor nature education programs (RVP).
4. In cases of subdivision of land adjacent to the city's watercourses, and where appropriate, MR should be acquired next to floodways so that regional park facilities can be developed. This should occur only when the neighbourhood and community needs for MR land are being met by regional park development and/or within the subdivision, as per the Joint Use Agreement.
5. Where feasible, appropriate recommendations and suitable implementation procedures should be included in community plans and area redevelopment plans to provide public access to and along the creek/riverbanks (RVP).
6. Disturbed sites in parks and on escarpment slopes within the river valleys should be ecologically restored on a high priority basis (RVP).
7. Parks should develop site-specific Natural Area Management Plans as a standard commitment in work programs each year, both on an internal priority listing and as a response to development initiatives.

Open Space Land Use Policies

3. NATURAL ENVIRONMENT PARKS AND ENVIRONMENTALLY SIGNIFICANT AREAS

See Map 8—Habitat Types for the location and identification of natural area habitats.

The role of natural environment parks within the city is to:

- conserve areas of environmental significance and biodiversity;
- provide opportunities for environmental education, interpretation, and nature-related recreation;
- provide opportunities for linear and passive recreation;
- provide relief from our built-up environment;
- conserve dominant natural elements that enhance the character, appearance and health of the city (e.g. escarpments, creek and river valleys, wetland complexes); and
- contribute to clean air and water.

Historically, environmentally significant areas within the city were protected when:

- a coincidental overlap between undevelopable land (i.e. Environmental Reserve) and the natural habitat occurred;
- the area could be designated as Municipal Reserve; or
- the City could protect the area through outright purchase.

Currently, the City has few legislative options for protecting natural features on developable private land. Furthermore, little independent assessment of environmental systems located on private property directly outside the city limits has taken place. As a result:

- a. The designation of Environmental Reserve is given to undevelopable land, and is not based on the quality of the natural area;
- b. Environmental Reserves, perceived by the public as pristine natural areas, come to the City under a wide variety of conditions;
- c. Important environmentally significant areas are being destroyed, while less significant ones are preserved;

- d. Important natural environments are being lost as open space because of the lack of funds and/or because they are not identified as priorities;
- e. Protected natural environment parks within the city have become jeopardized by the lack of connectivity with natural areas outside the city;
- f. There might not be an adequate supply of land for future regional parks and natural environment parks;
- g. Concerns exist regarding the protection of natural environment parks and the balancing of appropriate use and access;
- h. There has been a perceived lack of mandate for Parks' stewardship of environmentally significant areas (NAMP);
- i. The long-term viability of natural areas is sometimes threatened by their use in facilitating urban development (e.g. stormwater management opportunities, utility corridors, major roadways, etc.) and their use for intensive recreational purposes;
- j. Many existing sites lack site-specific management plans and baseline information to aid in decision-making and sustainable management.

To begin to address the above issues, the following policies have been developed.

Policies

1. If an environmentally significant area is identified (Appendix C), a Biophysical Impact Assessment (Appendix D) will be required to support all new corporate planning and design decisions. Biophysical Impact Assessments are to be completed in consultation with developers and other departments, where required.
2. Environmentally significant areas should be protected and maintained as integral components of the parks and open space system, in accordance with the priorities of use with respect to all reserve land (See General Open Space Principles, Planning Principle 2.c, page 15).
3. If possible, development within all types of open space should be located and/or aligned in such a way as to eliminate or reduce damage to Natural Environment Zones.

Open Space Land Use Policies

4. Designated natural parklands should be managed in a manner that will, by intent, identify and maintain the natural character and integrity of these sites (NAMP).
5. Natural Environment Parks should be obtained and developed primarily for unstructured recreation opportunities (e.g. view points, walking, photography) rather than for intensive recreation opportunities (e.g. sports fields).
6. As regional pathway use increases on a city-wide basis, through both numbers of users and types of use, the alignment of any regional pathway close to significant habitat areas will provide sufficient buffering to sustain the habitat capabilities of the site.
7. To provide an effective formalized structure for the conservation and protection of environmentally significant areas and important natural features, a commitment should be made to:
 - a. excellence in environmental stewardship and responsible management for biodiversity within the urban environment;
 - b. the protection of unique environmental features (e.g. rivers, ravines, woodlots, wetlands and escarpments) within the city (SSS);
 - c. multiple uses on public lands where habitat condition is not compromised (e.g. stormwater retention, regional pathway);
 - d. habitat upgrading as an important component of retrofits to accommodate multiple use;
 - e. designs where major topographical features and the conservation of natural areas become the primary determinants;
 - f. providing places for park users to escape from the built urban environment into a setting where natural features and qualities are dominant;
 - g. site-specific management plans that recognize the complexity of natural systems and the costs of achieving a managed sustainable state;
 - h. finding a balance between public use and long-term protection of natural environments (NAMP);
 - i. providing improvements to the quality of public open space as a way of helping to mitigate environmental conditions (e.g. air pollution, wind amplification, noise, loss of sunlight, traffic/parking intrusions, flood control) (CP);
 - j. establishing appropriate maintenance regimes for each Natural Environment Park.
8. Protection of significant habitats within the city's parks and open space system will take precedence over recreational use where the latter may conflict with the long-term survival of the resource (CP).
9. Any municipal reserve that is dedicated adjacent to an environmental reserve or environmentally significant area should be located and developed in a way that will ensure compatibility between the two sites.
10. Regional pathway connections should, where desirable, be routed along the edges of environmentally significant areas or into locations with less sensitivity in natural environment parks in order to minimize the impact on the park and reduce future damage and desire lines. Regional pathways should link natural environment parks with the developed system.
11. Undeveloped major escarpments will be preserved as natural environment parks that enhance the environment (CP).
12. Natural areas should be protected and integrated into both regional and neighbourhood open space systems in the design of new suburbs (CP).
13. Parks should, where applicable, solicit developer and community cooperation in the provision and maintenance of natural environment parks.
14. Appropriate recreational facilities within natural environment parks should be designed and managed to avoid or minimize negative impacts (CP).
15. Planning for the overall use of Special Protection Natural Environment Parks and Major Natural Environment Parks, as directed in the site-specific Natural Area Management Plan, should limit the numbers of visitors and types of uses the area can accommodate. This restriction will allow the area to retain its natural character and provide a positive natural environment experience.
16. Environmentally significant areas beyond the city limits should be identified and protected through strategic partnerships and intergovernmental coordination (P&P).

Open Space Land Use Policies

17. Multiple use of a natural environment park should not unduly compromise the natural quality, amenity or accessibility of the site.
18. Stormwater management facilities, utility crossings, etc. on/or adjacent to natural environment parks should be avoided or minimized. If work is required, a biophysical impact assessment (Appendix D) should be conducted in cooperation with the City and the developer to provide guidelines for minimizing disturbance prior to approval.
19. Where feasible, the planting of appropriate vegetation in all downtown open space areas, both public and private, should be used to contribute to the environmental health of the city.
20. A building setback zone of 18 metres (60 ft.) is required from the top of escarpments (CP); that is 18 metres from the top of the sloped sides of the river and creek valleys within the City of Calgary.
5. The City should consider relaxing its normal density and/or building form requirements for new communities, when requested to do so by the developer, if by doing so important environmentally significant areas can be protected in perpetuity and the conditions of the Joint Use Agreement, section 4.9, apply (TR 97).
6. Parks will work closely with all appropriate City departments and other key stakeholders to revise the land use bylaws to allow for density transfers both within developments and between developments. Parks supports relaxed densities where, by doing so, environmental open space is conserved.
7. Parks will work closely with Waste Water and Drainage, Planning and Transportation Policy and all other key stakeholders to develop policy that will allow for the effective and efficient establishment of conservation easements.
8. Natural areas outside the city limits should be acquired through strategic partnership with a land-based trust on an opportunity basis (See also General Land Acquisition Policies).
9. The City should formally discuss with the Parks Foundation and the Partner Parks Endowment Council the establishment of programs to aid in protecting ESAs in Calgary (NAMP).
10. Site-specific management plans should include maintenance regimes, procedures and monitoring of performance indicators reflecting the diversity of site conditions in Special Protection Natural Environment Parks, Major Natural Environment Parks and, where appropriate, in Supporting Natural Environment Parks.
11. Stripping and grading permit requirements should be revised to include guidelines for permission to remove natural vegetation from environmentally significant areas.
12. Before the City will issue a stripping and grading permit for developments with approved encroachments into natural areas on reserve lands, the developer shall submit, for approval by Parks, a Natural Area/ER Restoration Plan, in accordance with the most current edition of the "Development Guidelines and Standard Specifications—Landscape Construction."

Strategies

1. The City will work with the development industry to establish a "jointly approved consulting list" that would be acceptable to both parties, for conducting environmentally significant area assessments, and to develop a cost formula for cost sharing such assessments. In the meantime, the City will continue to conduct environmentally significant area assessments at its own expense.
2. Parks will assess existing natural systems during the preparation of Growth Area Management Plans (SSS), and will use the criteria outlined in Appendix C to determine which areas are environmentally significant.
3. Parks, in cooperation with the Corporate Properties Group, will develop a short and long-term acquisition strategy for environmentally significant areas. The strategy would include the identification of priority lands, costs, funding alternatives, and partnerships. Furthermore, Parks will prepare a ten-year growth package on natural area acquisitions for the 2002–2012 Capital Budget envelope.
4. Parks and Planning & Transportation Policy should implement a Natural Area Information/Education Program to encourage landowners to voluntarily protect natural areas on their properties (TR 97).

Open Space Land Use Policies

13. The administration should pursue, through the Joint Use Coordinating Committee, an amendment to the Joint Use Agreement so that section 4.9, Priority of Use, which establishes priorities of use with respect to all reserve lands, would include Environmentally Significant Areas in Priority #2, and would add a Priority 4 entitled Urban Design Natural Environment Parks (See General Open Space Principles, Planning Principle 2c, page 15).
14. Parks should work with the school boards and community agencies to develop youth-based environmental initiatives, such as an environmental protection corps, to enhance natural area management, park cleanliness, and pathway safety, and to provide for constructive involvement in environmental issues (BP).
15. Biophysical Impact Assessments, as defined in Appendix D, and Natural Area Management Plans should be conducted to the satisfaction of the subdivision authority and outline potential impacts and appropriate mitigating measures prior to:
 - a. any approval of outline plans for land containing or abutting identified Environmentally Significant Areas (ESAs) (TR 97);
 - b. any stormwater management facilities, utility corridors, major roadways, etc. on or adjacent to a natural area.
16. The Environmental Reserve/Environmental Significant Area zone system in Appendix C should be used to provide a measurable rationale for appropriate development or protection in Environmental Reserves (ER) or where Municipal Reserves (MR) have been allocated for the protection of Environmentally Significant Areas (ESAs). This process is intended for use after the ER boundaries have been identified and not as a method of determining ER definition.

4. THE URBAN FOREST

Calgary's urban forest contributes to the environmental, economic and social well-being of present and future generations. Protection of existing trees is usually accomplished through policy vehicles, however the current legislative framework is fragmented. The stewardship of the urban forest on behalf of the City of Calgary is coordinated by the Urban Forester within Parks.

Trees serve to define the long-term character of the city as a whole and the individual communities within it. Most trees are planted for aesthetic reasons or for shade. An estimated 60% to 90% of trees in urban forests are on private lands. Private stocking levels and management affect and are affected by the planning and management of the public urban forest. Since many urban trees are on private property, neighbourhood action is key to urban forestry sustainability.

The City is committed to developing and supporting programs to protect and improve atmospheric air quality. (CEP) Recent scientific data confirm that the urban forest plays a significant role in improving environmental quality by removing gaseous and particulate pollutants from the air, increasing CO₂ absorption and reducing stormwater runoff, erosion and sedimentation. Trees also moderate the climate by providing cooling in the summer and reducing wind velocities in the winter, which in turn results in energy conservation.

The economic benefits can be both direct and indirect. Direct benefits are associated with savings in energy and infrastructure costs and an increase in individual property values. The indirect economic benefits of trees can be even greater. Trees facilitate society's need for fewer measures to control air pollution and fewer new facilities to meet peak energy demands. In addition, well-landscaped neighbourhoods generate increased commercial opportunities.

Trees bring natural elements and wildlife habitats into urban surroundings, all of which increase the quality of life for the residents of the community. A major concern, therefore, is the amount of native forest that is being lost to development.

In an urban situation the concept of sustainable forestry implies that:

- a. The urban forest requires active, consistent and continuing management. The accrual of net benefits can only occur when adequate and reasonable care is provided;
- b. The net benefits to the community should be greater than the cost involved in planting, maintaining and removing trees;
- c. The urban forest is composed of all trees in the community, regardless of ownership.

Open Space Land Use Policies

The current canopy cover for Calgary is estimated at 8% to 10%. The low canopy cover is reflective of the prairie environment and the young age of the urban forest. The target of 20% canopy for Calgary will include the private as well as the public components. The distribution of the urban forest will be influenced by the various land use classes.

Species diversity increases the urban forest's ability to buffer the negative impacts of insect and disease epidemics and unusual climatic events.

Policies

1. The City should promote the provision and maintenance of a healthy, viable urban forest in all areas of Calgary by protecting the existing urban forest and facilitating additional planting to keep up with the growth of the city and to meet environmental targets.
2. The City should foster current partnerships and pursue others to encourage contributions of labour and financial support for enhancing the urban forest.
3. The management of the urban forest should be governed by the "Urban Forestry Management Plan" (in progress—refer to Appendix G for an outline of this plan).
4. New tree planting and replacements to achieve appropriate tree cover will aim at sustaining existing forest levels and enhancing levels to compensate for the growth of the city and at meeting environmental targets. The ideal canopy for Calgary will take into consideration both private and public components.
5. Guidelines and specifications for species use for individual communities within the city should be defined in the "Urban Forestry Management Plan." The intent would be that no one species would comprise more than 18% of the total city-wide planted tree inventory.
6. Where appropriate and possible, native vegetation should be conserved to increase biodiversity in the community and add to the sustainability of the urban forest.
7. The Interdepartmental Tree Committee should coordinate various tree related bylaws, policies and procedures and document them in the "Urban Forestry Management Plan." (Refer to Appendix H for information on this committee.)
8. Regular health/hazard inspection and management practices should minimize the risk of tree failure and exposure to liability, thereby ensuring that the net benefits provided by the urban forest will be greater than the costs associated with caring for the forest.
9. A system of valuing the mature canopy of Calgary should be developed and implemented on the basis of the current International Society of Arboriculture's recognized valuation system, in conjunction with the Council of Landscape Appraisers.
10. Tree removal should not be the first resort for solving conflicts. The International Society of Arboriculture's amenity value of the trees should be evaluated against the cost and feasibility of other solutions.
11. Parks should be consulted prior to non-emergency construction or utility work within the "drip line" (under the tree canopy) of existing city trees to ensure their protection.
12. For major capital work conducted by other City departments within MRs, MSRr and ERs, the replacement policy for the removal of or damage to formally planted trees shall be a ratio of 2:1. If native vegetation is removed or damaged on these sites, the replacement of the vegetation will be evaluated on a site-by-site basis to ensure that the integrity of the site's vegetation is reasonably maintained.
13. Public trees should not be pruned or removed to maintain sight lines or views.
14. Public safety should be maintained through the removal of dead, diseased, dying or hazardous trees and branches and the judicious clearing of overhead utility lines within the confines of established standards and budget. All trees removed or severely damaged should be replaced within the community.
15. Residents are encouraged to enter into partnerships to plant trees and care for existing trees on adjacent city boulevards, in accordance with the City's landscape construction specifications.
16. Sound arboricultural practices and tree protection on private property should be encouraged by providing technical assistance to homeowners, other departments, and private corporations.



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Open Space Land Use Policies

17. An arboretum should be established, through a partnership relationship, to provide test plots for experimentation related to establishing different species and cultivars within the City of Calgary. This arboretum should also promote its successes in this area to the citizens of Calgary.

Strategies

1. An "Urban Forestry Management Plan" should be developed by Parks for the planning, design and management of trees. This plan should be developed in coordination with the Interdepartmental Tree Committee (See Appendix G for management plan information).
2. Performance measures should be articulated in the "Urban Forest Management Plan" upon evaluation of the current canopy baseline information.
3. The City should foster partnerships by providing opportunities and incentives for group and citizen involvement in planting and maintenance programs and policy development.
4. A city-wide Arbor Day should continue to be an organized event each year.
5. Parks should investigate the planning, development and implementation of an arboretum through a partnership relationship.
6. The Interdepartmental Tree Committee (See Appendix H) should review and implement the International Society of Arboriculture's valuation system for mature trees, as well as coordinate the development of various tree-related bylaws.

D. INTERMUNICIPAL OPEN SPACE

The Intermunicipal Maps 9a – MD of Rocky View and 9b – MD of Foothills outline the respective boundaries of the intermunicipal areas and illustrate the natural areas and habitats types in each.

Each of the two municipal districts adjoining the City of Calgary has developed, in partnership with the City, statutory Intermunicipal Development Plans. The purpose of these documents is to identify the areas of mutual intermunicipal interest and to establish policy direction and processes to address intermunicipal issues that may arise within the areas.

The current intermunicipal plans promote connected open space systems and the protection of natural areas and water quality. All municipalities recognize that the needs of rural and urban residents differ and conflicts are best resolved through continued information-sharing and negotiation on emerging issues.

The following policies are taken directly from the two intermunicipal plans, with specific references noted in brackets. The full context of the intermunicipal partnerships extends beyond the policies regarding open space and readers are encouraged to review the applicable documents in their entirety.

Joint Policies

MD of Rocky View/City of Calgary Intermunicipal Development Plan

1. Within designated urban growth corridors, municipal, school or municipal/school reserve should only be taken by direct dedication of land or registration on title of a deferred reserve caveat (2.6.6-1).
2. Lands that qualify as environmental reserve under Section 664(1) of the Municipal Government Act should be dedicated at the time of subdivision approvals as either environmental reserve or environmental reserve easements in favour of the respective municipality (2.6.6-2).
3. While recognizing different municipal approaches and priorities with respect to the acquisition and maintenance of open space, both municipalities should:

Open Space Land Use Policies

- a. give due consideration to the impacts that development may have on natural areas;
 - b. set priorities for potential connections between existing open spaces; and
 - c. co-operate in the long term planning and development of future open space systems (2.6.6-3).
4. Any subdivision or development applications for lands identified as having potential Historic Sites will be referred to Alberta Community Development in accordance with Section 5(3)(i) of the Subdivision and Development Regulation (2.6.6-4).
 5. Development of slopes and river valleys within natural areas should be discouraged in favour of retention of such lands as part of a natural open space system (2.6.6-5).
 6. Notwithstanding the above open space policies, existing agricultural operations are recognized (2.6.6-6).
 7. Land use and development within flood plains and flood fringe areas of the Intermunicipal Development Plan shall be regulated by any policies, guidelines, requirements or controls adopted by either respective municipality or by the Province of Alberta and the Government of Canada.

For example:

- Current municipal development plans;
- Floodway and Floodplain Special Regulations in the City of Calgary;
- The City of Calgary Land-use Bylaw;
- land use and development controls as stated in the Calgary River Valleys Plan;
- The Municipal District of Rocky View Land Use Bylaw;
- The Can-Alberta Flood Damage Reduction Program.

Impacts of any changes to floodway and flood fringe boundaries should be taken into account by both municipalities (2.8.2-1).

Joint Policies:

MD of Foothills/City of Calgary Intermunicipal Development Plan

1. Municipal and/or school reserve should only be taken by direct dedication of land or registration on title of deferred reserve caveat. Cash shall only be taken in lieu of reserve after consultation and agreement by the City of Calgary. There shall be no disposition of reserve land without appropriate intermunicipal referral and consultation as provided for under Section 3.1 of this Intermunicipal Development Plan.

In the event that two or more acres can be dedicated as municipal and/or school reserve, neither deferred reserve nor cash-in-lieu of reserve may be taken; such reserve must be taken as direct dedication of land (Country Residential Development Policies 2.2.2-2).

2. Lands that qualify as environmental reserve under Section 664(1) of the Municipal Government Act should be dedicated at the time of subdivision approval as either environmental reserve or environmental reserve easement in favour of the MD of Foothills (Country Residential Development Policies 2.2.2-3).
3. On lands adjacent to Natural Areas as defined under Section 2.5.4 of the Intermunicipal Development Plan and shown on Map 2 (Map 9b in this document), each plan of subdivision should:
 - a. conform to the subdivision standards of the MD of Foothills and give due consideration to the potential for future dedication of a continuous open space system, the focus of which is to be the valleys of the Bow River, Pine Creek and Fish Creek;
 - b. address any effects of development on Natural Areas; and
 - c. include, where necessary, a conceptual scheme relating the proposed subdivision to any significant Natural Areas, wildlife habitat and corridors or bodies of water (Country Residential Development Policies 2.2.2-5).

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4. For those areas having an Agricultural/Future Urban Development land use policy, the City of Calgary may approve an area structure plan or community plan for urban residential purposes. Area structure plans and community plans providing for further urban residential development should be evaluated according to the following criteria:
 - a. a proper protection of continuous open space systems, as described in Section 2.5 of the Intermunicipal Development Plan;
 - b. effects of development in environmentally sensitive or hazardous areas (Urban Residential Development Policies 2.2.4-4 g, h).
5. That portion of Fish Creek Provincial Park within the Intermunicipal Development Plan is identified on (Map 9b). Both municipalities support the policies of the Fish Creek Provincial Park Management Plan, which includes provisions for the future extension of the park southward along the Bow River (2.3.8-1).
6. The valleys and surrounding escarpments of the Bow River, Pine Creek and Fish Creek, as identified on [Map 9b], contain wildlife habitat and natural amenities of significant ecological value. Both municipalities will cooperate to protect these areas for eventual incorporation into an open space system. The three major components that will eventually comprise this system are the Bow River Valley, Pine Creek Valley and Fish Creek Valley (2.5.3-1).
7. Within the valleys of the Bow River, Pine Creek and Fish Creek, individual land use and subdivision applications shall be evaluated according to the impacts on Natural Areas and potential wildlife corridors that may eventually be linked to an open space system. Both municipalities will endeavour to more clearly identify potential wildlife corridors and natural systems within the Intermunicipal Development Plan (2.5.3-2).
8. Land use and development in floodway and flood fringe/floodplain areas of the Intermunicipal Development Plan shall be regulated by any policies, guidelines, requirements or controls adopted by either respective municipality or by the Province of Alberta and the Government of Canada.

For example:

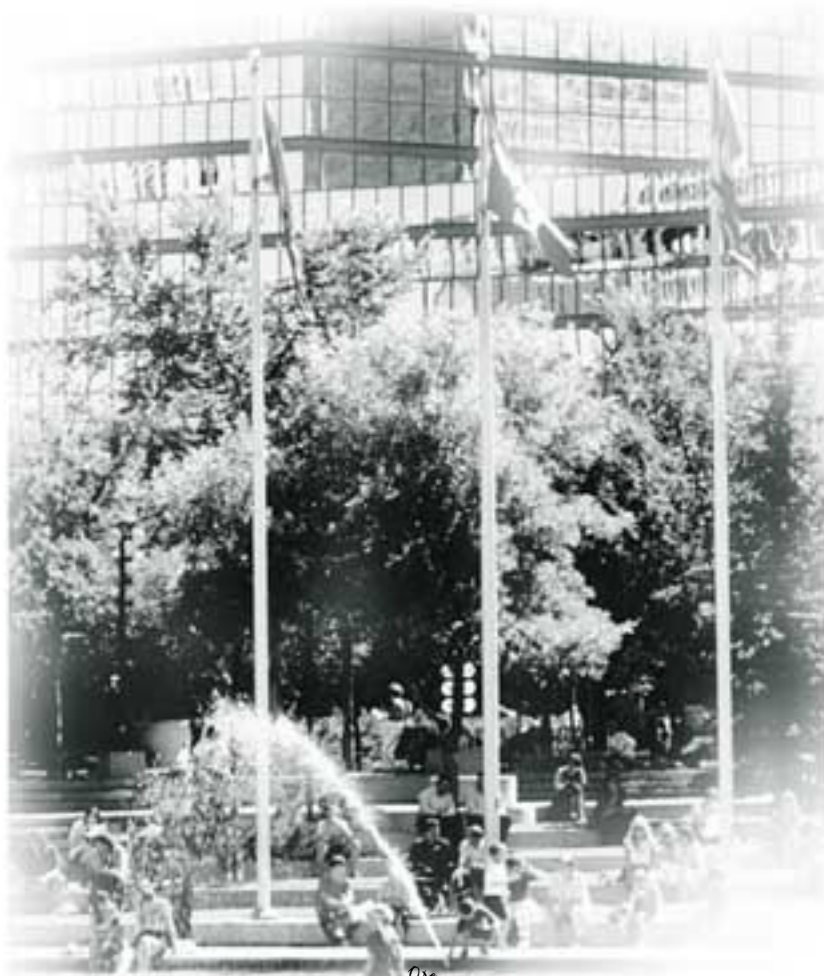
 - Current municipal development plans;
 - Floodway and Floodplain Special Regulations in the City of Calgary Land-use Bylaw;
 - Land use and development controls in the Calgary River Valleys Plan;
 - Special setback requirements in the M.D. of Foothills Land Use Bylaw;
 - The Can-Alberta Flood Damage Reduction Program (2.5.3-3).
9. Natural Areas within the Intermunicipal Development Plan boundaries are identified on Map 9b. Both municipalities will give due consideration to any impacts that development may have on these Natural Areas (2.5.4-1).
10. Where appropriate, certain Natural Areas outside the valleys of the Bow River, Pine Creek and Fish Creek, including such wetlands as the Bridle Creek and Priddis Sloughs, may eventually be linked to a continuous open space system as identified in the Intermunicipal Development Plan Section 2.5.3 (2.5.4-3).
11. Both municipalities will endeavour to support the continued ecological viability of the Ann and Sandy Cross Conservation Area, particularly through the identification, in conjunction with more detailed planning, of wildlife corridors and natural systems connecting that Conservation Area to areas within the Intermunicipal Development Plan. Until such wildlife corridors can be more clearly identified, potential wildlife corridors, which are based on habitat only, have been identified on Map 9b (2.5.5-2).

Open Space Land Use Policies

Strategies

Pertaining to the City of Calgary initiatives:

1. The City of Calgary will support and facilitate logical connections of existing municipally owned sites between agencies, where appropriate, for current and future open space purposes.
2. Through example and as exemplified by the intent of the Open Space Plan, the City will discourage the development of escarpments, slopes and river valleys within natural areas in favour of retaining those lands as part of the natural open space system.
3. Through example, and as exemplified by the intent of the Open Space Plan, the City will extend pathway and trail networks into newly developing areas within the city, utilizing the river valleys, creeks, ravines and natural areas wherever possible and will support and cooperate with the MDs in similar projects.
4. The City should facilitate, in partnership with the adjacent municipal districts, First Nations, development industry, school boards and other partners, ways to identify, designate and protect environmentally significant areas and future park sites in the growth corridors of the city (BP).
5. The City should approach the adjacent municipal districts to discuss re-aligning notification areas so they align with watersheds and/or sub-watersheds. This should be done in conjunction with the joint water quality work being undertaken by the province.
6. The City and Tsuu T'ina Nation should continue to coordinate and inform each other of proposals and developments that may impact the other agency, and seek input and comments at appropriate points in the planning process.
7. The City will encourage and support the development of a "Parks Land Trust," through partnership with a not-for-profit organization, for the purpose of acquiring key environmental or river-edge parcels of open space on a regional basis. Key river edge parcels shall be defined as:
 - land possessing landscape features that contribute to the visual continuity and aesthetic quality of the RVPS (See Section C2, policy 12, page 41);
 - environmentally significant areas and cultural resource areas adjacent to the floodway (See Section C2, policy 22, page 41);
 - undeveloped escarpments and all other ER lands adjacent to the floodway (See Section C2, policy 28, page 42);
 - suitable buffers adjacent to land uses that are incompatible with the river valley (See Section C2, policy 33, page 42); and
 - where appropriate, and in the case of subdivision of land adjacent to watercourses, MR land acquired next to floodways so that regional park facilities can be developed. This should occur only when the neighbourhood and community needs for MR land are being met by the regional park development and/or are being met within the subdivision as per the Joint Use Agreement (See Section C2, strategy 4, page 42).



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Open Space Land Use Policies

E. ALTERNATIVE USE OPEN SPACE

1. EMPLOYMENT CENTRES

An important feature of an employment centre's success is its ability to provide a broad range of public and community facilities, such as public open space. The main open space challenge in these centers will be to achieve a balance between the Regional Reserve requirements of area residents and the open space needs of the employment centre.

Policies

1. The Joint Use Coordinating Committee supports the use of a portion of the creditable reserve dedication, owing on the non-residential lands, for public open space, rather than taking cash-in-lieu, in order to meet the objectives of the Employment Centre Strategy.
2. The provision of open space using creditable reserve within employment centres, rather than taking cash-in-lieu, will be determined on a case-by-case basis, through the community planning process, and will be subject to review by the Joint Use Coordinating Committee, in accordance with the following:
 - Area Structure Plans (ASP's) containing creditable reserve within employment centres, shall be circulated to the Joint Use Coordinating Committee for review and comment. The ASP's shall provide the rationale for the requirement of open space within the overall context, structure and surrounding land uses of the employment centre;
 - Outline/Land Use Plans containing creditable reserve within employment centres, shall be circulated to the Joint Use Coordinating Committee for review and recommendation to the approving authority regarding the integration of the open space lands within the employment centre and with the surrounding land uses.
3. Where the need for a regional recreation park within the employment centre has been identified, creditable reserve can be dedicated in employment centres for this purpose upon the review and recommendation of the Joint Use Coordinating Committee to the approving authority.

4. In keeping with policy 3 above, creditable reserve may be dedicated for regional recreation facilities and high school sites within employment centre areas where appropriate.
5. Creditable reserves within employment centres should meet the following criteria:
 - They should be designed to provide publicly accessible focal points within the employment centre;
 - They should have good pedestrian connections to the surrounding land uses;
 - They should be located in places that generate relatively high levels of pedestrian activity; and
 - They should have no more than two sides bounded by roads of a collector standard or higher.
6. An employment centre should have good pedestrian connections to the open space and appropriate landscaping to support those connections.
7. LRT stations, transit hubs and major activity areas associated with employment centres should have good connections to the regional pathway network.
8. If a parcel of open space that is proposed for an employment centre does not meet policies 5 thru 7 above, it shall be privately owned and operated by the landowner or it shall be developed through a negotiated bonus system as per Section E2 Urban Plazas, Strategy 1, page 56.

Strategies

1. The administration should pursue, through the Joint Use Coordinating Committee, an amendment to the Joint Use Agreement so that section 4.9, Priority of Use, which establishes priorities of use with respect to all reserve lands, includes Employment Centre Open Space in Priority #3.

2. URBAN PLAZAS

According to observation studies of modern plaza use, sitting, standing, walking (strolling/promenading) and their combination with eating (outdoor cafes, picnicking, brown bag lunches), reading, watching and listening account for more than 90% of all use (Marcus, 1998).

Open Space Land Use Policies

More people are getting into the habit of sitting in plazas and with each new plaza the clientele grows (White, 1974). Also on the increase is busking/street entertainment, people engaging in social interaction and passive activities, and impromptu sidewalk "conferences" among business persons (Marcus, 1998).

People who live nearby are also using urban plazas more. The plazas are the backyard for those who live in higher-density areas. Urban plazas also contribute to a greater sense of community by becoming evening/weekend parks for local or city-wide residents, to be used either casually or for public events such as festivals, carnivals, art shows, exhibits, concerts, rallies and street markets (Marcus, 1998).

General Policies

1. Planning the size, location and type of urban plazas in any development or redevelopment process within the downtown, inner city or established suburb should be managed using a community needs assessment process (see Community Needs Assessment, page 11) to meet the community-specific preferences.
2. The City, in cooperation with developers, community/resident associations and/or partnerships should ensure that urban plazas are appropriately designed to enhance their viability, safety, liveliness and efficiency for maintenance.
3. Public art should be promoted as part of the urban plazas as per the Public Places Project (P3), and the Council-approved Public Art Policy.
4. Design, function and programming are the key characteristics of an urban plaza and, therefore, they will be maintained in accordance with the Council-approved Class A park maintenance standards.
5. Urban plazas designated as Municipal Reserve will attract customers to nearby retail services, contribute to employee satisfaction in nearby buildings, and add prestige and marketability to an area or community. Therefore, operating expenses for these urban plazas that are over the Council-approved Class B park maintenance standards should be augmented through a special property owners' tax and/or a developer-provided endowment fund.

Policies for Community Squares

6. Community squares should act as a focal point and provide a purpose, usefulness and/or function at the heart of the community. Their design should reflect or extend into the surrounding streetscape.
7. Where it is economically viable, a percentage of a community square's total frontage should be allocated to retail or service establishments, rather than to office buildings or residential land uses, in order to attract people into the plazas and thus enliven them.
8. Community squares will be part of the 10% reserve dedication only when the neighbourhood and community needs for MR lands are being met within the subdivision as per the Joint Use Agreement's priorities of use with respect to all reserve land. Otherwise, the community square shall be privately owned and operated by the community, or it shall be developed through a negotiated bonus system as per Strategy 1 page 56.
9. Community squares should be safe, visible and accessible to pedestrians, and no more than two sides should be bounded by roads of a collector standard or higher.
10. Community squares in the inner city, established suburbs and new communities shall have good pedestrian connections to the surrounding land uses.

Policies for Downtown and Commercial District Plazas

11. To promote higher intensities of use, downtown and commercial plazas should provide for a variety of form, colour and texture through the use of landscape elements such as trees, shrubs, fountains, public art (sculptures, variously shaped artifacts), space articulations, focal points and changes in levels. Furthermore, urban plazas should be designed and/or located to:
 - receive as much sunlight as their surrounding environment will permit;
 - provide shaded areas where appropriate;
 - reduce glare from highly reflective building surfaces;
 - reduce wind conditions;
 - create a sense of joy, delight, and wonder at the life of the city;

Open Space Land Use Policies

- stimulate play, creativity, and imagination by drawing on legend, metaphor, mythology, or history and/or by creating a form that can be manipulated, sat upon, or walked under;
 - promote contact and communication through triangulation;
 - provide comfort and amenity by incorporating steps, ledges or railings for sitting or leaning within or close to a work of art; and/or
 - encourage interaction and cast people as actors, rather than an audience.
12. Plazas should be promoted for development in the downtown and commercial districts. However, where economically viable, a percentage of the plaza's total frontage should be allocated to retail or service establishments, rather than office buildings, in order to attract people into the plazas and thus enliven them.
 13. Plazas that do not contribute to the greater sense of community and primarily service nearby retail services and buildings in commercial districts or the downtown (e.g., small plazas immediately adjacent to the sidewalk and closely connected to the street; outdoor lunch plazas separated from the street by a level change or pierced wall; rooftop garden plazas) will remain as private property to be owned and operated by the appropriate property owner.
 14. To promote their interconnection within the downtown, plazas should be connected by either Stephen Avenue Mall, Barclay Mall, the Bow River Promenade or plus 15 walkways. The intent is to create a pedestrian system, rather than a series of isolated oases.

Strategies

1. A bonus system that allows density to be earned by providing ground-level public urban plazas that are integrated into the pedestrian system should be established and negotiated with developers. (For example, a developer who provided one unit of urban plaza could build, in return for giving up ground floor space, ten extra units of floor area at the top of the development.) Note: because of the city's winter conditions, this bonus system may include publicly accessible indoor space (e.g., foyer, atrium, galleria) at the street level to substitute for outdoor space. However, such spaces should be seen as an adjunct only to a proposed urban plaza.
2. A concept plan, as per the "Development Guidelines and Standard Specifications—Landscape Construction," should be established for proposed publicly owned urban plazas. These concept plans should be submitted for approval by Parks prior to the approval of an outline plan for new communities, or prior to the approval of a development permit for established communities (i.e., downtown, inner city, and established suburbs—see Map 4).
3. The administration should pursue, through the Joint Use Coordinating Committee, an amendment to the Joint Use Agreement so that section 4.9, Priority of Use, which establishes priorities of use with respect to all reserve lands, includes Urban Plazas in Priority #3.
4. The above policies and strategies should be tested using actual development proposals, then evaluated and, if necessary, modified in accordance with the test results.

3. DOWNTOWN OPEN SPACE

See Map 4—Open Space Policy Areas for the area to which the downtown open space policies apply.

Open space contributes to the livability, character and vitality of the downtown by providing opportunities for activities, street beautification, and mitigation of environmental conditions.

Open Space Land Use Policies

Downtown open space offers a variety of experiences and provides a contrast to the built environment, which is particularly important in high-density areas (CP).

The riverbank is one of the downtown's major open spaces, with its specialized segments to satisfy needs of local residents, workers, and the city as a whole (CP).

The City has a bonus system in place to promote the provision of on-site open space and pedestrian components, off-site improvements on public lands, as well as density transfers for heritage preservation purposes.

Policies

1. Emphasize the quality of pedestrian environments in the preparation and implementation of plans for the downtown area (CP).
2. Encourage the design of building edges to help create a comfortable pedestrian environment (CP).
3. Adhere to standards for sunlight access in special areas such as pedestrian malls, public open spaces and the riverbank (CP).
4. Endeavour to improve accessibility to and visibility of the riverbank (CP).
5. Work towards the implementation of a comprehensive, public, open space system in the downtown core, centred on Stephen Avenue Mall, Barclay Mall, the civic centre area, and the riverbank (CP).
6. Encourage expansion of the retail and residential base without substantial loss of open space or heritage resources (CP).
7. Endeavour to create a continuous, attractive setting in the downtown for diverse recreational activities, which satisfy local and regional needs (CP).

Strategies

1. The City should work with landholdings near rivers to maintain public accessibility and visibility along the rivers in order to achieve a significant park experience.

4. COMMERCIAL AND INDUSTRIAL DISTRICTS

The City's priority for typical park development is to have open space where people live, as opposed to where they work. Therefore, cash-in-lieu is generally taken instead of MR dedication except for regional or city-wide recreation building sites (e.g. the Soccer Dome), environmentally significant areas (e.g. escarpment lands adjacent to the future Stoney industrial area) and regional or city-wide sports fields (e.g. Calgary Rugby Union fields and clubhouse).

Policies

1. The priority for Parks continues to be that open space should be located where people live (as opposed to where they work). Open space dedication and development in industrial and commercial areas should take place on a case-by-case basis.
2. The City encourages the private sector to provide and maintain passive parkland in commercial and industrial parks through its own on-site landscaping.
3. Commercial and industrial lands should contribute to the environmental health of the city through landscaping, urban forestry, appropriately sized parking lots and soft-surface conditions where possible.
4. Cash-in-lieu and/or deferred reserve should be taken as general practice in industrial and commercial business parks except where environmentally significant areas exist and can be protected.
5. Opportunities to provide parkland within industrial areas or commercial business parks should be evaluated whenever there are partnerships and financial opportunities.
6. Open space in industrial areas should be taken as MR dedication (versus cash-in-lieu) only when specific uses are planned for the open space (e.g. dedicated sports field park) and an acceptable interface with adjacent land uses can be achieved.
7. Parkland and/or recreational facility development on MR land in all commercial or industrial areas shall satisfy the principle of public accessibility.

Open Space Land Use Policies

8. Public open space as part of a commercial district may be appropriate where outdoor pedestrian traffic is being encouraged, where recreational functions can be developed and where general public accessibility is not compromised by the adjacent businesses.
9. Local pathways/bikeways should link commercial districts to nearby residential areas and the city-wide pathway/bikeway system.
4. The City should facilitate creative partnerships that will intensify the use of currently underutilized parkland in the city.
5. Special Protection Natural Environment Parks and Major Natural Environment Parks should not be leased, except at the discretion of the General Manager of Parks and in accordance with the Social Recreation Lease Policy.

5. NON-TRADITIONAL USES

Non-traditional uses may offer a valuable addition to the availability and breath of programming and facilities that are offered to the Calgary public through traditional school, government, community and private sector operations.

In accordance with the Social Recreation Lease Policy, Community and Neighbourhood Services leases City land to not-for-profit groups that meet certain criteria related to breadth of membership and accessibility. User groups offering entry-level facilities/programming and/or child-oriented programs, that are accessible to the general Calgary public and do not discriminate on the basis of age, gender, culture or financial status, may be eligible to lease City land.

The Public Use Policy and the Social Recreation Lease Policy contain criteria that applicant organizations must meet in order to be eligible for public land leases administered by Community and Neighbourhood Services. Although many user groups meet these requirements, the land base is insufficient to meet the needs of all groups and, therefore, priorities must be established.

Policy

1. The provision of open space for non-traditional public uses should occur in accordance with the Social Recreation Lease Policy and the Public Use Policy.
2. Where appropriate, the City should lease land for eligible non-traditional uses within the framework of identified priorities and land availability.
3. Underutilized sports field locations should be identified and reviewed for opportunities to retrofit and adapt sites for multiple use.

6. The impacts of non-traditional open space uses on immediately surrounding communities should be minimized through appropriate planning, design, and programming.
7. Emerging sports and non-traditional sports aimed at youth should be facilitated within the developed MR of a community, particularly if partnership opportunities are presented (e.g. basketball courts, in-line skating/skateboard areas, outdoor lacrosse boxes, beach volleyball, disc golf, etc).

Strategies

1. Parks, Community and Neighbourhood Services and Corporate Properties should produce an inventory of City lands that would allow the identification of underutilized sites when location options for leasing to both traditional and non-traditional user groups are sought.
2. Parks and Community and Neighbourhood Services should work with the school boards to identify interim leasing opportunities for eligible uses on unbuilt School Reserve envelopes.

6. STORMWATER MANAGEMENT

Stormwater management (SWM) facilities may concurrently address issues related to:

- sustainability of an existing system (water quality and quantity management and habitat protection);
- recreation opportunities (access to "green" areas for active or passive uses);
- urban design or aesthetic value; and
- public safety (flood protection).

Open Space Land Use Policies

One of the major challenges in promoting the dual use of MR, MSR and ER lands, in the interest of land efficiency, is accommodating SWM facilities while maintaining the area's environmental, recreational, and aesthetic integrity. The following policies address this challenge.

Policies

1. The use of MR lands for new or retrofit stormwater management facilities should be permitted, however the environmental, recreational, and aesthetic integrity of the lands should not be compromised.
2. Stormwater ponds should not be located in Special Protection Natural Environment Parks. Parks will work closely with Waste Water and Drainage to determine the site conditions and design criteria for the approval of wet ponds in river valleys that have an amenity value and habitat edge.
3. Natural drainage systems should be used instead of artificial stormwater management systems, where site conditions allow. (SSS) Water quality and/or flow levels should not jeopardize the integrity of the system.
4. Where appropriate and as determined by Parks and Engineering Services, natural drainage courses may be altered as a result of the construction of stormwater retention or detention facilities.
5. MR lands in a community should not be more than one-third encumbered by a stormwater management facility. Should stormwater management in a community require additional land, the balance would be PUL (public utility lot).
6. Innovative design for stormwater management should include the use of "best management practices." Best management practices currently include wet ponds, dry ponds, wetlands, source control, lot drainage patterns, storm conveyance methods, swales, trenches and end-of-pipe practices. These practices, together with innovative design, should be used to:
 - a. integrate stormwater facilities more effectively as passive open space;
 - b. enhance the aesthetic value of new communities by providing visual relief and diversity and reinforcing views;
 - c. provide a mechanism for habitat enhancement; and
 - d. educate homeowners as to realistic expectations on use, access, and aesthetics.
7. The general locations of stormwater management facilities should be established at the community planning stage.
8. Boundaries of areas to be used for stormwater management purposes should be clearly defined at the outline plan stage to prevent unanticipated future encroachment or flooding of adjacent lands, whether proposed reserve lands or private lands.
9. The Public Lands Act declares the bed and shore of all permanent and naturally occurring water bodies to be crown land. Prior to the approval by Waste Water and Drainage of any new master drainage plan that contains a stormwater facility in a naturally occurring water body, the development application will be circulated to Sustainable Resource Development, Public Lands to determine if the water body is crown land. If it is crown land, Sustainable Resource Development, Public Lands must give approval for its use as a stormwater facility.
10. According to the Municipal Government Act, stormwater management facilities cannot be located in an environmental reserve—they should be located in a PUL. Prior to the approval by Waste Water and Drainage of any new master drainage plans that incorporate storage and existing wetland, a Biophysical Impact Assessment shall be conducted by the developer, in consultation with Parks, to determine if the following conditions apply, which would allow clean water to be accepted into an environmental reserve from a PUL:
 - a. the water is needed to maintain the predevelopment character of the environmental reserve; and
 - b. the water will not cause any unacceptable environmental change to the natural area.
11. Prior to the approval by Waste Water and Drainage of any new master drainage plan that contains a stormwater facility in a natural area, a Biophysical Impact Assessment shall be conducted. If the site is a Major Natural Environment Park, the Biophysical Impact Assessment shall be done in conjunction with the production of a Natural Area Management Plan for the site.

Open Space Land Use Policies

Dry Ponds

12. The dual use of MR and MSR lands for dry ponds should be supported, provided their location, size and recreation, education and/or conservation functions are not prejudiced in an effort to accommodate the ponds (DP).
13. The location of stormwater dry pond facilities within open space sites should be encouraged in the following order of location preferences:
 - a. Public Utility Lots;
 - b. Disturbed natural environment parks;
 - c. MR and MSR.
14. Dry ponds may occupy up to a maximum of one-third of the MR and MSR lands in a community and if additional pond space is required it will be dedicated as a Public Utility Lot.
15. Dry ponds should not be located in MR lands that are classified as environmentally significant.
16. Dry pond use of MR in a commercial or industrial subdivision should be determined on a case-by-case basis and should encompass the percentage of the MR that is mutually agreed upon by all parties.
17. Dry ponds shall not be located within areas designed to accommodate playground equipment (TR).
18. Dry ponds should not be located in Special Protection Natural Environment Parks and Major Natural Environment Parks.
19. Stormwater dry pond facilities may receive up to 100% credit where located on reserve lands, provided that the reserve lands meet the entire site planning criteria for location, size and purpose, and the reserve function is not prejudiced (DP).
20. Dry ponds and overland routes to dry ponds shall not be located on school or community building envelopes. However, in retrofit situations, this restriction shall be reviewed on a site-by-site basis. (DP)
21. In the event that the location of the stormwater dry pond facility on reserve land results in an over-dedication of reserve, compensation for the over-dedication should be deemed to be one dollar (DP).

22. Soccer fields, ball diamonds and their buffer zones shall be located outside the one-in-five-years inundation level, and the inundation must:
 - a. not be more than 48 hours in any month of the year;
 - b. not exceed six times per month; and
 - c. leave fields suitable for play within 48 hours after the flood event has receded.
23. The design and development of reserve lands containing dry ponds should be in accordance with the most current edition of the Parks' "Development Guidelines and Standard Specifications—Landscape Construction."

Wet Ponds

24. Wet ponds shall not be located on MR or MSR lands as public recreational open space. Rather, they shall be designated as a portion of the public utility.
25. Wet ponds shall not be located adjacent to MSR lands.
26. MR lands may be located adjacent to public utility lands if the design of the pond is such that it provides a pathway linkage or a visual amenity.

Wetlands

27. The use of crown-owned water bodies for stormwater facilities will require approval from Sustainable Resources Development, Public Lands.
28. Existing wetlands that qualify for ESA status may have limited suitability for dual use in stormwater management. Such sites will be managed for habitat protection and long-term sustainability.
29. Retrofitting for engineered stormwater wetlands will be supported in Major Natural Environment Parks where the wetlands can be integrated into an existing natural drainage course with minimal disturbance to the quality of the natural system.
30. Engineered stormwater wetlands in ERs will be supported if they can function as part of the natural drainage system of the reserve and can be designed and managed to function in a natural manner.
31. Engineered stormwater wetlands should be integrated into the open space fabric and pattern of the community.

Open Space Land Use Policies

32. Engineered stormwater wetlands shall be designed to balance the functions of stormwater management with habitat creation and diversity. The ER designation will extend to the boundary of the wetland and MR designation beyond the boundary, as required.
33. All forebays shall be located on PUL lands outside the MR and ER.
34. All recreational amenity development, such as paths, shall be located above the high water line.
35. An Environmental Impact Assessment will be completed at the community plan approval stage to determine whether an existing wetland is environmentally significant. Appendix E outlines the delineation process used to determine a wetland site and Appendix F outlines the Assessment and Evaluation process.
36. Once a wetland has been classified as ER or acquired as MR, in accordance with the MGA, the appropriate level of development within the wetland will be in accordance with the Evaluation and Development Assessment in Appendix F.
37. For wetlands identified as environmentally significant, a Biophysical Impact Assessment will be completed prior to the outline plan approval stage. Based on the ESA and BIA reports, a negotiated buffer of MR may be dedicated on a site-by-site basis.

Strategies

1. For multiple use and/or retrofit stormwater proposals, all interested City departments and other agencies should be consulted at the earliest possible opportunity.
2. In addition to Waste Water and Drainage's licensing obligations to Alberta Environment for the monitoring of water quality and quantity, an interdepartmental task force including Parks should collaborate to develop the monitoring of urban wetlands.
3. The policies and design criteria for incorporating stormwater management facilities into MSR sites, should be reviewed and updated by the Site Planning Team of the Joint Use Coordinating Committee on an ongoing basis.

7. ROADWAY GREENS

Roadway greens often accommodate utilities and function as a reserve for future roadway expansions. However, they also provide visual relief and are an important component in defining the character of the street and public realm by accommodating trees, amenities and other landscape elements. Roadway greens also act as buffer strips and separate development from adjacent streets or rail lines. Finally, roadway greens may provide opportunities for linear recreation/transportation by accommodating regional pathways and sidewalks.

"Entrance roadway greens" have an extremely high profile along the major roads that enter and leave the city. Their purpose is to improve the appearance of Calgary's entranceways and to welcome visitors with a positive first impression.

The City is in the process of developing alternative street design standards, which may result in new specifications for roadway greens associated with different street types. The following policies will provide direction for the development of the new specifications, and guide the implementation of existing specifications.

Policies

1. Roadway greens should be designed to contribute to the environmental health and visual aesthetics of the urban fabric. This may be achieved through appropriate landscaping with grasses and plant materials and/or with engineered surface materials in severe conditions. Parks will play a consultative role in reviewing landscape designs for roadway greens, with final approval coming from Engineering Services.
2. Roadway greens located along gateways to the city should be designed to promote Calgary's image as a cosmopolitan, vibrant, clean, safe city with a strong western heritage and a city that offers exceptional year-round attractions and recreational opportunities. Each entranceway should have its own design theme reflecting some aspect of Calgary's image (CE).
3. Where possible, the preservation or establishment of native vegetation along roadway greens should be encouraged.

Open Space Land Use Policies

4. Boulevards and medians should be developed to facilitate appropriate maintenance. Different levels of maintenance may be appropriate in different situations, depending on the location and classification of the street.
5. Developers, working in conjunction with Land Use and Mobility and Parks, should be encouraged to provide appropriate street improvements, including street trees, sidewalks, street furniture, lighting, and pathways, as amenities to benefit new and existing developments.
6. Parks will work in cooperation with Calgary Roads to implement the policy and procedures pertaining to roadway greens.
5. Setback standards for trees planted adjacent to utilities along roadway greens should be in accordance with the latest edition of the "Standard Specifications Streets Construction" and the policies and procedures established by the Interdepartmental Tree Committee (Appendix H).
6. Landscaping of roadway greens should be in accordance with the latest edition of the "Development Guidelines and Standard Specifications—Landscape Construction."
7. Parks should work with the development industry, affected City departments and other partners to modify roadway greens design for lower maintenance or sustainable landscapes, where possible (BP).

Strategies

1. Parks should work closely with Planning and Transportation Policy and Calgary Roads to refine the alternative street design standards.
2. The City's process for developing alternative street design standards should take into account the needs of pedestrians, cyclists, and other non-motorized road users.
3. Design themes should be implemented at Calgary's main entranceways as a joint effort of Planning and Transportation Policy, Calgary Roads, and Parks, and be raised in discussions with the adjacent municipal districts.
4. Parks should work in conjunction with Calgary Roads and the municipal districts to explore opportunities to enhance entranceways through public/private partnerships. Possible sources of funding might include industry sponsorship, taxes, private donations, Provincial/Federal Grants, and the Chamber of Commerce.



Open Space Land Use Policies

F. GENERAL LAND ACQUISITION

Policies

The open space system is an extremely valuable resource to Calgarians and, as such, a number of acquisition policies and strategies have been developed to ensure that the city's open space needs are met over the long term. The goal of successful open space planning is to provide a balanced mix of parkland and facilities that are easily accessible, meet the recreational needs of Calgarians and contribute to the environmental health, beauty and urban structure of the city.

Land acquisition for natural areas, parkland and recreational facilities is supported through policy in a number of documents including The Calgary Plan, Parks' Business Plan, Sustainable Suburbs Study, Urban Park Master Plan and the Natural Area Management Plan. The following principles and policies add and supersede existing policy where noted.

Acquisition Principles

1. Provide an inter-connected city-wide open space system that includes public open space along all major river and creek valley lands. Provide public access to watercourses where appropriate.
2. Where appropriate, provide a balanced mix of natural and developed parkland areas across the city. Areas with more regional natural areas will contain less developed parkland while areas with fewer regional natural areas will contain more developed parkland. Provide a balanced distribution of major open space for passive and active recreation and related facilities.
3. Contribute to the environmental health and beauty of the urban environment through the conservation of green spaces.
4. The City should not acquire any lands that have been affected so negatively by contamination that future land use is limited and/or an identified health risk exists.

Acquisition Policies—General

1. Demonstrate exemplary land stewardship in an urban environment by preserving significant, representative and high-quality natural areas, as well as undeveloped escarpments.
2. Develop a flexible system for negotiating the dedication of developable environmentally significant lands as part of MR lands, thereby creating win-win situations for both the public and private sectors.
3. Manage and acquire land for equitable distribution, as far as possible, when protecting and establishing natural environment parks. Equity imbalances should be redressed in the distribution of other kinds of open space parkland.
4. In annexed areas where country residential densities are intensifying and approaching more typical urban residential densities, land will be taken at the point of subdivision if the parcel is large enough to create a minimum 0.2 hectare (0.5 acre) park. Alternatively, the MR can be taken immediately adjacent to an ER to create a combination park space. If these conditions are not met, dedication will be through cash-in-lieu or transfer of credit reserve.
5. Complete the acquisition of land in the inner city as outlined in approved area redevelopment plans (ARPs). To ensure that the land acquisition strategies are up-to-date, the area redevelopment plans should be revisited every five years.
6. Improve the functionality of open space in the inner city. While inner city communities contain less open space than their suburban counterparts, demographic differences, access to regional and city-wide facilities and good design of existing open space may successfully address the specific needs of these communities.
7. Improvements and/or redevelopment of existing open space to meet existing or emerging needs should take priority over the acquisition of additional space in built-up areas and in all situations where the market price for land must be paid.

Open Space Land Use Policies

8. Require cash-in-lieu or transfer of credit reserve when, in the view of the City:
 - the MR in question is too small for an acceptable/economic open space development; and/or
 - is located in an industrial/commercial area without a specific use proposal pending.
9. The decision to accept donations or administrative transfers of land offered to Parks should include an evaluation of program and intent based on the following criteria (in no particular order):
 - a. suitability for recreational use;
 - b. potential integration with the existing open space system;
 - c. protection of natural landscape and preservation of wildlife habitat;
 - d. visual and environmental implications and potential for improvements;
 - e. avoidance of conflicting land uses;
 - f. overall community parks and recreational resources and proximity to other open space amenities that may meet the same need;
10. Where considered to be feasible and in the best interests of all parties, alternatives to land acquisition by the City should be pursued. Possible mechanisms include conservation covenants, easements, bare land strata, long-term leasing, including provincial leasing mechanisms and land trusts.
11. The City should not acquire any lands that have been affected negatively by contamination. The concentration of a substance of concern within the soil, surface water, groundwater or air should not exceed applicable criteria, as determined by the City. The lands acquired for open space by the City should not, as a result of contamination, pose any health risks or be limited in their use.
12. The school boards should be encouraged to develop a system of inventorying vacant sites to allow for social recreation leasing with five- and 10-year lease periods. Potential lessees should meet the criteria set out in the Public Use and Social Recreation Lease Policies and have the support of the local community association.
13. The school boards should be encouraged to develop a system of inventorying vacant sites to allow for social recreation leasing with five- and 10-year lease periods. Potential lessees should meet the criteria set out in the Public Use and Social Recreation Lease Policies and have the support of the local community association.

Land Acquisition Strategies

1. The City, in accordance with the Municipal Government Act, may consider any of the following options to ensure the provision of open space:
 - a. Owner dedication as Environmental Reserve;
 - b. Owner dedication as credit Municipal Reserve;
 - c. Density transfers both within developments and between developments (subject to negotiation);
 - d. Required development setback zones on private land (Note: public access is not permitted);
 - e. Donations to appropriate not-for-profit agencies, land trusts or the City (subject to negotiation);
 - f. Outright purchase (subject to negotiation);
 - g. Land swapping and transfer of credit reserve (subject to negotiation);
 - h. Bonusing (subject to negotiation);
 - i. Conservation easements and associated caveats to restrict development on private land, as per the provisions of the Environmental Protection and Enhancement Act (Note: public access is not permitted);
 - j. Environmental reserve easements as per the provisions of the MGA.
2. A Land Acquisition and Disposition Strategy paper should be completed by Parks, in conjunction with Corporate Properties Group and the Office of the City Solicitor, to outline the cost/benefits of alternative acquisition options and related implementation strategies.
3. The City should develop a Land Trust Strategy paper outlining a strategy for partnering with land trusts that are strategically positioned to acquire key parcels of river valley and environmentally significant lands, both within and near the city, through both purchase and/or donation with tax credits.

Acquisition Policies—Joint Use Sites

12. The maximum number of years a school-building site may sit vacant, before reverting permanently to other Municipal Reserve uses, in accordance with the Municipal Government Act, should be established. This document recommends a review based on demographics and housing stock at 15 years, and a final decision no later than 25 years after site designation.

Open Space Land Use Policies

4. Where possible, the City should negotiate for environmentally significant parcels of land and river edge properties prior to urbanization and development, using a variety of means, which include but are not limited to letters of intent, agreements, direct acquisition or direct acquisition through a land trust agency.
5. After all school, neighbourhood park, and community park needs have been met, as per the priorities of use with respect to all reserve land in the Joint Use Agreement, the following options may be considered to protect environmentally significant areas and environmental reserves:
 - a. Environmentally significant areas not available through ER dedication.

The City and the developer may negotiate commitment of ESA lands as part of the 10% MR dedication.

 - Advantage to Developer—little to no capital costs attached to a percentage of MR development; marketing opportunities created by mature parkland already in situ; early FAC from the City;
 - Advantage to City and Residents—protection of an environmentally significant area; provision of a wider range of parkland at a local level; sustainable park at FAC from developer;
 - Guidelines for this process are found in Appendix I.
 - b. Communities with a large proportion of quality ER.

Developers and the City may negotiate leaving an important ER without utilities, road encumbrances or other disturbances in exchange for a portion of MR credit being taken as cash-in-lieu.

 - Advantage to Developer—early engineering design to protect an ER amenity would result in more developable land dedication and lower capital costs in park development;
 - Advantage to City and Residents—protection of an ER amenity in sustainable condition for park use; financing added to reserve fund for park development; land-efficient park development;
 - Guidelines for this process are found in Appendix I.
 - c. Communities immediately adjacent to river and creek valleys.

Developers and the City may negotiate a portion of MR as cash-in-lieu, provided the local MR dedication in question would duplicate the facilities/amenities offered by an existing river valley park; and all residents of the community are within approximately a five-minute walk or 450 metres of local park facilities and amenities.
6. Future work on management plans should consider the use of protective bylaws for the protection of trees, watercourses, soils and environmental features on public land.
7. As a follow-up to the Calgary Board of Education's Learning Environment Action Plan (LEAP), Parks should evaluate the need and location criteria for open space in communities where the Path Finding Teams are proposing school closures.
8. The Site Planning Team should initiate a study to determine land requirements per student over and above the school building envelope and take a recommendation to the Joint Use Coordinating Committee for its consideration.



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Open Space Plan Implementation

Implementation of the Open Space Plan will involve accomplishing the following objectives:

- The development of proposed related policy work, as described within the Strategies sections of the Plan;
- Incorporating the Plan's principles and policies into current planning processes;
- Actively supporting the establishment of financial partnerships; and
- Evaluating the implementation of the Plan on a periodic basis.

The following chart provides a detailed description of ways to accomplish the above objectives.

A. PROPOSED RELATED POLICY WORK

Policy	Action	Responsibility/ Resources	Proposed Completion Date	Open Space Considerations
Calgary Plan Implementation Strategy	Development of strategy	Planning & Transportation Policy Parks Current Resources	Ongoing, with topic-specific projects (e.g. Employment Centres strategy). Five-year update to occur in 2003.	Parks to assist with development of topic-specific implementation strategies pertaining to open space. Next Calgary Plan update to incorporate at a broad level the policies contained within the Open Space Plan.
Sustainable Suburbs Policy Review	Clarification of operational issues	Planning & Transportation Policy Parks Current Resources	Ongoing	Parks to provide input on implementation/operational issues related to parks and open space through representation on Steering Committee.
Intermunicipal Development Plans (MDs of Rocky View and Foothills)	Update	Planning & Transportation Policy Parks Current Resources	Mandatory plan reviews 2002	Parks to assist in development and negotiation of sections pertinent to open space.
Growth Area Management Plan (GRAMP)	Development of Policy	Planning & Transportation Policy Parks Current Resources	Unknown	Parks to provide input on policy development
Joint Use Agreement	Update	JUCC, SPT with input from Parks and school boards Parks Current Resources	2002	The recommendation is to include ESAs into priority 2 for land acquired through the dedication of reserve

Open Space Plan Implementation

Policy	Action	Responsibility/ Resources	Proposed Completion Date	Open Space Considerations
Community Needs Assessments Process	Formalize process	Parks Current Resources	2002	Formalize process based on conceptual strategy identified in Community Needs Assessment section of Open Space Plan.
Trends Research and Analysis	Develop strategies for research & analysis	Parks Current Resources	Ongoing	Understanding and responding to changing citizen needs is essential for Calgary Parks to provide excellent customer service and remain accountable to the public.
New community plans, ARPs and outline plans	Include appropriate information and policies	Planning & Transportation Policy with input from Parks Parks Current Resources	Ongoing	See Implementation Planning Processes section for list of Parks considerations
NAMP Inventory	Updated guidelines and inventory of natural areas ESAs and wetlands	Parks Growth – Limited term or consultant; \$100,000	2003: Capital budget request	Inventory for acquisition and protection of environmental lands to be conducted in accordance with OSP policies Includes any revisions to environmental significance assessments and biophysical impact assessments
Sports Field Management Plan	Update Policies and Priorities	Recreation, Parks, Community & Neighbourhood Services Parks Current Resources	2002	See Appendix B – Sports Fields Management Plan Issues
Urban Forestry Management Plan	Update policy	Parks Current Resources	2002	See Appendix G – Urban Forestry Management Plan Issues

Open Space Plan Implementation

Policy	Action	Responsibility/ Resources	Proposed Completion Date	Open Space Considerations
Inner City Open Space Study	Update	Parks; Planning & Transportation Policy Parks Growth – Consultant; \$100,000	2003: Capital budget request.	Update 1984 work and formalize as a department report
Cemeteries Business Plan	Update	Parks, Strategic Services Parks Current Resources	2002	Update 1996-1999 Cemeteries Business Plan
Healthy Lifestyles Strategic Plan	New policy	Community & Neighbourhood Services Growth – Consultant; \$50,000	2003	Document to incorporate open space as one of the major contributors to Calgarians' quality of life.
Land Acquisition and Disposition Strategy Paper	New guidelines	Parks, Corporate Properties Group Parks Current Resources	2002	Further to General Land Acquisition Policies section
Cultural Resources Management Plan	New policy	Parks Current Resources	2004	Establish the long-range direction for the management of cultural sites.

Open Space Plan Implementation

B. PLANNING PROCESSES

As set out in the principles and policies of the Open Space Plan, the information listed below is required throughout the various planning processes to accomplish the Vision, Mandate and Objectives for the City's open space system.

Community plans and outline plans should conform with The Calgary Plan, the Sustainable Suburbs Study, the Open Space Plan, the Growth Area Management Plan and any other relevant policies and legislation. It should be noted that the Sustainable Suburbs Study policies and performance criteria work as a package and should be considered in the context of other policies and criteria related to land use, servicing, design elements, etc.

Growth Area Management Plan

The following information pertaining to an open space system should be included as a part of the preparation of the Growth Area Management Plan:

1. A general open space system plan which identifies:
 - a. natural systems that should be protected (SSS);
 - b. connections to the regional open space system, the local community open space system, and the regional pathway system (SSS);
 - c. the general location of regionally based senior high schools and recreational/cultural facilities (SSS).
2. Assessment of existing natural systems. If any areas are environmentally sensitive, the Parks criteria listed in Appendix C should be used to determine which are significant (SSS).
3. Identification of proposed transportation and utility facilities that may have an impact on natural systems (SSS).
4. Opportunities for shared use of sites and/or buildings for public facilities (e.g. fire, emergency services, library, police, schools, community facilities, social services, health services) (SSS).
5. Opportunities for partnerships in land use planning and the delivery of public systems (e.g. recreation and community facilities) (SSS).

Community Plans

The following information pertaining to parks and open space should be included as a part of the preparation of community plans:

1. A detailed open space plan containing a linked hierarchy of open spaces that identifies:
 - a. connections to the regional open space system (SSS), including any new regional parks that are located within the community plan area;
 - b. environmentally significant areas and recommended ways for their protection (SSS);
 - c. local pedestrian and cyclist systems and their connections to the regional pathway system (SSS);
 - d. integration of stormwater facilities (traditional or innovative) into the overall open space plan for new communities (SSS);
 - e. any use of natural systems for stormwater management, whether natural or artificial systems (SSS), and the function of the components of the open space system;
 - f. joint use sites for elementary and/or junior high schools, and their relationship to the community centre or neighbourhood nodes (SSS);
 - g. the provision of functional public open space and a site for a community facility (SSS);
 - h. a regional recreation facility site (if needed);
 - i. proposed linkages between the above elements within the community and to regional open spaces beyond the boundaries of the community.
2. Details as to how community facilities, open space features or amenities will be financed and/or managed (this includes construction and long-term operating and maintenance considerations) (SSS).
3. Provision for the potential inclusion of all homeowners in the community into a body (e.g. a homeowners' association) that could be established to pursue community-based financing and/or management of community facilities or local open space (SSS).

Open Space Plan Implementation

4. Further details regarding opportunities for the shared use of sites and/or buildings for public facilities (e.g. fire, emergency services, library, police, schools, community facilities, social services, health services) (SSS).
5. Natural Area Assessment and more detailed Environmental Significance Assessment
6. Parks and recreation regional needs assessment using the community needs assessment process.

Outline Plans

Prior to the approval of any related outline plans, applicants should provide the following detailed information as part of their proposal, to the satisfaction of the Corporate Planning Applications Group, Parks, and others where noted:

1. Overall Open Space Plan

- configuration of open spaces that is consistent with the Calgary Open Space Plan, Development Guidelines, applicable community plans, Sustainable Suburbs Study, and other policies;
- description of all natural features, including topography, vegetation, and water features.

2. Detailed Biophysical Impact Assessments and/or Environmental Significance Assessments

- to be provided, if required, to the satisfaction of Parks and/or Waste Water and Drainage (as applicable).

3. Environmental Reserve

- location and size of any proposed ER sites and any utility/road crossings of ER.

4. Municipal Reserve

- size and shape of MR sites, classification, pathways, and reserve/cash calculations.

5. Municipal School Reserves (Joint Use Sites)

- location, size, and design of MSR sites, including an outline of school, parking, sports fields, and pathways for each site, to the satisfaction of the Site Planning Team.

6. Stormwater Ponds (Dry Ponds, Wet Ponds, and Engineered Wetlands)

- location, size, design, and function consistent with policy requirements, including the Calgary Open Space Plan, Stormwater Management and Design Manual, and other City requirements;
- justification for the use of MR (if proposed) that respects the recreational, environmental and/or urban design functions of the MR as the first priorities.

7. Landscape Concept Plans for MR Sites and ER Sites

- MR—classification and function of park, grading, drainage, landscaping, and any structures, features, utilities, or pathways;
- Joint Use Sites—type of school site, as per the Site Planning Team's joint use site guidelines, grading, drainage, landscaping, sports fields, community site, if applicable, and any structures, features, utilities or pathways;
- ER—details on rehabilitation measures where an agreement to disturb has been reached or when disturbance has already occurred.

8. Pathways

- alignment of any regional pathways and local connections according to the Calgary Pathway and Bikeway Plan, Calgary Open Space Plan, "Development Guidelines and Standard Specifications—Landscape Construction," and any other policy requirements.

Open Space Plan Implementation

C. FINANCING PARTNERSHIPS

As outlined in Section VII, General Open Space Principles, Parks actively supports projects with partnership arrangements. The follow policies would then apply:

1. Where services and facilities are available through commercial or not-for-profit venues, Parks is committed to working in partnership with existing suppliers and ensuring equitable and fair access to the facilities by all Calgarians.
2. The City should encourage and support the development of a "Parks Land Trust," through an alliance with a not-for-profit association, for the purposes of securing key environmental or river edge parcels of open space in Calgary and the adjacent municipal areas. Such areas would be added to a larger, more regional, integrated open space system.
3. The City (through Corporate Properties Group, Parks, and Environmental Management) should support and be prepared to work with charitable non-government organizations in identifying and protecting environmentally significant areas.
4. Parks should work with the school boards and community agencies to develop youth-based awareness initiatives, such as a protection corps to enhance pathway safety, park cleanliness and natural area management and to provide constructive involvement in environmental issues (BP).
5. Parks should investigate alternative sources of financing for recreation facility development, redevelopment and upgrading, including revenue and cost-recovery opportunities, sponsorship, community fund-raising and grants (BP).
6. Parks should continue to approach the Provincial Government for grant funding (e.g. Community Facilities Enhancement Program) and for legislative amendments to permit acreage assessments to fund regional recreational facilities in new growth areas of the city.

D. MONITORING AND UPDATING THE OPEN SPACE PLAN

Policy does not necessarily reflect how business is being done but rather how it should be done. Hence, closing the gap between current business practice and policy-directed actions represents positive implementation.

Reviews of this document will occur through negotiations with key stakeholders and the development industry (UDI), and the development of management plans and strategy papers. The Open Space Plan should be revisited prior to the next Business Planning exercise (2005), at which time the strategy statements should move from the Open Space Plan to the Business Plan for implementation.

APPENDICES



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Appendix A: Other Policies and Plans

Brief descriptions of the other policies and plans that influence, or are expected to be influenced by, the Open Space Plan, are provided below.

PROVINCIAL

Provincial Legislation

- This includes Provincial acts, regulations and enabling legislation, particularly those related to the acquisition and use of parkland. The Municipal Government Act (2000) is enabling legislation for the related Subdivision and Development Regulation and the 10% reserve dedication system.

Provincial Land Use Policies (1996)

- At a broad policy level, the Provincial Land Use Policies encourage municipalities to develop policies aimed at promoting sustainability and protecting valuable natural resources and to make decisions that will result in an efficient use of the land base. Other Provincial policies, such as the draft "Provincial Stormwater Management Guidelines," may have a role in the development of the City's more detailed policy documents.

CITY OF CALGARY POLICIES AND PLANS

Corporate Business Plan (1998)

- The City's Corporate Business Plan (1998-2001) defines corporate priorities, communicates the City's goals to City Council, staff and the public, and provides a framework for the development of departmental business plans. Some of the key issues relate to accommodating growth, addressing servicing needs, and financing infrastructure and servicing.

The Calgary Plan (1998)

- The Calgary Plan is a statutory document required under the Municipal Government Act. It sets out the broad policy framework that is intended to inform and guide more detailed planning processes and decision making, including the Open Space Plan, Growth Area Management Plan, community plans and area redevelopment plans.

Calgary Transportation Plan (1995)

- The Calgary Transportation Plan is a comprehensive, long-range transportation plan for the City to the year 2024. Projecting a population of 1.25 million in 2024, the plan attempts to strike a balance among three competing forces: community and environmental quality, mobility, and costs/affordability.

Growth Area Management Plan "GRAMP" (in progress)

- The Growth Area Management Plan is intended to identify broad land uses and provide a strategy to guide the location and timing for growth, new infrastructure and public services (CP).
- Work on the City's Growth Area Management Plan was in progress as the Open Space Plan was being prepared.

Sustainable Suburbs Study (1995)

- The City's Sustainable Suburbs Study contains key policies for the planning and development of new communities in a manner that is fiscally, socially, and economically sustainable.
- The Sustainable Suburbs Study addresses issues such as open space and school development, environmental protection and land use efficiency.

Appendix A: Other Policies and Plans

Community Plans

- Community plans are non-statutory policy documents for specific areas of the city. They include the design of key public systems and the community form so that a balance can be achieved between long-term public objectives and short-term market conditions (CP).
- Community plans provide an opportunity for identifying key components of the open space system within individual emerging communities.

Area Structure Plan (ASP)

- Area structure plans are statutory plans that establish the policies and provide the framework for the subsequent subdivision and development of an area of undeveloped land. Area structure plans are prepared by the Planning and Building Department in consultation with the landowner/developer, other City departments and public agencies. (SSS)

Area Redevelopment Plan (ARP)

- Area redevelopment plans are statutory plans that identify planning goals and objectives in an existing area. It is a basic community-planning document that deals with zoning, traffic, parks, social issues, etc. and is prepared in close consultation with residents, owners, and business people (CP).

Land Use Re-designations, Outline Plans and Development Permits (ongoing)

- Plans for individually owned land parcels are approved at this level. Major land uses and specific land use policies to guide the proposed development are established. The approval of outline plans provides the mechanism by which land is actually dedicated for schools and open space through the requirements established in the Municipal Government Act. Conceptual design of open space lands is undertaken and specific technical issues are resolved (See also Section IX Open Space Plan Implementation).

PARKS POLICIES

Parks Business Plan (2002)

- The 2002-2004 Business Plan sets the overall framework for the Department's strategic planning over three-year time periods. The Business Plan identifies Parks' role as planner, protector, facilitator, educator and provider of parks and open space;
- The Business Plan identifies Parks' mandate as:
We are stewards of Calgary's open-space system and environment. We are committed to protecting the value and quality of the assets charged to our care. We strive for high-quality standards and sustainability within our parks and open-space system, while ensuring that it remains accessible for the enjoyment and outdoor pursuits of all Calgarians. We strive for the highest standards of excellence in all we do. Our objectives are based on fundamental principles formulated by sound planning. We measure our success against tested and accepted benchmarks. In fulfilling our objectives we will ensure high-quality outdoor recreational opportunities for all Calgarians, today and in the future.

Joint Use Agreement (1994)

- The Joint Use Agreement is a legal agreement pertaining to the acquisition, use, operations and management of reserve lands. The Agreement has been established between the Calgary Board of Education, the Calgary Separate School Board and the City of Calgary;
- The Joint Use Agreement states (in part) that:
The parties shall jointly determine a strategy for the overall requirements of educational and recreational facilities, on a city-wide basis, preparatory to the detailed planning of any single area. Joint use reserve lands are determined at the ASP, ARP, outline plan and tentative plan stages (JUA 4.10).
- The Joint Use Agreement is updated at approximately five-year intervals to reflect the ongoing needs of the school boards and the City of Calgary.

Appendix A: Other Policies and Plans

Natural Area Management Plan (1994)

- The natural area management plan establishes a process for identifying and ensuring the long-term viability of Calgary's natural environments, and supporting appropriate public use of these lands. The Natural Area Management Plan also contains management guidelines and uses a landscape ecology approach.

Calgary River Valleys Plan (1984)

- The Calgary river valleys plan deals with the creation of a comprehensive open space system in the river/creek valleys that permits the productive use of scarce and valuable resources for the greatest public benefit. The River Valleys Plan laid the foundation for, and has been replaced by, the Urban Park Master Plan and The Calgary Plan.

Urban Park Master Plan (1994)

- The urban park master plan is Calgary's strategic plan for the future of the city's river valley parklands. The Urban Park Master Plan balances the dual goals of preserving natural landscape features and providing a variety of accessible outdoor recreation opportunities. The study area includes the Bow, Elbow, Nose Creek and West Nose Creek river valleys.

Inner City Open Space Study (1984)

- An internal working document of Parks, this report examined the relationship between the need for open space and the number of children in community households of the inner city. The report recommends an adjusted standard of open space based on the housing and demographic mixes of these communities. The information needs to be updated and expanded in light of the inner city development and the community needs assessments process.

Development Guidelines and Standard Specifications - Landscape Construction (1999)

- This document, updated annually, provides detailed design and construction guidelines, specifications, and landscape plan requirements for park and open space development of all types.

Integrated Pest Management Plan (1998)

- A policy document to promote healthy vegetation and guide pest control activities on all public lands, Integrated Pest Management uses a decision-making model to prevent and manage pest problems by employing a combination of cultural, biological, mechanical and chemical means, as well as plant health-care principles.

Policies and Priorities (1988-1992)

- This strategic plan for the 1988 to 1992 time period provided policies, priorities, and plans to guide the preparation of annual budgets and administrative decisions for each operating division within Parks.

Appendix B: Sports Fields Management Plan

A sports fields management plan is needed to intensify use on the existing City inventory of lands, develop the gis inventory and analysis tools to run a greater cost-recovery program, manage fields more efficiently, undertake a comprehensive life-cycle and retrofit program and reclassify fields. Such a plan would also span the multiple business units within the community, vitality and protection portfolio that are involved in the management and integrated operation of the City's sports fields.

A sports fields management plan should address the following issues:

1. Purpose, objectives and underlying principles of sports fields and sports facilities falling under the umbrella of Calgary Recreation.
2. Data collection and analysis of:
 - a. field inventory and evaluation;
 - b. field user profiles, leasing arrangements, needs, satisfaction etc.;
 - c. trends;
 - d. use of fields by non-traditional groups.
3. Revisions to the sports fields classification system
 - a. purpose;
 - b. underlying principles;
 - c. field types;
 - d. field classes;
 - e. user allocation priorities;
 - f. general development standards;
 - g. maintenance guidelines;
 - h. seasonal use and non-traditional users.
4. Analysis of Current and Future Supply and Demand.
5. Retrofits, upgrading and development priorities for ball fields and soccer fields:
 - a. capital project prioritization;
 - b. quantitative deficiency;
 - c. qualitative deficiency;
 - d. site-specific recommendations for restoration, upgrading and development;
 - e. new facilities;
 - f. indoor facilities.
6. The implementation plan:
 - a. the approval process;
 - b. budgeting;
 - c. ongoing monitoring and system management;
 - d. intradepartmental responsibilities and communication.

Appendix C:

Environmental Assessments

The process for conducting environmentally significant area assessments and biophysical impact assessments is described below.

Parks will assess existing natural systems during the preparation of Growth Area Management Plans and will use the criteria outlined in Appendix C to determine which are environmentally significant (SSS).

Each type of assessment is described below:

1. Habitat Assessment of Natural Areas

The initial purpose for conducting an inventory of natural vegetation communities is to increase the City of Calgary's basic knowledge about its unbuilt environment. An inventory of all natural areas within the city is needed to identify possible natural area sites prior to potential development.

In January 1991, Planning and Transportation Policy and Parks began work on a Natural Areas (then Environmentally Significant Areas) inventory within the corporate limits of Calgary. Since that time more detailed work, which also included areas within the Municipal Districts of Foothills and Rocky View, has been completed. The recently annexed lands have also been included and mapped (See Maps 8, 9a & 9b).

Habitat locations were initially identified through the use of 1:2000 scale air photos. All Natural Areas within the Calgary City limits, except for established Natural Environment Parks that were neither actively cultivated nor developed, were identified and catalogued for further inspection and analysis. Ground checking, or site visitations, generally led to the further breakdown of the areas into specific evaluation sites. The division of files into evaluation sites was and is based on distinct differences in vegetative communities, vegetation composition, degree of disturbance and location. A single site can contain any number of evaluations, each representing a distinct eco-site. Each site was and will be evaluated against a number of criteria that have not been included in this document. This information provides the base for more detailed and specific significance assessments.

Environmental Significance Assessments of Natural Areas

A site is listed as an Environmentally Significant Area on the basis of its meeting one or all of the following criteria:

1. **Quality of Biotic Community:** Biotic communities of high quality (minimal disturbance) and/or diversity for a specific habitat type. (Example: balsam poplar/red osier dogwood forest—Griffith Woods—habitat is intact with minimal introduced species, density is what should be expected).
2. **Ecological Function—Natural:** The area is important for the healthy maintenance of a natural system beyond its boundaries by maintaining biodiversity and/or acting as a staging area or corridor for wildlife within the system. (Examples: 12 Mile Coulee and its ecological associations with Bowmont Park; balsam poplar and native grasslands surrounding wetland in Rocky Ridge (combination of habitats required to maintain wildlife usage); Lowrey Gardens to Douglas Fir Trail area in Edworthy Park).
3. **Distinctive and/or Unusual Land Form:** The area possesses a distinctive and/or unique land form (geologic and geographic). (Examples: Tufa Formation (calcium carbonate deposits from springs in Bowmont Park); Glacial Erratic in West Nose Creek).
4. **Uniqueness:** The habitat or ecosystem component has limited representation within the municipality; and/or the area provides representative habitat for wildlife of recognized importance. (Examples: Douglas Fir Preserve above Bowness Park; ravines in Paskapoo Slopes where stands of balsam poplar spread to the escarpment and mix with aspen; Nose Hill where the last remaining sharp-tailed grouse dancing ground exists; Weaselhead for provincially rare forest types (white spruce loess communities).

Environmental Significance Assessments shall be conducted by the City, in conjunction with landowners, during the preparation of Growth Area Management Plans and they will use the above criteria to determine which areas are environmentally significant (SSS).

Note: Maps, indicating details of the vegetation communities and the Environmentally Significant Areas, shall be provided by Parks and shall be attached to the community plans, area structure plans or outline plans. These maps are intended to provide an overview of the location and importance of current natural environments.

Appendix C:

Environmental Assessments

2. Biophysical Impact Assessments

Biophysical Impact Assessments outlining the potential impacts and appropriate mitigating measures shall be conducted, to the satisfaction of the subdivision authority, prior to:

- any approval of outline plans for land containing or abutting identified Environmentally Significant Areas (TR 97);
- any channelization, utility crossings, etc. within a natural environment park.

3. Criteria for Determining Appropriate Level of Development or Protection of Environmental Reserves/Environmentally Significant Areas - City of Calgary

The following zone system shall be used to provide a quantifiable rationale for the appropriate development or protection in Environmental Reserves (ER) or in those Municipal Reserves (MR) that are allocated for the protection of Environmentally Significant Areas (ESAs).

This process is intended for use after the ER boundaries have been identified and not as a method of determining ER definition.

1. CRITERIA FOR ER AND NATURAL ENVIRONMENT PARKS (MR)

Criteria	Preservation	Restoration	Disturbed
Native Condition (evaluated by % of expected native plant communities)	Near Native	Portion of habitat area that is disturbed in a natural area	Area that is in introduced condition and will likely harm nearby natural area
Sensitivity (Refers to the potential for unmitigated damage)	High Sensitivity	Moderate Sensitivity	Low Sensitivity
Resource Significance (Refers to the zone's significance to the future park)	Resource significant to future park in existing condition	Resource's significance to future park area warrants enhancement	Will require improvement if not to have a negative impact on future park area
Habitat Type/Vegetation Community (Viable condition)	Aspen forest, balsam poplar, white spruce, upland tall shrub, riverine tall shrub, low shrub, native grassland, wetland	Non-native grassland, disturbed vegetation communities	Non-native grassland, disturbed vegetation communities
Archaeological/ Historical	Present/No evidence	Present/No evidence	No evidence
Natural System	Part	Part	Not significantly

Appendix C:

Environmental Assessments

2. DEVELOPMENT ACTIVITIES FOR ER AND NATURAL ENVIRONMENT PARKS (MR)

Development	Preservation	Restoration	Disturbed Activities
Development Encroachment	None	Agreement between parties (site-by-site basis)	Agreement between parties (site-by-site basis)
Utilities Encroachment	None	Agreement between parties (site-by-site basis)	Where required
Park Amenity Construction	For preservation purposes only	Where required	Where required
Fencing	Always	Always	Optional
Native Seed/Sod Planting (Species to be submitted and approved)	N/A	Always	Optional (Type)
Non-native Seed/Sod Planting (Species to be submitted and approved)	N/A	No	Optional (Type)
Restoration/Reclamation Signage	N/A	Yes	Yes
Irrigation	N/A	Overland	Overland
Maintenance Period	None	Until established to the satisfaction of Park Development & Operations	Until established to the satisfaction of Park Development & Operations
Rehabilitation Plans (Submitted to Parks Development Coordinator)	N/A	Yes	Yes
Weed/Pest Management/Control	Yes for maintenance time period	Yes for maintenance time period	Yes for maintenance time period
Departmental Checks	Regular	Yearly	Regular
Native Tree/Shrub Planting (Species to be submitted and approved)	N/A	As required	Optional (Type)
Non-native Tree/Shrub Planting (Species to be submitted and approved)	N/A	No	Optional (Type)

Appendix D:

Biophysical Impact Assessments

The following form would be completed to undertake a Biophysical Impact Assessment:

Name of Site _____

1. DESCRIPTION

purpose, size and scope

- detailed background reasons for the proposed impact activity (e.g. storm sewer outfall/upgrade; transportation/utility construction, etc.);
- **purpose** cause or reason for disturbance;
- **size** is given in areal measurements (m², acres, ha);
- **scope** indicates who is involved in the project (City and/or private contractors) and what level(s) of management and supervision are involved.

capital cost and financing

- if applicable, indicates funding for the project and what real/proposed funds have been designated for long-term site recovery and maintenance.

proposed location

- a **map, address and legal description** to identify exactly where the project is proposed (e.g. intersection of Country Hills Boulevard and Centre Street N on the NE corner; NW_ Sec. 36 Twp. 25 R2 W5.) The site's proximity to Natural Environment Parks should be indicated in detail.

consumptive use of natural resources during construction

- description of the on-site materials that are expected to be exploited/removed during the course of the project (e.g. removal of gravel, sod or soil, tree cutting, water drainage, etc.).

timing

- length of the project, including preliminary planning, on-site activity, and follow-up maintenance and reclamation. Time of season must be specified (e.g. early spring, late summer, winter, fall) so that an appropriate evaluation of all natural impacts may be undertaken.

maintenance requirements

- anticipated management requirements for short and long-term site maintenance (e.g. mowing, weed and pest management, irrigation, planting, etc.).

Appendix D:

Biophysical Impact Assessments

2. INVENTORY

topography

- a physical description of existing land form, slope, aspect, and position within the landscape; in most cases this may require presentation of a survey.

geology, geomorphology

- a description of surficial and, if possible, sub-surficial geological features at the site and its immediate environment; identified glacial land forms and stability issues should be included in the preliminary site report.

pedology

- a description of the physical properties of the soils (e.g. horizon depths, texture, drainage, salinity, sodicity), classified by soil type according to the Canadian System of Soil Classification, 3rd edition.

biological resources

- on-site flora and fauna with additional emphasis on habitat value, wildlife corridor importance, and role of resident vegetation within the localized system; may include rare species summary.

cultural resources (prehistoric, historic and current)

- existing historical, interpretive, or recreational features; includes the potential for developing recreational, interpretive, or educational facilities at the site when completed.

hydrology, water bodies

- listing of all standing water features, water courses, or other natural hydrological sources, surficial drainage patterns, depth to water table, and other features.

aesthetic

- subjective description of how this site fits into the landscape and/or cityscape, and other noted significant features such as planned vision from Council-approved policy and plans; includes prominent views, human disturbance, aesthetic features, hydrological/geological/biological resources, etc.

other features

- descriptions or features which are of interest or importance to the site, and are not included in the previous categories; may include man-made features at site, e.g. power lines, buildings, roads, etc. or items of special concern.

existing policy

- identify existing internal or external policy that may direct or influence proposal.

Appendix D:

Biophysical Impact Assessments

3. IMPACT

biological resource impact

- comprehensive account of actual and potential risks/benefits from development activity to wildlife habitat, overall biodiversity, sensitive plant and animal populations, movement corridors, rare or threatened plants and animals, long-term flora and fauna community stability.

geographical and geological impact

- physical impact of the development activity including: elimination/alteration of unique land forms, alteration of drainage patterns, micro-climatic effect, erosional processes, paleontological (surficial and sub-surficial) alterations, slope stability.

pedological impact

- physical impact of the development activity on soils, including loss of intact/native soils, alteration or disturbance of soil profiles, salinity, erosion, compaction, windthrow hazard, etc.

visual impact

- actual and potential impacts of project from the perspective of the expert and the non-expert; includes enhancement/reduction of aesthetic features, alteration/obstruction of view lines, introduction of weeds and/or pests, landscape alteration, etc.

cultural impact

- actual and potential impacts of project from a heritage perspective; loss/gain of interpretive resources; impact on historical or archaeological site, etc.

social/economic impact

- actual and potential costs; loss/gain of recreational resources; localized community impacts; long-term cost in dollars, capital and manpower; problem created/solved in perception of community.

cumulative impact

- summary of combined (with other activities) actual and potential impacts, and how these will affect the rehabilitation, protection and operation of this site in the future.

residual (unmitigable) impact

- summary of actual and potential impacts to the site which are inevitable, yet permanent; may include long-term species diversity, loss of habitat, loss of system connectivity, loss of public access, obstruction of wildlife movement, introduction of weeds or pests, long-term maintenance requirements, removal of natural features, aesthetic impacts.

Appendix D:

Biophysical Impact Assessments

4. MITIGATION RECOMMENDATIONS

accepted methods

- methods of available damage mitigation or recovery using standardized techniques including: signage and fencing, grading and loaming, sod stockpiling, seeding with native mixtures, native plantings, limited-impact construction, etc. Methods are well-known to industry contractors who are involved in tender bidding for projects.

experimental methods

- methods of available damage mitigation or recovery which are specialized, require outside expertise, or have site-specific value; may include sod transplants, loam shredding and re-application, specialized native seed harvesting and application, use of organic fertilizers and erosion control devices, other unconventional methods.

5. SIGNIFICANCE OF IMPACTS

regional

- cumulative assessment of impacts to the regional area, incorporating all above criteria; includes biological, geological and hydrological impacts along with aesthetic, landscape, and social factors; identifies loss/gain of regional resource, and long-term effects on regional system; attempts to extrapolate impacts to a south-central Alberta perspective, e.g. downstream effects, extra-municipal impacts, etc.

city-wide

- cumulative assessment of impacts to Calgary's urban natural area system; includes details of habitat loss/improvement, effects on system continuity and contiguous natural areas, effects of wildlife movement, large-scale aesthetic impact, and social, cultural, and economic impact on Calgarians, etc.

park-wide

- cumulative assessment of impacts to an individual park; similar to the above but with a focus on identified environmentally significant areas, unique habitats, and representation within the park. How does the impact adversely affect unique or under-represented habitats, system connectivity or system viability?

local

- small-scale approach to impact assessment including impacts on adjacent vegetation communities, loss/gain of community recreational or natural resources, community economic/social impacts, long-term site maintenance requirements, aesthetic impacts to site, introduction of weeds/pests to community, isolation/connection of site to city-wide system, etc.

Appendix E: Identifying and Delineating a Wetland

It is important to recognize that wetland identification is a separate issue from the identification of Environmental Reserve, which is defined in part as land susceptible to flooding.

Identifying a Wetland

Wetting and drying cycles are a natural part of the ecology of prairie slough wetlands. Sloughs are adapted to a one- to two-year drying period within a five- to 10-year climatic cycle. It is thus critical to use a historical perspective when identifying wetlands in the Calgary region. The methodology described below takes into account long-term indicators of wetland species.

1. Expertise Required

It is expected that persons identifying and delineating wetlands will have the necessary qualifications to undertake such work. This includes:

- enough knowledge and experience of wetland ecology to be able to correctly identify and classify a wetland, its characteristic species and features;
- knowledge of flora and fauna and an ability to identify wetland species;
- knowledge of soil classification and the ability to identify hydric soil indicators; and
- an understanding of hydrological processes.

2. Information Sources

To identify a wetland properly, a number of information sources must be consulted. Some are listed below. Note: It is not necessary to use all sources, and other additional information may be available.

- Current aerial photographs;
- Historical sequence of aerial photographs to determine if the wetland has occurred in previous years. Most areas of Calgary should have aerial photography coverage back to the 1940s or 1950s (if not earlier);
- Topographic mapping: National Topographic Series (NTS) or, preferably, City of Calgary DAS mapping.
- Soil survey maps and reports;
- Naturalist clubs: e.g. contact Calgary Field Naturalists' Club for information, species lists, etc.;
- Parks' natural areas inventory information.

3. Site Visits

Site visits must be made to:

- determine wetland boundaries;
- delimit boundaries between wetland types;
- delimit vegetation communities;
- check drainage direction(s);
- check for rare/uncommon species;
- note evidence of use, disturbance, etc.;
- check soil types; and
- search for seeps or marl deposits.

4. Identification Prior to Field Work

Identify the site in question on topographic mapping. Note any low areas and possible drainage connections that may exist in topography.

Identify the site on current aerial photography. Map any vegetation type boundaries, topography changes or other indications of a potential wetland edge. Overlay this information onto topographic mapping.

Check soil survey mapping for the presence of hydric soils. Soil maps must be interpreted with some caution as they are generally of a scale unsuitable for use in delineating a wetland boundary. Minor occurrences of a hydric soil may not have been mapped or may be included in other soil units. Soil surveys will provide essential information on the characteristics of hydric soils that develop in the area. Hydric soils, for the purposes of this methodology, are as stated in the Canadian System of Soil Classification, 3rd edition. Further information can also be obtained from the U.S. Army Corps of Engineers' Wetland delineation manual.

Examine a historical sequence of aerial photographs of the area. Note those years in which the wetland had its greatest distribution and map this as a potential maximum boundary. Note any alterations to drainage that may have occurred (e.g. road construction, culverts, dams) and where this may have affected the wetland boundary. Such modifications do not mean that there is no wetland, but simply serve as a means of identifying those areas where the boundary must be carefully checked.

Appendix E: Identifying and Delineating a Wetland

5. Field Identification

Once the wetland boundaries have been mapped, it is necessary to do a field visit to confirm the wetland boundaries. Wetland boundaries are confirmed through the identification of vegetation communities, evidence of inundation and, where necessary, examination of soils for wetland characteristics.

The initial determination of wetland boundary is to be made on the basis of wetland plant species. The boundary is set at the point where upland plants replace wetland plant species. It is important to note that many wetland plants are tolerant of dry conditions. The judgement of a biologist experienced in wetland ecology will be needed.

After examining the wetland plant species, look for evidence of inundation that includes:

- areas of flattened vegetation;
- staining or deposition on tree trunks, branches, etc.; and
- deposition of salts on the soil surface.

Where a wetland boundary cannot be clearly defined using the boundary of wetland plant species and evidence of inundation, it is necessary to examine the soils for evidence of hydric conditions. Soils are a reliable indicator of long-term wetland conditions and can thus be used to determine if a site has been subject to flooding often enough to support wetland conditions.

Such soil should show evidence of gleying. Gleying occurs when the soil is saturated with water for a significant duration of the year. The reduced iron gives the soil a typical bluish to greenish-grey colour.

Mottling is evidence of a fluctuating water table. In such soils, oxidation occurs in local pockets and results in a characteristic colour difference.

Detailed descriptions and methodologies for determining a hydric soil can be found in the U.S. Army Corps of Engineers' Wetland Delineation Manual and the Canadian System of Soil Classification, 3rd edition. Experts in soil classification must make these interpretations.



Appendix F: Wetland *Evaluation and Development Assessment

This process is intended for use after ER boundaries have been identified and not as a method of determining ER definition.

Wetland Type				
	Level 1	Level 2	Level 3	Level 4
Stormwater	Direct discharge of stormwater not permitted. Acceptance of stormwater may occur only if primary treatment of sediments occurs off-site (i.e. out of ER). Stormwater may impair the long-term viability of a wetland	Direct discharge of stormwater not accepted. Proponent must demonstrate that stormwater is needed to maintain a pre-development water regime and plant community structure. Water from off-site stormwater facilities may be accepted, but only with strict controls on development. Any treatment facilities (e.g. forebays) in association with the wetland should be naturalized.	Direct discharge of stormwater not normally accepted. Stormwater inputs must be designed to allow the establishment of a native, appropriate wetland plant community system. Water from off-site stormwater facilities may be accepted if needed to sustain wetland. Any treatment facilities (e.g. forebays) in association with the wetland should be naturalized	Site may be used for direct discharge of stormwater, at the option of Parks.
Overland flows	Not accepted unless the flow is required to maintain the pre-development water regime and plant community structure.	Generally not accepted	May be accepted if the inputs are such that a native wetland community can be maintained.	Acceptable
BIA	Required to assess the impact of the surrounding development.	Required	Required	Not required
Other (development encroachments, etc.)	No development encroachment is permitted. Surrounding development shall be compatible with long-term sustainability of the wetland.	Development encroachment is permitted only when a BIA demonstrates that the wetland will be sustainable and kept in a pre-development condition. Preparation of restoration plans required for any work.	Development encroachment permitted only if a native wetland community that is appropriate for the site will persist/be restored. Preparation of restoration plans required.	N/A

Appendix F: Wetland *Evaluation and Development Assessment

Wetland Type				
	Level 1	Level 2	Level 3	Level 4
Condition	Dominated by native species. Very little disturbance in evidence. High species and habitat diversity.	Largely undisturbed, predominantly native in character, with some non-native. High-moderate species and habitat diversity. Excellent potential for successful restoration of disturbed areas.	Low-moderate amount of disturbance. Low-moderate species and habitat diversity. Area is disturbed, but has good potential for successful restoration.	Highly disturbed, often with few, if any, native species. Low species and habitat diversity. Restoration is possible, but would fail to meet open space and natural area system objectives. Area may be a transient (ephemeral) wetland. (Ephemeral wetlands can otherwise be very valuable.)
Significance	High-moderate	Moderate	Low-moderate	Low
Potential for development	None	Very limited—subject to strict controls	Limited development potential	Parks may, at its option, relinquish any interest in protection of these sites
Potential for long-term sustainability and restoration	High	Moderate-high	Low-moderate	Low

Appendix G:

Urban Forestry Management

An "Urban Forestry Management Plan" should address the following:

1. Urban Forestry Policies on:
 - a. tree protection;
 - b. supply standard objectives, i.e. canopy cover;
 - c. removal and replacement;
 - d. life cycle;
 - e. age and species diversity;
 - f. public safety and liability;
 - g. native vegetation;
 - h. tree valuation;
 - i. public involvement.
2. Legislation for the protection of trees to include:
 - a. pest and disease control;
 - b. compensation for damage to public trees using the International Society of Arboriculture's valuation system.
3. Tree Planting and Care—Standards and Specifications for:
 - a. utility setbacks;
 - b. planting;
 - c. pest control;
 - d. pruning;
 - e. tree inspections;
 - f. construction around trees;
 - g. outsourcing;
 - h. staff training (Urban Forestry, City of Calgary).
4. Urban Forestry Resources:
 - a. existing Parks resources;
 - b. other resources (e.g. private sector, other public agencies, volunteers, etc.);
 - c. resources required to meet urban forestry objectives, including the establishment of an arboretum (Urban Forestry, City of Calgary).

5. Urban Performance indicators will be developed to address the following:

- a. Tree inventories and specific annual inspections;
- b. Pruning cycles and number of trees pruned annually;
- c. Number of trees planted/replaced every year; rationale for removal;
- d. Number of trees inspected every three to five years—urban forest health;
- e. Bylaw enforcement and compensation experience every year;
- f. Construction damage to trees every year;
- g. Average pruning costs and planting costs calculated annually;
- h. Canopy analysis to be repeated every eight to 10 years;
- i. Age and species diversity by community to be reported every five years;
- j. Environmental benefits assessments conducted every eight to 10 years.

Appendix H:

Interdepartmental Tree Committee

1999 June 14: Council approved the establishment of the Interdepartmental Tree Committee. The motion, as amended, reads:

WHEREAS Calgary's Urban Forest provides many environmental and socio-economic benefits to the Community.

AND WHEREAS some of these benefits include:

- Improvement of air quality by removal of gaseous pollutants and dust particulates
- Absorption of carbon dioxide
- Climatic moderation and energy conservation
- Storm water retention
- Wildlife habitat
- General improvement of quality of life

AND WHEREAS public trees share the same limited space with equally essential services such as utilities and transportation infrastructure; the rising conflict often causing loss of valuable trees.

AND WHEREAS the preservation and enhancement of the Urban Forest requires an interdepartmental approach to conflict resolution, intervention, planning as well as consultation with external stakeholders such as utilities and development industry.

AND WHEREAS currently there is a fragmentation of the legislative framework and a need to coordinate various related bylaws, policies and procedures.

NOW THEREFORE BE IT RESOLVED that an interdepartmental Tree Committee be established with representatives from Engineering & Environmental Services, Parks and the Planning & Transportation Policy Department. This committee is to address ongoing issues and recommend processes and policies in the following categories:

1. Public tree protection, damage prevention and compensation
2. Public tree removal and replacement in the city where potential utility conflicts exist
3. Provision of dedicated space along roadways to accommodate trees
4. Review existing legislative framework affecting Urban Forest management and develop a coordinated application process for the related bylaws and policies
5. Facilitate communication, education and consultation with external and internal stakeholders and the public at large to gain support in implementation of the tree protection and the Urban Forest enhancement initiatives

FURTHER BE IT RESOLVED that the attached terms of reference be confirmed.

TREE COMMITTEE—TERMS OF REFERENCE

Mandate:

- To address issues related to public tree protection and enhancement of the Urban Forest and inter-departmental coordination
- To generate policy and process recommendations

Membership:

- Utilities and Environmental Protection
- Parks
- Planning & Transportation Policy
- Office of the City Solicitor (as required)
- Members of City Council

External Consultation:

- Stakeholders such as utility companies, Urban Development Institute (UDI) and tree care practitioners.

Appendix H:

Interdepartmental Tree Committee

Meetings:

- As required to address priority issues
- Committee will exist for a duration of two years at which time its progress will be reviewed

Issues for Consideration:

1. Public tree protection, damage prevention and compensation.
 - utility trenching along existing mature trees
 - infill housing development, demolition and trenching for services
 - inventory processes and procedures
2. Public tree removal and replacement in the city where potential utility conflicts exist.
 - interdepartmental and statutory plan and policy review
 - review existing setbacks
 - explore relaxation of setbacks
 - explore other innovations
3. Provision of dedicated space along roadways to accommodate public trees.
 - review policy and processes in both developing and redevelopment areas
4. Review existing legislative framework and develop a coordinated application process of the related bylaws and policies regarding tree protection.
 - review land use bylaw authority
 - lot redevelopment policy re: trees
 - review existing related bylaws, policies and processes
 - recommend policy and process changes
 - examine enabling legislation and possible amendments to Provincial Legislation
5. Facilitate communication, education, and consultation with external, internal stakeholders and the public at large to gain support in the implementation of the tree protection and the Urban Forest enhancement initiatives.

Appendix I:

Guidelines for “MR Trading”

The following guidelines will be tested over the next two-year period and will be subject to further discussion and ratification between the City and the Urban Development Institute. The guidelines refer to strategies outlined in the General Land Acquisition Policies section and should be read together with the principles, policies and strategies in that section.

Strategy #1

Guidelines for obtaining Environmentally Significant Areas not available through ER dedication:

1. City to identify and indicate an interest in lands that are potentially environmentally significant at the "community plan stage."
2. City undertakes assessment of land to confirm sustainability/desirability for trade.
3. Still at the community plan stage, the City and the developer to jointly review status of recreational elements in the plan to ensure minimum supply and reasonable distribution of:
 - a. existing and proposed regional recreation facilities
 - b. local MR use and distribution, affected and adjacent communities
 - c. regional pathway routing and provision
 - d. proposed stormwater management practices for the area
4. Upon completion of negotiations between the City and the developer for the protection of ESA lands, the results of such negotiations shall be reflected as a "special clause" within the Residential Development Agreement.

Strategy #2

Guidelines for the process of trading MR for high quality unencumbered ER.

1. City to identify and indicate an interest in sustainable high quality ER at the "outline plan stage."
2. Developer and the City jointly identify area to be left unencumbered by utilities, stormwater management and/or roads.
3. The City and the developer may negotiate a decrease in the 10% municipal reserve owing or cash-in-lieu, based on quality of ER and significance of land left unencumbered. Acreage of ER does not translate into acreage of MR, but is negotiated.
4. Developer reflects previous decisions made in the outline plan and the development agreement is drafted to ensure the ongoing quality of the ER through the construction of the subdivision.

Glossary of Terms

Building Sites: Open space lands within Parks' inventory that accommodate or are intended to accommodate recreation, sport or cultural buildings, stand-alone or multi-use complexes with a combination of arenas, pools, fitness facilities, multi-use areas and lease space. (See Map 6 – Building Sites.)

Cemetery: Publicly owned and administered land base for burial and memorial purposes, developed as landscaped passive parkland. (See Map 7 – Specialized Sites.)

City-wide Recreation Parks: Park development and site programming that is undertaken to meet unique city-wide needs, including major festivals. There is a recreational and/or cultural emphasis in their use, design, development, and programming. They serve as in-city destinations for Calgarians on half-day or day outings. Existing city-wide recreation parks include Prince's Island Park, Olympic Plaza, North/South Glenmore Park and Shaw Millennium Park.

Commercial Districts: Vary widely in design, style and intent and are as defined in the Land Use Bylaw.

Community: An identifiable geographical area within the larger urban area, primarily used for residential purposes. Communities are places to live, work, play and shop, and are made up of a number of neighbourhoods. The minimum size for a complete, functional community is about 260 ha (1 square mile) with +12,000 residents. (SSS)

Community Centre: The primary public activity centre within a community. Community centres are intended to provide a mix of public and commercial activities, including transit, provision for goods and services, community facilities, schools and open space to serve the needs of the community. (SSS)

Community Facility: A building that serves as the public focal point within the community and is used for public meetings and social events. While a community hall is the usual community facility, opportunities for different types of facilities, as well as different financial and management options, will be considered. (SSS)

Community Needs Assessment: A decision-making tool used within the inner city or established suburbs to evaluate the need for proposed new open space and/or open space redevelopments by screening potential options against public demand, participation, opportunity, and fiscal assessments.

Contamination: The presence in soil, water, groundwater, air or structures of a material or condition that may adversely affect human health or the natural environment (e.g. soil, water, land, buildings). The intrusion of these undesirable elements may render a site inappropriate for certain land uses or types of development. (SOER)

Cultural Landscapes: Geographical areas that have been modified or influenced by human activity (Canadian Parks Service Policy). These landscapes include:

- a. **Ethnographic Landscapes**—used and altered by native peoples; e.g. teepee rings.
- b. **Designed Landscapes**—derive their value from their aesthetic qualities; e.g. Central Memorial Park, Reader Rock Garden and Riley Park.
- c. **Vernacular Landscapes**—associated with demographic, social and economic development; e.g. Pearce Estates, Lowrey Gardens and Prince's Island.
- d. **Historic Landscapes**—valued primarily for their historical associations; e.g. Beaulieu/Lougheed House Park and Fort Calgary.
- e. **Other Specific Cultural Landscapes**—areas that are not part of the above four include cemeteries, canals, trails, cart routes and fortification earthworks; e.g. Union Cemetery.

Development Encroachment: A non-legal or non-judgmental term that refers to development activities in an ER.

Disturbed Zone: An ER or Natural Environment Park (MR) that is not substantially in its natural and native condition, and is cut off from the nearby natural system or vegetation community.

Downtown Open Space: Comprised of, but not limited to, publicly accessible parks, plazas, street edge and streetscapes with a mix of hard and soft landscaping designed to beautify the city core and provide "green" respites from the heat, noise and congestion of the downtown area.

Glossary of Terms

Dry Ponds: Designed, low lying areas that temporarily fill with water in peak drainage conditions with controlled outflow rates. These sites are used to manage the peak volume and runoff rates of stormwater. The sites may be designed as multi-use facilities with sports field use when they are dry.

Ecology: The study of relationships between living things and the environment. (CP)

Ecosystem: A biological community of living organisms and their non-living environment. Ecosystems are composed of air, land, water and living organisms, including humans. (SOER)

Employment Centre: A concentration or clustering of primarily non-retail businesses or facilities located in or close to a suburban residential area. They are seen as an effective means of providing opportunities for new jobs with a non-downtown location preference, and an opportunity to divert some of the future commuter traffic away from already congested downtown routes. The majority of the Employment Centres will include a transit orientation and pedestrian-friendly design. Included within the Employment Centres may be a range of public services and facilities, LRT station, schools, and open space. (ECS)

Engineered Stormwater Wetlands: Designed and/or modified permanent water bodies that fluctuate with water drainage peaks but hold water at all times. Used to improve stormwater runoff quality through nutrient and sediment removal using vegetation, detention, settlement and other best management practices. Used to manage volume of runoff through storage and restricted pipe outlets. Depth will vary depending on site design criteria. The live storage area is vegetated. Engineered Stormwater Wetlands have a habitat function with existing or designed riparian and upland vegetation communities. The boundary of the wetland will be designated as environmental reserve, in accordance with the MGA, and the adjacent buffer of riparian and upland vegetation will be designated as MR.

Environment: The components of the earth and includes: air, land, all layers of the atmosphere; all organic and inorganic matter and living organisms; and the interacting natural systems of these components. (SOER)

Environmental Open Space: Includes the River Valley System, Natural Environment Parks, Environmentally Significant Areas and the Urban Forest.

Environmental Reserve (as per the Municipal Government Act): A part of a parcel of land that is the subject of a proposed subdivision and is to be provided as environmental reserve as required by the subdivision authority if it consists of:

1. A swamp, gully, ravine, coulee or natural rainage course,
2. Land that is subject to flooding or is, in the opinion of the subdivision authority, unstable, or
3. A strip of land, not less than 6 metres in width, abutting the bed and shore of any lake, river, stream or other body of water for the purpose of:
 - Preventing pollution, or
 - Providing public access to and beside the bed and shore.

Environmentally Significant Area: A natural area site that has been inventoried prior to potential development and which, because of its features or characteristics, is significant from an environmental perspective to Calgary, and has the potential to remain viable in an urban environment. A site is listed as an Environmentally Significant Area on the basis of meeting one or all of the criteria listed in Appendix C.

Escarpment: A sloped side of river and creek valleys that have been formed by the erosive action of water.

Established Suburbs: Established neighbourhoods and communities that are outside the defined inner city. They do not include the city's edge communities currently undergoing new development. See Map 4.

Facility: A physical structure or open space used for the operation of a program activity (Policies and Priorities).

Floodplain/Flood Fringe: The lands abutting the floodway. The boundaries of the floodplain are indicated by floodwaters of a magnitude likely to occur once in 100 years. Refer to Land Use Bylaw 2P80 for the legal definition (i.e. Floodway/Floodplain maps). (CP)

Floodway: The river channel and adjoining lands [that] would provide a pathway for flood waters in the event of a flood of a magnitude likely to occur once in 100 years. This land is dedicated as environmental reserve when subdivision over 0.8 ha (2 acres) occurs. Refer to Land Use Bylaw 2P80 for the legal definition (i.e. Floodway/Floodplain maps). (CP)

Glossary of Terms

Floodway/Floodplain Maps: Maps which show the Floodway and Floodplain of the Bow and Elbow Rivers and the Nose and West Nose Creeks and which form part of the Land Use Bylaw (LUB).

Golf Courses: Public golf courses owned by the City and operated by the Recreation Business Unit with an emphasis on instruction, entry level to moderate calibre play and competitive pricing for public accessibility. (See Map 7 – Specialized Sites.)

Growth Area Management Plan (GRAMP): A plan prepared for growth areas of the city that is a tool for implementing key strategic policies and also provides a servicing framework for subsequent community plans. (CP)

Historic/Archaeological: Refers to written/prewritten evidence/artifacts.

Industrial Districts: Include Business Park Districts, Light Industrial Districts, Heavy Industrial Districts and Limited-Service Industrial Districts, as defined in the Land Use Bylaw. Examples include newer industrial areas such as Foothills Industrial Park and Sunridge Industrial Park. Remnant industrial pockets in older communities may have more mixed uses and overlapping edges with other land uses. Examples include the industrial areas in Inglewood and Highland Park.

Inner City: The geographic boundary of the inner city communities, where there has been an evolution of land uses and housing mixes, as per the Inner City Open Space Study. (See Map 4.)

Intermunicipal Development Plan: A statutory plan jointly prepared by neighbouring municipalities to establish strategic policies and identify issues of mutual interest that overlap municipal boundaries. (CP)

Intermunicipal Open Space: Open space lands edging the interfaces of the city and the Municipal Districts of Rocky View and Foothills.

Joint Use Site: Municipal reserve lands owned jointly by the City of Calgary, the Calgary Board of Education and the Calgary Roman Catholic Separate School District #1 through the Joint Use Agreement. Provisions concerning planning, development and maintenance of sites are included in the agreement. Sites may contain schools, play fields, community association facilities, recreation facilities, dry ponds, etc. (SSS)

Linear Park: A narrow open space area with a linear form. These parks are often landscaped and either contain a regional pathway or accommodate a linear recreation function through the provision of trails and/or local pathways.

Local Open Space: Open space intended to meet the needs of individual communities locally.

Local Pathway: Provides secondary routes within communities, linking residential areas to facilities such as neighbourhood parks, schools, and other local community destinations. Local pathways may also serve as linkages to the regional pathway system and are generally asphalt or composed of granular material. (PB)

Municipal Development Plan: A statutory plan that guides the future growth and development of a municipality as it relates to transportation, housing, economic activity, recreation, the environment, social issues and other matters. (CP)

Municipal Reserve: Reserve land used for park purposes.

Municipal School Reserve: Reserve land used for educational sports fields, community recreational sport fields and school building sites.

Native: Species of animals or plants that have not been introduced by people or through their direct activity.

Natural Environment Park: A City-owned park, classified as MR and/or ER, where the primary role is the protection of an undisturbed or relatively undisturbed area of land or water, or both, and which has existing characteristics of a natural/native plant or animal community and/or portions of a natural ecological and geographic system. Examples include wetlands, escarpments, riparian corridors, natural grasslands and woodlots. Note: A relatively undisturbed Natural Environment Park would either retain or have re-established a natural character, although it need not be completely undisturbed. The three types of natural environment parks are:

1. **Special Protection Natural Environment Park:** A Natural Environment Park that has approximately 75% of its land base composed of high condition natural environment; which is of provincial and/or regional significance and contains highly productive and suitable wildlife habitat.

Glossary of Terms

- 2. Major Natural Environment Park:** A Natural Environment Park that has approximately 50% of its land base composed of high condition natural environment; which is of city-wide significance and contains wildlife habitat of varying productivity.
- 3. Supporting Natural Environment Park:** Parkland that would be considered regional in nature, with variable natural conditions and habitat productivity. These sites are usually remnant natural areas, often acquired as Environmental Reserve through the subdivision process, usually with developed parkland immediately adjacent to them. An example would be Strathcona Ravines.

Natural Environment Zone: A portion of city parkland, other than a Natural Environment Park, which is dominated by a natural feature. An example would be the east end of Prince's Island Park.

Naturalization: The process of leaving a disturbed site to natural processes.

Natural System: A group of areas that are ecologically dependent.

Near Native Condition: A vegetation community that is not dominated by introduced species or seriously affected by damage.

Neighbourhood: An area within a larger community, defined by a five-minute direct walk to a central neighbourhood node (SSS).

Neighbourhood Node: A secondary public activity centre serving an individual neighbourhood within a community. It contains a transit stop and may include a smaller mix of activities than the community centre (SSS).

Neighbourhood Park: A small (passive) park offering spontaneous recreation to the local residents. It can include tot lots and playgrounds (Policies and Priorities).

New Communities: The substantially unbuilt/undeveloped residential areas toward the edges of the city (See Map 4). Although unbuilt, planning policies are in place in all of these new communities areas prior to development.

Non-Native: Any introduced species of animal or plant.

Non-Statutory Planning Study: A non-statutory study that contains policies approved by Council but not adopted by bylaw (CP).

Non-Traditional Open Space Uses: Uses that have a more specialized appeal in terms of participation rates than "traditional" activities such as ball, soccer and hockey. Programming for non-traditional open space uses is typically provided by specialized sports, recreational or user groups.

Open Space: Open space in its broadest sense includes all land and water areas, either publicly owned or offering public access, that are not covered by structures (CP). For the purposes of the Open Space Plan, open space includes current and potential future parks, pathways, roadway greens, land for parks and recreation facilities, golf courses, cemeteries and other types of alternative use open space.

Park: A specific-use open space area that is managed to provide opportunities for recreation, education, cultural or aesthetic use (Policies & Priorities).

Performance Indicators: Measures of progress towards the vision for Calgary (CP).

Pesticide: Any agent used as a means of directly or indirectly controlling, preventing, destroying, mitigating, attracting or repelling any pest (SOER).

Preservation: Designed to provide protection and maintenance of currently undisturbed natural areas and enhancement of existing natural features. Human access to these areas would be limited (UPMP).

Preservation Zone: Implies an intent to maintain a natural environment in its present condition. See Parks' Natural Area Management Plan (NAMPA).

Public Utility Lot: land required to be given under the Municipal Government Act for public utilities. A public utility is a system or works used to provide certain services for public consumption or benefit. Examples of public utilities include water, public transportation, irrigation, drainage, waste management and telecommunications.

Reclamation: The efforts to improve a disturbed site's condition.

Glossary of Terms

Recreation: An activity oriented to the expression of human interests. It is a positive element contributing to individual and community growth and development. Recreation can be an end in itself by creating physical, social, intellectual, cultural, and spiritual benefits derived directly from one's participation in individual and group activities (Policies & Priorities). Parks and open spaces provide opportunities for a wide variety of recreation activities, whether active or passive.

Recreational Open Space: One of the three major types of open space (along with environmental and urban design open space). Recreational open space is open space that is acquired primarily to provide places for accessible public recreation.

Regional Pathway System: A city-wide linear network that facilitates non-motorized movements for recreation and transportation purposes. The spine of the system parallels the major physical features of the river valleys park system, including waterways, escarpments and ravines. It connects communities by linking major parks, recreation facilities and natural features. The regional pathway system may also link other major community facilities such as schools, community centres and commercial areas. The regional pathway is hard-surfaced, typically asphalt and located off-street. It is a multi-use facility and no one user or type of user is to be given elevated status.

Regional Recreation Facilities: Stand-alone or multi-use complexes with a combination of arenas, pools, fitness facilities, multi-use areas and rental space. Serve a regional function, i.e. several surrounding communities.

Regional Recreation Parks: Parks developed for general recreation. May consist of either natural or constructed features, or both. Regional Recreation Parks are located and designed to serve more than one community but less than the entire city. They usually accommodate multiple activities for half- or full-day outings and are typically +20 ha depending on the amenities within the site. Major features and amenities include: riverbank escarpment, passive recreation areas, picnicking, winter recreation, tot lots, local and regional pathway connections, and sports field areas. Existing regional recreation parks include Bowness, Riley Park, Stanley Park, Prairie Winds, and Valleyview Regional Park.

Rehabilitation: The efforts to restore a site to near native condition, or the efforts to improve a disturbed site's condition, or the process of leaving a disturbed site to natural processes.

Reserve Land: Lands acquired at the time of subdivision for park and/or school purposes as per the Municipal Government Act.

Resource Significance: Refers to the level of importance of the area to a future parks area.

Restoration: The efforts to restore a site to near native condition.

Restoration Zone: Signifies an intent to improve an area to near its natural and native condition. Such an area plays a role in the nearby natural system or vegetation community.

River/Creek Valley: Sloping area abutting the river/creek channel (CP).

River Valley Park System: The establishment of a park system along the river valleys as identified in the Urban Park Master Plan.

River Valley System: Includes all lands within the geographic and visual limits of the city's river valleys and creek corridors.

Roadway Greens: A type of open space located within road rights-of-way. The areas include the boulevards and medians of major roadways like John Laurie Boulevard or Memorial Drive, entryways into communities and traffic islands within communities. In addition to mowed turf they commonly include amenities such as trees, pathways, benches, natural areas and, less commonly, flower beds, sculptures, playgrounds and play fields.

Sensitivity: Measures the amount of unmitigable damage that a particular vegetation community or species can withstand.

Special Attractions: Unique building and open space sites located on public parkland. Each is run by a society in partnership with the City, with some public funding. Existing sites are Heritage Park, Lindsay Park, Fort Calgary, the Calgary Zoo, and the Science Centre. (See Map 7—Specialized Sites.)

Glossary of Terms

Sports Fields: Developed open space providing educational and recreational opportunities for specialized sports activities; traditionally baseball, softball and soccer, with some fields for non-traditional uses including rugby, lawn bowling, cricket, field hockey, etc.

Sports Fields Community level: Educational and recreational sports field requirements for public elementary schools, public junior high schools, public elementary and junior high schools, separate elementary schools and separate elementary and junior high schools, as per the Site Planning Team's Joint Use Site Guidelines, as shown in the City's "Development Guidelines and Standard Specifications—Landscape Construction." (Note: These fields are part of the 10% reserve dedication.)

Sports Fields District level: Educational and recreational sports field requirements for public and separate high schools as per the Site Planning Team's Joint Use Site Guidelines, as shown in the City's "Development Guidelines and Standard Specifications—Landscape Construction." (Note: These fields are generally not taken as part of the 10% reserve dedication, but are purchased out of the Joint Use Reserve Fund).

Sport Fields City-wide level: Indoor and outdoor facilities that are available at dedicated sites. They have on-site staff and include Calgary's major athletic parks. Both children and adult programs are offered at the city-wide facilities. They are built to accommodate advanced levels of play. Land is acquired through exchange or purchase and is not part of the 10% reserve dedication.

Statutory Plan: The Municipal Government Act 2000, Part 17, identifies the following as statutory plans: municipal development plans, intermunicipal development plans, area structure plans and area redevelopment plans. These plans must be consistent with each other. They are adopted by bylaw following a statutory public hearing of Council (CP).

Stormwater: Surface runoff from precipitation and discharges from industrial, commercial and residential properties, construction sites, road pavement, landscaping, irrigation, snow-melt, natural soil and vegetation sources, groundwater, infiltration, and illegal dumping (SOER).

Stormwater Management: The planning, analysis, collection, storage and controlled discharge of urban stormwater runoff (SWL). A series of techniques is used to manage where and how much water passes through a system after a storm. The term "best management practices" is used to describe techniques that work in conjunction with the natural systems.

Streetscape: All the elements that make up the physical environment of a street and define its character, including the road, boulevard, sidewalk, building setback, height, and style. It also includes pavement treatment, trees, lighting, pedestrian amenities and street furniture (CP).

Sub-neighbourhood Park: The smallest of the parks, it usually functions as a play area for small children or as a passive park. May be combined with a larger park (Policies and Priorities).

Sustainable Development: Economic and social development within the limits required to sustain long-term environmental well-being. Such development ensures that our use of the environment and natural resources today does not harm the prospects for use by future generations (SOER).

Sustainable Forestry: Managing our forest (naturally occurring and planted trees) to meet the needs of the present without compromising the ability of future generations to meet their needs.

Sustainable Suburb: A community that has been organized in such a way that the fiscal, social and environmental activities that take place within it are capable of being sustained far into the future (CP).

Trails: Constructed linear paths with a granular surface and are generally located in natural areas. As a management tool they identify intended public routing and can formalize desire lines to minimize the impact on the natural environment (PB).

Urban Design Open Space: Open space where the main function is to contribute to the quality, form and function of the built environment through visual aesthetics, character, variety, sun allowances, noise/sight buffering, and public areas. Examples include roadway greens, escarpments, landscaped boulevards, sidewalks and urban plazas.

Glossary of Terms

Urban Forest: The sum of all woody and associated vegetation in and around dense human settlement. It is the sum of street trees, residential trees, parks trees and green belt vegetation. It includes trees on unused public and private lands, trees in transportation and utility corridors and forests on watershed lands.

Urban Plaza: A place where the design, function and programming are its key characteristics and, therefore, it shall be maintained as a Class A park. The adjacent land uses, the plaza's unique features, interesting surface treatments, grade changes and seating contribute to its distinct identity and create a sense of place. It is an outdoor public space where cars are excluded. Its main function is for casual use by all Calgarians, regardless of ability, age, gender, culture or socio-economic status. However, it can also be used as a public gathering place for such activities as festivals, carnivals, art shows, exhibits, concerts, rallies and street markets. The three types of Plazas are:

- 1. Downtown and Commercial District Plazas:** These plazas contribute to the livability, character and vitality of the downtown and commercial districts, and primarily service nearby retail services and office buildings. Examples include: Bankers Hall street corner, sun-pocket plazas; Century Gardens on 8th Avenue SW; and Tomkins Park on 17th Avenue SW.
- 2. Community Squares:** These plazas contribute locally to a greater sense of community by their distinct identity and sense of place. Examples include Garrison Square in Garrison Woods and Inverness Square in McKenzie Towne.
- 3. City-wide Plazas:** These centrally located and highly visible plazas contribute to a greater sense of community on a city-wide basis. Olympic Plaza is Calgary's city-wide Plaza.

User Friendly/Barrier Free: An environment designed to make movement fast, attractive, and comfortable for various ages and abilities (e.g. visual and hearing impaired, mobility impaired, developmentally challenged, situational impaired, etc.). Considerations include separation of pedestrian and auto circulation, street furniture, clear directional and informational signage, safety, visibility, shade, lighting, surface materials, trees, sidewalk width, prevailing wind direction, intersection treatment, curb cuts, ramps, landscaping, etc. (SSS).

Utilities: Facilities for gas, electricity, telephone, cable television, water, storm and sanitary sewer (CP).

Utility Encroachment: A non-legal or non-judgmental term which refers to utility development (e.g. natural gas, sewer, electrical, etc.) in an ER.

Utility Open Space: Classified as "miscellaneous open space," it includes undeveloped parklands, buffer strips, roadway greens, boulevards and medians, easement and utility rights-of-way (Parks Policies and Priorities).

Vegetation Community: A group of plant populations in a given area.

Wetland (National Wetland Working Group – Environment Canada): A portion of City-owned land, classified as MR and/or ER, that is saturated with water long enough to promote wetland or aquatic processes, as indicated by poorly drained soils, hydrophytic vegetation and various kinds of biological activity which are adapted to a wet environment. This may include crown water bodies as identified by Sustainable Resources Development, Public Lands.

Wet Ponds: Constructed, permanent water bodies that fluctuate with water drainage peaks but hold a permanent level of water at all times. Site is managed for stormwater quantity and quality objectives. Live storage area may encourage vegetation, but is not necessarily vegetated. Depth may vary depending on site security and public access. Site may have restricted access. The legal description of the site shall be PUL.

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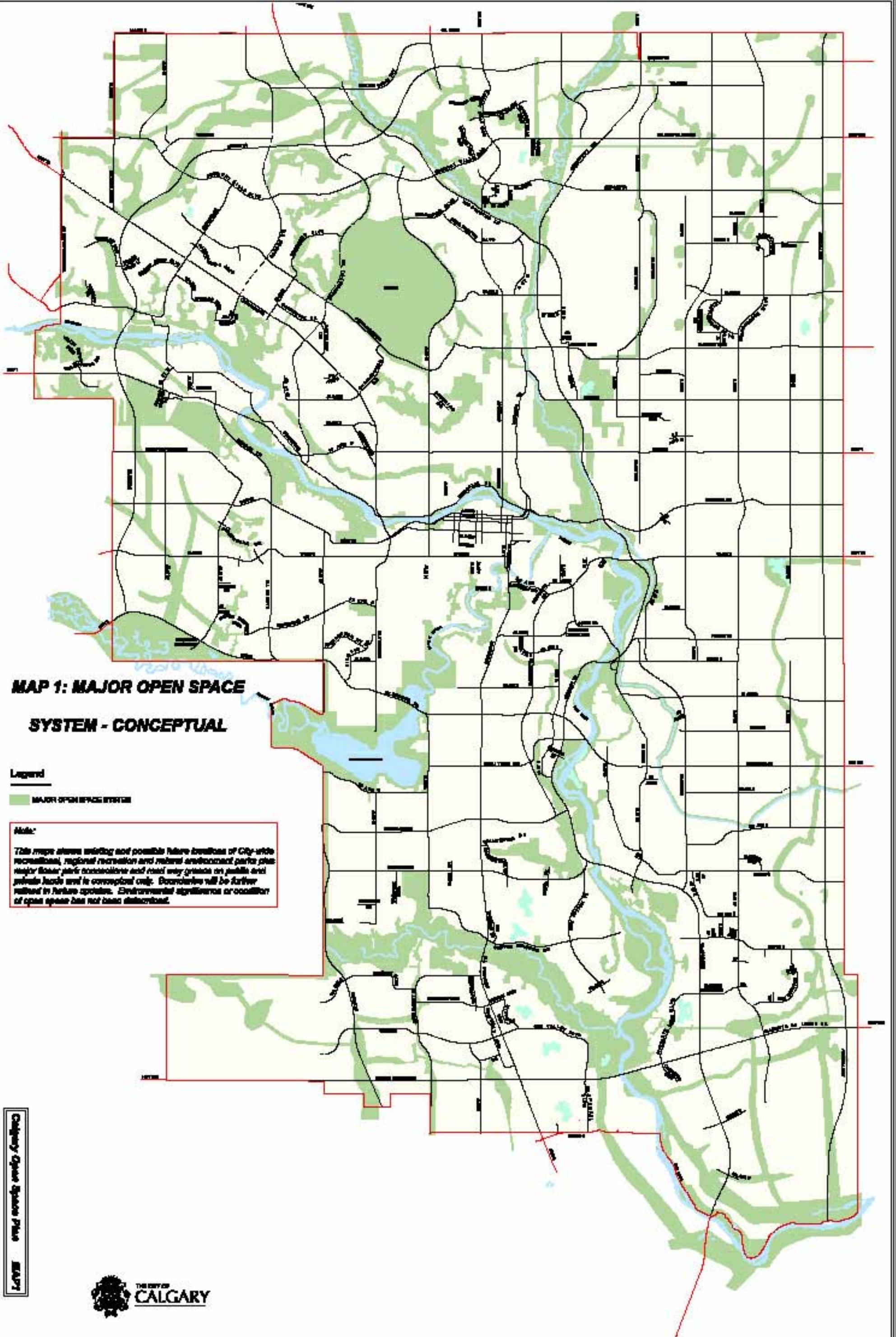
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List of Maps

1. Major Open Space System—Conceptual
2. Topographic Map
3. Regional Pathway Map
4. Open Space Policy Areas
5. Sports Fields
6. Building Sites
7. Specialized Sites
8. Habitat Types
- 9a. Intermunicipal Open Space—Calgary and M.D. of Rocky View
- 9b. Intermunicipal Open Space—Calgary and M.D. of Foothills



MAP 1: MAJOR OPEN SPACE SYSTEM - CONCEPTUAL

Legend
 MAJOR OPEN SPACE SYSTEM

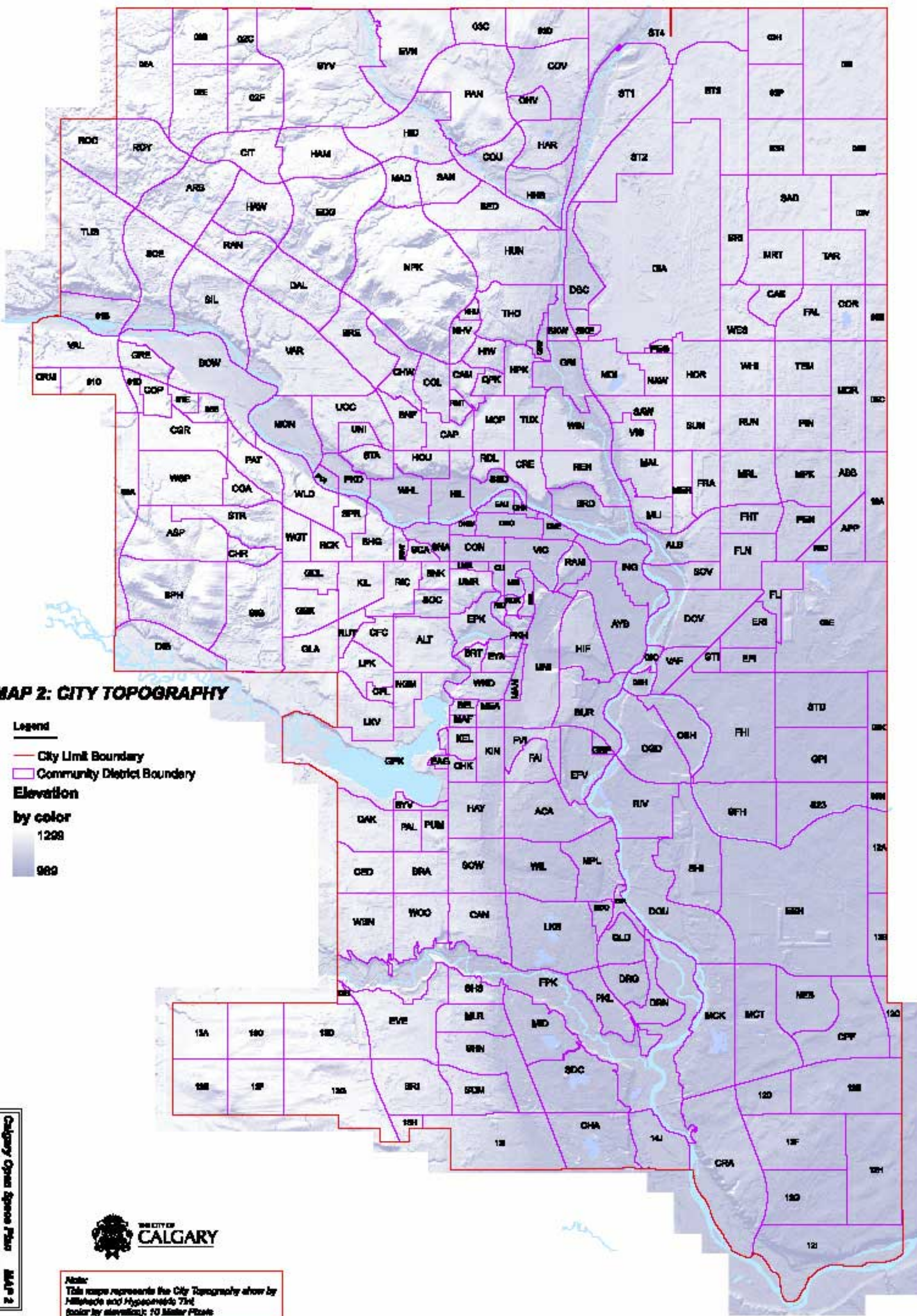
Note:
 This map shows existing and possible future locations of city-wide recreational, regional recreation and natural environment parks plus major linear park corridors and road way trails on public and private lands and is conceptual only. Boundaries will be further refined in future updates. Environmental significance or location of open space has not been delineated.

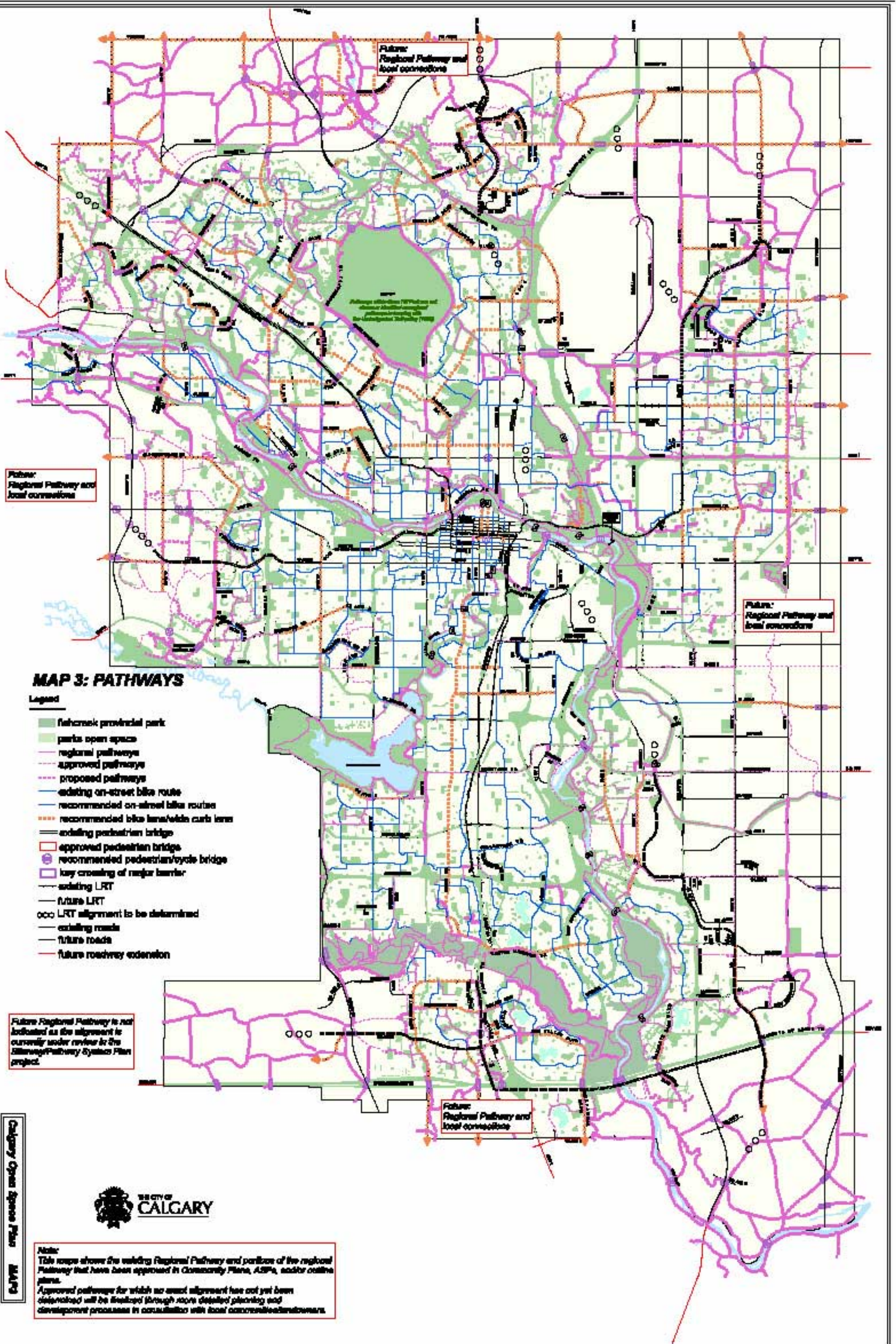
Calgary Open Space Plan 2007



City of Calgary
 Planning and Development
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 Calgary, Alberta T2P 1C1
 Tel: 403.243.3111
 Fax: 403.243.3112
 www.calgary.ca







MAP 3: PATHWAYS

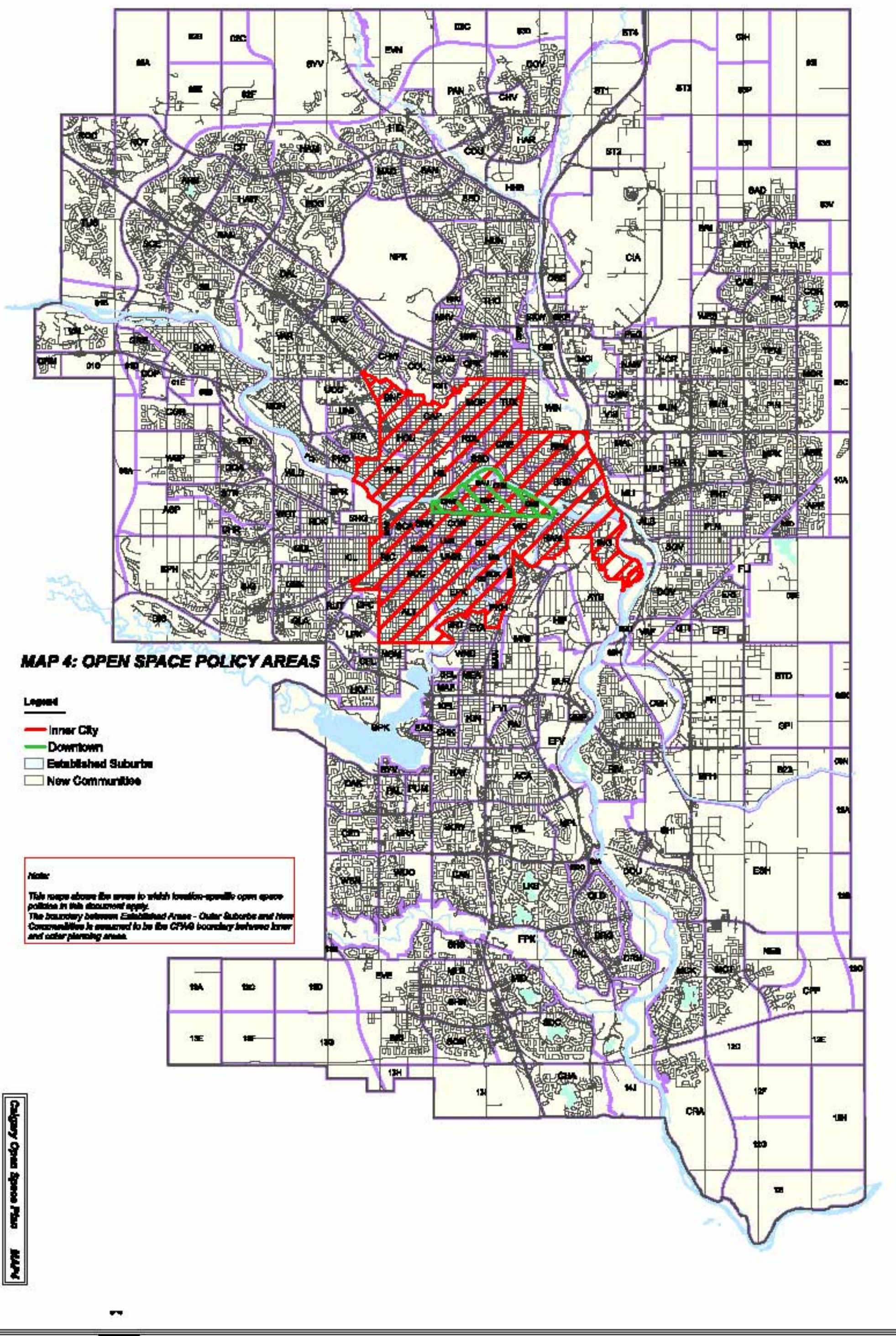
- Legend**
- fishcreek provincial park
 - parks open space
 - regional pathways
 - approved pathways
 - proposed pathways
 - existing on-street bike route
 - recommended on-street bike routes
 - recommended bike lanes/white curb lanes
 - existing pedestrian bridge
 - approved pedestrian bridge
 - recommended pedestrian/cycle bridge
 - key crossing of major barrier
 - existing LRT
 - future LRT
 - LRT alignment to be determined
 - existing roads
 - future roads
 - future roadway extension

Future Regional Pathway is not indicated as the alignment is currently under review in the Strategic Pathway System Plan project.

Future Regional Pathway and local connections



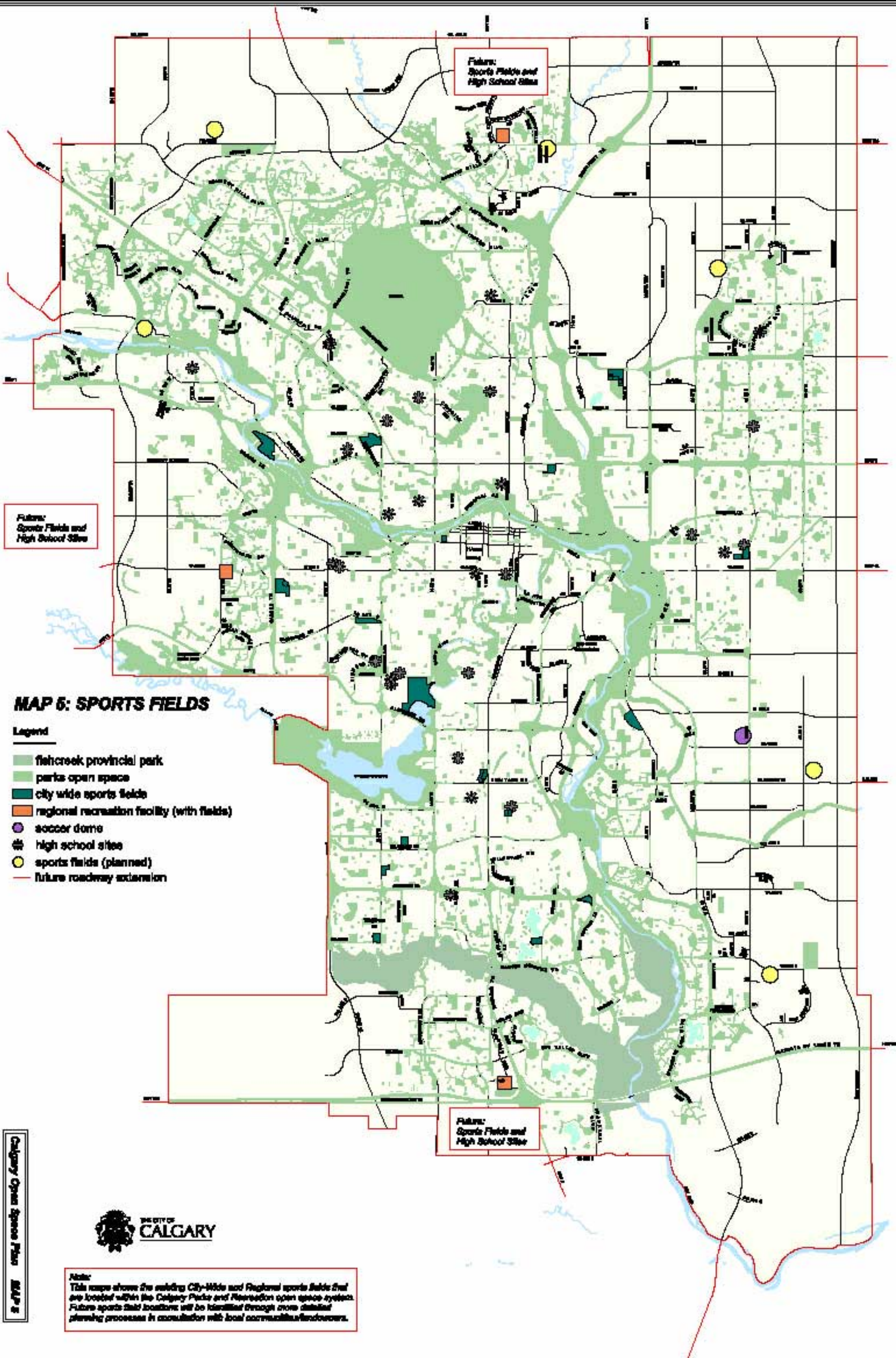
Note:
 This map shows the existing Regional Pathway and portions of the regional Pathway that have been approved in Community Plans, ASPs, and/or outline plans.
 Approved pathways for which an exact alignment has not yet been determined will be finalized through more detailed planning and development processes in consultation with local communities/businesses.



MAP 4: OPEN SPACE POLICY AREAS

- Legend**
- ▬ Inner City
 - ▬ Downtown
 - Established Suburbs
 - New Communities

Note:
 This maps shows the areas to which location-specific open space policies in this document apply.
 The boundary between Established Areas - Outer Suburbs and New Communities is assumed to be the CPAG boundary between inner and outer planning areas.



MAP 6: SPORTS FIELDS

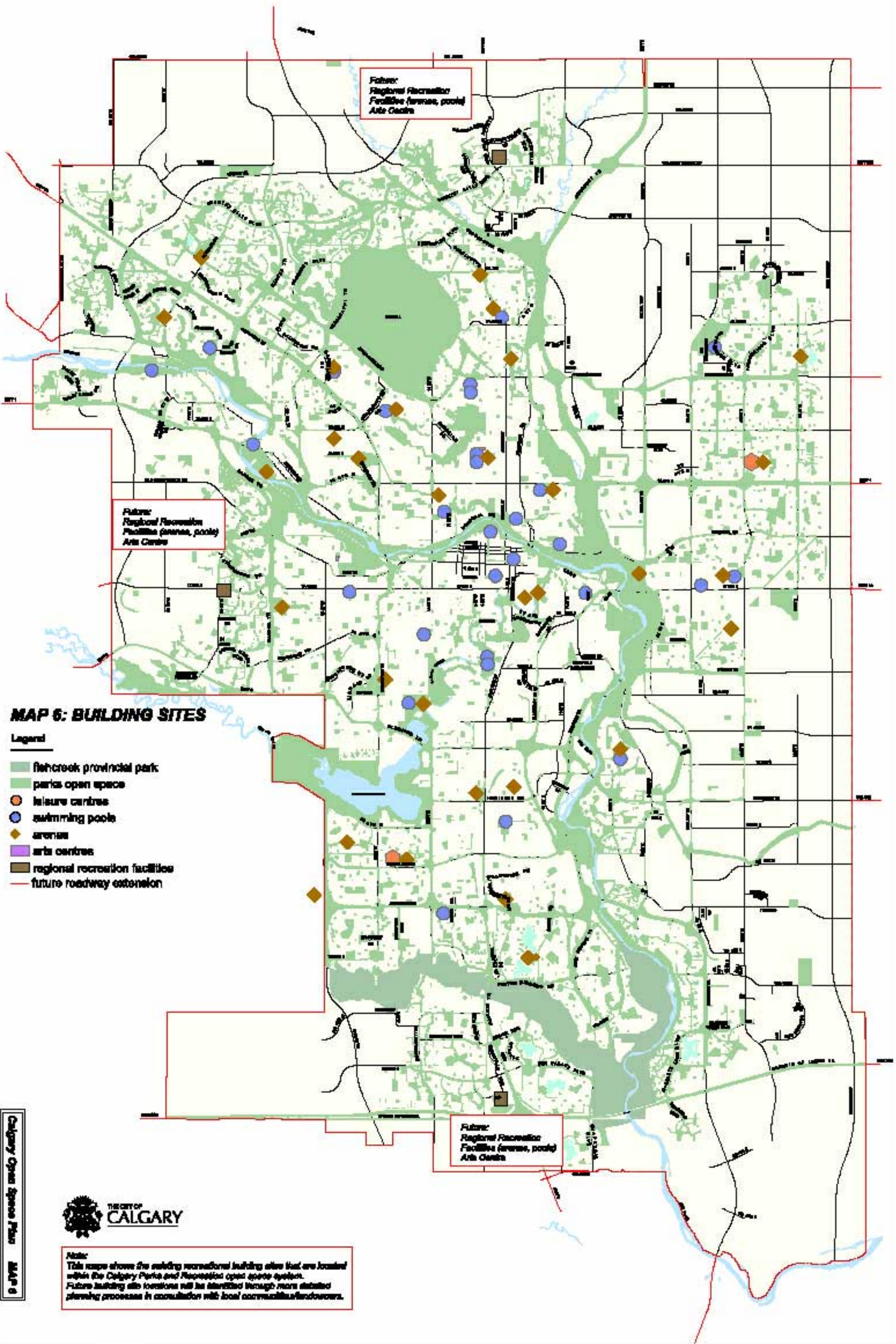
- Legend**
- fishcreek provincial park
 - parks open space
 - city wide sports fields
 - regional recreation facility (with fields)
 - soccer dome
 - high school sites
 - sports fields (planned)
 - future roadway extension



Note:
 This map shows the existing City-Wide and Regional sports fields that are located within the Calgary Parks and Recreation open space system. Future sports field locations will be identified through more detailed planning processes in consultation with local communities/landowners.

Calgary Open Space Plan MAP 6





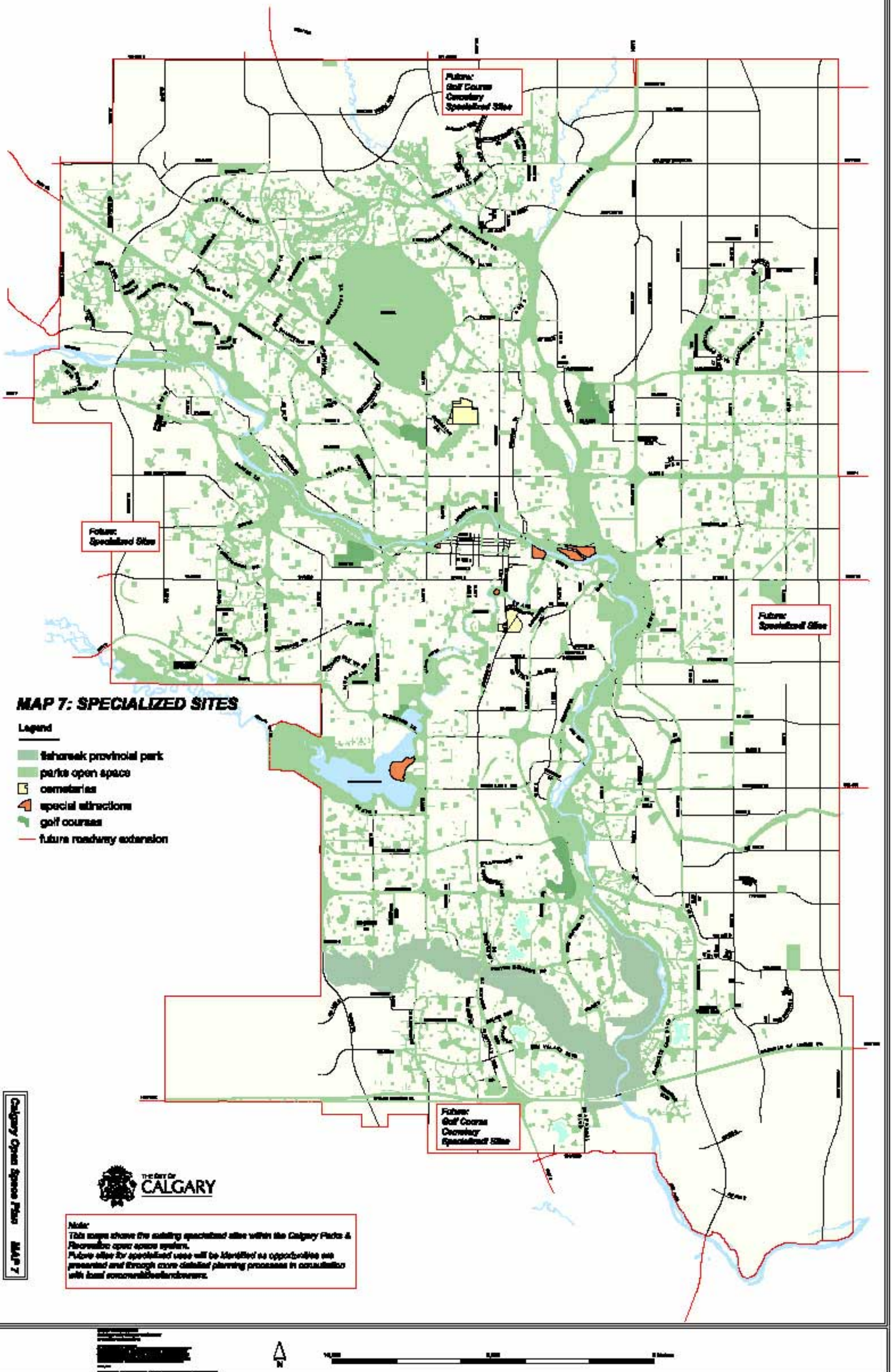
MAP 6: BUILDING SITES

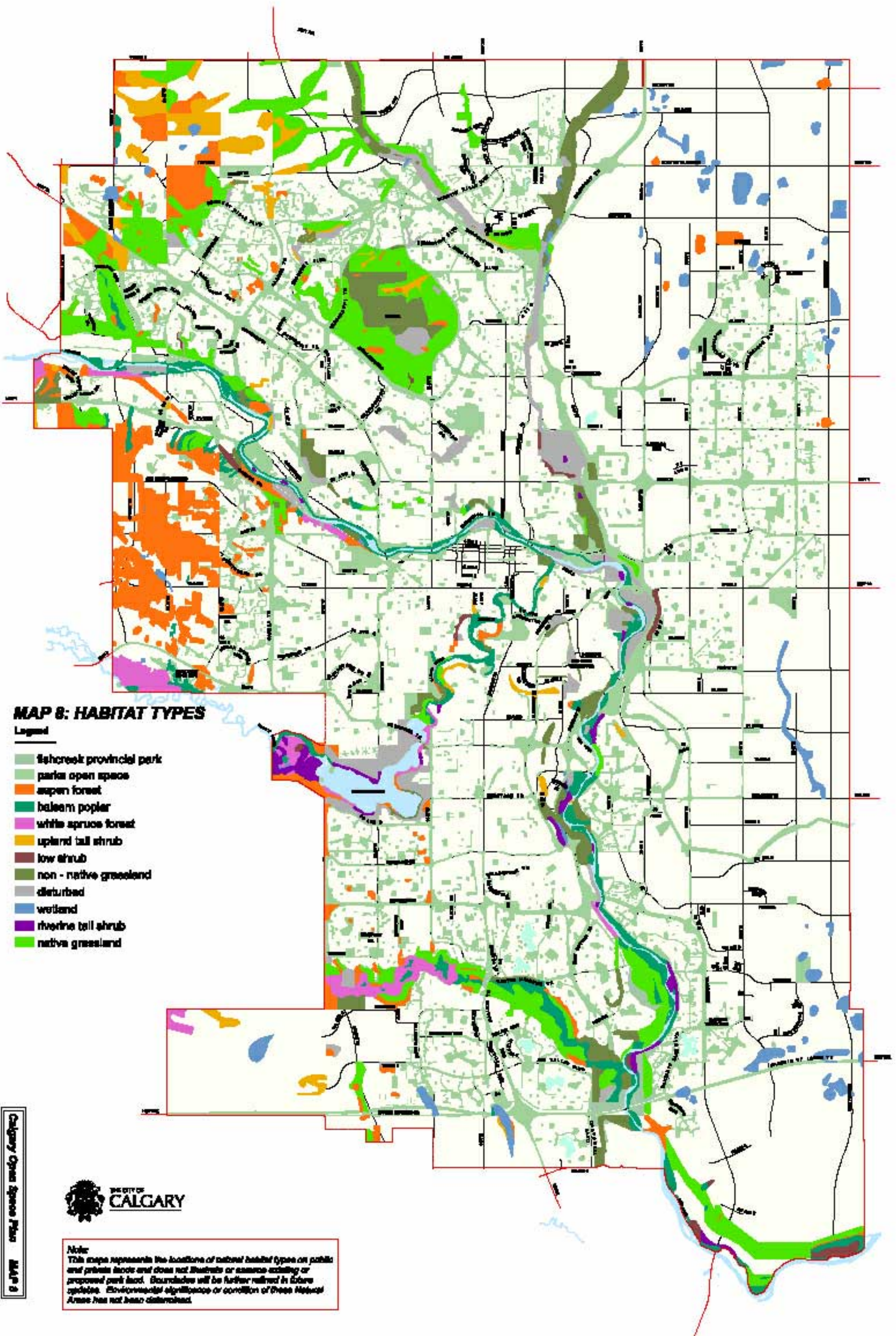
- Legend**
- fishcreek provincial park
 - paris open space
 - leisure centres
 - swimming pools
 - arenas
 - arts centres
 - regional recreation facilities
 - future roadway extension



Note:
 This map shows the existing recreational building sites that are located within the Calgary Parks and Recreation open space system. Future building site locations will be identified through more detailed planning processes in consultation with local communities and owners.

Calgary Open Space Plan MAP 6





MAP 8: HABITAT TYPES

Legend

- fishcreek provincial park
- parks open spaces
- aspen forest
- balsam poplar
- white spruce forest
- upland tall shrub
- low shrub
- non - native grassland
- disturbed
- wetland
- riverine tall shrub
- native grassland

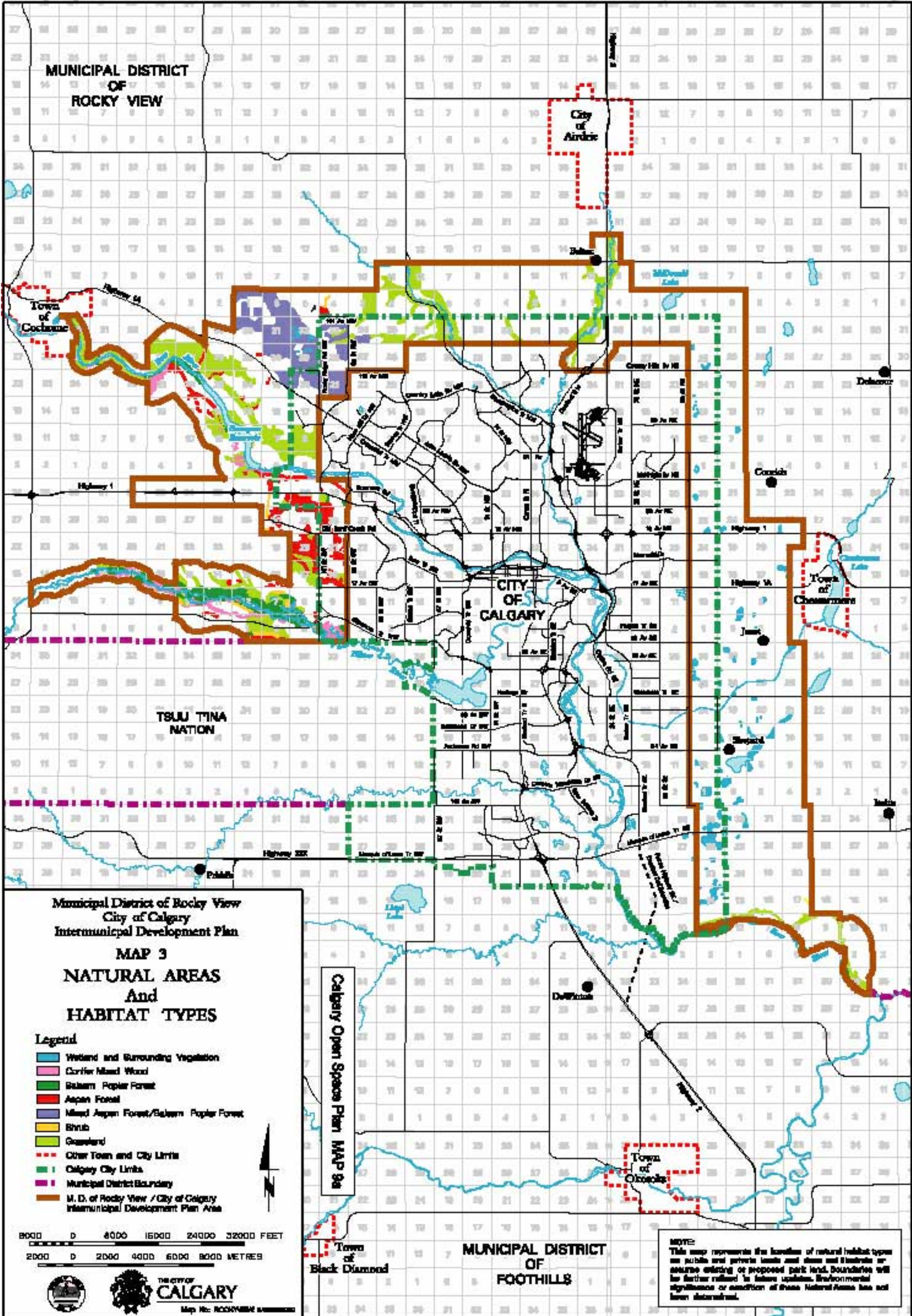
Calgary Open Space Plan MAP 8



Note:
 This map represents the locations of natural habitat types on public and private lands and does not illustrate or assume existing or proposed park land. Boundaries will be further refined in future updates. Environmental significance or condition of these Habitat Areas has not been determined.



0 500 1000 METERS



MUNICIPAL DISTRICT
OF
ROCKY VIEW

City of
Airdrie

Town of
Cochrane

CITY OF
CALGARY

Town of
Chestermere

TSUJITINA
NATION

Town of
Okotoks

Calgary Open Spaces Plan MAP 98

MUNICIPAL DISTRICT
OF
FOOTHILLS

Town
of
Black Diamond

NOTE:
This map represents the location of natural habitat types on public and private lands and does not guarantee accuracy of future updates. Environmental significance or condition of these Natural Areas has not been determined.

Municipal District of Rocky View
City of Calgary
Intermunicipal Development Plan
MAP 3
**NATURAL AREAS
And
HABITAT TYPES**

Legend

- Wetland and Surrounding Vegetation
- Conifer Mixed Wood
- Balsam Poplar Forest
- Aspen Forest
- Mixed Aspen Forest/Balsam Poplar Forest
- Shrub
- Grassland
- Other Town and City Limits
- Calgary City Limits
- Municipal District Boundary
- M. D. of Rocky View / City of Calgary Intermunicipal Development Plan Area

8000 0 8000 16000 24000 32000 FEET
2000 0 2000 4000 6000 8000 METRES



THE CITY OF
CALGARY

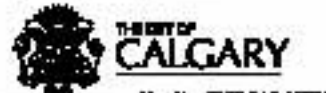
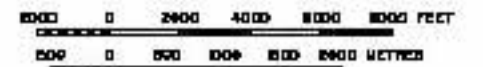
Map No: R00Y0084 8/2008

Municipal District of Foothills
 City of Calgary
 Intermunicipal Development Plan

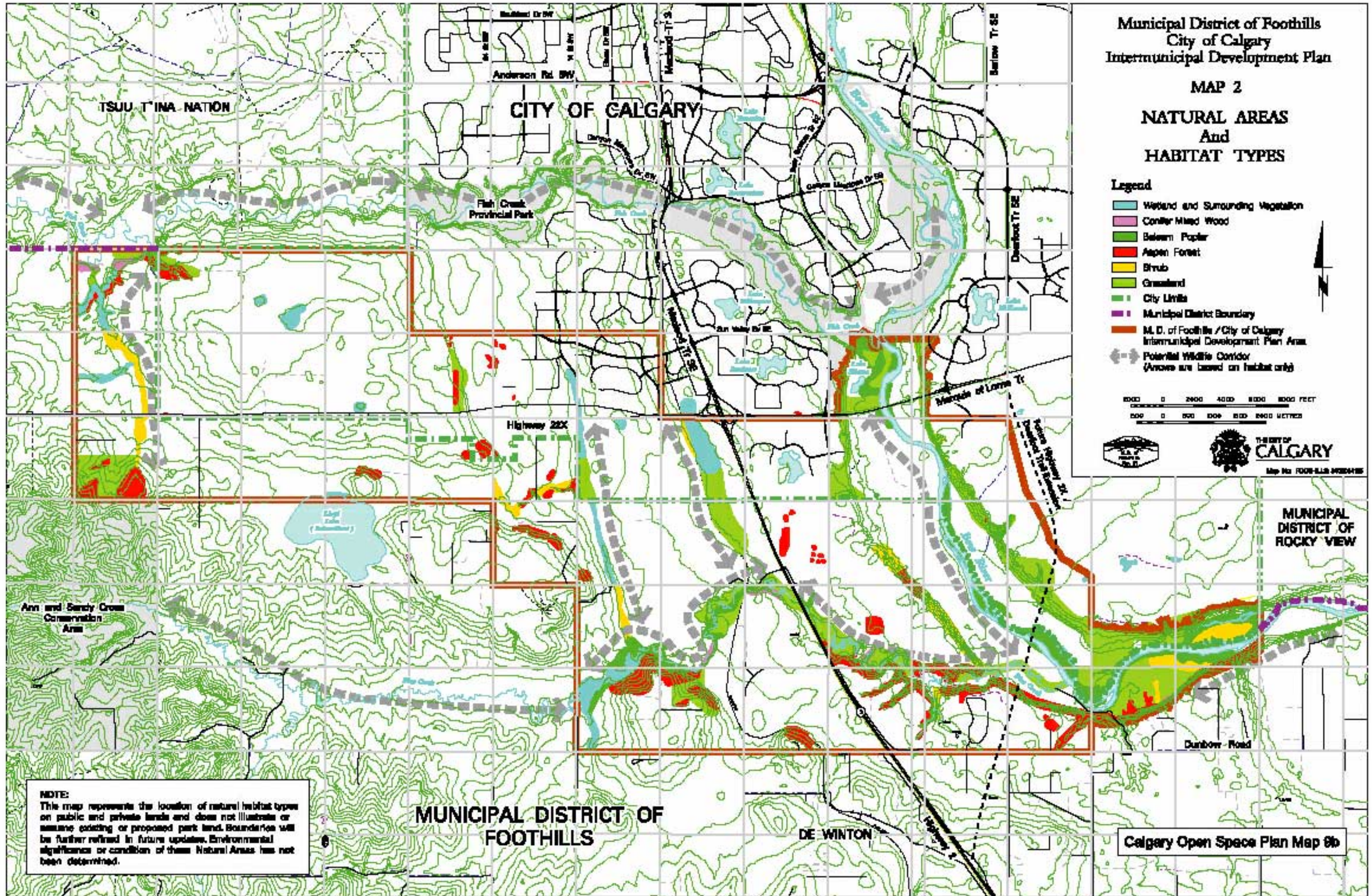
MAP 2
 NATURAL AREAS
 And
 HABITAT TYPES

Legend

-  Wetland and Surrounding Vegetation
-  Conifer Mixed Wood
-  Balsam Poplar
-  Aspen Forest
-  Shrub
-  Grassland
-  City Limits
-  Municipal District Boundary
-  M.D. of Foothills / City of Calgary Intermunicipal Development Plan Area
-  Potential Wildlife Corridor (Arrows are based on habitat only)



Map No. FOOH-LLS-0004/05



NOTE:
 This map represents the location of natural habitat types on public and private lands and does not illustrate or assume existing or proposed park land. Boundaries will be further refined in future updates. Environmental significance or condition of these Natural Areas has not been determined.



THE CITY OF
CALGARY
PARKS