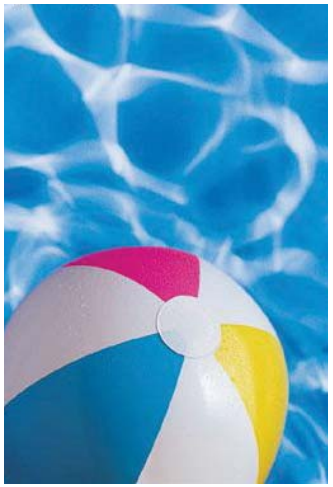
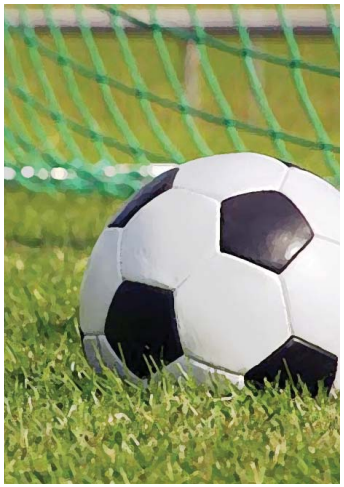
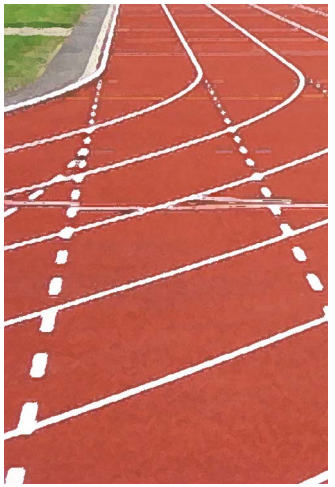
THE CITY OF
CALGARY
RECREATION

CONCEPT PLAN FOR FOOTHILLS AND GLENMORE ATHLETIC PARKS



JUNE 30, 2010

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SportsPLAN

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This report sets out the recommended master plan for the Foothills and Glenmore Athletic Parks. This summary provides a brief overview of the process, key findings and recommendations of the study.

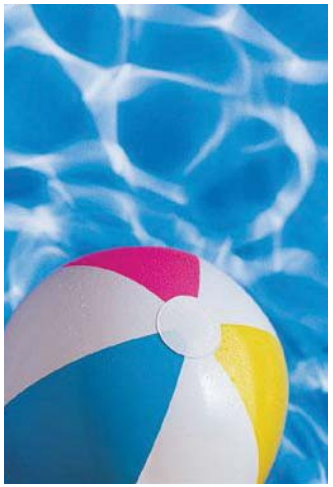
Initiated as a tool to guide future capital investment at the parks, the Concept Plan commenced with a review of the existing facilities and sites for their condition and suitability of intended use. This review identified a stock of aged, outmoded buildings and recreational assets incapable of meeting sport and user needs, and inefficiently located on their respective sites. Additionally, through extensive workshops, policy review and stakeholder consultation, the Concept Plan identified five key findings:

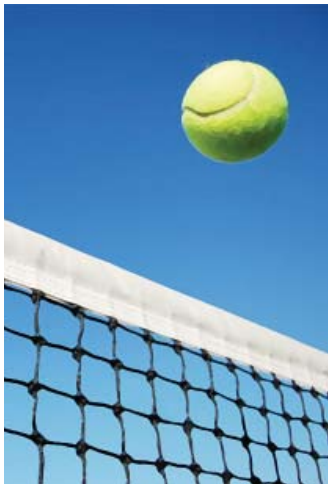
1. An unmet need to accommodate both current and anticipated sport demand, recreational users and their varied requirements;
2. The need for competition capable sport and recreation facilities;
3. The intense demand for indoor practice and play space;
4. The opportunity to provide a unique, complimentary inventory of facilities at both athletic parks accessible to all Calgarians regardless of level of ability or interest; and,
5. The opportunity to create dynamic civic spaces with a distinct sense of place specific to, and identifiable with, each athletic park.

Based on these findings, the Concept Plan recommends an overall site reorganization for each athletic park that incorporates a series of facility, site, and infrastructure improvements to address existing deficiencies, accommodate demand, and enhance the cultural, experiential, and aesthetic qualities of the sites. While the Concept plan proposes the addition of new facilities, all new buildings are located on the sites of existing facilities identified for replacement. Moreover, all new development occurs within the existing athletic park boundaries and adjacent City of Calgary lands. This Concept Plan also provides recommendations for implementing the proposed redevelopment and includes considerations for site design and potential standard design components critical to creating functional yet distinct athletic parks.

'Next Steps' associated with the evaluation of the proposed Concept Plan include the development of operational planning and cost recovery models in association with scale of magnitude estimates of probable construction costs. These scopes of work have been outlined for completion and have been/will be completed and summarized under separate cover.

SECTION 1: INTRODUCTION




The City of Calgary Recreation undertook master planning efforts for the Foothills and Glenmore Athletic Parks to create an overall Concept Plan to be used to direct, manage and maximize the impact of subsequent maintenance and capital expenditures. Conceptual master plans for each of the parks are the foundation for the overall Concept Plan incorporating both sites.

1.1 PROJECT SCOPE AND PREMISES

The intent of the Athletic Park Concept Plan is to create a comprehensive overall plan for improvements and additions to Foothills and Glenmore Athletic Parks that can be completed in subsequent phases as priorities and funding availability dictate. Maximization of resources, both financial and physical, is a primary objective. The Concept Plan is the first step of a potentially multi-phase undertaking. Subsequent phases would include detailed design and construction of projects identified in the Athletic Park Concept Plan.

The Concept Plan has evolved through a process that has included the following activities:

- Evaluation of existing facilities to determine their condition, capacity and suitability for intended uses
- Gathering and assessing available surveys, geotechnical investigations and other existing information about the parks and the surrounding area
- Assessing current use patterns for all facilities and projecting future use, given anticipated growth in population and/or programs and activities
- Engaging sport and athletic community members as well as other stakeholders for input and preferences
- Development of preliminary space and program requirements and criteria for master planning
- Coordination of requirements based on different interest groups within The City of Calgary and stakeholder input
- Design of the parks based on economic, social and environmental criteria in conjunction with City of Calgary Policy and stakeholder input
- Recommendations and preparation of options for design and construction for subsequent phases

In addition to the above process, the recommendations presented in this Concept Plan expands on the work presented in the Calgary Civic Sport Policy (2005), "Team Spirit: Advancing Amateur Sport for all Calgarians; A 10 Year Strategic Plan for Sport Facility Development and Enhancement" study completed in May of 2008, and The Recreation Master Plan (2010) which identified recreation facilities as a major focus. (Please refer to Appendix 'E' - Policy in Support)

The 10 Year Strategic Plan identifies a variety of needs for new and improved facilities in Calgary and formed part of the basis for investigating the components to be included in the two athletic parks. The primary needs identified in the study are ice arenas, gymnasia, indoor and outdoor play fields, and aquatics facilities. Given the existing inventories of facilities at each park site, it was determined that the objective would be to expand the availability of use and increase the functionality of component amenities currently at each park, or to recommend relocation and improvement of components more suitably located at other sites.

Of additional concern was the shortage of facilities that are of regulation size and configuration to host sanctioned competitions at all levels. The need for appropriate practice and competition facilities is significant. These requirements have implications on size, spectator capacity, warm up areas, and meeting space among others. Recently the City of Calgary was hopeful it could host the World Police and Fire Games, but was not considered because the available facilities did not meet the competition requirements. Thus, while creating facilities to serve the Calgary sport community was the primary objective of the Concept Plan; the capability to host regional, provincial and even national events was also a consideration.

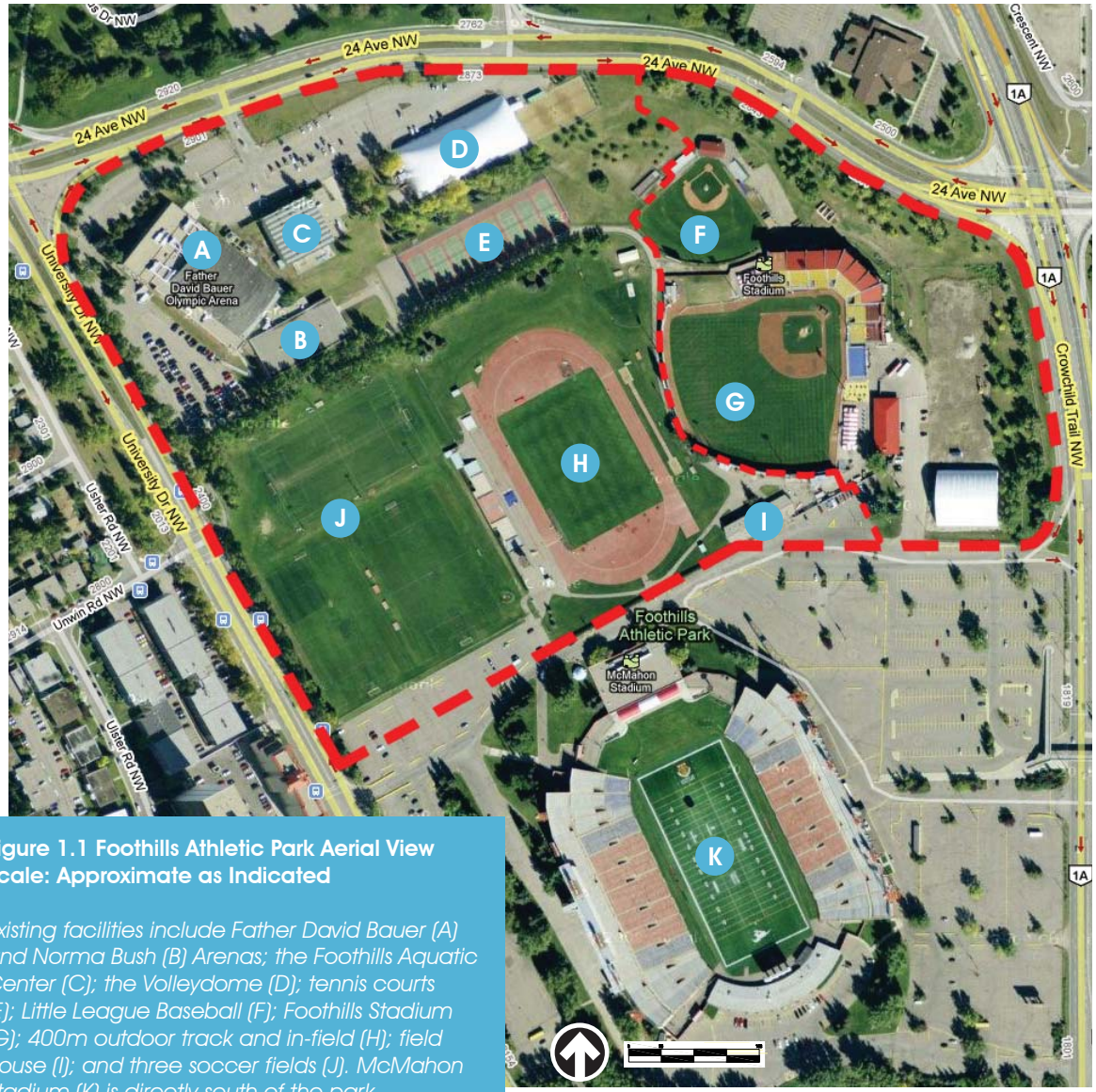


Figure 1.1 Foothills Athletic Park Aerial View
Scale: Approximate as Indicated

Existing facilities include Father David Bauer (A) and Norma Bush (B) Arenas; the Foothills Aquatic Center (C); the Volleydome (D); tennis courts (E); Little League Baseball (F); Foothills Stadium (G); 400m outdoor track and in-field (H); field house (I); and three soccer fields (J). McMahon Stadium (K) is directly south of the park.

1.2 PROJECT CONTEXT

The Foothills and Glenmore Athletic Parks are two premier facilities operated by the City of Calgary Recreation. Both are strategically located in inner city communities and feature close proximity to transit, regional pathways and the University of Calgary and Mount Royal University campuses. The two parks are located nine kilometers apart and are linked by Crowchild Trail. A brief description of the existing parks follows below.

1.2.1 FOOTHILLS ATHLETIC PARK

Location and Existing Facilities

Foothills Athletic Park is located at 2424 University Drive NW, which is directly west of Crowchild Trail and south of 24th Avenue NW. The total site area is approximately 20.5 hectares – or 50.7 acres. The Concept Plan influences the majority of the site on the west side of the athletic park – approximately 14.6 hectares, or 36.1 acres – and has minor influence over the remainder.

Facilities included in the park are the Father David Bauer and Norma Bush Memorial Arenas, built in 1963 and 1974, respectively (retrofitted in 1985, 1987 and 1996); Foothills Aquatic Centre, constructed in 1964 (retrofitted in 1989 and 1991), Foothills Baseball Stadium opened in 1966 (retrofitted in 1987); Little League Baseball Stadium, built in 1975 (retrofitted in 1984 and 1992) and the Athletic Park, including a 400 meter track and infield, completed in 1975. The Field House Build-

ing opened in 1977 and bleachers were added in 1986. The Arenas and Aquatic centre are open year-round, while the Athletic Park is open seven days per week during prime athletic season from May to September.

Please refer to existing inventory reports (EFIs) in Appendix 'B' for more background information on the existing facilities/amenities.

In addition to the arenas and aquatics centre, the features included in the Foothills Athletic Park that are owned, operated and maintained by Calgary Recreation and include:

- Four regulation soccer fields including two with lights, one of which is located within the track infield.
- Field concession and washrooms available for special events
- Little League baseball diamond with a 200' outfield fence
- Eight outdoor public tennis courts with one practice backboard
- 400-meter outdoor running track with in-field
- Field event facilities, including shot-put, long jump pits, javelin, pole vault and discus / hammer throw

Figure 1.2 Foothills Athletic Park Site Analysis
Scale: Approximate as Indicated

The existing Foothills Athletic Park site was reviewed for existing features and conditions including vehicle, transit and pedestrian access; solar orientation; prevailing winds; parking and existing building placement; underground infra-structure; grading; and storm water drainage among others.

There are also currently five lease holders that use facilities on the site. These include Hockey Canada who uses the Father David Bauer Arena office space and who sublets space to LifeMark, a physiotherapy group, and TARC Holdings, who runs the concession. Hockey Canada's lease expires in 2025 with an option to renew for another 25 years. The Foothills Baseball Stadium, with land for two training bubbles and parking, is leased by the Calgary Vipers Baseball Club until 2020 (Training centers are on a five year DP within the lease). The Little League Baseball Diamond is leased to Alberta Little League District #3 until 2012. The land for an inflatable volleyball structure is leased to the Volleydome Corporation until 2015. The upper floor of the field house is leased to the Calgary Track Council for weight training and change facilities until 2014.

Environmental Constraints

The Foothills Athletic Park site is dominated by a significant change in grade of approximately 16m from the north east corner of the site at its highest elevation to the southwest corner at its lowest. The majority of the grade change occurs in two locations; along a steep slope on the eastern edge adjacent to Crowchild Trail, as well

A: Figure 1.3 Foothills Aquatic Center Entrance
The building is original to its construction in 1964.

B. Figure 1.4 Little League Baseball Diamond
The Little League diamond is tucked into the slope on the northeast corner of the site.

C. Figure 1.5 View of the Volleydome
View of the existing air-supported structure.

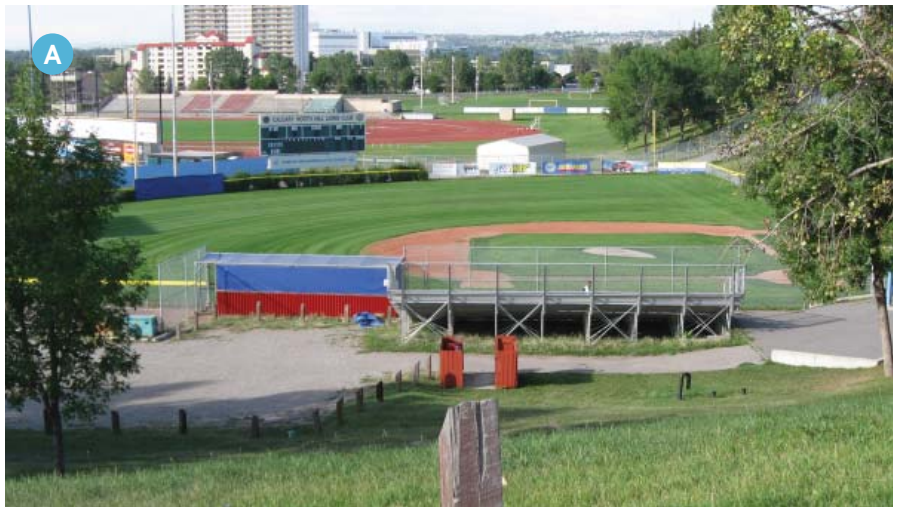
as in two plateaus that run parallel to 24th Avenue NW on the north side of the site. As a result, water ponding and drainage problems plague the lower portion of the site. The steep slopes and major transportation corridors on three sides of the Athletic Park limit vehicle access points; while the forth side shares a fire lane with the adjacent McMahon Stadium.

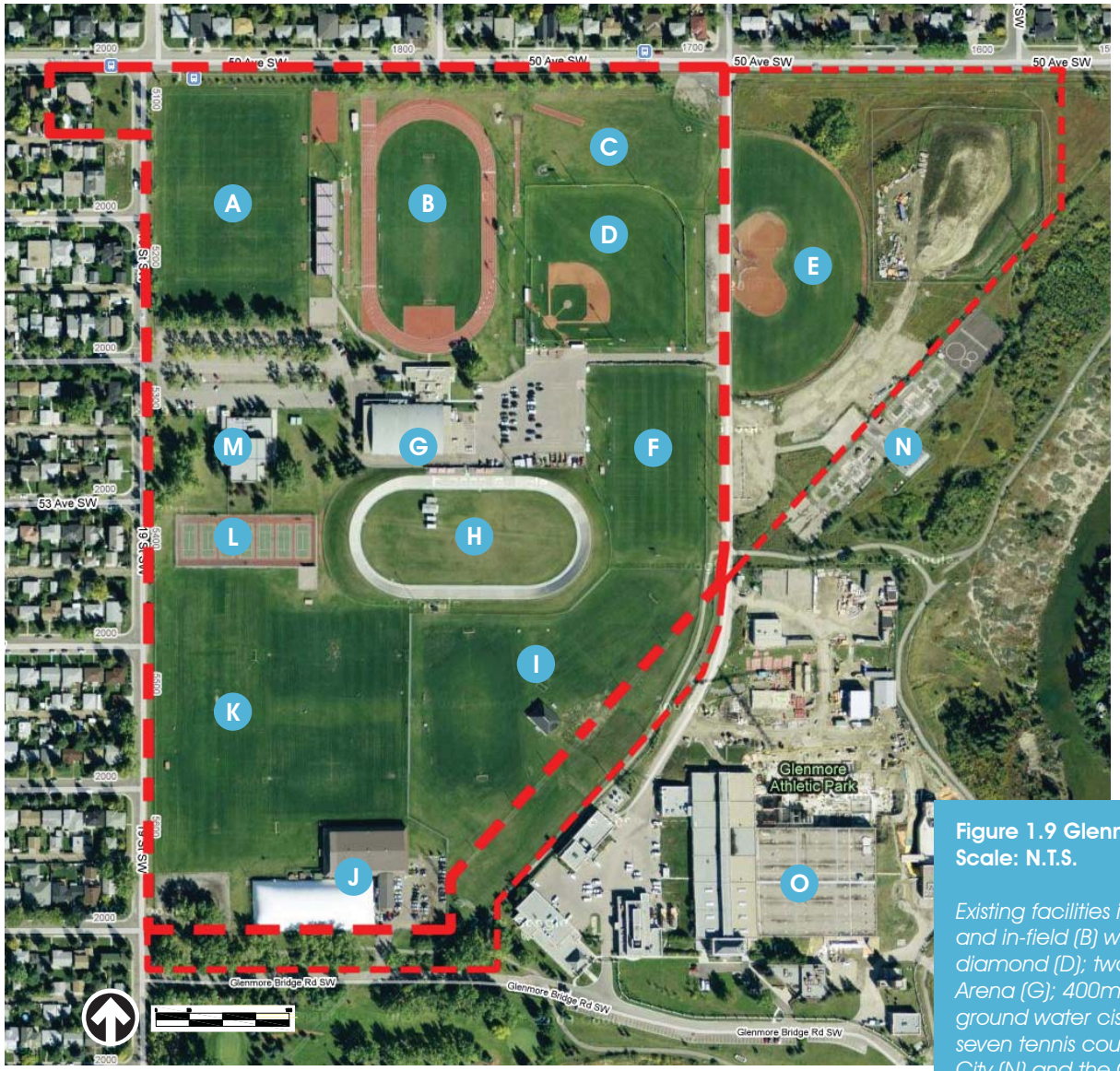
The site is surrounded by large-scale buildings including McMahon Stadium to the south, student apartment towers to the southwest and university buildings to the north. The east side is dominated by an eight-lane expressway with one storey commercial development on the opposing side. The north-east corner abuts a major intersection between 24th Avenue NW and University Drive with limited single family dwellings west of the intersection.

A: Figure 1.6 View West Across Foothills Athletic Park
View from Crowchild Trail NW across the park to the Little League diamond, running track and soccer fields.

B. Figure 1.7 Foothills Track and Grandstand
The existing spectator amenities for track and field.

C. Figure 1.8 Foothills Soccer Fields
View looking south.





1.2.2 GLENMORE ATHLETIC PARK

Location and Existing Facilities

The Glenmore Athletic Park is located at 5300 19th Street SW, east of Crowchild Trail at 19th Street and south of 50th Avenue SW. The total area of the park is 26.2 hectares, or 64.7 acres. In addition to the full extents of the site, the Concept Plan also influences additional land owned by the City of Calgary beyond the direct limits of the athletic park including an area of 1.5 hectares, or 3.7 acres on the north east corner of the site, an area of 1.9 hectares, or 4.6 acres, along the south side of the site, and a small parcel of 0.1 hectares, or 0.2 acres, opposite the northwest corner of the site across 19th Street SW.

Facilities in this park include the Stu Peppard Arena, an ice facility built in 1962 (retrofitted in 1995); the Glenmore Aquatics Centre, constructed in 1962 (retrofitted in 1985, 1993 and 2003); the Velodrome, built in 1975 (retrofitted in 1990) and the Athletic Park, including a 400 meter track and in-field constructed in 1962. Bleachers were

Figure 1.9 Glenmore Athletic Park Aerial View
Scale: N.T.S.

Existing facilities include a flag football field (A); 400m outdoor track and in-field (B) with a dedicated throwing area (C); 395' baseball diamond (D); two softball fields (E); touch football field (F); Stu Peppard Arena (G); 400m outdoor velodrome (H); two fields above an underground water cistern (I); the Tennis Academy (J). three soccer fields (K); seven tennis courts (L); and the Glenmore Aquatics Centre (M). Safety City (N) and the Glenmore Water Services complex (O) are on the east.

Figure 1.10 Glenmore Athletic Park Site Analysis
Scale: N.T.S.

The existing Glenmore Athletic Park site was reviewed for existing features and conditions including vehicle, transit and pedestrian access; solar orientation; prevailing winds; parking and existing building placement; underground infrastructure; grading; and storm water drainage among others.

incorporated in 1985 and a Timing Booth was added in 1987. The Arena and Aquatic Centre operate year-round while the Athletic Park is open seven days per week between May and September, during prime park season.

Please refer to existing inventory reports (EFIs) in Appendix 'B' for more background information on the existing facilities/amenities.

Along with the arena and aquatics centre, the components included in the Athletic Park that are owned, operated and maintained by Calgary Recreation and include:

- Five regulation soccer fields
- Two slow pitch softball diamonds
- One soccer / flag football field
- One touch football field with lights and public announcement system

A: Figure 1.11 Velodrome
The outdoor velodrome is constructed of concrete.

B. Figure 1.12 Glenmore Track and Grandstand
The existing spectator amenities for track and field.

C. Figure 1.13 Glenmore Softball Fields
Fields are back-to-back.

D. Figure 1.14 Glenmore Soccer Fields
Soccer fields are grouped together for tournaments.

- One baseball diamond with a 395' fence
- Seven outdoor public tennis courts
- 400m outdoor Velodrome
- 400m outdoor running track with in-field
- Field event facilities, including shot-put, long and triple jump, javelin, high jump, hammer and discus
- Washroom facilities
- Parking

In addition, there are four lease holders that use facilities on the site. These include the Tennis Academy, which uses a building and inflatable bubble with indoor tennis courts until lease expiration in 2012; the Calgary Bicycle Track League leases the Velodrome until 2014; Babe Ruth Cal-

gary leases the baseball diamond until 2013, and the Calgary Royals hold annual leases for facilities within Stu Peppard Arena.

Environmental Constraints

The greatest influence on the Glenmore Athletic Park is municipal infrastructure. The southeast corner of the site shares a boundary with The City of Calgary Water Services and the Glenmore Reservoir. Major regional water trunk lines crisscross the site, branching out from the water treatment plant on the southeast corner. In addition, a clear water cistern sits beneath the existing playing fields between the Velodrome and the Water Services building, precluding the addition of built facilities in this area of the site.

The northeast corner of the Athletic Park shares a boundary with an Enmax substation. High voltage transmission lines run diagonally across the site from the northeast to southwest corner and also along the north property line adjacent to 50th Avenue SW.

On the east side, the Athletic Park borders on a treed slope that leads to the Elbow River valley. Storm water trunk lines collect storm water from the adjacent neighbourhood west of 19th Street SW and cross the site to outlet the water into the river valley. Similarly, a sanitary sewer line collects from the adjacent neighbourhood and dissects the site diagonally towards the northeast.

The grade change through the site is approximately 10m from a high point on the west side draining towards the river valley on the east. However, due to the size of the site, the grade change is less than 2% on average, creating challenges for adequate storm water site drainage.

The urban context surrounding the Glenmore Athletic Park differs greatly from that of Foothills; the site is surrounded by small-scale residential buildings (single-family dwellings) on both the north side of 50th Avenue SW and on the west of 19th Street SW. The east side is bordered by a treed slope and the south border is defined by an access road to the Water Services complex and the City of Calgary Lakeview Golf Course.

A: Figure 1.15 Stu Peppard Arena
The concrete masonry building features wood trusses over the ice surface.

B. Figure 1.16 Glenmore Aquatics Center
The main entrance to the pool facilities are surrounded by landscaping.

C. Figure 1.17 Tennis Academy
Privately run indoor tennis occupies the south end of the athletic park.

A: Figure 1.18 The Team Spirit Report
Referred to as the 10 Year Strategic Plan, this report created the fundamental recreation policy basis for the Concept Plan

B: Figure 1.19 The City of Calgary Land Use Bylaw 1P2007

1.3 POLICY CONTEXT

As marquee sites for Calgary Recreation, the Foothills and Glenmore Athletic Parks derive their importance from their complex urban context as much as from their role in recreation and sport. Accordingly, the recommendations outlined in this report take into account a composite policy framework structured by several key documents that influence both sport and urban design. These include:

- The Calgary Plan (1998)
- Transit Oriented Development (T.O.D.) Policy Guidelines (2005)
- Imagine Calgary Plan: For Long Range Urban Sustainability (2006)
- Triple Bottom Line Policy Framework (2006)
- Team Spirit: Advancing Amateur Sport for All Calgarians. A 10 Year Strategic Plan for Sport Facility Development and Enhancement (2008)
- Plan It Calgary (2009)
- Recreation Master Plan (2010)

Please refer to Appendix 'E' for a summary of identified policies in support of the Concept Plan.

In addition to City of Calgary Municipal policies and recommendations, the Athletics Concept Plan takes into consideration key components of long term athletic development as illustrated in Canadian Sports Center's Canadian Sport for Life. By supporting the Canadian Sport Policy goals of – "Enhanced Participation, Enhanced Excellence, Enhanced Capacity, and Enhanced Interaction"- The Concept Plan fosters and encourages physical literacy while providing the opportunity for Calgarians to be physically active for life.

In addition to these policies, the proposed Concept Plan incorporates requirements of the current City of Calgary Land Use By-Law 1P2007 and the relevant Area Redevelopment Plans (ARP) for each site.

The policy documents in conjunction with the Land Use By-Law and ARP requirements established the following objectives:

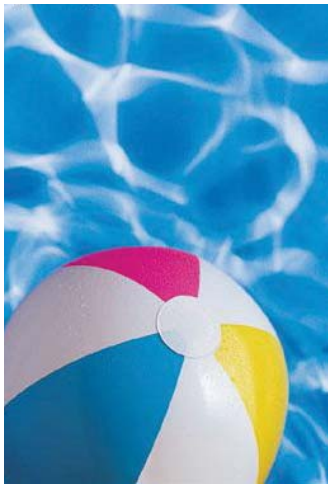
- Provide recreation and sport amenity for both community play and competition
- Increase and improve mobility choice through improved walking, transit and cycling options in order to benefit and utilize the provided amenity
- Create lively, inviting and safe urban spaces for use year-round
- Provide environmentally sustainable facilities and sites
- Maximize available land and financial resources for all Calgarians to enjoy

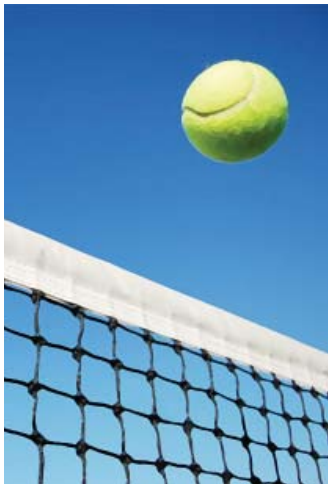
Land Use

This Concept Plan presupposes the Foothills and Glenmore Athletic parks retain their current land use designation under the City of Calgary Land Use By-Law 1P2007 as S-R, Special Purpose Recreation District. This designation helps realize the objectives of the Concept Plan as it accommodates a range of indoor and outdoor recreation uses, a range of intensity of uses, and a variety of permitted and discretionary uses. These include: natural areas; parks; community entrance features; community recreation facilities; outdoor cafés; outdoor and indoor recreation areas; park maintenance facilities; service organizations and spectator sports facilities among others.

The proposed Concept Plan endeavours to incorporate the complex requirements established by the imperatives and objectives outlined in the above sport and urban design policy documents. As a result, the proposed Foothills and Glenmore Athletic Park Concept Plan reflects the need to maximize facility options for Calgarians to experience and enjoy involvement in sport to the extent of their abilities and interests, while creating accessible, dynamic and distinctive public spaces that are environmentally and financially sustainable.

SECTION 2: VISION, OBJECTIVES, AND GUIDING PRINCIPLES




The existing facilities, sites and policy context set the backdrop for the activities undertaken to formulate the Concept Plan. However, these activities were directed by the vision, objectives and guiding principles established by consensus of the project Steering Committee at the Concept Plan outset. The Steering Committee further refined these criteria throughout the master planning process through incorporation of stakeholder input during five intensive project workshops. The refined vision, objectives and guiding principles that directed the final Concept Plan are outlined below.

2.1 VISION

As devoted recreation sites, the Concept Plan vision reflects its aspirations to maximize facility options to service all Calgarians with competition capable facilities to accommodate recreation and sport participation from introductory to high performance levels.

2.2 OBJECTIVES

The Steering Committee established five key objectives for the Foothills and Glenmore Athletic Parks Concept Plan:

1. To create a road map to guide the development of Foothills and Glenmore Parks as premier facilities supporting the vision of Calgary as a world centre for sport as outlined in the 10 Year Strategic Plan document.
2. To maximize available resources (land and money) to achieve excellent sport and recreation opportunities for Calgarians.
3. To create sustainable amenities: social/cultural, environmental, and financial (the triple bottom line).
4. To achieve facilities that allow Calgarians to train and compete at a high performance level without leaving the city.
5. To create dynamic and distinctive public environments for all citizens of Calgary to enjoy.

2.3 GUIDING PRINCIPLES

The following five guiding principles formed the key ideas that directed the Concept Plan to achieve the vision and objectives set by the Steering Committee:

1. Adaptable Design
- Develop adaptable spaces to address various sport and future opportunities.
- Serve the needs of numerous sport activities at one location.

2. Community Wellness
- Benefit the health, well-being and social development of the community (including children and youth)
- Enrich the urban design of the community.

3. Accessibility
- Maximize utilization of spaces.
- Consider the number of users.

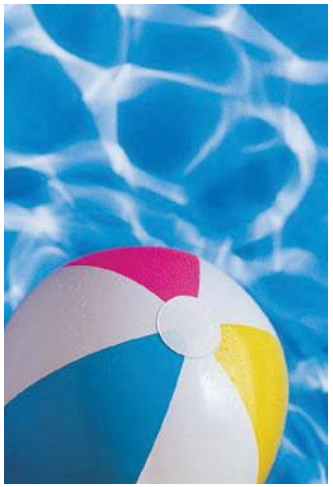
4. Sustainability
- Ensure economic sustainability of facilities.
- Plan for the life cycle and maintenance of facilities.

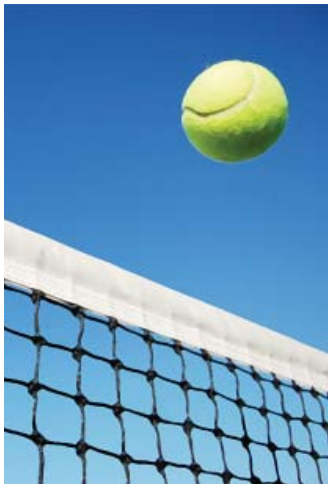
5. Activity Coverage
- Support all performance levels of play and tournaments.
- Contribute to the excellence of sport organizations and the City.

Through the synthesis of the vision, objectives and guiding principles with the analysis of the existing facilities, sites, policy context and stakeholder information, the conceptual programme and site reorganization for the two athletic parks took shape. The following section illustrates the culmination of this fusion of requirements as the basis for the Concept Plan recommendations.

Figure 2.1 Example of Adaptable Spaces. *Rectangular fields should be dimensioned and spaced to accommodate a variety of established and emerging sports.*

SECTION 3: PLAN CONCEPTS




As established in the preceding sections, the Concept Plan seeks to maximize recreation and sport activities on the Foothills and Glenmore Athletic Park sites while forming dynamic and distinctive urban civic spaces available to all Calgarians. To achieve its vision and objectives, the proposed Concept Plan is predicated on the provision of required facilities to meet sport and recreation demands and the creation of distinguished, functional civic spaces that respond to urban design and infrastructural requirements.

This section details the programmatic components integrated into the Concept Plan as well as the overarching site reorganization of the athletic parks. The proposed series of projects described in this section is further elaborated in terms of implementation in section four. Considerations for built form, site design, site circulation, mobility, parking and infrastructure are addressed in section five of this report.

3.1 PROGRAMME COMPONENTS

Throughout the master planning process, work sessions and interviews the investigation clearly identified the urgent need for expanded competition-capable facilities in Calgary. This includes rectangular fields for soccer, ultimate frisbee, flag football; diamonds for baseball and softball; tennis courts; and regulation swimming pools. Moreover, due to the city's winter climate, the need for indoor practice space is particularly urgent. In fact, this need somewhat exaggerates the requirement for additional gymnasia due to the frequent use of gyms for indoor practice by soccer, baseball and other field sports teams. In addition, interior ice facilities are simultaneously in high demand.

These considerable needs became the basis for determining the programme requirements for the two Athletics Parks. While each park provides a number of the same components allowing them to supplement one another while hosting major events, the master planning process has identified unique opportunities that will drastically enhance the overall appeal of each site. The introduction of year round, competition capable, indoor facilities will not only provide Calgarians with a variety of recreational choices, but will also attract interest from various organizers of local, provincial, national, and international events.

The Foothills Athletic Park is currently the center of Calgary's Track and Field community. However due to seasonal weather conditions, their period of use is short, and year-round practice is difficult to accommodate in the existing facilities and the city at large. As part of the Concept Plan, the development of a large field house with a 400-meter indoor track with a regulation size soccer pitch in-field was investigated and determined as plausible for the Foothills site, given its ability to serve both the Calgary Track community and other sports groups for year-round practice, play, and competitions. The proposed field house is unique not only in its ability to provide year-round concurrent practices for multiple users, but also due to its concept and scale.

Currently, the Glenmore Athletic Park, is home to Canada's only outdoor, 400-meter velodrome. Due to its age, the facility requires upgrading in the next few years to remain safely in service. The potential loss of the velodrome would be regrettable as there are few cities that provide this type of amenity. One of the main objectives of the Concept Plan was to, if possible, maintain the existing facility inventory at a minimum, even if all components were not to be on the same sites. The primary goal was to increase the quality and number of facilities if feasible. As such, creating an fieldhouse containing an indoor, 333-meter cycling track emerged as a viable means of maintaining cycling in Calgary. Perhaps more importantly, it would also provide the Glenmore Athletic Park with significant new indoor activity space in the center of the track for walking, jogging, volleyball, basketball, badminton, and practice space.

The inclusion of the Field House and Cycling Track – each a unique facility and centerpiece on their respective sites – became two exceptional opportunities to meet the needs for competition capable facilities and indoor practice and play spaces for the citizens of Calgary. In addition to these two facilities, the following section describes the existing facilities at each athletic park, and the proposed programmatic components for each, to meet existing user needs as well as those anticipated for the future.

Please refer to Appendix 'A' for additional information on the master planning amenity programme developed as part of this process.

Foothills Athletic Park & Bauer/Bush Arena

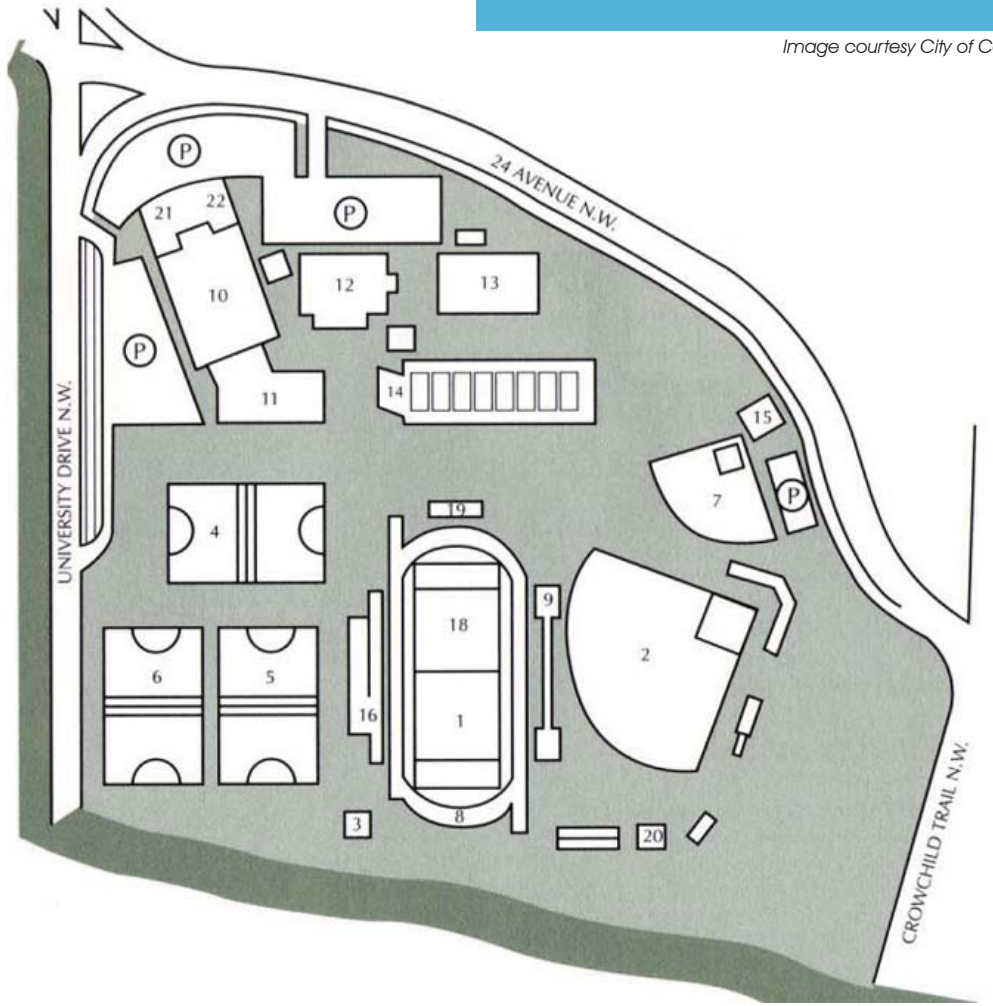
2424 University Drive NW

The World Class Foothills Athletic Park is located across from the University of Calgary and is home for Team Canada Hockey who play in the Father David Bauer arena.

1. Soccer field
2. Burns 'AAA' Baseball Stadium (private)
3. Field concession
4. Soccer field with lights
5. Soccer field
6. Soccer field
7. Little league baseball diamond with 200' fence
8. Running track
9. Long jump pits
10. Father David Bauer Olympic Arena, seating capacity of 1750, meeting rooms
11. Norma Bush Memorial Arena, seating capacity of 60
12. Foothills Pool 268-2300 Code 9850
13. Volleydome (private) - 284-3663
14. Tennis courts
15. Little League Office
16. Pole Vault

18. Javelin
19. Shotput
20. Private training facility (washrooms avaliable)
21. Physical Therapy (private) Main floor
22. Canadian Hockey Centre (private) 2nd floor

P Parking



A: Figure 3.1 City of Calgary Foothills Athletic Park Facility Map. Scale: N.T.S.

The City of Calgary web site provides a schematic facility map of the Foothills Athletic Park including the contact information for bookings.

Image courtesy City of Calgary

3.2 FOOTHILLS ATHLETIC PARK

Existing Site and Facilities

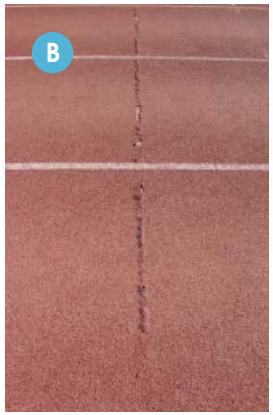
The inventory of facilities currently in use at Foothills Athletics Park were reviewed as to condition and suitability for intended use. A brief summary of each follows. For greater detail of each of the facilities, refer to Appendix 'B' for the complete Existing Facility Inventory Reports.

Three rectangular fields are located on the southwest portion of the site. They are of inconsistent and non-regulation dimensions. One is oriented improperly, east-west. The turf is irregular, possibly due to the underlying soil compaction and irrigation heads and access boxes. The two southernmost fields are saturated with moisture for most of the growing season, reducing available playing time on both.

One rectangular field is located inside the track. This field is in good condition; however, it is used for various throwing events, causing divots and other irregularities in the integrity of the turf. Its use is limited to occasional professional soccer teams and the field throwing events, which protects it from overuse and damage.

The track is located in the central area of the site and is in very poor condition. It is currently not in use due to the need for reconstruction of its base and surface. When operable, it is the primary track venue in the city, hosting the larger meets, as well as local school activities. However, the existing grandstand requires urgent repairs to retain structural integrity.

The track lacks adequate support facilities for hosting competitions such as change rooms, public washrooms and concession areas. Cur-



A: Figure 3.2 Damage to Track Surface

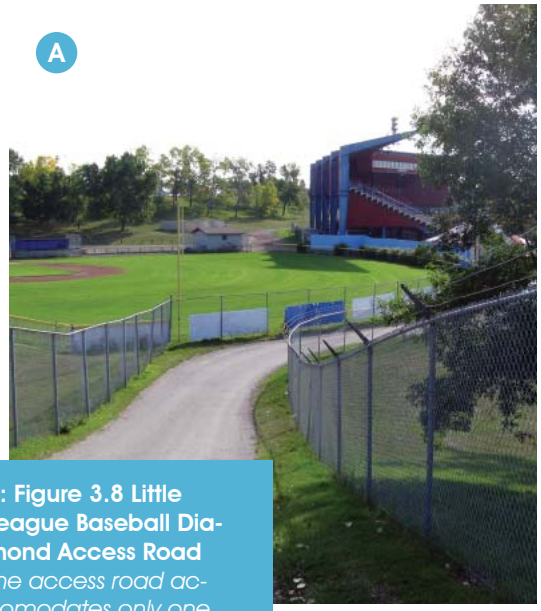
B: Figure 3.3 Damage to Track Surface

C: Figure 3.4 Water Ponding on Foothills Track

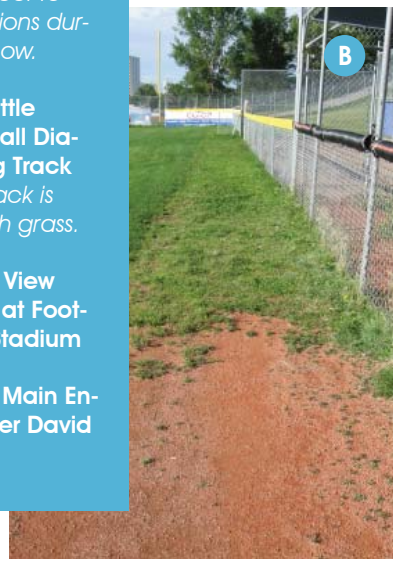
D: Figure 3.5 Irrigation Heads and Damaged Turf in Athletic Fields

E: Figure 3.6 Manholes and Irrigation Boxes in Fields

F: Figure 3.7 Typical Goal Mouth at Foothills Field



A: Figure 3.8 Little League Baseball Diamond Access Road
The access road accomodates only one car and is subject to slippery conditions during rain and snow.



B: Figure 3.9 Little League Baseball Diamond Warning Track
The warning track is over grown with grass.

rently a field support building on the south end of the site provides small change areas, a concession and field maintenance storage. The building and facilities are aging, in disrepair and pose safety concerns.

A Little League baseball diamond is nicely sited in the northeast portion of the property. It is in reasonably good condition and is maintained by the Alberta Little League organization. Its location, with earth berms around the home plate and infield, creates an intimate and very pleasant venue. Access to the facility is limited, however, and spectator amenities are inadequate. In addition, the outfield fence does not meet distance requirements.

The Calgary Vipers Baseball leases the Foothills Baseball Stadium and land for two practice bubbles on the east side of the Athletic Park adjacent to Crowchild Trail NW. This facility has been addressed only minimally during the master planning process and is subject to further review.

C: Figure 3.10 View Looking North at Foothills Baseball Stadium

The Father David Bauer and Norma Bush Memorial Ice Arenas are aging, although they are reasonably well-maintained. Their layout is inefficient operationally and mechanically, and they are anticipated to be near the end of their life cycles within the 10-year time horizon for this Concept Plan. Father David Bauer is currently home to Hockey Canada and, although there are plans for relocation of the organization, there was no specific date determined at the time of this study.

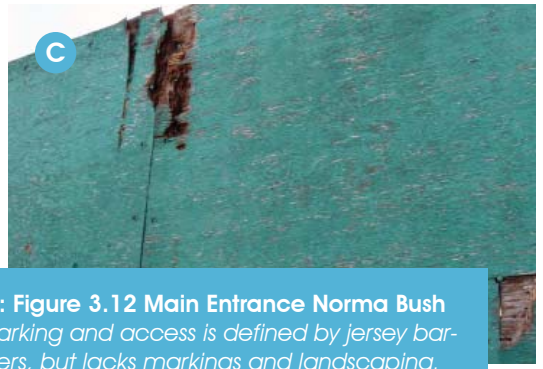
The Volleydome is an air-supported structure that houses five volleyball courts and fitness and training area for the National Sports Academy. There are four outdoor beach volleyball courts as well. This facility is privately-controlled and operated and provides an important service to the volleyball community, both locally and regionally. Currently, its size is inadequate and the number of courts is reduced to three for competitions to accommodate the spectators and set areas.

D: Figure 3.11 Main Entrance to Father David Bauer Arena

The Foothills Aquatic Center is located at the north end of the site, between the Volleydome and the two ice arenas. The swimming pool basin is not of regulation length so it cannot accommodate sanctioned competitions and operates primarily as a training and teaching facility. The building is at the end of its life cycle and, prior to this study, had been slated to be replaced with amenity improvements at another site within the city. However, the master planning process assessed the need and determined that there is significant demand for aquatics at Foothills, indicating that a competition facility at this site would serve the city well.

Eight existing outdoor tennis courts are well-used at the Foothills site, although their condition is marginal and major resurfacing, if not complete reconstruction is recommended. To accommodate tennis tournaments or operate efficient instructional programs, a minimum of four is required, with six preferred. Providing tennis facilities that are appropriate for strong programs is a priority; however existing facilities in place at Glenmore Athletics Park suggest that may be the preferred location.

In addition to the existing inventory of individual facilities, the Foothills Athletic Park functions poorly as a whole. Access to, and circulation through, the park is hampered by existing facility placement and site access points off of adjacent streets. Parking is limited and proximate only to a few major facilities. The upper parking lot is visibly deteriorated, in poor condition, and requires significant upgrades to address storm water management deficiencies. Pedestrians and cyclists are limited to sidewalks along the site perimeter as fencing prevents access and mobility to different venues and across the park.



A: Figure 3.12 Main Entrance Norma Bush
Parking and access is defined by jersey barriers, but lacks markings and landscaping.

B: Figure 3.13 Loading Norma Bush Arena
Building loading sits on the low side of three slopes draining to the doors. Erosion matting keeps grass in place on the adjacent hill.

C: Figure 3.14 Foothills Tennis Backboard
Backboard and structure require repair.

D: Figure 3.15 Foothills Tennis Courts
Surface damage requires repair.

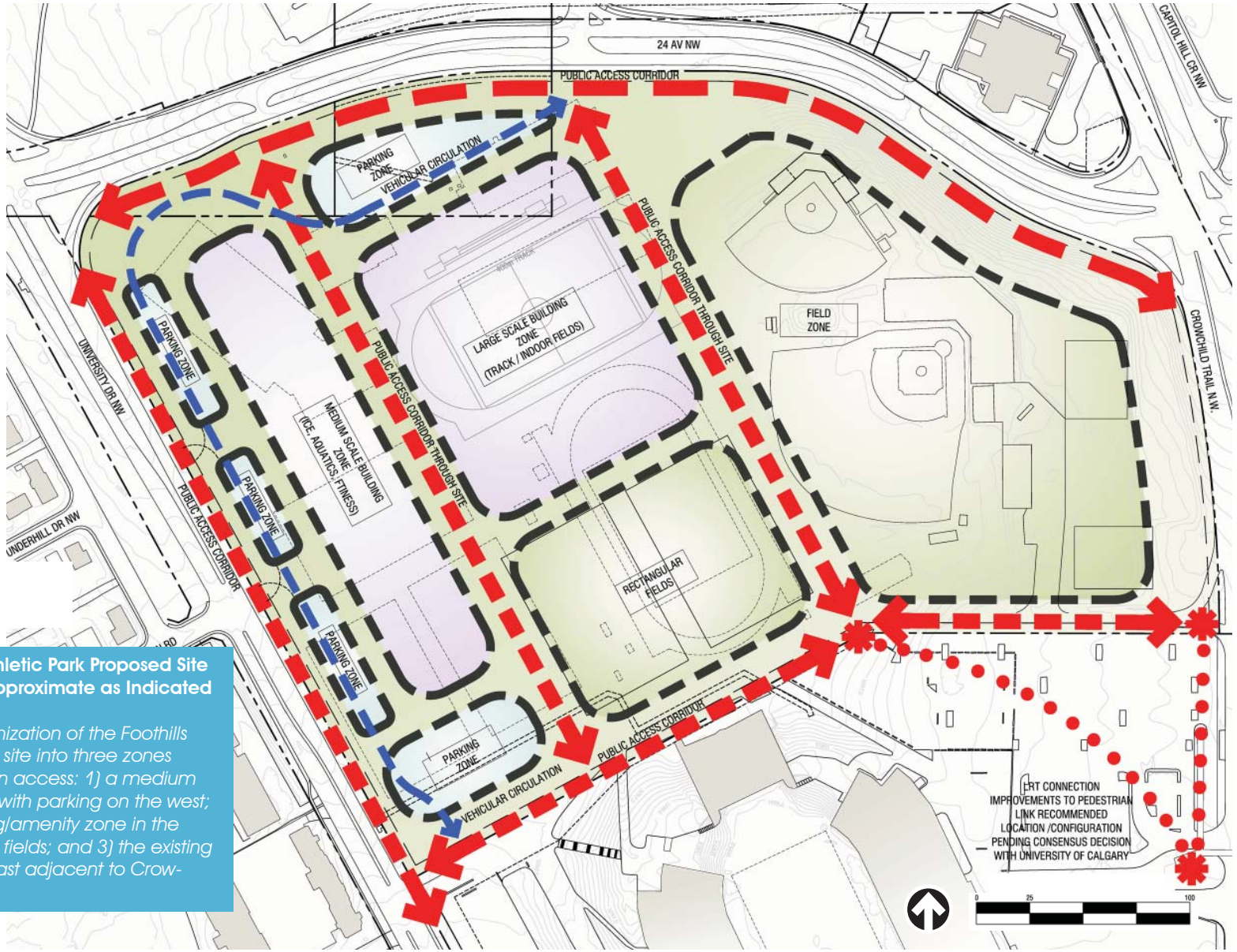


Figure 3.16 Foothills Athletic Park Proposed Site Organization. Scale: Approximate as Indicated

The conceptual reorganization of the Foothills Athletic Park divides the site into three zones separated by pedestrian access: 1) a medium scale zone of buildings with parking on the west; 2) a large scale building/amenity zone in the center with rectangular fields; and 3) the existing baseball zone on the east adjacent to Crowchild Trail NW.

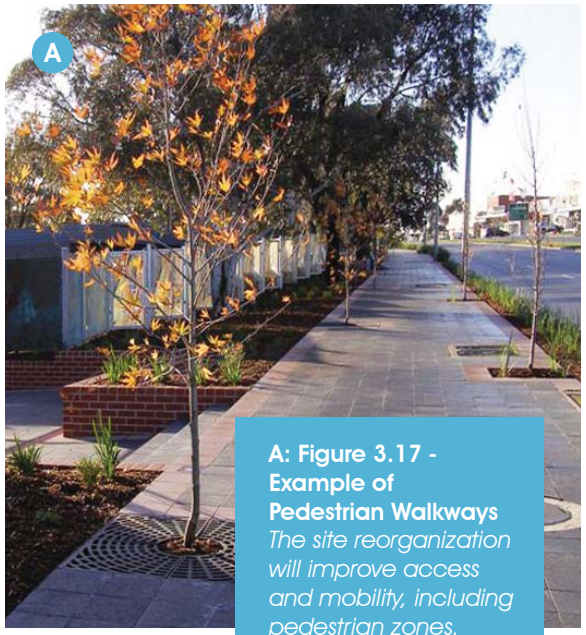
Proposed Site Reorganization

In review of the character of the existing site, facilities, and the sport and recreation demand requirements outlined in the 10 Year Strategic Plan, the Concept Plan proposes the reorganization of the Foothills Athletic Park as outlined in figure 3.16. The proposed site design incorporates programmatic requirements that are sited to facilitate mobility and access. Additionally, the site reorganization aims to create a distinct urban athletic district responsive to the existing site.

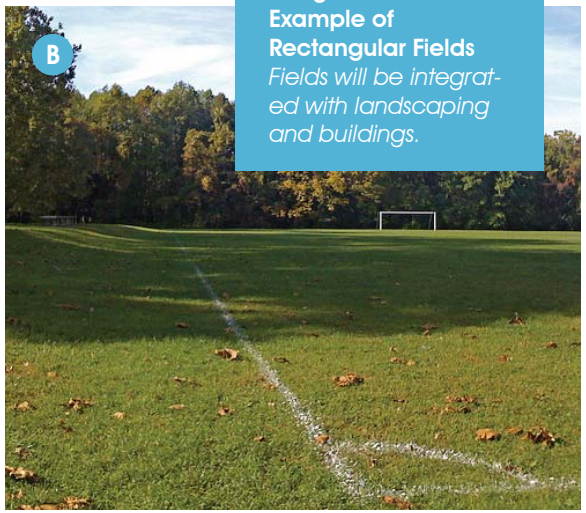
Due in part to its location near McMahon Stadium and the University of Calgary, the Foothills Athletic Park is more of a destination venue for sport activities and less of a local community amenity than Glenmore Athletic Park. The proposed facilities are to be designed to accommodate sanctioned competitions for local, regional and provincial sport groups. National and international events could also be staged at these facilities. While the capability of this park to host these types of sporting events is a clear objective of the Concept Plan, the appeal of the park to the community at large is of primary importance. Included in the proposal are a variety of non-sport oriented components such as a playground, community gathering space, pedestrian pathways, and an outdoor amphitheatre. These community spaces are specifically designed and organized to be integrated with the proposed recreation fields, track, pools, ice arenas, and indoor athletic courts, thus encouraging the participation of various demographics within the site.

One of the overwhelming characteristics of the Foothills site is the topography. As discussed in section 1.2, there is a significant grade change from the north to the south of the site. While this is a challenge, it is also a great opportunity, given the sheer size and volume of some of the facilities proposed. The mass of these buildings can be minimized by setting them into the hillside. The hill provides shelter from wind, seating areas on berms, interesting views and a buffer from adjacent major traffic arteries. In addition, access to the site on the north at the top of the hill, and the west and south at the bottom of the hill, allows for natural separation and control of the varied indoor and outdoor activities on the site.

Finally, in the proposed site plan, vehicular and pedestrian access to the athletic park is increased. Vehicles enter the site from the north off of 24th Avenue and on the west from University Avenue. Parking is provided at the perimeter of the site and is located to allow parking within short distances of the components of the development. This perimeter parking also helps transition the grade change from north to south and manage storm water. On the south, the McMahon Stadium parking lot supports the baseball facilities and may provide additional parking for special events. The convenient location of the LRT to the south of the site is also an asset for events as well as community access. Improvements to the pedestrian walkways from the LRT to the Foothills Athletic Park are recommended to enhance the experience of the park.



A: Figure 3.17 - Example of Pedestrian Walkways
The site reorganization will improve access and mobility, including pedestrian zones.



B. Figure 3.18 - Example of Rectangular Fields
Fields will be integrated with landscaping and buildings.

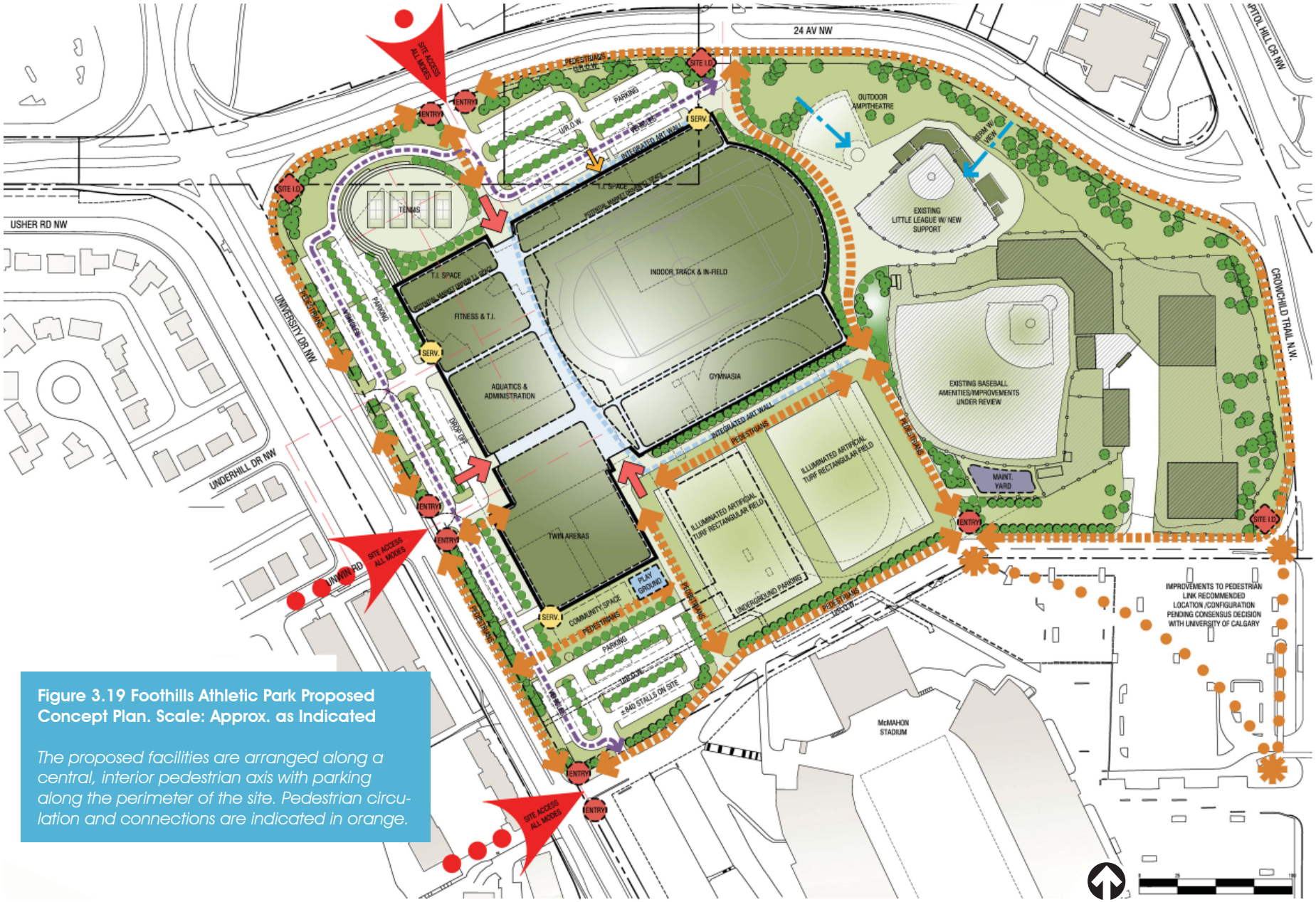
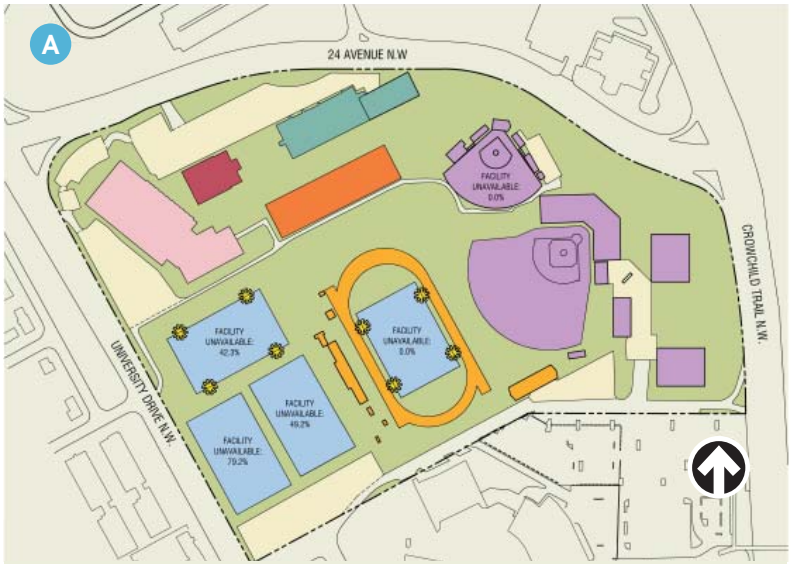


Figure 3.19 Foothills Athletic Park Proposed Concept Plan. Scale: Approx. as Indicated

The proposed facilities are arranged along a central, interior pedestrian axis with parking along the perimeter of the site. Pedestrian circulation and connections are indicated in orange.



A and B: Figures 3.20 and 3.21 Foothills Athletic Park Amenity Comparison Scale: N.T.S.

The Concept Plan replaces existing facilities and proposes new ones to meet current and future demand.

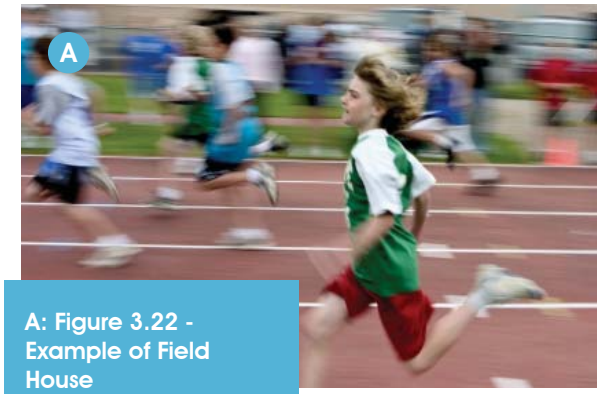
TABLE 3.1 EXISTING FACILITIES

N / A		
DEDICATED ON-SITE PARKING • 420 STALLS TOTAL ON SITE (INCLUDES 200 STALLS SHARED w/ PRIVATE LEASEHOLDER)		
2 ICE ARENAS • NHL RINK (NORMA BUSH) w/ SEATING FOR 60 SPECTATORS • OLYMPIC RINK (DAVID BAUER) w/ SEATING FOR 1790 SPECTATORS	• CHANGE ROOMS, CONCESSION, OFFICE & ADMINISTRATION SPACE • TENANT AREA LEASED TO PRIVATE BUSINESS	
3 POOL BASINS (FOOTHILLS POOL) • 6-LANE PRACTICE POOL • DIVE TANK	• WADING POOL • CHANGE FACILITIES • 1 CLASSROOM	
1 BASEBALL STADIUM & FIELD • 400' OUTFIELD FENCE, SPECTATOR GRANDSTAND, CONCESSION, BATTING CAGES & 2 INDOOR PRACTICE BUBBLES	**1 LITTLE LEAGUE FIELD** • 200' OUTFIELD FENCE, SPECTATOR BLEACHERS, CLUBHOUSE & BATTING CAGES	
FITNESS SPACE (NO PUBLIC ACCESS) • WEIGHT ROOM IN EXISTING FIELD HOUSE CONTROLLED BY PRIVATE LEASEHOLDER		
9 VOLLEYBALL COURTS • 5 INDOOR COURTS & OUTDOOR SAND COURTS • ALL COURTS PRIVATELY OPERATED BY VOLLEYDOME		
4 SOCCER FIELDS • ONE FIELD w/ LIGHTS AND P.A. SYSTEM • ONE ON TRACK IN-FIELD		
8 TENNIS COURTS • ALL OUTDOOR COURTS • 2 BACKBOARD PRACTICE COURTS		
1 - 400m OUTDOOR TRACK • SEATING FOR 1000 SPECTATORS, DEDICATED JUMPING & THROWING AREAS		

COMMUNITY COMPONENTS
PARKING
ARENAS
AQUATICS
BALL FIELDS
FITNESS
GYMNASIA
RECTANGULAR FIELDS & SUPPORT
TENNIS
TRACK AND FIELD

TABLE 3.2 PROPOSED FACILITIES

ON-SITE COMMUNITY/GATHERING COMPONENTS & FACILITIES • CAFE / RESTAURANT • PEDESTRIAN ACCESS THROUGH SITE/PEDESTRIAN PLAZA	• CIVIC & COMMUNITY SPACES & PLAYGROUND • INTEGRATED ART WALL (1% ART COMPONENT) • OUTDOOR AMPHITHEATER	
DEDICATED ON-SITE PARKING • ±840 STALLS TOTAL ON SITE		
2 ICE ARENAS • NHL RINK w/ SEATING FOR 200 SPECTATORS • OLYMPIC RINK w/ SEATING FOR 2000 SPECTATORS	• CHANGE ROOMS, CONCESSION, OFFICE & ADMINISTRATION SPACE	
3 POOL BASINS • ONE 10-LANE COMPETITION w/ SEATING FOR 1000 SPECTATORS • ONE TEACH POOL	• DIVE TANK (DEPTH TBD) • CHANGE FACILITIES & 4 MULTIPURPOSE ROOMS	
1 BASEBALL STADIUM & FIELD • 400' OUTFIELD FENCE, SPECTATOR GRANDSTAND, CONCESSION, BATTING CAGES & 2 INDOOR PRACTICE BUBBLES	**1 LITTLE LEAGUE FIELD** • 200' OUTFIELD FENCE, SPECTATOR BLEACHERS, CLUBHOUSE & BATTING CAGES	
FITNESS SPACE • WEIGHT TRAINING (PUBLIC ACCESS) • MULTI-PURPOSE ROOMS (PUBLIC ACCESS)	• ADMINISTRATION & T.I. SPACES (SPORTS MEDICINE, PHYSIOTHERAPY, ETC.)	
13 VOLLEYBALL COURTS • CONVERT TO 8 BASKETBALL COURTS OR 18 BADMINTON COURTS • AVAILABLE TO PUBLIC		
3 RECTANGULAR FIELDS • TWO FIELDS w/ LIGHTS AND P.A. SYSTEM • ONE INDOOR FIELD w/IN INDOOR TRACK		
4 TENNIS COURTS • ALL OUTDOOR COURTS • 1 BACKBOARD PRACTICE COURT		
1 - 400m INDOOR TRACK • CONCESSIONS, CHANGE ROOMS, WASHROOMS, EQUIPMENT STORAGE & AREA FOR SEATING (SEATING EXPANDABLE TO 7500)		



A: Figure 3.22 - Example of Field House

B: Figure 3.23 - Example of Ice Arenas

C: Figure 3.24 - Example of Aquatics

The proposed facilities accommodate both practice, play and competition for all different levels in a variety of sport and recreation endeavours.

Proposed Park Programme

The components to be included in Foothills Athletics Park include a broad variety of activity venues. A brief description of each is outlined below, including the level of need and potential uses. Refer to Appendix 'A' for the Concept Plan programme of spaces. Additional requirements detailing the site organization, urban design and mobility are outlined in later sections of this report.

FIELD HOUSE

The most critical need discovered during the Concept Plan process is for indoor play space – specifically for field sports. The demand for indoor space is currently addressed by booking soccer, baseball and other field sports teams into school gymnasiums and the few available indoor field venues. This practice has resulted in an apparent lack of gymnasium space, which is identified in the 10 Year Strategic Plan document. The Concept Plan provides for a Field House that includes a full size indoor soccer field within a 400 meter, 8-lane track with jumping and throwing areas. Permanent seating for 500 spectators is proposed. Space is included for as many as 10,000 additional seats for provincial, national or international events, but that same space would be utilized for basketball/volleyball/badminton courts during non-event periods. Divider curtains would provide adaptable separation of space to accommodate multiple activities, including batting cages, baseball training, tennis, golf hitting cages and others to maximize multi-sport use.

ICE ARENA

Two ice arenas accommodating 2,000 seats and 200 seats, respectively, will be included. The arenas will include four change rooms for each ice sheet as well as two auxiliary change rooms for co-ed teams and two officials' rooms. Additionally two locker rooms have been allowed for tenant teams. Spectator amenities include washrooms, concessions, lobbies and ticketing. Check-in, lobby space and other accommodations will be provided for community participants.

AQUATICS

The need for aquatics facilities that are capable of hosting competitions, as well as accommodating training use will be addressed by including a 10-lane 25 meter pool with a diving well, a training/teaching pool, hot tub and sauna. Seating for 1,000 spectators will be included, along with the associated spectator amenities such as washrooms, concessions, ticketing and fan care. A wet classroom is also included to support competition management and teaching activities. Appropriate change rooms will be provided as well.

RECREATION AND TRAINING FACILITIES

The demand for dry land training area is significant among all the sports groups. These activities will be accommodated in planned strength and conditioning areas, fitness center, group exercise rooms and in indoor practice areas included in the Field House. Also incorporated will be meet-

ing rooms and leasable space integrated in the planned sports medicine component for the facility. Change rooms for all activities will be provided, however the need for building efficiencies suggest that training, recreational, and aquatic participants share consolidated facilities if possible. In addition, field house participants may share support facilities.

RECTANGULAR FIELDS

Two outdoor rectangular fields sized, at a minimum, to accommodate FIFA-regulation soccer fields will be provided on the south side of the site. Available play time on the existing fields is extremely limited due to field design and conditions. Resolving this issue with reconstructed fields would significantly increase available play time. The proposed artificial turf and lighting would create additional measurable benefit, increasing availability significantly over current conditions.

BASEBALL

Alberta Little League and Vipers Baseball currently have facilities on-site and are likely to remain for the foreseeable future.

TENNIS

A minimum of four tennis courts will be included, with as many as six possible. Access to support facilities, including change rooms, washrooms and instruction/meeting/management space will also be provided in conjunction with areas designed for strength and conditioning. Accommodations for spectators and appropriate amenities will also be considered.

SUPPORT FACILITIES

Change rooms, public washrooms, concessions, equipment storage and site management space will be provided within the adjacent field house. Site maintenance facilities will be provided adjacent to the existing Foothills Baseball Stadium for ease of access to all on site facilities.

COMMUNITY AMENITY

An outdoor community gathering space and playground is proposed near activity areas and will be provided for the uninvolved siblings and community users of the park. Outdoor community spaces will be inclusive of all users of all ages and abilities. An outdoor amphitheatre will also be provided for non-sport related community events.

PARKING

On-site parking will be provided for events and daily use. It will be available in proximity to each of the major components within the park and will be located at the perimeter of the site, as well as below one of the rectangular fields. Adjacent to the site, additional parking is available for special events (to be applied for under individual permits) based on negotiations with the McMahon Stadium Society.

A: Figure 3.25 - Example of Rectangular Fields

B: Figure 3.26 - Example of Community Amenity
A playground

C: Figure 3.27 - Example of Support Facilities
Washrooms, concessions.

5300 – 19 Street SW

Bordering on Calgary's Elbow River, and adjacent to the Lakeview Golf Course, you'll enjoy the spectacular scenery of this park as well as its wide variety of venues.

1. Soccer/football field with lights and P.A. system
2. Three Flag football fields (North, Centre & South) or soccer field
3. Baseball diamond with 320' outfield and 6' fence
4. Velodrome
5. Glenmore Pool, 268-2300 code 9860
6. Flag football field with lights
7. Soccer field
8. Soccer field
9. Soccer field
10. Soccer field
11. Soccer field
12. Stu Peppard Arena
13. Slow pitch diamond
14. Slow pitch diamond
15. Indoor tennis (private)
16. Six outdoor tennis courts
17. Running track
18. Shotput
19. Pole vault
20. Long-triple jump
21. Javelin
22. High jump
23. Hammer/discus
24. Outside washrooms
25. Safety City

P Parking

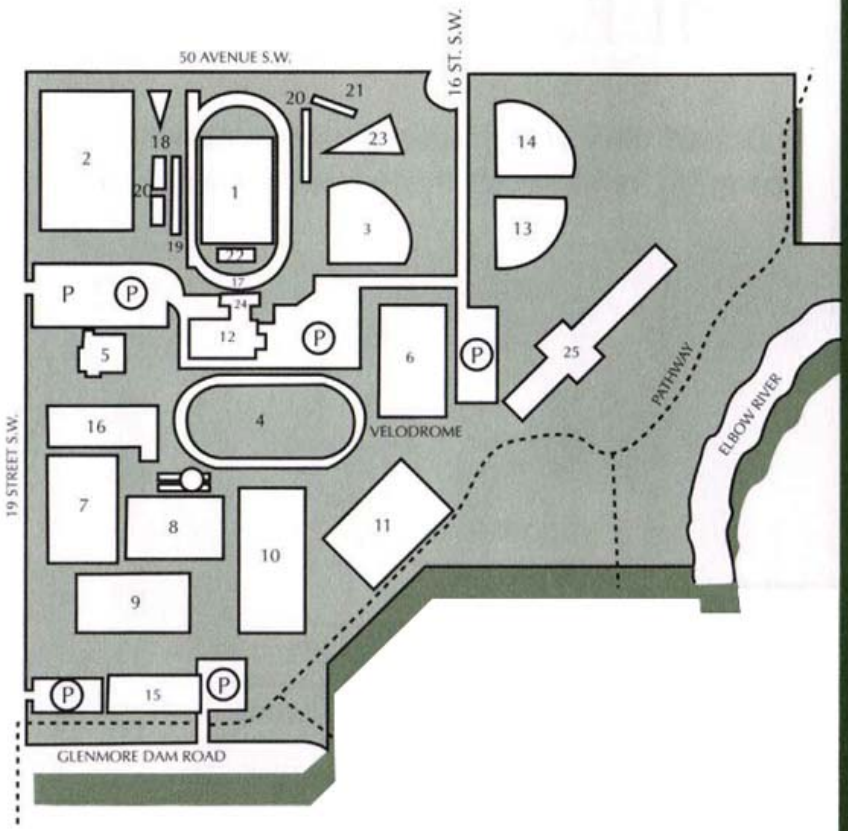


Image courtesy City of Calgary

Figure 3.28 City of Calgary Glenmore Athletic Park Facility Map. Scale: N.T.S.

The City of Calgary web site provides a schematic facility map of the Glenmore Athletic Park including information for bookings.

3.3 GLENMORE ATHLETIC PARK

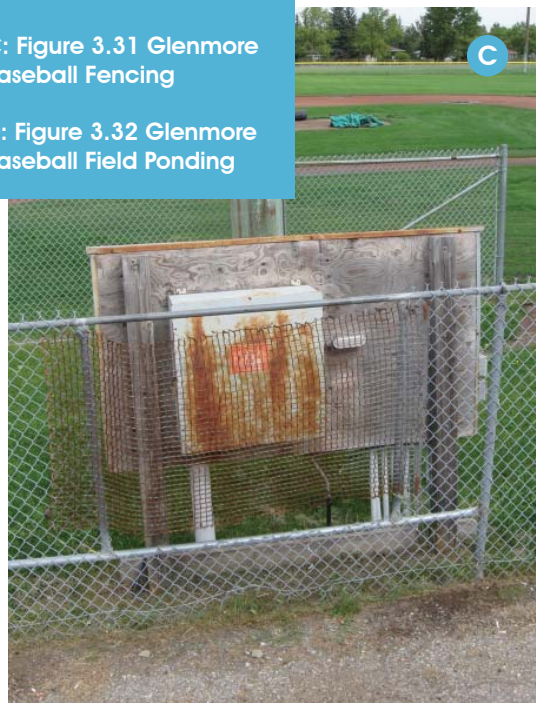
Existing Site and Facilities

The current facilities in use at Glenmore Athletic Park were reviewed as to condition and suitability for intended use. A brief summary of each follows. For greater detail of each of the facilities, refer to Appendix 'B' for the complete Existing Facility Inventory Reports.

There are eight rectangular fields located on the site including two dedicated to flag football; one located within the track in-field; and two within a fenced enclosure above an underground clear water cistern. The fields are inconsistent and few meet regulation dimensions while some are oriented improperly and/or have unsafe clearances to obstructions. The turf is irregular, possibly due to the underlying soil compaction and irrigation heads and access boxes. The rectangular field located inside the track is in similar condition to the other fields on the site with irregularities in the integrity of the turf.

The track is located in the north area of the site and is in good condition, as it has been resurfaced recently. It is one of two primary track venues in the city, hosting some larger meets, as well as local school activities. It is generally considered a secondary track venue to the Foothills Athletic Park; however the condition of that track requires that Glenmore be the primary event venue until its reconstruction.

A baseball diamond is located to the east of the track. It is in reasonably good condition, however there are drainage issues, no warning track and the outfield fence should be taller. The fences enclosing the facility are aging and have been repaired several times. There are a few bleachers accommodating less than 100 spectators.



A: Figure 3.29 Existing Flag Football Field

B: Figure 3.30 Glenmore Track Grandstand

C: Figure 3.31 Glenmore Baseball Fencing

D: Figure 3.32 Glenmore Baseball Field Ponding

Glenmore Athletic Park is dominated by fencing and municipal infrastructure. The southeast side of the site is defined by a fenced underground water storage reservoir. Its structures pinch soccer fields and create obstructions.

A and B: Figures 3.33 and 3.34 Warning Signs for Cistern

C and D: Figures 3.35 and 3.36 Cistern Structures Within Fields

E: Figure 3.37 Cistern Structure at Field Corner

Corner kicks for soccer are restricted by infrastructure.

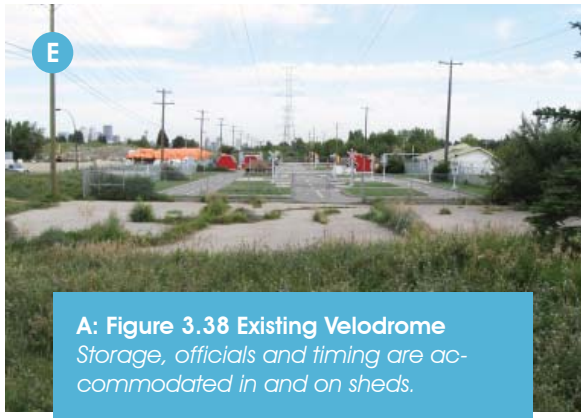
The Stu Peppard Arena is near the end of its life cycle and will likely be past it within the 10-year time horizon for this Concept Plan. The facility is maintained reasonably well, but its age creates significant challenges. Access, exiting, convenience within the building for participants, as well as spectators is very poor. The use of the building is limited based on these deficiencies, as well as functional limitations imposed by the various level changes, ramps, and stairs located throughout the building. In addition there are operational inefficiencies associated with running a single sheet facility.

The Glenmore Aquatic Center swimming pool is located toward the east of the site, with a parking lot immediately adjacent. The facility upgrades are relatively new but cannot accommodate typical competitions due to the size of the enclosure and number of lanes. It operates primarily as a training and teaching facility, but hosts several small meets. There is significant demand for a larger competition-capable facility in this part of the city, based on this need it was determined

that a competition facility at this site would serve the city well. In addition, the community context of this park suggests that including a local recreational aquatic component would also be important.

The existing seven outdoor tennis courts are currently closed to use due to poor condition. To accommodate tennis tournaments or operate efficient instructional programs, consolidation of courts, with a minimum of four per battery is required. Tennis facilities appropriate for strong programs are currently being privately operated at Glenmore Athletic Park and could be improved with reconstruction of the existing seven courts adjacent to the existing Tennis Academy.

Parking is provided in two separate parking lots, one adjacent to the Aquatic Center with access from 19th Street SW, and the other serving primarily the ice arena, track, velodrome and most fields accessed from 50th Avenue to the north. The lots are inadequate if more than one activity is underway, and they are not particularly efficient or convenient to facilities on the south side of the site.



A: Figure 3.38 Existing Velodrome
Storage, officials and timing are accommodated in and on sheds.

B: Figure 3.39 Infrastructure Access

C: Figure 3.40 View of the Tennis Academy from the North

D: Figure 3.41 Existing Tennis Courts
Courts are closed due to condition.

E: Figure 3.42 Safety City Below High Powered Transmission Lines

F: Figure 3.43 Electrical Right of Way on 50th Avenue SW

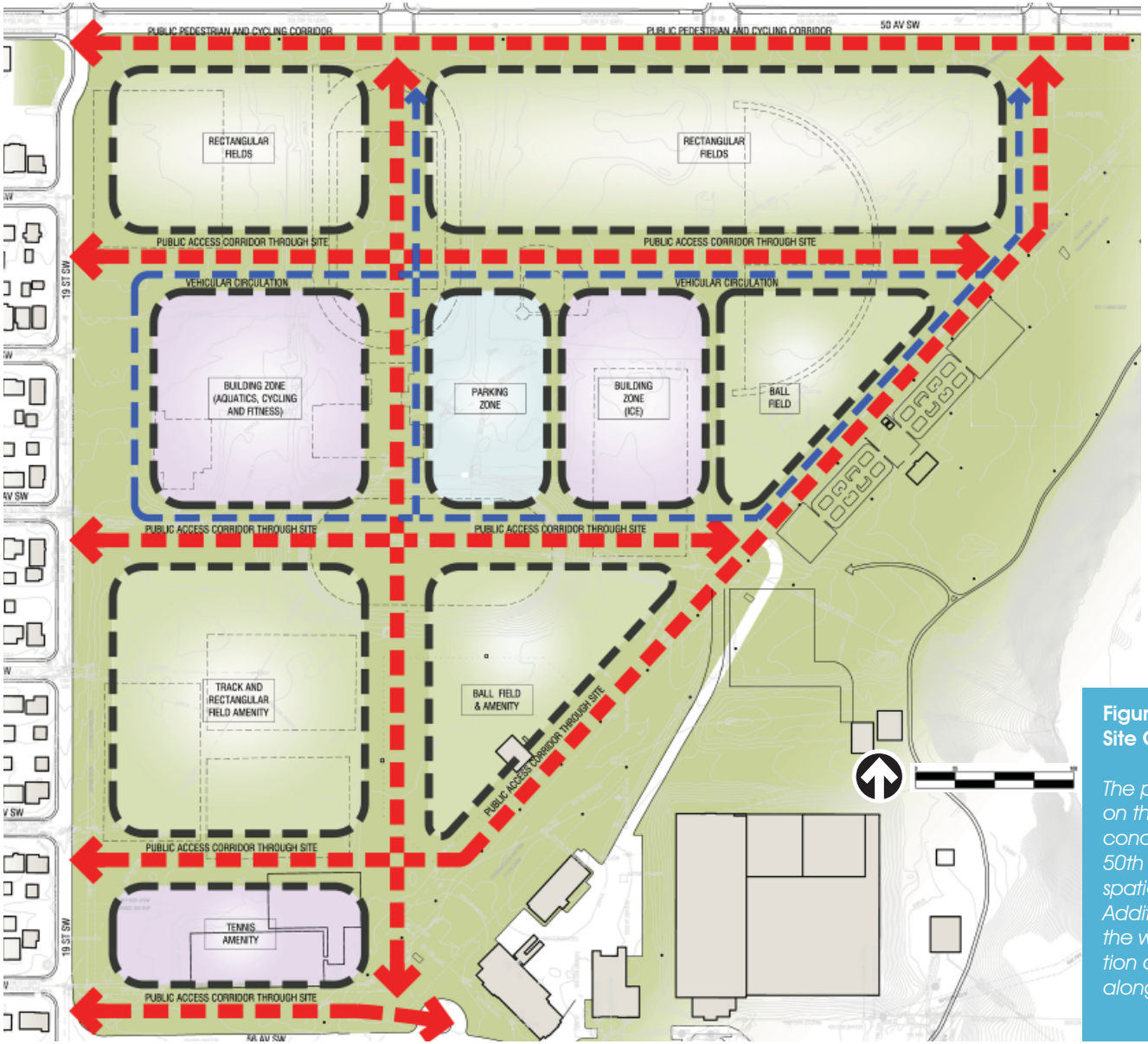


Figure 3.44 Glenmore Athletic Park Proposed Site Organization. Scale: Approx. as Indicated

The proposed facilities and parking are located on the interior of the site to create a "front lawn" condition next to the residential area north of 50th Avenue. The building zone respects existing spatial setbacks from western residential areas. Additional fields are located to the south above the water services infrastructure. Site circulation and pedestrian movement are rationalized along principle axes, indicated in red.

Proposed Site Reorganization

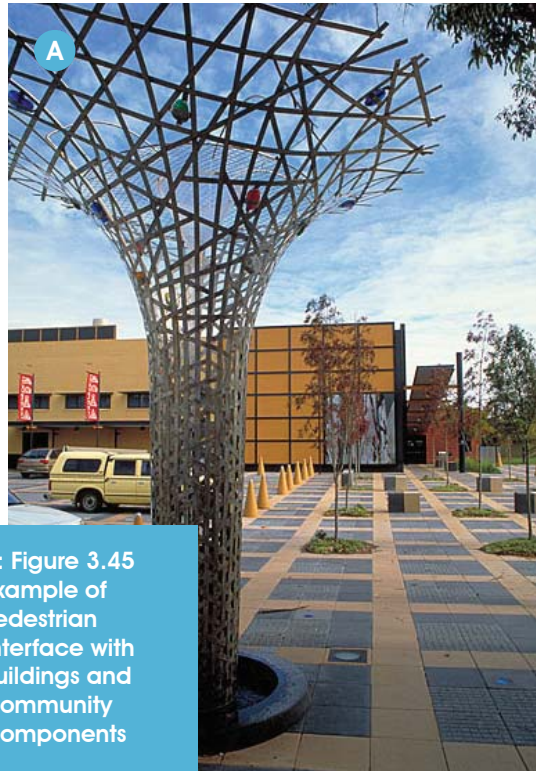
In context of the existing site, current facilities, and needs identified in the 10 Year Strategic Plan and stakeholder interviews, the Concept Plan proposes the reorganization of the Glenmore Athletic Park as shown in Figure 3.44. The proposed site design incorporates programmatic requirements as well as facilitates mobility and access. In addition, the site reorganization aspires to create a vibrant, urban and community-oriented athletic district.

Although the Glenmore Athletic Park is situated in a residential area and has the potential to be used as a community park, it is also a destination venue for sport activities. The planned facilities proposed as part of the Concept Plan will be designed to accommodate sanctioned competitions for local, regional and provincial sport groups. It is possible that national and international events could also be staged at these facilities. While the capability of the facilities in the park to host these types of sports events is a stated objective of the Concept Plan, the appeal of the Glenmore Athletic Park to the community at large, as well as the local community, is of significant importance. There are components, such as playgrounds and walking/cycling trails, that are of specific interest to the community as well as to parents of participants in athletic activities. Fields, courts, track, pools, arenas and indoor courts are all designed for community and sport use. The facilities at Glenmore are arranged and the site is designed to encourage recreational users, as well as accommodate higher performing individuals and teams.

As described in the preceding sections, one of the key issues on the Glenmore site is municipal infrastructure, including portions of the site dedicated to City of Calgary Water Services. The reorganization of the Glenmore site allows for the zoning of activities that coordinates with zones of on-site infrastructure. The proposed site consists of three zones; a community "front lawn" consisting of multiple rectangular fields on the north that run parallel to an electrical transmission right of way along 50th Avenue SW; an area of buildings which provide a "centerpiece" on the site and whose placement avoids underground water, sanitary and sewer trunk lines; and to the south, a track, fields, trails and playgrounds above a network of underground water lines and water storage tanks.

The proposed Concept Plan improves mobility and access to and through the site. Vehicular access to the site is from 50th Avenue on the north directly into the parking lot located at the center of the site. Traffic to the Athletic Park is removed from 50th avenue as soon as possible. The current access from the west will be for emergency access only, reducing traffic along 19th Street SW. The centralized parking lot is a convenient distance from each of the facilities, while discreetly located away from the residences to the north and west.

Proposed primary pedestrian axis run parallel to the vehicular corridors as well as through the site and in connection with the existing regional pathway system. A pedestrian boulevard separating the "front lawn" from the building zone incorporates a sculpture walk and other community spaces. In addition, access to the Water Services facilities, the organization of functions relating to their security, as well as access to the regional pathway, will be reconfigured as part of the Concept Plan.



A: Figure 3.45 Example of Pedestrian Interface with Buildings and Community Components

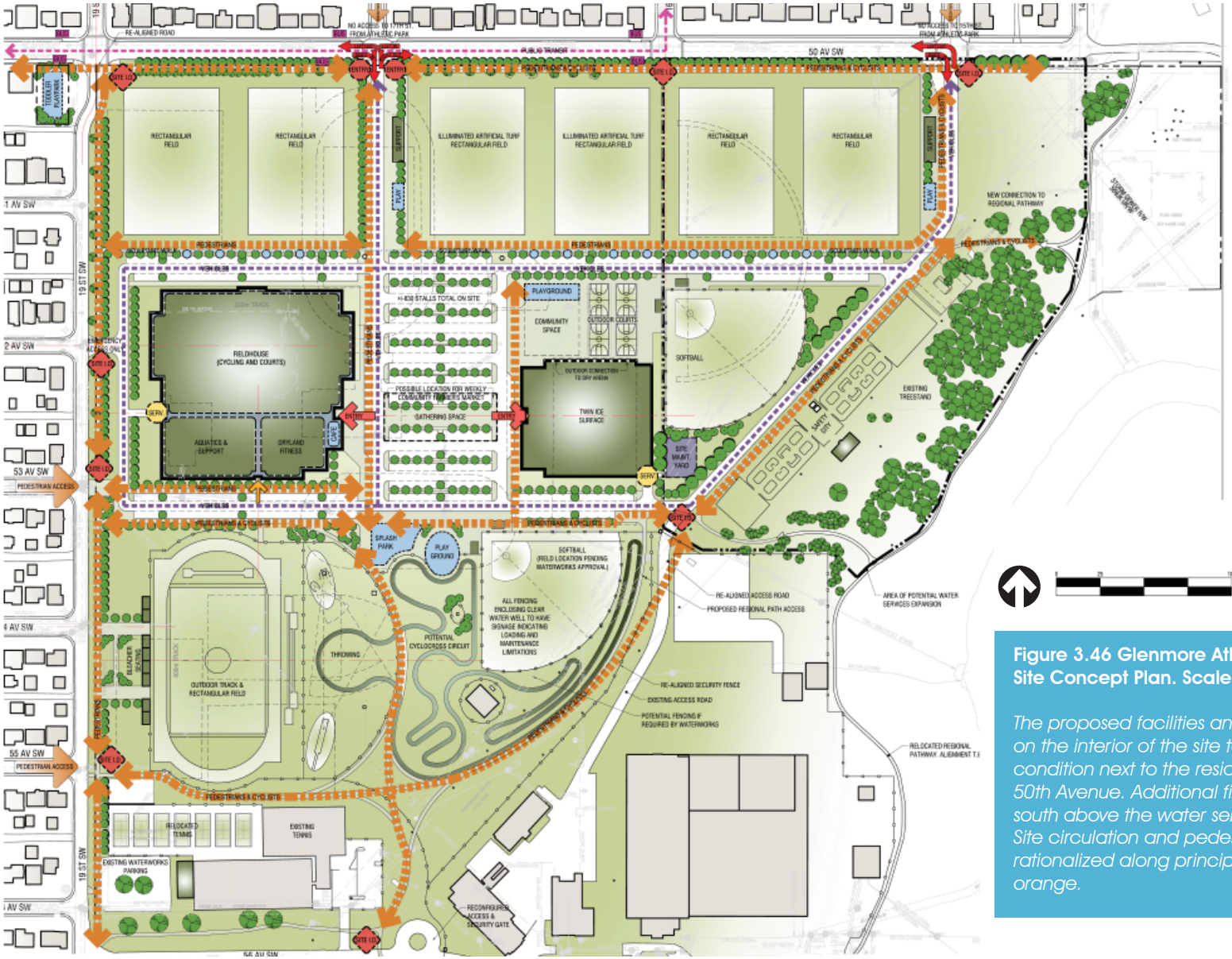


Figure 3.46 Glenmore Athletic Park Proposed Site Concept Plan. Scale: Approx. as Indicated

The proposed facilities and parking are located on the interior of the site to create a "front lawn" condition next to the residential area north of 50th Avenue. Additional fields are located to the south above the water services infrastructure. Site circulation and pedestrian movement are rationalized along principle axes, indicated in orange.

A and B: Figures 3.47 and 3.48 Glenmore Athletic Park Amenity Comparison Scale: N.T.S.

The Concept Plan replaces existing facilities and proposes new ones to meet current and future demand. Community components and assets are also increased to create amenity for the surrounding neighbourhoods.

TABLE 3.3 EXISTING FACILITIES

N / A	
Dedicated on-site parking • ±250 stalls total on site • ±160 curbside stalls on 50th ave. & 19th st.	
1 Ice Arena • NHL rink (Stu Peppard) w/ seating for 550 spectators • Change Rooms, Concession, Office & Admin. Space	• Tenant Area leased to Private Business
2 Pool Basins (Glenmore Pool) • 6-Lane Practice Pool • Dive Tank	• Change Facilities
1 Baseball Field • 395' Outfield Fence, Mobile Bleachers & Field Lights	**2 softball fields** • 320' Outfield Fence & Mobile Bleachers
1 - 400m Outdoor Velodrome	
Fitness space • 1 Multi-purpose Room	
N/A	
6 Soccer Fields • One Field w/ Lights and P.A. System • One on track In-field	**2 Flag Football Fields** • One Field w/ Lights and P.A. System
16 tennis courts • 10 Indoor Courts (Tennis Academy) • 6 Outdoor Courts (Calgary Recreation)	• Change Facilities, Administration Area and Pro Shop (Tennis Academy) • 1 Backboard Practice Court (Calgary Recreation)
1 - 400m outdoor track • Seating for 1000 spectators, dedicated Jumping & Throwing areas	

COMMUNITY COMPONENTS
PARKING
ARENAS
AQUATICS
BALL FIELDS
CYCLING
FITNESS
GYMNASIA
RECTANGULAR FIELDS & SUPPORT
TENNIS
TRACK AND FIELD

TABLE 3.4 PROPOSED FACILITIES

On-site Community Gathering Components & Facilities • Cyclo-cross Track • 4 Playgrounds	• Sculpture Walk (1% art component) • Splash Park • Multi-purpose/Meeting Rooms (multiples, 20-30 person)
Dedicated on-site Parking • ±830 stalls total on site	
2 Ice Arenas • 1 NHL rink w/ seating for 500 spectators • 1 NHL rink w/ seating for 200 spectators	• Change Rooms, Concession, Office & Admin. Space
3 Pool Basins • 8-Lane Practice Pool - 25m • Recreational Aquatics Pool	• Teach Pool/Training Pool • Change Facilities
2 Softball Fields • 320' Extended Outfield Fence & Mobile Bleachers	
1 - 333m Cycling Track in Fieldhouse **1- Cycle Cross Track**	
Fitness space • Weight Training (Public Access) • Multi-purpose Rooms (Public Access)	• Administration & T.I. Spaces (Sports Medicine, Physiotherapy, etc.)
8 Volleyball Courts (Velodrome Infield) • Converts to 6 Basketball Courts or 12 Badminton Courts • Available to Public	
7 Rectangular Fields • One on track Infield w/ spectator seating for 1000, lights & P.A. System	• 2 Field Houses/Support Facilities
17 Tennis Courts • 10 Indoor Courts (Tennis Academy) • 7 Outdoor Courts (Calgary Recreation)	• Change Facilities, Admin. Area & Pro Shop (Tennis Academy)
1 - 400mm Outdoor Track • Seating for 1000 spectators, dedicated Jumping & Throwing areas	• 2 Backboard Practice Courts (Calgary Recreation)

A: Figure 3.49 - Example of Indoor Fieldhouse with Cycling and-Courts

B: Figure 3.50 - Example of Aquatics Competition Pool Area

C: Figure 3.51 - Example of Aquatics Leisure Pool Area
Community areas are key at Glenmore.

Proposed Park Programme

The zoning of facilities, the inclusion of a large variety of recreation and sport activities as well as community access and events, enhance the experience of the proposed park for the neighbouring community, while addressing the needs of the various sports groups. A brief description of the individual programmatic components to be included in Glenmore Athletics Park is outlined below. Refer to Appendix 'A' for the master planning programme of proposed spaces. Additional requirements detailing the site organization, urban design and mobility are outlined in later sections of this report.

FIELDHOUSE

A new indoor fieldhouse will replace the existing outdoor facility and will create a unique training venue in Canada. There will be a 333 meter track, which is the fastest track configuration due to its physics, and which allows for a large in-field capable of accommodating multiple basketball and volleyball courts in addition to dry-land training. The 333 meter track is also easier to introduce newcomers to the sport as the incline of the banked turns is easier to navigate than those typical of shorter tracks used in indoor facilities. Seating for 500 is planned, along with spectator amenities such as washrooms, concessions, ticketing and lobbies. Storage for bicycles and other equipment, as well as convenient access to change rooms for participants will be provided.

ARENAS

Twin ice arenas accommodating 500 seats and 200 seats, respectively, will be provided. The facilities will include four change rooms for each ice sheet as well as two auxiliary change rooms for co-ed teams and two officials' rooms. Spectator amenities include washrooms, concessions, lobbies and ticketing. Check-in, lobby space and other accommodations will be provided for community participants.

AQUATICS

The need for aquatics facilities that are capable of hosting meets, as well as accommodating training will be addressed by including an 8-lane 25 meter pool with a diving area, a training/teaching pool, hot tub and sauna. Seating for 1,000 spectators will be included, along with the associated spectator amenities such as washrooms, concessions and ticketing. Also included to support competition management and teaching activities will be a wet classroom and staff support spaces. Appropriate change rooms will also be provided. The facility will also include a community leisure pool component.

RECREATION AND TRAINING FACILITIES

The demand for dry land training area is significant among all the sports groups and fitness enthusiasts. These activities will be accommodated in the planned strength and conditioning areas, fitness center, group exercise rooms and

the fieldhouse. Also included will be meeting rooms, classrooms and administrative offices. A sports medicine component to support training and participant use will be included in the facility. Change rooms for all activities will be provided and the need for building efficiencies suggest that training, recreational, aquatics and fieldhouse participants may share consolidated facilities.

RECTANGULAR FIELDS

The Concept Plan proposes seven rectangular fields with adequate dimension to accommodate at a minimum FIFA-regulation size soccer fields. One will be the in-field of the track. The rectangular fields will each accommodate one football field, two Ultimate Frisbee pitches and other activities requiring turf fields. The two centre fields on the north side of the site will be artificial turf with lighting to increase available play time.

TRACK AND FIELD

An 8-lane track with a 9-lane straight-away for sprinting is planned to replace the existing track facility. Field events will also be accommodated, along with 800 permanent seats, the same number as are currently accommodated. Spectator amenities and meet/event management facilities will be provided. Adequate equipment storage areas will also be included, proximate to the track. Change rooms will be provided near the track and may be consolidated with the Aquatics/Recreation/Training facility.

TENNIS

The seven existing tennis courts will be reconstructed adjacent to the Tennis Academy. The support facilities for participants will be available at the Tennis Academy and/or be provided by the facilities planned at the track facility.

SOFTBALL

Two fields for recreational softball are planned along the east edge of the site. Portable bleachers to accommodate 50 to150 spectators could be included. Fences will be 320'.

TRAILS AND PATHWAYS

Pedestrian paths and sidewalks connecting to the existing regional pathway will be included. The existing pathway adjacent to the Water Services facilities will be re-routed, allowing relocation of their gatehouse and increased security. In addition, a 1.5km cyclocross trail is proposed on the south side of the site that weaves in and around the proposed recreation components above the underground clear water cistern.

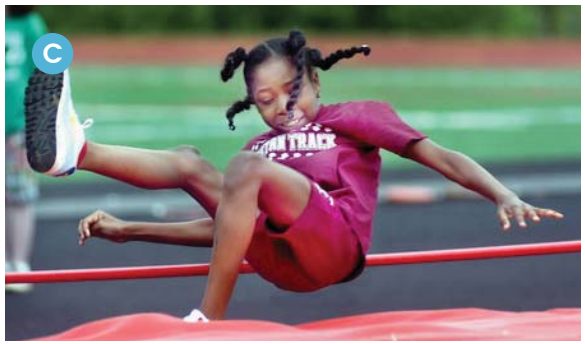
SUPPORT FACILITIES

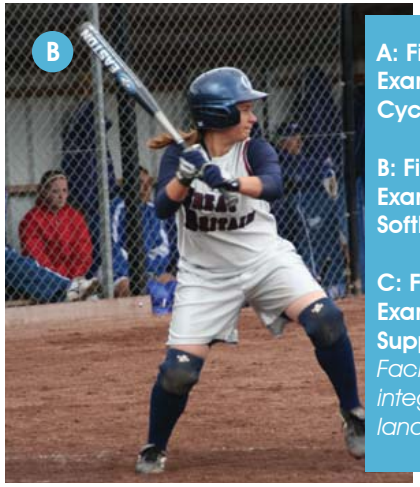
Change rooms, public washrooms, concessions, game and field equipment storage and site management space will be provided in centrally- located buildings among the outdoor fields.

A: Figure 3.52 - Example of Rectangular Fields

B: Figure 3.53 - Example of Training Areas

C: Figure 3.54 - Example of Track and Field





A: Figure 3.55 - Example of Cyclocross

B: Figure 3.56 - Example of Softball Fields

C: Figure 3.57 - Example of Support Facilities
Facilities can be integrated into landscape

COMMUNITY/CULTURAL AMENITY

Four playgrounds near activity areas will be provided for uninvolved siblings of sport participants and community park users. A splash park is proposed adjacent to a playground in a central location within the site. Four outdoor courts and a community gathering space will be provided to the north of the proposed arena facility to allow for drop-in outdoor activities. A sculpture walk is proposed along a pedestrian boulevard separating the rectangular fields to the north and the buildings at the center of the site. A plaza will be provided in the center of the parking area to allow for community gatherings and a possible weekly community farmers market.

PARKING

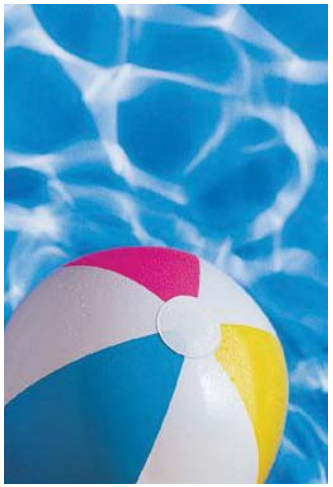
On-site parking will be provided for events and daily use. It will be available in proximity to each of the major components within the park at a central location, discreet from the residential areas to the north and west of the site. An additional parking lot may be provided on the northeast corner of the site as part of a separate study undertaken by The City of Calgary to provide parking for users of the adjacent River Park and the rectangular fields.

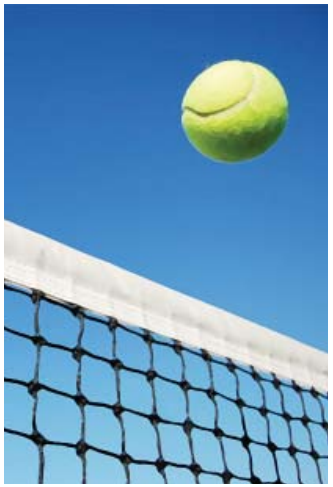
The community/cultural amenities are placed and structured to allow for active and passive use by those arriving for; sport, recreation, as an uninvolved spouse, sibling, or those who are simply moving through the park space for an evening walk.

SUMMARY

The programming components outlined in section three reflect the input of information gathered from various sports group representatives consulted in 2009. The programme compiled and included in Appendix 'A' was prepared in sufficient detail to permit the undertaking of the physical master planning of both the Foothills and Glenmore sites. It was assumed during this process that detailed facility amenity programming would be undertaken as implementation of the various facilities and amenities take place.

SECTION 4: IMPLEMENTATION




In addition to the various programme components of the Concept Plan, of key importance to its success is the feasibility and ease of its implementation – physically as well as financially. Also of concern is maintaining as many facilities as possible in operating order to minimize disruption of programming. Further, there are specific and immediate needs for improvement or maintenance expenditures on several existing facilities. The investments made in these facilities must be appropriate to meet the needs of the community in the near term, but minimized in anticipation of the long term completion of the Concept Plan. The implementation of this Concept Plan assumes that the parks will operate in complementary fashion during construction and development. The implementation plan has been created with the following premises as a guide, in general order of priority.

- Improve existing facilities if they are critical and their expected life cycle is 10 years or less.
- Reconstruct/replace existing amenities to meet current needs as outlined in the Concept Plan.
- Begin construction of new facilities that require relocation to areas not occupied by buildings or critical amenities.
- As particular facilities are constructed to replace existing amenities, deconstruct and recycle existing buildings.
- Construct new facilities as existing buildings are removed and site area becomes available.

4.1 PROJECT PHASING

The general assumption for the Concept Plan implementation assumes a 10-year timeline.

PHASE 1

Given on-going maintenance and repair issues to be addressed as part of normal operations, initial Concept Plan implementation activities recommended include:

Glenmore

- Relocation/construction of the seven tennis courts to an area adjacent to the Tennis Academy;
- Deconstruction and Recycling of the existing tennis courts;
- Reconfigure eastern access (Water Resources Road) from 50th Avenue;

Foothills

- Interim remediation of the existing track and infield;
- Interim remediation of drainage issues on the rectangular fields;
- Improvements to pedestrian link recommended. Location /configuration pending consensus decision with University of Calgary;
- As several of these facilities have been offline due to poor condition, these activities would restore the amenities for immediate use by the community with minimal investment.

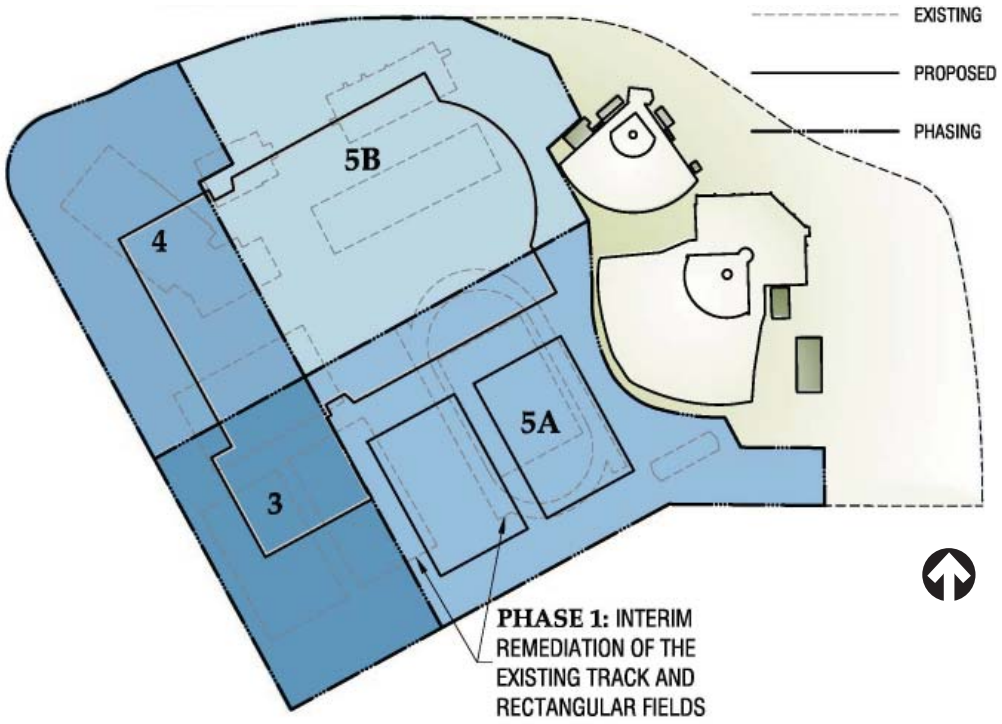
PHASE 2

Upon completion of the Glenmore tennis courts adjacent to the Tennis Academy and remediation of the Foothills fields for continued use, implementation would proceed as follows beginning on Glenmore Park:

Glenmore

- The loss of three rectangular fields on the new track site would be offset by the Phase 1 restoration of the Foothills rectangular fields, minimizing disruption of field programs;
- Construction of a new track facility and associated amenities;
- Glenmore track could be deconstructed and recycled or retained until completion of the new track at Glenmore;
- At any time during the initial phases of improvements, the baseball field at Glenmore Athletic Park could be relocated, likely to Optimist Park, although this is outside the scope of this Concept Plan;
- Deconstruction and Recycling of the existing track, baseball field and softball fields;
- Reconstruct one softball field in location im-

Figure 4.1 Foothills Athletic Park Proposed Phasing
The proposed Concept Plan can be implemented in stages; however the east side with baseball is under review



mediately south of current softball fields;

- Construct central access from 50th Avenue and construct a portion of the centralized parking;
- Construct six rectangular fields planned at the north edge of Glenmore Athletic Park parallel to 50th Avenue;
- Construct playground and support facilities on the north side of Glenmore Athletic Park.

If having two operating track facilities is more critical than maintaining use of rectangular fields during construction of the new Glenmore track, delaying removal of the existing track would be appropriate. Also, if reducing the inventory of softball fields to one on the Glenmore site is not feasible without evaluation and replacement elsewhere, delay in developing the two rectangular fields planned in the current location of the two softball fields would be appropriate.

PHASE 3

To maintain use of all major facilities until replacement facilities are operational, the following phasing is recommended:

Glenmore

- Deconstruct and Recycle Stu Peppard Arena;
- Construct the new ice arena, outdoor basketball courts and adjacent amenities;
- Construct the new fieldhouse with indoor cycling track and court space, retaining the existing velodrome until construction is complete;
- Reconfigure west access from 19th Street to Emergency/Relief access.;

Foothills

- Construct the ice arenas;
- Deconstruct and Recycle existing ice arenas;
- Reconfigure southwest access and parking.

Completion of the new track facility and fields at the Glenmore Athletic Park site will create seven rectangular fields, a functional increase of one field on that site. The construction of the proposed ice arenas at Foothills will reduce the inventory there by three rectangular fields (although their usability is marginal due to poor condition); the field inside the track at Foothills could be utilized more than it is currently along with the increased serviceability of fields at Glenmore should address interim capacity concerns.

PHASE 4

With the completion of the fieldhouse at the Glenmore Athletic Park, as well as the twin ice surfaces at Foothills, execution of the Concept Plan becomes less complicated:

Glenmore

- Deconstruct and Recycle existing velodrome;
- Deconstruct and Recycle existing Glenmore pool;
- Complete construction of central access from 50th Ave. and complete the centralized parking area;
- Construct administration, aquatics and fitness components;
- Construct second softball field;
- Complete all remaining site amenities;

Foothills

- Construct aquatics, fitness and administration components;
- Construct tennis courts;
- Deconstruct and Recycle the existing tennis courts;
- Deconstruct and Recycle the existing aquatics centre;

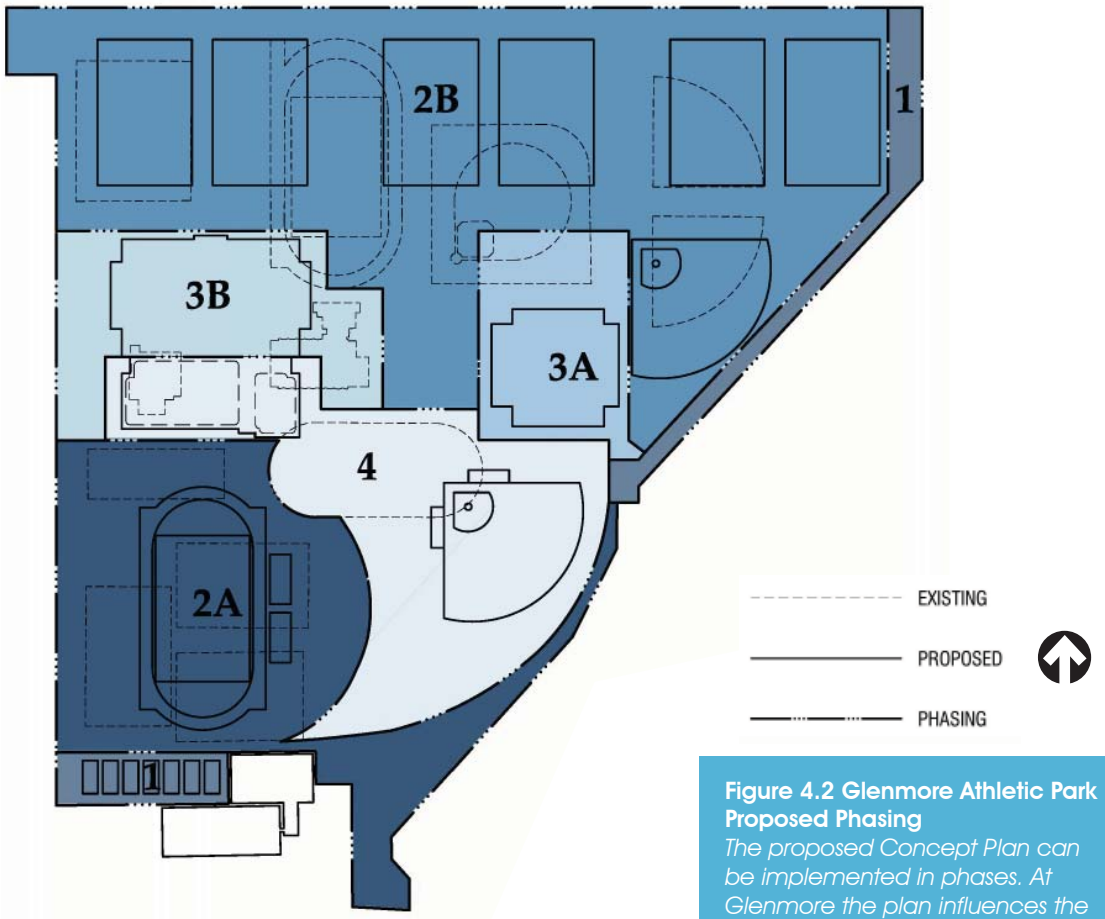
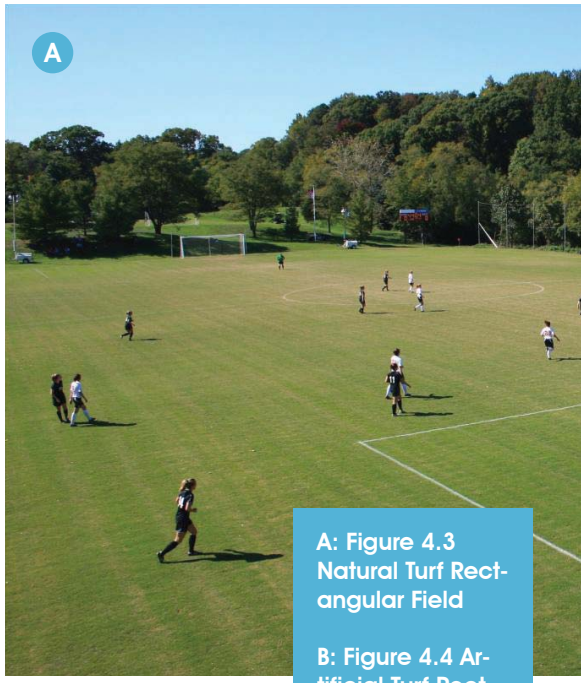


Figure 4.2 Glenmore Athletic Park Proposed Phasing
The proposed Concept Plan can be implemented in phases. At Glenmore the plan influences the majority of the site.



A: Figure 4.3 Natural Turf Rectangular Field

B: Figure 4.4 Artificial Turf Rectangular Field

- Reconfigure access and parking.

PHASE 5

Following the completion of the Aquatics Fitness and Administrative Facility at Foothills, development is also more straightforward:

Foothills

- Deconstruct and Recycle the existing track remediated in Phase 1 (assumes operating track at Glenmore Park);
- Construct two rectangular fields;
- Deconstruct and Recycle the Volleydome;
- Construct Field House with gymnasia;
- Reconfigure access and parking;
- Complete all remaining site amenities.

The project Phasing Model is subject to change contingent upon the implementation of a catalyst event or the availability of capital funding for the completion of a particular asset.

Refer to Appendix 'I' for sequential phasing diagrams.

4.2 POLICY CONSIDERATIONS

Through the implementation of the Concept Plan, assessment of current policies and procedures may suggest the need for modification, further definition and elaboration to maximize benefit to the City of Calgary and the various sport groups that will be impacted. Of primary importance is the use-capacity of the facilities recommended, in the context of the recreation assets already in use elsewhere in Calgary.

Operationally, the protocols established in support of the Athletic Parks Concept Plan will be critical to its success. The operation of the recommended facilities in the Concept Plan, as well as other recreation assets in the city, should be consistent and reflective of the overall objectives of Calgary Recreation. This may include modifications to current operational structures and approaches to better serve the needs of the community, for recreation, and the City of Calgary, for fiscal stewardship.

Finally, the diversity of user groups requiring access and use of the recommended amenities are extensive and varied. The nature of their activities and the number and size of potential events will require coordination, prioritization and the cooperation of the community. With thoughtful planning and careful scheduling, the enhanced opportunities for recreational, sports and competitive participants of all ages, and the City of Calgary, will be significant.

For more detailed policy considerations, refer to Appendix 'D'.

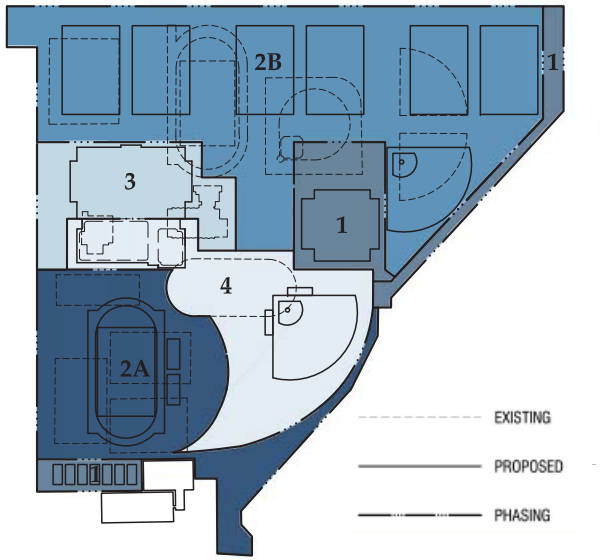
4.3 ALTERNATE PROJECT PHASING

Alternate phasing options are possible, however, they will likely have a greater impact on interim amenity availability resulting in the loss of particular capacities for extended periods. An example of an alternate phasing option would be the design and construction of the Foothills Fieldhouse as the primary (1st phase) asset. In order to maintain rectangular field capacity, modifications/upgrades to alternate sites may need to be considered.

PHASE 1

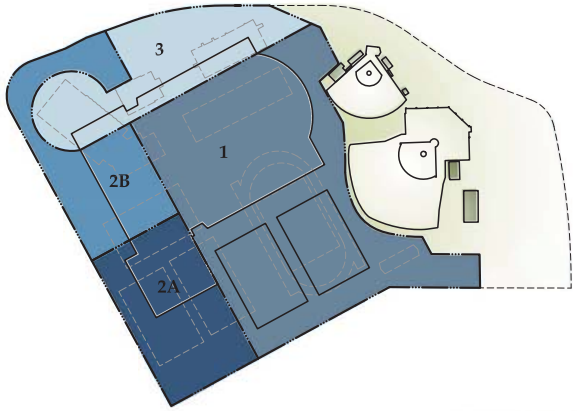
Glenmore

- Relocation/construction of the seven tennis courts to an area adjacent to the Tennis Academy;
- Deconstruction and Recycling of the existing tennis courts;
- Reconfigure eastern access (Water Resources Road) from 50th Avenue;
- Construct the new ice arena, outdoor basketball courts and adjacent amenities;
- At any time during the initial phases of improvements, the baseball field at Glenmore Athletic Park could be relocated, likely to Optimist Park, although this is outside the scope of this Concept Plan;
- Deconstruct and Recycle Stu Peppard Arena;



Foothills

- Deconstruct and Recycle the existing tennis courts;
- Deconstruct and Recycle the existing track;
- Deconstruct and Recycle the Norma Bush Arena;
- Construct two rectangular fields;
- Construct Field House with gymnasia;
- Improvements to pedestrian link recommended. Location /configuration pending consensus decision with University of Calgary;



PHASE 2

Glenmore

- Construction of a new track facility and associated amenities;
- Glenmore track could be deconstructed and recycled or retained until completion of the new track at Glenmore;
- Deconstruction and Recycling of the existing track, baseball field and softball fields;
- Reconstruct one softball field in location immediately south of current softball fields;
- Construct central access from 50th Avenue and construct a portion of the centralized parking;

- Construct six rectangular fields planned at the north edge of Glenmore Athletic Park parallel to 50th Avenue;
- Construct playground and support facilities on the north side of Glenmore Athletic Park.

Foothills

- Construct the ice arenas;
- Deconstruct and recycle Father David Bauer Ice Arena;
- Construct aquatics, fitness and administration components;
- Reconfigure access and parking.

PHASE 3

Glenmore

- Construct the new fieldhouse with indoor cycling track and court space, retaining the existing velodrome until construction is complete;
- Reconfigure west access from 19th Street to Emergency/Relief access.;

Foothills

- Deconstruct and Recycle the Volleydome;
- Construct T.I. space;
- Construct tennis courts;
- Complete all remaining site amenities;

PHASE 4

Glenmore

- Deconstruct and Recycle existing velodrome;
- Complete construction of centralized parking area;
- Construct administration, aquatics and fitness components;
- Construct second softball field;
- Deconstruct and Recycle existing Glenmore pool;
- Complete all remaining site amenities;

4.4 BUDGET PLANNING

Plausible estimates of probable Construction Cost have been established for each of the phases outlined in the preceding sections. These costs are attributed by phase including site improvements costs (such as, but not limited to, grading and site services) which are distributed between the phases based on proportional area ratios. The resulting values presented are for project and funding planning purposes. Administrative and management costs, as well as soft costs, furniture, fitments and equipment are not included in the figures presented below. The budgeting presented below does not address the detailed functional requirements of a phased facility design. The sole purpose of the costing presented is to identify the scale of magnitude budget expectations for the amenity complement as identified in the Concept Plan.

Should a portion of the Concept Plan be broken out for execution a more detailed scope definition and budget analysis will need to be completed to account for attributable Construction and Project Costs associated with the execution of the specific scope of work.

The Budget Estimates of Probable Construction Costs associated with the Concept Plan for Foothills and Glenmore Athletic Parks are:

PHASE 1

Glenmore

Relocate tennis courts tennis and reconfigure east access per part 4.1 of this report.

Foothills

Remediate existing track and fields (interim measure) improve pedestrian link to LRT per part 4.1 of this report.

$6.1 million

PHASE 2

Glenmore

relocate track and associated amenities; construct 6 new fields as well as support and community amenities per part 4.1 of this report.

$30.8 million

PHASE 3

Glenmore

Construct replacement ice facility and community amenities, construct fieldhouse facility per part 4.1 of this report.

Foothills

Construct replacement ice facility and community amenities per part 4.1 of this report.

$143.4 million

PHASE 4

Glenmore

Construct new aquatics amenities, community amenities, cycle cross circuit and complete site improvements per part 4.1 of this report.

Foothills

Relocated aquatics amenities and construct new dry land areas and associated parking improvements per part 4.1 of this report.

$133.5 million

PHASE 5

Foothills

Construct new Fieldhouse amenity and associated exterior fields/site amenities per part 4.1 of this report.

$141.6 million

Total *$455.4 million*

Totals by site

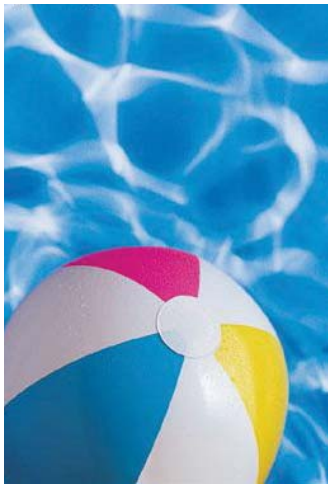
Glenmore Park *$195.5 million*

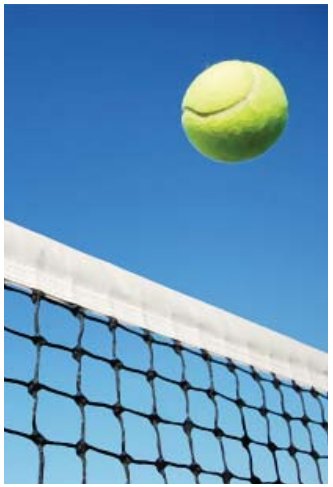
Foothills Park *$259.9 million*

ART FUNDING

Should public art on either of these sites be broken out of the project budget on a percentage basis, it is recommended that the funding be aggregated over several phases. The goal of this recommendation is to create an art funding pool that would allow for a significant and meaningful art installation on each site.

SECTION 5: SITE DESIGN CONCEPTS




The success of the proposed Concept Plan will be measured not only by its ability to meet the programmatic requirements for recreation and sport delivery on the Foothills and Glenmore Athletic Park sites, but also by the quality of the built environment which houses these recreational components. To foster the quality of space envisioned for the athletic parks, the following section outlines requirements for the proposed buildings and their interaction with the sites. Requirements include: how buildings address the site and surrounding context; building mass, volume and articulation; building impact on the character and definition of public spaces; environmental sustainability; and the creation of visual interest.

5.1 BUILT FORM AND SUSTAINABILITY

5.1.1 Built Form

The footprint allowances outlined in the proposed Concept Plan meet the programmatic size requirements described in section 3 of this report. However the final configuration is subject to further refinement as each phase of the Concept Plan is implemented. The built form – including mass, volume, character and articulation – is to be considered in context of the final build-out of the entire site, while creating a visually interesting facility in the interim.

Below are proposed general requirements applicable to both sites describing building character, mass and articulation, as well as how buildings are to interact with their surrounding environments to create safe, welcoming and vibrant public spaces. In addition to the general requirements, two sub-sections outline proposed requirements for each of the specific athletic parks.

GENERAL RECOMMENDATIONS

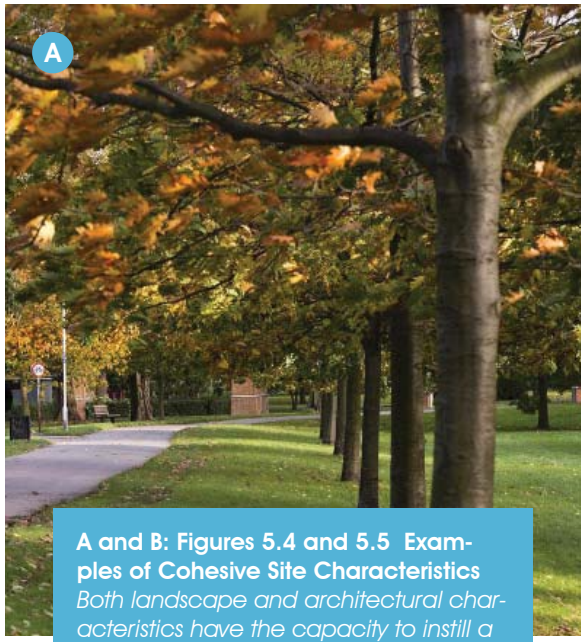
Building faces are to modulate in width, height and finishing materials to break up their mass and scale.

- Provide A minimum of 30% glazing of building façades at grade where feasible with the programme functioning and activity safety.
- Canopies or shelters are to be provided for pedestrians and bicycle parking.
- Building exteriors are to position lobbies and entries towards sidewalks to encourage pedestrian movement.
- Building mass and elements are to be organized so as to maintain sunlight access, indirect daytime lighting and sky exposure through the majority of the day and minimize shadow impacts on open space.
- Buildings are to incorporate varied rooflines and are encouraged to create a signature building that exhibit design excellence and to add superior architectural qualities to the sites.
- While architectural variety is encouraged, the overall effect of the individual buildings and/or additions to facilities should be diverse yet

A: Figure 5.1 Bike Canopy

B: Figure 5.2 Canopy and Facade Articulation

C: Figure 5.3 Entry Canopy
Canopies protect and give form.



A and B: Figures 5.4 and 5.5 Examples of Cohesive Site Characteristics
Both landscape and architectural characteristics have the capacity to instill a sense of unity within the site.

harmonious, resulting in an inviting, well-considered and cohesive site character.

- The areas between buildings and the property line – including vehicle parking areas – are to be regarded as "front yards" to the site and occupied by components to encourage safe, enjoyable pedestrian spaces including outdoor seating, bicycle parking, site lighting, and street furniture.
- Where buildings front onto parks or outdoor amenity they are to incorporate designs that enhance the interface with the parks and amenity.
- Landscaping is to be integrated between all phases and provide passive protection from the elements and enhance pedestrian routes.
- Site and building wayfinding are to be incorporated into the landscaping and architectural components to create a unified design for the whole site. Refer to section 6.4 of this report for further requirements.

FOOTHILLS

- The mass of the proposed field house building is to be concealed within the grade change of the site to the greatest extent possible so as to minimize the building height from the north side along 24th Avenue NW.
- The proposed arena, aquatics centre and dry land support buildings are to transition the mass of the field house along the west side of the site along University Drive NW.
- The gymnasia along the south side of the field house are to transition the Field House mass to the rectangular fields on the south.

GLENMORE

- The proposed fieldhouse and aquatics centre is to vary its articulation of mass and detailing along the west façade in response to the residential block rhythm as established by the residential area across 19th street SW.
- The proposed fieldhouse and aquatics center should respect the existing building set back from the west property line as already defined by the western extent of the existing Glenmore Pool.

5.1.2 Environmental Sustainability

The Foothills and Glenmore Athletic Parks Concept Plan Steering Committee identified sustainable design as a priority in the Project Charter. As a result, the Concept Plan endeavours to create healthy and sustainable environments through its recommendations. The Concept Plan incorporates proposed requirements that contribute to the individual buildings, the specific sites and the larger community.

For buildings, the Concept Plan advocates that all new facilities constructed on the sites be designed and built to meet a minimum of LEED Gold. To meet these requirements, the Concept Plan encourages providing building energy requirements through alternative energy sources such as solar thermal, micro-cogeneration or geothermal systems; incorporating energy efficient lighting; establishing recycling protocols; diverting demolition and construction waste; and designing buildings to reduce resource consumption through incorporation of salvaged and local materials and those with recycled content.

Although the LEED rating system can only be applied to individual buildings, the Concept Plan takes into account requirements under the Sustainable Sites category and makes recommendations for each of the sites as a whole so that each facility constructed can maximize the Sustainable Sites credits. This "campus" approach to the overall site design for each of the athletic parks allows for an integrated design over the entire athletic park. Buildings and other assets constructed as part of each phase must refer back to the Concept Plan in order to ensure compliance for the site as a whole, and not look at an individual building in isolation of the other components of the Concept Plan.

On the community and neighbourhood scale, the Concept Plan promotes alternate modes of transportation such as walking, cycling and public transit that will help reduce pollution, conserve natural resources, and promote active modes of travel. Storm water management will function year-round, be contained on each of the sites and help protect landscape from contamination as well as be incorporated into the streetscape design. Increased landscaping and street trees will also help improve ambient air quality.

Recommendations are as follows:

ACCESSIBILITY & MOBILITY

- Enhanced links between individual facilities ,and between facilities and means of alternate transportation (bus and LRT) with walkways and bicycle paths
- Improved pedestrian connections between recreation spaces and the communities, nearby waterways, and natural areas
- Emphasis on bicycle use through improved pathways and secured storage on site
- Integration of preferred carpool parking
- Provision of charter bus loading, unloading and waiting areas
- Integrated educational programs to enhance pride in the local community

SITE PRESERVATION

- Limited disturbance to existing natural areas
- Reconstruction of naturalized areas to re-

A: Figure 5.6 Enhancement of Walkways

B: Figure 5.7 Emphasis on Public Transit

C: Figure 5.8 Enhancement of Public Areas *Seating for Pedestrians.*

Sustainable site and building features include:

A: Figure 5.9 Green Roof on Bus Shelter

B: Figure 5.10 Solar Panels as Shading Devices

C: Figure 5.11 Bio-swales for Stormwater Management

duce site maintenance and improve wildlife habitat and migration routes

- Enhanced natural character to the landscaping off of playing fields
- Use of native planting to reduce water use
- Filtration of sediment and contaminants on-site to protect waterways

BUILT STRUCTURES

- Green roofs to reduce heat island effect and protect roof membranes
- Increased energy efficiency through innovative design such as geothermal heating and cooling using athletic fields as horizontal geothermal beds
- Improved user health with access to natural light, enhanced interior air quality and direct occupant control of environmental systems (for interior spaces)
- Water efficient fixtures and innovative wastewater technologies
- Dedicated spaces for storage and collection of recyclables
- Mandatory construction waste management to divert at least 75% from landfill
- Integration of low-emitting materials and those with recycled content
- Use of locally sourced and manufactured materials
- Integration of certified wood products harvested from sustainable sources
- Overall construction for durability to minimize life cycle maintenance

EFFICIENCY & RESOURCE CONSUMPTION

- Maximized open space to reduce heat island effect
- Enhanced and improved existing overland drainage patterns
- Carefully located and balanced impervious areas for storm water control to help recharge ground water supplies
- Reduced water consumption through efficient irrigation systems and storm water harvesting for irrigation of landscaped areas
- Coordinate recycling of pool water for site and city use at scheduled times for draining and maintenance. This would include site cleaning, maintenance, and alternate uses such as street sweeping by Calgary Roads.
- Maximized snow storage and ground water recovery through bio-swales
- Diversion of field storm run-off to bio-swales
- Use of organic fertilizers and soil amendments in lieu of chemicals
- Use of grass clippings, leaves, microbial inoculants and compost as soil enhancements
- Improved maintenance equipment to re-

duce fuel usage and maintenance time

- Composting of all organic waste on site to reduce waste destined to landfill
- Mandatory erosion and sedimentation control plan for all construction
- Reduced light pollution by eliminating light trespass from on-site lighting
- Commitment to green power supply for 50% of site requirements

5.2 URBAN DESIGN AND PUBLIC REALM

The preceding section regarding built form and sustainability addresses the generalized large scale requirements of buildings and the interaction with their sites. This section concentrates on considerations for smaller scale site components that work intrinsically with the proposed buildings to create the lively, dynamic and distinctive athletic parks envisioned by the Concept Plan.

Components considered in this section include the character and form of the pedestrian realm and its accessibility; outdoor urban community spaces, plazas and public artwork; public safety and the creation of urban environments that respond to climatic factors. The proposed requirements of this section formulate the urban design and public realm policy of the Concept Plan and focus on the concept of place-making.

5.2.1 Streetscape Design

A harmonious streetscape is created by the sum total of many smaller components and details that range from the physical street widths and sidewalk configurations to street trees and site entry features. Collectively these components create a sense of place. The proposed requirements below aim to establish the framework for creating a distinct identity for each of the athletic parks that is intrinsically identifiable within their public spaces and pedestrian realm. The more detailed components of this framework are outlined in section 6 of this document.

RECOMMENDATIONS

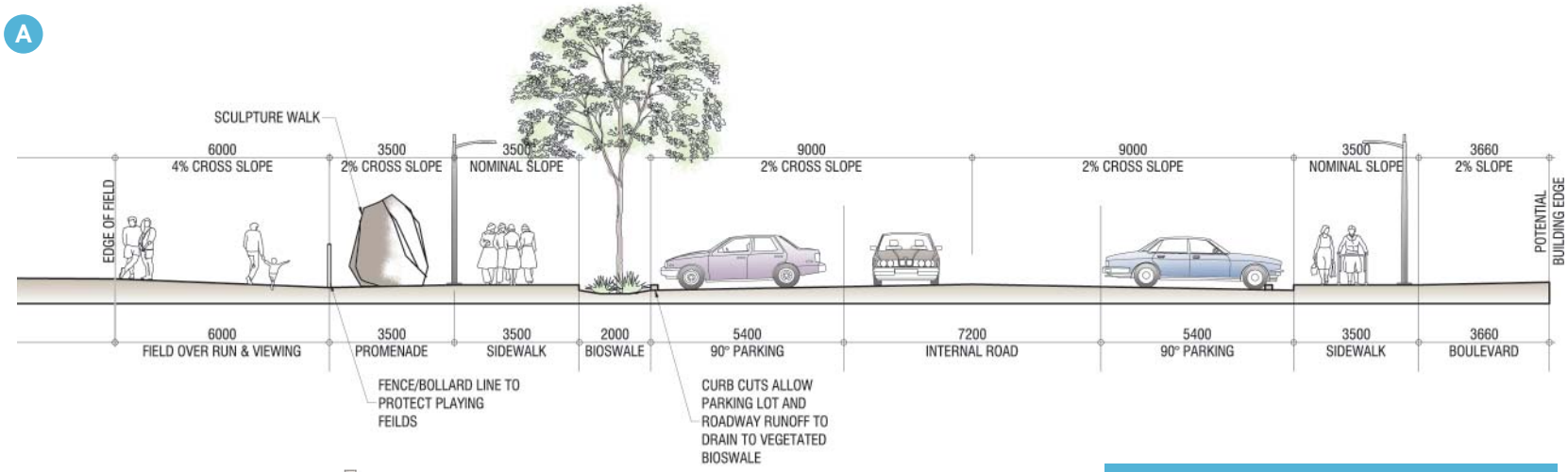
- Each site is to have a distinct identity and convey a sense of place.
- Typical street sections (refer to figures 5.15 and 5.16) are to be employed at both sites to create a cohesive pedestrian experience and public realm.
- Street furniture, lighting, signage and landscaping are to be oriented towards the pedestrian.
- Street and sidewalk design is to prioritize pedestrians and cyclists while accommodating the needs of motorized vehicles.
- Disruptions to the pedestrian network from curb cuts, parking access and above ground utilities are to be minimized.
- Street trees are to form an integral part of the

A: Figure 5.12 Street Trees
Trees are integral to pedestrian areas.

B: Figure 5.13 Street Furniture for a Cafe

C: Figure 5.14 Pedestrian Plaza

A



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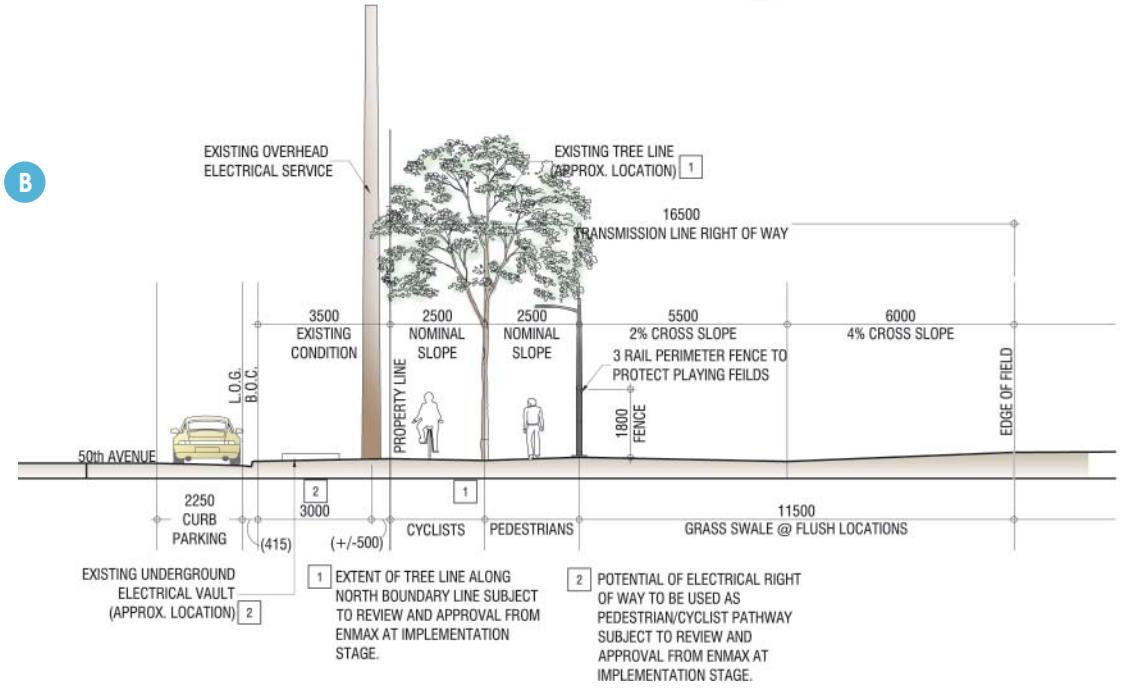


A: Figure 5.15 Typical Street Section Through Pedestrian Promenade

B: Figure 5.16 Typical Street Section from Playing Field to Pedestrian Realm

pedestrian realm. New underground utilities are to be placed to allow for a continuous streetscape.

- Species and diversity of trees are to follow guidelines presented in section 6.5 of this document.
- Weather protection devices or structures over public sidewalks and transit waiting areas are encouraged.
- Special gateway treatments are to be employed throughout the sites and incorporate landscaped medians, expanded sidewalks, public art and signage.

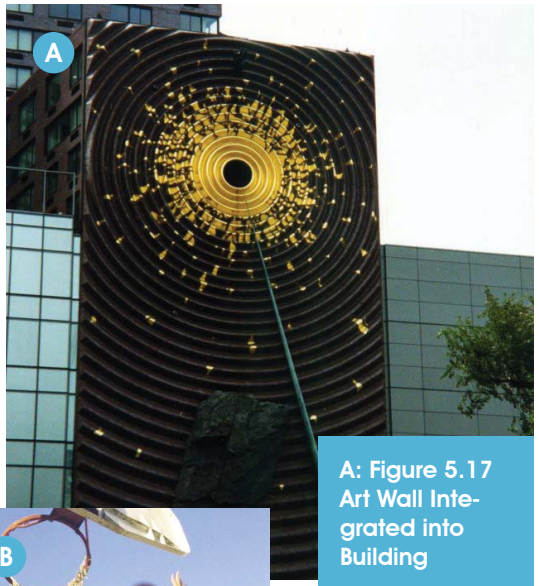
5.2.2 Community and Civic Spaces

As part of its considerations for urban design and the public realm, the Concept Plan incorporates areas within the athletic parks for gathering, formal and informal activities, as well as spaces that provide opportunities to foster community. In conjunction with streetscape considerations, the community and civic spaces form an integral part of the public realm. In creating these spaces, the following objectives are to be observed:

- Where possible, parks and open space are to be designed to be used year-round
- Public and athletic spaces are to be accessible to all people of all ages and abilities and accommodate a wide variety of interests.
- Public spaces are to be integrated into the streetscape and enhance visibility, safety and security for all site users.
- Public spaces are to accommodate anticipated activities and intensity of use in a manner that complements the character of the surrounding area.
- Parks and open spaces not specifically dedicated to athletic or recreational pursuits are to cater to both formal and informal activities and gathering.

To meet these objectives, each of the athletic parks incorporates a diverse range of community components. The components included for the Foothills Athletic Park are:

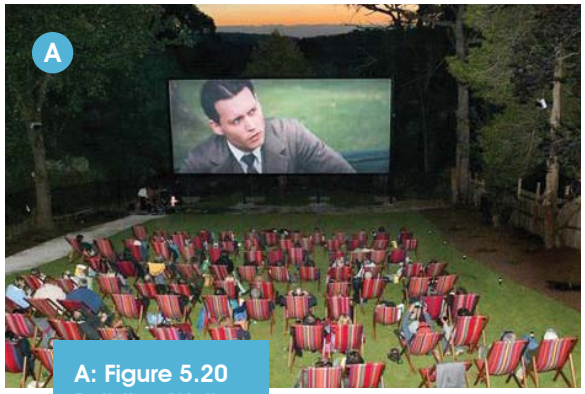
- An indoor pedestrian promenade with integrated art wall
- An open-air amphitheatre integrated into the natural slope of the site
- Outdoor community space adjacent to the arenas and fields for social/gathering functions, end-of-season parties or community events
- One playground adjacent to the outdoor community area
- A year-round café
- Interconnected pedestrian walkways with the adjacent regional pathway system



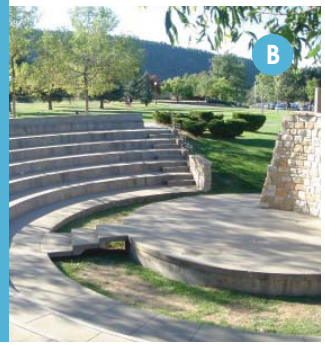
A: Figure 5.17 Art Wall Integrated into Building

B: Figure 5.18 Outdoor Sports

C: Figure 5.19 Art Integrated into Public Space



A: Figure 5.20 Building Wall For Community Movie Night



B: Figure 5.21 Outdoor Amphitheatre

C: Figure 5.22 Weekly Community Farmers' Market

Community components included for the Glenmore Athletic Park are:

- Six outdoor sport courts that do not require bookings and encourage spontaneous use of the space
- Community space in the form of a plaza directly north of the arena that can be use for community functions, end-of-season parties or community events
- Four playgrounds including two adjacent to rectangular fields and their support buildings; one toddler play-park at the intersection of 19th Street and 50th Avenue and one adjacent to the community splash park
- A community, seasonal splash park
- A centralized gathering space located between the two proposed facilities with potential for a weekly community farmer's market & end of season events
- A 1.5km cyclecross path
- Interconnected pedestrian walkways and bike paths integrated into the existing Trans-Canada and regional path network
- A year-round café
- 'Sculpture' walk

To aid in implementation of the community components listed above, the following general requirements are to be factored into the final configuration of civic spaces:

- Green spaces – as well as those dedicated to athletic pursuits – are to be designed in accordance with the City of Calgary's maintenance and operating protocols and agreements.
- Incorporation of unique design elements such as water features, gazebos and artwork are encouraged and shall be integrated into the overall aesthetic and character of each specific site.
- To address long term maintenance of special features, effective mechanisms could be considered such as endowment funds.
- Landscaping is to address the requirements outlined in the City of Calgary's Development Guidelines and Standards: Landscape Construction or other standards in effect at the time of implementation.

5.3 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

To promote the use of both recreation and community components, the public space within the athletic parks must provide a sense of safety and security for users and community members. Principles of Crime Prevention Through Environmental Design (CPTED) must be integrated into the execution of all buildings and site components of the Concept Plan.

CPTED principles are based on three key con-

cepts: natural access control, natural surveillance and territorial reinforcement. To integrate these concepts into the master planning process, at a minimum the following objectives are to be observed:

- Decrease unwanted activity and increase perceptions of safety and security.
- Create passive and natural surveillance of public areas by reducing blind spots, encouraging use of public spaces and controlling access to private spaces.
- Provide opportunities for natural surveillance of sidewalks, streets, gathering areas and other public spaces; for example by orienting glazing of interior public spaces to view outdoor spaces.
- Design for safety in areas where people must wait; for example pick up and drop off areas and public transit stops.
- Provide higher lighting levels for evening activities and around buildings including maintenance yards and staff areas.
- Provide clear sight lines between various outdoor spaces, buildings and outdoor spaces and along public pathways.
- Create a clear delineation between public and semi-private spaces.
- Ensure landscaping does not compromise security by blocking clear views between pathways and streets, opens spaces and parking areas.

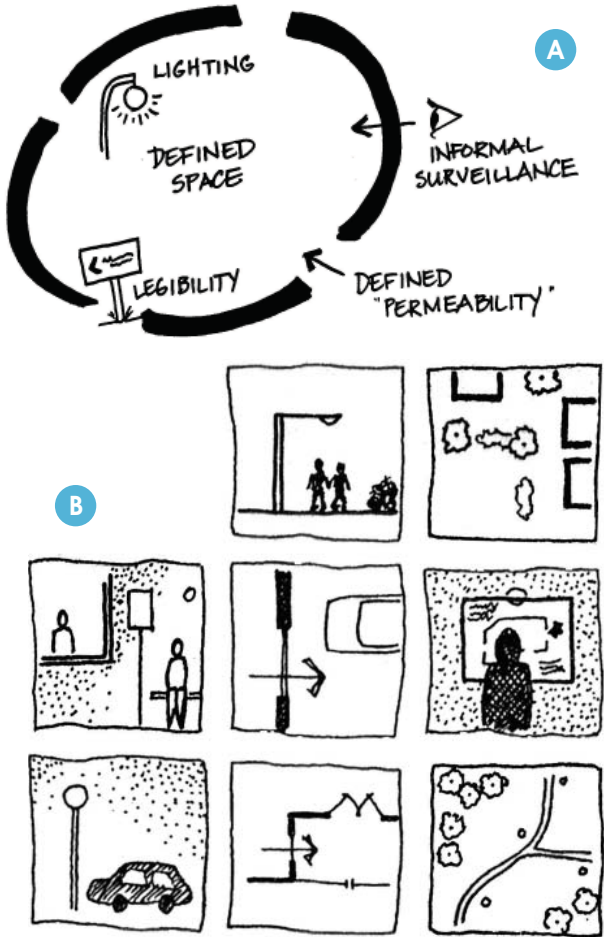
Calgary Recreation places great emphasis on the provision of safety and security. As such, CPTED principles are to be integrated into the overall urban design and desired aesthetic characteristics for the athletic parks.

5.4 CLIMATE DESIGN CONSIDERATIONS

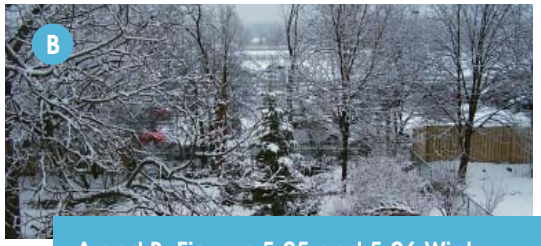
Throughout the year the Calgary climate varies drastically. It is often subject to harsh temperatures and bitter winds as well as bleak and dreary conditions. Development of buildings and public spaces at the Foothills and Glenmore Athletic Parks should integrate both weather protection and visual stimulation that responds to Calgary's wintery conditions.

Climatic design considerations for the athletic parks include:

- Incorporate weather protection such as canopies, shelters and street trees.
- Maximize sun exposure for waiting areas and gathering spaces.
- Provide protection from wind, rain and snow through landscaping and canopies.
- Incorporate durable paving into pedestrian and vehicular areas that is resistant to salt and snow plow damage.
- Consider using waste heat to provide heat tracing of building entryways and sidewalks to mitigate snow build-up and slippery ice conditions.



A and B: Figures 5.23 and 5.24 CPTED Principles
Design principles based on crime prevention and safety are critical to integrate into the Athletic Parks. Considerations include adequate lighting; placement of landscaping; passive surveillance; legibility of space and defined space.



A and B: Figures 5.25 and 5.26 Winter Landscaping for Visual Interest
Considerations for winter conditions with landscaping such as colour, texture, mass and form can enhance the appearance of the athletic parks and provide visual interest during the coldest, and often bleakest, months of the year.

C and D: Thumbnails of Figures 3.16 and 3.44: Site Organization
Please refer to Section 3 for enlarged versions of these images

- Design with colour, shape, landscape furniture and other elements to create visual interest during the winter months.
- Incorporate coniferous planting into landscaping for colour and wind buffering.
- Design building massing and configuration to minimize wind-tunnelling and the creation of unpleasant micro-climates adjacent to facilities.

5.5 MOBILITY AND TRAFFIC MANAGEMENT

This section outlines conceptual circulation and mobility networks for both the Foothills and Glenmore Athletic Parks. Circulation is a primary organizing element that connects key destination points and facilities within the sites; it considers pedestrians, cyclists, transit users and motorists alike. The mobility plans also address characteristics specific to athletic parks such as bus transportation for tournaments and other special events.

Currently the two athletic parks lack over-arching organizational plans. Access to, from and through each of the sites is restricted by facility placement and fences that protect valuable playing fields from vandalism and trespass. Apart from their recreational function however, from a mobility and traffic management stand point the two sites differ in character and configuration. Foothills Athletic Park abuts existing major transportation corridors and is within 400m of a LRT station. In contrast, Glenmore Athletic Park is nestled within an existing low-density residential neighbourhood and connects to bus routes and the regional bike pathway system.

The proposed Concept Plan site organization diagrams shown in figures 3.16 and 3.44 take into consideration the existing characteristics of the sites and their surrounding context and outline a conceptual organization that delineates circulation and mobility. However, prior to any physical development on either athletic park a detailed transportation study and mobility and assessment plan must be completed.

Please refer to Appendix 'C', Sections 1.3, and 2.3, for a preliminary transportation overview of both sites.

In addition to the proposed strategic re-organization of the mobility network at each athletic park, this section also provides guidelines for street and sidewalk improvements; transit integration; and parking and loading.

5.5.1 Street Typology and Vehicular Corridors

Just as provision of new and enhanced recreation facilities is critical to the successful reorganization of the Foothills and Glenmore Ath-

letic Parks, clarity of circulation through the sites is equally important. The internal street network and its connections to the surrounding neighbourhoods form the basic underlying structure from which the pedestrian, cyclist and vehicular movement through the sites is organized.

This circulation network aims to create an easily legible system that connects pedestrians, cyclists, transit users and motorists to recreation facilities; provides easy and convenient access to facilities for users with limited mobility; creates a safe and inviting urban environment; and addresses pragmatic concerns such as the integration of underground infrastructure as well as storm water management.

For the implementation of the on-site street network, the following considerations are to be addressed:

- Streets are to be constructed to meet the minimum standards for safety, operations and loading depending on design vehicle type.
- Streets to be designed and constructed to facilitate snow removal.
- Customized street sections such as those in diagrams 5.15 and 5.16 are to be negotiated with the approving authority where required to implement the urban design and enhance on-site mobility.
- Street sections to provide adequate adjacent landscaped boulevards to accommodate storm water and utilities.
- Street networks and details are to allow for universal access for all users.
- Where new intersections create interfaces between existing transportation corridors and the athletic parks, intersections are to be designed to increase visibility between pedestrians and drivers. Safety considerations include:
  - Continuation of sidewalk paving through the intersection
  - Limit obstructions such as transit stops, street furniture and landscaping in corner areas to improve visibility.
- Traffic calming or slowing measures are to be implemented to control speeding and increase pedestrian and cyclist safety. Measures include:
  - Narrow road widths
  - Curb returns on corners
  - Textured paving materials
  - Landscape buffers

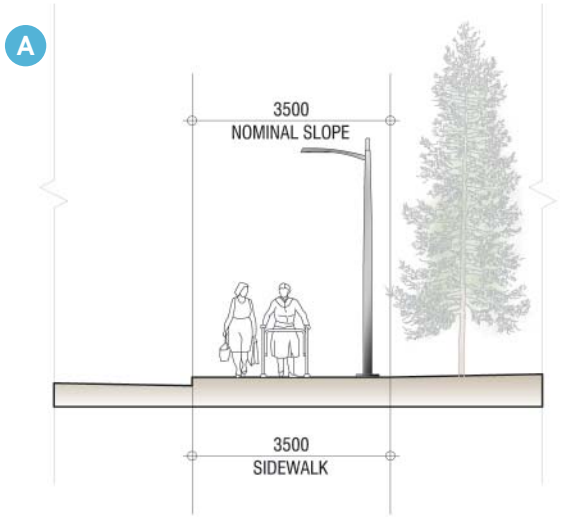
Refer to Appendix 'C', Sections 1.3.5 and 2.3.5 for additional background/assessment of the respective access and site circulation conditions associated with the Foothills and Glenmore Athletic Parks.

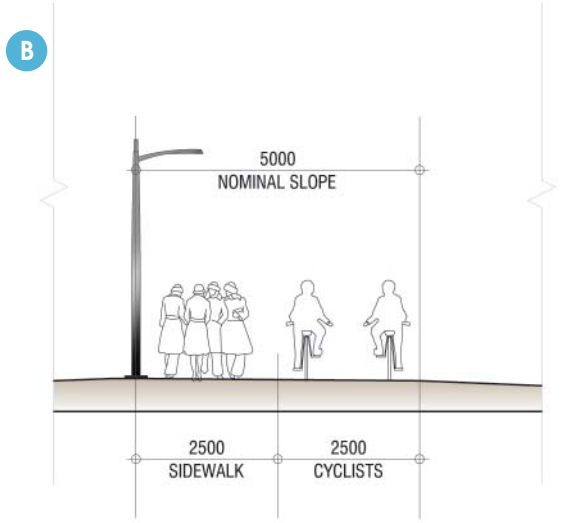
A: Figure 5.27 Crosswalk Paving

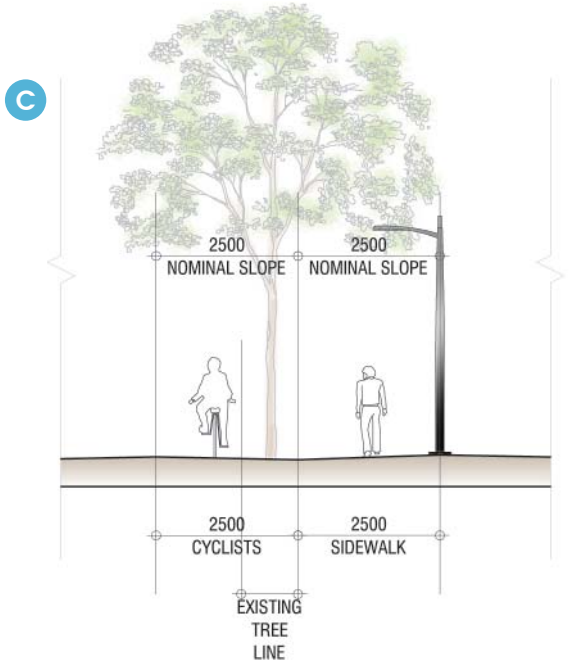
B: Figure 5.28 Landscape Buffers

C: Figure 5.29 Artistic Crosswalk Design

Defining the pedestrian environment is critical.







A: Figure 5.30 Typical Pedestrian Path Section

B: Figure 5.31 Typical Pedestrian and Cyclist Combination Path Section

C: Figure 5.32 Typical Parallel Path Section

5.5.2 Pedestrian and Bicycle Network

Overlaid onto the overarching circulation system provided by the on-site street network, the proposed network of sidewalks and pathways form the key routes for pedestrian and cyclist mobility. Moreover, they also form an integral part of the public realm. Sidewalks and pathways are essential in determining character and sense of place; they provide not only access but also valuable opportunities for social interaction. To ensure the sidewalk and pathway network enhances both mobility and the character of the public realm, the following considerations shall be incorporated:

- Pedestrian and bicycle networks are to be continuous throughout the sites and be constructed of consistent character and materials to reinforce their continuity.
- Pathways to be designed and constructed in accordance with the most current City of Calgary Parks and Pathways Bylaw and Development Guidelines and Standard Specifications: Landscape Construction.
- The pedestrian realm is to be clearly defined and include considerations for varying paving materials; street furnishings such as benches, bus stops, lighting; wayfinding; and public art.
- Pedestrian and bicycle pathways are to be clear of all obstructions, but can be used for underground infrastructure networks.
- Continuous pedestrian scale lighting is to be

provided along pathways to enhance visibility and safety.

- Intersections and crosswalks are to have appropriate cues for the visually and hearing impaired, as well as provide curb cuts at crossings to accommodate wheelchairs, carts and strollers.
- Sidewalk street crossings are to integrate differentiated paving material to reinforce the pedestrian network and provide visual cues to motorists.
- Pathways are to incorporate tactile warning/paving treatment separating pedestrian and cyclist paths from each other when they run in parallel.
- Publicly accessible secure bicycle parking, lockers and other storage facilities should be provided adjacent to facilities including outdoor recreation assets such as rectangular fields.
- Bicycle storage areas should be located in visible areas with adequate night time lighting in accordance with the provisions of the Bicycle Parking Handbook and the Land Use By-law.

Refer to Appendix 'C', Sections 1.3.3, 1.3.4 and 2.3.3, 2.3.4 for review of the respective pedestrian and bicycle networks associated with the Foothills and Glenmore Athletic Parks.

5.5.3 Transportation Demand Management

In addition to the physical configuration of circulation networks through the Foothills and Glenmore Athletic Parks, a policy framework outlining the use of these systems is required to ensure they function in the context of the Concept Plan vision to maximize recreation and sport activities while forming distinctive, sustainable urban spaces.

One such policy that dovetails mobility with considerations for sustainability is Transportation Demand Management (TDM) – a concept to reduce automobile trips and parking. Reductions can be accomplished through a variety of different programmes and protocols including subsidized transit passes, flex time and telecommuting programs. This Concept Plan addresses TDM through the incorporation of four proposed policies:

1. Promotion of van/car pool programmes
2. Provision of dedicated parking stalls to car co-op and car pool programs and priority location of parking stalls for these vehicles
3. Provision of adequate bicycle storage and shower/change facilities
4. Promotion of use of public mass transportation systems

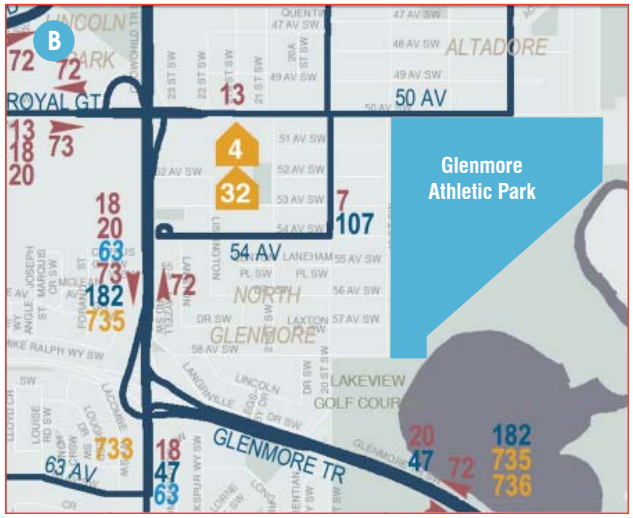
A and B: Figures 5.33 and 5.34 Carpooling to Reduce Automobile Use

TDM strategies include public transit, carpooling and cycling.

A: Figure 5.35 Foothills Transit Map

B: Figure 5.36 Glenmore Transit Map

C: Figure 5.37 Transit Stop Integration



In addition, the Concept Plan incorporates different programmatic elements combined to appeal to a broad spectrum of interests. This allows non-participants to be at the athletic park for the duration of an event - for example a child's soccer game - and have access to amenities that appeal to their own interests, thereby encouraging the non-participant to remain on the athletic park site during the event. This overlap of different amenities reduces the number of trips to and from the site for drop-off and pick up.

The above proposed policies are by no means exhaustive. However in combination with the provison of multiple on-site amenities, the final policies introduced during the implementation of the Concept Plan components should consider additional means to reduce automobile trips to the sites.

5.5.4 Transit Service Integration

Building upon the Transportation Demand Management policies for the athletic parks, the mobility networks integrated into the Concept Plan incorporate considerations for public mass transportation.

Currently, the Foothills Athletic Park is serviced by numerous transit lines. It is within 400 meters of the Banff Trail LRT station and is serviced along University Avenue by northbound routes 9, 119, 72, 181; dedicated school routes 810 and 834;

as well as southbound routes 20 and 73. In contrast, Glenmore Athletic Park is serviced directly by only one existing bus route – route 13 – running east-west along 50th Avenue SW on the north side of the site connecting to Central Memorial High School and Mount Royal University. However, one block west of the athletic park on 20th Street SW, two additional bus routes, the 7 and 107, run north-south through the adjacent community.

Although beyond the controllable scope of the Concept Plan, considerations for integration of public transportation are critical to the success of the athletic parks. Diagrams 5.35 and 5.36 illustrate proposed transit integration into the Foothills and Glenmore Athletic Parks that are to be reviewed through the detailed implementation of the Concept Plan. These include:

- The improvement of the pedestrian connection from the south end of the Foothills Athletic Park is recommended. The location and configuration of such improvements are pending consensus decision with the University of Calgary.
- The rerouting of an existing community shuttle or modification of an existing bus route to circulate within the Glenmore Athletic Park with transit stops located near the entrances of the major buildings and facilities.
- The integration of transit user zones and waiting areas within pedestrian spaces that invigorate and enhance the public realm.
- The inclusion of shelters or other means of protecting transit waiting areas from inclement weather.

Refer to Appendix 'C', Sections 1.3.2 and 2.3.2 for review and assessment of the respective transit network associated with Foothills and Glenmore Athletic Parks.

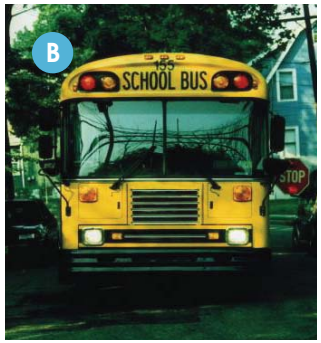
5.5.5 Parking and Loading

Although the Concept Plan places great emphasis on alternate means of transportation such as walking, cycling and public transportation, it incorporates considerations for motorists as well. Parking and loading are significant considerations for both patron access and serviceability of on-site facilities. Currently, parking and loading at Foothills is compromised due to facility placement in relation to existing site access points. Confusion also arises due to the limited supply of existing stalls and their control by multiple stakeholders including the Volleydome Corporation, City of Calgary Recreation, Hockey Canada, the McMahon Stadium Society and the University of Calgary. Similarly, at Glenmore existing parking is limited by two small, independent lots that provide access to only a few facilities and prevent contiguous internal-site circulation.

A: Figure 5.38 Parking Lot Landscaping/Bio-swale

B: Figure 5.39 Screened Garbage Enclosure

C: Figure 5.40 Loading Integrated into Facade



A: Figure 5.41 Bicycle Parking

B: Figure 5.42 Bus Loading

C: Figure 5.43 Parking Lot Bioswale
Bioswales provide landscaping and storm water control.

It has been assumed that a special events parking and loading plan (Transportation Management Plan) will be required for activities and events that occur outside of a typical weekly and monthly use pattern. Specific special event management plan(s) are not part of the development of the Concept Plan and are intended to be addressed under seperate study(ies) and approvals.

This Concept Plan proposes measures and policies with the aim of improving facility access and serviceability as well as controlling the number of users on site and reducing peak demand for parking spaces. Proposed measures include considerations for individual users, groups, special events, and facility servicing including waste and recycling, maintenance, and deliveries. Proposed parking and loading policy considerations include the following:

- Control of all on-site parking facilities as well as any remuneration earned from patron parking lot use is to be exercised by one body over the entire site.
- In addition to universally accessible parking stalls, priority stalls for car co-op and carpool programmes are to be provided closest to facilities entrances for 2% (minimum for LEED compliance) of all parking stalls provided on site.
- Each new or modified facility is to provide a car-pooling protocol to meet the most current LEED standards.
- Bicycle parking requirements are to meet and exceed by-law requirements.
- Landscape buffers and sidewalks within parking areas are to meet and exceed by-law requirements for facility types.
- Parking areas are to be separated from high volume circulation aisles to ensure safety of motorists and passengers within parking areas and lots.
- No dead-end parking is allowed; vehicular circulation must be continuous.
- Special events such as tournaments, meets and organized games are not to run concurrently at different venues at the same athletic park that increase the spectator/participant attendance above the capacity of the on-site venue with the largest spectator/participant capacity. Without an independent transportation management plan approved by the authority having jurisdiction.
- Drop off areas must unload passengers onto pedestrian areas that do not require passengers to cross drive aisles to get to their destination.
- Drop off and passenger loading lanes are to provide for a minimum of 3 buses parked in a row.
- Loading and service areas are to be screened from pedestrian and parking ar-

eas, but safety and lighting must be adequate to meet security requirements.

- All development is to provide a detailed on-site waste and recycling (loading) protocol plan in accordance with the City of Calgary Waste and Recycling Services Department requirements.

Refer to Appendix 'C', Sections 1.3.6 and 2.3.6 for additional parking background for the respective sites of Foothills and Glenmore Athletic Parks.

5.6 Infrastructure Improvements

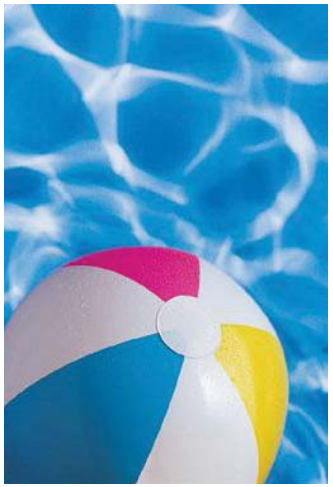
Infrastructure is a critical component to both Foothills and Glenmore Athletic Parks. In the case of Glenmore, it is a critical underlying determinate of the proposed site reorganization. Although beyond the scope of this Concept Plan, considerations for infrastructural improvements for both sites include:

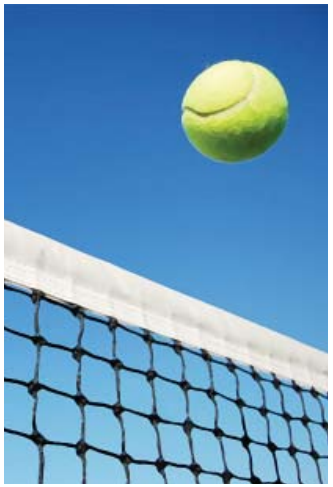
- Provide 6 meters of clearance on either side of existing underground utilities for all built structures.
- New utilities are to be underground where possible and grouped in pedestrian or vehicle circulation areas to facilitate access.
- New infrastructural provisions to incorporate environmental sustainability considerations wherever possible.

Prior to the implementation of the first built structure of the Concept Plan, it is recommended that a detailed infrastructure impact study be undertaken, including grading design and storm water management.

Please refer to Appendix 'C', Sections 1.1 and 2.1 for a preliminary overview of site infrastructure.

SECTION 6: STANDARD COMPONENTS




This report aims to create a comprehensive document allowing for the implementation of the proposed Foothills and Glenmore Athletic Parks Concept Plan from the conceptual organization through to the physical configuration. Accordingly, in addition to the broad, large-scale considerations such as programmatic requirements and urban design criteria, this section consists of small-scale considerations and physical components that are fundamental to creating consistency of character and sense of place.

The existing athletic parks lack a clear sense of identity; facilities do not necessarily relate to the sites, nor do they connect to one another or respect their surrounding urban context. The urban design criteria described in section 5 of this report illustrate requirements for re-creating the Foothills and Glenmore Athletic Parks as vibrant civic athletic districts. To compliment these criteria, this section outlines more detailed considerations including typical road construction, curbs, parking stalls, fencing, site furnishings, wayfinding and site signage and site lighting.

6.1 ROAD CONSTRUCTION

In addition to considerations for street typology from a character and urban design perspective, the physical configuration of the typical vehicular and pedestrian corridors on the sites are fundamental to creating the character of the athletic park and ensuring their proper function, safety and serviceability. Proposed details below include different curbs and parking stalls. All components are to be constructed to City of Calgary Roads Standard Specifications for Roads Construction 2009 or the most current version.

6.1.1 Curbs

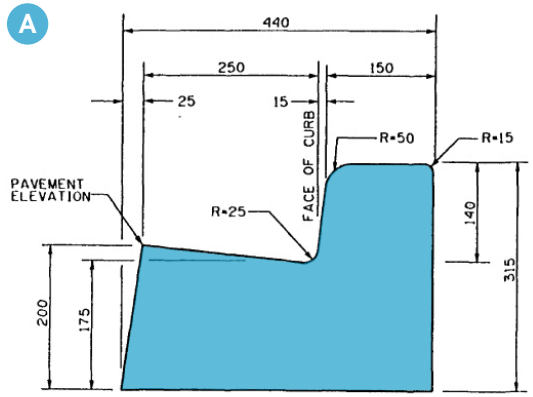
6.1.1.1 Standard Curb

Figure 6.1 illustrates the standard curb with 250mm gutter to be used along the perimeter of the two athletic park sites where the parks interface with existing roads.

6.1.1.2 Low-Profile Rolled Curb

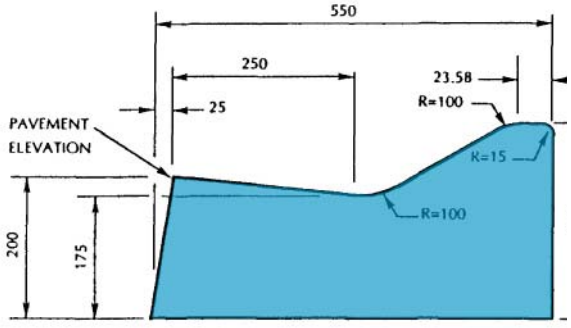
Figures 6.2 and 6.3 illustrate the low-profile rolled curb to be used throughout the interior of the athletic parks sites to facilitate access and mobility, maintenance and snow removal.

A



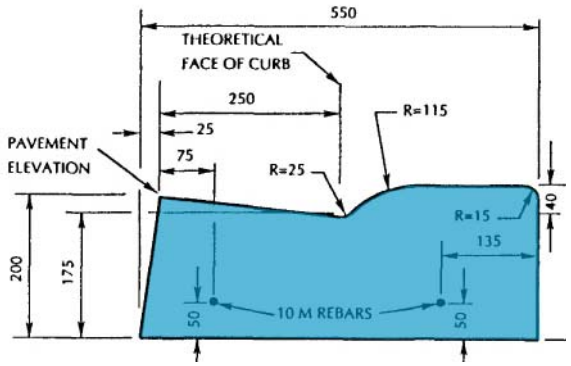
A: Figure 6.1 Standard Curb with 250mm Gutter
City of Calgary Standard Detail 454.1003.016

B



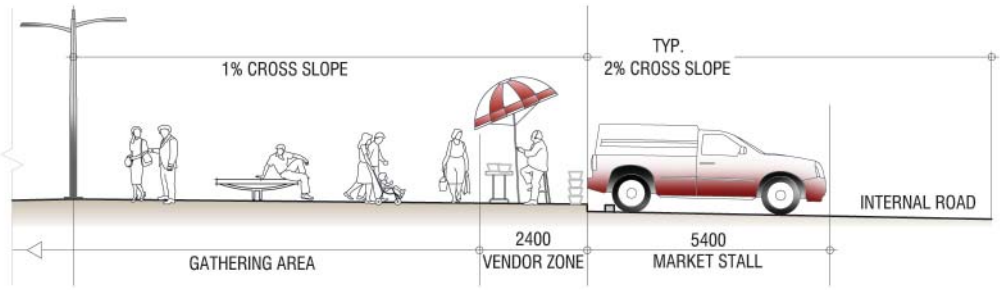
B: Figure 6.2 Low Profile Rolled Curb Standard
City of Calgary Standard Detail 454.1003.008A

C

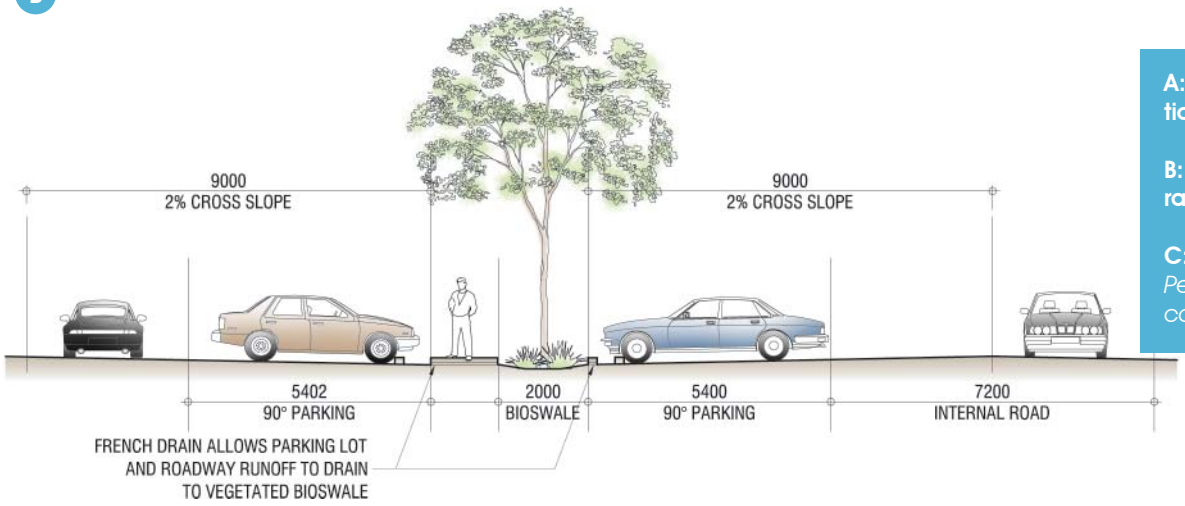


C: Figure 6.3 Low Profile Rolled Curb Crossing
City of Calgary Standard Detail 454.1003.008B

A



B



6.1.2 Parking Stalls

6.1.2.1 Standard

All parking stalls within the athletic parks are to conform to City of Calgary By-Law requirements. Refer to figure 6.4 for standard commercial stall dimensions including placement of wheel stops.

6.1.2.2 Market Stall

Within the central parking area of the Glenmore Athletic Park is a proposed gathering space with the potential of hosting a weekly community farmers market. The parking stalls adjacent to this gathering space are to incorporate sufficient dimension to accommodate the loading and unloading of vehicles and the set up of tables for vendors. Refer to illustration 6.5 for typical market stall dimensions. (Electrical and lighting requirements to be coordinated with the City of Calgary Arts & Culture Group)

A: Figure 6.4 Market Parking Stall Configuration

B: Figure 6.5 Standard Parking Stall Configuration

C: Figure 6.6 Alternate Paving
Permeable/sustainable paving should be considered for seasonal parking areas.

C

6.2 FENCING

Site fencing style and placement are critical to the success of an athletic park. Not only does it inform the park aesthetics, but it also forms the necessary secure boundaries for protection of valuable playing fields from vandalism and over-use. Moreover, careful consideration to their placement is paramount to creating a welcoming urban space that protects fields, but also allows access across the site for pedestrians and recreational users. Details and considerations for standard and accent fencing are provided below.

6.2.1 Standard Fencing

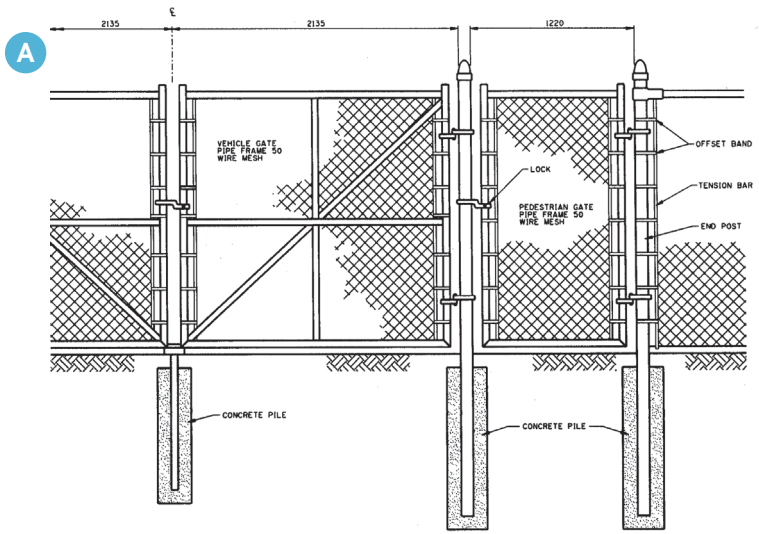
To balance aesthetics with economic considerations, standard fencing throughout the athletic parks is to be black, PVC-coated chain link fence. Note, post and cable fencing cannot be used to protect fields or other recreation assets as it does not provide a sufficient barrier to vehicles or vandals. Standard fencing requirements are as follows:

- Standard chain link fence heights:
  - Softball and baseball fields – 1.8m (6')
  - Soccer fields – 1.8m (6')
  - Tennis courts – 6.0m (20')
  - Outdoor track, jumping and throwing areas – 1.8m (6')
- Top, mid and bottom rails are required at all locations where fencing exceeds 1.8m (6') in height for longevity.
- Top rails required at all locations; however where fencing is 1.8m (6') or less in height, bottom rails may be replaced with single strand tension wire.
- Fencing selvage to be knuckle and knuckle at top rail.
- Where fencing encloses softball or baseball fields, the top rail shall be protected with a coloured polyethylene guard, such as Saf-Top Fence Guard illustrated in figure 6.8 and secured to top rail at a maximum of 600mm (or 2 foot) intervals.
- Fencing to meet minimum City of Calgary standards as illustrated in typical City of Calgary detail drawing 454.1001.004. Refer to detail 6.11
- Integrated gates for pedestrians and vehicles to meet minimum City of Calgary standards as illustrated in typical City of Calgary detail drawing 454.1001.024. Refer to figure 6.10.

A: Figure 6.7 Chain Link Fencing Integrated with Landscaping

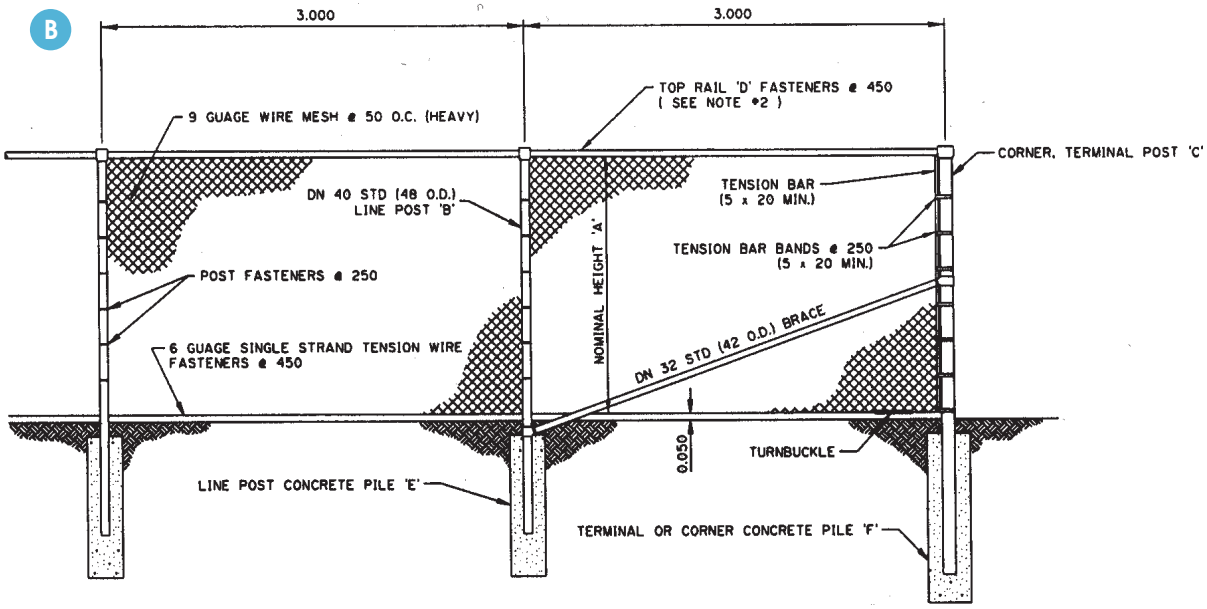
B: Figure 6.8 Fence Guard for Diamonds

C: Figure 6.9 Chain Link Fencing
Fencing protects fields, courts and other amenity from vandalism and over-use.



A: Figure 6.10 Typical Chain Link Fence Gates
City of Calgary Standard Detail 454.1001.024

B: Figure 6.11 Typical Chain Link Fence Detail
City of Calgary Standard Detail 454.1001.004



6.2.2 Accent Fencing

Ornamental and accent fencing are fundamental to creating aesthetically appealing urban environments. The following considerations are to be observed:

- Black ornamental fencing can be added at strategic locations such as park entries, rectangular field corners, or playgrounds to accentuate site features.
- Accent fencing can be incorporated into site identification signage and wayfinding in order to help create and reinforce the consistent character of the site.
- Fencing can be incorporated with other features such as masonry pillars, sculpture, landscaping, pedestrian canopies, trellises, etc.
- Fencing of service and maintenance enclosures on site are to adhere to the aesthetic and character of the site's urban design.
- Building service areas are not to be fenced; however screening of these areas is required to be integrated into the architectural detailing of the building.

6.2.3 Bollards

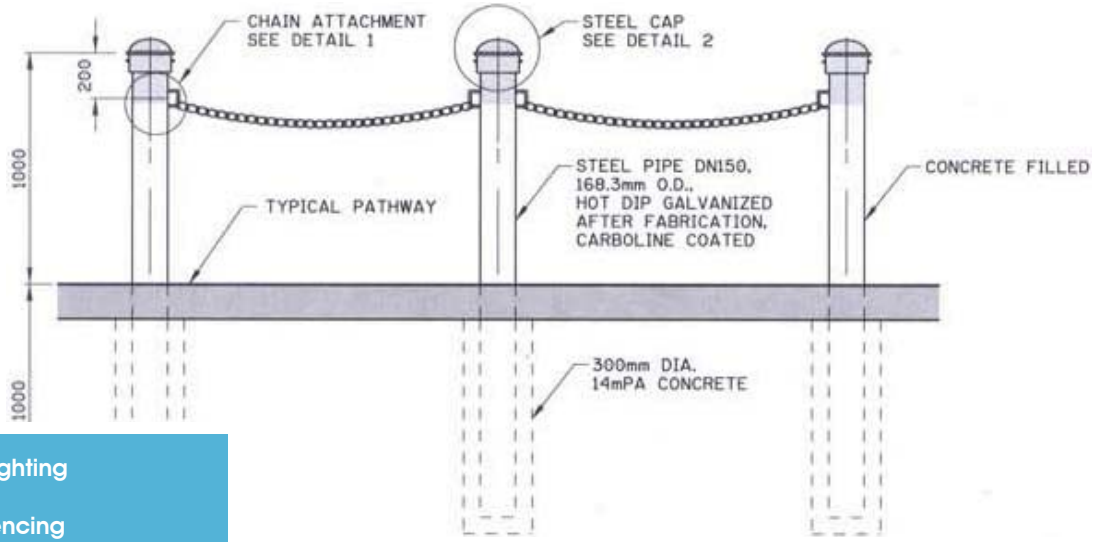
Bollards may also be used as barriers to prevent vehicle damage to pedestrian areas and playing fields. Bollards must be of heavy duty construction and should be finished to match fencing. Bollards, that are not purpose designed, are

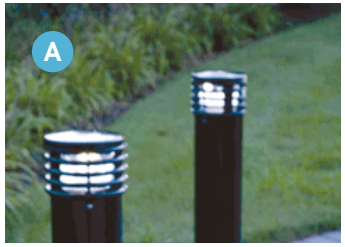
to meet minimum City of Calgary standards as illustrated in typical City of Calgary detail drawing 454.1001.035. Refer to figure 6.15.

6.3 SITE FURNISHINGS

Site furnishings are critical to establishing the character of the site as users have both visual and direct physical contact with these items. Below are considerations for benches, waste and recycling receptacles, and bicycle racks.

D



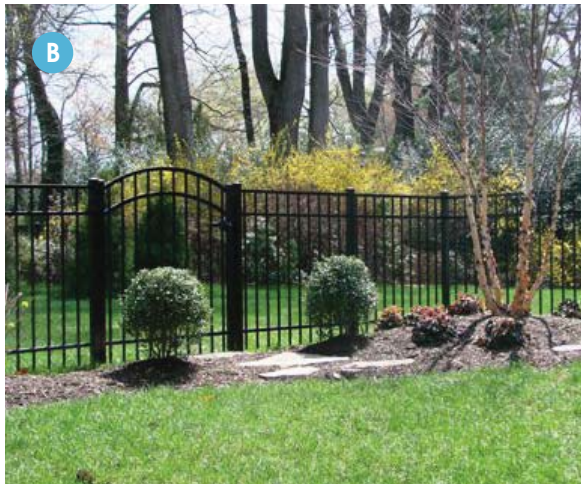


A: Figure 6.12 Bollards with Lighting

B: Figure 6.13 Ornamental Fencing

C: Figure 6.14 Bollard and Entry Feature

D: Figure 6.15 Bollard Detail 454.1001.035



6.3.1 Benches

Benches are to be provided throughout the athletic parks to provide seating for waiting areas and also leisure and enjoyment. A combination of benches, with and without backs, is to be incorporated into both of the athletic parks. Refer to figures 6.16 and 6.17 for examples of suitable site benching.

6.3.2 Waste and Recycling Receptacles

To keep the athletic parks clean and inviting waste and recycling receptacles are to be placed together at convenient and numerous locations throughout the sites. Receptacles are to be semi-enclosed to prevent wind from disturbing receptacle contents. Refer to figures 6.18 and 6.19 for examples of suitable receptacles.

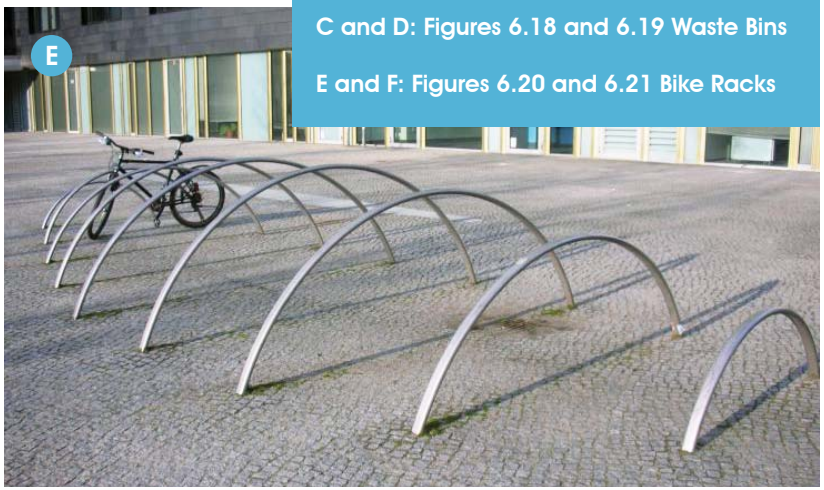
6.3.3 Bicycle Racks

Bicycle racks are to be provided throughout the athletic parks to encourage their use as an alternate means of transportation. Racks are to be provided in a combination of Class 1 and Class 2 bicycle storage facilities in accordance with the City of Calgary Land Use By-Law. Class 1 facilities can be incorporated into buildings and support facilities; Class 2 free-standing bicycle storage should be integrated into the landscape design, while conveniently located adjacent to facility entrances, field amenities, and major pedestrian walkways. Decorative and sculptural bicycle racks are encouraged. Refer to diagrams 6.20 and 6.21 for examples.

A and B: Figures 6.16 and 6.17 Benches

C and D: Figures 6.18 and 6.19 Waste Bins

E and F: Figures 6.20 and 6.21 Bike Racks



6.4 WAYFINDING AND SIGNAGE

Site wayfinding and identification signage is critical to the usability of the athletic parks. They guide users through the sites and help them identify fields, courts and other facilities they have booked for recreational or sport activities. Considerations for building and site identification are to conform to the following principles:

- Building signs are to be architecturally compatible with the facilities they are identifying and physically attached to through materials, colour, scale, and character. Sign design is to be integrated into the building.
- Signs are not to obscure architectural features or other constructed facilities.
- Signs that are illuminated shall not create light spill that affects neighbouring properties in accordance with City of Calgary By-Laws and Dark Sky Initiative.
- Site signage is to be consistent with signage identifying buildings and consistent throughout the athletic park to create uniformity and character for the park.

Refer to diagrams 6.22, 6.23 and 6.24 for examples of site identification signage and site wayfinding signage.

A: Figure 6.22 Site Signage Family
Similar to the signage developed for a zoo, the athletic park site identification, wayfinding and building signage should act to unify the park.

B and C: Figures 6.23 and 6.24 Wayfinding Signage Bollards

A, B and C: Figures 6.25, 6.26 and 6.27 Landscaping and Athletic Parks
Landscaping plays a pivotal role in defining the character and feel of an athletic park as well as a functional role as a physical separator between outdoor spaces.

6.5 LANDSCAPING

Site landscaping forms a critical part of the character and quality of the athletic parks. In addition to the proposed manicured playing fields, incorporation of low water use, chinook hardy native and adaptive landscaping is essential to provide a responsible and context appropriate low maintenance site.

The following guidelines are to be observed for site landscape development:

Trees and Shrubs

- Utilize native and adaptive locally grown trees to ensure hardiness to Zone 3. Drought tolerance and chinook hardiness are essential for plant material survival. Native tree species should include Trembling Aspen, White Spruce, Balsam Poplar, Round Leaf Hawthorne and Lodgepole Pine. Adaptive tree species should include Colorado Blue Spruce, Siberian Larch, Brandon Elm, Green Ash and Burr Oak.
- Utilize native and adaptive locally grown shrubs to ensure hardiness to Zone 3. Drought tolerance and chinook hardiness are essential for plant material survival. Native shrub species should include Silverberry, Red Osier Dogwood, Snowberry, Wild Rose, Gooseberry, Silver Buffaloberry and Native Saskatoon. Adaptive shrub species should include Siberian Dogwood, Preston Lilac, Mugho Pine, Prince of Wales Juniper, Sea Buckthorn, Sumac and Ural False Spirea.
- Plant material should be grouped to their natural sunlight and water requirements. Plants that naturally occur in wet environments such as Aspen should be planted in lower areas whereas White Spruce should be planted in elevated well drained areas to ensure survival.
- Tree selection and placement should be undertaken to provide solar heating / shading, view buffering and wind mitigation. Deciduous trees such as Aspen, Elm and Oak should be planted on the south side of buildings and adjacent to seating areas to provide shade in the summer and maximize sun penetration in the winter. Coniferous trees such as White and Colorado Blue Spruce should be used along the northern edges of the project and field areas to mitigate and buffer northwest winds to enhance the sport experience through the creation of sheltered micro climates.
- Healthy site trees should be protected and retained while those at the end of their life cycle should be removed. Trees such as Northwest Poplar that are nearing the end of their life cycle should be removed as they are highly susceptible to wind damage presenting a safety concern as they can lose large branches and potentially fall over under strong winds.

Turf and Groundcovers

- Drought tolerant low-mow, low-grow grasses for non athletic field areas should be incorporated to minimize irrigation and maintenance requirements while providing a tidy aesthetic value. A grass mix that includes low growing drought tolerant species such as Sheeps Fescue, Hard Fescue, Chewings Fescue and Creeping Red Fescue should be utilized in the non-field areas.
- Ensure proper maintenance and weed management practices throughout the establishment period of turf and groundcovers to ensure long term viability. A three year maintenance program from the time of seeding is required to ensure that the drought tolerant seed mix establishes. Brillion drill seeding should be used rather than hydro seeding. Seeding should be undertaken in the spring in order to aid in establishment.

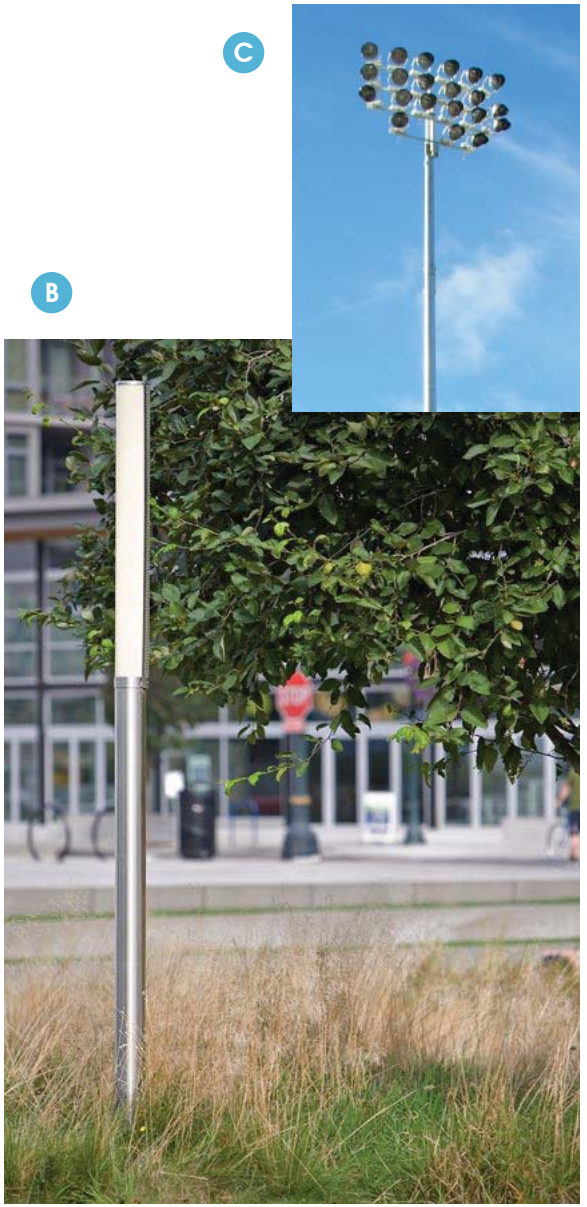
Water and Irrigation

- Directed rainwater strategies should be Implemented to direct rainwater run-off from building roof and hard surface areas for natural irrigation of plant material. Swales and curb openings in parking areas should be used to direct rainwater to landscape areas.
- Stormwater collection should be incorporated on site through elements such as bioswales which can be 2 to 4m wide and wet meadow and/or rain gardens which can be up to and in excess of 1 acre if space allows. Retention and rainwater use on site reduces the impact on municipal storm systems while providing outdoor amenity space and natural irrigation for the landscape.
- Automatic irrigation systems should be minimized outside of the athletic filed areas. However, when required, irrigation systems should be limited to low flow drip irrigation systems which provide for the efficient use of water by minimizing losses through evaporation and reduced volume.
- 75mm to 100mm shredded bark mulch should be placed in all tree and shrub beds to retain rainwater for plant use and reduce the need for irrigation.
- Rainwater harvesting cistern(s) to collect and supply water to the irrigation system should be incorporated in any new facility planned for the site. Rainwater harvesting cisterns are typically concrete, fibreglass or metal and can be accommodated within an underground parkade or basement level of a building.

6.6 SITE LIGHTING

Lighting within the athletic park is critical to safety not only for sport activities, but also community members and pedestrians. Lighting also provides character for use of the site during different hours of the day and during different seasons.

- Considerations for different scales of lighting are to be incorporated into the Foothills and Glenmore Athletic Parks including light bollards, pedestrian walkway lighting and typical light standards.
- Additionally, lighting for athletic fields is critical to increasing playable time on outdoor fields.
- Athletic field lighting is to be baffled against light spill beyond field boundaries.
- All site lighting is to take light pollution into consideration.
- All site lighting shall conform to the City of Calgary Standard Specifications, Street Lighting Construction, 2006, or the most current edition.
- Refer to figures 6.28, 6.29, and 6.30 for examples.



A: Figure 6.28 Solar Powered Light Standards and Path Light

B: Figure 6.29 Light Bollard along Path

C: Figure 6.30 Athletic Field Lighting
Sport lighting to be baffled and directional to avoid light spill.

APPENDIX A:
ATHLETIC PARK MASTER PLANNING PROGRAMMES

1. FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Field House			
A.	**Field House**					
	A.	1	Field House 630' x 400' (192M x 122M):	252,000	23,411	
	A.	2	400-Meter, 9-lane Track, 10-lane straightaway, Infield Soccer Field			
	A.	3	Long/Triple Jump			
	A.	4	Pole Vault runway			
	A.	5	High Jump area			
	A.	6	Batting Cages (4); Nets/Curtains			
			Spectator Facilities (Based on 2,500 permanent, telescoping bleacher seats, 7,500 expansion)			
	A.	7	Spectator Grandstand (10 rows telescoping bleachers)	0	0	Installed in Basketball/Volleyball Courts space
	A.	8	Concessions Stand(s) (4 points-of-sale)	250	23	
	A.	9	Women's Washrooms (24 wc, 12 lavs)	1,440	134	Consider additional use as outdoor washrooms
	A.	10	Men's Washrooms (12 wc, 12 urinal, 12 lav)	1,340	124	Consider additional use as outdoor washrooms
	A.	11	Custodial Closet	50	5	Include in women's fixture count
	A.	12	Ticketing/Fan Care	180	17	
			Courts			
	A.	13	Basketball / Volleyball / Badminton (630' x 114') (10 courts)	72,000	6,689	192 M x 35 M
			Subtotal Group A Field House	**327,260**	**30,402**	
			Circulation, mechanical, chases, wall thickness	**32,726**	**3,040**	**10% Planning Allocation**
			Grand Total Gross Area Requirements	**359,986**	**33,443**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Ice Center			
A. Ice Event Guest Services						
	A.	1	Entrance/Lobbies	6,000	557	2,000 capacity x 3.0 SF
	A.	2	Ticket Sales	160	15	4 points-of-sale x 40 SF
	A.	3	Spectator Concourses	12,000	1,115	2,000 capacity x 6.0 SF
	A.	4	Concessions Stands (4 points-of-sale x 60 SF)	240	22	Locate to allow use by Natatorium spectators
	A.	5	Public Lobby and Skate Changing Area	500	46	
	A.	6	Customer Service	500	46	
	A.	7	Snack Bar and Merchandise	250	23	
	A.	8	Facility Manager's Office	150	14	
	A.	9	Staff Office	120	11	
	A.	10	Women's Washrooms (18 wc, 9 lavs)	1,080	100	Locate to allow use by Natatorium spectators
	A.	11	Men's Washrooms (9 wc, 9 urinals, 9 lavs)	1,000	93	Locate to allow use by Natatorium spectators
	A.	12	Family Washrooms (Two at 100 SF)	200	19	Locate to allow use by Natatorium spectators
	A.	13	Vending Machine and Payphone Alcove	160	15	Locate to allow use by Natatorium spectators
	A.	14	Security Command Post/First Aid	200	19	Locate to allow use by Natatorium spectators
			Subtotal A Ice Event Guest Services	**22,560**	**2,096**	
B. Ice Athletic Equipment						
	B.	1	Equipment Storage and Repair	1,100	102	
	B.	2	Skate Sharpening and Equipment Preparation	120	11	
	B.	3	Equipment Room Receiving	140	13	
	B.	4	Laundry Room	220	20	1-35# and 1-50# washer, 1-50# and 1-75# dryer, Soak sink
	B.	5	Equipment Staff Office	120	11	Two desks
			Subtotal B Ice Athletic Equipment	**1,700**	**158**	

1. FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
C. Ice Change Rooms						
	C.	1	Women's Hockey Changing Room (Tenant Team)	700	65	28 lockers @ 30" x 24" x 72"
	C.	2	Shower/Washroom	600	56	8 showers, 4 wc, 5 lavs
	C.	3	Women's Hockey Changing Room A (Ice Sheet 1)	550	51	25 changing spaces
	C.	4	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	5	Women's Hockey Changing Room B (Ice Sheet 1)	550	51	25 changing spaces
	C.	6	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	7	Women's Hockey Changing Room C (Ice Sheet 2)	550	51	25 changing spaces
	C.	8	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	9	Women's Hockey Changing Room D (Ice Sheet 2)	550	51	25 changing spaces
	C.	10	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	11	Men's Hockey Changing Room (Tenant Team)	700	65	28 lockers @ 30 x 24 x 72
	C.	12	Shower/Washroom	560	52	6 showers, 4 wc, 5 lavs
	C.	13	Men's Hockey Changing Room A (Ice Sheet 1)	550	51	25 changing spaces
	C.	14	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	15	Men's Hockey Change Room B (Ice Sheet 1)	550	51	25 changing spaces
	C.	16	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	17	Men's Hockey Change Room C (Ice Sheet 2)	550	51	20 changing spaces
	C.	18	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	19	Men's Hockey Change Room D (Ice Sheet 2)	550	51	25 changing spaces
	C.	20	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	21	Coed Hockey Change Room (divisible into two) (Ice Sheet 1)	550	51	Share shower/washrooms with Men's / Women's
	C.	22	Coed Hockey Change Room (divisible into two) (Ice Sheet 2)	550	51	Share shower/washrooms with Men's / Women's
	C.	23	Officials' Change Room A	120	11	6 changing spaces
	C.	24	Shower/Washroom	200	19	2 showers, 1 wc, 1 urinal, 2 lavs
	C.	25	Officials' Change Room B	120	11	6 changing spaces
	C.	26	Shower/Washroom	200	19	2 showers, 1 wc, 1 urinal, 2 lavs
			Subtotal C Ice Change Rooms	**11,900**	**1,106**	
D. Ice Meeting Rooms						
	D.	1	Team Meeting Room A	800	74	Capacity 30
	D.	2	Team Meeting Room B	600	56	Capacity 24
	D.	3	Meeting Room Storage	200	19	Shared by meeting rooms
			Subtotal D Ice Meeting Rooms	**1,600**	**149**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
E. Ice Arena Operations						
	E.	1	100' x 200' Ice Sheet with 2,000 seats	38,000	3,530	10 rows of spectator seats
	E.	1	100' x 200' Ice Sheet with 200 seats	26,000	2,415	200 seat grandstand
	E.	2	Sound/Lighting Controls	120	11	
	E.	3	Ice Arena Storage	1,000	93	
	E.	4	Team Hockey Storage	400	37	
	E.	5	Team Hockey Storage	500	46	
	E.	6	Team Hockey Storage	400	37	
	E.	7	Concessionaire Office	200	19	
	E.	8	Zamboni and Ice Pit Room	600	56	16' overhead clearance
	E.	9	Equipment Storage	500	46	
	E.	10	Refrigeration Plant	1,500	139	
	E.	11	Loading Dock and Receiving	600	56	
	E.	12	Workshop	300	28	
	E.	13	Staff Room	300	28	(includes area for lockers (adj to staff wcs))
	E.	14	Women Staff WC	120	11	(1 WC, 1 urinal, 1 lavatory)
	E.	15	Men WC	120	11	(Staff)
	E.	16	Mechanical	600	56	
	E.	17	Electrical	200	19	
	E.	18	Waste and Recycling	200	19	
			Subtotal E Ice Arena Operations	**71,660**	**6,657**	
			Subtotal Net Assignable Area	**109,420**	**10,165**	
			Circulation, mechanical, chases, wall thickness	**25,167**	**2,338**	**23% Planning Allocation**
			Grand Total Gross Area Requirements	**134,587**	**12,503**	

1. FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Aquatics Center			
A.	**Natatorium**					
		Pool				
	A.	1	Entry Lobby	1,500	139	Access to grandstand, change rooms, offices, classroom
	A.	2	Natatorium Enclosure (Pools and Deck)	17,000	1,579	
	A.	3	10-lane Competition Pool (7,792 sf water surface)			7,792 included in natatorium enclosure
	A.	3	Training/Teach Pool			3,400 included in natatorium enclosure
	A.	3	Diving Tank			3,600 included in natatorium enclosure (1m and 3m diving)
	A.	4	Hot Tub	100	9	
	A.	5	Steam Room	150	14	
	A.	6	Lifeguard Room	200	19	
	A.	7	Assistant Director - Aquatics Office	120	11	
	A.	8	Aquatics Coaches/Staff Office	100	9	
	A.	9	Wet Classroom/Meet Management	450	42	Assumes stand-alone facility and use for activity classes
	A.	10	Equipment Storage	450	42	
	A.	11	Pool Filtration Equipment Room	600	56	
	A.	12	Pool Heater Room	300	28	
	A.	13-14	Pool Chemical Sanitization Rooms (1 @ 60 SF, 1 @ 50 SF)	110	10	
		Spectator Facilities (Based on 1,000 Seat Capacity)				
	A.	15	Spectator Grandstand	5,400	502	
	A.	16	Concessions Stand	0	0	Shared with Ice Arena spectator venue
	A.	17	Women's Washrooms	0	0	Shared with Ice Arena spectator venue
	A.	18	Men's Washrooms	0	0	Shared with Ice Arena spectator venue
	A.	19	Ticketing/Fan Care Office	120	11	
			Subtotal - Group A Natatorium	**26,600**	**2,471**	
B.	**Change Rooms**					
	B.	1	Women's General Change Room	1,800	167	Serve Natatorium and Community/Training Building
	B.	2	Women's General Shower/Washroom (8 showers, 4 wc, 4 lavs)	600	56	
	B.	3	Men's General Change Room	1,800	167	Serve Natatorium and Community/Training Building
	B.	4	Men's General Shower/Washroom (8 showers, 2 wc, 2 urinals, 4 lavs)	600	56	
	B.	5	Unisex Special Needs Change Room	1,500	139	(100@ 15" x 18" x 60")
	B.	6	Unisex Special Needs Shower/Washroom (6 showers, 4 wc, 2 u, 6 lavs)	900	84	
			Subtotal - Group B Change Rooms	**7,200**	**669**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
C. Building Services/Operations						
	C.	1-2	Electrical Panel Room (1 @ 50 SF)/Switchgear Room (1 @ 150 SF)	200	19	
	C.	3	Heating/Cooling Plant	800	74	
	C.	4-5	HVAC Fan Rooms (Assume 2 @ 400 SF)	800	74	
	C.	6-7	Fiber Distribution/Telephone/Data Equipment Room (2 @ 75 SF)	150	14	
	C.	8-9	Elevator and Elevator Machine Room	200	19	
	C.	10-12	Custodial Closets (2 @ 60 SF)	120	11	
	C.	13	Staff Room	300	28	Shared by aquatics, community/training & fieldhouse
	C.	14	Staff Change and Showers - Women's	320	30	Shared by aquatics, community/training & fieldhouse
	C.	15	Staff Change and Showers - Men's	320	30	Shared by aquatics, community/training & fieldhouse
	C.	16	Loading Receiving	600	56	Shared by aquatics, T.I. and community/training
	C.	17	Waste and Recycling	200	19	Shared by aquatics, T.I. and community/training
			Subtotal - Group C Building Services	**4,010**	**373**	
			Subtotal Net Assignable Area	**37,810**	**3,513**	
			Circulation, mechanical, chases, wall thickness	**8,696**	**808**	**23% Planning Allocation**
			Grand Total Gross Area Requirements	**46,506**	**4,320**	

1. FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Community/Training Building			
A. Lobby						
	A.	1	Manager Office	120	11	
	A.	2	Security Manager Office	120	11	
	A.	3	Entrance/Lobbies/Circulation	1,500	139	
	A.	4	Women's Washrooms (5 wc, 3 lavs)	300	28	
	A.	5	Men's Washrooms (2 wc, 3 urinals, 3 lavs)	280	26	
	A.	6	Family Washrooms (Two at 100 sf)	200	19	
	A.	7	Vending Machine and Payphone Alcove	160	15	
	A.	8	First Aid	150	14	
	A.	9	Equipment Check-In Preparation	250	23	
	A.	10	Equipment Distribution	180	17	All distribution may not be centralized
	A.	11	Equipment Room Receiving	140	13	
	A.	12	Equipment Manager Office	140	13	
			Subtotal - Group A Lobby	**3,540**	**329**	
B. Meeting/Classrooms/Multi-Purpose Rooms						
	B.	1	Multi-Purpose Room	800	74	Capacity 30
	B.	2	Meeting Room/Classroom	800	74	Capacity 30
	B.	3	Meeting Room/Classroom	1,200	111	Capacity 45
	B.	4	Storage	300	28	Shared by meeting rooms
			Subtotal - Group B Meeting Rooms	**3,100**	**288**	
C. Group Exercise Rooms						
	C.	1	Group Exercise Room 1	2,400	223	Capacity 36
	C.	2	Group Exercise Room 2	2,000	186	Capacity 30
	C.	4	Storage	200	19	Shared by Group Exercise
			Subtotal - Group C Group Exercise Rooms	**4,600**	**427**	
D. Fitness and Conditioning						
	D.	1	Fitness and Conditioning Room	6,000	557	Includes Stretching/Selectorized/Cardio Equipment
	D.	2	Supervisor's Desk/Check-in Counter	120	11	
	D.	3	Fitness Supervisor's Office	150	14	
	D.	6	Nutritional Supplement Station/Preparation/Distribution	100	9	
	D.	7	Maintenance and Storage	200	19	
	D.	8	Meeting/Counseling Room/Classroom	180	17	Smaller room suitable if near larger classroom
			Subtotal - Group D Fitness and Conditioning	**6,750**	**627**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
E. Strength Training						
	E.	1	Strength Training Room	8,500	790	Includes Stretching/Plyometrics/Free Weights/Circuit Trng.
	E.	2	Supervisor's Desk/Check-in Counter	120	11	
	E.	3	Strength Coach's Office	150	14	
	E.	4	Assistant's Office	120	11	
	E.	7	Maintenance and Storage	200	19	
	E.	8	Meeting/Counseling Room/Classroom	180	17	Smaller room suitable if near larger classroom
			Subtotal - Group E Strength Training	**9,270**	**861**	
F. Sports Medicine						
	F.	1	Treatment Area (2 tables)	200	19	
	F.	2	Taping Area (2 stations)	100	9	Stations along wall allow greater efficiency
	F.	3	Rehabilitation Area	250	23	
	F.	4	Hydrotherapy	250	23	2 whirlpools, 1 large ice machines
	F.	5	Examination Room	140	13	
	F.	7	Unisex Washroom/Changing Room	60	6	
	F.	8	Physical Therapist	180	17	
	F.	9	Assistant Office	120	11	
	F.	13	Student Intern Workroom (8 lockers, 2 study carrels)	150	14	
	F.	14	Storage	500	46	
	F.	15	Additional to accommodate current space occupied by tenant	5,325	495	LifeMark currently occupies 7,275 sf in Bauer
			Subtotal - Group F Sports Medicine	**7,275**	**676**	

1. FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
G. Building Services						
	G.	1	Materials Storage/Workroom	200	19	
	G.	2-4	Electrical Panel Rooms (Assume 4 @ 50 SF)	200	19	
	G.	5	Switchgear	0	0	
	G.	6	Steam Reduction / Hot water pumps	1,000	93	
	G.	7-11	HVAC Fan Rooms (Assume 6 @ 400 SF)	2,400	223	
	G.	12	Fiber Distribution	70	7	
	G.	13-16	Telephone/Data Equipment Rooms (Assume 4 @ 60-80 SF)	320	30	
	G.	17	Elevator (2)	360	33	
	G.	18	Elevator Machine Room	160	15	
	G.	19-22	Custodial Closets (4 @ 50 SF)	200	19	
			Subtotal - Group G Building Services	**4,910**	**456**	
			Subtotal Net Assignable Area	**39,445**	**3,664**	
			Circulation, Structure, Mechanical Chases	**13,806**	**1,283**	**35% Planning Allocation**
			Total Gross Area - Community/Training Building	**53,251**	**4,947**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Outdoor Facilities			
A.	**Tennis Center**					
			Relocated Courts			
	A.	1	6 Regulation Championship Tennis Courts	40,320	3,746	2 batteries, 3 courts ea, 18' between courts, 12' @ sides
			Subtotal - Group A Tennis Center	**40,320**	**3,746**	
B.	**Soccer Fields**					
	B.	1	3 FIFA-Regulation Soccer Fields (68M x 105M)			One field inside track infield
	B.	4	Women's Washrooms (3 wc, 3 lav)	0	0	Shared with Field House or track facilities' washrooms
	B.	5	Men's Washrooms (3 wc, 3 lav)	0	0	Shared with Field House or track facilities' washrooms
	B.	6	Scoreboard Control Booth	80	7	
	B.	7	Equipment Storage	200	19	
			Subtotal - Group B Soccer Fields	**280**	**26**	
C.	**Track Stadium (Not Included at this Time)**					
	C.	1	Track			
			400-Meter Track, 9-Lanes, 10-Lanes @ straightaways			
			Long/Triple Jump			
			Pole Vault runway			
			High Jump area			
	C.	2	Women's Change Room	0	0	400/37 Shared with Tennis Courts and/or Soccer Fields
	C.	3	Men's Change Room	0	0	400/37 Shared with Tennis Courts and/or Soccer Fields
	C.	4	Men's Officials' Change Room / Showers / Toilets	0	0	320/30 Shared with Tennis Courts and/or Soccer Fields
	C.	5	Women's Officials' Change Room / Showers / Toilets	0	0	320/30 Shared with Tennis Courts and/or Soccer Fields
	C.	6	Track Equipment Storage	0	0	1,800/167

1.FOOTHILLS ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Spectator Facilities (Based on 1,000 Seat Capacity)			
	C.	7	Spectator Grandstand	0	0	4,500/418 Assume structured steel and aluminum
	C.	8	Women's Washrooms (12 wc, 6 lavs)	0	0	720/67 Shared with soccer fields
	C.	9	Men's Washrooms (4 wc, 4 urinals, 6 lavs)	0	0	480/45 Shared with soccer fields
	C.	10	Concessions (2 points-of-sale)	0	0	200/19 Consider portable concession carts for large events
	C.	11	Ticket Sales / Fan Care	0	0	180/17
	C.	12	Meet Management Room	0	0	250/23
	C.	13	Sound and Lighting Control/Equipment Room	0	0	120/11
	C.	14	Public Announcer	0	0	80/7
	C.	15	Mechanical Room	0	0	250/23
	C.	16	Electrical Panel Room	0	0	120/11
			Subtotal - Group C Track Stadium	**0**	**0**	
			Subtotal Net Assignable Area	**280**	**26**	
			Circulation, Structure, Mechanical Chases (80% efficiency)	**56**	**5**	**20% Planning Allocation**
			Total Gross Area - Tennis / Soccer / Track	**336**	**31**	
			Summary			
			Total Gross Area - Field House	**359,986**	**33,443**	
			Total Gross Area - Ice Center	**134,587**	**12,503**	
			Total Gross Area - Aquatics Center	**46,506**	**4,320**	
			Total Gross Area - Community Training Building	**53,251**	**4,947**	
			Total Gross Area - Outdoor Facilities	**336**	**31**	
			Grand Total Area	**594,666**	**55,244**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Ice Center			
A. Ice Event Guest Services						
	A.	1	Entrance/Lobbies	1,500	139	500 capacity x 3.0 SF
	A.	2	Ticket Sales	50	5	1 point-of-sale x 50 SF
	A.	3	Spectator Concourses	3,000	279	500 capacity x 6.0 SF
	A.	4	Concessions Stands	120	11	500 capacity: 2 points-of-sale x 60 SF
	A.	5	Public Lobby and Skate Changing Area	500	46	
	A.	6	Customer Service and Skate Rental	500	46	
	A.	7	Snack Bar and Merchandise	250	23	
	A.	8	Facility Manager's Office	150	14	
	A.	9	Staff Office	120	11	
	A.	10	Women's Washrooms (7 wc, 4 lavs)	420	39	Adjacent to spectator concourse
	A.	11	Men's Washrooms (3 wc, 3 urinals, 3 lavs)	340	32	Adjacent to spectator concourse
	A.	12	Family Washrooms (Two at 100 SF)	200	19	Include in women's fixture count
	A.	13	Women's Washrooms (4 wc, 2 lavs)	300	28	Adjacent to public skate lobby
	A.	14	Men's Washrooms (2 wc, 2 urinals, 2 lavs)	280	26	Adjacent to public skate lobby
	A.	15	Vending Machine and Payphone Alcove	160	15	
	A.	16	Security Command Post/First Aid	200	19	
			Subtotal - Group A Ice Event Guest Services	**8,090**	**752**	
B. **Ice Athletic Equipment**						
	B.	1	Skate Sharpening	80	7	
	B.	2	Equipment Room Receiving	140	13	
	B.	3	Equipment Staff Office	120	11	Two desks
			Subtotal - Group B Ice Athletic Equipment	**340**	**32**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
C. Ice Change Rooms						
	C.	1	Women's Hockey Changing Room (Tenant Team)	700	65	28 lockers @ 30" x 24" x 72"
	C.	2	Shower/Washroom	600	56	8 showers, 4 wc, 5 lavs
	C.	3	Women's Hockey Changing Room A (Ice Sheet 1)	550	51	25 changing spaces
	C.	4	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	5	Women's Hockey Changing Room B (Ice Sheet 1)	550	51	25 changing spaces
	C.	6	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	7	Women's Hockey Changing Room C (Ice Sheet 2)	550	51	25 changing spaces
	C.	8	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	9	Women's Hockey Changing Room D (Ice Sheet 2)	550	51	25 changing spaces
	C.	10	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	11	Men's Hockey Changing Room (Tenant Team)	700	65	28 lockers @ 30 x 24 x 72
	C.	12	Shower/Washroom	600	56	6 showers, 4 wc, 5 lavs
	C.	13	Men's Hockey Changing Room A (Ice Sheet 1)	550	51	25 changing spaces
	C.	14	Shower/Washroom	400	37	4 showers, 4 wc, 4 lavs
	C.	15	Men's Hockey Change Room B (Ice Sheet 1)	550	51	25 changing spaces
	C.	16	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	17	Men's Hockey Change Room C (Ice Sheet 2)	550	51	20 changing spaces
	C.	18	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	19	Men's Hockey Change Room D (Ice Sheet 2)	550	51	25 changing spaces
	C.	20	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	21	Coed Hockey Change Room (divisible into two) (Ice Sheet 1)	550	51	Share shower/washrooms with Men's / Women's
	C.	22	Coed Hockey Change Room (divisible into two) (Ice Sheet 2)	550	51	Share shower/washrooms with Men's / Women's
	C.	23	Officials' Change Room A	120	11	6 changing spaces
	C.	24	Shower/Washroom	200	19	2 showers, 1 wc, 1 urinal, 2 lavs
	C.	25	Officials' Change Room B	120	11	6 changing spaces
	C.	26	Shower/Washroom	200	19	2 showers, 1 wc, 1 urinal, 2 lavs
			Subtotal - Group C Ice Change Rooms	**11,940**	**1,109**	

		PROGRAM NEED	Square Feet	Square Meters	REMARKS
D. Ice Meeting Rooms					
D.	1	Multi-Use Room	800	74	Capacity 30
D.	2	Class Room	800	74	Capacity 30
D.	3	Meeting Room Storage	200	19	Shared by meeting rooms
		Subtotal - Group D Ice Meeting Rooms	**1,800**	**167**	
E. Ice Arena Operations					
E.	1	100' x 200' Ice Sheet with 500 seats	28,000	2,601	4 rows of spectator seats
E.	2	100' x 200' Ice Sheet with 200 seats	26,000	2,415	
E.	3	Sound/Lighting Controls	120	11	
E.	4	Ice Arena Storage	1,000	93	
E.	5	Hockey Team Storage	400	37	
E.	6	Hockey Team Storage	500	46	
E.	7	General Hockey Storage	400	37	
E.	8	Zamboni and Ice Pit Room	600	56	16' overhead clearance
E.	9	Equipment Storage	500	46	
E.	10	Workshop	300	28	
E.	11	Staff Room	300	28	Includes areas for lockers (adj. to staff office and wcs)
E.	12	Women's Staff Washroom	120	11	2 wc, 1 lav
E.	13	Men's Staff Washroom	120	11	1 wc, 1 urinals, 1 lav
E.	14	Refrigeration Plant	1,500	139	
E.	15	Mechanical	600	56	
E.	16	Electrical	200	19	
E.	17	Waste and Recycling	200	19	
E.	18	Loading Dock and Receiving	600	56	
		Subtotal - Group E Ice Arena Operations	**61,460**	**5,710**	
		Subtotal Net Assignable Area	**83,630**	**7,769**	
		Circulation, mechanical, chases, wall thickness	**19,235**	**1,787**	**23% Planning Allocation**
		Grand Total Gross Area Requirements - Ice Center	**102,865**	**9,556**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Fieldhouse			
A. Fieldhouse Guest Services						
	A.	1	Entrance/Lobbies	1,500	139	500 capacity x 3.0 SF
	A.	2	Ticket Sales	80	7	2 points-of-sale x 40 SF
	A.	3	Spectator Concourses	3,000	279	500 capacity x 6.0 SF
	A.	4	Concessions Stands	120	11	80 capacity: 2 points-of-sale x 60 SF
	A.	5	Snack Bar and Merchandise	250	23	
	A.	6	Facility Manager's Office	150	14	
	A.	7	Staff Office	120	11	
	A.	8	Women's Washrooms (7 wc, 4 lavs)	300	28	
	A.	9	Men's Washrooms (3 wc, 2 urinals, 3 lavs)	280	26	
	A.	10	Family Washrooms (two at 100 SF)	200	19	Include in women's fixture count
	A.	11	Vending Machine and Payphone Alcove	160	15	
	A.	12	Security Command Post/First Aid	200	19	
			Subtotal - Group A Fieldhouse Guest Services	**6,360**	**591**	
B. Fieldhouse Athletic Equipment						
	B.	1	Bike Equipment Storage and Repair	800	74	
	B.	2	Equipment Room Receiving	140	13	
	B.	3	Equipment Staff Office	120	11	
			Subtotal - Group B Fieldhouse Athletic Equipment	**1,060**	**98**	
C. Fieldhouse Change Rooms						
	C.	1	Changing Room A	425	39	20 changing spaces
	C.	2	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
	C.	3	Changing Room B	425	39	20 changing spaces
	C.	4	Shower/Washroom	400	37	4 showers, 2 wc, 1 urinal, 3 lavs
			Subtotal - Group C Fieldhouse Change Rooms	**1,650**	**153**	
D. Fieldhouse Event Management						
	D.	1	Media Work Room/Meeting Room	800	74	Capacity 30
	D.	2	Meeting Room Storage	200	19	Shared by meeting rooms
			Subtotal - Group D Fieldhouse Event Management	**1,000**	**93**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
E. Fieldhouse Arena Operations						
	E.	1	333 M Track with 500 seats	124,000	11,520	7 rows of spectator seats
	E.	2	Sound/Lighting Controls	120	11	
	E.	3	Bike Locker Storage	1,000	93	
	E.	4	General Storage	1,000	93	
	E.	5	Waste and Recycling	200	19	Shared by Aquatics, Velo and Community/Training
	E.	6	Loading Dock and Receiving	600	56	Shared by Aquatics, Velo and Community/Training
			Subtotal - Group E Fieldhouse Arena Operations	**126,920**	**11,791**	
			Subtotal Net Assignable Area	**136,990**	**12,726**	
			Circulation, mechanical, chases, wall thickness	**31,508**	**2,927**	**23% Planning Allocation**
			Total Gross Area Requirements - Fieldhouse	**168,498**	**15,653**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Aquatics Center			
A			**Natatorium**			
			Pool			
	A.	1	Entry Lobby	1,000	93	Access to grandstand, Change rooms, offices, classroom
	A.	2	Natatorium Enclosure (Pools and Deck)	15,000	1,394	
	A.	3	8-lane Competition Pool (77' x 25M water surface)			6,316sf included in natatorium enclosure
	A.	4	Teach/ Training Pool			3,400sf included in natatorium enclosure
	A.	5	Leisure Aquatics			4,000sf included in natatorium enclosure
	A.	6	Lifeguard Room	200	19	
	A.	7	Assistant Director - Aquatics Office	120	11	
	A.	8	Aquatics Coaches/Staff Workroom	120	11	
	A.	9	Wet Classroom/Meet Management	600	56	Assumes stand-alone facility and use for activity classes
	A.	10	Equipment Storage	500	46	
	A.	11	Pool Filtration Equipment Room	1,000	93	
	A.	12	Pool Heater Room	400	37	
	A.	13-14	Pool Chemical Sanitization Rooms (1 @ 60 SF, 1 @ 50 SF)	110	10	
			Spectator Facilities (Based on 1,000 Seat Capacity)			
	A.	15	Spectator Grandstand	5,600	520	
	A.	16	Concessions Stand (2 points-of-sale)	120	11	Food service to be provided at public area
	A.	17	Women's Washroom (12 wc, 6 lavs)	720	67	
	A.	18	Men's Washroom (4 wc, 4 urinals, 4 lavs)	450	42	
	A.	19	Family Washrooms (two at 100 SF)	200	19	Include in women's fixture count
	A.	19	Ticketing/Fan Care Office	150	14	
			Subtotal - Group A Natatorium	**26,290**	**2,442**	
B			**Change Rooms**			
	B.	1	Women's General Change Room	1,800	167	Serve Natatorium and Community/Training Building
	B.	2	Women's General Shower/Washroom (8 showers, 4 wc, 4 lavs)	600	56	
	B.	3	Men's General Change Room	1,800	167	Serve Natatorium and Community/Training Building
	B.	4	Men's General Shower/Washroom (8 showers, 2 wc, 2 urinals, 4 lavs)	600	56	
	B.	5	Unisex Special Needs Change Room	1,500	139	(100 @ 15" x 18" x 60")
	B.	6	Unisex Special Needs Shower/Washroom (6 showers, 4 wc, 2u, 6 lavs)	900	84	
			Subtotal - Group B Change Rooms	**7,200**	**669**	

		PROGRAM NEED	Square Feet	Square Meters	REMARKS
C. Building Services/Operations					
C.	1-2	Electrical Panel Room (1 @ 50 SF)/Switchgear Room (1 @ 150 SF)	200	19	
C.	3	Heating/Cooling Plant	800	74	
C.	4-5	HVAC Fan Rooms (Assume 2 @ 400 SF)	800	74	
C.	6-7	Fiber Distribution/Telephone/Data Equipment Room (2 @ 75 SF)	150	14	
C.	8-9	Elevator and Elevator Machine Room	200	19	
C.	10-11	Custodial Closets (2 @ 60 SF)	120	11	
C.	12	Staff Room	300	28	Shared by Fieldhouse, Aquatics and Community
C.	13	Women's Staff Change and Showers	320	30	Shared by Fieldhouse, Aquatics and Community
C.	14	Men's Staff Change and Showers	320	30	Shared by Fieldhouse, Aquatics and Community
		Subtotal - Group C Building Services	**3,210**	**298**	
		Subtotal Net Assignable Area	**36,700**	**3,409**	
		Circulation, Structure, Mechanical Chases	**8,441**	**784**	**23% Planning Allocation**
		Total Gross Area Requirements - Aquatics Center	**45,141**	**4,194**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Community/Training Building			
A.			**Lobby**			
	A.	1	Manager Office	120	11	
	A.	2	Security Manager Office	120	11	
	A.	3	Entrance/Lobbies	1,500	139	Consolidate Lobbies if possible
	A.	4	Women's Washrooms (3 wc, 3 lavs)			Share with Natatorium
	A.	5	Men's Washrooms (1 wc, 2 urinals, 3 lavs)			Share with Natatorium
	A.	6	Family Washrooms (two at 100 SF)			Share with Natatorium
	A.	7	Vending Machine and Payphone Alcove	160	15	Share with Natatorium
	A.	8	First Aid	150	14	Share with Natatorium
			Subtotal - Group A Lobby	**2,050**	**190**	
B.			**Meeting/Classrooms/Multi-Purpose Rooms**			
	B.	1	Multi-Purpose Room	800	74	Capacity 30
	B.	2	Meeting Room	800	74	Capacity 30
	B.	3	Classroom	600	56	Capacity 24
	B.	4	Storage	200	19	Shared by meeting rooms
			Subtotal - Group B Meeting Rooms	**2,400**	**223**	
C.			**Group Exercise Rooms**			
	C.	1	Group Exercise Room 1	2,400	223	Capacity 36
	C.	2	Group Exercise Room 2	2,000	186	Capacity 30
	C.	3	Storage	200	19	Shared by Group Exercise Rooms 1 and 2
			Subtotal - Group C Group Exercise Rooms	**4,600**	**427**	
D.			**Fitness and Conditioning**			
	D.	1	Fitness and Conditioning Room	6,000	557	Includes Stretching/Selectorized/Cardio Equipment
	D.	2	Supervisor's Desk/Check-in Counter	120	11	
	D.	3	Fitness Supervisor's Office	120	11	
	D.	4	Nutritional Supplement Station/Preparation/Distribution	100	9	
	D.	5	Maintenance and Storage	200	19	
	D.	6	Meeting/Counseling Room/Classroom	180	17	Smaller room suitable if near larger classroom
			Subtotal - Group D Fitness and Conditioning	**6,720**	**624**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
E.			**Strength Training**			
	E.	1	Strength Training Room	8,500	790	Incl. Stretching/Plyometrics/Free Weights/Circuit Trng.
	E.	2	Supervisor's Desk/Check-in Counter	120	11	
	E.	3	Strength Coach's Office	150	14	
	E.	4	Maintenance and Storage	200	19	
	E.	5	Meeting/Counseling Room/Classroom	180	17	Smaller room suitable if near larger classroom
			Subtotal - Group E Strength Training	**9,150**	**850**	
F.			**Sports Medicine**			
	F.	1	Treatment/Taping Area (2 Tables / 2 Stations)	200	19	
	F.	2	Examination Room	140	13	
	F.	3	Unisex Washroom/Changing Room	60	6	
	F.	4	Physio-therapist / Doctor's Office	180	17	
	F.	5	Student Intern Workroom (6 lockers, 2 study carrels)	120	11	
	F.	6	Storage	180	17	May include utility vehicle storage
			Subtotal - Group F Sports Medicine	**880**	**82**	
G.			**Building Services**			
	G.	1	Materials Storage/Workroom	200	19	
	G.	2-5	Electrical Panel Rooms (Assume 4 @ 50 SF)	200	19	
	G.	6	Switchgear	0	0	
	G.	7	Steam Reduction / Hot water pumps	1,000	93	
	G.	8-13	HVAC Fan Rooms (Assume 6 @ 400 SF)	2,400	223	
	G.	14	Fiber Distribution	70	7	
	G.	15-18	Telephone/Data Equipment Rooms (Assume 4 @ 60-80 SF)	320	30	
	G.	19	Elevator (2)	360	33	
	G.	20	Elevator Machine Room	160	15	
	G.	21-24	Custodial Closets (4 @ 50 SF)	200	19	
			Subtotal - Group G Building Services	**4,910**	**456**	
			Subtotal Net Assignable Area	**30,710**	**2,853**	
			Circulation, Structure, Mechanical Chases	**10,749**	**999**	**35% Planning Allocation**
			Total Gross Area - Community/Training Building	**41,459**	**3,851**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
Outdoor Facilities						
			Tennis Center			
A. Tennis Center						
	A.	1	Regulation Championship Tennis Courts (7 - Outdoor)	0	0	46,080sf Reconstructed adjacent to Tennis Center
	A.	2	Spectator Seating Grandstand	0	0	Consider terraced seating: 250-300 on west side of courts
	A.	3	Hospitality Room	750	70	
	A.	4	Women's Washrooms (3 wc, 2 lavs)	240	22	Consider in conjunction with adjacent facilities' washrooms
	A.	5	Men's Washrooms (1 wc, 2 urinals, 2 lavs)	240	22	Consider in conjunction with adjacent facilities' washrooms
	A.	6	Scoreboard Control Booth	80	7	
	A.	7	Equipment Storage	200	19	Expand and reorganize existing Storage Building
			Subtotal - Group A Tennis Center	**1,510**	**140**	
B. Change Rooms						
	B.	1	Team Changing Room A (32 lockers @ 15" x 18")	320	30	Consider in conjunction with adj. facilities' washrooms
	B.	2	Team Shower/Washroom (2 showers, 2 wc, 1 urinals, 2 lavs)	280	26	Consider in conjunction with adj. facilities' washrooms
	B.	3	Team Changing Room B (32 lockers @ 15" x 18")	320	30	Consider in conjunction with adj. facilities' washrooms
	B.	4	Team Shower/Washroom (2 showers, 3 wc, 3 lavs)	280	26	Consider in conjunction with adj. facilities' washrooms
			Subtotal - Group B Change Rooms	**1,200**	**111**	
			Subtotal Net Assignable Area	**2,710**	**252**	
			Circulation, Structure, Mechanical Chases	**542**	**50**	**20% Planning Allocation**
			Total Gross Area - Tennis Center	**3,252**	**302**	

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Field Facilities			
C.			**Soccer Fields**			
	C.	1	FIFA-regulation Soccer Fields (6)		0	Each to be used as 2 Ultimate fields
	C.	2	Bleachers			Consider bleachers at "Championship" field
			Subtotal - Group C Soccer Fields	**0**	**0**	
D.			**Softball Fields**			
	D.	1	Softball Fields (2) with 300' fence			
	D.	2-5	Team Dugouts (4 with 25 bench seats each)			550 sf each, fenced area with bench
	D.	4	Bleachers			Consider portable bleachers for 75-150
			Subtotal - Group D Softball Fields	**0**	**0**	
E.			**Field Support Amenities**			
	E.	1	Women's Washrooms (6 wc, 6 lavs)	360	33	
	E.	2	Men's Washrooms (3 wc, 3 urinals, 6 lavs)	360	33	
	E.	3	Women's Change Room	400	37	
	E.	4	Men's Change Room	400	37	
	E.	5	Men's Officials' Change Room / Showers / Washrooms	320	30	
	E.	6	Women's Officials' Change Room / Showers / Washrooms	320	30	
	E.	7	Concessions	180	17	
	E.	8	Game Equipment Storage	300	28	
	E.	9	Field Equipment Storage	300	28	
	E.	10	Mechanical Room	120	11	
			Subtotal - Group E Field Support Amenities	**3,060**	284	
			Subtotal Net Assignable Area	**3,060**	**284**	
			Circulation, Structure, Mechanical Chases	**612**	**57**	**20% Planning Allocation**
			Total Gross Area - Field Support Amenities	**3,672**	**341**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

			PROGRAM NEED	Square Feet	Square Meters	REMARKS
			Track and Field Facilities			
F.	**Track Stadium**					
	F.	1	Track			
			400-Meter Track, 9-Lane , 10-Lane Straightaway			
			Long/Triple Jump			
			Pole Vault runway			
			High Jump area			
	F.	2	Women's Change Room	400	37	
	F.	3	Men's Change Room	400	37	
	F.	4	Men's Officials Change Room / Showers / Washrooms	320	30	
	F.	5	Women's Officials Change Room / Showers / Washrooms	320	30	
	F.	6	Track Equipment Storage	1,800	167	
			Spectator Facilities (Based on 800 Seat Capacity)			
	F.	7	Spectator Grandstand	4,500	418	Allow adjacent space for expanding seating
	F.	8	Women's Washrooms (12 wc, 6 lavs)	720	67	
	F.	9	Men's Washrooms (4 wc, 3 urinals, 4 lavs)	400	37	
	F.	10	Family Washrooms (two at 100 SF)	200	19	Include in women's fixture count
	F.	11	Concessions (2 points-of-sale)	200	19	
	F.	12	Ticket Sales Kiosk	80	7	
	F.	13	Meet Management Room	250	23	
	F.	14	Sound and Lighting Control/Equipment Room	120	11	
	F.	15	Public Announcer	80	7	
	F.	16	Mechanical Room	250	23	
	F.	17	Electrical Panel Room	120	11	
			Subtotal - Group F Track Stadium	**10,160**	**944**	
			Subtotal Net Assignable Area	**10,160**	**944**	
			Circulation, Structure, Mechanical Chases	**2,032**	**189**	**20% Planning Allocation**
			Total Gross Area - Track and Field Facilities	**12,192**	**1,133**	
			Grand Total Outdoor Facilities - Tennis / Fields / Track	**19,116**	**1,776**	

2. GLENMORE ATHLETIC PARK - SUMMARY OF SPACE REQUIREMENTS

PROGRAM NEED	Square Feet	Square Meters	REMARKS
Summary			
Total Gross Area - Ice Center	102,865	9,556	
Total Gross Area - Fieldhouse	168,498	15,653	
Total Gross Area - Aquatics Center	45,141	4,194	
Total Gross Area - Community/Training Building	41,459	3,851	
Total Gross Area - Outdoor Facilities	19,116	1,776	
Grand Total Area - Glenmore Athletic Park	377,078	35,031	

3. PARKING REQUIREMENTS - FOOTHILLS ATHLETIC PARK

Analysis of the parking requirements at the Foothills Athletic Park is based on the anticipated concurrent use of the facilities on site. A detailed analysis will need to be completed as part a Mobility Assessment Plan / Transportation Impact Assessment during the implementations stages of the project. Assumptions on which the analysis is based on are as follows:

1. Indoor facilities will be used concurrently for approximately six months;
2. Indoor facilities will not be used heavily concurrently with outdoor facilities;
3. Not all participants are expected to attending all practices;
4. Facilities with multiple venues will stagger schedules to minimize the parking requirements during the transition from one booking period to the next;
5. 80% of parking requirements for maximum concurrent occupancy will be provided;
6. The use of alternate means of transportation and multiple vehicle occupants will be addressed;
7. Approximately one third of participants are assumed to arrive on site with no parking requirements through Public Transit use and/or multi occupant vehicles (Parking Factor); and
8. Staffing assumptions will be confirmed upon completion of the operational planning.

Components	Maximum Predictable Occupancy		Transition Occupancy		Maximum Predictable Total	Maximum Design Factor	Designed Maximum Occupancy	Parking Factor	Recommended Parking Spots
Fieldhouse									
Soccer (4 sections)	4 teams @ 14 participants	56	2 teams @ 14 participants	28	**84**	0.80	**71**	0.67	**48**
Track	2 teams @ 30 participants	60	2 teams @ 30 participants	60	**120**	0.80	**102**	0.67	**68**
Gymnasia (10 courts)	20 teams @ 10 participants	200	10 teams @ 10 participants	100	**300**	0.80	**255**	0.67	**171**
Coaches/Assistants	26 teams @ 1.33 participants	35	14 teams @ 1.33 participants	19	**54**	0.80	**46**	0.67	**31**
Staff		2		2	**4**	0.90	**3**	0.67	**2**
Ice Arena									
Sheet #1	2 teams @ 22 participants	44	1 team @ 22 participants	22	**66**	0.80	**56**	0.67	**38**
Sheet #2	2 teams @ 22 participants	44	1 team @ 22 participants	22	**66**	0.80	**56**	0.67	**38**
Coaches/Assistants	4 teams @ 2 coaches	8	2 teams @ 2 coaches	4	**12**	0.80	**10**	0.67	**7**
Staff	2 sheets @ 3 staff	6	2 sheets @ 1.5	3	**9**	0.90	**8**	0.90	**7**
Pool									
Competition pool	10 lanes @ 10 swimmers	24	10 lanes @ 10 swimmers	24	**48**	0.80	**41**	0.67	**27**
Coaches/teachers/guards		14		4	**18**	0.80	**15**	0.90	**14**
Teach/Dive/Leisure		65		10	**75**	0.80	**64**	0.75	**48**
Fitness									
Weight training	80-100 stations	100	Participants waiting	50	**150**	0.80	**128**	0.85	**108**
Group Exercise	2 rooms @ 32 participants	64	1 room @ 32 participants	32	**96**	0.80	**82**	0.85	**69**
Meeting/Classrooms	Maximum occupancy:	105	Staggered schedule	74	**179**	0.80	**152**	0.85	**129**
Staff		3		2	**5**	0.90	**4**	0.67	**3**
Administration/Sports Medicine									
Operations	Full and Part time staff	20	NA		**20**	0.80	**17**	0.95	**16**
Sports Medicine	Staff and patients	12	NA		**12**	0.90	**10**	0.95	**10**
TOTALS					**1,318**		**1,120**		**834**

3. PARKING REQUIREMENTS - GLENMORE ATHLETIC PARK

Analysis of the parking requirements at the Glenmore Athletic Park is based on the anticipated concurrent use of the facilities on site. A detailed analysis will need to be completed as part a Mobility Assessment Plan / Transportation Impact Assessment during the implementations stages of the project. Assumptions on which the analysis is based on are as follows:

1. Indoor facilities will be used concurrently for approximately six months;
2. Indoor facilities will not be used heavily concurrently with outdoor facilities;
3. Not all participants are expected to attending all practices;
4. Facilities with multiple venues will stagger schedules to minimize the parking requirements during the transition from one booking period to the next;
5. 80% of parking requirements for maximum concurrent occupancy will be provided;
6. The use of alternate means of transportation and multiple vehicle occupants will be addressed;
7. Approximately one third of participants are assumed to arrive on site with no parking requirements through Public Transit use and/or multi occupant vehicles (Parking Factor); and
8. Staffing assumptions will be confirmed upon completion of the operational planning.

Components	Maximum Predictable Occupancy		Transition Occupancy		Maximum Predictable Total	Maximum Design Factor	Designed Maximum Occupancy	Parking Factor	Recommended Parking Spots
fieldhouse									
Cycling Track	4 teams @ 6 participants	24		24	**48**	0.80	**40.8**	0.80	**33**
Walking/Jogging		30		15	**45**	0.80	**38.25**	0.75	**29**
Infield (8 courts)	16 teams @ 10 participants	160	8 teams @ 10 participants	80	**240**	0.80	**204**	0.67	**137**
Coaches/Assistants	20 teams @ 1.33 participants	17	12 teams @ 1.33 participants	17	**34**	0.80	**29**	0.80	**23**
Staff		2		2	**4**	0.90	**3**	0.90	**3**
Ice Arena									
Sheet #1	2 teams @ 22 participants	44	1 team @ 22 participants	22	**66**	0.80	**56**	0.67	**38**
Sheet #2	2 teams @ 22 participants	44	1 team @ 22 participants	22	**66**	0.80	**56**	0.67	**38**
Coaches/Assistants	4 teams @ 2 coaches	8	2 teams @ 2 coaches	4	**12**	0.80	**10**	0.80	**8**
Staff	2 sheets @ 3 staff	6	2 sheets @ 1.5	3	**9**	0.90	**8**	0.90	**7**
Pool									
Competition pool	8 lanes @ 10 swimmers	80	8 lanes @ 10 swimmers	80	**160**	0.80	**136**	0.67	**91**
Coaches/teachers/guards		14		4	**18**	0.80	**15**	0.90	**14**
Teach/Leisure		50		20	**70**	0.80	**60**	0.75	**45**
Fitness									
Weight training	80-100 stations	100	Participants waiting	50	**150**	0.80	**128**	0.85	**108**
Group Exercise	2 rooms @ 32 participants	64	2 rooms @ 32 participants	64	**128**	0.80	**109**	0.85	**92**
Meeting/Classrooms	Maximum occupancy:	84	Staggered schedule	42	**126**	0.80	**107**	0.85	**91**
Staff		3		2	**5**	0.90	**4**	0.90	**4**
Administration/Sports Medicine									
Operations	Full and Part time staff	16	NA		**16**	0.90	**14**	0.95	**13**
Sports Medicine	Staff and patients	6	NA		**6**	0.90	**5**	0.95	**5**
Tennis									
Relocated courts	7 courts @ 4 participants	28	Staggered schedule	14	**42**	0.80	**36**	0.67	**24**
Coaches		2		1	**3**	0.90	**3**	0.95	**2**
TOTALS					**1,248**		**1,061**		**804**

APPENDIX B:
EXISTING FACILITY INVENTORY REPORTS

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

♦ EXISTING FACILITIES INVENTORIES ♦

1.0 Foothills Facilities
- **1.1** Father David Bauer Arena
- **1.2** Foothills Baseball Stadium & Practice Facility
- **1.3** Foothills Field House
- **1.4** Foothills Pool
- **1.5** Foothills Tennis Courts
- **1.6** Foothills Track and Track Field #1
- **1.7** Little League #7
- **1.8** Norma Bush Memorial Arena
- **1.9** Soccer Fields #4, #5 and #6
- **1.10** Volleydome

2.0 Glenmore Facilities
- **2.1** Baseball #3
- **2.2** Football #2, #2a, #2b, #2c
- **2.3** Football #6
- **2.4** Glenmore Pool
- **2.5** Glenmore Track and Track Field #1
- **2.6** Indoor Tennis
- **2.7** Outdoor Tennis
- **2.8** Soccer #7, #8, #9, #10 and #11
- **2.9** Softball #13 and #14
- **2.10** Stu Peppard Arena
- **2.11** Velodrome

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

1.1 ♦ FATHER DAVID BAUER ARENA ♦

1.1.1 SUMMARY

1.1.1.1 Facility Information

Facility: Father David Bauer Arena
Address: 2424 University Drive N.W. Calgary, AB
Year Built: 1963 (Retrofitted 1985 for Olympic Addition; 1996 for Hockey Canada; 2004 refrigeration update; 2006 ventilation)
Location: Foothills Athletic Park North End

Description: Father David Bauer Arena is a two level facility constructed adjacent to a hill, allowing at-grade access to both levels of the facility. The building centers on an Olympic size 200'x100' artificial ice rink and includes a 1790-person spectator seating area with concession; administrative offices, fitness spaces and public washrooms on the upper level; exercise, training and storage spaces, dressing rooms, public washrooms and mechanical areas on the lower level. The arena shares common mechanical, electrical and storage spaces with the adjacent Norma Bush Memorial Arena.

1.1.1.2 Facility Expenditures (to maintain current serviceability)

Past: No complete reports received to date.

Immediate Items: Approximately $904,944 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $2,365,319 for necessary renovations and repair.
- 10 year time frame: Approximately $220,280 for necessary renovations and repair.
- 15 year time frame: Approximately $529,533 for necessary renovations and repair.

1.1.1.3 Suitability of Intended Use

Existing Use: In conjunction with Norma Bush Memorial Arena, this facility is used predominantly by Hockey Canada, the University of Calgary Men's and Women's teams, the Calgary Junior A Royals, and AAA Midgets Northstars. When not occupied by the principal users, the facility is

1.1 ♦ FATHER DAVID BAUER ARENA ♦

available for use by the general public (through City of Calgary Bookings) or the Calgary Flames when the Saddledome is unavailable.

Leaseholders: Hockey Canada has a lease on both arenas until 2025 with a 25 year renewal option. They sublet space on the lower level of Bauer to LifeMark Health. The arena concession is leased to TARC holdings.

Evaluation:

- Spectator washrooms adjacent to seating area have 6 toilets and 4 lavatories, which is not adequate or Code-compliant given the seating capacity of the facility. Their location is not ideal. Doors are not barrier free accessible.
- Roof requires replacement
- Players' corridor to Hockey Canada on NE corner, lower level, exit doors do not swing in direction of the path of travel; stairs are steep and handrails do not meet current ABC requirements.
- There is efficient sharing of mechanicals and equipment between the 2 arenas (Bush and Bauer)
- Electrical room accessed through the ammonia plant is hazardous.
- Ramp into the mechanical/shop area is ±10% and is too steep.
- Slope between rinks at ice pit is ±10% and is too steep.
- Large concession is located within the spectator seating area; queuing space awkward and potentially blocks exiting.
- On site patching of dasher boards to repair corrosion at connections has occurred to maintain operation.
- New boards and concrete repair/patching required
- Glass has stanchions which are an old design and are costly to operate and maintain.
- Ice and ice plant are in good condition including equipment.
- Lobby is not adequate to accommodate the full capacity of the arena and the space is clearly aging.
- The concessions and adequate spectator washrooms and associated queuing should be adjacent to the lobby and convenient from the seating area.
- Access, clear entry from parking is obscure.
- Participant amenities: change rooms, washrooms, showers all work but are not convenient or proximate to the ice and are aging.
- Ceiling is too low on lower floor where change rooms are located and is subject to regular damage from hockey sticks and equipment.

Suitability:

- The suitability of the facility, given the quality of the teams that play here is minimally adequate. Several improvements are recommended:
- Provide adequate team change rooms/washrooms and showers: at least 4 for Bauer and 2 for Bush, or significantly expand and update the existing facilities.

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Date: March 2, 2010

1.1 ♦ FATHER DAVID BAUER ARENA ♦

- Add appropriate spectator amenities with convenient access adjacent to/part of the lobby.
- Create a clearly visible and dynamic entry; perhaps in conjunction with other recreation components (create a larger athletic center).

1.1.2 PHYSICAL DESCRIPTION

1.1.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a curved wood truss roof system. Wood roof decking.

Envelope: Exterior walls are constructed of concrete masonry units, and provide the finish on the interior and exterior of the building.

Openings: Doors and windows are aluminum; service doors are steel.

Roofing: SBS membrane.

Interiors: Painted concrete block and ceramic tile walls; ceramic tile, VCT, carpet and mastic deck finishes. Ceilings are exposed to the structure or acoustic ceiling tile.

Mechanical: Ammonia ice plant. Roof drains tied to storm sewers directly.

Electrical: No information to date.

1.1.2.2 Facility Conditions

Summary: Based on the Arenas Lifecycle Report prepared by Calgary Recreation, Office of the Capital in May 2006, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approximately $3.4 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in January of 2008, and the refrigeration plant lifecycle report prepared by Thermo-Carb, identified the following facility conditions requiring attention and approximate repair costs:

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
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Date: March 2, 2010

1.1 ♦ FATHER DAVID BAUER ARENA ♦

- Building Envelope (exterior stairs and handrails, exterior caulking, Roofing Systems, Doors and Door Frames) = $341,000
- Equipment & Furnishings (casework throughout the building, benches, bleachers) = $83,500
- Functional Assessment (creating barrier free access) = $25,000
- Interiors (handrails, painting and staining, floor finishes, wall board finishes, interior doors) = $186,500
- Mechanical Services (HVAC control system) = $75,000
- Plumbing Services (sinks, showers, water heater) = $8,500
- Site (asphalt, curbs, landscaping) = $10,500
- Special Construction and Demolition (dasher boards) = $140,000
- Ice Plant Equipment (Chiller, Brine Pumps, 60 HP Compressor Motor) = $82,000

1.1.3 REFERENCE DOCUMENTS

1.1.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
January 11, 2008	Thermo-Carb	Refrigeration Plant Lifecycle Report – Father David Bauer and Norma Bush Arenas
February 10, 2008	Stantec Engineering	Facility Audit Report – Father David Bauer Arena
February 08, 2007	Calgary Recreation, Office of the Capital	Arenas Lifecycle Report

1.1.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

1.2 ♦ FOOTHILLS BASEBALL STADIUM ♦

1.2.1 SUMMARY

1.2.1.1 Facility Information

Facility: Foothills Baseball Stadium & Practice Facility
Address: 2255 Crowchild Trail N.W. Calgary, AB
Year Built: 1966; additions 1985, 1987, 2004 and 2007
Location: Foothills Athletic Eastern Edge adjacent to Crowchild Trail

Description: The Foothills Baseball Stadium complex is comprised of a steel and concrete grandstand with integrated dressing rooms, public washrooms and concession stands; an outdoor baseball diamond; two temporary tent structures w/ BBQ and seating areas; administrative and ticket sales pavilion; and temporary steel and two fabric structure practice facilities.

1.2.1.2 Facility Expenditures (to maintain current serviceability)

Past: No complete reports received to date.

Immediate Items: Approximately $21,500 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $296,805 for necessary renovations and repair.
- 10 year time frame: Approximately $200,092 for necessary renovations and repair.
- 15 year time frame: Approximately $78,908 for necessary renovations and repair.

1.2.1.3 Suitability of Intended Use

Existing Use: The baseball stadium is used by Calgary Vipers Baseball and the U of C Dino's Men and Women's baseball clubs. The practice facilities are run by Absolute Baseball, a subsidiary of the Calgary Vipers.

Leaseholders: Calgary Vipers Baseball lease the facilities until 2020. Chinooks Soccer sublet space in the two practice facilities.

Evaluation:
- Un-insulated plumbing on exterior of building creates hazards for burst pipes late and early in season.
- Washroom facilities are worn, not handicapped accessible and deteriorating.
- Limited dedicated parking adjacent to facilities and access only from

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

1.2 ♦ FOOTHILLS BASEBALL STADIUM ♦

road with slope greater than 10%.
- Field is said to be in very good condition, as maintained by Vipers' groundskeepers.

Suitability: The stadium is suitable for its intended use, however the maintenance and winterizing of the facility appear to be excessive for those responsible. Upgrade of plumbing systems and other facilities is recommended to maintain continued use.

1.1.2 PHYSICAL DESCRIPTION

1.2.2.1 Facility Construction

Baseball Stadium Grandstand: The grandstand consists of a steel support structure on concrete foundations with tiered, pre-cast concrete treads and risers to provide seating for 6,300 spectators. Seating is high-impact plastic in preformed bench or fold-down configurations. The grandstand enclosure and partial roof is comprised of steel structural members w/ corrugated sheet metal siding and roofing and suspends the press box above the seating. The press box has steel floor framing members, stairs and railings and is clad in corrugated metal siding with aluminum windows and frames. All doors are steel. Concessions, dressing rooms and public washrooms are provided in ancillary ATCO style buildings beneath the grandstand, constructed of prefabricated steel structure with insulated metal panel walls placed on concrete footings. Adequacy of washroom facilities is unknown but unlikely to meet Code. No mechanical or electrical information available at time of review.

Baseball Diamond: Grass baseball diamond w/ 345' depth on the right and left foul lines and 400' depth through the center field and dirt mounds. The outfield wall that encloses the field consists of a steel structure covered by plywood billboards and electronic display system. Nylon netting suspended on steel posts extends approximately 8.0m above outfield wall.

Tent Structures: Temporary fabric and steel tent structures on asphalt pads are located at 1st and 3rd baselines. Structures are open on 2 sides, but fenced from playing field. Open BBQs and spectator seating are provided within tents.

Sales Pavilion: Metal siding and roofing (low pitch), concrete foundation, aluminum windows, steel doors. No foundation, structural, mechanical or electrical information available at time of review.

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EXISTING FACILITIES INVENTORY
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1.2 ♦ FOOTHILLS BASEBALL STADIUM ♦

Practice Facility: Pre-manufactured metal frame structure with fabric cover on concrete pad foundation. Includes a 132'x120' indoor artificial turf in-field c/w 90' baselines; 9 hitting and pitching tunnels; 45' interior ceiling height; snack and lounge area; toilet facilities. No mechanical or electrical information available at time of review.

1.2.2.2 Facility Conditions

Summary: Based on the Athletic Parks Lifecycle Report prepared by Calgary Recreation, Office of the Capital in October 2005, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approx. $0.5 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in January of 2008 identified the following facility conditions requiring attention and approximate repair costs:

- Equipment and Furnishings (casework) = $13,500
- Interiors (carpet, painting sealing and staining, interior partitions) = $10,500
- Electrical Services (cable tray system, pa and music system) = $3,500
- Plumbing Services (water heater, sinks) = $5,000
- Site (outfield fence) = $3,000
- Special Construction and Demolition (grandstands) = $30,000

1.2.3 REFERENCE DOCUMENTS

1.2.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 10, 2008 February 08, 2007	Stantec Engineering Calgary Recreation, Office of the Capital	Facility Audit Report – Foothills Stadium Athletic Parks Lifecycle Report

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1.2 ♦ FOOTHILLS BASEBALL STADIUM ♦

1.2.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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Date: March 2, 2010

1.3 ♦ FOOTHILLS FIELD HOUSE ♦

1.3.1 SUMMARY

1.3.1.1 Facility Information

Facility:	Foothills Field House	**Address:**	2424 University Drive N.W. Calgary, AB
Year Built:	1967 (addition 1978)	**Location:**	Foothills Athletic Park South End

Description: The Foothills Field House is a split-level concrete block structure containing public washroom and change facilities, and maintenance and storage areas on the lower level; concession and administration offices on the intermediate level; and weight room and fitness area with adjacent change rooms on the upper level.

1.3.1.2 Facility Expenditures (to maintain current serviceability)

Past: No complete reports received to date.

Immediate Items: Approximately $157,500 is required for immediate repair.

Projected: No complete reports received to date.

5 year time frame:	Approximately $407,900 for necessary renovations and repair.
10 year time frame:	Approximately $94,509 for necessary renovations and repair.
15 year time frame:	Approximately $41,722 for necessary renovations and repair.

1.3.1.3 Suitability of Intended Use

Existing Use: Upper level is used by the Calgary Track Council as a weight room and training facilities. The east side houses their administration office and meeting room. The lower level houses public washrooms, additional change rooms and field maintenance equipment.

Leaseholders: Calgary Track Council leases the upper level and associated change rooms until 2014.

Evaluation:

- Entrance on east and west sides to lower change rooms and wash rooms is unpleasant and unsafe due to lighting, visibility and water issues.
- Water infiltration problem along the lower change rooms; peeling

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1.3 ♦ FOOTHILLS FIELD HOUSE ♦

paint and disintegration of the concrete masonry units.
- Signage, in general, and specifically to public washrooms is inadequate.
- Change rooms and washrooms are original and quite worn, handicapped inaccessible and deteriorating (spalling paint, missing wall base, torn matting, leaking fixtures and wood ceiling throughout).
- Concrete block on interior of showers is painted and peeling.
- Not proximate enough to the fields to be useful for field users.
- Proximity to the track makes the building exclusive to their use.
- Occupied space above maintenance vehicle storage violates building code. Vehicles must now be stored outside of secure area.
- Old, deteriorating building has been structurally adapted for weight training. Specific design solution is unknown.
- Structure reinforced but is dubious; code compliance is questionable.
- Access to the building is poor and very uninivitng.

Suitability:
- Demolish building and replace with code compliant, upgraded amenities in a more suitable location.
- Consider including as part of a larger facility serving multiple users on the site.

1.3.2 PHYSICAL DESCRIPTION

1.3.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a wood roof structure. Several steel teleposts installed in 2008 to reinforce the existing wood structure on the 2nd floor.

Envelope: Exterior walls are constructed of concrete masonry units with painted CMU and metal siding as finish materials.

Openings: Windows are double-paned aluminum; all doors are steel.

Roofing: Asphalt shingles on sloped roof.

Interiors: Painted concrete block and ceramic tile walls; exposed concrete slab floor, ceramic tile, and carpet. Ceilings are exposed to the structure or acoustic ceiling tile.

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1.3 ♦ FOOTHILLS FIELD HOUSE ♦

Mechanical: All existing lavatories, toilets and other fixtures are original.

Electrical: General lighting is provided by T-12 fixtures throughout the building. Electrical equipment includes a fire alarm system and emergency lighting.

1.3.2.2 Facility Conditions

Summary: Based on the Athletic Parks Lifecycle Report prepared by Calgary Recreation, Office of the Capital in October 2005, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approx. $0.7 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in January of 2008 identified the following facility conditions requiring attention and approximate repair costs:

- Building Envelope (CMU wall construction, roof supports, roof, wood overhead doors) = $58,500
- Functional Assesment (creating barrier free access) = $30,000
- Interiors (painting, sealing, staining, carpet, resilient tile flooring, ceramic tile flooring, handrails, CMU walls) = $52,500
- Electrical Services (main electrical switchgear, receptacle covers, fire alarm system) = $17,500
- Mechanical Services (gas fired furnaces, fume extraction system) = $30,000

1.3.3 REFERENCE DOCUMENTS

1.3.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 10, 2008	Stantec Engineering	Facility Audit Report – Foothills Field House
February 08, 2007	Calgary Recreation, Office of the Capital	Athletic Parks Lifecycle Report

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Date: March 2, 2010

1.3 ♦ FOOTHILLS FIELD HOUSE ♦

1.3.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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Date: March 2, 2010

1.4 ♦ FOOTHILLS AQUATICS CENTRE♦

1.4.1 SUMMARY

1.4.1.1 Facility Information

Facility: Foothills Pool
Year Built: 1965
Address: 2915 – 24 Ave N.W. Calgary, AB
Location: Foothills Athletic Park North End

Description: The Foothills Pool consists of three areas: the pool deck and basin; front-end area; and a basement level for mechanical systems. The pool area includes a six-lane, 25m pool, diving tank and leisure swimming basin while the front-end spaces consist of change rooms, administration, reception and a viewing area.

1.4.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $1,287,000.00 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $1,122,290.00 for necessary renovations and repair.
- 10 year time frame: Approximately $196,148.00 for necessary renovations and repair.
- 15 year time frame: Approximately $4,636,249.00 for necessary renovations and repair.

1.4.1.3 Suitability of Intended Use

Existing Use: Public swim and learn to swim programs are offered through the City of Calgary. The facility functions as the City's training/teaching facility for advanced leadership courses such as first aid, life guarding, CPR, rescue, etc.) Swim clubs such as the U of C Swim Club use the facility on a regular basis for training and non-sanctioned events and are primary users.

Leaseholders: N/A

Evaluation:
- Building is aging and requires significant investment to bring up to current standards and address accessibility concerns.
- Pool basin is not long enough to host sanctioned swimming competitions.

1.4 ♦ FOOTHILLS AQUATICS CENTRE♦

- Inadequate parking for patrons, as parking is shared with Bauer and the Volleydome.
- Lobby is very small and cannot accommodate spectators.

Suitability: The pool functions minimally as a recreational, teaching and practice pool, but has become very expensive to operate and maintain. It is inadequate length is a significant deficiency and restricts swim club use of the pool to practice only.

1.4.2 PHYSICAL DESCRIPTION

1.4.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a folded concrete roof panel.

Envelope: Exterior walls are constructed of concrete masonry units with brick cladding.

Openings: Doors and windows at main entry are aluminum; service doors are steel.

Roofing: Two roof coverings consist of an inverted built-up system over the front area and an SBS system over the pool area.

Interiors: Painted concrete block and ceramic tile walls; ceramic tile, VCT, carpet and mastic deck finishes. Ceilings are exposed to the structure or acoustic ceiling tile.

Mechanical: Building heat is provided by one gas-fired hot water heater. Roof top units provide ventilation for the front-end area; built on site supply and return fans located in the basement provide ventilation for the pool areas. Pool circulation includes a DE and gas chlorine filtration system. Gas is fed from an adjacent facility. Pool filtration system is not a currently-accepted technology and is the only one of its kind remaining in Calgary.

Electrical: General lighting is provided by T-12 fixtures throughout the building, however the pool deck is lit using metal halide fixtures. Electrical equipment includes a fire alarm system and emergency lighting. Electrical is fed from an adjacent facility.

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1.4 ♦ FOOTHILLS AQUATICS CENTRE♦

1.4.2.2 Facility Conditions

Summary: Based the valuation report prepared by S2 Architecture in February 2009, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approx. $6.8 million. For an enlarged footprint area and expanded programme delivery, the budget estimate of probable construction costs is $15.8 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in January of 2008 identified the following facility conditions requiring attention and approximate repair costs:

- Building Envelope (exterior painting and staining; gutters and down spouts) = $12,000
- Equipment & Furnishings (diving board, casework throughout the building, benches) = $39,500
- Functional Assessment (creating barrier free access) = $6,500
- Interiors (partitions, handrails, wall tile, painting and staining, floor finishes, pool deck and basin, acoustic ceiling) = $186,500
- Electrical Services (isolation switches, automated door openers for barrier free access) = $2,500
- Plumbing Services (domestic hot water heater, pool filtration system) = $115,000

1.4.3 REFERENCE DOCUMENTS

1.4.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
Feb. 20, 2009	S2 Architecture	Valuation Report – Foothills Pool
Jan. 29, 2008	Stantec Engineering	Facility Audit Report – Foothills Pool
Nov. 29, 2007	Stantec Engineering	Building Inspection Report

1.4.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.5 ♦ FOOTHILLS TENNIS COURTS ♦

1.5.1 SUMMARY

1.5.1.1 Facility Information

Facility: Foothills Tennis Courts
Address: 2424 University Drive N.W. Calgary, AB
Year Built: 1986
Location: Foothills Athletic Mid-North End

Description: Located on a terraced area directly south of the Volleydome, the facilities include eight fence-enclosed outdoor tennis courts and warm-up/practice area with backboards.

1.5.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $250,000 is required for immediate repair.

Projected: Approximately $250,000 for necessary renovations and repair.

1.5.1.3 Suitability of Intended Use

Existing Use: The courts are open to the general public for use on a drop-in basis. No booking is required unless multiple courts are needed. High schools book the courts during the school year to administer physical education programs.

Leaseholders: N/A

Evaluation:

- Plywood backboards are rotting in some locations; structure requires repainting and rust protection. Paved area adjacent to backboards is asphalt in good condition overall with minimal grass growing through cracks and only a few cracks/seams. Backboard straight, no warping.
- Some cracking on courts, but no evidence of plant matter.
- Court surface requires resurfacing/painting.
- Fencing good; straight, no patches, but no wind screen. A coniferous tree buffer exists on north side and helps protect against winds.
- Nets are of nylon and are straight and in good condition.
- Portable wood bleachers accommodating+/- 20 people; need repainting, repair or replacement; wood is cracked and worn.
- Courts are elevated relative to surrounding topography; with a slight

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CITY OF CALGARY RECREATION
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1.5 ♦ FOOTHILLS TENNIS COURTS ♦

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- There are no appropriate, proximate spectator or participant amenities such as change rooms and wash rooms.

Suitability:

- Backboards need replacement or refurbishment.
- Add/share appropriate spectator and participant amenities.
- Although there are 8 courts (adequate for tournaments), there is not convenient access to appropriate amenities, washrooms, change rooms, food service, match management, racket re-stringing area, spectator seating, etc.
- The general condition of the courts is reasonable for drop-in recreational play, however, higher level play, instruction and a tournaments would require significant improvement to the facilities.

1.5.2 PHYSICAL DESCRIPTION

1.5.2.1 Facility Construction

Tennis Courts: Built up of two layers, the tennis courts are comprised of an acrylic sanded top coat on an asphalt paved surface. The courts rest on a layer of fill composed of gravel and sand that varies in depth.

Fencing: Chain link with gates.

Warm-up/ Practice Area: Painted plywood backboards on a steel support structure line the west side of the tennis court enclosure and adjoin an asphalt playing surface.

1.5.2.2 Facility Conditions

Summary: The facility conditions assessment report prepared by Stantec Engineering in February of 2008 identified the following facility conditions requiring immediate attention and their approximate repair costs:

- Tennis court surfaces (repair cracking, level playing surface, repair asphalt and resurfacing) = $250,000

1.5.3 REFERENCE DOCUMENTS

1.5.3.1 Reports, Assessments & Cost Estimates

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1.5 ♦ FOOTHILLS TENNIS COURTS ♦

Date:	Prepared By:	Name:
Feb. 6, 2008	Stantec Engineering	Facility Audit Report – Foothills Athletic Park Tennis Courts

1.5.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.6 ♦ FOOTHILLS TRACK ♦

1.6.1 SUMMARY

1.6.1.1 Facility Information

Facility: Foothills Track
Address: 2424 University Drive N.W. Calgary, AB
Year Built: 1966
Location: Foothills Athletic Park South End

Description: The track facilities consist of a 400m outdoor track with a turfgrass in-field and portable discus cage; wood and metal spectator bleachers with integrated storage areas; a portable timing shack elevated on a pre-engineered structure; two storage buildings; jumping and throwing pits.

1.6.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $634,000 is required for immediate repair

Projected:
- 5 year time frame: Approximately $274,159 for necessary renovations and repair.
- 10 year time frame: Approximately $0.00 for necessary renovations and repair.
- 15 year time frame: Approximately $2,042,835 for necessary renovations and repair.

1.6.1.3 Suitability of Intended Use

Existing Use: The track is currently unavailable for bookings or competitions due to its poor condition; however access to the facility is not restricted. The in-field can only be booked by professional soccer teams.
Facility unavailable (2008 season) due to:
Amenity Condition: ---
Inclement Weather: 10.6%

Leaseholders: N/A

Evaluation:
- Track surface is worn, delaminating, torn or missing in several areas and the sub-grade is crumbling which further deteriorates the track and creates tripping hazards. Use of the track is hazardous.
- Drainage from track surface is inadequate as ponding occurs in

1.6 ♦ FOOTHILLS TRACK ♦

several places and penetrates the surface, causing sub-grade deterioration.
- Storage is provided in multiple areas making it inconvenient, but it is unsightly and obstructs full use of the area.
- Grandstands are old, in disrepair and unsafe in locations.
- In-field turfgrass in reasonably good condition. The field is slightly crowned and vermiculite in soil is said to provide good drainage.
- Some compaction and surface erosion may be causing the grass to be uneven, or "clumpy".
- Visible manhole in SE corner as well as irrigation boxes and heads exposed throughout field, causing hazards for participants.
- There is no dedicated throwing area for discuss, hammer and shot put, so practice occurs on the track and infield. As a result, throwing cannot be concurrent with use of the track.
- In adequate parking on site for users. Parking at adjacent McMahon Stadium is limited.
- No lights for evening events or to extend practice or play time.
- Concession stand in an old and deteriorating ATCO trailer is inaccessible and a hazard.

Suitability: The track is not suitable for use in its current condition. It requires reconstruction of the sub-grade, base and surface. The field is suitable for field activities.

1.6.2 PHYSICAL DESCRIPTION

1.6.2.1 Facility Construction

Track: Built up of four layers, the track is comprised of a 12mm synthetic surfacing material, 140mm asphaltic concrete, 50mm rubberized asphalt and 76mm asphaltic concrete. The track rests on a layer of fill composed of gravel and sand that varies in depth.

Track In-Field: The playing field comprises 300mm thick grass sod on topsoil above 1200mm of compact soil comprised of sandy silt, trace clay and trace gravel, located on 1200mm of silty clay and approximately 3400mm of Mudstone bedrock.

Discus Cage: Angled, curved steel post support structure is covered with heavy-duty netting to create enclosure. A portable discus platform forms the base.

Bleachers: Steel structural framing with wood frame walls covered by corrugated

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sheet metal siding. Internal walkways and seating fashioned from wood planks. Seating comprised of fibreglass or aluminum benches on wood supports. Rubber matting lines internal walkways. The seating is not covered. Lockable storage is integrated beneath the seats.

Timing Shack: Supported on a pre-engineered structure, the floor is constructed of steel I-beams with wood decking. The stair to the shack is steel including railings, treads and risers. The building has a flat roof with a built-up bitumen 4-ply roofing system. Metal siding. Horizontal sliding single glazed window units in aluminum frames. Hollow metal exterior door. Interior finishes include vinyl sheet flooring, vinyl wall coverings, laminate on particle board millwork, and acoustical ceiling tile. One single basin sink with potable cold water supply only through plastic and copper piping. Sanitary drain is ABS pipe. Electrical fed by Field House.

Storage Buildings: Pre-manufactured portable storage sheds (two) are located on temporary concrete pad foundations. Buildings consist of wood framing with sheet metal siding and low-pitch metal roofing. Hollow metal exterior doors. Horizontal sliding single glazed window units in aluminum frames. Electrical for lighting fed through Field House on closest shed.

Jumping & Throwing Pits: Pole vault and triple jump pits run parallel to east side of track and are constructed of similar surfacing and base layers to outdoor track. Area is allocated for throwing for hammer and shot put at the northeast corner of track on grass sod area, including portable enclosures similar to the discus cage. Throwing also occurs on the in-field.

1.6.2.2 Facility Conditions

Summary: Based the valuation report prepared by S2 Architecture in March 2009, the budget estimate of probable construction costs for major renovation and repair of the facilities in their existing configuration is approx. $2.22 million. For an enlarged footprint area and expanded programme delivery, the budget estimate of probable construction costs is $3.65 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in February of 2008 identified the following facility conditions requiring immediate attention and their approximate repair costs for repair at that time:

- Timing shack exterior metal stairs (exterior painting and refinishing) = $3,000
- Timing shack and bleacher siding (replacement of damaged panels) = $2,000

1.6 ♦ FOOTHILLS TRACK ♦

- Timing shack roofing (regular maintenance & repair) = $1,000
- Timing shack drain line (repair) = $2,000
- Timing shack fire protection (add fire extinguisher) = $2,000
- Timing shack pre-engineered support structure (painting and refinishing) = $5,000
- Bleachers replacement (beyond repair) = $125,000
- Track drainage and surfacing = $500,000

1.6.3 REFERENCE DOCUMENTS

1.6.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
Mar. 11, 2009	S2 Architecture	Valuation Report – Foothills Track
Jan. 8, 2009	A.D. Williams Engineering LTD	Foothills Athletic Park Grandstand Structural Review
Feb. 1, 2008	Stantec Engineering	Facility Audit Report – Foothills Track and Field
Feb. 16, 2007	Golder Associates	Final Report – Geotechnical Services at Foothills and Glenmore Athletic Tracks.

1.6.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.7 ♦ LITTLE LEAGUE #7 ♦

1.7.1 SUMMARY

1.7.1.1 Facility Information

Facility: Little League #7
Address: 2424 University Drive N.W. Calgary, AB
Year Built: 1975 (retrofitted 1984 and 1992)
Location: Foothills Athletic Park NE Corner

Description: The Foothills Little League #7 facilities consist of a steel frame, metal-clad two-storey clubhouse; 200' deep baseball diamond with chain link fence; outdoor batting cages; portable aluminum bleachers; and a storage shed.

1.7.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $ is required for immediate repair.

Projected:
5 year time frame: Approximately $85,205 for necessary renovations and repair.
10 year time frame: Approximately $12,464 for necessary renovations and repair.
15 year time frame: Approximately $0.00 for necessary renovations and repair.

1.7.1.3 Suitability of Intended Use

Existing Use: The facility functions as the home game, tournament and event facility for all Little League teams registered in Alberta district #3 (as part of 9 Little Leagues within Calgary North).
Facility unavailable (2008 season) due to:
Amenity Condition: ---
Inclement Weather: 10.2%

Leaseholders: Alberta Little League District #3 leased the diamond, club house and all associated facilities until June 30, 2009.

Evaluation:
- Foul poles (steel good condition; straight).
- Access road very narrow and ices in winter. Corner is difficult to

1.7 ♦ LITTLE LEAGUE #7 ♦

navigate; facility accessibility is a significant challenge.

- Batting cages on north side. Bullpens on north and east down the lines. All in reasonably good condition.
- 4' fence on majority of outfield with fence top guard.
- Remnants of warning track exist, but are overgrown with grass. Warning track is not adequate, appropriately maintained and should be wider.
- Electronic score board is controlled via the clubhouse.
- Fencing is straight and in good condition, no patches.
- Limited dedicated parking lot on east side; gravel only, no paving; lot graded at more than 5% and the surrounding slope drains into the lot which then drains onto fields.
- Paint peeling on dugout benches.
- 2 sets of aluminum and galvanized steel bleachers in great condition. Additional seating provided by surrounding grassed sloped areas.
- Space between home plate and building is enclosed with fence.
- Loud speaker and score board system appear to be in workable condition.
- Some plant overgrowth into paved areas and fields.
- Diamond turfgrass in good condition. Drainage is toward a low spot in center field and should be corrected. There are also several large depressions which present a safety concern.
- Diamond only 200' in centerfield; requires an additional 20'.

Suitability: The diamond is suitable for its intended use. It is recommended that the drainage and facility wear issues be addressed. Access to the facility for major events is not appropriate and presents a challenge. There are inadequate spectator facilities for the large crowds said to gather at this facility (washrooms, etc.).

1.7.2 PHYSICAL DESCRIPTION

1.7.2.1 Facility Construction

Clubhouse: The two storey clubhouse consists of concrete masonry unit exterior envelope and structure on a concrete foundation, with metal siding and roofing; steel doors and vinyl windows. The clubhouse is surrounded by a waiting area consisting of concrete pavers with cast concrete retaining walls with fixed wood benching. Public washrooms accessed from north side of facility. 1 male and 1 female stall for public use. One access stair to 2nd level. Upper level contains a large sitting area with low-pile carpet,

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acoustical ceiling tile and painted concrete block walls. The 2nd level also houses 1 male and 1 female washroom, a kitchen and storage areas. Mechanical and electrical rooms are located throughout the building. The lower level also accommodates a small concession and BBQ space with a dedicated vent hood.

Baseball Diamond: Grass baseball diamond w a consistent 200' depth on the right and left foul lines and in center field and clay pitcher's mounds. The outfield wall that encloses the field consists of chain link fence with flag poles, score board and foul ball poles. Dugouts consist of chain link fences with 4' high metal clad back wall with nylon sign on fence; permanent bench seating with aluminum top; vinyl drain tile is used as guard on top of fence at front of dug out; dirt/shale floor.

Batting Cages: Batting cages and bullpen areas consist of chain link fence enclosures with dirt/shale footing. Area surrounding diamond has many retaining walls – cast concrete, pressure treated wood or masonry units.

Bleachers: 2 sets of portable aluminum and galvanized steel bleachers with aluminum bench style seats. No mechanical or electrical provided.

Storage Shed: Pre-manufactured style wood frame storage shed with vinyl siding and asphalt shingles on a raised wood foundation. A fenced, locked storage area is provided adjacent to the shed.

1.7.2.2 Facility Conditions

Summary: Based on the Athletic Parks Lifecycle Report prepared by Calgary Recreation, Office of the Capital in October 2005, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approx. $0.1 million.

Further to the above assessment, the facility audit report prepared by Stantec Engineering in January of 2008 identified the following facility conditions requiring attention and approximate repair costs:

- Building Envelope (asphalt shingle roofing) = $8,000
- Equipment and Furnishings (bathroom casework) = $4,500
- Functional Assessment (creating barrier free access) = $20,000
- Interiors (gypsum wallboard, sinks, carpet) = $14,000
- Electrical Services (emergency lighting system) = $3,000

1.7.3 REFERENCE DOCUMENTS

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1.7 ♦ LITTLE LEAGUE #7 ♦

1.7.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 10, 2008	Stantec Engineering	Facility Audit Report – Foothills Little League Baseball Building and Field
February 08, 2007	Calgary Recreation, Office of the Capital	Athletic Parks Lifecycle Report

1.7.3.1 Site Visits

Date:	Visited By:
May 25, 2009	S2SporstPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.8 ♦ NORMA BUSH MEMORIAL ARENA ♦

1.8.1 SUMMARY

1.8.1.1 Facility Information

Facility: Norma Bush Memorial Arena
Address: 2424 University Drive N.W. Calgary, AB
Year Built: 1974 (1987 addition; 2004 refrigeration plant; 2006 ventilation)
Location: Foothills Athletic Park North End

Description: Norma Bush Memorial Arena is single level facility constructed adjacent to a hill. Access is provided by a ramp, stairs or through the adjoining Father David Bauer Arena. The building centers on an NHL-size 185'x85' artificial ice rink and includes a 60-person spectator seating area, officials and player change rooms, public washrooms and a staff room. The arena shares common mechanical, electrical and storage spaces with the adjacent Father David Bauer Arena.

1.8.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $849,750 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $66,950 for necessary renovations and repair.
- 10 year time frame: Approximately $113,300 for necessary renovations and repair.
- 15 year time frame: Approximately $213,210 for necessary renovations and repair.

1.8.1.3 Suitability of Intended Use

Existing Use: In conjunction with Father David Bauer Arena, the facility is used predominantly by Hockey Canada, the University of Calgary Men's and Women's teams, the Calgary Junior A Royals, and AAA Midgets Northstars. When not occupied by the principal users, the facility is available for use by the general public (through City of Calgary Bookings) or the Calgary Flames when the Saddledome is unavailable.

Leaseholders: Hockey Canada has a lease on both arenas until 2025 with a 25 year renewal option.

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1.8 ♦ NORMA BUSH MEMORIAL ARENA ♦

Evaluation:

- Spectator washrooms adjacent to seating area have only 1 toilet and 1 lavatory in the women's and 1 toilet, 1 urinal and 1 lavatory in the men's washroom. This is inadequate to accommodate the spectator capacity of the arena and is not current-Code-compliant. Doors and rooms are not barrier free accessible.
- Roof requires replacement
- Efficient sharing of mechanicals and equipment between 2 arenas
- Slope between rinks at ice pit is ±10% and is too steep.
- Change rooms for players and officials are minimally functional and very utilitarian. Each one includes 1 toilet, 1 lavatory, 1 shower and benches along all of the walls.
- Access to change rooms is very poor.
- Circulation of spectators to washrooms and exits is poor.

Suitability: The suitability for the intended use of the Norma Bush Arena is minimal. It is an aging facility, near the end of its useful life.

1.8.2 PHYSICAL DESCRIPTION

1.8.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a steel truss roof system w/ metal decking.

Envelope: Exterior walls are constructed of concrete masonry units, and provide the finish on the interior and exterior of the building.

Openings: Doors and windows are aluminum; service doors are steel.

Roofing: SBS membrane.

Interiors: Painted concrete block and ceramic tile walls; VCT, carpet and rubber matting. Ceilings are exposed to the structure with foil-covered insulation or acoustic ceiling tile.

Mechanical: Ammonia ice plant. Roof drains tied to storm sewers directly.

Electrical: No electrical information available at time of review.

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1.8 ♦ NORMA BUSH MEMORIAL ARENA ♦

1.8.2.2 Facility Conditions

Summary: Based on the Arenas Lifecycle Report prepared by Calgary Recreation, Office of the Capital in May 2006, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approximately $1.5 million.

Further to the above assessment, the refrigeration plant lifecycle report prepared by Thermo-Carb, identified the following facility conditions requiring attention and approximate repair costs:

- Ice Plant Equipment (Chiller, Brine Pumps, 60 HP Compressor Motor) = $82,000

1.8.3 REFERENCE DOCUMENTS

1.8.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
January 11, 2008	Thermo Carb	Life Cycle Report (Ice Plant)– Father David Bauer and Norma Bush Arenas
February 08, 2007	Calgary Recreation, Office of the Capital	Arenas Lifecycle Report

1.8.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.9 ♦ FOOTHILLS SOCCER #4, #5 & #6 ♦

1.9.1 SUMMARY

1.9.1.1 Facility Information

Facility:	Foothills Soccer #4, #5 #6	**Address:**	2424 University Drive NW Calgary, AB
Year Built:	1975	**Location:**	SW corner of athletic park

Description: Foothills soccer #4, #5 and #6 consist of 3 rectangular soccer fields that are approximately 60 x 100m in dimension. Soccer field #4 consists of a grass pitch with nets, temporary bleachers and lights. Soccer #5 and #6 are comprised of grass pitches with nets, and temporary bleachers.

1.9.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

1.9.1.3 Suitability of Intended Use

Existing Use: Currently soccer fields #4 and #5 can be booked through the City of Calgary Bookings for games, events and tournaments. Soccer #6 is currently unusable due to water damage to the playing surface.
Facility #4 unavailable (2008 season) due to:
Amenity Condition: 42.3%
Inclement Weather: 5.9%

Facility #5 unavailable (2008 season) due to:
Amenity Condition: 49.2%
Inclement Weather: 9.8%

Facility #6 unavailable (2008 season) due to:
Amenity Condition: 79.2%

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1.9 ♦ FOOTHILLS SOCCER #4, #5 & #6 ♦

Inclement Weather: 5.0%

Leaseholders: N/A

Evaluation: Soccer #4:
- Wear at goal mouths is minor (sod recently replaced).
- Bald patches & uneven grade throughout field are a safety concern. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- 18 yard line worn (penalty mark); grass is pock marked.
- 4 portable bleachers provide seating for approximately 200. They have wood bench seats that are worn, split and cracked; require re-painting or replacement in some instances.
- Soccer nets are worn and metal frames require repainting.
- Orientation of field for soccer (EW) is appropriate.
- 6 lights surrounding field extend playable hours.
- Populars and elms on north side of field create problems with their root structures with the playing field. Leaves block the fields in the fall.
- Slope on North side – drains onto field.
- Exposed irrigation heads and boxes pose safety hazards.

Soccer #5:
- Discuss cage on SE corner (permanent), not much clearance to soccer field +/-5' to edge of painted line.
- Slope on North side drains into the field.
- South end dips in field at goal; sod worn.
- Steel goals with nylon nets; posts need painting/rust protection.
- Not enough clearance on South to parking area.
- Worn sod at center field. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- Worn goal, worn sod.
- Orientation N/S is appropriate.
- Exposed irrigation heads and boxes pose safety hazards.

Soccer #6
- Orientation N/S is appropriate.
- Field undulates from East to West resulting in poor drainage.
- Field currently closed due to wet field condition.
- Grass is very worn, and the sod needs replacing. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- Steel goals with nylon nets; posts need painting/rust protection.
- NW corner of field has new sod; grass is at different heights.
- Sand topping exposed on East side line, at centre and north lines.
- Pock marks and worn patches throughout.

1.9 ♦ FOOTHILLS SOCCER #4, #5 & #6 ♦

- Clearances on south and west sides too close to roads.
- NW corner to goal +/- 2' grade difference – corner kick hazard.
- Exposed irrigation heads and boxes pose safety hazards.

Suitability: Fields are generally suitable for their intended use; however there are a number of issues that should be addressed to maximize field durability:

- Increased crowning of fields would create better, more positive drainage.
- Improved maintenance protocols would minimize compaction and improve repopulation of grass plants, which would minimize surface erosion.
- Installation of additional sports lighting would extend play in the early spring and fall.

Professionally-designed sports field irrigation systems would eliminate/minimize impact of sprinkler heads, etc. on safety of fields.

1.9.2 PHYSICAL DESCRIPTION

1.9.2.1 Facility Construction

Field: Grass field surrounded by a 6' fence.

Soccer Nets: Steel tube frame construction w/ nylon nets. Nets are mobile.

Bleachers: Temporary, mobile aluminum bleachers with wood bench seating. 2 sets of bleachers with 10 rows accommodate 100 spectators each.

1.9.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

1.9.3 REFERENCE DOCUMENTS

1.9.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

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1.9 ♦ FOOTHILLS SOCCER #4, #5 & #6 ♦

No reports received to date.

1.9.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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1.10 ♦ VOLLEYDOME CALGARY ♦

1.10.1 SUMMARY

1.10.1.1 Facility Information

Facility: Volleydome Calgary
Address: 2825 24 Avenue N.W. Calgary, AB
Year Built: 1994
Location: Northeast corner of Foothills Athletic Park

Description: The Volleydome is a private business, on leased City land. It consists of six hardwood courts (one has been converted to a physical training area) within a 120' x 266' x 40' pressurized, air-supported structure. The facility also includes four secured, outdoor sand volleyball courts. The facility includes washrooms, an office area, licensed lounge and snack bar, as well as courtside seating for 150 people.

1.10.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.
5 year time frame: Approximately $ for necessary renovations and repair.
10 year time frame: Approximately $ for necessary renovations and repair.
15 year time frame: Approximately $ for necessary renovations and repair.

1.10.1.3 Suitability of Intended Use

Existing Use: The facility is dedicated to both indoor and outdoor volleyball. One court is sublet to National Sport Development (NSD) for a training area.

Leaseholder: Volleydome Calgary Inc. leases the land until 2015 with an option to renew the contract for an additional 5 years. NSD subleases one court.

Evaluation:
- Volleydome controls parking of upper parking lot and shares the revenue with the City. Parking is insufficient for major events.
- Indoor facilities allow for year-round practice and games.
- No change rooms are available and only limited washrooms.

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1.10 ♦ VOLLEYDOME CALGARY ♦

- There are four courts for practices, however tournament matches require additional space and one court is eliminated to create three adequately-sized courts.
- Circulation around the courts is minimally functional and the configuration of the "bubble" is not ideal for volleyball play.

Suitability: The suitability for intended use of the Volleydome is adequate and the facility provides a significant service to volleyball participants in Calgary. However, it is not at all ideal and, while air-inflated structures are economical, they must be of adequate size and height for high-level volleyball play. In addition, the limitations of these structures relative to wind and snow-loading are notable.

1.10.2 PHYSICAL DESCRIPTION

1.10.2.1 Facility Construction

Structure: An engineered air-supported structure anchored to a concrete grade beam, c/w slab on grade.

Envelope: The two-layer membrane is manufactured from a 28oz vinyl-coated polyester fabric on the exterior and a 15oz liner fabric to improve thermal and acoustic qualities. The membrane provides approx. 30% daylight transmission to passively light the interior.

Openings: Rotating aluminum and glass entrance door within an airlock. Exit doors are steel and maintained within an air-lock.

Roofing: Two-layer membrane that comprises envelope.

Interiors: White membrane liner fabric provides interior finish for the majority of the space. Washrooms and office areas are enclosed in gypsum covered wood frame stud walls. Hardwood courts throughout as well as hardwood in the lounge and physical training space. Carpet, acoustic ceiling tile and painted finishes in office areas; VCT in washrooms.

Mechanical: Two exterior mechanical units include a primary natural gas heat and inflation unit, as well as a standby unit powered by a generator for use in the event of a power failure. Both units are equipped with motorized, remote controlled dampers to control system pressure. Temperature is

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1.10 ♦ VOLLEYDOME CALGARY ♦

thermostatically controlled. Insulated ducts from units to membrane.

Electrical: Building lighting is provided by 1000 watt metal halide lamps, with reflectors, guards, ballasts and twist-lock connectors. Emergency lighting and fire alarm system are integrated.

1.10.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

1.10.3 REFERENCE DOCUMENTS

1.10.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

1.10.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.1 ♦ GLENMORE BASEBALL #3 ♦

2.1.1 SUMMARY

2.1.1.1 Facility Information

Facility: Glenmore Baseball #3
Address: 5300 – 19th Street SW Calgary, AB
Year Built: Undetermined
Location: Glenmore north end adjacent to 16th Street entrance

Description: Glenmore Baseball Field #3 is comprised of a fenced outdoor baseball diamond; storage shack; roofed dugouts & portable bleachers.

2.1.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.1.1.3 Suitability of Intended Use

Existing Use: Baseball practice for Calgary Babe Ruth and National Sport Academy.
Facility unavailable (2008 season) due to:
Amenity Condition: ---
Inclement Weather: 28.8%

Leaseholders: Calgary Babe Ruth leases the diamond until 2013.

Evaluation:
- No warning track adjacent to outfield fence compromises player safety.
- There is a top rail guard provided on the fence.
- Grade slopes towards infield, causing drainage to be contained in the center of the field, rather than draining off of the field.
- Infield clay and outfield grass line is uneven.

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2.1 ♦ GLENMORE BASEBALL #3 ♦

- Grass appears thick and healthy, however grade is somewhat uneven in areas and grass is clumpy.
- Fences are uneven, tilted, patched and rusting. At 5' in height, they are too low and should be a minimum of 6' high, 8' preferred.
- Bleachers have wood bench seats that are worn, split and cracked; require re-painting or replacement in some instances.
- Dugouts in good condition, however bench seating requires painting.
- Orientation of diamond (line from home plate to pitcher's mound aligns east-NE) appropriate for best playing conditions.
- Bleachers provide viewing for approximately 250 spectators.
- Although close to Stu Peppard Arena, no access is provided to the change facilities, concession or washrooms.
- Parking located adjacent to the field and is sufficient for games.
- One batting cage adjacent to diamond topped with barbed wire.
- Large electrical transformer behind backstop within area where players access the dugouts.

Suitability: The suitability of intended use for Glenmore Baseball #3 will be determined as part of the Master Planning Process.

2.1.2 PHYSICAL DESCRIPTION

2.1.2.1 Facility Construction

Baseball Diamond: Grass baseball diamond w/ 320' down the right and left foul lines and 395' depth in center field. In-field has clay mounds and base paths. The outfield fence is 5' in height w/ yellow guard along top rail. No warning track is provided adjacent to fence. Backstop fence is 20' tall. Field is lighted with 6 light standards. Sound system is controlled from adjacent storage shack.

Storage Shack: Wood frame construction with metal siding on raised wood sleepers as foundation. Steel door. Controls for sound system located here.

Dugouts: Metal roofing (low pitch) and siding along back of bench area. Steel tube framing with concrete post foundations. Fibreglass, floor-mounted player benches. Infield clay flooring.

Bleachers: Portable aluminum bleachers with wood bench seating. 2 sets of bleachers with 10 rows. Accommodates 100 spectators each; one bleacher with 5 rows accommodates 50 spectators.

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CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.1 ♦ GLENMORE BASEBALL #3 ♦

2.1.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.1.3 REFERENCE DOCUMENTS

2.1.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.1.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.2 ♦ GLENMORE FOOTBALL #2, #2a, #2b & #2c ♦

2.2.1 SUMMARY

2.2.1.1 Facility Information

Facility:	Glenmore Football #2, #2a, #2b, #2c	**Address:**	5300 – 19th Street SW Calgary, AB
Year Built:	19??	**Location:**	NW corner of athletic park

Description: Glenmore Football #2 is a 91m x 146m soccer field that can be divided into three flag football pitches #2a, #2b and #2c. The field comprises a grass pitch with soccer nets, and temporary bleachers.

2.2.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.2.1.3 Suitability of Intended Use

Existing Use: Intended to incorporate flexibility to accommodate both soccer and flag football, due to line confusion and quality of the playing surface, the field is used almost exclusively for flag football pitches.
Facility #2 unavailable (2008 season) due to:
Amenity Condition: 74.0%
Inclement Weather: 0.8%

Facility #2a unavailable (2008 season) due to:
Amenity Condition: ---
Inclement Weather: 19.2%

Facility #2b unavailable (2008 season) due to:
Amenity Condition: ---

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2.2 ♦ GLENMORE FOOTBALL #2, #2a, #2b & #2c ♦

Inclement Weather: 13.0%

Facility #2c unavailable (2008 season) due to
Amenity Condition: -
Inclement Weather: 4.4%

Leaseholders: N/A

Evaluation:
- Insufficient clearance between north end of field and 50th Avenue.
- Drainage slopes towards east (no crown) and appears to be minimal.
- Wear at goal mouths requires sod replacement.
- Small bald patches & uneven grade throughout field are a safety concern. Soil compaction and/or surface erosion appear to be causing the grass to grow in "clumps".
- Bleachers have wood bench seats that are worn, split and cracked; require re-painting or replacement in some instances.
- Soccer nets are worn, patched and contain holes, requiring replacement.
- Orientation of field for soccer (N-S) is appropriate; orientation for flag football (E-W) is inappropriate.
- No lights on field limit playable hours.
- Field is adjacent to pool parking lot; access is convenient.
- Field users can use the pool washroom (only 1 for lobby), but must pay an entry fee to use the locker rooms in the pool.

Suitability: Field is generally suitable for its intended purpose; however there are a number of issues that should be addressed to maximize wearability of the field.
- Increased crowning of field would create better, more positive drainage.
- Improved maintenance protocols would minimize compaction and improve repopulation of grass plants, which would minimize surface erosion.
- Installation of additional sports lighting would extend play in the early spring and fall.
- Professionally-designed sports field irrigation systems would eliminate/minimize impact of sprinkler heads, etc. on safety of fields.

2.2.2 PHYSICAL DESCRIPTION

2.2.2.1 Facility Construction

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2.2 ♦ GLENMORE FOOTBALL #2, #2a, #2b & #2c ♦

Field: Grass field surrounded by a 6' fence. No guard on top of fence.

Soccer Nets: Steel tube frame construction w/ nylon nets. Nets are mobile.

Bleachers: Temporary, mobile aluminum bleachers with wood bench seating. 2 sets of bleachers with 10 rows accommodate 100 spectators each.

2.2.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.2.3 REFERENCE DOCUMENTS

2.2.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.2.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.3 ♦ GLENMORE FOOTBALL #6 ♦

2.3.1 SUMMARY

2.3.1.1 Facility Information

Facility: Glenmore Football #6 **Address:** 5300 – 19th Street SW Calgary, AB
Year Built: 19?? **Location:** Center of athletic park

Description: Glenmore Football #6 is a dedicated 60m x 120m touch football pitch with portable bleachers, lights, scoreboard and sound system.

2.3.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.3.1.3 Suitability of Intended Use

Existing Use: Football #6 replaced the former touch football field at Mewata Stadium. The field is used solely by touch football teams for games. Summer day camps for soccer also use the field (TBC)
Facility unavailable (2008 season) due to:
Amenity Condition: 56.7%
Inclement Weather: 3.9%

Leaseholders: N/A

Evaluation:
- Elevated location assists overall drainage, however field crown is minimal, which may compromise drainage; recommend appropriate crown for proper surface drainage.
- Adjacent velodrome slopes onto the south side of the field directing surface water onto the field.

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2.3 ♦ GLENMORE FOOTBALL #6 ♦

- Grass is generally thick and appears healthy.There are irrigation heads, small bare patches & somewhat uneven areas with grass clumps in places on the field..
- Bleachers have wood bench seats that are worn, split and cracked; require re-painting or replacement in some instances.
- Orientation of field for soccer (N-S) is appropriate.
- Clearance of at least 5m on all sides of field to adjacent fence except on SW corner, where velodrome abuts field. Clearance is 3.3m, which is inadequate.
- Parking is shared with the Velodrome and Stu Peppard arena; access is convenient.
- One dedicated user only keeps grass in good condition.
- There is no proximate access to change facilities as players do not have access to the arena for changing or use of the washrooms.

Suitability: The field is generally suitable for its intended use.

2.3.2 PHYSICAL DESCRIPTION

2.3.2.1 Facility Construction

Field: Grass field is enclosed by a 6' fence. Retaining walls on 3 sides of field. Fence on interior of retaining wall for safety. Fence protects 3 sides. 6 light standards surround field for extended evening play. Score board with minute, second, period and score function at south end of field. Sound system speakers are located around field, controlled from light standard on NW side of field.

Soccer Goals: Steel tube frame construction w/ nylon nets. Goals are portable.

Bleachers: Portablesteel and aluminum bleachers with wood bench seating accommodate 50 spectators. 1 set of bleachers with 5 rows.s.

2.3.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.3.3 REFERENCE DOCUMENTS

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2.3 ♦ GLENMORE FOOTBALL #6 ♦

2.3.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.3.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.4 ♦ GLENMORE AQUATICS CENTRE ♦

2.4.1 SUMMARY

2.4.1.1 Facility Information

Facility: Glenmore Aquatics Center
Year Built: 1962 (retrofitted 1995, 2000, 2001, 2003, 2005, 2007 and 2009)
Address: 5330 – 19th Street N.W. Calgary, AB
Location: Glenmore athletic park west side near corner.

Description: The Foothills Pool consists of three areas: the pool deck and basin; public access and service areas; and a basement level for mechanical systems. The pool area comprises a six-lane, 25m pool that ranges 1.0 – 1.5m in depth; diving tank and hot tub/whirlpool; while the front-end spaces consist of change rooms, administration, reception, viewing area and meeting rooms.

2.4.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $498,296 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $741,457 for necessary renovations and repair.
- 10 year time frame: Approximately $3,535,602 for necessary renovations and repair.
- 15 year time frame: Approximately $1,060,880 for necessary renovations and repair.

2.4.1.3 Suitability of Intended Use

Existing Use: Public swim and learn to swim programs are offered through the City of Calgary. Swim clubs such as the Calgary Tritons and Glenmore Seals use the facility on a regular basis for training and non-sanctioned events.

Leaseholders: N/A

Evaluation:
- Well-used community-oriented pool.
- Parking shared with adjacent facilities (soccer fields and track).
- Pool is relatively new but quite modest; lap pool and dive tank.
- It is useful for lap swimming and instruction but has limited appeal as a

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2.4 ♦ GLENMORE AQUATICS CENTRE ♦

leisure pool or fun destination.
- Deck space is limited, restricting spectator accommodation.
- Public lobby is small and functions solely as transition space from outside to locker rooms and meeting room.
- Meeting room is too small to function as effectively as desired.

Suitability:
- Addition of a leisure pool component would add significantly to the community appeal of the facility.
- Expansion and upgrade of the public lobby would create a dynamic, lively atmosphere in the facility.
- Connection to other recreation components on the site would add to the life of the building.
- Expansion of existing and addition of new meeting rooms/multi-purpose rooms and/or classrooms would create more opportunities for community users.
- Addition of group exercise studio(s) would be more appropriate than using meeting rooms for physical activity classes.
- Fitness/strength and conditioning space would complete the conversion of the facility into a community-based recreation facility.

2.4.2 PHYSICAL DESCRIPTION

2.4.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a folded concrete roof panel.

Envelope: Exterior walls are constructed of concrete masonry units with brick cladding.

Openings: Doors and windows at main entry are aluminum; service and exit doors are steel.

Roofing: Two roof coverings consist of an inverted built-up system over the front area and an SBS system over the pool area.

Interiors: Painted concrete block and ceramic tile walls; ceramic tile, VCT, carpet and mastic deck finishes. Ceilings are exposed to the structure or acoustic ceiling tile.

2.4 ♦ GLENMORE AQUATICS CENTRE ♦

Mechanical: Pool circulation system maintains the salt water swimming basin within a temperature ranges of 28.5 to 30ºC; the dive pool within a range of 28.5 to 29ºC; and the hot tub/whirl pool temperature between 39.5 an 40ºC. No information available on building heating, ventilation or pool circulation systems at time of report.

Electrical: General lighting is provided by T-12 fixtures throughout the building, however the pool deck is lit using metal halide fixtures. Electrical equipment includes a fire alarm system and emergency lighting.

2.4.2.2 Facility Conditions

Summary: Based on the Arenas Lifecycle Report prepared by Calgary Recreation, Office of the Capital in February 2007, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approximately $5.8 million.

2.4.3 REFERENCE DOCUMENTS

2.4.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 08, 2007	Calgary Recreation, Office of the Capital	Aquatics Lifecycle Report

2.4.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.5 ♦ GLENMORE TRACK & INFIELD♦

2.5.1 SUMMARY

2.5.1.1 Facility Information

Facility:	Glenmore Track & Infield	**Address:**	5300 – 19th Street N.W. Calgary, AB
Year Built:	19??, 2008 (resurfacing)	**Location:**	Athletic park north end

Description: The track facilities consist of a 400m outdoor track with a grassed in-field; wood and metal spectator bleachers; two storage buildings; and dedicated jumping and throwing pits adjacent to and outside of the track.

2.5.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $660,000 is required for immediate repair.

Projected:
- 5 year time frame: Approximately $288,942 for necessary renovations and repair.
- 10 year time frame: Approximately $0.00 for necessary renovations and repair.
- 15 year time frame: Approximately $1,184,500 for necessary renovations and repair.

2.5.1.3 Suitability of Intended Use

Existing Use: The facility is used predominantly by junior and high school track programs and competitions from late April to end of June. Events at a provincial level are held at the facility. The track can be booked by other teams and users, but is also open to the general public for use.
Facility (Glenmore Track) unavailable (2008 season) due to:
Amenity Condition: 68.5%
Inclement Weather: ---
Facility (Soccer/Track Field 1) unavailable (2008 season) due to:
Amenity Condition: 36.9%
Inclement Weather: 0.6%

Leaseholders: N/A

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2.5 ♦ GLENMORE TRACK & INFIELD♦

Evaluation:

- Parking is shared with adjacent fields and pool and seems to work adequately.
- There appears to be reduced clearance between east and west sides of the field and the track.
- Field appears to be crowned for proper drainage.
- There is noticeable wear at goal mouths of soccer field with compromised grade integrity.
- There are bald patches & uneven grade in several locations on the field.
- Bleachers in poor condition; are past their useful life and require re-painting, structural repair or replacement. No storage underneath.
- Soccer nets are worn, patched and contain holes.
- Orientation of field for soccer and track (N-S) is appropriate.
- Lights allow for extended playing hours into the evening.
- Sound system is integrated into track is adequate for spectator events; however the system and infrastructure are aging and require replacement or upgrade.
- Track surface in good condition and appears to be constructed with appropriate drainage.
- The existing track has been resurfaced but the base is in poor condition and requires replacement.
- Storage space is inadequate, poorly designed and inappropriately located. It is also unsightly.
- There are no suitable washrooms convenient to the facility.
- Available change rooms and washrooms are in poor condition, are inadequate in size and are not suitably configured or accessible.

Suitability:

- Reconstruction of the track, including the base, will be required within the next 4-6 years. Consider alternate location.
- Grandstands are adequate to accommodate spectators, but require significant renovations or replacement.
- Consider incorporating track equipment storage under new grandstand.
- Washrooms and food service should be in closer proximity to spectator grandstand, should be enlarged and configured to accommodate large numbers of spectators.
- There are no appropriate athlete/participant change rooms with washrooms and showers in reasonable proximity to track.
- Jumping and throwing facilities within the "D" areas or adjacent to track work well and facilitate meets.
- There is little staging space availability adjacent to track for meet organizers and teams.
- Space and easy connections for timing system and scoreboard is inadequate.
- For larger meets, media requirements for parking and access would

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2.5 ♦ GLENMORE TRACK & INFIELD♦

not be easily met.

2.5.2 PHYSICAL DESCRIPTION

2.5.2.1 Facility Construction

Track: Built up of four layers, the track is comprised of a 12mm synthetic surfacing material, 140mm asphaltic concrete, 50mm rubberized asphalt and 76mm asphaltic concrete. The track rests on a layer of fill composed of gravel and sand that varies in depth. Track is enclosed with 5' chain link fence that closes for security. 8 light standards surround the track to extend usable time of the track and infield. An integrated sound system is used for spectator events. A portable steel timer's and judge's stand flanks the southwest side of the track.

Track In-Field: The playing field is native soil and Kentucky Blue. Portable steel frame soccer goals with nylon netting.

Discus Cage: Angled, curved steel post support structure is covered with heavy-duty netting to create enclosure. A portable discus platform forms the base.

Bleachers: Seating for 800 spectators. Steel framing on wood cribs with screens of corrugated sheet metal siding. Aisles and seating are constructed of wood planks with plywood decking. Seating has fibreglass covers . Seating is not shaded. Structure is open below; no integrated storage.

Storage Buildings: Pre-manufactured portable storage sheds (two) are located on temporary wood sleeper foundations. Wood frame structure with sheet metal siding and low-pitch metal roofing. Hollow metal exterior doors. Horizontal sliding single glazed window units in aluminum frames.

Jumping & Throwing Pits: Pole vault and triple jump pits run parallel to west side of track in north-south orientation and constructed of similar surfacing and base layers as outdoor track. Dedicated areas for hammer throw and discus are to the northeast of the track, north of baseball diamond #3. Shot put is on the northwest corner outside of the track on a grass sod area, and includes portable enclosures similar to the discus cage.

2.5.2.2 Facility Conditions

Summary: Based on the Athletic Parks Lifecycle Report prepared by Calgary

2.5 ♦ GLENMORE TRACK & INFIELD♦

Recreation, Office of the Capital in October 2005, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approx. $2.1 million.

2.5.3 REFERENCE DOCUMENTS

2.5.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 08, 2007	Calgary Recreation, Office of the Capital	Athletic Parks Lifecycle Report

2.5.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.6 ♦ GLENMORE INDOOR TENNIS ♦

2.6.1 SUMMARY

2.6.1.1 Facility Information

Facility:	Glenmore Indoor Tennis	**Address:**	5600 – 19th Street N.W. Calgary, AB
Year Built:	1979, 1999, 2000, 2008	**Location:**	Southwest corner of Glenmore Athletic Park

Description: The Glenmore indoor tennis facilities are run by a private business, the Tennis Academy, on leased City land. The Tennis Academy consists of four hard-courts housed in a building, and six courts in an air-supported structure. The building has a two-storey club house that includes a pro-shop, locker rooms, showers, offices and a second floor public area with court viewing, lounge and food and beverage service.

2.6.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.6.1.3 Suitability of Intended Use

Existing Use: Dedicated indoor tennis facility for use year round by members. The facility is also available to the general public for a drop-in fee. The tennis academy also hosts tournaments and competitions.

Leaseholders: The Calgary Tennis Academy has a lease until 2012 for the land.

Evaluation:
- Parking unpaved and access to lot crosses the bike path and access to the water treatment facility. Overlap of transportation modes creates unsafe conditions for pedestrians and cyclists.
- Buildings are well maintained, but appear worn and in need of

2.6 ♦ GLENMORE INDOOR TENNIS ♦

update.
- Indoor amenity allows for year-round practice.

Suitability:
- Reconfiguration of parking would allow for safer access to building and adjacent facilities.
- Consolidation of outdoor tennis courts with indoor tennis courts and associated amenities would create a contiguous tennis center, suitable for efficient provision of tennis participation opportunities.
- Reconstruction of 6 - 8 outdoor tennis courts adjacent to existing Tennis Academy would create a credible tournament facility.
- Add/share appropriate spectator and participant amenities including concession, change facilities and washrooms, etc.

2.6.2 PHYSICAL DESCRIPTION

2.6.2.1 Facility Construction

Building: Prefabricated steel structure comprised of columns and trusses w/ concrete slab on grade. Insulated metal siding and roofing; polycarbonate clerestory windows; steel entry, overhead and exit doors; vinyl windows. No information provided on interior court surfaces, interiors, mechanical, electrical or lighting at time of this report.

Bubble: Pre-engineered air-supported structure anchored to a concrete grade beam, c/w slab on grade. Two-layer, vinyl coated membrane comprises envelope and roof. A dedicated natural gas mechanical unit pressurizes the membrane and provides space heating. A second back up unit on a generator provides redundancy in the case of a failure. No information provided for interior court surfaces, interior finishing, electrical or lighting at time of this report.

Parking: Gravel lot c/w 5' chain link perimeter fence on 3 sides; north side has post and cable fence separating it from fields.

2.6.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.6.3 REFERENCE DOCUMENTS

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2.6 ♦ GLENMORE INDOOR TENNIS ♦

2.6.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.6.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

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2.7 ♦ GLENMORE OUTDOOR TENNIS ♦

2.7.1 SUMMARY

2.7.1.1 Facility Information

Facility:	Glenmore Outdoor Tennis Courts	**Address:**	5300 – 19th Street S.W. Calgary, AB
Year Built:	Undetermined	**Location:**	Glenmore Athletic Park middle south end

Description: Located in an enclosed fence, the facilities comprise outdoor tennis courts and warm-up/practice area with backboards.

2.7.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.7.1.3 Suitability of Intended Use

Existing Use: Due to their condition, currently the courts are closed to all use.

Leaseholders: N/A

Evaluation:
- Condition is very poor, and does not support safe play. The courts are no longer in use.
- Surface and base are deteriorated such that extensive repair and resurfacing or full replacement is necessary. Asphalt base is exposed in many locations in large patches. Roots from nearby trees have lifted the surface and created cracking and unevenness.
- Trees are growing within the playing surface (up to 6' in height).
- Nets, fences and windscreen require significant repair or replacement.

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2.7 ♦ GLENMORE OUTDOOR TENNIS ♦

- Fences in poor condition, are rusting and are out of plumb.
- Backboard structure mounted on wood supports; plywood surface and supports are rotting. Backboard requires reconstruction.
- Although there are 7 courts (adequate for tournaments), there is not convenient access to appropriate amenities, washrooms, change rooms, food service, match management, racket re-stringing, etc.

Suitability:
- Consolidation of outdoor tennis courts with indoor tennis courts and associated amenities would create a suitable tennis facility.
- Reconstruction of 6 to 8 tennis courts adjacent to existing Tennis Academy would create a credible tournament facility.
- Addition of (potentially shared) appropriate spectator and participant amenities are required.

2.7.2 PHYSICAL DESCRIPTION

2.7.2.1 Facility Construction

Tennis Courts: Built up of two layers, the tennis courts are comprised of an acrylic sanded top coat on an asphalt paved surface. The courts rest on a layer of fill composed of gravel and sand that varies in depth.

Fencing: Chain link with gates.

Warm-up/ Practice Area: Painted plywood backboards on a wood support structure line the south east corner of the court enclosure and adjoin an asphalt playing surface.

2.7.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.7.3 REFERENCE DOCUMENTS

2.7.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.7 ♦ GLENMORE OUTDOOR TENNIS ♦

No reports received to date.

2.7.3.2 Site Visits

Date:	**Visited By:**
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.8 ♦ GLENMORE SOCCER #7, #8, #9, #10 & #11 ♦

2.8.1 SUMMARY

2.8.1.1 Facility Information

Facility:	Glenmore Soccer #7, #8, #9, #10 & #11	**Address:**	5300 – 19th Street SW Calgary, AB
Year Built:	19??	**Location:**	South side of athletic park

Description: Glenmore soccer #7, #8, #9, #10 & #11consist of 5 rectangular soccer fields that are vary in size, location and orientation. All fields consist of a grass pitch with nets and temporary bleachers.
Soccer field #7 is approximately 55 x 100m in dimension.
Soccer field #8 is approximately 60 x 95m in dimension.
Soccer field #9 is approximately 55 x 92m in dimension.
Soccer field #10 is approximately 60 x 100m in dimension.
Soccer field #11 is approximately 55 x 95m in dimension.

2.8.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.8.1.3 Suitability of Intended Use

CONCEPT PLAN FOR ATHLETIC PARKS
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EXISTING FACILITIES INVENTORY
Date: March 2, 2010

Existing Use: Currently all soccer fields can be booked through the City of Calgary Bookings for games, events and tournaments.
Facility #10 unavailable (2008 season) due to:
Amenity Condition: 33.8%
Inclement Weather: 12.5%

Facility (7) unavailable (2008 season) due to:
Amenity Condition: 33.2%
Inclement Weather: 10.3%

Facility (8) unavailable (2008 season) due to:
Amenity Condition: 37.1%
Inclement Weather: 10.3%

Facility (9) unavailable (2008 season) due to:
Amenity Condition: 34.8%
Inclement Weather: 8.1%

Leaseholders: N/A

Evaluation:

Soccer #7:
- Wear at goal mouths is minor (sod recently replaced).
- Bald patches & uneven grade throughout field are a safety concern. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- 2 portable bleachers provide seating for approximately 100. They have wood bench seats that are worn, split and cracked; require re-painting or replacement in some instances.
- Soccer nets are worn and metal frames require repainting. Nets have holes and require replacement.
- Orientation of field for soccer (N-S) is appropriate.
- No lights around the field for extending playing hours.
- Slope on west side drains, inappropriately, onto field.
- Exposed irrigation heads and boxes pose safety hazards.
- Irrigation system is old and subject to periodic failure resulting in ponding and damage to playing surface.

Soccer #8:
- Wear at goal mouths; sod needs replacing.
- Bald patches & uneven grade throughout field are a safety concern. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- 2 portable bleachers shared with Soccer #9 provide seating for approximately 100 or 150 for each field. Wood bench seats are worn, split and cracked; require re-painting or replacement.
- Soccer nets are worn and frames require repainting. Nets have holes and require replacement.
- Orientation of field for soccer (E-W) is not appropriate

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- No lights around the field for extending playing hours.
- Slight crown on field allows for positive drainage.
- Exposed irrigation heads and boxes pose safety hazards.
- Irrigation system is old and subject to periodic failure, potentially damaging or limiting play on field.

Soccer #9
- Wear at goal mouths; sod needs replacing.
- Bald patches & uneven grade throughout field are a safety concern. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- 2 portable bleachers shared with Soccer #8 provide seating for approximately 100 or 150 for each field. Wood bench seats are worn, split and cracked; require re-painting or replacement.
- Soccer nets are worn and require repainting. Nets have holes and require replacement
- Orientation of field for soccer (E-W) is not appropriate
- No lights around the field for extending playing hours.
- Slight crown on field allows for positive drainage.
- Exposed irrigation heads and boxes pose safety hazards.
- Irrigation system is old and subject to periodic failure, limiting play or potentially damaging the field.

Soccer #10
- Located above water cistern within 20' of enclosed fenced area, which limits the size of the field and the clearances around the field for safe play.
- Existing vents and protrusions from underground cistern are close to the edge of the playing field and create obstacles/hazards.
- Wear at goal mouths; sod needs replacing.
- Bald patches & uneven grade throughout field are a safety concern. Excessive soil compaction and/or surface erosion appear to be causing the grass plants to be "clumpy".
- 1 portable bleacher shared with Soccer #11 provides seating for approximately 50. Wood bench seats are worn, split and cracked.
- Soccer nets are worn and require repainting. Nets have holes and require replacement.
- Orientation of field for soccer (N-S) is appropriate
- No lights around the field for extending playing hours.
- Slight crown on field allows for positive drainage.
- Exposed irrigation heads and boxes pose safety hazards.
- Irrigation system old and subject to periodic failure, limiting play and potentially damaging the field.

Soccer #11
- Located above water cistern within 20' of enclosed fenced area, which limits the size of the field and the clearances around the field for safe play.
- Existing vents and protrusions from underground cistern are close to the edge of the playing field and create obstacles/hazards.

- Sod is in good condition as the amount of play on the field is limited due to safety concerns.
- 1 portable bleachers shared with Soccer #10 provides seating for approximately 50. Wood bench seats are worn, split and cracked; require re-painting or replacement.
- Soccer nets are worn and frames require repainting. Nets have holes and require replacement
- Orientation of field for soccer on angle (NE – SW) is not ideal for best playing conditions.
- No lights around the field for extending playing hours.
- Slight crown on field allows for positive drainage.
- Exposed irrigation heads and boxes pose safety hazards.
- Irrigation system is old and subject to periodic failure, limiting play and potentially damaging field.

Suitability: Fields are generally suitable for their intended purpose; however there are a number of issues that should be addressed to maximize wearability of the fields.

- Increased crowning of fields would create better, more positive drainage.
- Improved maintenance protocols would minimize compaction and improve repopulation of grass plants, which would minimize surface erosion.
- Installation of additional sports lighting would extend play in the early spring and fall.
- Professionally-designed sports field irrigation systems would eliminate/ minimize impact of sprinkler heads on safety of fields.

2.8.2 PHYSICAL DESCRIPTION

2.8.2.1 Facility Construction

Field: Grass field surrounded by a 6' fence.

Soccer Nets: Steel tube frame construction w/ nylon nets. Nets are portable.

Bleachers: Temporary, portable aluminum bleachers with wood bench seating. 2 sets of bleachers with 10 rows accommodate 100 spectators each.

2.8.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.8.3 REFERENCE DOCUMENTS

2.8.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.8.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.9 ♦ GLENMORE SOFTBALL #13 & #14 ♦

2.9.1 SUMMARY

2.9.1.1 Facility Information

Facility:	Glenmore Softball #13 & #14	**Address:**	5300 – 19th Street SW Calgary, AB
Year Built:	19??	**Location:**	Glenmore Athletic Park NE corner

Description: The Glenmore softball fields #13 and #14 each consist of an irrigated 320' deep softball diamond with 20' tall chain link backstop and 8' tall chain link perimeter fence; portable aluminum bleachers and fixed bench seating for players.

2.9.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.

5 year time frame:	Approximately $ and repair.	for necessary renovations
10 year time frame:	Approximately $ and repair.	for necessary renovations
15 year time frame:	Approximately $ and repair.	for necessary renovations

2.9.1.3 Suitability of Intended Use

Existing Use: The softball diamonds are available to teams for recreation play. They can be reserved through the City of Calgary Bookings system.
Facility (13) unavailable (2008 season) due to:
Amenity Condition: -
Inclement Weather: 16.3%

Facility (14) unavailable (2008 season) due to:
Amenity Condition: -
Inclement Weather: 17.3%

Leaseholders: N/A

CONCEPT PLAN FOR ATHLETIC PARKS
CITY OF CALGARY RECREATION
EXISTING FACILITIES INVENTORY
Date: March 2, 2010

2.9 ♦ GLENMORE SOFTBALL #13 & #14 ♦

Evaluation:

- Make-shift foul poles are mounted to perimeter fence and should be replaced with permanent foul ball poles manufactured for this purpose.
- No guard on perimeter fence, but 6' wide warning track in place. Plastic guards, at least, should be added to the tops of the fences for safety.
- No lights, electronic scoring, loud speakers or other amenity are provided. Extended and higher-level play would be possible with addition of these items.
- Fencing straight, but the back stop of field #13 is bent towards home plate and needs to be structurally assessed and securely realigned.
- Limited parking adjacent to fields on gravel lot. Lot does not have vehicle demarcations or wheel stops.
- Paint peeling on "dugout" benches and should be maintained.
- 1 set of portable bleachers; steel frame and wood benches. Requires painting of seats and frames.
- Diamond grass in reasonably good condition.
- Fields are irrigated (manual control, not on timer).
- No washrooms or other facilities nearby for player use. Such facilities should be provided in convenient location.

Suitability: Diamonds are in generally good condition. Grass is uneven and grade integrity may be deteriorating. "Clumps" may be caused by soil compaction, preventing the repopulation of the grass and/or surface erosion around the grass plants, making the turf seem "lumpy".

2.9.2 PHYSICAL DESCRIPTION

2.9.2.1 Facility Construction

Softball Diamond: Grass baseball diamond w/300' depth on the right and left foul lines and 320' depth through the center field with clay mounds and warning track. The outfield wall consists of an 8' tall chain link fence. 'Dugouts' consist of fixed player benches on opposing sides of the backstop, behind the catcher's mound.

Fencing & Backstops: Perimeter fence is 8' tall chain link without top, mid or bottom rails. The backstop is 20' tall chain link fence that includes necessary top, mid and bottom rails for stability. Chain link selvages are not knuckled.

Bleachers: 1 set of portable steel bleachers with wood bench style seats.

2.9 ♦ GLENMORE SOFTBALL #13 & #14 ♦

2.9.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.9.3 REFERENCE DOCUMENTS

2.9.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.9.3.1 Site Visits

Date:	Visited By:
May 25, 2009	S2SporstPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

CONCEPT PLAN FOR ATHLETIC PARKS
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Date: March 2, 2010

2.10 ♦ STU PEPPARD ARENA ♦

2.10.1 SUMMARY

2.10.1.1 Facility Information

Facility: Stu Peppard Arena
Address: 5300 – 19th Street SW Calgary, AB
Year Built: 1962 (retrofitted 1995, 2000, 2001, 2003, 2005, 2007 and 2009)
Location: Glenmore Athletic Park Center

Description: Stu Peppard Arena is a split-level facility constructed adjacent to a grade change, allowing at-grade access to both levels of the facility. The building centers on an NHL size 185'x85' artificial ice rink and includes a 400-person spectator seating area with concession; administrative offices and public washrooms on the upper level and storage spaces, dressing rooms, public washrooms and mechanical areas on the lower level. The building adjoins an original field house containing 2 dressing rooms with toilets and a small concession with access on the exterior only.

2.10.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: Approximately $655,000 is required for immediate repair.

Projected:
5 year time frame: Approximately $917,310 for necessary renovations and repair.
10 year time frame: Approximately $987,123 for necessary renovations and repair.
15 year time frame: Approximately $432,418 for necessary renovations and repair.

2.10.1.3 Suitability of Intended Use

Existing Use: The facility is used predominantly by the Calgary Junior B Royals, and AAA Midgets Royals. When not occupied by the principal users, the facility is available for use by the general public (through City of Calgary Bookings). During week days the facility is used by NSA.

Leaseholders: Calgary Royals (both Junior B and AAA Midgets) and NSA lease storage and dressing rooms within the facility. Leases are renewed annually.

CONCEPT PLAN FOR ATHLETIC PARKS
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2.10 ♦ STU PEPPARD ARENA ♦

Evaluation:

- Ice equipment is serviceable; equipment is reasonably new.
- Envelope deteriorated, worn and may be beyond its useful life.
- Change rooms/locker areas/washrooms for participants are worn and poorly designed/laid out.
- Accessibility to change areas is poor; circuitous access from ice. Internal stairs are inappropriate for skates.
- Access to support amenities for participants and spectators is poor and difficult to navigate.
- Entrance to facility is difficult to identify and once found, the entry experience is unwelcoming.
- Parking provided in adjacent lot to the east provides access only to the lower level of the facility. West entry provides access to the upper level and spectator area but is located away from parking. Access, clear entry from parking is obscure
- Spectator washrooms adjacent to seating are on the lower level and are insufficient for seating capacity. Facilities and doors are not barrier free accessible. Only one barrier free WC in entire building.
- Small concession within the spectator area of the arena; queuing space behind seating is too narrow and limited.
- Dasher boards are not insulated.
- Ramps within the arena are too steep.
- Access to players benches on opposite side of arena from dressing rooms. Players must navigate narrow exit corridor behind dasher boards. Corridor less than 3' wide at columns.
- Netting around rink above glass protects spectators from pucks.
- Railings at spectator areas and stairs do not meet ABC requirements.
- Electrical panels locked, but open onto spectator seating area along the 2nd level circulation concourse.
- Circulation concourse too narrow.
- Maximum # of building occupants (not just spectators) is 482.
- Roof replaced within the last 5 years.
- South wall radiates too much solar heat creating problems with melting ice.
- Surface drainage a problem at west public entrance.

Suitability:

- If ice equipment is serviceable, retain the ice sheet as it is functional (ice equipment replaced in 1995). However if serviceable life is less than 10 years, replace ice and associated equipment with 2 ice sheets and associated space/equipment.
- Build new participant and spectator support space including:
  - Fully and easily accessible spectator seating
  - Appropriate public lobby with adequate spectator amenities
  - Concessions and washrooms adjacent to primary spectator circulation and public lobby

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2.10 ♦ STU PEPPARD ARENA ♦

  - Easy and direct access from rink to participant/athlete amenities
  - Provide adequate locker/change rooms with washrooms and showers at same level as ice.
  - Provide 4 change rooms, minimum, per sheet of ice to facilitate tournaments
  - Provide inviting, easily identified and convenient entrance in close proximity and view of parking lot.
- Provide management/supervisor office in a convenient and visible location proximate to ice, public lobby and "back of house."
- Consider direct visibility from adjacent public spaces, especially lobby. If part of a large complex, make clear that ice is a choice.

2.10.2 PHYSICAL DESCRIPTION

2.10.2.1 Facility Construction

Structure: Concrete for foundation and basement walls, slab on grade, a cast in place suspended floor slab, and concrete columns and beams supporting a curved wood truss roof system. Wood roof decking.

Envelope: Exterior walls are constructed of concrete masonry units, and provide the finish on the interior and exterior of the building.

Openings: Doors and windows at entrance are aluminum; service and overhead doors are steel.

Roofing: SBS membrane on flat roofs, asphalt shingles on curved roof.

Interiors: Painted concrete block and ceramic tile walls; ceramic tile, VCT, and carpet in office. Ceilings are exposed to the structure or acoustic ceiling tile. Foil-faced bag insulation lines the arena ceiling.

Mechanical: Ammonia ice plant. Roof drains tied to storm sewers directly.

Electrical: Building lighting is provided by metal halide lamps, with reflectors, guards, ballasts and twist-lock connectors. Emergency lighting and fire alarm system are integrated.

2.10.2.2 Facility Conditions

Summary: Based on the Arenas Lifecycle Report prepared by Calgary Recreation,

2.10 ♦ STU PEPPARD ARENA ♦

Office of the Capital in May 2006, the budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration is approximately $3.0 million.

2.10.3 REFERENCE DOCUMENTS

2.10.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:
February 08, 2007	Calgary Recreation, Office of the Capital	Arenas Lifecycle Report

2.10.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

CONCEPT PLAN FOR ATHLETIC PARKS
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Date: March 2, 2010

2.11 ♦ GLENMORE VELODROME ♦

2.11.1 SUMMARY

2.11.1.1 Facility Information

Facility:	Glenmore Velodrome	**Address:**	5300 – 19th Street S.W. Calgary, AB
Year Built:	1975	**Location:**	Center of Glenmore Park

Description: The velodrome facilities consist of a permanent 400m outdoor concrete cycling track with 39 degree banked turns and includes a grassed in-field; wood and metal spectator bleachers; three storage buildings; an organizers' shack and portable toilets.

2.11.1.2 Facility Expenditures (to maintain current serviceability)

Past: No reports received to date.

Immediate Items: No reports received to date.
Approximately $ is required for immediate repair.

Projected: No reports received to date.
5 year time frame: Approximately $ for necessary renovations and repair.
10 year time frame: Approximately $ for necessary renovations and repair.
15 year time frame: Approximately $ for necessary renovations and repair.

2.11.1.3 Suitability of Intended Use

Existing Use: The facility is used exclusively by the Calgary Bicycle Track League. Due to liability concerns, memberships must be purchased, but are available to the public for $50 per year. At least 2 people must be present to use the track (one cyclist and one spotter).
Facility unavailable (2008 season) due to:
Amenity Condition: -
Inclement Weather: 17.6%

Leaseholders: Calgary Bicycle Track League holds a lease until 2014.

Evaluation:
- Parking shared with adjacent facilities (fields, track and arena). Parking is sufficient for their users and spectators during events.

2.11 ♦ GLENMORE VELODROME ♦

- Storage space is inadequate and poorly designed and located. It is also unsightly.
- There are no suitable washrooms convenient to the facility (portable toilets provided in the in-field for cyclists; spectators must use arena.
- Velodrome surface is in disrepair; concrete patching and resurfacing is required at a minimum. Currently dangerous to use when wet.
- Storage buildings in the in-field are unsightly, well- worn and obstruct other activity in the infield.
- 400m track is larger and less intimidating than the typical 333m track and is an asset for expanding the programs for kids.
- There is no secure storage for bikes or personal belongings.
- Access to the velodrome is difficult, not barrier free accessible and not suitable for spectators.
- Officials must sit on top of one of the in-field buildings
- No convenient access to change rooms, concessions, washrooms, bike repair space, etc.
- Grass slopes on exterior of track exceed limits to allow easy and safe cutting of grass and drain inappropriately toward the football field.

Suitability:

- Repairs to surface are necessary in the near term. Repairs to concrete would be significant in 5 years.
- Addition of storage lockers for bikes and personal belongings are required.
- Convenient access to locker/change rooms, washrooms, showers, concessions, etc. Is recommended.
- Cover for protection from elements or replace with indoor facility.
- Spectator seating is minimal and not easily accessible. Accommodation of seating must include appropriate access and additional space for circulation..

2.11.2 PHYSICAL DESCRIPTION

2.11.2.1 Facility Construction

Track: The velodrome track consists of 150mm (TBC) concrete slab on grade, on a layer of fill composed of gravel and sand that varies in depth. The surrounding topography is sloped from the top of the track to the adjacent ground. Slopes are grassed. Control joints are spaced every 20'. The upper banked corners of the track are protected by a steel guard rail 42" in height. The track is enclosed with 6' chain link fence that locks for security.

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2.11 ♦ GLENMORE VELODROME ♦

In-Field: The in-field comprises grass sod on topsoil.

Bleachers: Seating for 200 spectators on portable steel bleachers w/ wood seats. The steel structure extends overtop of the bleachers to create a canopy structure, however no canopies are installed over the framing.

Storage Buildings: Three pre-manufactured portable storage sheds of varying sizes are located on temporary wood sleeper foundations within the track in-field. Wood frame structures with sheet metal or vinyl siding and low-pitch metal or asphalt roofing. Hollow metal exterior doors. Horizontal sliding single glazed window units in aluminum frames. One of the storage building supports a wood frame platform for judges and timers.

2.11.2.2 Facility Conditions

Summary: A budget estimate of probable construction costs for major renovation and repair of the facility in its existing configuration has not been prepared to date.

2.11.3 REFERENCE DOCUMENTS

2.11.3.1 Reports, Assessments & Cost Estimates

Date:	Prepared By:	Name:

No reports received to date.

2.11.3.2 Site Visits

Date:	Visited By:
May 25, 2009	S2SportsPLAN
Sept. 3, 2009	S2 Architecture
Sept. 23, 2009	S2SportsPLAN

APPENDIX C:
UTILITIES, INFRASTRUCTURE, STORMWATER, AND TRANSPORTATION REVIEW REPORT

101-2716 Sunridge Way NE, Calgary AB T1Y 0A5
Telephone: 403-291-1193 Fax: 403-291-1374

URBANSYSTEMS.

January 13, 2010 File: 2273.0009.01

S2 Architecture
900-110 12th Avenue SW
CALGARY AB T2R 0G7

Attention: James McLaughlin, AAA, MRAIC, Principal

RE: FOOTHILLS AND GLENMORE ATHLETIC PARKS CONCEPTUAL ENGINEERING REVIEW UTILITY INFRASTRUCTURE, STORMWATER MANAGEMENT AND TRANSPORTATION

The following letter outlines the methodology, key findings and conclusion from our engineering review of the concept plans for Foothills and Glenmore Athletic Parks. The review focused on the utility infrastructure, stormwater management and transportation components.

1.0 FOOTHILLS ATHLETIC PARK

Figure 1.0 is a context plan for the location of the Foothills Athletic Park. Foothills Athletic Park is located in northwest Calgary on the southwest corner of the intersection of Crowchild Trail and 24th Avenue NW. It abuts existing major transportation corridors and is within 400 metres of the Banff Trail LRT station. The site is surrounded by the University of Calgary to the north, McMahon Stadium to the south, University Heights community to the west, and to the east are the Banff Trail community and the 'Motel Village' area across Crowchild Trail. The proposed concept plan that was used for the review is also shown in Figure 1.0, and the following table is a general comparison between the existing and proposed amenities for the park.

Amenities	Existing	Proposed
Arenas	2 ice arenas (1,850 spectators)	2 ice arenas (2,200 spectators)
Recreational Centre / Community Facilities	2 pools, weight-room, 9 volleyball courts	Café/restaurant, 3 pool basins (Aquatic Centre), weight training, multi-purpose rooms, administration and TI spaces, 10 volleyball courts (multi-purpose)
Rectangular Field and Support	4 soccer fields	3 soccer fields
Tennis	8 tennis courts	4 tennis courts
Track (field house)	1 – 400 outdoor track (1,000 spectators)	1 – 400 indoor track (2,500 spectators + 7,500 special events)
Ball Fields	1 baseball stadium and field / 1 little league field	1 baseball stadium and field / 1 little league field

URBANSYSTEMS.

1.1 Foothills Utility Infrastructure

A general description of each of the related utility services reviewed is provided for each type of service in the headings below. The utility services review is based on the available record information provided. However, it should be noted that other utility features may exist within the site that may not be exactly as shown and/or may not appear in the available records.

A schematic diagram of the current known deep utility services (sanitary sewer, storm sewer, and watermain) adjacent to the site is provided on Figure 1.1.

1.1.1 Utility Infrastructure Conflicts

The concept plan provided for the site appears to avoid the current large diameter storm sewer and watermain systems that run along the southern perimeter. This is consistent with the intent to respect all existing utility rights-of-way within the site area and should ensure that no changes to these mains are required as this could involve considerable effort and cost.

However, there does appear to be some conflicts with some smaller utilities within the site area. It should be noted that these conflicts are with utilities that form part of the current utility servicing within the site boundary. Any reconfiguration of these utilities required to mitigate the potential conflicts and accommodate the concept plan are not anticipated to be significant undertakings.

The potential conflicts with the smaller utility infrastructure are a combination of plan view utility/ structure conflicts and elevation/depth of cover conflicts. Plan view utility/structure conflicts are generally the type of conflict that is considered first; however, the vertical position of the existing utilities on the site must also be considered as it relates to the existing surface elevations (based on the City of Calgary's contour record information provided) and the proposed surface grading scheme.

Ensuring that an appropriate depth of cover is available on the existing infrastructure, which may remain in place, could help to minimize any additional efforts to insulate lines that end up being too shallow or reinforce lines that become too deep.

At this time, the review of potential elevation/depth of cover conflicts only identifies areas that may require additional investigation. If the related existing utilities will not be maintained in-situ, then there should be no concern as any new infrastructure will be installed appropriately. However, if any existing utility infrastructure is to remain in place and be part of the servicing strategy for the proposed concept plan, then the issues identified herein will require further investigation as the development of the proposed concept plan is taken through subsequent design stages.

URBANSYSTEMS.

Figure 1.1 also highlights the plan view utility/structure conflicts in red and the elevation/depth of cover conflicts in orange.

Plan View Utility/Structure Conflicts

- 150 mm Watermain/Proposed Amphitheatre
  There is an apparent conflict with a portion of the 150 mm watermain at the northwestern edge of the site near the proposed amphitheatre. The watermain is very close to the edge of the amphitheatre and may present constructability challenges for the amphitheatre and future maintenance challenges for the watermain as a result. The relocation of a portion of this 150 mm water line may be warranted as it would also serve to address the proposed ±0.5 metre drop in elevation in this area as well.

- 50 mm Water Service/250 mm Storm Service/Proposed Building
  There are two (2) apparent conflicts with the 50 mm water service that runs along the eastern boundary of the site and the proposed building. Assuming there would be no change to the position of the proposed building, the water line will have to be removed or re-located.

  Additionally, there is a 250 mm storm sewer line that services the Foothills Baseball Stadium which is also in conflict with the southeast corner of the proposed building. In order to maintain service to the baseball stadium, the affected portion of this line will have to be relocated.

There are no plan view utility/structure conflicts apparent for electrical and gas utilities on the site based on the record information provided to date. Future consultation with all of the shallow utility service providers (electrical, gas, telephone, and television) is required to confirm potential conflicts more definitively.

Elevation/Depth of Cover Conflicts

- North Parking Area
  There is an existing storm sewer manhole located in the north parking area adjacent to 24th Avenue NW. The proposed contour in this area is considered to be at an elevation of 106.5 which is approximately 1.25 metres below the existing elevation (taken as 107.75). Although this manhole is not likely to remain, the change in elevation is noted relative to the next downstream storm sewer connections. It will likely be necessary to replace the next two downstream manhole connections in order to provide sufficient service to this area given the overall drop in surface elevation.

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- Northeastern Site Corner
  At the northeastern corner of the site (near the intersection of 24th Avenue NW and University Drive NW), the proposed grading scheme provided with the concept plan information represents a drop of approximately 0.5 metres in the highlighted area. This drop could have a potential impact on the existing watermain, storm sewer, and shallow utilities in the area if they are to remain and be reused. The sanitary sewer in this location is not anticipated to be reused based on the anticipated servicing to the proposed building being located further south and is not considered further.

  Watermains are typically installed within a very narrow depth range of 2.7 - 3.3 metres below the ground surface depending on local soil conditions. Any decrease in cover over the main generally requires that insulation of the main be provided or the main be lowered to an appropriate elevation.

  It may be desirable to reuse the existing storm sewer connection in this area. There is a greater depth range allowable over a storm sewer versus a watermain and so the 0.5 metres drop in surface elevation may not be a concern. Providing insulation is the only option available if the cover over the line is reduced to below an acceptable level. However, if additional certainty is warranted, a review of the City of Calgary Block Profile records may allow a more definitive assessment.

  The potential impact of a 0.5 metres elevation drop on existing shallow utility servicing in this area is related to relatively narrow depth of installation ranges (in a manner similar to watermains) and also the location of surface pedestals, transformers, pull boxes, etc. The ability of the existing shallow utilities in this area to absorb the proposed surface elevation change will have to be discussed with each of the service providers (electrical, gas, telephone, and television).

- South Parking Area
  There is a significant change in elevation proposed in the middle of the southernmost parking area of the site. The existing grade in this area is approximately 94.00 and the proposed grade is at 92.00, a 2.0 metre drop in elevation. This drop is almost directly above the existing 200 mm watermain. A surface elevation change of this magnitude over an existing watermain will require that the main be replaced and lowered the equivalent 2.0 metres.

  There is also an existing storm manhole and storm sewer in this area. However, it is anticipated that this existing manhole and sewer line will be replaced to better suit the desired grading and drainage condition for the new parking area. It is also anticipated that it will still be possible to connect to the existing downstream storm sewer despite the change in elevation in the parking area because the existing storm sewer is just to the south of the site boundary where no elevation change is proposed. No further review of the storm sewer in this area is considered at this time as a result.

Some minor adjustments to existing surface elements such as water valve stem covers, manhole covers, and shallow utility pedestals are not included in the descriptions above, but may still be required. These types of adjustments are not anticipated to be significant undertakings.

1.1.2 Utility Infrastructure Servicing

It is anticipated that all of the infrastructure servicing requirements can be developed in connection with any proposed staging of development as needed. This can be confirmed as the development of the proposed concept plan proceeds.

Sanitary Sewer

It is anticipated that the sanitary sewer main currently in University Drive NW will be sufficient to accommodate the proposed site concept as the site develops. The reuse of existing service lines into the site may not be feasible so the installation of a new sanitary sewer service to the proposed building on the site from the existing main should be anticipated.

Storm Sewer

An underground stormwater storage solution is suggested to mitigate the impact of an increase in the impervious (hard) surface area on the site. Additional information regarding the change in surface condition is provided in Section 1.2.2. Implementing this solution should ensure that the current storm sewer system in University Drive NW can accommodate the development of the proposed site concept.

Watermain and Fire Protection

Based on the review of the existing utility records, there are three (3) available watermains that are currently brought into the site boundary. There is a 150 mm main in the NE and NW corner, and a 200 mm main farther south along University Drive NW. The 150 mm watermain in the NW corner of the site and the 200 mm main near the southern edge of the site, both appear to be part of looped connections that allow for service to be maintained should a disruption in one of the adjacent mains in the area be taken offline for any reason.

It is anticipated that these mains should be able to provide adequate service connections and fire protection for the proposed concept plan. However, it may be necessary to confirm with hydraulic design simulations if these mains are capable of handling the service requirements and fire flow or if additional upgrades will be required.

As the proposed concept plan for the site proceeds through the subsequent design stages, it is suggested that efforts be made to maintain a looped watermain condition within the site. The proposed site concept should make this possible. This should help to ensure that an adequate service level is available for general water supply and fire protection.

In addition to the new water service connection(s) and modifications required to accommodate proposed grading changes, it may be appropriate to consider refining the existing water service connections to all of the various buildings within the site as part of the development of the proposed concept plan. There appears to be an irregular pattern of service connections made as the site grew over the years. The development of the proposed site concept plan may offer an opportunity to "clean up" these water service connections to better facilitate future growth on the site.

Lastly, it must be noted that any new connections made and/or modification of the current system may result in additional repair work. The watermains in this area are expected to be approximately forty (40) years old or more and any work on the mains could result in breaks at other locations not directly associated with the project site.

Shallow Utilities

No assessment of the shallow utility servicing (electrical, gas, telephone, and television) on the site was conducted. Further discussion with the various service providers will have to be undertaken as the project proceeds through subsequent stages of the design process.

1.2 Foothills Stormwater Management

1.2.1 Drainage Pattern

All of the runoff generated by the current Foothills site appears to drain within the site boundary. The runoff is at least partially intercepted within the site and conveyed to downstream storm sewer connections in University Drive NW. A review of the grading scheme provided for the proposed concept suggests that the proposed drainage pattern is consistent with the current pattern. A schematic comparison of the drainage patterns of the current and proposed grading schemes is shown on Figure 1.2.1.

A more thorough assessment of the total runoff intercepted within the site boundary and the amount that may runoff to University Drive NW should be undertaken as the development of the proposed concept plan is taken through subsequent design stages. This will include, but may not be limited to, enquiring if there are any current flooding issues on the site, as well as an assessment of the current downstream storm sewer system capacity.

1.2.2 Surface Condition

A review of the Foothills site indicates that there will be a change in the amount of impervious (hard surface) area relative to the current condition. The proposed concept has approximately 10.7 ha of hard surface area while the current condition has only 6.1 ha. See Figure 1.2.2.

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An increase in the amount of impervious area will result in an increase in the amount of stormwater runoff within the site. As a result, ensuring that there is no negative impact on the existing storm sewer system, to which the site is connected, will require mitigation measures during the implementation of the proposed concept. This mitigation is anticipated to be in the form of underground stormwater storage.

Providing underground storage will allow the increase in runoff to be temporarily held back before it is released into the downstream storm sewer system. The amount of storage will be quantified as part of subsequent design stages. The location of the underground storage would likely be under the sport fields, but could also be placed under portions of the parking areas. A number of appropriate storage system products are available to offer competitive pricing.

Additionally, it may be possible to make use of some of the stored stormwater runoff to be used for irrigation of the landscape areas within the site. This may not replace the use of potable water for irrigation, but it could offer a supplemental water supply.

1.3 Transportation

The existing surrounding communities, services, infrastructure, and land uses set the opportunity to make the site accessible for all modes of transportation. This section reviews the transportation and mobility networks for the Foothills Athletic Park. Transportation networks and infrastructure should be a primary consideration when connecting the site internally, to surroundings areas and to the City as a whole. The objective of this section is to balance the needs of pedestrians, cyclists, transit users, and motorists alike.

1.3.1 Road Network

The existing site is serviced by Crowchild Trail to the east, 24th Avenue NW to the north, and University Drive NW to the west. Figure 1.3.1 shows the site's surrounding context and the overall roadway network including current volumes of vehicular traffic.

University Drive NW and 24th Avenue NW are major arterial roadways with an environmental road capacity of 12,000 to 30,000 vehicles per day (vpd). They are designed to provide a high level of service for through traffic so restriction and/or consolidation of property access are generally required. Current traffic levels on University Drive are estimated at around 60 to 80 percent of the environmental road capacity. Likewise, traffic levels on 24th Avenue NW are estimated between 40 to 50 percent of its available environmental road capacity. In vehicle terms, University Drive NW could potentially accommodate an additional 5,000 to 12,000 vpd, while 24th Avenue NW could handle an additional 16,000 to 19,000 vpd.

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Crowchild Trail is an expressway designed to accommodate over 30,000 (vpd) and provide free flow for through traffic. Traffic movement is the primary consideration, therefore, no direct property access is generally allowed. Current traffic levels are estimated at over 60,000 vpd in the vicinity of the intersection with 24th Avenue NW.

Transportation Planning anticipates the construction of a grade-separated interchange at the intersection of Crowchild Trail and 24th Avenue NW by 2025-2030[1]. No details regarding the design have been confirmed at this time; however, the extent, size and configuration of the future interchange could have significant impacts to the overall layout of this site. It is advised to get confirmation as to the ultimate configuration of the grade separated interchange in order to plan for potential changes in property boundaries and/or required road right-of-way dedication. Accesses, property lines and road right-of-way dedication will need to conform to approved concept plans for the interchange.

We conducted a high level traffic assessment to determine the potential impact from the proposed site on the surrounding road network for a typical weekday. The net additional vehicular traffic generated by the redevelopment of Foothills Athletic Park was estimated using the ITE Trip Generation Manual (8th edition) and compared with local data from a similar land use. These estimates are used as a tool to gauge theoretical trip numbers under similar characteristics, but may not typify real site conditions. A trip generation rate study for the site is recommended for updated local trip generation rates. Existing City traffic data was also used to confirm general travel patterns, which may shift in future conditions depending on future networks, modal splits, and land uses.

Based on the preliminary assessment, the net additional traffic generated by the redevelopment of the site is in the order of magnitude of 1,000 to 2,000 vpd for a typical weekday. There is sufficient environmental road capacity available on the existing road network to accommodate the additional traffic generated from the proposed site. Therefore, no significant improvements to the roadway corridor are anticipated for the typical weekday condition of the redeveloped site. Assumptions and estimates are summarized in Appendix 1 of this letter.

As development proceeds, a full Transportation Impact Assessment (TIA) is recommended. ITE recommended practice is to conduct a TIA when a development is expected to generate over a 100 total new trips during either of the peak hours. The TIA will provide a more detailed assessment of the impact by this development on the surrounding road network, and will identify what improvements could be required in order to adequately and safely accommodate the pedestrian and vehicular generated traffic.

[1] *City of Calgary Forecasting Toolbox.*

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1.3.2 Transit Network

The site is highly accessible by public transit with LRT services and numerous bus routes in the area. The Banff Trail LRT station is located less than 400 metres from the site. The LRT station is easily accessible with a pedestrian bridge connection over Crowchild Trail. Travel by bus is also quite convenient with a hierarchy of bus routes servicing the area. The bus routes travelling in the immediate vicinity of the site include dedicated school Routes 810 and 834, and at least six main bus routes running and stopping along University Drive NW. The main routes include Routes 9, 19, 20, 72, 73, and 119. No transit routes currently run along 24th Avenue NW from University Drive all the way to 14th Street NW. Figure 1.3.2 shows the transit service in the area including bus routes and train service.

Public transit should be a key consideration for the multi-modal mobility strategy of Foothills Athletic Park. Integration with available and future transit networks must be the cornerstone of a plan to reduce vehicular parking demand and to promote active modes of transportation consistent with the proposed facilities and the surrounding context.

It is apparent that the two main interfaces between the site and transit services occur along the west edge of the site on University Drive, and through the south edge of the site across the McMahon parking area to the Banff Trail LRT station. Transit integration and improvement of pedestrian connections should be a priority along these two edges to encourage and promote safe and accessible use of transit facilities.

Since there is currently no transit service that runs along the north edge of the site, then consideration should be made to discuss with Calgary Transit the possibility of implementing a new bus route, or extending an existing one. The bus route should run eastbound/westbound along 24th Avenue NW with a bus stop facility at/near the north site access. Providing this missing transit link will not only serve the Foothills Athletic Park, but also a number of communities and other important destinations such as the University of Calgary and the Alberta Children's Hospital, at the west end of 24th Avenue NW.

An on-site inventory of existing location and type of transit facilities (i.e. bus stop) abutting the site was conducted and is also shown in Figure 1.3.2. With the redevelopment of the site, there are opportunities to upgrade existing bus stops on University Drive with shelters as per Calgary Transit standards. In particular, the existing northbound mid-block bus stop on University Drive has no shelter. Improving the level of comfort of waiting areas or other means of protecting transit users from the elements promotes higher usage of the service.

Other potential for increasing transit ridership is to discuss with Calgary Transit the potential of developing a bike-on-bus program so designated routes in the area get equipped with bike racks so that cyclists can take their bikes with them. As in the case of Vancouver, Toronto or San Francisco, these programs have proved to be relatively inexpensive and easily implemented as demand on specific bus routes begin to grow.

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1.3.3 Bicycle Network

Cyclist counts at adjacent area intersections are shown in Figure 1.3.3 and were obtained from the City. According to the intersection counts, a significant amount of cyclists are travelling along 24th Avenue NW and University Drive. The highest number of cyclists has been registered at the intersection of 24th Avenue NW and University Drive.

The existing bicycle network in the area consists of bits and pieces of links that prevent the site and the area as a whole to be well integrated with the existing regional pathway system. As part of the overall City of Calgary Bicycle Master Plan, the Transportation Solution department has recently reviewed the recommendations around the University area and are proposing to implement some of these missing links. To complete the connectivity in the area, we also recommend the implementation of an on-street bikeway along Unwin Road NW from University Drive to Uxbridge Drive NW, connecting to the existing designated bike route on the latter road. Together with the recommended on-street bikeway along University Drive, the Unwin Road bikeway connection will link to the existing bikeway along 29th Street NW south down to the Bow River trail system. Figure 1.3.3 also shows the existing and proposed bicycle infrastructure recommended by the Transportation Solutions department and by Urban Systems.

Cycling signs and markings are part of a successful bikeway system. Besides the implementation of general regulatory/warning signs for cycling, the installation of information and route guidance signage to inform cyclists as to the nearby facilities, infrastructure, services, and parking areas are beneficial in promoting the universal accessibility and availability of cycling. These will not only serve bicyclists and pedestrians, but will also stress the importance that active transportation modes have for the Athletic Park and the City as a whole.

The proposed Foothills Athletic Park concept plan does not currently identify bicycle facilities within the site. Consideration for provisions of bicycle facilities should also be identified to ensure it is not excluded. Such considerations should include bicycles on pathways through the site to the Banff Trail LRT station, thus promoting connectivity between different modes of travel.

1.3.4 Pedestrian Network

Pedestrian counts at adjacent area intersections are shown in Figure 1.3.4 and were obtained from the City. According to the counts, the University Drive and 24th Avenue NW intersection experiences the highest pedestrian activity followed by the 24th Avenue NW and Crowchild Trail intersection. The overall existing pedestrian network and facilities in the area are also illustrated in Figure 1.3.4. There are some key connections to the University and nearby transit facilities that are missing. Pedestrian networks are to be continuous and accessible throughout the site, as well as integrated with surrounding pedestrian systems to promote higher usage, availability and safety.

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As part of the recent Transportation Solutions review[2] of existing bicycle and pedestrian facilities, the construction of a missing sidewalk along the west side of University Drive has been recommended. Our site visit evidenced the location of an informal but highly 'worn' pedestrian path from the University to the existing Foothills Athletic Park. The worn path suggests pedestrians are crossing 24th Avenue NW at the existing vehicular access located 150 metres east of the University Drive intersection. The unsignalized existing all-turns vehicular access has no existing pedestrian facilities. Subject to the ultimate configuration of the proposed all-turns (all-modes) access at this same access, a pedestrian signal should be provided. In coordination with the University, construction of a pedestrian pathway along the existing 'worn' pedestrian path on the north side of 24th Avenue NW from the University to the proposed Foothills Athletic Park should also be considered.

The existing Foothills Athletic Park currently has a pathway running through the site to McMahon Stadium, ideally for people travelling to the Banff Trail LRT station. However, the existing pedestrian/ bicycle connectivity within the site is confusing and restrictive due to existing fencing around each main facility. As well, there is no obvious pedestrian connection between the west entrance of McMahon Stadium, where the pedestrian facility from the Banff Trail LRT station ends, to the site. As a result, pedestrians connecting to the Banff Trail LRT station over the footbridge have to walk across the McMahon Stadium parking area among vehicular traffic. The conceptual plan identifies pedestrian facilities internal to the site, as well as facilities around the site. The main north-south corridor is shown between the aquatics building and the track and field complex. These proposed pedestrian connections in and around the site should be constructed and ensured to be open at all times, year-round, again to promote universal accessibility and availability. As well, discussion should be made with the McMahon Stadium Society to improve pedestrian connectivity from the south boundary of the site to the footbridge over Crowchild Trail, in correlation to this project.

Although pedestrians are generally prohibited on Crowchild Trail, there is a protected concrete walkway adjacent to the baseball fields on the site along the west side of Crowchild Trail. The walkway goes from 24th Avenue NW to the McMahon Stadium right-in/right-out access on Crowchild Trail. This walkway is intended to improve pedestrian connectivity to/from the footbridge that connects to the Banff Trail LRT station over Crowchild Trail.

Principles of universal accessibility are highly recommended in the design and construction of the pedestrian network. Those include considerations for unobstructed pathways, distinctive finishing materials that reinforce the intention and use of facilities, appropriate cues for the disabled, lighting, and wayfinding information, as well as providing curb ramps to accommodate wheelchairs, carts and strollers. The City of Calgary is currently developing universal design guidelines/standards to be implemented in these types of facilities[3].

[2] *2009 City of Calgary Pedestrian and Bicycle Improvements for the University of Calgary Area.*
[3] *Calgary Urban Braille System, 2008.*

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1.3.5 Access and Site Circulation

The proposed access location and operation has a direct impact on the expected traffic patterns in the area. In particular, the location of the accesses will define new routes for entering/exiting the site for regular and emergency traffic. Location of bus stops, pedestrian and bicycle connections, as well as off-site parking will be directly influenced by the location of the main vehicular access to the site. Therefore, the following considerations on the proposed access should be taken.

Access to University Drive

The two proposed all-directional site accesses to University Drive at Unwin Road and at the south site boundary currently exists. The configuration and required capacity of the access should be reviewed in more detail when completing the TIA. Any modification to these accesses beyond the existing condition will need the review and approval of the Transportation Department. Should the existing accesses be in poor condition, improvements may be required as part of this development.

Access to 24th Avenue NW

There is currently one existing all-turns site access on 24th Avenue NW which is located approximately 150 metres from University Drive. The conceptual plan indicates two proposed all-turns access from 24th Avenue NW, the first being at the existing all-turns access, and the second located midway between University Drive and Crowchild Trail at Campus Gate NW, which is approximately 170 metres from the first access. From a site development perspective, the two proposed all-turns site accesses to 24th Avenue NW are functional, and readily implementable since they take advantage of existing infrastructure (left-turn lanes, median breaks, signage/pavement markings, wheelchair ramps, etc).

However, the proposed all-turns (all-modes) access closest to University Drive may be questioned by the Transportation Department due to the proximity to adjacent intersections along 24th Avenue NW. Since 24th Avenue NW is classified as a major road, all-turns access is typically restricted to 300 metre intersection spacing. Although this is the existing situation, redevelopment of the site may result in reconsideration of this deviation from the City's guidelines. The developer should consider a right-in/ right-out (RIRO) access at the proposed access closest to University Drive, along with the implementation of a pedestrian signal to accommodate existing pedestrians between the University and the site. Consideration should be made to convert the second proposed all-turns site access across from Campus Gate NW into the main all-turns (all-modes) access off of 24th Avenue NW. The need for traffic signals should be assessed as part of the TIA.

Site Circulation

Upon refinement of the conceptual plan, all accesses need to ensure adequate sight lines are achieved by all modes of travel. Proposed sign IDs should be constructed entirely within private property. No portion of the sign shall encroach over/into the road right-of-way.

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Proposed vehicular accesses to 24th Avenue NW and University Drive should be constructed as a curb-return format, typically required on Major/Arterial roadways, and should follow the City's Road Standards. Two-way access should be constructed as 7.5 (with 2 metre flares) for passenger vehicles, 9 to 10 metres for delivery vehicles (SU-9), and 10 to 13.5 metres for large trucks and semi-trucks (WB-19). A curb crossing permit/agreement may be required by the Planning/Development Department.

A preliminary assessment of the internal site circulation indicated that the north site access closest to University Drive on 24th Avenue NW will not be able to accommodate larger service vehicles (semi-trucks) for the right-out and left-in movements. The bus and smaller service trucks (single units) are able to circulate the entire site. The internal roadway system should have a minimum carriageway width of 7.5 metres available to accommodate emergency vehicle access.

1.3.6 Parking

Vehicle Parking

Vehicle parking requirements have been determined for all facilities as per the City's Land Use Bylaw. However, for the outdoor recreational components, the City's Bylaw does not have specific parking requirements and instead a parking study may be required in conjunction with the detailed TIA. As a reference, Appendix 2 summarizes the required vehicular parking as per the City's Land Use Bylaw.

S2 Architecture indicated that Parks anticipates no two major events will take place on the site at the same time (i.e. the swimming venues and ice arenas will not hold competitions on the same day). Also, special events will not overlap with Stampeders' games at McMahon Stadium, which has 2,380 vehicular parking stalls available. And it has also been confirmed that the proposed expandable capacity of the track and field house from 2,500 to 10,000 seats will only occur at very unique events such as the Commonwealth Games, which only happens once every several years and would require comprehensive City-wide planning for its implementation.

Therefore, the proposed on-site parking supply of 650 plus vehicular parking stalls meets the City's parking requirements and should be sufficient to accommodate crowds of up to 2,600 spectators based on the minimum City parking regulation of 1.0 motor vehicle parking stall per four (4) person capacity of the largest assembly area. This should be the threshold over which special events may trigger the implementation of a Special Events Transportation Management Plan which may include a joint parking strategy with McMahon stadium and/or the University, as well as transportation demand management (TDM) strategies such as carpooling, shuttle buses, promotion of active transportation modes, and special transit service (i.e. free LRT services, more frequent or longer services, etc).

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Bicycle Parking

Typically, the Calgary Bylaw indicates that the amount of bicycle parking supply be at least 10 percent of the vehicular parking supply, and are only required to be Class II facilities (i.e. bike racks). As a reference, Appendix 2 summarizes the bicycle parking requirements by individual land use as per Calgary's Land Use Bylaw.

The redevelopment of this site has the potential to generate a higher than average demand for bicycle parking given the type of usage and close proximity to residential and the University; therefore, bicycle parking supply should meet and/or exceed current Bylaw requirements. The City of Toronto recommends that for land uses with no specific bicycle parking requirements, consideration be made that the amount and type of bicycle parking reflect the expected number of employees, visitors and patrons. Current City bicycle parking regulations do not require long-term Class I bicycle parking (i.e. lockers or full enclosure) for this type of development. To encourage the use of multi mode travel, we strongly recommend a substantial increase in the required number of Class II spaces to encourage short term parking for spectators and visitors, and the provision of one long-term Class I bicycle parking facility for employees and patrons.

Some general consideration for the location of bicycle parking should include:

- Must not interfere with pedestrian walkway.
- Bicycle parking stalls must be separated from motor vehicle parking stalls, visitor parking stalls or loading stalls by 2.0 metres or a physical barrier.
- Area where bicycle parking is located must be illuminated.
- Close as possible to the cyclist's ultimate destination.
- Easy to find, include signage if necessary.
- Be arranged so that a bicycle can be parked without damaging adjacent objects such as landscaping, access doors and corridors, and other parked bicycles
- For Class I (Enclosure):
  - Locate on-site or within 250 metres of the site
  - Protection from weather
  - In secured environment
  - On hard surfaced area
- For Class II (i.e. bike racks):
  - Locate within 15 metres of the public entrance
  - Protection from weather where possible
  - In a visible and prominent location
  - Areas of high pedestrian activity nearby to add to perception of security

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It is generally appropriate to make 50% of the recommended bicycle parking level available at the initial stage; however, space should be set aside to allow for 100% provision should full demand be realized. Best practices in bicycle parking also recommend the provision of adequate end-of-trip facilities, including showers, lockers and parking spaces. Showers and lockers are expected to be provided as part of the proposed facilities.

2.0 GLENMORE ATHLETIC PARK

Figure 2.0 is a context plan for the location of the Glenmore Athletic Park. Glenmore Athletic Park is located in southwest Calgary on the southeast corner of the intersection of 19th Street and 50th Avenue SW. The site is surrounded by residential communities to the north (Altadore) and to the west (North Glenmore), the Elbow River valley to the east, and the Glenmore Reservoir to the south. The proposed concept plan that was used for the review is also shown in Figure 2.0, and the following table is a general comparison between the existing and proposed amenities for the park.

Amenities	Existing	Proposed
Arenas	1 ice arena (550 spectators)	2 ice arenas (700 spectators)
Recreational Centre / Community Facilities	2 pools, 1 multi-purpose room, 1 baseball field and 2 softball fields	Cycle-cross track, 4 playgrounds, splash park, multi-purpose / meeting room (20 – 30 people), 3 pools, weight training, multi-purpose rooms, administration and TI spaces, 8 volleyball courts, 2 softball fields
Rectangular Field and Support	6 soccer fields	7 soccer fields
Tennis	16 tennis courts	17 tennis courts
Track (field house)	1 – 400 indoor track (1,000 spectators)	1 – 400 indoor track (1,000 spectators)
Cycling	1 – 400 m outdoor Velodrome	1 – 300 m indoor Velodrome

2.1 Glenmore Utility Infrastructure

A general description of each of the related utility services reviewed is provided for each type of service in the headings below. The utility services review is based on the available record information provided. However, it should be noted that other utility features may exist within the site that may not be exactly as shown and/or may not appear in the available records.

A schematic diagram of the current known deep utility services (sanitary sewer, storm sewer, and watermain) adjacent to the site is provided on Figure 2.1.

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2.1.1 *Utility Infrastructure Conflicts*

The concept plan proposed for the site appears to avoid any plan view utility/structure conflicts with all of the various utilities within the site. This includes the deep utilities (sanitary sewer, storm sewer, and watermain systems) and the shallow utilities (electrical and gas) on the site, based on the record information provided to date. Additionally, the proposed concept plan also appears to avoid any plan view utility/structure conflicts with the primary electrical tower line within the site.

Future consultation with all of the shallow utility service providers (electrical, gas, telephone, and television) is required to confirm potential conflicts more definitively.

Although there does not appear to be any plan view utility/structure conflicts, there does appear to be some elevation/depth of cover conflicts. Plan view utility/structure conflicts are generally the type of conflict that is considered first; however, the vertical position of the existing utilities on the site must also be considered as it relates to the existing surface elevations (based on the City of Calgary's contour record information provided) and the proposed surface grading scheme.

Ensuring that an appropriate depth of cover is available on the existing infrastructure, which may remain in place, could help to minimize any additional efforts to insulate lines that end up being too shallow or reinforce lines that become too deep.

At this time, the review of potential elevation/depth of cover conflicts only identifies areas that may require additional investigation. It is anticipated that much of the existing utility infrastructure will remain in place given that it provides service for a larger area and that it will also be required as part of the servicing strategy for the proposed concept plan. Therefore, the issues identified herein may require further investigation as the development of the proposed concept plan is taken through subsequent design stages. A review of the City of Calgary Block Profile records should allow a more definitive assessment of the impacts associated with potential elevation changes at the locations described below.

Figure 2.1 highlights the elevation/depth of cover conflicts in orange.

<u>Elevation/Depth of Cover Conflicts</u>

- Parking Area South of Pool/Velodrome Building and Twin Arena Building
  There is an existing sanitary and storm sewer line that runs east-west just to the south of the proposed pool/Velodrome building and the twin arena building. Based on the grading concept scheme, the proposed elevation through this area represents a drop that varies from 1.0 - 2.0 metres. This is a significant drop in elevation and may result in inadequate cover being available over the sanitary and storm sewers. This may be able to be accommodated by insulating the lines,

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but it could also present challenges with respect to providing storm sewer service for the adjacent parking areas and buildings. If the storm sewer is at or slightly below the typical minimum cover requirement of 1.5 metres, then it may create challenges servicing the area immediately upstream of the line until sufficient elevation is gained as the surface condition rises towards the north.

Consideration could potentially be given to lowering the sanitary and storm sewer lines to match the proposed lowering of the surface elevations. A review of the downstream connections would have to be made to confirm if this is a viable option.

- Softball Field Area
  From the northeastern corner of the softball field south of the twin arena building, through the softball field east of the arena, and to a point near the southwest corner of the easternmost rectangular sport field, the proposed grading scheme indicates a drop in the surface elevation of 1.0 - 2.0 metres relative to the existing surface elevation. There is also an apparent surface elevation reduction at the northeast corner of the easternmost rectangular sport field of approximately 0.5 metres. The existing 400 mm and 900 mm watermains in this area may be affected as a result.

  Watermains are typically installed within a very narrow depth range of 2.7 - 3.3 metres below the ground surface depending on local soil conditions. Any decrease in cover over the main generally requires that insulation of the main be provided or the main be lowered to an appropriate elevation. A cover reduction (drop in surface elevation) of 1.0 metre should allow an opportunity for insulation, but a cover reduction (drop) of 2.0 metres would require that the main be lowered to an appropriate elevation.

  It may be feasible to reconstruct a portion of the 400 mm watermain, but it is not anticipated to be practical to modify the 900 mm watermain. As a result, it may be necessary to modify the proposed grading scheme to ensure that adequate cover can be maintained over these water lines.

  Lastly, the proposed grading scheme at the access road that runs along the eastern edge of the northern softball field indicates a 0.5 - 1.0 metre drop in elevation over a portion of the existing 1050 mm sanitary sewer and 1200 mm watermain. Insulation may be required over these lines as a result.

- Running Track Area
  The proposed grading scheme at the running track area of the site concept plan suggests up to a 0.5 metre drop in surface elevations relative to the current condition in some areas. There is an existing 500 mm watermain and 250 mm sanitary sewer in this area. It is anticipated that the drop in surface elevation proposed in this area (up to 0.5 m) could be accommodated by insulating the associated sanitary and watermains as needed.

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Some minor adjustments to existing surface elements such as water valve stem covers, manhole covers, and shallow utility pedestals are not included in the descriptions above, but may still be required. These types of adjustments are not anticipated to be significant undertakings.

2.1.2 Utility Infrastructure Servicing

It is anticipated that all of the infrastructure servicing requirements can be developed in connection with any proposed staging of development as needed. This can be confirmed as the development of the proposed concept plan proceeds.

Sanitary Sewer
It is anticipated that the sanitary sewer mains currently running through the site will be sufficient to accommodate a proposed site concept. The reuse of existing service lines within the site may not be feasible so the installation of new sanitary sewer services to the proposed building locations should be anticipated.

Storm Sewer
As noted in the drainage section of this review, a portion of the site appears to drain through the upgrades to the Glenmore WTP currently underway. It also appears that the WTP upgrades are located where the current 900 mm storm sewer is located. It is unclear at this time as to how this storm sewer may be impacted by the WTP project. However, it must be considered that appropriate allowance is being made by the WTP project if this storm sewer is impacted.

The large 1800 mm x 1800 mm storm sewer that also runs through the site is anticipated to be able to accommodate at least an equivalent portion of the site drainage that is currently draining in this system.

Watermain and Fire Protection
Based on the review of the existing utility records, there appears to be six (6) water service connections that currently provide irrigation service, service to the existing buildings and offer fire protection. Each connection size varies and four (4) of them come from 19th Street SW, one (1) comes from 50th Avenue SW, and one ties to a 400 mm main running through the site.

As the proposed concept plan for the site is developed and proceeds through the subsequent design stages, it is suggested that efforts be made to accommodate a looped watermain condition within the site. The loop could connect current 200 mm watermains in 19th Street SW and 50th Avenue SW and allow for service to be maintained should a disruption occur in an adjacent off-site main. This should help to ensure that adequate fire protection is available within the site. However, if additional service capacity is needed, then it may be possible to create a loop from the larger diameter 400 mm main that is available.

In addition to creating a watermain loop through the site, it may be appropriate to consider refining the number of existing water service connections that only provide irrigation service. The development of the proposed site concept plan may offer an opportunity to centralize the irrigation control and create a more efficient system.

Two (2) of the water service connections currently serving the project site appear to be associated with service and fire protection for the tennis facility at the southern end of the site. These current service connections for the tennis facility could be maintained as part of a proposed site concept plan given that there is no change to the nature of the building being considered.

It must be noted that any new connections made or modification of the current system may result in additional repair work. The watermains in this area are expected to be approximately fifty (50) years old and any work on the mains could result in breaks at other locations not directly associated with the project site.

Shallow Utilities

No assessment of the shallow utility servicing (electrical, gas, telephone, and television) on the site is conducted. Further discussion with the various service providers will have to be undertaken as the project proceeds through subsequent stages of the design process.

2.2 Glenmore Stormwater Management

2.2.1 Drainage Pattern

The majority of the runoff generated by the current Glenmore site appears to drain within the site boundary. This is at least partially intercepted within the site and conveyed to the current storm sewer mains running through the site. However, a portion of the site adjacent to 50th Avenue SW appears to drain off the site to 50th Avenue SW at the 16th Street SW site entrance.

There is also a portion of the site that currently drains into the Glenmore Water Treatment Plant (WTP) upgrade project. It is unclear how this runoff is being accommodated by the WTP project at this time, but it must be considered that appropriate allowance is being made. Nevertheless, it is anticipated that coordination efforts with the Glenmore Water Treatment Plant will be required to ensure that adequate drainage patterns can be maintained in the area.

A review of the grading scheme provided for the proposed concept plan suggests that the proposed drainage pattern is generally consistent with the current pattern. The only exception appears to be that the runoff that was previously directed toward 50th Avenue SW is now contained within the site

boundary. There is no significant issue anticipated with allowing this drainage to be contained within the site boundary.

A schematic comparison of the drainage patterns of the current and proposed grading schemes is shown on Figure 2.2.1.

A more thorough assessment of the total runoff intercepted within the site boundary should be undertaken as the proposed concept plan is taken through subsequent design stages. This will include, but may not be limited to, enquiring if there are any current flooding issues on the site, as well as an assessment of the current downstream storm sewer system capacity.

2.2.2 Surface Condition

A review of the Glenmore site indicates that there will be a change in the amount of impervious (hard) surface area relative to the current condition. The proposed concept has approximately 11.9 ha of impervious area while the current condition has only 6.2 ha. See Figure 2.2.2.

An increase in the amount of impervious area will result in an increase in the amount of stormwater runoff within the site. As a result, ensuring that there is no negative impact on the existing storm sewer system, to which the site is connected, will require mitigation measures during the implementation of the proposed concept.

Given the proximity to the Elbow River, mitigation measures may not need to be as involved as with a site that is farther upstream from the ultimate discharge point. This is because the increase in runoff may simply be allowed to flow over the ground surface to the river rather than into the underground storm sewer system. This will require further investigation to confirm that this is possible so consideration for an underground stormwater storage system should also be made.

Providing underground storage will allow an increase in runoff to be temporarily held back before it is released into the downstream storm sewer system. The amount of storage will be quantified as part of subsequent design stages. The location of the underground storage could be under some portion(s) of both the sport fields and the parking areas. A number of appropriate storage system products are available to offer competitive pricing.

Additionally, it may be possible to make use of some of the stored stormwater runoff to be used for irrigation of the landscape areas within the site. This may not replace the use of potable water for irrigation, but it could offer a supplemental water supply.

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2.3 Glenmore Transportation

Transportation around the Glenmore Athletic Park is defined by the residential character of the areas, as well as its location within the inner City boundaries. Crowchild Trail and Glenmore Trail are the primary transportation connections to the rest of the City. There are also important connections to surrounding neighbourhoods and direct access to regional recreational networks. Mobility in the area should balance the needs of pedestrians, cyclists, transit users, and motorists alike.

2.3.1 Road Network

The site is mostly surrounded by a grid of designated local (residential) roads, including 17th Street SW, 15th Street SW, 14A Street SW, 51st Avenue SW, 52nd Avenue SW, and 53rd Avenue SW. Collector roadways around the site include 50th Avenue SW, 54th Avenue SW, 20th Street SW, 19th Street SW, and 16th Street SW. Arterial corridors in the area include Crowchild Trail to the west and Glenmore Trail to the south. Figure 2.3.1 shows the surrounding context and overall roadway network including current traffic volumes. No major future roadway projects are anticipated in the area[4].

Local roads have an environmental capacity of 1,500 vpd, collect and distribute traffic from residential properties to collector streets and provide on-street parking to local residents. Most local streets are currently operating under capacity (v/c <85%), with the exception of 17 Street SW, and the local portion of 19 Street SW (south of 50 Ave SW) which appear to be operating near their environmental capacity (v/c > 85%).

Collector roads have an environmental capacity of 5,500 vpd and are intended to collect and distribute traffic from major streets to lesser standard streets and serve secondary traffic generators such as neighbourhood commercial centres, parks, golf courses and from neighbourhood to neighbourhood within the community. In addition, collector roads are planned to accommodate all travel modes including, transit, pedestrians and cyclist. Collector roads in the area appear to be operating under their environmental capacity ranging from as low as 10% on 19th Street SW (north of 50th Avenue) to 90% on 50th Avenue SW east of 20th Street and over capacity west of 20th Street.

We conducted a high level traffic assessment to determine the potential impact from the proposed site on surrounding road networks for a typical weekday. The net additional vehicular traffic generated by the redevelopment of Glenmore Athletic Park was estimated using the ITE Trip Generation Manual (8th edition) and compared with local data from similar land use. These estimates are used as a tool to gauge theoretical trip numbers under similar characteristics, but may not typify real site conditions. A trip generation rate study for the site is recommended for updated local trip generation rates. Existing City

4 *City of Calgary Forecasting Toolbox.*

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traffic data was also used to confirm general travel patterns which may shift in the future depending on planned networks, modal splits, and land uses.

Accordingly, the estimated net additional traffic generated by the redevelopment of the site is in the order of magnitude of 1,500 to 2,100 vpd for a typical weekday. The majority of the surrounding roadway network appears to be operating below its environmental capacity (v/c<85%), except for 17th Street SW, and the local portion of 19th Street SW (south of 50th Avenue SW) and 50th Avenue west of 20th Street SW which may be reaching or is at their environmental capacity. Careful consideration should be given as to the location of proposed accesses to the site so that they are not aligned with any existing local street (see further discussion in the access and site circulation section). Local streets are neither designed nor intended for such purposes not to mention the likeliness for significant community opposition. Realigning access with existing collectors could also alleviate existing pressure on other overcapacity collector roads.

Available City speed data for northbound 16th Street SW and 14A Street SW traffic do not show evidence of speeding issues on these roads. Although speeding was not an issue, Transportation has plans to construct three speed tables along 14A Street SW. Based on site observations, 50th Avenue SW may be prone to motorists speeding particularly at peak commuter times where downtown traffic shortcuts through the area. A speed study is recommended on 50th Avenue SW to confirm empirical observations. Should speeding be an issue, traffic calming measures may be appropriate including curb extensions along 50th Avenue SW to define and protect parking lanes, provide a narrowing effect to through traffic, as well as shorten pedestrian crossing distances.

As development proceeds, a full Transportation Impact Assessment (TIA) is recommended. ITE recommended practice is to conduct a TIA when a development is expected to generate over a 100 total new trips during either of the peak hours. The TIA will provide a more detailed assessment of the impact of this development on the surrounding road network, and will identify what improvements could be required in order to adequately and safely accommodate the expected pedestrian and vehicular traffic.

2.3.2 Transit Network

Overall, the area is well served by public transit. There are numerous bus routes along Crowchild Trail served by bus stops on both sides and a pedestrian bridge at 54th Avenue SW. Bus routes number 7, 107 and 13 run adjacent to the site along 50th Avenue SW, 54th Avenue SW, 20th Street SW, and 16th Street SW. These three routes operate at a combined headway frequency of less than 15 minutes during weekday peak periods. There are two dedicated school bus routes along 50th Avenue SW, bus routes 4 and 32, reflecting the high presence of school age population in the area. Most transit routes are located within 400 m of the site. Figure 2.3.2 shows the existing transit network, routes and type of bus facilities.

Calgary Transit anticipates the implementation of the Mount Royal University BRT (bus rapid transit) route along Crowchild Trail/Glenmore Trail by 2010-2015, connecting to the planned west LRT extension. It would be beneficial to plan for the BRT to stop at the existing 54th Avenue SW bus stops on Crowchild Trail as it would add to the accessibility and servicing of the site and should be brought up when in discussion with Calgary Transit.

The integration of transit with bicycle and pedestrian mobility should be a priority for the Glenmore Athletic Park. The existing bus routes, adjacent multi-use pathway regional system and on-street bikeways set an ideal scenario to encourage multi-modal transportation services while discouraging the dependency on the automobile. Subject to discussions with Calgary Transit, the development of bike-on-bus programs will take bicycle-transit integration to a whole new level. Residents, park patrons and regional pathway users will be able to get to their destinations in a combination of modes without the need to drive if they choose not to. Bike-on-bus programs are relatively inexpensive and easily implementable on specific bus routes as demand grows on a case-by-case basis. These programs have been greatly successful in cities across North America including Toronto, Vancouver, Victoria, and San Francisco.

Other improvements that may be discussed with Calgary Transit include the rerouting of existing community shuttle buses into the site so patrons can be picked up/dropped off close to the entrances of main buildings and recreational facilities. Alternatively and subject to the final location of the site's main accesses, existing locations of bus stops should be reviewed. Bus stops adjacent to the site should be located close to main pedestrian entrances so that walking distances are minimized. Likewise, there may be opportunities to upgrade existing bus stop with benches and shelters as per the City's transit design standards.

2.3.3 Bicycle Network

Bicycle mobility is a high priority in the area. 50th Avenue SW, 20th Street SW and 14A Street SW are designated on-street bike routes as part of a City-wide bike route system. The on-street bikeway system also connects to the regional pathway network through Glenmore Park, Sandy Beach and River Park. Figure 2.3.3 shows the bicycle network in the area, as well as cyclist counts at key intersections as provided by the City.

Existing cycling activity seems to concentrate along collector roads and transit routes, particularly along 50th Avenue SW, 20th Street SW and 16th Street SW. No cyclist counts were available at 14A Street SW so it is difficult to assess the actual level of utilization of this road as a designated bike route. As indicated in section 2.3.1, there are plans to install speed tables along 14A Street SW in an effort to reduce speeds, discourage vehicular shortcutting and improve pedestrian/bicycle conditions along this road.

The proposed Glenmore concept plan does not identify on-site bicycles circulation or connections to the existing regional pathway system. As mentioned in the transit section, the Glenmore Athletic Park should strive for better integration between public transit and cycling, identifying on-site bike routes, facilities, and connections in the context of surrounding infrastructure and services.

Cycling signs and markings are part of a successful bikeway system. Besides the implementation of general regulatory/warning signs for cycling, the installation of information and route guidance signage to inform cyclists as to the nearby facilities, services, parking areas, and regional connections are beneficial in promoting universal accessibility and active modes of transportation. Appropriate bicycle/pedestrian signage will also stress the importance of pedestrians and cyclists in the area to residents and visitors, as well as reflecting the City's commitment to sustainable transportation modes.

2.3.4 Pedestrian Network

The pedestrian network in the area is shown in Figure 2.3.4 including sidewalks and pathways, marked crosswalks, pedestrian signs, wheelchair ramp locations, and pedestrian traffic counts at key intersections. Traffic counts reflect a high level of pedestrian activity along 50th Avenue SW, particularly concentrated from 19th Street SW to Crowchild Trail. Pedestrian activity appears to be associated with the presence of nearby schools and transit interaction.

As shown in Figure 2.3.4, the pedestrian network is limited to narrow sidewalks on local and collector roads. Some key pedestrian links are currently missing adjacent to the site including the south side of 50th Avenue SW and the east side of 19th Street SW. Also, pedestrian/bicycle connectivity through the site is highly restricted due to existing fencing around the park.

Our site visit evidenced the existence of an informal but highly 'worn' pedestrian/bicycle path along the south side of 50th Avenue SW adjacent to the site. It appears to be an important connection to the broader pedestrian/bike regional network through Glenmore Park, Sandy Beach and River Park. There is an opportunity to enhance this pedestrian/bicycle connection along the south side of 50th Avenue SW adjacent to the site by taking advantage of a relatively wide boulevard. We encourage the incorporation of new urbanism concepts that integrate cyclists, pedestrians and transit facilities within this section of 50th Avenue SW adjacent to the site. At the very least, we recommend the implementation of a multi-use trail along 50th Avenue SW and 19th Street SW adjacent to the site as shown in Figure 2.3.4.

As part of the proposed redesign of the Glenmore Athletic Park, 19th Street will be realigned to the east just south of 50th Avenue SW. The realignment will use land from the site on the southeast corner of the intersection. Realigning 19th Street will improve the existing pedestrian situation at the offset intersection by decreasing the crossing distance for pedestrians travelling north-south, as well as improve sight lines.

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2.3.5 Access and Site Circulation

The objective of the external site circulation is to encourage traffic not to use the local neighbourhood roads, and to focus primarily on 50th Avenue to Crowchild Trail and to 20th Street SW. Access locations and operation will directly influence existing traffic patterns in the area. In particular, the location of accesses will redefine new routes for entering/exiting the site that appear more practical to the average driver. Transit routes, facilities and emergency services will also need to be evaluated in relation to the proposed access locations. The proposed access locations will also condition the location of bus stops, pedestrian and bicycle connections, as well as off-site parking. Therefore, consideration on proposed access location and operation should be taken as follows:

Access to 50th Avenue SW

The two proposed all-modes accesses to 50th Avenue SW are consistent with the overall layout of the site; however, the location may be an issue from a broader transportation perspective. The proposed 17th Street SW access is intended to be the primary all-modes access into the site, and the 15th Street access is intended as a secondary side access. These two proposed accesses align with existing local/ residential streets north of 50th Avenue SW, which are not intended for through traffic. Drivers may tend to take these local roads instead of the adjacent collector roads as they would provide a more direct access to the site, resulting in increased traffic and significant potential for resident opposition unless measures to prevent direct access from local streets into the site are implemented.

To ensure traffic does not enter into the local roads, access at 17th Street SW would be limited to right-in/ right-out, and left-in/left-out movements to/from the site. Preventative measures for the 17th Street access may include a concrete island with bollards and chain allowing only right-in/right-out movement to the north, thus physically preventing north-south through traffic; or a traffic signal with directional signs also preventing north-south through traffic without a physical barrier; or implementation of a raised speed table on the north leg in combination with curb extensions narrowing the roadway to discourage north-south through traffic, but not physically preventing the movement.

An alternative to the primary north access would be to relocate it from 17th Street so that it aligns with 16th Street SW. 16th Street SW is a collector roadway intended to move local traffic and serve secondary traffic generators such as the Glenmore Athletic Park and schools. Aligning a main access to 16th Street SW will also allow better integration with existing transit routes, as well as making it more convenient for service and emergency vehicles. However, this will add to the load on 16th Street SW, as well as create a direct line of travel from the site into the neighbouring community. The increased traffic volume may lead to a community perception of increase in speed.

The site access aligned with 15th Street SW should be limited to right-in and left-out movement to/from the site. To enforce this, a potential measure to implement is a physical median barrier along 50th

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Avenue across the 15th Street intersection in combination with curb extensions on the south side, thus preventing north-south through traffic. Another potential measure may include something similar to the raised speed table indicated above for the proposed 17th Street access. Although the physical characteristics of 50th Avenue remain consistent from 19th Street to 14A Street, the roadway is designated as a collector standard only up to 16th Street. Since collector designation is only up to 16th Street SW, providing site access at 15th Street SW will require a re-evaluation of the road classification to extend the collector standard to 15th Street SW. It is recommended that discussions be held with Transportation to review the practicality of redesignating this section of 50th Street SW.

Access to 19th Street SW

The proposed access to 19th Street SW at 52nd Avenue SW is situated where the 19th Street access exists today for Glenmore Park. This access will primarily be maintained for emergency purposes and for use during special events traffic management. If a need for a primary access off of 19th Street is ever considered, the preferred location would be to align it to 54th Avenue SW. This is the preferred alignment over 52nd Avenue because 54th Avenue is currently a collector standard from Crowchild Trail to 20th Street. As well, the 54th Avenue access would also provide direct service into and out of the site for northbound traffic from an existing access off of Crowchild Trail. Traffic could access the site without putting more strain on 50th Avenue, and for special events it would not need to divert onto 19th Street SW or other nearby residential roads. As mentioned earlier, 54th Avenue also has high frequency of transit service which has the potential to accommodate a significant number of site users, so the roadway should be promoted as a pedestrian access to the site.

Currently, the section of 54th Avenue SW, from 20th Street SW to 19th Street SW, and the section of 19th Street (south of 50th Avenue SW) are designated as local roads even though they appear to operate as collector roads. 19th Street SW (south of 50th Avenue) appears to be reaching its environmental capacity for a local road so additional traffic pressure could result in community opposition. However, given that there are only residential flankage on one side of 19th Street, it is recommended that discussion be made with Transportation to review the practicality of redesignating these two road sections to a collector standard so that they match their actual function. Potential improvements can be made to these sections to accommodate transit, higher traffic, property access, parking, and active modes.

The review completed was high level in nature, and access locations should be further assessed in more detail going forward in the Transportation Impact Assessment (TIA) and/or Mobility Assessment Plan (MAP). The TIA/MAP should include detailed analysis to confirm the number of accesses required for the site and if a primary access is required along 19th Street. The exact location of the access alignment will need to be coordinated with the site layout.

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Site Circulation

Upon refinement of the conceptual plan, all accesses need to ensure adequate sight lines are achieved by all modes of travel. Proposed sign IDs should be constructed entirely within private property. No portion of the sign shall encroach over/into the road right-of-way.

Proposed vehicular accesses should be constructed as a curb-drop format (commercial crossing) typically required on local and collector roads to the satisfaction of the Transportation department. Two-way accesses should be constructed as 7.5 metres (with 2 m flares) for passenger vehicles, 9 to 10 metres for delivery vehicles (SU-9), and 10 to 13.5 metres for large trucks and semi-trucks (WB-19). A curb crossing permit/agreement may be required.

A preliminary assessment of the internal site circulation indicated that the proposed 17th Street access will not be able to accommodate larger service vehicles (semi-trucks) for the right-in and right-out movements, thus restricting larger vehicles from using this access. Based on discussions with S2 Architecture, the proposed 15th Street access has been widened and designed to accommodate B-train transport vehicles into the site, and is primarily for the use of the Glenmore Water Treatment Plant. Internal driving lanes appear to be too narrow for semi-trucks to manoeuvre especially at road junctions. Buses and smaller service trucks (single units) are able to circulate the entire site. The internal roadway system should have a minimum carriageway width of 7.5 metres available to accommodate emergency vehicle access.

The proposed internal pedestrian network efficiently connects all facilities and provides a number of alternative routes for recreational purposes. We recommend an additional north-south pedestrian connection through the soccer fields so a connection is provided in between every couple of fields. Pedestrian/bicycle accessibility between the site and surroundings is highly restricted by existing perimeter fencing. As much as possible, the proposed development should strive for open, unfenced and all-year round access for pedestrians and bicycles throughout the site.

2.3.6 Parking

Vehicular Parking

S2 Architecture indicated that no two major events will take place on the site at the same time (i.e. the swimming venues and ice arenas will not hold competitions on the same day). Accordingly, parking requirements have been determined for all facilities as per the City's Land Use Bylaw. However, in the case of outdoor recreational components, the City's Bylaw does not have specific parking requirements and instead it may require a parking study at the time of development permit application. As a reference, Appendix 2 summarizes the required motor vehicle and bicycle parking as per the City's Land Use Bylaw.

Therefore, the proposed on-site parking supply of approximately 950 motor vehicle stalls, plus an additional 160 on-street parking stalls along 50th Avenue SW and 19th Street SW meets the City's parking requirements. The parking supply should be sufficient to accommodate crowds of up to 3,800 spectators based on the minimum City parking regulation of 1.0 motor vehicle parking stall per four (4) person capacity of the largest assembly area. This should be the threshold over which special events may trigger the implementation of a Special Events Transportation Management Plan that includes transportation demand management (TDM) strategies such as carpooling, shuttle buses, promotion of active transportation modes, and special transit service (i.e. family transit passes, daily pass deals, or special discounts for public events, etc).

Bicycle Parking

The amount, type and location of bicycle parking stalls have not been identified on the proposed concept plan. According to the Calgary Land Use Bylaw, bicycle parking supply should be at least 10 percent of the available vehicular parking supply, and only Class II facilities (i.e. bike racks) are required. Appendix 2 summarizes the bicycle parking requirements by individual land use as per the Land Use Bylaw.

The Glenmore Athletic Park has the potential to generate significantly higher than average demand for bicycle parking. Accordingly, the amount and type of bicycle parking should well exceed current requirements so that it actually reflects the expected number of employees, visitors and patrons. We strongly recommend a substantial increase in the required number of Class II spaces to encourage short term parking for spectators and visitors, and the provision of one long-term Class I bicycle parking facility for employees and patrons to encourage multi-modal travel.

General guidelines on where to locate bicycle parking are indicated in Section 1.3.6, as well as how to implement the bicycle parking supply.

3.0 SUMMARY

3.1 Utility Infrastructure

3.1.1 Foothills Athletic Park

- Potential conflicts with the proposed concept plan and existing utility infrastructure are present. The overall nature of these conflicts is relative to the extent to which the existing utilities are anticipated to remain on the site and be "reused". This can be further examined as needed during the ongoing development of the proposed concept plan.
- It is anticipated that all of the infrastructure servicing requirements (sanitary sewer, storm sewer, watermain, and fire protection) can be accommodated and coordinated in connection with any

proposed staging of development as needed. This can be confirmed as the development of the proposed concept plan proceeds.

- No assessment of the shallow utility servicing issues (electrical, gas, telephone, and television) on the site is conducted. Further discussion with the various service providers will have to be undertaken as the project proceeds through subsequent stages of the design process.

3.1.2 Glenmore Athletic Park

- Potential conflicts with the proposed concept plan and existing utility infrastructure are present. It may be necessary to modify some of the proposed site grading to mitigate certain impacts, but other impacts may be managed with construction details as the development of the concept plan proceeds through subsequent stages of the design process. Additional investigation could also be completed as needed during the ongoing development of the proposed concept plan.
- It is anticipated that all of the infrastructure servicing requirements (sanitary sewer, storm sewer, watermain, and fire protection) can be accommodated and coordinated in connection with any proposed staging of development as needed. This can be confirmed as the development of the proposed concept plan proceeds.
- No assessment of the shallow utility servicing issues (electrical, gas, telephone, and television) on the site is conducted. Further discussion with the various service providers will have to be undertaken as the project proceeds through subsequent stages of the design process.

3.2 Stormwater Management

3.2.1 Foothills Athletic Park

- The overall existing drainage pattern of the site appears to be maintained with the proposed grading scheme for the concept plan. This should accommodate the design of a drainage system that closely represents the existing condition.
- Although the existing drainage pattern is essentially maintained, the amount of runoff generated by the proposed concept plan will be greater than the existing condition. This will require mitigation measures to ensure that the amount of runoff discharged from the proposed concept plan is consistent with the existing condition. An underground stormwater storage system is anticipated to be the most effective mitigation technique.
- An underground stormwater storage system may also allow some of the stored stormwater runoff to be used for irrigation of the landscape areas within the site. This may not replace the use of potable water for irrigation, but it could offer a supplemental water supply.
- The details associated with the overall stormwater management strategy can be developed as the proposed concept plan is taken through the subsequent stages of the design process.

3.2.2 Glenmore Athletic Park

- The overall existing drainage pattern of the site appears to be generally maintained with the proposed grading scheme for the concept plan. This should accommodate the design of a drainage system that is similar to the existing condition.
- The amount of runoff generated by the proposed concept plan will be greater than the existing condition. However, given the proximity to the Elbow River, mitigation measures may not need to be as involved as with a site that is farther upstream from the ultimate discharge point. This is because the increase in runoff may simply be allowed to flow over the ground surface to the river rather than into the underground storm sewer system.
- If sufficient mitigation of the anticipated increase in stormwater runoff is not achieved via overland flow routes, an underground stormwater storage system is anticipated to be another effective mitigation technique for this site.
- An underground stormwater storage system may also allow some of the stored stormwater runoff to be used for irrigation of the landscape areas within the site. This may not replace the use of potable water for irrigation, but it could offer a supplemental water supply.
- The details associated with the overall stormwater management strategy can be developed as the proposed concept plan is taken through the subsequent stages of the design process.

3.3 Transportation

Based on the preliminary transportation assessment, the following conclusions and recommendations should be taken into consideration for the next stages of the planning and design process of the Foothills and Glenmore Athletic Park redevelopment.

3.3.1 General

Road Network

- A comprehensive Transportation Impact Assessment (TIA) may be required by Transportation since the redevelopment is expected to generate over 100 total new trips during either peak hour.
- A trip generation rate study for the site is recommended for updated local trip generation rates.

Transit

- Consider discussions with Calgary Transit to develop a bike-on-bus program, so designated bus routes in the area are equipped with bike racks.

Bicycle Network

- Installation of information and route guidance signage to inform cyclists as to the nearby facilities, infrastructure, services, and parking areas.

- Identify on-site bicycle circulation and connections to the existing regional pathway system on the proposed site plan.

Pedestrians

- Current pedestrian/bicycle connectivity within the site is inconvenient and highly restricted due to existing fencing around facilities. Ensure universal accessibility and availability through the site by keeping it open at all times, year-round. Universal accessibility guidelines are to be applied in accordance to the most up-to-date City of Calgary universal design guidelines/standards.

Access and Site Circulation

- All-turns accesses to Major Roadways are generally restricted and/or consolidated to every 300 metres to limit disruption for through traffic.
- The internal roadway system should have a minimum carriageway width of 7.5 m available to accommodate emergency vehicle access.
- Proposed sign IDs should be constructed entirely within private property. No portion of the sign shall encroach over/into the road right-of-way.

Vehicle and Bicycle Parking

- The City's current Land Use Bylaw does not have specific motor vehicle parking requirements for outdoor recreational facilities. It stipulates that a parking study may be required at the time of development permit application.
- Current City bicycle parking regulations only require Class II (i.e. bike racks) and no long term Class I bicycle parking (i.e. lockers or full enclosure). The proposed sites have the potential to generate a higher than average demand for bicycle parking, so it is recommended that the required number of Class II spaces be significantly increased and a Class I communal full enclosure bicycle parking facility be provided.
- The number of bicycle parking spaces should reflect the capacity of the development in relation to the expected number of employees, visitors and patrons.
- Bicycle parking supply should be done in stages, with installation of 50% of the recommended number of bicycle parking at the initial stage, and space set aside to allow 100% provision for future demand.

3.3.2 Foothills Athletic Park

The following is a summary of conclusions specific to the Foothills Athletic Park site. Recommendations regarding infrastructure improvements and change in layout are shown in Figure 3.3.2.

Road Network

- No significant impacts from the redevelopment are expected on the existing roadway network.

- Need to confirm the proposed ultimate configuration of future grade separated interchange at 24th Avenue NW and Crowchild Trail with Transportation. Accesses, property lines and road right-of-way dedication will need to conform to the approved concept plans.

Transit

- Upgrade the pedestrian connection between the south end of Foothills Athletic Park and the Banff Trail LRT station pedestrian overpass through the McMahon Stadium parking area.
- Provide a bus shelter to the existing northbound mid-block bus stop on University Drive.
- Consider discussions with Calgary Transit regarding the possibility of implementing a new bus route, or extending an existing one, along 24th Avenue NW eastbound/westbound with a stop facility servicing the north edge of the site. This route could also provide valuable direct services to the University and the Alberta Children's Hospital.

Bicycle Network

- Provide an on-street bikeway connection along Unwin Road NW from University Drive to Uxbridge Drive NW.

Pedestrians

- Provide a pedestrian pathway along the existing 'worn' pedestrian path on the north side of 24th Avenue NW from the University to the proposed Foothills Athletic Park.
- Installation of a pedestrian signal at the proposed north access on 24th Avenue NW closest to University Drive.

Access and Site Circulation

- Upgrades to the two proposed all-turns accesses to University Drive may be requested by Transportation. Although existing accesses do meet intersection spacing standards today, with redevelopment of the site the access spacing would be subjected to review
- To align more with Transportation guidelines, the proposed north access on 24th Avenue NW closest to University Drive should be converted to a right-in/right-out only (RIRO) access. This should be coupled with promoting the second north access on 24th Avenue NW at Campus Gate to the main all-turns (all-modes) site access.
- Proposed vehicular accesses to 24th Avenue NW and University Drive should be constructed as a curb-return format, typically required on Major/Arterial roadways, and should follow the City's Road Standards.
- The north site access closest to University Drive on 24th Avenue NW will not be able to accommodate larger service vehicles (semi-trucks) for the right-out and left-in movements. The bus and smaller service trucks (single units) are able to circulate the entire site.

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Vehicular and Bicycle Parking

- Subject to determination of parking requirements for outdoor facilities, the proposed on-site parking supply of 650 plus vehicular stalls meets the City's parking requirements and should be sufficient to accommodate all uses based on the anticipated operation of the facility.
- The proposed on-site parking supply should be sufficient to accommodate a combined facility crowd of up to 2,600 spectators. Larger events should trigger the implementation of a Special Events Transportation Management Plan, which may include a joint parking strategy with McMahon Stadium and/or the University, as well as TDM strategies.
- Recommended location of Class I and Class II bicycle parking is shown in Figure 3.3.2.

3.3.3 Glenmore Athletic Park

The following is a summary of conclusions specific to the Glenmore Athletic Park site. Recommendations regarding infrastructure improvements and change in layout are shown in Figure 3.3.3.

Road Network

- No significant impacts from the redevelopment are expected on the existing roadway network; however, 50th Avenue SW west of 20th Street, 17th Street SW north of 50th Avenue, and 19th Street SW south of 50th Avenue should be closely monitored as they appear to be operating near or at their environmental capacity (v/c > 85%).
- Recommend a review into redesignating 50th Avenue SW east of 16th Street to 15th Street SW from a local to a collector standard.
- Recommend a review into the practicality of redesignating 19th Street SW south of 50th Avenue SW, and 54th Avenue SW from 19th Street SW to 20th Street SW from a local to a collector standard. This re-designation will enable the City to formalize the actual operation of these roads and implement potential improvements as necessary.
- A speed study is recommended along 50th Avenue SW. Should speeding issues be confirmed, traffic calming measures may be necessary including curb extensions along 50th Avenue SW.

Transit

- Consider discussions with Calgary Transit to review rerouting of existing community shuttle buses into the site.
- Subject to final location of main accesses, there may be opportunities to revise existing bus stop locations and upgrade those without benches and shelters as per the City's transit design standards.

Bicycle and Pedestrian Network

- There is a highly 'worn' pedestrian/bicycle path along the south side of 50th Avenue SW adjacent to the site. In providing a formal connection, we recommend exploring concepts of new urbanism to integrate cyclists, pedestrians and transit facilities taking advantage of a relatively wide boulevard on

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the south side of 50th Avenue SW. At the very least, we recommend the implementation of a multi-use trail on 50th Avenue SW and 19th Street SW adjacent to the site.

- We recommend an additional north-south pedestrian connection through the soccer fields so that there is a pedestrian connection between every two fields.
- Realignment of 19th Street SW to the east, south of 50th Avenue SW will improve the pedestrian environment by decreasing crossing distances.
- 54th Avenue SW should be promoted as a pedestrian access to the site.

Access and Site Circulation

- The location of the two proposed accesses to 50th Avenue SW at 17th Street (primary all modes access) and 15th Street SW (secondary access) may be contentious as these accesses are aligned with local/residential streets not intended for this type of use. This may lead to opposition from the community. Consideration should be taken to implement measures that prevent direct travel from the site into the adjacent community, or to relocate the primary north access so that it aligns with 16th Street SW, a collector road.
- The proposed access to 19th Street SW at 52nd Avenue SW is also aligned with an existing local road; however, it is situated where the access exists today and is meant only for emergency and special events traffic management purposes. Should future consideration change this to a primary access, it is advisable that the access be relocated from 52nd Avenue SW to 54th Avenue SW, which provides direct access to Crowchild Trail.
- Proposed vehicular accesses to 50th Avenue SW and 19th Street SW should be constructed as a curb-drop format (commercial crossing) as per the City's roadway design standards.
- The proposed 17th Street access to 50th Avenue SW will not be able to accommodate larger service vehicles (semi-trucks) for the right-in and right-out movements. Buses and smaller service trucks (single units) are able to circulate the entire site.

Vehicle and Bicycle Parking

- Subject to determination of parking requirements for outdoor facilities, the proposed on-site parking supply of approximately 950 motor vehicle stalls, plus an estimated 160 on-street parking stalls along 50th Avenue SW and 19th Street SW meets the City's parking requirements. This should be sufficient to accommodate all uses based on the anticipated operation of no two major events running concurrently.
- The proposed on-site parking supply should be sufficient to accommodate combined facility crowds of up to 3,800 spectators based on the City's parking regulations. Larger crowds should trigger the implementation of transportation demand management (TDM) strategies.
- Recommended location of Class I and Class II bicycle parking is shown in Figure 3.3.3.

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The above assessment on the Foothills and Glenmore Athletic Parks was conducted based on the information provided as outlined in the proposal. Should you have any questions and/or comments, please do not hesitate to contact the undersigned at 403-291-1193.

Yours truly,

URBAN SYSTEMS LTD.

PROFESSIONAL ENGINEER ALBERTA R.J.B. BRANDRICK

Rob Brandrick, P.Eng.
Water Practice Engineer

Jan 13, 2010

Marcia Eng, P.Eng.
Transportation Engineer

Andres Baez, EIT
Transportation Planning Engineer

RB/ME/AB/jm
Enclosures

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PERMIT TO PRACTICE
URBAN SYSTEMS LTD.
Signature
Date Jan 13/10
PERMIT NUMBER: P 3836
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Permit to Practice

APPENDIX 1 – Trip Generation Estimates

Glenmore Athletic Park Trip Generation Estimates

AMENITY	EXISTING		PROPOSED		ITE ESTIMATED TRIP GENERATION							Net trip daily generation (ADT)
	DESCRIPTION	Gross Floor Area (sqft)	DESCRIPTION	Gross Floor Area (sqft)	Land Use	Base unit	AM Peak Rate	PM Peak Rate	ADT rate	% entering	% exiting	
Arenas	1 ice arenas (includes change rooms, concession, office and administration space) 550 spectators	32,374	2 ice arenas (includes change rooms, concession, office and administration space) 700 spectators	80,139	(465) Ice Skating Rink	seats	-	0.12	1.17	50%	50%	176
Recreational Centre/Community facilities		**191,331**		**320,056**	(495) Recreational Community Centre	1,000 sqft GFA	1.62	1.45	13.8413	50%	50%	1,782
Community component	NA	0	Cycle-cross track, 4 playgrounds, splash park, multi-purpose/meeting room (20-30 person)	171,252								
Aquatics	2 pool basins (include changing facilities)	15,791	3 pool basins (include changing facilities)	43,957								
Fitness/Training Buildings	1 multi-purpose room	4,288	Weight Training, multi-purpose rooms, administration & TI spaces (excluding lobby)	47,247								
Gymnasia	NA	0	8 volleyball courts (multi-purpose)	57,600								
Ball Fields	1 baseball field + 2 softball fields	171,252	2 softball fields	0								
Stand Alone Facilities												
Rectangular Field & Support	6 soccer fields	459,245	7 soccer fields	535,786	(488) Soccer Complex	per field	1.40	20.67	99.50	69%	31%	100
Tennis	16 tennis courts (10 indoor, 6 outdoor)	94,979	17 tennis courts	106,391	(490) Tennis courts	per court	–	–	31.04	50%	50%	31
Track (Field house)	1-400m outdoor track (1000 spectators)	252,000	1-400m outdoor track (1000 spectators)	252,000	No net trip generation expected							0
Cycling	1-400m Outdoor Velodrome	191,009	1-300m Indoor Velodrome	191,009					21	50%	50%	0
											TOTAL	**2,088**

Only the baseball field included in the existing scenario as the two softball fields remain unchanged
Estimated on plans
Observational data from a regular user

Foothills Athletic Park Trip Generation Estimates

AMENITY	EXISTING		PROPOSED		ITE ESTIMATED TRIP GENERATION							Net trip daily generation (ADT)
	DESCRIPTION	Gross Floor Area (sqft)	DESCRIPTION	Gross Floor Area (sqft)	Land Use	Base unit	AM Peak Rate	PM Peak Rate	ADT rate	% entering	% exiting	
Arenas	2 ice arenas (includes change rooms, concession, office and administration space) 1850 spectators	138,352	2 ice arenas (includes change rooms, concession, office and administration space) 2200 spectators	131,632	(465) Ice Skating Rink	seats		0.12	0.66	50%	50%	230
Indoor Recreational Centre/Community Centre		**70,810**		**187,076**	(495) Recreational Community Centre	1,000 sqft GFA	1.62	1.45	16.82	50%	50%	1,956
Community component	NA	0	on-site community facilities/lobbies/circulation (café/restaurant)	3,500								
Aquatics	2 pool basins	27,786	3 pool basins (Aquatic Centre)	44,435								
Fitness/Training Buildings	Weight Room in existing field house	4,288	Weight Training, multi-purpose rooms, administration & TI spaces (excluding lobby)	67,141								
Gymnasia	9 volleyball courts	38,736	10 volleyball courts (multi-purpose)	72,000								
Outdoor Facilities												
Rectangular Field & Support	4 soccer fields	306,443	3 soccer fields	229,902	(488) Soccer Complex	per field	1.40	20.67	120.93	69%	31%	-121
Tennis	8 tennis courts	80,640	4 tennis courts	40,320	(490) Tennis courts	per court			31.04	50%	50%	-124
Track (Field house)	1-400 outdoor track (field house only) (1000 spectator)	252,000	1-400 indoor track (field house + expanded spectator facilities)	291,259	Local data (Glenmore Athletic Park 1975)	per acre			29.7			27
Ball Fields	1 baseball stadium & field/ 1 little league field	171,000	1 baseball stadium & field/ 1 little league field	171,000	No net additional traffic expected							
											TOTAL	**1,968**

APPENDIX 2 – Parking Requirement Estimates

Foothills Athletic Park Parking Requirements

PROPOSED LAND USE			PARKING BYLAW REQUIREMENTS			
AMENITY	**DESCRIPTION**	**Usable Gross Floor Area (sqft) / Spectator**	**MOTOR VEHICLES**	**#STALLS**	**BICYCLE**	**#STALLS**
Spectator Sport Facilities						
Arenas	2 ice arenas (includes change rooms, concession, office and administration space) spectators	2200 spectators	Spectator Sport Facility: 1.0 motor vehicle parking stall per four (4) person capacity of the largest assembly area in the building	550	Spectator Sport Facility: Does not required bicycle parking stall - class 1 / Requires a minimum number of bicycle parking stall - class 2 based on 10 % of the minimum required motor vehicle parking stall	55
Track & Field House	1-400 indoor track (field house + expanded spectator facilities)	2500 spectators (+7,500 special event)		625		62.5
Aquatics	3 pool basins (Aquatic Centre)	1000 spectators		250		25
Indoor Recreational Centre/Community Centre						
Community Component	on-site community facilities/lobbies/circulation (café/restaurant)	3,540	Indoor Recreational Facility pp 189: 5 vehicle parking stalls per 100 sqm of gross usable floor area	520	Indoor Recreational Facility : * Does not required bicycle parking stalls- class 1 / Requires a minimum number of bicycle parking stall - class 2 based on 10 % of the minimum required motor vehicle parking stall	52
Fitness/Training Buildings	Weight Training, multi-purpose rooms, administration & TI spaces (excluding lobby)	35,905				
Gymnasia	10 volleyball courts (multi-purpose)	72,000				
Outdoor Facilities						
Rectangular Field & Support	3 soccer fields	229,902	Outdoor Recreation Area: Requires a minimum number of motor vehicle parking stalls based on a parking study required at the time of development permit application when there is listed as a discretionary use in a District	nd	Outdoor Recreation Area: does not required bicycle parking stalls -class 1 or class 2	not required
Tennis	4 tennis courts	40,320				
Ball Fields	1 baseball stadium & field/ 1 little league field	same as existing				

Glenmore Athletic Park Parking Requirements

PROPOSED LAND USE			PARKING BYLAW REQUIREMENTS			
AMENITY	**DESCRIPTION**	**Usable Gross Floor Area (sqft) / Spectator**	**MOTOR VEHICLES**	**#STALLS**	**BICYCLE**	**#STALLS**
Spectator Sport Facilities						
Arenas	2 ice arenas (includes change rooms, concession, office and administration space)	700 spectators	Spectator Sport Facility: 1.0 motor vehicle parking stall per four (4) person capacity of the largest assembly area in the building	175	Spectator Sport Facility: Does not required bicycle parking stall - class 1 / Requires a minimum number of bicycle parking stall - class 2 based on 10 % of the minimum required motor vehicle parking stall	17.5
Track & Field House	1-400 indoor track (field house + expanded spectator facilities)	1,000 spectators		250		25
Aquatics	3 pool basins (Aquatic Centre)	1000 spectators		250		25
Indoor Recreational Centre/Community Centre						
Community Component	Multi-purpose room (20-30 people)	3,500	Indoor Recreational Facility pp 189: 5 vehicle parking stalls per 100 sqm of gross usable floor area	787	Indoor Recreational Facility : * Does not required bicycle parking stalls- class 1 / Requires a minimum number of bicycle parking stall - class 2 based on 10 % of the minimum required motor vehicle parking stall	79
Fitness/Training Buildings	Weight Training, multi-purpose rooms, administration & TI spaces (excluding lobby)	47,247				
Tennis	10 Indoor Tennis courts	60,311				
Gymnasia	8 volleyball courts (multi-purpose)	57,600				
Outdoor Facilities						
Rectangular Field & Support	3 soccer fields	229,902	Outdoor Recreation Area: Requires a minimum number of motor vehicle parking stalls based on a parking study required at the time of development permit application when there is listed as a discretionary use in a District	nd	Outdoor Recreation Area: does not required bicycle parking stalls -class 1 or class 2	not required
Outdoor Community facilities	Cyclo-Cross Track, 4 Playgrounds, Splash park	171,252				
Tennis	7 Outdoor Tennis courts	46,080				
Ball Fields	2 softball fields	151,971				

FOOTHILLS CONTEXT PLAN

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101 - 2716 SUNRIDGE WAY N.E.
CALGARY, AB, CANADA T1Y 0A5
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Fax. 403.291.1374
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LEGEND
SITE BOUNDARY

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:15,000	09-12-21	1.0
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK

FOOTHILLS UTILITY INFRASTRUCTURE

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LEGEND

- REDEVELOPMENT SITE BOUNDARY
- LANDSCAPED SURFACE
- PROPOSED BUILDING
- ASPHALT/CONCRETE SURFACE
- SPORTS/PLAYGROUND SURFACE
- EXISTING SANITARY UTILITIES
- EXISTING STORM UTILITIES
- EXISTING WATER UTILITIES
- UTILITY/STRUCTURE CONFLICT
- ELEVATION/DEPTH OF COVER CONFLICT

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:2500	09-12-21	1.1
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK
UTILITY CONFLICTS

EXISTING DRAINAGE PATTERNS

PROPOSED DRAINAGE PATTERNS

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LEGEND
- REDEVELOPMENT SITE BOUNDARY
- LANDSCAPED SURFACE
- PROPOSED BUILDING
- ASPHALT/CONCRETE SURFACE
- SPORTS/PLAYGROUND SURFACE
- GENERAL STORMWATER FLOW DIRECTION

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	1.2.1
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK
DRAINA E PATTERNS

EXISTING SURFACE CONDITIONS

AREA TYPE	TOTAL AREA a
HARD SURFACE - GROUND	3.
HARD SURFACE - BUILDING	1.3
HARD SURFACE - SPORTS	1.0
TOTAL HARD SURFACE	6.1
TOTAL BOUNDED SURFACE	14.2
LESS TOTAL HARD SURFACE	-6.1
TOTAL SOFT SURFACE	.1

PROPOSED SURFACE CONDITIONS

AREA TYPE	TOTAL AREA a
HARD SURFACE - GROUND	4.0
HARD SURFACE - BUILDING	4.9
HARD SURFACE - SPORTS	1.
TOTAL HARD SURFACE	10.7
TOTAL BOUNDED SURFACE	14.2
LESS TOTAL HARD SURFACE	-10.7
TOTAL SOFT SURFACE	3.5

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LEGEND

- REDEVELOPMENT SITE BOUNDARY
- SOFT SURFACE CONDITION
- HARD SURFACE CONDITION - BUILDING
- HARD SURFACE CONDITION - ASPHALT/CONCRETE
- HARD SURFACE CONDITION - SPORTS/PLAYGROUND

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	1.2.2
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK
SURFACE CONDITIONS

FOOTHILLS TRANSPORTATION

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LEGEND

- SITE BOUNDARY
- SPECIAL LOCAL ROAD
- COLLECTOR ROAD
- MA OR ROAD
- EXPRESSWAY/FREEWAY
- TRUC ROUTE

AVERAGE DAILY TRAFFIC VOLUME AT INTERSECTIONS VPD

PLANNED GRADE-SEPARATED

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	1.3.1
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK
ROAD NETWORK

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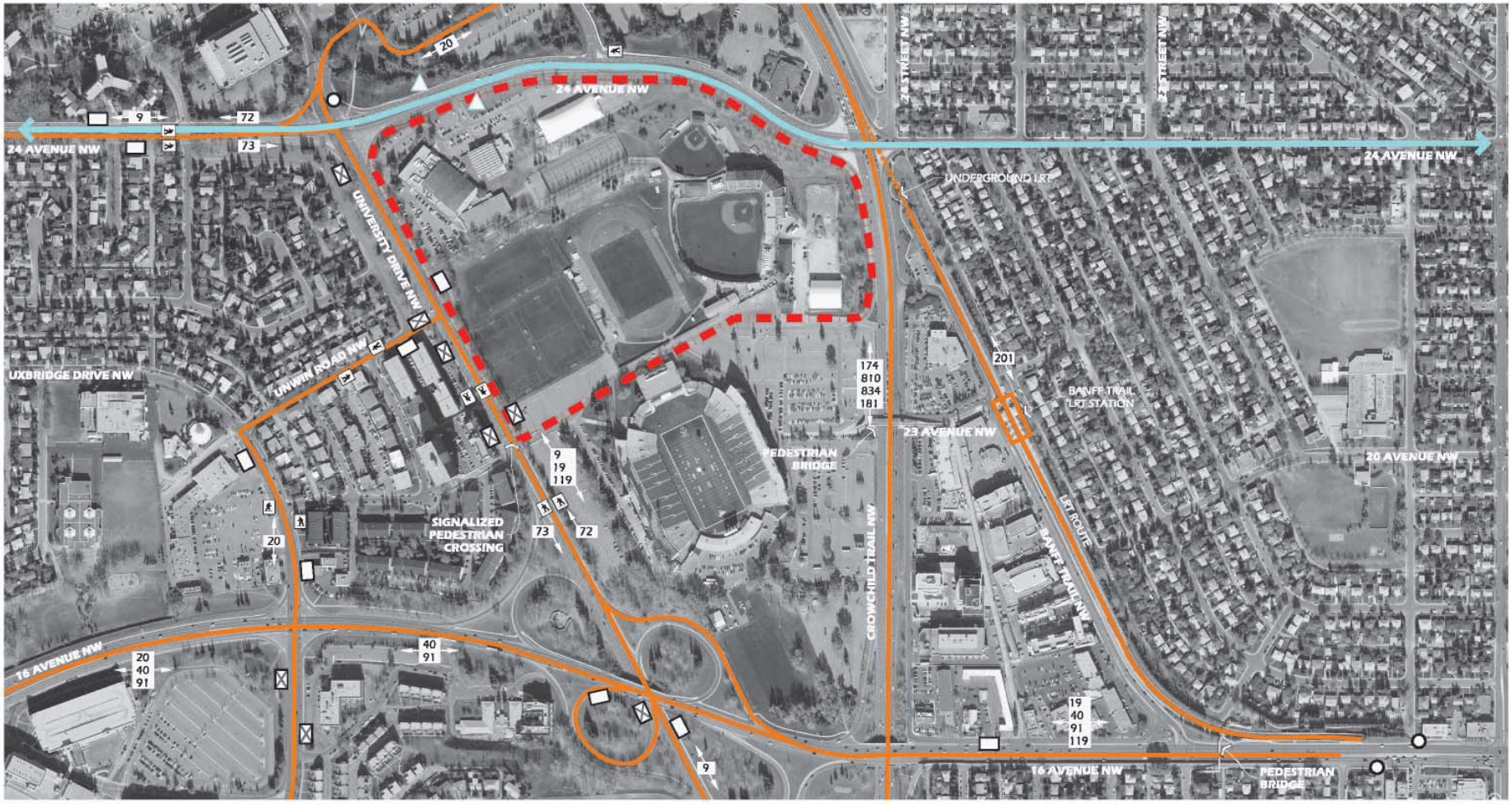
FOOTHILLS TRANSPORTATION



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LEGEND

- SITE BOUNDARY
- EXISTING TRANSIT ROUTE
- 20 EXISTING TRANSIT ROUTE NUMBER
- BUS STOP WITH SHELTER
- BUS STOP WITH BENCH
- BUS STOP SIGN
- RECOMMENDED BUS STOP WITH SHELTER
- RECOMMENDED TRANSIT ROUTE

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
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FOOTHILLS ATHLETIC PARK
TRANSIT NETWORK

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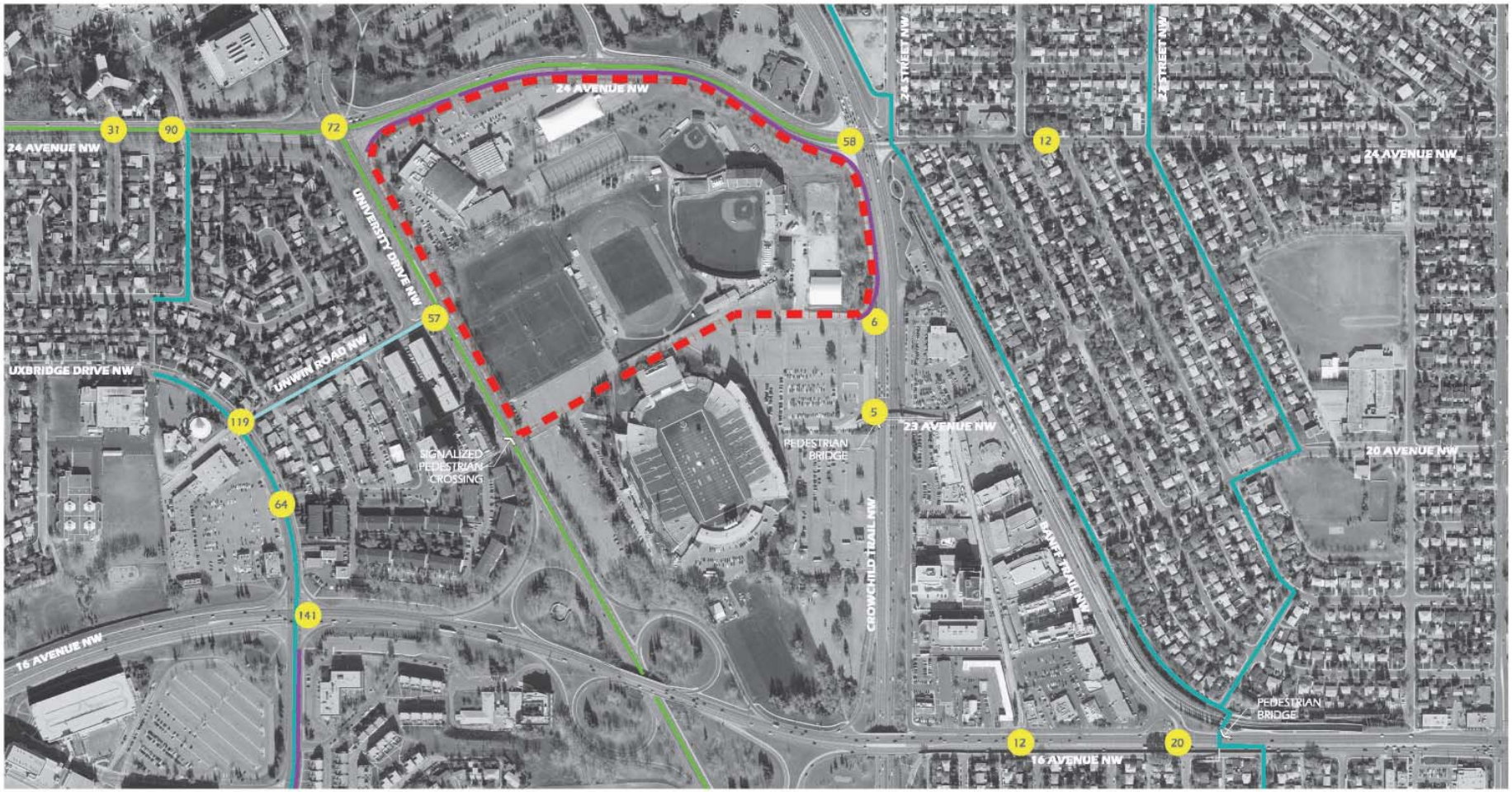
FOOTHILLS TRANSPORTATION



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LEGEND

- SITE BOUNDARY
- E ISTING ON STREET BI EWAY
- E ISTING REGIONAL ATHWAY
- RO OSED ON-STREET BI EWAY WITH BI E LANE BY THE CITY
- RECO ENDED ON-STREET BI EWAY BI E LANE SHARED WIDE CURB LANE
- 1 BICYCLE COUNTS

BASED ON 6 HOUR INTERSECTION DATA COLLECTED BETWEEN 2005 AND 2008. AT INTERSECTIONS, BICYCLES ARE COUNTED ACCORDING TO THE DIRECTION THEY CO E FRO OULI ES SHOWN ARE THE HIGHEST TOTAL BI E O E ENTS FOR ALL LEGS OF THE INTERSECTION DURING THIS TI E PRA E

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
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FOOTHILLS ATHLETIC PARK
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FOOTHILLS TRANSPORTATION

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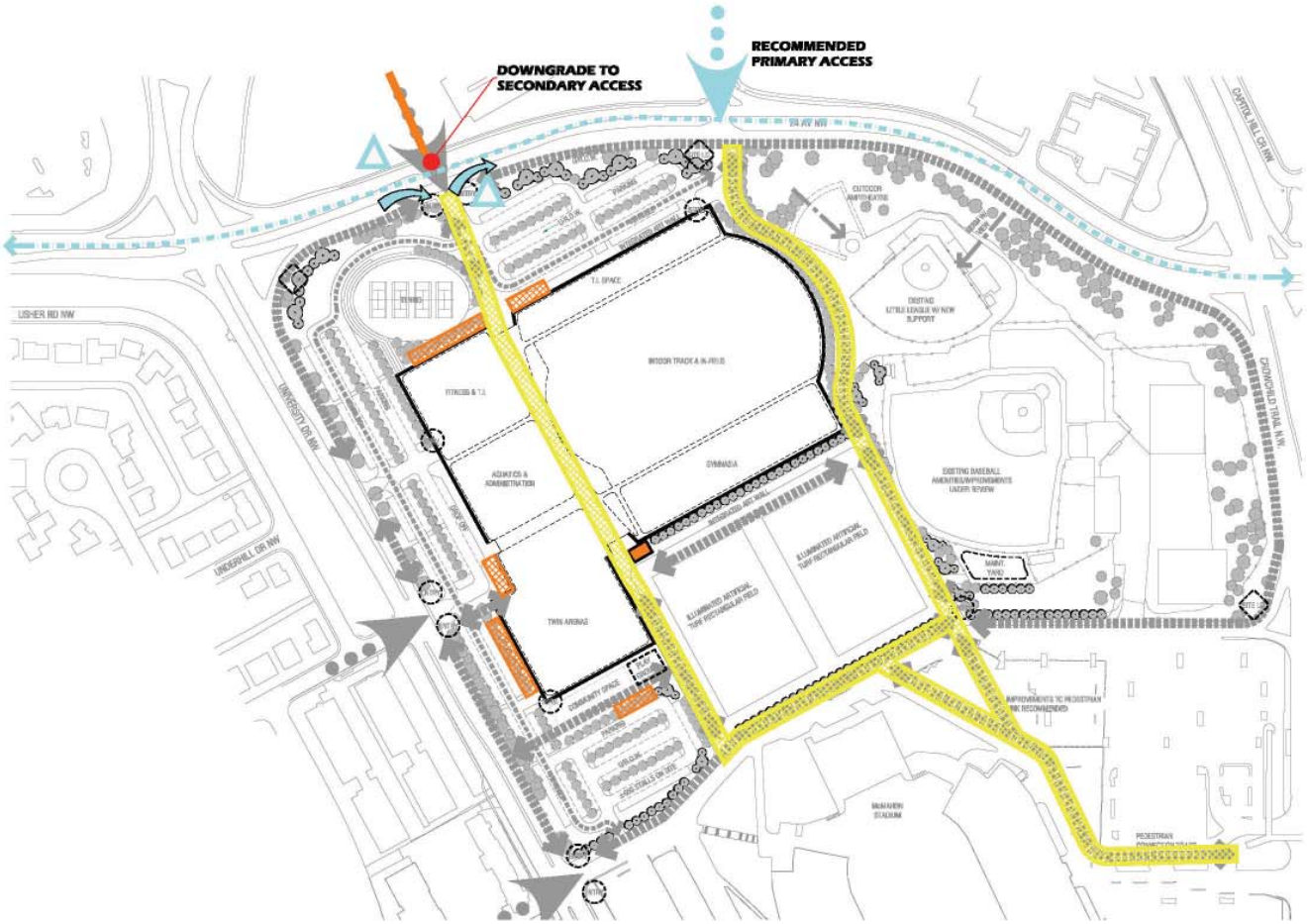
LEGEND

- SITE BOUNDARY
- EXISTING SIDEWAL
- EXISTING REGIONAL PATHWAY
- EXISTING CROSSWAL
- EXISTING WHEELCHAIR RAMP
- PROPOSED SIDEWAL BY THE CITY
- PEDESTRIAN COUNTS
  BASED ON 6 HOUR INTERSECTION DATA COLLECTED BETWEEN 2006 AND 2008. AT INTERSECTIONS, PEDESTRIANS ARE COUNTED AS THEY CROSS EACH STREET. VOLUMES SHOWN ARE THE HIGHEST PEDESTRIAN CROSSING FOR ALL LEGS OF THE INTERSECTION DURING THIS TIME FRAME.
- RECOMMENDED PEDESTRIAN PATHWAY
- IMPROVE PEDESTRIAN CONNECTION TO FOOTBRIDGE

Client/Project		
S2 ARCHITECTURE		
Scale	Date	Figure
1:5000	09-12-21	1.3.4
2273.0009.01		Title
FOOTHILLS ATHLETIC PARK PEDESTRIAN NETWORK		

FOOTHILLS TRANSPORTATION



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LEGEND

- RECOMMENDED AREAS FOR BICYCLE PARKING CLASS II BIKE RACKS - SHORT TERM
- RECOMMENDED AREAS FOR BICYCLE PARKING CLASS I ENCLOSURE - LONG TERM
- RECOMMENDED RIGHT-IN/RIGHT-OUT ACCESS WITH PEDESTRIAN SIGNALS
- RECOMMENDED PEDESTRIAN PATHWAY IN COORDINATION WITH UNIVERSITY
- IMPROVE PEDESTRIAN CONNECTIONS TO PROVIDE UNIVERSAL ACCESSIBILITY
- RECOMMENDED BUS ROUTE
- RECOMMENDED BUS STOP WITH SHELTER

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:3000	09-12-21	3.3.2
2273.0009.01		Title

FOOTHILLS ATHLETIC PARK
SUMMARY OF RECOMMENDATIONS

U Project CAL 2273 0009 01 Drafting Design Anal i CADD g FI FOOTHILLS 2273.0009.01. g FI 3.3.2 2009/12/23 02 49 J aj ut

GLENMORE CONTE T PLAN

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LEGEND
SITE BOUNDARY

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:15,000	09-12-21	2.0
2273.0009.01		Title

GLENMORE ATHLETIC PARK

GLENMORE UTILIT INFRASTRUCTURE

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LEGEND

- REDEVELOPMENT SITE BOUNDARY
- LANDSCAPED SURFACE
- PROPOSED BUILDING
- ASPHALT CONCRETE SURFACE
- SPORTS PLAYGROUND SURFACE
- EXISTING SANITARY UTILITIES
- EXISTING STORM UTILITIES
- EXISTING WATER UTILITIES
- ELEVATION DEPTH OF COVER CONFLICT

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	2.1
2273.0009.01		Title

GLENMORE ATHLETIC PARK
UTILIT CONFLICTS

GLENMORE STORMWATER MANAGEMENT

EXISTING DRAINAGE PATTERNS

PROPOSED DRAINAGE PATTERNS

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LEGEND

- REDEVELOPMENT SITE BOUNDARY
- LANDSCAPED SURFACE
- PROPOSED BUILDING
- ASPHALT CONCRETE SURFACE
- SPORTS PLAYGROUND SURFACE
- GENERAL STORMWATER FLOW DIRECTION

Client/Project		
S2 ARCHITECTURE		
Scale	Date	Figure
1:5000	09-12-21	2.2.1
2273.0009.01		Title
GLENMORE ATHLETIC PARK DRAINAGE PATTERNS		

GLENMORE STORMWATER MANAGEMENT

EXISTING SURFACE CONDITIONS

AREA TYPE	TOTAL AREA a
HARD SURFACE - GROUND	3.3
HARD SURFACE - BUILDING	1.1
HARD SURFACE - SPORTS	1.8
TOTAL HARD SURFACE	6.2
TOTAL BOUNDED SURFACE	29.5
LESS TOTAL HARD SURFACE	-6.2
TOTAL SOFT SURFACE	23.3

PROPOSED SURFACE CONDITIONS

AREA TYPE	TOTAL AREA a
HARD SURFACE - GROUND	7.5
HARD SURFACE - BUILDING	3.1
HARD SURFACE - SPORTS PLAYGROUND	1.3
TOTAL HARD SURFACE	11.9
TOTAL BOUNDED SURFACE	29.5
LESS TOTAL HARD SURFACE	-11.9
TOTAL SOFT SURFACE	17.6

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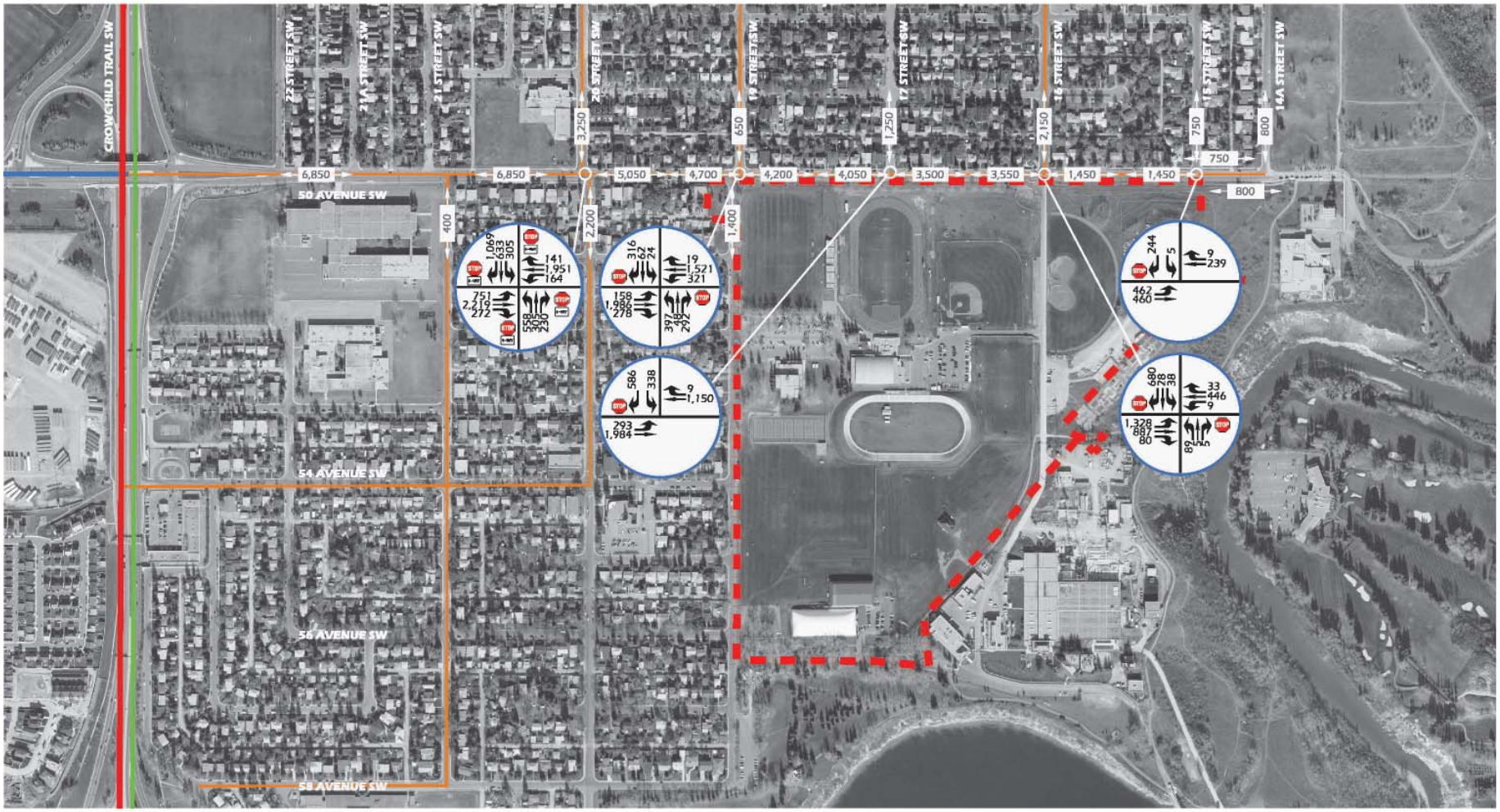
LEGEND
- SITE BOUNDARY
- SOFT SURFACE CONDITION
- HARD SURFACE CONDITION - BUILDING
- HARD SURFACE CONDITION - ASPHALT CONCRETE
- HARD SURFACE CONDITION - SPORTS PLAYGROUND

Client/Project		
S2 ARCHITECTURE		
Scale	Date	Figure
1:5000	09-12-21	2.2.2
2273.0009.01		Title
GLENMORE ATHLETIC PARK SURFACE CONDITIONS		

GLENMORE TRANSPORTATION



LEGEND

- SITE BOUNDARY
- COLLECTOR ROAD
- MA OR ROAD
- EXPRESSWAY FREEWAY
- TRUCK ROUTE
- ADT — AVERAGE DAILY TRAFFIC VOLUME ON CORRIDORS VPD

AVERAGE DAILY TRAFFIC VOLUME AT INTERSECTIONS VPD

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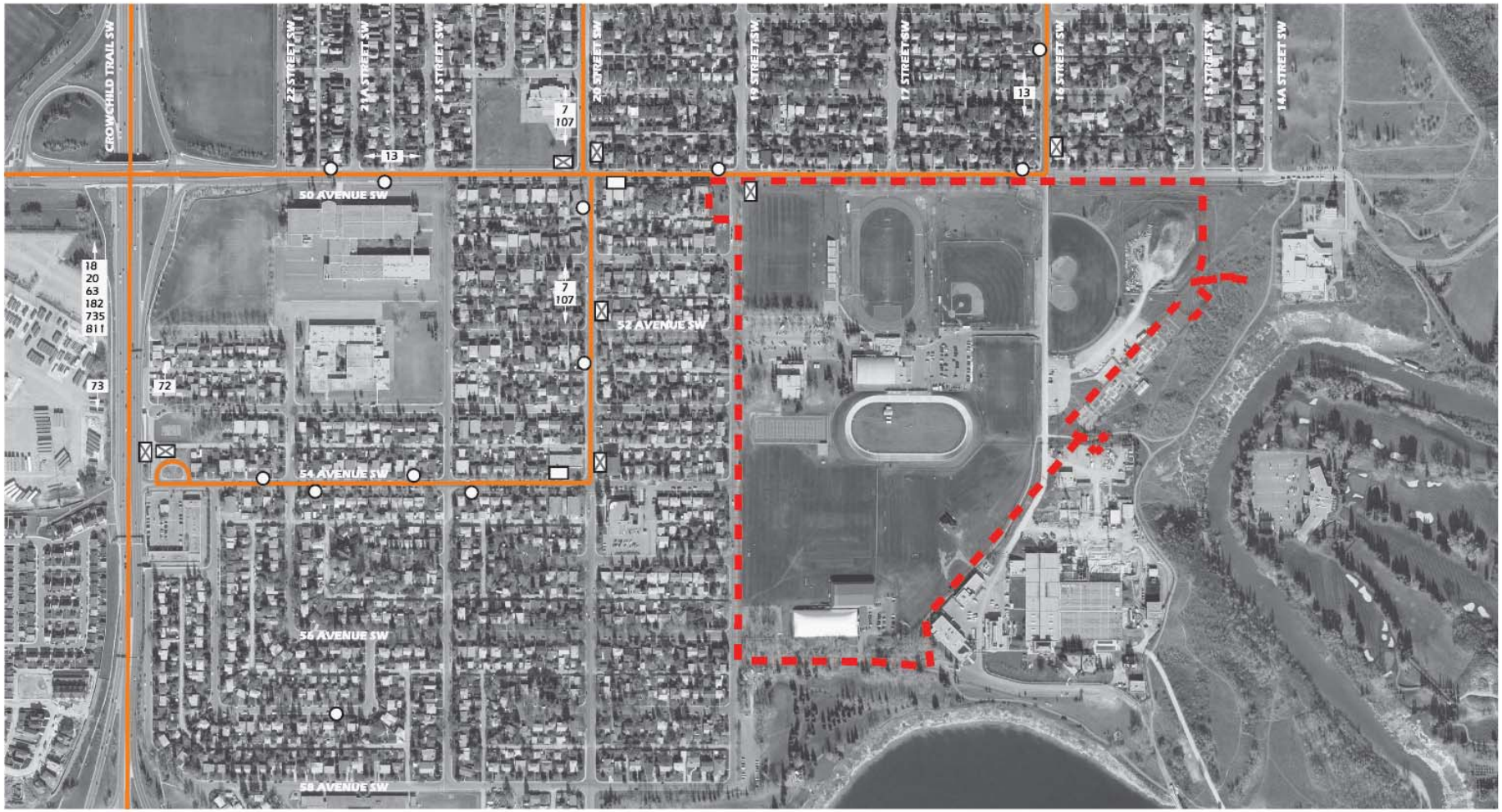
Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	2.3.1
2273.0009.01		Title

GLENMORE ATHLETIC PARK
ROAD NETWORK

U:\Projects_CAL\2273.0009.01\D-Drafting\Design Analysis\CADD\dwgs\FIG GLENMORE-2273.0009.01.dwg, FIG2.3.1, 2009/12/21 02:49 pm, jmajkut

GLENMORE TRANSPORTATION



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LEGEND
- SITE BOUNDARY
- EXISTING TRANSIT ROUTE
- 20 EXISTING TRANSIT ROUTE NUMBER
- BUS STOP WITH SHELTER
- BUS STOP WITH BENCH
- BUS STOP SIGN

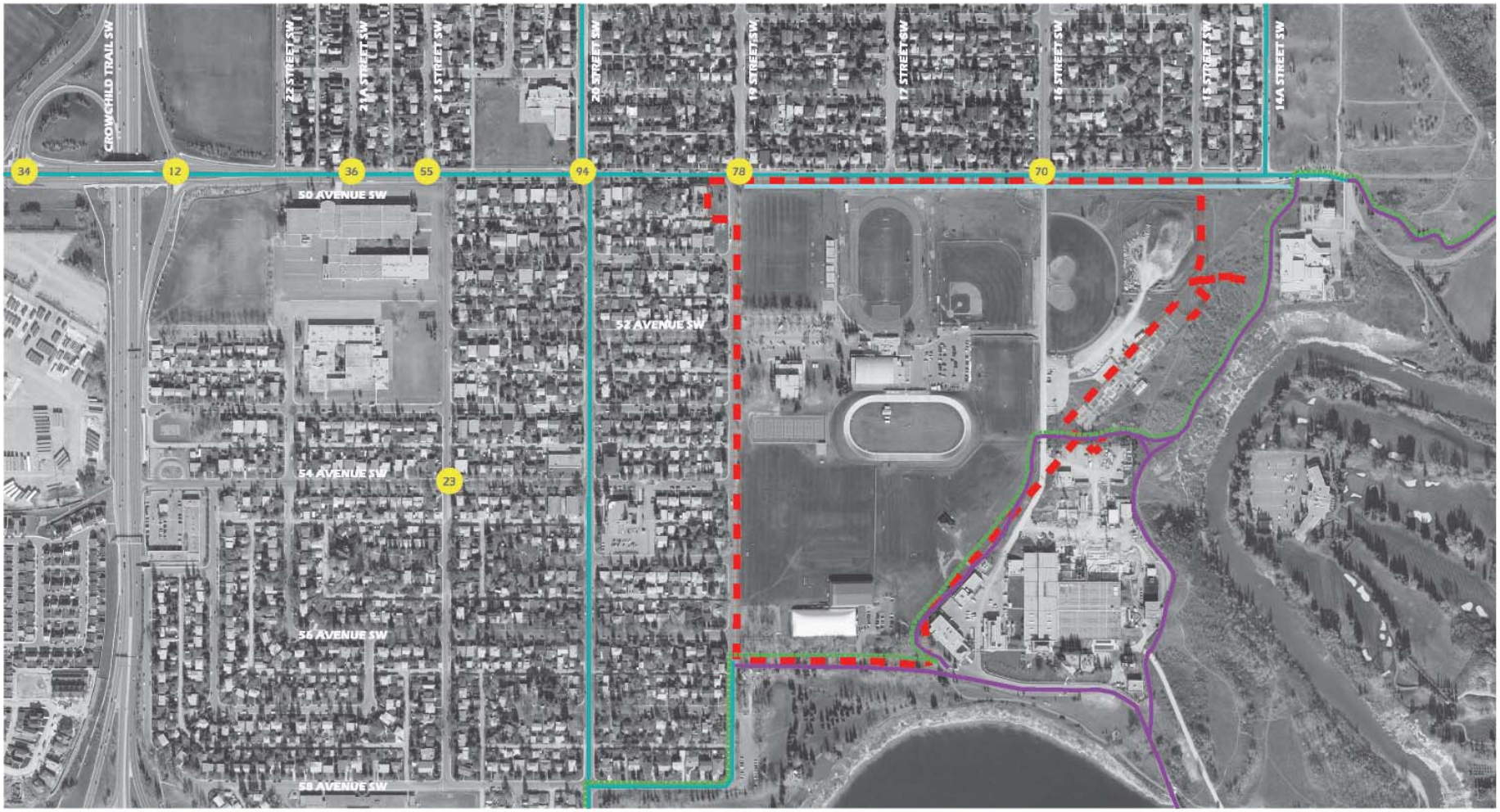
Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	2.3.2
2273.0009.01		Title

GLENMORE ATHLETIC PARK
TRANSIT NETWORK

U:\Projects_CAL\2273.0009.01\Drafting\Design Analysis\CADD\dwgs\FIG GLENMORE 2273.0009.01.dwg, FIG2.3.2, 2009/12/21 02:49 pm, jmajkut

GLENMORE TRANSPORTATION



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LEGEND

- SITE BOUNDARY
- EXISTING ON STREET BIKEWAY
- EXISTING REGIONAL PATHWAY
- EXISTING TRANS CANADA TRAIL
- RECOMMENDED OFF-STREET BIKEWAY BIKE TRAIL
- 81 BICYCLE COUNTS

**BASED ON 6-HOUR INTERSECTION DATA COLLECTED BETWEEN 2005 AND 2009. AT INTERSECTIONS, BICYCLES ARE COUNTED ACCORDING TO THE DIRECTION THEY COME FROM. VOLUMES SHOWN ARE THE HIGHEST TOTAL BIKE MOVEMENTS FOR ALL LEGS OF THE INTERSECTION DURING THIS TIME FRAME.

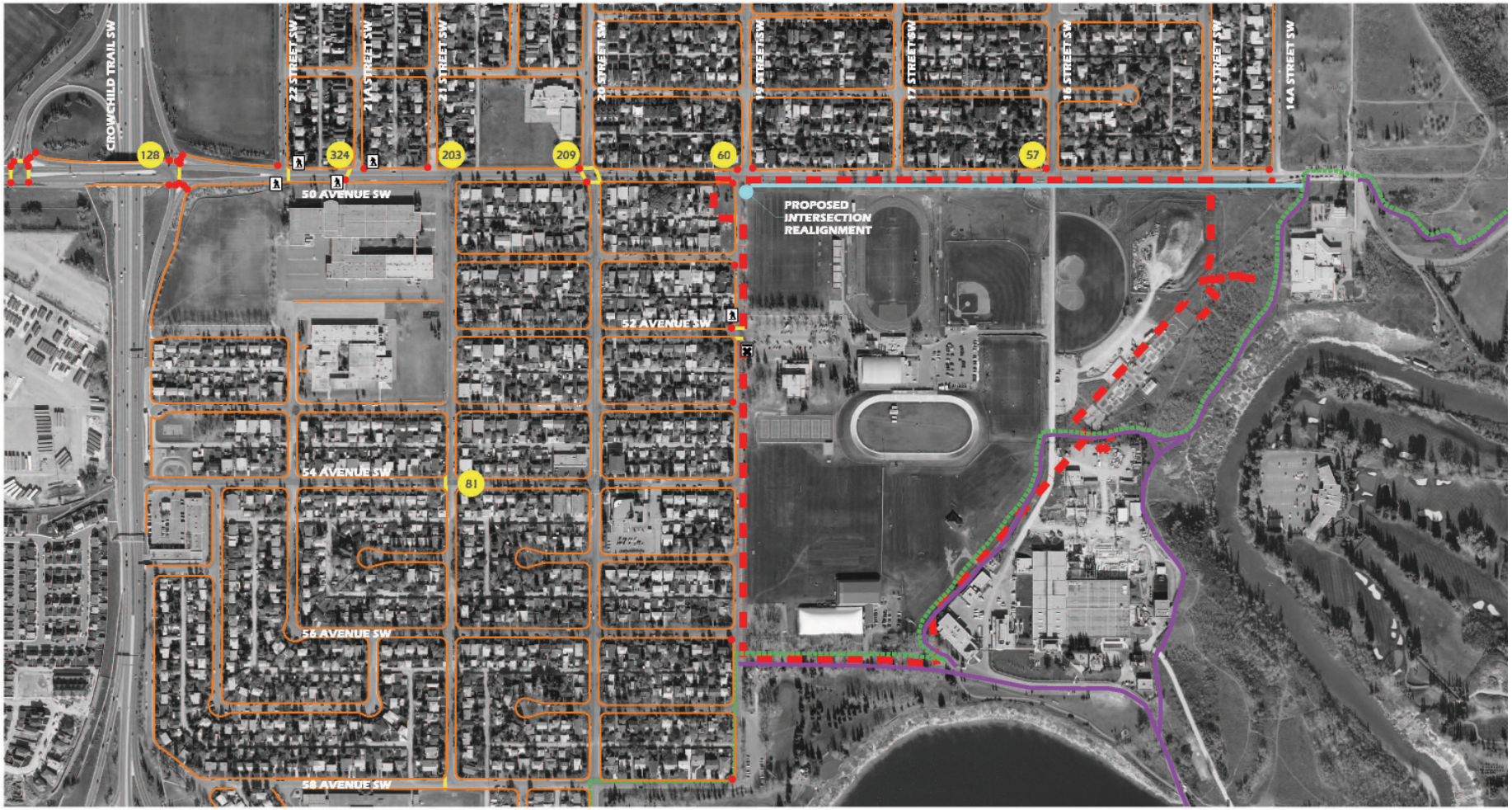
Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	09-12-21	2.3.3
2273.0009.01		Title

GLENMORE ATHLETIC PARK
IC CLE NETWORK

U:\Projects_CAL\2273.0009.01\D-Drafting\Design Analysis\CADD\dwgs\FIG GLENMORE-2273.0009.01.dwg, FIG2.3.3, 2009/12/21 02: 0 pm jlm@ust

GLENMORE TRANSPORTATION



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LEGEND

- SITE BOUNDARY
- EXISTING SIDEWALK
- EXISTING REGIONAL PATHWAY
- EXISTING TRANS CANADA TRAIL
- EXISTING CROSSWALK
- EXISTING WHEELCHAIR RAMP
- RECOMMENDED PEDESTRIAN PATHWAY
- 81 PEDESTRIAN COUNTS

**BASED ON 6 HOUR INTERSECTION DATA COLLECTED BETWEEN 2005 AND 2009. AT INTERSECTIONS, PEDESTRIANS ARE COUNTED AS THEY CROSS EACH STREET. VOLUMES SHOWN ARE THE HIGHEST PEDESTRIAN CROSSING FOR ALL LEGS OF THE INTERSECTION DURING THIS TIME FRAME.

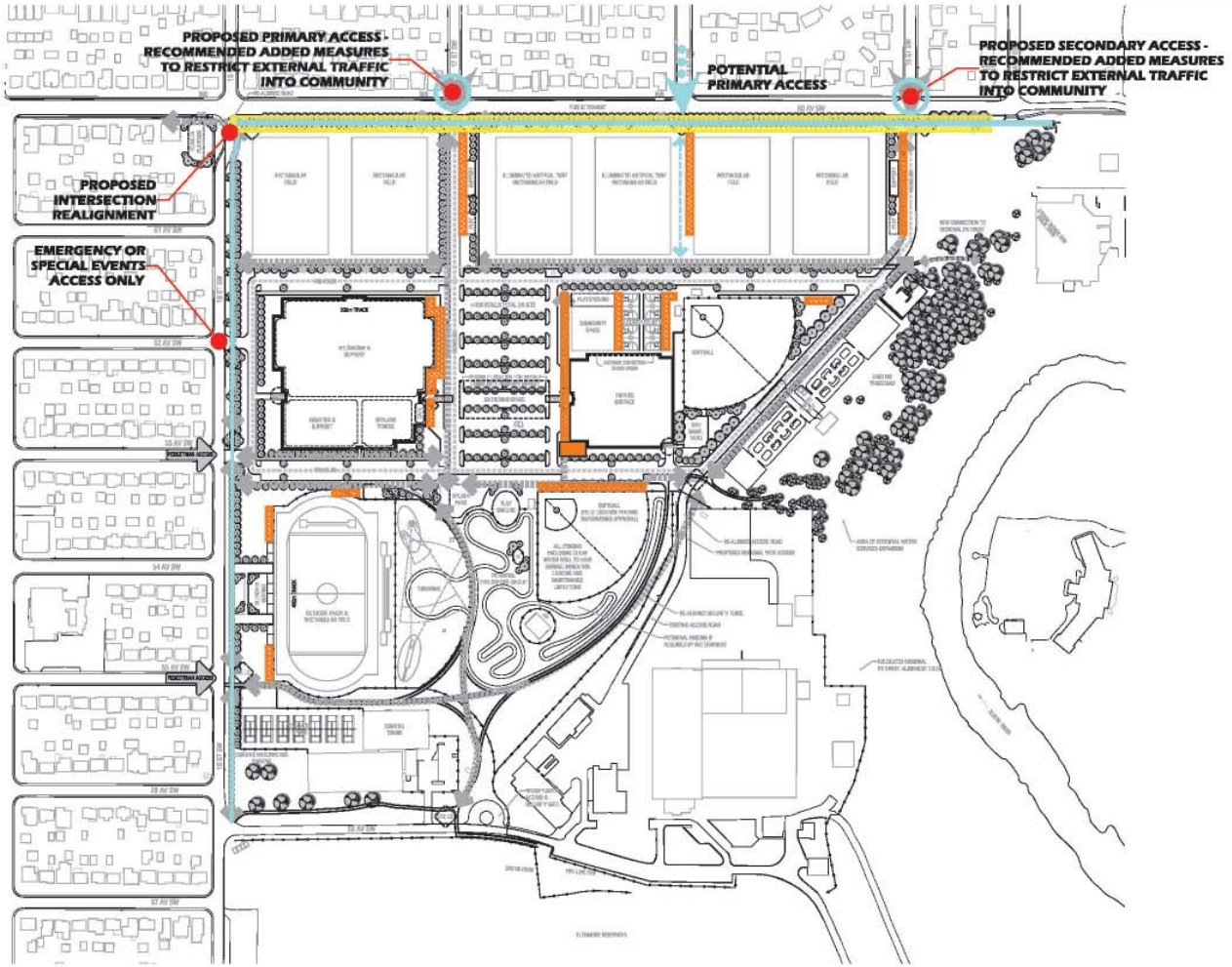
Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:5000	10-01-13	2.3.4
2273.0009.01		Title

GLENMORE ATHLETIC PARK
PEDESTRIAN NETWORK

I:\Projects_CAL\2273.0009\01\D-Drafting-DesignAnalysis\CADD\dwgs\FIG-GLENMORE-2273.0009.01.dwg, FIG2.3.4, 2010/01/13 9:34:04 pm, jmajhut

GLENMORE TRANSPORTATION



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LEGEND

- RECOMMENDED AREAS FOR BICYCLE PARKING CLASS II (BIKE RACKS) - SHORT TERM
- RECOMMENDED AREAS FOR BICYCLE PARKING CLASS I (ENCLOSURE) - LONG TERM
- RECOMMENDED PEDESTRIAN CONNECTION
- RECOMMENDED MULTI-USE TRAIL
- RECOMMENDED INTEGRATION OF PEDESTRIAN/BICYCLE & TRANSIT THROUGH STREETSCAPE DESIGN
- RECOMMENDED ADDITIONAL MEASURES TO RESTRICT EXTERNAL TRAFFIC INTO COMMUNITY

Client/Project
S2 ARCHITECTURE

Scale	Date	Figure
1:4000	10-01-13	3.3.3
2273.0009.01		Title

GLENMORE ATHLETIC PARK
SUMMARY OF RECOMMENDATIONS

APPENDIX D:
IMPLEMENTATION POLICY RECOMMENDATIONS

ONGOING POLICY / PROCEDURES / PROTOCOLS LIST

Distribution: Project Steering Committee

Produced as outcome of Workshop #3, Through Workshops #4 & 5 with the Project Steering Committee

Purpose

Following is a proposed list of items that require further definition and elaboration in support of the Athletic Park Concept Plan. These items will potentially directly impact:

- The implementation of the Concept Plan
- The use capacity of assets recommended for inclusion in the Concept Plan (as well as recreation assets already in use elsewhere in Calgary)
- The operation of assets recommended in the Concept Plan (as well as recreation assets already in use elsewhere in Calgary)
- The ability, nature and extent of user groups to access and use the recommended facilities and amenities.
- Any further comprehensive or City-wide master planning of recreational and athletic amenities / facilities.

Policy / Procedures / Protocols

Items of Policy / Procedures / Protocols that should be explored to ensure a successful implementation of the Athletic Park Concept Plan include:

1. Definition of Athletic Park in the context of the City of Calgary and the Department of Calgary Recreation.
2. Develop a Policy for use of Athletic Park facilities and amenities considering competition-games / training and practice / leisure and recreation. This should include the identification and prioritization of constituent groups specifically for the Foothills and Glenmore Athletic Parks. The amenities and components as well as the quality of the facilities provided would be directly impacted by this policy. Groups that may be included or targeted as part of this Policy are;
   - Sport Participants / Athletes
     - Local: high school, junior high school, Minors, Olympic development, etc.
     - Regional
     - Provincial
     - National
     - International
   - Surrounding Communities
   - Families
   - Young children
   - Teens
   - Young adults
   - Middle-age adults
   - Seniors
   - Disabled
3. Develop Policy and Procedures for private partner participation on Athletic Park sites in consideration of the City of Calgary Council approved 'Public-Private Partnerships (P3) policy'.
   - In City-owned, privately-operated facilities (new or existing)
     - Level, extent and types of improvements provided by City; permitted by a Private partner
     - Level and extent of community and for-profit recreational services provided by a private partner
   - Within privately owned facilities on City land. (new or existing)
     - Level, extent and types of improvements provided by the City; permitted by a Private partner
     - Level and extent of community recreational services required to be provided by a Private partner
   - Opportunity and role of private events (tournaments, etc.) in component programming
     - Economic impact within Calgary, region, etc.

- Benefit to Calgary Recreation
- Revenue distribution (Calgary Recreation and event organizer)

4. Develop Policy and Procedures for managing amenity/facility use

- Prioritization of National, Provincial or Regional tournament/competition use of amenities/facilities in relation to use by Calgarians
- Community access / restrictions in general.
- Community access/restrictions during events.

5. Develop a Policy regarding facility/amenity fee structures, possibilities include;

- "Pay to Play" based on demand
- Cost recovery targets (partial or full)
- Fees: Events, parking, concessions, tournaments
- Private partner participation
- Revenue distribution

6. Refine current policies and procedures to maximize existing facility use

- Booking
  - Block bookings prevent access for new groups
  - Track actual use of booked facilities to eliminate "no-shows" and idle facilities
  - Prioritize bookings to match facilities with activities
  - Assess each facility and amenity for suitability for specific uses
- Operation and Maintenance of natural turf fields
  - Review policy allowing only 2 games per day on fields
  - During long growing season, consider extending play time
  - Consider additional maintenance protocols to maximize wear-tolerance

APPENDIX E:
POLICY IN SUPPORT

General items identified as part of the master planning process from; Recreation Master Plan, Calgary Civic Sport Policy Strategic Plan, and The 10-Yr Strategic Plan for Sport Facility Development and Enhancement.

Recreation Master Plan

The new Recreation Master Plan identified recreation facilities as a major focus of future directions. Additionally, based on 'Plan It', recreation facilities are recognized as playing an integral roll in creating complete communities and a vibrant city.

The Recreation Master Plan identified 9 principles for the revitalization and development of recreation facilities:

1. Range of recreation opportunities
2. Safe and sustainable
3. Physical and geographic accessibility
4. Flexible design
5. Cornerstone to complete communities
6. Facility/amenity grouping and complimentary services
7. Balance of new and existing
8. Partnerships
9. Due diligence

These principles incorporate the facility development principles outlined in the 10 Year Strategic Plan for Sport Facility Development And Enhancement, and are further elaborated on as follows.

Calgary Civic Sport Policy Strategic Plan

The Calgary Civic Sport Policy specifically states that the city commits to:

- Align and co-ordinate the development of Calgary's sport infrastructure and programs with the Canadian Sport Policy nationally and the Sport Plan for Alberta at the provincial level.
- Implement a multi-year funding strategy to provide consistent, predictable, and sustainable funds for sport infrastructure, programs and initiatives.
- Profile and market Calgary as a proactive sport community
- Support community based programs and initiatives that will promote and facilitate accessibility of sport for all Calgarians.

In addition to the above direct statements the following general items apply.

- The master plans are characterized by a clear staged organization of assets on the sites allowing adaptability over time through review, evaluation and, if required, modification.
- Specifically address the lack of event capable facilities to competition and tournaments standards as identified in the 10 year strategic plan.
- Part of the master planning process involved conducting interviews with user groups and *"research to understand the needs and preferences of sport and the capacity to maintain optimum facility usage"*
- One of the driving goals of the master planning process was to limit any negative impact on the provision of facility amenities in order to "Minimize the displacement of sport organization, development or enhancement".
- A key characteristic of the master planning process were the interviews conducted with various sport and related groups that have impact on or are impacted by the two athletic parks. Ensuring *"all like-minded/impacted stakeholders are aware of and involved in the planning process for new facility development projects and advocate collaboration amongst the groups involved".*
- Through the user group interview process, the project team was able to identify opportunities for *"collaboration between sport organization(s) on facility utilization"* to optimize the utilization patterns of any proposed amenity/facility changes.
- One of the guiding statements driving the

master planning decision making process is that: any facility or amenity arising from the master planning process is to service all Calgarians with competition capable facilities. Competition capable is the provision of dimensional and spatial requirements that would allow for national and international sanctioning with the addition of specific technical equipment requirements. This would allow *"individuals and sport organizations to spearhead hosting initiatives for successful bid"*.

- Having an endorsed and implementable master plan for these two parks would *"facilitate planning regarding facility availability and provision of services prior to bid preparation"*.
- One of the goals of the Concept Plan from start up was to integrate with the *"Strategic Plan that sets direction for The City and aligns with the complimentary CSC and CSTA strategic plans"*.
- The implementation of the Concept Plan would help in the promotion of the *"key messages identifying Calgary's sport culture and uniqueness"*.
- The implementation of the Concept Plan would help in the promotion of the *"sustainability of sport and alignment with the 'Canadian Sport Policy' and the 'Alberta Sport Plan'"*.
- The Concept Plan addresses the primary facility type priorities as identified in the 10 year strategic plan, specifically: *"Gymnasia Indoor fields/Indoor ice/Indoor track/multi-purpose space"*.

10 Yr Strategic Plan Guiding Principles

- Fulfills several of the 10 year strategic plans guiding principles by:
  - Establishing and demonstrating *"the significance of sport such that investment in sport is a priority to The City"*.
  - Providing *"multi-sport designed athletic parks and facilities to accommodate the diversity of sport needs"*.
  - Demonstrating participatory involvement by sport in the development recreation infrastructure decisions.
  - *"Optimizing the use of existing sport infrastructure "*– the land and built assets of the athletic park as well as the sport organizations/groups.
  - *"Ensure effective distribution of new facilities throughout the City"* by maintaining and refreshing athletic facilities in established communities.
  - As the two sites are part of established communities they are well serviced by alternate means of transportation promoting *"an ease of access to the facilities through a range of travel modes"*.

10 Yr Strategic Plan Facility Development Criteria

- Fulfills several of the 10 year strategic plans facility development criteria including:
  - "Adaptable Design"
    - The comprehensive nature and flexibility inherent in the Concept Plan development of "adaptable spaces to address various sport and future opportunities", and
    - "Serve the functional needs of numerous sport activities at one location"
  - "Community Wellness"

    By addressing the refurbishment of these sites as civic places as well as athletic parks, the Concept Plan addresses the community wellness criteria of:
    - "Benefiting the health, well-being and social development of the community by acting as 'Community Hubs' for the development of social, cultural and physical literacy (particularly children and youth)", and
    - "Contributing to the urban design of the community".
  - "Accessibility"

    The comprehensive engagement process and flexibility designed into the Concept Plan fulfills the accessibility criteria of:
    - "Maximizing utilization of spaces", and

- "Considering number of users".

- "Availability"

  By maintaining and refreshing athletic facilities in established communities the Concept Plan assists in:

  - "Distributing facilities effectively throughout the City", and through multi use indoor space resulting in expanded gymnasia opportunities that meet the principle of:
  - "Ensuring new sport opportunities are accommodated".

- "Activity Coverage"

  Through the expressed design intent of providing facilities to accommodate participation from introductory to high performance levels the Concept Plan meets the development criteria of:

  - "Supporting all performance levels of play and tournaments", and
  - "Contributing to the excellence for sport organization and the City".

Alignment with 10 Yr Strategic Plan Strategic Objectives

- *"Demonstrate Market Demand for New Facility Development"*

  The master planning decision making process was firmly grounded by and built on the analysis work completed in the 10 year strategic plan. Multiple stakeholders in the sports and athletic community were interviewed as part of the data gathering associated with the master planning process to confirm needs and use patterns relative to existing assets and to formulate recommendations on refurbishing these two sites.

  "That the Calgary Sport Council and The City ensure that a market driven approach is used to plan all recreation and sport facility development in the city, including community, district, regional and city-wide facilities, such that decisions regarding specific facility components or types of facilities to be developed are clearly based on a comprehensive analysis of supply and demand."

- *"Encourage Adaptable Design in Sport Facilities"*

  One of the guiding statements driving the master planning decision making process is that; any facility or amenity arising from the master planning process are to service all Calgarians with competition capable facilities to accommodate recreation/sport participation form introductory to high performance levels.

  "That the Calgary Sport Council and The City ensure that in the planning and development of new sport facilities consideration is given to the development of a full range and spectrum of facilities such that participants will have the opportunity to progress from entry levels to high performance in a variety of sport (e.g. multi-sport, adaptable design)."

- *"Incorporate National and International Facility Standards in New Facilities*

  One of the guiding statements driving the master planning decision making process is that; any facility or amenity arising from the master planning process are to service all Calgarians with competition capable facilities. Competition capable is the provision of dimensional and spatial requirements that would allow for national land international sanctioning with the addition of specific technical equipment requirements.

  " That the Calgary Sport Council and The City ensure that national and international facility development standards are clearly identified and given consideration in the sport and recreation facility planning and development process."

- *"Examine Opportunities to Extend or Expand Use of Sport Fields"*

  Expanding functional and accessible field use was a key component of the master planning existing conditions review process resulting in specific analysis and recommendations.

  "That the Calgary Sport Council and The City explore the feasibility of developing artificial turf sport fields at strategically located athletic parks throughout the City."

APPENDIX F:
ESTIMATE OF PROBABLE BUDGET DATA

Apportioned to Phases- SUMMARY, Project front end Off Site Work/Site Services serving the Overall Project
Master Planning Conceptual Cost Analysis

Title	: FOOTHILLS ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: University Dr. & 24th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
Architect	: S2 Architecture		GFA :	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A, B, & C	**No Building costs**	**0**	**$0**		
D	**SITE & ANCILLARY WORK**		**$4,196,000**		
	SITE WORK				
D1	(pedestrian access at Mc Mahon in phase 1, cost listed here as apportioned costs)	4,166,000			
D2	ANCILLARY WORK	30,000			
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$974,000**		
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	504,000			
Z2	DESIGN/ESTIMATING 10%	470,000			
	PERMITS AND TESTING	NIC	**$0**		
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$5,170,000**		
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$5,170,000**		

NOTES

Costs are apportioned to Foothills phases according to building GFA

See also notes listed with Global Summary

Scope of Work subject to traffic study, cost may vary as a result of study, not conducted

Pedestrian walkway around entire site included here

Western Cost Consulting LP Phone (403) 217-6035 Fax (403) 217-6047 E-mail westcost@telus.net

PHASE 1- SUMMARY, Interim Work and Pedestrian Access through McMahon Stadium parking lot
Master Planning Conceptual Cost Analysis

Title	: FOOTHILLS ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: University Dr. & 24th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
Architect	: S2 Architecture		GFA :	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A, B, & C	**No Building costs**	**0**	**$0**		
D	**SITE & ANCILLARY WORK**		**$984,000**		
	SITE WORK				
D1	(pedestrian access in this phase, cost moved to apportioned costs)	959,000			
D2	ANCILLARY WORK	25,000			
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$228,000**		
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	118,000			
Z2	DESIGN/ESTIMATING 10%	110,000			
	PERMITS AND TESTING	NIC	**$0**		
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$1,212,000**		
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$1,212,000**		

NOTES

See also notes listed with Global Summary

Phase II - No Attributable Costs

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PHASE 3- SUMMARY, Twin Arena and associated Site Work
Master Planning Conceptual Cost Analysis

Title	: FOOTHILLS ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: University Dr. & 24th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
			GFA :	
Architect	: S2 Architecture	Assuming two levels at support areas		12,503.0 m2

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$12,734,000**	**1,018.48**	**29.2%**
A1	SUBSTRUCTURE	2,265,000		181.16	5.2%
A2	STRUCTURE	5,886,000		470.77	13.5%
A3	EXTERIOR ENCLOSURE	4,583,000		366.55	10.5%
B	**INTERIORS**		**$4,546,000**	**363.59**	**10.4%**
B1	PARTITIONS & DOORS, CEILINGS	1,607,000		128.53	3.7%
B2	FINISHES	929,000		74.30	2.1%
B3	FITTINGS & EQUIPMENT	2,010,000		160.76	4.6%
C	**SERVICES**		**$9,959,000**	**796.53**	**22.8%**
C1	MECHANICAL	6,794,000		543.39	15.6%
C2	ELECTRICAL	3,165,000		253.14	7.3%
D	**SITE & ANCILLARY WORK**		**$8,172,000**	**653.60**	**18.7%**
D1	SITE WORK including site mechanical and electrical	6,715,000		537.07	15.4%
D2	ANCILLARY WORK, primarily demolition, site clearing work	1,457,000		116.53	3.3%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$8,215,000**	**657.04**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	4,249,000		339.84	9.7%
Z2	DESIGN/ESTIMATING 10%	3,966,000		317.20	9.1%
	PERMITS AND TESTING	NIC	**$0**	0.00	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$43,626,000**	**3,489.24**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$43,626,000**	**3,489.24**	

NOTES

See also notes listed with Global Summary

Two story building at support areas

Costs based on conventional steel framed building, no pre-eng components

Loose equipment is assumed to be NIC, part of FF&E

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PHASE 4- SUMMARY, Aquatics, Admin., Community/Training Bldg. (some TI space) and associated Site Work
Master Planning Conceptual Cost Analysis

Title	: FOOTHILLS ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: University Dr. & 24th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
			GFA :	
Architect	: S2 Architecture	Assuming single level throughout		9,267.0 m2

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$19,620,000**	**2,117.19**	**31.3%**
A1	SUBSTRUCTURE	5,543,000		598.14	8.8%
A2	STRUCTURE	6,977,000		752.89	11.1%
A3	EXTERIOR ENCLOSURE	7,100,000		766.16	11.3%
B	**INTERIORS**		**$8,604,000**	**928.46**	**13.7%**
B1	PARTITIONS & DOORS, CEILINGS	1,970,000		212.58	3.1%
B2	FINISHES	4,071,000		439.30	6.5%
B3	FITTINGS & EQUIPMENT	2,563,000		276.57	4.1%
C	**SERVICES**		**$14,364,000**	**1,550.02**	**22.9%**
C1	MECHANICAL	9,601,000		1,036.04	15.3%
C2	ELECTRICAL	4,763,000		513.97	7.6%
D	**SITE & ANCILLARY WORK**		**$8,260,000**	**891.33**	**13.2%**
D1	SITE WORK including site mechanical and electrical	7,549,000		814.61	12.1%
D2	ANCILLARY WORK, primarily demolition, site clearing work	711,000		76.72	1.1%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$11,797,000**	**1,273.01**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	6,102,000		658.47	9.7%
Z2	DESIGN/ESTIMATING 10%	5,695,000		614.55	9.1%
	PERMITS AND TESTING	NIC	**$0**	0.00	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$62,645,000**	**6,760.01**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$62,645,000**	**6,760.01**	

NOTES

See also notes listed with Global Summary

Costs based on conventional steel framed building, no pre-eng components

TI spaces, base building finish level only

Loose equipment is assumed to be NIC, part of FF&E

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Phase 5 - SUMMARY, Field House/Gym 150m span and support areas, associated Site Work and Site Servicing
Master Planning Conceptual Cost Analysis

Title	: FOOTHILLS ATHLETIC PARK : New Construction and Site Retrofit as per OPTION 2B, Field House Estimates	Report Date : Page :	17-Feb-10
Location	: University Dr. & 24th Avenue NW, Calgary Alberta	C.T. Index :	
Owner/Client	: The City of Calgary Recreation	Bldg. Type :	
Architect	: S2 Architecture	GFA :	33,443.0 m2

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$53,481,000**	**1,599.17**	**41.5%**
A1	SUBSTRUCTURE	11,121,000		332.54	8.6%
A2	STRUCTURE	21,299,000		636.87	16.5%
A3	EXTERIOR ENCLOSURE	21,061,000		629.76	16.4%
B	**INTERIORS**		**$10,936,000**	**327.00**	**8.5%**
B1	PARTITIONS & DOORS, CEILINGS	3,727,000		111.44	2.9%
B2	FINISHES	4,832,000		144.48	3.8%
B3	FITTINGS & EQUIPMENT	2,377,000		71.08	1.8%
C	**SERVICES**		**$20,259,000**	**605.78**	**15.7%**
C1	MECHANICAL	12,610,000		377.06	9.8%
C2	ELECTRICAL	7,649,000		228.72	5.9%
D	**SITE & ANCILLARY WORK**		**$19,821,000**	**592.68**	**15.4%**
D1	SITE WORK	18,665,000		558.11	14.5%
D2	ANCILLARY WORK	1,156,000		34.57	0.9%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$24,244,000**	**724.93**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	12,540,000		374.97	9.7%
Z2	DESIGN/ESTIMATING 10%	11,704,000		349.97	9.1%
	PERMITS AND TESTING	NIC	**$0**	**0.00**	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$128,741,000**	**3,849.56**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$128,741,000**	**3,849.56**	

NOTES

See also notes listed with Global Summary

Costs based on conventional steel framed building, no pre-eng components

TI spaces, base building finish level only

Loose equipment is assumed to be NIC, part of FF&E

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Apportioned to Phases- SUMMARY, Project front end Off Site Work/Site Services serving the Overall Project
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: 19th Street and 50th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
Architect	: S2 Architecture		GFA :	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A, B, & C	**No Building costs**	**0**	**$0**		
D	**SITE & ANCILLARY WORK**		**$4,202,000**		
D1	SITE WORK including mechanical and electrical	4,202,000			
D2	ANCILLARY WORK	0			
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$975,000**		
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	504,000			
Z2	DESIGN/ESTIMATING 10%	471,000			
	PERMITS AND TESTING	NIC	**$0**		
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$5,177,000**		
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$5,177,000**		

NOTES

Costs are apportioned to Glenmore phases according to building GFA

See also notes listed with Global Summary

Scope of Work subject to traffic study, cost may vary as a result of study, not conducted

Pedestrian walkway around entire site included here

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PHASE 1- SUMMARY, Tennis Courts and Eastern Access Road
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: 19th Street and 50th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
Architect	: S2 Architecture		GFA :	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A, B, & C	**No Building costs**	**0**	**$0**		
D	**SITE & ANCILLARY WORK**		**$3,484,000**		
D1	SITE WORK including mechanical and electrical	3,442,000			
D2	ANCILLARY WORK	42,000			
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$808,000**		
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	418,000			
Z2	DESIGN/ESTIMATING 10%	390,000			
	PERMITS AND TESTING	NIC	**$0**		
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$4,292,000**		
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$4,292,000**		

NOTES

See also notes listed with Global Summary

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PHASE 2- SUMMARY, Track/Soft Ball/Soccer/Playground and associated Site Work
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: 19th Street and 50th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
			GFA :	
Architect	: S2 Architecture	Assuming two levels at support areas		0.0 m2

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A, B, & C	**Building costs listed with Site Work**	**0**	**$0**		
D	**SITE & ANCILLARY WORK**		**$22,734,000**		
D1	SITE WORK including mechanical and electrical	22,506,000			
D2	ANCILLARY WORK	228,000			
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$5,274,000**		
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	2,728,000			
Z2	DESIGN/ESTIMATING 10%	2,546,000			
	PERMITS AND TESTING	NIC	**$0**		
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$28,008,000**		
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$28,008,000**		

NOTES

See also notes listed with Global Summary

PHASE 3- SUMMARY, Ice Arena, Outdoor Basketball and associated Site Work
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK		Report Date :	17-Feb-10
	: New Construction and Site Retrofit		Page :	
Location	: 19th Street and 50th Avenue NW, Calgary Alberta		C.T. Index :	
Owner/Client	: The City of Calgary Recreation		Bldg. Type :	
			GFA :	
Architect	: S2 Architecture	Assuming two levels at support areas		9,556.0 m2

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$9,527,000**	**996.97**	**28.5%**
A1	SUBSTRUCTURE	1,731,000		181.14	5.2%
A2	STRUCTURE	4,499,000		470.80	13.4%
A3	EXTERIOR ENCLOSURE	3,297,000		345.02	9.9%
B	**INTERIORS**		**$3,474,000**	**363.54**	**10.4%**
B1	PARTITIONS & DOORS, CEILINGS	1,228,000		128.51	3.7%
B2	FINISHES	710,000		74.30	2.1%
B3	FITTINGS & EQUIPMENT	1,536,000		160.74	4.6%
C	**SERVICES**		**$7,611,000**	**796.46**	**22.8%**
C1	MECHANICAL	5,192,000		543.32	15.5%
C2	ELECTRICAL	2,419,000		253.14	7.2%
D	**SITE & ANCILLARY WORK**		**$6,541,000**	**684.49**	**19.6%**
D1	SITE WORK including site mechanical and electrical	5,080,000		531.60	15.2%
D2	ANCILLARY WORK, primarily demolition, site clearing work	1,461,000		152.89	4.4%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$6,299,000**	**659.17**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	3,258,000		340.94	9.7%
Z2	DESIGN/ESTIMATING 10%	3,041,000		318.23	9.1%
	PERMITS AND TESTING	NIC	**$0**	0.00	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$33,452,000**	**3,500.63**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$33,452,000**	**3,500.63**	

NOTES

See also notes listed with Global Summary

Two story building at support areas

Costs based on conventional steel framed building, no pre-eng components

Loose equipment is assumed to be NIC, part of FF&E

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PHASE 3- SUMMARY, Fieldhouse **and associated Site Work**
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK	Report Date :	17-Feb-10	
	: New Construction and Site Retrofit	Page :		
Location	: 19th Street and 50th Avenue NW, Calgary Alberta	C.T. Index :		
Owner/Client	: The City of Calgary Recreation	Bldg. Type :		
Architect	: S2 Architecture	GFA :	15,653.0 m2	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$19,414,000**	**1,240.27**	**36.5%**
A1	SUBSTRUCTURE	4,432,000		283.14	8.3%
A2	STRUCTURE	7,058,000		450.90	13.3%
A3	EXTERIOR ENCLOSURE	7,924,000		506.23	14.9%
B	**INTERIORS**		**$6,559,000**	**419.03**	**12.3%**
B1	PARTITIONS & DOORS, CEILINGS	1,411,000		90.14	2.7%
B2	FINISHES	2,669,000		170.51	5.0%
B3	FITTINGS & EQUIPMENT	2,479,000		158.37	4.7%
C	**SERVICES**		**$10,195,000**	**651.31**	**19.2%**
C1	MECHANICAL	6,843,000		437.17	12.9%
C2	ELECTRICAL	3,352,000		214.14	6.3%
D	**SITE & ANCILLARY WORK**		**$7,007,000**	**447.65**	**13.2%**
D1	SITE WORK including site mechanical and electrical	6,945,000		443.68	13.1%
D2	ANCILLARY WORK	62,000		3.96	0.1%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$10,017,000**	**639.94**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	5,181,000		330.99	9.7%
Z2	DESIGN/ESTIMATING 10%	4,836,000		308.95	9.1%
	PERMITS AND TESTING	NIC	**$0**	**0.00**	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$53,192,000**	**3,398.20**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$53,192,000**	**3,398.20**	

NOTES

See also notes listed with Global Summary

Costs based on conventional steel framed building, no pre-eng components

Loose equipment is assumed to be NIC, part of FF&E

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PHASE 4- SUMMARY, Aquatics and Fitness and associated Site Work
Master Planning Conceptual Cost Analysis

Title	: GLENMORE ATHLETIC PARK	Report Date :	17-Feb-10	
	: New Construction/Renovation and Site Retrofit	Page :		
Location	: 19th Street and 50th Avenue NW, Calgary Alberta	C.T. Index :		
Owner/Client	: The City of Calgary Recreation	Bldg. Type :		
		GFA :		
Architect	: S2 Architecture	Assuming single level throughout	8,045.0 m2	

ELEMENT		Sub-total	Total	$ per m2 of GFA	%
A	**SHELL**		**$15,912,000**	**1,977.87**	**27.1%**
A1	SUBSTRUCTURE	3,653,000		454.07	6.2%
A2	STRUCTURE	5,957,000		740.46	10.1%
A3	EXTERIOR ENCLOSURE	6,302,000		783.34	10.7%
B	**INTERIORS**		**$8,787,000**	**1,092.23**	**15.0%**
B1	PARTITIONS & DOORS, CEILINGS	2,094,000		260.29	3.6%
B2	FINISHES	3,063,000		380.73	5.2%
B3	FITTINGS & EQUIPMENT	3,630,000		451.21	6.2%
C	**SERVICES**		**$13,552,000**	**1,684.52**	**23.1%**
C1	MECHANICAL	9,482,000		1,178.62	16.1%
C2	ELECTRICAL	4,070,000		505.90	6.9%
D	**SITE & ANCILLARY WORK**		**$9,434,000**	**1,172.65**	**16.1%**
D1	SITE WORK including site mechanical and electrical	8,923,000		1,109.14	15.2%
D2	ANCILLARY WORK, primarily demolition, site clearing work	511,000		63.52	0.9%
Z	**GENERAL REQ'S/FEES AND ALLOWANCES**		**$11,063,000**	**1,375.14**	**18.8%**
Z1	GEN. REQUIREMENTS & CM or GC FEE, 12%	5,722,000		711.25	9.7%
Z2	DESIGN/ESTIMATING 10%	5,341,000		663.89	9.1%
	PERMITS AND TESTING	NIC	**$0**	0.00	**0.0%**
TOTAL CONSTRUCTION ESTIMATE - CURRENT			**$58,748,000**	**7,302.42**	**100.0%**
Inflation allowance, non entered			$0		
TOTAL ESTIMATE, EXCL. GST			**$58,748,000**	**7,302.42**	

NOTES

See also notes listed with Global Summary

Costs based on conventional steel framed building, no pre-eng components

Existink aquatics is assumed to ramain, subject to major renovation

Loose equipment is assumed to be NIC, part of FF&E

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GLOBAL SUMMARY, ALL PROJECT COMPONENTS

Title		: Master Plan for Athletic Parks		Report Date :	17-Feb-10
		: New Construction and Site Retrofit		Page :	
Location		: Foothills Athletic Park, University Dr. & 24th Avenue NW, Calgary AB Glenmore Athletic Park, 19th Street & 50th Avenue SW, Calgary AB		C.T. Index :	
Owner/Client		: The City of Calgary Recreation		Bldg. Type :	
Architect		: S2 Architecture		GFA :	91,406.0 m2
Phase	**Location**	**PROJECT COMPONENT**	**GFA m^2**	**Comp. Cost**	**COST**
1	Glenmore	Relocation/construction of the seven tennis courts to an area adjacent to the Tennis Academy	302	$3,315,000	
1	Glenmore	Deconstruction and Recycling of the existing tennis courts		$52,000	$4,292,000
1	Glenmore	Reconfigure eastern access (Water Resources Road) from 50th Ave		$925,000	
1	Foothills	Interim remediation of the existing track and infield		$887,000	
1	Foothills	Interim remediation of drainage issues on the rectangular fields		$325,000	$1,212,000
1	Foothills	Improvement in pedestrian access through McMahon Stadium parking lot from LRT		Apportioned	Apportioned
		Overall project contingency 10%, incl. change order allowance, not including inflation		$550,000	$550,000
		TOTAL Phase 1	**302**		**$6,054,000**
2	Glenmore	Construction of a new track facility and associated amenities	1,133	$12,847,000	
2	Glenmore	Reconstruct one softball field	341	$2,505,000	
2	Glenmore	Deconstruction and Recycling of the existing track, baseball field and softball fields		$153,000	$28,008,000
2	Glenmore	Construct central access from 50th Ave. and construct a portion of the centralized parking		$3,560,000	
2	Glenmore	Construct six rectangular fields		$6,169,000	
2	Glenmore	Construct playground and support facilities		$2,774,000	
		Overall project contingency 10%, incl. change order allowance, not including inflation		$2,801,000	$2,801,000
		TOTAL Phase 2	**1,474**		**$30,809,000**
3	Glenmore	Construct the new ice arena (700 capacity), outdoor basketball courts and adjacent amenities	9,556	$25,394,000	$33,452,000
3	Glenmore	Deconstruct and Recycle Stu Peppard Arena		$1,716,000	
3	Glenmore	Off site services and street work serving the entire Glenmore Master Plan		Apportioned	Apportioned
3	Glenmore	Construct the new velodrome		$44,558,000	
3	Glenmore	Construct parking as required for new buildings and landscape	15,653		$53,192,000
3	Glenmore	Reconfigure west access from 19th Street to Emergency/Relief access.		$14,975,000	
3	Foothills	Off site services and street work serving the entire Foothills Master Plan		Apportioned	Apportioned
3	Foothills	Construct the ice arena (2,200 capacity)		$33,558,000	
3	Foothills	Deconstruct and Recycle existing ice arenas	12,503	$1,716,000	$43,626,000
3	Foothills	Reconfigure southwest access and parking and landscape		$8,352,000	
		Overall project contingency 10%, incl. change order allowance, not including inflation		$13,027,000	$13,027,000
		TOTAL Phase 3	**37,712**		**$143,297,000**
4	Glenmore	Deconstruct and Recycle existing fieldhouse		$62,000	
4	Glenmore	Complete construction of central access from 50th Ave. and complete the centralized parking area		$1,289,000	
4	Glenmore	Construct administration, aquatics and fitness components Based on renovation and addition	8,045	$47,458,000	$58,748,000
4	Glenmore	Construct second softball field (all change facilities, see Phase 2)		$824,000	
4	Glenmore	Complete all remaining site amenities		$9,115,000	
4	Foothills	Construct aquatics, fitness and administration components		$52,577,000	
4	Foothills	Construct tennis courts		$1,236,000	
4	Foothills	Deconstruct and Recycle the existing tennis courts	9,267	$52,000	$62,645,000
4	Foothills	Deconstruct and Recycle the existing aquatics centre		$328,000	
4	Foothills	Reconfigure access and parking		$1,639,000	
4	Foothills	Complete all remaining site amenities		$6,813,000	
		Overall project contingency 10%, incl. change order allowance, not including inflation		$11,458,000	$12,139,000
		TOTAL Phase 4	**17,312**		**$133,532,000**
5	Foothills	Underground parking structure with 200 stalls		Apportioned	Apportioned
5	Foothills	Deconstruct and Recycle the existing track		$48,000	
5	Foothills	Construct two rectangular fields, incl. score board control booth and equipment storage buildings	32	$4,768,000	
5	Foothills	Deconstruct and Recycle the Volleydome		$169,000	
5	Foothills	Deconstruct and Recycle the existing aquatics center		$328,000	$128,741,000
5	Foothills	Construct Gymnasia	33,443	$104,320,000	
5	Foothills	Construct Field House			
5	Foothills	Reconfigure access and parking		$2,213,000	
5	Foothills	Complete all remaining site amenities		$16,895,000	
5	Foothills	Future track stadium structures/buildings, no costs included (track stadium is not included in this master plan)	1,130	No costs included	No costs included
		Overall project contingency 10%, incl. change order allowance, not including inflation			$12,874,000
		TOTAL Phase 5	**34,605**		**$141,615,000**
		ESTIMATED MASTER PLAN TOTAL	**91,406**		**$455,400,000**
		Phasing premium (not including inflation) included due to temp work to make buildings function till the project is fully built. If the components were to be constructed under one contract the magnitude of the project would be such that several contractors able to bid individual components would be unable to bid due to the commitment associated with the dollar value, and a reduced competition could be the result, in other words phasing may in fact save money. This observation is difficult to quantify			**$17,433,000**
	Glenmore total (the larger cost per m^2 is due to the larger site		**35,031**	m^2	**$195,500,000**
	Foothills Total		**56,375**	m^2	**$259,900,000**
	Master Plan Total		**91,406**	m^2	**$455,400,000**

Notes:

Estimate based conceptual drawings/program/Section 4.1 Project Phasing by S2 Architecture and verbal communication, No attempts made to reflect on site soils and ground water conditions on the sites, reports not available

Estimate is prepared in Jan. 2010 Dollars and is prepared for conventional steel framed buildings.

Each component listed above is estimated in more detail, see Summary of Costs/Details for each phase

Stock piled soil at NE corner of Glenmore site is assumed to be removed by others

No allowance made for asbestos or other contaminated materials removal

This conceptual based estimate is subject to +/- variances as design unfolds, particularly project costs are sensitive to soils reports and expectations to the level of finishes and equipment/fixture performances

LEED certification is assumed to be a requirement

It is assumed that competitive bidding for construction contracts takes place amongst general contractors, sub-contractors and suppliers.

GST not included

FF&E costs., permits and testing, consulting fees and disbursements, and client administration and legal costs not included

This Construction Budget is presented as an estimate of probable costs and is intended to be used for budget discussions. While we have made every effort to ensure accuracy of the information presented in this budget, Western Cost Consulting LP or its partners or manager can not be held liable for its content

Western Cost Consulting LP Phone (403) 217-6035 Fax (403) 217-6047 E-mail westcost@telus.net

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APPENDIX G:
REFERENCE MATERIAL

APPENDIX G

1. WORKSHOP OVERVIEW AND SCHEDULE

Workshop #1
May 25, 26, & 27.

- Project Start up
- Identification participants
- Identification and expansion of key workshop stakeholders.
- Ongoing workshop stakeholders consulting
  1. McMahon Stadium Society
     John Haverstock
  2. Calgary Track Council /
     Calgary Multisport Fieldhouse Society
     Doug Ratzlaff
  3. Calgary - Babe Ruth
     James Marjerrison
  4. National Sport Academy (NSA)
     Roger Wolfe
  5. University of Calgary Swim Club
     Bob Marble
  6. Glenmore Seals Swim Club
     Craig Eveleigh
  7. Volleydome
     Don Saxton
  8. Calgary Bicycle Track League
     John Plant
  9. Calgary Recreation Aquatics
     Kathy Davidson

Workshop #2
June 15, 16, & 17.

- Finalized project charter
- Completed 'Engage!' workshop
- Ongoing workshop stakeholders consulting
  1. Alberta Little League - District #3
     Dennis Wren
  2. Calgary Ultimate Association
     Claire McLean
  3. Calgary United Soccer Association
     Pearl Doupe
  4. Canadian Sports Centre Calgary
     Jason Poole
  5. Canadian Sports Centre / Athletics Canada
     Les Gramantik
  6. Tennis Alberta
     Henry Shen
  7. University of Calgary Athletics
     Kevin Boyles
  8. National Sports Development (NSD)
     James Gattinger
  9. Swim Alberta
     James Hood
  10. Tennis Academy
      Rico Policarpo
  11. Calgary Vipers Baseball
      Neil Gidney
  12. City of Calgary Water Treatment
      John Jagorinec

Workshop #3
July 28, & 29.

- Review and discuss initial, graphic site test fits (diagrams 1,2 & 3, both sites)
- Review and discuss booking / use patterns and schedules
- Ongoing workshop stakeholders consulting
  1. Canadian Sports Centre Calgary / U of C Sports Medicine
     Dr. Preston Wiley
  2. The Calgary Tritons Swim Club
     Connie Such
  3. U of C - VP Capital Planning & Development
     Bob Ellard
  4. U of C - Campus Recreation
     Mike Boyles
  5. City of Calgary - Facility Operator - Stu Peppard
     Tim Mossing
  6. City of Calgary - Facility Operator - Foothills Pool
     Ron Lowe
  7. City of Calgary - Parks & Parks Pathways
     Guy Beavers
  8. Badminton Alberta
     Jeff Bell
  9. Alberta Volleyball Association
     Diane Clarke

Workshop #4
August 19, 20 & 21.

- Review and discuss preliminary graphic plans (diagrams 4 & 5, both sites)
- Review and discuss preliminary facility/amenity programme
- Ongoing workshop stakeholders consulting
    1. Calgary Senior Men's Basketball Association
       Therese Murray
    2. Calgary Senior High School Athletic Association
       Tom Parker
    3. City of Calgary - Facility Operator - David Bauer / Norma Bush
       Paul Milbradt
    4. City of Calgary - Bookings
       Cindy Dixon
    5. Calgary Bicycle Track League
       John Plant

2. PERTINENT FACILITY DATES

1.0	FOOTHILLS			
	#	Location	Date Constructed	Dates Retrofitted
	1.1	Father David Bauer Arena	1963	(1985 Olympic addition), (1996 hc addition)2004 refrig plant upgrade),2006 vent. Upgrade)
	1.2	Foothills Baseball Stadium	1966	(1987 exp)
	1.3	Baseball Practice Facility	?	
	1.4	Foothills Field House	1967	(1978 addition)
	1.5	Foothills Pool	1964	1989,1991
	1.6	Foothills Tennis Courts	?	
	1.7	Foothills Track and Track Field #1	1975	(1986 timing bth add)(1990 field irrigated)
	1.8	Little League #7	1975	1984,1992
	1.9	Norma Bush Memorial Arena	1974	(1987 dr.rm addtn),(2004m refrig plnt),(2006 vent upgrade)
	1.10	Soccer Fields #4, #5 and #6	1975	
	1.11	Volleydome	1994	Originally a tennis centre

2.0	GLENMORE			
	#	Location	Date Constructed	Dates Retrofitted
	2.1	Stu Peppard Arena	1962	1995,2000,2001,2003,2005,2007,2009
	2.2	Football #2, #2a, #2b, #2c and #6	1962	
	2.3	Glenmore Pool	1962	1965,1985, 1993, 2003
	2.4	Glenmore Track and Track Field #1	1962	2008
	2.5	Indoor Tennis		
	2.6	Soccer #7, #8, #9, #10 and #11	1962	
	2.7	Softball #13 and #14		
	2.8	Baseball #3		
	2.9	Velodrome	1975	1990, 2004

1.0	FOOTHILLS LEASEHOLDERS				
	#	Location	Leaseholder	Sublease Holder	Expiry
	1.1	Father David Bauer Arena	Hockey Canada	Lifemark Health Inc.; TARC Holdings	2025 & 25 year option to renew
	1.2	Foothills Baseball Stadium & Practice Facility	Calgary Vipers Baseball	Chinooks Soccer, University of Calgary	2020
	1.3	Foothills Field House	Calgary Track Council	City of Calgary uses part of the building for maintenance and washrooms	2014
	1.4	Foothills Pool	N/A	N/A	N/A
	1.5	Foothills Tennis Courts	N/A	N/A	N/A
	1.6	Foothills Track and Track Field #1	N/A	N/A	N/A
	1.7	Little League #7	District #3 Little League Alberta	N/A	2009-06-30
	1.8	Norma Bush Memorial Arena	Hockey Canada	N/A	2025 & 25 year option to renew
	1.9	Soccer Fields #4, #5 and #6	N/A	N/A	N/A
	1.10	Volleydome	Volleydome; Calgary Inc.	National Sport Development	2015

2.0	GLENMORE LEASEHOLDERS				
	#	Location	Leaseholder	Sublease Holder	Expiry
	2.1	Baseball #3	Babe Ruth Calgary	NSA	2013
	2.2	Football #2, #2a, #2b, #2c	N/A	N/A	N/A
	2.3	Football #6	N/A	N/A	N/A
	2.4	Glenmore Pool	N/A	N/A	N/A
	2.5	Glenmore Track and Track Field #1	N/A	N/A	N/A
	2.6	Indoor Tennis	Tennis Academy	N/A	2012
	2.7	Outdoor Tennis	N/A	N/A	N/A
	2.8	Soccer #7, #8, #9, #10 and #11	N/A	N/A	N/A
	2.9	Softball #13 and #14	N/A	N/A	N/A
	2.10	Stu Peppard Arena	Calgary Royals, CHD-NSA, Junior B	7 rooms rental permit only	Annual permits
	2.11	Velodrome	Calgary Bicycle Track League	N/A	2014

4. FIELD USE RECOMMENDATIONS

In addition to considerations of policy, protocols and procedures required for its successful implementation, the Concept Plan undertook an assessment of the use of the existing fields in both parks to determine how the available play time could be extended and how many additional fields may be required to meet the needs of sport groups in Calgary. During the early stages of the investigation it became clear that the critical need for fields involves the rectangular fields, although the 10 Year Strategic Plan study indicates there is a need for additional diamonds. However, the available play time on the diamonds is not determined by policy to protect the wear on the field, rather the available lighting is most critical.

The following recommendations include the analysis of current field use policy and provides recommendations to increase play time as well as proposed modifications to maintenance protocols to increase wear capacity and strength of the turfgrass.

FIELD USE

To determine the potential to extend play time on the existing fields, and to project available play time for the proposed fields within the Concept Plan, a field use analysis was completed. The first chart, presented in Table 4.1, projects field play time based on the typical start time of 6:30pm. The second chart, presented in Table 4.2, is based on a proposed start time of 5:00pm. Each table demonstrates possible extension of play time on the fields beyond the time currently allowed by existing City of Calgary field use policy through a number of different variables including: changing policy; adding sports lighting; using artificial turf; and creating an indoor field.

City of Calgary Recreation Policy dictates that fields in the current inventory are available only three hours for two games per day, for six days per week, allowing one day per week for maintenance and rest. In addition, fields are allowed to rest for one month of the play season. While this policy is important to the health and maintenance of the turfgrass, the addition of even one game (1 ½ hours of play time) per day could substantially increase access to fields. The analysis presented in the two tables projects play time on one typical grass field, with and without lighting; artificial turf, and indoors; and compares it to the current available play time per field. Two policy modifications proposed for consideration on the natural grass fields include increasing play time on each field by one game (1 ½ hour) each day for six days per week; and, alternatively, increasing by one game (1 ½ hours) each day, for half the week and retaining the current policy of two games (3 hours) per day for the other half. In addition, artificial turf and lighting is included for comparison, as well as an indoor field which would be available year-round.

Both tables indicate that a policy change alone will only result in a moderate increase in avail-

A: Figure 5.1 Turfgrass Maintenance

B: Figure 5.2 Turfgrass Inspection
Field use can be maximized with regular monitoring of turfgrass health.

TABLE 5.1 FIELD USE ANALYSIS 6:30PM START

Existing		Current Field Design & Operation	
Play per Day per Field		Possible	Allowable
		Potential Available*	Policy: 2 Games/Day 6 Days/Week
Typical Field Usage Per Field — Hours of Play, 6 days	May - Grow In/Maintenance 6:30 pm 9:20 pm	0	0
	Hrs. Per Month	0	0
	June 6:30 pm 9:48 pm	3.5	3
	Hrs. Per Month	84	72
	July** 6:30 pm 9:39 pm	3	3
	Hrs. Per Month	72	72
	August** 6:30 pm 8:52 pm	2.5	2.5
	Hrs. Per Month	60	60
	September 6:30 pm 7:48 pm	1.5	1.5
	Hrs. Per Month	36	36
	October 6:30 pm 6:42 pm	0	0
	Hrs. Per Month	0	0
TOTAL Hours Playable Field Time		252	240

Proposed		Proposed Field Design Potential					
		Scenario # 1 Natural Grass		Scenario # 2 Natural Grass		Scenario # 3	Scenario # 4
		No Lighting	With Lighting	No Lighting	With Lighting	Artificial Turf & Lighting	Indoor Field
Play per Day per Field		Proposed Policy: 2 Games/Day 3 Days/Week 3 Games/Day 3 Days/Week		Proposed Policy: 3 Games/Day 6 Days/Week		Available to 11:00pm	Available Year Round to 11:00 pm
Proposed Field Usage Per Field — Hours of Play, 6 days	May - Grow In/Maintenance 6:30 pm 9:20 / 11:00 pm	0	0	0	0	4.5	4.5
	Hrs. Per Month	0	0	0	0	108	108
	June* 6:30 pm 9:48 / 11:00 pm	3.5	3.75	3.5	4.5	4.5	4.5
	Hrs. Per Month	84	90	84	108	108	108
	July* 6:30 pm 9:39 / 11:00 pm	3	3.75	3	4.5	4.5	4.5
	Hrs. Per Month	72	90	72	108	108	108
	August* 6:30 pm 8:52 / 11:00 pm	2.5	3.75	2.5	4.5	4.5	4.5
	Hrs. Per Month	60	90	60	108	108	108
	September 6:30 pm 7:48 / 11:00 pm	1.5	3.25	1.5	3.25	4.5	4.5
	Hrs. Per Month	36	78	36	78	108	108
	October 6:30 pm 6:42 / 11:00 pm	0	3	0	3	4.5	4.5
	Hrs. Per Month	0	72	0	72	108	108
							648 Hours (May - October) + 648 Hours (Nov. - April)
TOTAL Potential Hours Playable Field Time		252	420	252	474	648	1296
Current Total Hours Playable Field Time		240	240	240	240	240	240
Additional Playable Hours with New Design and Policy		12	180	12	234	408	1056
Percentage Increase in Playable Field Time		5%	75%	5%	98%	170%	440%

*Assumes play would continue until dark, without lights, with no policy limits for play on turf grass.

** Daytime Use from 8:00am-6:30pm is not included because it assumes minor wear on the fields

Assumptions:

1 May is the "one month maintenance period".
2 June - October are the primary months of use.
3 Mid-September - October policy: 2 games/day to protect turfgrass

* Note Increase in Hours per Day & Months per Year

4. FIELD USE RECOMMENDATIONS

TABLE 5.2 FIELD USE ANALYSIS 5:00PM START

Existing		Current Field Design & Operation	
Play per Day per Field		Possible Potential Available*	Allowable Policy: 2 Games/Day 6 Days/Week
Typical Field Usage Per Field — *Hours of Play, 6 days*	May - Grow In/Maintenance 5:00 pm 9:20 pm	0	0
	Hrs. Per Month	0	0
	June 5:00 pm 9:48 pm	4.5	3
	Hrs. Per Month	108	72
	July** 5:00 pm 9:39 pm	4.5	3
	Hrs. Per Month	108	72
	August** 5:00 pm 8:52 pm	4	3
	Hrs. Per Month	96	72
	September 5:00 pm 7:48 pm	3	3
	Hrs. Per Month	72	72
	October 5:00 pm 6:42 pm	1.5	1.5
	Hrs. Per Month	36	36
TOTAL Hours Playable Field Time		420	324

Proposed		Proposed Field Design Potential					
		Scenario # 1 Natural Grass No Lighting / With Lighting Proposed Policy: 2 Games/Day 3 Days/Week 3 Games/Day 3 Days/Week		Scenario # 2 Natural Grass No Lighting / With Lighting Proposed Policy: 3 Games/Day 6 Days/Week		Scenario # 3 Artificial Turf & Lighting Available to 11:00pm	Scenario # 4 Indoor Field Available Year Round to 11:00 pm
Play per Day per Field							
Proposed Field Usage Per Field — *Hours of Play, 6 days*	May - Grow In/Maintenance 5:00 pm 9:20 / 11:00 pm	0	0	0	0	6	6
	Hrs. Per Month	0	0	0	0	144	144
	June* 5:00 pm 9:48 / 11:00 pm	3.75	3.75	4.5	4.5	6	6
	Hrs. Per Month	90	90	108	108	144	144
	July* 5:00 pm 9:39 / 11:00 pm	3.75	3.75	4.5	4.5	6	6
	Hrs. Per Month	90	90	108	108	144	144
	August* 5:00 pm 8:52 / 11:00 pm	3.75	3.75	4	4.5	6	6
	Hrs. Per Month	90	90	96	108	144	144
	September 5:00 pm 7:48 / 11:00 pm	3	3.25	3	3.25	6	6
	Hrs. Per Month	72	78	72	78	144	144
	October 5:00 pm 6:42 / 11:00 pm	1.5	3	1.5	3	6	6
	Hrs. Per Month	36	72	36	72	144	144
						648 Hours (May - October) + 648 Hours (Nov. - April)	
TOTAL Potential Hours Playable Field Time		378	420	420	474	864	1512
Current Total Hours Playable Field Time		324	324	324	324	324	324
Additional Playable Hours with New Design and Policy		54	96	96	150	540	1188
Percentage Increase in Playable Field Time		17%	30%	30%	46%	167%	367%

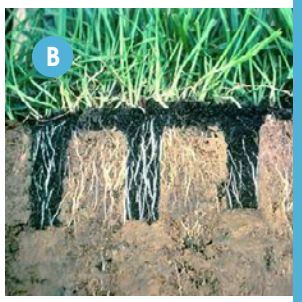
*Assumes play would continue until dark, without lights, with no policy limits for play on turf grass.

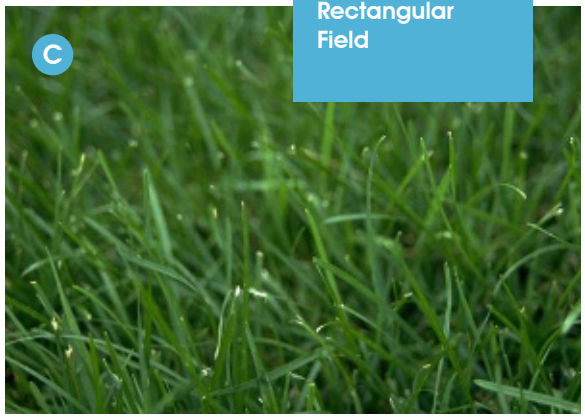
** Daytime Use from 8:00am-5:00pm is not included because it assumes minor wear on the fields

Assumptions:

1 May is the "one month maintenance period".
2 June - October are the primary months of use.
3 Mid-September - October policy: 2 games/day to protect turfgrass

* Note Increase in Hours per Day & Months per Year





A: Figure 5.3 Turfgrass Rolls

B: Figure 5.4 Turfgrass Root Zone

C: Figure 5.5 Turfgrass
Field use can be maximized with considerations for turfgrass health.

D: Figure 5.6 Rectangular Field

able play time. However both tables clearly demonstrate the substantial increase in potential playtime provided by the addition of sport lighting, artificial turf and a combination of both.

FIELD MAINTENANCE

In addition to the field use analysis presented above, considerations for field maintenance protocols also factor greatly into useable play time for fields. To maximize access and traffic by sports activities programming, as well as maintenance and environmental changes, on sports turfgrass, the health of the plant must be maximized. Judicious use of nutritional products in the care and research of natural turfgrass is common and the protocols for their use are well-known. The emergence of a new dimension in plant nutrition that enhances utilization of soil nutrient reserves, while preserving natural resources, offers important improvement options for increasing the wear tolerance of turfgrass.

Diverse populations of bacteria and fungi, known as microbial inoculants, work with the plant-soil interface to facilitate uptake of nutrients that are not always readily available to the plant during high demand conditions. Increasing the numbers of microbes enhances plant immune responses and direct microbial competition. Newly available delivery systems reliably apply microbials which strengthen and protect the plant, reducing the impact of plant disease as well as the need for fungicides. This results in a stronger, healthier plant and thus provides an opportunity to increase play time on the grass.

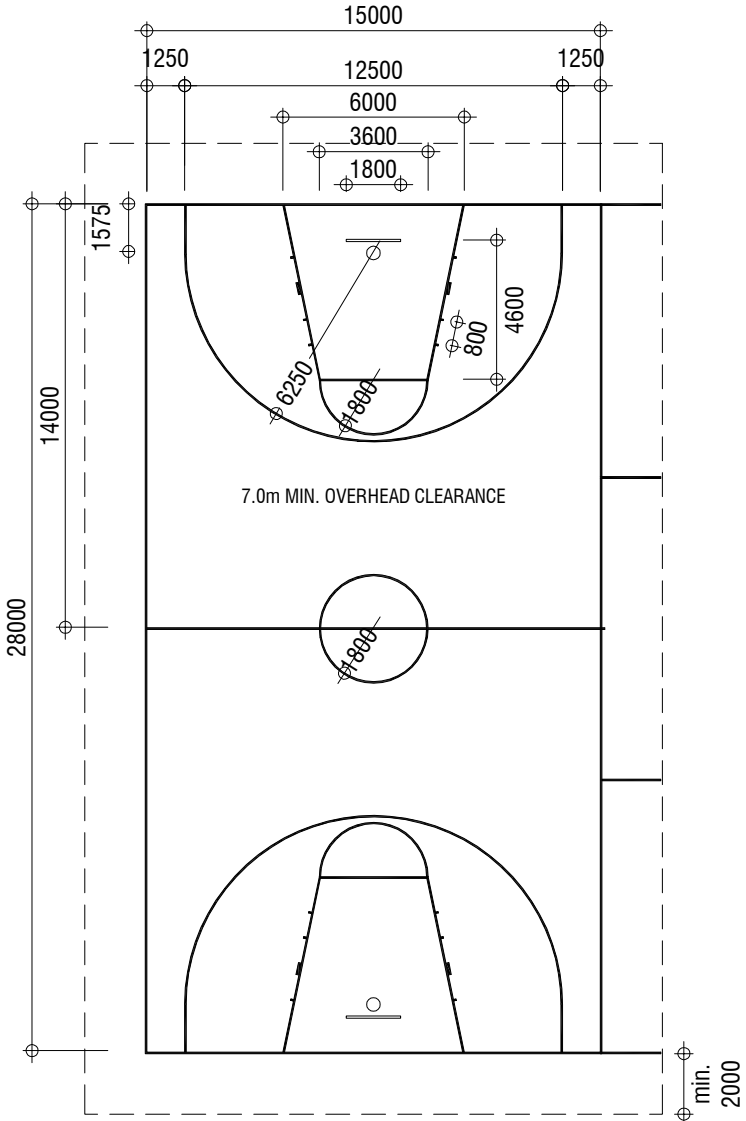
It has been documented that mycorrhizal fungi populations enhance turfgrass performance and facilitate the absorption of water, nitrogen and phosphorous from sources that the plant cannot access through the root system alone. The extension of the root system with the fungal hyphae allows more effective nutrient uptake. Various cultural and environmental conditions

4. FIELD USE RECOMMENDATIONS

can damage mycorrhizal populations requiring the reintroduction of the fungi to optimize the soil-plant root function. In most instances this application reduces the inputs of fertilizer and water, while maintaining or increasing turfgrass wear tolerance.

With a balanced nutritional program, it is possible to expand programmed use during the growing season. Commercial availability of concentrated microbial products provides a cost-beneficial method to maintain or increase usage of sports fields, while maintaining or reducing the risks of negative impacts on sports participants or on the environment. It is recommended that turfgrass management programs assess this protocol and consider exploiting the use of natural soil-plant processes to maximize plant health and potentially, significantly increase use of the sports fields on the Glenmore and Foothills Athletics Parks as well as those throughout the rest of the City of Calgary.

APPENDIX H:
AMENITY DESIGN DIMENSIONS



1 G6 FIBA Basketball

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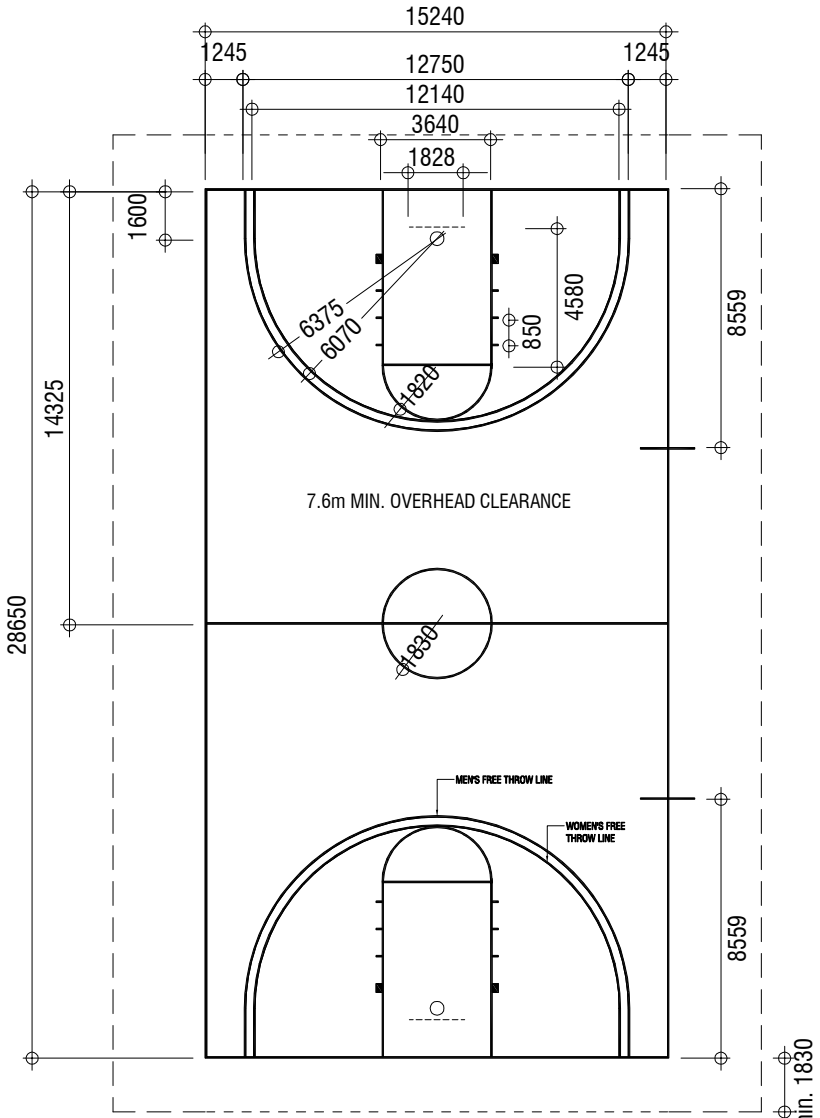
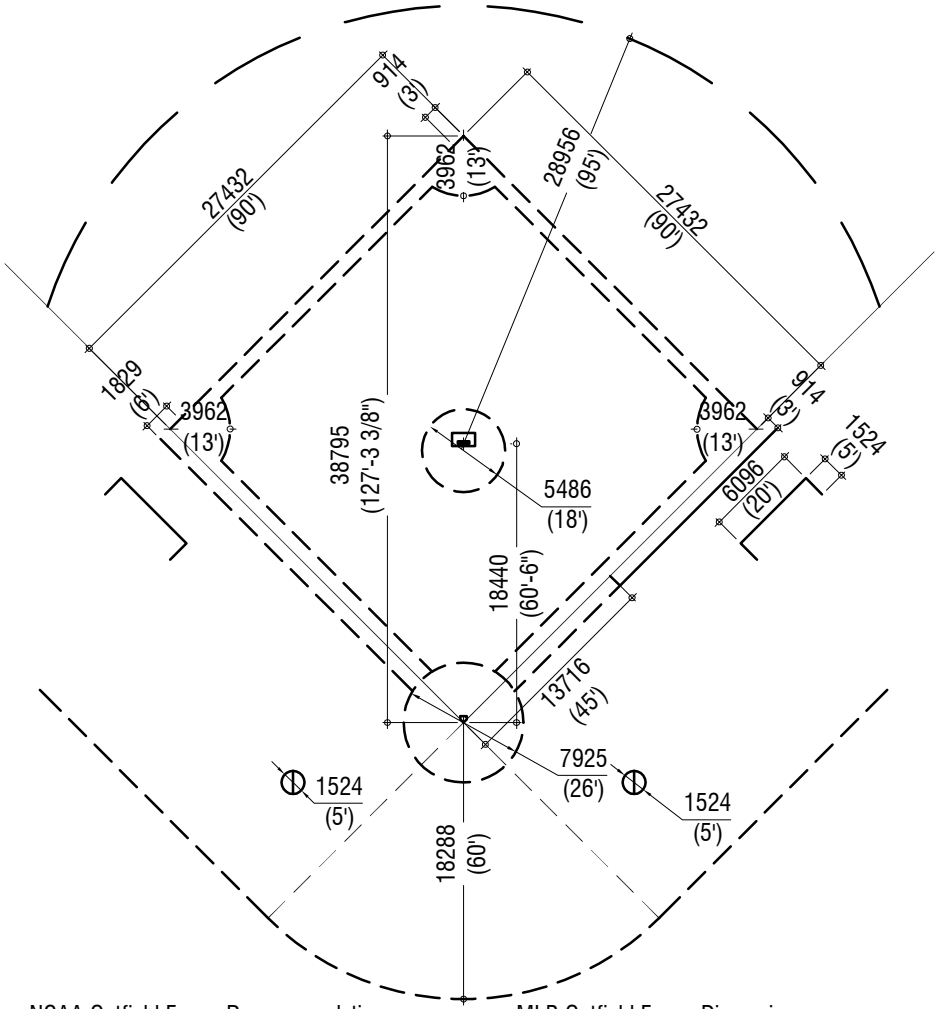


2 G6 NCAA Basketball

SCALE: 1:300

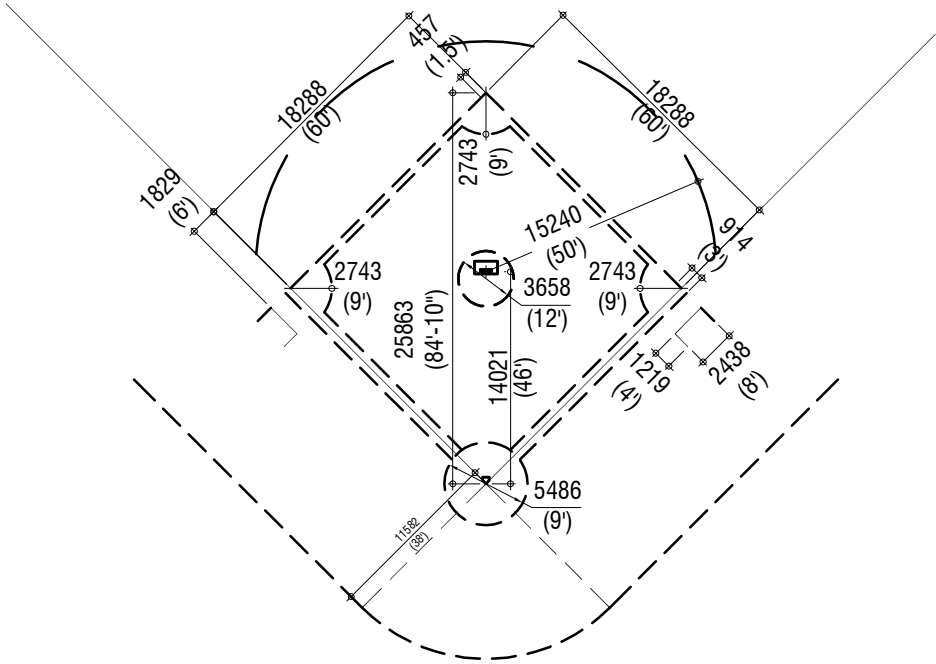


NCAA Outfield Fence Recommendations
- Foulpole Distance = 330'
- Right and Left Center Field Distance = 375'
- Straight Center Field Distance = 400'

MLB Outfield Fence Dimensions
- Foulpole Distance = 302' - 355'
- Straight Center Field Distance = 390'

1 IBAF/NCAA Baseball

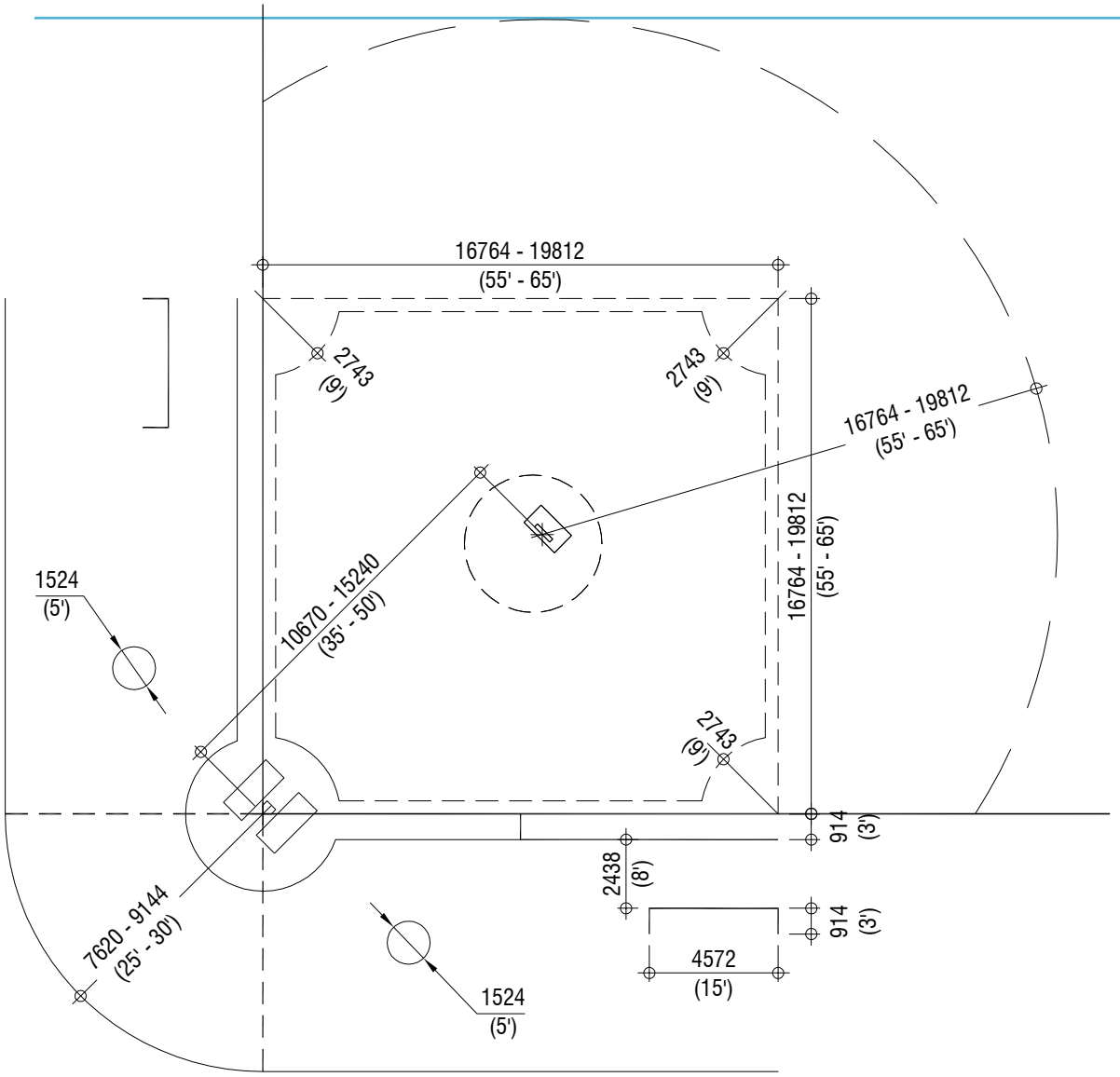
G6 **SCALE:** 1:500



Little League Outfield Fence Recommendations
- Foulpole Distance = 200' Minimum
- Straight Center Field Distance = 200' Minimum (without optional 50' pocket)

2 Little League Baseball

G6 **SCALE:** 1:500



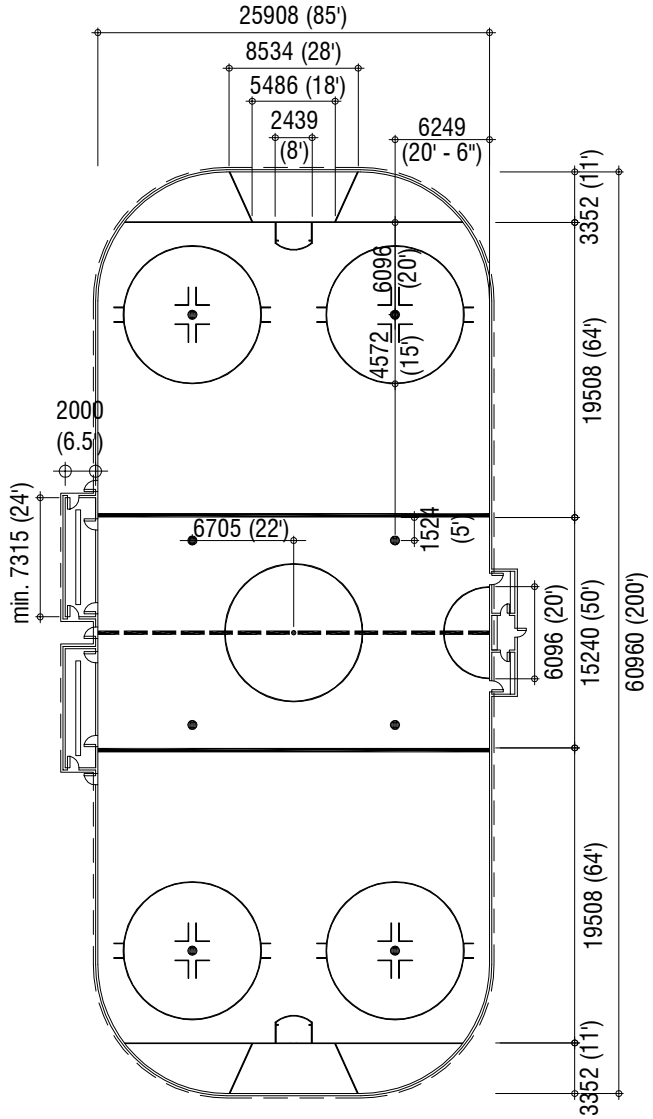
1 G6 ISF Softball (Fast Pitch/Modified/Slow Pitch)

SCALE: 1:250

DISTANCE TABLE ISF				
CATEGORY	DIVISION	BASES	PITCHING	FENCES
FastPitch	Junior Womens 16 and Under	60' (18290mm)	40' (12190mm)	220' (67056mm)
	Junior Mens 16 and Under	60' (18290mm)	46' (14020mm)	250' (76200mm)
	Junior Womens 19 and Under	60' (18290mm)	43' (13110mm)	220' (67056mm)
	Junior Mens 19 and Under	60' (18290mm)	46' (14020mm)	250' (76200mm)
	Womens	60' (18290mm)	43' (13110mm)	220' (67056mm)
	Mens	60' (18290mm)	46' (14020mm)	250' (76200mm)
Slow Pitch	Junior Womens 16 and Under	65' (19810mm)	46' (14020mm)	265' (80800mm)
	Junior Mens 16 and Under	65' (19810mm)	46' (14020mm)	300' (91440mm)
	Junior Womens 19 and Under	65' (19810mm)	50' (15240mm)	265' (80800mm)
	Junior Mens 19 and Under	65' (19810mm)	50' (15240mm)	300' (91440mm)
	Womens	65' (19810mm)	50' (15240mm)	275' (83820mm)
	Mens	65' (19810mm)	50' (15240mm)	300' (91440mm)
	Co-Ed	65' (19810mm)	50' (15240mm)	275' (83820mm)

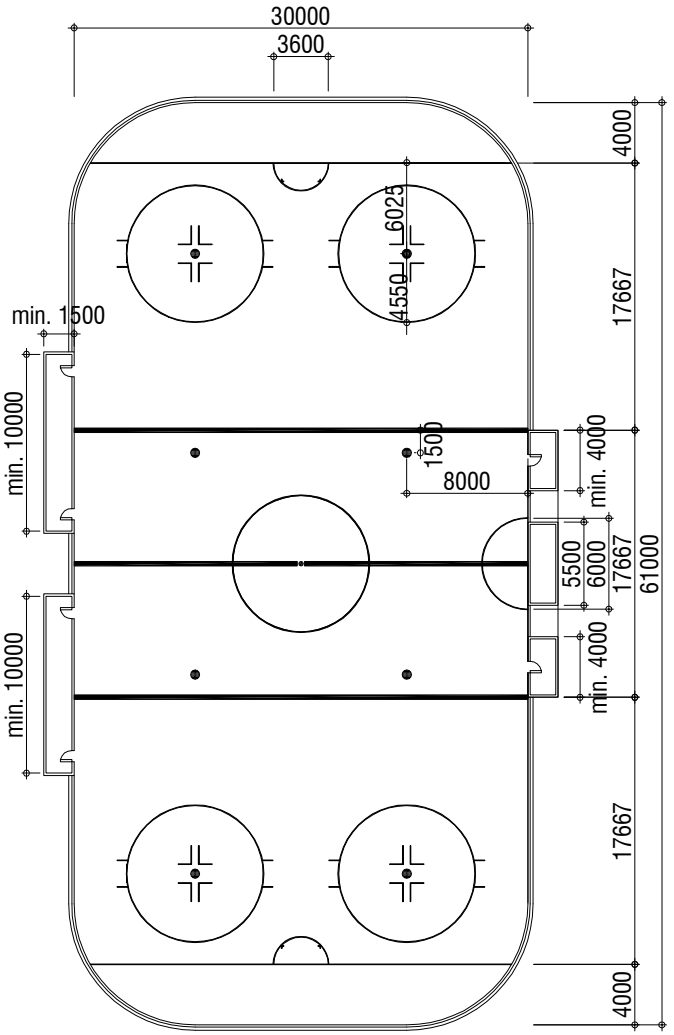
DISTANCE TABLE NCAA				
BASES	PITCHING	OUTFIELD FENCE HEIGHT	FENCES	
			Foulpole Distance	Center Distance
60' (18290mm)	43' (13110mm)	6' (1829mm)	190' (57912mm)	220' (67056mm)
60' (18290mm)	43' (13110mm)	4' (1219mm)	210' (64008mm)	230' (70104mm)

DISTANCE TABLE ASA					
GAME	DIVISION	BASES	PITCHING	FENCES	
				Minimum	Maximum
FastPitch	Womens	60' (18290mm)	43' (13110mm)	200' (60960mm)	250' (76200mm)
	Mens	60' (18290mm)	46' (14020mm)	225' (68580mm)	275' (83820mm)
Modified	Womens	60' (18290mm)	40' (12190mm)	200' (60960mm)	275' (83820mm)
	Mens	60' (18290mm)	46' (14020mm)	265' (80800mm)	300' (91440mm)
Slow Pitch	Womens	65' (19810mm)	50' (15240mm)	265' (80800mm)	275' (83820mm)
	Mens	65' (19810mm)	50' (15240mm)	300' (91440mm)	315' (96012mm)
	Co-Ed	65' (19810mm)	50' (15240mm)	275' (83820mm)	300' (91440mm)
16" Slow Pitch	Womens	55' (16764mm)	38' (11582mm)	200' (60960mm)	250' (76200mm)
	Mens	60' (18290mm)	38' (11582mm)	250' (76200mm)	300' (91440mm)



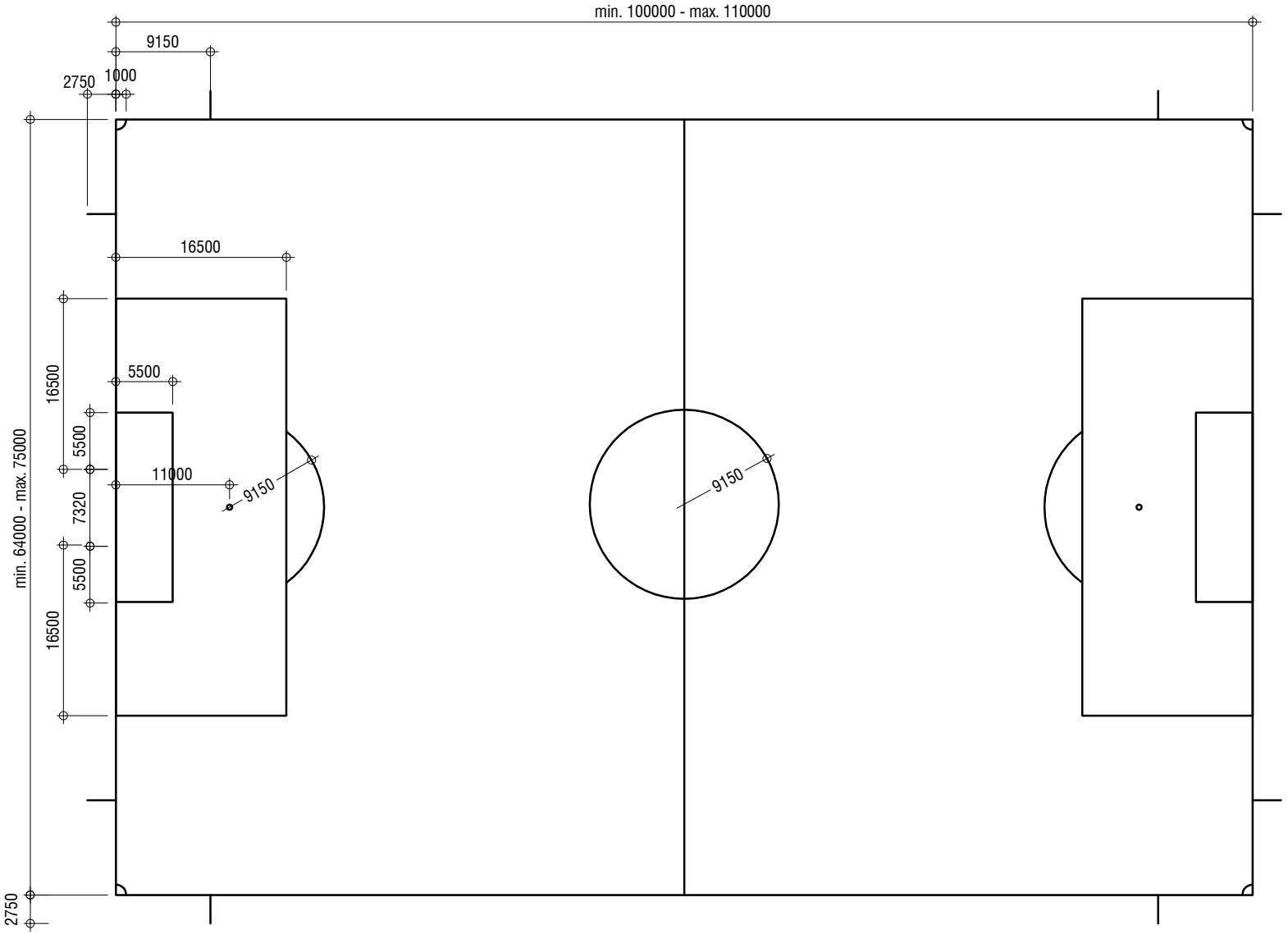
1 G6 NHL Hockey Ice Surface

SCALE: 1:250



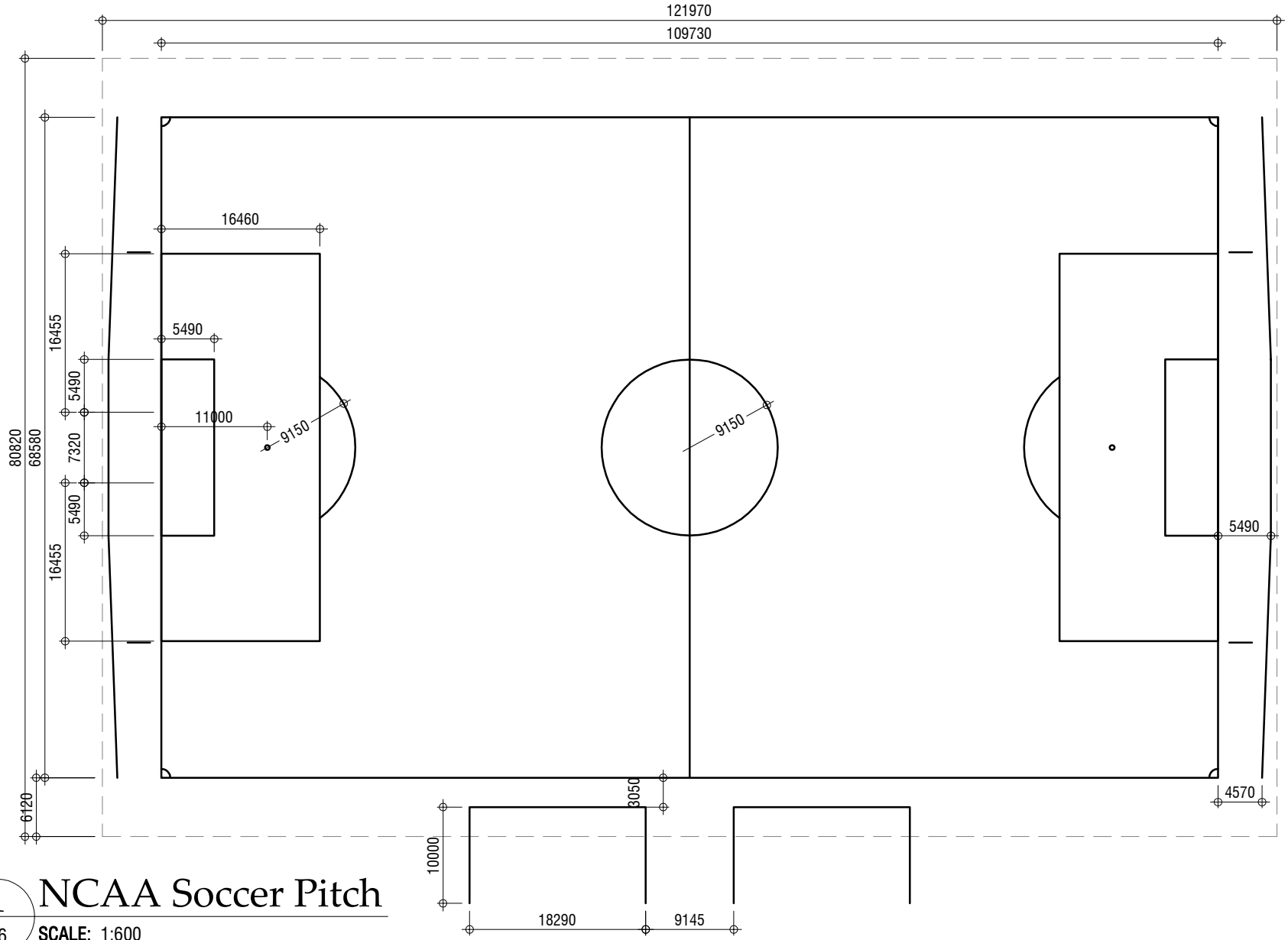
2 G6 IIHF Hockey Ice Surface

SCALE: 1:250



1 G6 FIFA International Competition Pitch

SCALE: 1:600



1 G6 NCAA Soccer Pitch

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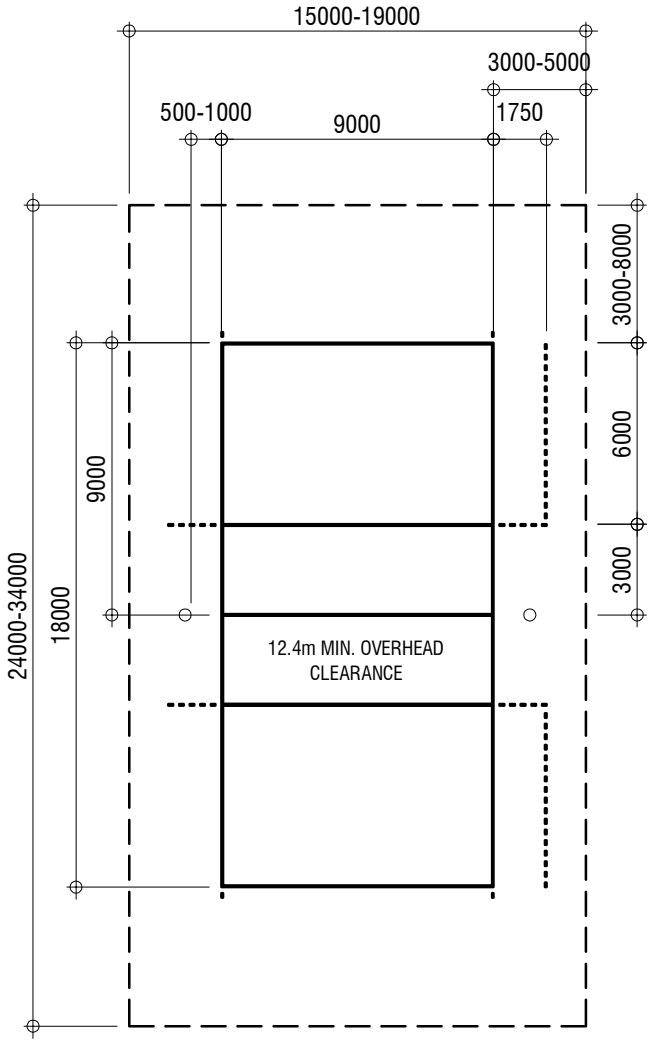

1 / G6 FIVB Indoor Volleyball

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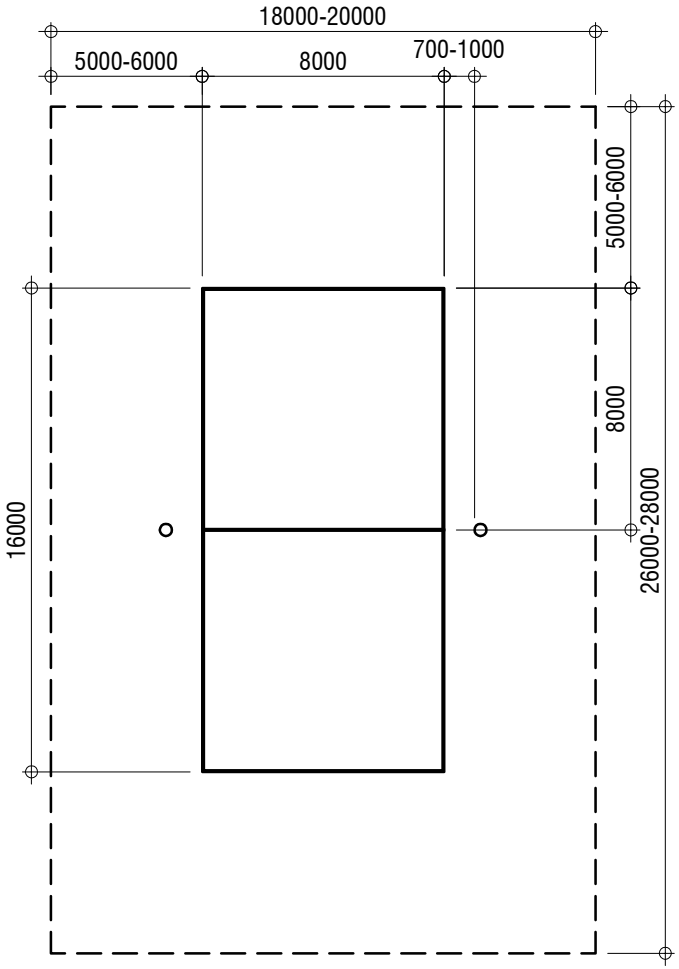

1 / G6 FIVB Beach Volleyball

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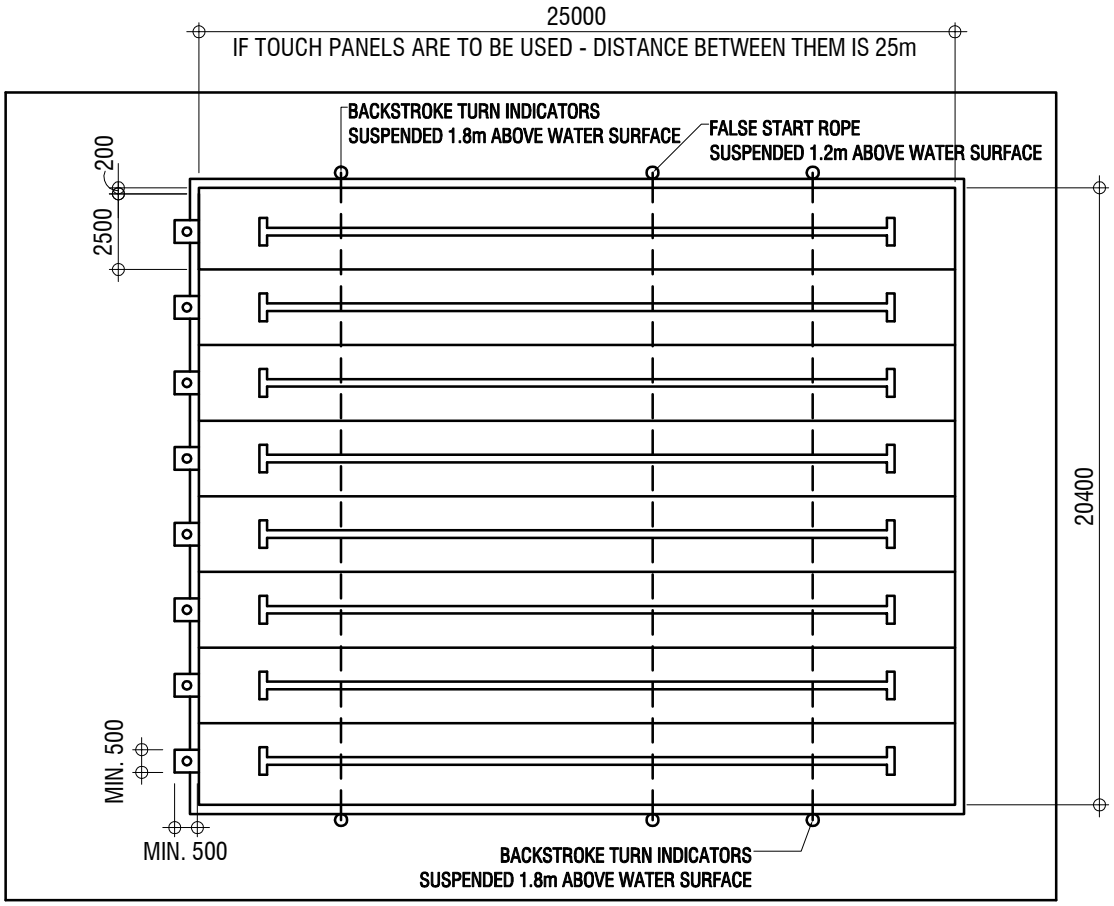

1 G6 FINA Short-Course Swimming

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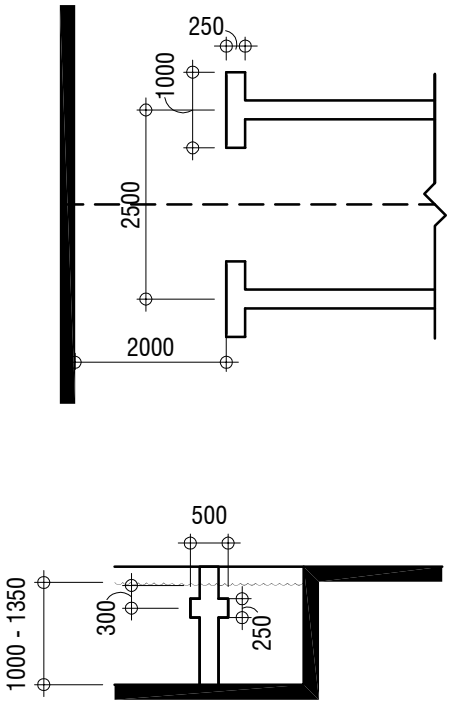

2 G6 Lane Markings

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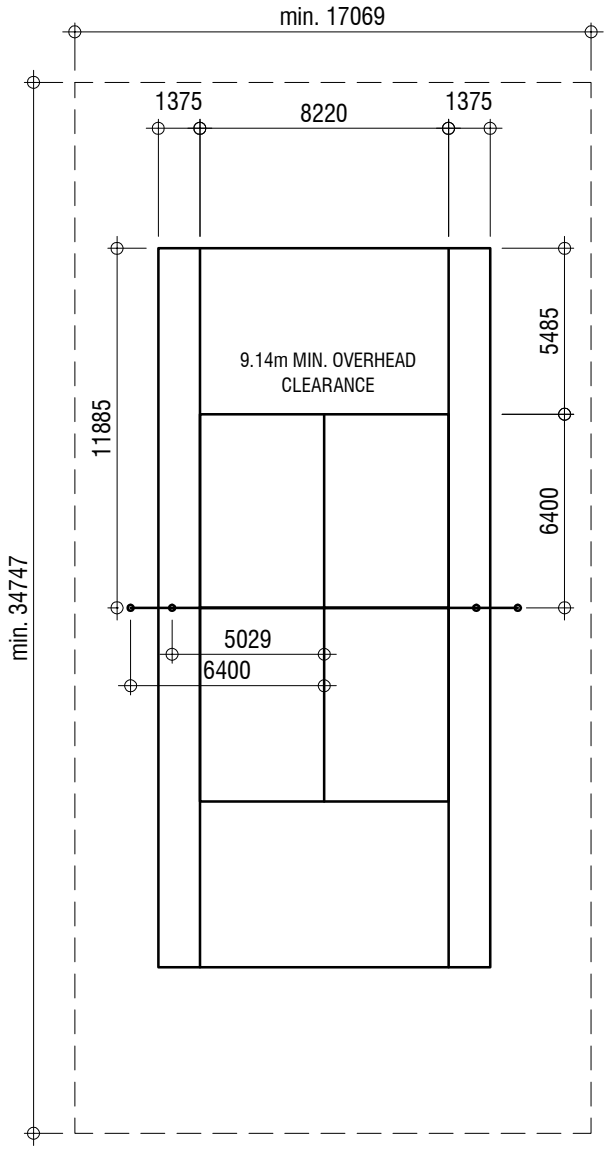
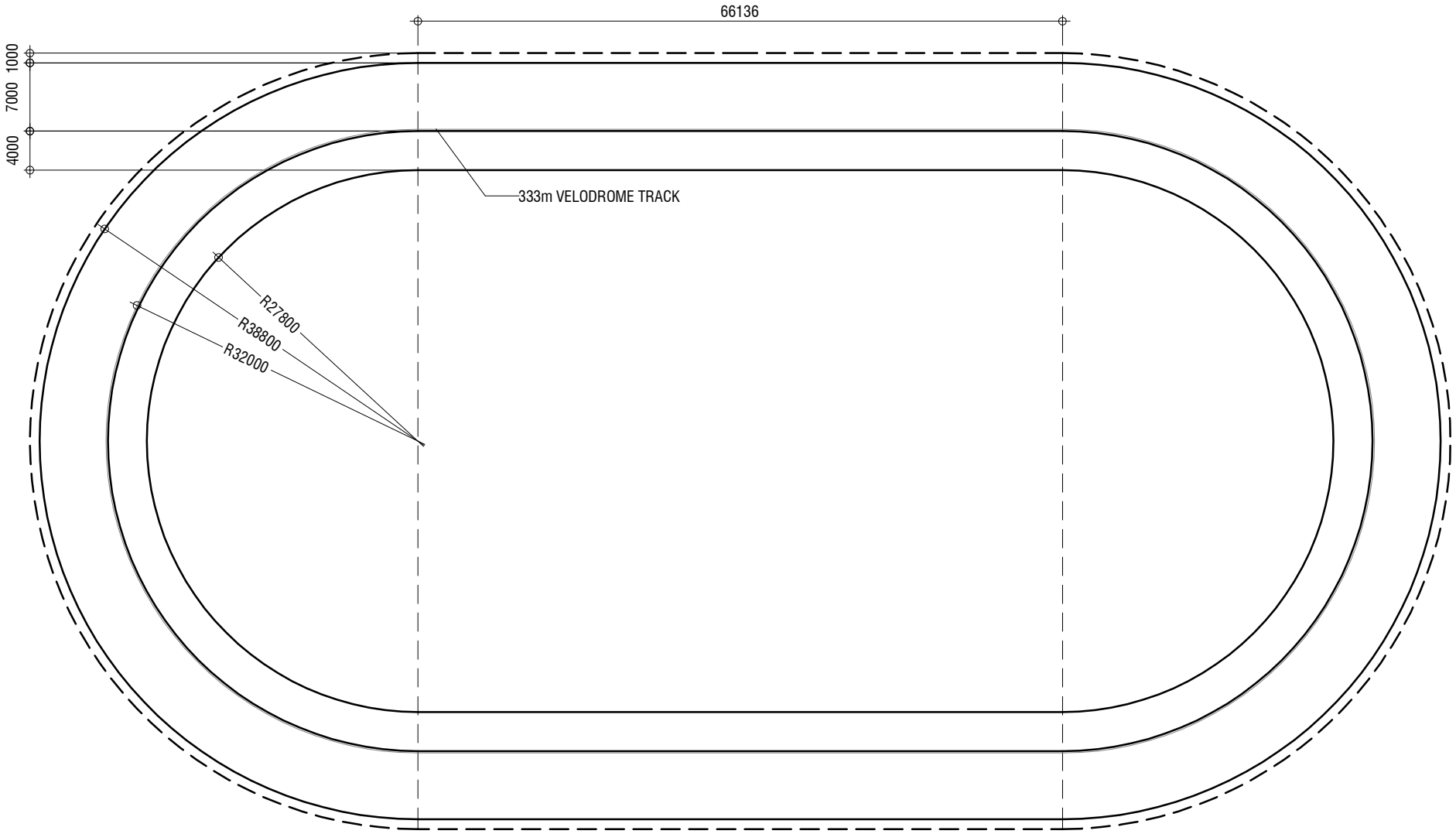


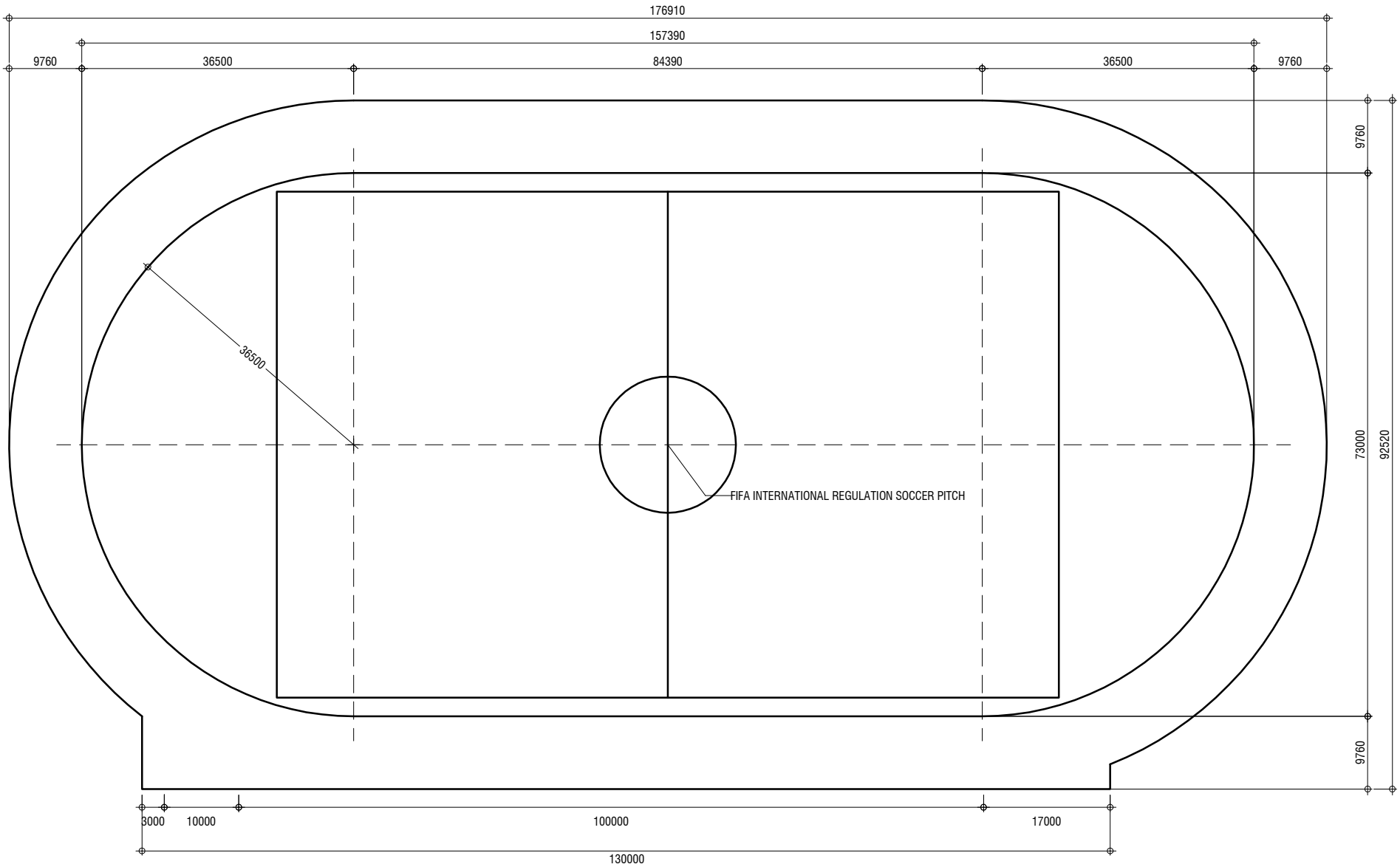
1 G6 ITF Tennis Court

SCALE: 1:250



1 G6 333m Velodrome Track

SCALE: 1:600

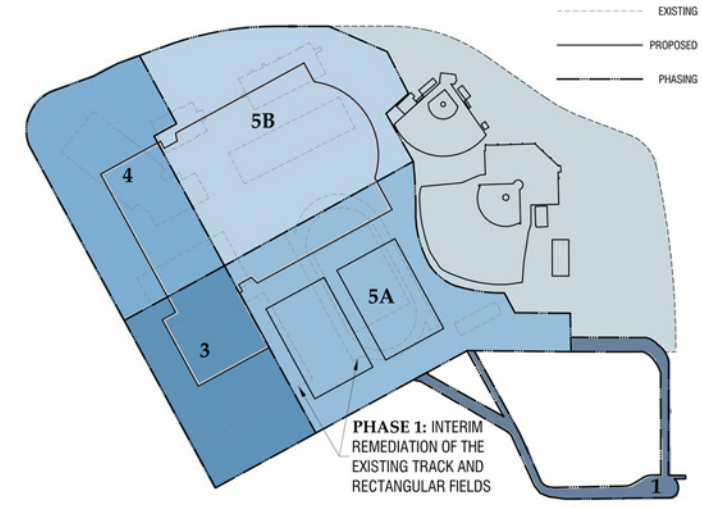


1 / G6 IAAF 400m Standard Track (Radius 36.50m)

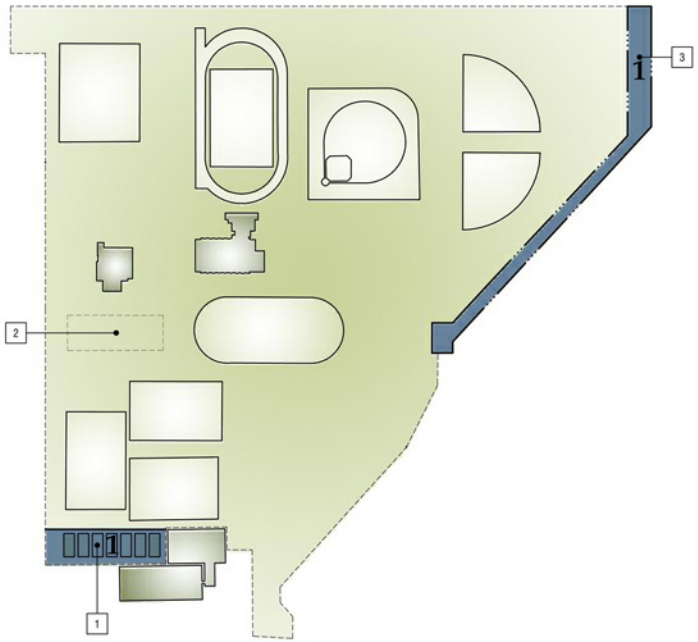
SCALE: 1:750

APPENDIX I:
POTENTIAL PHASING DIAGRAMS

Glenmore Athletic Park Composite Phasing

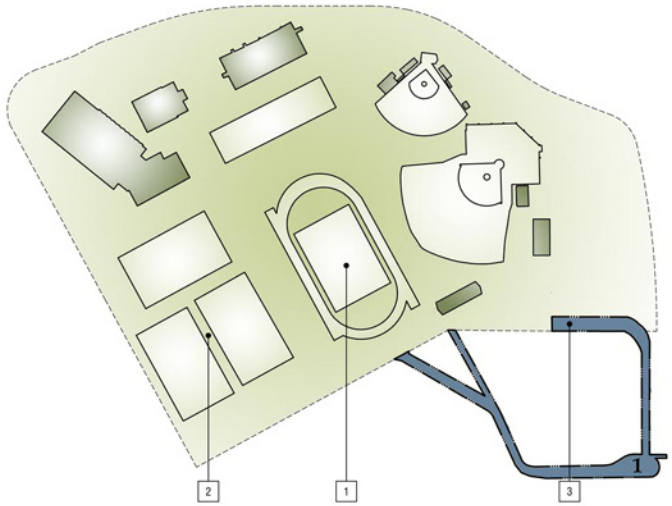


Foothills Athletic Park Composite Phasing



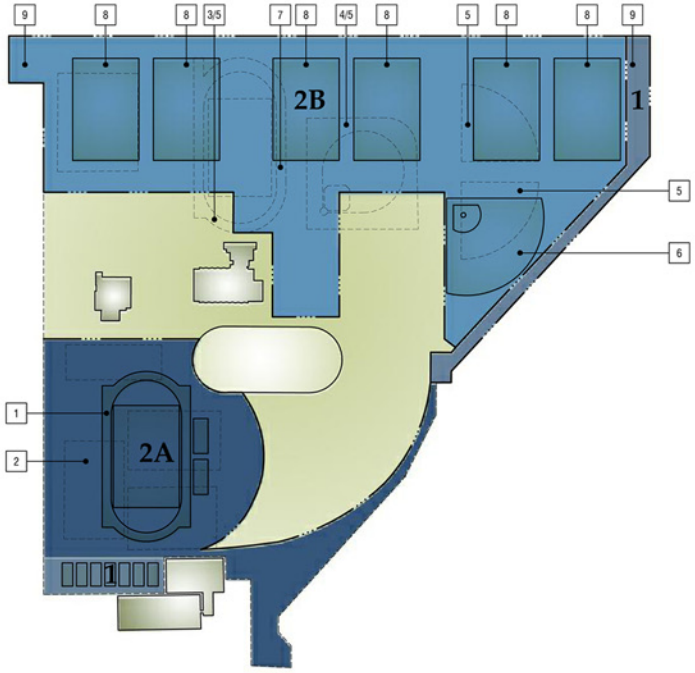
Glenmore Athletic Park Phase 1

1. RELOCATION/CONSTRUCTION OF THE SEVEN TENNIS COURTS TO AN AREA ADJACENT TO THE TENNIS ACADEMY;
2. DECONSTRUCTION AND RECYCLING OF THE EXISTING TENNIS COURTS;
3. RECONFIGURE EASTERN ACCESS (WATER RESOURCES ROAD) FROM 50TH AVENUE;



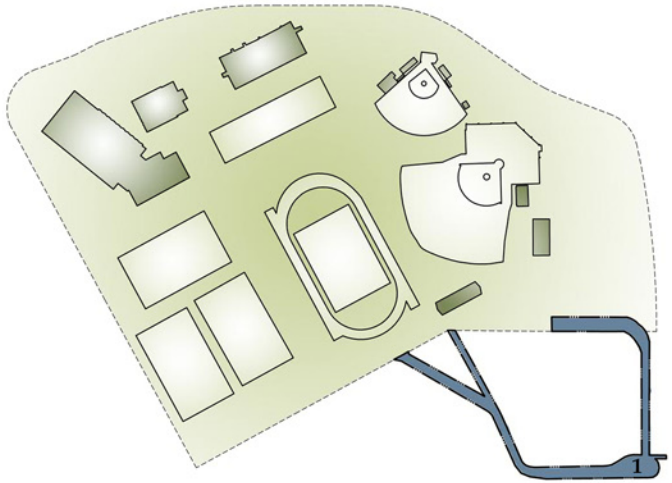
Foothills Athletic Park Phase 1

1. INTERIM REMEDIATION OF THE EXISTING TRACK AND INFIELD;
2. INTERIM REMEDIATION OF DRAINAGE ISSUES ON THE RECTANGULAR FIELDS;
3. IMPROVEMENT IN PEDESTRIAN ACCESS THROUGH MCMAHON STADIUM PARKING LOT FROM LRT AT ANY TIME.



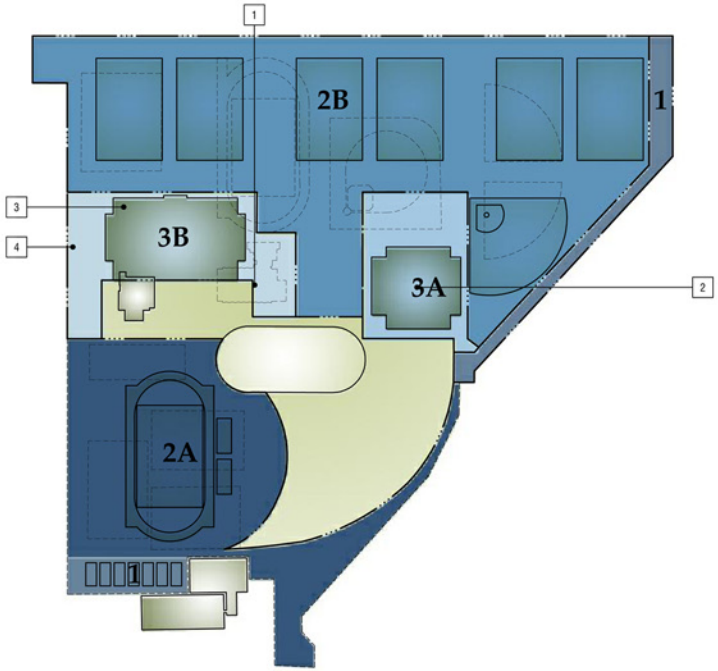
Glenmore Athletic Park Phase 2

1. THE LOSS OF THREE RECTANGULAR FIELDS ON THE NEW TRACK SITE WOULD BE OFFSET BY THE PHASE 1 RESTORATION OF THE FOOTHILLS RECTANGULAR FIELDS, MINIMIZING DISRUPTION OF FIELD PROGRAMS;
2. CONSTRUCTION OF A NEW TRACK FACILITY AND ASSOCIATED AMENITIES;
3. GLENMORE TRACK COULD BE DECONSTRUCTED AND RECYCLED OR RETAINED UNTIL COMPLETION OF THE NEW TRACK AT GLENMORE;
4. AT ANY TIME DURING THE INITIAL PHASES OF IMPROVEMENTS, THE BASEBALL FIELD AT GLENMORE ATHLETIC PARK COULD BE RELOCATED, LIKELY TO OPTIMIST PARK, ALTHOUGH THIS IS OUTSIDE THE SCOPE OF THIS MASTER PLAN;
5. DECONSTRUCTION AND RECYCLING OF THE EXISTING TRACK, BASEBALL FIELD AND SOFTBALL FIELDS;
6. RECONSTRUCT ONE SOFTBALL FIELD IN MASTER PLANNED LOCATION IMMEDIATELY SOUTH OF CURRENT SOFTBALL FIELDS;
7. CONSTRUCT CENTRAL ACCESS FROM 50TH AVENUE AND CONSTRUCT A PORTION OF THE CENTRALIZED PARKING;
8. CONSTRUCT SIX RECTANGULAR FIELDS PLANNED AT THE NORTH EDGE OF GLENMORE ATHLETIC PARK PARALLEL TO 50TH AVENUE;
9. CONSTRUCT PLAYGROUND AND SUPPORT FACILITIES ON THE NORTH SIDE OF GLENMORE ATHLETIC PARK.



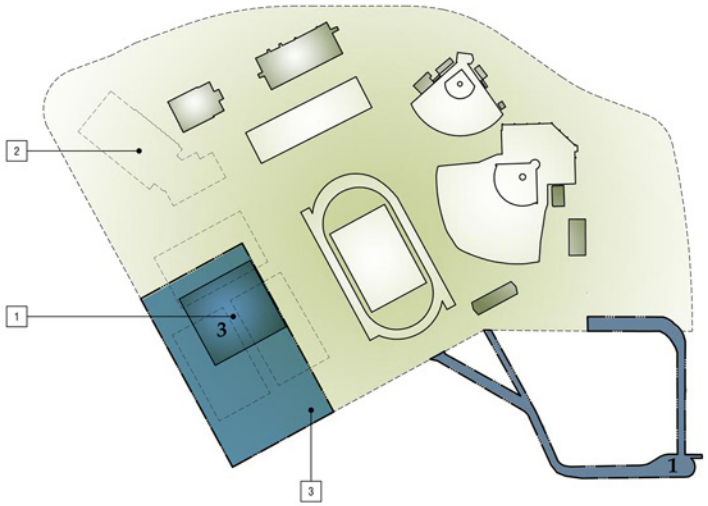
Foothills Athletic Park Phase 2

NO CHANGES



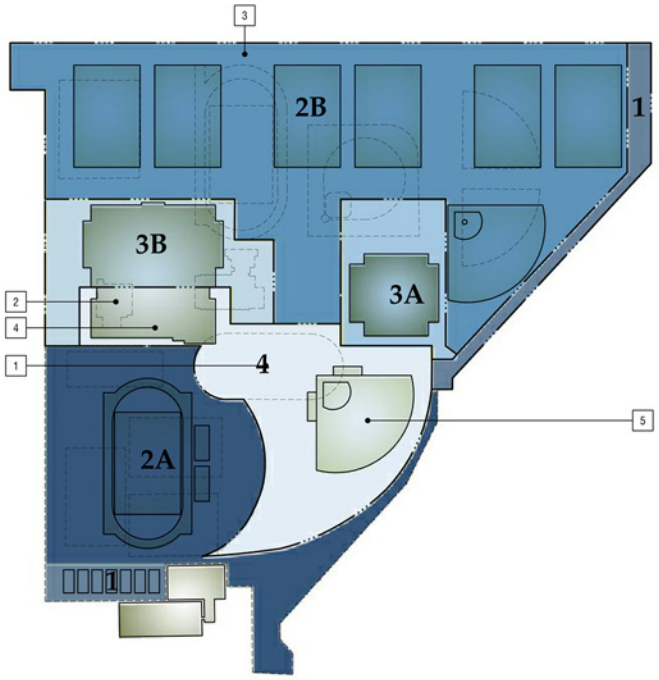
Glenmore Athletic Park Phase 3

1. DECONSTRUCT AND RECYCLE STU PEPPARD ARENA;
2. CONSTRUCT THE NEW ICE ARENA, OUTDOOR BASKETBALL COURTS AND ADJACENT AMENITIES;
3. CONSTRUCT THE NEW **FIELDHOUSE WITH INDOOR CYCLING AND COURT SPACE** RETAINING THE EXISTING VELODROME UNTIL CONSTRUCTION IS COMPLETE;
4. RECONFIGURE WEST ACCESS FROM 19TH STREET TO EMERGENCY/RELIEF ACCESS.;



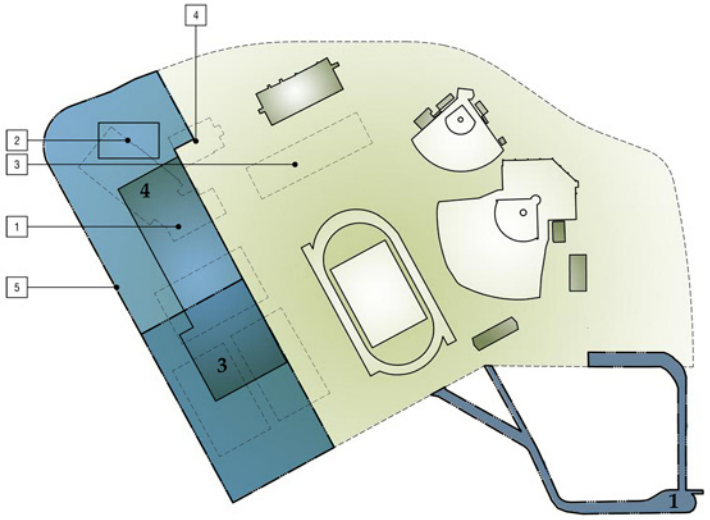
Foothills Athletic Park Phase 3

1. CONSTRUCT THE ICE ARENAS;
2. DECONSTRUCT AND RECYCLE EXISTING ICE ARENAS;
3. RECONFIGURE SOUTHWEST ACCESS AND PARKING.



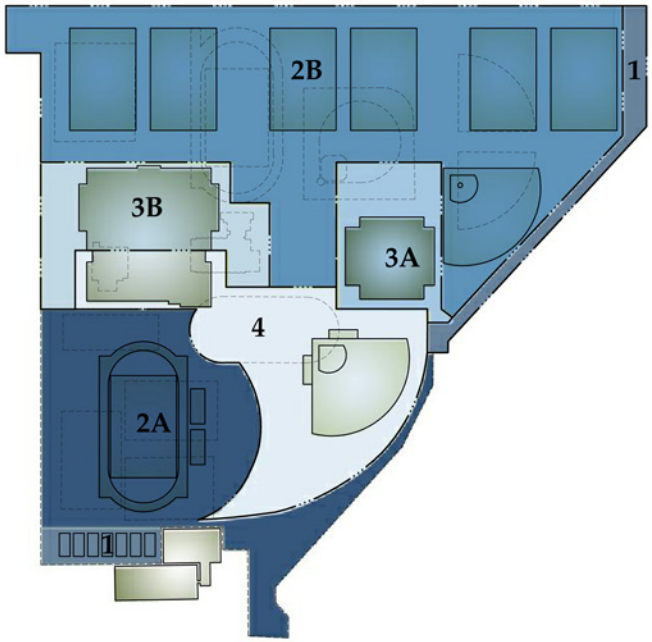
Glenmore Athletic Park Phase 4

1. DECONSTRUCT AND RECYCLE EXISTING VELODROME;
2. DECONSTRUCT AND RECYCLE EXISTING GLENMORE POOL;
3. COMPLETE CONSTRUCTION OF CENTRAL ACCESS FROM 50TH AVE. AND COMPLETE THE CENTRALIZED PARKING AREA;
4. CONSTRUCT ADMINISTRATION, AQUATICS AND FITNESS COMPONENTS;
5. CONSTRUCT SECOND SOFTBALL FIELD;
6. COMPLETE ALL REMAINING SITE AMENITIES;



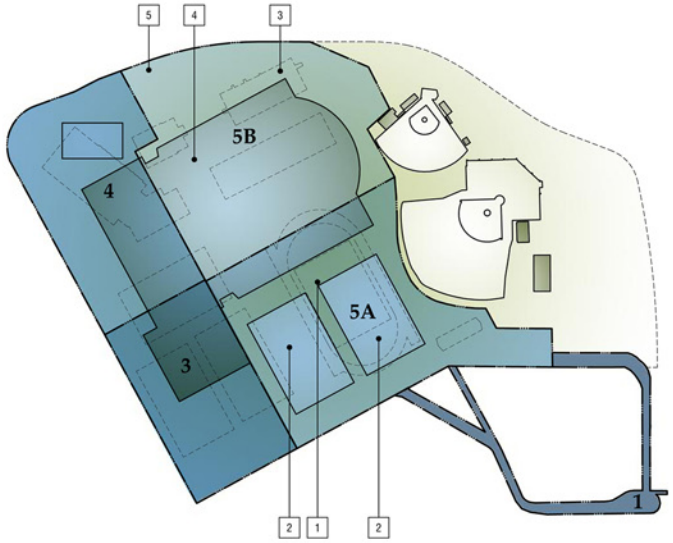
Foothills Athletic Park Phase 4

1. CONSTRUCT AQUATICS, FITNESS AND ADMINISTRATION COMPONENTS;
2. CONSTRUCT TENNIS COURTS;
3. DECONSTRUCT AND RECYCLE THE EXISTING TENNIS COURTS;
4. DECONSTRUCT AND RECYCLE THE EXISTING AQUATICS CENTRE;
5. RECONFIGURE ACCESS AND PARKING.



Glenmore Athletic Park Phase 5

NO CHANGES



Foothills Athletic Park Phase 5

1. DECONSTRUCT AND RECYCLE THE EXISTING TRACK REMEDIATED IN PHASE 1 (ASSUMES OPERATING TRACK AT GLENMORE PARK);
2. CONSTRUCT TWO RECTANGULAR FIELDS;
3. DECONSTRUCT AND RECYCLE THE VOLLEYDOME;
4. CONSTRUCT FIELD HOUSE WITH GYMNASIA;
5. RECONFIGURE ACCESS AND PARKING;
6. COMPLETE ALL REMAINING SITE AMENITIES.

S2 ARCHITECTURE
Suite 900, 110 - 12 Avenue SW
Calgary, Alberta, Canada, T2R 0G7
T 403.670.7000
F 403.670.7051
www.s2architecture.com