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SUBJECT: BURNABY LAKE SPORTS COMPLEX, WEST OF KENSINGTON AVENUE

RECOMMENDATIONS:

1. THAT the Conceptual Plan for the development of the Burnaby Lake Sports Complex west of Kensington Avenue outlined in this report be approved.
2. THAT funding for the development of the sports complex be considered in the Commission's Five Year Capital Budget.
3. THAT Council be asked to concur, and to bring down a bylaw for the expenditure of \$100,000 from Capital Reserves for detail design work.

REPORT

SUMMARY OF ISSUES

- There exists a critical shortage of sports field facilities and land upon which to build them in Burnaby. The current and projected future demand for these facilities is very high.
- Land west of Kensington Avenue adjacent to the Burnaby Lake Sports Complex has been designated for recreational use since Council adopted a development plan for the area in 1976.
- The project outlined in this report proposes to meet the demand for field sports to the year 2006 and beyond partly through the construction of three sports fields with artificial surfaces on lands west of Kensington Avenue.
- Important factors about artificial sports fields:
 - can accommodate field sport activity at a rate approximately 4.5 times that for standard sand-based natural grass fields
 - high efficiency allows for maximum use on a smaller land base
 - do not require the use of chemical fertilizers, herbicides or pesticides
 - though they require a large initial capital outlay, the annual operating cost per game is greatly reduced.
- The proposed project was a multi-departmental cooperative effort designed to both meet the demand for public field sport recreation and compatible private recreation facilities.

1.0 BACKGROUND

The Planning Department submitted a report for the 1996 September 09 Council meeting that recommended revisions to the Burnaby Lake Sports Complex Development Plan Concept in the Central Valley area, and outlined the land use, environmental and transportation aspects of the development. Council approved in principle the Concept with the proviso that the proposed Kensington-Darnley connector be removed. Council further required that the removal of the road be evaluated by the Traffic and Transportation Committee. The Council report appears under correspondence on this agenda.

In a cooperative effort, staff from the Parks and Recreation, Planning, Engineering and Environmental Health Departments developed the Concept Plan for the Burnaby Lake Sports Complex, west of Kensington Avenue described in this report (**Attachment #1**). The proposed concept is based upon recent preliminary studies and a site investigation carried out by geotechnical and landscape architectural consultants under the guidance of staff.

The Council report refers the revised Burnaby Lake Sports Complex plan to the Commission for review. Commission adoption of the plan, and final Council approval, would transfer all land identified in the plan for sports uses, conservation and ancillary uses to the administration of the Parks and Recreation Commission. This report outlines further the benefits of the project to the intended user groups and the economy of the City, and recommends that the Commission approve the plan and implementation strategy.

2.0 THE PROPOSED CONCEPT

2.1 Park Components and Access

The philosophy of intensive use was utilized in the planning and design of the proposed sports complex. This was accomplished by proposing the construction of sports fields with artificial surfaces which have the capacity to provide greater than four times the number of games as compared to sand-based fields (with natural grass surfaces) of equivalent area. This decision will contribute to the conservation of land in the attempt to meet the high demand for field sports.

The artificial fields are complemented with the proposal to construct sand-based fields in a separate array north of the artificial field array. Both the artificial and sand-based sports field groupings are independent, self-contained complexes with independent support amenities such as maintenance yards and service buildings. It is required that vehicular entries to both complexes be constructed by the Parks Department to connect with Kensington, Norland and Ardingley avenue. The Intersection of Kensington and Laurel could be signalized to accommodate a pedestrian crossing between the existing and proposed sports complexes.

The construction of the south complex that accommodates the artificial sports fields would require the rerouting of a segment of Ardingley Avenue south of Laurel Street. Ardingley, as indicated on Attachment #1, was rerouted into a City-owned lot at the north west corner

of Ardingley and Laurel to create adequate space for a pedestrian plaza, an announcer's tower and spectator seating for Field #2. The reconfiguration of the street edge in this area allows for the construction of one large terrace to accommodate both Field #2 and Field #3, thus minimizing the cost of construction, and preserves a significant portion of land with suitable soils west of Ardingley for private development.

The advent of lighted artificial and sand-based sports fields allows for the extension of play into the evening hours and is compatible with the philosophy of designating the park for the use of all age groups. Complementary elements include picnicking, a playground, an open lawn area, a playcourt, pedestrian plazas, ornamental street tree planting and trails.

2.2 South Complex: Artificial Sports Fields

The Parks and Recreation Department intends to work with the intended user groups to determine what type of synthetic surfacing will best meet their needs. The design to date reflects a high quality surface similar in nature to the "Edelgrass" surface used in the Andy Livingston sports park development in the International Village complex in Vancouver. The Livingston sports field complex is widely perceived to be highly successful.

A significant portion of the investment in the proposed development would consist of three sports fields with artificial surfaces (**Attachment #2**). Each of the proposed fields would accommodate significantly greater sporting opportunities than an equivalent sand-based field. Though the initial cost of constructing artificial fields is high due to their requirement for a very stable subbase and specialized construction techniques, they can accommodate approximately 4.5 times more games per year than the equivalent sand-based field. It was determined in a study conducted by Parks staff in June, 1996, that the operating cost of artificial fields is approximately half that of sand-based fields, and the cost per game over the life of artificial fields is approximately 65 percent of that for sand-based fields.

The artificial fields are designated for the following uses in order of priority:

- | | |
|-----------|---|
| Field #1: | field hockey
summer soccer
league soccer, field hockey, lacrosse, pick-up football |
| Field #2: | youth football
adult soccer
youth lacrosse, adult soccer
league soccer, field hockey, lacrosse, football |
| Field #3: | league soccer & practice
youth + adult soccer
field hockey, lacrosse, pick-up football |

All proposed artificial fields are lighted and are planned to accommodate the spectator activity and support amenities associated with regional-scale tournaments. With lighting, the hours of play would be extended dramatically during winter months without concern about the condition of field surfaces in wet weather. Extended hours would greatly support youth and adult field sports and could eventually be extended further to a 24 hour cycle. This is possible due to the industrial zoning of the adjacent lands, and follows a precedent set in Kamloops where a sports field facility operates 24 hours during certain seasons, therein maximizing the efficiency of field use.

Some of the associated amenities include permanent and portable spectator seating, outdoor team storage facilities, a social gathering place with a children's playground, a court for pick-up basketball or volleyball, a pedestrian plaza, an open lawn area, concession facilities, and a field house with change rooms and provision for storage.

Due to the extremely limited area of land suitable for the construction of artificial fields, and the challenges of the topography of the site, a ball diamond with an artificial surface was not provided.

2.3 North Complex: Sand-based Natural Grass Sports Fields

The north complex consisting of sand-based fields is proposed, in part, to meet the shortfall of 15 soccer fields to the year 2006 (refer to section 2.4). The sand-based fields, in addition to the artificial fields described above, are designated for the following uses:

Field #4:	soccer
Field #5:	baseball, soccer
Field #6:	baseball, soccer

Both baseball diamonds are lighted and designed for regional tournament level play with the associated support amenities including a social gathering place with a children's playground, an open lawn, and field house with change rooms and a concession facility. Spectator seating may be accommodated with portable bleachers. The north complex will have a perimeter jogging trail that would connect with the Burnaby Lake trail network.

It should be noted that the geotechnical conditions underlying the proposed north complex preclude the construction of artificial fields, but are suitable for sand-based fields.

2.4 Sports Field Supply & Demand

The demand for field sport facilities in Burnaby far exceeds the supply. The situation has now become critical. The shortage of supply is compounded by the poor winter and spring playing conditions on many existing natural grass fields. Many fields are unplayable during periods of repair or reconstruction due to damage from overuse in wet weather, further exacerbating the shortage of supply.

In addition to the shortage of sports fields, a critical shortage of suitable land upon which to build them has evolved. Burnaby has urbanized to the point where the proposed West

Burnaby Lake site is the last available parcel of public land of sufficient size that possesses adequate transportation links to accommodate a large sports complex. By the nature of their design and use, sports fields require large portions of land; it is within reason to utilize land that has been previously modified by industrial and residential uses, and consider maximizing the efficiency of any proposed field array with construction techniques that allow for maximum overlapping uses.

A detailed study of field sport supply in Burnaby was conducted by Recreation staff in May, 1996, where the supply of sports fields and ball diamonds in public parks and schools was inventoried. The demand for field sports was determined by establishing the current use patterns of the user groups through detailed registration data and specifics about game, scheduling and practice requirements. The above information was projected upon population estimates for Burnaby to the year 2006 to determine sports participation in the near future. The sports field study concluded that 7 grass fields and 31 ball diamonds are needed to meet current demand, which grows to 15 fields and 53 ball diamonds by the year 2006. These figures do not include limited usability of existing fields due to deteriorated turf resulting from overuse.

The proposed sports complex is designed to accommodate primarily sports fields, and to a lesser extent, ball diamonds, for better efficiency. Artificial turf fields provide year-round use, are playable in wet conditions, and possess lights for extended evening use. Ball diamonds are used for six months, usually in dry conditions, and do not require lights for youth play. Since one artificial field equates to over four sand-based fields, the proposed sports complex will allow existing sports fields elsewhere in the community to be converted to additional ball diamonds that could not be accommodated on the proposed site.

It was determined that the most pressing user demands for field sports in Burnaby are for field hockey, women's and adult soccer, youth and adult baseball, youth and adult softball, youth football, adult touch football, and field lacrosse. The construction of artificial sports fields early in the development would be part of a two-step process to meet current and future demand city-wide. Early use of the artificial fields would allow scheduled renovations to take place on existing fields without disruption to the user groups. By the time the renovations are completed, the proposed sports fields would be used to meet future demands and the renovated fields will improve utilization meeting current needs. Further benefits could be gained through more efficient city-wide field allocation methods.

As a site, the proposed sports complex would be a first class sporting venue capable of attracting provincial and national events that would bring additional revenue and recognition to the community.

2.5 Environment

The Parks and Recreation Master plan and the Planning Department's plans for the Central Valley historically refer to the expansion of the Burnaby Lake Sports Complex onto lands west of Kensington Avenue and south of Still Creek. Significant development of sports fields in environmentally sensitive areas and neighbourhood parks was postponed in anticipation of plans to develop the proposed Burnaby Lake site in an intensive fashion. It has been

perceived that this is the last available land in the City upon which to construct a large sports complex.

A concerted effort has been made in the planning and design stages of the proposed sports complex to protect the environmentally sensitive area immediately south of Still Creek that was formerly slated for sports development, and is now dedicated to conservation with a minimum 200 metre buffer to Still Creek. The conservation area is approximately 16 hectares (40 acres) in size, and is connected to an additional 5.6 hectare (13.8 acre) on-site conservation area by a contiguous wildlife corridor. The proposed development is concentrated on land that was subject to varying levels of historic industrial and residential activity.

The concept of building sports fields with artificial surfaces translates into more efficient use of land when compared to sand-based fields. One artificial field is the equivalent of 4.5 sand-based fields when comparing the capacity of games of each over the life of the fields. This may be interpreted as a "land saving" of about 3 hectares (7.4 acres) for each of the three proposed artificial fields, or a total of approximately 9 hectares (22.2 acres) of additional land that does not require development due to the decision to use artificial fields instead of sand-based fields in this project. In other words, the three proposed artificial fields are equivalent to at least 12 sand-based fields.

The artificial field complex has been designed in an extremely efficient manner that minimizes the overall scale of the south complex to less than 25 percent of the land required compared to a scenario where sand-based fields alone were constructed, and has also allowed a maximum area of vegetated buffer to be retained. A storm water management plan will be developed during the detailed design phase that will be sensitive to local environmental conditions.

2.6 Economic Benefits

The development of the proposed sports complex will provide many long lasting economic benefits to the City of Burnaby. Significant regional demand for these types of facilities will generate considerable monies from user fees. Burnaby's ability to host a greater number of regional and provincial sporting tournaments will also be enhanced. As a result, revenues to the City and community will increase due to the greater number of tournament participants and spectators who purchase goods and services from local businesses who will, in turn, inject additional monies in the community and create employment.

The development of these facilities will add to the mix of tourist attractions in the City and increase the number of visitors and related expenditures in the community. Other cities in the province have benefited greatly from investment in sports related development.

3.0 FINANCING & PHASING

In order to maintain continuity in the proposed financing and construction schedule and to minimize potential delays in the proposed 1997 site preparation activities, it is

recommended that Commission request Council to bring down a bylaw for the expenditure of \$100,000 (inclusive of 7% GST) for design and geotechnical work in 1996. Sufficient Capital Reserves are available and this project is identified in the 1996-2000 Capital Program. However, the project is not included in the 1996 Capital Budget. Appropriate adjustments will be made to ensure the 1996 Capital spending limit is not exceeded.

The consulting engineers and landscape architects provided a preliminary cost estimate for the proposed sports complex, currently at a conceptual design phase, for the sum of \$15.74 million. Staff refined and adjusted the estimate to \$13.93 million (inclusive of 7% GST) by reducing the size of the buildings, reducing the ornamental landscape component and reducing the cost of the artificial surface material due to the economies of scale of constructing three artificial fields at one time. All estimates are preliminary in nature and will be refined through detailed construction drawings and detailed geotechnical testing. All figures are expressed in 1997 dollars.

The estimate does not include costs within the scope of other departmental jurisdictions. Costs not included pertain to the proposed realignment of Ardingley Avenue, the proposed cul-de-sac on Ardingley and the intersection improvements proposed for Kensington Avenue and Laurel Street, or trail construction in the conservation area.

In recognition of the magnitude of the project, staff intend to retain a quantity surveyor during the detailed design phase to provide an independent assessment of the costs of the project. The Department is currently reviewing the 5-year Parks and Recreation major Capital program and have included the figures listed below into each year. The figures will be adjusted upon receipt of refined estimates from the quantity surveyor.

3.1 Five Year Implementation Plan

In recognition of the immediate needs for additional sports field facilities, an optimistic five-year schedule has been outlined below which advances the completion to the earliest possible date. However, weather and soil conditions can impact on progress, particularly in the early stages of site preparation and construction. Due to the specific nature of the underlying soils, the geotechnical consultant recommended that site grading operations be carried out only during dry weather conditions. In addition, construction of the north complex can begin only after preloading is completed and rates of settlement begin to stabilize. Current forecasts by the engineer indicate that compaction and settlement will likely be within acceptable parameters within the five-year period, but this would require confirmation with actual monitored readings during development. This project will be under the authority of the Civic Development Committee due to its size and scope.

The implementation strategy proposes the construction completion of the three artificial sports fields in the south complex in the first three years, followed by the completion of the sand-based fields in the north complex in the fourth and fifth years.

The proposed strategy is as follows:

Year I (1997):	detailed design & specifications, basic site preparation & services for all fields	
		subtotal: \$1.97 million
Year II (1998):	base material for artificial fields 1, 2 & 3, basic support amenities	
		subtotal: \$2.69 million
Year III (1999):	install artificial surfaces fields 1, 2 & 3, support amenities	
		subtotal: \$5.42 million
Year IV (2000):	construct sand fields 4, 5 & 6, basic support amenities	
		subtotal: \$2.53 million
Year V (2001):	complete support amenities for fields 4, 5 & 6	
		subtotal: \$1.32 million
		Total: \$13.93 million

4.0 CONCLUSION

The sports complex proposed in this report was developed with the cooperation of the Planning, Engineering and Environmental Health Departments, and proposes an inclusive land use strategy that incorporates adjacent sites for potential private development on public land complementary to the public sports component. The Planning Department submitted a report to Council on 1996 September 09 that reiterates the scope of the project in the context of the Central Valley plan. The Commission is requested to endorse the plan as an essential land use strategy to meet current sports fields needs.

The project was planned for intensive use made possible with the advent of artificial sports fields. The concentration of field sport games into a smaller area than that possible with traditional sand-based natural sports fields has resulted in the protection of large areas of environmentally sensitive land adjacent to and within the site.

ITEM

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DIRECTOR'S REPORT NO.

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COMMISSION MEETING

96/10/02

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A funding strategy will be proposed that incorporates the cost of the development within the Provisional 1997-2001 Capital Program. The funding strategy parallels the construction timetable for completion within a five-year period.

MB/JK/GP/dl

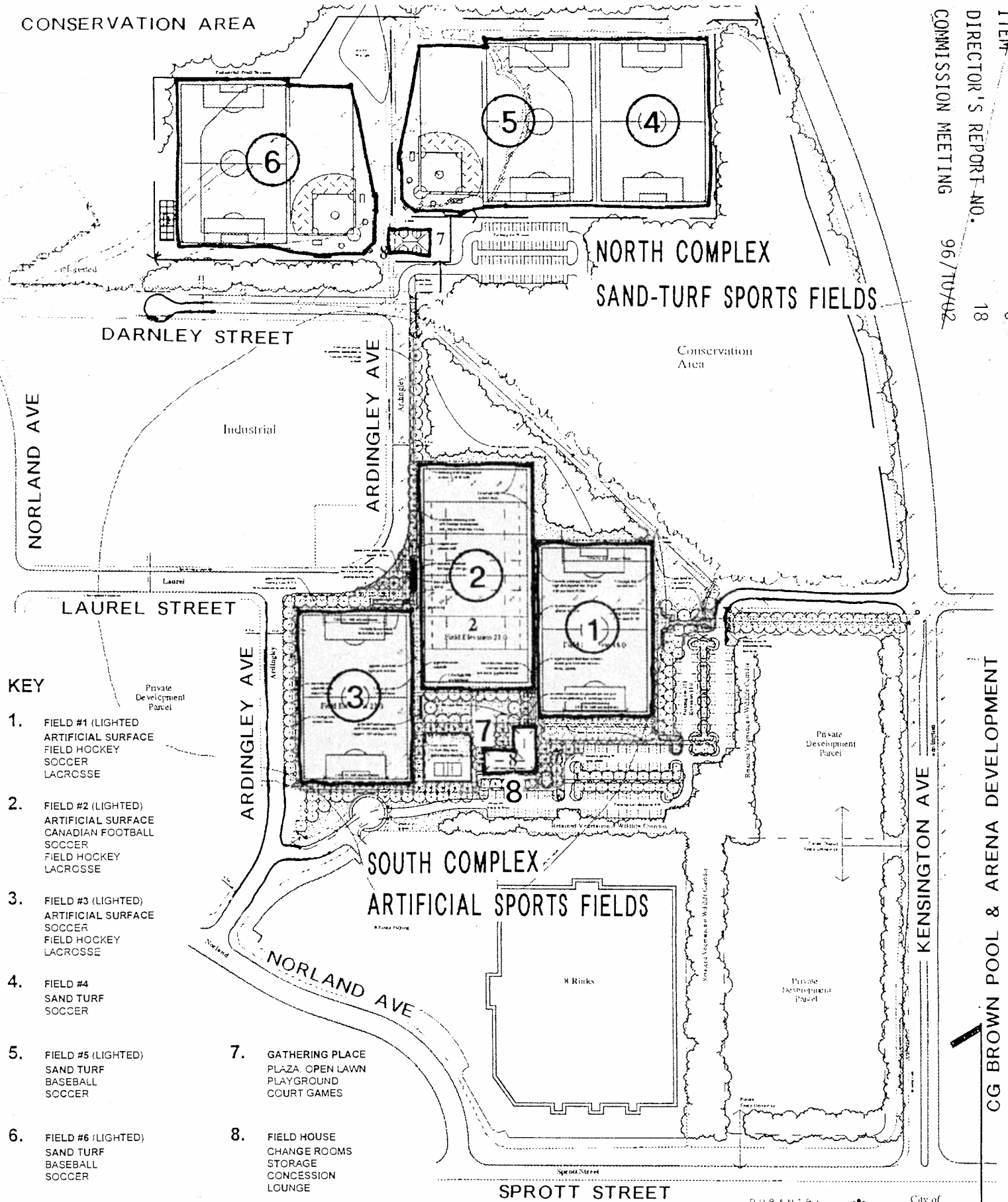
Attachments (2)

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cc: Deputy City Manager
Director Planning
Director Finance
Director Engineering
Chief Environmental Health Officer

CONSERVATION AREA



KEY

1. FIELD #1 (LIGHTED)
ARTIFICIAL SURFACE
FIELD HOCKEY
SOCCER
LACROSSE
2. FIELD #2 (LIGHTED)
ARTIFICIAL SURFACE
CANADIAN FOOTBALL
SOCCER
FIELD HOCKEY
LACROSSE
3. FIELD #3 (LIGHTED)
ARTIFICIAL SURFACE
SOCCER
FIELD HOCKEY
LACROSSE
4. FIELD #4
SAND TURF
SOCCER
5. FIELD #5 (LIGHTED)
SAND TURF
BASEBALL
SOCCER
6. FIELD #6 (LIGHTED)
SAND TURF
BASEBALL
SOCCER
7. GATHERING PLACE
PLAZA - OPEN LAWN
PLAYGROUND
COURT GAMES
8. FIELD HOUSE
CHANGE ROOMS
STORAGE
CONCESSION
LOUNGE

PRELIMINARY CONCEPT
 Central Valley Sports Complex • Burnaby B.C.

