Item	1
Manager's Report No.	16
Council Meeting	97/06/02

TO: CITY MANAGER 1997 MAY 27

FROM: DIRECTOR PLANNING AND BUILDING Our File: 02.120.5

SUBJECT: **AUTHORIZATION FOR BURNABY BUSINESS PARK LTD.'S APPLICATION TO PROCEED TO THE PROVINCIAL AGRICULTURAL LAND COMMISSION**

PURPOSE: To provide Council with information in support of a recommendation to advance Burnaby Business Park Ltd.'s ALR Exclusion and Special Use applications to the Agricultural Land Commission.

RECOMMENDATIONS:

1. **THAT** Council authorize Burnaby Business Park Ltd.'s (BBP) Agricultural Land Reserve Exclusion application (#0-31128) to proceed to the Provincial Agricultural Land Commission for its consideration.

2. **THAT** Council recommend to the Commission that the following be included as conditions pertaining to the approval of the subject application:

   a) the consolidation of the BBP lands as shown on Figure 4 ***attached***.

   b) the registration of a Covenant against the title of proposed Lots 1 and 2 as shown on Figure 4 stipulating that these lots will be used for agricultural purposes for a minimum 25 year period.

3. **THAT** a copy of this report for forwarded to:

   Provincial Agricultural Land Commission
   #133 - 4940 Canada Way
   Burnaby, B.C. V5G 4K6

REPORT

1.0 BACKGROUND

On 1996 November 12 Council received the City Manager's Report No.30, Item 01 advising that the BBP land use concept, together with the implementation measures outlined in the report, meets the objectives and principles established by the Provincial Agricultural Land Commission (ALC) and the City for the development of the subject lands and will result in overall net benefits to agriculture. A recommendation was adopted, therefore, endorsing the implementation proposals in order for BBP to be in a position to advance the concept. Council was advised that the next stage would involve the receipt of a formal application from BBP to exclude a portion of its lands from the Agricultural Land Reserve (ALR). BBP submitted its exclusion application on 1996 December 20. An application was also submitted for approval of a Special Case Use to provide for the establishment of the proposed parkway/buffer and habitat restoration area. In order for the exclusion application to be formally considered by the Commission, the City Council, by resolution, must authorize it to proceed to the ALC.

The ALC was subsequently advised that certain lands (Area 9 on Figure 1 ***attached***) which are owned by the City and adjacent to the BBP lands are intended to be retained as a bog (swamp) forest preservation area within the ALR. It was noted that this area appears to be used by hawks and owls and that the forest area extends into both the BBP and City lands proposed for exclusion for industrial use. Council and the ALC were advised that a consultant was to be engaged to assess vegetation and wildlife habitat within this area in order to provide recommendations regarding a boundary between the forest and proposed agricultural, industrial and open space developments. A secondary objective of the study was to assess the importance of a narrow treed area that runs along the south side of the railway between the forest and the Habitat Restoration Area as a wildlife corridor (Figure 1). The ALC was further advised that, while staff certainly has no objection in principle to the removal of certain of the BBP lands from the ALR as documented to date, we were desirous of obtaining the study results prior to submitting a report to Council requesting its formal approval to the advancement of the BBP exclusion application.

2.0 VEGETATION AND HABITAT ASSESSMENT

We are now in receipt of the report prepared by Strix Environmental Consulting assessing the vegetation and habitat and have ***attached*** the Executive Summary as **Appendix 1**. Copies of the full report are available for review in the Planning and Building Department. Figure 2 ***attached*** illustrates the key habitat features identified by Strix and shows potential trail locations. For the purpose of considering the BBP applications, this Council report will concentrate on the land use implications of the study on the BBP lands. A further report will be submitted to Council regarding the City owned lands.

One of the main findings of the study is the discovery of a red-tailed hawk's nest located on top of a shore pine along the boundary of the BBP/City lands (see Figure 3) along the edge of the forest area. Nests and nest trees are protected in Section 35 of the BC Wildlife Act.

In determining the recommended forest boundary, Strix used six major criteria as follows:

- the history of changes to the study area and the surrounding wetlands;
- the hydrology and wildlife resources of the area;
- the vegetation and wildlife resources of the area;
- the regional significance of habitat type;
- the size and shape of the forest; and
- the structural integrity of the forest.

As a result of its review, Strix has made the following recommendations regarding land use for the BBP lands:

- preserve the coniferous stand southwest of the City property.
- Retain the north border along Marine Way and the Railway.
- Extend the northwest boundary of the preservation area to include open wetland habitat.
- Change the alignment of the walkway (buffer where it enters the forest area).
- Maintain areas of open water.

3.0 AGRICULTURAL DEVELOPMENT CONCEPT PLAN REVISITED

BBP's consultant, GG. Runka Land Sense (Land Sense) has submitted a supplementary Agricultural Development Concept Plan (Figure 3 ***attached***) in order to provide an updated document that responds to issues and concerns expressed and researched since preparation of its initial plan in July 1996. While the results of this document are summarized herein, copies of the full report are also available for review in the Planning and Building Department.

The supplementary document includes responses to issues identified by the ALC and the City resulting from their review of the Concept Plan. Other planning issues which have arisen, points made by the farming community and professionals associated with the project including agrologists, land use planners, engineers, landscape architects, architects and wildlife biologists are as follows.

3.1 Agricultural Suitability, Use Choice and Marketing

Land Sense advertised the availability of the subject lands for agricultural use in 11 publications. Individual mailouts summarizing the lease opportunity and the advertisement were also sent to all of the current Big Bend area farmers (list was supplied by the City).

Information packages were provided on request and questions regarding the project and the property responded to . Follow up contacts were made, resulting in interested agricultural land users submitting proposals for technical review. Subsequently, a number of proponents considered to have high technical and management ability were interviewed. Farmer interest (over 30 responses) was predominantly for cranberry use, some combined with blueberries and some interest in smaller areas for organic and conventional vegetable production.

3.2 Farmland Sale Option

As interviews progressed with interested parties proposing cranberry use of the BBP farmlands, it became apparent that the following facts were consistent among proponents:

- initial capital cost of development for cranberry production are approximately $30,000 per acre;
- it is approximately 5 years before the first cranberry crop will generate an income, and therefore, lease payments would be minimal during this time;
- an option to purchase the lands (rather than a lease) was either a requirement of the proposals or indicated to be highly desirable.

Based on these factors, BBP considered the option of involving itself in the cranberry business through a management/leasehold arrangement or offering the farmlands for sale to proponents. It was BBP's decision to offer the lands for sale resulting in several purchase offers being submitted. At this time negotiations with one of the parties are in progress for the purchase of approximately 174 acres of agricultural land.

From staff's perspective, the land sale option is considered to be a significant step towards resolving the long-term use of the subject lands. Once concluded it will transfer ownership of the farmlands from a major development company to well established members of the Lower Mainland farming community.

3.3 Parcel Consolidations

It is proposed that the existing 27 legal parcels ranging in size form 1 to 31 acres be consolidated into 2 farm units of equal size for a total of approximately 174 acres represented as Lots 1 and 2 on Figure 4 ***attached***. A third parcel approximately 17 acres in size within the ALR (Lot 3) is proposed within the ALR containing the habitat restoration area, bog forest buffer and access corridor. Provision will need to be made for BBP to submit a plan to the City for restoration of the habitat area as part of the future rezoning and development of BBP's industrial lands. Once this restoration work is complete and approved, it is envisaged that these lands (Lot 4) will be transferred to the City. Similarly, provision is to be made to develop the proposed parkway/buffer area and to transfer the lands to the City.

BBP will be required to provide services as a condition of the subdivision approval under the authority of the Approving Officer. It will also be necessary to obtain Council approval to initiate a Road Exchange Bylaw to close the redundant road allowances and to dedicate lands for the widening of Byrne Road, Mandeville Street and Marshland Avenue. Provision will also need to be made for the connection of Mandeville and Marshland as a component of the development of BBP's industrial lands.

3.4 Parkway/Buffer Area Site Planning

BBP's design consultants are working with City staff on site planning of the 30 metre wide parkway to be located between the agricultural and industrial uses. It is intended that, as much as possible, the natural vegetation and peatland habitat be retained. Consideration is being given to employing limited "off access" boardworks when feasible as illustrated on Figure 5 ***attached***. The north 15 metres of the parkway is to remain within the ALR and recreation access, in general, is not intended.

3.5 Proposed ALR Exclusion and Industrial Use

No changes in the configuration or area intended for industrial use are proposed. Industrial use guidelines are currently under preparation by an interdisciplinary design team which will be reviewed by staff and submitted to Council for its consideration of part of the future rezoning and development of these lands.

3.6 Bog (Swamp) Forest Buffer and Hawk Habitat Protection

As a result of the review of the Strix report by City staff and Land Sense, it is proposed to provide a triangular parcel of land approximately 4 acres in size in the extreme northeast of the BBP property to protect the significant ecological characteristics associated with the forest which is primarily located on the adjacent City lands. In addition, provision has been made to provide an access/buffer corridor along the south side of the railway connecting the habitat restoration and forest areas. The total acreage of this combination of environmentally sensitive land and environmental protection areas is approximately 17 acres.

As noted previously, one of the main findings of the Strix report is the discovery of a red-tailed hawks's nest on the eastern edge of the BBP property near the location where the proposed parkway was to intersect with the City lands. A 75 metre habitat buffer has been requested centred on the nest. Accordingly, BBP has revised its concept plan to accommodate this request by designating additional lands for inclusion in the bog forest preservation area. Limited, controlled public access to this area is proposed.

3.7 Cranberry Production

Agricultural development considerations will be addressed as part of the subdivision (property consolidation) approval. It is probable that land clearing for cranberry production will take place in 2 or 3 phases (± 50 acres) over a 2 to 3 year period. Conventional cranberry production practices and water control systems do not provide the opportunity for shrub dominated or hedgerow habitat associated with existing field margin drainage described in the initial concept plan report. Other site specific opportunities may exist such as bee habitat enhancement within the ALR portion of the parkway.

4.0 CONCLUSIONS

With the completion of the Strix Environmental Consulting report assessing the vegetation and wildlife habitat and the attendant recommendations regarding an appropriate boundary between the forest, agricultural, industrial and open space components of the Land Use Concept Plan, staff has been able to work with BBP and G.G. Runka Land Sense Ltd. resulting in a revised Concept Plan as outlined herein. This proposed amended plan, in summary, now includes the following:

- the agricultural use focus is intended to be for cranberry use with a limited possibility of some blueberry and/or vegetable use;

- it is intended to market the agricultural land to a single farmer who will hold the property in two consolidated parcels totalling some 174 acres;

- land development for cranberry production is proposed to take place in three phases and would include land clearing, dyking, drainage, cultivation, irrigation system installation and planting;

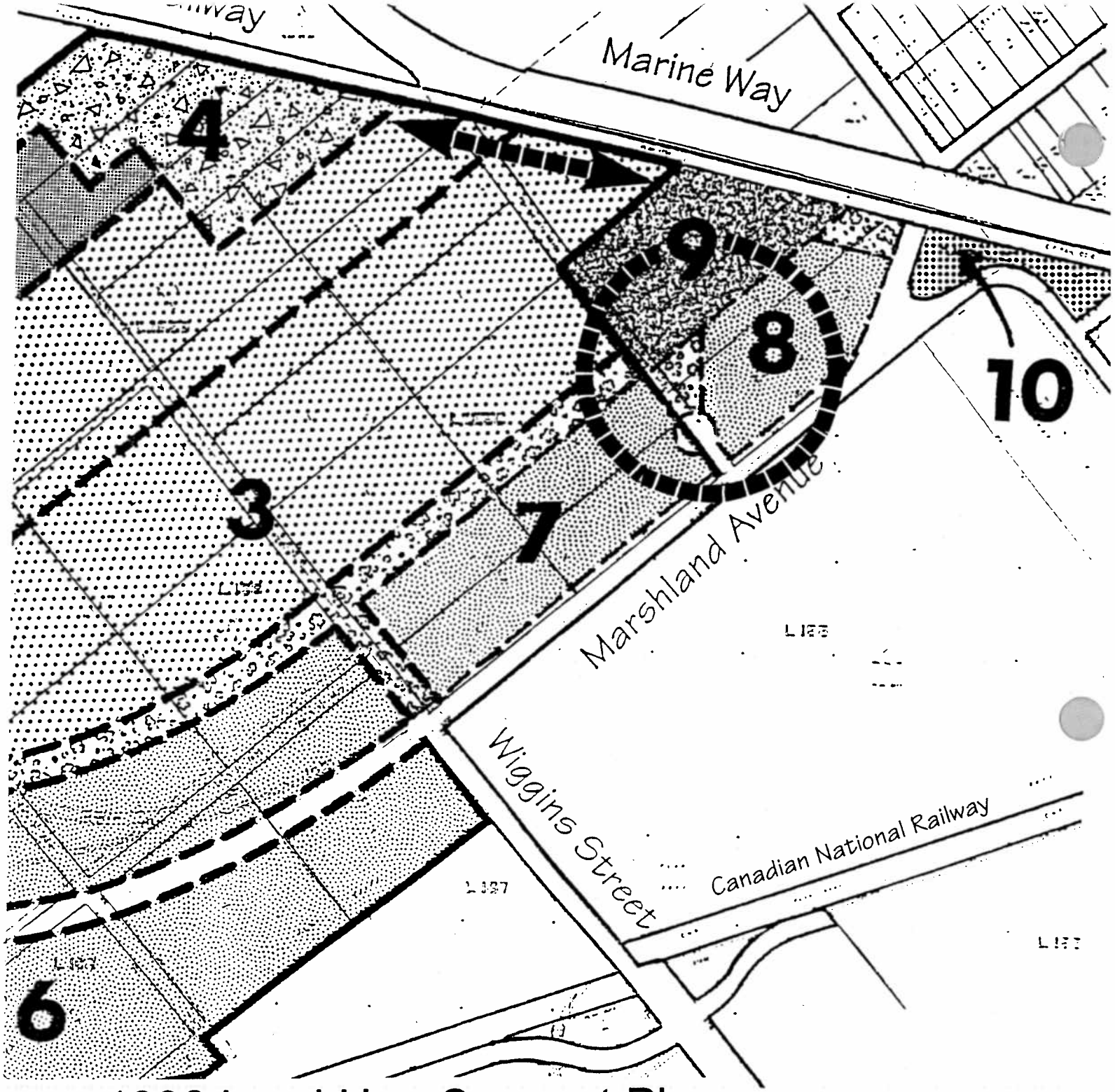
- provision is made to address further environmental considerations by providing land for the hawk nesting buffer, bog forest protection area and for a connection through to the habitat restoration area wetland.

It is staff's conclusion that the revised Agricultural Development Concept Plan represents significant advances for agriculture as a long-term component of the overall land use objectives for Big Bend area and as such, a recommendation is being advanced to Council that it authorize Burnaby Business Park Ltd.'s Agricultural Land Reserve Exclusion application to proceed to the Provincial Agricultural Land Commission for its consideration.

D.G. Stenson, Director
PLANNING AND BUILDING

PB:ma
Attachments

cc: City Solicitor
Director Engineering
Director Recreation & Cultural Services



1996 Land Use Concept Plan

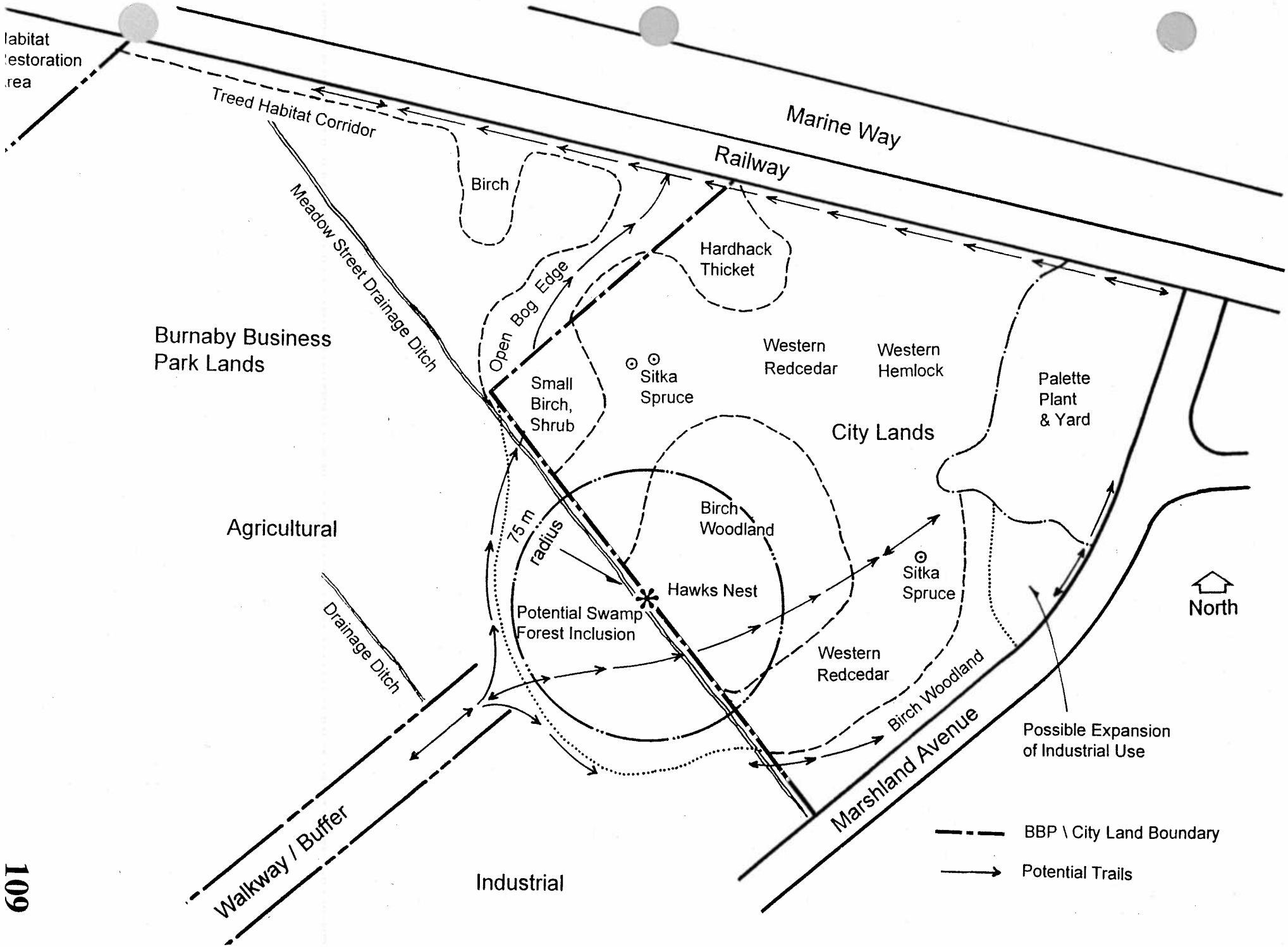
Proposed Greenway / Pedestrian Link of Habitat Restoration and Bog Forest Preservation Areas

Lands Proposed for Vegetation, Ground Condition Inventory and Land Use Review

North

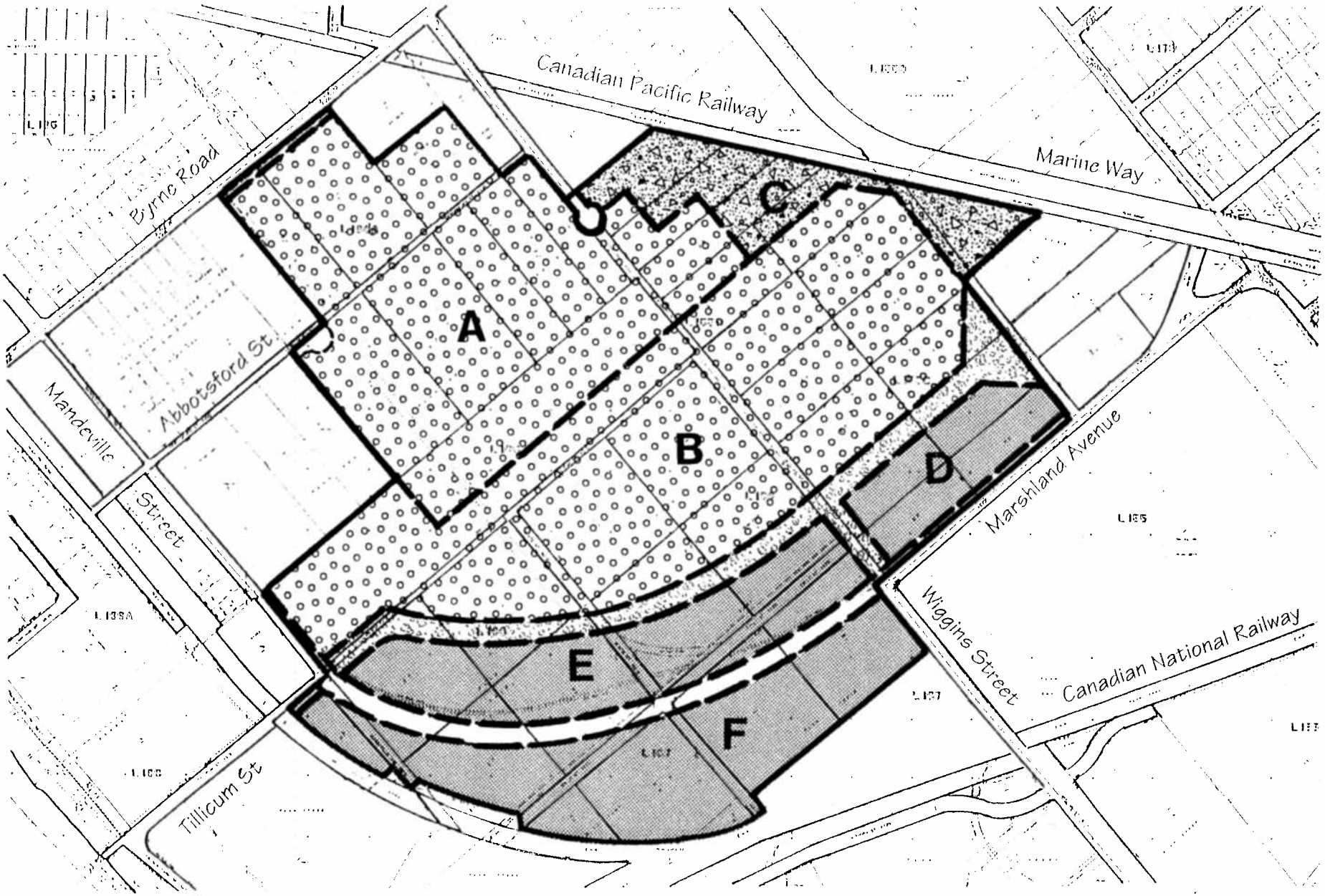
Figure 1

May 1997



Key Habitat Features & Potential Trail Locations

Figure 2



1997 Revised Land Use Concept Plan, Burnaby Business Park Lands

Boundary of Burnaby Business Park Lands

Consolidated Lot Boundaries

Dedicated Park / Buffer

A & B - Cranberry Farms

C - Habitat Restoration, Bog (Swamp) Forest Buffer & Access Corridor

D, E - Comprehensive Industrial

North

Figure 3

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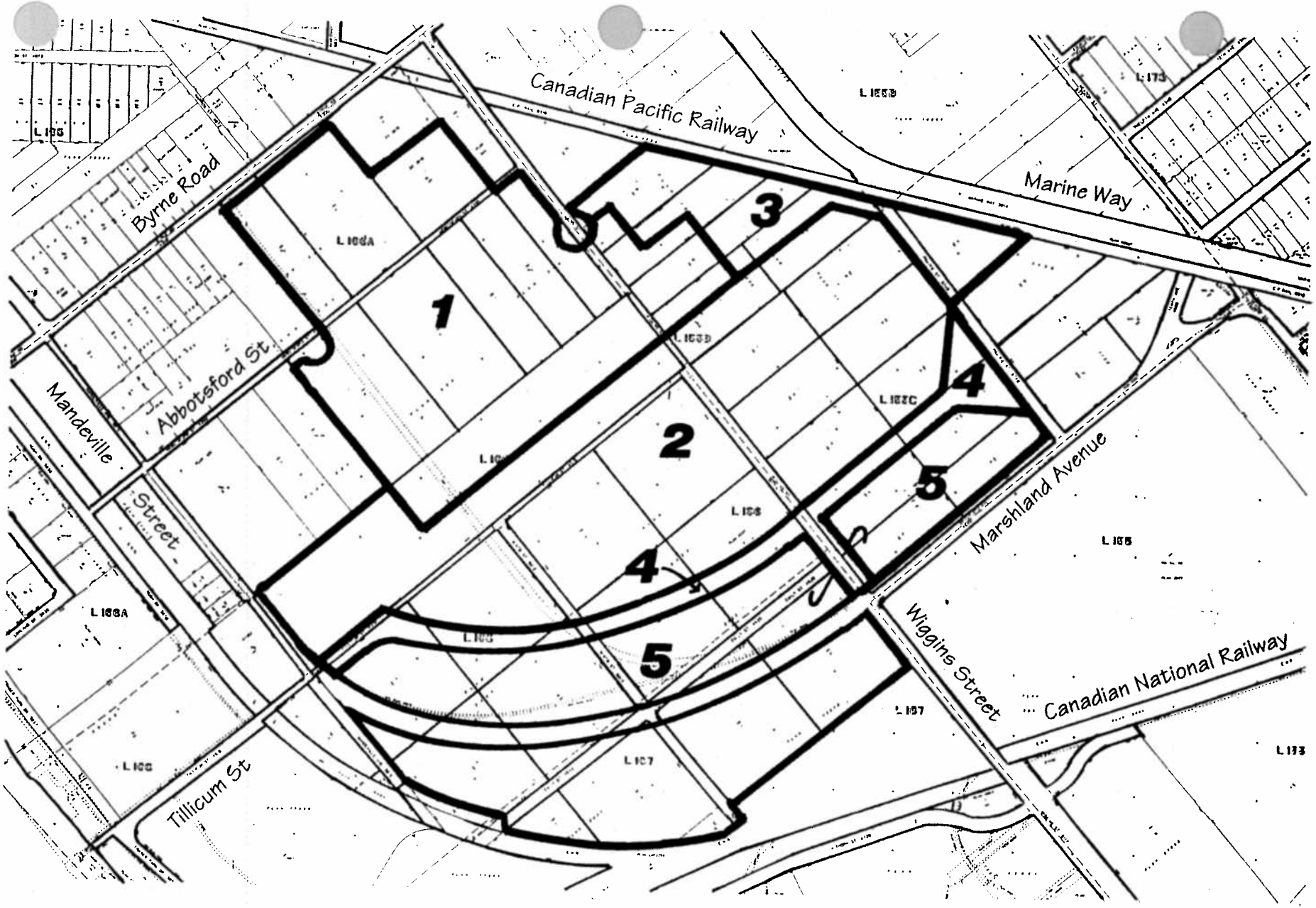

Proposed Property Consolidations

North

Lots 1 & 2 - Cranberry Farms

Lot 3 - Habitat Restoration Area, Bog (Swamp) Forest Buffer and Access Corridor

Lot 4 - Buffer/Walkway

Lot 5 - Comprehensive Industrial

Figure 4

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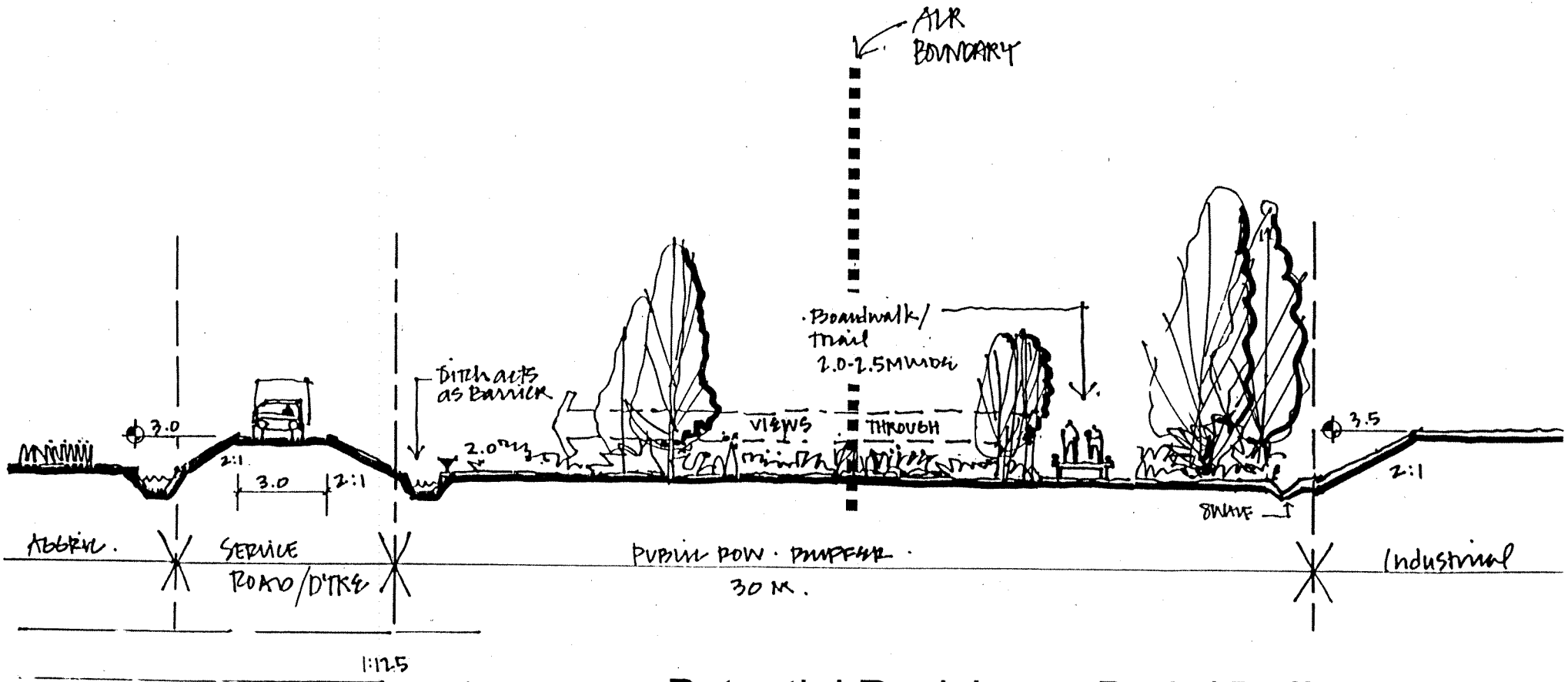

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Potential Revision to Park / Buffer Concept, Agriculture - Industrial Interface

Figure 5

Executive Summary.

Introduction.

The primary objective of this study is to assess vegetation and wildlife habitat within an approximately 6.8 hectare swamp forest[1] located in the northeast area of Burnaby's Big Bend (Appendix 1, Site Map) in order to provide recommendations regarding a boundary between the forest and proposed agricultural, industrial and recreational developments. The secondary objective is to assess the importance of a narrow treed area that runs along the south side of the railway tracks between the Swamp Forest and the Habitat Restoration Area as a wildlife corridor.

The Swamp Forest appears to be a remnant of a larger mixed coniferous forest present between 1859 and 1890. At that time the forest was surrounded by "cranberry swamp." Rigg (1925) referred to it as the Byrne Road Bog and estimated that it comprised several hundred acres. Historical aerial photographs show that the Swamp Forest has been subjected to no major disturbances since 1938. Peat (partially decomposed vegetable matter, especially *Sphagnum*) mining appears to have begun sometime between 1938 and 1946 in the open bog southwest of the Swamp Forest.

Site Characteristics

Physical

Soil samples within the Habitat Restoration Area and south of the Swamp Forest, near Marshland Avenue indicate that the area is underlain with peat which varies in depth from about 0.8 m to 1.75 m. Deeper and shallower peat profiles may be present in areas not sampled. The Swamp Forest appears to be underlain with peat and the water table appears to be near the surface, although different vegetational characteristics indicate that water levels, and possibly water and soil chemistry, vary within the forest. Peat has a tremendous capacity to absorb and retain water and so plays a significant role in the maintenance of water levels.

Peat mining and construction of the railway line, roads and drainage ditches have contributed to the deterioration of the bog habitat. As a result of these disturbances, the Big Bend wetlands are now a combination of fens, swamps and shallow open water. Increased drainage may have hastened the establishment of non-specialized plants that cannot withstand bog conditions.

Precipitation is the main (or only) source of water for the Swamp Forest and adjacent wetlands. Input from precipitation must exceed or equal water loss from drainage and evapotranspiration (water loss through surface evaporation and vegetative transpiration) to maintain water levels.

[1] The forested area was formerly referred to as the Bog Forest. Before peat mining and draining of the land, when the wetlands around the area was considered a bog, it may have been a bog forest. It is now referred to as a Swamp Forest because of certain characteristics of the vegetation (Zoltai 1976; Banner et. al. 1986; Banner et. al. 1988; Klinka et. al. 1989; FEIS 1997; Mackenzie and Banner 1997; Mackenzie, pers. comm. 1997). These include the absence of living Sphagnum, the presence of large Sitka spruce, and the presence of plants associated with nutrient-rich soils such as skunk cabbage and salmonberry.

Vegetation

Four main vegetation types are found within the Swamp Forest. *Mixed Coniferous-Deciduous* forests comprise about 4.3 ha and consist mainly of western redcedar and western hemlock, with some Sitka spruce and shore pine. Paper birch was usually present amongst the conifers; only in very small, dense groupings were they absent. *Birch Woodland* comprises approximately 1.6 ha and is characterized by almost pure stands of paper birch, usually with a dense shrub layer of salmonberry. The largest *Birch Woodlands* are present in the central portion of the Swamp Forest and at the east edge, along Marshland Avenue. *Hardhack Thicket* comprises 0.5 ha and is located at the northwest corner of the Swamp Forest. Hardhack growth is very dense and precludes other shrubs and trees. *Semi-open Mixed Shrub-Tree* is the last major vegetation type. It comprises about 0.4 ha and is located at the southwest corner of the Swamp Forest. It is an area that has been recently, and possibly frequently, cleared. As a result it supports more introduced species than do the other vegetation types, the most abundant of which was evergreen blackberry.

The Treed Habitat Corridor supports many small paper birch and an abundance of evergreen blackberry. Salal is dominant in some areas and out-competed by evergreen blackberry in others. Hardhack and Labrador tea are dense along the edge of the open wetland south of the corridor, and grow sporadically amongst small shore pine, sedge and rush away from the edge. Open water is more abundant farther from the corridor, and farther west of the Swamp Forest.

According to the British Columbia Conservation Data Centre there are no records of Red-listed or Blue-listed[2] plants in the study area, nor were any potentially occurring Red- or Blue-listed plants found.

Wildlife

The most significant discovery of wildlife was a red-tailed hawk's nest located at the top of a shore pine along the Meadow Street drainage ditch near the south side of the Swamp Forest. The nest tree is just south of the City of Burnaby property, about 75 m north of the south edge of the Swamp Forest. Nests and nest trees are protected in Section 35 of the B.C. Wildlife Act (Tom Plath, pers. comm.).

Both large and small owls, likely great horned owls, barred owls and western screech-owls, are believed to use the Swamp Forest based on the presence of droppings (faecal wash) and pellets found beneath conifers. Call-playbacks, where owl calls are broadcast into the area, produced no response.

Signs of coyote, beaver and black-tailed deer were found in the study area. A muskrat, numerous wintering birds, some migrant birds, a garter snake and frogs were observed.

The Conservation Data Centre has no records of Red- or Blue-listed vertebrates in the study area and none of the species listed as potentially occurring, was found during field work.

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[2] The B.C. Conservation Data Centre describes Red-listed plants and animals as, ". . . any indigenous species or subspecies (taxa) considered to be Extirpated, Endangered or Threatened in British Columbia. Extirpated taxa no longer exist in the wild in B.C., but do occur elsewhere. Endangered taxa are facing imminent extirpation or extinction. Threatened taxa are likely to become endangered if limiting factors are not reversed. Red-listed taxa include those that have been, or are being evaluated for these designations." Blue-listed plants and animals include ". . . any indigenous species or subspecies (taxa) considered to be Vulnerable in B.C. Vulnerable taxa are of special concern because of the characteristics that make them particularly sensitive to human activities or natural events. Blue-listed taxa are at risk, but are not Extirpated, Endangered or Threatened." (B.C. Conservation Data Centre 1997).

Criteria to Determine Swamp Forest Boundaries

Six major criteria were used to determine the recommended Swamp Forest boundary: 1) the history of changes to the study area and surrounding wetlands; 2) the hydrology (properties, distribution and circulation of water) of the area; 3) the vegetation and wildlife resources of the area; 4) the regional significance of habitat type; 5) the size and shape of the forest; and 6) the structural integrity of the forest. The last two features relate to habitat insularity and resiliency because the size and shape of the forest affect the degree to which forest resources are influenced by outside disturbance (including noise), by physical disturbance, by predation, and by invasion by introduced plant species. Structural integrity refers to potential damage due to physical forces such as increased wind penetration and velocity, or root damage to large trees caused by substrate movement.

Recommendations

The site map in Appendix 1 shows the boundary locations recommended to isolate and protect the Swamp Forest. The following recommendations relate to boundary location.

- Maintain and stabilize water levels: 1) preserve sufficient surrounding wetlands, 2) isolate preservation area with impermeable barriers, and 3) control water outflow. Cranberry operations may be compatible with surrounding bog habitat (Richard Hebda, pers. comm.); short-term increases in water levels during flood harvesting will not damage the peatlands. The major concern is the potential for water draw-down within the adjacent wetlands when water levels in the cranberry fields are maintained at lower levels. The Swamp Forest and existing wetlands will likely experience decreased water levels if an impermeable barrier is not present to prevent water outflow.
- Preserve the coniferous stand of trees southwest of the City of Burnaby's property.
- Preserve the stand of western redcedars at the east side of the forest, along Marshland Avenue.
- Retain the north border of vegetation along Marine Way and the railway tracks.
- Extend the northwest boundary to include open wetland habitat.
- Change alignment of the walkway/buffer to protect the Swamp Forest.
- Enhance Treed Habitat Corridor along the railway tracks between the Swamp Forest and Habitat Restoration Area.
- Ensure park trails are developed and maintained with consideration of the sensitivity of the habitat through which they pass, and that they encourage user appreciation of the landscape and responsible use of the park.
- Maintain areas of open water adjacent to the Swamp Forest area for wildlife habitat and to help maintain hydrological conditions in the Swamp Forest area.
- Monitor the Swamp Forest and other habitat areas to assess the protective strategies.