

**ALBERTA GOVERNMENT SERVICES
LAND TITLES OFFICE**

IMAGE OF DOCUMENT REGISTERED AS:

812274323

ORDER NUMBER: 32308320

ADVISORY

This electronic image is a reproduction of the original document registered at the Land Titles Office. Please compare the registration number on this coversheet with that on the attached document to ensure that you have received the correct document. Note that Land Titles Staff are not permitted to interpret the contents of this document.

Please contact the Land Titles Office at (780) 422-7874 if the image of the document is not legible.

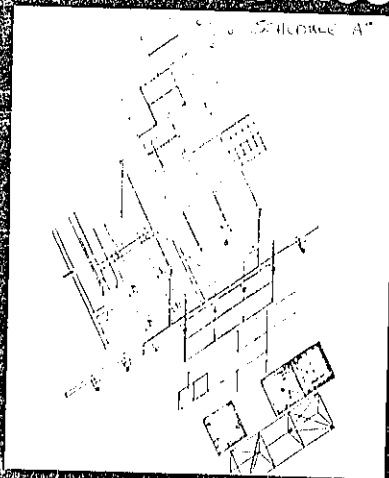
Nov 19 '81

812274323

h.

Ugavich

Development Standards and Design Guidelines



McGraw-Hill Construction Information Group

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 INTRODUCTION	1-0
1.1 Organization of Report	1-1
2.0 PERMITTED USES	2-0
2.1 Non-Core Area Uses	2-0
2.2 Core Area Uses	2-1
3.0 DEVELOPMENT STANDARDS	3-0
3.1 Site Requirements	3-0
3.2 Setbacks	3-1
3.3 Building Height	3-1
3.4 Floor Area Ratio	3-2
3.5 Parking Requirements	3-2
3.6 Storage and Refuse Collection Areas	3-2
3.7 Loading Areas	3-2
3.8 Signage and Graphic Standards	3-3
3.9 Fencing	3-5
3.10 Lighting	3-6
3.11 Utility Connections	3-6
3.12 Mechanical Equipment, Ductwork, Roof Mounted Equipment	3-7
3.13 Building Exteriors	3-7
3.14 Repair and Maintenance of Buildings	3-8
3.15 Alterations/Additions	3-9
3.16 Environmental Performance Standards	3-9
4.0 REQUIREMENT AREA STANDARDS	4-0
4.1 Site Requirements	4-0
4.2 Setbacks	4-0
4.3 Parking Requirements	4-1
4.4 Building Size	4-1
5.0 LANDSCAPING STANDARDS	5-0
5.1 General Statements	5-0
5.2 Park Boundary and Street Landscaping Areas	5-0
5.3 Site Boundary Areas	5-5
5.4 Undeveloped Areas	5-5
5.5 Parking Areas	5-5
5.6 Landscaping Maintenance	5-6
5.7 Performance Bonds	5-6

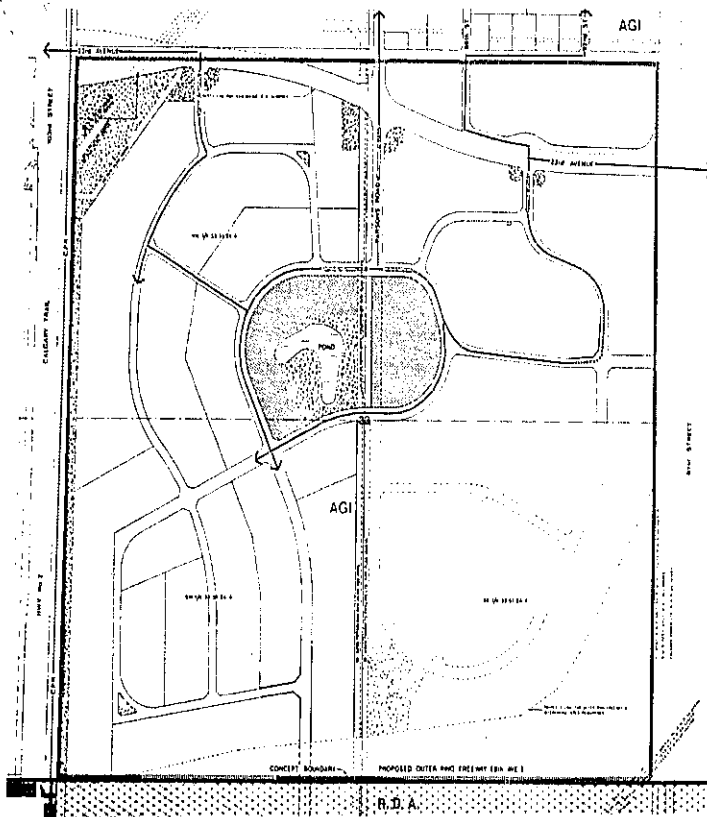
	<u>Page No.</u>
6.0 DESIGN GUIDELINES	6-0
7.0 INFORMATION REQUIREMENTS	7-0
7.1 Site Plan Requirements	7-0
7.2 Landscaping Requirements	7-3
8.0 DEVELOPMENT STANDARDS CHECKLIST	8-0
9.0 DESIGN GUIDELINES CHECKLIST	9-0
FIGURE 1: Development Concept	
2: Requirement Areas	
3: Open Space Concept	
10.0 IMPLEMENTATION PROCESS	10-0
10.1 Management Organization	10-2
10.2 Development Approval Process	10-5

1.0 INTRODUCTION

This report outlines the development standards and design guidelines for the Edmonton Research and Development Park. It has been prepared to serve as a guide to the planning, design, construction and maintenance of the park. The standards and implementation procedure described hereinafter have been developed based on a detailed analysis of precedents for research and development parks along with relevant examples of prestige industrial developments.

The standards and guidelines have been developed in an effort to implement the basic objectives of the park which are described as follows:

- * To create a high quality, high amenity development which embraces the highest standards of industrial park planning and design.
- * To attract a specific tenant group engaged primarily in scientific research and development so as to augment and broaden the industrial base of the City of Edmonton.
- * To create an environment best described "a place to think", a campuslike complex including areas for reflection and thought as well as sections where the free flow and exchange of knowledge and ideas can take place.
- * To satisfy the recreational and personal needs of the employees of industries within the Park.



- | | | |
|---|---|--|
|  PIPELINE CORRIDOR |  ENTRY LANDSCAPING |  PROPOSED BUS ROUTE |
|  OPEN SPACE |  CORE |  CONCEPT BOUNDARY |



Edmonton
Research & Development Park

1. DEVELOPMENT CONCEPT



These objectives have also been translated into a physical development concept for the Park. This development concept is fully documented in the Edmonton Research and Development Park Area Structure Plan and is shown opposite.

The Development Standards and Guidelines are intended to embrace all areas of design relevant to the achievement of the desired objectives of the Park. Collectively they provide the tool with which to guide and evaluate development proposals for the Park. However, they are not intended to be, and therefore should not be perceived as static elements in the process, but as a dynamic, ever evolving set of regulations. Consequently, continual monitoring, updating and review are encouraged in the context of changes in technology, changing priorities, more pertinent information relating to energy conservation, and the evolving standards of the City of Edmonton.

1.1 Organization of Report

This report adheres to an eight fold breakdown and contains the following elements: permitted uses, development standards, requirement area standards, landscaping standards, design guidelines, information requirements, development standards checklist, and design guidelines checklist.

- Permitted Uses details those types of activities that will be allowed within the Park.
- The Development Standards represent minimum criteria for those components of design considered instrumental in establishing the basic theme for the Park.
- The Requirement Area Standards are upgraded standards which are mandatory in those designated critical to the overall image of the Park.

- Landscaping Standards detail precise landscaping practices to be employed in the Park.
- The Design Guidelines function primarily as a set of recommendations to be considered by prospective tenants and the Park Management Committee when formulating and evaluating development proposals for the Park.
- Information Requirements describes in detail those materials which must be submitted as part of the development application.
- The Development Standards Checklist will allow the Park regulatory body to more easily assess a projects' conformity to the specified standards.
- The Design Guidelines Checklist is a means of weighing subjective values that make up the environmental design criteria.

2.0 PERMITTED USES

The following section defines the range of permitted uses allowed within the Park and is intended to determine and help ensure the proper use and development of the facility. The uses are divided into two specific categories, one applying to non-core areas and the other to the core area of the Park.

2.1 Non-Core Area Uses

2.1.1 Research and Development Activities for the following purposes:

- Improving and developing by scientific study, experiment and investigations industrial, commercial and agricultural techniques, methods, materials and products, including research into the marketing of products and the development and utilization of natural resources;
- Conducting of technical sales, which is defined as that part of sales concerned with providing scientific or technical data, information and knowledge to customers or potential customers;
- Manufacturing of prototypes and the sale thereof for the purpose of testing the same in the market;
- Uses incidental to such development and research by the owner of any parcels of land for the supervision of the general sales of the products and the services of such owner.

2.1.2 Headquarters or administrative offices of firms engaged in research and development activities on the premises.

2.1.3 Accessory and incidental uses are limited to those which are accessory to a principal use allowed on the site and shall not be allowed as principal uses of the site.

2.1

2.1.4 Recreational uses.

- 2.1.5 Additional uses compatible with the objectives and intent of the Park, shall be permitted at the discretion of the Park Management Committee provided that these are in conformity with those uses permitted in the City of Edmonton Land Use Bylaw for this district.

2.2 Core Area Uses

- 2.2.1 Commercial and retail facilities that directly serve the district, ancillary services, conference facilities, food establishments, educational facilities, banking and/or trust company services, offices, shops and laboratories, hobby or recreational facilities.

- 2.2.2 Uses permitted in the non-core areas.

3.0 DEVELOPMENT STANDARDS

The following development standards focus on typical design elements, including the most common elements of design construction, signage, lighting, parking, utilities and site planning. The standards establish minimum design criteria for the park. The design standards as outlined will apply to all areas of the park and accomplish in part the following:

- * ensure a minimum level of design;
- * provide adequate protection for owners;
- * establish the basis for the achievement of a high quality environment;
- * serve to enhance property values.

The controls were considered requisite to the attainment of the desired objectives for the Park and adherence to these controls will result in an efficient, environmentally attractive, industrial park.

Relationship to Land Use Bylaw:

The standards defined in this section are not intended to supercede and/or replace those regulations defined for the Park in the City of Edmonton Land Use Bylaw. The standards in this section are the same as/or are in excess of those defined for the IB district in the Land Use Bylaw except in those instances where the Land Use Bylaw does not deal with a particular issue.

3.1 Site Requirements

- 3.1.1 Minimum lot size shall be .42 ha with the exception of lands located north of 23rd Avenue where minimum lot size shall be .28 ha.
- 3.1.2 Maximum building coverage, measured from the exterior surfaces of enclosing walls, shall not exceed 40% of the area of the lot. Minimum building coverage of the ground floor area shall not be less than 10% of the total site area.
- 3.1.3 Minimum lot frontage shall be 30 m.

3.2 Setbacks

All setbacks shall be measured from the right-of-way of the frontage street.

3.2.1 Setbacks from Streets

Unless otherwise specified, front and/or flanking yards shall be a minimum of 9 m.

3.2.2 Side Yard Setback

Minimum 4.6 m except in those instances where landscaping standards would dictate otherwise (see Section 5)

3.2.3 Rear Yard Setback

Minimum 7.6 m.

3.2.4 Architectural Projections

Roof lines and eaves may project into the setback area at the discretion of the Park Management Committee.

Steps and open and enclosed staircases may project into the setback area at the discretion of the Park Management Committee.

3.2.5 Treatment

Required minimum building setback areas shall in all cases be fully landscaped as specified in Section 5.2.3 except for any vehicular or pedestrian access way in said area. No parking or storage yards shall extend into the required setback area.

3.3 Building Height

3.3.1 Generally, there shall be no restriction on building height.

3.3.2 Notwithstanding the aforementioned provision, building shadows shall not impinge upon human activity areas of adjacent sites.

3.4 Floor Area Ratio

The maximum floor area ratio shall be 1.2:1.

3.5 Parking Requirements

- 3.5.1 No parking shall be permitted on roads or driveways.
- 3.5.2 Parking for employees and visitors shall be provided in off-street facilities, landscaped and screened so as not to present an objectionable appearance and paved with a dust-free, all weather surface.
- 3.5.3 Whenever possible, parking facilities shall be located in close proximity to buildings to minimize walking time in the winter.
- 3.5.4 Whenever possible, parking facilities shall be designed and/or located for protection against winter winds.
- 3.5.5 Adequate parking for employees and visitors shall be provided in the aforementioned facilities. Parking requirements including size of spaces and aisle widths shall conform to the standards of the City of Edmonton.

3.6 Storage and Refuse Collection Areas

- 3.6.1 Outside storage shall be discouraged
- 3.6.2 All outdoor storage areas and refuse collection areas shall be visually screened so that materials stored within these areas shall not be visible from streets and adjacent properties.
- 3.6.3 Storage or refuse collection shall not be permitted in a front yard and/or a flanking yard.

3.7 Loading Areas

- 3.7.1 Loading and receiving facilities shall be located away from the street side of a building.
- 3.7.2 Such areas shall be screened with landscaping or shall be fully enclosed in a manner which is compatible with the overall character of the development and shall not be visible from access streets or adjacent properties.

3.8 Signage and Graphic Standards

3.8.1 Park Identification Signs

Principle Identification Sign: The principle park identification shall be single faced, ground sign attached to an entrance/gateway wall located at the intersection of Parsons Road and 23rd Avenue. The sign shall not exceed 1.8 m above grade in height. Information shall be restricted to the name of the park and Park logogram.

Secondary Identification Signs: Secondary identification signs shall be located at secondary entrance points along 23rd Avenue and 91st Street. The signs shall be ground based and shall not exceed 1.2 m above grade in height or 12 m² in gross area. If the signs are placed upon landscaped berms their maximum height above the road grade shall be 1.8 m. Information shall be restricted to the Park logogram, the name of the Park and the sub-sector of the Park which the entrance provides access to.

3.8.2 Business Identification Signs

One ground sign per street frontage plus one fascia sign per street frontage shall be permitted. In addition, one ground and/or fascia sign shall be permitted on a flankage street.

For multiple tenancy buildings one ground sign shall be permitted at the principle entrance to collectively identify the project. Each individual industry may have a wall sign over the entrance to identify the tenant. Said sign will give only the name of the company and shall be limited to 15 cm high titles. Said signs shall be oriented toward the parking or pedestrian area for the building and shall not exceed a maximum area of .9 m². Individual fascia signs shall have a standardized graphic format, including uniform material, lettering styles and colours, approved by the P.M.C.

Tenants with buildings adjacent to the roadways on the perimeter of the Park may, at the discretion of the Park Management Committee, be allowed a fascia identification sign facing these roadways.

Ground signs may be single or double faced. Ground signs shall not exceed 1.2 m above grade in height nor more than 4.5 m² in area. If signs are placed upon landscaped berms their maximum height above the road grade shall be 1.8 m. Ground signs shall be placed so as not to obstruct any other identification, information or vehicular control signs.

3.4

An identification sign placed on a wall shall not comprise more than 10 percent of the area of the elevation upon which the sign is located.

Signs shall be constructed of durable materials architecturally consistent with the building to which they are attached or associated.

Signs will be restricted to advertising only the person, firm, company or corporation operating the use conducted on the site or the trademark of the products sold therein.

A wall sign with the individual letter applied directly will be measured by a rectangle around the outside of the lettering and/or the pictorial symbol and calculating the area enclosed by such a line.

All signs attached to the building shall be surface mounted and shall not protrude above the roof level of the building to which they are attached.

Signs visible from the exterior of any building may be illuminated, but shall not include flashing, running or scintillating lights. Rotating signs, animated signs, and signs displaying manual or electronically controlled changeable copy features shall not be permitted.

3.8.3 Temporary Signage

Sale or lease signs: a sign advertising the sale, lease or hire of the site will be allowed, not to exceed 3m² in area and shall have a maximum height of 1.2m.

A sign denoting the architects, engineers, contractor and other related subjects will be allowed at the commencement of construction. Said sign shall be removed at the time the building is fit for occupancy and shall not exceed 3m² in area and shall have a maximum height of 1.2m.

Future tenant sign: a sign listing only the name of the future tenant shall be allowed until occupancy of the building by said tenant. The sign shall not exceed 3m² in area and shall have a maximum height of 1.2m.

One temporary sign per street frontage shall be permitted.

3.8.4 Information Signage

Park Information

All park information signage including directional maps and signs, sub-sector identification signage and public

identification signage shall be ground based and conform to a standardized structure, module size and graphic character.

Signage size shall be relative to function and shall not exceed 1.2m above grade in height or 3m² in area.

Business Information

Information and directional signage on individual lots shall be single or double faced ground based signs and conform to a standardized structure, module size and graphic character.

Signage size shall be relative to function and shall not exceed 1.2m above grade in height or 1.5m² in area.

Generally said signage shall be placed perpendicular to approaching traffic and shall not encroach within 1.8m of the curb line of the road.

3.9 Fencing

Fencing within the park is to be generally discouraged, however, it may be employed for security purposes particularly with respect to outside storage yards. As well it may be utilized for screening and protecting mechanical equipment located outside the building. In those cases where fencing is to be permitted, the following standards shall apply:

3.9.1 Location

No fences shall be erected facing fronting or flanking streets, nor shall they extend past the face of the building or the building line of an adjacent building, without the express permission of the Park Management Committee.

In order to promote a high quality environment, fences on side property lines are not encouraged and shall be allowed only in cases of absolute necessity.

3.9.2 Height

No fence or wall shall exceed 2.45m in height, except where necessitated for reasons of security, in which

case, a 3.7m fence may be permitted subject to the approval of the Park Management Committee.

No wall greater than .9m shall be located within the setback area paralleling a flanking yard.

3.9.3 Materials

All fencing shall be of a permanent material approved by the Park Management Committee.

Fencing materials shall be architecturally consistent with the building.

Walls or fences of sheet or corrugated iron, aluminum, asbestos or security chain link fence, are prohibited.

Vinyl-coated chain link fencing is permitted when heavily screened or used in combination with battens, the colour and material of which shall be approved by the Park Management Committee.

3.10 Lighting

3.10.1 Parking lot lighting fixtures shall have an overall maximum height not exceeding 4.9m.

3.10.2 Walkway lighting fixtures shall have an overall maximum height not exceeding 2.4m.

3.10.3 Security lighting fixtures shall not project above the fascia or roof line of the building and are to be shielded. The shields shall be finished to match the surface to which they are attached. Security lighting fixtures are not to be substituted for parking lot or walkway lighting fixtures and are restricted to lighting only loading and storage locations, or other similar service areas.

3.11 Utility Connections

No lines, wires or other devices for the communication or transmission of electrical current or power shall be constructed, placed or maintained either in or upon the property unless the same shall be maintained underground or concealed in, under or on buildings.

3.12 Mechanical Equipment, Ductwork, Roof Mounted Equipment

- 3.12.1 Roof mounted mechanical equipment and/or ductwork shall be located in areas of the building which are not visually prominent and screened to minimize visibility from the street or surrounding buildings.
- 3.12.2 Cyclone blowers shall be screened by a wall, fence or landscape materials and be located below the fascia and/or roof line of the building. Further, they shall be located on the rear or "hidden" side of the building, to be painted to match the surface to which they are attached, if visible.
- 3.12.3 Incinerator vents shall be located on the rear or "hidden" side of the building in all cases.
- 3.12.4 Roof mounted ventilators shall be a maximum of .46 m. above the point to which they are attached, and are to be painted or pre-finished, consistent with the colour scheme of the building.
- 3.12.5 Gutters and downspouts shall be painted to match the surface to which they are attached, unless used as a major design element, in which case, the colour is to be consistent with the colour scheme of the building.
- 3.12.6 Vents, louvres, exposed flashing, tanks, stacks, overhead doors, rolling and service doors are to be painted consistent with the colour scheme of the building.
- 3.12.7 Transformers, storage tanks and other outdoor mechanical systems and/or equipment, and other appurtenant items of poor visual quality are to be screened by the use of concrete or masonry walls, dense mature landscape materials or approved fencing materials.

3.13 Building Exteriors

3.13.1 General

All exterior wall elevations of buildings visible from frontage and side streets, including screen walls shall have architectural treatment.

Colours, materials and finishes shall be coordinated in all exterior elevations of the building(s) to achieve total continuity of design or individual lots.

3.13.2 Materials

Materials shall be approved by the Park Management Committee and shall consist of one or more of the following:

- Bricks shall be hard burnt clay, colour and texture to be approved.
- Stone shall have a weathered face, shall be polished, fluted or broken faced. No quarry face stone shall be used except in retaining walls.
- Concrete masonry units shall be those generally described in the National Concrete Association as "customized architectural concrete masonry units" or shall be broken faced brick type units with marble aggregate. There shall be no exposed concrete blocks on the exterior of any building. Any concrete masonry units that have a grey cement colour shall be coated with a coating approved by the Committee.
- Concrete may be poured-in-place, tilt-up or precast. Poured-in-place and tilt-up walls shall have a finish of stone, a texture or a coating. Texture finishes, except in special cases approved by the Committee shall be coated. Pre-cast units not uniform in colour shall be coated. Coating shall be an approved cementitious or epoxy type with a life expectancy of 10 years minimum.
- Metal siding shall be used only in combination with one of the above materials and where special approval is given by the Committee. This will be judged on the appropriateness of material when considered in context of the total building design. Only siding of the self weathering type or with long life (10 years minimum) finishes will be considered.
- Other materials as approved by the Park Management Committee.

3.14 Repair and Maintenance of Buildings

No building or other improvement shall be permitted to fall into disrepair and each improvement shall at all times be kept in good condition and repair and adequately finished in accordance with the specifications established by the Park Management Committee.

3.15 Alterations/Additions

No excavation, construction, extension, addition or alteration to the property and structures and accessories housed thereon, shall take place without the prior consent of the Park Management Committee. Similarly, no signage, furniture, landscaping or other element or external detail shall be located, added to or altered without the prior consent of the Park Management Committee.

3.16 Environmental Performance Standards

3.16.1 General Statements

No principal or accessory use shall be established or carried on which is or is likely to become a nuisance by reason of the emission of odor, dust, smoke, particulate matter or radiation, the glare of lights, electrical interference, gas fumes, refuse material, waste or water carried waste; or by reason of vibration of noise, or is likely to create a hazard to persons or property.

For the purpose of this condition a nuisance shall be considered established if it is capable of being discerned at the property line of the lot in which the use is located.

No operation shall be carried out which is objectionable for the aforementioned reasons other than an occasional or sporadic operation occurring during the course of an experiment except for endangering public health.

3.16.2 Vibration

Maximum permitted vibration from any cause shall not exceed the following when measured at the lot line.

<u>Frequency</u> <u>(cycles per second)</u>	<u>Displacement</u> <u>(inches)</u>
10 and below	0.0008
10 - 20	0.0005
20 - 30	0.0003
30 - 40	0.0002
40 - 50	0.0001
50 and over	0.0001

Vibration shall not be discernible at any property line to the human sense of feeling for 3 minutes or more duration in any 1 hour. Vibration shall not produce at any time, on any structure, an acceleration of more than 0.1 gravities or shall result in any combination of amplitudes and frequencies beyond the "safe" range of Table 7, "Seismic Effects of Quarry Blasting"; U.S. Bureau of Mines Bulletin No. 442. The methods and equations of Bulletin No. 442 shall be used to compute all values for the enforcement of this provision.

Building and other structures shall be constructed and machinery and equipment installed and insulated on each site so that the ground vibration inherently and recurrently generated is not perceptible without instruments at any point along any of the exterior lot lines.

3.16.3 Glare or Heat

Any operation producing intense glare or heat shall be performed only within an enclosed or screened area and then only in such manner that the glare or heat emitted will not be discernible from any exterior lot line.

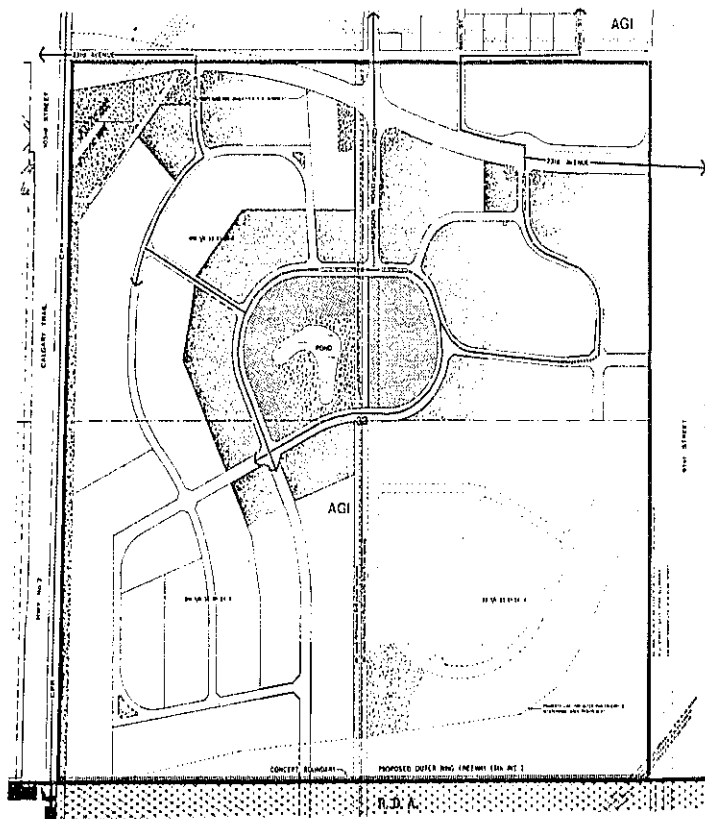
3.16.4 Radioactive Materials

The handling of radioactive materials, the discharge of such materials into air or water, and the disposal of radioactive wastes, shall be in conformance with the regulations of the Atomic Energy Commission as set forth in Title 10, Chapter One, Part 20 "Standards for Protection Against Radiation", as amended.

3.16.5 Electrical Radiation

Any electrical radiation shall not adversely affect at any point any operations or any equipment other than those of the creator of the radiation. Avoidance of adverse effects from electrical radiation by appropriate single or mutual scheduling of operations is permitted.

3.16.6 Standards relating to the emission of air and water contaminants, noise and fire and explosion hazards shall comply with the provisions of the Edmonton Land Use Bylaw, Section 73.2.



 REQUIREMENT AREAS



Edmonton
Research & Development Park

2. REQUIREMENT AREAS



4.0 REQUIREMENT AREA STANDARDS

The design standards outlined in the previous section serve to establish minimum design criteria for the park, thus ensuring a reasonable level of aesthetic and environmental quality. However, certain areas of the site are recognized as being critical to the overall image of the park and thereby necessitate special treatment or a somewhat higher level of design standard. A number of key areas have been identified for the park. These areas are illustrated in the accompanying map and are described as being:

- in general, high public visibility areas;
- areas fronting onto the internal ring road and core facility;
- areas fronting onto Parsons Road;
- areas fronting onto entrance or access roads.

The following standards, hereinafter described, are mandatory in the aforementioned areas and supercede or are in addition to the foregoing regulations.

4.1 Site Requirements

- 4.1.1 Minimum lot size shall be 1.2 ha.
- 4.1.2 Maximum building coverage, measured from the exterior surfaces of the enclosing walls, shall not exceed 30 percent of the area of the lot.
- 4.1.3 Minimum lot frontage shall be 75m.

4.2 Setbacks

4.2.1 Setbacks from Streets

Front setbacks shall be a minimum of 30 m unless otherwise specified.

Flanking setbacks shall be a minimum of 12m, except in those instances where landscaping standards would dictate otherwise.

4.2.2 Side Yard Setback

Minimum 12m.

4.2.3 Rear Yard Setback

Minimum 7.6m.

4.2.4 Treatment

Required minimum building setbacks shall be fully landscaped as specified in Section 5.1.3.

4.3 Parking Requirements

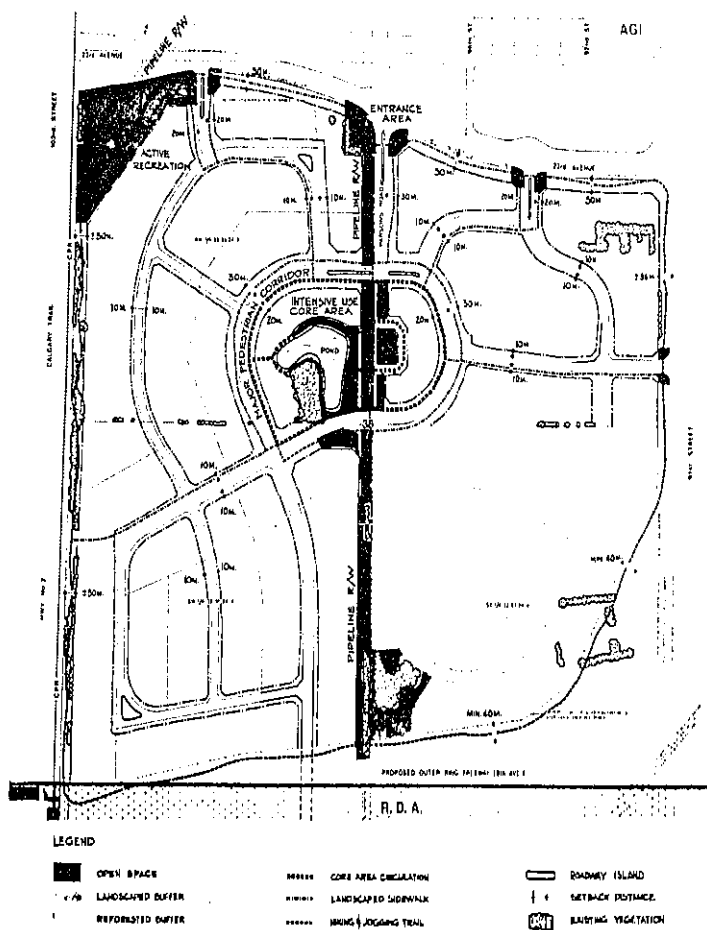
4.3.1 Location of Parking

No parking areas shall be located between a frontage street and the building.

Notwithstanding the above, visitor parking for a maximum of 10 cars may be provided in a screened, landscaped facility along the front of a building.

4.4 Building Size

Buildings shall have a minimum gross ground floor area of 3,050m² measured from the exterior surfaces of enclosing walls.



Edmonton
Research & Development Park

3. OPEN SPACE CONCEPT



5.0 LANDSCAPING STANDARDS

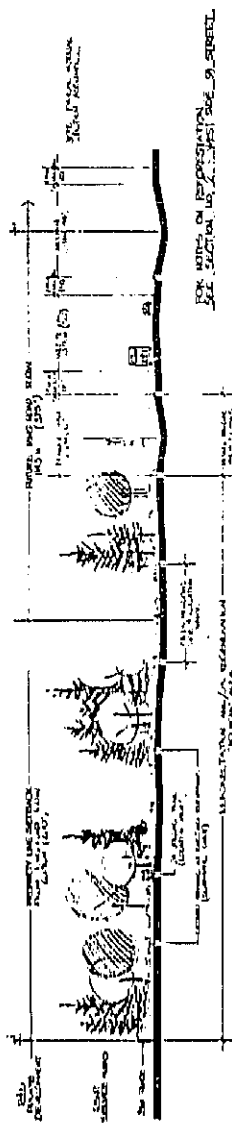
The landscaping concept is illustrated generally in Figure 3 and detailed more precisely in the accompanying schematic cross-sections which outline landscaping practices to be employed along the various internal roads and external buffer areas throughout the Park. This particular concept functions as a unifying element and serves to integrate the physical and architectural elements of the site. Concurrently, it establishes the boundaries of the complex in addition to achieving a neighbourhood identification function.

5.1 General Statements

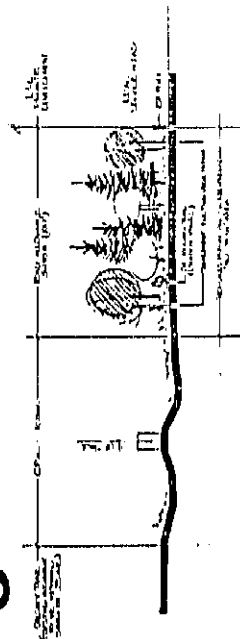
- 5.1.1 Landscaping plans shall be undertaken by a registered landscape architect or other environmental professional as approved by the Park Management Committee.
- 5.1.2 Landscaping as approved shall be installed within 90 days of occupancy, or with the first planting season.
- 5.1.3 Landscaping will consist of an effective combination of street trees, trees, ground cover consisting of mowed, turf grass and approved dry landscape materials and shrubbery provided with suitable irrigation.
- 5.1.4 Existing vegetation as identified in the open space concept shall be preserved and incorporated into the site landscaping. Individual property owners not conforming to this provision must show just cause and shall obtain prior approval from the Park Management Committee.

5.2 Park Boundary and Street Landscaping Areas

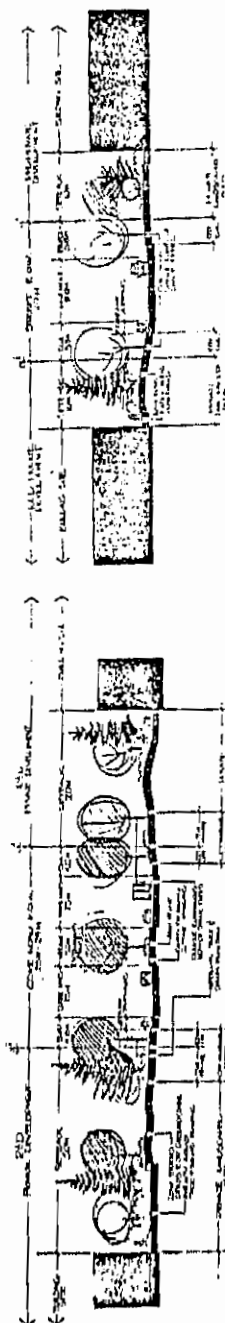
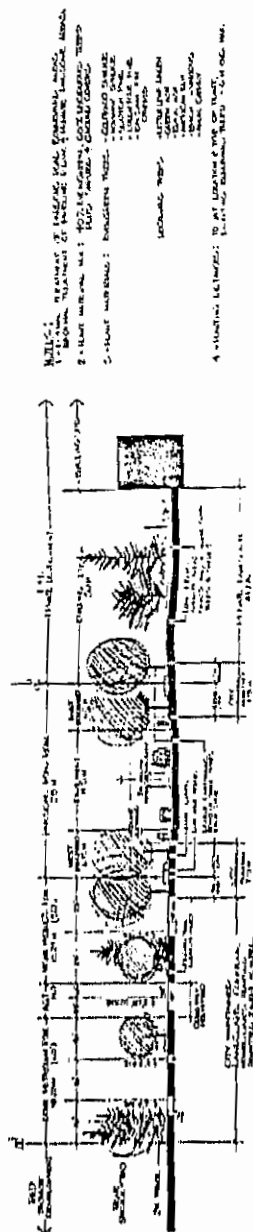
Park boundary and street landscaping standards are detailed in the accompanying schematic cross-sections which illustrate the important spatial and landscape requirements. The listing of plants for each typical area is not all-inclusive; however the types of plants specified



3 SOUTH BOUNDARY R.D.A.



4 WEST BOUNDARY



INTERNAL RING ROAD CORRIDOR

reflect the intent of the standards (i.e., the use of hard wood species as compared to soft woods and native materials.)

5.2.1 23rd Avenue Buffer Area

Both the north and south sides of 23rd Avenue shall be landscaped as illustrated in Section #1. The 8.5 m boulevards shall include curblin sidewalks and a safety zone of 3 m measured from curblin. The planting zone of 5.5 m shall be provided.

On the south side of 23rd Avenue, a continuous berm, 1 to 1.5 m high, and a dense formal planting of mixed evergreen and deciduous plant material shall be provided to screen the adjoining rear service yards of the Research and Development Park.

Plant Material Mix: 60% Evergreen trees
40% Deciduous trees
plus 3 large shrubs/trees.

Plant Materials: Evergreen trees - White Spruce
Colorado Spruce
Scotch Pine
Lodgepole Pine

Deciduous trees - Northwest Poplar
Griffin Poplar
Green Ash
May Day Tree
Laurel Willow

Shrubs - most medium to tall species

Planting Distances: Evergreen - 2.5 m O.C. maximum

Deciduous - Large trees - 6 m maximum
- Small trees - 4 m maximum

Specific arrangements of plants will be dictated by design principles for example, large groupings with accent specimens at intervals.

5.2.2 91st Street Buffer Area

This area shall be designated as a 'no mow' area, where natural vegetation can be encouraged. The first priority

5.2

shall be a naturalized screen planting 10 m wide, immediately adjacent to the Research and Development Park property line. Planting and regeneration in the Utility right-of-way would be subject to approval of the Utility authority.

Plant Materials: Type and mix of materials will be selected to suite specific local conditions of soils, moisture, and exposure.

Overstory: Dry soils - Jack Pine, Paper Birch.
Moist soils - Aspen Poplar, Black Poplar, White Spruce, Willows, Aspen.

Understory: Wild Rose, Saskatoon, Pincherry, Chokecherry, and Dogwood.

Planting Distances: Dense planting of whips and seedlings to 1.5 m maximum.

5.2.3 South Boundary/R.D.A.

The area as indicated shall be designated as a "no mow" area. A 10 m naturalized screen planting shall be provided at the south property line of the Research and Development Park.

Planting distances and plant materials shall be according to City of Edmonton reforestation standards as generally described in Section 5.2.2. Native materials will be selected to suit specific local cultural conditions.

5.2.4 West Boundary

The existing vegetation consisting of Aspen, Black Poplar, and Pussywillow in the road allowance on the west boundary of the Research and Development Park shall form the basis for a 30 m natural screen adjacent to the C.P.R. right-of-way and the Calgary Trail.

The area shall be designated as a "no mow" area and supplemental planting shall be provided where required along the entire west boundary.

Selection and placement of plant materials will be in accordance with local cultural conditions, as generally described in Section 5.2.2.

5.2.5 Parsons Road and Pipeline Corridor

Double rows of boulevard trees shall be planted on each side of Parsons road to provide a strong sense of entry

and approach to the core area. These shall be accommodated under a requirement to integrate 3 m of private property with the boulevard area on each side of Parsons Road. The resulting total 7.75 m boulevard area would be developed and maintained by the City. Low wide hedges at the property lines shall provide linear emphasis for the corridor, without obstructing views of adjoining areas.

Informal plantings shall be provided both on the pipeline corridor and on the private area to the east of Parsons Road and will complete the wide landscaped area and provide the major focus for access to the Research and Development Park. Landscape development of the pipeline right-of-way will be subject to approval of detailed plans by the Pipeline Companies.

Plant Materials: Boulevards - Littleleaf Linden
Green Ash
Manchurian Ash

Adjoining Landscaped Areas:

Evergreen trees	- Colorado Spruce - Norway Spruce Lodgepole Pine
Deciduous trees	American Elm - Green Ash Weeping Birch Amur Cherry May Day Tree Flowering Crabapple Mountain Ash
Shrubs & Groundcover-	most species, all sizes

Planting Distances: Boulevards - 6-7 m maximum

Specific arrangements and spacing of plants on the informal landscaped areas will be dictated by design principles.

5.2.6 Internal Ring Road Corridor

The proposed landscape treatment for the internal ring road is similar to that of Parsons Road, with the following exceptions: The private area requirement for a double row of boulevard trees in the core area side of the street is 5m. The requirement on the 'outer' side of the street is also 5m, where informal groupings of mixed evergreen and deciduous material are recommended. The formal treatment of the

inner side will create strong spatial identity for the core area as contrasted to the informal landscape on the outer boulevard. Both areas shall be developed and maintained by the City.

Landscaped setbacks of 20 m on the inside core area and 30 m on the outer area shall be required for private landscape development.

Plant Materials: similar range of evergreen and deciduous material as described above for the Parsons Road and pipeline corridor. Selection and spacing will be dictated by design principles.

5.2.7 Local Streets

The 20 m rights-of-way for local streets are adjoined on each side by 10 m setbacks for private landscape. Single rows of boulevard trees shall be provided in the 5.5 m City maintained boulevards.

Plant Materials: plant materials for both boulevards and private landscaped areas shall be as listed in Section 5.2.5.

5.2.8 Entrance Area: Parsons Road and 23rd Avenue

A south looking view of the Parsons Road entry area at 23rd Avenue is represented in Section #7. The L-shaped row of existing Poplar trees west of the pipeline corridor determines the location of the west and south boundaries of the entrance area, and provides enclosure for a wide, informally landscaped area. A 40 m setback at the south-east corner of Parsons Road and 23rd Avenue shall provide space for a similar treatment to the east where it will integrate with 23rd Avenue buffer planting.

The major focus shall be centred on a strongly designed entrance 'gate', with a sign to identify the Edmonton Research and Development Park.

Plant Materials: Plant materials shall be as listed in Section 5.2.5; selection and spacing will be dictated by design.

5.2.9 Entrance Area: Secondary Roads

Three additional entrance areas (two on 23rd Avenue and possibly one on 91st Street) shall be landscaped as illustrated in Section 9. Single rows of boulevard trees on each side of the entrance roads shall be flanked by low hedges at the property line. Landscaped setbacks of 20 m on either side shall be required for private landscape development.

Plant Materials: Plant materials will be dictated by design and selected from a similar range as outlined in Section 5.2.5. To achieve a hierarchical identification function boulevard trees shall be a different species than those specified for Parsons Road and the internal ring road.

5.3 Site Boundary Areas

Boundary landscaping shall be provided along interior property lines for functional/aesthetic reasons. Said landscaping shall consist of trees, shrub material and ground cover. Due consideration shall be given to adjacent owners in the provision of boundary landscaping. Joint landscaping between adjacent property owners shall be encouraged.

5.4 Undeveloped Areas

- 5.4.1 Landscaping plans will be required and will incorporate provisions for erosion control on all graded sites which will remain vacant for 6 months or more.
- 5.4.2 Undeveloped areas will be maintained in a weed-free condition and levelled, graded and grassed.

5.5 Parking Areas

- 5.5.1 Parking areas shall be landscaped and/or fenced in a manner as to screen said areas from view of all adjacent access streets, freeways and other properties. Plant materials used for screening will consist of lineal or grouped masses of shrubs and/or trees of a sufficient size and height to meet this requirement and combined with berming or walls as necessary.
- 5.5.2 The intent of providing landscaping in parking areas is to offer relief to the monotony of rows of parked cars and to create an overhead canopy thus providing a vertical dimension to an otherwise dominantly horizontal element of the landscape. Parking areas of a capacity, generally in excess of 30 vehicles shall be landscaped with islands and medians to break the visual impact of large expanses of asphalt.

5.6

- 5.5.3 A minimum of one, 8 cm caliper tree per 2.5 parking stalls shall be required in the parking areas.

5.6 Landscaping Maintenance

- 5.6.1 Lawn and ground covers are to be kept trimmed and/or mowed regularly. All planting areas are to be kept free of weeds and debris.
- 5.6.2 All plantings are to be kept in a healthy and growing condition. Fertilization, cultivation and tree pruning shall be part of regular maintenance.
- 5.6.3 There shall be provided at a location convenient to such landscaped area or areas adequate water faucets or lawn sprinkler systems for the maintenance of landscaped areas.

5.7 Performance Bonds

The developer of a lot(s) within the Park shall post a performance bond for an amount equivalent to 100% of the proposed site landscaping which would include all landscaping elements.

6.0 DESIGN GUIDELINES

The design guidelines contained in the following section represent for the most part general design principles and are put forth as recommendations rather than specified requirements, as by definition, the rigid enforcement of these principles is very difficult to accomplish. Nevertheless, consideration of their basic intent is essential in achieving the desired high amenity environment and these recommendations should be addressed by prospective tenants prior to submission of any designs for development within the park.

These guidelines are organized into three broad categories which progress from macro-scale to micro-scale. The first group entitled neighbourhood considerations includes unifying elements of design which have implications for the entire industrial neighbourhood. The second group, siting considerations, relates to the actual placement of the building on the site, while the third group encompasses the more detailed aspects of exterior design.

Provision has been made for the rating of these elements in the Design Guidelines Checklist and adherence to the guidelines will have a significant bearing on the ultimate approval of developments within the park.

NEIGHBOURHOOD CONSIDERATIONS

Design Consideration ARCHITECTURAL THEMES

Recognize that building(s) aesthetics can be used in a functional manner to produce a desired neighbourhood character and image. For integration and visual cohesion, common materials and design characteristics including colour, signs, lighting, etc. should be employed.

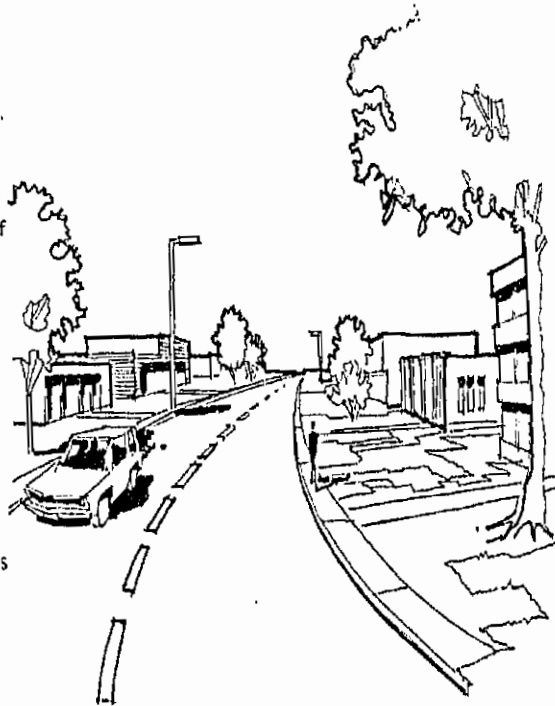
Treatment

An industrial complex or group of buildings should have a visual image that clarifies the geometric order of the street pattern.

There should be a clarity and simplicity in massing of industrial buildings.

Common design elements between and among buildings should be stressed in order to provide a unified neighbourhood.

Attention must be paid to the continuity of land forms and the composition of planting.



Design Consideration STREETSCAPES

Recognize the functional use and aesthetic qualities of streets in the park.

Streets in the Research and Development Park like all other streets, should have their own physical identity; signage and landscaping should be coordinated to provide a distinctive and unified image.

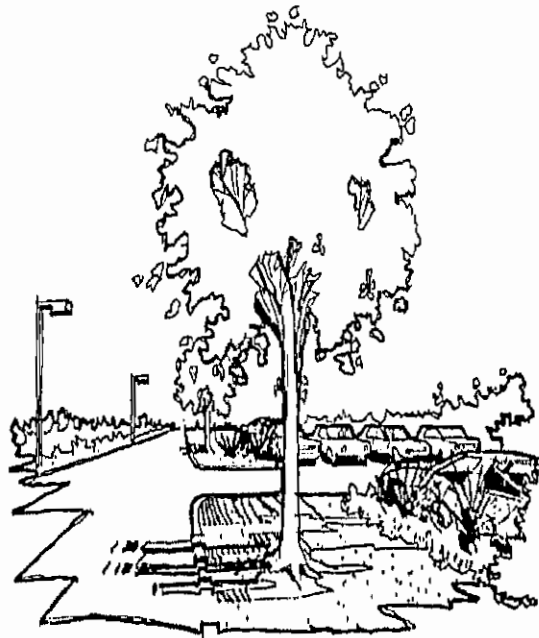
Treatment

Streets should be kept clear of all parked cars.

Access points to parking lots should be well spaced and clearly defined.

Streets should have a continuity of form, texture and scale.

Elements within the streetscape should be functional as well as unifying.



Design Consideration

LANDSCAPING: GENERAL

Landscaping design should be an integral part of the overall site planning design.

The use of landscaping and planting in imaginative ways will be regarded as an important element in the design of spaces. Landscaping should define and control circulation; provide human scale to activity areas; buffer adjacent uses and unsightly views; and serve as an element of transition between different types of use.

Treatment

Existing natural landscape should be preserved in areas that are not excavated for the erection of the building or areas used for parking.

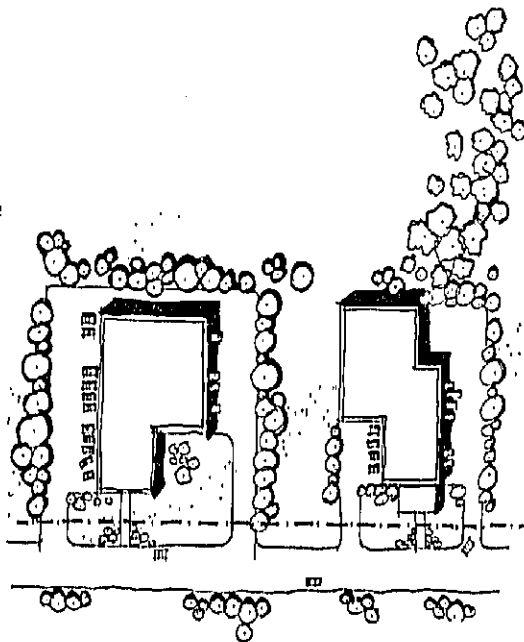
New landscaping should complement the existing natural environment.

Minimize the impact of surface parking area with landscaping.

Provide a variety of colour and texture through the use of different plant materials and surface coverings.

Use building form and landscaping materials to clarify pedestrian access points to the site and the building.

All landscaping materials and design should relate to their immediate surroundings, that of the natural and built forms



Design Consideration

LANDSCAPING: PEDESTRIAN CIRCULATION

A pedestrian circulation system provides the visual and functional integration of the public and private areas of the site, and sets the pattern for outdoor use of the Research and Development Park as a whole.

There should be three basic kinds of corridor development:

- Walkways adjacent to the streets
- Connecting walkways through landscaped areas
- Easements between buildings to allow pedestrian access to and from the core facilities.

Treatment

Street Walkways

Walkways should be designed as an integral part of the streetscape. To achieve this objective, part of the landscaping will extend into adjoining privately held areas along Parsons Road and the core ring road.

Efficient pedestrian access should be provided to parking areas and building entry areas.

Walkways should be aligned so as to provide access between public transit stops and building entry areas. Landscaped seating and shelter areas should be provided at all transit stops, but with a higher level of 'amenity' of this kind near the core.

Lighting for walkways in the streetscape would be provided mainly by the roadway lighting fixtures except for occasional 'in-fill' requirements where security dictates. Fixtures should be of similar standard and design to those of the street.

Streetscape planting should be mainly formal in character.

Design Consideration LANDSCAPING: CONNECTING WALKWAYS

Treatment

Connecting Walkways

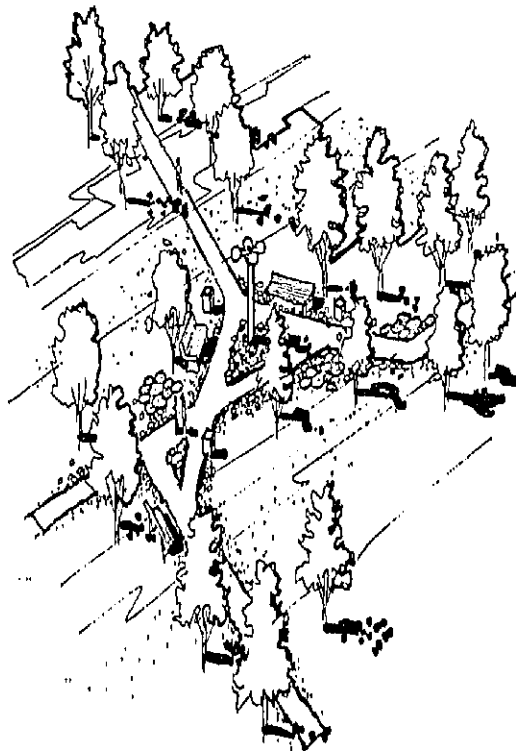
Connecting walkways should be provided to ensure easy access between activity areas that may not be connected by means of walkways in the street rights-of-way.

A relatively high level of lighting intensity may be required where connecting walkways are remote from the street or other intensive use areas.

Signs, design co-ordinated to the relationship of the walkway to the core, should be limited to directional needs only.

Connecting walkway corridors should be of sufficient width to allow for planting on both sides to create a strong visual sense of enclosure yet provide efficient surveillance and policing. Strategically located breaks in planting should provide views of and access to, activity areas.

Amenity nodes should be provided at intervals along connecting walkways and



should include seating, lighting, and refuse containers as well as a moderate level of ornamental landscaping.

Design Consideration

LANDSCAPING: EASEMENTS

Treatment

Easements

Walkway easements between buildings should be provided where required to allow additional exterior pedestrian linkages, especially in the core area.

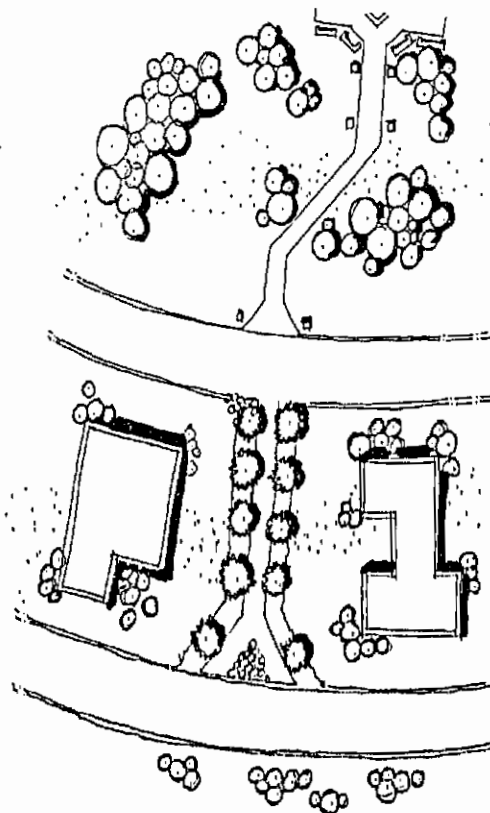
These walkways should have a large proportion of hard landscape material relating to the character of the landscape development in the core area.

Focal views of special features within the core area should be developed to create a strong visual impact and sense of entry.

Well designed lighting fixtures, signs and furniture should be provided.

Plant materials should be long lived hardwood species and should be formal in their arrangement.

Intensively developed linkages should only be required near the core where a high level of access and use dictates. A high level of maintenance will be required.



Design Consideration

LANDSCAPING: INTENSIVE USE OPEN SPACE

The main area of intensive use open space is a centrally located outdoor recreational area for concentrated and varied use. The close relationship between this area and the core facility serving the entire Research and Development Park identifies it as the central focus of the open space system. The aesthetic unity and coherence of the area is of prime importance.

The landscape development in the intensive use core area will require a high degree and frequency of landscape maintenance.

Treatment

This area should be a hard landscape area with paved areas, planters, and furniture, to reflect intensive use. Special features such as sculpture and fountains should be provided.

The area should be distinctive, spatially defined, and urban in character.

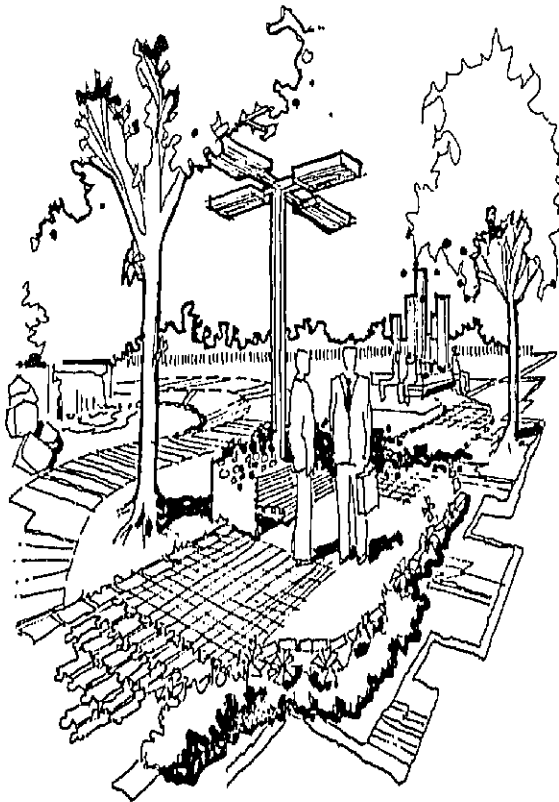
High levels of artificial illumination will be required. Good quality, well designed fixtures should be provided.

A co-ordinated system of signs should be established using well designed graphics and permanent, durable materials.

This area should be richly planted with a wide variety of ornamental plants.

Planting materials should be mainly long-lived hardwood species and should exhibit a variety of colours, textures, and seasonal interest characteristics.

A well designed urban water element should be provided in this area for year round activity.



Design Consideration

LANDSCAPING: ACTIVE OPEN SPACE

These areas will accommodate such recreational facilities as picnic areas, sports fields, and informal games areas. The potential for winter use for cross country skiing is also present.

The basic landscape approach is to establish a tree and grass landscape. Although some of the peripheral zones can be designated as 'no mow' areas, regular maintenance of the more actively used areas will be required.

Treatment

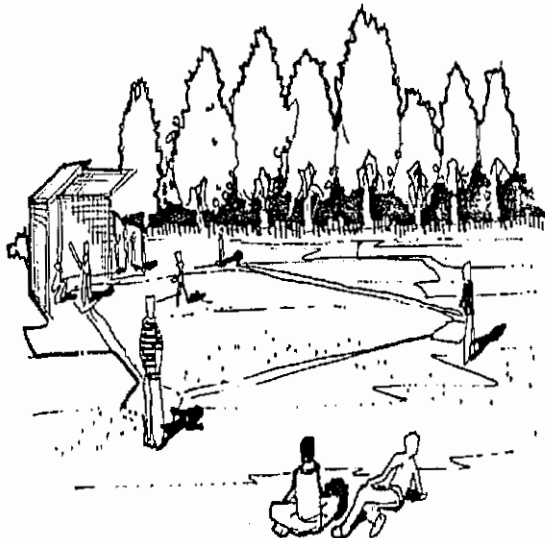
These areas will consist of large areas of open space defined by informal masses of deciduous and evergreen trees.

Artificial illumination should be minimal and limited to occasional 'in-fill' for night-time security and surveillance.

Signs should be kept to minimum and limited to requirements for direction and identification of facilities. Design should be distinctive, yet of different character from that of the core facility signs.

Fencing and screenings should be minimized. The need for safety barriers in active recreational areas should be avoided by allowing sufficient space for safety zones adjacent to streets.

Water elements should be informal in character and should accommodate both summer and winter activities. The functional purposes of water elements in these areas for storm water collection and drainage should be maintained.



There should be a minimum of hard landscape construction.

Deciduous planting materials should be mainly large, fast growing species. Smaller groupings of evergreen will provide winter interest and dense screening where required.

Design Consideration LANDSCAPING: PRIVATE DEVELOPMENT AREAS

Portions of each private parcel should be designated as open space that can be developed for a variety of active, passive and visual functions. Major objectives would be to ensure close integration of private and public open space.

Treatment

The private developers should develop their individual parcels in accordance with an overall landscape concept for the park, and in harmony with adjacent landscape character, whether public or private.

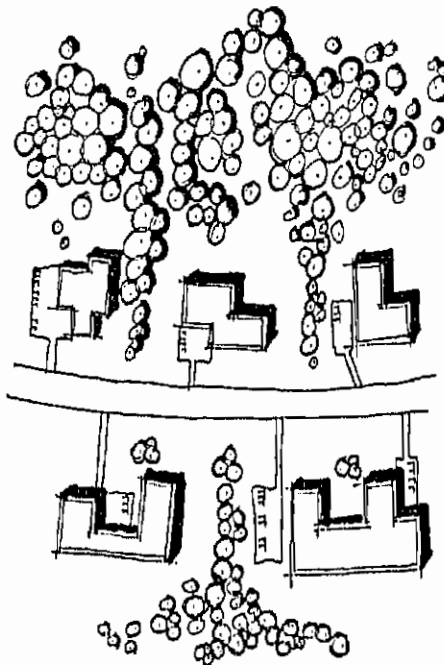
Where applicable, private open space should be located adjacent to public open space. The building envelope concept is a means of achieving this integration.

Areas for reforestation should be designated in accordance with a master planting scheme which would aim at integrating this form of private landscape development to form large internal 'natural' areas.

In general, and particularly near the core, planting materials should be long lived hardwood species.

Private landscaped areas near the core should exhibit a high degree of ornamental landscaping.

A major attempt should be made by individual developers



towards the design co-ordination of common elements such as signage, lighting, hard landscape, and planting. This is particularly important in the core area.

Design Consideration

LANDSCAPING: INTERNAL BUFFERS

Treatment

Buffering should be provided as required throughout the site to achieve the following objectives.

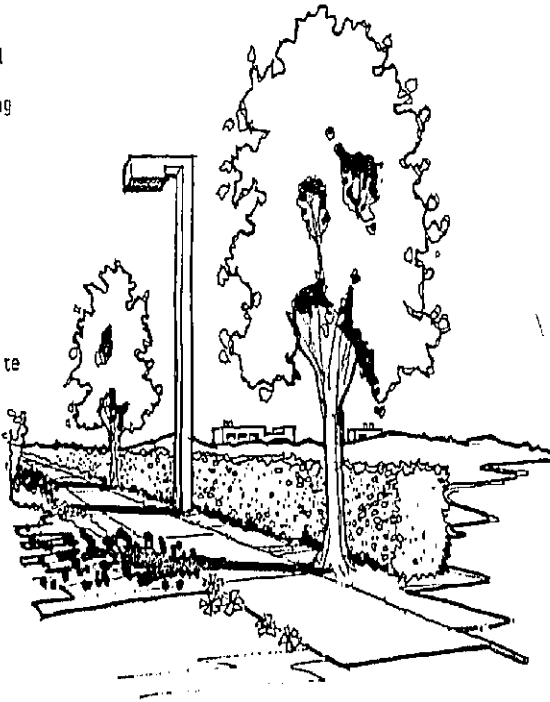
Spatial definition

Visual buffering

Climate control:
wind re-direction and
control of snow
accumulation.

The character of buffers in the interior areas of the site may be formal or informal depending on the character of the adjacent landscaping and the purpose of the buffer.

Interior buffers may be used in conjunction with connecting walkways through landscaped areas and on the boundaries of active use areas.



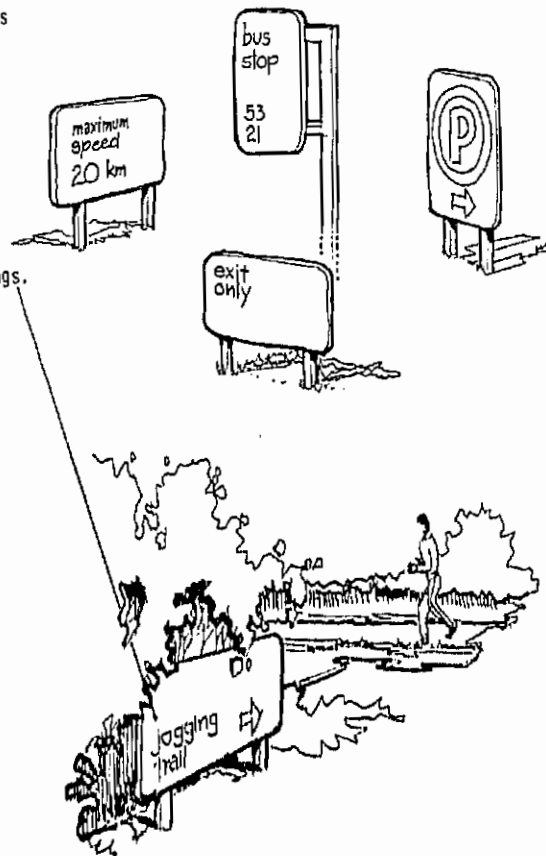
Design Consideration SIGNAGE

Signage and graphics used for the purposes of identification, communication of information and vehicular control should be attractive and unifying as well as functional.

Treatment

A uniform format for interior and exterior directional signs and information graphics should be employed throughout the park.

Signage should be as unobtrusive as possible, blending with its immediate surroundings.



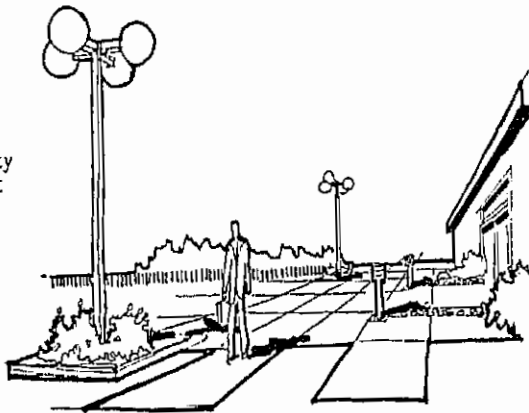
Design Consideration LIGHTING

Treatment

Streetlighting should be coordinated functionally and aesthetically throughout the Park.

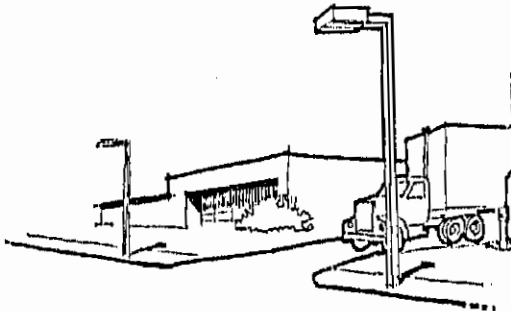
Consider the source, intensity and type of illumination that is appropriate for the task.

Lighting should be located to provide for safe movement of vehicles and pedestrians, and for maximum property security.



Lighting should be directed onto the site and should not be allowed to shine onto adjacent properties.

Lighting fitting designs should blend with the architectural style of the building, signage, landscaping, etc.



SITING CONSIDERATIONS

Design Consideration

BUILDING SITING

A major design element in industrial neighbourhoods is the physical relationship of one building to another. Within the bounds of practical and economic constraints, building locations and layouts should be studied to find their best disposition in relation to existing land forms and backgrounds in order to achieve a good compositional effect from varying views.

Treatment

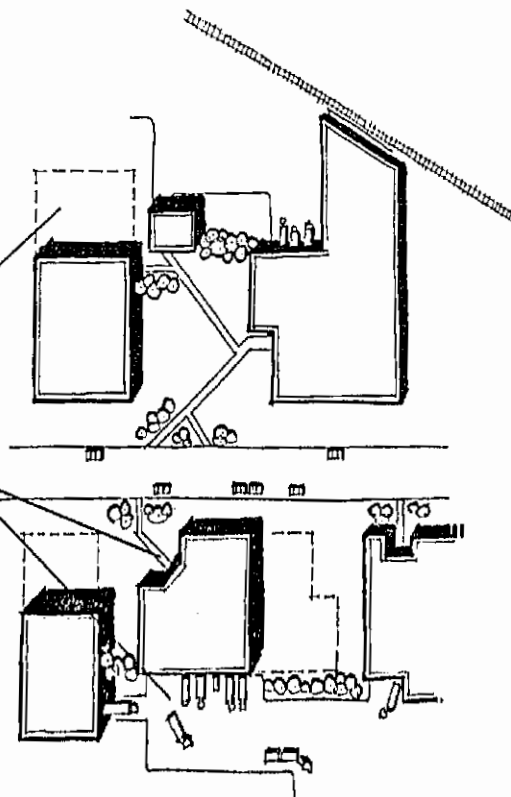
Favourable site lines should be used to best advantage.

There should be a clearly defined functional relationship between groups of buildings.

Building siting should take into consideration plans for future expansion.

Service areas and public areas should be functionally located.

Grade and finished ground elevations of the site should respect the natural conditions of neighbouring sites. All buildings should take into account the natural topography of the land.



Design Consideration PARKING

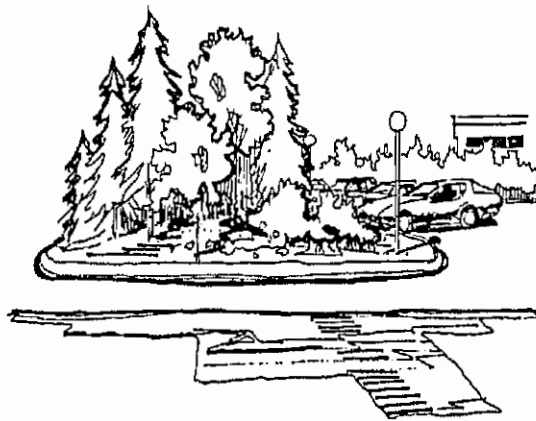
Treatment

All parking shall be confined to offstreet screened, parking areas.

Views of the parking lot from grade and from within the building should be considered when siting parking lots.

Use landscaping materials to subdivide large parking areas into smaller functional spaces.

Parking areas should be sited and designed in accordance with acceptable pedestrian lines of sight angles.



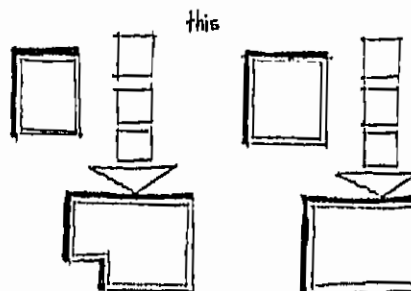
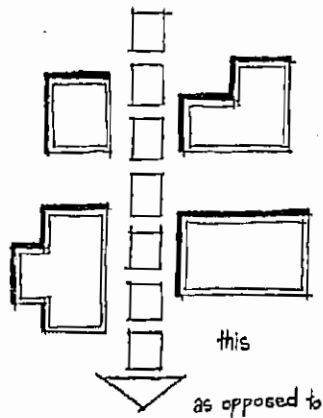
Design Consideration VIEWS

Viewing opportunities have been identified in the northeast section of the site. They are generally confined to this area of the site; however, certain afford panoramic viewing of the immediately surrounding landscape.

In developing this portion of the site and in general areas surrounding the core, consideration should be given to the establishment, via building separation, of viewing corridors to provide glimpses, filtered and unimpaired views to the core area and beyond.

Treatment

Whenever feasible, where viewing opportunities have been indicated, building separation should allow for the preservation of the view.



Design Consideration

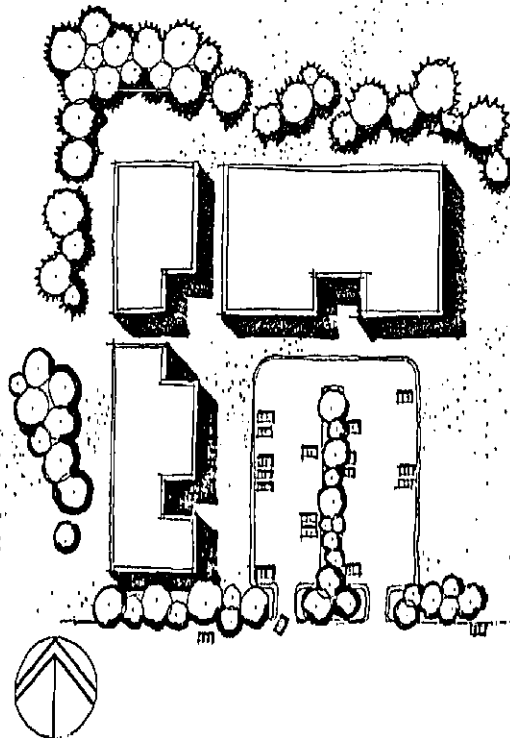
CLIMATE CONTROL

Treatment

Mass plant stands of conifers on the north - northwest sides of lots to provide protection from winter winds.

Orient, site, design buildings to minimize wind tunnelling, snow drifting.

Locate parking facilities for protection against winter winds and to minimize walking time in the winter.



Design Consideration

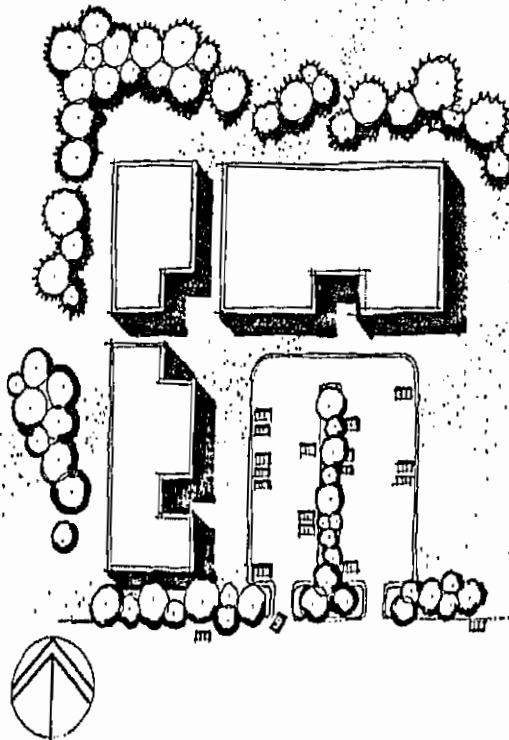
CLIMATE CONTROL

Treatment

Mass plant stands of conifers on the north - northwest sides of lots to provide protection from winter winds.

Orient, site, design buildings to minimize wind tunnelling, snow drifting.

Locate parking facilities for protection against winter winds and to minimize walking time in the winter.



EXTERIOR DESIGN CONSIDERATIONS

Design Consideration

Design Consideration BUILDING DESIGN

Industrial buildings should be designed in a manner fit for their purpose, using appropriate construction forms and materials.

Treatment

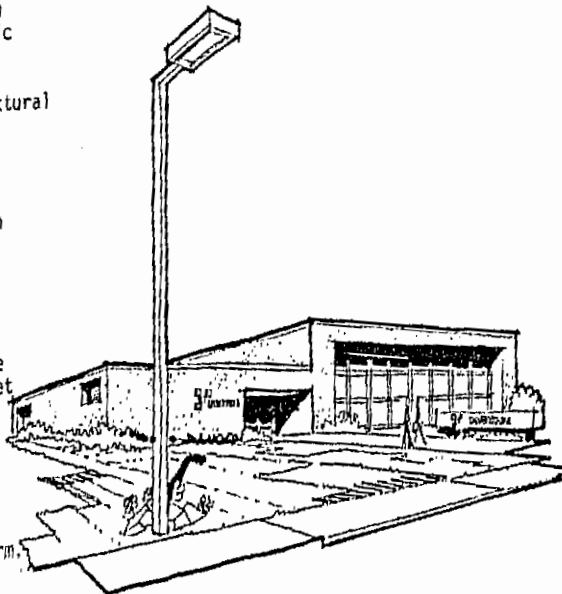
Design emphasis should be on facades visible to the public or from adjacent properties. All sides of the building should have a colour and textural unity.

External design should be in harmony and conformity with neighbouring buildings.

The main elevation should be related to the overall street picture.

All mechanical equipment should be an integral part of the complete building form.

The size, location and colour of permanent and temporary signs and lettering should be considered as a designed component of the building form.



Design Consideration BUILDING DESIGN

Industrial buildings should be designed in a manner fit for their purpose, using appropriate construction forms and materials.

Treatment

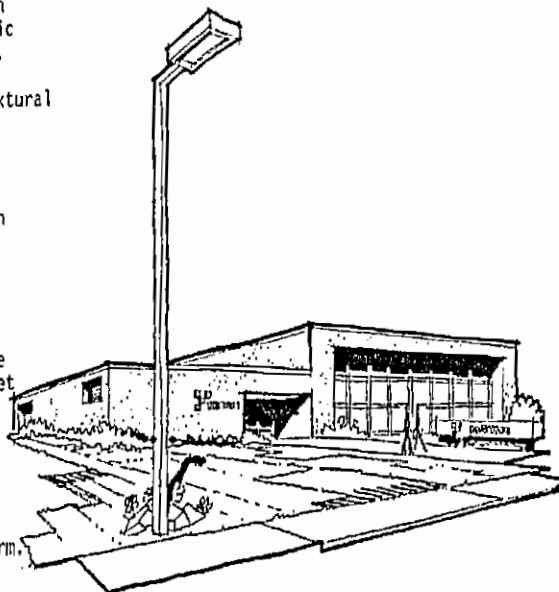
Design emphasis should be on facades visible to the public or from adjacent properties. All sides of the building should have a colour and textural unity.

External design should be in harmony and conformity with neighbouring buildings.

The main elevation should be related to the overall street picture.

All mechanical equipment should be an integral part of the complete building form.

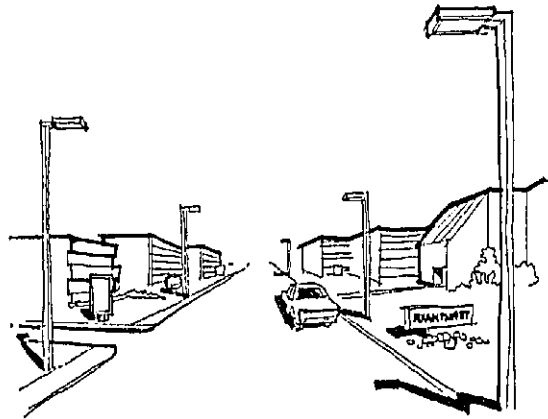
The size, location and colour of permanent and temporary signs and lettering should be considered as a designed component of the building form.



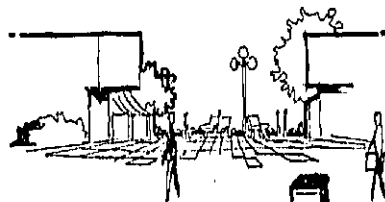
Design Consideration SCALE

Treatment

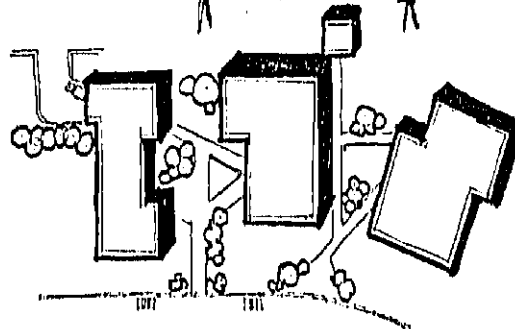
Ensure the building mass is in scale with its immediate surroundings.



Respond to the need for human scale.



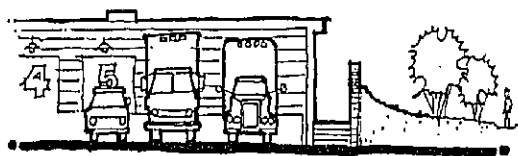
Ensure that part of the development and its detail are in scale with the whole.



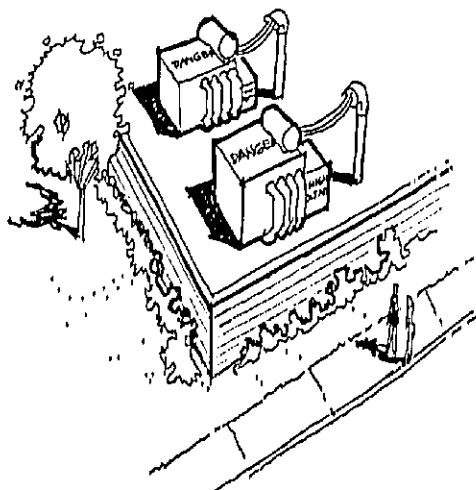
Design Consideration SCREENING

Treatment

Storage areas, loading docks and ramps, transformers, storage tanks and other appurtenant items of poor visual quality should be screened by the use of



- concrete or masonry walls
- dense mature landscape materials or
- approved fencing materials

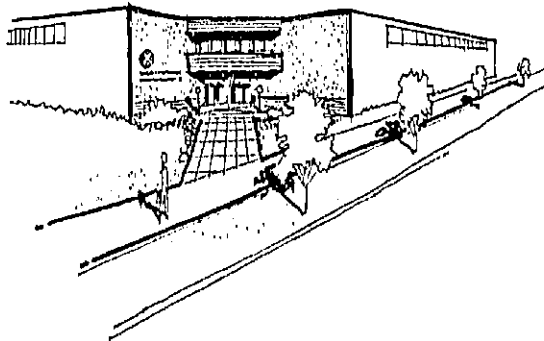


Design Consideration

COLOUR

Treatment

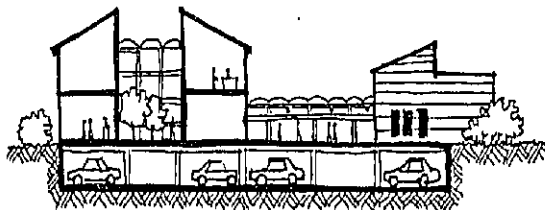
Consider colour schemes that are anonymous and unobtrusive.



Design Consideration CLIMATE CONTROL

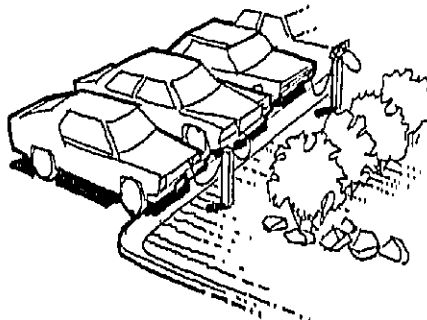
Treatment

Enclosed central courtyards or atriums should be provided where appropriate.



Covered and/or sheltered pedestrian walkway systems should be established between groups of buildings.

Underground parking should be encouraged.



Alternatively electrical outlets should be provided at parking stalls.

Design Consideration ENERGY CONSERVATION

Energy conservation should be an important consideration in the siting and design of all buildings within the Research and Development Park.

Treatment

Energy conservation/efficiency measures should be employed in all new buildings relative to design, construction methods, and internal management programs.

Developers should refer to and incorporate where appropriate, measures outlined in National Research Council Publication NRCC No. 16574 "Measure for Energy Conservation in New Buildings".

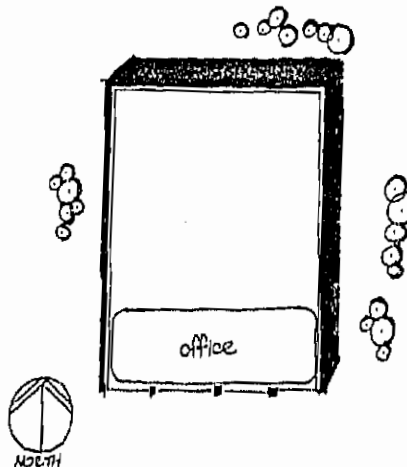
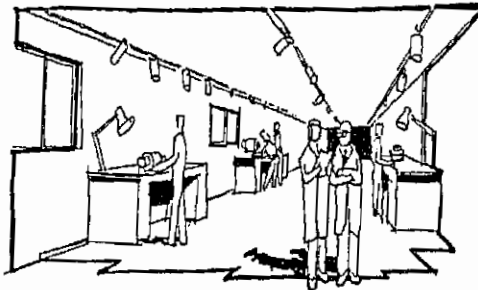
Where possible, offices and other low heat generators should be located on the south side of buildings to maximize solar gain and natural lighting.

Task lighting should be employed as opposed to general lighting.

To minimize heat loss, north east and west facing windows and skylights should be minimized.

Buildings should be oriented to allow for active solar collection in the future.

Buildings should be sited to prevent shadowing of adjacent structures.



7.0 INFORMATION REQUIREMENTS

The following documentation is required to accompany development application submissions.

7.1 Site Plan Requirements

- (A) A site plan, comprehensive enough to show all adjacent properties, topographic features, trees, water courses, means of access, etc. The site plan shall also include:
1. Applicant's name, address and telephone number.
 2. Legal description and municipal address of the proposed development.
 3. Statistical information:
 - site area
 - building coverage
 - gross floor area of building
 - landscaped area
 - parking area and number of parking spaces
 - loading area and number of loading spaces
 - total paved area including parking area and loading area
 4. A key plan at a scale of approximately 1:10,000 indicating the exact location of the site with a north arrow.
 5. A site plan drawn to a scale to allow detailed site design features to be shown (suggested scale 1:200 or 1 inch = 20 ft.)
 6. All bearings and dimensions of the site.
 7. Location, setbacks and dimensions of all buildings and structures.

8. Locations and dimensions of all off-street parking and loading facilities, including driveways, entrances, exits, paved areas, curbs and circulation pattern.
9. Dimensions of the points of access and curb radii.
10. Location and design of all garbage disposal facilities.
11. Existing land uses and zoning of the adjacent lands.
12. Contour plans showing present and proposed contours at five feet maximum intervals including spot elevations where appropriate. Existing and proposed grades of the site within the property. (Spot elevations along the property lines). Location of all retaining walls, top and bottom of wall elevations.
13. Finished floor elevation of the first floor and entrances of all buildings.
14. Notation of the types of surface materials to be used.
15. Location of all existing and proposed walls, fencing and their height and construction materials.
16. Location of existing and proposed walkways.
17. Location and type of curbing.
18. Location of existing and proposed easements, rights-of-way, utilities and sight triangles.
19. Specifications and dimensions of all landscaped areas.
20. All existing trees, if any, must be accurately located and clearly specified on the site plan. If the trees are of large caliper they should be dealt with on an individual basis otherwise general areas of smaller or shrub growth may be shown. Natural features which are existing and those which the applicant has designated for preservation should be indicated and labelled.
21. Location of fire access route.
22. Location of all on-site hydrants.
23. Location of existing on street hydrants.
24. Location and dimension of road widening if required.
25. Setback of the building from the lot line and from the designated right-of-way.

26. Details of exterior lighting.

27. Location of proposed signs.

(B) Floor plans

(C) Building elevations:

1. Front, side and rear building elevations are required.
2. Notation of the types of finished surface materials to be used. Location and approximate size of fascia signs.

Plans, elevations, sections and prospective views (taken at normal viewing level, at adequate scale to fully describe the proposals and their relationship to the existing environment). The foregoing applies to new buildings, alterations and extensions.

All services and other features that could have some environmental impact, visual or otherwise, must be shown, especially objects such as penthouses, mechanical rooms, ventilation stacks, fans, chimneys, vents, poles, wiring and other surface or roof projections.

Type, size and location of proposed fine arts elements to be integrated or installed outside of building shall be identified and shown on plans, elevations and perspectives.

Large scale or full size details should be prepared on the recommendation of the Park Management Committee for those parts of the building or structures which appear to offer critical design problems, such as window frames, heads and sills, eaves, cladding, railings and signs.

Materials and colour samples shall be provided to illustrate intended colours, textures and patterns for wall cladding and other external finishes.

A standardized signage program shall be submitted as part of the overall development package.

- (D) Materials, colours, textures and patterns should be identified for all footpaths, roads, parking lots and other hard surfaces.

(E) Models shall be presented whenever requested and should be to a scale suitable to explain the proponent's intentions. A representation of a human figure or figures should be included to indicate scale.

7.2 Landscape Requirements

(A) Landscaping plans, clearly indicating how the proponent proposes to develop the site and related to adjacent properties, and to roadway, pedestrian and open space systems. Drawings shall be accurate and plans, elevations and sections should clearly show the character of vegetation and the proposed species, the size and shape at the time of planting and at maturity. Some details might be more conveniently included in a separate form, such as detailed plant list and expected time of maturity.

1. All landscape development drawings must bear the landscape architect's membership stamp.

2. Plans submitted for landscape approval must be final design and working drawings with specifications.

3. Developments with existing vegetation to be preserved- instructions as to the protection of existing natural features shall be on the drawings and/or specifications with the cross reference on the drawing.

(D) Drawings or plans submitted for landscape approval shall include the following information and drawing instructions.

1. The first sheet of the drawing will show a key plan at a scale of approximately 1 inch = 1,000 feet or 1:10,000 indicating the exact location of the site with a north arrow.

2. Natural features which are existing and those which the developer has designated for preservation shall be indicated and labelled on the drawings.

3. Show all existing contours within the project boundary as broken lines properly labelled. Show all proposed contours within the project boundary as solid lines properly labelled.

4. Show all top-of-bank contours and bottom-of-bank contours for all water courses within the property.
5. Adjacent roads and properties surrounding the subject lands shall be adequately marked with spot elevations to show the slope of the land. Location and name of adjacent roads shall be shown and the description of adjacent land uses shall be marked on the plan.
6. Elevations of proposed walls within the project shall be marked at top of wall and bottom of wall.
7. Steps shall be shown indicating their number and size. Spot elevations must be shown at the top and bottom of the steps.
8. Direction of drainage must be indicated with drainage flow arrows.
9. All catch basins and sub drains shall be clearly marked with proposed spot elevations and proposed invert elevations.
10. Services: The service plan must show underground services such as gas lines, telephone cables, T.V. cables, power lines, water and sewer mains, etc. Clearly identifying each, its position and approximate depth. Include all hydrants, hydro boxes, telephone boxes, and gas installations.
11. All underground parking structures shall be clearly located on the plans. Roof slab elevations, air intake shafts and their elevations, final grade drainage and cross-sections should be noted on the plan.
12. Structures: Show entrances into all buildings within the project boundary, indicate spot elevations at each entrance, (door and garages and show the finished first floor elevations of all buildings).
13. Location of walkways, parking lots, screens, protective fencing, exterior lighting, street furniture, hydrants, easements, curbs, existing ground signs, and all existing and proposed features shall be shown and labelled.
14. Recreation amenities: fully designed and dimensioned.
15. Plant material shall be clearly located and labelled. A key system must be used. A plant list must include the full botanic name, common name, quantity, caliper, height, spread, and special remarks.

16. Details and/or specifications of the following items must be included to further clarify drawings:
 - a) planting details
 - coniferous and deciduous trees (staking, guying, installation, pruning, etc.)
 - evergreen and deciduous shrubs
 - installation details and specifications of sodding, seeding, ground cover and vines.
 - b) soil types and additives (fertilizers, peat moss, mulch, etc.)
 - c) recreational equipment
 - d) landscape structures:
 - benches, light structures, fences, retaining walls, planters, hedges, stairs, ramps, etc.
 - e) surface materials
 - f) any other landscape features requiring clarification.
17. Snow storage areas must be indicated on the plans or a note on the drawings must indicate the method of snow disposal.
18. Garbage collection areas must be shown and identified.
19. All existing trees to be preserved must be accurately located and clearly specified as to the type, caliper and condition on the plan. All existing trees to be removed must be accurately located and clearly specified as to the type, caliper and condition on the plan.
20. All surface materials must be indicated on the plan.
21. All easements, site lines and future road widenings must be indicated and clearly specified.

8.0 DEVELOPMENT STANDARDS CHECKLIST

The development standards checklist is intended for use by those assessing a development proposal and assessing conformity to the specified standards. It facilitates analysis and review of the various submissions and enables the user to "red flag" any problem areas. In addition it indicates those instances where minor variances have been granted by the Park Management Committee. In conjunction with the Design Guidelines Checklist which weights the more subjective elements comprising the environmental design criteria, the development standards checklist will render a concise appraisal of a project's compliance to the desired development objectives for the Park.

Project Performance

<u>COMPONENT</u>		<u>CONFORMING</u>	<u>MINOR VARIANCE</u>	<u>NON-CONFORMING</u>	<u>COMMENTS</u>
Site Requirement	3.1				
Setbacks	3.2				
Building Height	3.3				
Floor Area Ratio	3.4				
Parking Requirement	3.5				
Storage and Refuse Collection Areas	3.6				
Loading Areas	3.7				
Signage and Graphics	3.8				
Fencing	3.9				
Lighting	3.10				
Utility Connections	3.11				
Mechanical Equipment	3.12				
Building Exteriors	3.13				
Performance Standards	3.16				
* Building Size	4.4				
Landscaping General	5.1				
Boundary and Street Landscaping	6.2				

* Requirement Area Standards

9.0 DESIGN GUIDELINES CHECKLIST

The design guideline checklist is a means of weighing subjective values that make up the environmental design criteria. It is a means of bringing into useable format the many value judgements to be made by all parties participating in the review and adjudicating process. The checklist will function well if it helps to stimulate thought and creates a dialogue between those involved in the review process.

The checklist is only an assisting tool. It is not intended that a tallied score of the many checklist items should be the principle means of determining architectural qualities of the project. The intent is to provide a comprehensive representation of the project's design in order that a team decision can be made as to its acceptability. Recommendations can then be made for a specific improvement.

The checklist has application for both guiding and evaluating development proposals. Designers and developers can use it to assist in the preparation of proposals. They will be aware of the many architectural aspects to be critically considered by reviewing the approving bodies. It can also be used in the review process as an evaluating tool to determine if proposals meet the pre-determined expectations for the park. It is also a means of seeing what is missing from a proposal, and what needs further design considerations.

Users should not be limited by the contents of the checklist. New items appropriate for a particular project should be added. The checklist is not meant to be all-inclusive, but to stimulate more depth in the thought process during the review of architectural and environmental factors.

Each item in the list of categories should be considered and weighed between positive and negative; very good to very poor. Blocking in the squares that relate to one's judgement of an item's success will provide an overview of the project's response to architectural and environmental criteria discussed in the guidelines.

DESIGN GUIDELINE CHECKLIST

CONFORMANCE WITH GUIDELINE INTENT

1. Site Development

	VERY POOR	POOR	NEUTRAL	GOOD	VERY GOOD
Relationship to existing contours and natural features.					
Relationship between building and alignment of street.					
Location of public areas.					
Location of service areas.					
Relationship between groups of buildings.					
Relationship to adjacent buildings.					
Relationship to adjacent edges and pathways.					
Transition of building to grade.					
Use of favourable sight lines.					
Preservation of views.					
Siting to minimize impact of pollution on adjacent buildings.					

2. Landscaping

Satisfaction of variety and hardiness requirements					
Definition of activity areas.					
Maintenance considerations.					
Provision of employee recreation areas.					
Relationship of design to intended use.					
Definition of public and private areas.					
Appropriateness of hard and soft ground surface materials.					
Treatment of existing vegetation.					

3. Parking

Provision and location of snow removal and storage areas.					
Identification of linkage between building and parking areas.					
Screening from adjacent properties.					
Screening from access roads.					
Location and identification of egress and access points					
Adequacy of facilities.					

4. Building Form

Relationship to prevalent scale of neighbourhood.					
Relationship to adjacent buildings.					
Massing relationship between all buildings in a group.					
Scale and proportion of individual building volumes to total composition.					
Relationship of elevations to total composition.					
Scale and proportion of fenestration to facade as a whole.					

5. Detailing

Reinforcement of building character through the appropriate design and location of detailed elements.					
Brings sense of order to building.					
Integrates mechanical equipment.					
Technically correct.					

6. Materials and Colours

Appropriateness of building materials.					
Relationship of materials to massing.					
Combination of materials.					
Appropriateness of colours in relation to building size.					
Relationship of external materials and colours to surrounding natural elements.					
Relationship of external materials and colours to adjacent buildings.					
Sparse use of bright colour.					

7. Entrances

Definition of employee and public entrances.					
Relationship of entrances to human scale through location, proportion and detail.					

8. Signage

Relationship to building design.					
Appropriateness of material.					
Illumination.					
Scale, location and method of support.					

9. Lighting

Adequacy of illumination to particular function.					
Conduciveness to safety and security.					
Aesthetics.					
Appropriateness of form of lighting to functional requirements.					

10. Climatic Considerations

Sheltering of main entrance from weather.					
Wind tunnelling, snow drifting considerations.					
Location of parking facilities.					

11. Energy Conservation

Internal energy conservation.					
-------------------------------	--	--	--	--	--

10.0 IMPLEMENTATION PROCESS

The standards and guidelines formulated for the Research and Development park provide the basic tools with which to guide and evaluate development. Collectively they represent a very comprehensive set of environmental design criteria, embracing all areas of design relevant to the achievement of the desired objectives for the park. These tools, however, are only as good as the process that realistically applies them to built environments. This involves a process that can effectively evaluate and administer development proposals, retaining the guidelines as a basis for effective decision making. Both process and guidelines are interrelated and interdependent.

A workable process implies a co-operating team of representatives from resident industry, municipal, university and professional people to intercept collectively the guidelines and share continuous rapport throughout the evaluation process. The process becomes even more positive when those whose proposals and projects are under review can also take part in the interpretation of the guidelines and assume a meaningful role in the evolution of the development.

The combined wisdom and logic of a team of industry representatives, public servants, academics and professionals is perhaps the best guarantee to elicit the top design performance from each proposed development. The membership of such a group should reflect the park's requirements through the appropriate industry personnel, the concerns of the City and the academic community and the aesthetic, functional and more detailed technical considerations through independent experienced professionals. This particular management committee make-up will help establish

credibility for the process and also ensure a well versed and well balanced forum for evaluation of individual submissions.

Any meaningful evaluation requires factual, thorough and communicable information about proposed developments. Preliminary plans should include models, graphically clear perspective drawings, indications and samples of materials, colour selections, integration of signs, landscaping plans and any other relative material to demonstrate the project's design aspiration and its compatibility with its surroundings.

The use of an evaluation review is particularly important in the initial stages of project development. It is here that design concepts are assessed and, being early in the design process, basic ideas can be re-organized, revised, changed or terminated with a minimum loss of time, effort and cost.

Though the initial stage can be critical, good design must also have its follow-through. Conformity to the guidelines must be in evidence through to completion and occupancy of the project. This implies some form of project monitoring, construction and post-construction inspection and follow-up.

It is also important in the evaluation process to be aware of conflicting objectives with regard to implementation of certain guidelines. For oftentimes one objective may have to be accomplished at the expense of another (i.e. parking located for aesthetic considerations vs. parking located for climatic considerations). These must be evaluated in light of design priorities for the park and for a particular site.

Ultimately, the design solution that most adequately addresses the various design considerations, achieving an acceptable balance, will be approved.

In summary, the evaluation process must be structured to achieve the following:

- Involve all participants in a collective and democratic way.
- Follow a known and agreed to administrative pattern.
- Encourage dialogue in the early stages of design.
- Follow through to include post-construction inspection.
- Avoid undue time lag, short-circuiting and fragmented decision making.

10.1 Management Organization

The proposed management structure for the Park is illustrated in the accompanying Figure. This particular structure is comprised of five elements where role, function and responsibilities are briefly outlined below:

10.1.1 Park Board

Essentially, the Research Park Board would be responsible for the long range planning and development of the park, and would serve as the government instrument in selling and leasing land. During the embryonic stages of the park, the Park Board would assume the adjudicating or regulatory function via a committee comprised for the most part of municipal representatives with possible representation by the university and the private sector. Elected or appointed members of resident firms would gradually replace these representatives until a desired balance had been achieved, at which point this particular function would become the responsibility of the Park Management Committee.

10.1.2 Park Management Committee

The Park Management Committee, as envisioned in its mature state, would be comprised of a predetermined mix of municipal, university and resident industry representatives. As indicated, the primary function of the Committee would be to regulate the development within the park. In addition they would periodically review and amend existing policy and establish new policy relative to physical planning and design with the Park.

10.1.3 Tenants Association

The tenants association would be comprised of representatives from companies owning property and/or buildings within the park. An executive committee would be elected from these representatives and sit on the Park Management Committee. This particular organization would represent the views of resident industry in both evaluating and approving new development applications and setting policy for the park. Policy objectives of the association would be put before the overall Park Management Committee by the executive committee of the tenants association for ratification.

The tenants association would more than likely operate through the use of committees such as: maintenance, safety and security, architecture, library and information services, university relations, social and recreation, etc.

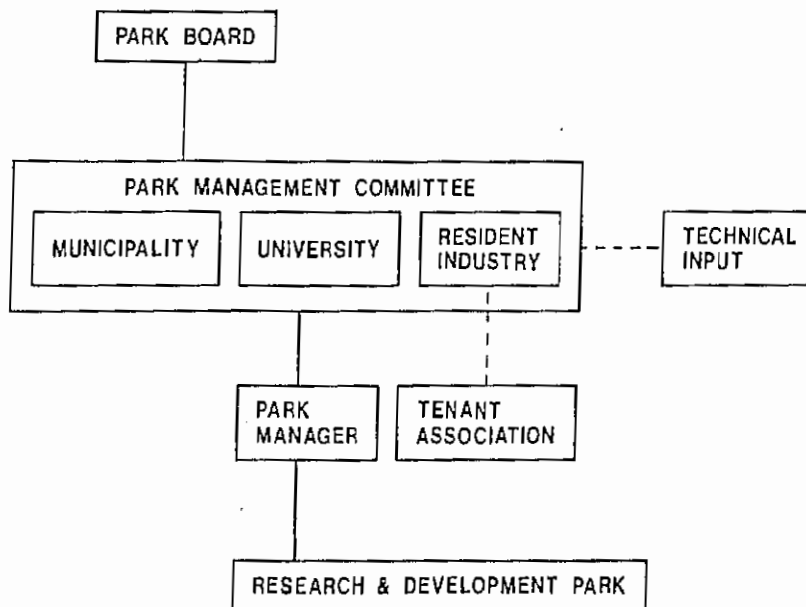
10.1.4 Park Manager

Decisions of the board and the committee would be executed through a park manager, who would also be responsible for the day-to-day business and coordination of park operations.

10.1.5 Technical Personnel

The Park Management Committee would be assisted in the development approval process by technical personnel who would review all development submissions and provide comments on the more detailed technical aspects of applications. This function could be performed by a consulting architect retained on a per diem basis. Alternatively, full time park management staff or municipal staff in the design professions could provide this service.

4. PARK MANAGEMENT STRUCTURE



10.2 Development Approval Process

In view of the highly specialized nature of the research and development park and the number of unique aspects relative to the planning and design of this type of facility it was considered essential that a separate regulatory body retain direct control over the Park's development parameters and the terms and conditions made under which the land was made available. In part, the intent was to establish on the very critical, formation stages a flexible evaluation and implementation format, one which would facilitate revision and refinement and could more easily be amended. As a result the relevant municipal legislation and in particular the land use bylaw had been kept deliberately general with the detailed aspects of planning and design contained within the development standards and design guidelines (document) which became the mandate of the Park Management Committee who will assume responsibility for regulating development activities within the Park.

The recommended development approval process is described in the accompanying figure. As indicated, primary control and responsibility lies with the Park Management Committee, with limited municipal input. The municipality would be primarily concerned with minimum controls established in the pertinent municipal legislation (area structure plan, land use bylaw).

The approval process described in the illustration is a protracted or extended version, whereby the plan evolves over a series of meetings and would be employed in the case of large and complex developments locating within the park. For more straightforward applications, several of the steps relating to the evaluation of a preliminary submission would be eliminated

and in essence, the proponent would proceed directly from Stage 1, approval in principle of the project's general intent, to Stage 3, or submission of the detailed design.

The outline has been prepared based on sale of lot, however, basically the same format shall be utilized for ground lease, and leaseback arrangements.

The various stages are described as follows:

STAGE 1

1. Developer/industry makes application to Park Management Committee for purchase of lot.
2. Asked to make submission of very preliminary nature detailing type of operation, type of facility proposed, etc.
3. If submission acceptable, complies with various restrictions, sale of lot is arranged.
4. After purchase of lot is complete and developer indicates a wish to proceed with building designs, a preliminary meeting is arranged at which time, the builder, accompanied by his architectural, engineering and landscape consultants, is familiarized by the Park Management Committee/park manager, with the park concept, the approval process and all the site conditions which require special design considerations.
5. Builder presented with procedures manual or site information package detailing data required for submission, principles or elements of design which must be considered and specific design guidelines.

STAGE 2

7. Builder makes preliminary submission. This would normally be in the nature of a master plan and should be in sketch form without excessive detail. It should be sufficient to convey the basic ideas to professional persons experienced in the areas of concern and to secure approval before the designer proceeds to the next stage. Sketch proposal shall include full information regarding the existing site and its environment. The sketch drawings shall indicate also the nature and physical appearance of the works involved.

- 10.7
8. Submission reviewed by technical advisor and his comments forwarded to Committee.
 9. Meeting between builder, Committee and consulting architect to discuss preliminary submission. Meeting should be informal allowing for the exchange of design philosophies and solutions.
 10. On the basis of the presentation and the information received beforehand, the development application is given one of the following inspection marks as warranted:
 - approved by
 - approved subject to following conditions
 - not approved for following reasons

STAGE 3

11. Builder submits detailed design plans as outlined in the requirements manual.
12. Material reviewed by technical advisor and his comments forwarded to the Committee.
13. Builder makes formal presentation to Park Management Committee.
14. Information is given on the following inspection marks as warranted:
 - approved by
 - approved subject to following conditions
 - not approved for following reasons
15. Where revisions are required, a meeting will be scheduled between the appropriate members of the Park Management Committee, the consulting architect, the builder and his design consultants.
16. When the builder has achieved a final design acceptable to the Park Management Committee, he will be issued a written approval.
17. One set of the approved drawings and material will be returned to the builder, the other set being retained by the Park Management Committee for future reference purposes.

STAGE 4

18. The builder may then apply for development permit at the municipal level.
19. If changes to the approved drawings are required for the municipality for any reason, the builder must notify the Park Management Committee immediately of any changes for re-evaluation of the total plan submission.

STAGE 5

20. The Park Management Committee, through the park manager or technical advisor, would undertake a minimum of two site inspections, one during construction and one following completion of the development, to ensure compliance with the approved plans.

THIS RESTRICTIVE INDENTURE is made the 13 day of November
A.D. 1981.

BETWEEN:

THE CITY OF EDMONTON,
a municipal corporation,
(hereinafter called "the Covenantor")

OF THE FIRST PART,

- and -

THE CITY OF EDMONTON,
a municipal corporation,
(hereinafter called "the Covenantee")

OF THE SECOND PART.

WHEREAS:

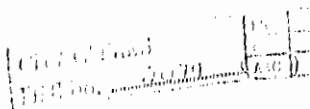
1. The Covenantor is the registered owner of lands in the City of Edmonton, in the Province of Alberta, legally described as:

Benefit of
Lots 1 to 4, Block 1, Edmonton Plan 8120859, and Lots 1
to 8, Block 2, Edmonton Plan 8120859, and Lots 1 to 8,
Block 3, Edmonton Plan 8120859 (N.E. 33-51-24-W4th)
(hereinafter called "the servient lands").

2. The Covenantee is the registered owner of and intends to retain the lands legally described as:

Benefit of
Lot 1PUL, Block 4, Edmonton Plan 8120859, and Lot 2PUL,
Block 2, Edmonton Plan 8120859 (N.E. 33-51-24-W4th)
(hereinafter called "the dominant lands"),

which public utility lots are capable of being benefited by the restrictive covenants hereinafter set forth.



3. The Covenantor has laid out in lots as a research park all of the dominant lands and the servient lands to the intent that the servient lands shall be developed to each contain a building structure of certain minimum specifications and shall only be used in the manner hereinafter mentioned.

NOW THEREFORE THIS DEED WITNESSETH that for the benefit and protection of the dominant lands or any parts thereof, and in consideration of the sum of One -----(\$1.00)-----Dollar paid by the Covenantor to the Covenantee (the receipt whereof is hereby acknowledged by the Covenantor) the Covenantor, on behalf of itself, its successors and assigns, hereby covenants with the Covenantee, its successors and assigns, to the intent that the burden of the restrictive covenants hereinafter set forth may run with and bind the servient lands and every part thereof, to the further intent that the benefit thereof may be annexed to and run with the dominant lands and every part thereof to observe and perform the following restrictive covenants, that is to say:

1. Not to erect or permit or cause to be erected on any of the servient lands or any part thereof any building or buildings of any kind unless the said building or buildings complies with the development standards and design guidelines, a copy of which is attached hereto as Schedule "A".

2. Not to use or permit or cause to be used any of the servient lands or any part thereof (including any buildings thereon) for purposes other than those permitted in the said development standards and design guidelines.

3. The Covenantor covenants he will extract the same covenants as contained herein from the purchaser of any conveyance which the Covenantor may make of the servient lands.

THE COVENANTOR AND THE COVENANTEE HEREBY EXPRESSLY AGREE AS FOLLOWS:

- (1) This deed and the covenants herein set forth are hereby expressly annexed to the dominant lands.
- (2) This deed shall enure to the benefit of and be binding upon the Covenantor and Covenantee and their respective administrators, successors, and assigns.
- (3) The Covenantor acknowledges that the covenants herein contained are expressly intended to prevent disposition or use of any of the said servient lands or any part thereof except in conformity with the said development standards and design guidelines.

PROVIDED ALWAYS and it is hereby expressly agreed and declared as follows:

- (1) Nothing herein contained shall obligate the Covenantee to enforce the aforementioned covenants or any of them or otherwise render the Covenantee liable in damages or otherwise for any breach or non performance of any of the aforementioned covenants.
- (2) The Covenantee shall have the right from time to time and at the Covenantee's absolute and unfettered discretion, to vary, alter or modify any of the aforementioned covenants in respect of any of the said servient lands, or otherwise to relieve (either temporarily or permanently) the owner of any of the said servient lands from the performance of any one or more or all of the aforementioned covenants, or otherwise to cancel or rescind these presents in respect of any one or more of the said servient lands.

(3) Neither the granting of time by the Covenantee to the Covenantor or any other owner for the time being of any of the said servient lands to remedy any breach of any of the nforesaid covenants, nor the fact of the Covenantee failing to take action upon any breach by the Covenantor or any such owner of any of the aforesaid covenants, shall operate as a waiver or otherwise estop the Covenantee from taking action thereafter against the Covenantor or any such owner to enforce these presents, and any breach by the Covenantor or any such owner of any of the aforesaid covenants shall be deemed to be a continuing breach which may be restrained, enjoined or otherwise remedied by appropriate proceedings by the Covenantee.

(4) If any or more of the aforementioned covenants shall at any time during the term hereof be held by any court of competent jurisdiction to be invalid or unenforcable in the manner contemplated herein, then such covenant shall be severed from the rest of the aforementioned covenants, and such severence shall not prejudicially effect the enforceability of the remaining covenants in accordance with the intent of these presents.

IN WITNESS WHEREOF the Covenantee and the Covenantor have executed these presents the date and year first above written.

THE CITY OF EDMONTON

APPROVED
Is to Form
to Content
to Principal

[Signature]
MAYOR (as Covenantor)
[Signature]
CITY CLERK (as Covenantor)

THE CITY OF EDMONTON

[Signature]
MAYOR (as Covenantor)
[Signature]
CITY CLERK (as Covenantor)