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DEVELOPMENT PLAN 1979-1984

BCIT
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
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DEVELOPMENT PLAN 1979-1984

British Columbia Institute of Technology

by BRAWN PARSONS WOOD

ACKNOWLEDGEMENTS

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INTRODUCTION

OVERVIEW

BCIT has reached a critical stage in its development. Growth in the last five years has resulted in the demand for additional space exceeding the supply available in permanent buildings. While many temporary buildings have been added to the campus to meet the demand for space, a serious shortfall continues to exist. Recently, the administration of BCIT has submitted to the Provincial Government a justification for space and facilities that calculates a present shortfall of 200,000 gross square feet. This shortfall is in the order of 67,000 net square feet of classrooms, 12,000 net square feet of faculty offices, and 42,500 net square feet of instructional, student and general support space. Other space requested, but separate from the shortfall, is approximately 35,000 gross square feet of storage and maintenance, plus Broadcast, Pollution Treatment, and Hospitality labs. In addition, the administration has recently submitted BCIT's Five Year Plan, which indicates additional growth requiring some 400,000 gross square feet for the five year period.

During this academic year other pressures have come to bear on the land resources of the campus. PVI construction of the Electrical Building, parking dislocations, development of additional parking facilities, acquisition and siting of a number of new portables, expansion requirements for PEMC, and a possible land exchange with BCDC's Research Park Development. All have come to focus on a need for a Campus Development Plan.

If one includes the PEMC requirement of an additional 15,000 gross square feet of space, the scale of development to be reflected within the Development Planning exercise if some 650,000 gross square feet. Excluding residences, this represents a doubling of the campus area. It should be noted, however, that the space regained by PVI Food Training withdrawing from the BCIT campus before 1984, and the acquisition of the UBC TTC Building as an instructional resource by 1981, could reduce the new construction required by approximately 100,000 gross square feet.

PLANNING OBJECTIVES

The primary objective of the Campus Development Planning exercise is to establish a flexible physical infrastructure for expansion that is first, responsive to the educational requirements of the Institution and secondly, provides a framework in which decisions can be made concerning:

. The nature and quality of campus circulation.
. The use of existing facilities.
. Placement of new facilities, be they permanent or temporary in nature, in relationship to the overall campus network.
. The preservation and enhancement of open space for athletics, recreation and passive enjoyment.
. The extent to which on-site parking can be accommodated without compromising educational and environmental requirements.
. The development of a planning structure which can respond to fluctuating capital budget commitments.

The Development Planning should evolve from the data and experience held by the Institute, including studies done by and for the Institute, such that the product is an appropriate expression of the character and experience of BCIT.

The framework for development should be flexible and dynamic, such that the options available for the Institute for further development on campus are not compromised. The Development Planning documentation should be designed as an ongoing tool for Institutional Planning. It should allow for the continuous updating and refinement of Institutional information required for planned decision making.

PLANNING APPROACH

Campus Development Planning is an ordered process, whereby educational requirements are translated into built form requirements. The methodology used is as follows:

. Issue analysis was undertaken to gain planning assumptions that would establish the parameter for the planning exercise.
. Population projections required for the Institution's Five Year Plan were distributed by existing and future Instructional Divisions and Departments and Support component functions with current populations along with the existing square footage they occupy. The average square feet per occupant is displayed to reveal space inequities and provide a basis for revising space standards. The format for display reflects the functional framework established by the College Space Inventory and all space classifications should adhere to the definitions established by the Inventory so that comparative analysis is possible.
. Relationships between programs and Departments based upon teaching technology contact hours and laboratory use were established to assist in the determination of physical proximities.
. The current location of all instructional space by Division and Department and Support space categories were identified and documented against an inventory of all existing facilities which classified all space within four broad space types.
. Existing vehicular and pedestrian circulation systems were analyzed and documented in order to obtain an understanding of the existing setting and identify conflicts which currently exist.
. The existing campus land holdings were structured into a series of discrete sites which were analyzed individually in order to identify the development capability of the BCIT property.
. Staff and student parking demand was projected and studies were undertaken to ensure that the resulting spatial demand of these facilities was realizable on the campus without compromising Institutional growth and environmental quality.
. Existing service deficiencies were identified and documented in order that future work in this area can be dovetailed into the Development Planning process.
. Both current and suggested active and passive recreational amenity areas were identified and documented as zones in which no construction should be permitted.
. A balanced development structure was formulated for the ongoing development of the campus.
. Optional locations for all identified tenancies were isolated by utilizing previously identified tenancy relationships.
. Assumptions were made in order to test the workability of the planning tool. These resulted in the layout identified as Development Plan, Option 1, June 1979.

In a number of areas of the study, the information currently available is inadequate for definitive decision making. The documentation, however, has been designed as an ongoing development tool with complete capability for updating and refinement. Further, Physical Resources will have to undertake additional work on the identification of the appropriate services network as well as the development of guidelines and criteria for future construction.

OVERVIEW

On 5 April 1979 the consultants presented to the Facilities Planning Committee a Request for Direction containing 21 issues. During the next meeting of the Facilities Planning Committee, the Committee decided to disperse the issues to the Executive Committee, the Deans, and the Department Heads, who were thought to be the more appropriate groups to be responding to the issues. On 23 April 1979 Institutional Planning forwarded to the Principals' Executive Committee and the Deans, a list of proposed planning assumptions for their response. On 8 May 1979 the consultants met with the Deans at the regular Tuesday meeting, and provided them with an overview of the planning work completed to date. Further discussion related to the issues and desired planning assumptions, resulted in the Deans examining the proposed planning assumptions, in conjunction with the issues, on the 15 May meeting. The following is the Deans' response to the Request for Direction:

ISSUE:

For the purpose of the planning exercise, what should the short, mid, and long-term campus boundaries be recognized as?

DECISION:

The Deans were unable to answer this particular issue. For the purpose of the Development Plan, it has been agreed with Institutional Planning that the campus should be planned related to the existing site boundaries only.

ISSUE:

How many Divisions should be allowed for in the short, medium, and long-term planning?

DECISION:

No significant change in the Divisional structure is anticipated.

ISSUE:

Aside from the space required to manage and develop the Division, should Continuing Education & Industry Services be constrained by the instructional space generated by day programs?

DECISION:

Achieve all requirements both on and off campus, balanced with what can realistically be achieved on campus. For the purpose of the planning exercise it was agreed with Institutional Planning, that Continuing Education & Industry Services be centralized in one location at an appropriate public entrance to the campus, and that in addition to their special need for a conference centre, they should be so located that access to a variety of classroom and lecture hall sizes be adjacent and contiguous.

ISSUE:

Is it fundamental to the Institution that each Division have a clearly established identity, image, and character to fulfil its institutional role?

DECISION:

While the Department is the basic building block of the instructional function, Divisional identity is important as well, within the constraints of existing and proposed built form possibilities and the economics of location. Continuing Education & Industry Services should be administratively together. Because of the interdisciplinary nature of health care provision, the Health Division regards Divisional identity as important to the instructional role. While Core would enjoy proximity, Divisional identity is less important than managing space utilization. The Business Division expressed the same attitude towards Divisional identity, and the Engineering Division placed Departmental identity above Divisional identity.

ISSUE:

To what degree should the Divisions and Departments be grouped to establish identity?

DECISION:

The Health and Continuing Education & Industry Services divisions are strongly in favour of grouping Departments by Division. Health, Engineering and Core Divisions indicated grouping by space type and strong functional relationships as primary, with a preference for Divisional integrity where cost permits, even if additional relocations are necessary.

ISSUE:

Should the Deans be located with their Divisions or the central administration?

DECISION:

Locate the Deans with their Divisions.

ISSUE:

Should Department Heads be located with their Departments or with other Department Heads?

DECISION:

Business, Core, Health, Continuing Education & Industry Services, and Library, indicated a preference for Department Heads to be located with their Departmental faculty, near their Departmental space. The Engineering Division indicated a preference for Department Heads to be located near their Departmental faculty, but with a stronger preference of Departmental Heads to be located together.

ISSUE:

Should instructors' space be located with their Departmental space or with other instructors?

DECISION:

The Core, Health, and Engineering Divisions indicated a preference for departmentalizing instructors' space within a Division, while Business preferred departmentalizing instructors' space.

ISSUE:

Will classrooms be managed as campus space or Departmental space?

DECISION:

Classrooms will remain in a common pool, with preferential scheduling in relationship to a Departmental location and classroom requirements.

ISSUE:

Will all classrooms be classified for the same role or will there be a range of classifications?

DECISION:

Classrooms should be able to flexibly respond to a variety of instructional uses. Many classrooms should be designed for displaying of support material and utilization of audio/visual equipment. Classrooms designed with an internal storage component may be preferentially scheduled to Departments to meet their requirements for this type of space. Classrooms designed with

external storage components, are less likely to be preferentially scheduled.

ISSUE:

Should there be a standard class size?

DECISION:

For the purpose of campus planning, the equitable distribution of classroom space in relationship to Departmental need, is more important than the functional program requirement, where specific classroom size is related to detailed analysis of the need.

ISSUE:

What provision is to be made for instructors' office space?

DECISION:

A strong preference is shown for private offices at 100 square feet per instructor. Part-time instructors should have a separate space where there are a large number in a Department. Where the number of part-time instructors is low, the additional space should be added to the full-time instructors' office or shared office area.

ISSUE:

What is the policy related to the role and extent of self-learning and self-learning support?

DECISION:

As self-learning space is currently at a minimum, assume a sizable increase in self-learning and self-learning support to be defined in the Functional Programming process.

ISSUE:

Should self-learning requirements be standardized and centralized or be tailored to individual Divisional and/or Departmental requirements?

DECISION:

Assess the total number of self-learning carrels required and their relationship to specific needs of Divisions, Departments and programs, centralize some and distribute the others.

ISSUE:

To what extent will increase in self-learning affect amounts and types of materials and equipment required for support?

DECISION:

Assume that the increased needs for production, circulation, storage and repair can be handled within the audio/visual and library resources available.

ISSUE:

What is the policy related to audio/visual production facilities?

DECISION:

Assume audio/visual production facilities are centralized.

ISSUE:

What is BCIT and Ministry policy related to dedicated space for curriculum development?

DECISION:

A modest amount of curriculum development space (e.g., 2 or 3 small offices) should be provided.

ISSUE:

What is BCIT and Ministry policy related to the amount and type of student study space?

DECISION:

Assume an area allowance, and during the Functional Programming phase, refine distribution and locations based on specific program needs. Distribution of study opportunities should also be strongly related to the quality of circulation between buildings.

ISSUE:

What is BCIT and Ministry policy related to criteria for library size and locations?

DECISION:

Examine in greater detail the library needs of each Division and recommend the nature, character, and size of the library required to meet these needs. Although Departments may develop localized library resources of a specific nature for their own use, the library will remain a centralized operation.

ISSUE:

What is BCIT policy on the provision of student and faculty recreation resources?

DECISION:

Assume a diversity of recreational activities be provided on campus, external to the learning environments.

ISSUE:

What standards should be used for the provision of faculty and student lounge space?

DECISION:

Separate student and faculty lounges should be provided. Faculty lounge space should be centralized, while student lounge space may be distributed on the basis of student distribution. It was suggested that during the Functional Programming stage, analysis of the need for lounges and a standard for providing them should be made.

ISSUE:

What is BCIT policy related to the provision of faculty and student parking?

DECISION:

For the Development Plan, it has been assumed that the current shared parking arrangement with PVI will continue. Further, it has been assumed that the 1983/84 parking requirements based on current student and staff to parking ratio, should be accommodated on site. During the Development Plan, the implications of these assumptions should be analyzed.

In addition to the response to the above issues, the Deans responded to a series of planning assumptions provided by Institutional Planning. The following assumptions have been agreed to:

- Existing relationships between Departments will continue.
- Present class size and instructional organization will continue.
- The present policy of central stores will be maintained.
- Student athletics will be continued on the same scale, with emphasis on intramural activities.
- Student residences will double in the next five years, and should further residential development take place, site limitations will require greater density, or an alternate off-site location.
- The development planning will rationalize existing and future circulation within buildings and covered connectors between buildings.

OVERVIEW

One of the most important parameters of a Campus Development Plan is the degree of growth that must be accommodated in the short, medium, and long-term. The Institution has prepared and submitted to the Ministry of Education a preliminary Five Year Plan which documents the overall projections of students, faculty and staff. Fundamental to the overall projections of students for 1983/84 is the Institutional analysis of BCIT's "Catchment Population Projections" and "Anticipated Participation Rates". It is assumed that, should this documentation be used in any way to rationalize student projections, Catchment Population Projections and Anticipated Participation Rates developed by Institutional Planning will be appended.

This section of the documentation attempts to place existing and projected populations into a useful planning and analysis framework for ongoing decision making. In essence, it places all populations within a functional framework and relates the population of each functional grouping to the existing net square feet devoted to the function and the resulting net square feet per occupant. By relating populations to space in this way, space inequities and deficiencies are exposed and more equitable space criteria can be developed to eliminate these problems during the Functional Programming stage of approved expansion.

The Functional Framework and Functional groupings used are those developed for the College System Space Inventory Committee and the Ministry of Education. Inserted into the framework are the existing space and populations as well as the 1983/84 projections. The large table below contains an unrationalized summary of this information and the tables on the pages that follow contain a detailed breakdown of all populations and space by the functional groupings identified in the summary.

Accessing definitive data within the time frame of the planning exercise has been impossible. Incorrect interpretation of the space classifications used in the Campus Inventory has resulted in substantially different space allocations by functional groupings than those contained in the Inventory Summary as shown above.

	78/79 Students			78/79 Space		83/84 Stud		78/79 Staff					78/79 Space		83/84 Staff					
Functional Group	Total Enrol	No of Sets	Av Set Size	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean Dep Hd	Faculty	Tech	Cleric	Other	Fac Space	Av ft²/ Occup	Dean Dep Hd	Faculty	Tech	Cleric	Other
INSTRUCTIONAL																			
. Business	1453	82	17	19434	13.4	2247	127	1 7	114.5	4.5	4.0	-	10363	79.1	1 7				
. Engineering	1668	112	14	91982	56.2	2074	137	1 9	103.0	42.0	4.5	-	12369	77.1	1 8				
. Health	738	53	12	26748	36.2	1336	123	1 7	95.0	14.5	8.5	-	8940	70.9	1 7				
. Core	-	-	-	16576	-	-	-	1 4	70.5	10.0	3.0	-	5976	67.5	1 4				
. C.E. & I.S.								1 2					7685						
. Pooled Classrooms	-	-	-	67026	-	-	-												
. Faculty/Staff	-	-	-	45333									45333						
Subtotal	3859			267099		5657													
Instructional Support				32219															
Student Support				23110															
Special Support				72226															
General Support				90862															
Admin Support				13095															
Building Support				18625															
Unassigned				3153															
Subtotal				253290															
GRAND TOTAL				520389															

FUNCTIONAL GROUP	NET ASSIGNABLE INVENTORY	NET ASSIGNABLE PLANNING
Instructional	244,524	267,099
Instructional Support	69,976	32,219
Student Support	45,325	23,110
Special Support	70,816	72,226
General Support	32,626	90,862
Administration Support	29,948	13,095
Building Support	13,215	18,625
Unassigned	13,959	3,153
TOTAL	520,389	520,389

As part of the ongoing updating of the data contained in the Development Planning Exercise, the space assigned to Functional Groupings will be rationalized to the inventory and square feet per user/occupant adjusted.

During the planning exercise, student, faculty, and staff projections have continued to be refined by the Institution for final submission of the Five Year Plan.

The following is an unrationalized summary of faculty and staff, provided by Institutional Planning:

FUNCTIONAL GROUP	78/79 FACULTY	78/79 OTHER	83/84 FACULTY	83/84 OTHER
Instructional				
. Business	126.0		181.0	
. Engineering	154.0		202.0	
. Health	116.5		153.0	
. Core	83.5		117.0	
. C.E. & I.S.	3.0		7.0	
. Part-time FTE	89.0		168.0	
. Tech. Ed.		68.5		184.5
Instructional Total	572.0	68.5	828.0	184.5
Non-Instructional Total		265.5		353.5
CAMPUS TOTAL	572.0	334.0	828.0	538.0

As part of the ongoing updating of the data required for the exercise, the campus population will be rationalized and correctly distributed within all Functional Groupings by Institutional Planning.

The summary above does provide the information necessary for the parking study. Institutional Planning, however, will have to rationalize the 1978/79 figures shown as well as fill in all staffing projections left blank in the following charts. The empty columns on either side of the chart have been provided for notes related to projection rationalization.

INSTRUCTIONAL

BUSINESS

PROGRAM DATA		78/79 Students			78/79 Space		83/84 Studs		78/79 Staff					78/79 Space		83/84 Staff					
Department	Year	Total Enrol	No of Sets	Av Set Stud	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean	Other Dep Hd	Faculty	Tech	Cleric	Fac Space	Av ft²/ Occup	Dean	Dep Hd	Faculty	Tech	Cleric	Other
Administrative Management	1	126	6	20			160	8													
	2	97	6	14			132	8													
	3	12	1	12			45	3													
	4																				
	Total	235			0	0	337			1	22.0		0.5	2779	118.2						
Broadcast Communications	1	98	5	19			140	7													
	2	80	5	15			108	7													
	3						50	3													
	4																				
	Total	178			7257	40.8	298			1	14.0	2.5	0.5	1069	59.3						
Computer Programming	1	109	5	20			120	6													
	2	70	4	17			75	5													
	Total	179			4599	25.7	195			1	17.5			1103	59.6						
Financial Management	1	148	9	15			180	9													
	2	92	7	13			135	9													
	3						17	1													
	4																				
	Total	240			2240	9.3	332			1	20.0		0.5	1209	56.2						
Hospitality & Tourism	1	160	7	21			200	10													
	2	80	5	15			135	8													
	3						15	1													
	4																				
	Total	240			2405	10.0	350			1	10.0	1.0		1069	89.0						
Marketing & Management	1	177	8	21			340	10													
	2	116	8	16			255	17													
	Total	293			893	3.0	595			1	15.0		0.5	1164	70.5						
Operations Management	1	55	3	20			80	4													
	2	33	3	13			60	4													
	Total	88			2040	23.2	140			1	16.0		1.0	1970	109.4						
TOTALS	1	873	43	19			1220	61													
	2	568	38	14			900	58													
	3	12	1	12			127	8													
	1+2+3	1453	82	17	19434	13.4	2247	127		7	114.5	4.5	4.0	10363	79.0						
Chemistry					10022					1	9.5	4.0	0.5	959	64.0						
English					1352					1	30.0	1.0	1.0	1953	59.2						
Mathematics					00					1	19.0		0.5	1834	89.5						
Physics					5202					1	12.0	5.0		1230	91.1						
TOTAL					16576					4	70.5	10.0	3.0	5976	67.5						

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INSTRUCTIONAL

ENGINEERING

PROGRAM DATA		78/79 Students			78/79 Space		83/84 Studs		78/79 Staff				78/79 Space		83/84 Staff					
Department	Year	Total Enrol	No of Sets	Av Set Size	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean Other Dep Hd	Faculty	Tech	Cleric	Fac Space	Av ft²/ Occup	Dean	Dep Hd	Faculty	Tech	Cleric	Other
Building	1	114	6	19			117	6												
	2	93	8	11			105	10												
	Total	207			3482	18.6	222			10.0	5.0		2033	127						
Chemical/	1	54	4	19			68	4												
Metallurgical/	2	55	4	13			60	5												
Mining	1	18	1	18			34	2												
	2	13	1	13			28	2												
	Total	140			13409	95.8	190			7.0	3.0		1193	108.5						
Civil &	1	63	4	15			80	5												
Structural	2	56	4	14			70	5												
	Total	119			7896	66.3	150			8.0	3.0		718	65.3						
Electrical &	1	216	12	17			215	13												
E & I	2	172	13	13			190	15												
	Total	388			22070	56.9	405			25.0	9.0		2518	72						
Biological	1	81	5	15			120	8												
Sciences	2	61	4	15			90	6												
	Total	142			8976	63.2	210			8.0	4.0		866	66.6						
Forestry	1	131	8	15			120	8												
	2	111	8	13			126	10												
Forest	1	38	3	12			34	3												
Products	2	20	2	9			38	4												
	Total	300			17215	57.3	318			20.0	11.0		2723	85						
Natural Gas	1	20	1	18			34	2												
& Petroleum	2	16	1	16			30	2												
	Total	36			1338	37.2	64			1.0	1.0		300	100						
Mechanical	1	92	5	17			108	6												
	2	68	5	13			90	7												
	Total	160			13034	81.5	198			12.0	2.0		1158	77.2						
Surveying	1	73	4	17			85	5												
	2	71	7	10			90	9												
	Total	144			4202	29.2	175			12.0	4.0		860	50.6						
Recreation	1						30													
Facilities	2						25													
Management	Total						55													
Fish	1						30													
Culture	2						25													
	Total						55													
Pre-Technology	1	32	2	16			32													
Program	Total	32			00		32													
TOTALS	1	932	55	16			1107	62												
	2	736	57	12			967	75												
	1+2	1668	112	14	91982	55.1	2074	137		103.0	42.0	4.5	12369	77.5						

INSTRUCTIONAL

HEALTH

PROGRAM DATA		78/79 Students			78/79 Space		83/84 Studs		78/79 Staff					78/79 Space		83/84 Staff						
Department	Year	Total Enrol	No of Sets	Av Set Stud	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean Other Dep Hd	Faculty	Tech	Cleric		Fac Space	Av ft²/ Occup	Dean	Dep Hd	Faculty	Tech	Cleric	Other
Medical Laboratory	1	60	4	15			70	(4)													
	2	68	6	11			80	(6)													
	Total	128	10	13	11368	88.8	150		1	13.0	9.0			968	42.1						
Medical Radiography	1	51	3	16			50	3													
	2	44	4	11			48	4													
	Total	95	7	14	3747	39.4	98		1	7.0	1.0	1.0		918	91.8						
Nuclear Medicine	1	17	1	17			17	1													
	2	14	2	7			14	2													
	Total	31	3	11	1787	57.6	31			2.0				421	210						
Registered Nursing	1	61	4	15			180	13													
	2	115	7	16			160	11													
	3						60														
	Total	176	11	16	2305	13.1	400		1	37.0	1.0	3.0		2845	67.7						
Phychiatric Nursing	1	58	3	18			200	10													
	2	79	6	13			200	10													
	Total	137	9	16	731	5.4	400		1	21.0	1.0	2.0		1888	75.5						
Biomedical Electronics	1	24	2	12			40	3													
	2	20	1	20			34	2													
	Total	44	3	15	2752	62.5	74		1	2.0	1.0	1.0		320	64						
Health Data	1	16	1	16			32	1													
	2	13	1	12			18	1													
	Total	29	2	15	736	25.4	50			2.0				212	106						
Environmental Health	1	59	4	14			60	4													
	2	39	4	9			55	4													
	Total	98	8	13	1274	13.0	115		1	4.0	1.0			624	104						
Prosthetics & Orthotics	1 (alternating years)						9														
	2 (alternating years)						9														
	Total						9														
Environmental Co-op	1 (alternate years)						9	1													
Health Co-op	2 (alternate years)							1													
	Total						9														
Basic Health Sciences					2048				1	7.0	0.5			744	87.5						
TOTALS	1	346	22	15			658	88													
	2	392	31	12			618	35													
	3						60														
	1+2+3	738	53	12	26748	36.2	1336	123	1	7	95.0	14.5	8.5	8940	70.9						

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INSTRUCTIONAL

CONTINUING EDUCATION/ INDUSTRY SERVICES

(Data unavailable at time of printing.)

PROGRAM DATA		1978/79 Students			78/79 Space		1983/84 Students		1978/79 Staff					1978/79 Space	1983/84 Staff				
Department	Year	Total Enrol	No of Sets	Av Set Size	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean	Dep Hd	Faculty	Tech	Cleric	Other	Fac Space	Av ft²/ Occup	Dean	Dep Hd	Faculty	Tech	Cleric	Other

SUPPORT COMPONENTS

PROGRAM DATA	1978/79 Students			78/79 Space		1983/84 Students		1978/79 Staff					1978/79 Space		1983/84 Staff				
Department	Year	Total Enrol	No of Sets	Av Set Size	Dept Space	Av ft²/ Stud	Total Enrol	No of Sets	Dean	Dep Hd	Faculty	Tech	Cleric	Other	Fac Space	Av ft²/ Occup	Dean	Dep Hd	Faculty	Tech	Cleric	Other
INSTRUCTIONAL SUPPORT																						
. Library					29161																	
. Audio/Visual					2578																	
. Timetabling					480																	
Total					32219																	
STUDENT SUPPORT																						
. Information Centre					1248																	
. Counselling					2279																	
. Financial Aid					595																	
. Admissions					2001																	
. Manpower					952																	
. Health Service					1217																	
. TNT Shops					1120																	
. Student Association					6453																	
. Lounges					7245																	
Total					23110																	
SPECIAL SUPPORT																						
. Residences					72226																	
GENERAL SUPPORT																						
. Central Food Service					13813																	
. 76 Building					1479																	
. Growlies					5262																	
. Road Runner					420																	
. Campus Recreation					23687																	
. Faculty Lounges					2548																	
. Conference Rooms					480																	
. Bank					2071																	
. Beauty Salon					432																	
. Book Store					4267																	
. Agency-PVI					11181																	
. Agency-PEMC					7094																	
. Agency BCBC					10446																	
. Agency Tel Com					1606																	
. Bunk Houses					6076																	
Total					90862																	
ADMINISTRATION SUPPORT																						
. Board of Governors					358																	
. Principal					624																	
. Personnel/Hum Res.					1734																	
. Purchasing					692																	
. Finance					3049																	
. Computer Centre					3851																	
. Technical Ed					360																	
. Admin & Bursar					323																	
. Institutional Plans					260																	
. Steno Support					1418																	
. Staff Society					426																	
Total					13095																	
BUILDING SUPPORT																						
. Physical Resources					3234																	
. Ship/Receive/Store					6576																	
. On Campus Store					2650																	
. Off Campus Store					6165																	
Total					18625																	

SECTION 3 : RELATIONSHIPS

OVERVIEW

Currently BCIT offers educational opportunities to approximately 3850 full-time students enrolled in courses offered by 29 Departments and taught by 34 teaching technologies contained in 4 Divisions. In addition, a fifth Division, Continuing Education & Industry Services, offers part-time students approximately the same range of opportunities through day and evening programming.

Given the number of contact hours of instruction generated by this population, and using traditional space and utilization standards, the Institution has a short-fall of approximately 200,000 gross square feet. Given BCIT's Five Year Plan which projects approximately 5650 students, it is estimated that an additional 450,000 gross square feet will be required to accommodate the increased activity. As the short-fall and increased activity space requirements will approximately double the existing instructional and support facilities, relationships generate extremely important criteria for maintaining and improving the functional integrity of the Institution.

In terms of the Campus Development Planning exercise, detailed knowledge of the significant relationships between Departments and teaching technologies will provide the basis on which any locational option for a Department can be tested. Two criteria for determining relationships have been used in this exercise: Relationships generated between teaching technologies and programs based on annualized contact hours; and Relationships generated between Departments based on the interdepartmental use of dedicated general and specific heavily serviced special purpose space. Contact hour volume will, in a general sense, establish which Departments in conjunction with an adequate amount of general classroom space, should be in close proximity with each other. Lab use interdependency will also dictate Departmental adjacencies subject to the degree any Department is "fixed" by its existing specialized space.

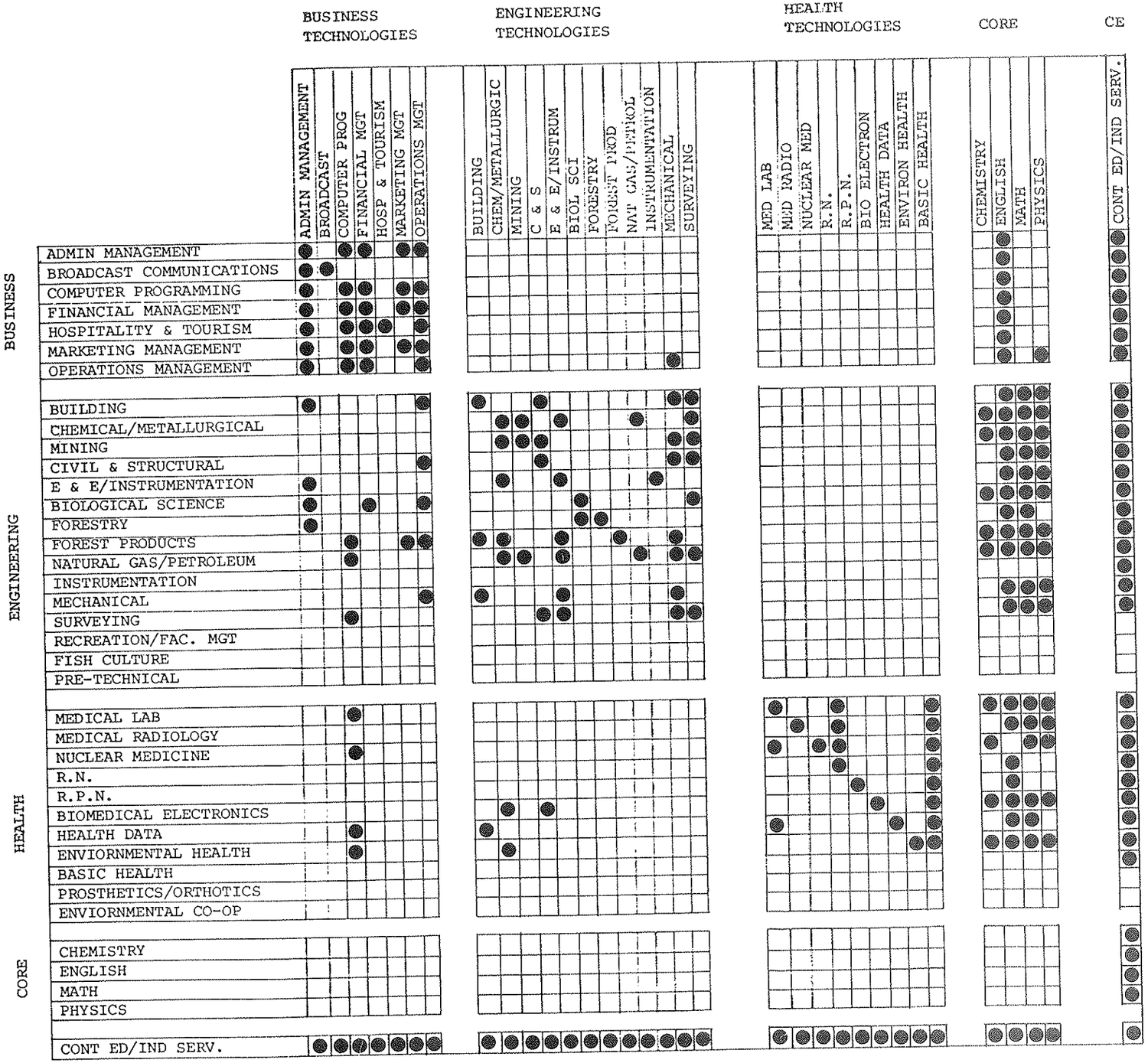
As the development of a detailed understanding of relationships is ongoing, the blank relationship matrix to the left has been included to establish weighted relationships evolving out of the two relationship exercises following.

		BUSINESS TECHNOLOGIES							ENGINEERING TECHNOLOGIES									HEALTH TECHNOLOGIES									CORE				CE
		ADMIN MANAGEMENT	BROADCAST	COMPUTER PROG	FINANCIAL MGT	HOSP & TOURISM	MARKETING MGT	OPERATIONS MGT	BUILDING	CHEM/METALLURGIC	MINING	C & S	E & E/INSTRUM	BIOL SCI	FORESTRY	FOREST PROD	NAT GAS/PETROL	INSTRUMENTATION	MECHANICAL	SURVEYING	MED LAB	MED RADIO	NUCLEAR MED	R.N.	R.P.N.	BIO ELECTRON	HEALTH DATA	ENVIRON HEALTH	BASIC HEALTH	CHEMISTRY	ENGLISH	MATH	PHYSICS	CONT ED/IND SERV.
BUSINESS	ADMIN MANAGEMENT																																
	BROADCAST COMMUNICATIONS																																
	COMPUTER PROGRAMMING																																
	FINANCIAL MANAGEMENT																																
	HOSPITALITY & TOURISM																																
	MARKETING MANAGEMENT																																
	OPERATIONS MANAGEMENT																																
ENGINEERING	BUILDING																																
	CHEMICAL/METALLURGICAL																																
	MINING																																
	CIVIL & STRUCTURAL																																
	E & E/INSTRUMENTATION																																
	BIOLOGICAL SCIENCE																																
	FORESTRY																																
	FOREST PRODUCTS																																
	NATURAL GAS/PETROLEUM																																
	INSTRUMENTATION																																
	MECHANICAL																																
	SURVEYING																																
	RECREATION/FAC. MGT																																
	FISH CULTURE																																
	PRE-TECHNICAL																																
HEALTH	MEDICAL LAB																																
	MEDICAL RADIOLOGY																																
	NUCLEAR MEDICINE																																
	R.N.																																
	R.P.N.																																
	BIOMEDICAL ELECTRONICS																																
	HEALTH DATA																																
	ENVIORNMENTAL HEALTH																																
	BASIC HEALTH																																
	PROSTHETICS/ORTHOTICS																																
	ENVIORNMENTAL CO-OP																																
CORE	CHEMISTRY																																
	ENGLISH																																
	MATH																																
	PHYSICS																																
CE	CONT ED/IND SERV.																																

CONTACT HOURS

Students in a program within a Department take a number of courses, many of which are taught by faculty from other Departments. In an ideal system, a program should be located in a zone containing those Departments and/or faculty which provide most of their course teaching.

One of the primary ways of establishing the relationships between a program and all other teaching technologies is to examine the student contact hours generated. The relationships generalized in the matrix to the right are based on annualized student contact hours (ASCH) analysed by Institutional Planning. No attempt has been made to establish priority relationships based on the comparison of ASCH generated by each teaching technology within each program. As this information becomes available in detail and a distinction can be made between ASCH generated in classrooms and labs, the ASCH for each technology can be inserted into the text and weighted relationships determined by Institutional Planning. A further benefit of this analysis is the ability to determine the number of classrooms required for each Departmental grouping, based on converting ASCH to WSCH (Weekly Student Contact Hours).



A. BUSINESS MANAGEMENT DIVISION

ADMINISTRATION MANAGEMENT

Taught by:

English ( ), Operations Management ( ), Marketing Management ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Broadcast Communications( ), Computer Programming ( ), Financial Management ( ), Hospitality & Tourism ( ), Marketing Managment ( ), Operations Management ( ), 2nd year Building ( ), 2nd year Electrical & Electronics/Instrumentation ( ), Agricultural Management in Biological Sciences ( ), 2nd year Forestry ( ).

Comments:

Highest degree of interaction in 1st year Business program.

brawn parsons wood

BROADCAST COMMUNICATIONS

Taught by:

English ( ), Administrative Management ( ), Broadcast Communications ( ).

Teaches to:

Self only.

Comments:

None.

COMPUTER PROGRAMMING

Taught by:

English ( ), Operations Management ( ), Marketing Management ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Administration Management ( ), Computer Programming ( ), Financial Management ( ), Hospitality & Tourism ( ), Marketing Management ( ), Operations Management ( ), 2nd year Forest Products ( ), 2nd year Natural Gas & Petroleum ( ), 2nd year Surveying ( ), 1st year Medical Laboratory ( ), 2nd year Nuclear Medicine ( ), 1st year Health Data ( ), 2nd year Environmental Health ( ).

Comments:

Highest degree of interaction in 1st year Business program.

FINANCIAL MANAGEMENT

Taught by:

English ( ), Operations Management ( ), Marketing Management ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Administration Management ( ), Computer Programming ( ), Financial Management ( ), Hospitality & Tourism ( ), Marketing Management ( ), Operations Management ( ), Agricultural Management in Biological Sciences.

Comments:

Highest degree of interaction in 1st year Business program.

HOSPITALITY & TOURISM

Taught by:

English ( ), Operations Management ( ), Hospitality & Tourism ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Self only.

Comments:

None.

MARKETING MANAGEMENT

Taught by:

English ( ), Operations Management ( ), Marketing Management ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Marketing Management ( ), Computer Programming ( ), Wood Products in Forest Products ( ).

Comments:

Highest degree of interaction in 1st year Business program.

OPERATIONS MANAGEMENT

Taught by:

Physics ( ), English ( ), Mechanical ( ), Operations Management ( ), Financial Management ( ), Computer Programming ( ), Administration Management ( ).

Teaches to:

Administration Management ( ), 2nd year Computer Programming ( ), Hospitality & Tourism ( ), 1st year Real Estate in Marketing Management ( ), 2nd year Building ( ), 2nd year Civil & Structural ( ), Agricultural Management in Biological Sciences.

( ), Wood Products in Forest Products ( ), 1st year Natural Gas & Petroleum ( ), Production in Mechanical ( ).

Comments:

Highest degree of interaction in 1st year Business program.

B. ENGINEERING DIVISION

BUILDING

Taught by:

Physics ( ), Mathematics ( ), English ( ), Surveying ( ), Mechanical ( ), Civil & Structural ( ), Building ( ), Operations Management ( ), Administration Management.

Teaches to:

1st year Pulp & Paper in Forest Products ( ), Design in Mechanical ( ), 2nd year Health Data ( ).

Comments:

Mathematics and Physics are taught only to 2nd year Building Programs.

CHEMICAL/METALLURGICAL/MINING

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Surveying ( ), Mechanical ( ), Natural Gas & Petroleum ( ), Electrical & Electronics/Instrumentation ( ), Mining ( ), Chemical/Metallurgical ( ).

Teaches to:

2nd year Instrumentation ( ), 2nd year Forest Products ( ), 2nd year Natural Gas & Petroleum ( ), 2nd year Biomedical Electronics ( ), 2nd year Environmental Health ( ).

Comments:

None.

CIVIL & STRUCTURAL

Taught by:

Physics ( ), Mathematics ( ), English ( ), Surveying ( ), Mechanical ( ), Civil & Structural ( ), Operations Management ( ).

Teaches to:

Building ( ), 2nd year Mining ( ), 1st year Surveying ( ).

Comments:

None.

ELECTRICAL & ELECTRONICS/INSTRUMENTATION

Taught by:

Physics ( ), Mathematics ( ), English ( ), Electrical & Electronics/Instrumentation ( ), Chemical/Metallurgical/Mining ( ), Administration Management ( ).

Teaches to:

Industrial Chemistry, Physical Metallurgy, Extractive Metallurgy in Chemical/Metallurgical/Mining ( ), 2nd year Forest Products ( ), 1st year Natural Gas & Petroleum ( ), Mechanical ( ), Surveying ( ), 2nd year Biomedical Electronics ( ).

Comments:

None.

BIOLOGICAL SCIENCES

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Surveying ( ), Biological Sciences ( ), Operations Management ( ), Financial Management ( ), Administration Management ( ).

Teaches to:

F-W & Recreation in Forestry ( ).

Comments:

None.

FORESTRY

Taught by:

Mathematics ( ), English ( ), Forestry ( ), Biological Sciences ( ), Administrative Management ( ).

Teaches to:

Self only.

Comments:

None.

FOREST PRODUCTS

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Mechanical ( ), Forest Products ( ), Electrical & Electronics/Instrumentation ( ), Chemical/Metallurgical/Mining ( ), Building ( ), Operations Management ( ), Computer Programming ( ).

Teaches to:

Self only.

Comments:

None.

NATURAL GAS & PETROLEUM

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Natural Gas & Petroleum ( ), Electrical & Electronics/Instrumentation ( ), Chemical/Metallurgical/Mining ( ), Operations Management ( ), Computer Programming ( ).

Teaches to:

Industrial Chemistry, Physical Metallurgy, Extractive Metallurgy in Chemical/Metallurgical/Mining ( ).

Comments:

None.

MECHANICAL

Taught by:

Mechanical ( ), Electrical & Electronics/Instrumentation ( ), Building ( ), Operations Management ( ).

Teaches to:

Operations Management ( ), Architectural, Mechanical Services in Building ( ), 1st year Chemical/Metallurgical/Mining ( ), 1st year Civil & Structural ( ), 1st year in Wood Products and Forest Products ( ), 1st year Natural Gas & Petroleum ( ), 1st year Surveying ( ).

Comments:

None.

SURVEYING

Taught by:

Physics ( ), Mathematics ( ), English ( ), Surveying ( ), Mechanical ( ), Electrical & Electronics/Instrumentation ( ), Civil & Structural ( ), Computer Programming ( ).

Teaches to:

Architectural in Building ( ), 1st and 2nd year Mining in Chemical/Metallurgical/Mining ( ), 2nd year Civil & Structural ( ), Agricultural Management in Biological Sciences ( ), 1st year Natural Gas & Petroleum ( ).

Comments:

None.

C. HEALTH DIVISION

MEDICAL LABORATORY

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Basic Health Sciences ( ), Registered Nursing ( ), Medical Laboratory ( ), Computer Programming ( ).

Teaches to:

1st year Nuclear Medicine ( ), 2nd year Health Data ( ).

Comments:

None.

MEDICAL RADIOGRAPHY

Taught by:

Physics ( ), Mathematics ( ), English ( ), Basic Health ( ), Registered Nursing ( ), Medical Radiography ( ).

Teaches to:

Self only.

Comments:

None.

NUCLEAR MEDICINE

Taught by:

Physics ( ), Mathematics ( ), Chemistry ( ), Basic Health Sciences ( ), Registered Nursing ( ), Nuclear Medicine ( ), Medical Laboratory ( ).

Teaches to:

Self only.

Comments:

None.

REGISTERED NURSING

Taught by:

English ( ), Basic Health Sciences ( ), Registered Nursing ( ).

Teaches to:

2nd year Medical Laboratory ( ), 1st year Medical Radiography ( ), 1st year Nuclear Medicine ( ).

Comments:

None.

REGISTERED PSYCHIATRIC NURSING

Taught by:

English ( ), Basic Health Sciences ( ), Registered Psychiatric Nursing ( ).

Teaches to:

Self only.

Comments:

None.

BIOMEDICAL ELECTRONICS

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Basic Health Sciences ( ), Biomedical Electronics ( ), Electrical & Electronics/Instrumentation ( ), Chemical/Metallurgical/Mining ( ).

Teaches to:

Self only.

Comments:

None.

HEALTH DATA

Taught by:

Mathematics ( ), English ( ), Basic Health Sciences ( ), Health Data ( ), Medical Laboratory ( ), Building ( ), Computer Programming ( ).

Teaches to:

Self only.

Comments:

None.

ENVIRONMENTAL HEALTH

Taught by:

Physics ( ), Mathematics ( ), English ( ), Chemistry ( ), Basic Health Sciences ( ), Environmental Health ( ), Chemical/Metallurgical/Mining ( ), Computer Programming ( ).

Teaches to:

Self only.

Comments:

None.

BASIC HEALTH SCIENCES

Taught by:

Not applicable. A teaching technology only.

Teaches to:

1st year Medical Laboratory ( ), Medical Radiography ( ), Nuclear Medicine ( ), 1st year Registered Nursing ( ), 1st year Psychiatric Nursing ( ), Biomedical Electronics ( ), Health Data ( ), 2nd year Environmental Health ( ).

D. CORE

Chemistry, English, Mathematics and Physics have been covered with each of the Departments and programs.

E. CONTINUING EDUCATION/INDUSTRY SERVICES

It is considered at this time that the teaching patterns developed by day programs are sufficiently similar at a relationship level to be regarded the same.

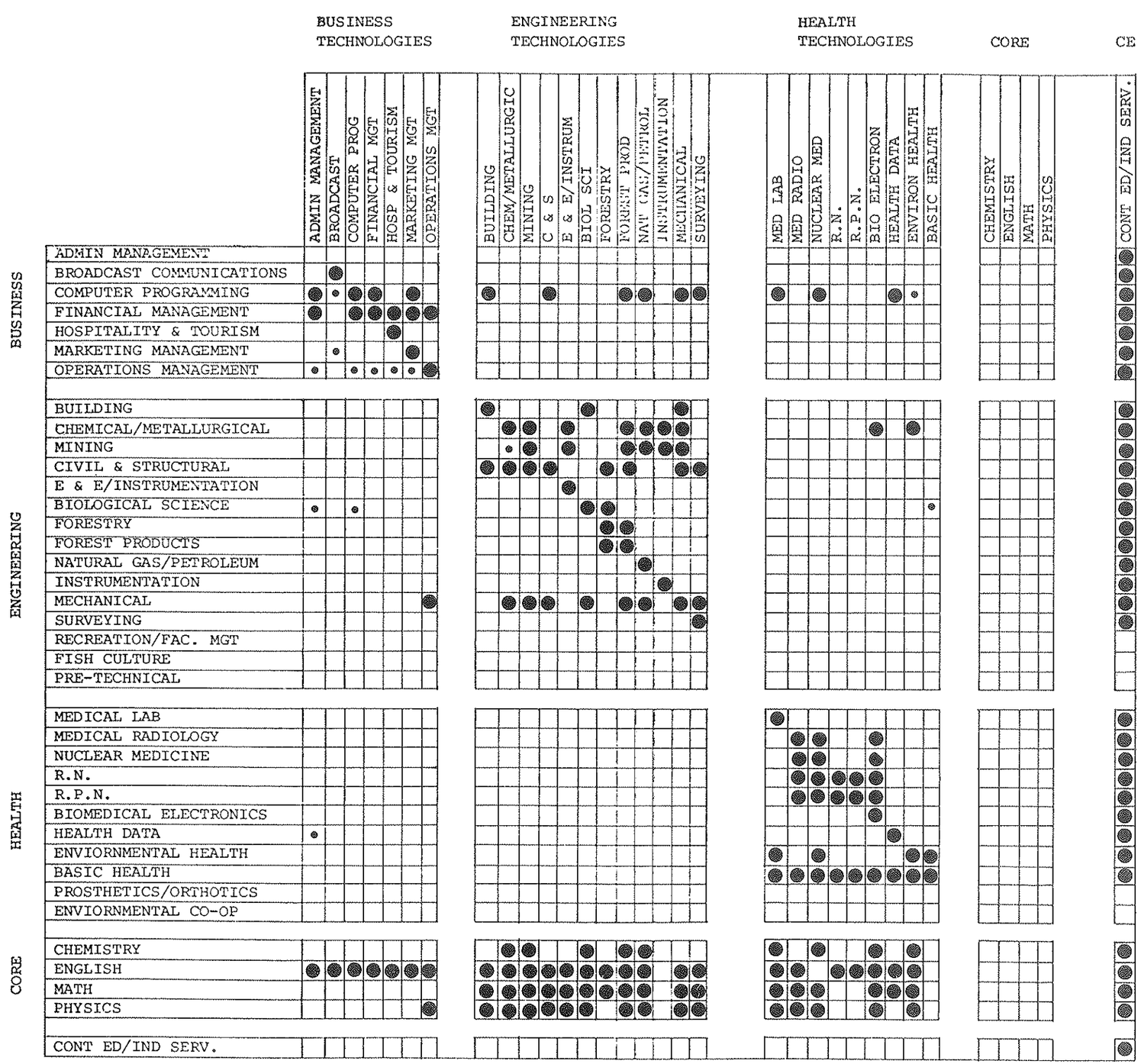
LABORATORY USE

It has been assumed that laboratories will be regarded as reasonably "fixed" space because of their special purpose and heavily serviced nature. Should the institution decide for reasons of economy that this is true, then one of the strongest reasons for locating one Department next to another will be based on their joint-use of laboratories.

The Deans and their Department Heads have provided the consultants with detailed information regarding student groups by each technology that are using specific laboratories dedicated to other teaching technologies. These relationships exhibited at a general level in the Relationship Matrix to the right are outlined in detail below.

It has been assumed that most of the relationships are real and will endure. When the relationship appears to be one of convenience or based on the use of minor laboratory support elements, the relationship is indicated on the Matrix as a small dot and in the text comments have been made.

No attempt has been made to establish priority relationships based on annualized student contact hours (ASCH) that are generated by each particular student group using any given lab. As this information becomes available Institutional Planning will be able to refine the data and provide priorities for adjacent tenancies of Departments in the weighted matrix provided.



A. BUSINESS MANAGEMENT DIVISION

ADMINISTRATION MANAGEMENT

Student Groups Using Department Labs:

Not applicable. Administration Management does not have specialized laboratory space controlled by their cost centre. All teaching takes place in the institution wide pool of classrooms. Further study, however should be made based on annualized contact hours to determine the number of classrooms appropriately located near administration management for teaching other student groups.

Other Labs Used by Department Students:

Computer Programming ( ), Financial Management ( ), Operations Management ( ), Biological Sciences ( ).

Comments:

The light use of the Biological Sciences lab is of little significance in establishing relationships between the Departments. Should Administration Management develop their own terminal and keypunch area, no relationship will be required with Computer Programming.

BROADCAST COMMUNICATIONS

Student Groups Using Department Labs:

Not applicable. Broadcast Communications ( ) are the exclusive user of their dedicated lab space.

Other Labs Used by Department Students:

Computer Programming ( ), Marketing Management ( ), Health Data ( ).

Comments:

The heavy use indicated of the Health Data lab is not considered significant in establishing relationships between the Departments.

COMPUTER PROGRAMMING

Student Groups Using Department Labs:

Administration Management ( ), Financial Management ( ), Hospitality & Tourism ( ), Marketing Management ( ), Operations Management ( ), Building ( ), Civil & Structural ( ), Forest Products ( ), Natural Gas & Petroleum ( ), Mechanical ( ), Surveying ( ), Medical Laboratory ( ), Nuclear Medicine ( ), Health Data ( ), and a light use relationship by Environmental Health ( ). Continuing Education ( ), and Industry Services ( ), use the terminal room primarily.

Other Labs Used by Department Students:

Biological Sciences labs ( ).

Comments:

Computer Programming shares its facilities with the greatest number of Departments on campus. Consequently its accessibility to all Divisions is equally important. The light use of the Biological Sciences lab is of little significance in establishing relationships between the Departments. Localized terminals and key punch areas will reduce the dependency of any Department on Computer Programming laboratories.

FINANCIAL MANAGEMENT

Student Groups Using Department Labs:

Administration Management ( ), Computer Programming ( ), Hospitality & Tourism ( ), Marketing Management ( ), Operations Management ( ) and Continuing Education ( ).

Other Labs Used by Department Students:

Computer Programming ( ), Operations Management ( ).

Comments:

The light use of the Operations Management lab is of little significance in establishing relationships between the Departments.

HOSPITALITY & TOURISM

Student Groups Using Department Labs:

Not applicable. Hospitality & Tourism ( ) students are the exclusive users of the Departmental labs.

Other Labs Used by Department Students:

Computer Programming's terminal and key punch rooms ( ), Financial Management lab ( ), Operations Management lab ( ).

Comments:

No relationship would be required if Hospitality & Tourism had their own terminal and key punch area in their Departmental Space.

MARKETING MANAGEMENT

Student Groups Using Department Labs:

Broadcast Communications ( ).

Other Labs Used by Department Students:

Computer Programming ( ), Financial Management ( ), Operations Management ( ).

Comments:

The light use of the Marketing Management lab by Broadcast is of little significance in establishing a relationship between the Departments.

OPERATIONS MANAGEMENT

Student Groups Using Department Labs:

Administration Management ( ), Computer Programming ( ), Financial Management ( ), Hospitality & Tourism ( ), Marketing Management ( ).

Other Labs Used by Department Students:

Computer Programming's terminal and key punch rooms ( ), Financial Management lab ( ), Mechanical's drafting lab ( ), machine shop ( ) and manufacturing processing lab ( ), Physics labs ( ).

Comments:

No relationship would be required with Computer Programming if Operations Management had its own terminal and key punch area.

B. ENGINEERING DIVISION

BUILDING

Student Groups Using Department Labs:

Biological Sciences ( ) and Mechanical ( ).

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Buiilding's drafting lab ( ), Civil & Structural's hydraulic soils ( ) and concrete labs ( ), curing room ( ), concrete mixing ( ) and materials testing labs ( ), and Physics labs ( ).

Comments:

Drafting could be consolidated as a new Department. Consequently, those users of drafting facilities would have a relationship to wherever Drafting is centralized.

CHEMICAL/METALLURGICAL/MINING

Student Groups Using Department Labs:

Electrical & Electronics/Instrumentation ( ), Forestry ( ), Forest Products ( ), Natural Gas & Petroleum ( ), Mechanical ( ), Biomedical Electronics ( ) and Environmental Health ( ).

Other Labs Used by Department Students:

Civil & Structural's materials testing lab ( ), Mechanical's drafting lab ( ), organic instrumentation ( ) and analytical chemistry ( ) labs, Physics labs and darkroom ( ).

Comments:

Student groups principally use the workshop, unit operations, pollution treatment, and balance rooms in this Department. Where the relationship is primarily to the balance room which has a small area, it is of little significance in establishing a Departmental relationship. The acquisition of a pollution control lab by Environmental Health eliminates their need for this relationship.

CIVIL & STRUCTURAL

Student Groups Using Department Labs:

Building ( ), Chemical/Metallurgical/Mining ( ), Forestry ( ), Forest Products ( ), Mechanical ( ), Surveying ( ).

Other Labs Used by Department Students:

Mechanical's drafting lab ( ), Physics' workroom and darkroom ( ), Computer Programming's terminal, keypunch ( ).

Comments:

The most important relationships occur with the materials testing lab.

ELECTRICAL & ELECTRONICS/INSTRUMENTATION

Student Groups Using Department Labs:

Departmental students are the exclusive users of all lab space in the Department.

Other Labs Used by Department Students:

Chemical/Metallurgical/Mining's workshop ( ), unit operations and balance room ( ), Chemistry's ( ) and Physics' ( ) labs.

Comments:

The strongest relationship is with Chemical/Metallurgical/Mining and they should be closely related.

BIOLOGICAL SCIENCES

Student Groups Using Department Labs:

Administration Management ( ), Computer Programming ( ), Forestry ( ).

Other Labs Used by Department Students:

Building's drafting lab ( ), Mechanical's drafting lab ( ), Chemistry's ( ), and Physics' ( ) labs.

Comments:

The use of the Biological Science lab by Administration Management and Computer Programming indicates very light use and is not significant in establishing relationships between Departments. The animal holding rooms shared with Basic Health indicate a continued relationship, however, it is not significant in terms of relating the Departments.

FORESTRY/FOREST PRODUCTS

Student Groups Using Department Labs:

While Forestry and Forest Products are generally very separate in their laboratory needs, they do share the use of the wood chemistry lab ( ), a storage room and a kiln. Forestry and Forest Products' students are the principal users of the Departmental space.

Other Labs Used by Department Students:

Civil & Structural's material testing lab ( ), Biological Science's food lab and workroom ( ), Chemistry's ( ) and Physics' ( ) labs.

Comments:

While Forestry and Forest Products are somewhat related as Departments, the degree to which they are related is not of the order requiring adjacency.

NATURAL GAS & PETROLEUM

Student Groups Using Department Labs:

Departmental students are exclusive users of the Departmental space.

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Chemical/Metallurgical/Mining's workshop, unit operations ( ), balance room ( ), and project workroom ( ), Mechanical's machine shop ( ), Chemistry's ( ) and Physic's ( ) labs.

Comments:

The strength of the relationship with Chemical/Metallurgical/Mining's labs suggests that Natural Gas & Petroleum should remain associated in close proximity.

MECHANICAL

Student Groups Using Department Labs:

Operations Management ( ), Building ( ), Chemical/Metallurgical/Mining ( ), Civil & Structural ( ), Biological Sciences ( ), Forest Products ( ), Surveying ( ).

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Building's drafting lab ( ), Chemical/Metallurgical/Mining's project workroom ( ), Civil & Structural drafting and material testing ( ), and, Physic's labs ( ).

Comments:

Mechanical will require some close relationship with any new Drafting Department, but if a terminal is established in the Department no close proximity will be required to Computer Programming.

SURVEYING

Student Groups Using Department Labs:

Surveying students are the exclusive users of Departmental labs.

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Civil & Structural's drafting lab ( ), Mechanical's drafting lab ( ), and Physic's lab ( ).

Comments:

Surveying will require some close relationships with any new Drafting Department, but if a terminal is established in the Department, no close proximity will be required to Computer Programming.

RECREATIONAL FACILITIES MANAGEMENT

Student Groups Using Department Labs:

Not applicable. Currently do not have specialized labs.

Other Labs Used by Department Students:

Financial Management ( ), Hospitality & Tourism ( ), Operations Management ( ), Building ( ), Biological Sciences ( ), Mechanical ( ), Physics ( ).

Comments:

Specific labs unknown at this time.

FISH CULTURE

Student Groups Using Department Labs:

A future program. No specialized space description available.

Other Labs Used by Department Students:

Information unavailable.

Comments:

Relationships to be detailed once course is activated.

PRE-TECHNICAL

Student Groups Using Department Labs:

Not applicable.

Other Labs Used by Department Students:

No information available.

Comments:

Relationships to be detailed by Institutional Planning.

C. HEALTH

MEDICAL LABORATORY

Student Groups Using Department Labs:

Medical Laboratory students are the exclusive users.

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Environmental Health's labs ( ), Basic Health Sciences' labs ( ), Chemistry's ( ) and Physic's ( ) labs.

Comments:

Basic Health Sciences operates as a core to all the Departments and Programs in Health which indicates a strong interrelationship within the Division.

MEDICAL RADIOGRAPHY

Student Groups Using Department Labs:

Nuclear Medicine ( ) and Biomedical Electronics ( ).

Other Labs Used by Department Students:

Nuclear Medicine's lab ( ), Nursing's labs ( ), Basic Health Sciences' anatomy, physiology and microbiology labs ( ), Chemistry's ( ) and Physic's ( ) labs.

Comments:

While the relationship between Medical Radiography and Biomedical Electronics is indicated as light, Biomedical Electronics is utilizing most of the spaces in Medical Radiography and indicates adjacency.

NUCLEAR MEDICINE

Student Groups Using Department Labs:

Medical Radiography ( ) and Biomedical Electronics ( ).

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Nursing's labs ( ), Basic Health Sciences' labs ( ), Chemistry's ( ) and Physic's ( ) labs.

Comments:

A Departmental terminal would reduce the need for a relationship with Computer Programming.

NURSING

Student Groups Using Department Labs:

Medical Radiography ( ), Nuclear Medicine ( ), Biomedical Electronics ( ).

Other Labs Used by Department Students:

Basic Health Sciences' lab ( ).

Comments:

Registered Nursing ( ) and Psychiatric Nursing ( ) share fairly equally the laboratories dedicated to those Departments.

BIOMEDICAL ELECTRONICS

Student Groups Using Department Labs:

Biomedical Electronics' students are the exclusive users of space controlled by that Department.

Other Labs Used by Department Students:

Chemical/Metallurgical/Mining's workshop ( ), Medical Radiography's labs ( ), Nuclear Medicine's labs ( ), Nursing's labs ( ), Basic Health Sciences' anatomy and physiology labs ( ), and Chemistry's labs ( ).

Comments:

While the relationship with the Chemical/Metallurgical/Mining workshop indicates heavy interaction, proximity with the rest of Health is more important than direct proximity to this Department.

HEALTH DATA

Student Groups Using Department Labs:

Broadcast Communications ( ).

Other Labs Used by Department Students:

Computer Programming's terminal room ( ), Basic Health Sciences' anatomy and physiology labs ( ), Operations Management's labs ( ).

Comments:

A Departmental terminal would reduce the need for a relationship with Computer Progamming.

ENVIRONMENTAL HEALTH

Student Groups Using Department Labs:

Medical Laboratory ( ), Nuclear Medicine ( ), Basic Health Sciences ( ).

Other Labs Used by Department Students:

Computer Programming's office equipment lab ( ), Chemical/Metallurgical/Mining's pollution control lab ( ), Basic Health Sciences' anatomy and physiology lab ( ), Chemistry's ( ) and Physic's ( ) labs.

Comments:

With Environmental Health acquiring its own pollution control lab, the relationship with Chemical/Metallurgical/Mining becomes unnecessary.

PROSTHETICS/ORTHOTICS

Student Groups Using Department Labs:

As the Department is not yet established the relationships are unknown.

BASIC HEALTH SCIENCES

Student Groups Using Department Labs:

Medical Laboratory ( ), Medical Radiography ( ), Nuclear Medicine ( ), Nursing ( ), Biomedical Electronics ( ), Health Data ( ), Environmental Health ( ).

Other Labs Used by Department Students:

Basic Health is a teaching technology and does not have students.

ENVIRONMENTAL HEALTH CO-OP

Student Groups Using Department Labs:

A proposed program. Space requirements to be defined.

Other Labs Used by Department Students:

No information available.

Comments:

To be detailed by Institutional Planning when program is activated.

D. CORE

CHEMISTRY

Student Groups Using Department Labs:

In Engineering: Chemical/Metallurgical/Mining ( ), Biological Sciences ( ), Forest Products ( ), Natural Gas & Petroleum ( ). In Health: Medical Laboratory ( ), Nuclear Medicine ( ), Biomedical Electronics ( ), and Environmental Health ( ).

Other Labs Used by Department Students:

The Chemistry Department does not have students as it is a teaching technology only.

ENGLISH

Student Groups Using Department Labs:

At this point in time English does not have labs but uses the institution-wide pool of classrooms for all teaching. This, however, does not preclude English developing a lab function that many of the Departments will need to utilize ( ). Very few programs do not include English and consequently classrooms used for teaching should be distributed near Departments, based on annualized student contact hours.

MATHEMATICS

Student Groups Using Department Labs:

Mathematics is currently developing a Learning Centre which will be utilized to increase mathematical offerings and to develop computer programming type courses for Engineering. Math has its strongest teaching relationship with Engineering ( ) and Health ( ), and currently provides no teaching in Business.

PHYSICS

Student Groups Using Department Labs:

Operations Management ( ), Building ( ), Chemical/Metallurgical/Mining ( ), Civil & Structural ( ), Electrical & Electronics/Instrumentation ( ), Biological Sciences ( ), Forest Products ( ), Natural Gas & Petroleum ( ), Mechanical ( ), Surveying ( ), Medical Laboratory ( ), Medical Radiography ( ), Nuclear Medicine ( ), Biomedical Electronics ( ), Environmental Health ( ).

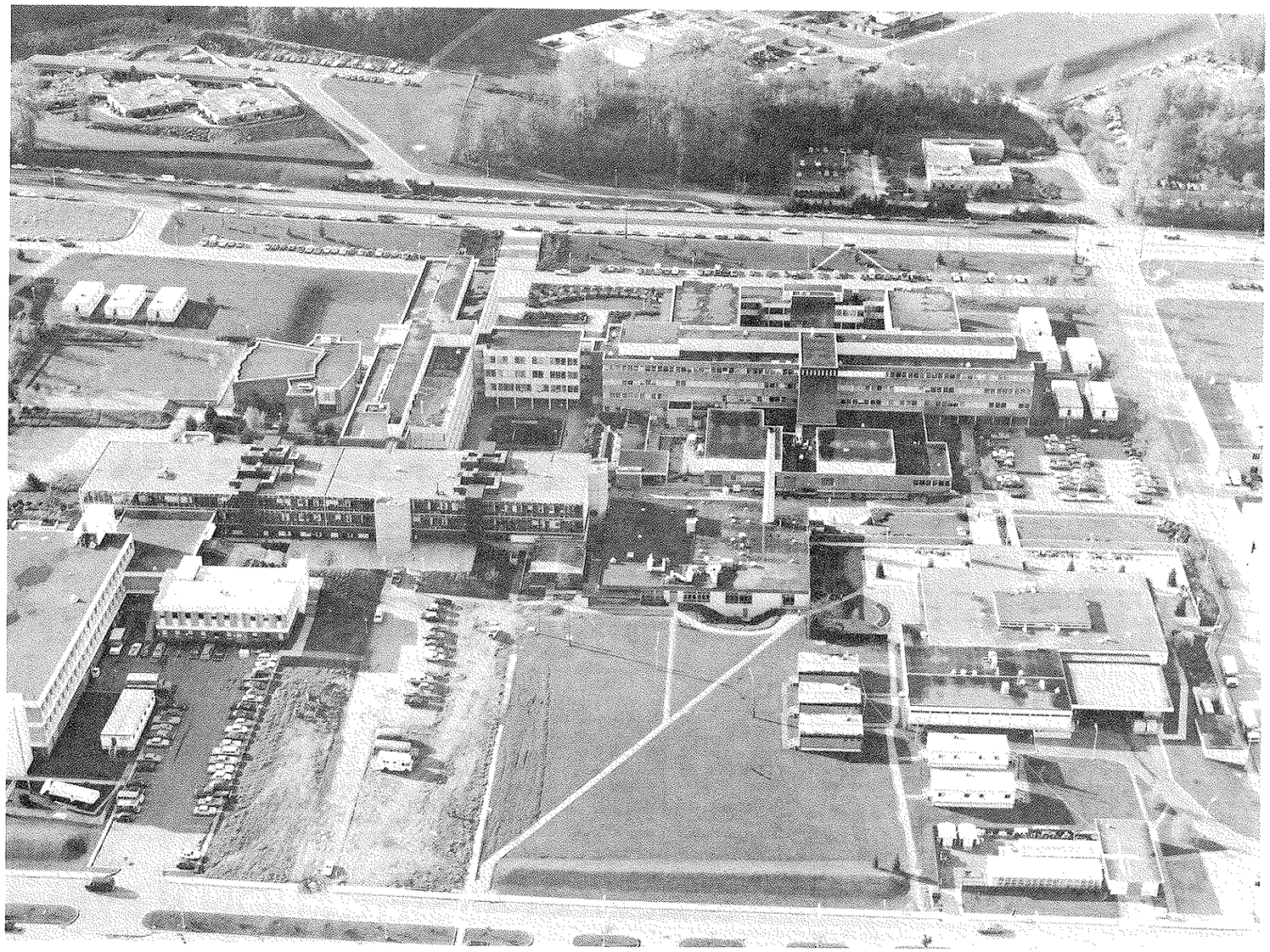
E. CONTINUING EDUCATION/INDUSTRY SERVICES

The Dean of Continuing Education and Industry Services has examined the relationships generated by the other Divisions and concurs that the relationships to labs generated in the day programs are generally the same as those required for this Division's day and evening programs.

SECTION 4 : INVENTORY OF EXISTING SPACE

The existing facilities at BCIT have been inventoried by Occupant and Space Type by Physical Resources to ascertain the location and distribution of all functional groupings and the type of space they currently occupy. In the following diagrams the campus facilities are located on a four-floor plan (excluding basements and penthouses) by the floor numbering system used by Physical Resources to identify room numbers.

The purpose of this exercise is to determine the degree to which any Department should be considered "fixed" in terms of the planning exercise. "Fixed" space is defined as space that is so specific in nature, regardless of degree of servicing (stepped lecture theatre) or so specific and heavily serviced (food processing lab) that the replacement and throw away/conversion cost is prohibitive.



The tenant diagrams on the left hand pages are coded to indicate, within instructional space, the Divisional (using letratone) and the Departmental (using alphbetical code) dedicated space. All other functional groupings (Support Space categories) which are coded (using letratone) have not been differentiated according to the space classifications developed for the College Space Inventory Model. As part of rationalizing a system for data comparison within this Campus Development Planning Model, all sections of the documentation should be revised to match the Inventory model developed with the Ministry.

The space type diagrams on the right hand pages on the same four-floor plan indicate four categories of space coded by letratone. Each activity area has been identified by the following space types:

There are two general categories of space:

General Space - this space provides teaching, research, office, and general recreational and living space. In other words, all activities which can accommodate and benefit from flexibility and whose physical shape is itself capable of variation without loss of efficiency.

Specific Space - this space accommodates specialized use categories which neither demand nor encourage flexibility, as well as structured support facilities required by general space.

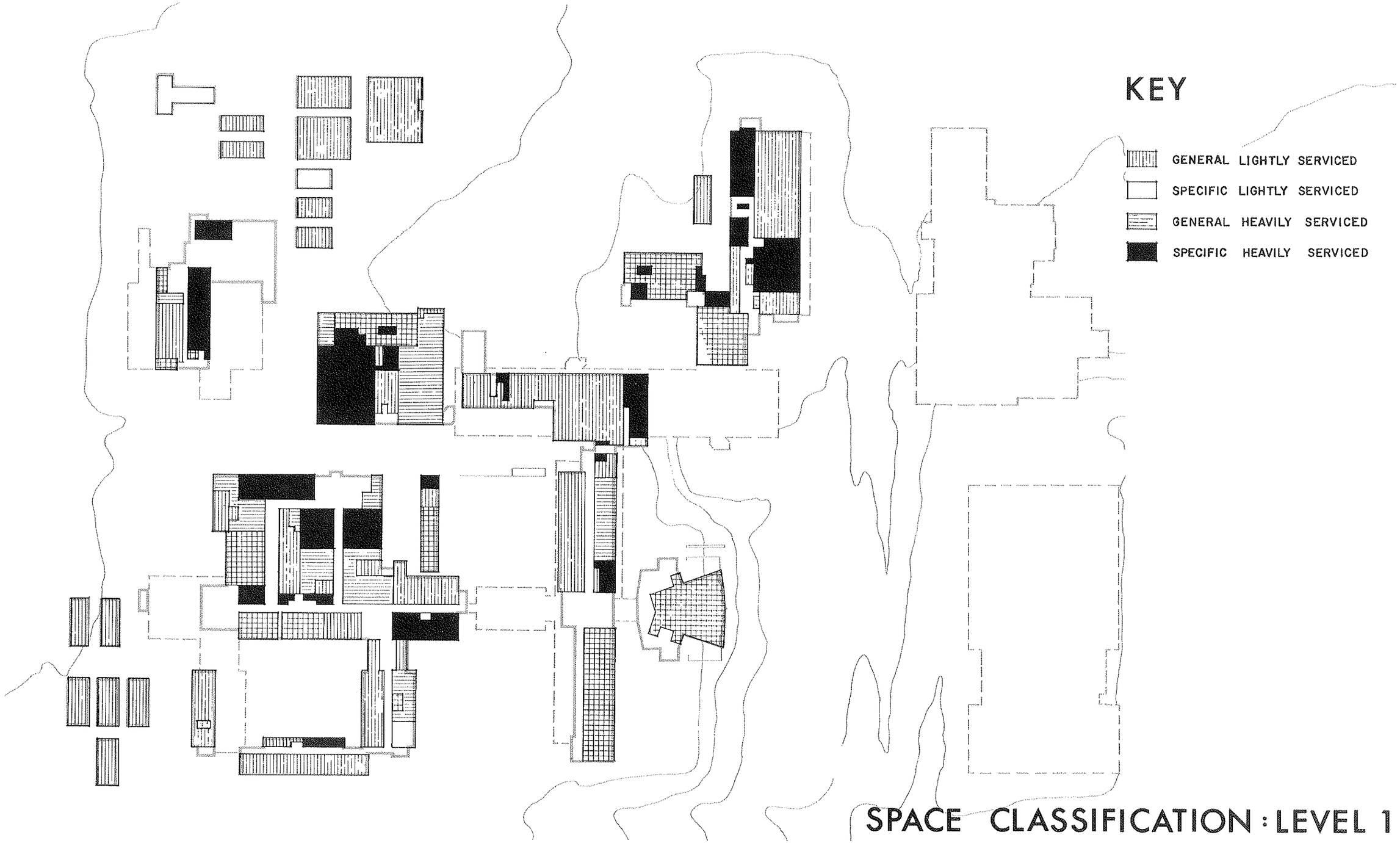
Two major categories of servicing can be identified related to possible degrees of servicing:

Lightly Serviced Space - this space provides full enclosure, lighting and standard electrical receptacles.

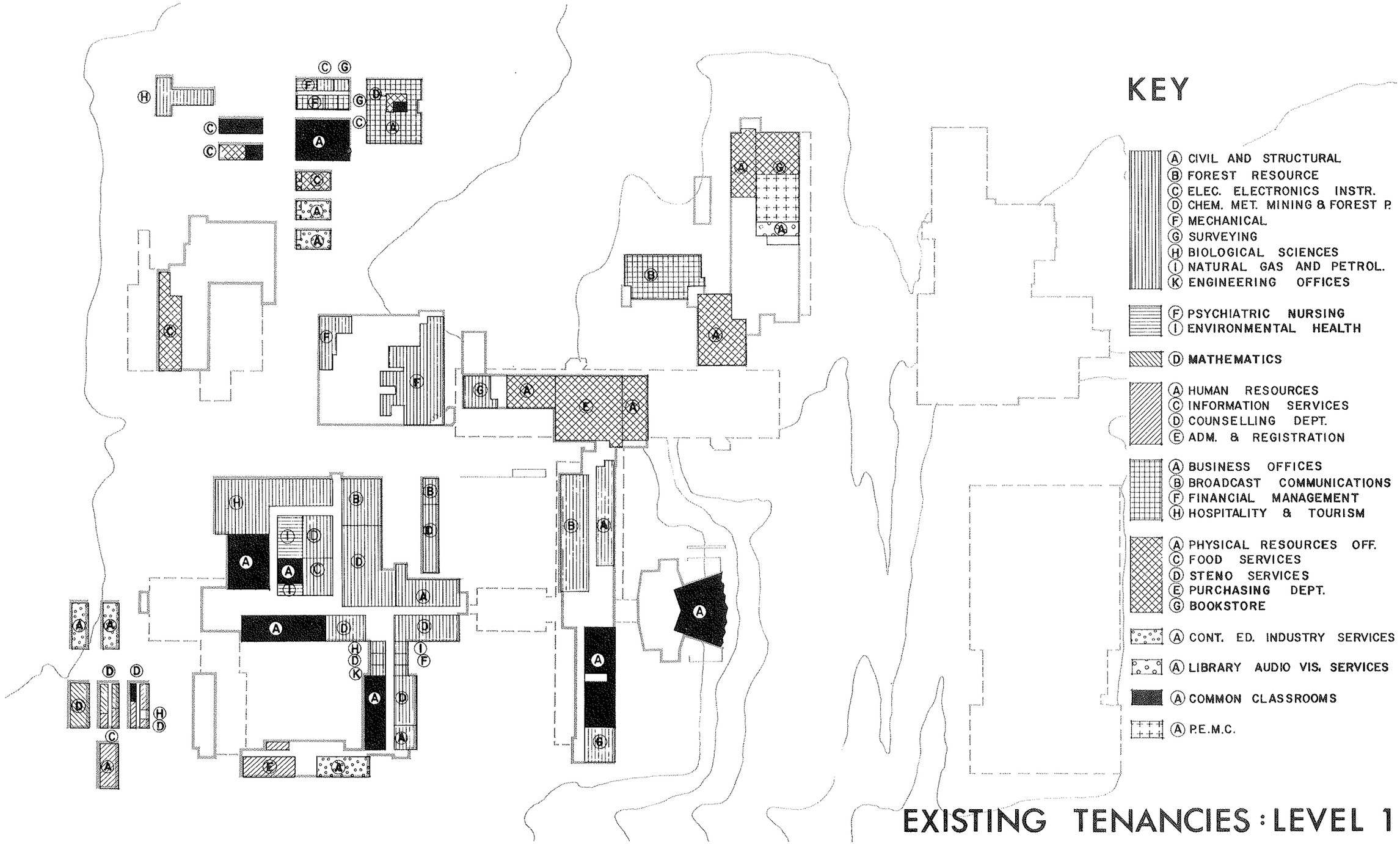
Heavily Serviced Space - this space includes the basic services of Lightly Serviced Space, plus additional mechanical, electrical, plumbing, and specialized services as required by the activity categorization.

Thus there are four space categories:

- General Purpose, Lightly Serviced: e.g., classrooms and offices;
- Special Purpose, Lightly Serviced: e.g., stepped lecture theatre, cold room;
- General Purpose, Heavily Serviced: e.g., biology, chemistry laboratories;
- Special Purpose, Heavily Serviced; e.g., planetarium, pollution control laboratories.



SPACE CLASSIFICATION : LEVEL 1



KEY

- (A) CIVIL AND STRUCTURAL
- (B) FOREST RESOURCE
- (C) ELEC. ELECTRONICS INSTR.
- (D) CHEM. MET. MINING & FOREST P.
- (F) MECHANICAL
- (G) SURVEYING
- (H) BIOLOGICAL SCIENCES
- (I) NATURAL GAS AND PETROL.
- (K) ENGINEERING OFFICES

- (F) PSYCHIATRIC NURSING
- (I) ENVIRONMENTAL HEALTH

- (D) MATHEMATICS

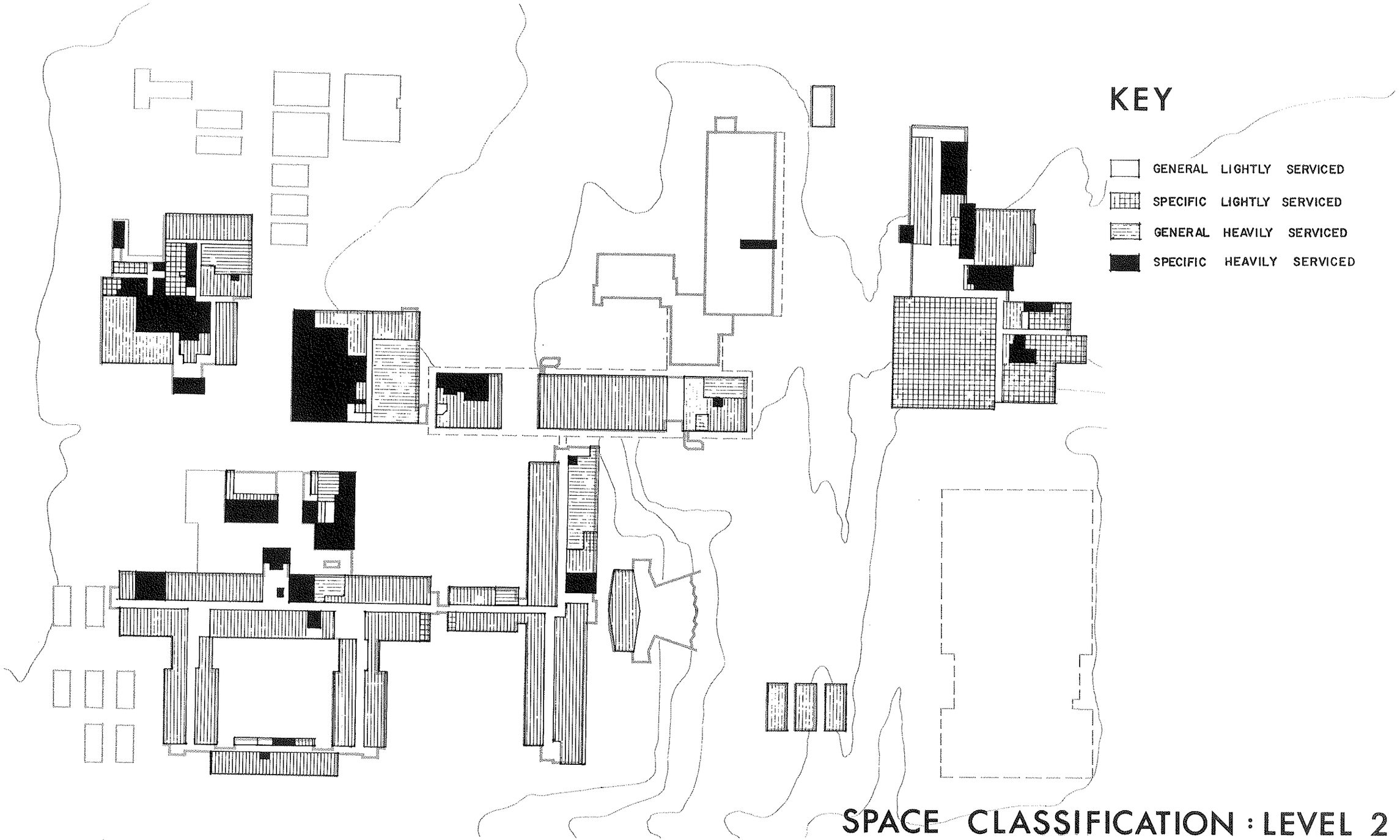
- (A) HUMAN RESOURCES
- (C) INFORMATION SERVICES
- (D) COUNSELLING DEPT.
- (E) ADM. & REGISTRATION

- (A) BUSINESS OFFICES
- (B) BROADCAST COMMUNICATIONS
- (F) FINANCIAL MANAGEMENT
- (H) HOSPITALITY & TOURISM

- (A) PHYSICAL RESOURCES OFF.
- (C) FOOD SERVICES
- (D) STENO SERVICES
- (E) PURCHASING DEPT.
- (G) BOOKSTORE

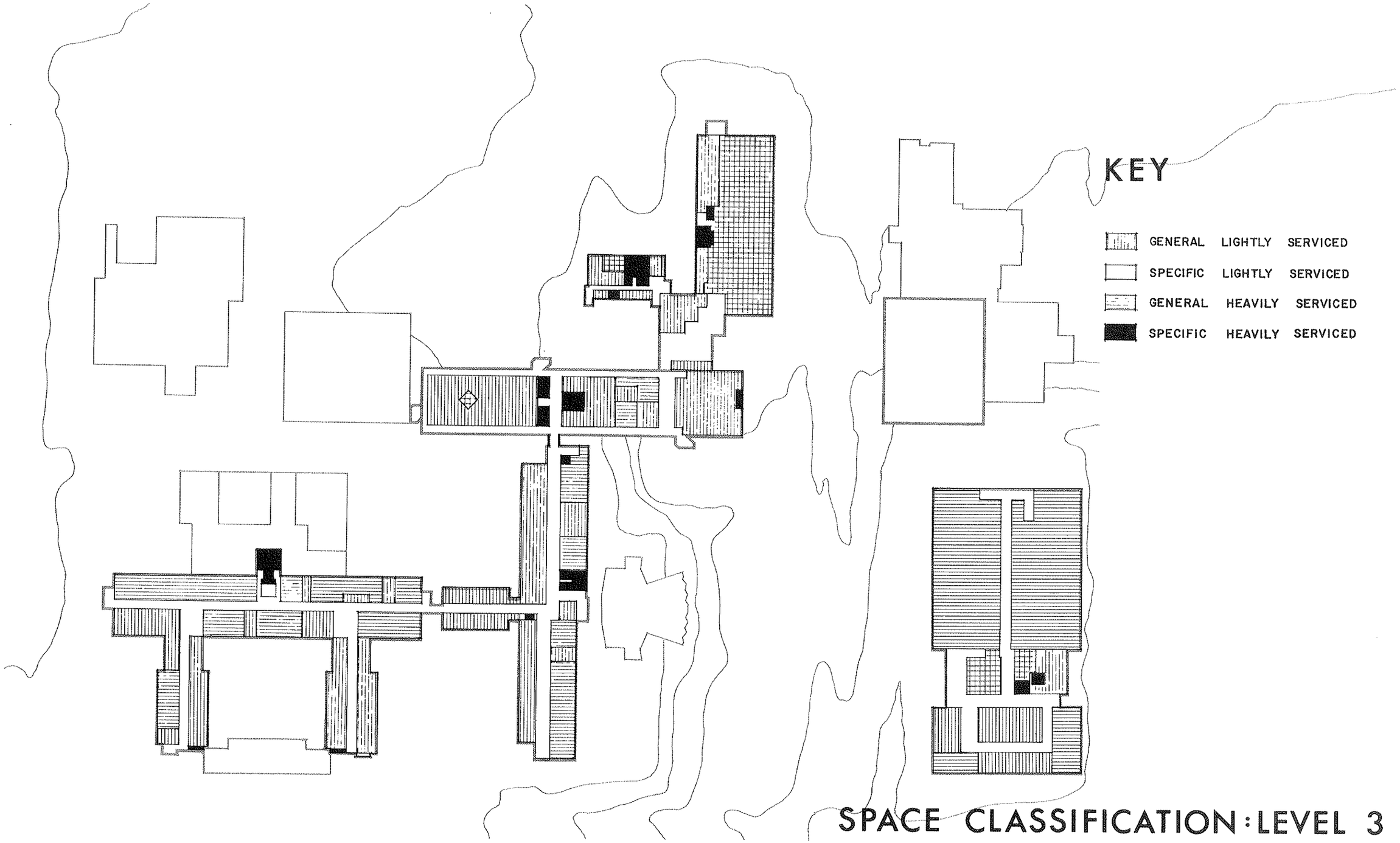
- (A) CONT. ED. INDUSTRY SERVICES
- (A) LIBRARY AUDIO VIS. SERVICES
- (A) COMMON CLASSROOMS
- (A) P.E.M.C.

EXISTING TENANCIES : LEVEL 1



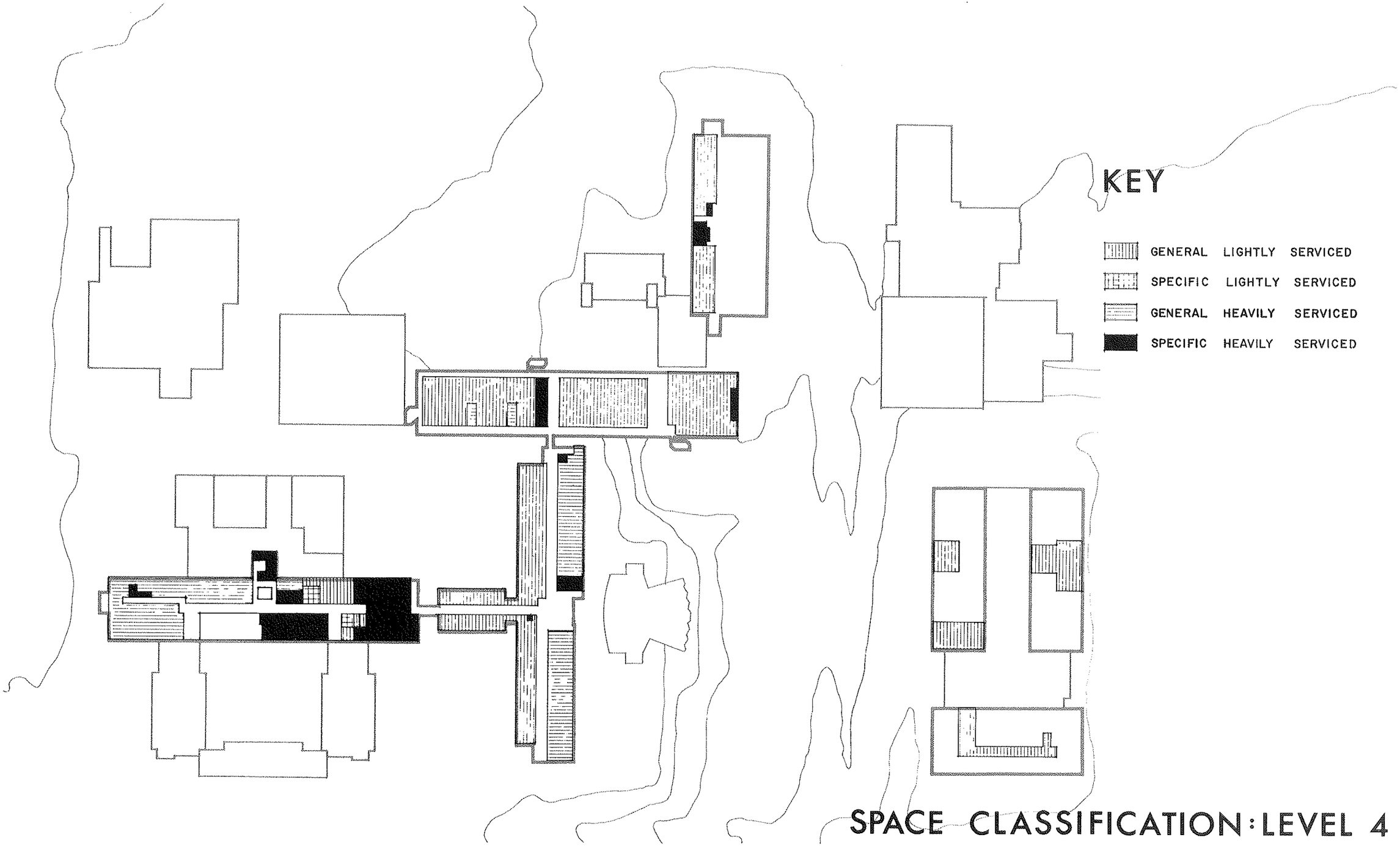
SPACE CLASSIFICATION : LEVEL 2

EXISTING TENANCIES: LEVEL 2

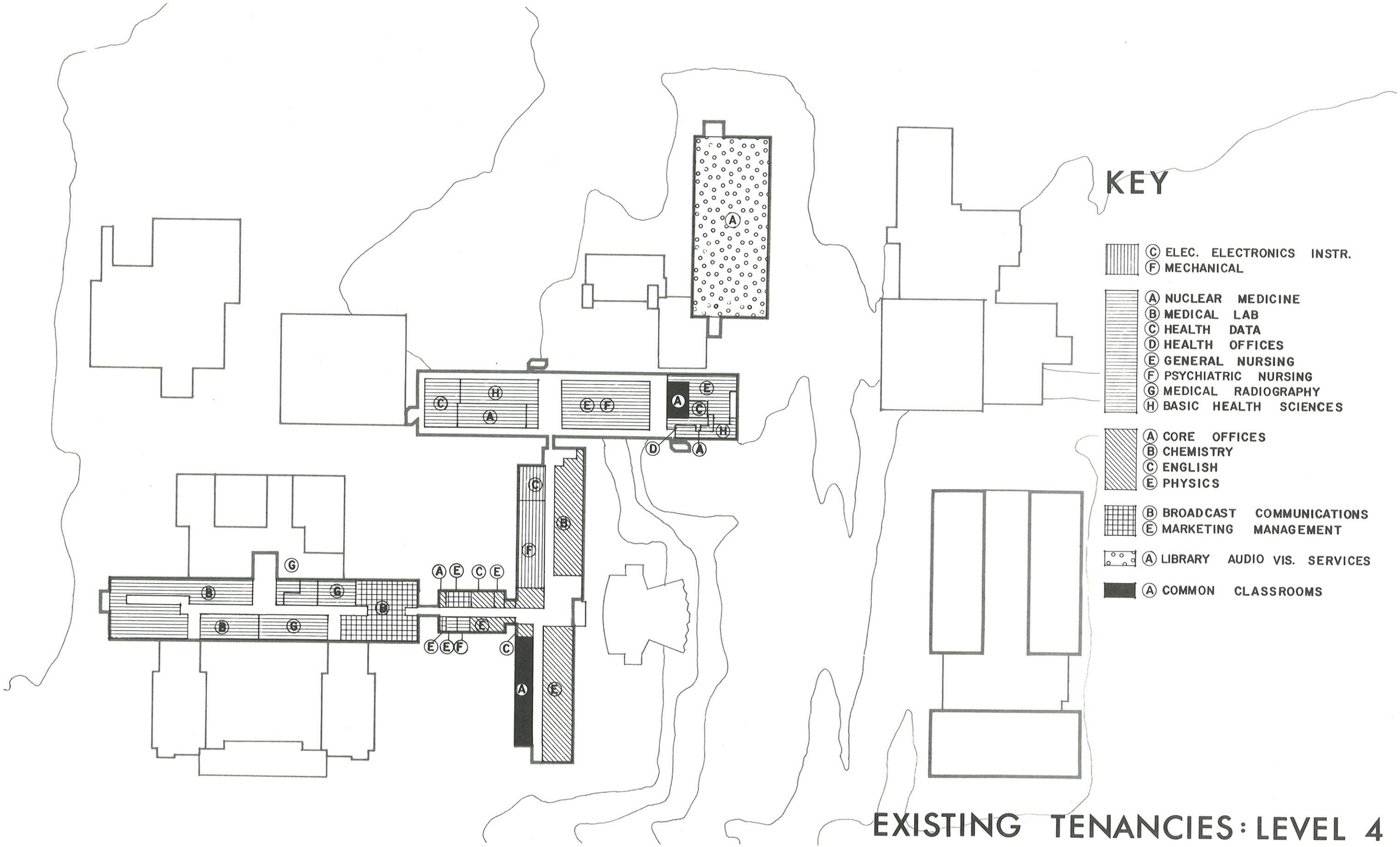


SPACE CLASSIFICATION: LEVEL 3

EXISTING TENANCIES : LEVEL 3

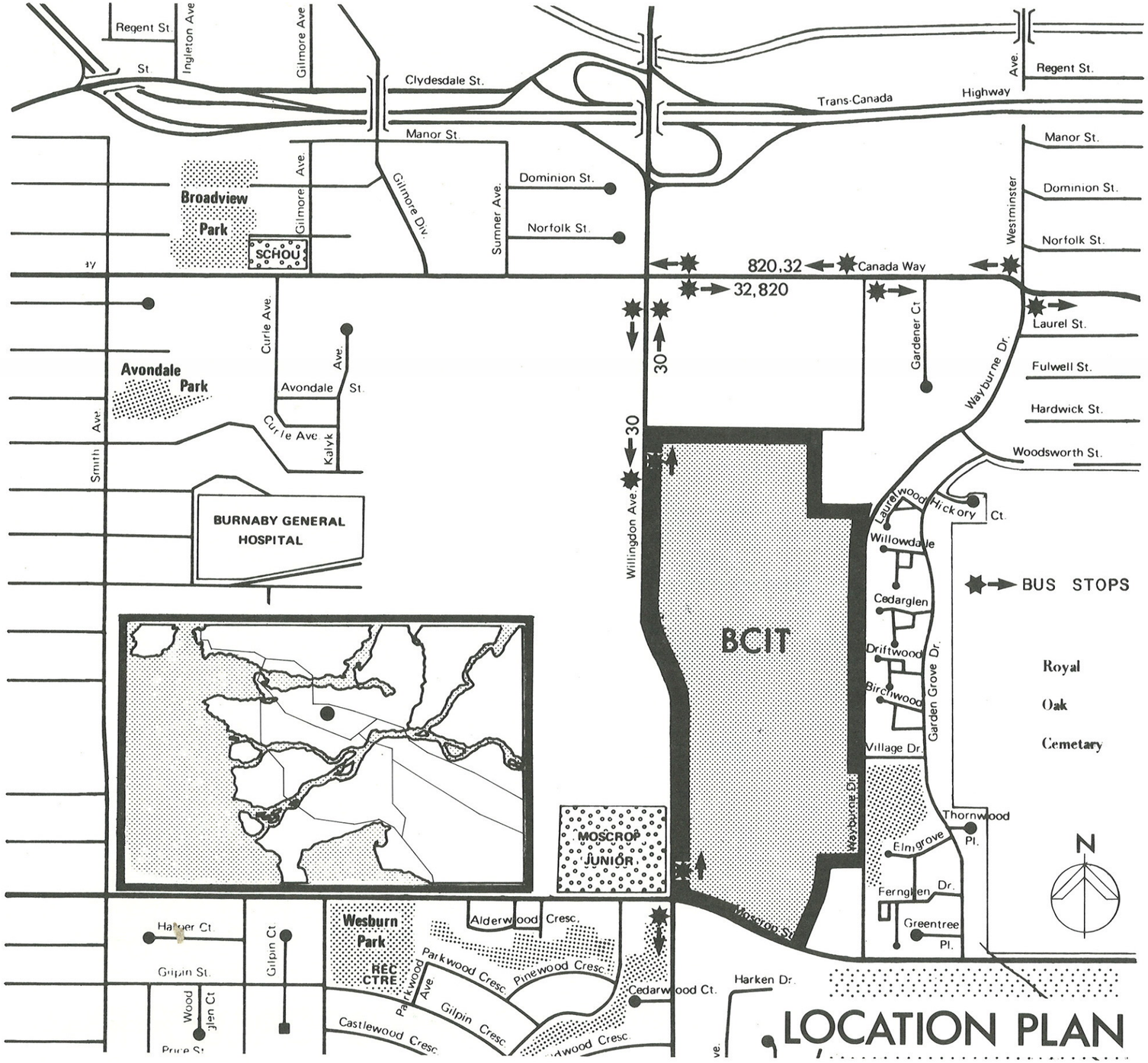


SPACE CLASSIFICATION: LEVEL 4



EXISTING TENANCIES: LEVEL 4

SECTION 5: EXISTING MOVEMENT



LOCATION PLAN

OVERVIEW

Faculty, staff, students and visitors can arrive at the BCIT campus by public transportation or private vehicle.

PUBLIC TRANSPORTATION

BCIT is served by B.C. Hydro on Willingdon and Canada Way. East/west service on Canada Way is provided by Bus #32 (Edwards Loop via Grandview Highway to Kootenay Loop, return) and Bus #820 (Columbia & 8th Avenue, New Westminster via Canada Way to Brentwood & Vancouver, return). Stops in both directions are at Willingdon and Roper on Canada Way. Service is every 15 minutes for Bus #820, every hour for Bus #32. North/south service on Willingdon is provided by Bus #30 (Kootenay Loop to Marine Drive, return, with major stops at Hastings, Lougheed Highway, Canada Way, Kingsway & Marine Drive). Buses are every 30 minutes and every 15 minutes during rush hour. Campus stops are on the south side of Willingdon at Canada Way.

PRIVATE TRANSPORTATION

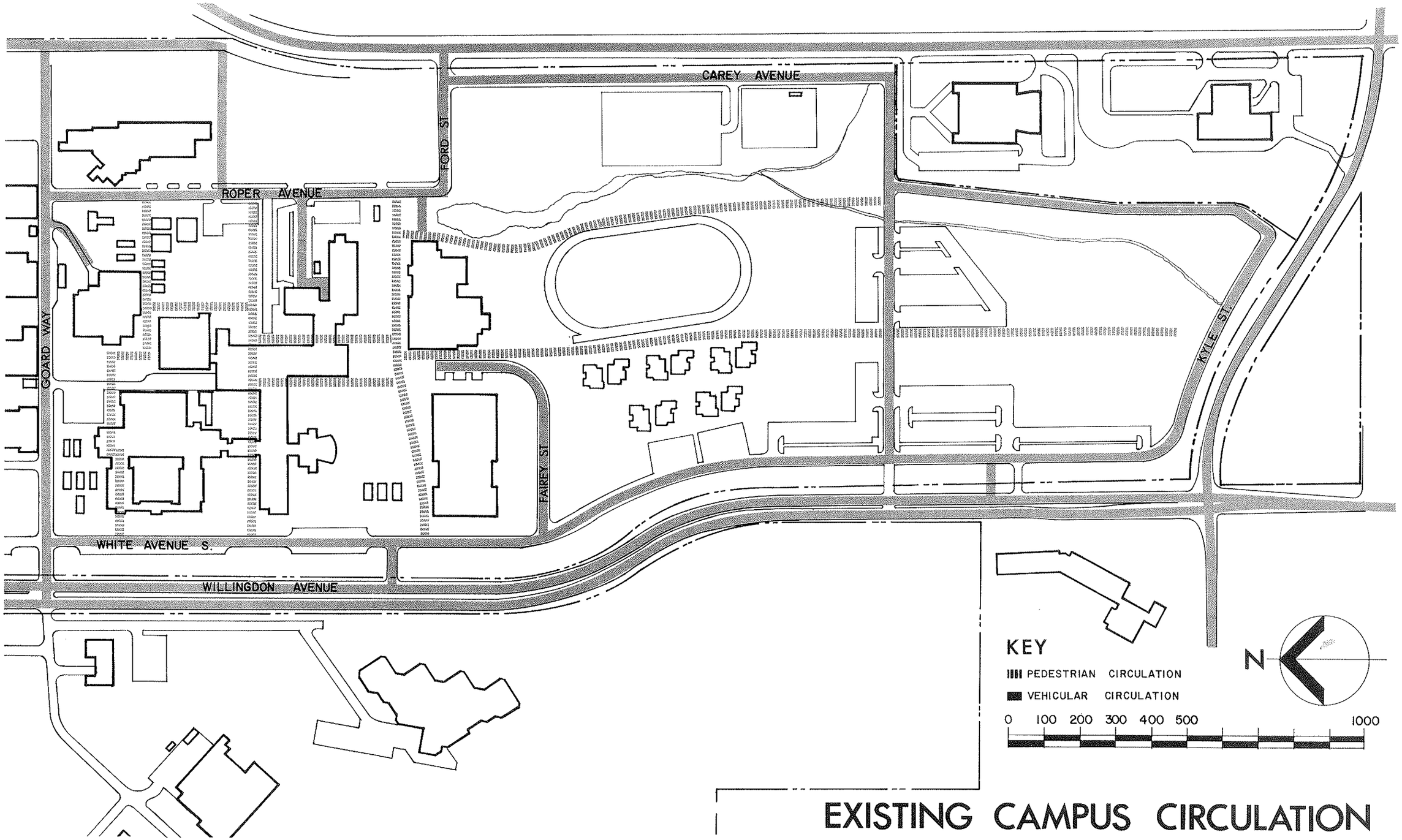
Private vehicles en route to BCIT can arrive at the campus, Willingdon and Canada Way via the TransCanada and Lougheed Highway. Willingdon can be reached via Hastings, Lougheed Highway, TransCanada Highway, Canada Way, Kingsway and Marine Drive. Canada Way can be reached via Grandview, Boundary Road, Royal Oak and Sperling.

There are three primary access points serving the campus: Goard Way at Willingdon; Carey Avenue at Canada Way; and Ford Street at Wayburn. Limited access to/from northbound lanes of Willingdon is also available near Fairey Street and Moscrop Street.

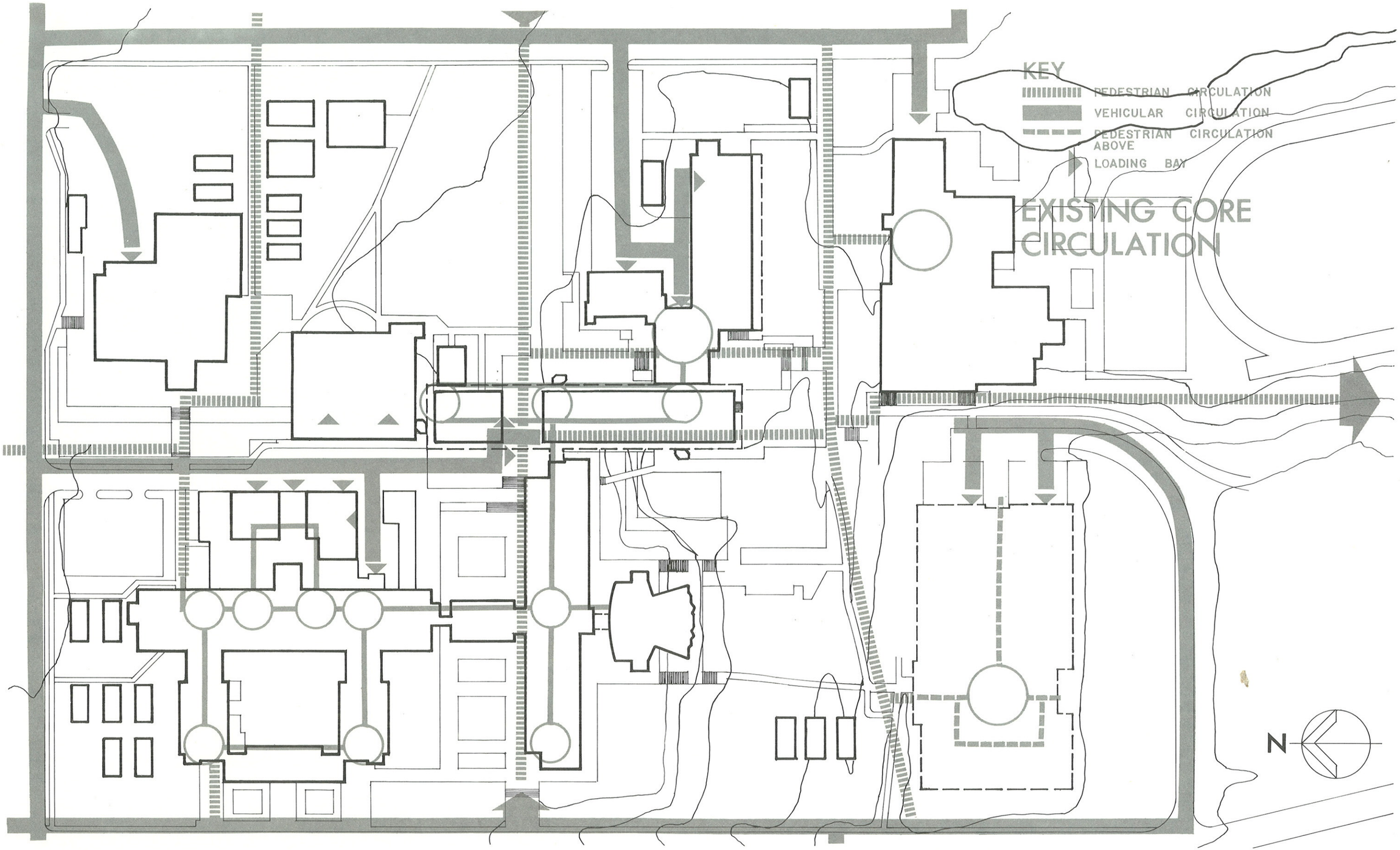
In order to achieve an hourly capacity of 650 cars/access point for the projected 1983/84 demand of 4525 cars, additional full access is required from Kyle Street, at Wayburn, Willingdon, and Moscrop at the south end of campus.

CAMPUS MOVEMENT

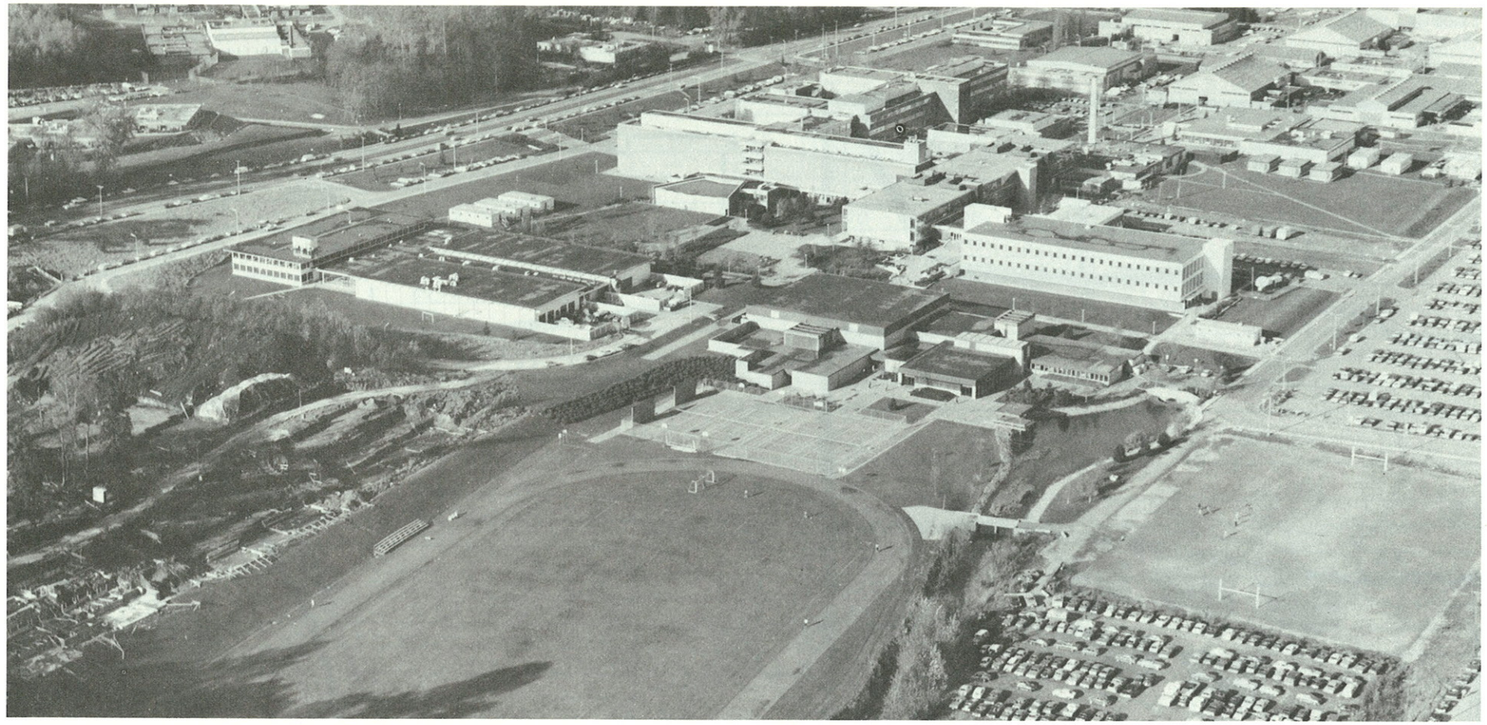
Pedestrian access from Willingdon and Goard Way and movement from parking to the current building configuration has created a number of internal and external pedestrian circulation lines. Some of the external circulation lines should be absorbed into a more integrated internal/external core campus circulation network. Internal circulation is currently compromised by an excessive number of dead end corridors. This condition can be eliminated by integrating new development into an overall campus circulation network that provides a more coherent internal/external movement system.



EXISTING CAMPUS CIRCULATION


KEY
PEDESTRIAN CIRCULATION
VEHICULAR CIRCULATION
PEDESTRIAN CIRCULATION ABOVE
LOADING BAY
EXISTING CORE CIRCULATION
N

SECTION 6 : CAMPUS DEVELOPMENT CAPABILITY



SUMMARY

Maximum Development Capability	Immediate - Academic		559,500
	- Housing		100,000
			643,000
	Medium-term		122,500
	Long-term*		648,500
	Total		1,430,500 sq. ft.
Reduced Development Capability	Housing Component		100,000
	5 Year Building Plan		635,000
	Surface Parking Requirements:	Site 4.4	60,000
		Site 5.1	230,000
		Site 5.2	151,000
		Site 5.3	116,500
		Site 5.4	88,500
	Total		1,381,000 sq. ft.
Excess Area (Location Choice)	Balance (Maximum development minus reductions)		49,500
	UCB TTC Building to BCIT		79,000
	Total		128,500 sq. ft.

* Excluding development on sites located within Area 6.

OVERVIEW

The purpose of this section is to analyze and document the characteristics of BCIT land holdings in order that their development characteristics can be identified.

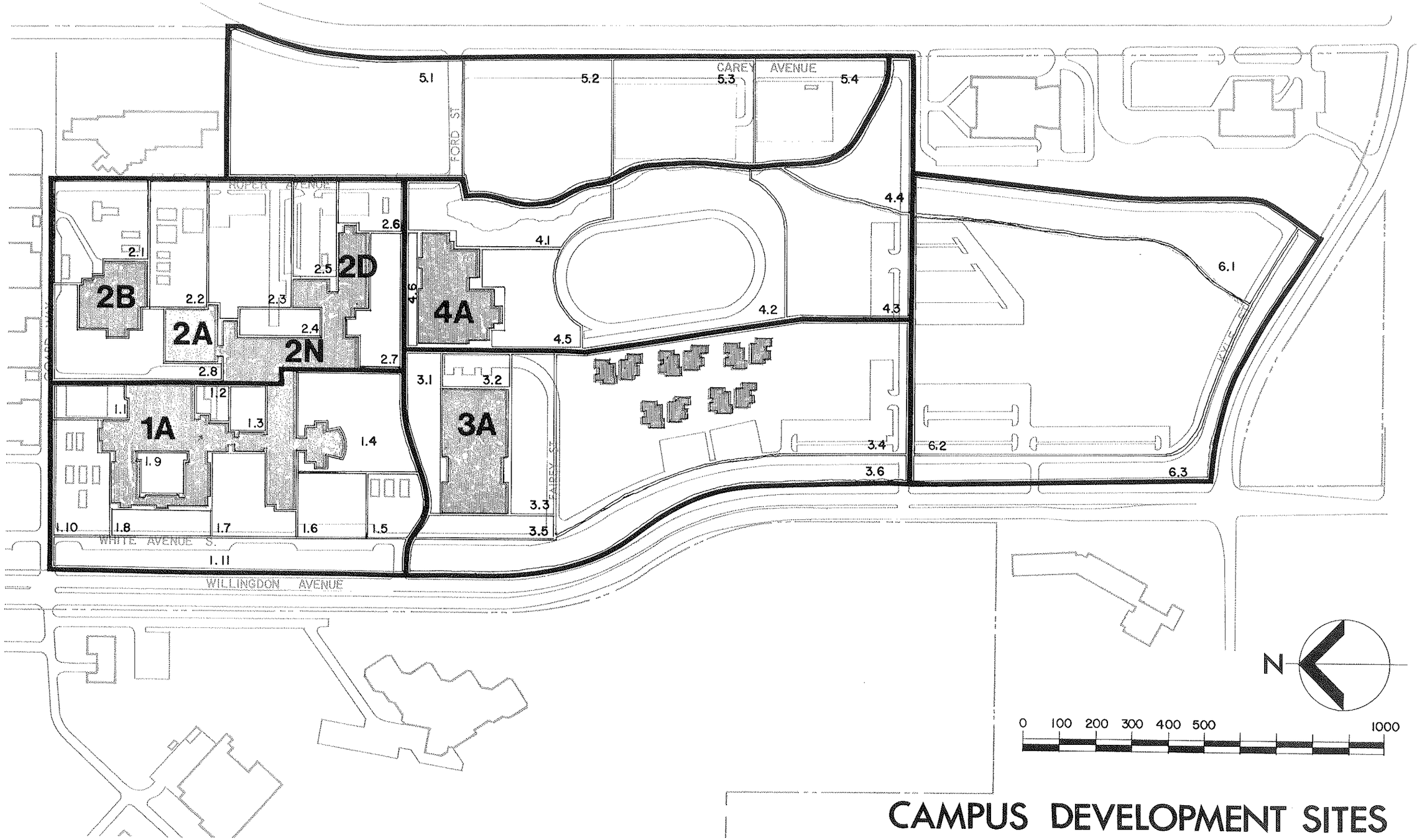
Currently, BCIT land is structured into five zones. This was implemented by Physical Resources in order to simplify the locational coding of existing facilities. As these zones are too large for the detail of analysis required to identify development capability, each zone has been fragmented into a number of discrete sites. These sites were chosen as they reflect land parcels with a specific characteristic. These characteristics range from land enclosed by existing permanent facilities, through land occupied by temporary facilities, to land accommodating a broad array of campus amenities. The analytical format utilized for the analysis of these sites breaks into two streams:

1. Inventory
2. Development Capability

The Site Area identified within the Inventory stream is only approximate, as current survey information is inadequate for an accurate take off.

Information regarding Service Availability referred to within the Inventory stream has been left open as information required for its completion is not currently available. It is assumed that BCIT will complete this documentation when more information exists.

The Development Capability stream identifies the maximum square footage which is permissible for any particular site. This square footage is calculated by identifying a desirable "foot print" for development on any site. This "foot print" reflects development restraints identified within the site analysis. In generating permissible square footage, a maximum of four storey development has been assumed, responding to the fact that currently no facilities on the BCIT campus extend over four floors and therefore all circulation systems are a product of this reality. Although it is realized that development in excess of four floors might well be realized in the future, decisions regarding the appropriateness of this type of development can only be made in the light of more detailed understanding of the operational characteristics of campus Departments. It is assumed that, as functional programs for future development are undertaken, the maximum square footage allowance and permissible height may well be modified. If modification to the development capacity of a particular site is made, the stated "foot print" area should not be exceeded.



CAMPUS DEVELOPMENT SITES

DEVELOPMENT CAPABILITY

Site No.	Approx. Site Area	Maximum No. of Levels				Floor Space* Ratio					Approximate Maximum Gross Area Floor(s)					Development Horizon **		
	Sq. Ft.	1	2	3	4	1	2	3	4	Max.	1	2	3	4	Max.	I	M	L
1.01	19,000				x	0.39	0.78	1.18	1.58	1.58	7,500	15,000	22,500	30,000	30,000	x		
1.02	7,500		x			0.67	1.67			1.67	6,100	12,100	20,500	29,000	29,000	x		
1.03	16,900																	
1.04	71,740				x	0.11	0.21	0.31	0.42	9.42	7,500	15,000	22,500	30,000	30,000	x		
1.05	21,300			x		0.56	1.05	1.60	2.18	2.18	10,500	22,500	34,500	46,500	46,000		x	
1.06	33,600				x	0.17	0.68	1.20	1.52	1.52	6,000	23,000	37,000	51,000	51,000	x		
1.07	32,000				x	0.78		0.91	1.03	1.03	9,000	26,000	29,000	33,000	33,000	x		
1.08	19,000																	
1.09	14,300	x				0.11	0.22			0.22	1,600	3,200			3,200	x		
1.10	37,190				x	0.27	0.54	0.81	1.08	1.08	10,000	20,000	30,000	40,000	40,000		x	
1.11	80,000																	
Sub.	352,530														262,700			
2.01	60,000		x			0.18	0.36			0.36	11,000	22,000			22,000			x
2.02	54,000			x		0.13	0.53	0.75		0.75	16,500	28,500	40,500		40,500			x
2.03	80,000				x	0.28	0.58	0.88	1.18	1.18	22,500	46,500	70,500	94,500	94,500	x		
2.04	11,000																	
2.05	31,000		x			0.48	0.96	1.26		1.26	15,000	30,000	39,000		39,000	x		
2.06	24,000			x		0.50	1.00	1.50		1.50	12,000	24,000	36,000		36,000			
2.07	42,000			x		0.45	0.90	1.36		1.36	19,000	38,000	57,000		57,000	x		
2.08	68,000	x				0.12				0.12	8,000				8,000	x		
Sub.	370,000														297,000			
3.01	36,000		x			0.22	0.44			0.44	8,000	16,000			26,000	x		
3.02	22,000			x		0.55	1.23	1.91		1.91	12,000	27,000	42,000		42,000	x		
3.03	52,000				x	0.35	0.60	0.75		0.75	18,000	31,000	39,000		39,000	x		
3.04	244,000		x			0.16	0.32			0.32	20,000	40,000			40,000	x		
3.05	24,000																	
3.06	77,600																	
Sub.	455,600														137,000			
4.01	64,000		x			0.08	0.16			0.16	5,000	10,000			10,000	x		
4.02	240,000																	
4.03	124,000		x			0.16	0.32			0.32	20,000	40,000			40,000	x		
4.04	60,000			x		0.33	0.67	1.00		1.00	20,000	40,000	60,000		60,000	x		
4.05	52,000		x			0.19	0.38			0.38	10,000	20,000			20,000	x		
4.06	10,000	x				0.35				0.35	18,000				18,000	x		
Sub.	550,000														148,000			
5.01	230,000			x		0.33	0.67	1.00		1.00	75,000	151,800	230,000		230,000			x
5.02	151,000			x		0.33	0.67	1.00		1.00	50,333	100,667	151,000		151,000			x
5.03	116,500			x		0.33	0.67	1.00		1.00	38,833	77,667	116,500		116,500			x
5.04	88,500			x		0.33	0.67	1.00		1.00	29,205	58,410	88,500		88,500			x
Sub.	586,000														586,000			
TOTAL															1,330,500 (1,430,500)			

KEY:

Maximum No. of Levels - basement and penthouses not included.

Floor Space Ratio - by maximum number of levels with basement and penthouses not included.

Development Horizon - I = immediate
M = medium term
L = long term

Total in brackets - includes 100,000 gross square feet of housing.

1.1

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Faculty parking - 44 cars*	*11,880 sq. ft.*	*x*		
2 *Walkway to 2B*	*1,056*	*x*		
3 *Landscaping, green borders*	*2,864*			
4 *Row of trees at Goard Way*	*2,200*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*18,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area			*x*

SITE INTERACTION

North	South	East	West
Goard Way, 2 storey PVI Building across the road.	*1 storey low wing of 1A with windows 40' wide landscaped walkway along southern edge of site.*	*Lister Ave Site relates to large open area in front of Bldg. 2B. Primary service entrance to Campus. Future building could bridge road.*	*Major entrance to 1A complex and underpass to courtyard beyond. 4 storey bldg. with windows. Tress adjacent to building. Infill possible except under existing building.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone					*Outdoor Ltg.*		*x*		

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Mature line of trees running on a north-south axis adjacent to Goard Way. Well defined east-west circulation line connecting Building 1A & 2A.* . *Staff parking well located in relation to administrative functions within Building 1A.*	. *The current use and development adjacent to this site and site 2.8 creates a somewhat confused character area. The location and character of the north-south service road from Goard Way presents an ambiguous image as it can be read by visitors as a primary vehicular access route to campus facilities.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Retain line of mature trees adjacent to Goard Way within a minimum 25 foot setback.* . *Maintain east-west pedestrian circulation line between Buildings 1A & 2B. Reorientation of this circulation line can be undertaken as long as the integrity of existing movement patterns is maintained.* . *If the existing 44 staff parking places are eliminated, these parking spaces, together with those generated by any development, will have to be relocated elsewhere on B.C.I.T. landholdings.* . *The service road from Goard Way on a north-south axis adjacent to the eastern boundary of the site is to be retained.*	. *Four storey development orientated on an east-west axis connecting to the northern end of the north-south wing of Building 1A.* . *Single storey expansion of low wing of Building 1A on the southern boundary of site. (This will necessitate the restructuring of the east-west circulation system between Buildings 1A & 2B. In addition, relocation of displaced parking will be required.)* . *Development which integrates aspects of both 1 & 2 above.* . *Development on this site will require strong interface with developments on sites 1.10 & 2.8.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
19,000				*x*	*0.39*	*0.78*	*1.18*	*1.58*	*7,500*	*15,000*	*22,500*	*30,000*	*x*		

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Forestry classroom & kiln*	*1,000 sq. ft.*	*x*		*x*
2 *Chemistry Department storage*	*2,000*	*x*		*x*
3 *Pavement for load.bays (3) + platforms*	*6,600*	*x*		
4 *Misc. storage (propane barrels, wood,*				
5 *trailers)*	-			
6 *Forestry debarker, chipper*	*500*	*x*		*x*
7				
8				
9				
10				
Approximate Site Area	*10,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
1A Industrial wing - 2 storeys, 2 loading bays, could expand into 1.2.	*Single storey ancillary bldg., possible demolish or integrate into development on 1.2.*	*Lister Avenue access road to primary storage zone below 2N.*	*4 storey 1A bldg. with windows, 1 loading bay. Expansion into 1.2 possible.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro		*x*			Fire Maint.				
Sewer					St. Lights				
Telephone					*Drains*		*x*		

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Screened external work area for adjacent workshops.*	. *Somewhat poor utilization of land area.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Maintain or relocate existing loading bay on western boundary.* . *Redevelopment of site must allow for replacement of existing building space (2,500 sq. ft.).*	. *Four storey development expanding tenancies to the north, west, and south. Development on east-west axis connected to building 1A on western boundary.* . *Possible bridging of street at 3rd & 4th levels (included in Cross Area/Floor).* . *Possible expansion at 3rd & 4th levels above space left at grade for loading bay access (not included in Cross Area/Floor).*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
7,500		*x*			*0.61*	*1.22*	*2.05*	*2.9*	*6,100*	*12,100*	*20,500*	*29,000*	*x*		

1.3

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Planters*	*5,828 sq. ft.*			
2 *Paved Areas*	*8,000*			
3 *Meteorology station on landscaped*				
4 *terrace.*	*3,072*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*16,900 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area		*Terracing*	*x*

SITE INTERACTION

North	South	East	West
Single storey ancillary building on 1.2 on raised earth platform landscaped terrace with meteorology stations on 1.3 side.	*4 storey 1A Bldg. with facing windows. Major staircase up at southeast corner of 1.3.*	*Screened loading bays with terrace.*	*Plaza extends under raised building (3 floors) with windows into 1.2. Major pedestrian entries under bldg. E/W outdoor pedestrian spine through site.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone					*Outdoor Ltg.*		*x*		

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Well developed pedestrian plazas forming a major part of the pedestrian circulation system between White Ave & Building 2N.* . *Well developed separation of pedestrian and vehicular movement systems.* . *Excellent orientation space within overall existing campus development.*	. *No covered connection with plaza area between Buildings 1A & 2N.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *The total area has been developed with high capital expenditure to the east. The space works effectively and should remain as an open component of the campus circulation system.*	. *No institutional space should be developed within this area. However, the effectiveness of the space could be improved with the creation of a covered link within the terraced court area between Buildings 1A & 2N.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
16,900															

brawn parsons wood

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Extensive paved plazas*	*25,000 sq.ft.*			
2 *Lawn, planted areas*	*43,040*			
3 *Walkways*	*3,700*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*71,740 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	x	Shaded Area	
Disturbed/Altered Topography	x	Sunny Area	x
Large Trees	x	Seasonal Pond	
Groomed Plant Material	x	Permanent Pond	
Open Grass Area			x

SITE INTERACTION

North	South	East	West
1A south wing (E/W axis) - 4 storeys, no windows, lecture theatres. Arcade along east half of south wing (little used).	*Walkway linking White Ave. with central campus (E/W axis). Land slopes upward to site 3.1. Building 3A beyond.*	*2N Building, 3 storeys with windows. Extensive landscaping. Walkways along east face of 2N (N/S axis). Plaza areas beyond in 2.7.*	*Lawn areas of sites 1.5 & 1.6. Various westward extensions of 2N possible & southward from 1A.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *An avenue of mature trees running on an east-west axis within the southern quarter of the site.* . *Well developed open green space within the central western zone of the site.* . *Well developed hard and soft landscaping within the eastern half of the site.* . *Interesting level changes within the existing topography of the site.* . *The area is an established centre for passive recreation.*	. *Somewhat confused circulation patterns exist within the north-west quadrant of the site. These are caused primarily by the instrusion of the lecture theatre complex into the area and somewhat severe man-made level changes which result.* . *The north-south external circulation line to the west of Building 2N is somewhat unresolved at its southern extremity.* . *No covered circulation exists between Buildings 3A, 1A or 2N.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Retain mature plant material and general character of southern quarter of the site.* . *Configuration of lecture theatre complex compromises development within north-western quadrant. North-south pedestrian circulation adjacent to Building 2N should be maintained and extended to the south.* . *Development must ensure maximum sun penetration into passive recreation areas.*	. *Although this site could physically accommodate considerable development, care should be taken to ensure that its integrity as a passive recreational resource within the campus is maintained. It is recommended that only limited development be permitted within this zone.* . *Development of the area would best be accommodated within the north-east quadrant adjacent to the eastern end of the southern wing of Building 1A (currently windowless). The only remaining zone suitable for development lies on an east-west axis through the centre of the site. This would, however, restrict sun penetration into an existing, well established landscaped area. Development of this kind is therefore not recommended.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
71,740				x	*0.11*	*0.21*	*0.31*	*0.42*	*7,500*	*15,000*	*22,500*	*30,000*	x		

1.5

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Office trailers (3)*				
2 *. nursing, general offices*				
3 *. psych. nursing, general offices*				
4 *. nursing department heads*	*3,600 sq.ft.*			
5 *Walkway*	*3,000*			
6 *Grass*	*14,700*			
7				
8				
9				
10				
Approximate Site Area	*21,300 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Site blends into 1.6 uninterrupted lawn.	*Walkway (E/W) linking White Ave. to central Campus.*	*Lawns of site 1.4 and walkway joining 1A complex with portables on site and 3A beyond.*	*White Ave. southern traffic entry point from Willingdon to Campus road system.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Well established grassed area on western half of site.*	. *Three 1,200 square foot trailers are located on the eastern half of the site.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *A 30 foot set back from White Avenue should be retained through the site.* . *The east-west pedestrian circulation line connecting White Avenue with Buildings 2D & 4A should be retained.*	. *The eastern half of this site is capable of accepting considerable development. Assuming that site 1.4 is maintained as predominately a pedestrian zone, development to the height of three floors could be acceptable.* . *Construction in this area could be integrated with the development of sites 1.6 & 3.1 (which are adjacent to Building 3A).*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
21,300				*x*	*0.56*	*1.05*	*1.60*	*2.18*	*10,500* ***	*22,500*	*34,500*	*46,500*		*x*	

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Walkway & lightwell for 1A Bldg.*	*2,000 sq. ft.*			
2 *Grass*	*31,630*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*33,360 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	x	Shaded Area	
Disturbed/Altered Topography		Sunny Area	x
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	x		

SITE INTERACTION

North	South	East	West
4 storey 1A wing, no windows. Exterior walkway (E/W axis) & lightwell adjacent to building.	*Natural extension into site 1.5. Possible wing extension from 1A complex.*	*1A lecture theatres & pathway (N/S axis) linking 3A bldg. to 1A complex. Site extends to 1.4 grass land.*	*White Ave. with parking across the road on site 1.1.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Well established grass area adjacent to White Avenue.*	. *None.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Maintain or relocate existing circulation line along northern boundary of site - 50 foot width.* . *Maintain 30 foot setback from White Avenue.*	. *Four floors of institutional space structured on the north-south axis connecting to the western end of the southern wing of Building 1A.* . *Development of this site can be integrated with that located on site 1.5.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
33,600				x	*0.17*	*0.68*	*1.10*	*1.52*	*6,000*	*23,000*	*37,000*	*51,000*	x		

1.7

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Walkways*	*12,000 sq.ft.*	*x*		*x*
2 *Open grass, planting*	*20,000*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*32,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
3 storey 1A classroom wing - no windows.	*4 storey 1A classroom wing with windows with ground level arcade.*	*Passage on E/W axis under 4 storey 1A wing. Major entrance NE & SE corners of 1.7. Site links White Ave. with 1.3 and central Campus.*	*White Avenue. Possible wing at this end to complete quadrangel or extension of existing wings.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone					*Outdoor Ltg.*		*x*		

POSITIVE ASPECTS OF SITE

- *Well established open space, open to the west, enclosed by buildings on three remaining sides forming a natural entrance court along the "front" of B.C.I.T.*
- *Pleasant natural landscaping at the north end of the site.*
- *Good visual access to 1.3 and campus interior by virture of broad passage under 1A wing at east end of site.*
- *Covered walkway under east side of building.*

NEGATIVE ASPECTS OF SITE

- *Considerable shading of site by four storey 1A block at south side of site.*
- *Curved semi-open fence on 1.11 site due west 1.7 acts as a barrier (visually and physically) to the site.*
- *Functionally, the site does not read clearly either as a recreation area or an arrival/pathway point. This is due to lack of direction in paving layout and inconsistency in landscape treatment.*

  Also, the broad level crossing at White Avenue which continues to Willingdon but no further, is a powerful entrance statement but its actual function is ambiguous.
- *Open space is sparsely utilized for recreational purposes.*

DEVELOPMENT RESTRAINTS

- *Maintain or enhance east-west pedestrian axis.*
- *Maintain 30 foot setback from White Avenue.*
- *Maintain fire-fighting access to buildings surrounding site.*
- *Allow for continuing daylight penetration to buildings.*

DEVELOPMENT POSSIBILITIES

- *Develop site as a key arrival point for campus visitors, with possible additional parking to serve Administration Building. No further construction.*
- *Extend a wing on north-south alignment from the 1A structure north of the site. Two floors closely matching the Administration Building in character and frontal siting would strengthen the overall appearance of B.C.I.T. from the west.*
- *Construct a two storey wing on north-south alignment with third and fourth levels stepping back to the 1A wing north of the site.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
32,000				*x*	*0.28*	*0.65*	*0.91*	*1.03*	*9,000*	*26,000*	*29,000*	*33,000*	*x*		

brawn parsons wood

1.8

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Entrance area to BCIT Admin. Bldg.*	*17,680 sq. ft.*	*x*		*x*
2 *White Avenue sidewalk*	*1,632*	*x*		
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*19,312 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area		*Plaza*	*x*

SITE INTERACTION

North	South	East	West
Extended landscape buffer through 1.1 to Goard Way.	*Broad landscape buffer in front of 1A complex.*	*Administration Bldg., staircase to 3 storey wing.*	*White Avenue and parking beyond on 1.1.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas *Tank*		*x*		
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights		*x*		
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *High degree of visibility.* . *Ease of access.* . *Abundance of natural light.*	. *Limited depth of site restricts building potential if 30 foot setback from White Avenue is maintained.* . *Existing landscaping somewhat overgrown, hampers building identification.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Height of any building development restricted to two storeys if pattern set by adjacent Administration Building is upheld.* . *Any development would be in the nature of addition to existing Administration Building, structurally and operationally difficult.* . *Administration Building is enhanced by a front plaza, which the site suitably provides.*	. *No building development should take place within this site although the space could be improved through landscaping which defines the space rather than cluttering it.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
19,000															

1.9

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Landscaped plaza and lightwell for*				
2 *surrounding buildings*	*14,336 sq. ft.*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*14,336 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
3 storey 1A wing, major walkway on E/W axis under this building but not part of 1.9. No windows.	*3 storey 1A wing with windows.*	*4 storey 1A wing no access to square at grade, possible expansion into square at grade level.*	*2 storey Admin. Bldg. with windows facing site. Limited expansion into site at grade from this building possible.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Located adjacent to major east-west entry route underneath the north wing of the 1A complex.* . *Located in proximity to social, commercial, and administrative activity centres.* . *Excellent accessibility at grade from north.* . *Attractive planter at sunny, northern half of site.*	. *Poor grade level accessibility from east, south and west.* . *The site is underused, despite its sheltered location and comparatively good sunlight exposure, it attracts few visitors.* . *Landscaping treatment of bare walls is not consistent.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Development must not interfere with daylight penetration to existing window walls.* . *Development is limited by exit and firefighting access requirements.*	. *Expansion of Administration space into plaza for boardroom facilities.* . *Alternately, limited expansion at grade level of the 1A buildings to the east and south.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
14,300		*x*			*0.11*	*0.22*			*1,600*	*3,200*			*x*		

1.10

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Office trailers on site (3):*				
2 . *Student Services*				
3 . *Mathematics Department*				
4 . *Continuing Education & Ind. Serv.*	*6,920 sq. ft.*			
5 *Tree borders (25' spread)*	*9,700*			
6 *Grass & minor pathways*	*20,570*			
7				
8				
9				
10				
Approximate Site Area	*37,190 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Goard Way. Large grassy area beyond. Site relates visually to extensive open ground on 1.8 and 1.11.	*North wing, Bldg. 1A, 3 storey classroom block with north facing windows. Visual continuity to courtyard (1.9) maintained under building.*	*Partially, the north end of 1A Bldg. then parking lot, screened by landscaping. NB:Major entrance SE corner of site.*	*White Avenue and Willingdon beyond. Row of trees reduces site.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water		*x*			Gas		*x*		
Steam					Storm				
Hydro		*x*			Fire Maint.		*x*		
Sewer		*x*			St. Lights				
Telephone		*x*							

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Rows of mature trees running on an east-west axis along Goard Way and north-south along White Avenue.* . *Good relationship to existing pedestrian access systems.*	. *Site occupied by portables which would have to be relocated in the event of new construction.* . *25 foot setback required by trees along surrounding streets, plus need for daylight penetration to windows of 1A wing due south reduce developable space.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Retain line of mature trees adjacent to Goard Way and White Avenue within a minimum 25 foot setback.* . *Maintain north-south pedestrian circulation/view corridor in line with underpass of northern east-west wing of 1A complex.* . *Potential development cannot be undertaken in isolation of that of Site 1.1. The two sites presently form a continuous border area to existing buildings.*	. *One four storey extension on east-west axis from northern end of the north-south wing of Building 1A.* . *Development of this site will require strong interface with development on site 1.1.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
37,190				*x*	*0.27*	*0.54*	*0.81*	*1.08*	*10,000*	*20,000*	*30,000*	*40,000*		*x*	

1.11

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Parking (45 cars)*	*12,600 sq. ft.*	*x*		*x*
2 *Grade crossing*	*2,550*			
3 *Grass*	*63,850*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*80,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Extension of landscaped strip fronting PVI Campus.	*Extension of strip along Willingdon Campus boundary.*	*Primary vehicular access to front door of Campus on White Avenue.*	*Willingdon Avenue presently providing off Campus parking.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro		*x*			Fire Maint.				
Sewer					St. Lights		*x*		
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Generous boulevard strip between major north-south arterial (Willingdon) and campus perimeter road (White Avenue).*	. *Oberserving reasonable setbacks from road boundaries, site is too narrow to develop efficiently.* . *Site is cut off from main body of campus by White Avenue, the intervening building setback.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Remoteness from existing facilities.* . *Conflict with existing parking function.*	. *No building development is anticipated for this site, although additional parking space could be created.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
80,000															

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Office trailers - Campus Food Serv.*	*1,950 sq.ft.*	*x*		*x*
2 *Campus Maintenance compound*	*4,000*	*x*		*x*
3 *Loading Bay's approach road*	*4,500*			
4 *Traffic control area*	*2,000*	*x*		*x*
5 *Structure on Goard Way*	*1,000*	*x*		*x*
6 *Grass*	*46,550*			
7				
8				
9				
10				
Approximate Site Area	*60,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Goard Way major east-west Campus connector.	*Vacant grass area 2.2. Walkway joining central Campus to parking lots.*	*Roper Avenue, single storey PVI building under construction beyond.*	*Single storey 2B building plus loading bay.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Configuration of site lends itself to an eventual building development of practical size.* . *Access to site from parking area is good.* . *Corner location at intersection of major campus roads facilitates building identity and ease of access.*	. *Access to loading bays at rear (east of Building 2B) cuts across site.* . *Two, 1,000 square foot trailers are located on the southern half of the site.* . *Campus maintenance compound (greenhouse) and traffic control portables are located on east half of site.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *A 20 foot setback from Roper Avenue should be retained through this site.* . *The somewhat isolated position of the site with respect to existing campus development will retard redevelopment of this site.* . *The east-west walkway connecting the parking area with Building 2B and the 1A complex beyond, should be retained and improved.* . *Location of temporary structures and services related facilities on this site is perhaps more suitable than on any other site presently available.* . *A 25 foot setback from Goard Way should be maintained as with sites further west.*	. *The northern half of the site is somewhat limited in development potential due to the need for a road access to the loading zone of Building 2B, although the extend of this roadway could be reduced.* . *Campus service facilities could remain with this arrangement.* . *A two story building on the north-south axis tying into a somewhat taller structure on Site 2.2 is suggested.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
60,000		*x*			*0.18*	*0.36*			*11,000*	*22,000*					*x*

2.2

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Office trailers (portables) (7):*				
2 . *Physical Resources (2T)*				
3 . *Classrooms (2S)*				
4 . *Business Admin, H & T, Mech. Tech.,*				
5 *Survey & Computer Staff (2R)*				
6 . *Food Services (2K)*				
7 . *Directed Studies (2J)*				
8 . *Continuing Ed. (2H)*	*12,234 sq.ft.*	*x*		*x*
9 *Grass*	*41,486*			
10				
Approximate Site Area	*53,720 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Site 2.1 and Building 2B.	*Site 2.3 Diagonal footpath (occasional use).*	*Roper Avenue & parking areas beyond.*	*Building 2A. Major walkway (N/S axis) joining 2B to building farther south.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Large open area suitable for large scale development.* . *The site is located conveniently close to the boiler house for steam and hot water service.*	. *The site is presently occupied by a large number of trailers which will have to be moved or eliminated before redevelopment can occur.* . *Access to the site by covered or enclosed walkways is lacking.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Expansion needs for Building 2A must be considered.* . *The east-west walkway east of Building 2A must be maintained.* . *Circulation from the southeast corner of the site diagonally to the northwest corner must be allowed for.* . *Development in this area could be integrated with Sites 2.1 and 2.3.* . *20 foot setback required on Roper Avenue.*	. *This site could support a building development of three storeys in height on a north-south alignment, tying into the two storey development on Site 2.1* . *Open space planning would have to be carefully coordinated with buildings on adjacent sites.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
54,000			*x*		*0.31*	*0.53*	*0.75*		*16,500*	*28,500*	*40,500*				*x*

2.3

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Parking (60 cars)*	*16,200 sq.ft.*			*x*
2 *Grass*	*57,500*			
3 *Walkway (E/W axis)*	*6,800*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*80,500 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Site 2.2 - grass areas & portables.	*Site 2.5, which is mostly parking.*	*Roper Avenue & parking beyond. Walkway is major E/W axis for Campus, linking parking to central areas.*	*Site 2.4 and Building 2N beyond.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Large open area surrounded by undeveloped sites.* . *The site is located in close proximity to the central boiler house.*	. *Temporary parking currently occupying site would need relocation.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *A major east-west pedestrian walkway linking parking areas with Building 2N will have to be maintained.* . *North wing (east-west orientation) of 2D Building forms part of southern edge of site.* . *North-south circulation route at west or central portion of the site will have to be maintained.* . *Orientation of future building(s) is critical in establishing coherent spatial patterns which define formal entry points and attractive outdoor spaces.* . *20 foot setback required on Roper Avenue.*	. *An eastward extension from the northern end of the 2N Building - four storeys maximum height - permitting extension of the internal walkway system into the eastern portions of the campus. The remaining space could define a major east side entrance square.* . *A portion of a possible development on a north-south alignment, covering Sites 2.5 and 2.6 has been included in site 2.3.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
80,000				*x*	*0.28*	*0.58*	*0.88*	*1.18*	*22,500*	*46,500*	*70,500*	*94,500*	*x*		

2.4

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Plazas*	*5,000 sq.ft.*			
2 *Landscaping*	*5,880*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*10,880 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area		*Terraces*	*x*

SITE INTERACTION

North	South	East	West
Telephone exchange and 2A beyond. Embankement slopes down at end of site to a small walkway (E/W axis) into Surveying Dept.	*1 storey wing of 2D building which joins it to 2N. Broad concrete steps rise up to entrance.*	*Site 2.3 which makes up the visual approach to 2N building. With 2.4 makes up 2nd front entrance to BCIT.*	*2N Building - 3 storeys with windows, could expand into site on limited basis. Site is convergence of major E/W & N/X walkways.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *This site is a convergence point for major east-west and north-south walkways.* . *There are interesting level changes attractively landscaped on all sides of this site.* . *There are major building entry points at the south and west sides of the site.*	. *Walkways offering shelter from the weather are not continuous within this area.* . *Considerable shadowing and use of concrete for the plaza discourages utilization of the open space.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Walkways make up the primary function of this site; the area provides a necessary setback for the 2N Building.*	. *No development is foreseen for this site, apart from improvements to the walkway system.* . *Covered North/South circulation at the second floor of Building 2N could be relocated within the plaza adjacent to 2N. This permits expansion of 2N facilities at plaza level. Care must be taken to ensure that development of this type does not disrupt circulation flow.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
11,000															

brawn parsons wood

2.5

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Office Trailer - PEMC*	*1,040 sq. ft.*			*x*
2 *Parking (55 cars)*	*16,560*			*x*
3 *Loading bays (& approaches)*	*2,000*	*x*		
4 *Grass*	*11,600*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*31,200 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Vacant area of site 2.3.	*3 storey 2D building with windows.*	*Roper Avenue & parking beyond.*	*2 storey 2D north wing with windows. Loading bay for 2D and north wing requires access through site.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Parking is well located in relation to PEMC functions within Building 2D.*	. *In addition to parking, the site presently accommodates an office trailer of 1,200 square feet which relates strongly to the 2D complex.* . *The site is heavily shadowed which prevents it from being considered as an an outdoor space, unless it is in conjunction with an open space development on Site 2.3.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Maintain north-south circulation at southeast corner of site, which serves as a route to the book store.* . *If the existing parking spaces are eliminated, these spaces, together with those generated by any development, will have to be located elsewhere on the B.C.I.T. campus.* . *Building 2D, south and west, have window walls which require access to daylight.* . *Access to the loading bays of the 2D complex be maintained in any redevelopment of this site.* . *20 foot setback required on Roper Avenue.*	. *An eastward extension of the north-south oriented two storey 2D wing is proposed permitting continued access to the 2D loading bays.* . *A three storey building at the east end of the site on a north-south alignment extending from Site 2.6.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
31,000		*x*			*0.48*	*0.96*	*1.26*		*15,000*	*30,000*	*39,000*		*x*		

2.6

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Office portable - Student Services*	*1,200 sq. ft.*	*x*		*x*
2 *Grass*	*19,775*			
3 *Walkways E/W & N/S*	*2,840*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*23,815 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Parking lot of Site 2.5.	*Walkway joining parking lot to 4A, 2D and beyond.*	*Roper Avenue and parking beyond.*	*Rear of 2D building- 3 storeys with windows. Entrance to book- store. Site possible expansion for 2D.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Level area with excellent access to parking areas.*	. *The site is occupied by an office trailer which will have to be removed if development is to occur.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *A major east-west walkway connecting parking areas with central campus at the south end of the site will have to be maintained, as well as a north-south oriented walkway giving access to the bookstore.* . *A 20 foot setback from Roper Avenue will have to observed and possible allowance made for increased land- scaping.* . *The end wall of the 2D Building has windows.*	. *A three storey structure oriented north-south could be linked directly to the 2D Building or it might be linked to it with pedestrian bridges.* . *Any development on this site will have to be considered in terms of development on Sites 2.5 and 2.7.* . *In the short-run it appears likely that the site will continue to be utilized for temporary structures.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
24,000			*x*		*0.50*	*1.00*	*1.50*		*12,000*	*24,000*	*36,000*			*x*	

brawn barsons wood

2.7

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Plazas*	*8,000 sq.ft.*			
2 *Grass mounds*	*25,850*			
3 *Landscaped areas*	*2,000*			
4 *Walkways*	*6,100*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*41,950 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	x	Shaded Area	
Disturbed/Altered Topography		Sunny Area	x
Large Trees		Seasonal Pond	
Groomed Plant Material	x	Permanent Pond	
Open Grass Area	x		

SITE INTERACTION

North	South	East	West
2 storey 2D building with windows. Seldom used walkway adjacent to 2D. Entrance to 2D forms part of major walkway system between parking, 4A and rest of Campus.	*Major E/W walkway and 4A beyond.*	*Site 2.6 with its portable and parking beyond.*	*Large landscaped square and Site 2.4 form open space continuum with 2.7.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE

- *The southwest quadrant of this site has attractive landscaping which contributes to the effectiveness of the semi-open area of Site 1.4.*
- *The north side of the site has good sun exposure and is bermed upwards to the second floor of the principal 2N Building. This sloping artificial hill is a very popular gathering place for the students in summer. This berm effect is duplicated on Site 4.6 to the south thus giving major focus to the walkway between them.*
- *Site 2.7 benefits from the low profile of Building 4A to the south, which permits considerable sunlight penetration into the site.*

NEGATIVE ASPECTS OF SITE

- *There is no covered walkway for the busy circulation route linking the Buildings 4A and 2D.*
- *The site provides perhaps an overabundance of open space, particularly considering the very large amount of open space available in sites to the west.*
- *There is very little provision for seating or resting in the intensively landscaped portions at the south end of the site. Similarly, the plaza south of the major east-west wing of the 2D Building is lacking in places to rest, even though the space is well sheltered from the wind.*

DEVELOPMENT RESTRAINTS

- *The east-west pathway should be maintained with unobstructed entries to the 2D Building and across Site 4.6 to Building 4A.*
- *The landscaped areas at the west end of the sites should be maintained and improved.*

DEVELOPMENT POSSIBILITIES

- *In view of the open space available in the western half of the site, infill construction can take place in the northern half on the north side of the site adjacent to the 2D Building. Maximum height of such buildings would be three storeys. It would then be possible to span the major walkway to the South with a rain cover that would extend to the entrance to the 2D Building at the far south of the site.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
42,000			x		*0.45*	*0.90*	*1.36*		*19,000*	*38,000*	*57,000*		x		

2.8

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Grass Terraces*	*27,300 sq. ft.*			
2 *Food Training Centre plaza*	*11,600*			
3 *Walkway to 1A Complex*	*1,600*			
4 *Walkway to PVI*	*400*			
5 *Planter terraces*	*5,200*			
6 *Bus loading bay*	*975*			
7 *Walkway around mechanical building*	*600*			
8 *Parking at Mechanical Building*	*4,000*			
9 *Plaza at site of Food Training Centre*	*3,000*			
10 *Lister Avenue & sidewalk*	*14,000*			
Approximate Site Area	*68,675 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area	*x*	*Terraces*	*x*

SITE INTERACTION

North	South	East	West
Goard Way, then PVI sheds.	*2A, single storey. Two important pathways originate from SE corner of site. Open lawn area (2.2) behind 2A.*	*Loading bays for 2B. Campus maintenance compound beyond. Land slopes downward beyond.*	*Lister Ave. Along with Site 1.1, the front of the Food Training Center represents a large unbuilt area. Site 2.8 is like a hilltop to the surrounding area.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *The site consists almost entirely of landscaped terraces and extensive plazas with extremely favorable exposure to sunlight.*	. *The area serves, somewhat paradoxically, as an extended setback for Building 2B which, by virtue of its low height and low surrounding buildings, hardly requires such extensive treatment. The site is therefore under-utilized for its present function.* . *Open space relates visually to the open areas of Sites 1.1 and 1.10 but this overall area is bisected by Lister Avenue, the main campus service access route.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The 25 foot setback along Goard Way applying to Sites 1.1 and 1.20 should also apply to Site 2.8.* . *Development on this site should coordinate with the density of development on Site 1.1.* . *Lister Avenue will continue to provide service access to the central campus, and a modest setback of 10 feet is suggested for this road.* . *A major steam line running north-south from the boiler house lies underneath the site.*	. *Plaza areas adjacent to Building 2B form a logical area for expansion of the 2B Building cafeteria.* . *Unless underground services are compromised, relocation of Lister Avenue to enhance development possibilities in either Site 2.8 or Site 1.1 could be considered. Attention could also be given to utilizing the western portion of the site for additional parking.* . *Connection of the plaza adjacent to 2B with the plaza to the west of 2N by elevated walkway seems feasible and if implemented would strengthen 2B's relationships to overall campus development.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
68,000	*x*				*0.12*				*8,000*				*x*		

3.1

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Walkways*	*5,000 sq. ft.*			
2 *Grass and landscaped hillside*	*31,000*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*36,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Walkways on E/W axis connecting Willingdon with Building 3A and central campus buildings.	*3A Building two storeys with windows only in west portion.*	*Walkway on N/S axis linking campus residences with central campus. 4A Building beyond.*	*Set-back strip 3.5 (grass) and White Ave. beyond.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE

- *The site lies adjacent to one of the most attractive open areas on the campus, located due north of Building 3A. It is separated from these open areas by an east-west walkway which rises gently to the entrance to the 3A Building in the west and continues on to White Avenue.*
- *There is a second walkway which runs parallel to the one described above but is higher up on the hillside and closer to the 3A Building.*
- *The hillside nature of the site allows for good visibility to surrounding areas.*

NEGATIVE ASPECTS OF SITE

- *The narrow, strip-like configuration of the site and the sloping nature of the ground are not particularly conducive to development.*
- *Expansion of the 3A Building industrial wing onto the site would present aesthetic problems.*
- *There is some degree of redundancy in the double east-west walkways in terms of the actual circulation patterns occuring.*

DEVELOPMENT RESTRAINTS

- *The east-west walkway at the north side of the site will have to be maintained.*
- *This well-landscaped hillside acts as an effective enclosing element for the open areas below.*
- *Transfer of Building 3A to B.C.I.T. in the future, and the eventual use to which the building will be put, will have an effect on defining development possibilities.*

DEVELOPMENT POSSIBILITIES

- *Small northward additions to the industrial wing (e.g., expansion of storage, office areas) could be undertaken. However, more likely expansion sites exist on the South and East faces of the 3A Building.*
- *Construction connecting the 3A Building on a north-south alignment will have to be carefully coordinated with development of Sites 1.5 and 1.4 to the north.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
36,000		*x*				*0.22*	*0.44*		*8,000*	*16,000*			*x*		

3.2

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Fairey St.*	*6,500 sq. ft.*			
2 *Parking (24)*	*7,500*			
3 *Grass*	*6,000*			
4 *Walkway*	*2,000*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*22,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Site 3.1 tree covered slope down to flat sites beyond.	*Fairey St. curves from N/S orientation to E/W.*	*Walkway between campus and residences. Single storey 4A Building beyond.*	*Rear of 3A Building with several loading bays (2 storeys).*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Level area, eminently suited to development.*	. *The site presently contains a variety of circulation functions including service access to the site via Fairey Street, several large loading bays at the east end of the 3A Building, and an unfinished walkway linking the residences to the south with the Campus to the north.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Loading and parking functions at the rear of the 3A Building will have to be relocated if a new development is to occur. This may be feasible within the context of future uses for the building.* . *The north-south walkway linking residences to central campus will have to be maintained and, if possible, given some weather protection.* . *Adjacent to the 4A Building at the east end of the site is a stairway which acts as an emergency exit for the gymnasium floor one level down.* . *Realignment of Fairey St. required.*	. *The site could be developed with a three storey building located on the north-south axis, possibly linking Buildings 3A and 4A. If this structure is located as far south as possible on the site, shadow effect on the lower plaza areas to the north could be minimized. A portion of the structure might have to be left open at grade so that service access can be provided to Building 3A.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
22,000			*x*		*0.55*	*1.23*	*1.91*		*12,000*	*27,000*	*42,000*		*x*		

3.3

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Grass*	*50,600 sq. ft.*			
2 *Half Fairey St.*	*1,200*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*51,800 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
2 storey 2A Building windows in west portion only.	*Fairey St. provides service access to 3A Building. Wooded hillside of Site 3.4 beyond.*	*10-15 foot slope down to flat land of Site 4.5.*	*Grass setback strip 3.5.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *The area is sufficiently large to permit development of the reasonably large structure, particularly adjacent to the industrial (east) wing of the 3A Building which has no windows facing the site.*	. *Unless related to activities in the 3A Building or proposed developments on Site 3.2, the site is somewhat isolated from central Campus, and no rain-sheltered walkway has currently been placed between the two.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The lawn area, making up the eastern half of the site, is used for recreational games and an alternate location for these activities will have to be found if development is to occur.* . *The lunch room of the 3A Building faces the site. This relationship will have to be maintained or relocation of the lunch room considered.* . *Fairey Street curves through the south-east corner of the site, reducing the developable area. The road can be realigned, however, to take care of this obstacle.* . *Some of the parking on Site 3.2 may have to be relocated on Site 3.3 if redevelopment is to occur there.*	. *Expansion of the 3A Building to the south on a limited scale is proposed, allowing continued use of the open space for recreational purposes.* . *Suggested height is two storeys, although there would not be adverse consequences to increasing the height substantially if required. Such a structure could only cast shadows onto the roof of the adjacent 3A Building.* . *A three storey development at the east end of the site (east of Fairey Avenue) - in conjunction with development of Site 4.5, is envisaged.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
52,000				*x*	*0.35*	*0.60*	*0.75*		*18,000*	*31,000*	*39,000*		*x*		

3.4

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Parking (proposed) 100*	*54,000 sq.ft.*			
2 *Residences (site area)*	*135,000*			
3 *Forested*	*175,000*			
4 *Roadways*	*25,000*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*379,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	*x*
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
Fairey St. 3A Building beyond.	*More underveloped forested land slated for parking development.*	*Jogging track and playing field (Site 4.2).*	*White Ave. Boulevard strip beyond.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Large undeveloped areas available on site.* . *Attractive natural setting not too distant from Campus centre.*	. *At the north end of the area the land slopes steeply downward and, although covered with natural growth, consists of unstable soils not suitable for development.* . *The western edge of the site has been developed as parking area which will be under considerable pressure to expand. Unless such expansion is carefully handled with a view to future development, a situation resembling the eastern half of the Campus.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Space will have to be allocated for a walkway linking proposed parking developments east and west of Kyle Street extension with Central Campus.* . *Proposed parking developments must be adequately screened from the areas allocated for residential expansion, and residential areas must be protected from encroachment by automobiles.*	. *Existing housing occupies approximately 3 acres on the site. At present density of 83 persons/acre, another 3 acres can be used for housing expansion, leaving 2.5 acres for parking and natural open space.* . *If existing density is maintained another 250 students can be accommodated. Consideration should be given to increased density.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
244,000		*x*			*0.16*	*0.32*			*30,000*	*60,000*			*x*		

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Grass*	*21,050 sq. ft.*			
2 *Walkways & portions of roadways*	*3.000*			
3				
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*24,050 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
East/west walkway connecting Willingdon with central campus.	*Fairey St. wooded hillside beyond.*	*Building 3A (two stories with windows) at north end of site; 3.3 at south end.*	*White Ave. boulevard strip 3.6 beyond.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Unobstructed open area.*	. *Site falls largely within 50 foot setback requirements from White Avenue.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Building 3A east of site has three storeys of windows which require daylight penetration.*	. *The site acts as a buffer between White Avenue and Building 3A and should continue as such.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
24,000															

3.6

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Parking (120 spaces)*	*21,600 sq. ft.*			
2 *Road areas*	*16,000*			
3 *Landscaped buffer*	*40,000*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*77,600 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
Continuation of boulevard strip between White Ave. and Willingdon.	*Proposed extension of Kyle St. linking Willingdon with Wayburne. Continuation of strip to Moscrop Street.*	*White Ave., parking beyond.*	*An estimated 50 parking spaces on Willingdon.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *This long, narrow boulevard strip acts as a useful buffer between Willingdon Avenue and the Campus perimeter road.*	. *The area is isolated from the main body of Campus by roadways and is physically too narrow for effective development.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Parking is the existing and most useful use of this site.*	. *Some additional parking development may be possible in the more level areas of this site.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
77,600															

4.1

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Settling pond*	*8,500 sq. ft.*			
2 *Creek*	*13,000*			
3 *Plaza areas*	*6,000*			
4 *Landscaping*	*2,000*			
5 *Grass*	*33,000*			
6 *Part of roadway*	*1,500*			
7				
8				
9				
10				
Approximate Site Area	*64,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	*x*
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	*x*
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Walkway on E/W axis connecting parking lots with campus. Grassy areas on site are a resource for Building 4A.	*Track and playing field of Site 4.2.*	*Roper Ave. at north end of site; hard surfaced playing field beyond pond and creek.*	*4A Building at north half of site; tennis courts at south half.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *The site is dominated by a pond which is fed by a seasonal creek that drains sloping land extending south to Moscrop Street. The pond serves as a silt catchment basin for the creek as well as a landscaping amenity.* . *The site relates strongly to social, recreational and athletic facilities in Building 3A and surrounding sites.*	. *In summertime the pond tends to become stagnant and unappealing. Transition from the site to areas east is abrupt and this detracts from the attractiveness of the pond.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *In future development, consideration must be given to high water table conditions adjacent to the pond.* . *The bridge connection across the creek which links the athletic areas of Site 4.2 to the playing field on Site 5.2 must be maintained.* . *The north-south walkway linking the plazas and locker facilities in Building 4A to Site 4.2 must be maintained.* . *Care must be taken not to overshadow the sunny plazas at the south of Building 4A in any future redevelopment of the site.*	. *Development of this site will most likely take the form of a low rise addition to Building 4A.* . *Another potential site exists at the south end of the site adjacent to the pond, suitable for a two storey building.* . *In either development some lawn area ought to be maintained for passive recreation.* . *The site relates strongly to Site 4.5 to the west, presently occupied by the tennis courts, and therefore development of these sites should be coordinated.* . *That portion of the site which lies north of the pond serves as loading bay access and limited parking space.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
64,000		*x*			*0.08*	*0.16*			*5,000*	*10,000*			*x*		

4.2

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Running track*	*41,000 sq.ft.*	*x*		*x*
2 *Playing field*	*60,000*	*x*		*x*
3 *Open Grass Area*	*130,000*			
4 *Pond & drainage ditch*	*9,000*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*240,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees		Seasonal Pond	*x*
Groomed Plant Material		Permanent Pond	
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Tennis courts. Flat land related to student union. SAC contains changing room facilities for playing field and track.	*Natural area. Sloped woodland topography with pedestrian access requirements from existing parking.*	*Drainage ditch & silt pond to north. If development is anticipated on adjacent site culverting of water or particular cross-overs are required.*	*Footpath to existing parking (N/S axis) also student housing facilities. Additional housing is anticipated in the future. Aspect from housing is important future planning criteria.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Good level ground surrounded by an abundance of open space.* . *Good open foreground view for housing on site 3.4 to the west.*	. *None*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The site consists of a playing field and running track which are to be retained as recreational or replaced as recreational open space.* . *A fringe of the natural forest growth along the southern edge of the site ought to be maintained as a screen to parking development beyond.*	. *It is recommended that, within the time horizon anticipated by this study, no development occur on this site. If development does occur and the playing field is eliminated, an alternative location will have to be found.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
240,000															

brown parsons wood

4.3

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Undeveloped forest area*	*121,100 sq.ft.*			
2 *Proposed parking (not determined)*	-			
3 *Half Kyle St. extension*	*3,000*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*124,100 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	*x*
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
Playing field and trails beyond forested edge of this site.	*Proposed extension (E/W axis) of Kyle St.*	*The eastern boundary of the site consists of a deep drainage ditch. Allowance to be made for walkways from parking to campus.*	*A line joining the west end of proposed parking to the east edge of the residence site defines boundary. Allowance to be made for walkway from parking to campus.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *The site is an undeveloped forest area suitable for development.*	. *The site slopes moderately to the east, which makes it more difficult to develop than the essentially level sites to the north and east along Wayburne Drive.* . *There is currently no access to the site, although this will be rectified when Kyle Street extension is implemented.* . *The creek running along the eastern edge of the site is an impediment to development and requires a setback line to prevent collapse of the bank.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The site is currently being planned to accommodate considerable parking, and therefore allowance has to be made for walkways along the eastern and western boundaries of the site to facilitate connection to the central campus.*	. *Due to its distance from the centre of Campus, and its current use for parking, building development on this site will most likely take the form of either long-term housing growth or playing field replacement from Site 5.2.* . *Assuming two acres are developable at 83 persons/acre another 166 students can be accommodated at present density. However the location lends itself to increased density for housing.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
124,000		*x*			*0.16*	*0.32*			*20,000*	*40,000*			*x*		

4.4

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Access road*	*5,000 sq.ft.*			
2 *Parking (65 spaces)*	*23,000*			
3 *Forested area*	*32,000*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*60,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	*x*
Rolling/Sloped Topography		Shaded Area	*x*
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	*x*
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
Line of seasonal drainage ditch. Loggers' Sports Field beyond.	*Kyle St. 6 parking spaces on street and proposed extension.*	*A portion of Wayburne Drive.*	*Drainage ditch intercepting run-off from higher ground to the west.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *The site is a reasonably level, well drained and sunny location.*	. *The site is bounded on two of its three sides by seasonal creeks, the northwest side has a major drainage ditch for higher land further west.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Existing creeks would have to be culverted or spanned at particular points in order to make this site usable.* . *The shape of the site suggests that it may be more practical to combine it with either Site 5.4 or Site 4.3 if the problem of the creeks could be overcome.*	. *At the present time this site is used for parking and it is anticipated that this use will continue. In the long-term, development will probably depend on the development to be undertaken on neighbouring sites.* . *If construction is undertaken, an approximate site coverage of 33 percent is assumed with building height restricted to three storeys. Detailed soil analysis for this site will be required to determine bearing characteristics of the soil.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
60,000			*x*		*0.33*	*0.66*	*0.99*		*20,000*	*40,000*	*60,000*		*x*		

4.5

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Tennis courts (4)*	*28,600 sq.ft.*			
2 *Grass*	*10,000*			
3 *Plazas and walkways*	*3,500*			
4 *Landscaped slope*	*10,000*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*52,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
4A Building. There is continuity between the developed open space south of 4A and site 4.5.	*Playing field and tracks (Site 4.2).*	*Walkway (N/S axis) connecting Building 4A with track.*	*Site sloping upward through landscaped hillside to flat lawn area of Sites 3.3 and 3.4 above.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Although the western extremity of the site slopes, the bulk of the site is flat and attractive for development in terms of accessibility, sunlight, and openess of surrounding areas.*	. *None, except for considerable development restraints.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Area relates strongly to activities centered around 4A Bldg. Recreational use of plazas and landscaped areas south and east of 4A to be maintained and shadowing avoided. Walkway routes should be maintained between 4A Bldg. and playing field/track to south.* . *If SAC relocates both the scope and function of development on site 4.5 might be very different.* . *A development must be undertaken in complete coordination with sites 4.2 and 4.1.*	. *To protect the recreational areas at the south side of 4A Building, development should be restricted to the western half of site 4.5, adjacent to the athletic facilities.* . *If the tennis courts are retained as a recreational resource, a two storey development can take place set into the existing embankement, necessitating the removal of one tennis court.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
52,000		*x*			*0.19*	*0.38*			*10,000*	*20,000*			*x*		

4.6

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Entrance plaza*	*2,200 sq.ft.*			
2 *Grass area*	*4,930*			
3 *Walkway*	*3,150*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*10,280 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography	x	Natural Area	
Rolling/Sloped Topography	x	Shaded Area	x
Disturbed/Altered Topography		Sunny Area	
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area	x		

SITE INTERACTION

North	South	East	West
Major walkway. Connecting Building 4A to parking areas and central campus.	*1-2 storey 4A Building.* *Major entrance.*	*Continuation of grassed open space into Site 4.1.*	*Walkway on N/S axis between residence and central campus. Hillside of Site 3.1.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Excellent central location with respect to Campus and circulation routes.*	. *The area is almost totally shadowed by Building 4A most times of the year. The narrow, strip-like shape of the site, divided as it is by the northern entrance plaza to the 4A Building, will require it to be developed in coordination with Site 2.7.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The existing east-west circulation route from the parking areas to Buildings 4A, 2D and Central Campus must be maintained.* . *The entrance plaza to Building 4A is a focal point for student activities and this reality must be recognized within any development proposal.*	. *Utilization of the site as a walkway would permit maximum utilization of Site 2.7. In addition limited two storey development could occur.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
10,000	x				*0.35*				*18,000*				x		

brawn parsons wood

5.1

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Parking*	*210,000 sq.ft.*			
2 *Portions of Ford St., Roper Ave.*	*9,500*			
3 *Landscaped berm adjacent to Wayburne Dr.*	*10,500*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*230,000 sq.ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography	*x*	Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material	*x*	Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
PVI Electrical Bldg. development site.	*Ford St. at present the only connection between the Campus perimeter road and Wayburne Dr.*	*Wayburne Dr.*	*Roper Ave. principal N/S street at east side of campus.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Centrally located with respect to the existing campus to the east, Site 5.1 is a very likely area for development.*	. *Soil bearing capacity tests will have to be undertaken before development occurs.* . *Embankment adjacent to Wayburne Drive restricts area available for development.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *The site presently functions as a huge parking lot; parking would have to be relocated or integrated into future development.* . *Setbacks should be maintained from Roper Avenue and Ford Street (15 feet) and landscaping undertaken.* . *Development on this site should relate to existing pathways to the existing campus.* . *Roper Avenue, the principal north-south campus road should be retained as part of the campus perimeter road system until redevelopment occurs, then Carey Avenue could be extended to fill in the existing gap.*	. *Ford Street could be relocated to the north end of the site to provide easier access to Wayburne Drive from Goard Way.* . *If facility development is undertaken a three floor maximum should be set for construction with site coverage at 33 percent.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
230,000			*x*		*0.33*	*0.66*	*0.99*		*75,900*	*151,800*	*230,000*				*x*

5.2

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Hard-surfaced playing field*	*98,150 sq. ft.*			
2 *Carey Ave. parking (55 sp.)*	*16,750*			
3 *Grass border*	*29,100*			
4 *Landscaping adjacent to pond*	*1,000*			
5 *Portion of Ford St.*	*6,000*			
6				
7				
8				
9				
10				
Approximate Site Area	*151,000 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	*x*
Large Trees	*x*	Seasonal Pond	
Groomed Plant Material		Permanent Pond	*x*
Open Grass Area	*x*		

SITE INTERACTION

North	South	East	West
Ford St. connects campus to Wayburne Dr.	*Site continuous to parking area 5.3.*	*Wayburne Dr.*	*Drainage creek and site 4.2 beyond.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

brawn parsons wood

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Readily developable area located reasonably close to the heart of campus.*	

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *Soil bearing capacity has to be ascertained before development can take place.* . *The existing walkway (north-south axis) at the western side of the site is to be retained to provide access from the parking areas further south to the campus.* . *The existing bridge across the creek at the southwest corner of the site is to be retained.* . *With redevelopment, the existing hard-surfaced playing field will have to be relocated.* . *Carey Avenue is to be reatined as part of the campus perimeter road system, although it should be recognized that it serves primarily as a parking strip.*	. *The area has the capability of supporting three storey development with 33 percent site coverage.* . *The site is ideally located for the expansion of existing surface parking areas.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
151,000			*x*		*0.33*	*0.66*	*0.99*		*50,333*	*100,667*	*151,000*				*x*

5.3

CURRENT USE	Approx. Area	Possible Future		
		Maint.	Elim.	Reloc.
1 *Parking (280 cars)*	*74,500 sq. ft.*			
2 *Carey Ave. parking (55)*	*18,000*			
3 *Grass border.*	*12,000*			
4 *Natural growth at creek*	*12,000*			
5				
6				
7				
8				
9				
10				
Approximate Site Area	*116,500 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography		Natural Area	
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography		Sunny Area	
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
Site 5.2 playing field.	*Site 5.4 dedicated to Loggers' Sports Field.*	*Wayburne Dr.*	*Drainage creek.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Level area, suitable for development.*	. *Access to this site is somewhat difficult due to a downward sloping embankment from Carey Avenue in the east and the drainage creek to the west.* . *Existing pedestrian circulation from this site to central campus is poorly defined.*
DEVELOPMENT RESTRAINTS	**DEVELOPMENT POSSIBILITIES**
. *Existing parking function will have to be relocated or integrated in future development.* . *Soil bearing capacity is suspect, as it is for all area 5 sites, and must be investigated prior to new construction.*	. *The area has the capability of supporting three storey development with 33 percent site coverage are envisaged.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
116,500			*x*		*0.33*	*0.66*	*0.99*		*38,833*	*77,667*	*116,500*				*x*

5.4

CURRENT USE	Approx. Area	Possible Future Maint.	Elim.	Reloc.
1 *Loggers' Sports Field (60)*	*35,380 sq. ft.*			
2 *Natural growth adjacent to creek.*	*32,820*			
3 *Carey Ave. parking*	*20,250*			
4				
5				
6				
7				
8				
9				
10				
Approximate Site Area	*88,450 sq. ft.*			

EXISTING MORPHOLOGY

Flat Topography	*x*	Natural Area	*x*
Rolling/Sloped Topography		Shaded Area	
Disturbed/Altered Topography	*x*	Sunny Area	*x*
Large Trees		Seasonal Pond	
Groomed Plant Material		Permanent Pond	
Open Grass Area			

SITE INTERACTION

North	South	East	West
An access road to parking on site 5.3 exists due north of Site 5.4.	*If Sites 5.4 and 4.4 are to be developed, the intervening seasonal creek will require culverting of water or particular cross-overs.*	*Wayburne Dr.*	*Seasonal creek with abundant natural growth separates the site from sites further west.*

SERVICE AVAILABILITY

Type	Size	On Site	Config	Remote (distance)		Size	On Site	Config	Remote (dist.)
Water					Gas				
Steam					Storm				
Hydro					Fire Maint.				
Sewer					St. Lights				
Telephone									

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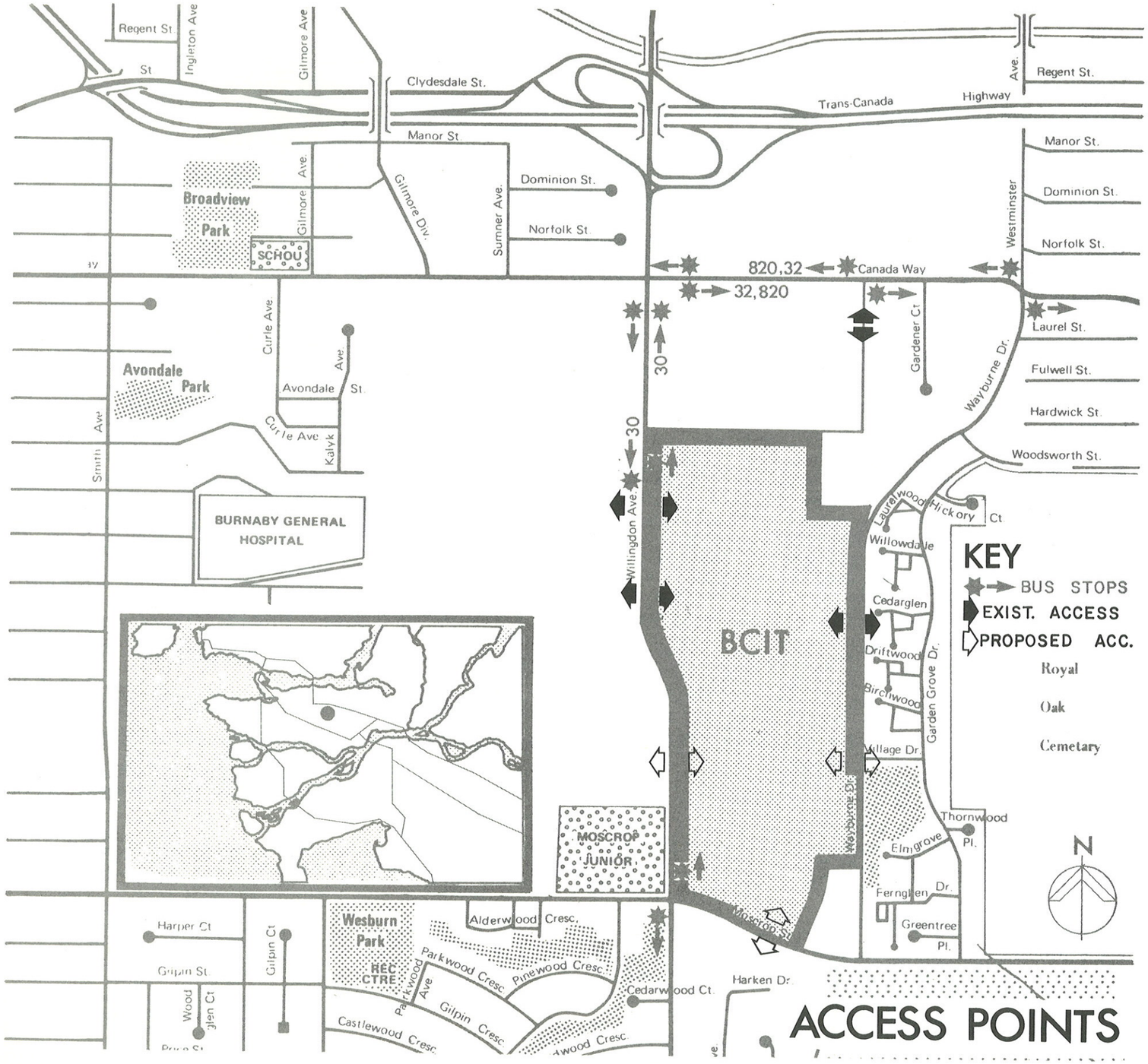
POSITIVE ASPECTS OF SITE	NEGATIVE ASPECTS OF SITE
. *Attractive level site retaining some natural vegetation.*	. *Comparatively distant from the existing campus centre.* . *Wet soil conditions which require careful investigation as to bearing capacity before redevelopment commences.*

DEVELOPMENT RESTRAINTS	DEVELOPMENT POSSIBILITIES
. *A Loggers' Sport Field currently occupies a portion of the site; this will have to be relocated prior to redevelopment.* . *Some of the natural growth occuring on the site should be maintained.* . *Carey Avenue will continue to provide access to this site as part of the campus perimeter road system.* . *The seasonal creek which separates the site from Site 4.4, unless culverted, restricts development potential.*	. *The area has the capability of supporting three storey development with 33 percent site coverage.* . *The site ideally located for the expansion of existing surface parking areas.*

Approx. Site Area	Maximum No. of Levels				Floor Space Ratio				Approximate Maximum Gross Area/Floor(s)				Development Horizon		
Sq. Ft.	1	2	3	4	1	2	3	4	1	2	3	4	I	M	L
88,500			*x*		*0.35*	*0.67*	*1.00*		*29,205*	*58,410*	*88,500*				*x*



SECTION 7 : PARKING

OVERVIEW

While parking is managed by BCIT, currently BCIT and PVI have an agreement through the Joint Boards on parking policy. In essence, PVI and BCIT students have equal opportunity to park in the designated scramble lots on the BCIT site and any perimeter roadway where parking is permitted. Faculty and staff of both institutions have equal opportunity to park in BCIT lots designated for them. PVI faculty, staff and students have exclusive use of all available parking spaces on the PVI site.

Within the 1983/84 planning horizon, the following assumptions have been made in relationship to this policy:

- The economics of four optional methods of providing parking were examined and the least cost intensive - parking on-grade, on-site - was used as the planning parameter (see page 7.4).
- No dedicated or preferential parking zones have been identified as these will be a matter of Institutional policy.
- Existing faculty, staff and student-to-vehicle ratios and absentee levels were used to project the total number of parking stalls required.
- Parking demand on-grade has been balanced against total site analysis in relationship to projected facility requirements (building "foot print" resulting from relationships and circulation systems).
- Should BCIT or PVI growth exceed the projections, the resulting increased facility and parking demand will require a new parking policy or choosing one of the three remaining parking options.
- Parking policy options might include on-site parking exclusively for BCIT population and/or paid parking, set at a level to reduce demand in the long run. (Such a policy would require cooperation from Burnaby regarding on-street parking).
- No allowance has been made for visitor or convenience parking. Within the development zone, however, there are a number of opportunities to provide for this additional need should policy dictate this requirement.
- Excluding the 325 parking stalls identified on internal roadways, all other parking stalls have been calculated at 390 square feet to allow for an efficient parking configuration, land-fall and landscaping.

1984/85 PARKING PROJECTIONS

The formula used to assess present parking requirements and project future parking is as follows:

% faculty, staff & students attending at any one time
X % survey faculty/staff who drive =
the number of parking spaces required (parking demand)

The attendance % figures resulted through discussion with BCIT and PVI Planning personnel. The driving % came from a 1978 report on parking commissioned by BCIT.

1979 PARKING DEMAND

1979 PVI PARKING DEMAND

Attendance:	Faculty = 150 x 100% attendance	150
	Staff = 150 x 90% attendance	135
	Daily Faculty/Staff Total	285
	Students = 1800 x 90% attendance	1620
Drivers:	Faculty = 150 x 96.3% drivers	144
	Staff = 135 x 96.3% drivers	130
	Daily Faculty/Staff Driving Total	274
	Students = 1620 x 54.1% drivers	876

1979 BCIT PARKING DEMAND

Attendance:	Faculty = 572 x 80% attendance	458
	Staff = 334 x 90% attendance	262
	Daily Faculty/Staff Total	758
	Students = 3850 x 90% attendance	3465
Drivers:	Faculty = 458 x 87.3% drivers	400
	Staff = 300 x 87.3% drivers	262
	Daily Faculty/Staff Total	662
	Students = 3465 x 52.4% drivers	1816

1979 PVI & BCIT TOTALS

1979 BCIT/PVI FACULTY/STAFF DRIVING TOTAL	936
1979 BCIT/PVI STUDENT DRIVING TOTAL	2692
TOTAL PARKING DEMAND BY FORMULA	3628

1979 PARKING AVAILABILITY

PVI:	Staff Parking		250
	Student Parking	(central campus)	170
		(adjacent Electrical)	200
Subtotal			620
BCIT:	Staff Parking		730
	Student Parking	(on-campus)	1700
		(on Willingdon)	250
Subtotal			2680
COMBINED TOTAL			3300

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OBSERVATIONS

- The total demand for faculty and staff parking based on the 1978 survey and 1979 attendance estimates is 936 parking stalls. Currently there are 980 parking places available for faculty, staff and visitors. Information from BCIT Parking personnel indicates that, of the faculty and staff parking lot spaces (730), there are approximately 25% (182) available at any one time for visitor and student parking. Consequently, it would appear that the formula used for parking demand is approximately 20% higher than actual demand.
- The total demand for student parking based on the formula is 2692. Currently there are 2320 parking places available on both campuses. Observations by the parking consultants indicate that, on any given day, approximately 10% (230) of the available spaces are unused, and the only time all available parking is filled is in the first few weeks of the first term.

CONCLUSION

- While it appears that the total parking demand is for 3628 parking places, and there are only 3300 parking spaces available, and that at any given time all of the current demand could be met by 3100 parking places, it is concluded that the formula generates a parking demand approximately 15% higher than required. For planning purposes, the same formula will be used for the 1983/84 requirements but will be reduced by only 10% to reflect this discrepancy and allow for a margin of error.

1983/84 PARKING DEMAND

1983/84 PVI PARKING DEMAND

Attendance:	Faculty = 200 x 100% attendance	250
	Staff = 200 x 90% attendance	180
	Daily Faculty/Staff Total	380
	Students = 2400 x 90% attendance	2160
Drivers:	Faculty = 200 x 96.3% drivers	192
	Staff = 180 x 96.3% drivers	173
	Daily Faculty/Staff Total	365
	Students = 2160 x 54.1% drivers	1169

1983/84 BCIT PARKING DEMAND

Attendance:	Faculty = 828 x 80% attendance	662
	Staff = 538 x 90% attendance	482
	Daily Faculty/Staff Total	1144
	Students = 5600 x 90% attendance	5040
Drivers:	Faculty = 662 x 87.3% drivers	578
	Staff = 482 x 87.3% drivers	421
	Daily Faculty/Staff Total	999
	Students = 2160 x 54.1% drivers	2640

1983/84 PARKING SPACE PROJECTIONS

PVI:

Staff Parking	(existing)	250
	(under Electrical)	150
Student Parking	(existing central campus)	170
	(adjacent to Electrical)	200
	(new central campus)	100
Subtotal		870

BCIT:

Total on-campus parking generated by the planning exercise

. With landscaping	3655
. Without landscaping	4275

Combined Total:

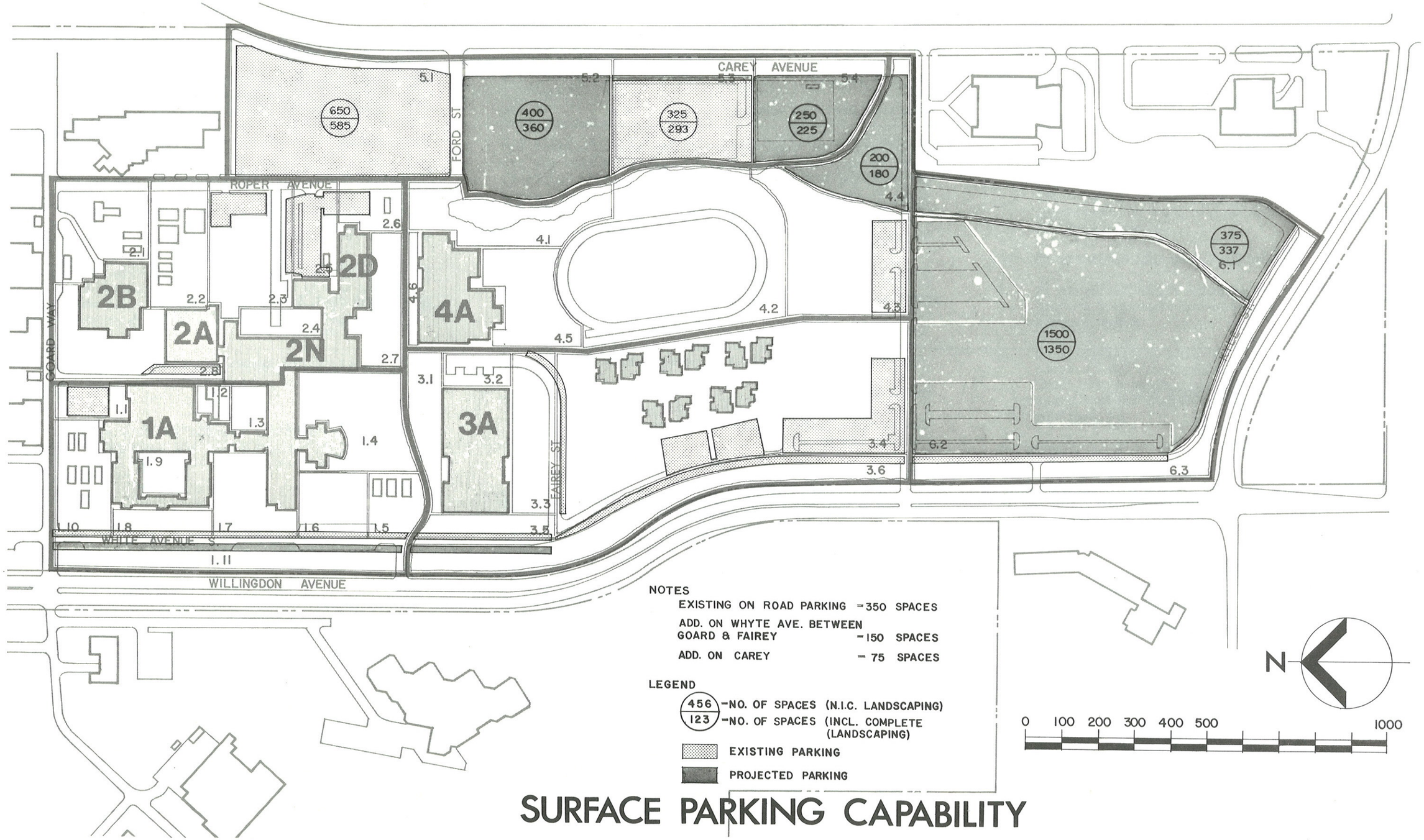
. With landscaping	4525
. Without landscaping	5145

OBSERVATIONS

. BCIT/PVI Total Parking Requirements	4655
. BCIT/PVI Projected Parking including landscaping	4525

CONCLUSIONS

- By reducing the landscaping in one parking zone only, all BCIT/PVI projected parking can be contained on both sites.
- By eliminating landscaping, BCIT could accommodate 490 cars more than projected.



SURFACE PARKING CAPABILITY

	ASSUMPTIONS		IMPLICATIONS	
OPTION 1:	Campus sites affected	4.1, 5.1 - 5.4, 6.1 & 6.2	Total number of car spaces	3,350
On Campus Surface Parking	Total area in sq. ft.	1,306,700	TOTAL CAPITAL COST	$ 2,345,000
	Sq. ft. per car	390	Note: Land cost for existing campus sites is not included within the above capital cost figure.	
	Facility cost/car space	$ 700		
OPTION 2:	Campus sites affected	4.4, 5.3, 5.4, 6.1 & 6.2	Total number of on campus car spaces	2,736
On and Off Campus Surface Parking	Total area in sq. ft.	926,700	Total number of off campus car spaces	974
	Off campus area required in sq. ft.	300,000	Facility cost	$ 2,345,000
	Acreage	6.9	Total off campus land cost	$ 897,000
	Sq. ft. per car	390	TOTAL CAPITAL COST	$ 3,242,000
	Facility cost/car space	$ 700	Note: Land cost for existing campus sites is not included within the above capital cost figure.	
	Land cost per acre	$ 130,000		
OPTION 3:	Campus sites affected	4.4, 5.3, 5.4, 6.1 & 6.2	Total number of car spaces	2,736
On Campus Surface and Undercroft Parking	Total area in sq. ft.	926,700	Facility cost	$ 1,663,200
	Campus sites affected by undercroft parking	5.1 & 5.2	Total number of undercroft car spaces	974
	Total area in sq. ft.	380,000	Facility cost	$ 4,870,000
	Surface & undercroft sq. ft./car	390	TOTAL CAPITAL COST	$ 6,533,200
	Surface parking cost/car space	$ 700	Note: Land cost for existing campus sites in not included within the above capital cost figure.	
	Undercroft parking cost/car space	$ 5,000		
OPTION 4:	Campus sites affected by surface parking	4.4, 5.3, 5.4, 6.1 & 6.2	Total number of surface parking spaces	2,736
On Campus Surface and Structured Parking	Total area	926,700	Facility cost	$ 1,663,200
	Campus sites affected by structured parking	5.1 & 5.2	Total number of structured parking spaces	974
	Total area in sq. ft.	380,000	Facility cost	$ 6,818,000
	Surface & structured sq. ft./car	390	TOTAL CAPITAL COST	$ 8,481,200
	Surface parking cost/car space	$ 700	Note: Land cost for existing campus sites in not included within the above capital cost figure.	
	Structured parking cost/car space	$ 700		

Note: The options displayed do not reflect the total on-site parking potential, but reflect the implications of developing particular sites. Capital costs are estimates based on June 1979 construction.

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UTILITY SYSTEMS

The campus is served by a network of buried utilities that were initiated with the first phase of construction on the site. The initial planning, by the Provincial Department of Public Works, considered a Government precinct on both sides of Willingdon Avenue. The trunk line routing of some of the utility systems responds to this concept.

There are no master drawings of the utility system networks on file for reference at BCIT. The best summary statement available is that prepared in 1976, as part of the Rhode and Iredale Master Planning Study. To date there is no easement pattern of dedicated specific routes for utilities on the site(s).

This study is directed specifically to the land area of of the BCIT property. The land area of the BCIT property is now being identified as parcels and studied to determine which sites should have future construction upon them.

The acceptance of this Master Plan proposal has specific impact upon the master planning for, and future development of, the utility systems.

This statement does not address the area of solutions but rather recognizes the political and physical problems and states the questions that must be answered.

QUESTIONS

1. If BCIT is to be an autonomous Institution, should the utility services on the site be planned only within the site boundaries?

   or:

   Should the utility services be developed to include the PVI site, with separate metering or identification of the legal identities where metering is essential?

   or:

   Should the utility services be developed to include the PVI site and the Provincial Government properties on the west side of Willingdon Avenue, with separate metering for identification of the legal identity where metering is essential?

2. What impact will the establishment of Discovery Park sites, south of the BCIT campus and west and south of the existing development on the west side of Willingdon Avenue have on the answer to 1 above?

(At this point in time it is expected that the Discovery Parks sites will be separately provided with utility services from existing municipal and utility trunk lines to allow separate dedicated connections to tenant properties.)

STATEMENTS

STORM DRAINAGE:

The storm drainage system carries away the surface runoff and also intercepts an existing water course. Trunk lines run north-south to the east and west sides of the site, with the major flow being directed north. Laterals on the site connect into the trunks. The system is designed for gravity flow.

ISSUES:

1. *To establish dedicated routings for development of the storm service system compatible with the Master Plan site planning.*

2. *To establish location sizes and levels for servicing all sites on the property, considering building area, planting and paving.*

3. *To establish which existing piping, if any, is affecting proposed site development and the necessary rerouting.*

SANITARY SERVICES:

The sanitary system discharges to the north boundary of the site with gravity lines serving the east and west sides of the site. Trunk lines run north-south with lateral branches connecting to them.

ISSUES:

1. *To establish dedicated routings for development of the sanitary sewer system, compatible with the Master Plan site planning.*

2. *To establish location, sizes and levels for servicing all sites on the property, considering the areas and building types proposed for the building sites.*

3. *To establish which existing piping, if any, is affecting proposed site development and the necessary rerouting.*

WATER SUPPLY:

The water supply system is a pressure flow system to provide the high flow requirements for fire fighting service and to supply domestic water. There are three meter connections to the municipal system on Willingdon Avenue and Canada Way. The supply is arranged as a gridded loop network.

ISSUES:

1. *To establish dedicated routings to develop the water supply system, compatible with the Master Plan site planning.*

2. *To establish location, sizes and level for mains for serving all sites on the property, considering the area and building types proposed for the building sites' irrigation requirements and fire fighting requirements.*

3. *To establish any required branch service changes.*

4. *To establish which existing piping, if any, is affecting proposed site development and the necessary rerouting.*

5. *To establish the maximum flow requirements of all parts of the developed network to satisfy the maximum fire fighting demands. (This will involve the Municipal Engineer, Fire Chief and insurance advisors.)*

GAS SUPPLY:

The natural gas supply is a pressure flow system. Individual buildings have a firm gas supply. The Central Boiler House has an interruptible gas supply. The main gas service is run parallel to Willingdon Avenue and feeds branches servicing the buildings.

ISSUES:

1. *To establish dedicated routings to develop the gas distribution system, compatible with the Master Plan site planning.*

2. *To establish location, size and level for pressure mains for serving all sites on the property, considering the central heating plant and the building type and area.*

3. *To establish which existing piping, if any, is affecting proposed site development and the necessary rerouting.*

CENTRAL HEATING PLANT:

The central heating plant is a high temperature water plant (325°F/163°C) with pumped mains serving to heat

exchangers to low temperature water systems in all of the major BCIT campus buildings and the Curtis Building of the PVI property. The high temperature hot water boilers are able to burn natural gas and fuel oil. The central heating plant was originally conceived to service both sides of Willingdon Avenue, but the mains system and plant have never been expanded to satisfy this potential.

ISSUES:

1. *To establish from policy decision whether the plant service will be expanded beyond the BCIT property lines.*

2. *To establish the present excess plant capacity with one boiler under repair service.*

3. *To establish the opportunities for expansion of the plant heating capacity.*

4. *To establish, where scope of service area is determined, if boiler temperature can be reduced to 250°F/121°C to reduce the requirement for boiler operators. (See D.W. Thomson report)*

5. *To establish, considering energy costs, if it is economic to expand the serviced area beyond the BCIT property lines, evaluating lines lossess of distribution and firing losses of satellite plants.*

6. *To establish an enery conserving operating program and to install metering to monitor it to increase excess plant capacity.*

7. *To establish a broad operator training program to allow for improved management of use of heating systems.*

8. *To establish the opportunities for improved controllability and operating savings, using a centrally located, mini-computer based, central control facility. (See Malcolm Engineering Company report, 1978)*

ELECTRICAL:

The present supply into the entire Willingdon complex (east and west sides of Willingdon Avenue) is served from one 12,000 volt underground feeder supplied by B.C. Hydro. It is received into a transformer substation just north of the Food Services Building. The ultimate capacity of this substation is 6,000 KVA. Present maximum demand is approximately 5,700 KVA.

BCBC has commissioned and received a report on the electrical distribution. This should be used as a resource document.

The question that has to be addressed is the autonomy of the various Institutions on the campus. If B.C. Hydro is agreeable to recognize the autonomy and supply separate 12KV service to each substation, then consider Alternative I.

If B.C. Hydro service has to be to the entire campus and the distribution to be metered by one agency to each Institution/facility, then consider Alternative II.

ALTERNATIVE I

If a separate 12,000 volt feeder can be dedicated for BCIT then, using the existing substation as the base, the following should be considered.

- step by step deletion of all non-BCIT buildings from the substation.
- take accurate load measurements of all buildings that are part of the BCIT operation. It is quite possible that 65% of the present load is due to BCIT buildings.
- assess loads in each building to determine what load savings can be implemented. Recommend that it should be the aim to reduce up to 15% of the load.
- it is quite possible to add new building loads for the next 4-5 years to the maximum capacity of 6,000 KVA.

ALTERNATIVE II

One of the recommendations to BCBC contained in the Freundlich report considers a 69KV switching station. This would have to be run by a central body, e.g., BCBC. One or more 12KV feeders from this switching station can be taken to each of the Institutions/facilities.

CONCLUSIONS AND RECOMMENDATIONS

- The campus is loaded to capacity and no expansion can take place without major changes to the status of incoming Hydro power.

- Analyze the loads in each BCIT building.

- Establish goals for each Institution with respect to load growth in the next 10 years.

- Negotiate with B.C. Hydro and other Institutions as to a method of approach for bulk power purchase and distribution at the Willingdon campus.

SECTION 9 : DONT BUILD ZONES

OVERVIEW

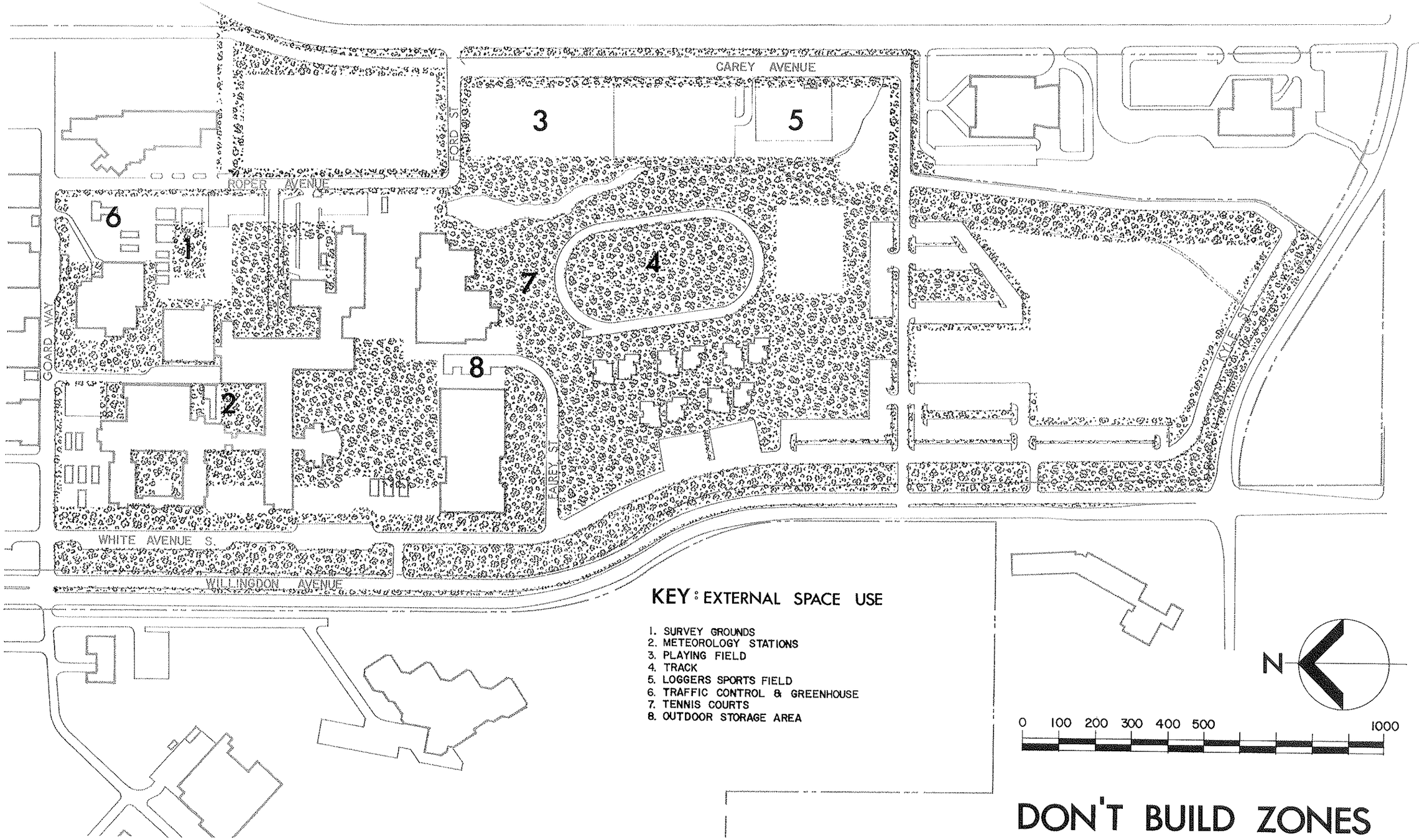
As a result of the analysis of campus land detailed in Section 6, a number of areas have been identified as being inappropriate for development. These areas have, therefore, been designated as "don't build" zones. This restriction upon development reflects not only a zone's value as a natural or recreational amenity area but also the development restraints (set back, vehicular access, etc.) which were identified within the campus land analysis.

This section documents the location of these "don't build" zones and it is suggested that the areas identified should be upgraded over time in accordance with the general guidelines documented within Section 6, Site Development Capabilities.

Currently, an exorbitant amount of land within the central campus area is being utilized for the location of temporary facilities, to relieve pressures resulting from a current deficit of permanent accommodation. It is inevitable that, prior to the completion of any new permanent facilities, additional temporary accommodation will be necessary to keep pace with growing space needs. Currently, a contract is being let for some 13,000 gross square feet of temporary facilities. It is clear that great care must be taken in the placement of this temporary accommodation as inappropriate placement could jeopardize the short and medium-term development capability of currently undeveloped land.

It is fortunate that much of the existing temporary accommodation lies within zones which have been dedicated for either open space or medium-to-long term development. It is recommended that no additional temporary accommodation be implemented on the campus. However, if this proves impossible these facilities should be located on either medium-to-long term development sites or in proposed "don't build" zones. It is recognized that construction of any type within an amenity area classified as a "don't build" zone will inevitably reduce the effectiveness of this zone. However, it is imperative that the long-term development framework for the campus is not compromised by short-term "crisis" space needs.

The areas of the campus designated as "don't build" zones will require updating by BCIT Physical Resources as facilities are implemented.



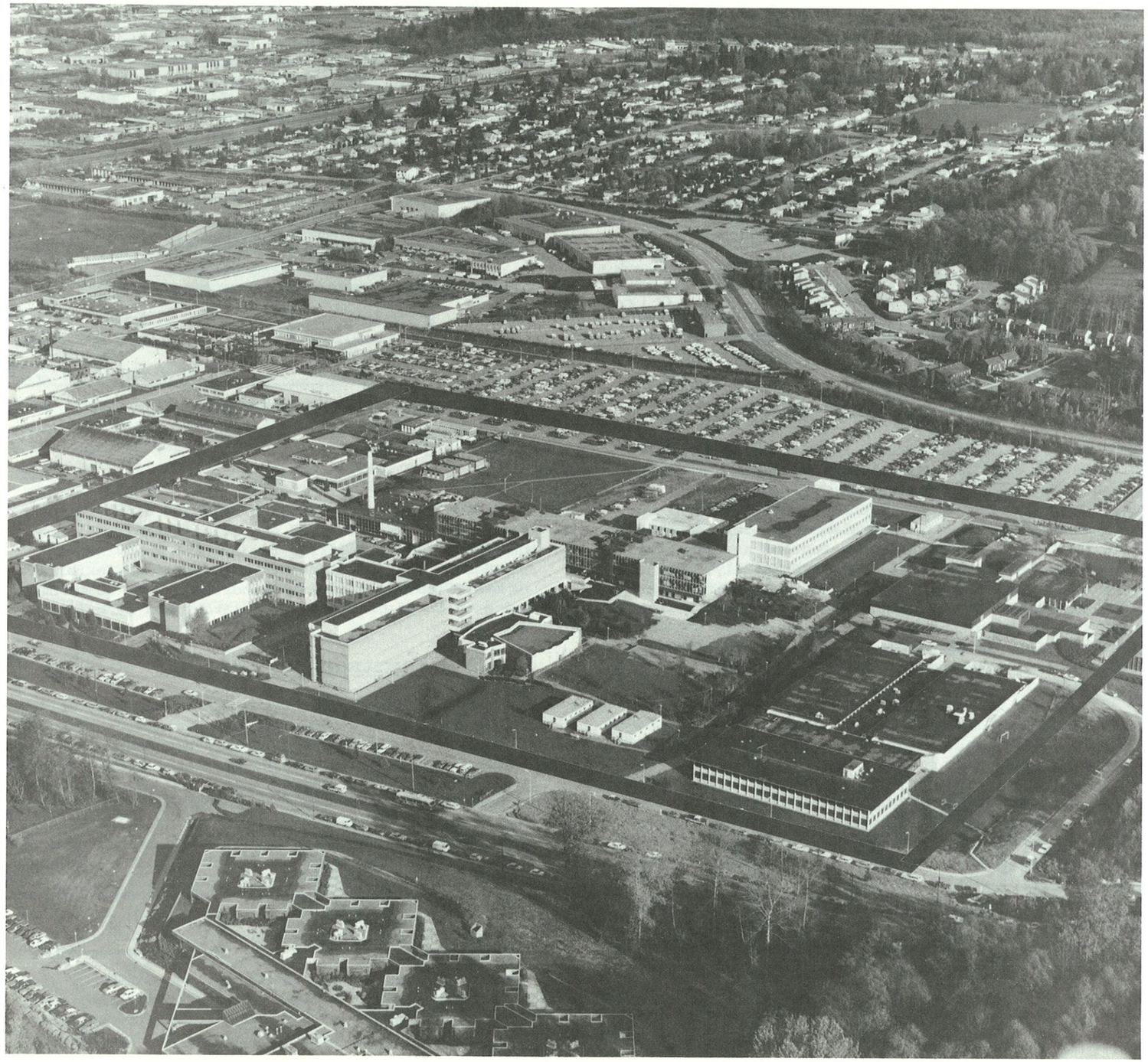
KEY: EXTERNAL SPACE USE

1. SURVEY GROUNDS
2. METEOROLOGY STATIONS
3. PLAYING FIELD
4. TRACK
5. LOGGERS SPORTS FIELD
6. TRAFFIC CONTROL & GREENHOUSE
7. TENNIS COURTS
8. OUTDOOR STORAGE AREA

DON'T BUILD ZONES


CORE AREA
GREEN SPACE
N

SECTION 10 : DEVELOPMENT STRUCTURE



OVERVIEW

Development of some 650,000 gross square feet is anticipated by BCIT within its Five Year Plan. This space is to be implemented within a multiphase construction program. Examination of the existing facilities has identified those high capital cost activity areas which should, wherever possible, be maintained in their current locations. Operational analysis has isolated some of the critical inter- and intra-departmental relationships which currently exist. Parking demand analysis for the five year period has shown that, if high cost structured parking and/or the acquisition of additional land for parking use is to be avoided, some 30 acres of the current BCIT landholdings will be required for parking.

The planning criteria which have been generated to date suggest that development necessitated by institutional growth should be integrated with existing facilities and consolidated within a zone bounded by Goard Way to the north, White Avenue to the west, Roper Avenue to the east, and Fairey Street to the south. Studies of the development capability of landholdings within this zone show that the scale of development required can be accommodated and that the environmental impact of such development need not be detrimental to the changing character of the institution.

Having identified the development zones for campus facilities, it is imperative that integrated and balanced pedestrian and vehicular circulation systems are structured. These systems will form the infrastructure within which facility requirements can be realized. This section explores the following:

- Factors which affect the choice of infrastructure.
- Identification of a balanced and integrated pedestrian and vehicular infrastructure.
- The possibilities which exist for the interface of this infrastructure with anticipated facility development.

It is realized that the developed infrastructure must respond to both the responsive character of BCIT's programming and the realities of capital funding. The model should therefore be utilized as a dynamic rather than a static planning tool which, assuming that the criteria which assure the overall integrity of the system are maintained, can be modified and tuned to the changing institutional needs.

PLANNING CRITERIA

In formulating an appropriate development structure for the BCIT campus the following factors must be taken into account.

1. The operational and organizational characteristics of the Institution.
2. The characteristics and placement of existing facilities.
3. The structure and viability of existing circulation systems.
4. The implications of capital funding upon phase development.

The above factors must be balanced against the institutional objectives regarding the desired environmental character of the campus, and its image in the community of Burnaby.

1. ORGANIZATION

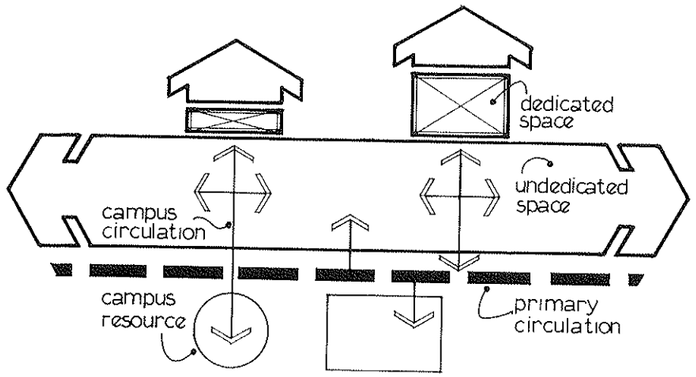
Within the reality of the constantly changing character of BCIT's programs, it is essential that the physical facilities be organized to permit maximum response to changing needs. Section 4 identified four broad space types. These are as follows:

- General Lightly Serviced Space
- General Heavily Serviced Space
- Specific Lightly Serviced Space
- Specific Heavily Serviced Space

As general space, be it lightly or heavily serviced, is universal in character, the viability of facilities within these space types is maintained no matter how often the user group is changed. It is apparent therefore that, although a particular user group may be given preferential scheduling as a result of instructional demand, space within these types should be looked upon as campus-wide, non-dedicated resources. These space types should also, wherever possible, be grouped by type as this will maximize space size, flexibility/adaptability, and minimize cost inefficiencies incurred by mixing heavily and lightly serviced zones.

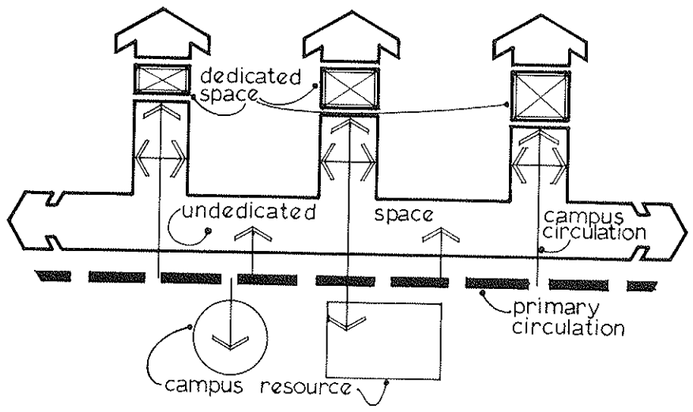
Specific space, be it lightly or heavily serviced, tends to reflect the discrete demands of a particular user group. Specific space is, therefore, generally dedicated to a particular user group and is, as a result of specificity, subject to redundancy resulting through technological or academic change. User dedicated specific space types will inevitably fragment throughout the campus, clustering into Department related resource areas or campus related amenity areas. These areas should be structured in an open-ended manner as they are subject to a high degree of change.

A balanced planning model showing distribution of space types is diagrammed as follows:



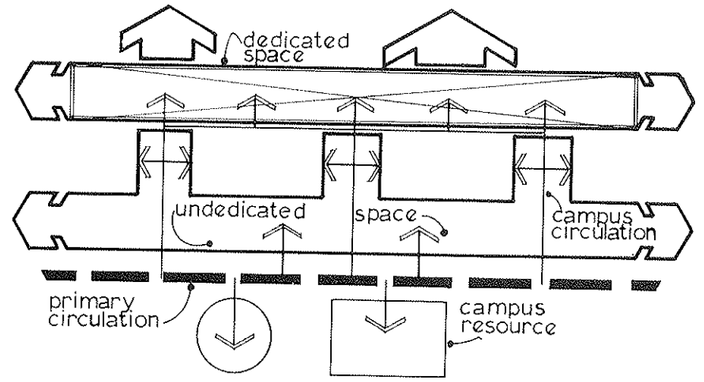
The above diagram generates a balanced hierarchy of circulation with good sequential address to user group areas. However, it does suggest a deep plan physical solution which results in a number of operational and environmental problems. Operationally, relationships will inevitably become somewhat tenuous as this model demands linear development. Environmentally, the general purpose teaching space will be compromised significantly as penetration of natural light is restricted.

A modification of the above model to accommodate deficiencies is diagrammed as follows:



The diagram at lower left maintains a balanced distribution of space types, broadens options for operational relationships, and permits good environmental quality throughout the development. However, flexibility is somewhat restricted and the organization as a result of closed secondary circulation systems encourages excessive territoriality by user groups.

A further development of the base model is diagrammed as follows:



The above diagram maintains a balanced distribution of space types, permits good operational relationships, and offers the capability for a quality environment throughout the development. In addition, flexibility is maximized, excessive territoriality can be minimized and a balanced circulation hierarchy can be maintained.

2. EXISTING FACILITIES

The existing campus facility organization fits well into the above model. However, the current distribution of space types is organizationally haphazard with concentrations of specialized Departmental territory divorced from adequate faculty, staff and general classroom resources, resulting in capital cost inefficiencies within general space categories. In order to rectify these deficiencies, space types should be reorganized where possible to reflect appropriate space type separation within a balanced framework of space types.

3. EXISTING CIRCULATION

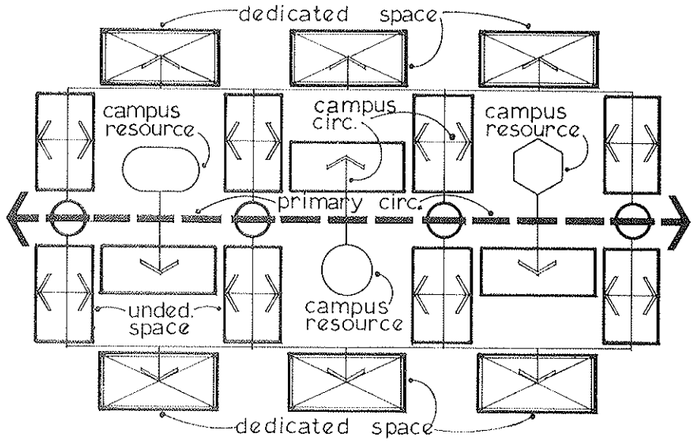
The circulation network is currently unbalanced, with an excessive number of dead end corridor situations. These encourage congestion and result in a confusing and disorientating circulation network. In order to

balance the network, dead end corridor situations should be eliminated. Where this is impossible, care should be taken to ensure that high use, non-dedicated space is always located within balanced sections of the circulation network. In order to ensure the operational viability of the TTC facility, it must be successfully integrated into the campus network. For this to be accomplished, at least two connection points to the overall campus circulation system are required. Currently the majority of Student Service facilities/amenities are located on a north/south axis through the centre of the campus. However, the existing circulation system does little to serve or reinforce this reality. It is essential that a "sense of place" is developed within the heart of the campus. This will form the focus and orientation point for all pedestrian desire lines.

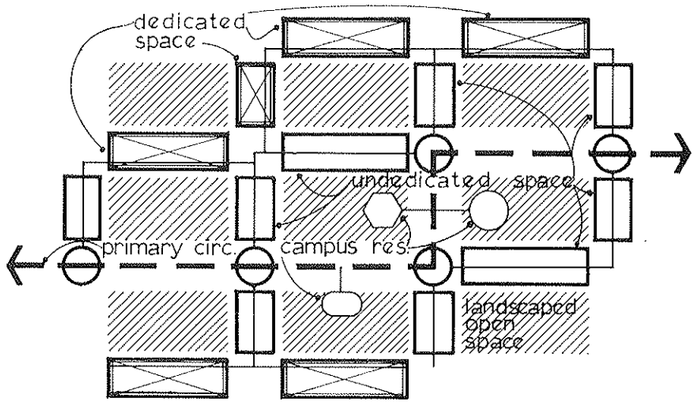
4. CAPITAL FUNDING

Any preferred structure for campus development must accommodate fluctuating capital budget commitments. It is, therefore, essential that piecemeal construction can be absorbed within the overall structure. It should be pointed out, however, that if an excessive number of small construction phases are undertaken, cost inefficient development will inevitably result. These inefficiencies will be expressed in excessively low net-to-gross ratios, resulting from the necessity to structure primary circulation address points to the overall campus network.

DEVELOPMENT STRUCTURE



In order to satisfy the factors identified in 1 through 4 above, it is recommended that BCIT undertake to implement a campus development structure based upon on interrelated quadrangle system. The existing structure of the campus lends itself to a system of this type and it is apparent that the operational capability of many of the existing facilities could be increased significantly if this planning approach is undertaken. This approach has the added benefit of being able to respond to direction changes in primary circulation necessitated by the location of existing facilities and/or inconsistencies in topography.

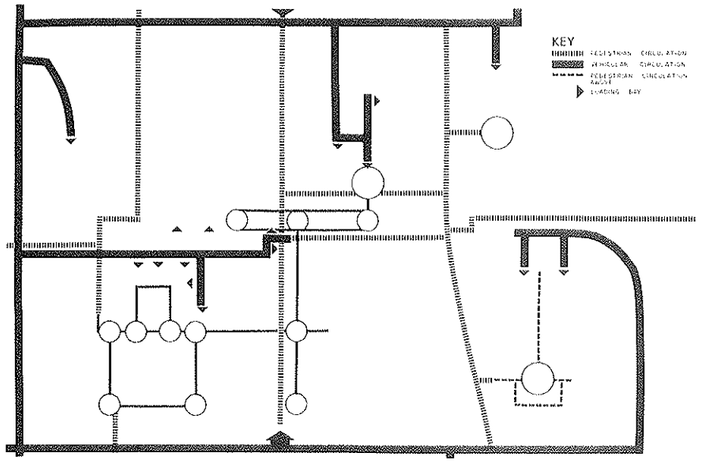


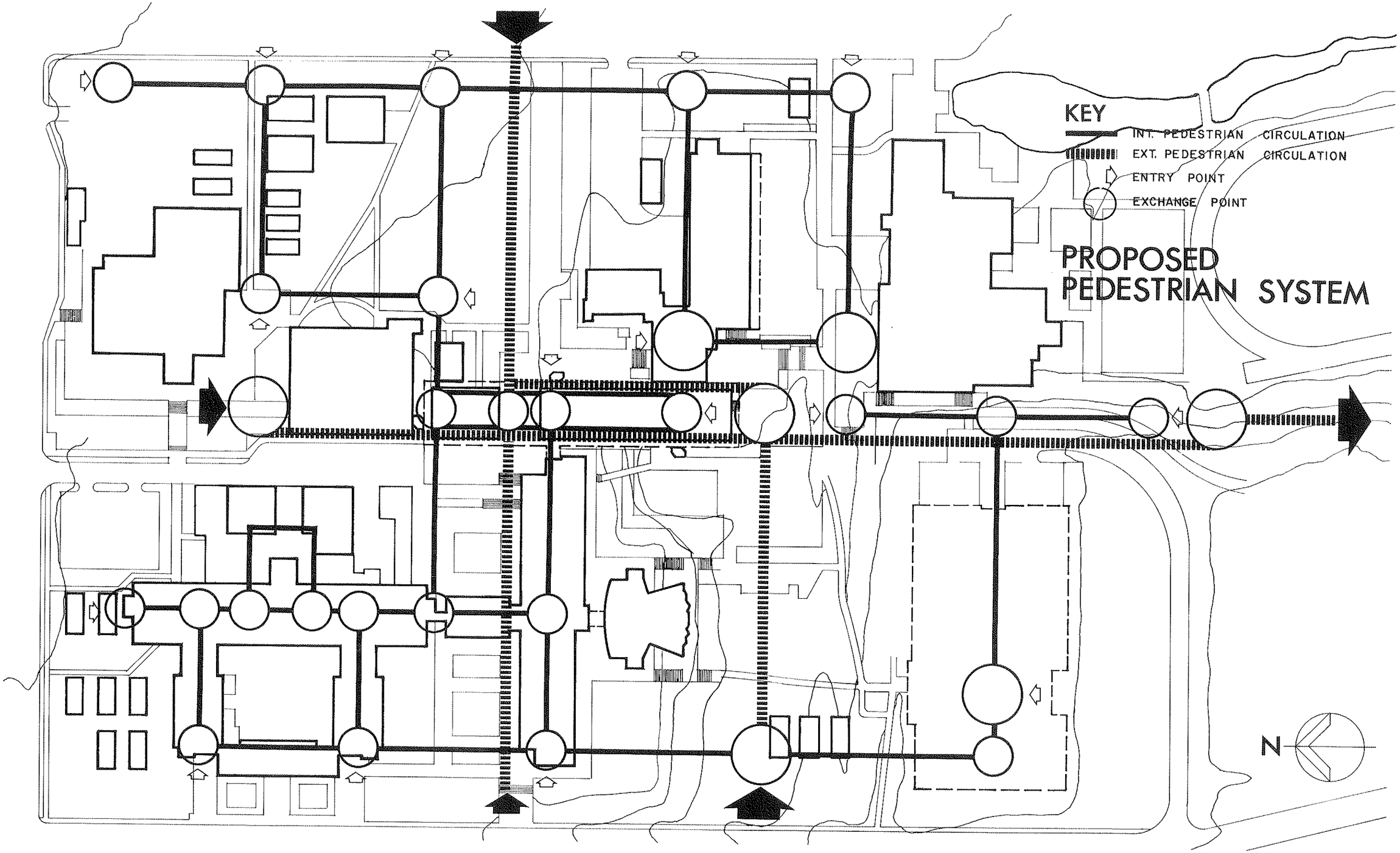
Physically, the BCIT campus is approaching a watershed in its development. Currently its physical image is one of a suburban campus. However, when one considers the rapid growth of Burnaby and couples that with the extensive physical development anticipated with the current BCIT land holdings, it becomes apparent that the suburban image will inevitably change to one which reflects the emerging urban character of the area. This change is already apparent within the urban, highly technological nature of the Institution's programming. The density of development confronted in this planning exercise accepts the reality of this urban character. However, the implementation of the proposed development structure necessitates a change in attitude towards institutional facilities and amenities. Buildings which are currently perceptually individual elements within the landscape will, through time, become absorbed within a network which will eventually generate a single interrelated campus facility. Landscaped courts and garden areas will be integrated within the overall framework, each court developing its individual active or passive character. There are many precedents for this kind of development - the quads of Cambridge and Oxford and the yard of Harvard are obvious examples.

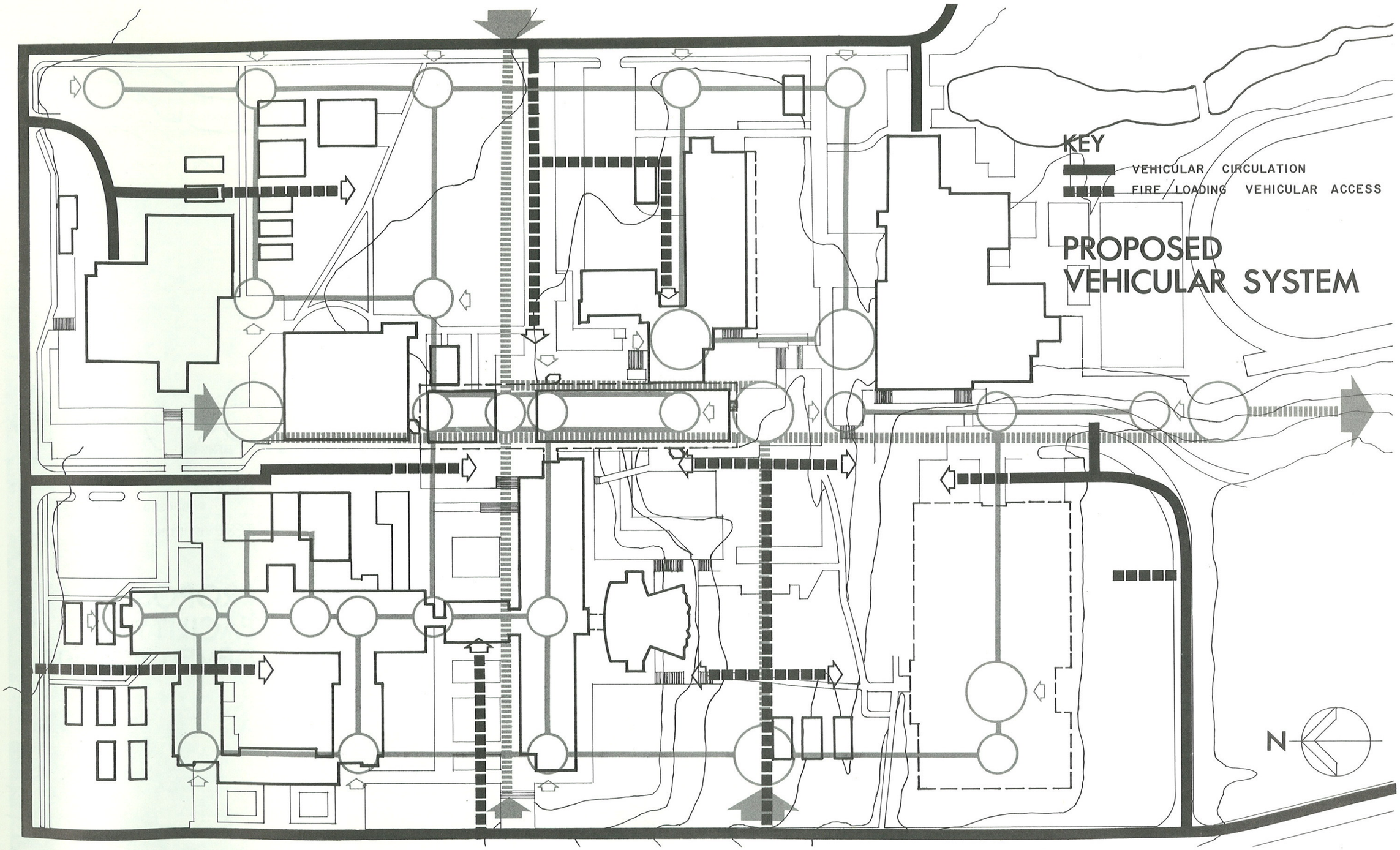
In balancing the potentially insular nature of this form of development against the desired dovetailing of the Institution into the overall fabric of Burnaby, it is essential that the physical realization of this form of development foster, both perceptually and physically, public recognition of the Institution as both an approachable resource and a usable recreational amenity.

BCIT is currently an autombile oriented institution. This is primarily the result of characteristics of the user groups being served and the quality of public transit within the area. The dominance of automobile user access has generated multiple address points to the campus. This form of address can successfully accommodate the need of day to day users. However, visitors to BCIT are currently confronted with a confusing array of address points. It is essential that an easily recognizable "front door" should relate directly and logically to the overall circulation network which is adopted. It is this address point which will make BCIT accessible to the community at large.

The proposed development structure builds off the existing circulation network diagrammed below:




KEY
INT. PEDESTRIAN CIRCULATION
EXT. PEDESTRIAN CIRCULATION
ENTRY POINT
EXCHANGE POINT
PROPOSED
PEDESTRIAN SYSTEM
N


KEY
VEHICULAR CIRCULATION
FIRE / LOADING VEHICULAR ACCESS
PROPOSED
VEHICULAR SYSTEM
N

KEY

PROPOSED DEVELOPMENT

EXISTING

PROPOSED FACILITY DEVELOPMENT

N

SECTION 11: TENANCY OPTIONS

OVERVIEW

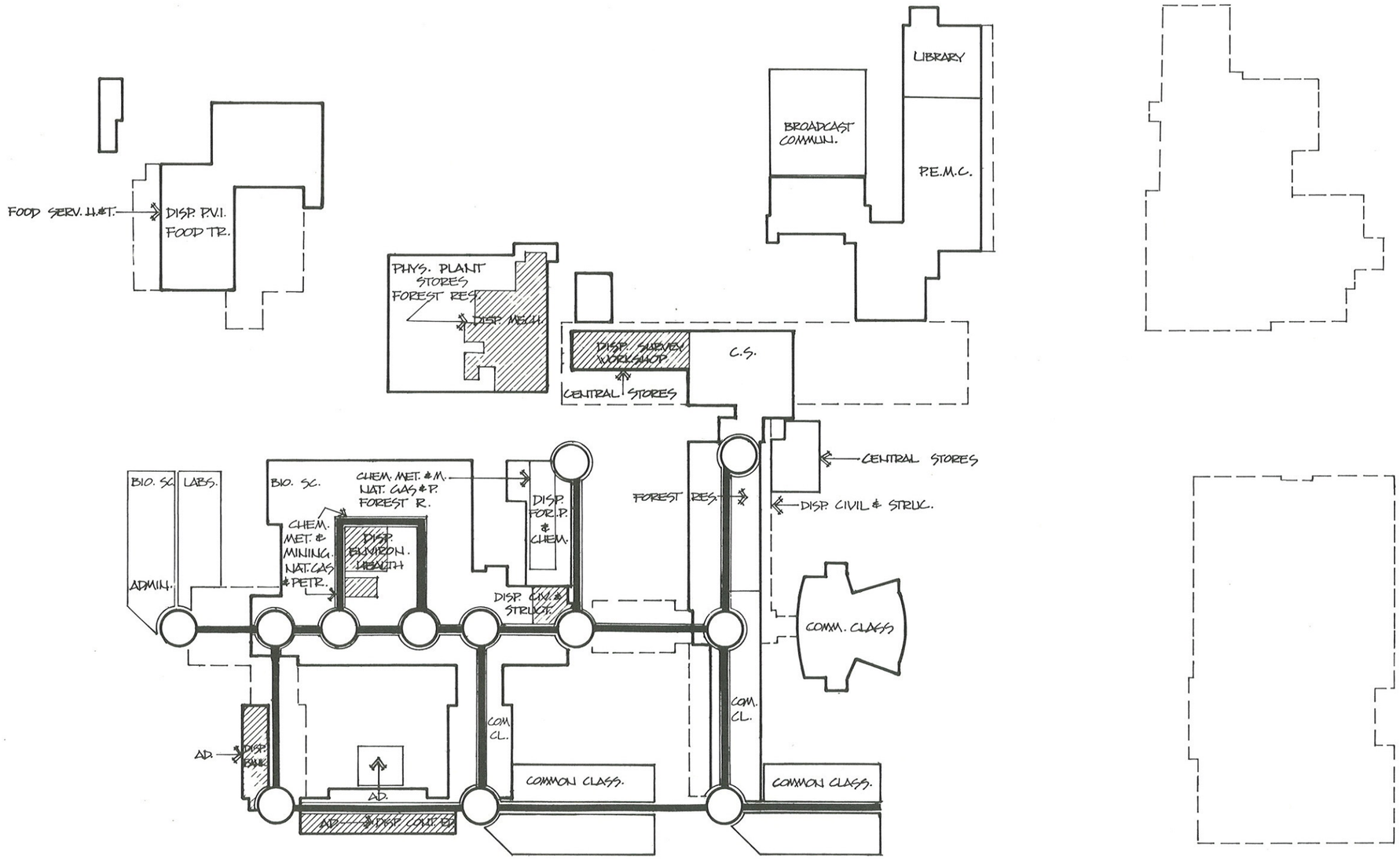
Accepting that the identified development framework is a realistic solution for improved circulation, space distribution and incremental growth potential while enhancing the total educational environment, the most critical test of the framework is its ability to respond flexibly to established and future relationships and changing educational policy.

The following diagrammatic plans expand the Institution in accordance with the development framework, by approximately 700,000 gross square feet of growth space. The suggested new construction varies in height from 1 to 4 floors, responding to topography, external and internal circulation requirements, and scale of existing facilities. It should be noted that only 550,000 gross square feet of new construction could be required to meet BCIT's Five Year Plan, as it is assumed that the space regained by the withdrawal of PVI Food Training from BCIT before 1984, and the acquisition of the UBC TTC Building for instruction by 1981, might provide additional useful space. Consequently, the development framework provides some 150,000 gross square feet of space in excess of that required. This excess should be regarded as "choice" space, meaning additional space to choose from in establishing the best relationships possible.

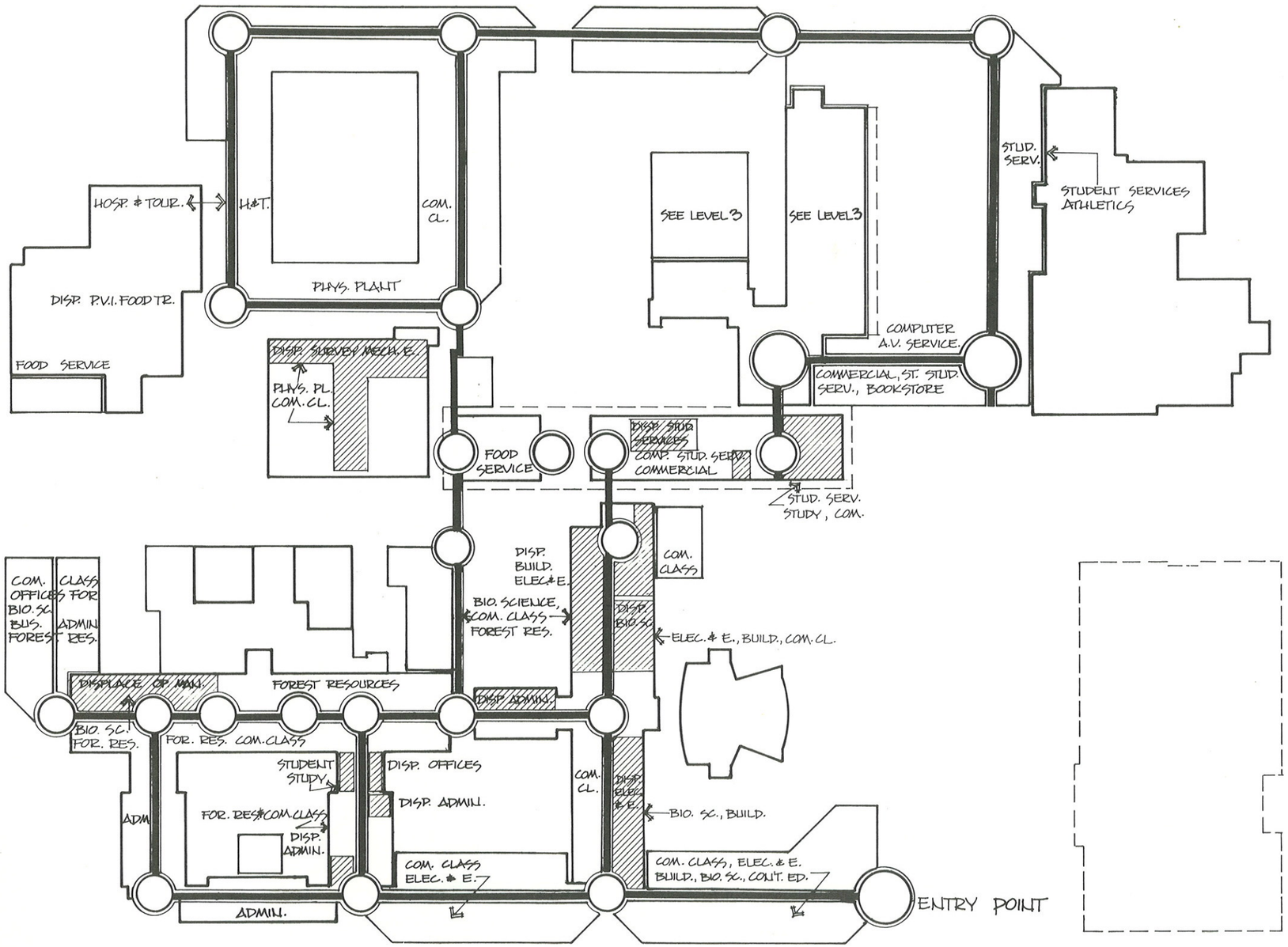
Indicated on the diagrammatic plans are a series of tenancy options based primarily on the relationship established by contact hours, interdepartmental lab use related to "fixed" space, and on a series of assumptions resulting from discussions with faculty and Institutional Planning. As any assumption reduces the number of choices available, the tenancies given represent much less than the full array of possibilities. Given the flexible infrastructure established, and the relatively few areas regarded as completely "fixed", an extraordinary number of options groupings with a high degree of relatedness are possible within the fabric of the development. Additional tenancy options will emerge as the Facilities Planning Committee uses the framework as a development tool. The major assumptions that limit the tenancy options shown are:

- Consolidation of classrooms, dedicated space, and faculty offices into a flexible, responsive network, eliminating important Departmental and Divisional splits.
- Consolidation of Student Services space at the central focus of campus circulation.
- Consolidation of Broadcast Communications at grade level.
- Expansion of central stores within existing central location.
- While the fact that both the Student and Faculy Associations are currently planning towards new facilities on campus, locations have not been determined. However, both the assumption to consolidate Student Services space at the central campus focus and the desire by the Associations to locate near the SAC Building adjacent to this focus are not incompatible.

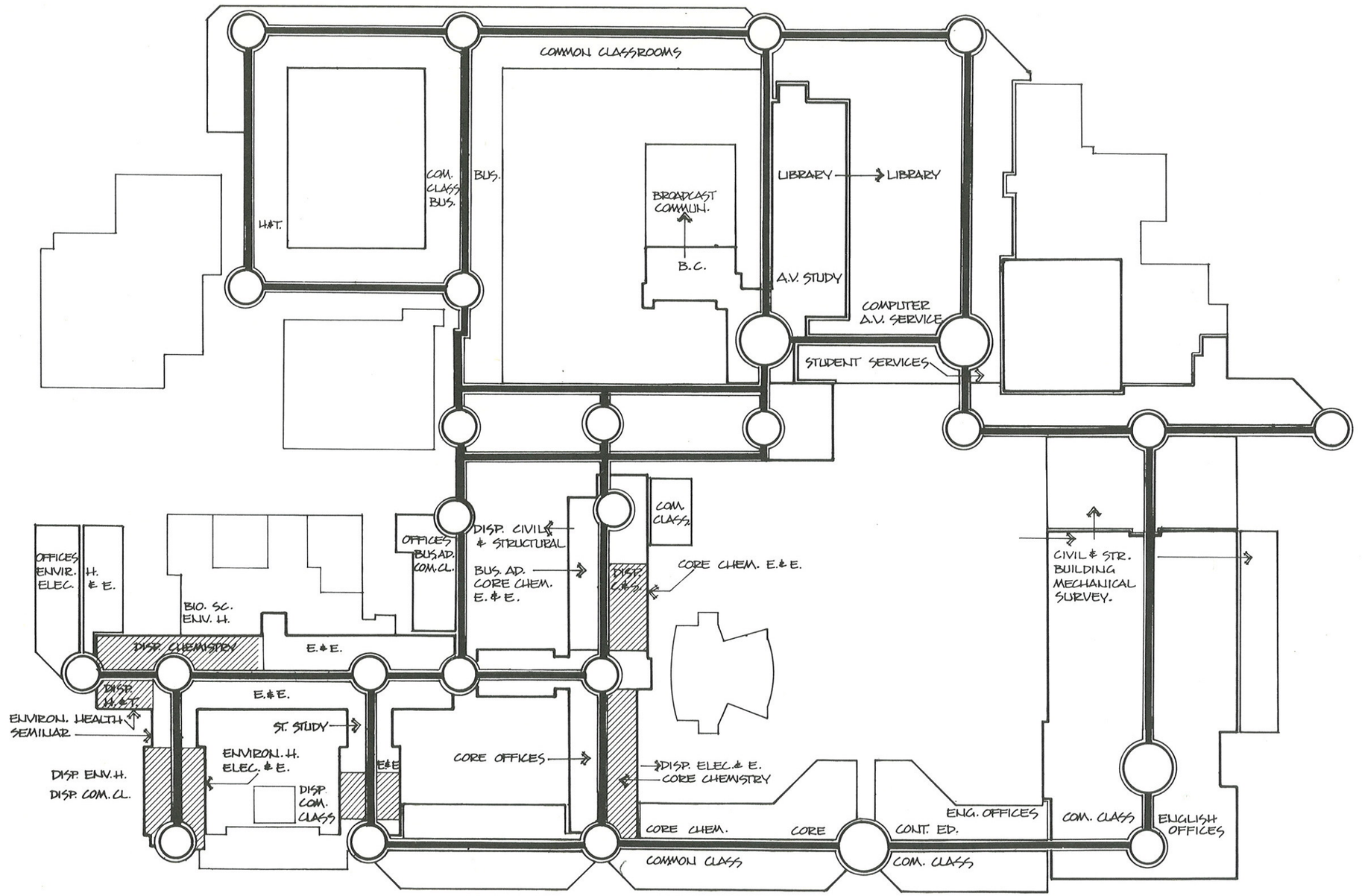
Naturally, any set of assumptions can form a different basis for an overall set of options. When locational choice is made for a tenant, the choices for the balance of the Departments will inevitably reduce and/or change. It is essential that, as decisions regarding the location of any particular Department are made, these decisions are documented within this Development Plan and the array of locational options modified to reflect the decision.



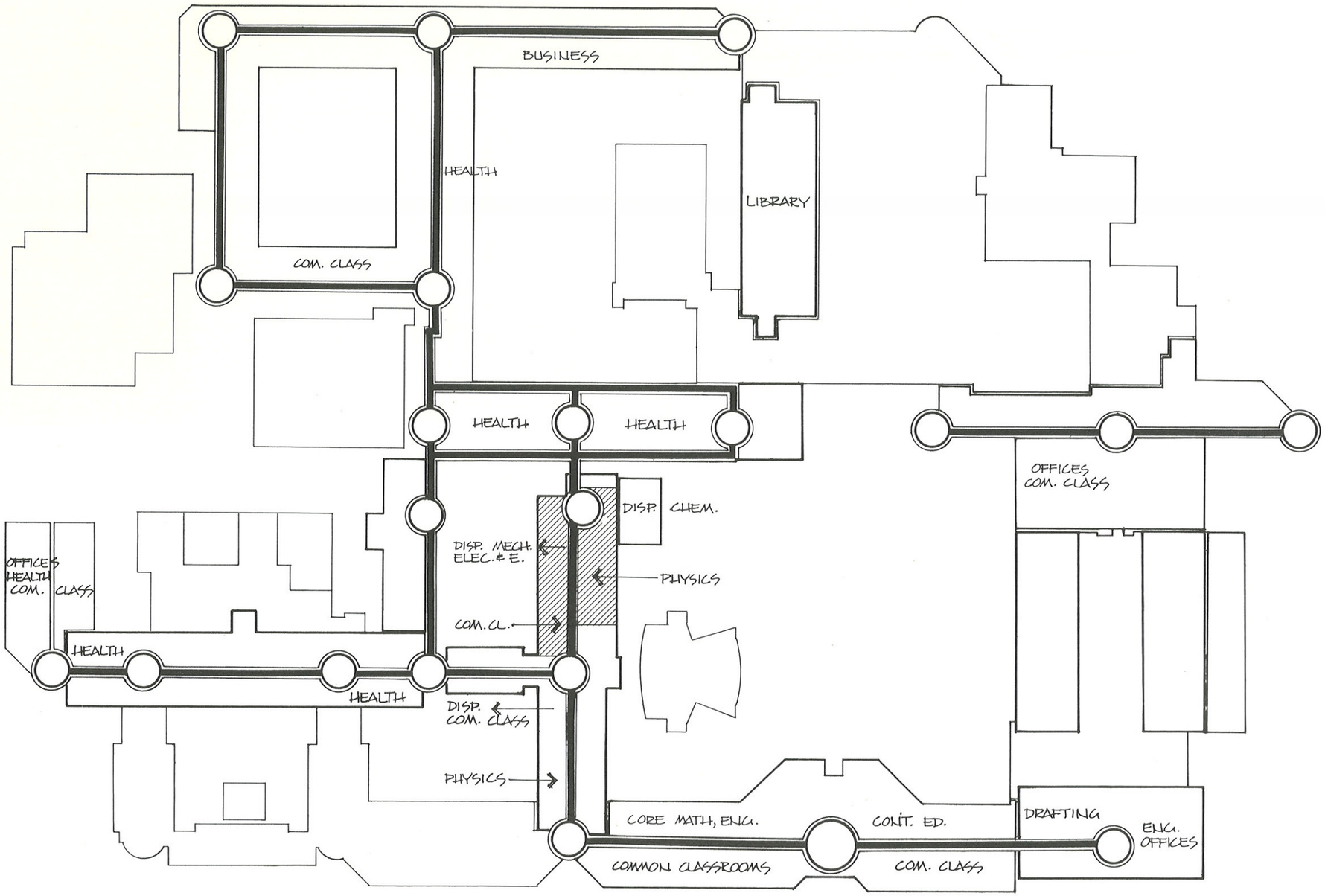
TENANCY OPTIONS LEVEL 1



TENANCY OPTIONS LEVEL 2



TENANCY OPTIONS LEVEL 3



TENANCY OPTIONS LEVEL 4

OPT. NO.	DATE	BY