REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
MUNICIPALITÉ RÉGIONALE D'OTTAWA-CARLETON

REPORT
RAPPORT

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Your File/V/Réf.

DATE 19 September 1997

TO/DEST. Co-ordinator Transportation Committee

FROM/EXP. Director Mobility Services and Corporate Fleet Services
Environment and Transportation Department

SUBJECT/OBJET **NORTEL CARLING CAMPUS EXPANSION - MODIFICATIONS TO MOODIE DRIVE (REGIONAL ROAD 59) FROM CARLING AVENUE (REGIONAL ROAD 38) TO HIGHWAY 417 AND TO THE INTERSECTION OF CARLING AVENUE AND GRANDVIEW ROAD/NORTEL SITE ACCESS**

DEPARTMENTAL RECOMMENDATIONS

That the Transportation Committee recommend Council approve:

1. **The installation of traffic control signals at Nortel's proposed southerly site access and Moodie Drive (Regional Road 59) and the construction of the associated roadway modifications along Moodie Drive, and modifications to the intersection of Carling Avenue (Regional Road 38) and Grandview Road as discussed further in the report's Design Proposal Section and as illustrated in Annex D, subject to the owner, Northern Telecom Limited:**

   a. **funding the total cost of the proposed road works which would include paying the annual maintenance costs for the traffic control signals until such time as they meet the Ministry of Transportation of Ontario installation warrants and Council approves the assumption of the costs;**

   b. **executing a legal agreement with respect to the above;**

2. **Authorize the initiation of the public hearing process as required by Sections 297 and 300 of the Ontario Municipal Act.**

BACKGROUND

Nortel is proposing to expand its Carling Avenue facility, located in the southwest quadrant of the Carling Avenue/Moodie Drive intersection in the City of Nepean. The purpose of the 1,000,000 ft² expansion is to provide additional facilities to accommodate a total of 8,000 employees on-site.

The current site contains 1,318,000 ft² of floor area accommodating approximately 4,200 employees. The proposed two-year, phased expansion will almost double the floor area and accommodate 3,800 new employees.

The site location in a regional context is provided in Annex A. The site location in a local context is shown as Annex B. The proposed site plan, which highlights the on-site expansion area, is illustrated in Annex C. As noted on Annex C, expansion is to occur both to the south and to the northwest of existing development.

In keeping with Nortel's widely recognized environmentally-friendly corporate image, they have agreed to closely follow the RMOC-developed Transportation Master Plan policies and Travel Demand Management (TDM) principles to achieve the following targets for future non-auto use and for future vehicle occupancy:

1. an increase in the transit, walk and bicycle component from the existing 12 percent to 25 percent; and

2. an increase in the vehicle occupancy from 1.2 persons/vehicle to 1.5 persons/vehicle.

It is important to realize, however, that while a great deal of effort will be expended and a lot of emphasis placed on TDM to reduce automobile generation and parking requirements related to the proposed development, there will still be a significant increase in motor vehicle traffic associated with the proposed expansion of the Nortel site. The modifications to the surrounding Regional roads are fundamental to the success of this project.

EXISTING CONDITIONS

Pedestrians and Bicyclists

On-site and in the vicinity of Nortel's Carling campus, pedestrians and bicyclists share the same multi-use recreation paths. Further to the south, at the Moodie/Highway 417 interchange, there are delineated on-road bicycle lanes. Area facilities are described as follows.

1. There are bicycle lanes in both directions on Moodie Drive from approximately the Moodie/Highway 417 Westbound Off-ramp intersection south to just beyond the Timm Drive intersection.

2. An off-road paved recreation path is provided to the west of and parallel to Moodie Drive extending from Carling Avenue south to Corkstown Road. It passes through, and is well

connected to Nortel's internal pathway system. It also has good connections to the site's driveway intersections with Moodie Drive.

3. A paved off-road recreation path exists on the north side of Carling Avenue from the Nortel-Grandview intersection east to Acres Road and beyond. There is one noticeable gap, however; that being the approximate 200 metre section from Moodie Drive east to the Cummings Avenue east intersection. While a wide gravel shoulder exists, a paved recreation path does not.

4. An off-road recreation path currently exists in the corridor between the Crystal Beach community and Highway 417. It extends from approximately Acres Road in the east and ends with a connection to Corkstown Road approximately 400 metres east of Moodie Drive.

5. In the abandoned right-of-way located within the Greenbelt (south of Nortel but north of the Equestrian Centre), the NCC has provided a stone dust recreation path that links Moodie Drive (at Corkstown Road) to Carling Avenue at a location to the west of the Nortel Campus.

6. East of Moodie Drive, there is an informal earth path that links the Crystal Beach community (Solva Drive) with the Crystal Bay Centre for Special Education, and on through the school property to Moodie Drive.

Beyond the study area, but of benefit to Nortel and area cyclists, are the following links that have recently been provided or are planned to be provided in 1997/1998.

1. The RMOC has recently provided bicycle lanes along Richmond Road from the Ottawa River Parkway to Carling Avenue.

2. On-road bicycle lanes have been provided with RMOC's reconstruction of Baseline Road from Cedarview Road to Greenbank Road.

3. The City of Nepean is providing an off-road bicycle link along Baseline Road linking Greenbank Road with the north-south bicycle system along Cedarview Road.

4. The City of Nepean, by early 1998, will have completed the northern extension of the Cedarview Road bicycle system. This remaining link will extend through the Queensway Carleton Hospital site, around the Highway 417/Highway 416 interchange, and north to Carling Avenue. With its completion it will provide a continuous bicycle system link from Barrhaven north to the Carling Avenue/Ottawa River Parkway system, and will intersect many east-west linkages along its length.

With regard to bicycle travel to the Nortel Carling site, as expected, it varies significantly by season. Based on review of RMOC cycle counts at the site's driveway connections and estimates provided of on-site bicycle counts, it is estimated that bicycle ridership can be in the range of 100 to 200 cyclists daily, varying by season. Employee surveys will be conducted by Nortel as part of the TDM Study to obtain more detailed information on bicycle usage, frequency of use, seasonal variation, distance travelled, trip origin and issues affecting cycling.

The following bicycle volumes were recorded at Nortel's accesses to the adjacent Regional roads.

1. At Nortel's main access to Moodie Drive (signalized), 19 bicycles were counted during the peak hour from 4:00 p.m. to 5:00 p.m. out of a total of 68 cyclists recorded over an 8-hour period.

2. At the Nortel access located at the signalized intersection of Carling and Grandview (signalized), 20 bicycles were recorded in the peak hour from 7:00 a.m. to 8:00 a.m. out of a total of 88 cyclists counted over an 8-hour period.

Pedestrian volumes recorded at these same intersections reveal the following.

1. At Nortel's main access to Moodie Drive (signalized), 16 pedestrians were counted during the peak hour from 11:30 a.m. to 12:30 p.m. out of a total of 32 pedestrians recorded over an 8-hour period.

2. At the Nortel access located at the signalized intersection of Carling and Grandview, 12 pedestrians were recorded in the peak hour from 8:00 a.m. to 9:00 a.m. out of a total of 38 pedestrians counted over an 8 hour period.

Transit

OC Transpo provides peak period and regular bus service that circulates through the Nortel Carling site. During the peak periods, Route 169 runs at a 30-minute frequency and connects the Kanata Town Centre to the Nortel Carling campus and the Defence Research Establishment. Route 182 runs at a 10 to 20-minute frequency and connects Downtown Ottawa to the Nortel Carling campus and to Kanata North. Route 166, the regular all-day service, runs at a 30-minute frequency and connects Bayshore Shopping Centre to Crystal Beach, the Nortel Carling campus and Bells Corners. In September 1997, Route 97, which is an all-day Transitway route, will stop at the Moodie Drive off-ramp bus stop. This service change will reduce transfers for some of those taking the bus to the Nortel site.

On-site bus stops (some with shelters) are provided at three locations on the perimeter road adjacent to the Nortel buildings. They are located at the north end of the campus in front of the Pavilion, on the west side adjacent to Lab 5 and just west of Moodie Drive on the site's main driveway connection to Moodie Drive.

Based on transit passenger counts provided by both OC Transpo and Nortel, peak hour transit ridership is currently in the range of 180 persons per hour in the morning peak hour and 130 persons per hour in the afternoon peak hour. The two-hour peak period transit ridership is twice the peak hour volume.

Currently, the West Transitway ends at Woodroffe Avenue. The Environmental Assessments identifying the need and the preferred alignment for the West Transitway extension to Kanata have been completed. The section of West Transitway from Pinecrest Road to Acres Road (including a station at Bayshore) is currently under construction and is scheduled for completion in late 2000. The section from Woodroffe Avenue to Pinecrest Road is presently deferred and in the interim, buses can travel on the respective section of Highway 417 by using the existing auxiliary lanes. On the section of

Highway 417 from Moodie Drive west to Eagleson Road, shoulder bus lanes exist. The remaining section of West Transitway from Acres Road to Moodie Drive currently has no identified construction schedule.

Automobiles

Moodie Drive and Carling Avenue are Regional roads and are the only roadways which automobiles may use to directly access the site. With respect to current traffic volumes on Moodie Drive and Carling Avenue adjacent to and in the vicinity of the site, these are summarized in the following table.

EXISTING 1997 TRAFFIC VOLUMES			
Location	**Morning Peak Hour - peak direction -**	**Afternoon Peak Hour - peak direction -**	**Average 24 Hour Volume**
Moodie Drive:			
- south of Carling	500 northbound	600 southbound	8,700 two-way
- south of Corkstown	1,900 northbound	1,900 southbound	22,300 two-way
Carling Avenue:			
- east of Moodie	850 eastbound	880 eastbound	14,000 two-way
- west of Nortel-Grandview	1,030 eastbound	875 eastbound	15,000 two-way

A description of the geometry and operational requirements of these roadways are provided in the following paragraphs.

Moodie Drive

For the most part, Moodie Drive from Carling Avenue south to Robertson Road is an undivided four-lane Regional road with a rural cross-section across the frontage of the Nortel Site. The speed limit on this roadway from Carling Avenue to south of the Highway 417 interchange is 80 km/h.

The lane arrangement at the main southerly access to this site consists of double northbound left-turn lanes, two northbound through lanes, a southbound deceleration lane, two southbound through lanes approaching the intersection, and three southbound through lanes departing the intersection, an eastbound left-turn lane and a channelized eastbound right-turn lane. Traffic operations at this intersection are controlled by traffic signals.

At the northerly access, traffic is controlled by stop signs facing eastbound motorists. The lane arrangements at this intersection consist of two northbound through lanes and two southbound through lanes with a shared right-turn and a left-turn lane provided for eastbound traffic. Left-turns into the site are permitted from the westerly northbound through lane.

On the bridge structure over Highway 417, Moodie Drive is a six-lane divided facility that also accommodates bicycle lanes. Four of the traffic lanes are north-south through lanes and the outer lane in each direction is a right-turn lane leading to the Highway 417 on-ramps. The delineated bicycle lanes are located between the right-turn lane and the through lanes along this section of roadway.

Carling Avenue

Carling Avenue along the site's frontage from Moodie Drive to the westerly extent of the property changes from a four-lane, semi-urban, arterial roadway to a rural, two-lane highway.

At the signalized intersection of Grandview Road and the site's northerly access, Carling Avenue maintains its four-lane cross-section. The existing geometry and operation of this intersection is maintained by three eastbound approach lanes consisting of two through lanes and a left-turn lane, three westbound approach lanes consisting of two through lanes and a left-turn lane, two northbound approach lanes from the site consisting of a left-turn lane and a combined through and right-turn lane, and southbound on Grandview, a single approach lane.

DESIGN PROPOSAL

As previously mentioned, an essential element to maximizing the use of the non-auto modes of travel to this site is the development of an enhanced TDM programme at the Nortel Carling campus that expands on their current initiatives. TDM is the use of marketing, education, facilitation incentives ("carrots") and disincentives ("sticks") to reduce automobile travel at peak-traffic times. From the perspective of creating infrastructure in support of TDM, some measures may include the construction of sidewalks, bus lanes, bicycle lanes to name a few examples. To this end, Nortel, RMOC, OC Transpo and the City of Nepean have jointly agreed to partner in the development and implementation of an ambitious TDM programme.

It must be emphasized, that the modifications identified in the following paragraphs pertain to what is proposed on the Regional right-of-way and that a number of TDM measures lie outside the scope of this report.

Pedestrians

The following initiatives will enhance pedestrian safety and mobility to and from the site:

1. the proposed new southerly site access with Moodie Drive will be traffic signal controlled which will greatly enhance safe pedestrian crossing; and

2. provision of a sidewalk on the east side of Moodie Drive.

Bicycles

The provision of on-road cycling lanes on both sides of Moodie Drive from the Crystal Bay Centre for Special Education (CBCSE) access south to the Highway 417 interchange will enhance bicycle safety and mobility to and from the site. In the southbound direction, the bicycle lane will be introduced at the CBCSE access to connect with the existing bicycle lanes at the Highway 417 overpass. In the northbound direction, the bicycle lane will start at approximately 75 m south of the access to the Nortel Corkstown Campus and continue north to the CBCSE access.

Transit

There will be a significant change to the area's transit service as a result of the proposed expansion. The roadway modifications to Moodie Drive will assist in accommodating the projected increase in bus traffic.

Moodie Drive

It is requested that approval be given for the proposed future cross-section of this roadway, from the access to the CBCSE south to the Highway 417 interchange area, comprised of the following general design elements:

1. median divided;

2. three southbound lanes;

3. two northbound lanes;

4. on-street bicycle lanes;

5. sidewalk along the east side; and

6. street lighting.

Moodie Drive and Nortel's Proposed Southerly Site Access

At this future access the lane arrangement and traffic operation are provided below.

1. Traffic will be controlled by signals.

2. Double northbound left-turn lanes will be provided.

3. Provide double eastbound right-turn lanes.

4. East-west pedestrian crossing will be prohibited on the south side of the intersection.

Carling Avenue and Grandview Road/Nortel North Access

In view of the almost doubling in the number of eastbound right turns that will be associated with this expansion, an eastbound right-turn lane and channelization are proposed at this intersection. No other modifications are anticipated at this time.

Moodie Drive and Highway 417

In addition to the foregoing modifications to the Regional road system, suggested modifications to the ramp terminals across the overpass structure are currently being reviewed with the Ministry of Transportation of Ontario. If implemented, these modifications will enhance the mobility and safety of both pedestrians and bicyclists, and better facilitate peak hour traffic flow on the southbound to eastbound on-ramp and the westbound off-ramp.

FINANCIAL STATEMENT

Should Regional Council approve the proposed roadway modifications, traffic control signal installation and related road works, the owner/developer, Northern Telecom Limited, will be responsible for 100% of all costs. The owner/developer will also be responsible for the annual operation and maintenance costs of the traffic control signals at the intersection of the proposed southerly site access and Moodie Drive until such time as the Ministry of Transportation of Ontario traffic signal warrants are met and Regional Council approves the assumption of these costs.

COST ESTIMATE

The following cost estimates have been developed by Delcan Corporation and relate only to the modifications proposed along the Regional right-of-way. They are at a conceptual stage and are provided solely for the information of the Transportation Committee and Regional Council.

Item	Cost Estimate
Construction	$1,700,000
Traffic Control Signals (two)	$100,000
Engineering	$150,000
Contingencies	$100,000
TOTAL ESTIMATED COST	$2,050,000

CONSULTATION

Public open houses were held as part of the environmental assessment process for this project on 15 July 1997 and 19 August 1997. As well, the opportunity for general public input will be provided via the public hearing process.

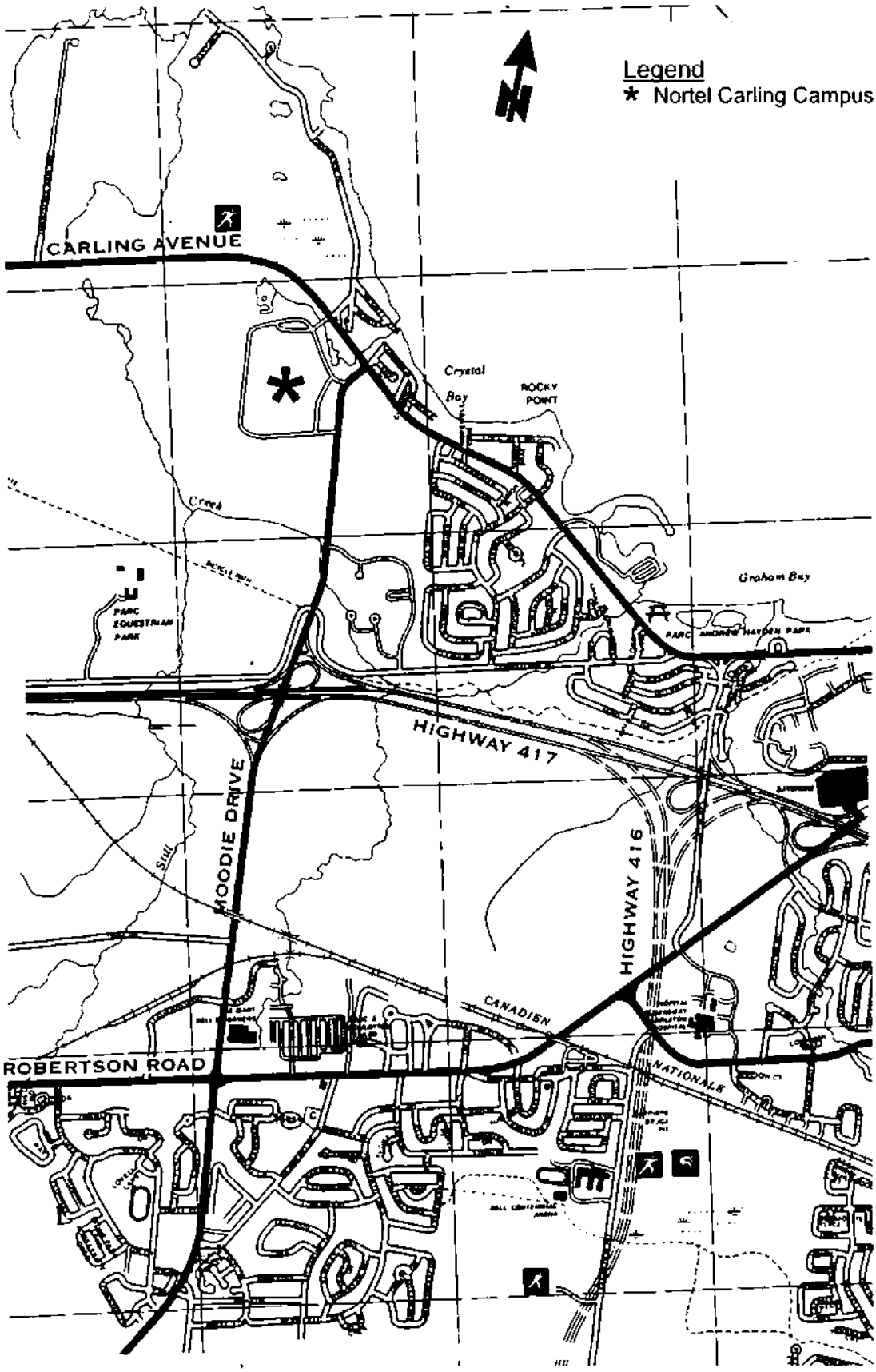
COMMENTS FROM THE REGIONAL CYCLING ADVISORY GROUP

This report will be presented to the Regional Cycling Advisory Group (RCAG) at their meeting on 7 October 1997. Any concerns that they may have will be dealt with at the public hearing. It should be noted that RCAG has been actively involved in the planning and design activities for this site expansion project.

Approved by
Doug Brousseau

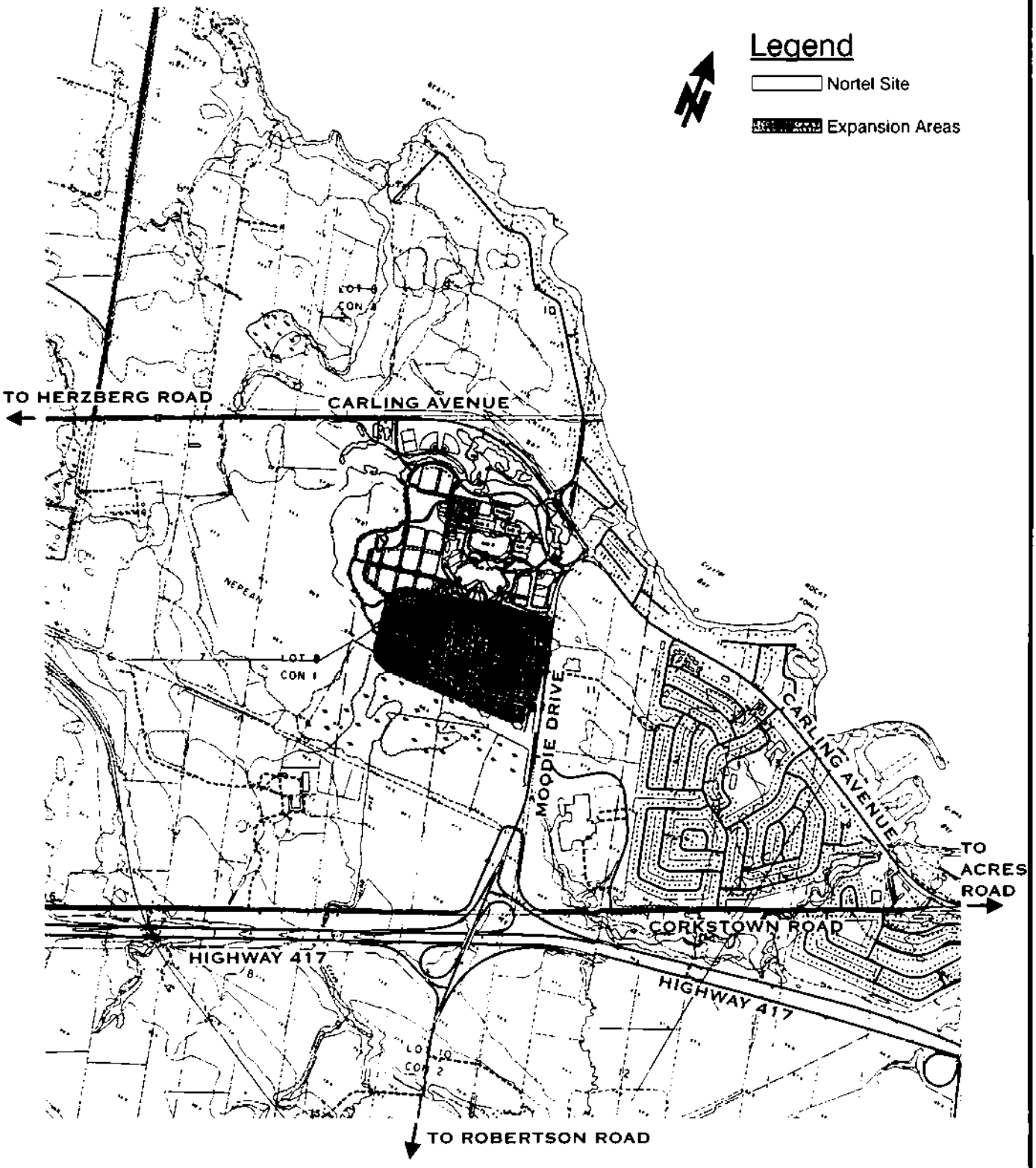
WJ/sc

Attach. (4)



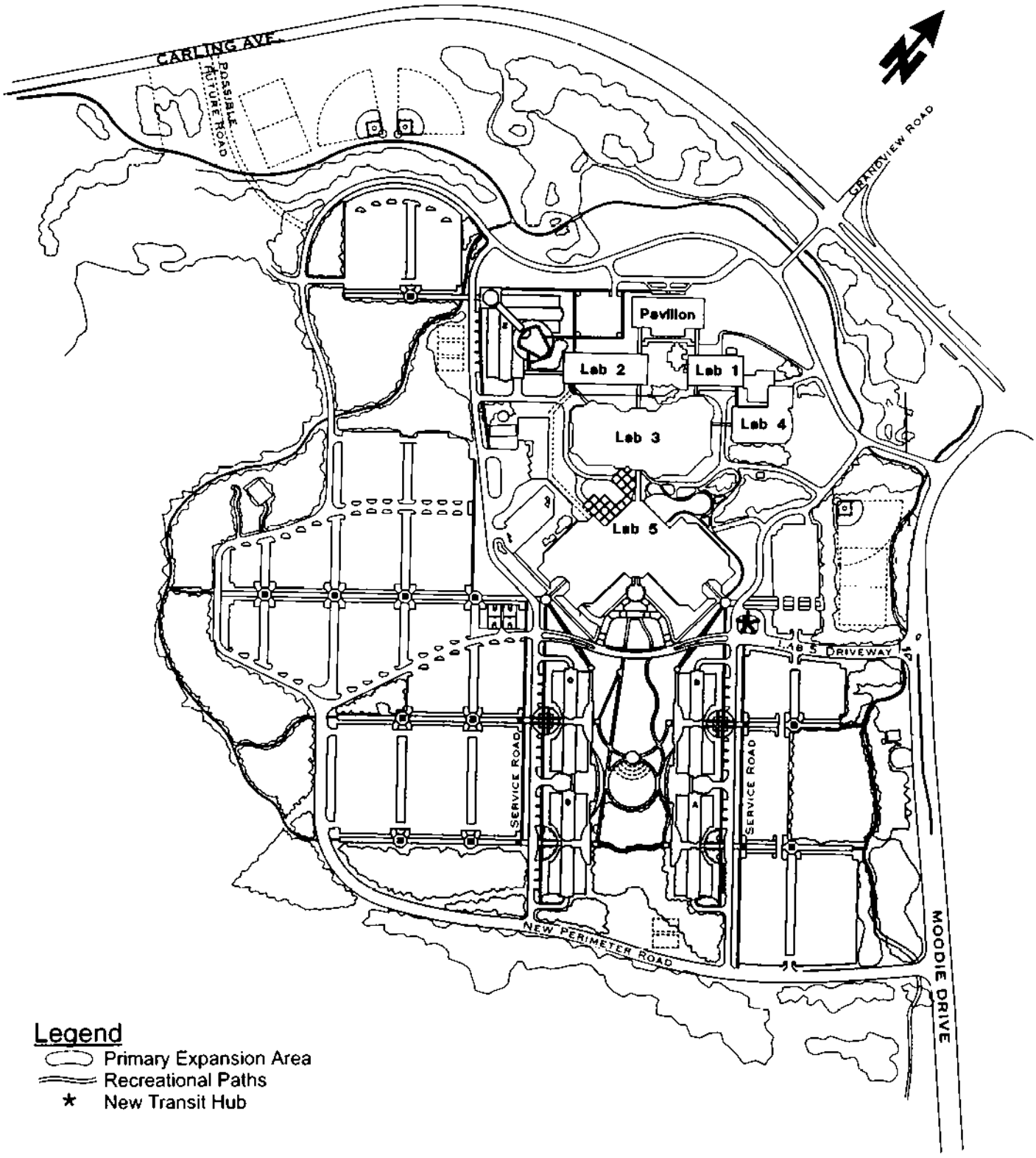
Nortel Ottawa Expansion - Carling Campus **Annex A**

Regional Context Plan



Nortel Ottawa Expansion - Carling Campus **Annex B**

Local Context Plan

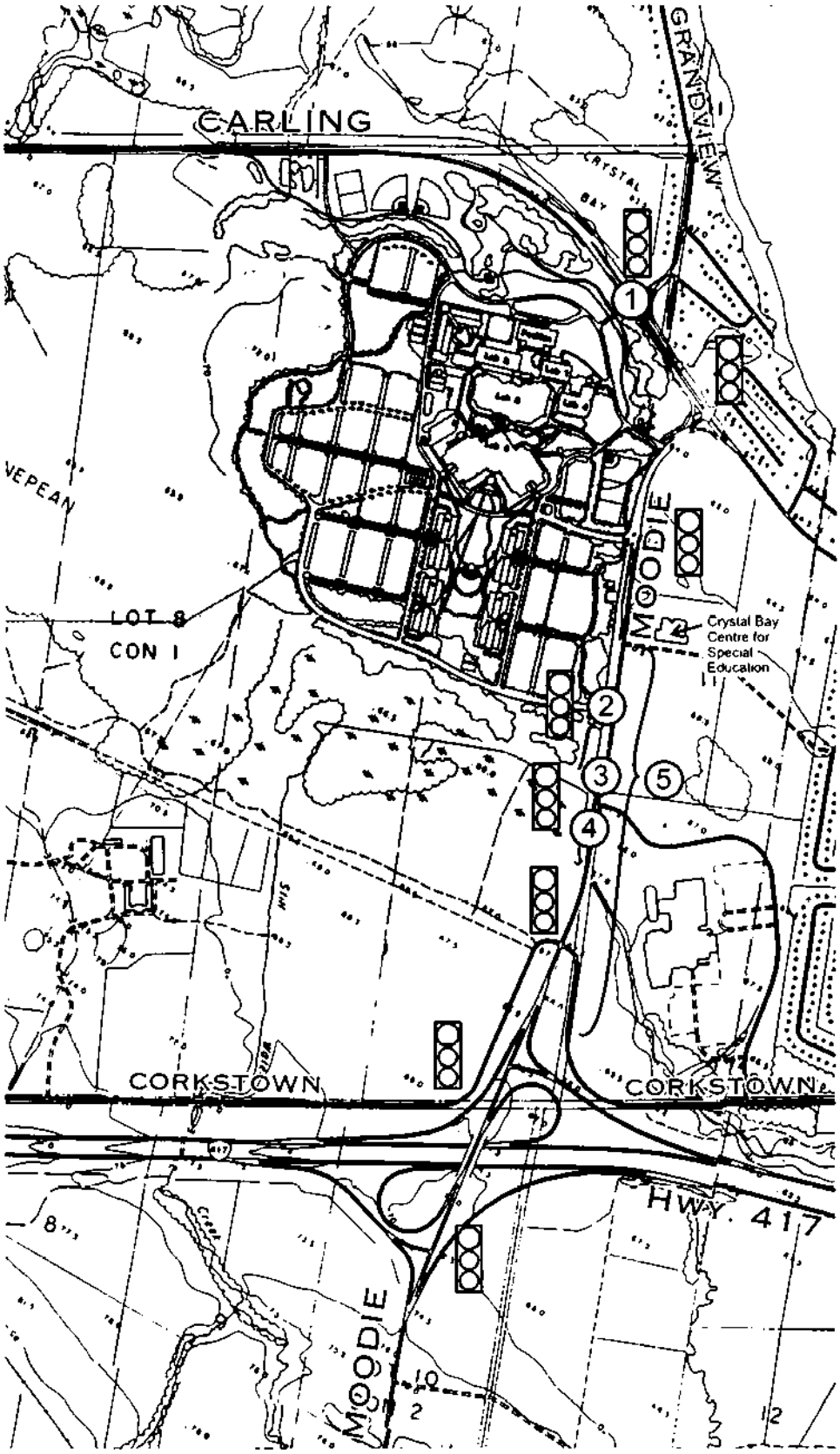


Legend

- Primary Expansion Area
- Recreational Paths
- ★ New Transit Hub

Nortel Ottawa Expansion - Carling Campus — Annex C

Proposed Site Plan



Legend

Nortel Owned or Leased Lands

Traffic Control Signals

1. Provide eastbound right-turn deceleration lane and channelization at existing Nortel / Grandview / Carling intersection

2. A new Nortel site driveway connection to Moodie Drive consisting of double northbound left-turn lanes, a southbound deceleration lane and traffic signal control

3. Provision of a sidewalk on the east side of Moodie Drive through the area of site-related road works.

4. Provision of bicycle lanes in both directions on Moodie through the area of site related road works

5. Provision of a third southbound lane on Moodie Drive from the Crystal Bay Centre for Special Education south to tie into the existing eastbound on-ramp to Highway 417

Nortel Ottawa Expansion - Carling Campus

Annex D

Proposed Regional Road Modifications Adjacent to Site