

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

REPORT
RAPPORT

Our File/N/Réf. **50 23-98-R059**
 Your File/V/Réf.

DATE 11 May 1998

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 - PROPOSED
 MODIFICATIONS TO MOODIE DRIVE (REGIONAL ROAD
 59) AND HIGHWAY 417 INTERCHANGE**

DEPARTMENTAL RECOMMENDATIONS

That Transportation Committee recommend Council approve:

- 1. The endorsement of the functional design for the modifications to the interchange of Moodie Drive and Highway 417 as shown in Annexes B and C; and,**
- 2. A communication to the Ministry of Transportation of Ontario (MTO) expressing Council's desire to require Nortel to implement this design when they decide to proceed with Phase II of the Carling Campus Expansion.**

BACKGROUND

At its meeting on 26 November 1997, Regional Council in its deliberation of the recommendations from Transportation Committee Report No. 63 and subsequent Addendum Report (dated 12 November 1997) approved Motion No. 282 which deals specifically with the proposed modifications to the interchange of Moodie Drive and Highway 417. As quoted, this motion said, "resolved that those elements of the Transportation changes agreed to by all parties (related to the interchange) be approved and that the site plan agreement with Nortel be signed subject to the condition that the outstanding matters related to the interchange, be resolved to the satisfaction of Regional Council by 31 May 1998".

A public information meeting was held on 26 January 1998 at Lakeview Public School to talk about the Nortel expansion plans which included a discussion on the approved road modifications to enhance accessibility to the site for all modes of travel. Part of this discussion centred on the

proposed changes to the interchange of which the only contentious issue involved the traffic signal controlled westbound dual right turns from Highway 417 and Moodie Drive. This matter is discussed in a following section which deals with this ramp terminal.

Currently under Phase I of the site expansion, the design modifications to Moodie Drive are proceeding through the approval process with construction expected to commence in early June 1998. The design modifications to the interchange should be established at this time to facilitate a relatively seamless transition between Phase I and Phase II road works should Nortel decide to quickly proceed with the Phase II portion of their site expansion.

MOODIE DRIVE AND HIGHWAY 417 INTERCHANGE MODIFICATIONS

Because of the detail required to graphically explain the proposed changes interchange, Moodie Drive and Highway 417 is shown in two parts, one northerly (Annex B) and the other southerly (Annex C). Annex B details the following road sections:

1. Phase II Modifications to Moodie Drive immediately north of Corkstown Road south to the interchange;
2. the intersection of southbound Moodie Drive and Highway 417 westbound on ramp;
3. the intersection of westbound Highway 417 off ramp and Moodie Drive and the off ramp modification; and,
4. the intersection of northbound Moodie Drive and Highway 417 westbound off ramp.

Shown on Annex C are the proposed functional details on the following ramp terminals:

1. the intersection of southbound Moodie Drive and Highway 417 eastbound on ramp;
2. the intersection of Moodie Drive and Highway 417 eastbound off ramp; and,
3. the intersection of Moodie Drive northbound and Highway 417 eastbound on ramp.

Phase II Modifications to Moodie Drive

Moodie Drive will be widened along the west side to provide an additional southbound through lane from Nortel's new southerly access to link up with the existing third southbound lane at the overpass. The full-width (2 m) bicycle lane will be maintained along this section of roadway which will narrow to 1.5 m at the overpass.

Intersection of Southbound Moodie Drive and Highway 417 Westbound On Ramp

It's proposed that the angle of intersection between the southbound through lanes and the ramp be increased creating a direct taper in that there is no portion of the ramp that travels adjacent and

parallel to the through lane. It is anticipated that this modification will have the following benefits especially for cyclists.

1. Because of the increased angle of intersection, motorists entering the ramp will be induced to significantly reduce their speed.
2. The area of conflict between cyclists and turning/lane-changing motorists is reduced by about 50 %.
3. The tendency for some motorists to erroneously wander into the right-turn lane will be greatly diminished.

Intersection of Westbound Highway 417 Off-Ramp and Moodie Drive

The major geometrical and operational change proposed for this intersection involves replacing the existing westbound free-flow, right-turn ramp with a dual right-turn lane controlled by traffic signals. The decision to recommend this change is founded not so much on intersection capacity considerations but more importantly, on the implications to traffic safety.

Based on the projected post Phase II A.M. peak traffic volumes, analysis shows that the ability for this ramp to discharge vehicles onto Moodie Drive will not meet the demand during this time period. This situation will cause traffic to back up on the ramp to the extent that the resulting queue would interfere with the operation of the westbound through lanes of Highway 417 which will severely compromise traffic safety. The construction of dual westbound right-turn lanes will successfully alleviate this potentially serious hazard.

The degradation of safety brought on by the restricted visibility that motorists encounter in dual right-turning lanes has led to a policy of not permitting these types of turns on a red signal indication. This restriction has led to some local community opposition to the proposed dual right turns at this exit ramp because, except for the A.M. peak period, it is perceived that it will unnecessarily delay westbound right-turning motorists at all other times of the day.

The perception of excessive delay can be mitigated, by providing signal timing which reduces, as much as possible, the waiting time for westbound right-turning motorists during the off-peak periods. While not providing the free flow movements currently enjoyed by westbound left-turning motorists, Ministry of Transportation and RMOC staff will make all reasonable efforts to minimize the potential delays that would be experienced with dual right turns.

In addition to the previously mentioned safety benefits, the proposed dual westbound right-turn geometry will provide the following benefits for the other transportation modes using this interchange.

1. Currently, northbound and southbound pedestrians walking along the east side of Moodie Drive are exposed to a high volume and relatively high-speed, free-flow ramp with no traffic control protection. With the proposed modifications, pedestrians will be able to cross this ramp junction safely with the protection of traffic signals.

2. If the dual right-turn lane is constructed, northbound cyclists on Moodie Drive will no longer be exposed to the existing ramp terminal which is an uncontrolled, high-volume, high-speed weaving area.
3. Transit patrons will be better served with the ability of westbound buses destined for the expanded Nortel site to pick up or discharge passengers at the existing bus stop which is located on the east side of Moodie Drive immediately north of the signalized intersection with the Highway 417 westbound off ramp. This will significantly improve the options for transit users travelling to the Nortel site.

Intersection of Northbound Moodie Drive and Highway 417 Westbound On Ramp

Currently on Moodie Drive, the most easterly northbound lane on the overpass terminates at the intersection with the to Highway 417 Westbound On Ramp. Based on current and projected traffic volumes, this lane is not necessary at the present time nor will it be required in the foreseeable future; therefore, it is proposed that it be replaced with a concrete sidewalk and an adjacent bicycle lane.

Northbound motorists intending to travel to Highway 417 westbound will be able to access this on ramp via a direct taper as previously described in the section for southbound motorists travelling to Highway 417 westbound. In addition to the anticipated benefits described earlier with a direct taper, pedestrians will be much better served with a sidewalk which will provide the following advantages.

1. A protected, maintained, and highly visible area for pedestrians will be provided with the construction of a sidewalk along the east side of the overpass.
2. The direct taper not only decreases the area of exposure for pedestrians crossing the ramp terminal but also decreases the speed of the approaching vehicles.

Intersection of Southbound Moodie Drive and Highway 417 Eastbound On Ramp

Currently, the most westerly southbound lane on Moodie Drive across Highway 417 is terminated at the junction of the eastbound on ramp. It is proposed that this operation continue, however, with the following modifications.

1. Immediately south of the ramp terminal, the roadway will be widened on the west side to continue the southbound lane to provide a contiguous bicycle lane to link up with the existing bike lane south of the interchange and an area for a bus stop. All other vehicular traffic using this lane must either change lanes to continue south on Moodie Drive or turn off onto the eastbound on ramp.
2. Although this lane is a right-turn lane parallel to the adjacent southbound lanes, a direct taper will be employed at the junction to slow down motorists entering the ramp and to reduce the area of conflict with the cyclists.

Intersection of Moodie Drive and Highway 417 Eastbound Off Ramp

The eastbound off ramp from Highway 417 intersects Moodie Drive at two locations. At the most northerly location, traffic control signals were recently installed in conjunction with geometric changes to accommodate exclusive transit operations on Highway 417. This work, which was funded by the Region, has expanded the accessibility options to the site and significantly improved the safety of eastbound left-turning motorists travelling from the ramp to proceed north on Moodie Drive. It is anticipated that no additional modifications will be necessary at this location to further improve access to the expanded Nortel Carling Campus.

Since the most southerly location of this ramp facilitates eastbound traffic to travel south on Moodie Drive, this ramp terminal does not directly affect accessibility to the Nortel site and, therefore, no roadway modifications are contemplated at this time.

Intersection of Moodie Drive Northbound and Highway 417 Eastbound On Ramp

As described in the previous paragraph, this ramp terminal does not directly affect accessibility to the Nortel site; therefore, no roadway modifications are being considered at this time.

COST ESTIMATE

The following cost estimates which are at a conceptual stage have been developed by Regional staff and relate only to the proposed modifications to the Moodie Drive and Highway 417 Interchange. These cost figures are provided solely for the information of the Transportation Committee and Regional Council and are not intended to represent any financial obligations by the RMOC, Nortel, Ministry of Transportation of Ontario or City of Nepean.

<u>Item</u>	<u>Cost Estimate</u>
Construction	\$725,000
Traffic Control Signals	\$150,000
Engineering	\$220,000
Utilities	\$ 72,000
<u>Contingencies</u>	<u>\$110,000</u>
TOTAL ESTIMATED COST	\$1,277,000

CONFORMITY TO THE TRANSPORTATION MASTER PLAN

The objectives of the Region of Ottawa-Carleton's (ROC) Official Plan are consistent with the goals of the Transportation Master Plan (TMP) which is based on the development of a vision and supporting principles to increase the quality and use of environment friendly travel alternatives while decreasing the dependence on the private automobile.

The proposed interchange design modifications are primarily based on the traffic demand management (TDM) principles found in the TMP. The guiding principle from the TMP is the provision of a modal hierarchy with the emphasis on walking, cycling and transit usage. This has been incorporated in this interchange design by providing a sidewalk, cycling facilities and transit priority measures.

The modifications to the transportation infrastructure to accommodate the expanding Nortel Carling Campus has followed a rigorous public consultation process. With their adoption of TDM principles and current modification work on Moodie Drive, Nortel have demonstrated their willingness to invest in the appropriate road modifications to suit the ROCs Official Plan and the TMP.

CONSULTATION

In addition to the Transportation Committee meetings and public hearings on this project which included discussions related to the proposed modifications to the Moodie Drive - Highway 417 Interchange, mentioned earlier in this report, a public information meeting was held on 26 January 1998 at Lakeview Public School.

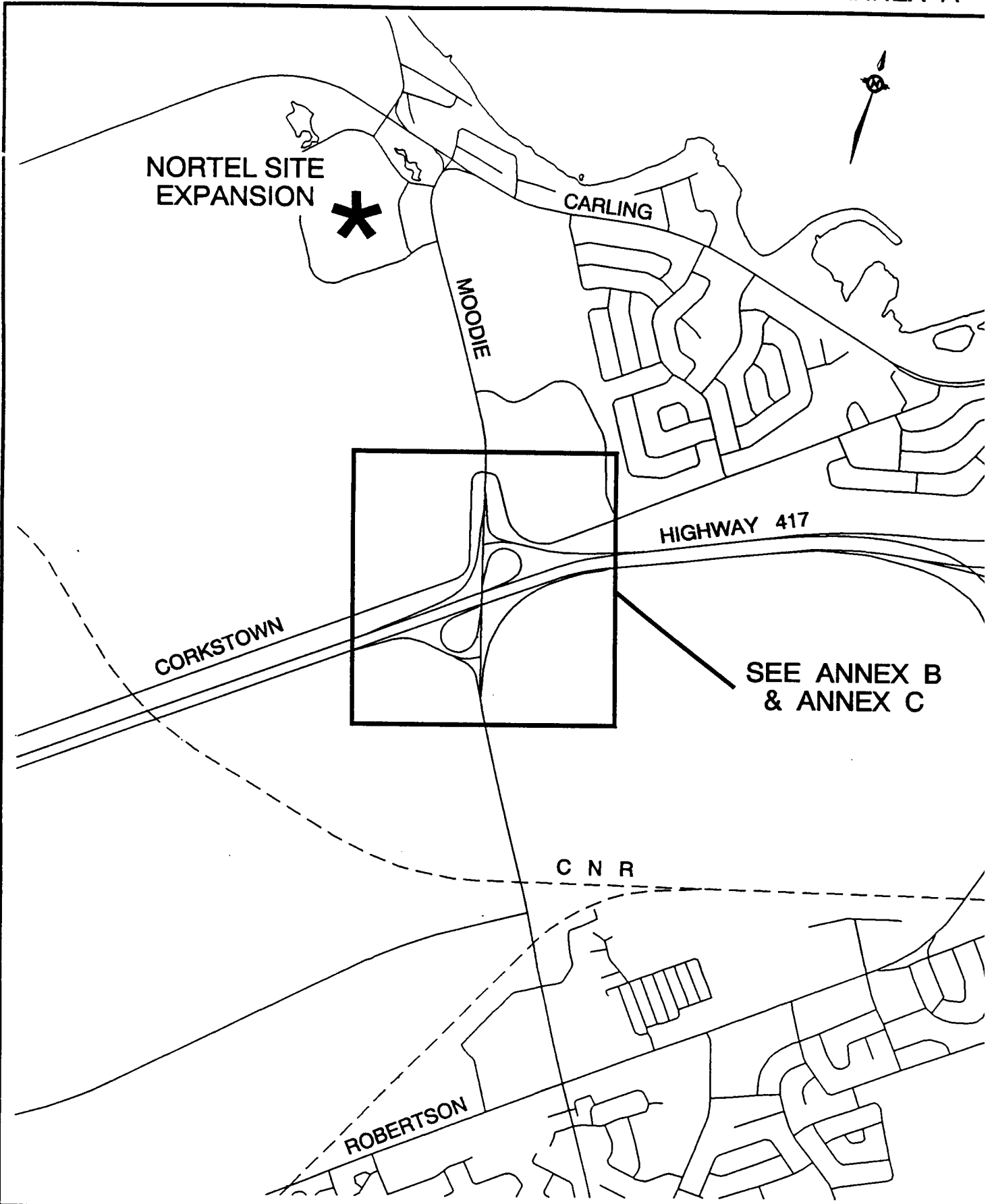
COMMENTS FROM THE REGIONAL CYCLING ADVISORY GROUP (RCAG)

Regional staff have worked very closely with representatives from RCAG throughout the design process for the proposed modifications to the interchange. This combined effort has led to a consensus on the recommended changes to the interchange to enhance cyclist safety and mobility. These efforts are well documented in Transportation Committee Addendum Report 12 November 1997.

*Approved by
Doug Brousseau*

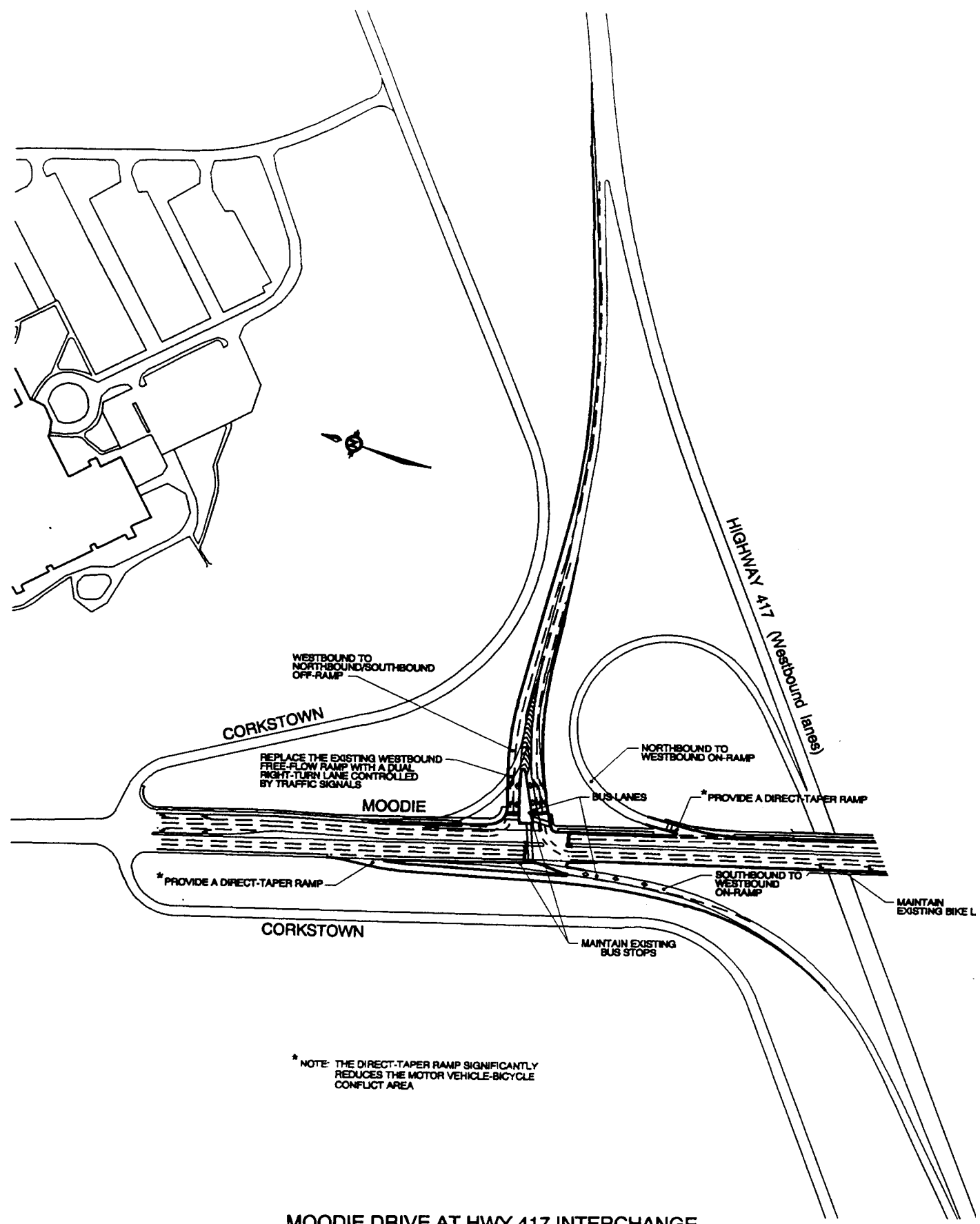
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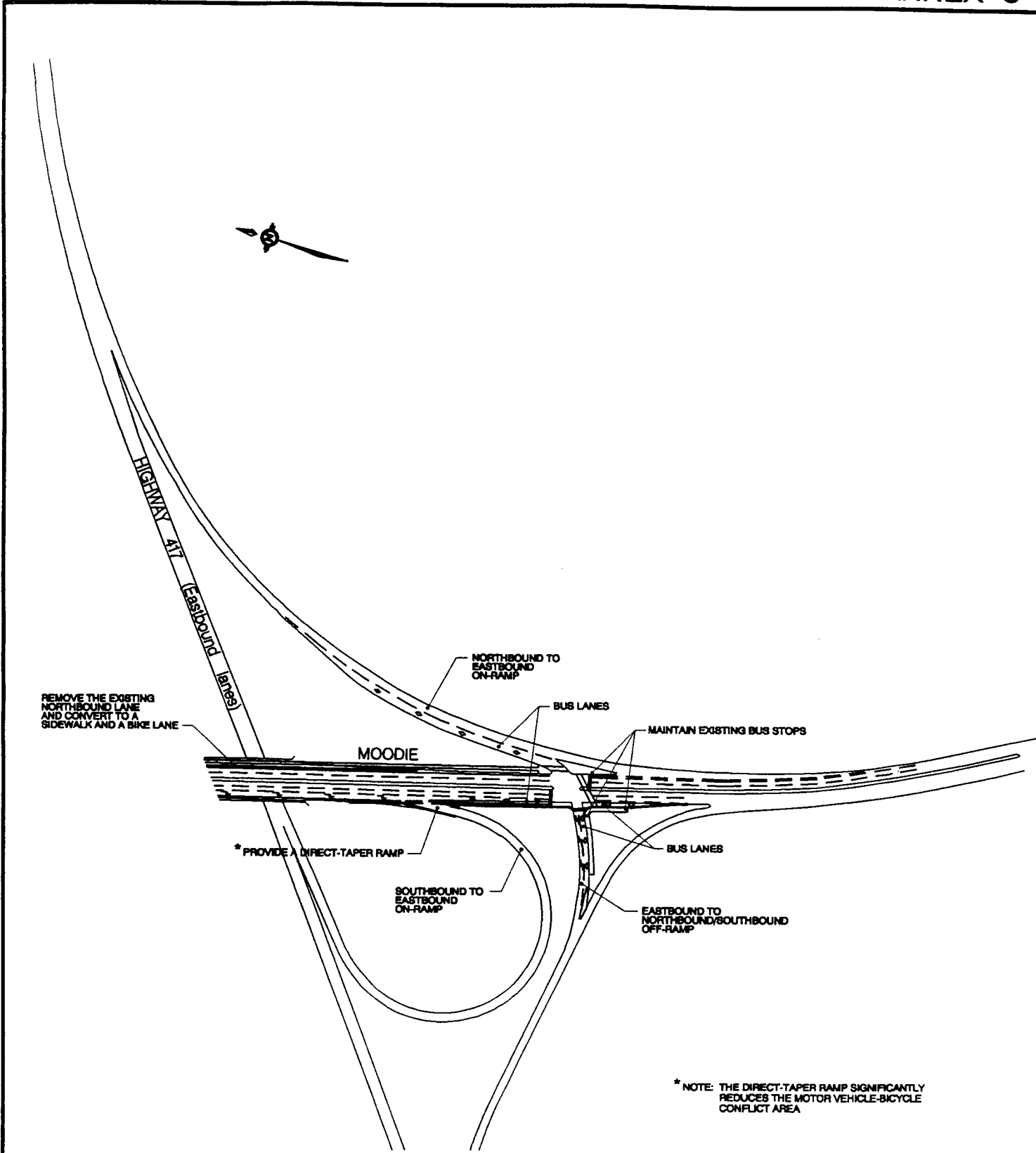


KEY PLAN

**MOODIE DRIVE (REG RD 59) AND HIGHWAY 417
PROPOSED INTERCHANGE MODIFICATIONS
FOR NORTEL SITE EXPANSION**



**MOODIE DRIVE AT HWY 417 INTERCHANGE
PRELIMINARY CONCEPT PLAN
(SECTION NORTH OF HIGHWAY 417)**



* NOTE: THE DIRECT-TAPER RAMP SIGNIFICANTLY REDUCES THE MOTOR VEHICLE-BICYCLE CONFLICT AREA

MOODIE DRIVE AT HWY 417 INTERCHANGE
PRELIMINARY CONCEPT PLAN
(SECTION SOUTH OF HIGHWAY 417)