

REGION OF OTTAWA-CARLETON  
RÉGION D'OTTAWA-CARLETON

REPORT  
RAPPORT

Our File/N/Réf.            48-95-0028  
Your File/V/Réf.

DATE                        8 September, 1999

TO/DEST.                 Co-ordinator Transportation Committee

FROM/EXP.                Planning and Development Approvals Department Commissioner

SUBJECT/OBJET         **CASTLEFRANK ROAD OVERPASS/PARTIAL  
INTERCHANGE ENVIRONMENTAL ASSESSMENT (EA)  
STUDY**

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### **DEPARTMENTAL RECOMMENDATIONS**

**That the Transportation Committee recommend Council approve:**

- 1.     The Overpass and Partial Interchange functional design as recommended in the EA Study, and illustrated at Option 2, Exhibit 1;**
- 2.     The preparation of an Environmental Study Report (ESR) for the Castlefrank Road Overpass and Partial Interchange on Highway 417.**

### **BACKGROUND**

In January 1999, Regional Council approved the undertaking of an Environmental Assessment (EA) Study for the construction of an overpass and partial interchange at Castlefrank Road and Highway 417 in the City of Kanata, involving the connection of Castlefrank Road over Highway 417 and the future West Transitway to Kanata Town Centre, a westbound off-ramp, and an eastbound on-ramp.

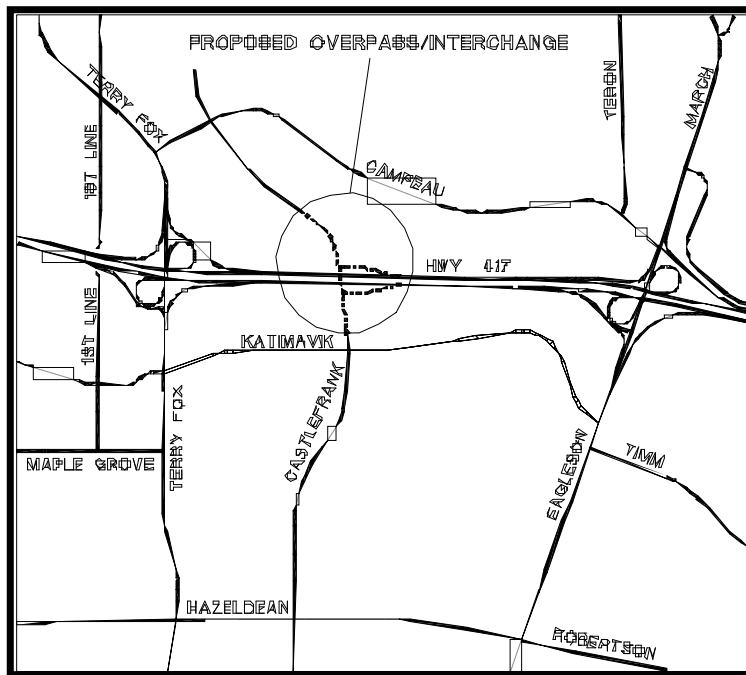
The need for these modifications was established earlier, based on the consideration of planning alternatives, through the Region's Transportation Master Plan process. They are consistent with the Regional and City of Kanata Official Plans. The overpass and the partial interchange are needed to enhance Kanata's north-south linkages, and to facilitate transit connections to the Town Centre.

The identification and evaluation of design alternatives followed the Municipal Class Environmental Assessment guidelines for Municipal Roads and the requirements of the Ministry of Transportation of Ontario Class Environmental Assessment guidelines for Provincial Highways.

## DISCUSSION

### Study Area

The immediate impact area required to address the functional design aspects for this project is depicted inside of the circle on the adjacent diagram (below). The study area is bounded by Terry Fox Drive on the west, Campeau Drive and the Kanata Lakes Community to the north, Hazeldean Road and the Glen Cairn Community to the south and Eagleson/ March Roads to the East.



### Environmental Assessment Process

The preferred functional alignment for the construction of an overpass and partial interchange at Highway 417 and Castlefrank Road was determined using a study process that followed the general principles of the Class EA process. The scope of this infrastructure qualifies as a Schedule “C” project according to the *Class EA for Municipal Road Projects*. This process requires the evaluation of planning alternatives and design alternatives (i.e. alignment, cross section, lane configuration).

The first two phases of the Class EA process including confirmation of need and a consideration of planning alternatives were undertaken as part of the Region’s Transportation Master Plan process and related planning studies. Much of this earlier work has been referenced and reconfirmed during the course of this study fulfilling the Class EA Phase 1 and 2 requirements.

Phase 3 of the Class EA process involved the assessment of design alternatives and incorporated the following general principles of the Class EA process:

- consultation with the public;
- consideration of reasonable alternatives;
- consideration of aspects of natural, social and economic environments;
- systematic evaluation of all net environmental effects;

The fourth and final phase of the EA process will involve the completion of an Environmental Study Report which will be placed on public record along with notices to the public and review agencies.

### Transportation Issues

Kanata is one of the fastest growing municipalities in Canada with a population growth of approximately 28% in the first half of this decade. Currently there are 53,000 residents, in 17,400 dwellings. By 2006, 22,500 dwelling units will have been completed with corresponding increases in employment and several million square feet of commercial, office and institutional development will have been added.

The development of the Town Centre has been an objective of the City of Kanata since its inception. The City's 1978 Official Plan sought to create a vital, active focus of activity for its residents. Since that time the area has been the subject of numerous planning and development studies and has been deemed a corporate priority by the City. The development of these lands in the ultimate time frame will accommodate up to 10,000 employees and 4,000 residents.

Currently, approx. 20 percent of the residents of Kanata are employed within the community and thus approx. 80 percent of the workforce commutes outside of Kanata's boundaries for work purposes. Given the current and projected growth rates for Kanata, a considerable need for additional transportation infrastructure is anticipated and identified in the Transportation Master Plan and the Regional Official Plan.

Current transit information suggests that Kanata's transit share of peak hour travel is under 20 percent. Regional plans to expand transit service to the community include the development of the West Transitway through the Greenbelt and through Kanata Town Centre with three future stations located within the Town Centre between Eagleson Road and Terry Fox Drive. The Region and the City of Kanata have recognized that enhanced transit activity is essential to assure sustainable development of the Town Centre and the greater Kanata Urban Area.

The ROP calls for the development of the Kanata Urban Centre to 32,000 dwelling units and at least 35,000 jobs by the horizon of the Official Plan (2021). It is recognized that much of the future employment growth will take place within the Town Centre and a significant portion of this growth will rely on Highway 417 as the major "highway" access route from and to origins and destinations outside of Kanata.

The current Highway 417 configuration through Kanata provides for only two interchanges (Terry Fox Drive and Eagleson Road). Similar size communities (Kingston, Orleans) are provided with at least twice as many. With the planned expansion of the Kanata community the capacity of the existing infrastructure to accommodate the growth may prove to be inadequate even with the achievement of the aggressive transit, walking and cycling targets of the ROP. The Castlefrank Road/Highway 417 partial interchange has been identified by the Region and the City of Kanata as part of the solution of long term needs and identified the proposed undertaking in both their Official Plans for eventual implementation. The development of the connection and partial interchange will:

- Enhance Kanata's north-south linkage.
- Promote economic development within the Kanata Town Centre.
- Enable early provision of higher quality transit service to the Kanata Town Centre.
- Provide a more efficient vehicular access to the Town Centre to and from the east.
- Provide more convenient access for residents in the Castlefrank corridor to both the Town Centre and to and from the east on Hwy. 417.
- Relieve congestion at both the Eagleson/March Road and Terry Fox Interchanges on Highway 417.

### Design Alternatives

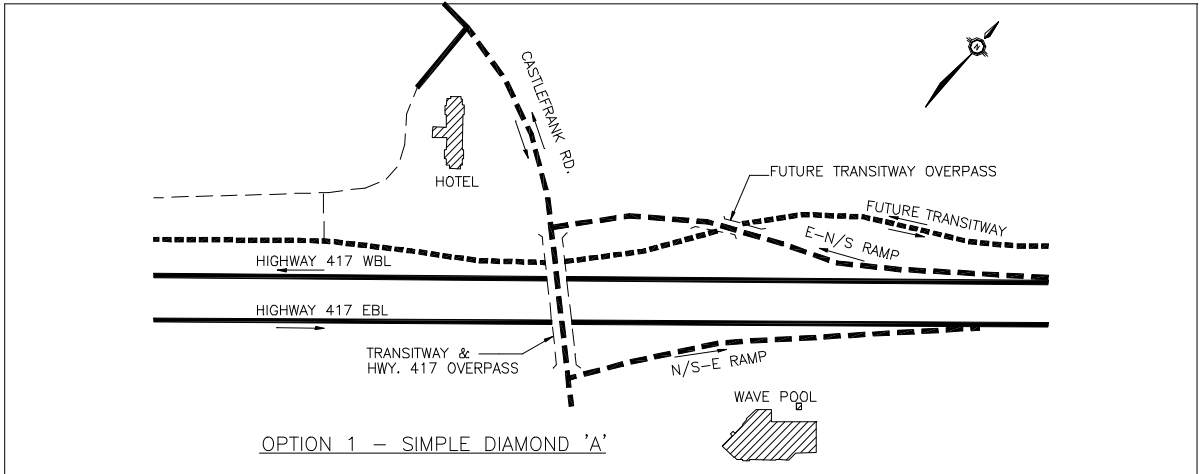
Alternative methods of implementing the preferred planning solution were examined as part of the study. These design alternatives considered the existing environment, public and agency input, anticipated environmental effects and methods of minimizing negative and maximizing positive effects.

Three interchange alternatives were identified and evaluated as illustrated on Exhibit 1.

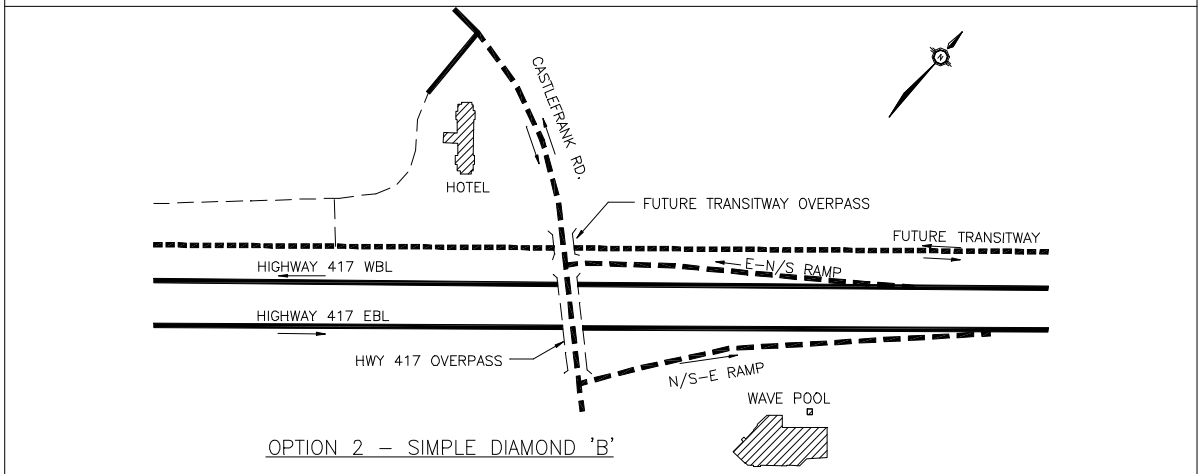
They are:

- Simple Diamond 'A' – E-N/S Ramp crossing the future West Transitway
- Simple Diamond 'B' – E-N/S Ramp between Hwy. 417 & the future West Transitway
- Point Diamond

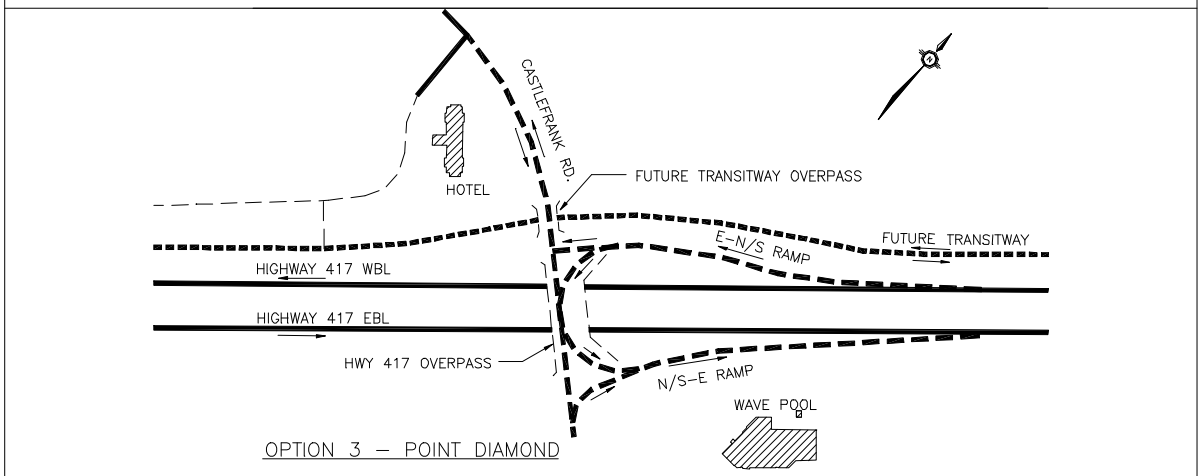
The above interchange design alternatives were evaluated commencing with assessment factor groups which included natural environment, socio-economic environment, transportation, engineering and cost. The factors within these groups that were used to differentiate between the design alternatives included land use & property ownership, road network, traffic operations, safety, geotechnical, utility impacts, construction & maintenance implications, and cost.





OPTION 1 - SIMPLE DIAMOND 'A'



OPTION 2 - SIMPLE DIAMOND 'B'



OPTION 3 - POINT DIAMOND

	<p><b>ΗΩ Ψ. 417 / ΧΑΣΤΛΕΦΡΑΝΚ ΡΔ.</b>  <b>OVERPASS &amp; INTERCHANGE EA STUDY</b></p>	<p>MORRISON        HERSHFIELD </p>
<p>DWG. No.: _____        DATE: AUG./ 99</p>	<p><b>ΙΝΤΕΡΧΑΝΓ Ε ΟΠΤΙΟΝΣ</b></p>	<p>EXHIBIT 1</p>

### Overpass Cross Section Alternatives:

In addition to the interchange alternatives described above the study evaluated a number of cross sectional alternatives for the overpass linking Castlefrank Road on both sides of Highway 417. The cross-section alternatives evaluated were:

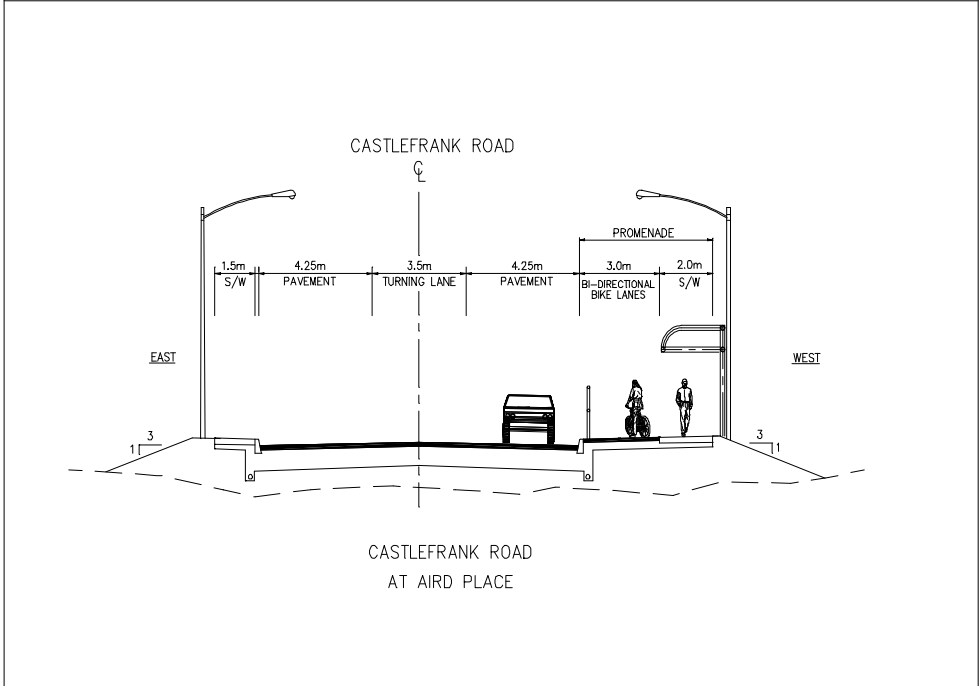
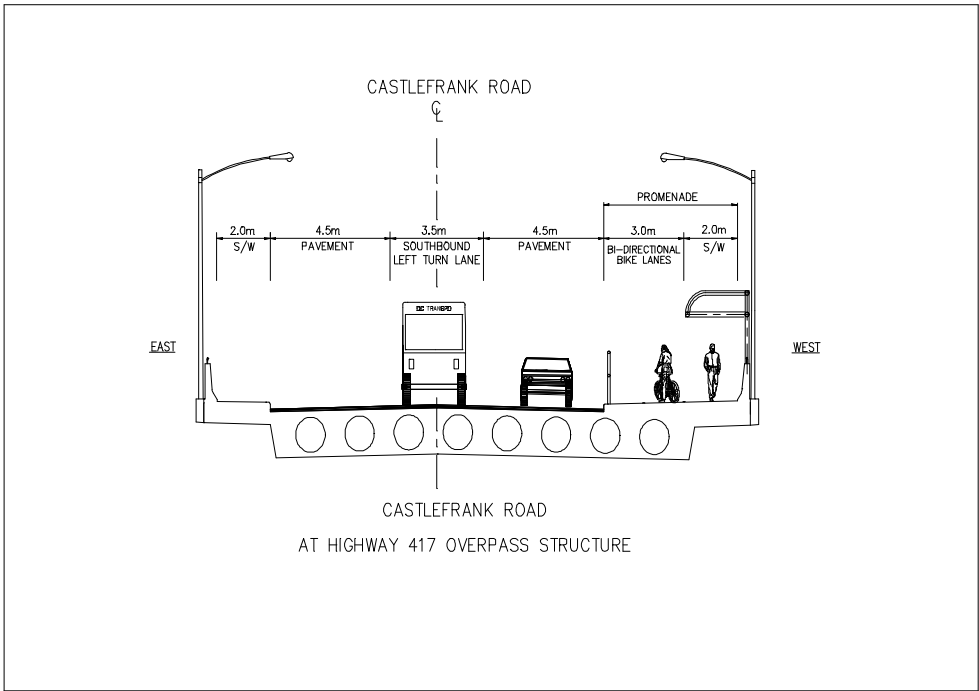
1. Urban vs. Rural cross-section;
2. Through Lane Requirements (2 to 4 lanes);
3. Pedestrian Facility Alternatives (west &/or east side);
4. Cycling Facility Alternatives (on-road bike lanes, shared-use lanes, a bi-directional lane);
5. Provisions for Future Requirements (laning, staging, alignment implications).



### Recommended Alternative

The recommended alternative for this undertaking includes the following design features:

- The interchange configuration is to be a partial simple ‘diamond’ interchange with the E-N/S Ramp located between Hwy. 417 and the future West Transitway (Option 2:Exhibit 1).
- Castlefrank Road is to be a two-lane roadway with auxiliary turning lanes provided where necessary.
- The Castlefrank Road cross-section between Katimavik Road and existing Castlefrank Road north of Hwy. 417 is to include a 1.5/2.0 m sidewalk along the east side and a ‘promenade’ along the west side comprised of a 2.0 m sidewalk (with an optional overhead canopy) and a 3.0 m bi-directional bike lane (Exhibit 2).
- A bridge structure is to be constructed for the Castlefrank Road overpass over Hwy 417.
- The westbound Highway 417 off-ramp (E-N/S Ramp) is to provide full access to the north and south through a signalized intersection with Castlefrank Road.
- The eastbound Highway 417 on-ramp (N/S-E Ramp) is to provide full access from the north and south through a signalized intersection with Castlefrank Road.
- The Castlefrank Road alignment from Katimavik Road to the north of the future West Transitway overpass structure is to be centered within the west half of the existing 40 m right-of-way – providing for any future bridge and roadway widening to be done on the east side of the right-of-way if required beyond the current planning period (2021).

The estimated cost is approximately \$ 9.0 M (1999 \$)



	<p><b>ΗΩΨ 417 / ΧΑΣΤΛΕΦΡΑΝΚ ΡΔ.</b>  <b>OVERPASS &amp; INTERCHANGE EA STUDY</b></p>	<p>MORRISON          HERSHFIELD </p>
<p>DWG. No.: _____          DATE: AUG./99</p>	<p><b>ΤΥΠΙΚΑ ΧΡΟΣΣ ΣΕΧΤΙΟΝΣ</b></p>	<p>EXHIBIT 2</p>

## PUBLIC CONSULTATION

The public involvement activities in the *Castlefrank Road Overpass & Interchange at Highway 417 Class Environmental Assessment* have included:

- The first public Open House held on April 7, 1999 with approximately 50 attendees.
- Meetings with adjacent property owners.
- Meetings and phone conversations with stake holders and community association representatives.
- A presentation meeting with the Hazeldean Community Association (April 12, 1999 – 29 attendees).
- A work shop addressing potential traffic calming solutions for the Castlefrank Road corridor south of Katimavik Road, (May 19, 1999).
- An information meeting with concerned parents representing the Castlefrank Elementary School (May 26, 1999 – 39 attendees).
- The second public Open House held jointly with the Terry Fox Environmental Assessment Study on June 16, 1999 with approximately 50 attendees.

Flyers advertising the public open houses were distributed to approximately 2,000 households along the Castlefrank Road corridor from the Kanata Lakes Community through to the Glen Cairn Community. Requests were also made to local businesses to post the flyers in visible locations to provide as much notice as possible. In addition, advertisements were placed in the Ottawa Citizen and Kanata Kourier, well in advance of the public open houses.

On 31 August 1999 the Consultants made a progress report to the City of Kanata Council. The selected design alternative, the impacts associated with this design and the proposed mitigation measures will be presented to the City of Kanata Council on 14 September, 1999. This meeting will be open to the public to provide feedback and comment

## CONFORMITY TO REGIONAL OFFICIAL PLAN AND TRANSPORTATION MASTER PLAN

The proposed Castlefrank Overpass and Partial Interchange have been identified in the Transportation Master Plan and the Regional Official Plan as a very important component of the transportation infrastructure benefiting all modes, necessary to serve the City of Kanata in general, and the Town Centre in particular

## COMMENTS FROM REGIONAL CYCLING ADVISORY GROUP

The local RCAG representative, Mr. Peter McNicholl was actively involved in the study process and provided comments at the Open Houses. The draft Environmental Study Report will be circulated to RCAG for their comments.



## FINANCIAL COMMITMENT

Although Table 6 of the Regional Official Plan has not identified this project as a first or second priority (i.e. not by 2006) there is increasing evidence that early implementation is desirable from many points of view, including the benefits for pedestrian, cycling and transit modes, Town Centre development, and the relief of traffic congestion at existing interchanges on Highway 417.

The City of Kanata is supportive of earliest implementation. Discussions have taken place between the three levels of Government, (City, Region and MTO) as to the possibility of a cost sharing arrangement to facilitate early implementation.

A business case has been prepared by the City of Kanata, with ROC assistance, and has been forwarded to the Minister of Transportation of Ontario. To date there is no agreement on cost sharing and, therefore, implementation targets and budgets have not been established.

*Approved by  
N. Tunnacliffe, MCIP, RPP*

BR/jg