

REGION OF OTTAWA-CARLETON  
RÉGION D'OTTAWA-CARLETON

REPORT  
RAPPORT

Our File/N/Réf.                   **50 12-00-0015**  
Your File/V/Réf.

DATE                               05 June 2000

TO/DEST.                         Co-ordinator Transportation Committee

FROM/EXP.                       Director Engineering Division  
  Environment and Transportation Department

SUBJECT/OBJET                 **MODIFICATIONS AT JEANNE D'ARC BOULEVARD/  
  REGIONAL ROAD 174 INTERCHANGE INTERSECTION**

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**DEPARTMENTAL RECOMMENDATION**

**That the Transportation Committee recommend Council approve the preliminary designs for the proposed modifications at the Jeanne D'Arc Boulevard/Regional Road 174 interchange intersections, to delete the existing north to eastbound right-turn lane and relocate the west to northbound ramp lane to the existing signalized intersection.**

**BACKGROUND**

The Highway 17/Jeanne D'Arc Boulevard interchange was constructed by the Ministry of Transportation in 1985 at the time of their Highway 17 widening programme between Montreal Road and Champlain Street.

In 1997, this section of limited access freeway was turned over to the Regional Municipality of Ottawa-Carleton by the Ministry of Transportation and is now designated as Regional Road 174.

A number of complaints have been received with respect to the configuration and construction of the sidewalks and the pedestrian crossings at the intersections on both sides of the Regional Road 174 overpass. The purpose of this project is to improve the intersection's accessibility for pedestrian movements, transit and the overall safety of it.

## EXISTING CONDITIONS

The section of Jeanne D’Arc Boulevard through the Regional Road 174 interchange is classified as a four-lane divided urban arterial with a posted speed limit of 60 km/h. Signalized intersections are located on both sides of the Regional Road 174 overpass at the ramp connections to and from Regional Road 174, as illustrated in Annex A.

### Pedestrians

Continuous pedestrian connection facilities are located on the west side of Jeanne D’Arc Boulevard through the interchange. On the east side, the sidewalk terminates at the north end of the bus stop that is located in the northeast quadrant of the intersection for the westbound ramp connection to Jeanne D’Arc Boulevard. Pedestrians then have to navigate an informal footpath from the bus stop to the residential area 300 m. to the north.

These sidewalks provide pedestrian connections to the bus stops located in the southeast and southwest quadrants at the southerly intersection and the northeast and northwest quadrants at the northerly intersection.

At the bus stop location in the southeast quadrant of the southerly intersection, the existing sidewalk area is insufficient for the installation of a bus shelter; waiting bus passengers and pedestrians, and congestion is being experienced.

The construction of some of the curb and sidewalk depressions at the pedestrian crossing connections to the sidewalk system at both intersections do not comply with current accessibility standards.

### Bicycles

Jeanne D’Arc Boulevard is designated in the Region’s Transportation Master Plan and the Official Plan as a roadway with on-road cycling facilities.

### Transit

Buses proceeding westbound on Regional Road 174 from the Place D’Orleans Park and Ride Lot travel in the bus only shoulder lane and exit at Jeanne D’Arc Boulevard to service the bus stops located on the west side of the Jeanne D’Arc Boulevard at the intersection. Westbound Regional Road 174 buses proceed through the intersection to a dedicated bus lane at the bus stop. Currently transit services along this section of Jeanne D’Arc Boulevard are provided by regular Routes 120 and 132 travelling on regular headways. North and southbound bus stops are located on Jeanne D’Arc Boulevard at both intersections.

### Automobiles

The Jeanne D'Arc Boulevard interchange provides all directional connections with Regional Road 174.

On the northbound approach to the interchange, a right-turn lane has been provided for eastbound right-turn vehicles.

A separate right-turn ramp is provided for the Regional Road 174 westbound to Jeanne D'Arc Boulevard northbound traffic. The stopping site distances on this ramp are deficient, which can create a hazard for pedestrians crossing this ramp.

### Design Proposal

The proposed modifications at the Jeanne D'Arc Boulevard intersections are:

1. To increase the sidewalk area at the bus stop on the northbound approach to the interchange, remove the existing eastbound right-turn lane and relocate the associated traffic control plant and install a bus shelter at the bus stop as illustrated on Annex 'B'. An analysis of the traffic volumes at this intersection has determined that the deletion of the existing right-turn lane and have eastbound vehicles turn out of the nearside lane will have little impact on the capacity of this signalized intersection.
2. To address the stopping sight distance problem on the west to northbound ramp, and the associated pedestrian crossing conflict, construct a right-turn lane at the existing signalized intersection and remove the ramp. The westbound off-ramp from Regional Road 174 will continue to operate as a two-lane off-ramp and the storage length for the right-turn will be sufficient to ensure that right-turning vehicles will not impact the left-turn lane as illustrated on Annex 'C'.
3. Construct a sidewalk on the east side of Jeanne D'Arc Boulevard from the north intersection northerly to complete the sidewalk system through the interchange.
4. Reconstruct all the curb and sidewalk depressions at the pedestrian crosswalk locations to current accessibility standards, and adjust the alignment of the crosswalks where necessary. The sidewalk depressions are to receive tactile treatments at the appropriate locations to provide guidance to the visually challenged.
5. Increase the bus stop platform area at the westbound bus stop and install a larger bus shelter to provide for the increasing volume of transit riders using this stop and alleviate the current congestion problem.

## CONFORMITY TO THE TRANSPORTATION MASTER PLAN

The guiding principles from the Transportation Master Plan is the provision of a modal hierarchy on walking, cycling and transit usage. This principle is reflected in the following recommended design modifications:

1. In the southeast quadrant at the southerly intersection, widen the sidewalk to provide more space for a bus shelter installation, bus passenger waiting area and pedestrians by removing the existing north to eastbound right-turn lane.
2. In the northeast quadrant of the northerly intersection, relocate the west to northbound traffic lane to the existing signalized intersection, remove the right-turn ramp lane and relocate the associated traffic control plant.
3. Extend the sidewalk on the east side of Jeanne D'Arc Boulevard northerly to connect to the existing neighbourhood sidewalk system.
4. Reconstruct the curb depressions and sidewalk ramps at the pedestrian crossings at both intersections to current accessibility standards.
5. Improve the bus passenger facilities at the westbound stop and increase the size of the passenger standing areas.

## FINANCIAL COMMENT

The following cost estimates, which are at a preliminary design stage, are provided for the information of Transportation Committee and Council:

<u>Item</u>	<u>Cost Estimate</u>
Construction	\$240,000
Engineering	45,000
Traffic Control Signals	135,000
Utilities	10,000
Contingencies	<u>20,000</u>
Total Cost Estimate	<u>\$450,000</u>

Since the Ministry of Transportation were originally responsible for the design of the interchange, including the sidewalk connections, they have agreed to cost contribute to the enhancement of the pedestrian facilities to current accessibility standards to an amount up to \$55,000.

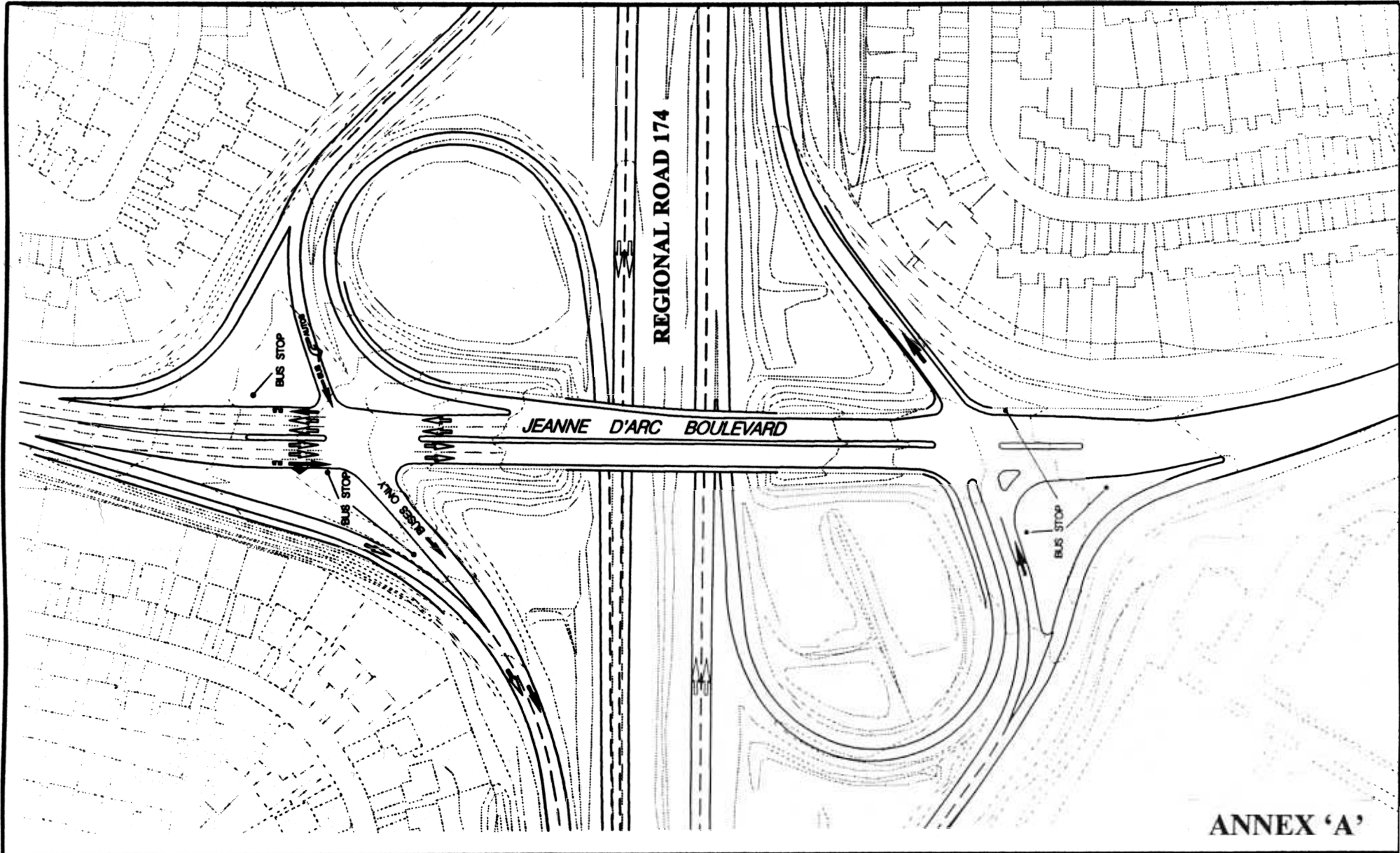
CONSULTATION

Notice of the proposed modifications at the Jeanne D'Arc Boulevard/Regional Road 174 interchange intersections to improve the pedestrian facilities, reduce the pedestrian conflicts that are associated with the northbound right-turning vehicles and improve bus passenger facilities at the westbound bus stop has been placed in the Ottawa Citizen, the Ottawa Sun and LeDroit for four consecutive weeks, starting 26 May 2000.

*Approved by  
J. Miller, P.Eng.*

MJR/cpv

Attach ( 3 )



**OTTAWA-CARLETON**  
 Environment &  
 Transportation Department

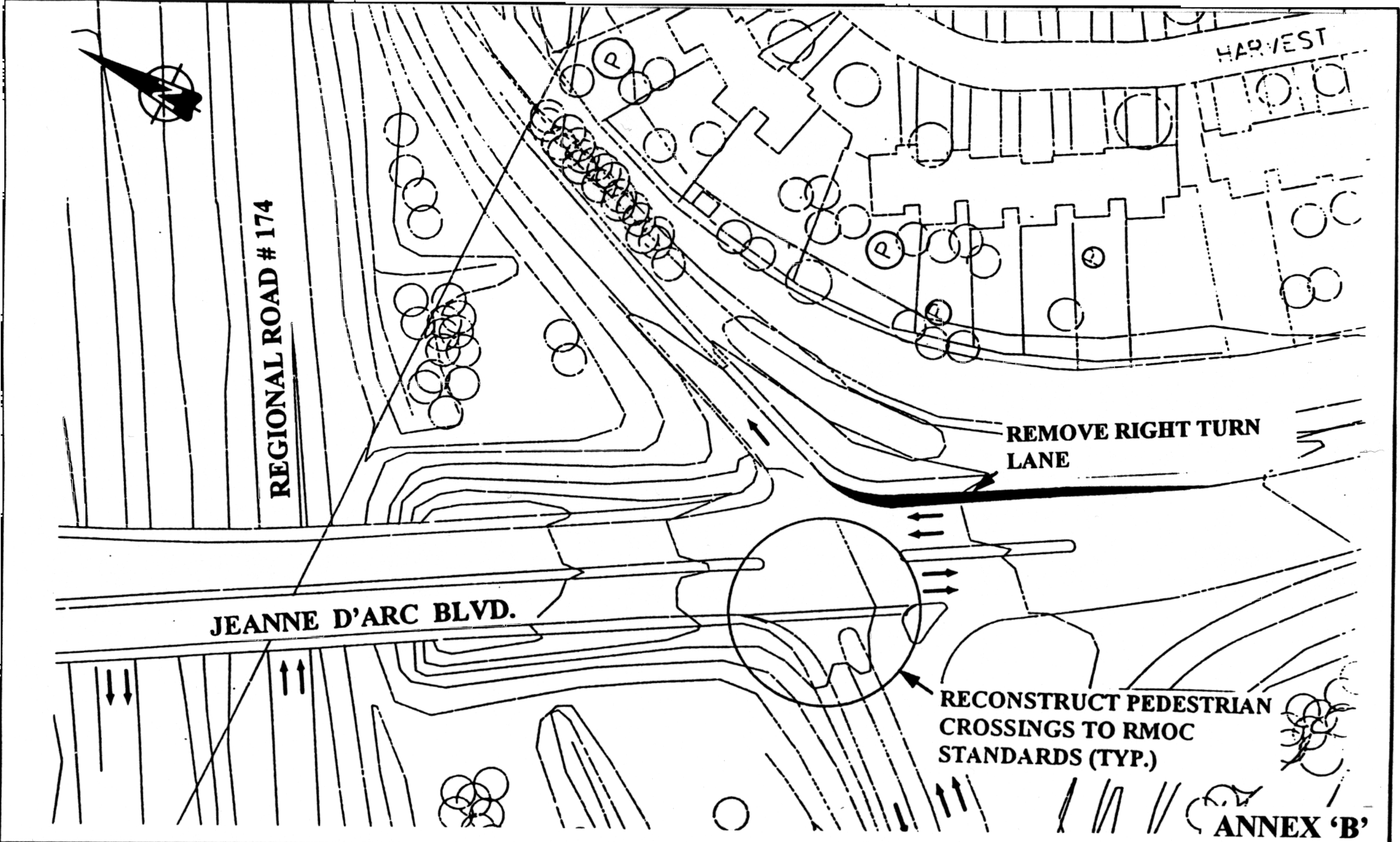
**REGIONAL ROAD #174/JEANNE D'ARC BOULEVARD  
 INTERCHANGE  
 GENERAL ARRANGEMENT**

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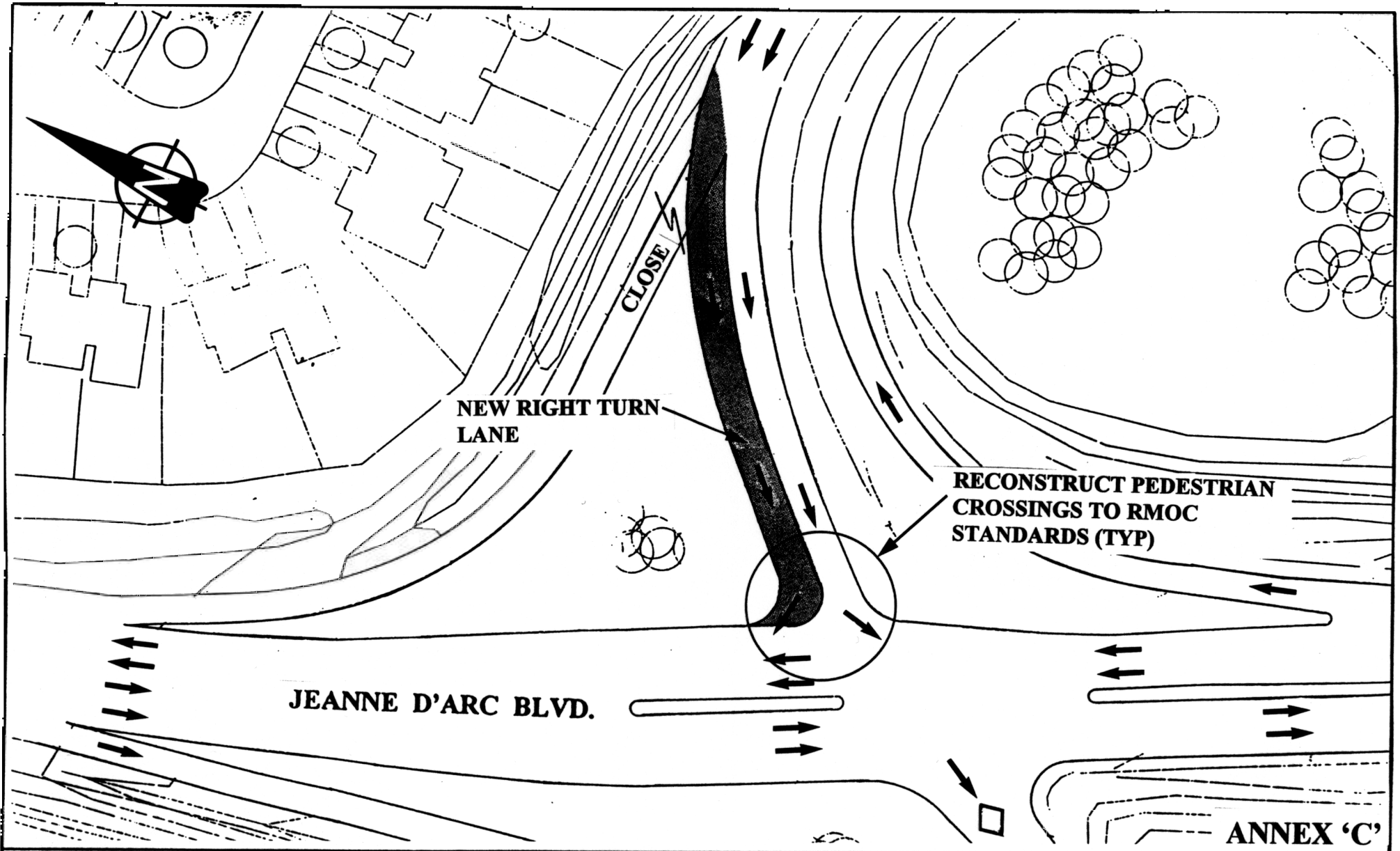
ENGINEERING DIVISION

*W. Bennett, P.Eng.*  
 Manager Transportation Projects

**RT - 2430**



<b>OTTAWA-CARLETON</b> Environment & Transportation Department				<b>REGIONAL ROAD #174/JEANNE D'ARC BOULEVARD</b> <b>INTERCHANGE</b> <b>PROPOSED INTERSECTION MODIFICATIONS</b>		
Drawn	Checked	Date	Scale	ENGINEERING DIVISION	<i>W. Bennett, P.Eng.</i> Manager Transportation Projects	<b>RT - 2418</b>
		JAN '00	N.T.S.			



**OTTAWA-CARLETON**  
 Environment &  
 Transportation Department

**REGIONAL ROAD #174/JEANNE D'ARC BOULEVARD  
 INTERCHANGE - NORTH INTERSECTION  
 PROPOSED INTERSECTION MODIFICATIONS**

Drawn    Checked    Date

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 N.T.S.

ENGINEERING DIVISION

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 Manager Transportation Projects

**RT - 2431**