

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

REPORT
RAPPORT

Our File/N/Réf. **25 12-97-R032**
Your File/V/Réf.

DATE 12 June 1997

TO/DEST. Co-ordinator
 Transportation Committee

FROM/EXP. Director Engineering Division
 Environment and Transportation Department

SUBJECT/OBJET **HAWTHORNE ROAD RECONSTRUCTION**
 RUSSELL ROAD TO HUNT CLUB ROAD

DEPARTMENTAL RECOMMENDATIONS

That the Transportation Committee:

- 1. Approve the preliminary design for the Hawthorne Road Reconstruction from Russell Road to Hunt Club Road as illustrated on presentation drawing R-2095, subject to the Public Hearing Process;**
- 2. Authorize the initiation of the Public Hearing Process as required by Sections 297 and 300 of the *Ontario Municipal Act*;**
- 3. Approve the installation of traffic control signals at the intersections of both Hawthorne Road/Stevenage Drive and Hawthorne Road/Hunt Club Road, subject to the Public Hearing Process;**
- 4. Authorize the relocation of the utilities as shown on presentation drawing R-2095, subject to the Public Hearing Process;**
- 5. Authorize the initiation of expropriation proceedings and proceed with the acquisition of property, as shown on presentation drawing R-2095-A, subject to the Public Hearing Process;**
- 6. Refer this report to Council following the Public Hearing Process.**

EXECUTIVE SUMMARY

The existing Hawthorne Road, from Russell Road to Hunt Club Road, is a two-lane roadway with a rural cross-section. With the recent completion of Hunt Club Road, the Hawthorne Road to Walkley Road Connection (which has been designated as part of Russell Road) and the Walkley Road Extension to Highway 417, there is now a continuous arterial road link across the southern section of the Region's urban area from Highway 416 to Highway 417 - with the exception of the above 1.8 km section of Hawthorne Road.

Based on a technical and environmental assessment of several alternatives, the widening of Hawthorne Road to four lanes between Russell Road and Hunt Club Road has been selected as the preferred alternative to address the transportation needs within this corridor. This alternative addresses the current capacity problems on Hawthorne Road and upgrades the roadway to a standard that is consistent with the adjacent arterial road network, thereby providing overall network integrity. Further, it provides considerably improved transportation service to the existing industrial parks along Hawthorne Road and completes the 'missing link' between Hunt Club Road and Highway 417.

This project is a Schedule 'C' project as defined by the Class Environmental Assessment (EA) guidelines for Municipal Road Projects and, as such, is subject to the Class EA process. For this project, Phases 1, 2 and 3 of the Class EA process are now complete. The sensitive environmental attributes have been inventoried, alternatives have been developed, reviewed, commented on, and evaluated, and a functional design has been prepared. Following the Transportation Committee review and completion of the Public Hearing as required by the *Ontario Municipal Act*, the Environmental Study Report (ESR) will be finalized and filed for public review. If no concerns are expressed within the 30 days, the project can proceed in accordance with the functional design and ESR.

Five planning alternatives were considered with the objectives of improving the level of service within this corridor and providing network continuity while minimizing impacts on the natural and socio-economic environments. The alternatives included: 1) Do Nothing; 2) Intersection Improvements; 3) Widen Hawthorne Road; 4) Extend Hunt Club Road to Highway 417 and Construct a New Interchange, and; 5) Widen Hawthorne Road and Extend Hunt Club Road to Highway 417.

The preferred alternative, 'widen Hawthorne Road', was selected, based on an assessment of the alternatives taking into consideration the addressing of project needs, traffic improvements, environmental impacts, property impacts and costs.

Potential impacts concerning the preferred alternative have been identified and mitigation measures recommended. These include impacts on major utilities, existing property boundaries, natural features, and water quality and quantity in receiving watercourses.

The proposed works will include approximately 1800 m of reconstruction of existing Hawthorne Road to an urban four-lane arterial roadway with a central 4.5 m two-way left-turn lane and outside 1.5 m bicycle lanes between Russell Road and Hunt Club Road.

The project will include storm sewers, illumination, traffic signalization at the intersections of Stevenage Drive and Hunt Club Road (with provisional underground plant at Ages Road), landscaping as per RMOC guidelines and a new open frame concrete culvert at the crossing of the Mather Award Ditch. Several utility relocations are required as part of the project, the most significant of which is the relocation of the existing hydro pole line carrying plant belonging to Ontario Hydro, Gloucester Hydro and Ottawa Hydro.

The total land area which must be acquired for this project is approximately 1.3 ha. involving portions of 23 adjacent properties. The minimum right-of-way along Hawthorne Road will be 35.5 m which will be increased at some locations to up to 40 m depending on site-specific requirements. Purchasing only the minimum property required to accommodate the proposed functional design for the current widening to four lanes will provide a savings of approximately \$300,000 over the purchase of a full 40 m right-of-way for the length of the project.

The Hawthorne Road reconstruction is currently scheduled to commence construction in 1998 subject to a funding commitment.

The overall estimated cost for this project is \$ 7.7 million (not including G.S.T.).

PURPOSE

The purpose of this report is to:

1. Advise the Transportation Committee of the activities followed in the planning and design process leading to the preparation of the Functional Design and the Environmental Study Report for the Hawthorne Road (Russell Road to Hunt Club Road) Project.
2. Seek an approval from the Transportation Committee, in principle, regarding the scope and the functional design of the above project, so that the public hearing process, as required by Sections 297 and 300 of the *Ontario Municipal Act*, can be initiated, utilities can be relocated, and property which is required for the project may be acquired.
3. Advise the Transportation Committee of public concerns/comments received as a result of Public Open Houses, which were held on 20 October 1994 and 20 November 1995 in accordance with the requirements of the Class Environmental Assessment (EA) guidelines for Municipal Road Projects.

BACKGROUND

At its meeting on 27 March 1991 (Executive Committee Report No. 144, Item No. 20), Regional Council appointed the firm of Morrison Hershfield Limited, Consulting Engineers, to undertake a functional design study, and prepare an Environmental Study Report (ESR) for the Hawthorne Road to Walkley Road Connection. In April of 1994, Transportation Committee recommended that the scope of the above project be extended to include Hawthorne Road from Russell Road to Hunt Club Road.

The Canada-Ontario Infrastructure Works Programme accelerated the schedule for the construction of Hunt Club Road which is now complete, as a four-lane section, from Highway 416 in the west to Hawthorne Road in the east. In addition, the Hawthorne Road to Walkley Road Connection (which has been designated as part of Russell Road) and the Walkley Road Extension to Highway 417 have been completed and are operational.

There is now a continuous arterial four-lane roadway across the southern section of the Region's urban area with the exception of the portion of Hawthorne Road from the now realigned Russell Road to Hunt Club Road (approximately 1.8 km). Two traffic signal installation and intersection improvement projects, at Hawthorne Road/Stevenage Drive and Hawthorne Road/Hunt Club Road, which had been approved by Transportation Committee to be undertaken in 1994, have been temporarily put on hold pending the outcome of the Hawthorne Road ESR. (It should be noted that temporary improvements have been made at these two intersections which included the installation of traffic signals and left-turn lanes at the Stevenage Dr./Hawthorne Rd.).

PROJECT SCOPE AND JUSTIFICATION

Hawthorne Road from Russell Road to Hunt Club is a two-lane roadway with a rural cross-section. On 01 September 1993, Regional Council approved the designation of Hawthorne Road, which had previously been under the authority of the City of Ottawa, as a Regional Road. The Official Plan identifies Hawthorne Road as a future multi-lane arterial roadway with an ultimate right-of-way width of 40 m which reflects a potential ultimate roadway requirement for six lanes.

The reconstruction of Hawthorne Road to a higher classification of roadway is deemed necessary for the following reasons:

1. This section of Hawthorne Road is part of a major east-west route between Highway 416 and Highway 417 which includes Hunt Club Road, the new section of Russell Road (between Hawthorne Road and Walkley Road) and the Walkley Road Extension to Highway 417. As a two-lane roadway, Hawthorne Road is the 'missing link' in this four-lane arterial route across the southern section of the Region's urban area. (See Exhibit 1).
2. Improved arterial network continuity is required between Hunt Club Road and both Walkley Road and Highway 417 to deal with existing and future traffic demands. Most links on Hawthorne Road are projected to be operating at levels of service (LOS) either between 'D' and 'E' or exceeding LOS 'E' during peak hour conditions by the scheduled construction year of 1998. Existing and projected traffic counts are given in Exhibits 2 and 3 respectively.
3. The intersections on Hawthorne Road at Stevenage Drive and Hunt Club Road warrant signalization and reconstruction to improve their operations.
4. The needs have been identified to improve transportation service to the existing business parks along Hawthorne Road as well as to improve accessibility and Regional Road integrity to serve eastern portions of major industrial/residential developments in Ottawa South and Gloucester.

PLANNING AND DESIGN PROCESS

This project is a Schedule 'C' project as defined by the Class EA guidelines for Municipal Road Projects and, as such, is subject to the Class EA process.

The EA process includes the following phases:

- Phase 1: Problem Identification
- Phase 2: Planning Alternative Identification and Evaluation
- Phase 3: Design Alternative Identification and Evaluation
- Phase 4: Environmental Study Report, Design Drawings and Approvals
- Phase 5: Construction and Monitoring.

For this project, Phases 1, 2 and 3 of the Class EA process are now complete. The sensitive environmental attributes have been inventoried, alternatives have been developed, reviewed, commented on, and evaluated, and a functional design has been prepared.

Following the Transportation Committee review and completion of the Public Hearing as required by the *Ontario Municipal Act*, the ESR will be finalized, incorporating any changes required as a result of the Public Hearing process. The ESR will then be filed with the Regional Clerk and the Clerk of the City of Ottawa. If there are any public concerns regarding this project which cannot be resolved, any person/party may request that the project be 'bumped-up' to an individual Environmental Assessment. Should there not be any concerns expressed within 30 days of notification of filing of the ESR, the project can proceed in accordance with the functional design and ESR.

EXISTING CONDITIONS

a. Roadway

The Hawthorne Road corridor from Russell Road to immediately south of Hunt Club Road is located within the City of Ottawa, just to the west of the municipal boundary with the City of Gloucester. A short section of the Hawthorne Road project south of Hunt Club Road is located within the City of Gloucester. In looking at planning alternatives to the proposed undertaking, the study area limits included a corridor for the possible extension of Hunt Club Road to Highway 417.

The existing roadway has a two-lane rural cross-section with a 7.0 m pavement width and two 1.5 m granular shoulders. The posted speed is 50 km/h.

Drainage is provided through open ditches on Hawthorne Road and numerous entrance culverts which convey run-off to either the Mather Award Ditch or McEwen Creek.

There are existing concrete open frame culverts at the locations where Hawthorne Road crosses the Mather Award Ditch and McEwen Creek.

Hydro pole mounted luminaires on the west side of Hawthorne Road provide street lighting, provided on hydro pole mounted luminaires.

b. Sidewalks, Pathways, Bike Lanes

There are no sidewalks, pathways or bike lanes on existing Hawthorne Road. Hawthorne Road is designated as a 'secondary cycling route' in the RMOC Cycling Route Network. Cycling lanes were provided on the recently constructed section of Russell Road (between Hawthorne Road and Walkley Road) (Contract 95-502) which adjoins this project to the north.

c. Topography

The study area topography is fairly level with the exception of the hill north of Stevenage Drive which has an existing maximum grade of 5%. In general, the grade over the project rises from north to south. Two tributaries of Green's Creek, the Mather Award Ditch and McEwen Creek, traverse the existing roadway. The predominant direction of surface drainage flow in the area of Hawthorne Road is from west to east.

d. Natural Environmental Features

A reconnaissance assessment of the significance of the natural environment in the area of this project was undertaken. The report concluded that the Hawthorne Road corridor is situated on a severely disturbed landscape with a long history of residential, agricultural and commercial development with no observable significant natural environment features of value. Although the general corridor for the extension of Hunt Club Road to Highway 417 is considered to be severely disturbed and to contain no significant natural environmental impediments, the selection of an alignment for this roadway would have to address existing watercourses in the area as well as several existing residences along Russell Road.

A small wetland area located at the north limit of the project and identified by the City of Ottawa as the Hawthorne Road Marsh was assessed by the City of Ottawa to determine if it warranted designation as an Environmentally Significant Area (ESA). Although the conclusion was that the Hawthorne Road Marsh does not satisfy any of the City of Ottawa's evaluation criteria for an ESA, there was a recommendation from their assessment that as much of the wetland as possible be maintained as it has high potential to act as a stormwater management facility, while also providing wildlife habitat and aesthetic benefits.

e. Heritage Resources

The only structure of heritage significance identified within the project limits was the residence belonging to Mr. Frank Kropp and Mrs. Lily Kropp located at #3323 Hawthorne Road. The original part of the house is a one and a half storey log structure constructed during the 1860's or 1870's. Although now reclad to appear to be of mid-twentieth century vintage, this building is considered to be the last visible feature of the

nineteenth century community of Hawthorne which was located in the area of the present day intersection of Walkley Road and Hawthorne Road.

The Heritage Section of the City of Ottawa's Department of Planning, Economic Development and Housing has indicated that they will not be pursuing a heritage designation of this property through the Local Architectural Conservation Advisory Committee (LACAC).

f. Archaeological Resources

Both a Stage 1 archaeological assessment (i.e. literature review) and a Stage 2 field investigation (i.e. test pits) were undertaken for the Hawthorne Road corridor. These investigations did not produce any findings of archaeological significance.

g. Noise Impacts

Most of the existing land use along Hawthorne Road is such that the properties are not considered to be 'Noise Sensitive Areas' (NSA's) according to RMOC's 'Noise Control Guidelines for New Construction, Reconstruction and Widening of Regional Roads and Transitways'. The two areas that are considered to be NSA's and therefore must be assessed for 'unacceptable' sound increases resulting from the proposed project are:

- The residential subdivision located west of Hawthorne Road between Hunt Club Road and McEwen Creek.
- The residence located at 3323 Hawthorne Road.

An Environmental Noise Impact Assessment was previously undertaken in 1992 by Cecil D. Naraine Associates Limited on behalf of Richcraft Homes Limited, the developer for the residential subdivision located west of Hawthorne Road and north of Hunt Club Road. This study concluded that, based on the projected traffic volumes on Hawthorne Road, the proposed units would be subject to a 'definite noise problem' unless noise control measures were implemented. In accordance with the study recommendations, a 2.4 m high noise mitigation barrier was installed at the top of an earth berm at the property line between the residential units in this development and the Hawthorne Road right-of-way. Further, a clause regarding noise was to be included in the Agreements of Purchase and Sale and on the title for the units backing onto Hawthorne Road within the Plan of Subdivision.

Additionally, an Environmental Noise Impact Assessment was undertaken by Morrison Hershfield Limited regarding the existing and future noise levels due to road traffic at the residence at 3323 Hawthorne Road. The existing (1996) 16 hour energy equivalent sound level (16 hour Leq) at this location (as determined using the Stamson 4.1 model) is approximately 70 dBA.

The future (2008) 'do nothing' ambient and future (2008) 'with project' 16 hour Leq's are projected to be approximately 72 dBA and 74 dBA respectively.

RMOC's sound level criteria state that for NSA's adjacent to a roadway reconstruction project, such as Hawthorne Road, the objective for daytime outdoor sound levels is the higher of a 16 hour Leq of 55 dBA or the future 'do-nothing' ambient.

Further, where the future daytime sound level exceeds a 16 hour Leq of 55 dBA and the increase in the sound level above the future 'do-nothing' ambient exceeds 5 dBA, RMOC will investigate the feasibility of noise control measures within the right-of-way and introduce appropriate measures such that, where feasible, a minimum attenuation of 5 dBA can be achieved. If the future sound level is above 70 dBA but the project will not increase the 16 hour Leq by more than 5 dBA, mitigation by RMOC is optional.

Given that the projected 16 hour Leq at the residence at 3323 Hawthorne Road is anticipated to increase by less than 5 dBA over the future 'do-nothing' ambient sound level but is greater than 70 dBA, the implementation of appropriate noise control measures within the right-of-way at this location is considered optional according to RMOC's Guidelines. A noise barrier between the roadway and the residence at 3323 Hawthorne Road, however, is considered impractical and, further, is unacceptable to the current owners.

It should be noted that the owners at 3323 Hawthorne Road have requested that RMOC purchase their house and property.

h. Soils Investigations

A preliminary subsurface investigation was carried out for the proposed upgrading of Hawthorne Road. The sub-surface conditions in the project area consist primarily of surficial deposits of topsoil, fill and alluvium overlying native deposits of silty clay, sandy silt, sand and glacial till.

i. Existing Utilities

There are a number of important existing underground and overhead utilities within the roadway corridor that are affected by or pose physical constraints on the project.

Consumer's Gas - High and intermediate pressure gas mains run along the east side of Hawthorne Road from the Consumer's Gas station located immediately south of Hunt Club Road to beyond the north limit of the project.

Ontario Hydro - High voltage transmission lines on tall steel towers extend across Hawthorne Road at the north limit of the project. Ontario Hydro is the owner of an existing pole line on the west side of Hawthorne Road which carries their 44 kV distribution line as well as plant belonging to both Gloucester Hydro and Ottawa Hydro.

Ottawa Hydro - Ottawa Hydro has existing underground plant at intermittent locations along Hawthorne Road and overhead plant, including street lighting (located on Ontario Hydro's pole line), along the length of the project.

Gloucester Hydro - Gloucester Hydro has distribution lines on Ontario Hydro's poles south of Stevenage Drive.

Bell Canada - Bell Canada has an existing underground concrete-encased duct bank under the west shoulder of Hawthorne Road from Russell Road to south of Stevenage Drive where it crosses over to the east side of the roadway. South of Stevenage Drive, Bell Canada has overhead pole-mounted cables on the east side of the roadway to south of Hunt Club Road.

Cable TV - Rogers Cable has overhead fibre optic cable mounted on existing hydro poles on Hawthorne Road south of Hunt Club Road and turning west onto Hunt Club Road.

Watermain - A 406 mm diameter watermain runs from Russell Road to Hunt Club Road along the east side of Hawthorne Road.

Sanitary Sewers - There is a 300 mm diameter sanitary sewer which flows from Stevenage Drive along the west side of Hawthorne Road to the 1220 mm diameter Green's Creek Collector located near McEwen Creek.

Storm Sewers - A 750 mm diameter storm sewer crosses Hawthorne Road at Stevenage Drive and runs along the east side of the roadway in a northerly direction where it discharges to the Mather Award Ditch. There is a major 3660 mm diameter trunk storm sewer which crosses Hawthorne Road at McEwen Creek and which discharges to McEwen Creek some 500 m east of the roadway.

j. Land Use and Property Ownership

The current predominant land use along Hawthorne Road within the project limits is industrial business park use. There are several parcels of property with use dedicated to utilities and to transport activities. There is only one residence that fronts onto Hawthorne Road although there is a housing development between Hunt Club Road and McEwen Creek which backs onto the west side of Hawthorne Road. There are several undeveloped parcels of property along the roadway.

The National Capital Commission (NCC) owns property at the south end of the project which is currently part of the Greenbelt. (The parcels of NCC property required for this project as well as a corridor for the eventual extension of Hunt Club Road to Highway 417 have been acquired from NCC as part of a broader exchange of properties and bridges between NCC and RMOC.)

PLANNING ALTERNATIVES

The primary objectives of the project are to improve the level of service within this corridor and to provide network continuity while minimizing impacts on the natural and socio-economic environments. The following alternatives (See Exhibit 4) were considered:

1. Do Nothing. This alternative would leave Hawthorne Road as a two-lane roadway with temporary traffic signals at the intersection at Stevenage Drive and all-way stop control at the intersection at Hunt Club Road.
2. Intersection Improvements. Reconstruct and provide traffic signals at the intersections of Hawthorne Road at Stevenage Drive and Hunt Club Road (both of which currently meet warrants for signalization and were recommended for upgrading as part of the 1993 Pedestrian Signal and Traffic Control Signal Program - Phase 2 and the 1993 Intersection Modification Program - Phase 2).
3. Widen Hawthorne Road. This alternative would involve the full reconstruction of Hawthorne Road between Russell Road and Hunt Club Road to a four-lane arterial standard including provision of traffic signals at the intersections of Hawthorne Road at Stevenage Drive and at Hunt Club Road.
4. Extend Hunt Club Road to Highway 417 and Construct a New Interchange. This alternative satisfies the need for a four-lane arterial connection between Hunt Club Road and Highway 417.
5. Extend Hunt Club Road to Highway 417 and Widen Hawthorne Road. This alternative combines Alternatives 3 and 4 above.

The planning alternatives were assessed and evaluated in terms of:

- Addressing project needs
- Traffic improvements
- Environmental impacts
- Property requirements and impacts
- Costs.

The 'Do Nothing' alternative, while offering the greatest capital cost savings in comparison to the other alternatives, has been rejected as it does not address the needs for improved safety, increased capacity, improved network continuity or upgraded transportation service to this area. If this alternative is selected, traffic would either endure the congested conditions or attempt to find alternate routes.

The 'Intersection Improvements' alternative does improve the intersection capacity problems, alleviate some of the concerns over service to this area and comes at a moderate capital cost and with minimal environmental impacts. However, even if the intersection capacities are improved with signalization and channelization added to the existing two-lane roadway, several of the links between the intersections are projected to be operating at an unacceptable level of service (i.e. LOS 'E') by 1998.

Further, the 'Intersection Improvements' alternative does not provide overall network integrity and continuity between Hunt Club Road and Highway 417 and essentially leaves a 'bottle-neck', or 'missing link' in the four-lane arterial roadway system across the southern end of the Region's urban area. Implementing these intersection improvements to the existing two-lane roadway

would result in the 'throw-away' of a significant part of the capital cost incurred once the roadway is eventually widened to a four-lane standard.

The alternative to 'Extend Hunt Club Road to Highway 417 and Construct a New Interchange' provides a completion of the link between existing Hunt Club Road and Highway 417. Further, it would result in an improved level of service along Hawthorne Road over existing conditions by providing an attractive alternative route for many drivers, thus diverting much of the existing traffic off of this roadway. This alternative, however, is in the order of three times the cost and may have greater natural environmental impacts than the alternative to 'Widen Hawthorne Road' which provides the same or even a greater level of network continuity. Extending Hunt Club Road to Highway 417 while leaving the existing Hawthorne Road unimproved does not provide the logical connection between Hunt Club Road and Walkley Road which would make use of the recently constructed section of Russell Road between Hawthorne Road and Walkley Road.

The alternative to 'Extend Hunt Club Road to Highway 417 and Widen Hawthorne Road' is extremely expensive. Projected traffic volumes within the ten year horizon support the undertaking of only one of these two separate alternatives.

PREFERRED PLANNING ALTERNATIVE

The widening of Hawthorne Road to four lanes between Russell Road and Hunt Club Road has been selected as the preferred alternative to address the transportation needs within this corridor.

This alternative addresses the current capacity problems on Hawthorne Road and upgrades the roadway to a standard that is consistent with the adjacent arterial road network, thereby providing overall network integrity. Further, it provides considerably improved transportation service to the existing business parks along Hawthorne Road and completes the 'missing link' between Hunt Club Road and Highway 417.

With the selection of this alternative, it was acknowledged that a number of potential impacts would have to be investigated and addressed during the development and evaluation of design alternatives within the corridor and the subsequent functional design of the preferred alternative. Areas of particular concern included impacts on:

- Existing natural features and aesthetics
- Major utilities (particularly the gas pipelines and the hydro pole line)
- Existing property boundaries and future developments
- Access to existing developments
- The residential dwelling located at 3323 Hawthorne Road
- Water quality and quantity in receiving watercourses.

FUNCTIONAL DESIGN

The reconstruction of Hawthorne Road from Russell Road to approximately 300 m south of Hunt Club Road involves an overall section of road 2060 m in length. The project includes the intersections at Ages Road, Stevenage Drive and Hunt Club Road.

Several different cross-section (including urban and rural alternatives) and horizontal and vertical alignment variations were considered for the reconstruction of Hawthorne Road. The alignment variations were constrained by the existing adjacent roadway tie-ins, intersections, entrances, utilities and property constraints and therefore did not differ significantly from the existing roadway alignment.

It is proposed that Hawthorne Road be constructed essentially on a tangent alignment from south of Russell Road to Hunt Club Road with a minor shift (of no more than 1.0 m in centreline from the existing alignment) introduced to optimize the roadway's location in relation to the two existing gas pipelines along its eastern edge.

The profile of Hawthorne Road will be upgraded with several improvements to the existing vertical curves as well as the flattening of the gradient north of Stevenage Drive to a maximum slope of 4%.

The proposed cross-section for Hawthorne Road will include four lanes for through traffic, two cycling lanes and a central two-way left turn lane (2WLTl). An urban cross-section has been selected primarily for reasons of network continuity and the associated reduced property requirements. (Note: The net cost of an urban cross-section was determined to be virtually the same as for a rural cross-section). Extensive consideration was given to the issue of access to the existing properties along Hawthorne Road and the central two-way left-turn lane treatment was selected as the preferred and safest method of maintaining access to these properties.

Several utility relocations are required as part of this project including portions of the watermain system, as well as: Ontario, Gloucester and Ottawa Hydro, Consumers Gas, and Bell Canada plant.

Stormwater management measures are proposed at the storm sewer outlets to the Mather Award Ditch and to the 3660 mm diameter trunk storm sewer at McEwen Creek in the form of 'Stormceptor' oil/grit separation chambers. Further, shallow swales will be constructed along the length of the roadway to conduct run-off from the adjacent lands to local ditch inlet/catchbasins and provide areas for infiltration and sedimentation.

At the Mather Award Ditch crossing, the existing 4.25 m wide by 2.6 m high open frame culvert is proposed to be replaced with a 5.0 m wide by 2.5 m high reinforced concrete open frame culvert. The existing concrete open frame culvert at the McEwen Creek crossing is proposed to be replaced with a 1050 mm diameter concrete pipe culvert. (Note: Peak flows arriving at the McEwen Creek culvert location have been greatly reduced from previous levels as a result of development within the watershed and the construction of a major trunk sewer beneath the original creek bed).

DESIGN CRITERIA AND FEATURES

The design criteria for Hawthorne Road are based on the projected traffic volumes for this roadway as provided by the RMOC Transportation Planning Division, the current land use and level of development along the existing roadway and Hawthorne Road's status as a secondary cycling route within the RMOC's Cycling Network.

The recommended design features are as follows:

- a. The design speed of the roadway is 70 km/h (posted speed will be 60 km/h).
- b. The recommended typical cross-section for Hawthorne Road is a five-lane urban arterial cross-section with two through lanes of 3.75 m and 3.5 m in each direction, two 1.5 m bicycle lanes, two 1.0 m asphalt boulevards and a central 4.5 m two-way left-turn lane (2WLTL).

Note: The central 2WLTL is preferred to either a median or no median treatment due to the frequency of existing accesses and the relatively high occurrence of truck turning movements.

- c. In intersection areas, the proposed typical cross-section for Hawthorne Road is a divided four-lane urban arterial cross-section with 3.5 m through lanes, 1.5 m bicycle lanes, 1.0 m asphalt boulevards, and either i) a 5.0 m raised median, or, ii) a 3.5 m left-turn lane adjacent to a 1.5 m raised median.

The intersections of Hawthorne Road with Ages Road, Stevenage Drive and Hunt Club Road will be channelized with right-turn lanes provided at all three locations in the southbound direction. The intersections at Stevenage Drive and Hunt Club Road will be signalized. Provisional underground traffic plant only will be installed at Ages Road.

- d. A new storm sewer system is proposed along the full length of the project. Off-road drainage will be captured in roadside swales and conveyed to the storm sewer system via ditch inlets or catchbasins. The storm sewers will outlet to the Mather Award Ditch for the northern section of the project and to an existing 3660 mm diameter trunk storm sewer, which in turn outlets to McEwen Creek, near to the south end of the project.
- e. Three new sections of sanitary sewer are proposed along Hawthorne Road to provide service to presently unserved properties. The City of Ottawa has given verbal confirmation that they will provide the funding for these improvements.
- f. It is proposed to provide illumination of Hawthorne Road from the outside of the roadway with luminaires mounted on the relocated hydro poles on the west side of the roadway and on new concrete light poles on the east side of roadway. (Note: The relocated hydro pole line as well as the proposed concrete light poles will be set at sufficient offsets, on the west and east sides of the roadway respectively, to accommodate a future widening of the roadway to six lanes. Grading requirements for the six lane scenario have not been addressed.)
- g. Co-ordination will be carried out with the Environment and Transportation Department with regard to watermain and hydrant relocation requirements.
- h. Sidewalks will not be provided along Hawthorne Road as the City of Ottawa has advised that they are not warranted at this time.

- i. Landscaping will be provided in accordance with the 'RMOC Greening Guidelines for Roads in Urban Areas'. This will be addressed at the detail design stage.

PROPERTY REQUIREMENTS

There are twenty three (23) properties from which some frontage land will have to be acquired to accommodate the proposed widening of Hawthorne Road. These include parcels owned by private corporations, utilities, the City of Ottawa, the National Capital Commission and one private residence. The total area of property required is approximately 1.3 ha.

The minimum right-of-way along Hawthorne Road will be 35.5 m which will be increased at some locations to up to 40 m depending on site-specific requirements. Purchasing only the minimum property required to accommodate the proposed functional design for the current widening to four lanes will provide a savings of approximately \$300,000 over the purchase of a full 40 m right-of-way for the length of the project.

PUBLIC PARTICIPATION

Public involvement in the planning and design process is required as part of the Class Environmental Assessment requirements for this category of municipal road projects.

An initial Public Open House was held on 20 October 1994 at Robert Bateman School, 1250 Blohm Drive in Ottawa, at which time, identified problems, planning alternatives and constraints, and mapping of the project area were presented and public input sought. This first public consultation was held as part of a larger Open House organized by RMOC featuring several projects that were underway at that time in the south-east sector of urban Ottawa-Carleton. The number of registered attendees at the overall Open House was 42. Eighteen of these indicated at registration that they were specifically interested in the Hawthorne Road project. Eleven comment sheets pertaining to Hawthorne Road were returned during or following the event. Several comments were also written on copies of base mapping provided for this purpose.

A second public Open House was held on 20 November 1995 at Robert Bateman School. At this meeting, drawings showing the preferred functional design as well as background information were presented and public input sought. The number of registered attendees was 22. Ten comment sheets were returned.

The public meetings were advertised in the Ottawa Citizen, the Ottawa Sun, Le Droit, the Gloucester News and the Hunt Club/Alta Vista News. Before the first Open House, notices were delivered by hand to all adjacent businesses and residences. All attendees of the first Open House, adjacent property owners and/or tenants were either mailed or hand delivered notices advising them of the second Open House. Local municipal councillors as well as the presidents of the South Keys & Greenboro Community and School Association and the Hunt Club Park Community Association were also provided notification of the second Open House.

Public Concerns/Comments

In general, based on the feedback at the Open Houses, there is significant public support for the proposed reconstruction of Hawthorne Road to an arterial standard between Russell Road and Hunt Club Road. Of note has been the fairly strong lobby from both the local business community and from representatives of the City of Ottawa for improved service to the existing industrial parks along Hawthorne Road, and in particular, for the widening of Hawthorne Road to four lanes and for improvements to the intersections at Ages Road, Stevenage Drive and Hunt Club Road.

Some Ottawa South residents have expressed concern that the reconstruction of Conroy Road may be delayed if the Hawthorne Road project is undertaken.

Although there was some support for the extension of Hunt Club Road to Highway 417, most of those in favour of this alternative also stated that the widening of Hawthorne Road should be undertaken as a first priority.

FUNDING AND SCHEDULING

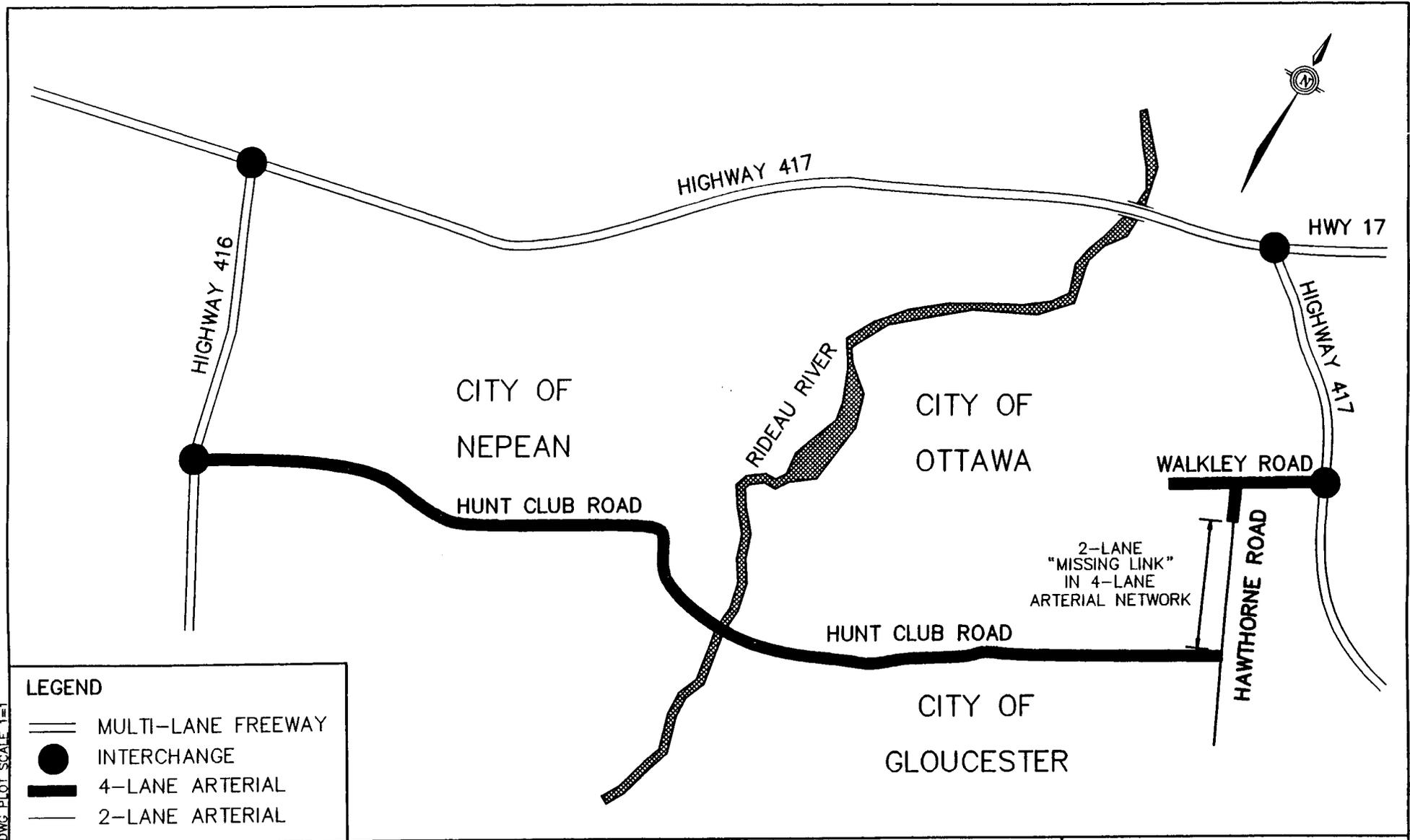
The 1997 RMOC Capital Budget includes a schedule for the reconstruction of Hawthorne Road (from Russell Road to Hunt Club Road) to occur during 1998.

Based on the recommended functional design, a cost estimate was developed for the project in 1997 dollars and is summarized as follows (amounts do not include G.S.T.):

Construction	\$ 4.25 million
Engineering	\$ 0.80 million
Property	\$ 0.95 million
Utilities/Relocations	\$ 1.45 million
Project Management & Misc.	<u>\$ 0.25 million</u>
 TOTAL	 \$ 7.70 million

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

NMS/al



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HAWTHORNE ROAD RECONSTRUCTION

ENVIRONMENTAL STUDY REPORT
FUNCTIONAL DESIGN

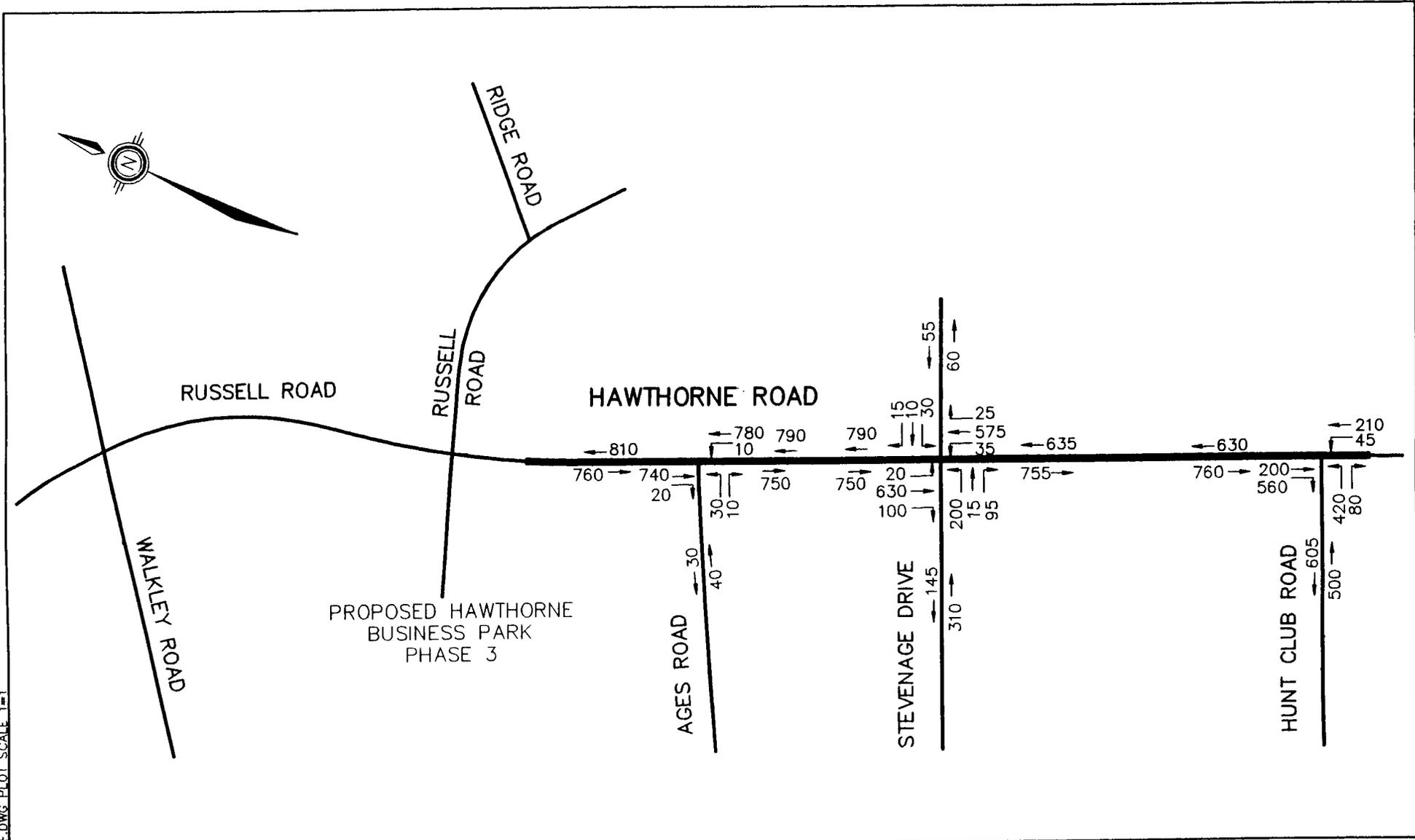
SIGNIFICANCE OF PROJECT IN SOUTHERN HIGHWAY / ARTERIAL ROAD NETWORK
THE REGIONAL MUNICIPALITY OF OTTAWA-CARLETON

Morrison Hershfield Limited
Consulting Engineers



EXHIBIT 1

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HAWTHORNE ROAD RECONSTRUCTION

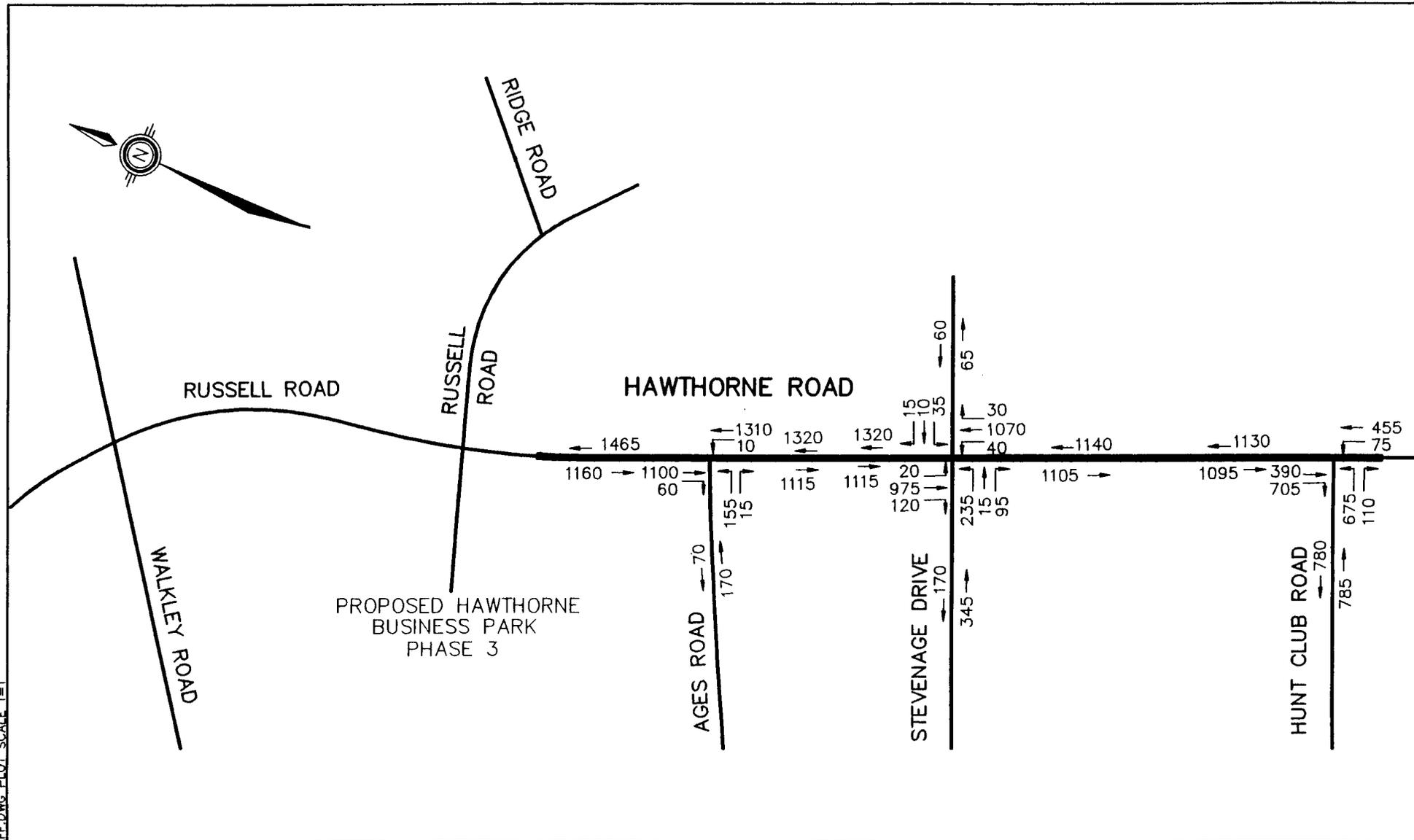
ENVIRONMENTAL STUDY REPORT
FUNCTIONAL DESIGN

Morrison Hershfield Limited 
Consulting Engineers

EXISTING TRAFFIC VOLUMES – REPRESENTATIVE OF 1996 PM PEAK HOUR
THE REGIONAL MUNICIPALITY OF OTTAWA-CARLETON

EXHIBIT 2

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HAWTHORNE ROAD RECONSTRUCTION

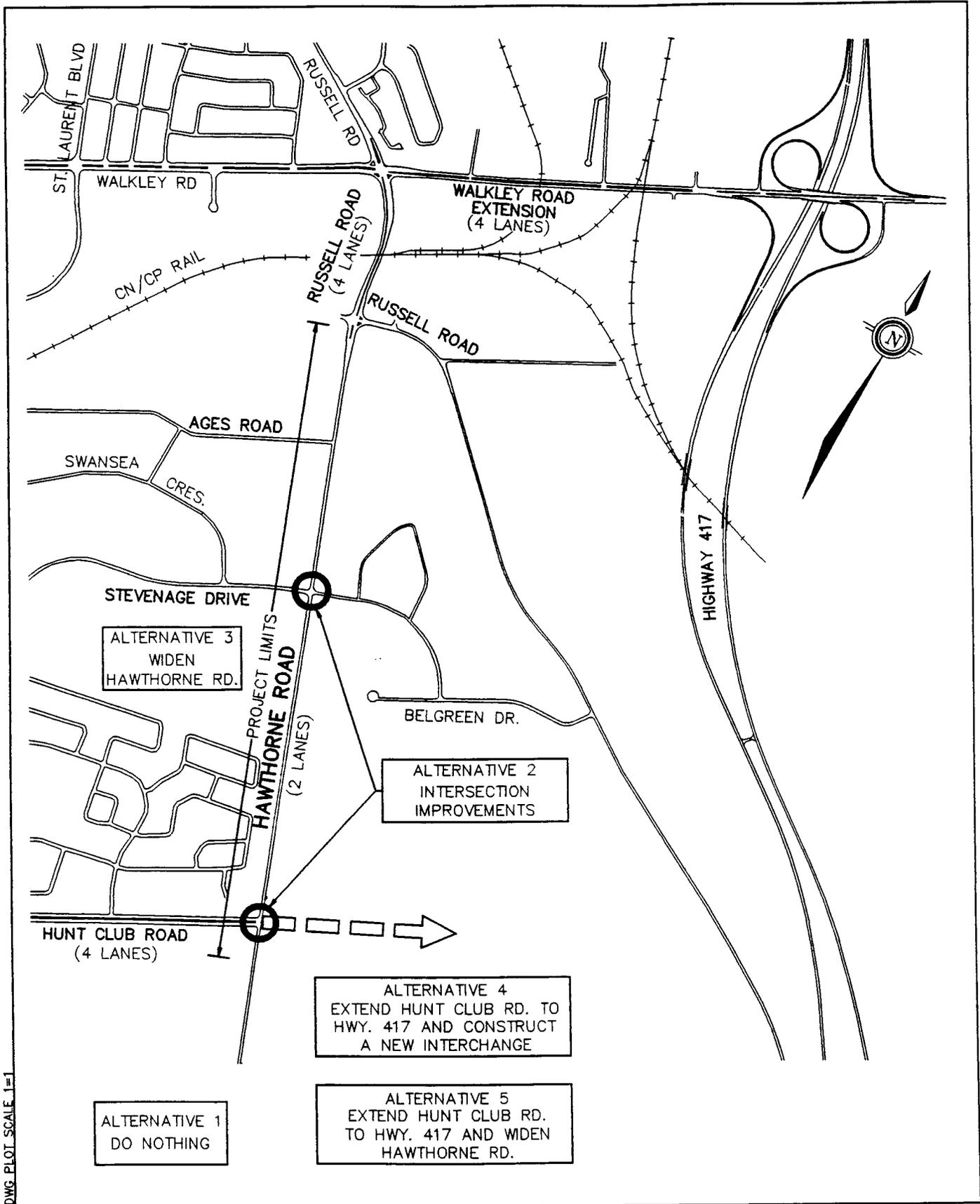
ENVIRONMENTAL STUDY REPORT
FUNCTIONAL DESIGN

PROJECTED TRAFFIC VOLUMES – 2006 PM PEAK HOUR
THE REGIONAL MUNICIPALITY OF OTTAWA-CARLETON

Morrison Hershfield Limited
Consulting Engineers



EXHIBIT 3



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HAWTHORNE ROAD RECONSTRUCTION
 ENVIRONMENTAL STUDY REPORT
 FUNCTIONAL DESIGN
 ALTERNATIVE SOLUTIONS
 THE REGIONAL MUNICIPALITY OF OTTAWA-CARLETON

Morrison Hershfield Limited
 Consulting Engineers **MH**

EXHIBIT 4