

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 13, 2018
FROM:	KELLY SCHERR, P. ENG, MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	COMMISSIONERS ROAD WEST REALIGNMENT ENVIRONMENTAL STUDY REPORT

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Commissioners Road West Realignment Environmental Assessment:

- (a) Commissioners Road West Realignment Municipal Class Environmental Study Report **BE ACCEPTED**;
- (b) A Notice of Study Completion for the project **BE FILED** with the Municipal Clerk; and,
- (c) The Environmental Study Report **BE PLACED** on the public record for a 30 day review period.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Civic Works Committee — June 19, 2012— London 2030 Transportation Master Plan
- Strategic Priorities and Policy Committee — June 23, 2014 —Approval of 2014 Development Charges By-Law and DC Background Study.
- Planning and Environment Committee — December 15, 2014 — Byron Pits Secondary Plan: Terms of Reference
- Civic Works Committee — November 3, 2015 — Environmental Assessment Appointment of Consulting Engineer
- Civic Works Committee — November 21, 2017 — Environmental Assessment Update

2015-2019 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of *Building a Sustainable City* by implementing and enhancing safe and convenient mobility choices for transit, automobile users, pedestrians, and cyclists through the realignment of an important east west arterial roadway.

BACKGROUND

Purpose

This report provides Committee and Council with an overview of the Municipal Class Environmental Assessment (EA) for the Commissioners Road West Realignment from Byron Baseline Road/Springbank Drive to Cranbrook Road and seeks approval to finalize the study. The completed Environmental Study Report (ESR) documents the EA process undertaken for the Commissioners Road West Realignment Class EA.

Context

The Commissioners Road West Realignment Class EA Study was carried out in accordance with Schedule 'C' of the *Municipal Class Environmental Assessment (Class EA)* document (October 2000, amended 2007, 2011, and 2015). The Class EA process is approved under the *Ontario Environmental Assessment Act* and outlines the process whereby municipalities can comply with the requirements of the *Ontario Environmental Assessment Act*.

This Class EA study has satisfied the requirements of the *Ontario Environmental Assessment Act* by providing a comprehensive, environmentally sound planning process with public participation, and facilitating dialogue with parties representing a number of diverse interests. This ESR documents the decision making process carried out during the Commissioners Road Realignment Class EA study. See below for a map illustrating the study area.



Commissioners Road West Realignment EA Study Area

Within the study area, Commissioners Road West is a 1.2-kilometre two-lane arterial roadway extending from Springbank Drive/Byron Baseline Road in the west to Cranbrook Road in the east. The study area includes four intersections with Commissioners Road West: Springbank Drive/Byron Baseline Road, Cranbrook Road,

Crestwood Drive and Longworth Road. In the western portion of the study area, Commissioners Road West passes through “Snake Hill” (also referred to as “Reservoir Hill”), where the road experiences a steep westerly downgrade of approximately 11% approaching the intersection of Springbank Drive/Byron Baseline Road. The current posted speed along Commissioners Road West is 60 km/hr east of Longworth Road and 50 km/hr west of Longworth Road.

The environmental assessment identifies solutions to improve Commissioners Road West. The proposed new alignment of Commissioners Road will allow for improved operations and maintenance as well as better meet the mobility and accessibility needs of all users. The project will enable London Transit Commission service, emergency services and medium and heavy vehicles on Commissioners Road West. Currently, these services are limited by road geometrics.

The realignment of Commissioners Road West was first identified in the South-East Byron Area Study in 1992 and reaffirmed in the City’s Official Plan. More recently, the City’s Cycling Master Plan, The London Plan and the 2030 Transportation Master Plan show the importance of the realignment of Commissioners Road for all modes of transportation to better connect the City’s transportation network.

South-East Byron Area Study (1992)

In 1992, the Ontario Municipal Board approved the South-East Byron Area Study to recommend a development strategy within the study area of Byron Gravel Pits and land immediately surrounding the gravel pits. The purpose of the area study was to undertake a comprehensive evaluation of existing condition of the Byron Gravel Pits in relation to environmental issues, constraints and the most appropriate future land uses for the site. The Area Study also considered the future servicing requirements, transportation, and open space and environmental matters in determining the future land uses in the study area. The Area Study noted that the intersection of Commissioners Road West and Springbank Drive/Byron Baseline Road crosses at a non-standard horizontal and vertical alignment and the re-alignment of Commissioners Road was anticipated to require a portion of the pit land for the preferred alignment.

The London Plan

The London Plan, which encompasses the objectives and policies for the City’s short and long-term physical land development, indicates the realignment of Commissioners Road West as a part of the City’s future plans. The land use surrounding the realignment of Commissioners Road West is primarily low to medium density residential areas with open space on the north-west side and the Byron Gravel Pit on the south-west side of Commissioners Road West. Commissioners Road West is classified as a Civic Boulevard.

The Civic Boulevard street classification places a priority on pedestrian, cycle and transit movements, moves medium to high volumes of vehicular traffic, and encourages a high quality pedestrian realm and urban design.

2030 Transportation Master Plan (2013)

One of the five key initiatives of the TMP is a More Strategic Program of Road Network Improvements. There is a greater emphasis in this TMP on transit, active transportation and travel demand management. The City’s approach to defining the need for road network improvements has become more strategic. This approach recognizes the targets for reduced modal share for the automobile by 2030 and is consistent with the City’s expectation that transit and active transportation modal shares will increase

significantly from current levels. The City's approach also explicitly recognizes that road improvements will be required for different purposes.

The plan identifies the need to realign Commissioners Road West between Byron Baseline Road and Cranbrook Road and to widen the road to four through lanes within the next 15 to 20 years. The realignment of Commissioners Road West is intended to open an improved route for all users including public transit, school buses and emergency vehicles. The plan also recommends widening of Commissioners Road West (from Cranbrook Road to Wonderland Road) and Byron Baseline Road (from Commissioners Road West to Colonel Talbot Road).

Transportation Development Charges Background Study (2014)

The 2014 Transportation Development Charges (DC) Background Study recommended that this section of Commissioners Road West be realigned and constructed with four through lanes. Although the DC Background Study recommends that construction take place in approximately 15 to 20 years, the City elected to commence the EA study in 2015 in order to identify and protect the property requirements for development coordination with the proposed secondary plan and long-term implementation strategies.

Byron Gravel Pit Secondary Plan

The primary purpose of the Byron Gravel Pit Secondary Plan is to establish a vision for the Byron Gravel Pit that focuses on both the open space and recreational opportunities that the site provides, and also for the limited amount of urban development that may occur along the perimeter of the former gravel pit operations. To implement this vision, the Byron Gravel Pit Secondary Plan is to assist with the implementation of the vision by providing The London Plan policies for the successful planning and development within the area and provide for the co-ordination of development amongst multiple land owners.

DISCUSSION

Project Description

The ESR documents the process followed to determine the recommended undertaking and the environmentally significant aspects of the planning, design, and construction of the proposed improvements. It describes the problem being addressed, the existing social, natural and cultural environment considerations, planning and design alternatives that were considered and a description of the recommended alternative.

The ESR also identifies environmental effects and proposed mitigation measures, commitments to further work and consultation associated with the implementation of the project. A copy of the Executive Summary for the ESR is contained in Appendix A.

Planning and Analysis of Alternatives

Phase I of the Municipal Class EA (MCEA) process involved the identification of the problem and opportunity statement. It was determined that improvements are needed in this corridor to address existing and future road/traffic operational deficiencies, transit system efficiencies, road safety, and long-term vision of a street design that improves active transportation.

Phase 2 of the MCEA process involved identifying alternative solutions (planning

alternatives) to address the problem/opportunity statement.

The following five alternative solutions were examined in relation to the geometric deficiency on Commissioners Road West:

- Alternative 1 – Do Nothing
- Alternative 2A – Improve Existing Road Geometry: Vertical Road Profile
- Alternative 2B – Improve Existing Road Geometry: Horizontal Curvature
- Alternative 2C – Improve Existing Road Geometry: Road Profile and Curvature
- Alternative 3 – Realign Commissioners Road

Following consultation with agencies and the public, the preferred planning solution was selected as Alternative 3, realignment of Commissioners Road into a new corridor.

Key factors for Alternative Solution 3 being selected as the preferred planning solution include the following:

- Removes the existing challenges along the study corridor including the steep road grade by closing the existing Commissioners Road and providing a new alignment
- Improved safety for all road users (i.e. vehicles, pedestrians and cyclists)
- Improved access for emergency services with the removal of the steep grade
- Opportunity to provide transit service with the removal of the steep grade
- Improved road grade accommodates improved active-transportation facilities (i.e. multi-use path)
- Reserved corridor is sufficient to widen Commissioners Road West to 4-lanes when needed

Design Alternatives

Phase 3 of the MCEA process involves the development and evaluation of alternative design concepts. The main outcome in this phase of the study was developing road cross-sections and layout concepts for the recommended planning solution. Identification of the land requirements for this project was a key outcome to identify appropriate mitigation measures such as minimizing cultural, socio-economic and environmental impacts.

In addition to the City and National design guidelines, the following factors were considered in the development of alternative designs:

- In keeping with the design criteria, which keep the vertical and horizontal alignment within safe limits, design options through the gravel pit were constrained. The largest distance between centre lines of the most northerly and most southerly alignments was restricted to 55 metres due to proximity to the gravel pit and the hill adjacent to Crestwood Drive.
- An alignment that encroaches on the residential properties located on the hill would require a large amount of cut and directly affect these properties.
- An alignment far away from these properties and closer to the gravel pit would require a large amount of fill and the connection at the intersection of Commissioners Road and Byron Baseline Road would be at an increased skew.

After reviewing design options, three feasible alternative design concepts were developed using the design criteria. The description and illustration of alternative designs and variation in alignment are illustrated below.

Alternative Design 3.1 – Southerly Alignment

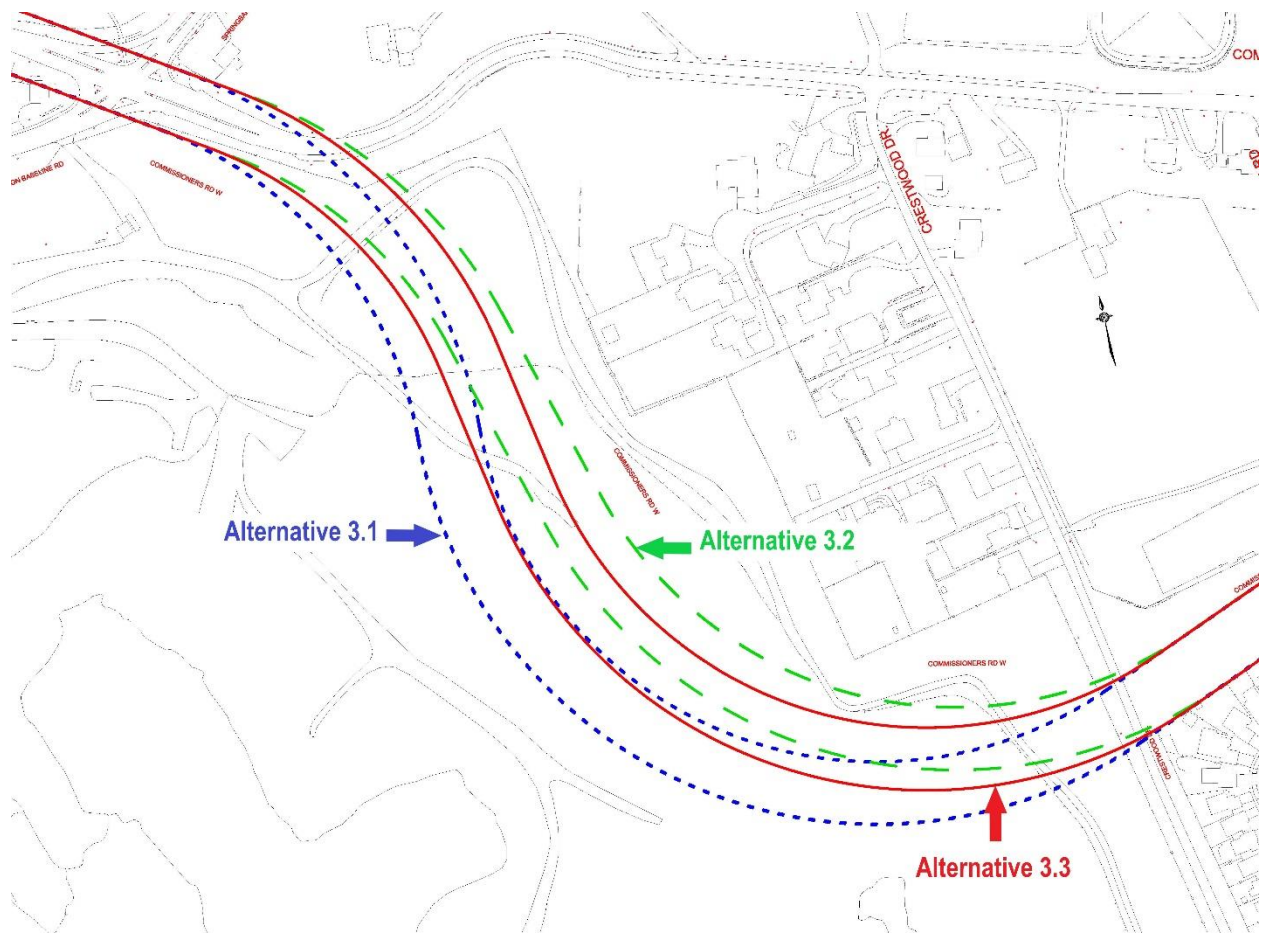
This corridor alignment is the furthest south and furthest away from the existing properties located on the hill on Crestwood Drive. This is the most southerly alignment feasible while still adhering to the design criteria.

Alternative Design 3.2 – Northerly Alignment

This alignment is the most northerly and closest to the hill on Crestwood Drive. This is the most northerly alignment feasible while meeting design criteria and not directly impacting the existing properties on top of the hill.

Alternative Design 3.3 – Middle Alignment

This alignment is in between alternative design 3.1 and 3.2.



Commissioners Road West Realignment Alternatives

Recommended Alternative

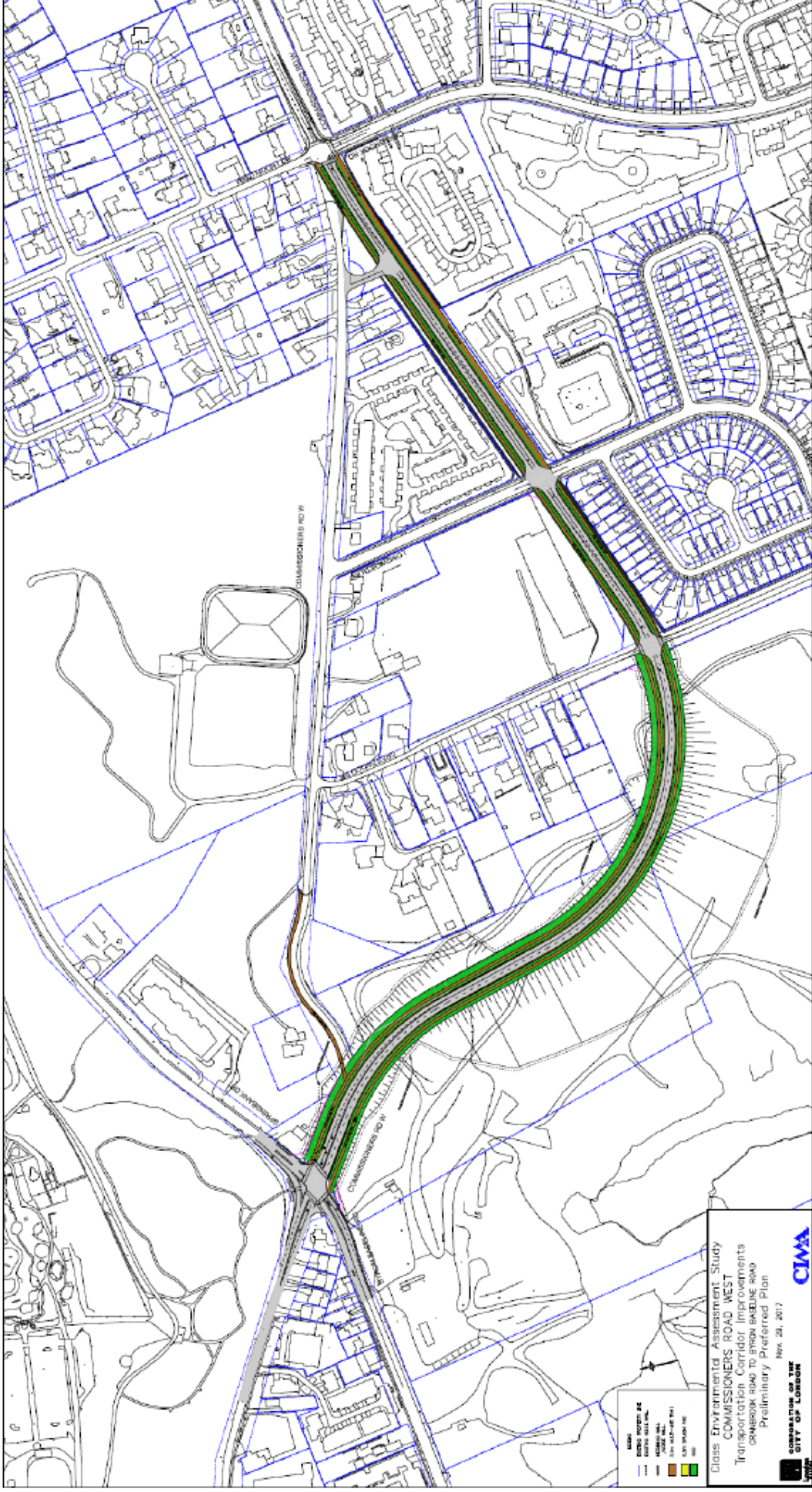
Alternative Design 3.2, Northerly Alignment was selected as the preferred design that best addresses the project problem statement based on the detailed evaluation and feedback received from the public. Factors such as impact on areas of archaeological potential, built heritage resources, vegetation, property and municipal services and utilities as well as opportunities for streetscaping and active transportation were similar between all three alternative designs. Based on a virtual 3D representation of the design, it appeared that Alternative Design 3.2 presented the least amount of visual impact to the adjacent properties on the top of the hill on Crestwood Drive, as the alignment appeared to be hidden under the brow of the hill. Additionally, Alternative Design 3.2 presents the shortest road length, does not encroach on the existing water body at the base of the pit, and was the lowest cost due to the least amount of fill required. As a result of these factors, Alternative Design 3.2, Northerly Alignment was selected as the preferred design.



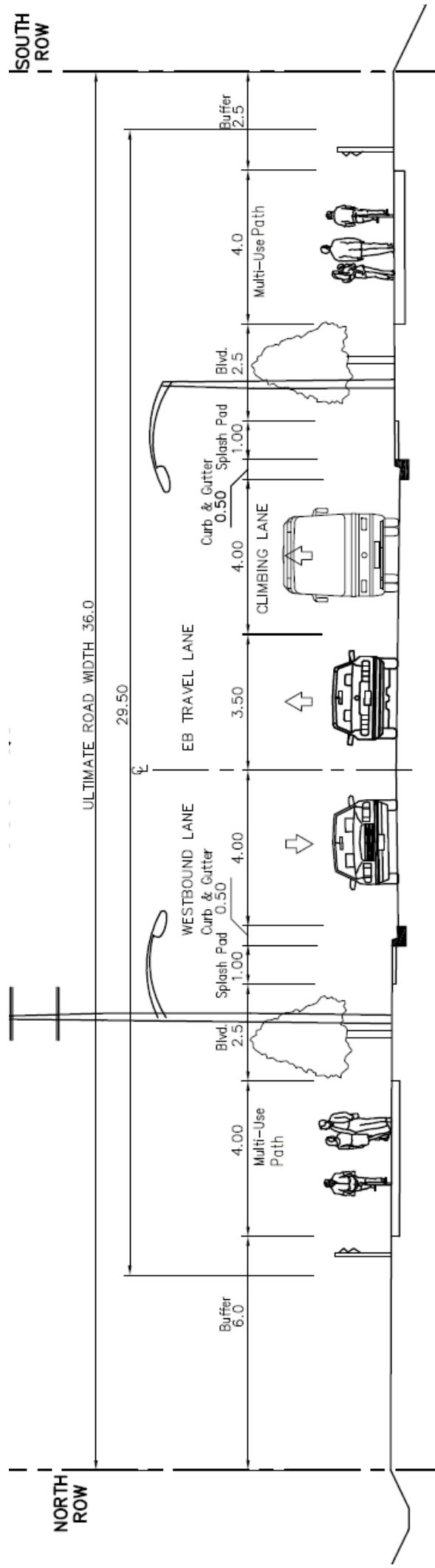
3D Representation: Commissioners Road West Realignment through Byron Gravel Pit (Crestwood Drive to Springbank Drive)

The design solution, as illustrated in the following figures, primarily involves the realignment of Commissioners Road through the Byron Gravel Pit with improved operations and increased functionality at the Springbank Drive and Cranbrook Road intersections. Improvements include constructing a cross-section with three lanes comprising of two lanes up the hill and one lane down through the Byron Gravel Pit. A new centre left-turn lane is proposed between Crestwood Drive and Cranbrook Road. The design includes standard lane widths, boulevards and multi-use paths on both sides to accommodate pedestrians and cyclists. Additional width is proposed for the multi-use paths to accommodate higher speed cyclist - pedestrian interactions considering the grades.

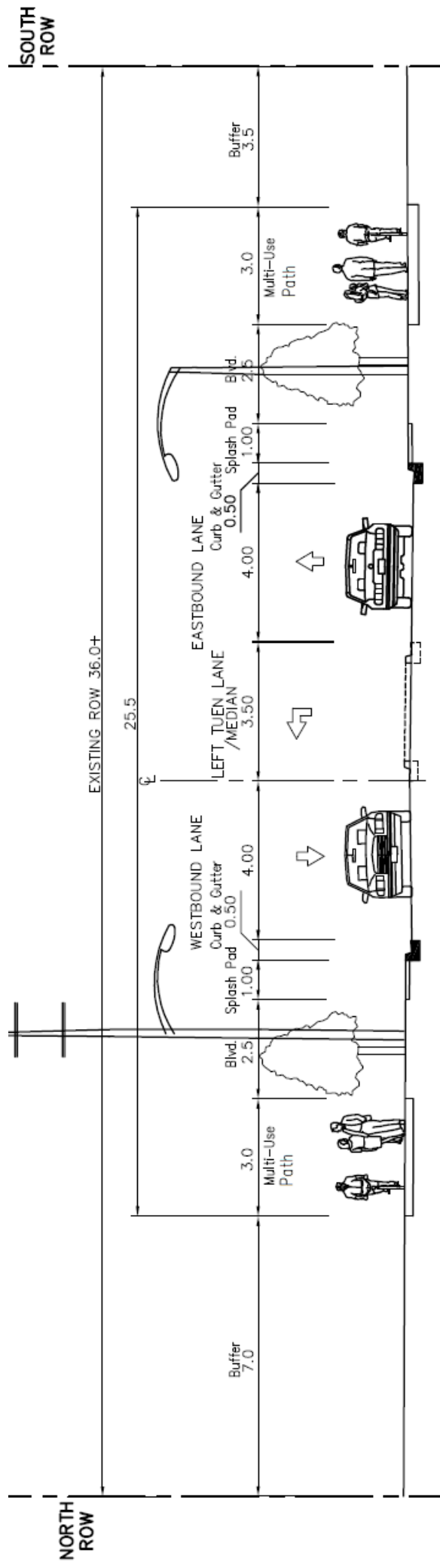
The right-of-way width will provide space for long-term future four-laning.



Commissioners Road West Realignment Preferred Alternative



Commissioners Road West Realignment Typical Cross Section through Pit



Commissioners Road West Realignment Proposed Typical Cross Section

Additional design components such as the intersection design and the approach to the Byron Baseline/Springbank Drive intersection were considered.

The intersection of Byron Baseline Road/Springbank Drive at Commissioners Road West is a skewed intersection and the connection to the new corridor was a design consideration. Two intersection designs were compared: a signalized intersection and a roundabout. Based on the intersection design evaluation, a signalized intersection was selected as the preferred intersection design. A signalized intersection was recommended due to a lower overall cost and less impact on adjacent land with half the amount of property required. The traffic operations and level of safety for the traffic signal option are acceptable.

An alternative westbound approach alignment to the Byron Baseline Road / Springbank Drive intersection was considered to reduce the wide angle between Byron Baseline Road and the east leg of Commissioners Road for safety improvements. However, it quickly became apparent that this realignment would shift the new alignment south causing a significant increase in fill and cost, and there were no significant advantages to doing so. Therefore, the additional alternative approach to the Byron Baseline/Springbank Drive intersection was not carried forward for more detailed assessment.

The following intersection recommendations from Crestwood Drive to Cranbrook Road are also proposed:

- Cranbrook Road/Westmount Drive – Close existing Commissioners Road West and connect to the realigned Commissioners Road West; and,
- Byron Baseline Road/Springbank Drive – extension of auxiliary lanes, and geometric design improvements.

The existing portion of existing Commissioners Road West corridor will continue to exist from west of Cranbrook Road to the top of Snake Hill (adjacent to access for MN929 Commissioners Road West) to service adjacent properties and Reservoir Park. Connections to the realigned Commissioners Road will be provided through Crestwood Drive and Longworth Road.

Immediately west of the entrance to MN929 Commissioners Road West, Snake Hill will be closed to vehicular traffic and redesignated as a multi-use path (MUP). The Cultural Heritage Report prepared for this study has recommended that this MUP be configured to match the original alignment shown on 19th Century maps to reflect the heritage value of the hill. This MUP will provide a connection between Reservoir Park and Springbank Park.

Public and Agency Consultation

Consultation was a key component of this Class EA study in order to provide an opportunity for stakeholder groups and the public to gain an understanding of the study process and provide feedback. The consultation plan was organized around key study milestones, including the two Public Information Centres (PICs), stakeholder engagement and participation of technical review/regulatory agencies. The key stakeholders included residents, interested public, agencies, First Nations communities and those who may be affected by the project.

A Notice of Study Commencement was issued on April 11th, 2016 to inform the public of the initiation of the study and invite agency representatives to participate on the study's Technical Agency Committee (TAC). The study team received correspondence from the public and agencies indicating their interest in the study and requesting to be kept informed.

Public Information Centre (PIC) No.1 was held on March 30, 2017 to present the study, including information on existing conditions, alternative planning solutions, evaluation criteria and design considerations. It served as an opportunity for the public to review the project information, ask questions, and provide input to the members of the study team.

Public Information Centre No.2 was held on November 29, 2017 as an opportunity for attendees to review the impact of the road improvement options on the social, cultural, economic, and natural environments as well as review the preliminary preferred design.

Agencies and stakeholders were notified at study milestones and during specific phases of the study which required an information update pertaining to them. In addition to formal public events, the project team conducted in-person meeting with stakeholders and agencies. Three meetings with Lafarge representatives were conducted on, March 24th, September 18th, November 9th, 2017 and one meeting with the Upper Thames River Conservation Authority (UTRCA) was held on November 15th, 2017.

IMPLEMENTATION

Construction Staging

Currently, the project does not have a firm construction date due to uncertainty with the future land use and property availability. Construction is identified in the Development Charges Background Study near the 20-year horizon.

The construction is expected to take at least two years and possibly more to establish the fill area in the gravel pit depending on the construction technique used. Since much of the road construction will take place away from the current road network on a new alignment; traffic disruption will be minimized during construction.

Should the detail design for this project recommend incremental loading of the fill area in order to establish stability, a slight modification of this construction staging could involve incremental loading of the fill area in the gravel pit in advance of the main construction taking place over a number of years in order that the fill compacts before construction of the road. This staging of fill could commence following detail design once property and easements are obtained.

FINANCIAL CONSIDERATIONS

Preliminary Cost Estimates

The estimated total project cost associated with the proposed improvements, including engineering, roadway construction, fill material stormwater management, utility relocation, landscaping, traffic control, sanitary sewer and watermain improvements, landscaping, staging, and other project costs is approximately \$19.5 M. It should be noted that this cost estimate does not include property costs based on the assumption that land may become available through development dedications considering the long-term implementation of the project. A detailed cost breakdown is shown below.

Construction Cost Estimate

Item	Estimated Cost (\$)
Removals	1,600,000
Roadwork	12,300,000
Storm Sewers	700,000
Utility Relocation	400,000
Contingency (20%)	3,000,000
Engineering (10%)	1,500,000
TOTAL	19,500,000

The current Development Charges Background Study includes a cost estimate of \$7.7 M. This estimate was based on limited project information and assumed pit restoration coordination, incremental fill placement and construction staging taking place over a number of years and potentially facilitated by development. The completion of this EA provides a much more informed cost estimate for this unique project that will be used to inform the 2019 Development Charge Background Study development and enable better long-term financial planning. The final cost of the project will be influenced by interaction with adjacent land-use development.

CONCLUSION

Improvements to the Commissioner Road West alignment are necessary to fulfill its necessary function in the transportation network. The realignment of Commissioners Road West has long been identified in City Official Plan. A Municipal Class Environmental Assessment (EA) was undertaken to confirm the detailed alignment to enable potential future land use changes to proceed in coordination with the required road realignment. The ESR is ready for final public review.

The Commissioners Road West Realignment Class EA Study was carried out in accordance with Schedule 'C' of the *Municipal Class Environmental Assessment (Class EA)* document (October 2000, amended 2007, 2011, and 2015). The Class EA process is approved under the *Ontario Environmental Assessment Act* and outlines the process whereby municipalities can comply with the requirements of the *Ontario Environmental Assessment Act*.

Five alternative planning solutions were developed and assessed against their ability to reasonably address the above problems and opportunities. Of the five alternatives, Alternative Solution 3.2 was selected as the preferred planning solution. Key factors for the selection include: improving safety, access for emergency services, active transportation, transit services and improved design standards.

Three alternative design concepts were developed and evaluated based on factors such as impact on areas of archaeological potential, built heritage resources, vegetation, property and municipal services and utilities as well as opportunities for streetscaping and active transportation. The impact on these factors were similar between all three alternative designs. However, based on a virtual 3D representation of the design, it appeared that Alternative Design 3.2 presented the least amount of visual impact to the adjacent properties on the top of the hill on Crestwood Drive as the alignment appeared to be hidden under the brow of the hill. Additionally, Alternative Design 3.2 presents the shortest road length and did not encroach on the existing water body at the base of the pit and was the lowest cost due to the least amount of fill required. Based on these factors, Alternative Design 3.2 was selected as the preferred design.

Consultation was a key component of this study. The Class EA was prepared with input from external agencies, utilities, emergency service providers, property owners in proximity to the study and First Nations.

Pending Council approval, a Notice of Study Completion will be filed, and the ESR will be placed on public record for a 30-day review period. Stakeholders and the public are encouraged to provide input and comments regarding the study during this time period. Should the public and stakeholders feel that the EA process has not been adequately addressed, they may request a Part II Order to the Minister of the Environment within the 30-day review period per MOECC instructions on their website.

Construction of Commissioners Road West Realignment EA is anticipated to begin in 15 to 20 years subject to property acquisition and approvals.

Acknowledgements

This report was prepared with the assistance of Ted Koza, P.Eng., Transportation Design Engineer and Josh Ackworth, C.E.T., Technologist II of the Transportation Planning & Design Division.

SUBMITTED BY:	RECOMMENDED BY:
DOUG MACRAE, P.ENG., MPA DIVISION MANAGER TRANSPORTATION PLANNING & DESIGN	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER

Attachment: Appendix A – Environmental Study Report Executive Summary

cc. Stephen Keen, CIMA+