Refer To:  
Steve van De Keere, P.Eng. 

Binu Korah  
Manager, Development Engineering,  
City of Kitchener,  
200 King Street West,  
Kitchener, Ontario, N2G 4G7  

Dear Mr. Korah  

Regional staff have had the opportunity to review the draft Strasburg Road Extension from North of Stauffer Drive to New Dundee Road Class Environmental Assessment Environmental Study Report (SNC Lavalin, February, 2012), in light of the following:  

- Regional Transportation Master Plan;  
- Regional Official Plan (ROP) policy 2.D.17 concerning development requirements in Urban Designated Greenfield Areas;  
- Regional Official Plan policy 7.C.12 concerning the development of infrastructure within or contiguous to designated Core Environmental Features.  

1. Regional Transportation Master Plan  

The Regional Transportation Master Plan (RTMP) guides Regional transportation network investments to 2031 to improve transportation choice, reduce the Region’s environmental impact and support economic growth. The RTMP prioritizes investments in Rapid Transit and conventional bus transit, identifies significant growth in active transportation such as walking and cycling, and proposes targeted road network improvements. The RTMP identifies the Strasburg Road Extension (Huron Road – New Dundee Road) as a new road project undertaken by the City of Kitchener in the 5-10 year timeframe. The Strasburg Road Extension will serve a major collector function, improving connectivity between Regional roads such as New Dundee Road, Bleams Road, Fischer-Hallman Road and Homer Watson Boulevard. In addition, the road will support the growth of the surrounding residential community, accommodating public transit and active transportation.  

2. ROP Policy 2.D.17  

Polo 2 D 17 sets out some essential requirements that the Region and Area Municipalities must address in planning development within Urban Designated Greenfield Areas such as the Doon South Community in the eastern part of the study area. Section (e) of that policy requires that “the design of the road network provides for direct and efficient transit routes within and between communities.” Section (f) requires that land uses be located generally within a 450 metre distance of transit stops. In addition, section (c) requires a network of continuous sidewalks community trails and bicycle pathways to provide safe and convenient linkages to transit stops and other community amenities.
In light of this policy, Regional staff are of the opinion that alternative alignments W1, C2, and E3 intrude too far outside the Urban Designated Greenfield Area into the Protected Countryside to be consistent with the intent of this policy. They cannot, therefore, be supported by the Region. E2 has a very minor intrusion into the Protected Countryside and would therefore be the most compatible with ROP policy. E4 arcs out into the Protected Countryside to an extent that is somewhat problematic.

As stated in our previous letter dated September 6, 2011, Regional staff are of the opinion that alternative alignments E2 and E4, as well as the recently introduced E4 Modified (E4M) are “more compatible for transportation objectives, more attractive to traffic and transit riders from future new development in Doon South.” Moreover, both E2 and E4 are economical compared to alignment alternatives E3, W1, and C2 since they do not require lengthy extensions of Robert Ferrie Drive and Blair Creek Drive and their associated watermain and sanitary services. However, E2 is relatively more economical than E4 with greatest use of the existing Reidel Drive road allowance, and E4 is not optimal from a servicing perspective south of Stauffer Road compared to E2. On the other hand, both E2 and E4 have potential to create the highest degree of change in noise levels for future adjacent homes and their outdoor living areas.

3. ROP Policy 7.C.12

The designated Core Environmental Feature at the intersection of Stauffer Drive and Reidel Drive is a composite of Stauffer Woods Environmentally Sensitive Policy Area [E.S.P.A. 33], the Roseville Swamp Provincially Significant Wetland Complex, the habitat of the Endangered Jefferson Salamander, and Significant Woodland. As such, infrastructure development within or contiguous to it is subject to ROP policy 7.C.12. This policy seeks to balance against one another the necessity for the project, the nature and significance of adverse environmental impact, the availability of other feasible alternatives, and technical and financial considerations.

Alternative W1 would be expected to result in the least amount of impact to the Core Environmental Feature, but, as mentioned above, would not be supported because it would offend against other major elements of ROP policy. E2 crosses Blair Creek and the Provincially Significant Wetland corridor on the existing Reidel Drive alignment at a relatively wide location. A four-lane crossing has the potential to further fragment the corridor and the identified salamander habitat unless a new crossing structure were to be designed to enhance connectivity along the creek corridor and mitigate the quality of stormwater being discharged into the creek.

The topography along the C2 alignment within the Blair Creek corridor is rather flat, so a long span over the creek and associated wetland would be required to maintain connectivity along the creek corridor and significant habitat. The crossing of the small tributary to the south would be downstream of the marsh pond on the southern boundary of the mapped salamander habitat. As this feature is relatively narrow and deeply incised, it would be amenable to the placement of a short span from which a watermain could probably be hung. E2 would also affect the Endangered Butternut tree.

E3, E4, and E4M cross the Blair Creek Corridor at a new location, but one which is relatively narrow where it should be feasible to design a span that would maintain connectivity.

As all alternatives but W1 traverse the significant habitat of the Jefferson Salamander, any work that adversely affected the habitat or the Jefferson Salamanders within it would require a permit from the Ministry of Natural Resources.
From the perspective of ROP policy 7.C.12, alternative E2 would be preferred in that it would not necessitate a new crossing of the Core Environmental Feature. Given the characteristics of the alternate E3, E4, and E4M crossing location, it is also our opinion, however, that this crossing location could also be consistent with this policy provided suitable mitigation measures were incorporated at the detailed design stage.

4. Conclusion

As the Environmental Study Report concludes by recommending an alternative that emerged from combining positive elements of two of the original alternatives, Regional staff are of the opinion that it should be included in the formal evaluation of all the alternatives.

Having reviewed the draft Environmental Study Report and considered the alternatives from the perspective of applicable Regional policies, Regional staff continue to favour alternative alignment E2. It is almost entirely within the Urban Designated Greenfield Area, it provides for the most efficient design and operation of public infrastructure, and, subject to appropriate mitigation, can minimise further fragmentation of the Core Environmental Feature.

Alternative E4M would score lower on these criteria, in our opinion, but it is our understanding that it would better address some land use compatibility issues of concern to the City. As such, Region staff would be prepared to support it as our second preferred alternative.

Region staff would need to confirm/clarify the following issues,

- At the proposed intersection of Strasburg Road and New Dundee Road, Region staff can confirm that traffic signals are warranted by the year 2031 but not in 2016 as indicated in the draft ESR. Further discussion is required between Region Transportation staff and the traffic consultant to clarify this issue. The draft ESR also cites that traffic signals are warranted on opening day (2016) at the intersections of Robert Ferrie Drive and Blair Creek Drive with Strasburg Road. Within the Traffic Report in Appendix D.1 there is no indication of the methodology used to assess the need for traffic control signals. Additionally, there is no reference to traffic volumes used to assess the warrant calculations. It is recommended that detailed calculations following the Ontario Traffic Manual methodology be submitted to Region Transportation staff for review.

- The ESR notes the vertical curvature of the existing road profile along New Dundee Road creates a deficiency in the sightlines such that insufficient sight distance is available at the newly proposed intersection. To correct the deficient sightlines at the Strasburg/New Dundee intersection, Region staff believe significant modifications are required to the New Dundee profile along the east approach to the intersection. An Intersection Control study was conducted to compare the performance, costs and adverse impacts of traffic signals vs a roundabout at this location. Region staff are in agreement that the technically preferred alternative is a roundabout and would recommend the implementation of the roundabout subject to the following:

  o The City conduct public consultation to obtain feedback from the public about the traffic control alternatives at this location;

  o The technical data as well as the public feedback received be used to develop a final recommendation;
Further preliminary design be carried out to refine the potential impacts of the roundabout grading, including consideration of an urban section and retaining walls; and

If a roundabout is recommended by staff, the final approval is subject to the approval of Regional Council.

- The alignment might have to be fine-tuned to avoid the endangered Butternut tree and its habitat, if it is assessed as warranting preservation. Mitigation measures acceptable to the Province would be required in the detailed design of this segment of the road.

- Regional Staff would require a Technical Memo for any and all watermain crossings through environmentally sensitive areas. The memo would look at four options to the watermain crossings: open cut, suspending the watermain from a bridge, tunnelling, and horizontal drilling. The four options would evaluate the following factors,
  
  - Environmental Impacts,
  - Technical Issues/Constructability,
  - Approvals/Property Requirements, and
  - Costs and Risks.

- The detailed design and implementation of the 600 mm trunk watermain is subject to the approval of the Region of Waterloo.

When the final draft is filed, Regional staff will follow up with further detailed comments relating to matters of Regional interest, and recommend matters to be addressed in the detailed design of the road.

While reviewing the draft document and drawings, Region staff identified a number of items to be addressed in the final draft. These are listed in the attachments to this letter.

We appreciate the City’s collaborative approach in involving Region staff in this important Municipal Class Environmental Assessment.

Sincerely,

Steve van De Keere, P.Eng.
Head, Transportation Engineering - Expansion

c.c. Kevin Eby, Region of Waterloo
    Paula Sawicki, Region of Waterloo
    John Holowacky, Region of Waterloo
    Chris Gosselin, Region of Waterloo
    Kevin Dolishny, Region of Waterloo
Attachment A – Comments from Region Planning Staff
Please discuss with Chris Gosselin for clarification.

Comments on Draft Strasburg Road Extension from North of Stauffer Drive to New Dundee Road Class Environmental Assessment Environmental Study Report (SNC Lavalin, February, 2012)
Suggested edits are highlighted.

p. 14 [Regional involvement also includes Planning, Housing, and Community Services staff from the Transportation Planning and Community Planning divisions.]

p. 41 3.3.1 Designated Environmentally Sensitive Areas
A number of Regionally-designated environmentally sensitive areas are found both within and proximal to the study area (refer to Figure 3.7). These are the Stauffer Woods Environmentally Sensitive Policy Area (ESPA 33), Doon South Woods (ESPA 34), Roseville Swamp (ESPA 39), and the Strasburg Floodplain Forest (ESPA 30).

According to policy 7.C.5 of the Regional Official Plan, Environmentally Sensitive Policy Areas are regionally significant natural areas that comprise:
(a) Provincially significant Life Science Areas of Natural and Scientific Interest, regionally significant Life Science Areas of Natural and Scientific Interest, or provincially significant Earth Science Areas of Natural and Scientific Interest; or
(b) At least two of the following criteria:
   i) comprise ecological communities deemed unusual, of outstanding quality or particularly representative regionally, provincially or nationally;
   ii) contain critical habitats which are uncommon or remnants of once extensive habitats such as old growth forest, forest interior habitat, Carolinian forest, prairie-savanna, alvars, cliffs, bogs, fens, marl meadows, and cold water streams;
   iii) provide a large area of natural habitat of at least 20 hectares which affords habitat to species intolerant of human intrusion; or
   iv) provide habitat for organisms native to the region recognized as regionally, provincially or nationally significant; or
(c) fulfill one of the criteria in Policy 7.C.5 (b) and any two of the following:
   i) contain an unusual diversity of native life forms due to varied topography, microclimates, soils and/or drainage regimes;
   ii) perform a vital ecological function such as maintaining the hydrological balance over a widespread area by acting as a natural water storage, discharge or recharge area;
   iii) provide a linking system of relatively undisturbed forest or other natural habitat for the movement of wildlife over a considerable distance;
   iv) serve as major migratory stop-over or significant over-wintering habitat; or
   v) contain landforms deemed unusual or particularly representative at the regional scale.

[This is the current wording in the Provincially-approved R.O.P.]

[The description of natural heritage features is rather fragmented, and presents them as discreet entities rather than as components of larger natural systems consisting of Environmentally Sensitive Policy Areas, Provincially Significant Wetlands, Significant Woodlands, and the habitat of Endangered and Threatened Species and. Some of the material is repeated, as for example, Roseville Swamp E.S.P.A. and Provincially Significant Wetland. It might be more appropriate to take the reader on a tour down Blair Creek pausing to describe the various significant natural features as they are encountered by integrating the material presented in section 3.3.7. A similar approach could be taken for the natural features associated with the reach of Strasburg]
Creek within and adjacent to the study area. The report does not mention Significant Woodlands designated as Core Environmental Features in the new Regional Official Plan.]

p. 44 [The description of the E.S.P.A.'s is taken from the 1984 Technical Appendix, and is rather dated. It can be updated as follows:

Stauffer Woods (ESPA 34)
Stauffer Woods is located at the southeast corner of the intersection of Reidel Drive and Stauffer Drive. It is approximately 26.2 hectares in size and is predominantly a Sugar Maple-Beech forest on hilly ground surrounding swamp depressions which provide significant amphibian breeding habitat. Numerous springs sustain its wetland features. A hydro corridor traverses this ESPA. It is a locally significant life science area according to the Ministry of Natural Resources and is designated as an ecologically significant Open Space Area by the City of Kitchener.

Doon South Woods (ESPA 34)
Located approximately 1.0 km to the east of the study area, Doon South Woods is a low-lying mixed forest along a small tributary of Doon South Creek flanked by low ridges of maple-beech forest. A nationally significant population of triploid salamanders breeds in the woodland pools of the area. It is considered a local life science site by the Ministry of Natural Resources and is designated as an ecologically significant Open Space Area by the City of Kitchener.

Roseville Swamp (ESPA 39)
This is the largest and one of the best wetland forest complexes and breeding bird areas in the Region. Although parts of it were lumbered some decades ago, it not only still contains many interesting plant and animal species but is one of the largest swamp forest complexes in the Region. Many of the significant species listed for this area are concentrated around Rainbow Lake, in a small marl meadow close by, or are within the hydro corridor which serves the ESPA. The extensive swamp forest, mainly Silver Maple-Yellow Birch-Black Ash, is impressive for its large trees, especially White Pine, and its lush growth of ferns and mosses. This swamp is an excellent breeding area for deer and is important for migrating and breeding bird species, including warblers. The northern part of the ESPA in the City of Kitchener is traversed by Blair Creek which becomes a coldwater stream in this area. Numerous springs in the southern part in North Dumfries Township serve as headwaters for Cedar Creek, the Region’s largest coldwater stream. The area is an International Biological Programme site. It is mapped by the Ministry of Natural Resources as a significant biological area for wildlife and a regionally significant life science area.

Strasburg Floodplain Forest (ESPA 30)
This large complex of swamp forest and adjoining wooded uplands occupies the Strasburg Creek floodplain and is located approximately 500 metres northeast of the northern portion of the study area. The main area of interest is the calcareous meadow alongside Strasburg Creek. This unusual habitat occurs primarily at the west end of the ESPA. The area is open, with some shrub and tree invasion becoming established at the expense of the more significant earlier successional species. [This features was destroyed years ago by inappropriate stormwater management practices on adjoining subdivisions.]

Adjacent to the east is an extensive swamp forest which contains a notable hemlock stand. Mixed Sugar Maple-Beech forest occupies the slopes away from the floodplain. The floodplain is a complex and diverse mixture of trees and shrubs interspersed with rank herbaceous growth, mainly of grasses and asters. The area is designated as an ecologically significant Open Space Area by the City of Kitchener’s Municipal Plan.]

p. 49 ["Bowman" Creek is now known as Blair Creek.]

p.50 3.3.7 5th ¶: “The most important of these is the Blair Creek Swamp (PSW), but the associated woodlots surrounding the wetland are also of high quality and have significant ecological, aesthetic and recreational value.
6th ¶: Why are the hedgerows not delineated or assessed?

p.82 The Regional Official Plan has a detailed definition of “adverse environmental impacts” which will be used to assess impacts on Regionally-designated Core Environmental Features. It would be helpful to incorporate some or all of the examples of adverse environmental impacts in the indicators/measures.

The criterion should address current Regional environmental designations such as Core Environmental Features, and not just E.S.P.A.’s. This would include the natural feature on the west side of Reidel Drive.

Designated Core Environmental Features / Areas of Natural and Scientific Interest

Encroachment on Core Environmental Features (area; habitat quality relative extent in relation to entire designated area)

Extent (area) and function of riparian habitat removed or degraded in quality

p. 83 Encroachment on
communities/individual properties

- Encroachment on individual properties
  (number/area/severity)

p. 84 Should operating costs be considered in that a shorter road would presumably cost less to maintain than a longer route?

Appendix D
Terrestrial Vegetation Communities Report
Fig 2. Please note that the Blair Creek corridor south of E.S.P.A. 33 is not E.S.P.A. 37. This area has been recommended for inclusion in the former E.S.P.A. as much of the intervening lands are proposed for naturalisation.

p. 6 Blair Swamp ESPA is not part of the Roseville Cedar Creek Provincially Significant Wetland. They are separated by Highway 401, with Blair Swamp on the east side.

p. 15
2.7 Significant Woodlots
The Stauffer Woods ESPA located at the south east corner of the Reidel Drive and Stauffer Drive intersection has been designated a Regionally-Significant Woodland (RSW)-Core Environmental Feature in the Draft Regional Official Plan (Region of Waterloo, 2009). Use the Provincially-approved version. The Draft Regional Official Plan is Regional Council’s interpretation of the Provincial Policy Statement in this matter.

p. 17 We need to look at the quality of natural area removals as well as gross area. Has the wetland pond area north of Stauffer Road been evaluated yet as part of the Provincially Significant Wetland?
Attachment B – Comments from Region Water Services Staff
Please discuss with John Holowackyj for clarification.

Blair Creek Crossing
Drawing PnP 4a
(XREF drawing 6 of 17 of the appendix E and last page of appendix E)

It appears to contain the section with the Blair Creek Crossing.

Concerns:
Do we want our watermain located under the bridge structure as opposed to having it located beside it? Questions regarding maintenance come to mind? Is this the lowest point on the main? And if so should we not have a drain chamber? Also in the meeting it appear there were some concerns of creating this crossing with a box culvert re stream management and animal crossings … it sounded like a different crossing i.e. a span might be desired.

Conflicting information regarding connections of the 600 mm dia wwm to the two key roundabouts with utilities located within them

Robert Ferrie Dr
• Robert Ferrie Dr sheet 8 of 17 in the appendix E has no tee or stub shown. It should have a 300 mm dia wwm heading east on Robert Ferrie
• Robert Ferrie on dwg PnP 2a of the above attachments Robert Ferrie has a 600 by 600 by 600 tee with a 6000 mm stub with a 200 mm branch

Blair Creek Dr.
• Blair Creek Dr roundabout sheet 8 of 17 in the appendix E has the proper information showing the 600 mm wwm does not continue on Strasburg Rd southerly to New Dundee but does not indicate the change in dia to a 450 mm dia wwm on Blair Creek Dr
• Blair Creek Dr roundabout on dwg PnP 6a has a 600 by 600 by 600 tee with a 6000 mm stub with a 200 mm branch with a continuation of the watermain on Strasburg Rd which is incorrect. The watermain on Blair Creek Dr should be a 450 mm

Strasburg Rd at New Dundee
• New Dundee roundabout on dwg PnP 8a shows the watermain in the location. We have no plans to extend the watermain south of the Blair Creek Dr roundabout.

General Comment.

Page 18 road section shows a hydrant located in the profile.  
No Regional water mains will have hydrants located on them as per section B.2.1.4.1 of the DGSSMS.