PUBLIC INFORMATION CENTRE
WEDNESDAY MAY 15, 2013

STRASBURG ROAD EXTENSION
(NORTH SECTION)
Phase 1: Templewood Drive to North of Stauffer Drive
Detail Design

To be refined based on preferred alignment for Strasburg Road EA Study (South Section)
SNC-Lavalin Inc, the City’s consultant for this project have completed the Detail Design and tender documents for the Strasburg Road Extension (North Section) from Templewood Drive to north Stauffer Drive (Phase 1).

The purpose of this PIC is to:

• Present the Detail Design for the North Section of the Strasburg Road Extension; and
• Provide an opportunity for the affected residents/property owners to discuss the property impacts/access with the project team.

Representatives from the City and the Consultant Team are present at this drop-in information session to answer questions and receive your comments.
Road, Trails, Sidewalks, etc.

- The Strasburg Road Extension is designated as Secondary Arterial road within the City of Kitchener transportation network. It has been designed as a four lane urban cross section with curb and gutter, and standard right-of-way (ROW) width of 30m.
- Total pavement width of the road will be 14m (4 lanes at 3.5m).
- A 7.5m wide boulevard on each side of the road is proposed to accommodate a 3.0m wide asphalt multi-use path, street landscaping and illumination.
- Allowance has been made to connect the multi-use path to the City’s trail system.

Stormwater Management

- The stormwater management treatment measures for the Strasburg Road Extension have been designed to minimize the impacts on the existing drainage system, natural features and flood elevations at watercourse crossings.
- Mitigation measures to protect water quality, aquatic habitat, and wetlands include oil-grit separators (OGS) and enhanced swales.
- The design of the storm sewer system will protect against stream erosion by controlling the release of stormwater runoff from the road.

Culvert Crossings

- The existing culvert at Strasburg Creek (Main Branch) requires that new headwall and wingwall structures be constructed at both ends of the culvert to accommodate the road platform.
- A new culvert to allow for wildlife passage will be constructed within the Strasburg Creek Provincially Significant Wetland (PSW), and includes a directional barrier wall to ensure that amphibians, reptiles, and small mammals are kept off the road surface.

Sanitary Sewer and Watermain

- A 900mm diameter gravity sanitary trunk sewer is proposed within the ROW and will be constructed mostly by tunnelling to minimize environmental impacts.
- A 600mm diameter watermain will be constructed within the ROW, via Horizontal Directional Drilling (HDD) with access points located outside of the PSW. This will eliminate the need for open cut for construction of the watermain within the PSW and associated watercourses.

Bridge

- To minimize environmental impacts at the crossing of the PSW and tributary watercourses of the South Branch of Strasburg Creek a twin-span bridge over these sensitive features will be constructed.
X-Section 1 – Refer to Design Overview Display

X-Section 2 - Refer to Design Overview Display
DETAIL DESIGN – OVERVIEW

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Fig. 1: Typical Noise Barrier Wall
Fig. 2: Typical Variable Directional Wall
Fig. 3: Wildlife Ecopassage – Profile and Cross Section
Fig. 4: Existing Culvert – Cross Section
Fig. 5: Twin Span Bridge

Legend
• Large Tree to be Removed
• Large Tree to be Retained
[Other symbols for roads, stream, etc.]

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BRIDGE GENERAL ARRANGEMENT

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Stage 1 – Pre-grading and Temporary Access Road Construction (3 months)

Key activities include:

1. Site Mobilization.
2. Install and maintain sediment and erosion control measures to prevent sediment from entering watercourse impacting surrounding natural features (wetland, forest).
3. Complete vegetation clearing and grubbing.
4. Pre-grade road platform north of the bridge to proposed sub-grade elevation, with the exception of the fill area between Sta. 11+200 to Sta. 11+360. Between Sta. 11+200 and Sta. 11+360, complete temporary grading to lower profile to allow for construction access, while facilitating sewer tunnel shaft construction.
5. Construct temporary access road and watercourse crossing of Strasburg Creek tributaries east of the new bridge structure to allow for staging platform on west side of the proposed bridge.
6. Implement dewatering system for sanitary sewer tunneling works.
7. Complete site preparation at bridge site to allow for construction of piers and abutments.

Stage 2 – Bridge Construction (9 months)

The bridge construction will commence approximately 3 months after initiation of Stage 1, and will occur in parallel with Stage 3.

Key activities include:

1. Construct the full width of the south abutment and west half of pier and north abutment of bridge.
2. Construct west side of the bridge superstructure from the staging platform on the east side (from Stage 1).
3. Construct the east half of pier and north abutment.
4. Construct the east side of the bridge superstructure from the new deck constructed on the west side.

Stage 3 – Sanitary Sewer Construction (3 months)

Key activities include:

1. Construct exit and entry tunnel shafts.
2. Complete sanitary sewer construction using open excavation methodology between Sta. 11+032 and Sta. 11+040 and between Sta. 11+484 and Sta. 11+570.
3. Complete sanitary sewer construction using tunnel methodology between Sta. 11+040 and Sta. 11+570.
4. Backfill tunnel shafts, and complete remainder of road grading to between Sta. 11+200 and Sta. 11+360.
Stage 4 – Watermain and Storm Sewers

The installation of watermain and storm sewers will commence approximately 3 months after Stages 2 and 3.

Key activities include:

1. Upon completion of the bridge sub-structure works, complete watermain crossing of the Strasburg Creek using horizontal directional drilling methodology.
2. Complete all other underground works north of the bridge (watermain, storm sewers and appurtenances) in open cut.
3. Allow for completion of utility construction north of the bridge.

Stage 5 – Road Works

The road works will commence approximately 2 months after initiation of Stage 4 and will take approximately 6 months to complete.

Key activities include:

1. Remove temporary access road and complete grading.
2. Complete Road and boulevard works north of the bridge.
3. Upon completion of the bridge superstructure, complete underground works, and road/boulevard works south of the bridge.
4. Allow for completion of utility construction north of the bridge.
5. Restore temporary working areas.
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CONSTRUCTION
STAGING – OVERVIEW

LEGEND:
- STAGE 1
- STAGE 2
- STAGE 3
- STAGE 4
- STAGE 5
KEY MITIGATION MEASURES

Design Efforts to Minimize Impacts to Natural Features

- Bridge that fully spans the PSW and South Branch Tributaries of Strasburg Creek as opposed to a culvert crossing with fill for the road.
- Construction staging and access plan for bridge to minimize to the greatest extent possible disturbance within the PSW.
- Tapering of road cross-section towards the south end of the bridge to reduce the road footprint.
- Modification of road fill slopes from current City standard and use of retaining wall (wildlife directional wall) in order to minimize the encroachment within the PSW.
- Use of wingwall and headwall at existing culvert crossing of Main Branch of Strasburg Creek to avoid need for a culvert extension.

Wildlife

- Limit habitat removal through minimizing access, staging, storage and grading requirements.
- All tree removals will be conducted outside the general bird breeding nesting season (May 1 to July 31) in full compliance with the Migratory Birds Convention Act.
- Construction of designated wildlife passage crossing (ecopassage - culvert) for amphibians, reptiles and small mammals, with directional barrier wall, to prevent animals from accessing the road surface.

Vegetation

- Install and maintain temporary fencing during construction to protect trees that do not require removal.
- Implement streetscape tree and shrub plantings as shown on the Landscape Plan.
- For areas within the PSW carry out Ecological Restoration Plantings using appropriate native wetland species to retain ecological function.
- Implement forest edge plantings to minimize effects of road operations on adjacent forest communities.
KEY MITIGATION MEASURES

Fisheries/Water Quality

- Minimize duration and extent of work immediately adjacent to the North and South Branch Tributaries and Main Branch of Strasburg Creek.
- Maintain appropriate buffer protection zones, as well as existing groundcover such as grasses or other low lying vegetation within the valley, particularly near banks of the tributaries and in close proximity to other sensitive areas (PSW).
- Install erosion and sediment control measures (e.g., silt fence) prior to initiation of work to minimize sediment laden runoff from entering watercourses. Maintain these measures during constriction until all disturbed areas are stabilized with vegetation.
- All in-water works will be conducted within the applicable coldwater construction timing window (July 1 to September 30) to protect fish during their spawning and nursery periods.
- All in-water works will be constructed in the dry, using temporary flow diversion system (e.g., cofferdam) to isolate the work area from active flows. Where a dam-and-pump flow diversion method is used, appropriately sized screen intakes will be installed at the pump intake to prevent fish entrainment.
- Restore and enhance riparian areas disturbed by construction as shown on the Landscape Plan. This includes ecological restoration approach using appropriate native wetland species within the PSW.
- Manage all water from dewatering operations to prevent erosion or release of sediment-laden water to watercourses and sensitive natural features (PSW).
- Stormwater management measures designed for Level 1 (enhanced) water quality control, per the Ministry of the Environment and Grand River Conservation Authority requirements.

Noise and Air Quality

- Permanent noise barrier wall will be constructed adjacent to homes on Newcastle Drive as shown on the Design Overview.
- All work to be conducted in accordance with the City’s Noise Bylaw to minimize any disruption to nearby residents.
- Use of dust control measures during construction, such as applying water on disturbed area and access routes.
Permits

- The City has obtained a conditional permit approval from the Grand River Conservation Authority. The final permit will be received upon successful selection of the contractor for the Project.

Traffic

- The Project schedule calls for a construction duration of 240 working days over two construction seasons.
- While residents may expect minor local traffic disruptions there are no planned detours or road closures required for the Project.
- Prior to commencement of construction a letter will be sent to local residents notifying them of the start date and will include contact information for any issues during construction.

Construction

- As per City’s 10 year capital forecast, the construction of this project, including South Strasburg Trunk Sanitary Sewer Extension, is scheduled for 2015-2016. This timeline may be adjusted depending upon funding availability.