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TEMPORARY ROAD CLOSURES

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, March 10, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. The Commissioner of Transportation and Works be authorized to exercise any of the powers of Regional Council for the temporary closure of the following roads:
 - a) St. John's Sideroad (Y.R. 26) between Bayview Avenue (Y.R. 34) and Leslie Street (Y.R. 12) in the Town of Aurora (*see Attachment 1*).
 - b) Gamble Road (Y.R. 29) between Bathurst Street (Y.R. 38) and Yonge Street (Y.R. 1) in the Town of Richmond Hill (*see Attachment 2*).
 - c) Lloydtown-Aurora Road (Y.R. 16) between Dufferin Street (Y.R. 53) and Keele Street (Y.R. 6) in the Township of King (*see Attachment 3*).
 - d) Warden Avenue (Y.R. 65) between Herald Road and Vivian Road (Y.R. 74) in the Towns of East Gwillimbury and Whitchurch-Stouffville (*see Attachment 4*).
 - e) Warden Avenue (Y.R. 65) between Doane Road (Y.R. 45) and Herald Road in the Town of East Gwillimbury (*see Attachment 5*).
 - f) 16th Avenue (Y.R. 73) between Markham Bypass (Y.R. 48) and Reesor Road (Y.R. 70) in the Town of Markham (*see Attachment 6*).
 - g) Major Mackenzie Drive (Y.R. 25) between Weston Road (Y.R. 56) and Vellore Woods Boulevard (*see Attachment 7*).
 - h) 16th Avenue (Y.R. 73) between Kennedy Road (Y.R. 3) and McCowan Road (Y.R. 67) in the Town of Markham (*see Attachment 8*).
2. The Regional Solicitor be authorized to prepare the necessary by-laws to give effect to the foregoing.

2. PURPOSE

The purpose of this report is to provide authorization for the Commissioner of Transportation and Works to temporarily close the specified Regional roads to through traffic to accommodate construction projects.

3. BACKGROUND

In order to complete some roadwork activities, it is often necessary to temporarily close sections of a road to through traffic. The Municipal Act allows municipal council to delegate authority to temporarily close roads for the purposes of construction or maintenance.

It is difficult to pinpoint the required dates for the temporary closures, as the construction schedules often change because of delays, weather, and supply of materials. It is therefore appropriate to delegate the authority to temporarily close roads to the Commissioner of Transportation and Works. The following roadworks require temporary road closures for construction activities:

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| • St. John's Sideroad – Bayview Avenue to Leslie Street | Town of Aurora |
| • Gamble Road – Bathurst Street to Yonge Street | Town of Richmond Hill |
| • Lloydtown-Aurora Road - Dufferin Street to Keele Street | Township of King |
| • Warden Avenue – Herald Road to Vivian Road | Towns of East Gwillimbury and Whitchurch-Stouffville |
| • Warden Avenue - Herald Road to Doane Road | Town of East Gwillimbury |
| • 16 th Avenue – Markham Bypass to Reesor Road | Town of Markham |
| • Major Mackenzie Drive – Weston Road to Vellore Woods Boulevard | City of Vaughan |
| • 16th Avenue – between Kennedy Road and McCowan Road | Town of Markham |

**3.1 St. John's Sideroad - Bayview Avenue to Leslie Street,
Town of Aurora**

The reconstruction and widening of St. John's Sideroad is underway and includes the construction of a Regional trunk sanitary sewer and a Town of Aurora watermain.

**3.2 Gamble Road - Bathurst Street to Yonge Street,
Town of Richmond Hill**

The reconstruction and widening of Gamble Road is scheduled to commence by late spring 2005 with completion in 2006. The work on Gamble Road includes significant cut and fill areas due to the existing rolling topography, the placement of new culverts, turning lanes at side streets, plus new sidewalks and illumination on behalf of the Town of Richmond Hill.

**3.3 Lloydtown-Aurora Road - Dufferin Street to Keele Street,
Township of King**

The improvements at the Lloydtown-Aurora Road and Dufferin Street intersection are scheduled to commence by spring 2005 with completion in 2005. The work involves replacement of a culvert under Lloydtown-Aurora Road approximately 360 metres west of Dufferin Street, addition of turning lanes and installation of illumination and traffic signals. A short length of storm sewer is required along 18th Sideroad.

**3.4 Warden Avenue - Herald Road to Vivian Road,
Towns of East Gwillimbury and Whitchurch-Stouffville**

The improvements at the Warden Avenue intersection with Davis Drive are scheduled for construction by late summer 2005 and completion by the end of 2005. The work includes full-depth reconstruction of the road, addition of turning lanes, extension of culverts on Davis Drive west of Warden Avenue, replacement of culverts on Warden Avenue south of Davis Drive and installation of partial illumination and traffic signals.

**3.5 Warden Avenue - Herald Road to Doane Road,
Town of East Gwillimbury**

The improvements at the Warden Avenue and Mount Albert Road intersection are scheduled for construction by late summer 2005 and completion by the end of 2005. The work includes full-depth reconstruction of the road, addition of turning lanes and installation of partial illumination and traffic signals.

**3.6 16th Avenue – Existing Markham Bypass to Reesor Road,
Town of Markham**

The improvement of 16th Avenue and construction of an intersection with the new Markham Bypass is scheduled to start in the summer 2005 and completion by the end of 2005. The work will include full depth reconstruction of the road, addition of turning lanes, partial illumination and traffic signals.

3.7 Major Mackenzie Drive between Weston Road and Vellore Woods Boulevard, City of Vaughan

The installation of a 2550 millimetre (mm) diameter storm sewer across the easterly leg of the Major Mackenzie Drive/Weston Road intersection requires the closure of the east leg of the intersection to expedite the work. The work will include installation of the storm sewer and all necessary restoration of the roadway and boulevard.

3.8 16th Avenue – Kennedy Road to McCowan Road Town of Markham

A major settlement has occurred within this section of road. Three of the existing five lanes will have to be excavated to a depth of approximately 5m to remove a layer of peat. The work will be accomplished much more rapidly and safely and at a lower cost if a full road closure is approved.

4. ANALYSIS AND OPTIONS

4.1 Rationale for Temporary Road Closures

Where possible, Regional staff co-ordinate the construction activities to keep the roads open to through traffic. However, it is not always feasible to maintain through traffic because of the very nature of the work and it is often safer and more cost effective to complete the work under a temporary full road closure.

Temporary road closures, where implemented, reduce safety risks to both the travelling public and work crews and provide a work environment that enhances construction quality. Furthermore, temporary closures significantly reduce the costs and time scheduled for any work, thus minimizing public impact and disruption when applied.

4.2 Public Notification and Mitigation

Notification of the temporary road closures will be placed on arterial and local roads two weeks prior to the closure period along with advertisements (for closure longer than two days) in the local newspapers. All emergency public service agencies (police, fire and ambulance) and public and school transit authorities will also be informed of the closures. Temporary road closure schedules will also be posted on the York Region website.

A detailed signage plan will be put in place for each closure to clearly identify detour routes. Measures will also be provided to maintain local access to residents, businesses, schools and other institutions. Property owners that will be directly affected by local access will also be advised by mail.

The duration period for all temporary road closures will be minimized by imposing timing constraints within the individual contracts for each project. Once a road closure is in effect, efficient utilization of the time period will be an obligation of the contractor to ensure that public impact and inconvenience is limited through effective work planning and operations.

Table 1 summarizes the durations and timing pertaining to each road closure recommended in this report.

Table 1
Temporary Road Closures

Location	Municipality	Duration	Timing
St. John's Sideroad from Bayview Avenue to Leslie Street	Aurora	3 months	May to August 2005
Gamble Road from Bathurst Street to Yonge Street	Richmond Hill	4 weeks	July/August 2005
Lloydtown-Aurora Road from Dufferin Street to Keele Street	King Township	3 days. Friday, Saturday, and Sunday	June/July 2005
Warden Avenue From Herald Road to Davis Drive and Davis Drive to Vivian Road	East Gwillimbury and Whitchurch- Stouffville	2 weeks north side 4 weeks south side	July/ August 2005
Warden Avenue Doane Road to Mount Albert Road and Mount Albert Road to Herald Road	East Gwillimbury	2 weeks for each road section	September/ October 2005
16 th Avenue from Markham Bypass to Reesor Road	Markham	4 weeks	August to November 2005
Major Mackenzie Drive from Weston Road to Vellore Woods Boulevard	Vaughan	3 days Fri/Sat/Sun	May 2005
16 th Avenue between Kennedy Road and McCowan Road	Markham	1 week	June 2005

4.3 Project Closure Requirements

4.3.1 St. John's Sideroad, Town of Aurora

This project includes the construction of a trunk sanitary sewer from Industrial Parkway North to approximately 400 metres east of Bayview Avenue. The section of St. John's Sideroad east of Bayview Avenue is not being widened as part of this project. As such, this section of sewer must be constructed within a relatively constrained road width. The section of sewer east of Bayview Avenue will be constructed using open-cut methods. In light of the above, it is also proposed to temporarily close St. John's Sideroad between Bayview Avenue and Leslie Street to allow the cost effective and expeditious construction of this trunk sanitary sewer. Given that this closure is required in the spring and summer, the exact timing will be better established once that time approaches. All opportunities will be explored with the contractor to minimize the duration of this closure.

4.3.2 Gamble Road, Town of Richmond Hill

The existing topography is undulating and the new road profile will require lowering of existing crests in the road and raising of existing sags. Lowering or filling in some areas will exceed 4.0 metres. It is not physically practical to undertake this work without closing the road to local traffic. The contract will require the contractor to prepare a staging plan that will ensure local residents can access existing residences on Gamble Road and the streets adjoining Gamble Road, however, vehicle thoroughfare from Bathurst Street to Yonge Street will not be practical.

Closing of the road to enable the required earth grading and culvert construction will reduce the overall duration of construction and will be less expensive than requiring a temporary through road be constructed and maintained during construction.

The exact closure dates and durations will be determined once the contract has been awarded and a contractor work schedule developed that minimizes the actual closure periods. Closure will not be permitted until after July 1, 2005. This will coincide with the reopening of Jefferson Sideroad.

4.3.3 Lloydtown-Aurora Road, Township of King

There is an area of groundwater upwelling at the north inlet to the culvert which, as a condition of environmental approval, must be protected. This area is of concern relative to foundation conditions during excavation for installation of two circular culverts that will replace the existing pipe-arch culvert.

If the road is closed, it is estimated that, the culvert and road reinstatement can be completed in a weekend from 7:00 p.m. Friday night to 6:00 a.m. Monday morning. This would result in the following benefits:

- Significant reduction in duration of this construction activity.
- Reduction in the duration of in-water works.

- A reduction in cost as the expensive roadway protection would not be required as well as the temporary concrete barriers and shoulder paving for the detour.
- A safer construction staging plan relative to the contractor's work force and the motoring public.

The exact closure dates and duration will be determined once the contract has been awarded and a contractor work schedule developed that minimizes the actual closure periods. Since the permit for in-water works is from June 1, 2005 to September 15, 2005, the closure to construct the culvert must be within that time period.

4.3.4 Warden Avenue, Towns of East Gwillimbury and Whitchurch-Stouffville

Relative to Davis Drive, the traffic on Warden Avenue is light. Maintaining even a one-lane, two-way detour on Warden Avenue's existing narrow roadway platform will require costly overbuilding as well as the use of temporary concrete barriers. At the location for the new culverts on Warden Avenue, there is the issue of relatively high cost to maintain traffic while the construction activity, for which the detour is required, is relatively short. If the road is closed, it is estimated that culvert replacements can be completed in two weeks at each location. The benefits, other than the reduced time, are:

- Reduced environmental impacts due to less time required for in-water works.
- Safer work area for the contractor's work force.
- Less driver confusion regarding traffic flagging and negotiation of detour alignments.
- Less cost for detour construction and maintenance.

The exact closure dates and duration will be determined once the contract has been awarded and a contractor work schedule developed that minimizes the actual closure periods. The aquatic habitat in this area is deemed cold water and our permit for in-water works is July 1, 2005 to September 15, 2005. The closure to construct the culvert must be within that time period. The north and south legs of the intersection will not be closed at the same time. Local access will be maintained.

4.3.5 Warden Avenue, Town of East Gwillimbury

Relative to Mount Albert Road, the traffic on Warden Avenue is light. Maintaining even a one-lane, two-way detour on Warden Avenue's existing narrow roadway platform will require costly overbuilding as well as the use of temporary concrete barriers and flagging. It is estimated that the construction of detours and new roadway on a staged basis will require about three weeks at each location.

If the roadway is closed, the construction duration could be reduced to about one week. Added benefits would include:

- Safer work area for the contractor's work force.
- Less driver confusion regarding traffic flagging and negotiation of detour alignments.
- Less cost for detour construction and maintenance.

The exact closure dates and duration will be determined once the contract has been awarded and a contractor work schedule developed that minimizes the actual closure periods. The north and south legs of the intersection will not be closed at the same time. This section of Warden Avenue will not be closed at the same time as Warden Avenue at Davis Drive. Local access will be maintained.

4.3.6 16th Avenue, Town of Markham

The reconstruction of 16th Avenue, from the existing Markham Bypass to Reesor Road will be completed concurrently with the construction of the 3rd phase of the new Markham Bypass planned to start in the summer of 2005. This will involve the realignment of 16th Avenue and construction of an entirely new intersection on 16th Avenue.

Owing to the absence of existing residential or business driveways on this section of 16th Avenue, the existing low volume of through traffic and the availability of a detour route, closure of 16th Avenue will enable prompt construction of the new intersection and the reconstruction of 16th Avenue without incurring the need for staged construction.

4.3.7 Major Mackenzie Drive/Weston Road Intersection

The installation of the 2550 mm diameter storm sewer will permit the development of the lands to the northeast and northwest of the intersection. In addition, the construction of the storm sewer will permit the completion of the Weston Road capital works project adjacent to this intersection. This work must be completed prior to the opening of Canada's Wonderland for the 2005 session.

Owing to the absence of existing residential or business driveways on the section of Major Mackenzie Drive between Weston Road and Vellore Woods Boulevard and the availability of a detour route, closure of Major Mackenzie Drive will enable prompt construction of the storm sewer across Major Mackenzie Drive without incurring the need for staged construction.

4.3.8. 16th Avenue – Kennedy Road to McCowan Road, Town of Markham

The northern part of the road between Shorthill Drive and Longwater Chase has settled significantly over the past few months (approximately 100 to 150 mm). The settlement has been repaired temporarily. A borehole program undertaken in February 2005 has revealed that there is a substantial layer of peat beneath the pavement. The closure will allow the contractor to remove this material and restore the road as quickly as possible. In addition, by temporarily closing the road, the safety of workers and travelling public will not be compromised.

5. FINANCIAL IMPLICATIONS

The proposed temporary road closures are expected to result in a substantial savings in construction cost, compared to cost of maintaining traffic during construction. Funds for the works are included in approved 10-year Capital Plan for 2005.

The proposed temporary Major Mackenzie Drive road closure is expected to result in substantial savings in construction cost, compared to the cost of maintaining traffic during construction. All costs associated with the construction of the 2550 mm diameter storm sewer are to be borne by the Block 33 West Landowners Group.

6. LOCAL MUNICIPAL IMPACT

The construction of each of these projects will have a positive impact on the local communities through the improvement of the road and sewer infrastructure within each of the local municipalities.

The closure of any road creates an inconvenience to the travelling public. Regional staff will undertake a number of mitigative measures to ensure that this disruption is kept to a minimum.

Signage forewarning of the proposed temporary road closures will be placed well in advance of the road closure dates and residents will be advised directly by mail. Local traffic will be maintained at all times to provide access to business and residences.

Traffic management plans are incorporated in all Regional construction contracts. Advertisements (for closures longer than two days) will be placed in the local newspapers indicating the closure location and duration. Detour signs will be installed to properly guide motorists around the closure. Emergency services and school boards will be notified in advance of the closure to ensure no interruption in service provision.

Staff at each of the local municipalities have been contacted regarding these proposed temporary road closures and concur with the proposed closures. Local municipal staff will also be advised a minimum of two weeks prior to each specific closure.

7. CONCLUSION

Under the Municipal Act, Regional Council may delegate authority to temporarily close roads.

It is, therefore, recommended that authorization be delegated to the Commissioner of Transportation and Works for the temporary closure of:

- St. John's Sideroad between Bayview Avenue and Leslie Street in the Town of Aurora.
- Gamble Road between Bathurst Street and Yonge Street in the Town of Richmond Hill.
- Lloydtown-Aurora Road between Dufferin Street and Keele Street, Township of King.
- Warden Avenue between Herald Road and Vivian Road, Towns of East Gwillimbury and Whitchurch-Stouffville.
- Warden Avenue between Herald Road and Doane Road.
- 16th Avenue between Markham Bypass and Reesor Road.
- Major Mackenzie Drive between Weston Road and Vellore Woods Boulevard.
- 16th Avenue between Kennedy Road and McCowan Road.

The closure of these roads will allow for more cost effective and safe construction works to occur. Regional staff will take all necessary precautions to ensure that road closures are kept to a minimum and that appropriate notification is made to all that may be affected by these closures.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause were included in the agenda for the April 6, 2005 Committee meeting.)