



DEVELOPMENT AND INFRASTRUCTURE SERVICES – ENGINEERING SERVICES
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January 8, 2015

**DEVELOPMENT AND INFRASTRUCTURE SERVICES - ENGINEERING SERVICES
INFORMATION REPORT ES 2015-09**

TO: Mayor Van Bynen and Members of Council

COPY: R.N. Shelton, Chief Administrative Officer
I. McDougall, Commissioner of Community Services
A. Moore, Commissioner of Corporate Services
Members of OLT

SUBJECT: Andrew Street Reconstruction Update

ORIGIN: Director, Engineering Services

PREAMBLE

In accordance with the Procedure By-law, any Member of Council may request this Information Report be placed on an upcoming Committee of the Whole agenda for discussion.

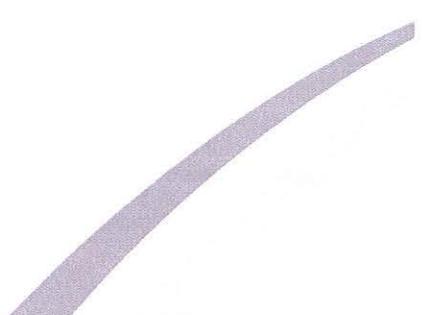
BACKGROUND/COMMENTS

At the Committee of the Whole meeting held on December 8, 2014, the Ward 5 Councillor requested an update report on the Andrew Street reconstruction project. The purpose of this report is to provide this update to the Mayor and Members of Council.

1. Sequence of Events

The contract for this project was awarded on July 3, 2013. An "Order to Commence" was issued on August 1, 2013, after the Town had received its Ministry of the Environment approval for the work. The contractor began the project on August 20, 2013. The time allotted in the contract for the completion of the work was 75 consecutive working days, but no later than December 15, 2013.

On two separate occasions (August 7, 2013 and October 11, 2013) the contractor requested an extension in time to complete the works. The Town denied the request on both occasions because the reasons given for each request were not considered to be significant or founded.



Work progressed as well as expected for the next few months. However, on December 3, 2013, at approximately 9:30 a.m., crews ruptured a gas main on Andrew Street in the vicinity of William Street. Although locates had been provided for the gas main prior to digging and the expected location of the gas main had been marked in the field by the utility company, and although the Town's consulting engineer had reviewed as-built drawings showing the expected location of the gas main, the excavator on the project ruptured the gas main which was found to be in a different location than what had been identified through all information sources. Work was halted and seven (7) households in the immediate vicinity had to be evacuated to ensure the safety of our residents.

The unexpected true location of the gas main was found to be directly under the proposed new curb, which is not a desirable location by engineering standards. Therefore, Enbridge needed to relocate the alignment and lower the grade of the gas main along Andrew Street near William Street so that it would lie beneath the new proposed boulevard instead of directly underneath the curb or below the road. The Town's work could not be allowed to proceed in the area of the relocation until Enbridge could complete its work.

The remainder of the work that could be completed without infringing on Enbridge's relocation area, including the base course asphalt for the full street, was completed by December 16, 2013. Because of the early onset of very harsh winter conditions in 2013, all work in the vicinity of the gas main relocation area, the construction of two retaining walls that were required due to grading matters and some other minor deficiencies had to be postponed to the 2014 construction season.

The site was shut down for the winter on December 16, 2013 and any outstanding work was left for completion to the spring of 2014, to be undertaken upon the completion of the gas main relocation by Enbridge.

On April 16, 2014, a project work resumption meeting was held with the consultant and the contractor. It was concluded that the Town's contractor had only a few weeks of work remaining to complete the project so it was agreed verbally by all parties that completion of all outstanding work should be possible by the end of June 2014. However, this date hinged on Enbridge's schedule for the relocation and lowering of its gas main.

On May 28, 2014, Enbridge advised the Town that they were still waiting for certain approvals and permits before they could commence the relocation work and that they would then have to wait for locates. Furthermore, Enbridge indicated that they were experiencing scheduling difficulties due to work on other emergency projects. In addition to this, the Town was advised that once Enbridge finished relocating the gas main, a different crew, also working for Enbridge, would have to mobilize to the site to complete the connection by tapping into the main near the intersection of Eagle and William Streets. This second crew could mobilize to the site only after Enbridge's first crew finished its work, after new underground locates could be received and after the new crew would finish the work they were currently conducting on another project.

Despite numerous attempts by Town staff to compel Enbridge to expedite its work so that the Town's construction could resume, Enbridge could not accommodate any acceleration of its scheduling. Enbridge finally completed its gas main relocation work on August 14, 2014.

The Town contractor's crews could not sit idle indefinitely, waiting for Enbridge to perform its portion of the work. Therefore, the contractor had mobilized to other projects in other municipalities while waiting for Enbridge. Once Enbridge had finished its work on Andrew Street, the Town's contractor was immediately advised to remobilize to the site to finish the works.

The contractor needed to get locates once again. This took several weeks to complete. Once the locates were finally obtained, the contractor returned to the site only sporadically, with very little continuity in progression of the work. Every time the contractor mobilized to the site, it was assumed that the work would resume in earnest. However, within two or three days, the contractor would abandon the work site and disappear.

The Town's consultant, its Staff and Management continuously and relentlessly made several unsuccessful telephone attempts, left voice mails and sent written notices to the contractor to order them back to work and to demand a new work schedule to which they would abide. There were several promises made by the contractor, followed by attendance at the site for a day or two, but there was no continuous attempt to finish off the job in an expeditious manner.

After several unsuccessful attempts to get the contractor to finish the work, the Town finally put the contractor on notice stating that the Town would be commencing all available legal remediation to get them to finish the project if they did not proceed within 24 hours. The contractor returned to the site and finally completed the outstanding work. The project was eventually brought to Substantial Completion on October 15, 2014.

2. Lessons Learned and Actions Taken

The same types of delays that were encountered on this project are very unlikely to recur on future projects. However, the Town has been pro-active in developing new protocols and implementing strategies to provide us with more leverage in the future so that we can avoid having any of these situations repeated. The protocols and strategies are listed below.

2.1 Small-scale Residential Evacuation Protocol:

A few weeks after the evacuation that was required as a result of the gas main rupture on Andrew Street, Engineering Services worked with Customer Services and Communications to develop and conduct a telephone survey of the residents who were impacted by the evacuation. The purpose was to obtain feedback and recommendations regarding the evacuation experience. Six (6) of the seven (7) households that were evacuated responded to the survey, accounting for a return rate of 85%. Results indicated that all residents who were impacted felt that the situation was handled well, overall, by the Town and the Ward Councillor. However, there were some very insightful recommendations that were made for future similar situations.

The Director convened a group of staff from various departments, including Fire Services, Customer Services, Communications, Engineering, Public Works and others to review the results of the survey and to incorporate the recommendations of the affected residents in a new protocol that they developed for future small scale residential evacuations. This new protocol now forms part of every capital works construction contract and is reviewed with contractors at pre-construction kick-off meetings. Contractors sign the document to attest that they have read and understand its contents. A copy of the protocol as it currently stands is included at the end of this information report. Please note that the document is still under review and is subject to minor modifications.

2.2 Underground Utilities:

2.2.1 Location of Underground Utilities: The Town is exploring methods that can be used to ascertain the location of underground utilities in order to reduce the likelihood of conflicts during the design stage of our capital works. For example, we are looking at the implications of adopting a Subsurface Utility Engineering (SUE) Policy to determine the locations of underground utilities with a greater degree of accuracy to avoid delays and reduce risk.

2.2.2 Excavation Near Underground Utilities: Contractors will be reminded at pre-construction meetings and at all project meetings that they must comply with all legislation, regulations and best practice guidelines to ensure safe excavation around underground utilities.

2.2.3 Scheduling of Work by Utility Companies: Any work required by the utility companies will be subject to scheduling agreements prior to undertaking the work. Although the Town does not currently have any leverage to compel the utility companies to abide by the established schedules, the fact that a written schedule has been signed and agreed upon by the utility company may help in ensuring that they consider the Town's work as a priority.

2.3 Increased Leverage and Penalties/Consequences for Poor Performance:

In the past, Engineering Services was more lenient in trying to work with contractors rather than exercising its rights under construction contracts (i.e. liquidated damages and other consequences). Engineering Services is working with the Procurement and Legal departments to revisit our contract wording and the concepts surrounding the application of working days and liquidated damages. We are incorporating stronger wording in our contracts to put all bidders on notice that the Town intends to exercise its rights to the fullest when it comes to performance on all capital works. The contract's Liquidated Damages and "Notice of Default" provisions will also be more rigorously applied and therefore, wording to that effect will advise contractors that the Town will henceforth be strict in applying its rights under the contract. It will become standard practice to contact the contractor's surety (bonding) company to report any serious performance issues or scheduling delays that are in the contractor's control but that persevere after the contractor has been advised to rectify them.

Another new strategy to be implemented is that, instead of rating a contractor's performance only at the end of a project, the Town will henceforth conduct Contractor Performance Evaluations at various milestones throughout the project to highlight good performance and to identify areas needing improvement. Evaluations could also be done at times when concerns regarding performance arise. These periodic evaluations will be used for consideration in future contract awards.

2.4 Communication Plan:

The Town is in the process of developing a new communication plan that will be put in place for all capital projects in 2015 and onward. Part of this plan will include regular construction newsletters that will go to residents and more frequent communication to keep them apprised of what has been accomplished to date and what can be expected in the next stages of the project on their street.

2.5 Earlier Tendering:

The Town has now begun scheduling the design of its capital works in a way that will allow it to go to tender several months earlier in the year than it has in the past. This will not only ensure that the starting dates for contracts will be earlier in the spring, but it will also hopefully help the Town to receive lower prices for projects because they will be tendered at a time when contractors are not yet busy and are looking for early work to get their crews and equipment busy. This new practice was implemented at the end of 2013 to avoid having a late start to projects, thereby reducing the chances of having to carry-over the work into the next construction year due to the onset of winter conditions as was the case on Andrew Street.

BUSINESS PLAN AND STRATEGIC PLAN LINKAGES

- Living Well...promotes activity to provide a more safe and secure environment.
- Well Equipped and Managed...provides for more effective management of capital projects.
- Well Planned and Connected...through improved communication.
- Well Respected... through managed partnerships and cooperation with stakeholders.

CONSULTATION

Procurement Services staff were consulted in the preparation of this report.

HUMAN RESOURCE CONSIDERATIONS

No impact to current staffing levels.

BUDGET IMPACT

Operating Budget

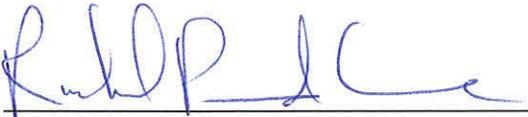
No impact on current and future operating budgets.

Capital Budget

An investment of funds to conduct Subsurface Utility Engineering (SUE) investigations typically yields a cost savings in total construction costs. Therefore, no additional capital funds should be required.

CONTACT

For more information on this report, please contact: Rachel Prudhomme, M.Sc., P.Eng., Director, Engineering Services at ext: 2501 or via email to rprudhomme@newmarket.ca



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SMALL SCALE EMERGENCY PROCEDURES ON CONSTRUCTION SITES

Definition of an Emergency

An emergency is a sudden, unexpected, unplanned or impending situation or occurrence whether natural, man-made or otherwise, that may cause injury, loss of life, substantial damage to property and/or interfere with the normal activities of a person or persons and requires immediate action to mitigate the situation.

Types of Emergencies Encountered on Construction Sites

The most commonly encountered types of emergencies that may be encountered on a construction site that requires immediate action up to and including evacuation are, but not limited to the following;

- Natural gas main breaks and/or leakages
- Downed power lines
- Watermain breakages
- Road collapse or cave-ins
- Trench collapse or cave-ins
- Structure collapses
- Hazardous chemical spills and/or release
- Flammable liquid spill and/or release

Immediately upon discovering or being notified of an emergency situation or condition on a construction site that is under the care and control of a contractor, the contractor shall;

- Assess the situation or condition for hazards and/or potential hazards;
- Determine whether or not the situation may result in injury or loss of life or substantial damage to property;
- If such hazards are present, call 911 immediately and advise the emergency services call taker of the following: (If unable to assess the severity of the situation then call 911 without delay.)
 - The nature of the emergency;
 - Answer any questions that the 911 call taker may ask, and;
 - Remain on the phone until the arrival of the first responders or otherwise directed by the call taker
- If utilities are involved or affected, immediately contact the appropriate Utility Companies to turn off or otherwise make the utilities safe;
- Render immediate assistance as appropriate to and remain with the injured parties if applicable
- Ensure that the scene is not disturbed unless it is required to preserve life or prevent additional injuries or significant property damage;
- Ensure that onlookers are kept at a safe distance and do not interfere with or alter the scene;
- Enlist the assistance of others as appropriate to prevent further injuries and/or loss of life or damage to property as long as it is safe to do so; and,
- Notify the Town of Newmarket as soon as possible.

Upon arrival of the emergency first responders, they will take control of the scene and the contractor shall;

- Render any assistance and/or information as directed that the first responder agencies require to control or mitigate the situation;
- Notify the appropriate authorities such as the Ministry of Labour, Lake Simcoe and Region Conservation Authority, Ministry of the Environment, Department of Fisheries and Oceans, Regional Municipality of York, etc., as appropriate; and,
- Provide the Town of Newmarket with a written report of the occurrence within 24 hours as directed.

If evacuation is necessary, the Town of Newmarket shall ensure;

- That the necessary information is disseminated to the affected residents;
- That the residents are provided with an emergency telephone number where they can obtain updates and information as to when it is safe to return to their residences;
- That a safe gathering place and temporary shelter is provided to those residents who require it. Depending on the anticipated duration of the evacuation this could be a bus, a church, library, community centre, etc., as appropriate;
- That food, snacks and potable water is provided to those residents who require it;
- That sanitary facilities are provided to residents for the duration of the evacuation as appropriate;
- That special assistance is provided to the elderly and physically challenged in the evacuation process as appropriate; and,
- That the names, addresses cell phone numbers and destinations of the evacuees are logged.

This Notice shall be posted in a visible area in the site office at all times.

I have read and understand the above instructions:

Contractor's signature

Title/position

Date

Company Name (Please print)

Witness name (please print)

Witness Signature