



Minutes of Special Council Meeting

April 10, 2017

6:00 PM

Town Hall, Council Chambers

**Present:**

Mayor David Reid  
Reeve Walter Stack  
Councillor Ted Strike  
Councillor Dan Lynch  
Councillor Lynn Grinstead  
Councillor Tom Burnette  
Councillor Frank Dugal

**Also Present:**

Michael Wildman, CAO  
Maureen Spratt, Town Clerk  
Kaila Zamojski, Deputy Clerk/ A/Human Resources Officer  
Jennifer Morawiec, GMCS/Treasurer  
John Steckly, Director of Public Works  
Ken Terry, IT Support Coordinator  
Jacques Benoit, Chief Building Official  
Cory Nicholas, Fire Prevention/Protection Officer  
John Harnick, HR Clerk  
Robin Paquette, Town Planner  
Lindsay Wilson, MEDO

**Absent:**

Stantec Consulting – John Krug and Kevin Alemany

1. Call to Order

Mayor David Reid called the Special Council meeting to order at 6:00 PM and welcomed those present.

2. Roll Call

The roll was called, with all Members of Council being present.

3. Adoption of Agenda

Resolution No. 125-17

Moved by Dan Lynch

Seconded by Tom Burnette

**Be It Resolved That** the agenda for the Special Meeting of Council dated Monday, April 10, 2017 be adopted.

Resolution CARRIED

4. Disclosures of Pecuniary Interest

None

5. Awards/ Delegations/ Presentations

a) **Presentations**

i) **Update on Drinking Water Advisory & Recommendations – Director of Public Works & Stantec Consulting**

The Director of Public Works and Stantec Consulting Representatives, John Krug and Kevin Alemany, provided an overview presentation outlining the Update on the Drinking Water Advisory and provided recommendations, while responding to questions. This presentation is attached as Appendix A and forming part of these minutes.

## Minutes of Special Council Meeting

Resolution No. 126-17

Moved by Walter Stack

Seconded by Tom Burnette

That Council receive the Update on Drinking Water Advisory and Recommendations Presentation as information.

Resolution CARRIED

6. Confirmatory By-Law

Resolution No. 127-17

Moved by Dan Lynch

Seconded by Walter Stack

**That** By-law No. 6691-17 being a By-law to confirm the proceedings of the Special Meeting of Council held on April 10, 2017 be and it is hereby enacted and passed.

Resolution CARRIED

7. Adjournment

Resolution No. 128-17

Moved by Lynn Grinstead

Seconded by Ted Strike

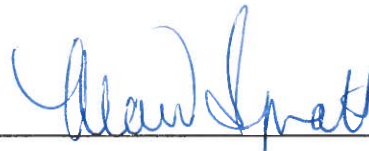
**That** this meeting of Council be adjourned at 6:45 pm.

Resolution CARRIED





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David Reid, Mayor



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Maureen Spratt, Town Clerk



# Drinking Water Advisory Update

John Steckly, Director of Public Works  
John Krug and Kevin Alemany, Stantec

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## Background

- August 10<sup>th</sup>, 2016
- Four watermain valves along Daniel Street closed to allow for disconnection and replacement of Havey Street watermain.
- Within minutes, Town received numerous calls of no water in south-west quadrant of Town.
- Staff immediately re-opened valves.

## Background

- In accordance with procedures, staff notified RCDHU and MOE of pressure loss.
- RCDHU ordered Drinking Water Advisory (DWA) due to potential for contamination.
- DWA lifted following full flush of system and two clean sets of bacteriological samples obtained 24 hours apart.

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## Background

- Previous water model analysis indicated Daniel Street watermain could be isolated without complete loss of pressure.
- Why did system react the way it did?
- Town requested services of Stantec to complete further testing and water model analysis.

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## Stantec Personnel

- *John Krug, M.Eng., P.Eng.: 36 years experience with a specialization in planning and design of potable water systems*
- *Kevin Alemany, M.A.Sc., P.Eng. 18 years experience with a specialization in planning, design and hydraulic modeling potable water systems*

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## Stantec's Experience with Town

- *Stantec developed most recent hydraulic model of Town's water system.*
- *Numerous servicing assessments & subdivision reviews within the Town.*
- *Keen understanding of the Town's water distribution network.*
- *Currently design engineers for drinking water plant upgrade.*

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## Problem Statement

1. *Identify & rectify reason for loss of pressure in a distribution network that was not expected to lose pressure under the existing conditions.*
2. *Assist the Town in preventing similar occurrences in the future under both planned shutdowns and emergency failures (i.e. pipe breaks).*

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## Stantec's Strategy

- *Using non-destructive measures such as hydrant testing and hydraulic modeling, assess the network conditions to identify inconsistencies and problem areas.*
- *Work closely with the Town's operations staff to assess the situation and to develop recommendations to mitigate and/or prevent future situations.*

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## Hydrant Test Program

- *Stantec with the assistance of the Town's Public Works staff, developed an initial hydrant testing program*
- *Test #1: Assess continuity of network along southeastern path from the plant to Charles/Arthur.*

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## Hydrant Test Program - Test #1

- ***Aug 18<sup>th</sup>***: *Assess continuity of network along southeastern path from the plant to Charles/Arthur.*
- ***Findings***: *250mm dia. pipe across field between James and Fairview has significant loss of hydraulic capacity. Historical report identifies "Field" pipe as nearing its end of life due to corrosion.*

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## Hydrant Test Program - Test #2

- **Aug 24<sup>th</sup>:** Determine pressure profile from Vanjumar, along Russett, Daniel, Charles, Fairview, Havey to plant.
- **Findings:** Significant drop in pressure along Charles between Fairview and Daniel is observed, indicative of a blockage or closed valve along Charles.

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## Hydrant Test Program - Test #3

- **Aug 25<sup>th</sup>:** Assess flows and pressures along Arthur and Charles
- **Findings:** Low flow condition with the hydrant at Arthur and Isabella. Considered a secondary finding with little relevance to the pressure drop along Charles. Nevertheless, further inspection of hydrant at Arthur/Isabella is recommended.

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## Hydrant Test Program - Test #4

- **Sept 14<sup>th</sup>:** Determine pressure profile along Charles from Daniel to Fairview.
- **Findings:** Similar to Aug 24<sup>th</sup> profile test, significant pressure drop observed between Isabella and Elizabeth, indicative of a blockage or closed valve along this section.

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## Hydrant Test Program - Test #5

- **Sept 20<sup>th</sup>:** Determine pressure profile along Arthur from Daniel to Charles.
- **Findings:** Localized higher than expected pressure drop between Elizabeth and John Findlay. Considered a secondary finding as this alignment is a smaller 150mm dia. pipe with limited conveyance capacity.

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## Hydrant Test Program - Test #6

- **Oct 5<sup>th</sup>:** Determine pressure profile along Charles from Isabella to Elizabeth using residential meters.
- **Findings:** Pressure drop is uniform which is not consistent with findings from Aug 24<sup>th</sup> and Sept 14<sup>th</sup>. Blockage or closed valve condition not apparent anymore.

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## Hydrant Test Program - Test #7

- **Nov 14<sup>th</sup>:** Repeat of pressure profile test along Charles from Isabella to Elizabeth using residential meters, with flow from opposite direction.
- **Findings:** Pressure drop is still uniform indicating that blockage or closed valve condition not apparent anymore. Connection at Daniel/Charles to be tested to ensure connectivity.

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## Hydrant Test Program - Test #8

- **Feb 22<sup>nd</sup>:** *Confirm connectivity of watermains at Charles and Daniel.*
- **Findings:** *Flows measured indicate hydraulic connectivity at Daniel/Charles. Field investigation reveals no watermain along Isabella as shown in database. Missing watermain is secondary finding with no impact on the overall findings.*

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## Hydrant Test Program Summary

- *Problem existed during Aug & Sept hydrant tests consistent with Aug 10<sup>th</sup> loss of pressure condition.*
- *By October 5<sup>th</sup>, “blocked” pipe or closed valve condition not apparent anymore.*
- *Possible reasons: closed valve was worked open or blockage cleared due to high flows during tests*

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## Hydrant Test Program Summary

- *Process has revealed system deficiencies in: pipe conditions (“Field” & Charles); hydrant conditions (Arthur @ Isabella); and, pipe redundancy (Daniel @ Baskin).*
- *Process has also inadvertently “fixed” the problem through working of a closed valve or clearing of a pipe blockage.*

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## Concurrent Network Assessment

- *Stantec reviewed network redundancy and impact of proposed developments.*
- *2013 Potable Water Master Plan included developments that have not proceeded.*
- *Critical link identified at Daniel & Baskin.*
- *Completion of Baskin Drive loop will provide critical system redundancy.*

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## Recommendations

- *How do we prevent?*
  - *Continue hydrant flushing program to keep pipes clear*
  - *Expand hydrant flow test program*
  - *Regular calibration of model with field data*
  - *Rigorous pressure monitoring during construction shut downs*
  - *Additional short term and long term infrastructure upgrades*

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## Recommendations

- *How do we prevent?*
  - *System Redundancy and Resiliency Analysis*
    - *Further review of entire water distribution network to determine where additional upgrades and redundancy links should be constructed to make the system more robust and resilient.*
    - *Certain measures will be recommended in order to protect users and support growth going forward.*

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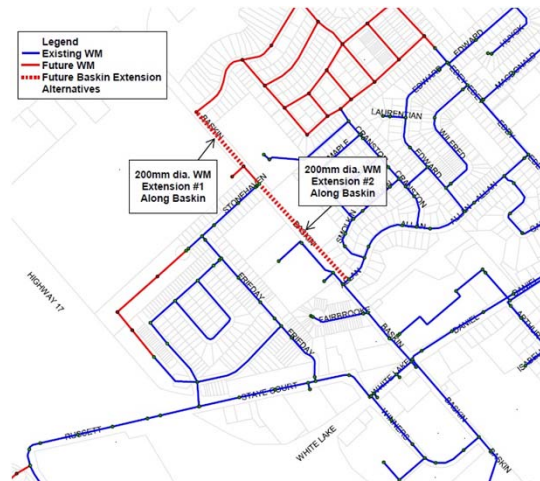
## Recommendations

- *New Infrastructure projects on Baskin Dr:*
  - *Extension #1: Stonehaven Way to Callahan Subdivision recommended to be constructed and connected through Callahan Subdivision before further developments proceed in the southwest.*
  - *Extension #2: Allan Dr to Stonehaven Way recommended to be constructed when vacant lands on Baskin Dr are developed or during urbanization of Baskin Dr.*

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## Recommendations



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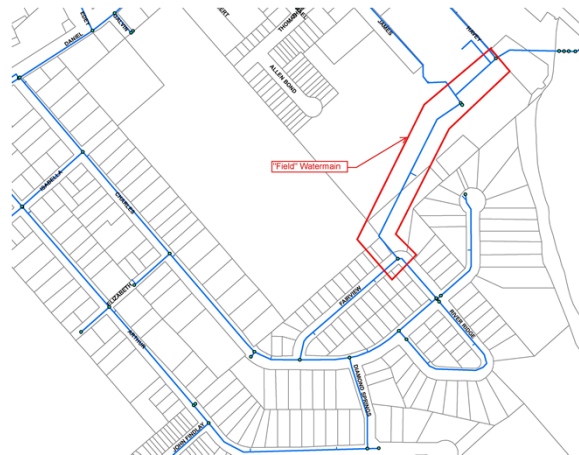
# Recommendations

- *New Infrastructure projects:*
  - “Field” watermain age and condition updated based on previous pipe integrity report.
  - “Field” watermain now in AMP recommending replacement in LRCF.

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# Recommendations



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## Final Words

- *The Town took effective action when a problem presented itself.*
- *Lessons were learned to prevent similar incidents from occurring in future.*
- *Investigation costs were kept low with the Town carrying out field investigations.*

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## Final Words

- *Recommendations will improve the Town's level of service in providing potable water.*
- *With the precautions taken, there was no risk to health and safety.*

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# Questions?



• WHERE THE RIVERS MEET •

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