



## MAYOR & COUNCIL COMMUNICATION

**DATE:** June 21, 2015  
**CONSENT**  
**ITEM** #18

**AGENDA ITEM:** Section 34 Water System Pressure Surge Investigation – Approve Authorization No. 7 for TKDA.

**SUBMITTED BY:** Jack Griffin, City Engineer

**THROUGH:** Kristina Handt, City Administrator

**REVIEWED BY:** Cathy Bendel, Finance Director  
Mike Bouthilet, Public Works  
Chad Isakson, Assistant City Engineer

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**SUGGESTED ORDER OF BUSINESS *if removed from the Consent Agenda*:**

- Questions from Council to Staff ..... Mayor Facilitates
- Public Input, if Appropriate.....Mayor Facilitates
- Call for Motion ..... Mayor & City Council
- Discussion ..... Mayor & City Council
- Action on Motion..... Mayor Facilitates

**POLICY RECOMMENDER:** Engineering.

**FISCAL IMPACT:** \$16,500 to be funded through the Section 34 Water & Sewer Utility Extension project fund which has been fully assessed against the benefitting properties.

**SUMMARY AND ACTION REQUESTED:**

The City Council is respectfully requested to approve an Authorization with TKDA to complete the Section 34 Water System Pressure Surge Investigation.

**LEGISLATIVE HISTORY/BACKGROUND INFORMATION:**

The City water system is experiencing periodic pressure surges in the Savona development in the transitional area between the high pressure zone (on top of the hill) and the low pressure zone (townhome units along Keats Avenue at the bottom of the hill). Each time a hydrant or valve is manipulated within this region the water system creates a surge causing pressures up to 150 PSI in some homes, exceeding the rated pressure limits for private plumbing fixtures. Engineering

and Public Works have met on several occasions to discuss and troubleshoot the issues and causes and have concluded that a detailed investigation will be needed to identify all potential sources for the pressure surges and to make recommendations (valve settings, operating procedures, valve manipulation training etc.) to mitigate and manage the surges going forward.

In particular, the investigation will need to include pressure monitoring over an extended time period and over various operating conditions and locations (tank levels, pumps on/off, varying water use periods, etc.) to gain a better understanding of the issues. To monitor pressures engineering and public works are proposing to purchase three pressure logger devices at a cost of \$500 each. Rather than rent them for this study it is believed that these devices will be useful to the water operating staff as the water system continues to expand.

**RECOMMENDATION:**

Staff is recommending that the City Council approve, *as part of the consent agenda*, the Section 34 Water System Pressure Surge Investigation, Authorization No. 7 for TKDA. The recommended motion for the action is as follows:

***“Move to approve the Section 34 Water System Pressure Surge Investigation, Authorization No. 7 for TKDA in an amount not to exceed \$16,500.”***

**ATTACHMENT(S):**

1. TKDA Authorization No. 7.

In accordance with GENERAL AGREEMENT between the City of Lake Elmo (“CITY”) and TKDA, Inc. (“ENGINEER”), dated **FEBRUARY 8, 1988** (“AGREEMENT”), the ENGINEER agrees to provide Professional Engineering Support Services as follows:

## SECTION 34 WATER PRESSURE INVESTIGATION

**PROJECT OVERVIEW:** The Project includes Engineering Services for the Section 34 Water Pressure Investigation as detailed within this Authorization. The investigation includes identification of the source of the water pressure surging issues experienced in Lake Elmo’s intermediate pressure zone in the Section 34 area together corrective recommendations and best practices for ongoing operations.

**SERVICES TO BE PROVIDED BY ENGINEER:** TKDA, Inc. shall provide the following Professional Engineering Services:

1. Perform a desktop review of infrastructure in place including irrigation valves, piping, pressure reduction valve stations, and any additional information requested by TKDA.
2. Complete a field investigation including but not limited to data collection of the existing system pressure, hydrant/valve operations, and review of the existing pressure reduction valve settings.
3. Prepare a Technical Memorandum detailing the investigation procedures, preliminary findings and an engineering opinion on the source(s) of the pressure surging issue, and provide written recommendations for Best management practices and procedures for future operation of the system.
4. Purchase the pressure logger devices (3) for the investigation. Provide the City the pressure loggers after completion of the analysis and invoice the cost of the devices as a part of this authorization.

**CITY RESPONSIBILITIES:** The city (or its consultants) will provide the following:

1. Provide data and information requested by TKDA.
2. Field work coordination when operation of hydrants/valves or access to pressure reduction stations are requested.

**TIMES FOR RENDERING SERVICES:** ENGINEER shall perform its services and provide deliverables in a timely manner.

**CITY'S REPRESENTATIVE AND CONTRACT ADMINISTRATION:** The CITY's representative with respect to services rendered by ENGINEER under this AUTHORIZATION shall be the Assistant City Engineer. Project correspondence must be addressed to:

Chad Isakson, P.E., Assistant City Engineer  
City of Lake Elmo  
3800 Laverne Avenue North  
Lake Elmo, MN 55042  
651.300.4283  
Email: [Chad.Isakson@FOCUSengineeringinc.com](mailto:Chad.Isakson@FOCUSengineeringinc.com)

**COMPENSATION:** Compensation to the ENGINEER for the Professional Services for the Section 34 Water Pressure Investigation shall be on an hourly rate basis in a not to exceed amount of **\$15,000** plus an expense reimbursement for 3 pressure logger devices in the estimated amount of **\$1,500**. Invoices shall be submitted once each month and should be sent to the attention of the Assistant City Engineer.

**ADDITIONAL SERVICES:** If authorized by the City, ENGINEER shall furnish or obtain from others Additional Services which are not considered under this Authorization. Such services shall be compensated for on an Hourly Rate basis in an amount approved by the City prior to any services being started or as otherwise mutually agreed. The City is not obligated to compensate ENGINEER for services completed outside the approved scope of work which are completed prior to ENGINEER submitting a written request to the City, and receiving written approval of the City.

**APPROVAL AND ACCEPTANCE:** Approval and Acceptance of this Authorization, including the attachment(s) listed above, shall incorporate this document as part of the AGREEMENT. ENGINEER is authorized to begin performance of services upon receipt of a copy of this Authorization signed by CITY.

The Effective Date of this Task Order is **June 21, 2016**.

TKDA, INC.

CITY OF LAKE ELMO, MINNESOTA

By \_\_\_\_\_  
(Authorized Principal of the Firm)

By \_\_\_\_\_  
City Administrator