



## MEMORANDUM

**To:** Mayor and City Council

**From:** Kent Collins, P.E., Interim Director of Engineering and Public Works

**Date:** April 24, 2018

**Reference:** Update on North Lake Raw Water Pumping Solution

**2030:** Sustainable City Government, Goal 3  
Excellent and Well-maintained City Infrastructure and Facilities

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### General Information:

- The City has a contractual obligation to operate North Lake within a specified water elevation of a 1 foot “operating pool depth”
- In 2017, the City completed a Northlake Water Supply Study with Brown & Gay Engineering (BGE) outlining three options for supplying water to meet the obligation.
- The three options included: using treated water; drilling wells; or pumping raw water.
- BGE recommended a raw water pumping solution via rehabilitation of the existing but inoperable intake pump station and existing 42” pipeline.
- In late 2017 Kimley-Horn and Associates (KHA) was engaged to investigate the current condition of the pump station and pipeline and the cost of the rehabilitation.
- KHA estimated that the rehabilitation cost for the pump station and pipeline was approximately \$7.2 million with a long construction schedule.
- KHA then evaluated and recommended an operational raw water pumping solution for North Lake. A design contract was awarded for this solution on March 27, 2018.

### Introduction:

This agenda item is presented to provide an update on the North Lake raw water pumping solution.

### History:

North Lake was built in 1957 by Dallas Power and Light (later known as Luminant) as a cooling pond for a steam electric generating plant. In 2010, the power plant was decommissioned and by 2012, ownership was transferred to the City of Coppel. Cypress Waters soon began to develop around the lake. In the agreement with Cypress Waters, the City was responsible for lowering the pool elevation by 25 feet, constructing a new spillway, and lowering the elevations of the main and saddle dam. Construction of these modifications by the City was complete in 2014. Currently, North Lake has a

normal pool elevation of 485'. The City has a commitment to maintain North Lake within a specified water elevation of a 1 foot "operating pool depth" by summer 2018.

**Analysis:**

To assist the City in meeting the deadline for providing water to North Lake, on March 27<sup>th</sup> the City engaged KHA to design improvements to the pump station intake channel, a temporary road and concrete pump pad, and improvements to the existing pipeline to facilitate temporary connections for the mobile pump. KHA will then assist in developing bid specification for an on-call pumping contractor to provide turn-key pumping of the raw water needed to maintain the lake level. It is expected that pumping will only be needed in dryer-than-average years, and the volume will vary from year to year. Further, when pumping is required, it is expected that it will only occur for a few months out of the year. This sporadic nature of the pumping requirement highlights a chief benefit of the on-call pumping solution, that regular maintenance of unused pumping and electrical equipment will be avoided.

The opinion of probable cost suggests an upfront construction cost of approximately \$1.5 million for the as-needed raw water scenario with the annual contracted pumping cost of around \$60,000. This solution provides a significant cost-savings over the long-term permanent solution with an estimated cost of \$7.2 million plus ongoing operations and maintenance.

**Legal Review:**

This item did not require legal review.

**Fiscal Impact:**

There is no fiscal impact related to this item.

**Recommendation:**

This is an update on the North Lake Raw Water pumping solution. Staff is not recommending any action.