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## MEMORANDUM

<b>TO:</b>	Chief Charles Moore (TMFPD) & Bill Wardell, Project Manager (Washoe County)
<b>FROM:</b>	Lonnie Johnson, P.E.
<b>SUBJECT:</b>	TMFPD – Verdi Area Fire Water Program
<b>DATE:</b>	1-15-18

Per our recent meeting held at TMFPD office on 1-9-18, below is a summary of the initial efforts and goals identified to address improving access to Fire Water supplies in the Verdi service areas:

It is our understanding that Dyer Engineering Consultants (DEC) will assist TMFPD in identifying fire water supply sources within the Verdi service areas and analyzing those sources with respect to the ability, or lack thereof, for those sources to be utilized for timely fire emergency response throughout the TMFPD Verdi service areas. DEC will provide conceptual engineering efforts to advise on feasibility and preliminary cost estimates for generally three concepts:

1. Municipal water main extensions with fire hydrants every 1000 feet.
2. System of Cisterns and/or standpipes that the fire department can charge with water from nearby canals or ponds at the park.
3. Additional length of fire hose supply lines by means of a hose wagon or other methods.

Our first task will be to request from TMWA the location and size/capacity of all existing municipal water mains in the region. DEC will also meet with TMWA to determine the latest capital improvements planned for the Verdi service areas to better understand the timeline for future municipal water main extensions and water storage improvements.

Utilizing the outcome of our research with TMWA, we will overlay the TMFPD Verdi service areas with TMWA's capital improvements, both existing and future. This will allow for further exploration of where new water mains would need to be installed, and the potential costs and timeframes for such improvements (per Option #1, above).

Concurrently, with the efforts to determine municipal water supply concepts, we will also explore Option #2 – a system of Cisterns and/or standpipes that can be kept full of fire water during non-emergency periods. We will determine how many gallons are needed for storage in each Cistern, and recommend potential locations to install them throughout the Verdi response areas. Preliminary cost estimating for these water storage systems, including installation/construction costs, will be completed.



Lastly, we will research the Option #3 (additional hose supply) and how that might support the other options, including reducing costs and/or response times. DEC will also assist with identifying other potential solutions to respond to specific areas as more information is obtained.

Our estimated timeframe for these efforts are as follows:

- January 15 – Feb 1<sup>st</sup>: Identify existing water infrastructure and planned future improvements, meet with TMWA to discuss TMFPD needs.
- Feb 1<sup>st</sup> – March 1<sup>st</sup>: Analyze the three options above and develop conceptual recommendations on feasibility, preliminary costs, and programming. Ongoing meeting and coordination with TMFPD, WC & TMWA, as needed.
- March 1<sup>st</sup> – March 30<sup>th</sup>: Provide Draft Verdi Fire Response Program report, meet with TMFPD & WC to present draft findings, Produce Final Report based on input from the team.

If you have any questions regarding our planned efforts and goals, or would like to discuss adjustments in those efforts and/or estimated schedule, please call me at 775-420-4549 (Direct) or 775-342-5171 (Cell).