



MEMORANDUM

TO: North Tulare County Drinking Water Authority
FROM: Gary D. Horn, Orange Cove City Engineer
DATE: May 21, 2106
SUBJECT: City of Orange Cove Application for Funding for Feasibility Study for Water Supply Projects in Conjunction with the North Tulare County Drinking Water Authority

BACKGROUND

City of Orange Cove Water System:

- All of its water is supplied by the Bureau of Reclamation (USBR) through the Central Valley Project's Friant-Kern Canal. We have a USBR contract for 450 million gallons (MG) of Class I water and an agreement with Lower Tule Irrigation District to purchase up to 650 mg of their allocation. Availability is subject to runoff volumes.
- Canal water is treated at the City's Water Treatment Plant. Current capacity is 3.0 million gallons per day (mgd). Maximum day demand before the drought was 2.7 mgd. More recently it has been 1.5 mgd. Annual water use pre-drought was 689 mg in 2008. Water use in 2015 was 430 mg.
- When the Friant-Kern Canal is shut down for maintenance the City stores water ahead of time in unlined earthen basins. The storage basins can only hold about a 30-day supply of water. Canal maintenance occurs between November and February when demands are lower.
- The City has no groundwater wells. The aquifer is quite narrow with low well yields and contaminated with Nitrates above the State standards.

Orange Cove Challenges:

- Supply of water during drought years.
- Secondary supply of water during extended Friant-Kern Canal shut down for maintenance.
- Water quality in Friant-Kern Canal during low flow conditions.

North Tulare County Drinking Water Authority Water System

- Serves seven communities in Northern Tulare County: Orosi, Cutler, Sultana, East Orosi, Seville, Monson and Yettem.
- Annual water demand is 742 mg.
- Joint well pumping capacity of 2,920 gpm.

REQUEST

Support an application by the City of Orange Cove to the State Water Board or Department of Water Resources for a Feasibility Study for two projects:

- Water Main connection with booster pumps between the City of Orange Cove and the North Tulare County Drinking Water Authority (NTCDWA) water system.
 - Provide a secondary source of water for both the City of Orange Cove and the NTCDWA.
- Construction of a raw water pipeline from the Kings River headwater of the Alta Irrigation District East Main Canal to serve both the City of Orange Cove and the NTCDWA.
 - Provide a secure source of raw water for both treatment plants that is not subject to canal maintenance or surface water contamination.

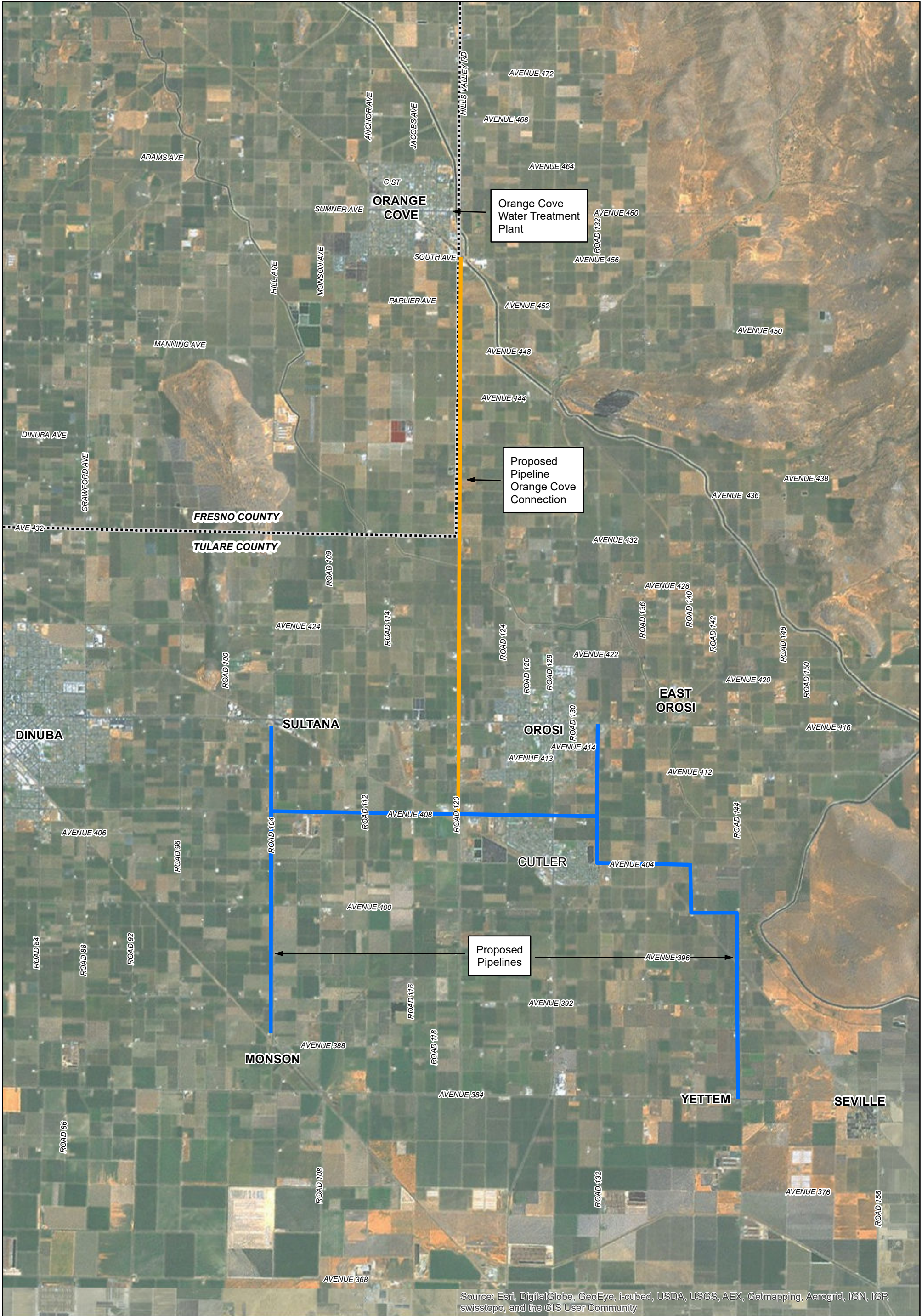
Cost for the preparation of the application will be borne by the City of Orange Cove.

FEASIBILITY STUDY TOPICS

- Engineering Design - Pipe sizes, pumping and storage tank requirements. Need for additional groundwater well in the NTCDWA area.
- Financial Requirements – Construction, operational and maintenance costs.
- Legal Aspects – Water rights and purchase contracts, joint use agreements and operational control. Right of way issues.

BENEFITS FOR BOTH SYSTEMS

- Provides a secondary source of water for each system for emergency use.
- Provides a secure water source for both treatment plants.
- Allows access to both the Kings River and Friant-Kern Canal as a source of supply.
- Improves regional aspect of applications for funding by the State for Disadvantaged Communities.
- Increases amount of Sec. 215 Temporary Water from Millerton Lake during wet years available for water banking by Alta Irrigation District.



0 2,500 5,000
Feet

North Tulare County Regional Surface Water Treatment Plant Study





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



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Feet



Prepared for: City of Orange Cove

Fresno County Eastside Water Supply Project