



WHY WE DID THIS AUDIT

This audit of TGTF Construction Project Management was included in the Council-approved Audit Plan as part of our routinely scheduled audits of construction projects. The audit objective was to review contract administration, compliance, and cost-effectiveness for the project.

BACKGROUND

Located on the corner of Thomas and Pima roads, the Thomas Groundwater Treatment Facility (TGTF) is a reverse osmosis treatment plant adjacent to the existing Central Groundwater Treatment Facility (CGTF). The new facility also houses administrative offices and meeting space.

The project was managed by the Capital Project Management department and used a Construction Manager at Risk (CMAR) delivery method.

The sitework and construction of the administrative building was completed in February 2022. The water treatment equipment was completed in February 2023. Project costs totaled about \$32 million.

AUDIT HIGHLIGHTS

April 2025

TGTF Construction Project Management

Audit No. 2204

WHAT WE FOUND

Insufficient evaluation of the GMP proposal and monitoring of subcontract selection results increased the risk of paying higher construction costs.

- An independent estimate or review of the Guaranteed Maximum Price (GMP) cost proposal was not conducted and competitive subcontractor bids only covered about 24% of the direct construction costs when the GMP was negotiated. The GMP was later applied as a fixed price rather than a price ceiling.
- About \$364,000 of direct construction costs were not supported by the cost proposal attached to the contract and a breakdown of the \$1.9 million General Conditions cost for GMP 2 was not included in the proposal.

Contract language for payment terms are too broad, allowing terms to be decided informally. Payment terms need to be evaluated for cost-benefit.

- The selected payment terms were not clearly stated in the CMAR contract, leading to differences in how payment amounts were determined.
- Paying a GMP contract as lump sum (or fixed price) is not advantageous in a project with limited pricing competition and likelihood of design changes.

Internal controls over invoice payment and change orders are inadequate, increasing the risk of errors, including budget overruns and duplicate payments. Implementing construction management software could help.

- The Schedule of Values did not align with GMP proposal and contained some errors. About a third of pay applications were missing backup documents.
- A contract change order covering 31 change requests was submitted at the end of the project, after work was performed, for design changes and modifications that required additional funds.
- Along with other minor entry errors, 2 duplicate payments were issued that had to be corrected later on.

Delays, final inspections, and facility commissioning were not adequately documented, potentially leading to higher costs for the City.

- Causes for schedule delays were not documented and a contract time extension was issued at the completion of the project, 2 years later.

WHAT WE RECOMMEND

We recommend the City Engineer:

- Require detailed support of approved costs and evaluation of the GMP proposal. Monitor subcontractor selection and final costs.
- Develop guidelines for establishing contract payment terms and ensure those terms are clearly stated.
- Establish stronger controls over the invoice payment process and change order management. Evaluate software solutions to improve controls and efficiency.
- Ensure construction delays are properly documented, and project files are complete.