



KING COUNTY AUDITOR'S OFFICE

Performance Audit of Management of Brightwater Treatment Plant Engineering Services Contract Amendments 2006-05

The design of the Brightwater treatment plant is a particularly complex project that has been managed by a highly experienced and diligent project manager and team. However, Wastewater Treatment Division's (WTD) management of the final design contract amendments and associated change notices did not fully comply with countywide policies and internal WTD procedures. In addition, the contract executed for the final design phase did not contain provisions to control project costs or maximize opportunities to control costs consistent with industry best practices. As a result, WTD did not ensure that the county received the most cost-effective design engineering services for the Brightwater treatment plant. The treatment plant final design contract cost increased from \$41.5 million to \$54.8 million (32 percent) during the final design, which was higher than industry standard.

The audit recommendations promote accountability to county ratepayers through consistent compliance with countywide policies and adjustment of select countywide policies and review thresholds in relation to large-scale capital projects.

Audit Objectives

Our review focused on the management of contracting practices for the Brightwater treatment plant professional engineering services, including:

- WTD's compliance with county contracting policies, overseen by the central Procurement and Contract Services Section, and industry best practices.
- The cost-effectiveness of WTD's contracting methods for treatment plant design engineering and preconstruction services.
- Potential opportunities for improving countywide and WTD contracting policies and practices.

Brightwater Contract Amendment Issues

WTD's management of the treatment plant final design contract amendments and associated change notices did not fully comply with countywide policies and internal WTD procedures. For example, WTD did not consistently submit contract amendments exceeding 10 percent of the cumulative original contract value for department director level reviews, and submit amendments exceeding \$150,000 for centralized project control review. Due to inconsistent compliance with countywide policies, WTD could not ensure that the county received cost-effective design services.

Brightwater Contracting Practices Issues

The Brightwater lump sum design engineering services contract did not contain provisions to control costs, and implementation of the preconstruction services contract did not maximize opportunities to control costs. For example, design-to-construction-budget and stop-work provisions are considered

industry standards to protect owner interests when using the lump sum contracting method. Such provisions ensure that contractual designs not only meet required county specifications, but also ensure that designs can be executed at an affordable cost. Duplication of consultant roles and responsibilities (e.g., cost estimating services) also contributed to higher project costs.

Potential Countywide Policy Improvements

Opportunities to modify select countywide policies for unique, large-scale capital improvement projects were identified during the audit. For example, delegating approval authority for select contract amendments from the department director level to the division director or major capital improvements program manager level would help ensure that both countywide accountability objectives and WTD capital project objectives (e.g., maintaining the critical schedule) were met.

Recommendations

WTD should adhere to all countywide policies and industry best practices in contracting for professional engineering and construction services. WTD should also collaborate with the Procurement and Contract Services Section in assessing and adjusting current county policies in relation to large-scale projects.

Executive Response

The County Executive disagreed with select audit findings but generally concurred with the audit recommendations. Implementation of the audit recommendations is already underway.