7. Water System Capital Improvement Program Management Services Contracts

- Since the mid-1990s, the Public Utilities Commission has been developing a long-term capital improvement program which has decreased in scope from more than 150 water and clean water projects (1998) to 71 water projects only (2005), with a current total timeframe of 15 years and a total estimated cost of \$4.3 billion. Since September 22, 2000, the Public Utilities Commission has contracted with three contractors for program management services and, under the latest contract, for project and preconstruction management services as well.
- The Budget Analyst identified major deficiencies in the first contract, including inadequate performance measures, problematic performance fee payments, inadequate training and skills transfer, consistent underexpenditure, and inadequate consideration of the need for an programmatic environmental impact report.
- The new Program, Project, and Pre-construction Management Services Contract between the Public Utilities Commission and Parsons Water and Infrastructure, Inc. does not explicitly include program performance measures or key milestones. The Board of Supervisors has requested the programmatic performance development of measures. programmatic performance measures should address the contractor's performance in relation to the following important issues which would not be captured by the contract's current sole reliance on task order evaluation: (a) the programmatic integration of the individual projects. which are subject to change, (b) the program's progress towards achieving the Public Utilities Commission's programmatic policy parameters, which are subject to change, and (c) identifying opportunities for economies of scale, program efficiencies, streamlined contracting strategies, innovative technologies, and improved program management procedures across groups of individual projects. Further, programmatic performance measures would evaluate the contractor's contribution to (d) the program's compliance with environmental mitigation requirements and the key milestones set forth in AB 1823 and any future State legislation, (e) scheduling and cost projections, (f) the program's Disadvantaged Business Enterprise participation goals, (g) the total amount of knowledge and skills transfer from the contractor to City personnel, (h) the ratio of contractor personnel to City personnel, and (i) compliance with the contract's compensation provisions.

- As a result of these findings, the Budget Analyst recommends that the Department and the contractor jointly develop measurable programmatic performance goals for incorporation into the annual performance review requested by the Board of Supervisors.
- In response to the Budget Analyst's review of the Program, Project, and Pre-construction Management Services Contract's costs, which showed that the contract would be over-budgeted by \$7 million, the Board of Supervisors approved the contract at a not to exceed total budget of \$38 million, rather than the Department's original not to exceed total budget of \$45 million.
- There is an ongoing pattern of Department position vacancies and inadequate staffing projection plans while, instead, contractors provide personnel in technical classifications. Although the new Program, Project, and Pre-construction Management Services Contract provides for certain classifications of personnel which are more experienced and/or more specialized than the City's existing civil service classifications, the Department has a responsibility, given its commitments to City labor unions, to hire into already budgeted engineering and other technical positions as and when they are required by the Water System Capital Improvement Program.

Background

The Public Utilities Commission has been developing its Water System Capital Improvement Program since the mid-1990s, during which time the estimated total program has decreased in scope from more than 150 water and clean water projects (1998) to 71 water projects only (2005), with a total timeframe of 15 years and a total estimated cost of \$4.3 billion. Since September 22, 2000, the Public Utilities Commission has contracted for program management services from three contractors: (1) the San Francisco Water Alliance, from September 22, 2000 through June 28, 2002;

- (2) Water Infrastructure Partners, from June 28, 2002 through December 31, 2005; and
- (3) Parsons Water and Infrastructure, Inc., from July 20, 2005 through July 19, 2010.

Ten Year Capital Improvement Program Proposal (February of 1998)

In his 1994 management audit of the Water Department, the Budget Analyst recommended the development of a long-term capital improvement program. Between September of 1997 and February of 1998, the Department prepared and published its *Ten Year Capital Improvement Program*, 1998 Through 2008, for the Water Enterprise at a total cost of \$2,423,820,000 to ensure:

• System reliability (64 projects at an estimated cost of \$1,768,950,000).

- Water quality (14 projects at an estimated cost of \$510,130,000).
- Water supply (four projects at an estimated cost of \$144,740,000).

The plan as a whole contained 82 water projects, each with a proposed scope, cost estimate, and schedule. Of the total \$2,423,820,000 estimated cost for these 82 projects, a preliminary financing plan estimated that \$1.8 billion would be funded from revenue bond proceeds, while the balance of more than \$600 million would be paid out of current revenues (assuming an annual repair and replacement program of \$14 million). The first increment of financing, Propositions A and B bond revenue measures totaling \$304 million, was approved by San Francisco voters in November of 1997. Although never formally adopted by the Commission, subsequent iterations of the *Ten Year Capital Improvement Program*, 1998 Through 2008, for the Water Enterprise formed the basis for the Department's long-term water system capital improvement program planning during the period 1997 and 2005.

Contemporaneous with the *Ten Year Capital Improvement Program*, 1998 Through 2008, for the Water Enterprise report were the following major studies and planning initiatives which contributed to the Public Utilities Commission's thinking about system reliability, water quality, and water supply:

- A Facilities Vulnerability Study which assessed water system facilities' seismic risk and susceptibility to failure from other natural causes. Phase I of this study was completed prior to the Ten Year Capital Improvement Program, 1998 Through 2008, for the Water Enterprise report. Key findings related to Bay Division Pipeline No. 1, the Irvington Tunnel, and San Joaquin Pipeline No. 4.
- The Water Supply Master Plan initiated in 1997 to maximize existing water supplies, conserve and manage demand, and provide for future water needs. This plan was finalized in April of 2000 in conjunction with the Bay Area Water Users Association (the predecessor of the Bay Area Water Supply and Conservation Agency).
- The Alameda Watershed Management Plan (draft plan in 1997; final plan in 2000) and the Peninsula Watershed Management Plan (draft plan in 1998; final plan in 2001). These plans set policies and procedures for the management and land use of the two watersheds over 20 years.
- Two multi-year water treatment studies, the *Water Quality Planning Study Phase 5* and the *Information Collection Rule Study*. The Department undertook capital improvements to improve water quality, including Sunol Valley Water Treatment Plant improvements, chloramination facilities, and the Priest Reservoir Bypass.

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¹ Proposition A provided \$157 million for structural reliability and seismic safety construction. Proposition B provided \$147 million for safe drinking water quality improvements. Proposition A and B funding is still being expended in FY 2005-2006.

- The Recycled Water Master Plan (yet to be completed) and the Groundwater Master Plan (yet to be completed).
- The Clean Water Program 10 Year Capital Plan, 1998 2007 (draft in May of 1998).

Program Management Services Contract Proposal (1999)

In 1998, the Ten Year Capital Improvement Program, 1998 Through 2008, for the Water Enterprise and the draft Clean Water Program 10 Year Capital Plan. 1998 - 2007 had an estimated combined cost of approximately \$3.545 billion for more than 150 water and clean water projects. In order to implement these two plans, the Public Utilities Commission directed staff on December 15, 1998 to prepare a Request for Proposals for a contract (CS-524) for program management services and specialized technical expertise to support Department staff members and increase their capacity to accomplish the Integrated Water and Clean Water Systems Capital Improvement Program. The Public Utilities Commission wanted one prime contractor responsible for both program management and construction management services in order to centralize liability and accountability, with the prime contractor being fully responsible for the management of, Further, the Public Utilities and liability issues related to, all subcontractors. Commission considered that a single contract would avoid multiple, expensive, and lengthy contractor selection processes. As stated in the December 15, 1998 Commission packet:

The [Public Utilities Commission] intends to retain the [contractor] for the duration of the \$3.5 billion capital improvement program. The cost of program management services is estimated to range from 3% to 5% of total program costs over twelve years. Construction management services will cost an additional 5%. To maintain a high level of performance over the long term, the [Public Utilities Commission] will initially contract with the [contractor] for a four year period, allowing for two contract renewals of four years each. [...] The contract for program management services will be terminated when construction of the preferred water treatment facilities for the Hetch Hetchy water supply is complete in 2011, or earlier if major program construction is concluded.

Therefore, the Public Utilities Commission's initial concept was a contract for up to 12 years, renewable in four-year installments to permit renegotiation of terms, for an estimated total cost of between \$106,350,000 and \$177,250,000. In this initial concept, the Department considered that the proposed contract would avoid the need for the Department to hire all the staff required by the program and would result in time savings of four to six years, thereby generating programmatic cost savings of between \$150 million (approximately 4.2 percent of the estimated \$3.545 billion program cost) to \$200 million (approximately 5.6 percent of the estimated program cost). The contract was intended to more than cover its costs through programmatic cost savings achieved through economies of scale, program efficiencies, project acceleration, streamlining of contracting strategies, negotiations for professional services, innovative technologies,

value engineering, ² scope and schedule control, and program management procedures covering program/project monitoring and reporting, design activities, construction management, and professional development of Department personnel. The Public Utilities Commission did not intend to pay the contractor any more than the money it saved, so that the ratepayers would not have to pay for the contractor's services. The Public Utilities Commission also wanted the contractor to report directly to the Commission, and a senior consultant team would report directly to the Manager of the Utilities Engineering Bureau. Integrated Department and contractor staff would share decision-making responsibilities and program risks.

However, the contract as finally advertised in July of 1999 was limited to four years and a not-to-exceed contract price of \$45 million, with the contractor reporting to Department managers, and not directly to the Commission. This reduced contract scope was the result of (a) concerns that the contract would exceed available funding, (b) increased Department of Public Works capacity to contribute the required services, and (c) a lengthy drafting process involving intensive review by:

- The Public Utilities Commission which formally considered the proposed contract three times.
- The International Federation of Professional and Technical Engineers, Local 21, AFL-CIO, which litigated the contract as originally proposed given its concerns about (a) privatization of work which would otherwise be done by unionized City employees, and (b) direct supervision of City staff by contractor staff. The proposed contract was scaled down so that as-needed contractor staff would report to Department managers, with no direct reporting line to the Public Utilities Commission, and no direct supervision of City staff by contractor staff.
- The Department of Public Works which criticized what it deemed to be insufficient
 monitoring by City staff, due to a lack of intermediate managers, and the inclusion of
 a construction management component.
- The Board of Supervisors Budget Analyst who was requested by the Board of Supervisors to review the proposed contract to "determine if contracting out management functions will result in savings or increased costs; increased or decreased oversight of expenditures; and, provide any other benefits or costs when compared to managing the [Public Utilities Commission's] Capital Improvement Program with existing and/or new City staff." The Budget Analyst identified major deficiencies in the proposed contract, some of which persisted throughout the life of the resulting contract, as outlined in Table 7.1 below.
- The Civil Service Commission which was concerned that the proposed contract did not ensure that the Department would retain management responsibility for the

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² "Value engineering" is the independent overview of a facilities plan, its design criteria, and its conception at no more than 20 percent design completion, to ascertain how well the plan addresses problems it is meant to solve. It is a second look at a design to see if there is a cheaper way to build it. Value engineering can also help to reconceptualize the problem being addressed so that better solutions can be found.

program and would therefore set a precedent which would erode the Civil Service Commission's jurisdiction. The Civil Service Commission only approved the Department's application once it considered a second version on August 2, 1999.

Contract Scope

The scope of the four year contract, in the not-to-exceed amount of \$45 million, included:

- Provision of program management services and expertise for the first four years of the Integrated Water and Clean Water System Capital Improvement Program. This included developing (a) an integrated system to plan project work and resource requirements, choose the best project options, track performance against baseline budgets and schedules, forecast costs, report progress, and identify problems for effective intervention, (b) appropriate management information systems, (c) standardized procedures and a document control system, (d) streamlined contracting and procurement procedures, and (e) public information programs. The Department stated that it did not have experience in managing a capital improvement program on this scale.
- Provision of expert technical input not available from City staff through one contract, rather than a multitude of small contracts.
- Provision of staff for workload peaks in order to avoid (a) hiring permanent staff who would not be required in the long term, (b) Civil Service classification restrictions, and (c) the difficulty of trying to hire numerous staff through the Civil Service system.
- Development and implementation of an employment diversity program to achieve a minimum of 30 percent Minority Business Enterprise participation goal and a 10 percent Women-owned Business Enterprise participation goal.
- Development and implementation of a Department staff development program.

To avoid conflicts of interest, the contract scope prevented the successful bidder from bidding on detailed engineering design or construction contracts.

At the time of advertising the contract, funding had been identified only for the first \$542 million of program implementation (including the \$304 million in Proposition A and B revenue bonds), with progressive financing thereafter from future operating revenues and future revenue bond authorizations. By Contract Year 2, in 2001, identified funding for the Water System Capital Improvement Program had only increased to \$580,200,771, or approximately 12.6 percent of the increased program cost estimate of \$4.6 billion. The Public Utilities Commission estimated that the \$45 million cost of the Program Management Services Contract would be more than offset by an anticipated \$138 million

Budget Analyst's Office

The estimate of \$4.6 billion comprised (a) approximately \$3.6 billion for water system capital improvement projects, and (b) approximately \$1 billion for clean water capital improvement projects.

savings generated by the contractor during that four year period. The sum of \$138 million was 10 percent of the estimated \$1.38 billion budget for the first four years of the Integrated Water and Clean Water Systems Capital Improvement Program. During Contract Year 2, the estimated cost savings resulting from the contract significantly increased.⁴

First Contract for Program Management Services

In September of 2000, the Board of Supervisors approved the Program Management Services Contract, with the "San Francisco Water Alliance," a joint venture between Bechtel Infrastructure Corporation, Sverdrup Civil Inc., and The Jefferson Company, subject to the following modifications as recommended in the Budget Analyst's review of the proposed contract: (a) Board of Supervisors approval for annual renewal in Contract Years 2 - 4, contingent upon independent audit evidence that the contractor had performed successfully against its performance measures, (b) independent peer review, (c) the Controller's independent financial audits of the contractor, and (d) Controller certification of available funds. The San Francisco Water Alliance had been ranked second by the initial expert evaluation panel. No reason was publicly given for the Public Utilities Commission's preference for the San Francisco Water Alliance over the top ranked competitor, the H₂O Partnership.⁵

The initial term of the Program Management Services Contract with the San Francisco Water Alliance was from September 22, 2000 through September 21, 2004. However, on June 28, 2002, the Board of Supervisors approved Amendment No. 1 accepting the withdrawal of Bechtel Infrastructure Corporation from the San Francisco Water Alliance and accepting reassignment of the contract from the San Francisco Water Alliance to a newly constituted joint venture of the other two former San Francisco Water Alliance joint venture partners, Primus Infrastructure, LLC and Jacobs Civil, Inc., called "Water Infrastructure Partners." During Contract Year 2, as noted in the *Phase I Management Audit of the Public Utilities Commission - Clean Water Enterprise Fund* (September 27, 2004), the former Public Utilities Commission General Manager severed the clean water projects from the long-term capital improvement program. There was no proportionate decrease to the Program Management Services Contract, despite the significant decrease in the size of the long-term capital improvement program for which they were providing program management services from the \$4.6 billion Integrated Water and Clean Water

⁴ During Contract Year 2, the Contractor was anticipating total capital improvement program savings of \$205 million to \$420 million between Contract Years 2 and 4, including (a) \$150 million to \$250 million resulting from optioneering, (b) \$25 million to \$100 million from an owner-controlled insurance policy, (c) \$10 million to \$20 million from project labor agreements, and (d) \$20 million to \$50 million from new plans and procedures. "Optioneering" is a process which uses alternative analyses to (a) identify the real project needs, (b) determine the appropriate evaluation criteria, (c) evaluate solutions against those criteria, (d) select the optimum project, (e) define its design basis, and (f) obtain engineering and customer concurrence. Optioneering assessments include capital and operating costs, specification requirements, environmental implications, and preliminary schedules.

⁵ The H₂O Partnership was a joint venture between O'Brien-Krietzberg Associates, CH2M Hill, and EPC Consultants, Inc., in association with ten subcontractors.

Systems Capital Improvement Program to the \$3.6 billion Water System Capital Improvement Program approved by the Public Utilities Commission on May 28, 2002.

Due to delays caused by the reassignment of the contract, on February 26, 2003, the Board of Supervisors approved a three month time extension, from September 22, 2002 to December 21, 2002, for the performance of Contract Year 2 work at no added cost in order to permit the new contractor to perform the contract work which had been delayed by the contract reassignment. As a consequence, the term of Contract Year 3 was from December 22, 2002 to December 21, 2003. Contract Year 3 of the contract and the related funding appropriation was approved in three stages: (a) from December 22, 2002 through February 28, 2003, (b) from March 1, 2003 through April 30, 2003, and (c) from May 1, 2003 through December 21, 2003. This staged approval was due to Board of Supervisors concerns about (a) insufficient coordination between the Department and the contractor, (b) issues raised by the Budget Analyst and the International Federation of Professional and Technical Engineers, Local 21, and (c) ensuring a contract amendment that all future performance fee payments would be subject to Board of Supervisors approval, as recommended by the Budget Analyst. To address these concerns, Amendment No. 2 was added to the contract to set the criteria for the payment of performance fees, Amendment No. 3 was added to ensure that the contractual language conformed with audit recommendations and that the contractual terms were clarified, and Amendment No. 4 was added to ensure that the forms of compensation conformed with audit recommendations.

Subsequently, Parsons Corporation acquired Primus Infrastructure, LLC in July of 2004. On November 9, 2004, the Public Utilities Commission approved Amendment No. 5 which removed Primus Infrastructure, LLC from the Water Infrastructure Partners joint venture and added Parsons Water and Infrastructure, Inc. in its place.

The term of Contract Year 4, December 22, 2003 to December 21, 2004 was extended by the Public Utilities Commission twice. Contract Amendment No. 5, approved by the Public Utilities Commission on November 9, 2004, extended the contract until June 30, 2005 to permit completion of all major task orders. Contract Amendment No. 6, approved by the Public Utilities Commission on June 14, 2005 extended the contract for a further six months, through December 31, 2005, "to ensure that all task orders are complete, the transfer of knowledge from the current consultant to City Staff and the new consultant is accomplished, sufficient time is available for the Controller's audit to be completed, and to allow for any adjustments for short pay or overpayments before closeout of the agreement," as stated in the Public Utilities Commission agenda item. As a consequence of these two extensions, the total term of the program management services contract is five years and three months. On July 26, 2005, the Board of Supervisors approved additional funding for the contract extension of \$180,188 for three months of transition services and knowledge transfer under the existing Water Infrastructure Partners program management services contract.

Second Contract for Program, Project, and Pre-construction Management Services

On July 19, 2005, the Board of Supervisors approved a new Program, Project, and Preconstruction Management Services Contract with Parsons Water and Infrastructure, Inc. for an amount not to exceed \$38 million and for a term of five years subject to sufficient funding appropriations. In response to the analysis of the second contract's costs prepared by the Budget Analyst for the Board of Supervisors Government Audits and Oversight Committee, which showed that the second contract would be over-budgeted by \$7 million, the Board of Supervisors approved the second contract at a not to exceed total budget of \$38 million, rather than the Department's original not to exceed total budget of \$45 million.

Parsons Water and Infrastructure, Inc. achieved the top score of five bidders in terms of written proposals, oral interviews, and fee proposals. Parsons Water and Infrastructure, Inc. was part of Water Infrastructure Partners because, as noted above, in July of 2004, its parent company, Parsons Corporation, acquired Primus Infrastructure, LLC, one of the two joint venture members of Water Infrastructure Partners. However, the award of the second contract to Parsons Water and Infrastructure, Inc. is the first time that Parsons Water and Infrastructure, Inc. became a Water System Capital Improvement Program contractor through a contractor selection process initiated by the City, rather than through its purchase of another contractor.

The purpose of the contract with Parsons Water and Infrastructure, Inc. is to procure program, project, and pre-construction management services in three situations:

- Emergencies, when there is unanticipated work.
- When City personnel do not possess the required specialist qualifications or experience in the fields of tunnel design, treatment process technologies, pipelines, dams, and other technical specialties as required on a project-by-project basis.
- Peak workloads, where there is planned work for a short duration, for which the City cannot hire additional permanent employees in a timely manner or without a significant risk of layoff or displacement.

As with the first contract, the contractor's services will be executed according to a task order process. A bureau manager would initially identify tasks and, in conjunction with the contractor, stipulate a project scope, sub-tasks, a staffing plan, a Disadvantaged Business Enterprise plan, schedule, deliverables, budget, and costs to complete the task. A final task order scope proposal would be agreed by the responsible bureau managers and the contractor, and then submitted to (a) the Assistant General Manager, Infrastructure for approval, and (b) the Controller for certification of funding, after which (c) a notice to proceed would be issued. The contractor would commence work on receipt of the notice to proceed. Any work performed by the contractor without a notice to proceed would be at the contractor's own commercial risk. Occasionally, the

contractor may be asked to provide services directly to Department divisions other than the Infrastructure Division. Such task orders would only be issued through the Assistant General Manager, Infrastructure.

Issues Raised by the Budget Analyst

Due to the requirement for annual Board of Supervisors approval of the contract with the San Francisco Water Alliance, later assigned to Water Infrastructure Partners, the Budget Analyst prepared a number of reports for the Board of Supervisors. The Budget Analyst also prepared a report on the second program management services contract, awarded to Parsons Water and Infrastructure, Inc. In addition, as part of the Budget Analyst's *Phase III Management Audit of the Public Utilities Commission - Water Enterprise Fund*, the Budget Analyst reviewed the San Francisco Water Alliance's and Water Infrastructure Partners' roles in relation to the programmatic environmental impact report requirements of the Water System Capital Improvement Program. Table 7.1 below summarizes (a) the key issues presented by the Budget Analyst during the four years of renewals for the first program management services contract, his report on the second contract, and his Phase III management audit report, and (b) whether or not those issues are addressed in the contract with Parsons Water and Infrastructure, Inc.

Table 7.1

Summary of Issues Related to the
First and Second Program Management Services Contracts

Issues Identified by the Budget Analyst	How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc.
Annual renewal of the contract by the Board of	
Supervisors:	
This ensured annual Board of Supervisors scrutiny of the first contract.	The Board of Supervisors chose not to continue the annual renewal process for the second contract. However, the Board of Supervisors will still annually review contractor performance as part of its budget deliberations when funding for future contract years are submitted to the Board of Supervisors for review and consideration.

How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc. **Issues Identified by the Budget Analyst Performance evaluation:** The Department and contractor negotiated 15 Evaluation of contractor performance against task orders performance measures for the first contract's Contract is solely the purview of the responsible bureau manager authorizing each task order. The second contract does Year 1 to address the Budget Analyst's concern that there were no performance measures at all. However, not specify any performance measures for either the not all of the selected performance measures were Water System Capital Improvement Program as a whole, sufficiently measurable and the key performance or for any of its 71 component projects. measure related to programmatic cost savings was "highly speculative." Subsequently, the majority of The second contract does not specify any key milestone performance measures were annually rewritten, thereby dates either for the Water System Capital Improvement reducing the opportunities to make year-to-year Program as a whole, or for any of its 71 component comparisons of contractor performance. projects. In his report on the first contract's Contract Year 4, the The second contract does not explicitly reference the Budget Analyst noted that not all of the stated reporting, timing, and work product requirements of State legislation (AB 1823⁷) which could be modified accomplishments against the performance measures were measurable or complete. during the life of the Water System Capital Improvement Program.. No Water System Capital Improvement Program projects have yet been completed during the first contract.6

⁶ The first five Water System Capital Improvement Program projects are due for completion by December 31, 2006: (1) the Summit Reservoir rehabilitation project; (2) the Crocker Amazon Pump Station upgrades project; (3) the Forest Hill Tank rehabilitation and seismic upgrade project; (4) the Fire protection project at the City Distribution Division; and (5) the Lincoln Way transmission line project.

The Wholesale Regional Water System Security and Reliability Act (AB 1823) imposes various reporting requirements on the Public Utilities Commission. Annual progress reports and updates on the Water System Capital Improvement Program must be submitted to the State Department of Health Services, the Joint Legislative Audit Committee, and the Seismic Safety Commission. AB 1823 also establishes a timeline for completion of nine regional water system projects which are specified due to their significance. According to the AB 1823 schedule submitted on February 1, 2003, the Water System Capital Improvement Program schedule "shall require that projects representing 50 percent of the total program cost be completed on or before 2010 and that projects representing 100 percent of the total program cost be completed on or before 2015." The City and County of San Francisco may revise the projects and project schedules within the Water System Capital Improvement Program (subject to State review), and AB 1823 does not require the revised schedules to show completion of projects equivalent to 50 percent of the total program cost by 2010 nor completion of the balance of the projects by 2015. All of the provisions set forth by AB 1823 terminate in 2010 or upon award of the last of nine key construction contracts.

Issues Identified by the Budget Analyst	How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc.	
Performance fee payments:		
Due to the inadequacy of the performance measures, assessing the contractor's performance has been problematic. There was no substantive data to quantify the projected savings and to prove that such savings could offset the contract's cost, as initially promised. The Department and contractor only reluctantly agreed to Contract Amendment No. 2 to the first contract which made the first contract's Contract Year 3 performance fee payment subject to Board of Supervisors approval. No performance fee payment has been requested for the first contract's Contract Year 4.	The second contract contains no performance payment provisions.	
Training and skills transfer:		
The Department's failure to hire technical staff limited the benefits of the training provided by the contractor.	Under a specific task order, the contractor is required to provide a minimum of 1,000 hours of training to City personnel in areas or programs requested by the Department, and issue a quarterly report documenting the type of training and mentoring received by City personnel. ⁸	
Consistent under-expenditure:		
In his report on the first contract's Contract Year 4, the Budget Analyst noted that the Department "consistently under-expended contract funds on Project Management Contract services during Contract Years 1 through 3."	The second contract does not include Project Management Contract Services.	

⁸ This is specified in Appendix A of the second contract.

How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc. Issues Identified by the Budget Analyst **Independent audits:** The second contract contains no independent audit There have been a number of evaluations and independent audits over the first contract's lifespan, provisions. The second contract budget contains no including ones performed by the Department's project funding for independent audits. This deficiency will be managers, the Controller's Office, a Peer Review Panel, a Blue Ribbon Panel, and an engineering rectified, in part, by the City Services Auditor auditing the contractor's performance from FY 2005-2006 consultant.13 through FY 2009-2010. The Board of Supervisors Government Audits and Oversight Committee requested that there be a performance review conducted annually prior to the annual Department budget review. The resulting report would be analyzed by the Budget Analyst as part of the annual budget review process.

⁹ Sixteen of the Department's project managers assessed the contractor's task order performance during Contract Year 1 and determined that the contractor met requirements. This internal evaluation process was repeated and fed into the determination of the contractor's performance fee payments in the first contract's Contract Years 2 and 3.

The retroactive semiannual audits prepared by the Controller's Office (which are ongoing) primarily focus on compliance with the contract's compensation provisions despite the Board of Supervisors request that they also evaluate the contractor's performance. These audits have identified ongoing minor compensation deficiencies. The Department has not yet received (a) the semiannual reports on Contract Year 3, despite agreeing to accept a consolidated annual report, or (b) either of the semiannual reports on Contract Year 4. The Budget Analyst notes that such delays could negatively impact close-out of the first contract.

An independent peer review panel, requested by the Board of Supervisors Finance Committee, conducted a review of the first contract's Contract Year 1 during August and September of 2001, and found that (a) Department employees indicated a high degree of satisfaction with the Contractor's services, (b) there had been insufficient user input into a new program management information system, (c) fundamental revision of the long term key performance measures and inclusion of performance measures within each task order were required, (d) the Department was providing inadequate leadership and staff involvement and direction, (e) there was inappropriate physical separation between Department and contractor staff, (f) there was confusion between Department and contractor staff over their respective project responsibilities, and (g) the ten year timeframe was unrealistic.

On May 23, 2002, a Blue Ribbon Panel convened by the former Public Utilities Commission General Manager to review a May 21, 2002 R. W. Beck analysis, recommended that the Public Utilities Commission develop "a larger policy context to guide implementation and define priorities." (A fuller discussion of the Blue Ribbon Panel's findings can be found in the Budget Analyst's *Phase III Management Audit of the Public Utilities Commission - Water Enterprise Fund*, page 160.)

HDR Engineering, Inc. undertook an independent assessment of the 2003 performance evaluations completed by Department project managers and in its January 7, 2004 report concluded that the evaluation process and results "were conducted in a fair and valid manner."

How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc. **Issues Identified by the Budget Analyst Hiring of Department personnel:** During Contract Year 1, the first contract was not The high number of Department position vacancies, and supported by a Department staff and contractor the Department's ability to hire into them in a timely workload analysis or by a strategic human resources manner, continue to be ongoing issues. There is still plan for the Department. There were no future staffing overlap between such vacancies and contractor projections, no assessment of the number and type of personnel who will be performing like work. staff required, no assessment of the most appropriate employment conditions and civil service classifications, and no schedule for when staff from other City departments could be used. In Contract Year 1, of the 33 to 68 weeks (or more) that it took the Department to hire a staff member into a budgeted position, between 21 and 29 weeks (42.6 -63.6 percent of the entire process) was consumed by processing the vacancy within the Department. There was an ongoing pattern of Department position vacancies and inadequate staffing projection plans while, instead, contractors provided personnel in technical classifications.

Issues Identified by the Budget Analyst

How Those Issues are Addressed in the Contract With Parsons Water and Infrastructure, Inc.

Programmatic environmental impact report:

In Section 14 of the Phase III Management Audit Report - Water Enterprise Fund, the Budget Analyst noted that "In its planning for the Water System Capital Improvement Program, the Public Utilities Commission has failed to make a timely determination of the need for a programmatic environmental impact report under the California Environmental Quality Act. This is in spite of the Public Utilities Commission's considerable investment in expert consultant support, most notably the \$45 million, greater than four years Program Management Services Contract which has environmental services subconsultants, one of whom is now being separately contracted to develop a programmatic environmental impact report. The Program Management Services Contract did not identify the need for a programmatic environmental impact report." The Budget Analyst further noted that "The work scope throughout the 2000 - 2005 Program Management Services Contract ... never charged the consultant with the task of considering the need for a programmatic environmental impact report. The Budget Analyst questions why such a fundamental component of a large-scale capital improvement program was neither included in the contractor's scope of work from the outset, nor identified during the course of the contractor's work by the contractor itself, given that the contractor's prime responsibility was to provide program management and coordination services. The Budget Analyst noted that environmental regulatory issues were part of the contractor's mandate from the outset ..." Given that mandate, the Budget Analyst concluded that " the late identification of the need for a programmatic environmental impact report was due, in part, to the contractor's inadequate appraisal of the regulatory framework governing the Water System Capital Improvement Program." As noted in Section 14 of the Phase III management audit report, nine critical regional water system projects are being delayed because their scope is dependent on definition of the Water System Capital Improvement Program. At a cumulative cost of \$1.2 billion, these nine projects represent over two thirds of the cost of the \$1.8 billion regional water system component of the Water System Capital Improvement Program.

The second contract operates within the context of the Public Utilities Commission's policy parameters for the program as a whole, as determined by the Public Utilities Commission in February of 2005 and enshrined in the Water System Capital Improvement Program description submitted to the City Planning Department.

The second contract requires Parsons Water and Infrastructure, Inc. to have environmental planners available for environmental planning and permitting tasks. The Department estimates that it will expend \$1.6 million over five years on an average of 1.50 full-time equivalent (FTE) environmental planners per year under the Parsons Water and Infrastructure, Inc. contract.

Programmatic Performance Measures

As noted in Table 7.1 above, the Department's contract with Parsons Water and Infrastructure, Inc. does not explicitly include any performance measures or key milestone dates. Rather, it states that the Assistant General Manager, Infrastructure and the Infrastructure Division bureau managers will be solely responsible for contractor work product evaluation. As stated in Appendix A of the contract with Parsons Water and Infrastructure, Inc., such evaluations will be made on a quarterly summary basis and on an annual comprehensive basis, and will be part of the quarterly status review submitted to the Public Utilities Commission.

In the professional judgement of the Budget Analyst, there would be merit in also having performance measures explicitly incorporated into the contract which measure the contractor's contribution to the programmatic goals of the Water System Capital Improvement Program over the life of the second contract. The second contract is for program, project, and pre-construction management services which infers that the contractor has a role in supporting the Department in achieving its programmatic goals. Therefore, the Budget Analyst recommends the development of programmatic performance measures in addition to the performance measures contained in each of the individual task orders. At its July 19, 2005 meeting, the Board of Supervisors concurred with the Budget Analyst's judgement and requested the Department to develop programmatic performance measures.

Assigning responsibility to the bureau manager who authorizes a task order for evaluating the quantity, quality, timeliness, and cost of the contractor's resulting work product appropriately promotes managerial accountability. The evaluation of individual task orders will provide important information on how each project is contributing to the overall progress of the Water System Capital Improvement Program and its compliance with AB 1823. However, there is a risk that this focus on task order evaluation will not capture important information about the contractor's contribution to the following:

- The programmatic integration of the individual projects. There is a high probability, as projects advance and the programmatic environmental impact report is issued, that projects will be re-scoped, deleted from the program, and/or added to the program over the next five years. At the July 11, 2005 meeting of the Board of Supervisors Government Audits and Oversight Committee, the Public Utilities Commission Deputy General Manager advised the committee that the Department did not know, at this time, what task orders the Department would be issuing to the contractor over the next five years. Under the terms of the contract, the contractor is a co-participant with the Department in developing, scoping, and sequencing the task orders to be issued. Therefore, given the contractor's important role in shaping the work plan for next five years, it will be important to be able to evaluate the contractor's contributions to the program's overall goals and milestones.
- The program's progress towards achieving the programmatic policy parameters set forth by the Public Utilities Commission in February of 2005 in relation to water

quality, seismic reliability, delivery reliability, water supply, and environmental sustainability goals for the Year 2030 which could be subject to change over time. The programmatic environmental impact review process could result in the Public Utilities Commission having to reexamine its programmatic policy parameters and/or having to develop operational policies and procedures, and consequent monitoring mechanisms, to constrain water system operations in order to address environmental concerns.

- The identification of opportunities for economies of scale, program efficiencies, streamlining of contracting strategies, innovative technologies, and improved program management procedures <u>across</u> groups of individual projects.
- The program's cumulative compliance with environmental mitigation requirements.
- The program's cumulative compliance with the key milestones set forth in AB 1823 (which could be modified during the term of the Water System Capital Improvement Program) and any future State legislation related to the Water System Capital Improvement Program.
- Scheduling and cost projections. In the Department's August 18, 2004 Capital Improvement Program Status Report and Update report, the Department stated that "Based on the July 1, 2004 schedule update, the [Water System Capital Improvement Program] can now be completed approximately two years ahead of the original schedule" (page 4) in May of 2014, rather than May of 2016. The Department reiterated this shorter timeframe in its November of 2004 Capital Improvement Program Regional Water Monthly Status Report and Update. In its August 18, 2004 report, the Department also estimated a budget requirement of \$3.8 billion. However, shortly afterwards, as a result of the Public Utilities Commission's process to define policy parameters for the Water System Capital Improvement Program which concluded in February of 2005, the Department no longer anticipated early completion and had revised its total budget requirement upwards to \$4.3 billion. The Water Infrastructure Partners was party to the August of 2004 projections, and it is likely that Parsons Water and Infrastructure, Inc. will be party to future projections. The accuracy of the contractor's projections for the program as a whole should be subject to evaluation.
- Responses to independent audit findings related to the program as a whole.
- Achievement of the program's Disadvantaged Business Enterprise participation goals.
- The total amount of knowledge and skills transfer from the contractor to City personnel. Contractor performance in relation to training will be evaluated in terms of (a) a specific task order to provide a minimum of 1,000 hours of training to City personnel in areas or programs requested by the Department, and (b) a quarterly report documenting the type of training and mentoring received by City personnel. However, there will also be knowledge and skills transfers made through the contractor's collaboration with Department personnel on all aspects of the program

which will not be captured by the evaluation of the specific task order to provide a minimum of 1,000 hours of training.

- The ratio of contractor personnel to City personnel across the program as a whole.
- Compliance with the contract's compensation provisions.

As a result of these findings, the Budget Analyst recommends that the Department and the contractor jointly develop measurable programmatic performance goals for incorporation into the annual performance review process requested by the former Board of Supervisors Finance and Audits Committee (as discussed in more detail below) and the current Board of Supervisors Government Audits and Oversight Committee (as noted in Table 7.1 above).

Hiring of Department Personnel

As noted in Table 7.1 above, the Department's failure to hire into all its vacant engineering and other technical positions has been a theme of the Budget Analyst's reports on the program management services contracts for the Water System Capital Improvement Program.

First Contract

In his first report on the proposed first program management services contract, the Budget Analyst:

- Noted that the proposed contract lacked the support of an internal staff workload analysis or a strategic human resources plan. There were no staffing or budget projections beyond FY 2000-2001, no assessment of the number and type of staff required to fully staff the program, no assessment of what the most appropriate employment conditions (such as permanent, limited tenure, or temporary positions, or personal service contracts) or civil service classifications would be, and no schedule for when other City department staff could be used in the future. Without a staffing plan and program budget, the Budget Analyst could not calculate the anticipated workload per staff member, or compare the relative costs and benefits of using City employees versus contractor staff. The Budget Analyst questioned how the Department would be able to evaluate the contractor's proposed staffing levels.
- Questioned the likelihood of the Department hiring staff who would be surplus to the Department's future staffing needs, as the Department frequently contends, given natural staff attrition over the length of the Water System Capital Improvement Program.
- Noted that of the 33 to 68 weeks (or more) it took the Department to hire a staff member into a budgeted position, between 21 and 29 weeks (approximately 42.6 percent to 63.6 percent of the whole process) is consumed by processing the vacancy

<u>within</u> the Department, despite the increasing size of the Department's Human Resources Services Division.

• Noted that the Department should have been able to absorb a significant workload increase because (a) it had been investing in a number of productivity initiatives, including extra technical staff and enhanced training, (b) a considerable number of new hires were journey level or above, and (c) long term staff members' experience and expertise increases significantly each year.

In his report on the first contract's proposed Contract Year 2, the Budget Analyst noted that the Utilities Engineering Bureau had 70 vacant positions (approximately 29.2 percent of the total 240 positions) despite the utilization of 40 FTE contractor staff members during Contract Year 1. During FY 2000-2001, the Department only managed to hire a total net gain of nine engineers and, in anticipation of the FY 2001-2002 budget, the Department deleted 12 budgeted engineering positions, which had been vacant for two years or more, without the benefit of a staffing projection plan.

In his report on the first contract's proposed Contract Year 3, the Budget Analyst noted that the Utilities Engineering Bureau had reduced its number of vacant positions to 51 (approximately 21.3 percent of the total 240 positions), a net gain of 19 staff members. The FY 2002-2003 Public Utilities Commission budget authorized 18 new positions for the Water System Capital Improvement Program.

During the first contract's Contract Year 3, the Department submitted a staffing projection plan to the former Board of Supervisors Finance and Audits Committee which the Budget Analyst assessed as being a useful illustration of the total Department and contractor personnel requirements related to the Water System Capital Improvement Program, but which lacked meaningful context due to the lack of specificity about when Department vacancies would be filled, and the estimated number of staff required for other, simultaneous capital improvement programs and the ongoing repair and replacement program.

At its March 10, 2004 meeting to consider the first contract's Contract Year 4, the former Board of Supervisors Finance and Audits Committee requested the Department to report annually to the Board of Supervisors throughout the term of the Water System Capital Improvement Program on (a) the details of all outside consultants being used for the Water System Capital Improvement Program, including the scope and cost of each outside consultant contract, and (b) the details of all City staff working on the Water System Capital Improvement Program, including their classification, duties, and salary costs. The Budget Analyst notes that this request could be integrated into the Board of Supervisors Government Audits and Oversight Committee's request for a performance review to be conducted annually prior to the annual Department budget review.

Second Contract

In his report on the Department's contract with Parsons Water and Infrastructure, Inc. for program, project, and pre-construction management services, the Budget Analyst noted

that the Infrastructure Division had 59 vacant positions in May of 2005. The vacant positions include the following with their minimum years of experience required ¹⁴:

- One 5203 Assistant Engineer (one year).
- Ten 5207 Associate Engineers (three years).
- Four 5211 Senior Engineers (seven years).
- One 5212 Principal Engineer (dependent upon specific position requirements).
- Fifteen 5241 Engineers (five years).
- One 5344 Mechanical Engineering Assistant (two years).
- One 5364 Civil Engineering Associate I (four years).
- Two 5366 Engineering Associate II (six years).
- Seven 5381 and 5382 Student Design Trainees.
- One 5504 Project Manager II (six years).
- Three 6318 Construction Inspectors (four years).

These vacancies exist despite the City's commitment to the labor unions to use contractors only as a supplement to City personnel. Contractor personnel are to be used only on a time-limited basis to provide expert technical staff (particularly in job classifications that do not exist in the City's civil service system) and additional staff during emergencies and peak workloads. The Budget Analyst noted that it was unlikely that the Department would hire engineering and other technical staff who would be surplus to the Department's future staffing needs given natural staff attrition over the length of the Water System Capital Improvement Program which is not scheduled to conclude until FY 2015-2016.

However, the Budget Analyst notes that there is not a one-to-one correlation between the City job classifications listed above and the services to be provided by the contractor. For example, the minimum years of experience required of the contractor's engineering and other technical personnel exceeds the minimum years of experience required by the job classifications listed above. The contractor's "Project Managers" and "Construction Managers" each require a minimum of 15 years experience, while the contractor's "Engineering Specialists" require a minimum of ten years experience. Further, the majority of the job classifications to be provided by the contractor are not job classifications currently existing within the City's civil service classification system (for example, "Cost Control Specialists," "Cost Estimators," and "Water System Engineers" 15).

Further, as noted in the Budget Analyst's report on the second contract, the contract with Parsons Water and Infrastructure, Inc., which successfully competed for the contract in part based on its lower billing rates, has the potential to provide a cost-effective vehicle,

Water system engineers specialize in water systems as a whole, focusing on how a water system's multiple components work together. The City's civil service classification does not have a job classification for this specialty.

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¹⁴ In many cases, educational qualifications or other types of professional experience can substitute for a portion of the minimum years required. The Department is, of course, free to hire applicants who possess more than the minimum years of experience required.

relative to the labor costs of City personnel, for the hiring on a time-limited basis of expert technical staff (particularly in job classifications that do not exist in the City's civil service system) and additional staff during emergencies and peak workloads. The contractor's labor costs relative to the City's labor costs, using selected job classifications, are shown in Table 7.2 below:

Table 7.2

Comparison of Annual Labor Costs for City and Contractor Personnel

City Personnel	Contractor Personnel	Annual Labor Cost (see Note below)
0955 Deputy General Manager		\$459,410
5166 Assistant General Manager,		433,181
Infrastructure		
0942 Manager VII		404,602
5162 Program Manager III		383,573
0941 Manager VI		378,685
5212 Principal Engineer		377,853
	Program Management Advisor	374,400
	Technical Expert Advisor	369,200
	Project Operations Planner	358,051
0933 Manager V		352,165
5211 Senior Engineer		341,765
	Staff Development and Technology	338,624
	Transfer Specialist	
0932 Manager IV		327,163
5241 Engineer		295,214
0923 Manager II		282,668
	Water System Engineer	280,800
	Cost Estimator	280,717
	Right of Way Specialist	270,400
5207 Associate Engineer		255,070
	Engineering Specialist	252,245
	Labor and Contract Relations Specialist	249,226
	Project Manager	244,400
	System Integration Specialist	231,005
	Project Scheduler	229,528
6318 Construction Inspector		228,030
1823 Senior Administrative Analyst		226,949
	Communications Specialist	220,064
	Environmental Planner	217,235
5203 Assistant Engineer		215,030
	Cost Control Specialist	209,331
	Construction Manager	201,760
	Reporting Specialist	200,886
	Document Control Specialist	105,831

<u>Note:</u> The annual labor cost for City personnel includes salaries, mandatory fringe benefits, and an overhead allocation. The annual labor cost for Contractor personnel is based on the full hourly fee for each job classification which is the complete charge the contractor can make for any staff member.

While the contractor will provide more experienced and more specialist engineering and other technical staff at a potentially lower labor cost than City staff, the Department has a responsibility, under the City's commitment to the labor unions, to hire into already budgeted engineering and other technical positions as and when they are required by the Water System Capital Improvement Program.

Conclusions

Since the mid-1990s, the Public Utilities Commission has been developing a long-term capital improvement program which has decreased in scope from more than 150 water and clean water projects (1998) to 71 water projects only (2005) with a current total estimated cost of \$4.3 billion. Since September 22, 2000, the Public Utilities Commission has contracted with three contractors for program management services and, under the latest contract, for project and pre-construction management services as well.

The Budget Analyst identified major deficiencies in the first contract, including inadequate performance measures, problematic performance fee payments, inadequate training and skills transfer, consistent under-expenditure, and inadequate consideration of the need for an programmatic environmental impact report.

The new Program, Project, and Pre-construction Management Services Contract between the Public Utilities Commission and Parsons Water and Infrastructure, Inc. does not explicitly include program performance measures or key milestones. The Board of Supervisors has requested the development of programmatic performance measures. Such programmatic performance measures should address the contractor's performance in relation to the following important issues which would not be captured by the contract's current sole reliance on task order evaluation: (a) the programmatic integration of the individual projects, which are subject to change, (b) the program's progress towards achieving the Public Utilities Commission's programmatic policy parameters, which are subject to change, and (c) identifying opportunities for economies of scale, program efficiencies, streamlined contracting strategies, innovative technologies, and improved program management procedures across groups of individual projects. programmatic performance measures would evaluate the contractor's contribution to (d) the program's compliance with environmental mitigation requirements and the key milestones set forth in AB 1823 and any future State legislation, (e) scheduling and cost projections, (f) the program's Disadvantaged Business Enterprise participation goals, (g) the total amount of knowledge and skills transfer from the contractor to City personnel, (h) the ratio of contractor personnel to City personnel, and (i) compliance with the contract's compensation provisions.

As a result of these findings, the Budget Analyst recommends that the Department and the contractor jointly develop measurable programmatic performance goals for incorporation into the annual performance review requested by the Board of Supervisors.

In response to the Budget Analyst's review of the Program, Project, and Pre-construction Management Services Contract's costs, which showed that the contract would be over-budgeted by \$7 million, the Board of Supervisors approved the contract at a not to exceed

total budget of \$38 million, rather than the Department's original not to exceed total budget of \$45 million.

There is an ongoing pattern of Department position vacancies and inadequate staffing projection plans while, instead, contractors provide personnel in technical classifications. Although the new Program, Project, and Pre-construction Management Services Contract provides for certain classifications of personnel which are more experienced and/or more specialized than the City's existing civil service classifications, the Department has a responsibility, given its commitments to City labor unions, to hire into already budgeted engineering and other technical positions as and when they are required by the Water System Capital Improvement Program.

Recommendations

The Public Utilities Commission General Manager should:

- 7.1 Ensure that the Department and the contractor jointly develop measurable programmatic performance measures for incorporation into the annual performance review process outlined in Recommendation 7.3.
- 7.2 Provide the Board of Supervisors with a staff hiring plan, prepared in conjunction with the Joint Union-City Committee, for positions related to the Water System Capital Improvement Program, by October 19, 2005.
- 7.3 Continue to provide the Board of Supervisors, throughout the term of the Water System Capital Improvement Program, with an integrated annual report which addresses (1) the former Board of Supervisors Finance and Audits Committee's request for an annual report on (a) the details of all outside consultants being used for the Water System Capital Improvement Program, including the scope and cost of each outside consultant contract, and (b) the details of all City staff working on the Water System Capital Improvement Program, including their classification, duties, and salary costs, and (2) the current Board of Supervisors Governmental Audits and Oversight Committee's request for a contractor performance audit conducted annually prior to the annual Department budget review.

Costs and Benefits

Programmatic performance measures, a staff hiring plan, and annual performance review reports could all be developed by existing Department staff, in conjunction with the contractor and the Joint Union/City Committee, without the need for additional resources. The benefits are improved evaluation tools to monitor the contribution of the second contract to the programmatic goals of the Water Supply Capital Improvement Program.

In response to the analysis of the second contract's costs prepared by the Budget Analyst for the Board of Supervisors Government Audits and Oversight Committee, which showed that the second contract would be over-budgeted by \$7 million, the Board of

Supervisors approved the second contract at a not to exceed total budget of \$38 million, rather than the Department's original not to exceed total budget of \$45 million.