City of Tempe Internal Audit Office

Audit of Engineering Procurement

December 2013

City Auditor: **Barbara Blue**
Auditors: **Keith Smith**
Norma Hostetler

Table of Contents

I. INTRODUCTION

Engineering is a division of the Public Works Department lead by the Deputy Public Works Director (City Engineer). Internal Audit primarily interacted with the Engineering Services Manager (in charge of procurement, contract administration, and budget) and the Capital Improvement Project (CIP) Design and Construction Manager.

Roles and Purpose

Engineering performs the following functions:

- Conducts plan review and inspection for private development and utilities;
- Develops the scope of work and selects the engineers and architects for capital improvement projects;
- Manages the construction on capital improvement projects;
- Assumes responsibility for real estate management and acquisition of right-of-way;
- Conducts land surveys; and,
- Manages the entire procurement/contract process for all design and construction projects in the city.

Engineering's purpose statement follows:

> *The Engineering Division provides many of the basic services that affect the daily lives of everyone who lives and works in the city. The Division is responsible for all the administration, planning, construction management and technical engineering of the City's infrastructure. The Division manages capital improvement projects and also reviews and inspects development projects for conformance with City code.*

Governing Rules

Engineering's procurement process is governed by Arizona Revised Statute (ARS) Title 34 (Public Buildings and Improvements) and City Code Chapter 26A.

ARS provides general requirements that govern the selection of contractors and professional services. City Code section 26A-1(d) states that the "engineering division shall act as the city procurement agency and administrator" for services such as architecture, construction, design, engineering services, etc.

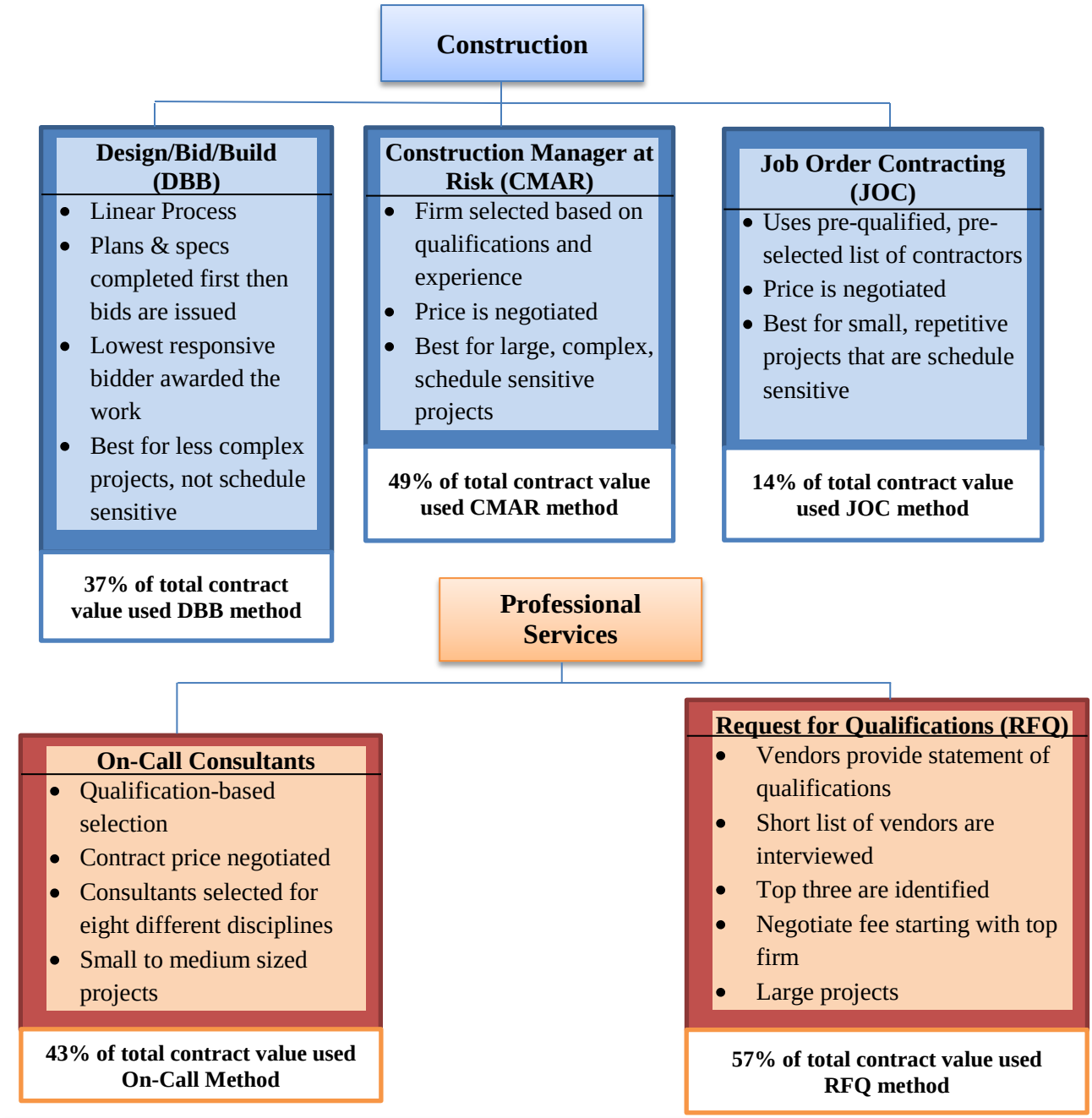
Engineering's procurement process is separate from the City's general process administered by Financial Services. Sometimes there are grey areas regarding whether a certain procurement should be handled by the City Procurement Office or Engineering. We found that Procurement and Engineering meet to discuss these concerns and involve the City Attorney's Office when necessary to ensure compliance with City Code.

Procurement Delivery Methods

When identifying a procurement delivery method for construction and design services, Engineering considers a number of criteria, which were formalized into a 21-point checklist in December 2011. The checklist supports the decision-making process to select the appropriate procurement methodology for each project. Criteria include project complexity, degree of

urgency, cost estimates, and funding requirements. Based on this checklist, the CIP Manager and Project Manager determine what procurement method best suits the project. Depending on whether professional services (such as architecture, engineering, design, construction management) or construction services are needed, there are several procurement methodologies as illustrated below:

Procurement Delivery Methods



In addition to the delivery methods detailed above, direct selection may be used to procure professional services under ARS 34-103 if the amount is below $250,000 for architects or below $500,000 for technical registrants other than architects, and there are no qualified firms on the on-call list for the specific work needed. However, any contract over $50,000 still requires Council approval (and is reviewed by the Director of Public Works and the City Attorney's Office).

II. SCOPE

Audit Initiation

This audit was initiated at the request of the Director of Public Works. In addition, it should be noted that Engineering was assessed as relatively high risk based on Internal Audit's citywide risk assessment scoring system. This audit focused on the procurement process for CIP projects.

Objectives

Our objectives were to determine whether:

- Internal controls and segregation of duties are in place to ensure:
  (1) the appropriate evaluation and selection of qualified vendors,
  (2) adherence to vendor selection policies, procedures, laws and regulations,
  (3) documentation is maintained and reviewed that supports selection decisions made,
  (4) projects are appropriately distributed among available qualified vendors, and
  (5) projects are assigned to project managers based on consistently applied objectives.
- Budgeted and actual project costs are realistically established, tracked, and monitored to ensure that the contracted scope of work is completed and that changes to the scope of work are appropriately evaluated, approved, and monitored.

Methodology

We performed the following procedures for a sample of CIP projects:

- Reviewed procurement delivery methodologies;
- Reviewed bid or RFQ advertisements;
- Analyzed the makeup of the selection committees;
- Reviewed the bid analysis and vendor interview process;
- Checked for signed confidentiality and conflict of interest statements for committee members;
- Verified whether contract and project costs were approved by Council;
- Evaluated the establishment and tracking of project cost budgets and the budget transfers;

- Analyzed the payments made to vendors for work performed; and
- Reviewed change orders.

We also assessed Engineering's operations as follows:

- Reviewed the project manager assignment process;
- Analyzed the number of contracts awarded to vendors by procurement type and the distribution of contract awards to on-call and JOC contractors;
- Evaluated the tracking of contractor performance;
- Reviewed the process to initially allocate budgeted CIP funds; and,
- Assessed administrative fees charged on projects.

Projects Reviewed

In addition to a review of Engineering's current existing overall policies, procedures and operations, we performed a detailed analysis of four (4) on-going projects since their inception:

1. Design Bid Build (DBB)

Light Rail Transit Corridor CCTV Monitoring (*Light Rail CCTV*)

This project was funded by the U.S. Department of Transportation – Federal Highway Administration, through the AZ Department of Transportation. Once complete, it will provide Closed Circuit TV (CCTV) camera coverage of the 29 signalized intersections on the light rail alignment in the City of Tempe. This project consisted of one prime contract for $278,700. The DBB method was used and the contract was awarded to the lowest responsive bidder. Work commenced in March, 2013.

2. Construction Manager at Risk (CMAR)

Tempe Town Lake Downstream Dam Replacement (*Dam Replacement*)

This project is for the design and construction of a dam to replace the current structure at the west end of Tempe Town Lake. At the time of this audit, there were a total of nine (9) contracts (with total payments of almost $2.2 million) for studies, evaluation, cost estimation, and design. Of the nine (9) contracts, two (2) larger design contracts (Phase 1 and 2) were awarded through an RFQ process with the first phase being awarded in June, 2011. The other seven (7) contracts were less than $50,000 and mostly consisted of On-Call and Direct Select procurement. The CMAR method was used to identify the preferred vendor for the actual construction of the dam. After the completion of our audit fieldwork, the City negotiated a construction contract for approximately $25 million, with a total project budget (including the procurement of the hydraulic gates) of approximately $40 million.

3. Construction Manager at Risk (CMAR)

Johnny G. Martinez Water Treatment Quality Upgrades (*JGM Upgrades*)

This project includes planning, design, permitting and construction of facilities to

improve water quality at the Johnny G. Martinez Water Treatment Plant (JGMWTP). Improvements were required to meet water quality regulations. This project also includes installation of enhanced coagulation treatment facilities, groundwater treatment and blending system, modifications to finished water reservoirs and miscellaneous other plant improvements. This has been an ongoing project since 2005. Water and Wastewater projects totaled $30.2 million in Fiscal Year 2011/2012 and accounted for 61% of the total appropriated CIP Budget for that year. There were a total of nine (9) contracts in Fiscal Year 2011/2012 (with total payments of almost $8.5 million) for design, studies, and construction. This project included Phase II and part of Phase III.

4. Job Order Contract

Paving and Resurfacing of Streets and City Facilities (*Paving & Resurfacing*)
This master contract is for arterial, collector and residential street asset preservation. The contract funds smaller street projects. Funds are transferred from this contract to specific job orders under this JOC. There were a total of five (5) job orders charged against this JOC contract (with total payments of almost $1.5 million) for studies, evaluation, repaving and restoring of streets. The master contract was awarded using the RFQ process for $2 million. Projects have been ongoing since March 8, 2012.

Roles and Responsibilities

The Internal Audit Office strives to assist managers with the effective discharge of their responsibilities to achieve departmental goals and contribute to the City's mission. Internal Audit promotes effective controls and furnishes management with an independent appraisal and recommendations related to the activities reviewed. Our role is vital to maintaining the public's trust that the City's resources are used effectively and efficiently.

Public Works-Engineering management is ultimately responsible for, and must assume ownership of, their internal control system. Internal controls are used by managers to provide reasonable assurance that their objectives will be achieved. Internal control is also the primary mechanism for deterring and detecting fraud.

To summarize, management is responsible for establishing and maintaining adequate internal controls. Internal Audit must use due care in examining and evaluating the effectiveness of internal controls and to understand the related exposures and risks. Due care does not require a detailed audit of all transactions. Therefore, internal auditors cannot give absolute assurance that all noncompliance and fraud will be detected.

Follow-Up

Internal Audit follows up on all recommendations approximately six (6) months to one (1) year after audit completion to assess the status of implementation efforts.

III. CONCLUSION

Overall, we determined that there are generally adequate internal controls in place over the evaluation and selection of qualified vendors and project management. We also found overall compliance with relevant ARS statutes and regulations, and related departmental policies and procedures except as noted in the observations that follow.

We did identify exceptions related to: the proper completion of Statement of Qualifications Evaluation Forms, adherence to contractual agreements, supporting documentation for addendums, change orders and payment requests, and tracking and reconciliation of project costs.

We also identified opportunities for Engineering to increase the efficiency and effectiveness of their project management and internal control structure.

Management and staff made significant efforts to address the issues identified by Internal Audit as they surfaced during the course of this audit. They took immediate corrective action or initiated research into the issues to find solutions.

We truly appreciate the time, effort and assistance granted to the Internal Audit Office during the course of this audit by Engineering management and staff.

IV. DETAILED OBSERVATIONS

Section 1-Vendor Solicitation and Selection

The following provides an overview of the solicitation and selection process for each category of Engineering procurement we reviewed in detail:

CMAR

For CMAR projects, the City hires both the design firm to produce the project drawings and a CMAR to work simultaneously with the design firm. During the design development phase, the CMAR independently researches costs and availability of systems proposed by the designer and performs necessary periodic reviews of the proposed design in order to monitor pre-established budgets and cost limitations. In reviewing the overall design, which may include architectural, civil, mechanical, electrical, and structural plans, the CMAR considers both construction feasibility and economies that may be affected by different choices of proposed materials and construction methods.

The procurement process includes a committee that reviews the Statement Of Qualifications provided by potential vendors. The committee uses established criteria, weighted by importance, to evaluate and score each firm's qualifications. Total scores are ranked highest to lowest. The top firms are selected to continue on to the interview stage. Interviews are also scored and rated by each committee member. At the conclusion of interviews, the top firm is selected as the initial firm to begin price negotiations with. If a fair price cannot be negotiated with the top-ranked vendor, the City would then begin negotiations with the second highest-ranked vendor. This process was followed for both the design and construction phases of the two CMAR projects reviewed (Dam Replacement and JGM Upgrades).

DBB

For DBB projects, the design must be complete prior to acquiring bids for the construction phase. An Invitation For Bid (IFB) is issued for firms to bid based on the completed drawings and specifications. Firms submit responses to the IFB and Engineering selects the lowest priced responsive bidder. This process was followed for the Light Rail CCTV project.

JOC

JOC uses a selection process comprised of evaluating a Statement of Qualifications (SOQs) and interviewing select firms. A selection committee uses established criteria, weighted by importance, to evaluate and score each firm's qualifications. The committee then selects a minimum of three (3) to a maximum of five (5) finalists to interview. A final list is compiled in order of preference of the three (3) most qualified firms. The City can then enter into negotiations with one, two, or all three firms in the established order of ranking for an individual JOC.

A master JOC has one (1) year duration with an option to renew for up to two (2) one-

year periods, for a maximum duration of three (3) years. The option to extend is exercised based on the contractor's successful performance and the needs of the City. A maximum annual contract amount of $2,000,000 is established for the first contract year and a single job order cannot exceed $1,000,000 under the contract. This procurement methodology was used for the Paving and Resurfacing project.

In addition, we analyzed the award of all CMAR, DBB, JOC and On-Call Consultant contracts (described on page 2) for calendar years 2011-2013 for potential patterns of concentrated awards to specific firms. We did not find any unusual patterns of excessive awards to individual vendors by volume or dollar value.

1. Proper completion of Statement of Qualifications Evaluation forms will facilitate accurate and defendable vendor selection decisions.

The City selects firms for design and construction contracts on the basis of professional qualifications as required by ARS. Statement of Qualifications Evaluation forms are used to document qualifications and to assist the selection committee in their review and scoring of prospective firms. The analysis of minimum qualifications, criteria, weighting, scoring and interview process was reviewed for each project we selected to determine compliance with all relevant laws, policies and regulations. We found the following:

Accuracy

The Statement of Qualifications Evaluation forms weren't always mathematically accurate. This occurred in three (3) of the four (4) or 75% of the projects we reviewed:

- JGM Upgrades - design phase
- JGM Upgrades - CMAR-Construction Phase
- Paving & Resurfacing - JOC Contract
- Dam Replacement - CMAR- Design Phases 1 and 2 and Construction phase

Scoring Criteria

For the Dam Replacement Project, not all rating criteria were scored by all selection committee members. Points awarded for some rating criteria exceed the stated maximum points. Some members did not score the individual weighted criteria (they just placed a total score at the bottom of the score sheet).

Selection Committee ARS Requirements

For the Paving and Resurfacing project, the RFQ initial scoring sheets were missing for two (2) of the selection committee member's (a COT employee and an outside member). One score sheet was also missing for the Dam Replacement project. Missing documentation does not support adherence to ARS 34-603(C)3(a)(i) requirements as stated:

"The selection committee shall determine the person(s) or firm(s) to be interviewed by evaluating the Statement of Qualifications and performance data that are submitted in response to the agent's request for qualifications based only on the selection criteria and relative weight of the selection criteria stated in the request for qualification to be used to determine the person(s) or firm(s) to be interviewed."

Committee members may not be given clear direction or have a good understanding of their responsibilities and how crucial it is to accurately score contractors/vendors and ensure documentation is maintained. The selection committee members don't always add the columns or carry their totals forward correctly. Further review disclosed that the three (3) missing score sheets were likely taken by the committee members; copies were not maintained.

The scoring of contractors/vendors provides an assessment of candidates' strengths and weaknesses and facilitates the award decision-making process. Inaccurately calculated total scores can ultimately impact vendor selection. Although the inaccurate scores did not impact the final selection for the projects that we reviewed, they would have if fewer firms were selected to proceed through the interview process. In addition, missing score sheets could become problematic for Engineering in their defense of vendor selection, should unsuccessful candidates question their decision-making process.

Recommendation

1.1 Selection committee scoring sheets should be independently reviewed to ensure they are completed in their entirety and are accurately summarized prior to contractor/vendor selection.

The selection committee should not be allowed to remove the score sheets; all score sheets should be maintained in the project file. Use of an electronic spreadsheet to calculate scores would eliminate many of the errors found.

Management Response

We agree with the recommendation. The evaluation forms assist each panel member with identification of the rank order of the short list (Statement of Qualifications [SOQ] evaluations) and the final list (interview evaluations). The ranking is what is utilized to identify the final outcome of both lists. An electronic spreadsheet is now in use and a single individual has been assigned to coordinate all RFQ panels to include: panel selection/correspondence; Statement of Impartiality, No Conflict of Interest, and Confidentiality form; scoring/ranking sheets; and outcome notification to ensure compliance.

2. Inclusion of the protest policy in the Request for Qualifications (RFQ) will ensure compliance with ARS.

Although Engineering does have an established Protest Policy and Procedure, they did not include a reference to its location in the RFQ provided to potential vendors for three of the four (75%) of projects reviewed: JGM Upgrades-CMAR RFQ, Paving and Resurfacing-JOC RFQ, and the Dam Replacement CMAR contract, as required by ARS:

A.R.S.34-603. Procurement of professional services and construction-manager-at-risk, design-build and job-order-contracting construction services; definition states, "(f) Include a description of the publicly available location of the agent's protest policy and procedures or, if the agent does not have a protest policy and procedures, a statement that the protest policy and procedures referred to in subsection J of this section apply to any protests in connection with the procurement."

Engineering used an outdated template for the RFQ that did not include the Protest Policy and Procedures for these projects.

Recommendation

2.1 Engineering should utilize the RFQ template that incorporates all ARS requirements. Adequate internal controls should be in place to ensure that only current templates are utilized by staff.

Management Response

A RFQ template has been added to Engineering's SharePoint site and we agree with the recommendation.

Section 2-Contractual Agreements and Terms

Once the vendor solicitation and selection process is completed, Engineering moves forward with the contracting process. A contract begins on the notice to proceed date and ends on the expiration date identified in each contract, subject to various other provisions of the contract. All contracts in excess of $50,000 must be approved by City Council. Once Council approval is granted (when necessary), the contract is signed by

both parties and a formal Notice to Proceed letter is issued by the City to the contractor/vendor. The contract is not a legally binding document until after the effective date is affixed and the fully-executed contract has been sent to the contractor/vendor. The Notice to Proceed directs the contractor/vendor to start performance on a date which is on or after the effective date. The contractor/vendor is not supposed to commence work prior to the date set forth in the Notice to Proceed.

If the contract scope, amount, or terms need to be revised, a change order or contract addendum is required. The change order/addendum is reviewed and signed by the City's Engineering Construction Manager, Project Manager, a Representative from the Vendor/Contractor and the City Engineer.

The performance of vendors/contractors is tracked by the Project Managers to ensure they are performing in accordance with project requirements.

3. Consideration of all project performance history can serve to enhance the contractor selection process.

Contractor performance is tracked by Engineering. At the end of each project, inspectors/project managers complete an evaluation form that is maintained centrally. If a construction project or CMAR, the Construction Manager prepares the project close out evaluation; the Project Manager prepares all other evaluations.

Two (2) project evaluations completed in Fiscal Year 2012/2013 that we reviewed received negative ratings; one with a current vendor for an emergency water line break ($69,168) and one with a contractor who is not currently being used. The current contractor is one of three (3) selected for the JOC Paving and Resurfacing project, for a one (1) year period with two (2) one-year renewal options.

If a federal project, there is a national "debarred" list that Engineering checks to ensure the low bidder or any subcontractors are not on that list. The City does not have a "debarred" list for non-federal projects. If a situation arises, they consult with the City Attorney's Office to determine whether or not to award the contract or if "removal" would be an option.

The City does have some recourse for those vendors not performing to par for *ongoing* projects through contract verbiage stating the City may terminate the contract based on A.R.S. 38-511 and MAG Specifications 108.11 as follows:

ARS 38-511 (A) states, "The state, its political subdivisions or any department or agency of either may, within three years after its execution, cancel any contract, without penalty or further obligation…."

MAG 108.11 Termination of Contract states, "The Contracting Agency may terminate the contract or a portion thereof

if conditions encountered during the progress of the work make it impossible or impracticable to proceed with the work or a local or national emergency exists….”

There is no apparent avenue to not select contractors that have a poor performance history with the City if the vendor is the lowest bidder for future JOC or DBB projects.

Selecting the lowest bidder can potentially cost the City more money in the long run if the contractor is not performing up to industry standards or completing the projects in a timely manner.

Recommendation

3.1 Engineering should work with the City Attorney, City Manager, and Government Relations Offices to determine if pursuing changes to the ARS should become a legislative priority issue for the City.

Management Response

We will work with the City Attorney’s, City Manager and the Government Relations Offices to determine the next course of action. Engineering anticipates initiating the conversation by May 2014.

4. Timely and consistent utilization of change orders/addendums will effectively extend contractual terms as needed in accordance with established policies and procedures.

When contractual terms need to be revised, a change order or contract addendum is required in accordance with Engineering’s policies and procedures. The following are examples noted in our review of projects where work extended beyond the contract term’s initial or revised ending date:

A. Light Rail CCTV

The original contract for this project was set to expire on July 8, 2013. Despite a change order processed to extend the project completion date to July 30, 2013, work remained incomplete by that date. Although the vendor notified the project manager in Engineering on July 17, 2013 that the work would not be completed by July 30, 2013 (in some part due to network issues the City needed to address), a formal change order or contract amendment was never issued. Therefore, work continued beyond the contracted completion date without a formal extension (the exact

number of days is unknown as the project remained incomplete at the end of the audit fieldwork).

B. Dam Replacement - Phase 1 Design
The original contract was extended by addendum to March 30, 2012; however, a review of invoices shows that work continued through June 29, 2012 (90 days past the expiration date), without an additional addendum to extend the term.

C. JGM Upgrades (Contract 2012-103)
The original contract was scheduled for completion in 270 days on March 11, 2013. Work was not completed on the project until April 30, 2013 (50 days after contract expiration). There was no addendum or change order extending the term of the contract.

D. JGM Upgrades (Contract 2011-188)
This contract was scheduled for completion in 270 days on September 28, 2012. Payment #7, submitted on October 26, 2012, indicated the project was only 86% complete with a project completion date of December 31, 2012 (94 days past the contract expiration). There was no addendum or change order extending the term of the contract and there were no payments made beyond payment #7 as of the end of audit fieldwork.

Recommendation

4.1 A system should be established that flags contracts nearing expiration to alert project managers and/or additional staff overseeing the projects to ensure proper steps are taken to address work that may extend beyond the contracted dates.

Management Response

We agree with the recommendation and will monitor and process change orders/addendums as appropriate. Engineering will ensure that the current policies and procedures reflect this process by June 2014.

5. Adherence to "Notice to Proceed" dates will mitigate risks associated with work performed prior to contract execution.

A contract to evaluate the bond issue estimate for the Dam Replacement project was executed May 18, 2012 for $10,700. The City issued a Notice to Proceed with the work on June 18, 2012. We found that Engineering paid contractor invoices for work performed on this contract as early as April 29, 2012, prior to both the contract execution and the Notice to Proceed dates. If a contractor begins work on a City project prior to signing the contract and receiving the Notice to Proceed from the City, risks are elevated as insurance requirements may not be in place and the legal protections

afforded to the City in the formal contractual documents are not yet in effect.

Recommendation

5.1 Procedures should be established to ensure that all necessary contractual documents are completed prior to work starting on a project.

Management Response

We agree with the recommendation. Engineering will ensure that some level of a Notice to Proceed will be utilized from this point forward and will ensure that the current policies and procedures reflect this process by June 2014.

Section 3- Project and Financial Management

Project Managers/Construction Managers perform the initial review and approval of invoice payment requests from contractors/vendors and consultants. Requests are then reviewed by the CIP Design and Construction Manager or Construction Manager, accepted by the vendor's representative, with final approval by the City Engineer. A Request for Payment Form is required to accompany all invoices and is verified as complete, cross referenced with the Main Log and assigned an encumbrance number. Payment requests are then logged into the Engineering Main Log for the designated project and payment number. Funds are verified to ensure balances are sufficient to cover the pay request amount.

If the contractor payment is final, then an Affidavit of Claims (AFF-1) form is completed and attached to the invoice. This is the contractor's Final Payment Affidavit stating that all required work under the contract has been fully completed, and all liens under the direct contract have been paid in full. Accounting holds back the payment until they receive a completed AFF-1 form.

Construction change orders are initiated by contractors. They are then approved by: the project's assigned Construction Inspector and Engineer, CIP Design & Construction Manager, Contractor Representative and City Engineer before submission to the Engineering Contract Supervisor for payment processing.

The Engineering Contract Supervisor utilizes the Main Log to track contracts' budgets and financial information. Project Managers are responsible for tracking the percentage of completion on contracts. The

percent of contract completion is noted on each vendor payment request along with contract date, notice to proceed date, contract amount, contract balance remaining, and contract expiration date.

Prior to Fiscal Year 2012/2013 project-to-project transfers were performed. Once Council approved a project the budget was carried forward to future years. Some projects remained on record for ten (10) years and unused funds from prior years were spent. Project-to-project transfers are no longer practiced. Now if a project is expected to exceed one year, it is budgeted for more than one year. Unused funds can be carried over to subsequent years, but this requires the department to justify the carryover and Council must approve the request.

Departments use a re-appropriation request form and the funds are listed in the budget book under the re-appropriation column. Funds are no longer associated with prior years. This new improved process was implemented in Fiscal Year 2012/2013.

6. Established documented procedures can contribute to consistency in Project Manager Assignments.

Engineering has three employees that are funded by the Transit Fund: Principal Civil Engineer, Civil Engineer and the Contract Compliance Analyst (currently vacant). They also have 2.5 employees funded by the Water Fund: Sr. Civil Engineer, Principal Civil Engineer (only 50% funded) and Senior Engineer Associate (currently vacant). These employees are not assigned solely to Transit and Water related projects in proportion to their funding. In addition, other general funded positions spend some of their efforts on Transit and Water projects. Note the following:

- A Principal Civil Engineer has been 100% funded by the Transit Fund since November 27, 2006. A review of this individual's efforts since this date identified the following:
  - 25% of current active projects are Transit related – 75% are not
  - 33% of pending projects are Transit related – 67% are not
  - 64% of completed projects were Transit related - 36% were not.
- A Senior Engineer Associate has been 100% funded by the Water Fund since August 06, 2007. A review of this individual's efforts since this date identified the following:
  - Only 8% of completed projects assigned were related to water.
  - This employee is no longer with the City effective May 14, 2013 and thus has no current or pending project assignments.

Engineering does not have an effective documented process in place to manage

assignments and track time by funding source. Engineers are assigned an array of projects and it appears that project assignments tend to stay as consistent as possible with the same Engineers receiving the same types of projects. Transit and Water related project efforts are not tracked to ensure these funds receive services equivalent to their funding levels.

If 100% of an employee's salary is paid by the enterprise fund, then they should receive a 100% equivalent effort.

Recommendation

6.1 Management should develop and document procedures that identify the decision-making process for project assignment. Procedures should also address positions that are funded by Transit and Water. Enterprise funds should not be used to pay for general fund expenses. Employees' hours should be tracked to ensure FTE's equivalent efforts are received in exchange for their funding. Any excess hours should be reimbursed to the relevant fund. Additionally, the Contract Compliance Analyst position's time should be systematically allocated across relevant funding sources as this position works on all projects, not just Enterprise-fund related projects.

Management Response

We will be consistent with any similar process that is in use by other divisions/departments within the City (those that are General Fund but have employees paid from either the Enterprise or Special Purpose Fund) to identify an effective process to manage assignments and to track time by funding source. Engineering will work with the Budget staff, as well as other similar division/departments to determine the most effective process by end December 2014.

7. File review checklists can enhance project file documentation and maintenance.

Engineering has not developed a process to ensure the consistency and completeness of project file documentation and uploading of information to SIRE.

Without a formal mechanism in place, there is a risk of inconsistencies in what documentation is maintained from project to project, missing documentation may be overlooked, and inconsistencies can occur in what documentation is entered into SIRE.

For Federally-funded projects, a file close out procedure has been drafted but not finalized or utilized on any projects.

However, this procedure does not include a comprehensive checklist.

Recommendation

7.1 File documentation checklists should be developed for all projects. A checklist would help to ensure completeness and consistency in the project file documentation maintained, including content uploaded to SIRE. The checklist should be comprehensive, indicate what needs to be scanned into SIRE, and provide a space for the Project Manager and an independent party to review the file contents and certify to its completeness. All files should receive a quality-control close-out review.

Management Response

We agree with the recommendation and as part of our ongoing process improvement, we have established a formal comprehensive checklist.

8. Close monitoring of contract costs will lead to improved budgetary controls and cost containment.

The Engineering Main Log is the monitoring tool used to track contract budgets and completion dates. Each contract entry in the Main Log is linked to a subsidiary ledger listing the contract budget amount, along with individual payment requests and change orders. The Engineering Main Log was reviewed for active, pending and completed contracts. Recorded completed contracts date back to 2005 on this log.

It appears some contract budgets are not being properly tracked. Our review of completed contracts disclosed that eighty-one (81) had zero balances listed as the contract totals. Upon further review, actual balances in the subsidiary ledger were found not to be zero. Note the following related to these 81 contracts:

- Forty-one (41) or 51% dated prior to 2011 and are no longer relevant due to new procedures adopted in Fiscal Year 2012/13 to re-appropriate remaining funds.
- Twenty-two (22) or 27% did not have a contract date listed.

- Ten (10) contracts in 2011 and eight (8) contracts in 2012 had zero balances listed as the contract amount. The subsidiary ledger disclosed that these eighteen (18) contracts had totals ranging from $22,105 to $962,748 (contract component balances ranging from $1 to $17,036 and contingency component balances ranging from $6,881 to $15,543). Two of the eight contracts from 2012 had negative contingency balances in the amounts of ($3,821) and ($15,543).

Where there was a negative balance, funds were transferred from other contracts to cover the deficit. This occurred prior to the adoption of the new procedures that prohibit contract to contract transfers.

There are many simultaneous contracts to track making it difficult for project managers to track both the financial and technical aspects of a contract. Ineffectual tracking of contract costs and completion dates may result in over expenditures or lost credits due the City.

Contracts should not result in a negative balance and if they do, there should be adequate documentation maintained to support transactions and corrective action taken to resolve it.

Recommendation

8.1 Contract costs need to be closely monitored to ensure all transactions are captured in Engineering Main Log, and that individual contract balances in the subsidiary ledger agree to the Main Log and are periodically reconciled. Additionally, Engineering should consider reallocating or obtaining resources to add financial accounting expertise to their staff to assist with the financial reconciliation and monitoring of contract costs. The following could be considered:

- Restructuring existing positions
- Funding through the 1.9% component of other miscellaneous fees assessed each contract with direct costs allocated to departments based on contract volume (see Observation #13)
- Funding through the 2% component of Engineering Fees contributed to the General Fund.

Management Response

We agree with the recommendation and will address periodic reconciliations. Engineering will review our current structure to identify the proper structure/workflow to ensure appropriate monitoring/approval is taking place. This structure will be identified by June 2014.

9. Full utilization of Project Costing Software will bolster project financial management efforts.

A PeopleSoft Project Costing Module was purchased by Engineering in 2009 for approximately $150,000 (software, training, and one year support). Funds from Engineering Fees were used for this purchase with the understanding that improved efficiencies through the implementation of this software would reduce the overall administrative costs for CIP projects. However, this software module has not been utilized to its full potential to attain these efficiencies and effectively track project costs.

Recommendation

9.1 In order to more efficiently and effectively manage and track the financial data related to CIP projects, Engineering should pursue training and IT support to utilize this system's capacity. Should accounting resources be obtained (see Recommendation 8.1 above), this position could be charged with this responsibility.

Management Response

We agree with the recommendation and will work with IT to explore the requirement of double entry pertaining to the software program for a more efficient use of time and the software by June 2014.

10. Proper documentation and tracking of contract credits will ensure the proper receipt of refunds due to the City.

On December 9, 2011, a contract for $6,392 was executed with a consultant to provide third-party review services on the Dam Replacement's proposed hydraulic systems. Internal Audit determined that the City made no payments to the consultant for this contract. Engineering staff stated that the work was completed but was not paid because the consultant owed the City a credit from prior work performed. Details of what project the credit was from, the exact amount of the credit, and the reason for the credit were not maintained by Engineering. The only documentation received was an e-mail from the consultant stating the work was performed but the City would not be charged. This documentation is not sufficient to provide an effective audit trail to support the accuracy and completeness of the credit.

Recommendation

10.1 Credits from one project should not be transferred to another project, especially without clear documentation. Ideally, if a project has a credit balance, the balance should be settled on that project and not applied to another project.

Management Response

We agree with the recommendation and the Deputy Public Works Director will implement a revised policy by June 2014.

11. The risk of overpayments to contractors can be reduced with adequately supported claimed expenses and verified labor rates.

In our review of four (4) projects, we found that Engineering was paying contractor invoices without verifying that: (1) claimed travel and subcontractor expenses were supported with documentation, (2) labor rates on invoices matched contracted rates, and (3) change orders and authorizations were properly supported. Due to the volume of exceptions, we have detailed them in ***Appendix 1*** of this report. A summary of the fiscal impact of the issues and detailed explanations of the primary observations follows:

Issue	$	Note
Costs for vendor invoices paid by Engineering without detailed supporting documentation (*support was provided to the City only after requested by Internal Audit)*	**$203,800**	**1**
Costs for vendor invoices paid by Engineering without obtaining detailed supporting documentation to substantiate the costs	**$41,790**	**2**
Total Underpayment of contract expenses	**$1,421**	**3**
Total Overpayment of contract expenses	**$18,826**	**4**
Insufficient information to determine if over/under payment occurred (Undetermined)	**$118,137**	**5**

Note 1: This amount was paid by Engineering to contractors for costs that were not supported by proper detailed documentation. Once Internal Audit requested the support, it was provided to Engineering by the contractors and reviewed by Internal Audit. However, at the time of payment, the costs were not supported with backup documentation.

Note 2: Unlike the costs in Note 1, backup support for these costs was never provided, even subsequent to Internal Audit's requests. The majority of these costs were travel, sub-consultant, and miscellaneous expenses incurred by the contractor and listed in total on the contractor's invoice but not supported with documentation for actual expenses incurred.

Contracts C2011-80 and C2011-149 specifically state that reimbursable expenses "…in no event will ever be more than actual cost." We are unable to verify actual costs paid without supporting documentation. For contract C2012-132, the stipulation regarding actual costs is not incorporated into the contract; the contract states a "not to exceed" amount. However, the contract does state that payments to the contractor will be made based on "…detailed invoices submitted by the contractor." Standard accounting practices would dictate that invoices should include detailed support for actual costs incurred.

Notes 3 and 4: Many of the over and underpayments relate to differences between the contracted labor rates and the rates charged on the contractors' invoices. Contracts C2013-01, C2012-132, C2012-36 specifically incorporated the following stipulation: "Payment for this Contract shall be based on hourly rates established in the attached Exhibit "A" incorporated hereby by this reference." Exhibit A is the contractor's proposal including specific labor rates to be charged. Much of the over and underpayments resulted in the City being charged rates that differed from the rates specifically incorporated into the contract.

Note 5: In some cases we were unable to determine, due to lack of information, the financial impact of the issues. For example:

- *C2011-80*: The labor rates on the contractor's invoices do not match any of the contracted rates. It is difficult to determine what labor rates should have been charged because the rates specifically incorporated into the contract as Exhibit A (which details the contractor's proposed rates) are listed by job title and the invoices list the contractor's staff member's names (not their titles). The contract states that payments "shall be based on hourly rates established in the attached Exhibit A incorporated hereby by this reference." Because the invoices are not consistent with the proposed rates, we are unable to determine whether the City paid the correct amount.
- *C2011-46 and C2010-53*: The hourly rate detail was not attached to payment requests. Although Engineering stated that the contractor doesn't always provide detail because the contract is paid on a lump sum basis, the contract specifically incorporates the contractor's proposed rates into the contract and states payment shall be based on these rates. Engineering has agreed to require

the hourly detail from the contractor going forward.

★

Construction contracts can be particularly vulnerable to error and misappropriation given their many cost inputs, multiple suppliers and subcontractors. False pay requests/applications account for more than half of construction frauds per the Association of Certified Fraud Examiners. Errors or misappropriation can occur several ways through erroneous totals or line items, roll-forward errors, false invoices, or inflated rates in supporting invoices that do not reflect the actual costs incurred. Other areas that can be manipulated include wage rates and categories, (e.g. if a subcontractor bills for a journeyman when an apprentice did the work; overhead and equipment rates; profit or markup formula and fee calculations).

Change orders can be problematic if they are not monitored closely. Change orders for a base contract's work scope or ones with missing scope descriptions, excess charges or omissions of design specifications should be closely scrutinized to ensure the original scope of work is not drastically modified or improper price reductions are not due to substitution of lower grade material.

In any of these situations, adequate documentation should be obtained prior to any approval or payment made.

Recommendations

11.1 All payment requests, authorizations and change orders should be properly scrutinized for errors or irregularities and ensure that supporting documentation is provided to support all claimed expenses. Additionally, the rates being submitted for employees should be agreed to what the contract stipulates. Project Managers and their supervisors should be certifying that all supporting documentation was obtained and reviewed prior to approving payments/change orders.

11.2 Subcontractor proposals, including employee hourly detail, should be obtained for review to support related payment requests for subcontractor work performed.

11.3 Contractor allowances should be adhered to; funds from one allowance should not be used to fund another.

11.4 Engineering should work with contractors/vendors to resolve all overpayments and underpayments identified in ***Appendix 1.***

Management Response

We agree that there are better ways to provide supporting documentation for the files and will be outlining a policy no later than June 2014.

12. Delegation of authority to transfer responsibilities to subordinates allows work to systematically carry on within the City.

Our review of supporting documentation for project progress payments, authorizations and change orders disclosed irregularities with regards to authorized signatures related to change orders.

Change orders are typically issued to address variations in scope of work, material quantities, design errors or changes, and unit rate changes. Change orders require five (5) signatures as follows:

- Prepared by/Reviewed by: Construction Manager (Agent for City)
- Reviewed by: Engineering Construction Manager
- Reviewed by: C.I.P. Design and Construction Manager
- Accepted by: Contractor (Agent for vendor)
- Approved by: Deputy Public Works Director/City Engineer

Our review of the JGM Upgrades project disclosed that for contract 2011-187, two (2) change orders were not approved by the City Engineer as required. They were signed by an Engineering employee. There was no delegation of authority in place.

Delegation of authority transfers certain responsibilities to subordinates to discharge responsibilities. Delegation is a very important process to carry on the work systematically within the City. However, delegation is not a process of relinquishment that means accountability is absolute.

Change orders can be problematic if they are not monitored closely; thus all the required signatures. Not properly delegating authority could lead to questions as to whether the change orders or pay request were properly approved.

Prior to this audit there was no delegation of authority in place. Engineering has now developed and implemented a delegation of authority document and process.

Recommendation

12.1 Delegation of authority should be exercised in situations to adequately assign responsibility when upper management is out of the office and not available to approve documents. The delegation should be written, dated, and identify the individual authorized to sign or conduct business on management's behalf.

Management Response

While email correspondence had been outlined to designate signatory authority, the information was not added to the project file. As outlined in the audit report, Engineering developed and had implemented a clear delegation of authority document. Since completion of the audit, Engineering has redesigned the delegation of authority document to provide even more specific authorities.

Section 4 – CIP Budget

Capital improvements are high in monetary value; typically $100,000 or more and have a useful life of at least 5 years. If a project is to be bond financed, the fixed-asset life should be an average of 15 years per the City's financial policy. All capital projects fall into one of the following two categories:

1. **New projects with no prior year funding approval.**
   These projects could include first year appropriation requests, requests for appropriations in subsequent years of the CIP, or both.

2. **Projects with prior year funding**.
   These projects could require re-appropriation of some or all of the unspent amounts from the first year of the CIP. These projects could also include requests for additional appropriations in subsequent years of the CIP.

All CIP projects that are processed through Engineering incur an Administrative fee. Tempe City Code section 29-19 General Regulations authorizes the City Council to establish by resolution all engineering permit and license fees. Resolution (2009.41) was passed and authorized by the City Council on December 10, 2009 for 1% of the total construction cost for engineering permit/ license fees and project oversight. The 1% fee was then increased to 2% of total project cost by Council on May 20, 2010 (Resolution 2010.48). The Tempe City Code specifies an array of application of these fees to include drainage permit fees, traffic barricades, inspections and testing, encroachments, abandonments and activities in the public Right-Of-Way as well as licenses for special use, water/sewer and sewage disposal.

In addition to the 2% Engineering Fee, each project is assessed additional administrative fees of 1.9%, bringing the total fees assessed to 3.9% of the total project cost. These additional fees are used to cover miscellaneous related costs; unused residual amounts are returned to the originating project department.

13. Establishment of clear communication channels between Engineering and departments with CIP projects will ensure the timely exchange of information for effective project management.

Per Council Resolution, all CIP projects are charged a 2.0% engineering fee and a 1.9% fee for additional and miscellaneous fees. This fee is also assessed for those departments that fund Engineers (Transit and Water). Fee components are as follows:

Direct fee based on total project costs for Engineering permitting and project plan reviews; this goes directly to the general fund.	2%
Legal review, advertising, courier services and any miscellaneous fees are charged against this. Any remaining funds are returned to the department.	1%
Community Development service fees, such as building safety inspections, etc., are charged against this. Any remaining funds are returned to the department.	.9%
TOTAL	**3.9%**

Reconciling the project fees to PeopleSoft proved difficult due to multiple projects being transferred into the general fund simultaneously. In addition, on the Engineering Main Log, the tool used to monitor projects and track fees, reclassification dates or identification of corresponding general ledger transfer numbers are not documented and preclude a clear and effective audit trail.

Not properly tracking the multiple general ledger re-class transfers may result in duplicate transfers or transfers being overlooked.

Recommendation

13.1 Engineering should include re-class dates and general ledger transfer numbers in the Engineering Main Log as an audit trail for multiple project financial transactions. Engineering should work closely with departments on tracking project costs and provide timely, routine status reports.

Management Response

We agree with the recommendation and will add the reclass dates and general ledger transfer numbers to the Engineering Main Log by April 2014.