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Santa Clara Valley Water District

Attn:
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Project Manager

Lower Silver Creek Flood Protection Performance Audit - Final Draft

August 8, 2017



PMA Consultants

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SANTA CLARA VALLEY WATER DISTRICT PERFORMANCE AUDIT

PERFORMANCE AUDIT OF THE LOWER SILVER CREEK FLOOD PROTECTION PROJECT CONSULTANT AGREEMENT WITH RMC (A3277G) AND THE AFFILIATED AMENDMENTS 1, 2, AND 3

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EXECUTIVE SUMMARY

PMA Consultants, LLC (PMA) has completed a performance audit of the Lower Silver Creek Flood Protection Project Consultant Agreement with RMC (A3277G) and the affiliated amendments 1, 2, and 3 (Audit). The objectives of the audit were to:

- » *Determine if the work performed by the consultant or under its direction was sufficient to meet the purposes specified in the agreement and that services were rendered in accordance with the scope of services identified in Appendix One of the agreement*
- » *Determine if District Staff complied with policies and processes and if activities were conducted appropriately*

To complete this audit, PMA reviewed Santa Clara Valley Water District's (The District) processes and practices, as well as the consultant contract and amendments in order to develop a framework for performance objectivity. Relevant standards and metrics from these documents were distilled into assessable and objective performance criteria. PMA conducted a detailed compliance review of available documentation and interviewed available key stakeholders and project team members in order to assess project team performance and compliance.

Conclusions of the Audit based on our findings, reflect that the:

- » *Work performed by RMC Water and Environment (RMC) or under its direction was sufficient to meet the purposes specified in agreement A3277G. However, there were areas of nonconformance associated with delivery and as related to the District QEMS, specifically related to project management and execution, and change management.*
- » *Due to time being of the essence, services listed in the contract were purposefully broad to allow for agility associated with potential services needed; in consideration of scope being intentionally wide-ranging, services were rendered in accordance with the scope of services identified in Appendix One of the agreement and District direction.*
- » *District staff, did not at all times, conduct activities appropriately by complying with policy and process, predominantly associated with post award contract management, namely change management and project document control. There were areas of nonconformance, and the potential for improvement in the District's Project Document Controls and Change Management practices and implementations. The District's Project Document Control (record keeping) related to this agreement was unorganized and ineffectual, particularly in consideration of project management handover. Change Management, though expected and implemented, was poorly documented and an ineffective communication tool. Project Document Control and Change Management are the key knowledge areas associated with noncompliance and potential improvement.*

PMA also identified several areas of non-conformance and areas for improvement (relative to industry best practice) in areas such as project management and execution and performance evaluation and has provided recommendations associated with these findings.

INTRODUCTION AND APPROACH

PROJECT BACKGROUND

The Lower Silver Creek Flood Protection Project was identified in the 1986 Benefit Assessment Program and was enabled to protect the surrounding area by removing 3,800 parcels from the 1 percent floodplain and to improve stream habitat values. The Lake Cunningham Project was also necessary to provide 1% flood protection to areas along Lower Silver Creek. The Federal sponsor is the United States Department of Agriculture (USDA), through its Natural Resources Conservation Service (NRCS). The NRCS was the lead agency in the development of the original 1983 Watershed Plan and the 1988 Alternative Analysis Plan Update. In 2000, the Santa Clara Valley Water District (District) initiated the Coyote Watershed Program to accelerate work in the Watershed which included the Lower Silver Creek Project and the Lake Cunningham Project. Improvements for Lower Silver Creek Reaches 1-3 were constructed. Although project designs were nearly completed for Reaches 4-6, improvements to these reaches and to the Lake Cunningham facility were not constructed due to funding limitations, and were consequently deferred.

Due to the completeness of design (ranging from 90-100%), District staff identified Reaches 4-6 (the Project) as a “shovel ready” project eligible for federal funds. On April 16, 2009, the USDA Secretary Vilsack announced that the Lower Silver Creek project would receive \$2 million in federal economic stimulus funds through the NRCS as part of the American Recovery and Reinvestment Act (ARRA) of 2009. The terms and conditions applicable to the District’s award of the federal economic stimulus funds associated with Reaches 4-6 required the District to award the first contract for project construction no later than August 2009; a very tight timeline. As the District did not have the management and services staff available to support the Project, and since the short timeline was deemed as critical, a sole-source procurement strategy was made to utilize consultant staffing associated with previous Reaches. In June, 2009, RMC Water and Environment (RMC) was contracted and issued a notice-to-proceed for the Project.

To comply with the August 2009 deadline, the first contract awarded (allowing for access to federal stimulus funding) was the construction of Reach 6B Early Grading work, from Moss Point Drive to Cunningham Avenue. As a condition upon receiving initial grant funding, SCVWD let a construction contract for the Early Grading work. It was the first phase prior to final design and construction of the preferred channel configuration.

In order to receive an additional (roughly) \$16 million of federal stimulus funding for the previously deferred Reaches 4-6A Project, the District was required to award the subsequent professional services contracts for project management, permitting, design and coordination during construction by August, 2010.

RMC WATER AND ENVIRONMENT – SCOPE OF SERVICES

Agreement No. A3277G and amendments between SCVWD and RMC (See Appendix 4a) includes a detailed scope of services, including program management, planning, design management/coordination, environmental documentation, and construction support services that may be required to assist SCVWD's Project Manager with rapidly finalizing design, obtaining regulatory permits, and constructing the improvements. The Scope of Work was broken down into the following tasks.

- » Task 1 – Program Management
- » Task 2 - Lower Silver Creek Reach 6B (Early Grading from Moss Point Drive to Cunningham Avenue)
- » Task 3 – Lower Silver Creek Reaches 4, 5, and 6A Project (Interstate 680 to Moss Point Drive)
- » Task 4 – Lower Silver Creek Reach 6B Project (Final Design from Moss Point Drive to Cunningham Avenue)
- » Task 5 – Supplementary Services

AUDIT BACKGROUND AND OBJECTIVES

BACKGROUND

In October, 2015 the SCVWD Board took an action to refer an audit of the Project to the Board Audit Committee (BAC). During the March, 2016 meeting the BAC requested that staff prepare a scope and schedule for BAC review. Scope and schedule were developed, approved by the BAC and advertised as part of a Request for Proposals (RFP) for Independent Performance Audit Services. SCVWD and the BAC evaluated proposals received, conducted interviews and selected PMA to proceed with the Audit in January, 2017.

LIMITATIONS

The performance audit focused on compliance with District processes and practices, and whether the work performed met the requirements specified in the Lower Silver Creek Flood Protection Project Consultant Agreement with RMC (A3277G) and the affiliated amendments 1, 2 and 3. The timeframe of the audit covered 2009 through 2014 which was commensurate with the agreement and three associated amendments. Additionally, per District direction the focus of the audit was on the prime consultant (RMC), and not its sub-consultants, as clarified in the correspondence from SCVWD to PMA dated March 2, 2017.

OBJECTIVES

The objectives of the audit were to:

- » Determine if the work performed by RMC or those subcontractors under its direction was sufficient to meet the purposes specified in the agreement,
- » Determine that services were rendered by RMC or those subcontractors under its direction in accordance with the scope of services identified in Appendix One of the agreement,
- » Determine if the SCVWD Staff complied with policies and processes and if activities were conducted appropriately.

EXCLUSIONS

The performance audit did not include legal or financial reviews as they were previously conducted under the direction and management of SCVWD.

SCHEDULE

Project Start Date: 25JAN2017

Draft Report: 31JUL2017

Project Close Date: SEP2017

Final Report Issued: SEP2017

ANALYSIS OF POTENTIAL THREAT TO INDEPENDENCE STATEMENT

In accordance with GAGAS requirements, PMA conducted an analysis to identify and ensure there were no threats to maintaining PMA Independence when conducting the Performance Audit. This included evaluating all audit and non-audit services having been or currently being provided to the Client.

Instance 1. PMA previously provided non-audit (advisory) services that suggested modifications to the Client's Division 0 and Division 1 specifications. As part of this audit, PMA was not reviewing the inclusion, implementation or compliance with those suggestions.

In this instance, the Client:

- » assumes all management responsibilities;
- » oversees the services, by designating an individual, preferably within senior management, who possess suitable skill, knowledge, or experience;
- » evaluates the adequacy and results of the services performed; and
- » accepts responsibility for the results of the services.

Based on PMA's Professional Judgement and GAGAS guidelines, there is no threat to PMA's ability to maintain its independence as part of this performance audit. The Client's legal counsel has concurred with this determination.

APPROACH

The District outlined several task areas associated with the audit, including:

- » *Task 1 – Project Management*
- » *Task 2 – Conduct Project Kickoff Meeting*
- » *Task 3 – Conduct Performance Audit*
- » *Task 4 – Produce Preliminary Draft Audit Report*
- » *Task 5 – Produce Final Draft Audit Report*
- » *Task 6 – Produce and Present Final Audit Report*
- » *Task 7 – Supplemental Services*

The three primary activities associated with completing audit objectives included developing an objective platform on which to audit performance, reviewing existing documentation (including process and practice information, contract and amendments, and project documentation), and documenting key personnel testimony through in-person interviews.

SUPERVISION AND QUALITY CONTROL STATEMENT

PMA's assigned resources possess the required technical knowledge, competencies and professional judgement necessary to conduct the independent performance audit in accordance with GAGAS, the Client's operating and regulatory environment, and specialized subject matter, such as Project Controls and Construction Management of Flood Control Improvement programs and projects.

PMA Consultants LLC utilized its quality control policies and procedures and frequently communicated those policies and procedures to its personnel. All work performed for this audit was peer reviewed by a member of PMA's Office of the CEO who is familiar with the scope of work, GAGAS requirements and whom possesses the technical knowledge, competencies and leadership necessary to ensure the proper resources, independence, professional judgement and product delivered for this audit.

GAGAS COMPLIANCE

PMA conducted this Performance Audit in accordance with generally accepted government auditing standards. These standards require we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis of our findings and conclusion based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusion based on our audit objectives.

PERFORMANCE AUDIT METHODOLOGY

The main objectives of the performance audit were to determine if work performed was sufficient to meet the purposes specified in the agreement, and to determine compliance with District policy and procedure.

Prior to field audit field work taking place, PMA first developed a presentation documenting approach and understanding of objectives and work required to complete those objectives.

Upon alignment of objectives and approach, PMA thoroughly reviewed the Consultant Agreement with RMC (A32277G), District process, practice, and procedure documentation provided by the District, and reviewed more than 5,500 items included in the District's project document control repository to gain an accurate understanding of the LSC program's internal control processes, regulatory requirements, funding and contractual compliance and reporting.

Subsequent to completing a review of this documentation, PMA developed audit performance criteria (Appendix 1), which served as a representative sample of appropriate practice, process, and contractual requirements. This audit criteria allowed for evaluation of evidence and understanding findings, recommendations, and conclusions included in the report. Elements of criteria and a finding consider condition, cause, and effect. Scoring was based on compliance (full, partial, or none) and was summarized by key project management area, including:

- » Project Management and Execution
- » Project Risk Identification and Management
- » Planning and Scheduling
- » Cost Control
- » Change Management
- » Document Management and Control
- » Project Quality
- » Field Services

Areas of Nonconformance Report (NCR) and Areas for Improvement (AFI) were identified based on partial or noncompliance with relevant practices or contractual obligations. It is important to note, that although the performance criteria has an associated overall "score", the score is not relevant as there is no baseline by which to compare. A criteria could be standardized to assess multiple projects, allowing for score relevance in the future.

Audit field work including review of project specific documentation and key personnel interviews was conducted between March 2017 and July 2017. Relevant documents and interviews are summarized in Appendices 2, 3, and 4).

PERFORMANCE AUDIT PROCESS

To accomplish audit objectives, PMA:

- » Developed a presentation of understanding and overall approach, and presented at a kickoff meeting
- » Obtained and reviewed the consultant agreement and District process and procedure requirements
- » Developed an objective compliance audit checklist predicated on the agreement, processes, and practices
- » Provided a sample of the audit checklist and methodology for District review and approval
- » Obtained and reviewed project specific documentation
- » Interviewed key district and consultant personnel

IDENTIFICATION OF SOURCES AND TYPE OF EVIDENCE

Based on the audit objectives, PMA believes that sufficient, appropriate evidence was limited to address the current audit objectives. Specifically, we found sufficient evidence for objective one; however due to a lack of SCVWD documentation, caused by internal control deficiencies, areas of nonconformance, and other program weaknesses, there was limited evidence associated with objective two which also contributed the basis for audit findings. Evidence was provided and cross-checked with various sources. However, this became limited when reviewing the Client's internal Project Management and change control documentation.

PMA obtained Testimonial evidence under confidential conditions in which persons spoke freely; these conditions are generally more reliable than evidence obtained under circumstances in which the persons may be intimidated. PMA used this testimonial evidence to interpret or corroborate documentary or physical information. PMA evaluated the objectivity, credibility, and reliability of the testimonial evidence. The District provided a list of key persons to be interviewed. This included District and RMC staff employed at the time of the contract. Appendix 2 shows the list of staff and interview date. PMA also identifies if staff, no longer employed by the District or RMC, were not interviewed because they declined or could not be contacted due to incorrect or missing contact information.

PMA used its professional judgement to determine the sufficiency and appropriateness of evidence taken as a whole, and in reporting the results of the audit work.

The Criteria developed to evaluate the evidence and its findings consider condition, cause, and effect. PMA also evaluated the evidence for Significance, which is defined as the relative importance of a matter within the context in which it is being considered, including quantitative and qualitative factors. Such factors include the magnitude of the matter in relation to the subject matter of the audit, the nature and effect of the matter, the relevance of the matter, the needs and interests of an objective third party with knowledge of the relevant information, and the impact of the matter to the audited program or activity. Professional judgment assists auditors when evaluating the significance of matters within the context of the audit objectives. In the performance audit requirements, the term "significant" is comparable to the term "material" as used in the context of financial statement engagements.

FINDINGS AND RECOMMENDATIONS

PMA believes that the evidence obtained from audit, described in the audit checklist and below, provides a reasonable basis for the audit findings at this time. It is important to add, however, that the audit was performed with available information provided by both the District and RMC. PMA worked with both entities to seek and collect additional information, primarily in extensive databases and from the project team. All findings are documented herein.

By developing an audit checklist that serves as a representative cross sampling of district processes, practices, and requirements, and subsequently auditing project documentation and obtaining testimony through interviews, PMA is objectively able to demonstrate our findings.

AUDIT OBJECTIVE 1 OF 2

Determine if the work performed by the consultant was sufficient to meet the purposes specified in the agreement and that services were rendered in accordance with the scope of services identified in Appendix One of the agreement

AUDIT SUMMARY FINDING

The work performed by RMC Water and Environment (RMC) was sufficient to meet the purposes specified in the agreement, however there were areas of nonconformance associated with delivery and as related to the District QEMS. These areas of nonconformance are detailed in Tables 1 through 4.

Due to time being of the essence, services listed in the contract were purposefully broad to allow for agility associated with potential services needed; in consideration of scope being intentionally wide-ranging, services were rendered in accordance with the scope of services identified in Appendix One of the agreement and District direction.

As noted in Project Background, the completeness of Reaches 4-6 design (ranging from 90-100%) made Lower Silver Creek “shovel ready” and a viable candidate for federal funding eligibility. On April 16, 2009, the USDA Secretary Vilsack announced that the Lower Silver Creek project would in fact receive \$2 million in federal economic stimulus funds through the NRCS as part of the American Recovery and Reinvestment Act (ARRA) of 2009. The terms and conditions applicable to the District’s award of the federal economic stimulus funds associated with Reaches 4-6 required the District to award the first contract for project construction no later than August 2009.

This already tight four-month duration was exacerbated by the fact that the District did not have the management and services staff available to support the LSC projects. Time was of the essence. In order to minimize risk (associated with obtaining federal funding under the schedule requirements), the District made a decision to use consultant staffing associated with previous LSC Reaches; a known commodity without a learning curve. In June, 2009, RMC Water and Environment (RMC) was contracted and issued a notice-to-proceed for the Project.

With time being of the essence (due to the time requirements associated with obtaining federal stimulus funding) and the uncertainty of the totality of federal funding, two undocumented, but reasonable project objectives that were corroborated during interview testimony include:

- » *Obtain as much federal funding as possible*
- » *Optimize use of federal funding by executing as much work as possible with the available funds*

The uncertainty associated with availability of future funding combined with time being of the essence (in order to obtain funding), necessitated the District's creation of a wide breadth of scope which would be executed under District direction, allowing for rapid response to changing needs in order to optimize the use of federal funding. The wide breadth of consultant scope, combined with the uncertainty of funding limits, in turn created the expectation of, and allowance for contractual change (i.e., "the parties intend to amend this Agreement to add services for calendar year 2010 to accomplish completion of the Projects").

AUDIT OBJECTIVE 2 OF 2

Determine if District Staff complied with policies and processes and if activities were conducted appropriately

AUDIT SUMMARY FINDING

District staff, did not at all times, conduct activities appropriately by complying with policy and process, predominantly associated with post award contact management, namely change management and project document control. There were areas of nonconformance, and the potential for improvement in the District's Project Document Controls and Change Management practice and implementations. The District's Project Document Control (record keeping) related to this agreement was unorganized and ineffectual, particularly in consideration of project management handover. Change Management, though expected and implemented, was poorly documented and an ineffective communication tool. Project Document Control and Change Management are the key knowledge areas associated with noncompliance and potential improvement.

KEY FINDINGS

Key findings by subject area, associated with areas for improvement and nonconformance are detailed below. Findings are commensurate with the scope of work on internal control and any deficiencies in internal control that are significant within the context of the audit objectives and based upon the audit work performed.

¹ A2377G Executed Agreement

TABLE 1: KEY FINDINGS FOR SUBJECT AREA CHANGE MANAGEMENT

Item #	Reference	Audit Item	Team Score ²	Comments	NCR AFI	Audit Obj.
31	QEMS W75101 Const. Manual CM1088, Rev B, Section 7	Was an amendment practice in place, implemented, and followed?	0	Amendment practice was in place. Amendments were submitted and approved. Scope-of-work in amendment documentation was not updated commensurate with expectation and understanding of services going forward. Project Work Plans were not updated according to practice	NCR1 NCR2 NCR3	1 & 2
33	QEMS W75101 Const. Manual CM1088, Rev B, Section 7 BAO Interpretations (EL5)	Were formal amendments issued per guidelines?	1	CEO approved amendments. According to signature page of signed agreement, Board Governance polices were invoked related to amendments. Board Governance policies indicate that the CEO was not entitled to make a single purchase for consultant service contracts in excess of \$100,000 without authorization from the Board. Verification of authorization documented in amendments and in Conformed Copy of Board Agenda Meeting (4-28-09). Definition around "amend" should have been clearer. An "inter-transfer" of fee from task 4 to task 3 was actually a reduction in scope, and should have been handled through the amendment process	NCR1 NCR4	1 & 2
34	Const. Manual CM1088, Rev B, Section 7	Were amendments tracked in an amendment/change log?	1	Amendments and claims tracked in potential change log (provided post interview). However, amendments not detailed in accordance with true scope.	NCR1	2
35	Const. Manual CM1088, Rev B, Section 11	Were Claims managed in accordance with Section 11 requirements?	1	Amendments and claims tracked in potential change log (provided post interview). However, amendments not detailed in accordance with true scope.	NCR1	2

0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
2 AFI	Area for Improvement

Item #	Reference	Audit Item	Team Score ²	Comments	NCR AFI	Audit Obj.
36	Executed Agreement A3277G, App 2 Section 3, Number 3	Was unused budget transferred appropriately between tasks?	0	According to the agreement, funding from completed tasks can be moved to future tasks; however, funding associated with incomplete (or future) tasks cannot be transferred to current tasks. Task 4 budget, though not complete, was transferred to task 3 (inter transfer 11/13/12), and from task 1 to task 3 (no documentation backup). The contract, though NTE by task, was seemingly treated as T&M holistically.	NCR4	1 & 2

KEY FINDING 1

Change Management Practice was not followed strictly, and amendments were not documented well.

District QEMS W75101 (Change Management Practice) provides instructions to project team members on how to assess, communicate, and incorporate changes in scope, cost or schedule of a project. The intent of the instructions is to ensure that project staff analyzes and clearly communicates project changes and implications of the changes, appropriately.

NCR1

“Document the issues and decisions”³ [QEMS 75101]. Due to the time requirements associated with obtaining federal funding, and uncertainty with the future of the project, change throughout the project was anticipated. The expectation for the occurrence of change was noted in the contract, as evidenced by the initial contract:

Provided Consultant performs the Scope of Services to the satisfaction of the District, the parties intend to amend this Agreement to add services for calendar year 2010 to accomplish completion of the Projects

Despite this anticipation, however, amendments were not well documented. Amendments were submitted and approved but amendments between RMC and the District were submitted at the end of each calendar year, rather than immediately following the identification of change. Further, amendments appear to have been a monetary extension of ongoing services, rather than a realignment of scope.

As an example, and as would be expected in a program management contract, RMC’s original contractual scope of work included program management reporting. In January 2011, RMC was directed by the District Project Manager to subside program management reporting, in an effort to retain funding for CH2M. Though direction was clearly articulated in an email,⁴ and the direction was followed (project reports subsided), subsequent amendments did not reduce the scope commensurate with this direction.

NCR2

“Determine Impacts to project scope, schedule, and cost”⁵: There is no evidence to support that impacts of all change, or that alternatives to address changes were determined. Using the example above, the impact of reduced visibility into the project, in particular from a documentation standpoint, should have been noted in respective amendments per District practice.

³ QEMS 75101

⁴ Monthly report email, subject “Monthly report” sent by Dennis Cheong on January 5, 2011

⁵ QEMS 75101

NCR3

"Revise Work Plan"⁶: because impact and alternatives of change were not assessed, project work plans were not revised to account for risks of alternative plans.

KEY FINDING 2

Task inter-transfer contractual practices were not followed appropriately.

NCR4

"Unused budget from a completed task may be reallocated to a later task upon written authorization from the District, provided that the total NET amount is not exceeded. However, transferring of budget from future tasks to current tasks will not be permitted"⁷: According to the agreement, funding from completed tasks can be moved to future tasks however, funding associated with incomplete (or future) tasks cannot be transferred to current tasks.

As an example of not following practice appropriately, task 4 budget, though not complete, was transferred to task 3 (inter transfer 11/13/12), and from task 1 to task 3 (no documentation backup). An "inter-transfer" of fee from task 4 to task 3 was actually a reduction in scope, and should have been handled through the amendment process. The contract, though NTE by task, was seemingly treated as T&M holistically.

The only potential stop-gate for ensuring appropriate use of inter task fee transfer seems to have been the District project manager. An error in implementation, misunderstanding of process intent, or a lack of project management training could create similar scenarios in other future projects.

RECOMMENDATIONS

R1. Ensure project management training in place, allowing for process intent to be better understood

R2. Develop and implement process compliance audit requirements at key stages of project execution including processes, tools, and roles and responsibilities. Of note and predicated on industry best practice, audit should be implemented during project mobilization (early in the project) to allow for course correction if necessary.

⁶ QEMS 75101

⁷ A3277G Executed Agreement

TABLE 2: KEY FINDINGS FOR SUBJECT AREA PROJECT DOCUMENT CONTROL

Item #	Reference	Audit Item	Team Score ⁸	Comments	NCR AFI	Audit Obj.
38	Executed Agreement A3277G App 1; W42302revC	Was the Document Management practice approved?	0	See CWP LSC filing structure; no verification of formal approval. SCVWD structure missing several sub-class folders as required in QEMS. Unorganized and ineffectual project document control.	NCR6	2
39	Executed Agreement A3277G, App 1 W42303revC	Have Project files been set up per the Project practice?	1	reviewed; RMC's files set up according to document management hierarchy found in CWP LSC Filing Structure; District files setup at a high level hierarchy. Hierarchies do not match (varying levels of detail and organization). District structure unorganized and missing several sub-class folders such as monthly reporting.	NCR6	2
40	QEMS W42302revC	Was the project document control system implemented and used appropriately?	1	RMC Project Document Control organized according to CWP LSC Filing Structure. SCVWD project document control system was used for a portion of the project, but not all files found in District system. Examples include copies of <u>all</u> amendments and backup, and monthly reports. Testimony revealed that the DA left and was not replaced. Further, construction for reaches 4-6b contained only 34 documents. Additionally, key direction was issued through email and should have been issued as a PDF (or similar) according to QEMS	NCR5 NCR6	2
41	Industry	Does the execution plan include the Client interface with the Project Document Control Work Process?	0	could not verify	AFI1	

0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement

Item #	Reference	Audit Item	Team Score ⁸	Comments	NCR AFI	Audit Obj.
43	QEMS W42302revC	Was a central filing system established for both Design and Supplier/3rd party documentation?	0	District file structure unorganized, and ineffective	NCR6	2
44	QEMS W42302revC Const. Manual CM10888, Rev B; Section 10	Have all files been prepared for archive or been archived?	0	could not verify final archive	NCR7	2

KEY FINDING 3

Document management practice was not followed appropriately, and document management was unorganized and ineffectual.

District QEMS W42302 provides guidelines and instruction to establish a standard file management system that provided a naming convention and organizational structure for the creation, maintenance and retention of project files, and ensures that files are created, maintained and archived in a consistent manner. One of the intents of an organized filing structure and its' controlled contents is to provide quality records, or documented evidence that processes were executed according to quality requirements.

NCR5

"Email is a delivery system not a document. Emails that contain significant information should be printed and filed with other correspondence". An example of District nonconformance includes key direction (scope change) issued through email and not stored in project correspondence. Though evidence of this direction was provided through RMC's project document control, no evidence was obtained through the District Project Document Control files. This direction should have been issued as a PDF (or similar) and filed with project correspondence in the District's file structure.

NCR6

"Create a 'Project File Checklist'⁹ for the current phase of the project. Using table 1 as a guideline identify documents that will be developed in the current phase of the project and develop a customized Project File Checklist for your project. This list may be modified as additional documents are identified": The District file structure was not setup commensurate with the scope of the overall program. Key subclass folders were missing (Project Control under the Project Management Classification, for example).

Additionally, several key requested documents were not provided or found in the District project document control system. As an example, key emails and monthly reports and meeting minutes, though transmitted (as evidenced by RMC project document control) to the District, were not stored in the District's project document control project repository.

RMC's project document control followed their proposed plan and structure, and was in line with industry standard. RMC was able to produce a majority of requested documents. The District's project document control was unorganized and was missing a majority of requested project management documents.

NCR7

"Reconcile construction files kept by engineering or project management units prior to archiving; prepare a file transmittal form for each box": No evidence of the transmittal form or archival process was provided.

⁹ QEMS W42302

AFI1

There is currently no explicit process or direction for interface of project document control systems between consultant and the District. Though the Project Work Plan could serve as a platform for a description of this interaction, a framework for its use should be provided.

RECOMMENDATIONS

R3. Modify existing project document control practice (and/or implementation of practice) to be less autonomous, in line with industry standard.

R2. [Repeated] Develop and implement process compliance audit requirements at key stages of project execution including processes, tools, and roles and responsibilities. Of note and predicated on industry best practice, audit should be implemented during project mobilization (early in the project) to allow for course correction if necessary.

R4. Implement a detailed practice for project document control interface between District and consultant.

TABLE 3: KEY FINDINGS FOR SUBJECT AREA PROJECT MANAGEMENT AND EXECUTION

Item #	Reference	Audit Item	Team Score ¹⁰	Comments	NCR AFI	Audit Obj.
6	QEMS W75102rG	Was a Project Management Plan issued in the level of detail required? Did the context of the plan match the actual execution of job? Was it updated as needed?	1	Reviewed design and construction phase project work plans. Not all project objectives were captured (i.e. federal funding). Plan should have been updated when scope and/or schedule/budget changed	NCR8	1 & 2
7	Const. Manual CM1088, Rev B, Section 4	Was the Project Execution Plan reviewed and approved by the SCVWD PM?	1	formally accepted copy and construction phase plans (K. Oven and A. Gurevich); plans should have been updated upon contractual or strategy changes	NCR8	2
9	Const. Manual CM1088, Rev B, Section 4 Executed Agreement A3277G, App 1	Were weekly project meetings held, and documented with minutes?	1	Bi-weekly through initial contracting period. Agenda and minutes reviewed. Meetings with RMC were discontinued at same time as monthly reports	AFI2	1 & 2
12	Executed Agreement A3277G, App 1	Were Progress Reports issued monthly to SCVWD?	1	Progress reports maintained JUN09-SEP10, and transmitted to SCVWD. District directed RMC to stop issuing progress reports in order to reserve funding for RMC's subconsultant services. Monthly reports were not subsequently provided by others	AFI2	1 & 2

0 Non-Compliance	
1 Partial Compliance	
2 Full Compliance	
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement

10

KEY FINDING 4

Project Work Plan practice was not followed appropriately.

NCR8

A Project Work Plan is a written plan that identifies processes, systems, and techniques to effectively implement and control a specific phase of a capital project. From a responsibility standpoint, the Senior Project Manager is responsible for the development, implementation, and changes of a Project Work Plan. Further, the Project Work Plan is to be revised with documented changes as conditions warrant, and distributed to all team members¹¹.

Though scope, strategy, and resources were modified several times over the term of the agreement with RMC, design and construction project work plans were not updated based on scope, cost, or schedule modifications (a requirement of QEMS). Because project work plans were not updated accordingly, there was no formal documentation capturing modifications in strategy and program implementation resulting in a loss of history on the program and a potential vulnerability in team understanding. The only potential stop-gate for ensuring appropriate updates of Project Work Plans are Project Management diligence, and DOO oversight (requests at the time of amendments, etc). An error in implementation, misunderstanding of process intent, or a lack of project management training could create similar scenarios in other future projects.

KEY FINDING 5

Monthly reports were not reassigned when removed from consultant scope.

¹¹ QEMS 75102rG

AFI2

Progress reports and meeting minutes were included in RMC’s contractual scope. Both of these activities occurred during the initial contract period. The District, in order to preserve funding for construction management personnel (executed via subcontract with CH2M), directed RMC to stop issuing monthly reports.¹² Monthly reports were not subsequently reassigned to another consultant, or to the District, creating a reporting void. The impact of this lack of reporting was a reduced historical visibility into the program, and a loss of knowledge during project management transition and handover. Further, this change in scope should have been handled in an amendment via the approved change management practice (as noted in change management section, NCR1).

KEY FINDING 6

There is no current practice for project management (and key personnel) turnover.

AFI3

QEMS discusses transition between phases, but does not require transition reporting between key personnel i.e. there is no formal practice for project management turnover. The project management position was transitioned in October 2013, near the end of the RMC contract; there is no evidence of a formal project management transition plan, or documentation of a transition meeting. Though lack of transition is a risk in and of itself, a lack of attention to project document control and change management practice exacerbates this risk, as the history of the project is not well documented.

KEY FINDING 7

There is no current practice for project performance or compliance audit.

¹² Monthly report email, subject “Monthly report” sent by Dennis Cheong on January 5, 2011

AFI4

No compliance audit or project performance (looking at consultant and/or district) occurred through the life of the project. Performance evaluation is not currently a requirement of QEMS and there are no systems or processes in place to support implementation of performance or compliance evaluation. The impact of the lack of performance evaluation increases the risk of District and consultant noncompliance and poor performance.

RECOMMENDATIONS

R2. [Repeated] Develop and implement process compliance audit requirements at key stages of project execution including processes, tools, and roles and responsibilities.

R5. Implement project management and key personnel transition / turnover practice including tools and templates, and roles and responsibilities

TABLE 4: KEY FINDINGS FOR SUBJECT AREA PROJECT RISK IDENTIFICATION AND MANAGEMENT, PLANNING AND SCHEDULING, COST CONTROL, AND PROJECT QUALITY

Item #	Category	Reference	Audit Item	Team Score ¹³	Comments	NCR AFI	Audit Obj.
17	Project Risk Identification and Management	QEMS W75102rH	Was a Project Risk and Mitigation Plan developed?	1	Developed as part of Project Work Plan (above and beyond minimum requirements), however a key project risk and associated mitigation should have been identified for use of funding and funding optimization, to coincide with the objective of optimizing federal funding	AFI5	1 & 2
22	Planning and Scheduling	Executed Agreement A3277G Q751D1	Was the schedule reviewed monthly with the project team and approved by the SCVWD PM?	1	As part of monthly report, until monthly report discontinued	NCR9	2
24	Planning and Scheduling	Executed Agreement A3277G Q751D1	Were schedules updated at least once per month?	1	as part of monthly report, until monthly report discontinued	NCR9	2
28	Cost Control	Executed Agreement A3277G	Were earned hours and productivity determined at least monthly for all functions/crafts during Detailed Engineering and Construction?	1	Progress reported for design in monthly reports. Basis of Earned Value Methodology not confirmed	AFI6	1 & 2

0 Non-Compliance	
1 Partial Compliance	
2 Full Compliance	
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement

13

Item #	Category	Reference	Audit Item	Team Score13	Comments	NCR AFI	Audit Obj.
47	Project Quality	Industry	Were SCVWD expectations (or objectives) formally recorded?	1	objectives noted in project work plan, but some objectives articulated in interviews (securing federal funding and optimizing use of federal funding) not formally recorded; expectations not documented or addressed	AFI7	2

KEY FINDING 8

Schedule updates and reviews were discontinued, as directed by SCVWD's Project Manager.

NCR9

Schedules and subsequent updates are required to demonstrate planned progress, sequence of operation, and actual progress allowing for evaluation of progress variance.

Per the Executed Agreement, RMC was to use schedule management programs to monitor progress on Program activities, and to provide early identification of issues associated with schedule compliance. Schedule updates were to be provided monthly. Schedule updates and documented reviews subsided based on District direction to cease reporting, and the responsibility was not reassigned. It is not clear how project progress was assessed against Project Work Plans beyond this¹⁴

KEY FINDING 9

Project Risk Management is not a requirement of QEMS; it is optional.

AF15

Project Risk Management is not a requirement of QEMS practices; rather it is included as an optional section within the Project Work Plan practice¹⁵. Project Risk Management is a well-accepted core project management knowledge area, and industry best practice. The impact of not identifying and documenting risks greatly increases the likelihood of project budget and schedule overruns.

KEY FINDING 10

Basis of Earned Value / Progress is not a District requirement.

¹⁴ Executed Agreement and QEMS 751D01

¹⁵ QEMS W75102

AFI6

Per the Executed Agreement, providing progress status reports is a requirement of invoice submittal. However, the demonstration of progress basis (either in a Project Work Plan or through the invoicing process) is not required. The impact of not requiring a demonstration of progress basis could in some cases lead to over-invoicing and ensuing over-payment.

KEY FINDING 11

There is no current process for recording or documenting District expectations, or satisfaction.

AFI7

Though some objectives are formalized in the Project Work Plan, some other objectives articulated in interviews (securing federal funding and optimizing use of federal funding) were not formally recorded either directly as objectives, or as project constraints or assumptions. Further, there is no current process for recording or documented District expectations, or satisfaction with consultant performance and methodologies. The impact of not formally recording expectations and satisfaction reduces the ability to continually improve, both from the standpoint of District procurement and consultant performance.

RECOMMENDATIONS

R6. Develop and implement a project risk management practice in line with industry standard, including training, tools, templates, and roles and responsibilities.

R7. Develop and implement a District expectation and satisfaction practice in order to better assess continuous improvement. Practice should address objectives, requirements, process, and reporting as well as roles and responsibilities, tools, and templates.

SUMMARY OF AUDIT FINDINGS

Key Finding 1: *Change Management Practice was not followed strictly, and amendments were not documented well.*

Key Finding 2: *Task inter-transfer contractual practices were not followed appropriately.*

Key Finding 3: *document management practices were not followed appropriately, and document management was unorganized and ineffectual.*

Key Finding 4: *Project Work Plan practices were not followed appropriately.*

Key Finding 5: *Monthly reports were not reassigned when removed from consultant scope.*

Key Finding 6: *There is no current practice for project management (and key personnel) turnover.*

Key Finding 7: *There is no current practice for project performance or compliance audit.*

Key Finding 8: *Schedule updates and reviews were discontinued, as directed by SCVWD's Project Manager.*

Key Finding 9: *Project Risk Management is not a requirement of QEMS; it is optional.*

Key Finding 10: *Basis of Earned Value / Progress is not a District requirement.*

Key Finding 11: *There is no current practice for recording or documenting District expectations, or satisfaction.*

SUMMARY OF AFIS

AFI1: *There is currently no explicit practice or direction for interface of project document control systems between consultant and the District. Though the Project Work Plan could serve as a platform for a description of this interaction, a framework for its use should be provided*

AFI2: *Progress reports and meeting minutes were included in RMC's contractual scope. Both of these activities occurred during the initial contract period. The District, in order to preserve funding for construction management personnel (executed via subcontract with CH2M), directed RMC to stop issuing monthly reports.¹⁶ Monthly reports were not subsequently reassigned to another consultant, or to the District, creating a reporting void. The impact of this lack of reporting was a reduced historical visibility into the program, and a loss of knowledge during project management transition and handover. Further, this change in scope should have been handled with an amendment via the approved change management practice (as noted in change management section, NCR1).*

AFI3: *QEMS discusses transition between phases, but does not require transition reporting between key personnel i.e. there is no formal practice for project management turnover. The project management position was transitioned in October 2013, near the end of the RMC contract; there is no evidence of a formal project management transition plan, or documentation of a transition meeting. Though lack of transition is a risk in and of itself, a lack of attention to project document control and change management practice exacerbates this risk, as the history of the project is not well documented.*

AFI4: *No compliance audit or project performance (looking at consultant and/or district) occurred through the life of the project. Performance evaluation is not currently a requirement of QEMS and there are no systems or processes in*

¹⁶ Monthly report email, subject "Monthly report" sent by Dennis Cheong on January 5, 2011

place to support implementation of performance or compliance evaluation. The impact of the lack of performance evaluation increases the risk of District and consultant noncompliance and poor performance.

AF15: Project Risk Management is not a requirement of QEMS practices; rather it is included as an optional section within the Project Work Plan practice [QEMS W75102]. Project Risk Management is a well-accepted core project management knowledge area, and industry best practice. The impact of not identifying and documenting risks greatly increases the likelihood of project budget and schedule overruns.

AF16: Per the Executed Agreement, providing progress status reports is a requirement of invoice submittal. However, the demonstration of progress basis (either in a Project Work Plan or through the invoicing process) is not required. The impact of not requiring a demonstration of progress basis could in some cases lead to over-invoicing and ensuing over-payment.

AF17: Though some objectives are formalized in the Project Work Plan, some other objectives articulated in interviews (securing federal funding and optimizing use of federal funding) were not formally recorded either directly as objectives, or as project constraints or assumptions. Further, there is no current process for recording or documented District expectations, or satisfaction with consultant performance and methodologies. The impact of not formally recording expectations and satisfaction reduces the ability to continually improve, both from the standpoint of District procurement and consultant performance.

RECOMMENDATIONS

R1. Ensure project management training in place, allowing for process intent to be better understood

R2. Develop and implement process compliance audit requirements at key stages of project execution including processes, tools, and roles and responsibilities. Of note and predicated on industry best practice, audit should be implemented during project mobilization (early in the project) to allow for course correction if necessary.

R3: Modify existing project document control practice (and/or implementation of practice) to be less autonomous, in line with industry standard.

R4: Implement a detailed practice for project document control interface between District and consultant

R5. Implement project management and key personnel transition / turnover practice including tools and templates, and roles and responsibilities.

R6. Develop and implement a project risk management practice in line with industry standard, including training, tools, templates, and roles and responsibilities.

R7. Develop and implement a District expectation and satisfaction practice in order to better assess continuous improvement. Practice should address objectives, requirements, process, and reporting as well as roles and responsibilities, tools, and templates.

SUMMARY OF THE VIEWS OF RESPONSIBLE OFFICIALS

Place holder for SCVWD commentary associated with review of draft

Providing a draft report with findings for review and comment by responsible officials of the audited entity and others helps the auditors develop a report that is fair, complete, and objective. Including the views of responsible officials results in a report that presents not only the auditors' findings, conclusions, and recommendations, but also the perspectives of the responsible officials of the audited entity and the corrective actions they plan to take. Obtaining the comments in writing is preferred, but oral comments are acceptable.

Auditors should also include in the report an evaluation of the comments, as appropriate

APPENDIX A

LIST OF INTERVIEWS

<i>Employee</i>	<i>Interview Time</i>	<i>Associated Department / Role(s)</i>
Lyndel Melton	6/19 12:00-2:00	Principal
Steve Bui	6/19 12:00-2:00	Project Manager (Senior Civil Engineer, Principal)
Julie O'Connor	6/19 12:00-2:00	Senior Project Accountant
Katherine Oven	6/22 3:00-4:00	Deputy Operating Officer (Water Utility Capital Division) Deputy Operating Officer, Watersheds Capital Projects Division
Leslie Orta	6/22 11:00-12:00	Senior Assistant District Counsel
Ted Ibarra	6/22 4:00-5:00	Assistant/Associate Civil Engineers (Coyote Watershed – Lower Silver Creek)
Roger Narsim	6/22 1:00-2:00	Capital Engineering Unit Manager (Coyote Watershed – Lower Silver Creek)
Stephen Ferranti	6/22 2:00-3:00	Capital Engineering Unit Manager (Coyote Watershed – Lower Silver Creek)
Anne Noriega	6/22 10:00-11:00	Ethics/Conflict of Interest Program Administrator
Tim Bramer	6/23 11:00-12:00	Construction Manager (Construction Services Unit)
David Seanez	6/23 9:00-10:00	Chief Construction Inspector (Construction Services Unit)
Martin Rivera	6/23 10:00-11:00	Resident Construction Inspector (Construction Services Unit)

APPENDIX B

LIST OF KEY DOCUMENTS

Reference	Description
A3277G and Amendments	Agreement No. A3277G and Amendments 1-3, between SCVWD and RMC
QEMS 75102	Create Work Plan Practice
QEMS 75101	Change Management Practice
QEMS 42302	District File Instructions for Capital Projects
QEMS Q751D01	Capital Project Delivery
Email Direction	Email directing RMC to stop preparing and issuing monthly reports, in order to save costs
BAO Interpretations	BAO Interpretations of the Board's Governance Policies
Sole Source CEO approval	Conformed Copy Board Agenda Memo dated 04/28/2009. Subject: Sole Source Consultant Contracts to Complete the Design Documents for Construction of Lower Silver Creek Flood Protection Reaches 4-6, #40264012, San Jose
Design Phase Work Plan	Lower Silver Creek Reaches 4 & 5, and 6 Flood Protection Project Design Phase Work Plan. Dated 6/1/10
Construction Phase Work Plan	Lower Silver Creek Reaches 4-6A Flood Protection Project Construction Phase Work Plan. Dated 8/11/10
CM10088	Construction Manual

APPENDIX C

PERFORMANCE AUDIT REPORT

Appendix C, the performance audit report appears on the following pages.

Client: Santa Clara Valley Water District
Project: Performance Audit of Lower Silver Creek
Lead Auditor: Mike Brown
Lead Auditor: John Mahoney

Audit Number: LSC-001
Date: 8/8/17
Audit Score: 72%
PMA Proj. # 04078

Audit Scope

Audit covering the contract, processes, and procedures associated with RMC contract. Objectives of audit include:

1. Determine if the work performed by the consultant or under its direction was sufficient to meet the purposes specified in the agreement and that services were rendered in accordance with the scope of services identified in Appendix One of the agreement
2. Determine if District Staff complied with policies and processes and if activities were conducted appropriately

Includes review against District QEMS and CM documentation, agreement and amendments, and appropriate project documentation

Scoring Summary

Knowledge Area	Score
Project Management and Execution	87%
Project Risk Identification and Management	75%
Planning and Scheduling	83%
Cost Control	88%
Change Management	50%
Document Management and Control	44%
Project Quality	75%
Field Services	88%
Overall Score***	72%

***Scoring is not relevant as there is no baseline by which to compare.

Client: SCVWD
 Project: LSC Perf. Audit
 PMA Project # 04078
 Audit Date MAY-JUL2017

Lead Auditor: Mike Brown
 Lead Auditor: John Mahoney
 Auditor: Ty Vess
 Auditor: Michael Haas

0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement



FINAL DRAFT
PMA Consultants

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
1	Project Management and Execution	Const. Manual CM1088, Rev B, Section 2	Has written authorization been received from SCVWD prior to commencing work?	2	27-007 confirmed NTP on 6/18/09	
2	Project Management and Execution	Industry	Has the PM reviewed and signed the contract or release document prior to SCVWD signature?	2	Agreement A3277G signed by SCVWD and RMC	
3	Project Management and Execution	Industry	Was a Project Mobilization Plan, or Initiation Checklist completed?	NA	not contractually required; industry best practice suggests using a mobilization checklist as well as early audit in order to allow for course correction	AFI
4	Project Management and Execution	Const. Manual CM1088, Rev B, Section 4	Were the appropriate insurance certificates been received and issued to SCVWD?	2	COI presented (10/17/08)	
5	Project Management and Execution	Const. Manual CM1088, Rev B, Section 4	Was a Kick-Off Meeting held with required attendees?	2	Meeting minutes confirm KO held 6/23/2009	
6	Project Management and Execution	QEMS W75102rG	Was a Project Management Plan issued in the level of detail required? Did the context of the plan match the actual execution of job? Was it updated as needed?	1	reviewed design and construction phase project work plans. Not all project objectives were captured (i.e. federal funding). Plan should have been updated when scope and/or schedule/budget changed	NCR
7	Project Management and Execution	Const. Manual CM1088, Rev B, Section 4	Was the Project Execution Plan reviewed and approved by the SCVWD PM?	1	formally accepted copy and construction phase plans (K. Oven and A. Gurevich); plans should have been updated upon contractual or strategy changes and amendments	
8	Project Management and Execution	Industry	Was the Basis of Design completed (including performance criteria, design assumptions, listing of SCVWD documents, and applicable standards)?	2	BOD completed and transmitted JAN2010	
9	Project Management and Execution	Const. Manual CM1088, Rev B, Section 4	Were weekly project meetings held, and documented with minutes?	1	bi-weekly through initial contracting period. Agenda and minutes reviewed. Meetings with RMC were discontinued at same time as monthly reports	
10	Project Management and Execution	Const. Manual CM1088, Rev B, Section 6	Were all meetings or telephone conversations (with decisions made or significant data transferred) documented on a timely basis?	2	decisions documented in minutes of bi-weekly program meetings. Transmittals provided.	
11	Project Management and Execution	Const. Manual CM1088, Rev B, Section 6	Was an Action Item list implemented, and reviewed weekly?	2	action items covered in bi-weekly progress	

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0 Non-Compliance	
1 Partial Compliance	
2 Full Compliance	
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement



FINAL DRAFT
PMA Consultants

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
12	Project Management and Execution	Executed Agreement A3277G, App 1	Were Progress Reports issued monthly to SCVWD?	1	progress reports maintained JUN09-SEP10, and transmitted to SCVWD. District directed RMC to stop issuing progress reports in order to reserve funding for RMC's subconsultant services. Monthly reports were not subsequently provided by others	AFI
13	Project Management and Execution	Const. Manual CM1088, Rev B, Section 5	Did consultant adhere to the submittal process required by the District?	2	a submittal "who gets what" document created to organize submittals; formal submittals transmitted for BOD, 90%, 95%, and 100%.	
14	Project Management and Execution	Industry	Did consultant adhere to the RFI process required by the District	2	RFI Log provided post-interview, and verified for inclusions	
15	Project Management and Execution	Industry	Did the District answer RFIs in a timely manner?	2	no perceived issues from RMC or SCVWD standpoint; date received to date returned to consultant generally within acceptable limits (less than one week)	
16	Project Management and Execution	Const. Manual CM1088, Rev B, Section 10	Was the project closeout report complete and distributed?	2	final invoice and associated documentation completed per CM1088	
17	Project Risk Identification and Management	QEMS W75102rH	Was a Project Risk and Mitigation Plan developed?	1	developed as part of Project Work Plan (above and beyond minimum requirements), however a key project risk and associated mitigation should have been identified for use of funding and funding optimization, to coincide with the objective of optimizing federal funding	AFI
18	Project Risk Identification and Management	QEMS W75102rH	Were mitigation plans or action items assigned in the action item list?	2	action items assigned to individuals (bi-weekly meeting minutes)	
20	Planning and Scheduling	Const. Manual CM1088, Rev B, Section 6	Was the baseline schedule developed with appropriate stakeholder input?	2	Interactive process used as documented through meeting minutes / attendance	
21	Planning and Scheduling	Const. Manual CM1088, Rev B, Section 6	Was the baseline schedule reviewed and accepted/approved by the PM?	2	Approval of schedule implied through approval of Project Work Plan	
22	Planning and Scheduling	Executed Agreement A3277G / Q751D1	Was the schedule reviewed monthly with the project team and approved by the SCVWD PM?	1	as part of monthly report, until monthly report discontinued	
23	Planning and Scheduling	Const. Manual CM1088, Rev B, Section 7	Were the schedules resource loaded?	2	Resources managed via alternate system (Deltek); due to small nature of RMC scope when compared to consultant, this was sufficient	
24	Planning and Scheduling	Executed Agreement A3277G/ Q751D1	Were schedules updated at least once per month?	1	as part of monthly report, until monthly report discontinued	

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0 Non-Compliance	
1 Partial Compliance	
2 Full Compliance	
N/A	
NCR	Non Compliance Report
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FINAL DRAFT
PMA Consultants

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
25	Planning and Scheduling	Executed Agreement A3277G/Q751D1	Were schedules updated to reflect approved amendments?	2	baseline included with approved project work plan. RMC documents provide regular updates; no updates found in District documentnation. Schedule was updated to include amendments (design to construction in subsequent years)	
26	Cost Control	Q751D1	Were internal cost reports issued monthly with appropriate content, and as planned in the project controls plan?	2	in monthly reports.	
27	Cost Control	Const. Manual CM1088,	was progress and performance measurement included in	2	included in monthly progress reports	
28	Cost Control	Const. Manual CM1088, Rev B, Section 7	Were earned hours and productivity determined at least monthly for all functions/crafts during Detailed Engineering and Construction?	1	progress reported for design in monthly reports. Basis of Earned Value Methodology not confirmed	
29	Cost Control	Const. Manual CM1088, Rev B, Section 7	Is a progress measurement system in place to determine cost and schedule progress and performance?	2	progress reported for design in monthly reports.	
30	Change Management	Executed Agreement A3277G	Was a retainage held back from monthly progress payments until approved to release?	1	per invoices; retention percentage decreased over time; reasoning not documented but allowed per contract	
31	Change Management	Const. Manual CM1088, Rev B, Section 7	Was a amendment practice in place, implemented, and followed?	0	amendment practice was in place. Amendments were submitted and approved. Scope-of-work in amendment documentation was not updated commensurate with expectation and understanding of services going forward. Project Work Plans were not updated according to practice guidelines	NCR
32	Change Management	Const. Manual CM1088, Rev B, Section 7	Did the SCVWD PM approve amendments to the work and order of magnitude price prior to proceeding?	2	PM approved amendments and routed for CEO approval	

Client: SCVWD
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0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement



FINAL DRAFT
PMA Consultants

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
33	Change Management	Const. Manual CM1088, Rev B, Section 7	Were formal amendments issued per guidelines?	1	CEO approved amendments. According to signature page of signed agreement, Board Governance policies were invoked related to change management. Board Governance policies indicate that the CEO was not entitled to make a single purchase for consultant service contracts in excess of \$100,000 without authorization from the Board. Verification of authorization documented in amendments and in Conformed Copy of Board Agenda Meeting (4-28-09). Definition around "amend" should have been more clear. An "inter-transfer" of fee from task 4 to task 3 was actually a reduction in scope, and should have been handled through the amendment process	NCR
34	Change Management	Const. Manual CM1088, Rev B, Section 7	Were amendments tracked in a change log?	1	amendments and claims tracked in potential change log (provided post interview). However, amendments not detailed in accordance with true scope.	NCR
35	Change Management	Const. Manual CM1088, Rev B, Section 11	Were Claims managed in accordance with Section 11 requirements?	1	amendments and claims tracked in potential change log (provided post interview). However, amendments not detailed in accordance with true scope.	
36	Change Management	Executed Agreement A3277G, App 2 Section 3, Number 3	Was unused budget transferred appropriately between tasks?	0	According to the agreement, funding from completed tasks can be moved to future tasks; however, funding associated with incomplete (or future) tasks cannot be transferred to current tasks. Task 4 budget, though not complete, was transferred to task 3 (inter transfer 11/13/12), and from task 1 to task 3 (no documentation backup). The contract, though NTE by task, was seemingly treated as T&M holistically.	NCR
37	Change Management	Const. Manual CM1088, Rev B, Section 11	What was the value of total amendments on the project? Were they excessive, and if so why?	2	on RMC's contract, change was valued at ~830k/54% but is not seen as excessive as change was expected based on nature of contract, unknown future funding, and extensions of time due to increased level of effort and delays associated with regulatory permitting	

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0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement



FINAL DRAFT
PMA Consultants

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
38	Document Management and Control	Executed Agreement A3277G, App 1; W42302revC	Was the Document Management practice approved?	0	see CWP LSC filing structure; no verification of formal approval. SCVWD structure missing several sub-class folders as required in QEMS. Unorganized and ineffectual project document control.	NCR
39	Document Management and Control	Executed Agreement A3277G, App 1	Have Project files been set up per the Project practice?	1	reviewed; RMC's files set up according to document management heirarchy found in CWP LSC Filing Structure; District files setup at a high level heirarchy. Heirarchies do not match (varying levels of detail and organization). District structure unorganized and missing several sub-class folders such as monthly reporting.	AFI
40	Document Management and Control	QEMS W42302revC	Was the project document control system implemented and used appropriately?	1	RMC project document control organized according to CWP LSC Filing Structure. SCVWD project document control system was used for a portion of the project, but not all files found in District system. Examples include copies of all amendments and backup, and monthly reports. Testimony revealed that the DA left and was not replaced. Further, construction for reaches 4-6b contained only 34 documents. Additionally, key direction was issued through email and should have been issued as a PDF (or similar) according to QEMS	NCR
41	Document Management and Control	Industry	Does the execution plan include the Client interface with the project document control Work Process?	0	could not verify	AFI
42	Document Management and Control	Executed Agreement A3277G, App 1	Was a distribution matrix developed, distributed, and utilized?	2	verified for BOD, and Design Submittals	
43	Document Management and Control	QEMS W42302revC	Was a central filing system established for both Design and Supplier/3rd party documentation?	0	District file structure unorganized, and ineffective	AFI
44	Document Management and Control	QEMS W42302revC Const. Manual CM10888, Rev B; Section 10	Have all files been prepared for archive or been archived?	0	could not verify final archive	NCR
45	Document Management and Control	QEMS W42302revC Const. Manual CM10888, Rev B; Section 10	Did the Project Manager submit required documentation for approval, closeout and release of final payment?	2	final invoice and associated documentation submitted; financial audit out of scope of performance audit	
46	Document Management and Control	QEMS W73004, Appendix E (also Const Manual, Section 4)	Were 30%, 60%, 90%, and Final Design reviews conducted and documented?	2	intent met through 90, 95, 100%	

Client: SCVWD	Lead Auditor: Mike Brown	 FINAL DRAFT PMA Consultants <small>EST. 1971</small>
Project: LSC Perf. Audit	Lead Auditor: John Mahoney	
PMA Project # 04078	Auditor: Ty Vess	
Audit Date MAY-JUL2017	Auditor: Michael Haas	
	0 Non-Compliance	
	1 Partial Compliance	
	2 Full Compliance	
	N/A	
	NCR Non Compliance Report	
	AFI Area for Improvement	

Item #	Knowledge Area	Reference	Audit Item	Team Score	Auditor Notes	NCR AFI
47	Project Quality	Industry	Were SCVWD expectations (or objectives) formally recorded?	1	objectives noted in project work plan, but some objectives articulated in interviews (securing federal funding and optimizing use of federal funding) not formally recorded; expectations not documented or part of execution plan	AFI
48	Project Quality	QEMS W75102rH	Was a Quality Plan developed?	2		
49	Project Quality	Industry	Were there regular updates with SCVWD on satisfaction (of delivery, objectives, communication styles, etc.)?	NA	not a requirement	AFI
50	Project Quality	Industry	Were project Quality audits completed?	NA	no evidence of a project specific compliance audit	AFI
51	Field Services	Const. Manual CM1088, Rev B, Section 6, 7, 8, 11, 12, 13, & 14.	Was a SCVWD Construction Representative assigned to the project?	2		
52	Field Services	Industry	Was the Construction Representative included in the planning process?	1	CH present during planning process (verbal). Not verified through documented minutes.	
53	Field Services	Industry	Were Constructability Reviews held?	2	yes, through value engineering	
54	Field Services	Const. Manual CM1088, Rev B, Sec 4	Was a Construction Phase Work Plan prepared and approved?	2	yes, verified executed version	

LEGEND / DEFINITIONS

0	Non-Compliance
1	Partial Compliance
2	Full Compliance
N/A	
NCR	Non Compliance Report
AFI	Area for Improvement

Team Score

118	Total Possible Points
85	Total Accumulated Points
72%	SCORE