**QUALITY MANAGEMENT PLAN**

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| **Project Title: APWA Self-Assessment** |
| **Project Date: March 19, 2015** |

**ROLES & RESPONSIBILITIES**

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| **Role** | **Responsibilities** |
| Project Manager | Craddock Stropes |
| Project Team Member | Greg MacLellan |
| Project Team Member | Christie Marcella |
| Project Team Member | Bonnie Elliott |
| Project Team Member | Jennifer Marinov |

**QUALITY MANAGEMENT PLANNING**

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| **Quality Management Planning** |
| Background:  The self-assessment is the first major phase toward accreditation by the American Public Works Association (APWA). Ensuring that the City of Carlsbad submits a quality self-assessment will facilitate a successful accreditation process in subsequent phases. Current conditions within the Public Works department require a traditional approach to quality management in that the project manager needs to lead a coordinated effort and ensure that the finished product conveys the city’s processes and data clearly and effectively.  Approach:  Despite these challenging issues, the self-assessment will be deemed “fit for consumption” or in this project’s case fit for submittal to the APWA if it meets the following dimensions of quality:   * Product Quality- The assessment data is pulled from known database systems and have an audit trail back to the original data source. In areas where data was not collected using a known system, findings must be backed up by related data in other data systems and/or qualitative explanation. Narrative parts of the assessment are concise, clear and consistent. * Product Design- Data collection templates align with requirements of the APWA self-assessment tracking software. * Conformance Quality- Data collection templates are QA’ed and verified before they are entered into the self-assessment tracking software to ensure that the data meets the design specifications. Narrative parts of the assessment will be compared with other cities that have successfully undergone accreditation. |

**QUALITATIVE ANALYSIS**

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| **Qualitative Analysis** |
| The project team has undergone the cause and effect process, identifying processes, people and data issues as the primary areas that threaten producing a quality self-assessment for submittal. The project team has identified a process flow chart as the best means to qualitatively address the areas of concern. The team will evaluate the following four dimensions of quality:  Performance- Self-assessment data should meet or exceed audit baselines.  Conformance- Data must be presented in the collection templates.  Responsiveness- 100% of applicable template fields will be filled out for each area of study.  Perceived Quality- subjective assessment of knowledge of employees gathering data and to convey trust and confidence to project team that the data is correct. |

**QUANTITATIVE ANALYSIS**

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| **Quantitative Analysis** |
| Quantitative Analysis will flow out of the use of check sheets. Check sheets will be developed to track the areas set by APWA on which the department will report. Quantitative analysis will be run throughout the project to deem what percentage of work has been complete, what remains, and to quantitatively track any quality issues that arise. |

**PERFORM QUALITY ASSURANCE**

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| **Quality Assurance** |
| The project team will use the process flow chart to ensure that all project team members understand the order in which the self-assessment will be prepared. The project will use the Plan, Do, Check, Act (PDCA) method to ensure quality expectations are achieved. There will be an overall planning effort related to the preparation of the materials. That plan is:   * Assess APWA requirements against city data and information * Plan for incompatible areas and data * Execute data and back-up collection * QA/QC submittals * Submit self- assessment   Each functional staff member will also be responsible to plan, do and check their own work. They will be responsible for escalating any quality related issues to the core project team. |

**QUALITY CONTROL**

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| **Quality Control** |
| The project manager will lead quality control throughout the project life cycle. Quality control will first be addressed at an individual level for any non-conformance with the quality program. Should issues of quality arise that are not resolved at the individual level, the project manager will be responsible for escalating any issues to the project steering committee for resolution. Any changes to the quality expectations or methods must be approved by the core project team. Any changes to the quality expectations will also be approved by the steering committee. |

**SPONSOR ACCEPTANCE**

**Approved by the Project Sponsor:**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Introduction**

The City of Carlsbad’s vision is to be a world-class city. Its mission is to enhance the lives of all who live, work and play in our city by setting the standard for providing top quality, efficient local government services. To achieve this, the city encourages departments to pursue accreditation from nationally recognized organizations to demonstrate a commitment to providing top quality services and focusing on continuous improvement. The Public Works department has chosen to pursue accreditation through the American Public Works Association (APWA).

Public Works accreditation is the recognition that the agency subscribes to the concept of continuous improvement and has conducted an in-depth self-assessment of the agency’s policies, procedures and practices (*APWA Public Works Accreditation Process Guide*, 2013). It is the verification and recognition of an agency for conformance with a recognized body of management practices, the Public Works Management Practices Manual. The manual contains the practices identified by public works practitioners as being important in providing services. The accreditation process provides a systematic method to evaluate every function in the organization. Agencies are required to comply only with practices specifically applicable to them, and must document how they comply.

Before applying for accreditation, an agency must conduct a documented self-assessment to determine the extent to which the agency meets applicable practices and assemble the necessary documentation of compliance with the recommended practices in the Public Works Management Practices Manual.

**The Problem**

One of the biggest challenges of the accreditation process is ensuring complete and consistent gathering of the data required to validate the city’s compliance with the standards outlined in the Public Works Management Practices Manual. Public Works is one of the largest departments in the city, with more than 160 full time employees and dozens of part-time employees. During the past two years, the department has undergone significant staffing changes, including a new department director and the formation of eight separate divisions from the three previous divisions. Multiple staff have transitioned to new or different positions within the department. A number of recent retirements have impacted the department’s institutional knowledge. New staff have brought fresh perspectives and changes to the department’s culture and operations.

Although many policies and procedures apply citywide and department-wide, several divisions maintain their own standard operating procedures of which they are responsible for maintaining. The department does not have a centralized, comprehensive repository of data or documents; rather staff use multiple databases and file locations that are not integrated with each other. Field data is not gathered in a uniform or consistent manner among divisions due to the wide range of technology skill level among staff. Some data required for the self-assessment process is not currently collected, or may be outdated. Adding to these challenges is the fact that staff is located in five different buildings throughout the city. The geographic separation impacts the amount of time and effort spent in collecting the data for the self-assessments.

**Current Conditions**

Public Works has completed three operational assessments during the past three years completed by outside consultants. These assessments may serve as a starting point for the accreditation process, as they collected documentation of policies, procedures and best practices throughout the department, as well as data relating to costs of service, service levels and comparisons to industry benchmarks.

To assist with validating that the necessary documents and data have been collected, APWA provides online database that agencies may use to track collection.

**Analysis**

The project team first defined quality management for the self-assessment process. The team agreed to focus on four criteria to determine “fitness for consumption.” Product Quality means that the self-assessment data was collected from known systems and will have an audit trail back to the original data source. In areas where data was not collected using a known system, findings must be backed up by related data in other data systems. Product Quality will also ensure that the narrative sections of the self-assessment are concise, clear and consistent. Product Design stipulates that data collection templates must align with requirements of the APWA self-assessment tracking software. Conformance Quality will ensure that the data meets the design specifications and will address how data collection templates are reviewed and verified for completeness and accuracy before being entered into the self-assessment tracking software. Additionally, performance, self-assessment data should meet or exceed audit baselines. To achieve conformance data must be presented in the collection templates. To demonstrate responsiveness, 100% of applicable template fields will be filled out for each area of study. Perceived Quality will be a subjective assessment of knowledge of employees gathering data and to convey trust and confidence to project team that the data is correct.

The team completed a cause and effect diagram to determine the likely causes of collecting incomplete data for the self-assessment. The team also created a process flow chart to see how quality will be implemented during the self-assessment. The process flow analysis accounts for processes that currently exist in the department and how they interact in order for the city to complete the self-assessment.

**Results**

After evaluating the recommended APWA process for self-assessment, the team determined the Deming Wheel approach (Plan-Do-Check-Act) is the most appropriate problem solving technique. Other methods, such as Six Sigma, focus more on eliminating variation and defects. The self-assessment process inherently includes variation since each set of standards is unique and customizable based on the expectations of the community in which the agency operates. Continuous improvement is a common goal of the self-assessment and of the Deming approach.

The cause and effect diagram revealed three key root causes leading to incomplete information or submittal: people, data and processes. Upon further examination of the causes, the team identified process as the prime root cause of potential quality failures. Weak quality assurance and controls as a result of over-involvement by multiple levels of management involvement, processes that are not comparable to each other as well as an overall unfamiliarity with the self-assessment process are all quality issues that will need to be managed.

The process flow chart revealed that quality management will need to occur at every step in the process. The first step will be to determine which public works practices are applicable and the city’s current compliance level. This will be achieved by assessing and completing a gap analysis of the APWA accreditation requirements against city data and information. This gap analysis will show incompatible areas and data. Staff will then execute data collection and the data will be submitted to quality assurance and controls. Staff will validate business processes to ensure they comply with accreditation standards.

**Solutions/Outcomes**

The team identified the following management techniques to ensure success throughout the self-assessment process.

Effective, committed leadership at the top is one of the key ingredients for success. In a traditional management approach, a program manager would be appointed by the director. The program manager would work directly with division heads who, in turn, delegate follow-through and documentation responsibilities to several staff. (*Public Works Management Manual, 8th Ed.*, 2014)

In using the traditional management approach, an agency achieves widespread involvement by staff at many levels of the organization driven by a common goal. The advantages of widespread involvement include greater cooperation and improved morale through increased participation, and support for subsequent changes because of familiarity with the program and its goals.

Check sheets will be the most useful tool deployed during the self-assessment progress. There are a total of 40 chapters in the Public Works Management Practices Manual with numerous listings of practices for which public works departments should have formal, written policies, practices, or procedures. This systematic approach to the evaluation of the department ensure that the information gathered is complete and accurate, and provide a method to identify and prioritize areas that need improvement prior to applying for accreditation.

Additional tools that will be useful within the actual public work practices will be cause-and-effect analysis, process flow analysis and process control charts. These tools will assist the team in identifying gaps and revealing potential solutions towards facilitating quality management

**Conclusion**

Achieving a nationally recognized accreditation for the city’s Public Works Department will offer formal recognition of how well the agency is run to taxpayers. It demonstrates accountability and competency in the provision of services that are important to residents. The challenge of gathering consistent, complete and accurate data from diverse staff located in various locations throughout the city will be met with a solid quality management program developed as a result of root cause analysis and process flow diagrams. Defining “fitness for consumption” criteria then putting in place a traditional management structure and quality assurance tools such as check sheets will contribute to the success of the program. The quality management plan will help define and track how well the city meets the requirements of the self-assessment and will guide the quality of the final submittal.