

**Managerial Summary**

**A. Objectives, Scope, and Methodology**

We have completed our review of the City of Chesapeake (City’s) Capital Project Management Practices for Fiscal Year (FY) 2009 through FY 2015. Our review was conducted for the purpose of determining whether the City’s capital project management practices were economical, efficient, and effective, whether goals and objectives were being achieved, and whether they complied with applicable City and Department procedures.

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

Each fiscal year, the City Manager prepares a five-year capital improvement budget and presents it to City Council for appropriation approval. Not all capital projects were able to be completed within a fiscal year; therefore some projects were started or approved in previous fiscal years. Also, some projects not scheduled to commence during the current fiscal year were placed on the five-year capital improvement budget (CIB) to designate future funding. There were 285 capital projects listed on the City’s CIB for FY15, with projected funding as follows:

***FY15 Capital Project costs and funding***

<b>FY15 FIVE YEAR BUDGET PLAN</b>		<b>FY15 ACTIVE CAPITAL PROJECTS</b>	
FY 2015	\$63,563,428	Previous Funding	\$ 879,012,647
FY 2016	\$83,343,266	5 Year Total	\$ 345,507,000
FY 2017	\$68,074,403	Funding Beyond 5 Years	\$ 279,423,838
FY 2018	\$68,563,428	<b>Total Project Funding</b>	<b>\$1,503,943,485</b>
FY 2019	\$39,571,064		
<b>5 Year Total</b>	<b>\$345,507,000</b>		

## **Major Observations and Conclusions**

Based on our review, we determined the City had accomplished its overall mission of oversight and maintenance for capital projects. However, we did identify several areas of concern that needed to be addressed. Those areas included standardization of project reports, planning for common historical costs contingencies and others.

This report, in draft, was provided to City officials for review and response, and their comments have been considered in the preparation of this report. These comments have been included in the Managerial Summary, the Audit Report, and Appendix A. City management, department heads, supervisors, and their staffs were very helpful throughout the course of this audit. We appreciated their courtesy and cooperation on this assignment.

### **B. Performance Information**

The Project Management Institute describes a project as a temporary endeavor that has a defined beginning and end in time, and a defined scope and resources. “A project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. So a project team often includes people who don’t usually work together – sometimes from different organizations and across multiple geographies.

Projects may include the development of software for an improved business process, the construction of a building or bridge, the relief effort after a natural disaster, the expansion of sales into a new geographic market. Projects should be expertly managed to deliver the on-time, on-budget results.” Capital projects were delineated into nine general categories, seven typical Improvement types, and seven typical project statuses.

In October 2012, two members of City Council reviewed the Animal Services facility construction project and developed findings and recommendations. Although their report focused specifically on the Animal Services facility, many of the issues they discovered were applicable to other City facility projects. We noted that while some of these recommendations, such as recommendation #9, have been implemented, others, most notably #2 and #8, had not been implemented, and arose during our review as well.

## **C: Project Estimating**

Our review of the City's capital project management practices identified a number of issues and control deficiencies that had not been addressed as well as practices that could be enhanced. These issues included areas of cost estimation review and planning prior to approval and of inclusion of common and recurring obstacles in cost estimations.

### **1. Independent Review of Project Scope Cost Estimates**

**Finding** – There was no consistent independent review of initial project scope cost estimates and no consistent process for managing projects against original cost estimates.

**Recommendation** – All capital projects should have a comprehensive review of the scope of work by all affected City departments at least during the feasibility phase.

#### **Response:**

**We agree that comprehensive reviews of the scope of work should be completed before or during the feasibility phase of projects and will install procedures to ensure it occurs. Having said that, we also expect that estimated costs will change even after feasibility studies are conducted. There are many reasons that costs estimates are not static once projects are identified in the capital improvement program. Typically, projects are programmed before design occurs. Until designs are completed, project costs are very difficult to predict. Even after a design is completed, actual project costs are dependent on market conditions and commodity prices at the time of bid. Market conditions at the bid point are often very different from architect and engineering estimates during the design phase. After bid and during construction it is not uncommon to discover design errors/omissions, differing site conditions, and user requested changes. Design errors are usually rectified at no cost by the architect / design engineer and user requested changes are now reviewed, justified and approved by the user department head.**

**With respect to findings and recommendations of the 2012 review of the Animal Services facility, Public Works implemented several procedures including:**

- Formal prequalification required for large complex projects**
- Constructability reviews to identify omissions for large complex projects**
- Change orders require authorization beyond the project manager**

## **2. Planning for Recurring Obstacles:**

**Finding** – Planning for capital projects did not sufficiently consider consistently recurring obstacles such as soil usability.

**Recommendation** – The City should compile a GIS map of previous capital project issues that can be used to identify potential change orders and costs on future projects.

### **Response:**

**We are concerned about the finding and agree that the regularity of obstacles concerning soil conditions and the presence of utilities is frequent enough that we should assume that such obstacles will be present during the planning and design phases. During design, geotechnical and sub-surface utility locating engineering studies are performed. If we assume conditions will be suboptimal, then we can include allowances in the site development plans to account for additional costs – such as removal and replacement of unsuitable material or longer pile lengths. However, we are not convinced that a GIS map is the solution; soil conditions are highly variable throughout the City. We agree with the need to maintain reliable records of soil conditions and utility locations and we agree that GIS mapping may be an appropriate tool. However, the recommendation does not address the fact that projects often occur in areas where the City has no recent experience of building or the existing infrastructure is so old that records simply do not exist. Since each project stands on its own we perform the necessary engineering studies to reduce the risk of differing site conditions.**

## **D. Other Operational Findings and Recommendations**

Our review of Capital Project Management Practices identified a number of other areas for improvement. These areas included creating a standard format for progress and status reports, and changing the entry level skills and experience requirements of the job classification Project Manager.

### **1. Standardized Citywide Reporting**

**Finding** – There was no established standardized capital projects summary report that could be used on a citywide basis. Additionally, the City did not consistently perform reviews of contractors' financial records to ensure that invoiced items agreed with contract terms.

**Recommendation** – The City should consider developing a citywide status report document for centralized capital projects reporting. The City should also take steps to ensure that project invoices are consistently reviewed against contract term requirements.

**Response:**

We agree with the finding that standardized project reporting is important and should be implemented across all affected departments. Staff has been and continues to investigate affordable computer-based reporting tools that address reporting needs for capital projects. Representatives from the departments that are primarily involved with capital projects will meet to determine the appropriate format and content of project reporting along with how it will be prepared, distributed, and maintained.

**2. Job Description**

**Finding** – The citywide job description of Project Manager did not include an experience requirement related to successful completion of multi-million dollar projects.

**Recommendation** – The City should consider including a minimum budget range experience requirement or independent project manager certification for future project managers.

**Response:**

We agree that project managers require specialized training and that many projects are very complex and require experienced project managers. However, not all projects are large and complex and the City staff can handle routine, lower cost projects very capably. On large or complex facility and transportation projects the City now engages skilled Construction Management (CM) consulting firms to augment the City staff. City staff function then as the Owner's Representatives while the CM firm coordinates the design firms and construction contractor's activities. The cost of these additional Construction Management services is being added to the original project cost estimates. By using CM firms the City expands its ability to match the appropriate contract project manager with the complexity and scope of the project.