



CITY OF FORT BRAGG

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COUNCIL COMMITTEE ITEM SUMMARY REPORT

MEETING DATE: May 9, 2018
TO: Public Works & Facilities Committee
FROM: Tom Z. Varga, Public Works Director
AGENDA ITEM TITLE: **Update on Capital Project Construction Management and Oversight**

ISSUE:

Over the past year, construction projects have become more competitive requiring additional oversight. Construction costs are increasing and holding to budgets can be more challenging. Project oversight is being tightened to ensure funding is used effectively and producing completed projects that meet their intended expectations.

SUMMARY:

At the Committee meeting of December 13, 2017, staff made a presentation of preliminary ideas to improve capital project oversight. Staff will provide an update of these efforts for the Committee's review and comment.

Five major areas of action have been considered: (1) thoroughness of preliminary engineering, (2) completeness of design, (3) tracking of on-going, actual costs against the contract costs and bid quantities, (4) scope of contract change orders, and (5) construction management.

Preliminary engineering

In preparing for project design, it is important to provide the designer(s) all the relevant available information. A clear understanding of the project, including the requirements of funding source(s) is equally important. A thorough review of record information (GIS base maps, etc.) and field data (including the pot-holing of existing facilities) is necessary. This is especially valuable for shallow, underground City facilities like water mains/services or storm drain pipes. Sometimes, this includes sewer pipes as well. Staff is expanding its capacity of tracking field information from maintenance work in addition to that collected during capital projects. Record keeping is being transferred from paper to electronic format. Finally, groundwater can interfere with the proper compaction of trenches or the sub-surface portion of pavements. Care will be taken to note these problems where they are visible. Adequate funding needs to be clearly identified and be adequate to accommodate the unexpected. Contingencies have been approximately 10% recently. The traditional amount is 15% and will be used generally from now

on. If there are uncertainties unique to a project, then a 20% contingency can be considered. However, care needs to be exercised to not exceed available funding.

Design issues

The importance of a clear understanding of the project during the preliminary engineering phase is essential in setting foundation for effective design and engineering. In addition to specific considerations unique to a particular project, there are other more general requirements that can be expected of most projects. The Americans with Disabilities Act (ADA) has stringent requirements regarding surface slopes, dimensions of accessible routes, the elimination of obstructions, etc. There may be times when recent improvements have to be re-built to stay in compliance with evolving standards. Storm-water protection measures, both during construction and permanent long-term features, are part of nearly all capital projects. Safety requirements are a part of all contracts. The limits of work can change over time if design and construction are separated by a wet winter. Adjustments to the construction documents will be made as needed to keep the scope of work as “fresh” and current as possible. Plan checking during the design phase is being increased. Staff will receive additional training to improve these skills. This will slow the design process somewhat, but is cheaper than making field changes during construction.

Track contract costs, comparing actual quantities and costs against contract costs and bid quantities

Projects costs are being monitored more closely during construction. They are examined at each partial payment, Contract Change Order (CCO), and informally at each project status meeting, (normally held weekly or bi-weekly). Up-to-date costs will be compared against the contract cost as well as the project budget. Actual quantities placed will be compared to those in the Bid Schedule. Resources will be reallocated if needed to keep projects within budget and on track for timely completion. It is also important to track both contract costs and the project budget. Budget changes need to be identified as early as possible to ensure adequate funding and a complete review.

Contract Change Order (CCO), Allowed Scope

Contract Change Orders are a normal part of larger projects as unexpected problems (e.g. unknown underground conditions, changes in materials sources, etc.) are experienced. However, they must be managed carefully to avoid changing the project scope or adding unnecessarily large cost increases. Thorough preliminary engineering will identify potential uncertainties and plan for them accordingly. A clear project scope during the project design can anticipate many problems. When a CCO is determined to be necessary, it will be consistent with the original project intent. Significant cost increases will be reviewed by the City Council. The threshold is 10% of the total contract amount. The “Changes in Work” provisions of Major Construction contract is attached for additional information.

Construction Management

Staff resources are limited and cannot cover the dozens of projects worth many millions of dollars undertaken every year. City resources are extended and enhanced by hiring construction management firms to provide an in-field presence and/or specialty skills during construction, especially for inspection duties. Funding sources come with extensive administrative burdens for record keeping and adherence with extensive legal requirements, (e.g. payroll compliance, procurement, etc.). Nevertheless, it is essential for a City staff member

to be a project manager overseeing and confirming that contract construction manager(s) are performing as expected and to coordinate the various aspects of a construction project, (contractor payments, funding invoices, project progress, resolving conflicts, public outreach, etc.). The City's project manager now regularly visits project sites every day or two to stay fully up-to-date with construction activities and project progress. When a project is ready for completion, experienced City staff will be part of any final walk through as a final quality control measure.

RECOMMENDATION:

The Committee should review and consider the information and advise staff of any modifications or clarifications they believe are needed.

ATTACHMENTS:

Contract Change Order Provisions for Major Construction Projects