

October 28, 2014

TO: David Parrish, Assistant City Manager

FROM: Steven Drew, Water Resources Director

SUBJECT: Construction Management at Risk Delivery Method for Townsend Basin and Filter Improvements Project and TZO Water Reclamation Facility 56 Million Gallons per Day Upgrade, Package III, Pursuant to N.C.G.S. §143-128.1(e)

Water Resources proposes to construct the Townsend Basin and Filter Improvements Project and TZO Water Reclamation Facility 56 Million Gallons per Day Upgrade, Package III, using the Construction Manager at Risk project delivery method. Using information previously provided by James Dickens in the City's Legal Department, the advantages and disadvantages of using the Construction Manager at Risk delivery method for these projects in lieu of the separate prime, single prime, and dual bidding delivery methods as required by N.C.G.S. 143-128.1(e) have been evaluated.

The City normally uses the single prime delivery method to construct City projects. In the single prime delivery method, the City contracts with an engineer to design the project. Once the design is completed, the City selects a licensed general contractor called the Prime Contractor ("Prime") to construct the project. The Prime is selected from a public bidding process as the lowest, responsible, responsive bidder. The Prime is responsible for hiring and managing the sub-contractors.

In projects where the cost of the project exceeds \$500,000, the Prime bidders must list in their bids the sub-contractors they intend to use for (1) heating, ventilating, and air conditioning; (2) plumbing; (3) electrical; and, if different from the Prime, (4) general. The Prime's bid price is the price that the City agrees to pay the Prime to construct the project. The Prime and the engineers who design the project have separate contracts with the City, and the design is performed prior to the selection of the Prime; therefore, when there are problems during the construction of the project, both the engineer and the Prime point the finger at each other, and it is often difficult, if not impossible to assess responsibility for errors in these situations.

The separate prime delivery method, also called "Multi-Prime", is when a public entity contracts with multiple Prime Contractors to construct the project. Each Prime is contracted to perform work that is typically sub-contracted in the single prime delivery method. Thus, instead of the City hiring one Prime Contractor to manage all of the sub-contractors during construction, the

City would enter into separate contracts with each of these sub-contractors as Primes, and the City would be responsible for managing all of these Primes during the construction of the project. The City has not used the separate prime delivery method in many years, since North Carolina law was changed to allow for single-prime construction.

The dual bidding delivery method is a combination of the single prime and the separate prime delivery method. In dual bidding, the City would bid out the construction of the project to a single Prime Contractor and to separate Prime Contractors for each of the major sub-contracting areas referenced above. The City would then have the option of accepting the bid that is most advantageous to it.

In constructing a project using the Construction Manager at Risk delivery method, the City contracts with an engineer to design the project and a Construction Manager (“CM”), usually a general contractor, to manage and oversee the construction of the project on behalf of the City. Beginning in the 3rd month of the Schematic Design of the project, the CM will work with the engineers and the other design professionals to help identify issues in their design of the project that might delay the construction of the project or necessitate change orders due to the design not accounting for the issues and the practical realities of construction (“constructability”). During the design process, the CM will also estimate the actual costs to construct the project that is being designed by the engineers and other design professionals.

Once the design of the project is completed, the CM will re-review the final design for constructability, and identify any observed problems, which the design team will then address. The CM will then calculate a Guaranteed Maximum Price (“GMP”) and propose this price to the City as the contract “not-to-exceed” amount to construct the project. The CM is “at-risk”, because the CM will be responsible for any costs above the GMP that were observable and foreseeable from the Construction Documents at the time of the CM’s constructability review (changes to the design during construction or to the CM’s scope of work will increase the GMP, just as a deletion in scope will decrease the GMP). During construction of the project, the CM has the ability break up segments of the work into smaller sub-contracts that will allow more M/WBE firms to participate in the construction of the project.

City staff concludes that the Construction Manager at Risk is the best method for constructing the Townsend Basin and Filter Improvements Project and TZO Water Reclamation Facility 56 Million Gallons per Day Upgrade, Package III, for the following reasons:

1. Reduction in Significant Change Orders- In the Construction Manager at Risk delivery method, the CM will be involved in reviewing the design of the project as the City’s agent and be able to identify potential design errors and constructability issues during the design phases. Correcting these errors during the design phase has the potential to reduce the number of change orders that may be necessary on this project. In the separate prime, single prime, and dual bidding methods, the City does not have anyone performing the role of the CM during the design phase; thus, any errors in the design or any “constructability” issues are not discovered until actual construction begins, and the correction of these design errors usually delays construction by several days or weeks and costs additional money via change orders.

2. Cost Control- The CM will be estimating the construction costs during the design phase, and if the costs will exceed the City's construction budget, the CM can assist in the process to modify the design to meet the budget (sometimes called "value engineering") during the design phase. This is the least expensive time to change the design, and it is much less costly than resolving these issues in the field by change order. Also, once the CM sets the GMP, the CM will be responsible for many additional costs; therefore, the CM has two separate reasons to keep costs down and reduce cost overruns. First, the CM, as the City's agent, has a responsibility to manage the construction process in the best interests of the City. Second, since the CM is responsible for any reasonably anticipated costs that exceed the GMP, the CM has a financial incentive to manage costs to restrict cost overruns to ensure that the construction costs do not exceed the GMP.

3. Fast Tracking Specific Parts of Construction - As a Construction Manager at Risk, the CM can begin construction of some parts of the work prior to the final design being completed. Under the other delivery methods, the design must be fully completed before bidding can occur. Thus, for projects that need to be started quickly and on a strict time schedule, like this one, the Construction Manager at Risk delivery method offers time advantages, which will translate, hopefully, into less construction time, and a lower project construction price.

4. CM Selected by Qualifications, Not Price- In the Construction Manager at Risk delivery method, the CM is selected by their qualifications pursuant to the Mini-Brooks Act just like engineers and engineers. In the other delivery methods, the City is required to contract with the lowest, responsive, responsible bidder. Selecting a CM by a comparison of qualifications is particularly appealing for this project due its size and complexity. Additionally, due to the new law passed by the general assembly, the City cannot pre-qualify Prime Contractors under the other delivery methods. In selecting the CM, however, the City can use "[e]xamples of prior completed work [to determine] demonstrated competence and qualification of professional services." This allows the City to select a CM that can best achieve the objectives identified above.

5. Increased Opportunities for M/WBE Participation- In the Construction Manager at Risk delivery method, the CM is responsible for breaking out the bid packages, and the CM can bid out smaller portions of the work so that M/WBE firms can participate on the project. The Construction Manager at Risk is the preferred delivery method to accomplish this task, because in the other delivery methods, the Prime Contractor is solely responsible for developing the sub-contracting opportunities. The City offers suggested sub-contracting opportunities in these other delivery methods, but the Prime Contractor is not required to adopt them. In the Construction Manager at Risk method, the CM, who is the City's advisor until the GMP is set, is responsible for offering the sub-contracting opportunities, and the M/WBE goal will be a part of CM's contract.

6. Experience of Other Municipalities- In an article in the Fall 2004 issue of Popular Government, a magazine published by the North Carolina School of Government, entitled "Public Construction Contracting: Choosing the Right Project-Delivery Method", the author, Valerie Rose Riecke, conducted a study among North Carolina municipalities. Within the results of her study, 73% of surveyed municipalities that had used the Construction Manager at Risk

delivery method responded that costs were always met and usually reduced because the CM assumed the financial risk associated with any profit or loss. These municipalities also stated that the CM being involved in all project phases allowed for more opportunities for value engineering and cost estimating, which helped to control costs. 53% of those surveyed stated that the project schedule was always met and usually accelerated, and 47% stated that the schedule was typically met. In meeting the functional and aesthetic goals of the project, most of the survey participants stated that municipalities have the greatest chance for a quality project using Construction Managers at Risk.

These six advantages far outweigh the disadvantages in using the Construction Manager at Risk delivery method for this project. In order to address the disadvantage associated with the high level of communication required between the City and the CM, the Water Resources Department will continue to work closely with the design engineer who will help facilitate communications between the two parties, as well as utilize the Legal Department as a technical resource for establishing the CMAR contractual relationships and responsibilities. The CM will utilize periodic progress meetings with attendance by all parties to freely exchange information relating to the project. With only three parties contractually bound (CM, Owner and Design Engineer) the relationships between parties can be clearly delineated with full support of the project schedule.

In closing, City staff recommends that the City Council adopt resolutions approving the proposed Construction Managers the use of the Construction Management at Risk project delivery method for both the Townsend Basin and Filter Improvements Project and TZO Water Reclamation Facility 56 Million Gallons per Day Upgrade, Package III, and authorizing the City Manager to negotiate and execute contracts with the CM's.