

September 20, 2007

Memo to : D. Wagner / Director of Utilities
M.Lawless / Project Manager

RE : West Baldwin Creek Interceptor
Guaranteed Maximum Price Development / Initial Design and Value Engineering
Cost Memo

Cost / Design Development-

After a detailed evaluation of numerous qualification packages submitted to the City, CAS Construction was selected by the City as the design/build contractor for the West Baldwin Creek Interceptor project. Starting in July, weekly meetings (at a minimum) have been held with our Engineers, City Staff and the Property Acquisition Team. At these meetings, decisions were made regarding all aspects of the project for expectations and details allowing preliminary design to proceed to support the schedule for the Guaranteed Maximum Price (GMP) development. The initial GMP was developed and presented on August 31, 2007. Since that date, the design has proceeded, key decisions have been made by City Staff, and thorough reviews have been made of the scope and pricing components for the project. Numerous alternates and value engineering ideas have been priced, considered, and decisions have been made to achieve this final GMP. Items that were either risk elements or future considerations were placed into allowances. Under a lump sum bid project delivery method, risk elements are priced by the Contractor and in the event that these elements do not occur, the savings goes to the Contractor. By placing these risk elements into an allowance item, that potential savings goes back to the Owner. This shared risk concept has the potential to ultimately save costs for the City under the Design/Build delivery method.

The Preliminary Design Memorandum has been completed and is dated September 11, 2007 and a proposal was delivered to the City Staff in support of that memo on September 20th. The GMP in support of that memo is as follows:

<u>Base Price -</u>	<u>\$ 2,986,000.00</u>
Allowances -	\$ 580,000.00
Engineering -	\$ 292,000.00
<u>Subtotal</u>	<u>\$ 3,858,000.00</u>
Unforeseen Items / Contingency	\$ 50,000.00
<u>Grand Total / Contract Value</u>	<u>\$ 3,908,000.00</u>

For detail of the costs and the analysis for market value, this project can be divided into three major components:

1. **Construction Costs**
 - a. **Local Involvement**
 - b. **Cost Comparison / Analysis**
2. **Allowances**
3. **Engineering Fees**

1. **Construction Costs –**

As a part of the qualifications package submitted for this project, the qualifications of one (1) major local subcontractor was included, R D Johnson Excavating. Their knowledge of the Lawrence area and understanding of the site conditions allowed for risks to be identified quickly and reduced the overall project costs for the unknowns. Their thorough understanding of the expectations for quality, safety and performance, from both the City and from CAS, assure that they will be met. Their relationships with local suppliers, their experience of working with the City and with CAS, their respective expertise with similar work and with design/build, gives this true market value. They provided itemized estimate breakdowns that were reviewed in detail and revised based upon past project comparisons and current material pricing.

On major material components such as pipe materials, pre-cast manholes, bedding materials and for interior coatings, we asked for independent proposals to verify material pricing. The combined totals for these components represented 20% of the total GMP amount. One-hundred (100) percent of the materials necessary for construction of this work have been competitively bid. Fixed cost items such as bonds, insurance, and general conditions account for 7% of the total GMP, which is relatively low in comparison to past projects. Remaining percentages account then for labor on self performed or subcontracted work, labor burden and construction equipment necessary to complete the project.

Initial project estimates for this project were presented to the Commission at \$3.4 million. Geotechnical evaluations at the project site were completed as a part of the preliminary work. These evaluations indicated a substantial amount of groundwater and a substantial amount of rock will be encountered during the course of construction. These risk elements were put into the GMP as one of the allowances for better analysis and accounting to minimize cost to the City. Several other changes were costed out that differed from the originally planned project :

▲ Line size and change – 24” to 30” pipe - 4610lf	\$115,250
▲ Change 4’ dia manholes to 5’ or 6’ dia for increased line sizes :	\$ 13,510
▲ Flow meter manhole :	\$ 16,127
▲ Line reroute adjacent to K-10 :	\$ 25,437
▲ Seeding (separate GMP) :	\$ 70,000
▲ Dewatering (Allowance item) :	\$ 75,000
▲ Rock blasting / removal / replacement (Allowance item) :	\$350,000
▲ Contingency for unforeseen conditions :	\$ 50,000

Total of differences from original project -	\$ 715,324
---	-------------------

b. Local Involvement

We have committed to the City that we will involve local firms to the maximum extent possible. This project is limited in scope and complexity of materials to be procured that initially limits firms that can be involved. The items that need to be procured to complete this project are pipe, pre-cast manholes, manhole encapsulation materials and pipe bedding materials. The majority of the items necessary to construct are not manufactured or available from local sources (pipe materials, pre-cast manholes and coating materials) – which represents about 79.6% of the total materials. As the majority of these products are specialty items that are not made locally or cannot be procured locally we must look outside the local community for procurement. The exception to this is the pipe bedding material that is being procured locally and is 20.4% of the total material costs for this project.

Of the total cost amounts allocated for each of the services below, we have committed to the following percentages of local involvement. Categories of defining “local” are varied, so we have split them apart in the table.

% of Local Involvement	Resources of Local Office	Resources of Local Office & Resources of Non Local Office	Resources of Non Local Office	Totals
Engineering	0%	100%	0%	100%
Construction Services	48.6%	51.4%	0%	100%
Materials	20.4%	0%	79.6%	100%

Not included in the total is approximately 3% of the total project cost that are project incidentals that will be procured locally. This includes things such as trailers, porta johns, dumpsters, office supplies, copies, phone services, pumps, tools, etc.

Additional local involvement included a consultant for a site restoration plan.

b. Comparison Costs

We have done comparisons to assure that the lump sum amount proposed is at fair market value. Comparisons have been run against several projects both local and outside the area on projects with comparable or near comparable guidelines.

	Location	Lf of pipe	Sizes	\$/lf *	Adjustments Made to the Bid Pricing **	Final Adjusted Bid Price	Baldwin Creek Value ***
Yankee Tank	Lawrence	5875	8"-42"	\$317	Based upon total contract value (No adjustments made to either number)	\$317	\$261
Pump Station #48	Lawrence	20,816	8" – 36"	\$166	<u>Added for</u> manholes, coatings, wrap, GC's, OH, Engineering, admin, rock, dewatering	\$298	\$261
Storm Water PS	Haysville KS	24	24"	\$125	<u>Added for</u> manholes, coatings, wrap, GC's, OH, Engineering, admin, rock, dewatering	\$274	\$261
SE Water Main (Planned – Not Bid)	Lawrence KS	2550	30"	\$258	<u>Added for</u> manholes, coatings, wrap, Engineering, admin, rock, dewatering	\$319	\$261

* Engineer's estimates or bid results depending upon projects. Scopes for bid results varied based upon bid items requested for breakdown. Pipe sizes were varied and bid tabs were selected based upon size and type of work. Exact conditions of site were not known.

** Adjustments were made to the bid results or the Engineer's estimate for adequate evaluation. The "Adjustments" column contains adjustment assumptions required to adequately compare unit prices.

*** Assumes that the entire amount of the allowances and contingencies will be spent. Also deducts the fiber optics out of the dollar amount of the project.

2. Allowances-

Allowances are items carried within the GMP to provide coverage for costs that are not yet fully defined or that are risk elements that costs may have to be included in estimates for items that may not occur. Rather than carry these costs in the estimates, they have been agreed upon to be carried as allowance items. Costs in these areas will not be released without a decision by the City. Costs in excess of these amounts will be paid by the City. Costs less than the amounts listed will be returned to the City by deductive change order. Any costs associated with these allowances shall be at actual cost without markup. Design costs will be at billable rates and passed through with no additional markup. There are currently nine (9) different items within the allowance list (see Attachment A – “Price Proposal” for detail listing). Several of these items are decisions that can be made during the course of construction to potentially reduce costs. The Allowances represent 14.1% of the total contract value and can provide some savings for the City by the end of the contract.

Total Allowance Value	\$ 580,000.00
-----------------------	---------------

An amount was also placed into contingency equal to about 1.2% of the total contract value and is to be utilized for unforeseen items or changes in scope as directed by the City.

Contingency Value	\$ 50,000.00
-------------------	--------------

Total of Contingency and Allowance Items	\$ 630,000.00
---	----------------------

This total of Allowances and Contingency represents 15.3% of the total contract value.

3. Engineering Fee

The engineering fees carried as a part of the final GMP are just a portion of the total engineering fee necessary to complete this project. An amount was carried as a part of the Phase 1 services in the amount of \$146,000.00 for the preliminary design necessary for GMP development. The total Engineering fee for complete design as well as for construction administration totals \$438,000.00 which represents an 11.2% fee on the total contract costs assuming 70% of the allowances and contingency dollars are spent.

This percentage is below the national average for this type of work and based upon our past design/build experience, this percentage is below the average regional percentages for design/build work of this type. It also is consistent for our projects in the past for the City of Lawrence and is below what others have charged for similar delivery methods for the City.

Conclusion

We believe that we have done everything possible to open up opportunities for local involvement on this project as well as to have competition for the components. Different projects types have different levels of opportunities based upon the planned scope. Future projects will provide extended opportunities for continued and additional local involvement. We feel that the delivery method provides what the City wants and for best value. The allowances and contingencies are a unique part of this process that historically has provided substantial cost savings to the City and this project should be no different. We are proud to be a part of this process and look forward to another successful project with the City of Lawrence.

Michael Hafling, P.E.
Executive Vice President / COO