Topic: Acheson Fire Station Tender Award

Introduction:

The Acheson Fire Station Tenders have been received by Parkland County. The low bid tender was received from Delnor Construction at a cost of $6,598,888. This cost is for the building construction and site development. The cost of $6,598,888 does not include an additional $599,000 of costs to complete the project. The total project construction budget is $7,857,776

Facts (Background Information):

The 2012 budget numbers for the construction and equipping of the new Acheson fire station were based on the assumption that the Acheson fire Station will be a comparable fire hall to the one built by Stony Plain in 2007. This is an important assumption as the fire station in Stony plain was built looking forward to the potential needs of the department 15 -20 years in the future.

The Acheson Station is designed and constructed with a similar vision. Included in the vision is the allowance for kitchen facilities, a library and office space, as well as planning and allowances for future expansion for sleeping quarters as well as additional bay space if required. In addition, the station bays will host the backup apparatus as recommended in the Fire Services Master Plan as well as a full range of fire station maintenance duties to be housed out of this station for the entire fire services operations. These maintenance functions range from refilling SCBA, to housing the SCBA fit testing equipment and the regular maintenance of turnout gear. The Acheson Fire Station will be a multipurpose fire station catering to the needs of Parkland County Fire Services.

Project Variance Analysis:

The 2012 budget contemplated a budget for the building construction of $4.5 million dollars. Very early in the design it was realized that this budget was not going to be realized without some major compromises on the building function and design. Based on the preliminary design that was completed in early December the cost for the building and site development was estimated at over $8 million dollars. As a result of this estimate the architect in conjunction with the administrative team reevaluated the program space required as well as the type of building materials for construction. This resulted in a decrease in overall space of nearly 5,000 square feet (including the elimination of 2 apparatus bays).

The end result is that the tendered cost for the construction costs of the building and site development has come in at $6.6 million. This cost does not include any allowance for contingency or non construction costs such as engineering/professional fees , movement of power lines, fibre optic cable to the building and the computer network equipment required to link the building to the County's main computer network.

The increase in costs for the project have been analyzed and broken down into the following 4 major components:

1. Site size

Because of the location of the site it was determined that having 2 access points for the building was required. The emergency access on to 532 A was designed as an emergency access only while volunteer , public and non emergency access was designed off of RR 264A. With the required setbacks for the access points, this necessitated a larger site development area. (Note Set backs were relaxed as much as possible without compromising intersection safety). This normally would not be an issue however the requirements for managing water leaving the property have meant that a more significant storm water management plan was required than originally thought.
The overall site footprint for the building and the storm water management pond is just over 4 acres.

2. Soil Conditions
   With nearly a meter of organic material that needs to be removed the site preparation is significant. In addition the soils under the organics are less than ideal for the structure of the Fire Station. The soil structure has necessitated an enhanced piling structure to support the overall building design.
   It is estimated that the site size and soils conditions in combination with the storm water management design has added approximately $500,000 to the construction costs.

3. Construction Costs: Building Size:
   One of the assumptions made when estimating the costs for the Acheson Fire Station was that construction costs had decreased since the Stony Plain Fire Hall was constructed. The construction costs for the Stony Plan Fire Hall were approximately $246. The tender pricing does not break down the cost by individual component. The Stony Plain Fire Hall cost is complete cost including site development. Site size soil conditions and overall construction cost increase have contributed to the increase in cost per Sq/Ft

   Construction Costs: Cost per sq/Ft
   Using construction cost figures of approximately $246 Sq/Ft it was anticipated that the Acheson Fire Station would be approximately 18,000 square feet with a construction cost of $4.42 million leaving $500,000 for engineering and professional fees. The final design has a building of approximately 20,000 square feet and an overall tendered construction cost of $330 Sg/Ft. (It should be noted that the tender does not differentiate cost per sq/ft between the apparatus bays and program space and assumes a total sq foot cost for the entire project. Including site development costs as well as storm water management)

4. Building materials
   One of the factors which contributed to the higher construction cost was the construction methodology. When estimating the building costs the Stony Plain Fire Hall was the comparison. The Stony Plain Fire Hall is a metal frame building for the apparatus bays and a conventional wood frame building for the office or program space. The design of the Acheson Station is a metal frame, with concrete and metal clad building. This type of building is generally considered to be a 50 year building and is considered to be the industry standard for emergency services buildings. It is estimated that this design standard costs approximately $20 sq/ft for the program space of approximately 10,000Sq/ft or $200,000.

In summary the Acheson Fire Station costs have escalated from the original estimate due to a number of factors. These factors have combined to increase the costs substantially from the original estimate.

The Acheson fire Station has been designed to LEED Silver Standards. Although it is not possible to get the official LEED Silver designation on the building S2 Architecture has supplied a LEED report card which outlines what design considerations have been included which would have made the building meet the LEED silver designation.

Optional Pricing:

When the call for tenders was made, there were 2 options that all bidders were asked to include as optional in their bid packages.

The first was the option for an additional Wood pallet burner to assist in the production of heated water for heating and domestic purposes. The second was for the County to supply all granular material from county owned sources, with pickup placement and compaction being the responsibility of the contractor. The final bid prices reflect these 2 add options being left out of the final tender price.

The wood pallet burner came in at a cost of $26,000. This cost and the type of wood burner being suggested by the contractor requires further investigation and will be an additional cost should parkland County wish to negotiate with the contractor for the installation of this or any other hydronic type supplemental heating system. The cost of the contractor to supply and install all the granular material will cost Parkland County an additional $115,000.

Contingency:

Within the proposed budget is included a 10% contingency. Although the project has been tendered and administration is comfortable with the scope of project and the current costing; there remains a significant variable which will not be known until construction actually begins. The soil conditions have been determined through a geotechnical report which was based on a number of boreholes being drilled on the site. This report has assumed that these soil conditions are uniform across the site. There remains a possibility that there are pockets of soil which are significantly different from the soil samples received for the geotechnical report. Should significant variances in soil conditions be found once site construction commences there is the possibility that significantly more site work will be required to meet the technical specifications of the structural component of the building and site. This could potentially cost in the hundreds of thousands of dollars. For this reason Administration is recommending that a 10% contingency be built into the building. Should work not warrant additional costs, this contingency would not be required and reduce the overall cost of the project.

Acheson Fire Station Construction Budget:

Tendered Capital Construction Cost	$6,598,888
10% contingency	$ 659,888
Professional Fees	$ 187,000
Information Technology	$ 200,000
Moving Power line Fortis	$ 50,000
Parkland County Gravel costs	$ 75,000
Building permit	$ 27,000
Building access and security system	$ 60,000
	$7,857,776

Analysis:

The 2012 Fire services budget includes $4,500,000 for the capital construction of the Acheson Fire Station. With a total cost estimated to be $7,857,776 there is a funding shortfall of $3,357,776. Administration is recommending that the additional funding for the Acheson fire Station be provided from 2 sources;

1) The Fire Facilities Restricted Surplus
2) MSI Capital.

Fire Facilities Restricted Surplus currently has a balance of $440,000 while MSI capital has $10,200,000 remaining to be allocated. By utilizing the balance of the Fire Facilities Restricted Surplus the project would require $2,917,776 in funding from MSI capital.

An Option open to Parkland County is to not proceed with the construction of the Acheson Fire Station. This would involve cancelling the tender and not awarding, and doing 1 of the following:

1) Not proceeding at this time with the construction
2) Going back to redesign the building with less sq/ft and an alternative building structure.

Conclusion/Summary:

Administration is in support of moving forward with the Construction of the Acheson Fire Station.

Alternatives:

1. Not to proceed with the construction of the Acheson Fire Station.
2. Direct Administration to redesign the Acheson Fire Station utilizing a smaller overall building as well as utilizing an alternative building structure.

Summary:

Acheson Fire Station will be the third fire station owned and operated by Parkland County. This fire station will serve the Acheson Industrial Park as well as the surrounding residential subdivisions of Parkland County. The Acheson fire station will continue the tradition of being staffed by volunteers who are trained to NFPA standards and will perform a wide range of emergency response duties including medical aid, water rescue, vehicle collision extrication and other related emergency response duties in addition to the fire suppression and education duties normally associated with a fire service.

The addition of this Fire Station is the direct result of the 2009 Fire Services Master Plan which indicated the need for a fire station in closer proximity to the high values and high hazards associated with the Acheson Industrial area. The station design is approximately 20,000 square feet and will become the centre of administrative operations for Parkland County Fire Services. With ample room to house the secondary (back up) response units, act as a warehouse for supplies needed for the remaining seven (7) stations, as well as act as a training and resource centre for volunteer fire fighters from across Parkland County.