



**TOWN OF MILLIKEN
TOWN BOARD
AGENDA MEMORANDUM**

To: Mayor Tokunaga and Board of Trustees	Meeting Date: Wednesday, April 22, 2015
From: Bill Landwehr, Public Works Director	
Via: Kent Brown, Town Administrator	

Agenda Item #	Action:	Discussion:	Information:
	X		
Agenda Title: Authorization for a 1,072,782 Million Gallon Aquastore Tank with an Embedded Starter Ring			
Attachments: Proposal from Engineering America			

PURPOSE

Obtaining a water storage tank for the south side of Milliken per the First Amendment to Water Service Agreement with Central Weld County Water District. The installation of the water storage tank will be designed and located in order to achieve a reduction in the peak demand from the District.

BACKGROUND

The Town has a need for water storage to assist with peak demands on its water delivery system. The Milliken Water and Sanitary Sewer Master Plan Update Draft included a water storage tank to be placed on the south end of Milliken. Due to the Reverse Osmosis (R.O.) Plant ceasing operation in 2015, the need for additional water storage drastically increased, advancing the priority of the tank.

The various types of tanks available were discussed during the Work Session on April 8, 2015. During my investigation regarding the types of tanks, the preferred tank has been the porcelain fused tanks. The Town of Eagle has welded, epoxy coated tanks and porcelain tanks. They have found that there is less maintenance on the porcelain tanks. Leprino has eleven (11) porcelain tanks in Greeley and in Ft. Morgan. They use their tanks to collect waste. They have not had any problems and all their tanks look new inside and out. Their oldest tank was built in 1994. The Towns of Gypsum, Ignacio and Pueblo have not had any issues with their porcelain tanks. In the State of Colorado, there are over 150 porcelain tanks and the process in having approval from the State was short.

The Towns of Georgetown and Indian Hills have epoxy fused tanks. From discussion with these municipalities, the tanks are new and they have not had any issues with them. These

tanks require re-coating every 5-10 years at a cost of approximately \$50,000 each time. There are very few tanks of this kind in the state.

Finally, the porcelain fused tank is bacteria resistant and preserves water quality at a higher level than the other tank type that was reviewed.

BUDGET IMPLICATIONS

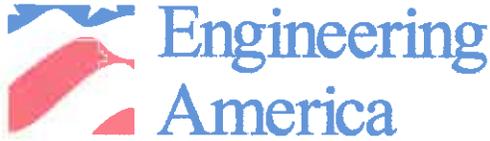
Funds to purchase the water storage tank are available in the Water Fund without impacting any Capital Improvement Projects that were earmarked for 2015.

STAFF RECOMMENDATION

Staff recommends that the Board approve the purchase of a porcelain fused water storage tank from Engineering America.

POSSIBLE MOTION

“I move to authorize the Town Administrator to sign for the purchase of a porcelain fused water storage tank from Engineering America.”



**TO: MR. WILLIAM LANDWEHR
PUBLIC WORKS DIRECTOR – TOWN OF MILLIKEN**

PROJECT: Milliken, Colorado – Tank Budget - 1.0MG

DATE: April 6, 2015

TANK:

**ONE (1) GLASS FUSED TO STEEL “TAN” AQUASTORE® BOLTED STORAGE TANK
MANUFACTURED BY CST STORAGE OF DEKALB, ILLINOIS AND DESIGNED PER AWWA D-
103 DESIGN STANDARDS AND 100 MPH WIND LOAD.**

**ONE (1) 76’ DIA. BY 33’ TALL 1,072,782 MILLION GALLON (based on 12” of freeboard)
AQUASTORE TANK with an Embedded Starter Ring**

DESIGN ASSUMPTIONS:

Specific Gravity: 1.0, Seismic Site Class: D, Seismic Importance Factor: 1.5, Seismic TL: 6, Ss: .206, S1: .054, Wind Speed: 100 mph, Roof Snow Load: 30 psf, Freeboard: 12”

**** Any deviations from these assumptions may result in a change in price ****

TANK ACCESSORIES:

1. EAI TO FURNISH COMPLETE TANK AND CONCRETE FOUNDATION DESIGN BASED ON AN OWNER PROVIDED SOILS REPORT. SUBMITTALS WILL BE STAMPED BY THE TANK MANUFACTURER’S REGISTERED STRUCTURAL ENGINEER IN THE STATE OF COLORADO.

NOTE: EAI’s preliminary foundation design is based on 3000 psf soil bearing capacity. It is the GC/Owners responsibility to make the necessary soil improvements to achieve the 3000 psf soil bearing capacity.

2. EAI TO PROVIDE ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT FOR THE PURPOSE OF INSTALLING THE TANK AND CONCRETE FOUNDATION.
3. TANK EXTERIOR COLOR TAN. INTERIOR TO BE WHITE
4. ONE (1) CLEAR-SPAN ALUMINUM DOME WITH 30 PSF SNOW LOAD, ONE (1) 24” GRAVITY VENTILATOR, TWO (2) 30” SQUARE ACCESS HATCHES, TWO (2) 7’ GUARDRAILS AND HATCH, AND ONE (1) ROOF WALKWAY WITH SINGLE HANDRAIL AND NON-SLIP FROM HATCH TO APEX.
5. TWO (2) 30” SIDEWALL MANWAY DOORS WITH DAVIT ARMS.
6. ONE (1) ALUMINUM LADDER AND GALVANIZED SAFETY CAGE WITH OSHA APPROVED STEP-OFF PLATFORM.

America’s Employee-Owned Leader in Liquid Storage Tank Solutions

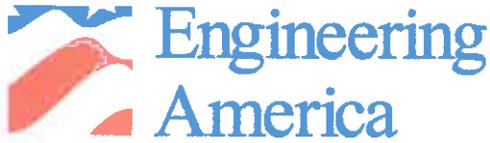
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- 7. ONE EXTERNAL (1) 14" SCHEDULE 10 STEEL EPOXY COATED TO MATCH TANK OVERFLOW PIPE TERMINATING AT TWENTY-FOUR (24") INCHES ABOVE GRADE. INCLUDES ALUMINUM WEIR BOX AND FOUR (4) HORIZONTAL SUPPORT BRACKETS.
- 8. ONE (1) 12" DUCTILE IRON INLET/OUTLET TERMINATING 5' OUTSIDE TANK FOUNDATION.
- 9. ONE (1) 8" DUCTILE IRON DRAIN TERMINATING 5' OUTSIDE TANK FOUNDATION.
- 10. TANK INSTALLED PER ENGINEERING AMERICA, INC FACTORY CERTIFIED AQUASTORE BUILDERS.
- 11. FREIGHT TO JOBSITE INCLUDED. GC TO PROVIDE OPERATOR AND LIFT WITH MIN. 10,000 LB CAPACITY TO UNLOAD TANK MATERIALS.

EXCLUDED ITEMS:

- 1. ANY SITE PIPING, UNDER SLAB PIPING, VALVES, OR FITTINGS AT THIS TIME.
- 2. ANY EXCAVATION, BACKFILL, TOLERANCING OR OTHER SITE WORK
- 3. ANY SOILS CORRECTIONS
- 4. ANY SOILS OR COMPACTION, CONCRETE OR OTHER MATERIAL TESTING
- 5. GEOTECH REPORT
- 6. ANY ELECTRICAL.
- 7. SUPPLY OR INSTALLATION OF INSULATION/HEATERS.
- 8. CRANE OR CRANE OPERATOR.
- 9. SUPPLY, FILLING OR DISPOSAL OF WATER FOR THE TANK. EAI WILL FIX ANY LEAKS ONCE THE TANK IS FULL.
- 10. SUPPLY OR INSTALLATION OF SITE FENCE.
- 11. PREVAILING OR UNION WAGES
- 12. ANY GC SAFETY REQUIREMENTS BEYOND EAI'S STANDARD SAFETY POLICY.
- 13. PERMITS

TANK PRICING: 7633 SSWT

ONE (1) 76' DIA. BY 33' TALL AQUASTORE TANK WITH an Embedded Starter Ring
 \$ 596,500.00

Tank Diameter: 67.14', Tank Height: 42.17', Tank Capacity: 1,090,337 Gallons (12" FREEBOARD)

FOUNDATION PRICING: 7633 SSWT

76' TANK CONCRETE FOUNDATION (ADD).....\$95,000.00

****ALL EXCAVATION, BLASTING (ROCK), BACKFILL, LEAN CONCRETE, STRUCTURAL FILL AND COMPACTION TO BE BY GC.**

NOTE: BEARING CAPACITIES FOR THE CONCRETE FOOTINGS ARE BASED ON 3000 POUNDS PER SQUARE FOOT (PSF). IT IS THE GC'S RESPONSIBILITY TO DO THE NECESSARY SOILS IMPROVEMENTS PER THE GEOTECH REPORT TO ACHIEVE 3000 PSF SOIL BEARING CAPACITY.

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PIPE PRICING: 7633 SSWT

12" DIP Inlet/Outlet with fitting restraints and 8" DIP Drain with fitting restraints stubbed out 5' beyond foundation (ADD).....\$ 16,500.00

****Does not include any concrete encasement, rock excavation** Includes material and setting of pipe.**

VALIDITY: Price is budgetary. Price is subject to change due to fluctuating iron ore and aluminum price increases.

APPROVAL DRAWINGS: Shop drawings on the tank and foundation are completed and stamped by our registered structural engineer in the State of Colorado.

SCHEDULE: Tank construction schedule to be mutually coordinated between EAI and GC. Foundation and tank construction to be prior to winter weather months. EAI to provide tank submittals within 3 weeks of executed contract or purchase order. Tank materials to deliver within 10 weeks after submittal approval

QUALITY: Installation service offered in the Proposal will be performed by trained personnel regularly engaged in the installation of Aquastore storage tanks as manufactured by CST Storage. All work will be performed in an excellent workmanship manner and in accordance with the tolerances and specifications called for by the manufacturer. *This quote is for non-union, non-prevailing wage labor with no restrictive work rules.*

SAFETY: EAI will adhere to our in-house safety program.

BONDING: Performance bond is not included, but can be provided at an additional charge.

INSURANCE: We will provide a certificate of insurance covering our portion of the work.

After you have had an opportunity to review the above proposal and should you have questions, feel free to call me at 970-962-9400.

SINCERELY,

ENGINEERING AMERICA, INC.

**CHUCK GRABER
REGIONAL SALES MANAGER**

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