

Memo

To: Honorable Mayor and City Council
From: Robin Bowman, Public Works Superintendent
Date: April 22, 2014
Re: Float-down and cleaning of water tower contract

Every three years, the City of Tonka Bay will conduct a float-down inspection of the water tower. This is the most comprehensive type of evaluation available. This evaluation will provide the City with thorough and detailed information that will be critical during repairs, reconditioning and budgeting.

This proposal is for the tower to be drained in a single 8 to 10 hour day. The one day inspection will include the float evaluation, cleaning, and disinfection of the tower inside.

In order to perform a complete float-down inspection, the City must have the water at or near the high water level (HWL). The contractor will insert and inflate a sterilized rubber raft into the tank interior. The inspector, while in the raft, will examine the interior structure, evaluate the integrity of the existing coating inspect the roof, roof structure, the tank shell, the bowl, the drywell tube and all appurtenances (i.e., vents, manways, and ladders). The contractor will provide a safety ladder and a lifeline in the roof manway for the interior inspector at all times.

Interior Cleaning: Once the tower has been drained, the contractor will use a 250-300 PSI pressure washer to assist in cleaning the tank interior. The City needs only to supply water for this procedure. The contractor will chlorinate the tower per AWWA Chlorination Method 3. Then we will refill the tower and put it back on line. We will use the pressure tank in the water plant as back up for water pressure.

Exterior Cleaning: Once the tower has been cleaned on the interior, the contractor will use a 250-300 PSI pressure washer to assist in cleaning the tank exterior. The City only needs to supply water for this procedure.

<u>Contractor</u>	<u>Cost</u>
KLM Engineering, Inc.	\$9,700.00
Maguire Iron, Inc.	Declined
Badger State Inspections LLC	\$9,200.00

Council Action Requested:

Motion to accept the proposal from Badger State Inspections LLC
\$9,200.00

Source of Funds.

Water CIP Fund has \$9,000.00 budgeted for 2014 Clean Water Tower and the remainder can come from Fund E-601-49440-230 Water Tower Expenditures that has \$645.55.



KLM ENGINEERING, INC.

P.O. Box 897 • 3394 Lake Elmo Ave. N. • Lake Elmo, MN 55042
(651) 773-5111 • Fax (651) 773-5222

April 14, 2014

By Email Only

Mr. Robin Bowman
Public Works Superintendent
City of Tonka Bay
4901 Manitou Road
Tonka Bay, Minnesota 55331

RE: Proposal for Inspection and Exterior Power Washing of the 250,000 Gallon Single Pedestal Water Tower Located in the City of Tonka Bay, Minnesota.

KLM Project # MN2448

Dear Mr. Bowman:

KLM is pleased to submit this proposal to inspect and clean the 250,000 gallon elevated water tower in Tonka Bay, Minnesota. KLM proposes to perform a detailed cleaning and inspection of this elevated water tower in conformance with AWWA. By choosing KLM Engineering, Inc. the City of Tonka Bay is investing in the knowledge and expertise of a consultant who can perform a thorough exterior cleaning and inspection of your water tank.

By choosing KLM Engineering, Inc. the City of Tonka Bay is investing in the knowledge and expertise of a consultant who can perform an accurate and unbiased inspection of your water tank. Our inspection will clearly identify all of the maintenance requirements of the tower. This 5-year anniversary inspection will establish a baseline of the current conditions of the tower. The report will define the next time the tower should be inspected and, if necessary, any maintenance.

The experience of KLM's staff in water tower inspections has been enhanced by our training as National Association of Corrosion Engineers (NACE) Certified Coatings Inspectors and American Welding Society (AWS) Certified Welding Inspectors. This training, plus the years of experience in abrasive blasting (surface preparation) painting, rigging, welding, and inspecting has given this company a competitive edge for performing this type of work in a safe and professional manner.

Benefits

KLM will provide to the Owner two (2) copies of the inspection report, which will provide the following benefits:

1. Clearly stating the actual condition of the coatings and structural integrity.
2. Provide laboratory analysis of the lead and chromium content of the coatings to determine compliance with Federal, State, and local environmental regulations.
3. Identify the amount of sediment and estimate the next time it needs cleaning.
4. Provide a schedule for performing recommended maintenance work.
5. Provide an Engineer's Cost Estimate for all recommended repair work.
6. Color photographs substantiate details of the report.
7. Copies of the report justify maintenance recommendations to decision-makers.
8. The inspection report can be included in the specification document to provide accurate information on existing conditions for bidders.
9. Recommendation of future inspections.
10. KLM will also provide drawings in the report for future maintenance.

KLM Work Plan

Floatdown Inspection

The floatdown inspection is KLM's most frequently used and most comprehensive inspection. This method of inspection provides the inspector/engineer with more information than the other types of inspection. KLM will provide NACE Certified Coating Inspectors, with one or both of these individuals being an AWS welding inspector, whom are properly trained and qualified to perform this type of inspection. If the tank can be drained in a single day (8 hours), this will enable it to be inspected, cleaned, and disinfected in a one-day inspection.

In order to perform a complete float-down inspection, the Owner must have the water at or near the high water level (HWL) at the start of the inspection. KLM inspectors will insert and inflate a sterilized rubber raft into the tank interior. During the float inspection, the Owner will be responsible for opening and closing the valves to the tank. The inspectors will notify the Owner's personnel when to start draining the tank and at what rate. The inspector, while in the raft, will examine the interior structure and evaluate the existing coating integrity. KLM will inspect the roof, roof structure, all appurtenances such as vents, manways, and ladders, the tank shell, and the bowl. KLM will be responsible to provide a safety ladder and a lifeline in the roof manway, for the interior inspector, at all times. The inlet pipe or wet riser is excluded from the inspection, unless otherwise written into this agreement.

The clean-out and disinfection will be performed in accordance to the proposal. Clean-out can be performed using a 3000-psi pressure washer if necessary. KLM will pull the pressure washing hose and gun up through the wet riser and rinse out any sediment from the bowl. KLM will supply a sump pump and pressure relief valve for the Owner if needed for the clean-out of the wet riser. KLM will disinfect the tank in accordance with Method 1, 2, or 3 of AWWA C652-11. KLM will require the assistance of the Owner to back-flush and disinfect the reservoir of the tank. KLM can supply the chlorine and do the clean-out from the bottom.

Time Frame

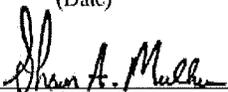
This proposal is valid for sixty a (60) days from April 14, 2014. If the City of Tonka Bay finds this proposal acceptable, please sign and return. When KLM receives the signed proposal, we will call the city to coordinate a cleaning schedule. When the City of Tonka Bay receives the inspection report, KLM will bill the Owner according to this agreement.

If you have any questions regarding this proposal, please call me at 651-773-5111 or fax this proposal back at 651-773-5222.

This agreement, between the City of Tonka Bay and KLM Engineering, Inc. of Lake Elmo, Minnesota is accepted by:

(Name) (Title) City of Tonka Bay, Minnesota

(Date) (Floatdown Inspection) (Exterior Cleaning) (Coating Samples)
Please Circle Preferred Services


(Name) Marketing Manager (Title) KLM Engineering, Inc. Lake Elmo, Minnesota

April 14, 2014
(Date)

We look forward to working with you.

Sincerely,

KLM ENGINEERING, INC.

Shawn A. Mulhern

Marketing Manager

Rich Kemmis [kemmisr@maguireiron.com]

Thank you for your interest in having Maguire Iron quote you for a tank inspection. We received the specifications and have reviewed.

Regretfully, we cannot submit a quote as we are not a "registered engineer". I suspect you received these specifications from an inspection company or state site.

We can/could provide all you request, including NACE certification, however we miss on the engineer part.

Please keep us in mind for any future work.

Sincerely,

Rich Kemmis

Sales / Field Representative

"Growing the Family"

Maguire Iron, Inc.

PO Box 1446

Sioux Falls SD 57101

605.334.9749 Office

605.334.9752 Fax

605.310.7661 Cell

BADGER STATE INSPECTION, LLC

Water Tower Specialist / Antenna, Evaluations, Inspection

P.O. Box 157 Osseo, WI 54758 : 715-533-8686

April 8, 2014

Mr. Robin Bowman
Superintendent of Public Works
City of Tonka Bay
4901 Manitou Road
Tonka Bay, MN 55331

**RE: Proposal to provide a Floatdown Evaluation on
Manitou Road Hydrosphere (250,000 Gallon Elevated Water Tower)
For the City of Tonka Bay, Minnesota.**

Dear Mr. Bowman:

BSI is pleased to submit this proposal to perform a floatdown inspection and evaluation for the 250,000 gallon hydrosphere for the City of Tonka Bay, Minnesota. The purpose of this inspection is to identify structural issues that may be present and determine the condition of the interior and exterior coatings.

The inspection report provided will include a breakdown of structural issues, coating condition and unsafe OSHA conditions observed. The report will include color photographs to support our discoveries. The report will also include a time frame for the recommended repairs and a cost estimate of the recommended structural and coating repairs or replacements. Such cost estimates will aid the City in their planning and budgeting process.

BSI has extensive knowledge and experience in the field of water tower structural examination and coating evaluation. BSI will provide a NACE (National Association of Corrosion Engineers) Certified Coatings Inspector and an American Welding Society (AWS) Certified Welding Inspector for this evaluation. This training, plus years of experience in abrasive blasting (surface preparation) painting, rigging, welding, and inspecting, has given BSI a competitive edge for performing this type of work in a safe, professional and effective manner.

BSI will provide to the Owner two (2) copies of each inspection report, which will provide the following benefits:

1. Clearly stating the actual condition of the coatings in the interior and the exterior.
2. Identifying other structural items of concern.
3. Identify items not in compliance with OSHA.
4. Provide an Engineer's Cost Estimate for recommended repair work.
5. Color photographs to substantiate details of the report.
6. Provide a recommendation (timeline) for when the work should occur.

Work Plan

Interior Wet Floatdown Inspection:

The floatdown inspection is the most comprehensive type of evaluation available and will provide both the owner and the engineer with thorough and detailed information that will be critical during repairs and/or reconditioning.

This proposal is for each tower to be drained in a single 8 to 10 hour day. The one day inspection (per tower) will include the float evaluation, cleaning and disinfection of the towers.

In order to perform a complete float-down inspection, the city must have the water at or near the high water level (HWL) at the start of the inspection. BSI will insert and inflate a sterilized rubber raft into the tank interior. The inspector, while in the raft, will examine the interior structure and evaluate the integrity of the existing coating. BSI will inspect the roof, roof structure, the tank shell, the bowl, the drywell tube and all appurtenances such as vents, manways, and ladders. During the float inspection, the city will be responsible for opening and closing the valves to the tower. Our inspectors will notify the city personnel when to start draining the tank and at what rate. BSI will provide a safety ladder and a lifeline in the roof manway, for the interior inspector, at all times. The inlet pipe or wet riser is excluded from the inspection, unless otherwise written into this agreement.

Interior Cleaning: Once the tower has been drained, BSI will use a 300 PSI pressure washer to assist in cleaning the tank interior. The City needs only to supply water for the pressure water. BSI will chlorinate the tower per AWWA Chlorination Method 3.

Exterior and Interior Dry Inspection:

The exterior inspection is critical for evaluating the coating conditions to determine whether the coating is a candidate for over coating or complete reconditioning.

The exterior will be inspected from all areas accessible without rigging unless otherwise written into this agreement. Coating conditions of both the interior dry and exterior will be examined using a number of different testing equipment. These will include: Dry Film Thickness (DFT) Readings, Ultrasonic Thickness Testing, cross cut adhesion, Pit gages, and standard ASTM tests). BSI will not be performing any destructive testing on the coating unless there are coating failures that will we feel will be repaired within the next 12 months or the owner specifically requests destructive testing. This will be discussed just prior to the evaluation.

BSI inspectors will also check for structural deficiencies, AWWA and OSHA

compliance. The areas we will be carefully looking at will include:

Interior and Exterior:

- Roof structure (Size and Style)
- Roof Vents (Size and Style)
- Manways (Type, Size and Style)
- Overflow weir box and pipe brackets (Size and Style)
- Support column (Size and Style)
- Capacity level and head range
- Inlet/outlet pipe
- Mud ring
- Drains (Floor and Condensate)
- Floor condition (oil canning)

- Cathodic protection
- Pitting
- Girders and sail plates
- Ladders, cages, platforms, and handrails
- Painters rigging (Rigging plugs, Painters Ring)
- Reinforcement pads
- Balcony or stiffening girder
- Anchor bolts and cotter pins
- Base plate condition including flexcel and grout
- Screens on vents and overflow pipe
- Overflow air breaks, splash pads, and drainage
- Safety devices
- Lighting
- Site dimensions
- Safety considerations

The assistant inspector's primary responsibility is to be the safety-hole watch for the interior inspector during the floatdown. He will also perform some of the exterior report (roof) which will be reviewed by the primary NACE inspector.

Inspection Fee

Floatdown Inspection and Evaluation:

The floatdown inspection will be performed in accordance with this proposal for a fee of **\$2,400.00**.

Cleaning and Disinfection **\$400.00**

Total Cost \$2,800.00

If additional days are required there will be an additional fee of \$800.00 per day.

(If the owner request lead and Chromium coating test samples for there will be an additional fee)

Additional Information included in Proposal:

- Statement of Qualifications
- BSI Fee Schedule
- Insurance Certificate
- References
- Resume

Time Frame:

This proposal is valid for sixty (60) days from April 11, 2014. If the City of Tonka Bay finds this proposal acceptable, please sign and return one copy. When BSI receives the

signed proposal, we will call the Superintendent of Public Works to coordinate an inspection time. BSI will bill the City of Tonka Bay when we send the inspection report.

If you have any questions regarding this proposal, please call me at 715-533-8686.

This agreement, between the City of Tonka Bay, Minnesota, and Badger State Inspection, LLC of Osseo, Wisconsin is accepted by:

_____			City of Tonka
Bay,			
(Printed Name)	(Signature)	(Title)	Minnesota

(Date)

_____			Badger State
Inspection			
(Printed Name)	(Signature)	(Title)	Osseo,
Wisconsin			

(Date)

We look forward to working with you.

Sincerely,



Kelly C. Mulhern
Owner
Badger State Inspection, LLC
715-533-8686