



Michael MacEachern, Chairman  
Paul L. Rafuse,  
Water Superintendent

Nathan Mattila, Vice-Chairman

Lance Lewand, Clerk  
(978) 597-2212  
Fax (978) 597-5561

WATER COMMISSIONERS MEETING MINUTES

June 13, 2016 - 5:30P.M.

Water Department 540 Main Street, Meeting Room

I. PRELIMINARIES:

- 1.1 MM called the meeting to order at 5:30 PM, 540 Main Street.
- 1.2 Roll call showed Members Present. Michael MacEachern (MM), Nathan Mattila (NM) and Lance Lewand (LL). Guests Present: Paul Rafuse and Brenda Boudreau.
- 1.3 MM Announce that the meeting is being tape recorded
- 1.4 Chairman's additions or deletions. MM discussed an abatement for a customer on Woodland Drive that supplied water for approximately 7 days to his neighbor for a repair. This same customer supplied the same neighbor with water years before when their well went dry. Paul stated the typically it is only for a day or two because we were in the middle of an emergency water installation on the other end of town. Tabled until we gather more information and set up a rule so that it will be fair for everyone moving forward.
- 1.5 Review/ Approve meeting minutes of April 11, 2016 and May 11, 2016. NM made a motion to accept the meeting minutes of April 11, 2016 and May 11, 2016. LL seconded. Unanimous vote.
- 1.6 The Board reviewed the correspondence from Paul a notice for realtors and attorneys to require a 48 hour notice to schedule a final reading. Paul will bring back to the Board at the next meeting language to add to the Rules and Regulations.

II. APPOINTMENTS:

- 2.1 None

III. MEETING BUSINESS:

- 3.1 Discuss/ Review status update report on projects from Lou Soracco of Tighe & Bond. #1 Paul reported that Utility Services was the lowest bidder for the Fitchburg Road Tank at \$10,667.00. Tighe & Bond recommends awarding the bid to them and to sign the notice to proceed. **NM made a motion to accept the bid for Utility services in the amount of \$10,667.00 for the miscellaneous repair at the Fitchburg Road Tank. LL seconded. Unanimous vote.** #2 Cross Street Test Report, Paul reported that Lou will be at the next meeting to discuss the progress #2 test well is a high yielding well but the magnesium levels are still high. Treatment is suggested to aerate the water which will increase the PH and that will save money on the chemicals. . #3 Witches Brook electrical upgrade The Board should be able to review the contract documents Tighe & Bond need to review the documents first. #4 Highland Street Tank- The Board reviewed the revised proposal from DN Tank. **NM made a motion to accept the proposal from DN Tanks to install the new dome hatches for \$7,500.00 and a new dome vent for \$7,750.00. LL seconded. Unanimous vote.**
- 3.2 Discuss/Review Legal opinion per request of the Town Accountant regarding Enterprise Fund Legislation and our Acts of 1920 and how both provisions effect accounting and expenditure of funds. Paul presented his findings.
- 3.3 Discuss/Review pricing for overcoat of Fitchburg Tank and limited maintenance program from Scott Kelley of Utility Service Group. Tabled
- 3.4 Approve 1" service to Joe Sirbak, 9 Edward Road, Appl# 2016-3, Acct # 61586. Recvd \$2,000.00. **NM made a motion to approve a 1" service to Joe Sirbak, 9 Edward Road, Acct #61586. LL seconded. Unanimous vote.**

**IV. COMMISSIONERS UPDATES AND REPORTS.**

4.1

**V. WATER SUPERINTENDENTS UPDATES AND REPORTS.**

5.1 Request for additional Water Tech. Paul reported that he had emailed the TA requesting that he be placed on the agenda to discuss the hiring of an additional Water Technician. Carolyn Smart responding stating that the TA would not be at the next meeting and he would be removed from the agenda. The Board requested that he email the TA again.

5.2 Paul reported that he will be on vacation the week of July 11, 2016.

**VI. OFFICE UPDATES AND REPORTS.**

6.1 The Board reviewed and signed bills payable warrants.

6.3 The Board reviewed and signed April schedule of bills receivable report.

6.4 The Board reviewed April accounts receivable report.

**VII. ADJOURNMENT:**

**NM moved to sign the bills payable warrants & review reports out of session. LL seconded, Unanimous vote.**

**MM motioned to adjourn the BOWC meeting at 6:44 p.m. LL seconded. Unanimous vote.**

Respectfully submitted,



Brenda Boudreau

Office Administrator





Michael MacEachern, *Chairman*  
Paul L. Rafuse,  
*Water Superintendent*

Nathan Mattila, *Vice-Chairman*

Lance Lewand, *Clerk*  
(978) 597-2212  
Fax (978) 597-5561

WATER COMMISSIONERS MEETING AGENDA  
June 13, 2016 - 5:30P.M.  
Water Department 540 Main Street, Meeting Room

I. **PRELIMINARIES:**

- 1.1 Call the meeting to order and announce meeting address.
- 1.2 Roll call.
- 1.3 Announce that the meeting is being tape recorded
- 1.4 Chairman's additions or deletions.
- 1.5 Review/Approve meeting minutes of April 11, 2016 and May 11, 2016. (SF)
- 1.6 Review correspondence.

II. **APPOINTMENTS:**

- 2.1

III. **MEETING BUSINESS:**

- 3.1 Discuss/ Review status update report on projects from Lou Soracco of Tighe & Bond
- 3.2 Discuss/Review Legal opinion per request of the Town Accountant regarding Enterprise Fund Legislation and our Acts of 1920 and how both provisions effect accounting and expenditure of funds.
- 3.3 Discuss/Review pricing for overcoat of Fitchburg Tank and limited maintenance program from Scott Kelley of Utility Service Group.
- 3.4 Approve 1" service to Joe Sirbak, 9 Edward Road, Appl# 2016-3, Acct # 61586. Recvd \$2,000.00.

IV. **COMMISSIONERS UPDATES AND REPORTS.**

- 4.1

V. **WATER SUPERINTENDENTS UPDATES AND REPORTS.**

- 5.1 Request for additional Water Tech.
- 5.2 Superintendent will be on vacation the week of July 11, 2016.

VI. **OFFICE UPDATES AND REPORTS.**

- 6.1 Review and Sign Bills Payable Warrants.
- 6.3 Review and sign April Schedule of Bills Receivable report (SF)
- 6.4 Review April Accounts Receivable report.

\*\* (SF) signature folder

VII. **ADJOURNMENT:**

## Project Status Update

**To:** Townsend Water Department  
**FROM:** Louis A. Soracco, P.E.  
**COPY:** File  
**DATE:** June 10, 2016

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The following is an update on the projects and efforts currently in progress for the Townsend Water Department:

1. Fitchburg Road Tank:

- a. Quotes from three vendors were received for the miscellaneous repair work at the Fitchburg Road Tank. The quotes received were as follows:
  - i. Utility Services - \$10,667.00
  - ii. Pittsburg Tank & Tower - \$18,500.00
  - iii. Hemi Enterprises Inc. - \$20,460.00
- b. After confirming with the Water Department, Tighe & Bond will issue a Notice to Proceed to Utility Services.

2. Cross Street Well

- a. Two test wells were installed at the Cross Street site in an attempt to locate a suitable replacement well with improved water quality.
- b. T&B prepared a detailed report dated May 27, 2016 that summarizes the results of the test wells. Both test wells had sufficient potential capacities to replace the existing well, but neither test well had improved water quality.
- c. Moving forward the Water Department should consider pilot testing treatment alternatives to determine the efficacy and cost of providing treatment at Cross Street. Some initial technologies that should be considered for pilot testing include:
  - i. Greensand Plus
  - ii. Biological

3. Witch's Brook Electrical Upgrades

- a. A project kickoff meeting and detailed site visit were completed. All of the pertinent design information was recorded during the site walk.
- b. The contract documents should be complete by next week. Once complete they will be internally reviewed by a Tighe & Bond formal QA/QC process.



Office of the  
Townsend Water Department  
540 Main Street  
West Townsend, MA 01474  
Tel: 978-597-2212  
Fax: 978-597-5611

Application No. 2016-3  
Account No. 61586  
Date 6/2/2016

**APPLICATION FOR WATER SERVICE**

Name of Property Owner: Joe Sirbak  
Service Address: 9 EDWARD ROAD  
TOWNSEND MA 01469  
Tel No.: 978-597-8083 Cell No. 781-858-4223

Billing Address:  
(If different from service address): \_\_\_\_\_  
\_\_\_\_\_

Units (Check all that apply):

Single Family (If Professional Bldg.) No. of Businesses      
 Multi Family (Apartment Building) No. Apartments      
 Hotel/Motel No. Rooms:    

Type of Use (Check One):

Residential  Industrial  
 Commercial/Business  Municipal  
 Agricultural

Is a sprinkler system required for fire protection?  Yes  No  
If yes a proposed design plan of the system must be submitted including required flows, required pipe size, and size and backflow prevention device.

Is a flow test/s required?  Yes  No  
If yes the owner will be billed separately at the current rate per flow test.

Is there an existing or proposed automatic lawn irrigation system?  Yes  NO On separate well

Has a sketch or plot plan been provided showing the location of the septic system, automatic lawn irrigation system and any known or proposed additions to the existing building?  Yes  No \*\*\*\*\*Plot Plan Requested

I, the Owner understand this form is to be completed and all Fees, charges, and required documentation must be received before water service will be turned on. I also understand that I have from April 1st to November 1st of the same calendar year of the application date to complete the installation or this application shall be null and void and the Connection/System Development charge forfeited. In addition, I acknowledge receipt of the Townsend Water Department's current Rules and Regulations SS

Signature of Owner/Applicant Stephanie Sirbak Date 6/2/16

BOARD OF WATER COMMISSIONERS

[Signature]  
Chairman  
[Signature]  
Clerk

[Signature]  
Vice Chairman

Date Signed by Board of Water Commissioners \_\_\_\_\_

Mailed 6/14/16

- c. After QA/QC a complete set will be available for the Water Department to review.

#### 4. Highland Street Tank

- a. An inspection of the Highland Street Tank was completed by DN Tanks. Following the inspection, DN Tanks provided a proposal that included several maintenance and improvement tasks (see DN Proposal dated 4/26/2016).
- b. It is my understanding that the Water Department may be interested in proceeding with a few of the items, which include improvements to the existing hatches and replacement of the existing vent with a more standard sanitary vent.
- c. DN Tanks has been contacted and has confirmed that these items can be completed with the tank online. DN Tanks is preparing a revised quote with these items only, and so that it only includes one mobilization charge (each of the budgets provided in the 4/26/16 proposal included a mobilization charge).
- d. In regard to tank mixing, it is recommended that the tank operation increase the level fluctuation to improve turnover and help maintain quality. It is understood that this will be more difficult as summer approaches and demands on the system increase.

In addition to the existing work that is in progress, it is recommended that the Water Department consider taking a holistic view of the entire water system and identify the long term needs to meet demands and water quality objectives prior to proceeding with implementing treatment at the Cross Street well. A Water System Master Plan will identify all of the perceived needs and prioritizes the order in which these needs are addressed. Typical components of a water system Master Plan include review of supplies, historical and projected demands, distribution system age and materials, and distribution storage capacity. The report would also include development of a prioritized capital improvements plan.

# Notice to Proceed

Date: June 10, 2016

Project: Fitchburg Road Tank Repairs	
Owner: Townsend Water Department	Owner's Contract No.: N/A
Engineer: Tighe & Bond	Engineer's Project No.: T0354-1
Contract Amount: <b>\$10,667.00</b>	
Contractor: Utility Service Company	
Contractor's Address: 535 Courtney Hodges Blvd, Perry, GA 31069	

**TO BIDDER:**

You are notified that Townsend Water Department has accepted your Bid dated May 19, 2016 for the above Contract, and that you are the Successful Bidder and are awarded a Contract for the Fitchburg Road Tank Repairs Project.

The Contract Price of the awarded Contract is \$10,667.00.

Utility Service Company is hereby notified that the Contract Times under the above Contract will commence to run on June 13, 2016. On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the number of days to achieve Substantial Completion is 45 from the date of the Notice to Proceed and the corresponding date of Substantial Completion is July 28, 2016.

A preconstruction conference will not be required prior to the commencement of this work.

Louis A. Soracco, P.E. – Tighe & Bond, Inc.  
Owner's Authorized Agent



\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Project Manager  
Title

\_\_\_\_\_  
6/10/2016  
Date

Copy to: Townsend Water Department

# Notice to Proceed

Date: June 22, 2016

Project: Highland Street Tank Repairs	
Owner: Townsend Water Department	Owner's Contract No.: N/A
Engineer: Tighe & Bond	Engineer's Project No.: T0354-4
Contract Amount: <b>\$15,225.00</b>	
Contractor: DN Tanks	
Contractor's Address: 11 Teal Road, Wakefield, MA 01880	

## TO BIDDER:

You are notified that Townsend Water Department has accepted your proposal dated June 10, 2016 for the above rehabilitation work.

The Contract Price of the awarded Contract is \$15,225.00.

DN Tanks is hereby notified to commence work and to contact the Water Department for scheduling.

A preconstruction conference will not be required prior to the commencement of this work.

Louis A. Soracco, P.E. – Tighe & Bond, Inc.  
Owner's Authorized Agent



Authorized Signature

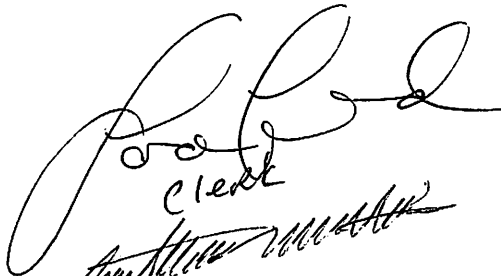
Project Manager

Title

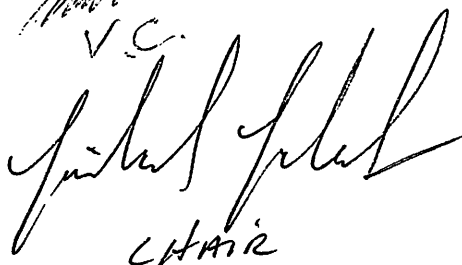
6/22/2016

Date

Copy to: Townsend Water Department



clerk



V.C.  
Chair

7-18-16



290354-2  
May 27, 2016

Mr. Paul Rafuse, Superintendent  
Townsend Water Department  
540 Main Street  
West Townsend, MA 01474

Re: **Cross Street Test Well Investigation**

Dear Mr. Rafuse:

In accordance with our agreement, we have completed the test well investigation for a potential replacement well at the existing Cross Street Well site. The goal of the test well investigation was to locate a potential replacement well for the Cross Street Well that would provide improved water quality with capacity equal to or greater than the existing well, which currently produces approximately 300 gpm. The specific water quality parameters of the existing well that are of concern are iron, manganese, and odor. The goal of the Water Department is to provide water with iron and manganese concentrations below the Secondary Maximum Contaminate Levels (SMCL), which are 0.3 mg/L and 0.05 mg/L for iron and manganese respectively. The following provides the results of the test well investigation and our recommendations.

During the week of May 9, 2016, Maher Services installed two 4-inch test wells as shown in the attached Locus Plan. The wells were approximately 50-feet, and 150-feet from the original well. The locations were selected to minimize the number of surrounding property owners that would be impacted by a new Zone I (400-foot radius around the well), and to maximize the distance to the surrounding wetlands. Since the property owned by the Town is approximately equal to the Zone I of the existing well, a replacement well would impact an adjacent property owner(s) in any direction that it was relocated.

### **Test Well 1 Results**

Test Well No.1 was installed 150-feet from the existing well to a depth of 54-feet. The material that was encountered was mostly sand and gravel. The well was pumped for a period of two hours to get a representative sample and to determine the potential capacity of a replacement well in this location. The test well was pumped at a rate of 97 gallons per minute (gpm) with 1.47-feet of drawdown. The specific capacity of this well is approximately 66 gpm/ft. Based on these results and the depth of the water column at the time of the test, the potential yield of a full sized production well in this location is approximately 480 gpm (0.69 MGD). The test well log is attached for reference. The water quality results indicated all tested parameters were within desired limits with the exception of iron, manganese and pH. The pH of the water is low (5.4), but comparable to the existing well. Iron and manganese concentrations were 1.3 mg/L and 0.1 mg/L respectively.

### **Test Well 2 Results**

Test Well No.2 was installed 50-feet from the existing well to a depth of 45-feet. The material that was encountered was mostly sand and gravel. The well was pumped for a period of two hours at a rate of 100 gpm with 0.74-feet of drawdown. The specific capacity was estimated to be 135 gpm/ft. The potential yield of a well in this location is approximately 880 gpm (1.27 MGD). The test well log has been attached for reference. All tested water quality parameters were within desired limits with the exception of iron, manganese and pH. The pH of the water in this well is also low (5.7), but comparable to

the existing well. Iron and manganese concentrations were 0.52 mg/L and 0.12 mg/L respectively.

### **Cross Street Well Options**

Both test wells appear to have sufficient pumping capacity to replace the existing Cross Street Well. However, water quality results indicate that iron and manganese concentrations are well above their respective SMCL, and are higher than the most recent water quality test results from the existing production well. These concentrations may increase once a full size production well is constructed and operating at either location.

In our opinion, it does not appear that construction of a replacement well at the Cross Street Well Site will improve the water quality of this source. Therefore, the Water Department should consider the following options for this source:

1. **Maintain Use of Existing Well** - If water demands can be met with the other sources in the distribution system, the Water Department could keep the existing well on-line and registered as an active source, but limit its use to a backup source only. The well could be operated only during periods of peak demand. The existing discharge line should be cleaned/pigged to remove built up deposits in the pipe and help reduce customer complaints when the source is operated.
2. **Provide Treatment** - Construct a water treatment facility at this location that provides treatment for the existing well or a replacement well. This option represents a significant capital investment, however there are economical treatment technologies that are easy to operate and utilize high filter loading rates. Treatment technologies that could be considered for this site include greensand filtration and biological filtration.

### **Recommendations**

We recommend that the Water Department take a holistic view of the entire water system and identify the long term needs to meet demands and water quality objectives prior to proceeding with implementing treatment at the Cross Street well. A Water System Master Plan will identify all of the perceived needs and prioritizes the order in which these needs are addressed. Typical components of a water system Master Plan include review of supplies, historical and projected demands, distribution system age and materials, and distribution storage capacity. The report would also include development of a prioritized capital improvements plan.

We are available to meet with you and the Board of Water Commissioners to discuss the findings of this report and our recommendations for the Water Department. Please let us know when you would be available to meet, and if you have any questions regarding this test well investigation.

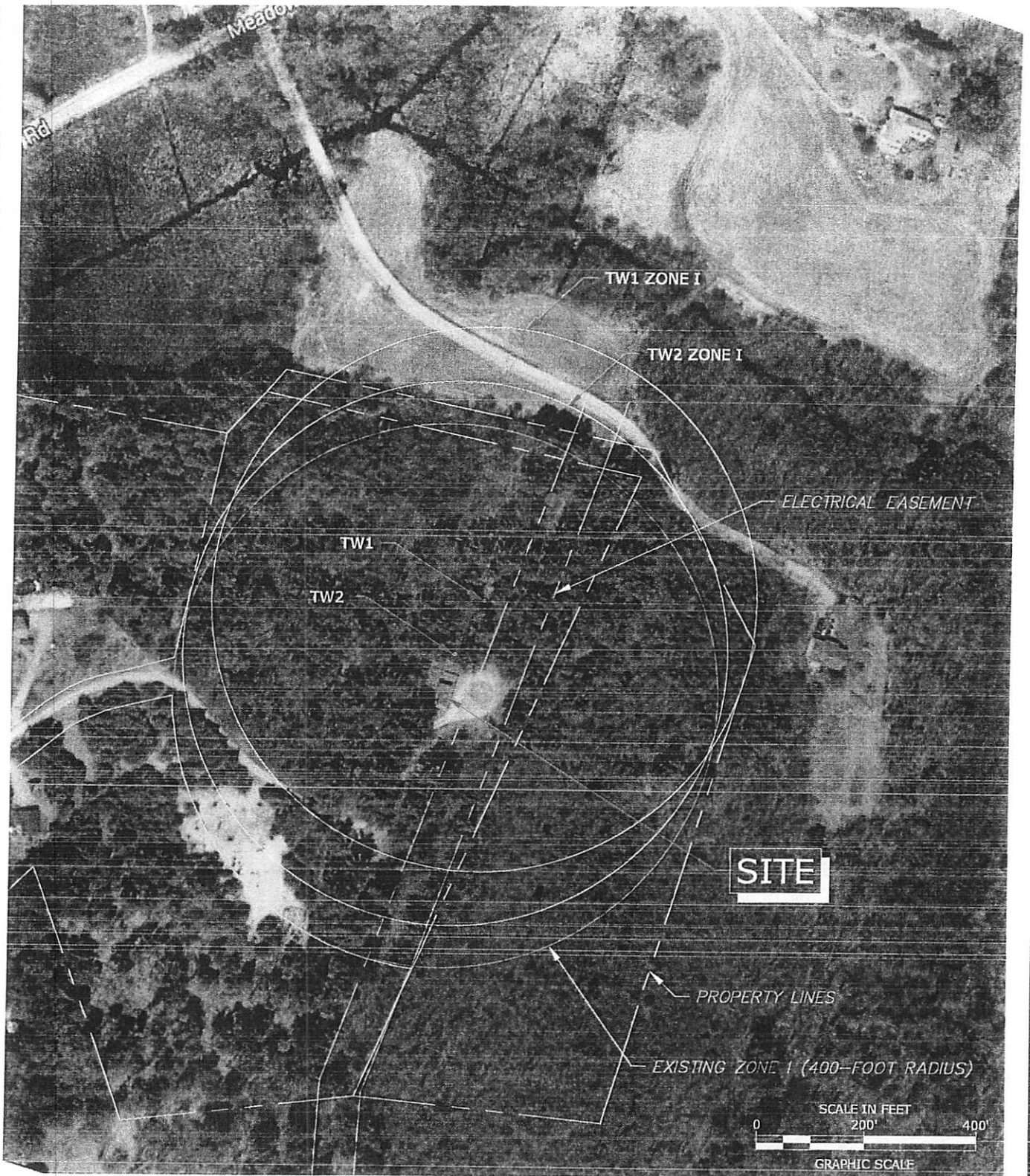
Very truly yours,

**TIGHE & BOND, INC.**

  
Louis A. Soracco  
Project Manager

Enclosures (Locus Map, Lab Results, and Test Well Logs)  
Copy: Thomas Mahanna, Tighe & Bond (w/o encl)

J:\T\T0354 Townsend Water Department\2 - Cross Street Well\letter-Test\_Well\_Results.doc



CROSS STREET TEST WELL INVESTIGATION  
TOWNSEND, MA

**SITE LOCATION MAP**


NORTH   
1" = 200'

FIGURE 1

**Tighe & Bond**  
www.tighebond.com

## Client:

Maher Services  
71 Concord Street  
North Reading, MA 01854

ReportDate: 5/13/2016

**Certificate of Analysis**

Townsend, MA

Parameter	Method	Result	MCL	MRL	Date of Analysis	Analyst
<b>- TW-1-2016</b>						
<i>Sampled: 5/10/2016 1:00:00 PM by Client</i>						
Aluminum, MG/L	EPA 200.7	0.07	0.2	0.02	5/12/2016	M-MA1118
Calcium, MG/L	EPA 200.7	7	Not Spec	0.2	5/12/2016	M-MA1118
Copper, MG/L	EPA 200.7	ND	1.3	0.003	5/12/2016	M-MA1118
Iron, MG/L	EPA 200.7	# 1.3	0.3	0.003	5/12/2016	M-MA1118
Magnesium, MG/L	EPA 200.7	1.3	Not Spec	0.1	5/12/2016	M-MA1118
Manganese, MG/L	EPA 200.7	# 0.1	0.05	0.002	5/12/2016	M-MA1118
Potassium, MG/L	EPA 200.7	1.6	Not Spec	0.1	5/12/2016	M-MA1118
Silver, MG/L	EPA 200.7	ND	0.1	0.003	5/12/2016	M-MA1118
Zinc, MG/L	EPA 200.7	0.002	5	0.002	5/12/2016	M-MA1118
Alkalinity, MG/L	SM 2320B	14	Not Spec	1	5/11/2016	M-MA1118
Chloride, MG/L	EPA 300.0	32.8	250	1	5/11/2016	M-MA1118
Color Apparent, CU	SM 2120B	0	15	0	5/11/2016	M-MA1118
Hardness, Total, MG/L	SM 2340B	23	Not Spec	1	5/12/2016	M-MA1118
Nitrate as N, MG/L	EPA 300.0	0.08	10	0.05	5/11/2016	M-MA1118
Nitrite as N, MG/L	EPA 300.0	ND	1	0.02	5/11/2016	M-MA1118
Odor, TON	SM 2150B	0	3	0	5/11/2016	RPM
pH, PH AT 25C	SM 4500-H-B	# 5.4	6.5 - 8.5	NA	5/11/2016	M-MA1118
Sulfate, MG/L	EPA 300.0	7.2	250	1	5/11/2016	M-MA1118
Total Dissolved Solids, MG/L	SM 2540C	98	500	1	5/12/2016	M-MA1118
Turbidity, NTU	EPA 180.1	0.1	Not Spec	0.1	5/11/2016	M-MA1118

MCL=Maximum Contaminant Level (EPA Limit), MRL = Minimum Reporting Level

Sodium Guidelines- Mass 20, EPA 250, # = Result Exceeds Limit or Guideline

ND = None Detected (&lt;MRL), \* = Background Bacteria Noted

Client:

Maher Services  
71 Concord Street  
North Reading, MA 01854

ReportDate: 5/17/2016

**Certificate of Analysis**

TW-2-2016 Townsend, MA

Parameter	Method		Result	MCL	MRL	Date of Analysis	Analyst
<b>- Well Head</b>							
<i>Sampled: 5/11/2016 12:00:00 PM by SD</i>							
Aluminum, MG/L	EPA 200.7		0.07	0.2	0.02	5/13/2016	M-MA1118
Calcium, MG/L	EPA 200.7		7.5	Not Spec	0.2	5/13/2016	M-MA1118
Copper, MG/L	EPA 200.7		ND	1.3	0.003	5/13/2016	M-MA1118
Iron, MG/L	EPA 200.7	#	0.52	0.3	0.003	5/13/2016	M-MA1118
Magnesium, MG/L	EPA 200.7		1.3	Not Spec	0.1	5/13/2016	M-MA1118
Manganese, MG/L	EPA 200.7	#	0.12	0.05	0.002	5/13/2016	M-MA1118
Potassium, MG/L	EPA 200.7		1.4	Not Spec	0.1	5/13/2016	M-MA1118
Silver, MG/L	EPA 200.7		ND	0.1	0.003	5/13/2016	M-MA1118
Zinc, MG/L	EPA 200.7		ND	5	0.002	5/13/2016	M-MA1118
Alkalinity, MG/L	SM 2320B		12	Not Spec	1	5/11/2016	M-MA1118
Chloride, MG/L	EPA 300.0		29.6	250	1	5/11/2016	M-MA1118
Color Apparent, CU	SM 2120B		0	15	0	5/11/2016	M-MA1118
Hardness, Total, MG/L	SM 2340B		24	Not Spec	1	5/13/2016	M-MA1118
Odor, TON	SM 2150B		0	3	0	5/11/2016	RPM
pH, PH AT 25C	SM 4500-H-B	#	5.7	6.5 - 8.5	NA	5/11/2016	M-MA1118
Sulfate, MG/L	EPA 300.0		6.1	250	1	5/11/2016	M-MA1118
Total Dissolved Solids, MG/L	SM 2540C		96	500	1	5/16/2016	M-MA1118
Turbidity, NTU	EPA 180.1		ND	Not Spec	0.1	5/11/2016	M-MA1118

MCL=Maximum Contaminant Level (EPA Limit), MRL = Minimum Reporting Level  
Sodium Guidelines- Mass 20, EPA 250, # = Result Exceeds Limit or Guideline  
ND = None Detected (<MRL), \* = Background Bacteria Noted











# Maher Services Inc.

Well No.: TW-2-2014  
 Location: Townsend, MA

## RECORD OF TEST

Contract: \_\_\_\_\_  
 How Q Measured: 60 Gal Drum

Date	Time (HHMM)	Elapsed Time	Pumping Rate	Relaxation										Remarks	
				Well OW-2	Well OW-1	Well	Well	Well	Well	Well	Well	Well	Well		
Static				12.39	10.25						12.39	10.25			
5-11-10		1	100	12.46							12.54				
		2		12.49							12.56				
		3		13.00							12.55				
		4		13.06							12.55				
		5		13.02							12.54				
		6		13.02							12.53				
		7		13.03							12.53				
		8		13.03							12.52				
		9		13.03							12.52				
		10	100	13.03	10.41						12.51	10.33			
		15		13.03	10.42						12.50	10.32			
		20		13.05	10.42						12.49	10.31			
		25		13.08	10.43						12.49	10.30			
		30		13.09	10.44						12.48	10.29			
		40		13.09	10.45						12.45	10.29			
		50		13.10	10.46										
		60	100	13.11	10.47										
		70		13.11	10.47										
		80		13.12	10.48										
		90	100	13.12	10.49										
		100		13.12	10.49										
		110		13.12	10.50										
		120	100	13.13	10.50										

135 GPF



# Concrete Tank Services

Inspection | Rehab | Retrofit

11 Teal Road, Wakefield, MA 01880 | 781.246.1133 | Fax 781.224.5163

June 10, 2016

Townsend Water Department  
540 Main Street  
West Townsend, MA

Attn: Paul Rafuse  
Water Superintendent

RE: Concrete Water Storage Tank Rehabilitation  
Townsend, MA

Dear Mr. Rafuse:

As requested we are pleased to provide the following proposal:

### **Dome Access Hatches**

Provide all labor, equipment, material and incidentals required to remove the three (3) existing dome access hatches and retrofit, as required, the existing curbs to install three (3) new aluminum USF hatches complete to the existing concrete hatch curbs. Install one stainless steel conduit sleeve in one hatch curb to allow for future electrical access.

***Budget Estimate: \$7,500.00***

### **Dome Vent**

Provide all labor, equipment, material and incidentals required to remove the existing 30" concrete dome vent and retrofit, as required, the existing curb to install a new 30" fiberglass vent complete.

***Budget Estimate: \$ 7,750.00***

- Hatch and Vent installation prices assume DN Tanks will complete all work with one crew and manlift mobilization.
- Access to the tank site and a level, stable work area to be provided by others.
- Construction water to be provided by the Owner.
- Permits and fees, if required, are not included.
- Federal, State and Local taxes, if applicable, are not included.
- This proposal is valid for one (1) year from date provided.

If I can be of any further assistance, or you have any questions please do not hesitate to contact me.

Sincerely,

Joseph Pappo  
Technical Services Manager – Concrete Tank Services

# Fitchburg Road Tank Repairs

## Request for Quotes

Townsend Water Department

Superintendent

Paul Rafuse

May 2016

**Tighe&Bond**

Fitchburg Road Tank  
Townsend, MA

Description of Tank

The existing Fitchburg Road Tank is a 500,000 gallon riveted steel ground storage tank. The tank has a shell height of 35-feet, and a diameter of 50-feet. The tank is located at approximate address 105 Fitchburg Road, Townsend, MA. The exterior paint color is light blue, and the interior paint color is white.

Scope of Work

Sanitary Improvements

1. There are several open penetrations through the roof of the tank that could potentially pose risk to the sanitary condition of the water supply. The oversized bolt holes along the base of the roof's center finial ball as well as the (3) missing rivet heads along the roof center plate peripheral lap seam could, and currently do, provide a potential passageway for rain runoff to enter the interior of the tank. These areas are to be sealed with an elastomeric caulking.

Structural Improvements

2. The tank is currently not equipped with a finial vent assembly. The existing finial ball is sealed, with no venting capabilities, furthermore there is no designed venting along the roof to shell junction. Instead, venting for the tank appears to be achieved through the random narrow gaps along the unfitted roof to shell junction as well as the overflow pipe. The existing finial ball assembly shall be replaced with a freeze/vacuum resistant finial vent assembly to ensure compliance with AWWA standards and current MA Chapter 8 Guidelines:

The vent shall open downward, and be fitted with either four mesh non-corrodible screen, or with finer mesh non-corrodible screen in combination with an automatically resetting pressure-vacuum relief or release mechanism, as required by MassDEP. If a vacuum release mechanism is utilized, a four mesh screen must surround this mechanism in order to prevent contaminants from entering the tank when the relief mechanism is activated and to assure that objects do not prevent the mechanism from reseating properly

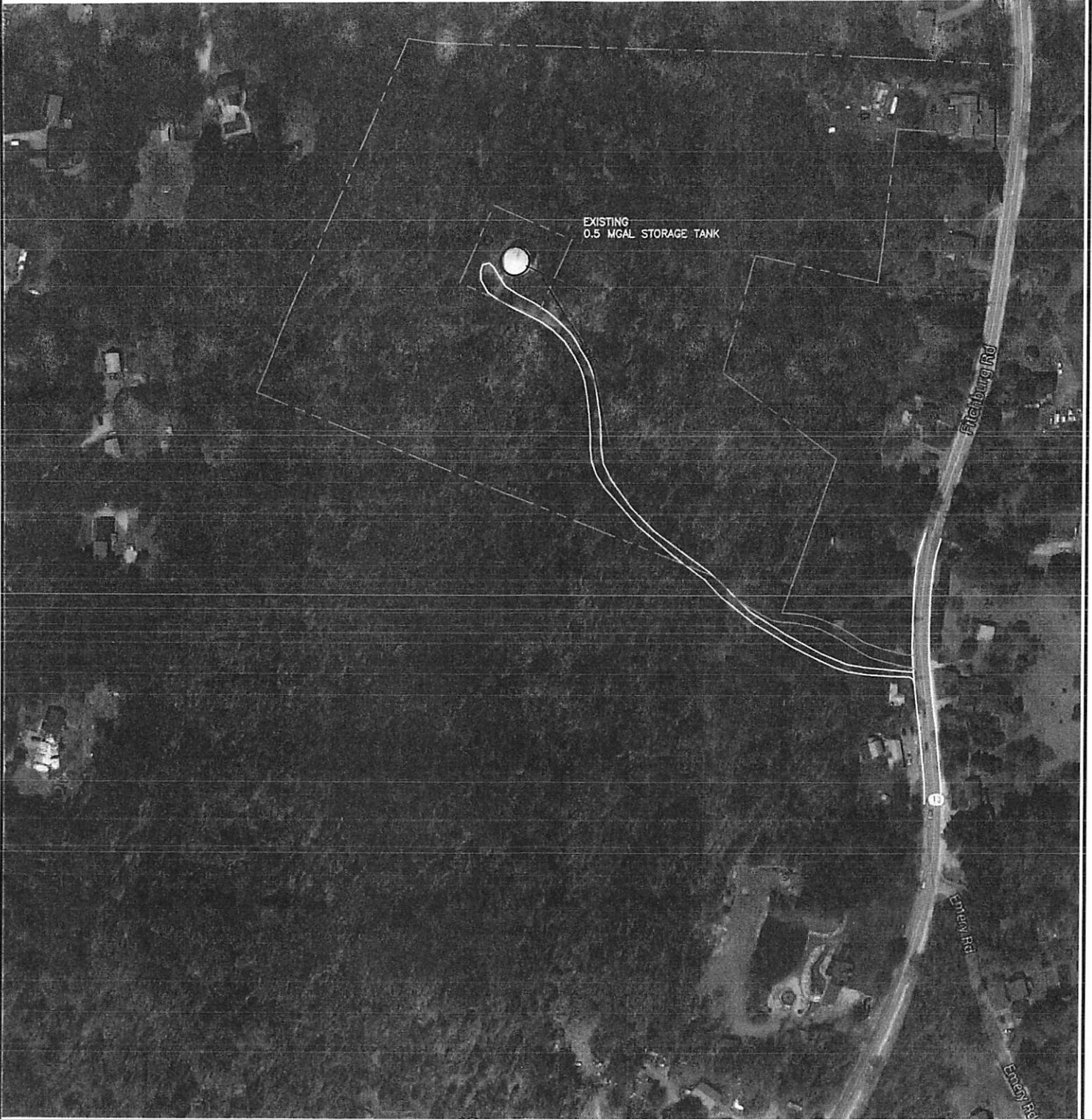
3. When the finial vent is installed it will require the existing roof revolving ladder be detached from the existing finial ball and welded into a stationary position by welding a series of vertical standoffs to the roof and side rails of the ladder. Brackets needed for welding ladder to roof shall be spaced a maximum of 10-feet apart. The Contractor shall provide a protective coating system to match existing color of the tank at all areas damaged during installation of vent, for new components, and at all new welding areas. New components and areas needing repair shall be prepared with a power tool cleaning to a SP3 specification. The coating system shall be:
  - Prime Coat: Modified Urethane
  - Intermediate Coat: Epoxy (60% solids or better)
  - Top Coat: Epoxy (60% solids or better)

4. The existing tank roof hatch is a cover that sits flat to the roof. The hatch does not meet current State standards as it does not have a raised neck or frame. The existing roof hatch shall be removed and replaced with a 24"x24" square hatch that complies with State guidelines. The hatch shall have a 4-inch raised neck, a 2-inch overlapping cover and a locking hasp. The new hatch shall be furnished with a shop prime coat of paint. Areas that the prime coat is damaged during installation shall be power tool cleaned to a SP3 specification. The finished coating system shall be of a color to match the existing tank color and shall be:

- Prime Coat: Modified Urethane
- Intermediate Coat: Epoxy (60% solids or better)
- Top Coat: Epoxy (60% solids or better)

Note: See recent tank inspection report for additional details.

**REQUEST FOR QUOTE DUE DATE: May 20, 2016; 2 P.M. EST**



\\fs1\eng\proj\1010351\Townsend\Water Department\Drawings\Model\Fitchburg Road Tank.dwg

**FITCHBURG ROAD TANK REPAIRS  
TOWNSEND, MA**

**FITCHBURG ROAD TANK SITE  
101 Fitchburg Road**

DATE: 4/15/16

SCALE: 1" = 250'

FIGURE 1

**Tighe & Bond**  
www.tighebond.com

## SECTION 00410

## REQUEST FOR QUOTATION

## PROJECT IDENTIFICATION:

Fitchburg Road Tank Repairs

TABLE OF ARTICLES

1. Quote Recipient
2. Contractor's Acknowledgements
3. Contractor's Representations
4. Contractor's Certifications
5. Basis of Quote
6. Time of Completion
7. Quote Submittal

## ARTICLE 1 - QUOTE RECIPIENT

- 1.1 This Quote is submitted to:

Townsend Water Department

540 Main Street, West Townsend, MA 01474

- 1.2 The undersigned Contractor proposes and agrees, if this Quote is accepted, to perform all Work as specified or indicated in the Documents for the prices and within the times indicated in this Quote and in accordance with the other terms and conditions of the Documents.

## ARTICLE 2 - CONTRACTOR'S ACKNOWLEDGEMENTS

- 2.1 The Quote will remain subject to acceptance for 30 days after the opening, or for such longer period of time that Contractor may agree to in writing upon request of Owner.

## ARTICLE 3 - CONTRACTOR'S REPRESENTATIONS

- 3.1 In submitting this Quote, Contractor represents, as set forth in the Agreement, that:
- A. Contractor has examined and carefully studied the Documents, and any data and reference items identified in the Documents and hereby acknowledges the receipt of all Addenda.
  - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Documents; and any Site-related reports and drawings identified in the Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Contractor agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Quote for performance of the Work at the price Quote and within the times required and in accordance with the other terms and conditions of the Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Documents, and confirms that the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Quote constitutes an incontrovertible representation by Contractor that Contractor has complied with every requirement of this Article, and that without exception the Quote and all prices in the Quote are premised upon performing and furnishing the Work required by the Documents.

#### ARTICLE 4 - CONTRACTOR'S CERTIFICATION

- 4.1 Contractor certifies that Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work, that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee, and that Contractor will comply fully with all laws and regulations applicable to awards made subject to MGL Chapter 30, Section 39M.

#### ARTICLE 5 - BASIS OF QUOTE

- 5.1 Contractor proposes to furnish all labor and materials required for construction of the Fitchburg Road Tank Repairs, Townsend, MA in accordance with the accompanying



**6. Contractor's Professional Liability:**

Each Claim	<u>\$1,000,000</u>
Annual Aggregate	<u>\$2,000,000</u>

- C. Contractor shall purchase and maintain a separate Owner's Protective Liability policy, issued to Owner at the expense of Contractor, including Owner and Engineer as named insureds. This insurance shall provide coverage for not less than the following amounts:

Bodily Injury	\$2,000,000	Each Occurrence
	\$2,000,000	Aggregate
Property Damage	\$2,000,000	Each Occurrence
	\$2,000,000	Aggregate

1. Insurance coverage for the Contractor's Comprehensive General and Excess Liability policies and for the Owner's Protective Liability policy shall be written by one and the same insurance company to avoid the expense of duplicate and/or overlapping coverage and to facilitate and expedite the settlement of claims.
2. The Owner's Protective Liability policy shall protect from claims which may arise from operations under the Contract, including operations performed for a named insured by independent contractors and general inspection or monitoring by a named insured. The policy also shall protect against Automobile Non-Ownership Liability in connection with the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

- D. In addition to Owner, Contractor, and all Subcontractors, include as insureds the following:

- 1) Tighe & Bond (446 Main Street, Worcester, MA 01608)
- 2) Town of Townsend (540 Main Street, West Townsend, MA 01474)

Documents prepared by Tighe & Bond, Inc., for the Contract Price specified below, subject to additions and deductions according to the terms of the Documents.

5.2 This Quote includes Addenda numbered 0.

5.3 The proposed Contract Price (base Quote) is:

Twenty Thousand four hundred sixty  $\frac{00}{100}$  dollars  
(words)

(\$20,460.00)

(figures)

#### ARTICLE 6 - TIME OF COMPLETION

6.1 Contractor agrees that the Work will be substantially completed and ready for final payment within 45 calendar days from a Notice to Proceed.

ARTICLE 7 - QUOTE SUBMITTAL

CONTRACTOR: [Indicate correct name of Quotating entity]

Hemi Enterprises Inc

By: [Signature] Elizabeth A. Roberts, Treas.

[Printed name] Elizabeth A. Roberts  
(If Contractor is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: [Signature] Don Roberts

[Printed name] Don Roberts

Title: Field Supervisor

Submittal Date: 5/20/16 - 2:00

Address for giving notices:

Hemi Enterprises Inc  
21 Washington St  
Attleboro, Mass. 02703

Telephone Number: 1-508-761-9990

Fax Number: 1-508-761-9991

Contact Name and e-mail address: hemi.enterprise@gmail.com

Contractor's License No.: \_\_\_\_\_  
(where applicable)

END OF SECTION

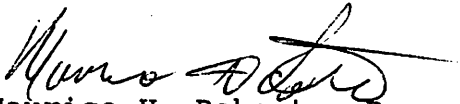
F:\Data\Standard\MasterSpecs\00410-UP.doc

HEMI ENTERPRISES Inc.  
21 Washington Street  
Attleboro, Mass. 02703

April 12, 2016

To Whom It May Concern

At a meeting of the board of Directors of Hemi Enterprises Inc. of Attleboro, Mass. It was voted that Elizabeth A. Roberts, Treasurer of Hemi Enterprises, Inc. be authorized to sign any and all contracts for the company.

  
Maurice H. Roberts, Pres.

SECTION 00800

SUPPLEMENTARY CONDITIONS - BONDS AND INSURANCE

- A. Insurance certificate(s) shall also contain the following:
1. Confirmation that the General Liability policy covers only the Work under this Contract, with project specific limits.
  2. Confirmation that automobile insurance covers all Scheduled, Hired and Non-Owned vehicles.
  3. Names of all additional insureds as specified herein.

B. The limits of liability for the insurance required shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation:

Employer's Liability:

Bodily injury, each accident	<u>\$1,000,000</u>
Bodily injury by disease, each employee	<u>\$1,000,000</u>
Bodily injury/disease aggregate	<u>\$2,000,000</u>

2. Contractor's Commercial General Liability:

General Aggregate	<u>\$2,000,000</u>
Products - Completed Operations Aggregate	<u>\$2,000,000</u>
Personal and Advertising Injury Each Occurrence	<u>\$1,000,000</u>
(Bodily Injury and Property Damage)	<u>\$1,000,000</u>

3. Automobile Liability:

Bodily Injury:

Each person	<u>\$1,000,000</u>
Each accident	<u>\$1,000,000</u>

Property Damage:

Each accident	<u>\$1,000,000</u>
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4. Excess or Umbrella Liability:

Per Occurrence	<u>\$2,000,000</u>
General Aggregate	<u>\$2,000,000</u>

5. Additional Insureds: Town of Townsend and Tighe & Bond

ARTICLE 7 - QUOTE SUBMITTAL

CONTRACTOR: *[Indicate correct name of Quotating entity]*

Utility Service Co., Inc.

By:  
*[Signature]*



*[Printed name]*

Marty Mazzella

*(If Contractor is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest:  
*[Signature]*



*[Printed name]*

J. Shane Albritton

Title:

Secretary

Submittal Date:

May 19, 2016

Address for giving notices:

535 Courtney Hodges Blvd

Attn: Customer Service

Perry, GA 31069

Telephone Number:

478-988-5221

Fax Number:

478-987-2529

Contact Name and e-mail address:

Scott Kelley

skelley@utilityservice.com

Contractor's License  
No.:

N/A

*(where applicable)*

END OF SECTION

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SECTION 00800

SUPPLEMENTARY CONDITIONS - BONDS AND INSURANCE

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Employer's Liability:

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Property Damage:

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1. Insurance coverage for the Contractor's Comprehensive General and Excess Liability policies and for the Owner's Protective Liability policy shall be written by one and the same insurance company to avoid the expense of duplicate and/or overlapping coverage and to facilitate and expedite the settlement of claims.
  2. The Owner's Protective Liability policy shall protect from claims which may arise from operations under the Contract, including operations performed for a named insured by independent contractors and general inspection or monitoring by a named insured. The policy also shall protect against Automobile Non-Ownership Liability in connection with the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.
- D. In addition to Owner, Contractor, and all Subcontractors, include as insureds the following:
- 1) Tighe & Bond (446 Main Street, Worcester, MA 01608)
  - 2) Town of Townsend (540 Main Street, West Townsend, MA 01474)





**UTILITY SERVICE GROUP  
MERITHEW SERVICE CENTER**

**SERVICES PACKAGE**

**P. O. Box 1350  
535 Courtney Hodges Blvd.  
Perry, Georgia 31069  
Phone: 800-223-3695**

**[WWW.UTILITYSERVICE.COM](http://WWW.UTILITYSERVICE.COM)**

# CORPORATE OVERVIEW

## VITAL STATISTICS

*Company:* Utility Service Company, Inc. - Merithew Service Center

*Location:* Merithew Service Center  
Utility Service Company, Inc.  
128 Elm Street  
Bridgewater, MA 02324

## BACKGROUND

Utility Service Co., Inc. and Merithew Inspection have proudly served the potable and industrial water industries for over 50 years. Today's Utility Service Group provides comprehensive condition assessments, rehabilitation services and sustainable asset management solutions throughout the whole water cycle. Our comprehensive portfolio of innovative sustainable technologies and custom designed professional asset management services allow a holistic approach to optimizing water production and distribution systems.

A company you have trusted since 1963...

- 1963: Founded in Madison, North Carolina.
- 1985: Launched the tank asset management program.
- 2000: Established the Communications/Site Management Division.
- 2007: Introduced WaterMix, an active tank mixing system.
- 2007: Introduced chemical cleaning of water tanks.
- 2008: Acquired by Suez Environment.
- 2011: Launched Water Quality Services including Ice Pigging and TRS.
- 2012: Launched More Innovative Services including Smart Metering, Well Rehabilitation and Maintenance & Helium Leak Detection.

## **SPECIFICATION WRITING & BID PACKAGE PREPARATION**

USCI/Merithew generates detailed written specifications outlining the scope of work for 3<sup>rd</sup> party tank rehabilitation including:

- Type and extent of surface preparation.
- Type and number of coats of paint to be applied.
- Containment requirements.
- Environmental (weather) requirements.

## **ADDITIONAL INSPECTION & REPAIR SERVICES**

USCI/Merithew performs a range of specialty inspections on a regular basis in our efforts to provide a complete range of services to our 3<sup>rd</sup> party customers, including:

- Anniversary inspections
- Sanitary and code compliance inspections.
- Clean out and disinfection services in accordance with AWWA standards.
- Consulting on cellular antenna installations.
- Minor repairs and upgrades.

## **WATER QUALITY SERVICES & ASSET MANAGEMENT PROGRAMS**

USCI offers comprehensive and highly valued solutions for Potable Water Quality Management along with Asset Management Programs designed to deliver greater value to our customers. Consulting and services include:

- Water Storage Tank Asset Management & Rehabilitation
- Water Well Asset Management & Rehabilitation
- Valve & Hydrant Asset Management & Leak Detection Services
- Ice Pigging
- THM Removal Systems
- Water Mixing & Chemical Cleaning Solutions
- GIS Asset Management & Smart Metering

Please visit [www.utilityservice.com](http://www.utilityservice.com) for more information about our comprehensive asset management and water quality services.

Shawn Lewis  
Steven Cerruto

*Specification Writing:*  
Ken Lunetta

## **PROJECT SPECIFIC RESUMES**

Included are the resumes for David Merithew, Ken Lunetta, Eric Merithew, Geoffrey Hall and Chad Merithew, the senior inspectors most likely to oversee projects and primarily responsible for the review and approval of all procedures and recommendations described herein. Resumes for remaining personnel can be submitted upon request

compliance with applicable codes; layout and verification of radiographic work to ensure compliance with applicable codes and the monitoring of all vacuum testing, dye penetrant and/or magnetic particle testing.

**Remotely Operated Vehicle (ROV) Technician:**

Operator of the remotely operated vehicle (ROV) used in inspection of potable water storage tanks. Duties include equipment set up, project coordinating and control, video editing as well as review of findings and consulting in job procedures. Experience includes over 200 hours of operator use in existing tank conditions including Standpipes, Reservoirs, Waterspheres, Hydropillars Concrete structures and Elevated storage tanks.

**1984-1990**

**PRO-TECH CONTROL, INC.** (Established in order to offering complete coatings systems development and control.)

691 Broadway, P.O. Box 177

Raynham Center, Massachusetts 02768

**Technical Director:**

Responsible for field assessment and analysis of coating systems and systems design, establishment of alternative corrosion control methodology, specification writing and the establishment of field inspection procedures.

**1978-1983**

**ROBERT L. MERITHEW, INC.**

691 Broadway, P.O. Box 177

Raynham Center, Massachusetts 02768

**Vice President/Field Supervisor:**

As Vice President and Field Supervisor, my duties consisted of field training, scheduling (8) field inspectors, coating failure analysis, quality review, report writing, and specification writing covering the evaluation, cleaning and painting of water tanks, bridges, and structural steel.

I was retained as consultant for the Grand Avenue Bridge rehabilitation project in New Haven, Connecticut, for the purpose of reviewing the existing painting program as well as their inspection procedures, as a consultant in the re-evaluation of the Newport Bridge in Rhode Island and as a consultant in the rehabilitation of the Mystic Tobin Memorial Bridge and the Massport Viaduct.

I was also retained by the Federal Highway Administration as a consultant in the last rehabilitation of the Neil Underwood Bridge in Hampton NH and I am presently performing annual evaluations to determine the performance of the applied paint system.

**1974-1976**

**PITTSBURGH-DES MOINES COMPANY**

3400 Grand Avenue, Neville Island

Pittsburgh, Pennsylvania 15225

**Bullganger/Welder:**

Responsible for fitting and tacking of steel plate, arc welding, final preparation of completed weld seams and performance of radiographic work, including selection and preparation of weld segments to be tested.

**1972 - 1978**

**CHICAGO BRIDGE & IRON**

P. O. Box 230

New Castle, Delaware 19720

**Paint Crew Pusher:**

I was responsible for directing the crewmen's activities in the cleaning and painting of water tanks, setting up the rigging and equipment and in the application of coatings of all generic types, including epoxies, urethanes, mastics and vinyl's.

**Lead Man:**

## **KENNETH A. LUNETTA**

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### **WORK EXPERIENCE:**

**2009 - Present**

**MERITHEW / UTILITY SERVICE COMPANY, INC.**

P.O. Box 177, Raynham Center, Massachusetts 02768

Parent Company: 535 Courtney Hodges Blvd, Perry, Georgia 31069

#### **Assistant Production Manager:**

Primary responsibilities include office management, correlating personnel assignment, and scheduling of job projects, working with field personnel, and supervision of employees. In addition, I facilitate QC & QA programs, standards and procedures during cleaning and painting of potable water storage tanks under the USCI asset management program in the New England area. Additional duties include implementing field-training programs, which include QC, safety and confined space entry.

Additional responsibilities include initial evaluations of existing water tanks and structures to determine general conditions of coatings and structure for establishment of rehabilitative methodology scheduling and job costing, as well as specification writing. On-site inspection, quality control and general supervision of contractors during the cleaning and painting of various types of structural steel, bridges and potable water tanks. Extensive use of DFT, profile comparator, and holiday detection gauges.

#### **Remotely Operated Vehicle (ROV) Technician:**

Operator of the remotely operated vehicle (ROV) used in inspection of potable water storage tanks. Duties include equipment set up, project coordinating and control, video editing as well as review of findings and consulting in job procedures. Experience includes over 300 hours of operator use in existing tank conditions including Standpipes, Reservoirs, Waterspheres, Hydropillars Concrete structures and Elevated storage tanks.

**1980 - 2009**

**MERITHEW, INC.** (formerly Robert L. Merithew, Inc.)

P.O. Box 177

Raynham Center, Massachusetts 02768

#### **Vice President, Field Supervisor & Job Coordinator:**

Primary responsibilities include scheduling of job projects, working with field personnel, and supervision of employees. Responsible for initial evaluations of existing water tanks and structures to determine general conditions of coatings and structure for establishment of rehabilitative methodology scheduling and job costing, as well as specification writing. On-site inspection, quality control and general supervision of contractors during the cleaning and painting of various types of structural steel, bridges and potable water tanks. Extensive use of DFT, profile comparator, and holiday detection gauges.

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## **ERIC L. MERITHEW**

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### **WORK EXPERIENCE:**

**2005 - Present**

**UTILITY SERVICE COMPANY, INC. / MERITHEW INSPECTION** (acquired Merithew, Inc. in Feb. 2009)

128 Elm St, Bridgewater, Massachusetts 02324

Parent Company: 535 Courtney Hodges Blvd, Perry, Georgia 31069

#### **Project Manager:**

Responsible for daily management of individual field inspectors and evaluation teams associated with the assessment, construction and rehabilitation of potable water storage tanks and water systems resources. Document preparation and database management for all evaluations and reports associated with contracted water management projects. Responsibilities require understanding of technical specifications, site and construction plan analysis, GIS mapping and water quality testing.

#### **Testing / Inspection Coordinator:**

Responsible for implementing and coordinating QC programs during construction and rehabilitation of various potable water storage tanks and water systems resources. Responsibilities include coordination of field inspectors, document preparation and laboratory testing to ensure compliance with applicable environmental codes and project specifications.

#### **Information Technology:**

Responsibilities include management of a small office network including all desktop publishing, software updates, system backup and record keeping functionality. Management also includes coordination with remote corporate resources and extensive use of both local and network database management systems.

**2004 - 2005**

**DANA FARBER CANCER INSTITUTE**

Department of Biological Chemistry and Molecular Pharmacology

44 Binney Street, Boston, MA, 02115

#### **Post-Doctoral Fellowship:**

Post-doctoral research in the laboratory of Dr. Michael Eck. Basic laboratory research work in the molecular interactions that underlie cytoplasmic signal transduction. Responsibilities included individual management of a scientific research program, grant writing, computer analysis and general group responsibilities as a crystallographic technician.

### **EDUCATION:**

**University of Massachusetts Medical School**, Ph.D. 2005 (Biochemistry) Graduate School of Biomedical Sciences, Worcester, MA.

**Worcester Polytechnic Institute**, B.Sc 1997 (Biotechnology), Worcester, MA.

**Silver Regional High School**, 1993 Kingston, MA.

**Crane Tagger / Concrete Finisher:**

Work with crane to position and grout in place multi-story pre-cast structures.

1971 - 1972

PRE-CAST ERECTIONS, INC.

Meredith, NH

**Crane Tagger / Concrete Finisher:**

Work with crane to position and grout in place multi-story pre-cast structures.

**CERTIFICATION:**

Successfully completed Certification as a Level III NACE International Coatings Inspector. NACE ID # 10144.

Confined Space Entry Certified

OSHA 10 Certified

Fire Safety Certified

Fall Prevention Certified

OSHA 10 Certified



SECTION 00410

REQUEST FOR QUOTATION

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Fitchburg Road Tank Repairs

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  - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Documents; and any Site-related reports and drawings identified in the Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Contractor agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Quote for performance of the Work at the price Quote and within the times required and in accordance with the other terms and conditions of the Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Documents, and confirms that the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Quote constitutes an incontrovertible representation by Contractor that Contractor has complied with every requirement of this Article, and that without exception the Quote and all prices in the Quote are premised upon performing and furnishing the Work required by the Documents.

#### ARTICLE 4 - CONTRACTOR'S CERTIFICATION

- 4.1 Contractor certifies that Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work, that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee, and that Contractor will comply fully with all laws and regulations applicable to awards made subject to MGL Chapter 30, Section 39M.

#### ARTICLE 5 - BASIS OF QUOTE

- 5.1 Contractor proposes to furnish all labor and materials required for construction of the Fitchburg Road Tank Repairs, Townsend, MA in accordance with the accompanying

Documents prepared by Tighe & Bond, Inc., for the Contract Price specified below, subject to additions and deductions according to the terms of the Documents.

5.2 This Quote includes Addenda numbered   0  .

5.3 The proposed Contract Price (base Quote) is:

eighteen thousand five hundred dollars & zero cents. dollars  
(words)

(\$ 18,500.00 )

(figures)

**ARTICLE 6 - TIME OF COMPLETION**

6.1 Contractor agrees that the Work will be substantially completed and ready for final payment within 45 calendar days from a Notice to Proceed.

ARTICLE 7 - QUOTE SUBMITTAL

CONTRACTOR: *[Indicate correct name of Quoting entity]*

Pittsburg Tank & Tower Maintenance Co., Inc.

By: *[Signature]*

*[Printed name]* Patrick Hetsley - Vice President

*(If Contractor is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest: *[Signature]* Melanie Mann

*[Printed name]* Melanie Mann

Title: Administrative Assistant

Submittal Date: 5-20-2016

Address for giving notices:

P.O. Box 1849

Henderson KY 42419-1849

Telephone Number: 270-869-9400

Fax Number: 800-934-0801

Contact Name and e-mail address: Melanie Mann

mmann@ptimco.com

Contractor's License No.: N/A  
*(where applicable)*

END OF SECTION

F:\Data\Standard\MasterSpecs\00410-UP.doc

# Pittsburg Tank & Tower Maintenance Co., Inc.®

PAINT•REPAIR•DISMANTLE•INSPECT



TANKS RAISED, LOWERED AND MOVED•NEW AND PREOWNED TANKS

P.O. Box 1849 • Henderson, KY 42419-1849 • TEL. (270) 869-9400 • FAX (270) 827-4417

<http://www.watertank.com>

Email: [sales@watertank.com](mailto:sales@watertank.com)

## Corporate Resolution/Authority to Enter Signed Contracts

Date: 5-18-2014

I, Kendel D. Bryan, Secretary, PITTSBURG TANK & TOWER MAINTENANCE CO., INC.

physically located at 1 WATERTANK PLACE, HENDERSON, KY 42420 with mailing address of PO

Box 1849, Henderson, KY 42419 do hereby certify that PATRICK HELTSLEY, VICE PRESIDENT

has the authority to execute bid/bond documents on behalf of our corporation.

Sworn to and subscribed before me:

This day of 18-5-2014  
(Day) (Month) (Year)

Gigi Bryant  
(Printed/Typed name of Notary Public)

Gigi Bryant  
(Notary Public's Signature & Seal/Stamp)

6-5-2019  
(Date My Notary Commission Expires)

Kendel D. Bryan  
(Printed Name of Officer)

Kendel Bryan  
(Signature of Officer)

Secretary  
(Title)



Paul Rafuse

**From:** Theresa Walsh <twalsh@townsend.ma.us>  
**Sent:** Tuesday, May 31, 2016 7:56 AM  
**To:** Paul Rafuse  
**Cc:** jkreidler@townsend.ma.us  
**Subject:** FW: Enterprise Fund Legislation / Acts of 1920  
  
**Categories:** Agenda Item

Hi Paul:

Below is the response from Town Counsel. Please share this with your Commissioners.

We can talk later.

Thanks,

Terry

**From:** Gregg J. Corbo [mailto:GCorbo@k-plaw.com]  
**Sent:** Thursday, May 26, 2016 4:39 PM  
**To:** 'Theresa Walsh' <twalsh@townsend.ma.us>  
**Cc:** Brian Riley <BRiley@k-plaw.com>  
**Subject:** RE: Enterprise Fund Legislation / Acts of 1920

Dear Terry:

To follow-up on our telephone conversation regarding this matter, it is my opinion that any surplus revenues of the Town's water enterprise fund may only be expended by Town Meeting appropriation in accordance with the procedures set forth in G.L. c. 44, s. 53F ½ and the requirements of the Department of Revenue. It is also my opinion that Chapter 392 of the Acts of 1920, which established the Town's water department, does not authorize the expenditure of such funds without appropriation.

Chapter 392 of the Acts of 1920 (the "Act"), provides that "The income of the water works shall be applied to defraying all operating expenses, interest charges and payments on the principal as they accrue on any bonds or notes issued under the authority of this act. If there should be a net surplus remaining after providing for the aforesaid charges it shall be used for such new construction as the water commissioners may determine upon, and in case a surplus should remain after payment for such new construction the water rates shall be reduced proportionately." The Act is silent as to any procedures for expenditure of the funds of the water department.

⌋ In 1986, the Legislature enacted G.L. c. 44, s. 53F ½ to allow municipalities to create enterprise funds to account separately for all financial activities associated with certain municipal services. The Enterprise Fund Statute must be accepted in the municipality by Town Meeting, and the statute specifically states "Notwithstanding the provisions of section fifty-three or any provision of law contrary, a city or town which accepts this section may establish a separate account classified as an 'Enterprise Fund'". It is my understanding that the Town, by Town Meeting vote, voted to accept the provisions of the Enterprise Fund Statute and to establish an enterprise fund for the water department.

In my opinion, the phrase "notwithstanding . . . any provision of law contrary" means that the Town's acceptance of the Enterprise Fund Statute supersedes any accounting requirements contained in the Act. Therefore, it is my opinion that, to the extent that the Enterprise Fund Statute and the Act conflict, the provisions of the Enterprise Fund Statute control. It is my further opinion, however, that the two provisions can be read together in harmony. Although the Act states that revenues and surplus of the water department are to be used for certain purposes, the Act does not set forth any procedure for the expenditure of those funds. Therefore, it is reasonable to read the two provisions together to conclude that the funds of the water department may be expended in accordance with the procedures for expenditures from enterprise funds, which

requires appropriation by Town Meeting. For your reference, I am providing a link to the Department of Revenue's guidance on the subject.

<http://www.mass.gov/dor/docs/dls/publ/misc/enterprisefundmanual.pdf>

Please do not hesitate to contact me if you have any further questions in this regard.

Very truly yours,

Gregg J. Corbo, Esq.  
**KOPELMAN AND PAIGE, P.C.**  
101 Arch Street, 12th Floor  
Boston, MA 02110  
O: (617) 556 0007  
F: (617) 654 1735  
[gcorbo@k-plaw.com](mailto:gcorbo@k-plaw.com)  
[www.k-plaw.com](http://www.k-plaw.com)

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**From:** Theresa Walsh [<mailto:twalsh@townsend.ma.us>]

**Sent:** Wednesday, May 18, 2016 1:58 PM

**To:** Gregg J. Corbo

**Cc:** Paul Rafuse

**Subject:** Enterprise Fund Legislation / Acts of 1920

Hi Greg:

Per our conversation I am emailing over a request from the Water Department to close out various accounts and move the sum of those accounts into another account (System Enhancements).

It is my understanding per MGL Chapter 44 Section 53 ½ that these accounts should be closed out to Fund Balance in the Enterprise Fund at the end of the current fiscal year. After Certification of Free Cash by the Department of Revenue, any retained earnings so certified can then be appropriated by the legislative body (Town Meeting) for any Water Department purpose.

Closing these accounts during the middle of the fiscal year by vote of the Board of Water Commissioners seems contrary to the Enterprise Fund legislation.

Would you please advise?

Thanks,

Terry

Theresa Walsh  
Town Accountant  
Town of Townsend  
272 Main St  
Townsend MA 01469  
[twalsh@townsend.ma.us](mailto:twalsh@townsend.ma.us)  
978-597-1700 x1705



5.1

**TOWNSEND WATER DEPARTMENT**  
540 Main Street West Townsend, Massachusetts 01474

Michael MacEachern, Chairman  
Paul L. Rafuse,  
Water Superintendent

Nathan Matilla, Vice-Chairman

Lance Lewand, Clerk  
(978) 597-2212  
Fax (978) 597-5611

## MEMORANDUM

TO: James Kreidler, Town Administrator  
Board of Selectmen  
Jodi Deschenes, Executive Assistant To The Town Administrator

FROM: Paul Rafuse, Water Department Superintendent *PR*

RE: Authorization to hire additional Water Technician

DATE: May 25, 2016

Providing a community with an adequate supply of safe, healthy water for consumption and fire protection includes meeting the ever increasing demands of current and pending state and federal regulations regarding water quality and quantity. As public water suppliers we are also required to comply with state and federal regulations regarding proper staffing. Maintaining a staff to operate a public water supply includes planning for the future needs of the community, the water supply distribution system, it's customers and, attrition by providing knowledgeable, trained, dedicated licensed professionals.

Moving forward, to meet these demands and maintain a level of customer service deserving of our customers I respectfully request authorization from the Board of Selectmen (BOS) to advertise and hire an additional Water Technician as previously requested at the beginning of the fiscal year. As you know preparation and discussions began regarding this early in 2015 in which I submitted a draft job description for review by the Board and Human Resource Services, Inc. (HRS). Funding for the position was subsequently approved at the 2015 Annual Town Meeting. The Board received, reviewed and discussed the report from HRS regarding the update to the Comp. and Class Plan to include the Water Technician in grade 6 at its meeting on August 18, 2015 (see attached HRS Comp. & Class. update minutes). However, due to the matter of two other positions further discussion was tabled until the September 8, 2015 mtg.



At the September 8, 2015 BOS meeting (see attached) discussion continued regarding the report from HRS including the reclassification of the new Water Technician and revision of the job description. After further discussion the BOS decided to table the matter until December of 2015 when a third member to the board was elected so, the matter could be discussed by a full board. Also, the board would've received the DOR report regarding the formation of a DPW to see if the report recommended an additional Water Technician.

Since the September 8<sup>th</sup> meeting the Town made the board whole by electing another member and, we received the DOR report on January 25, 2016 just prior to the Board of Water Commissioners (BOWC) meeting with the DPW Exploratory Committee (DPWEC) on the same night. With respect to referring to the DOR report or recommendations from the DPWEC to assess whether the Water Department or any department needs another employee or not is not within the scope of their evaluation. I appreciate the time and effort the members of the DPWEC have put in however, like our joint meeting with the Committee I have attended other joint meetings between other Departments and the DPWEC and felt very little was accomplished. At our joint meeting, the BOWC asked several questions and the Chairman of the DPWEC stated repeatedly that the Committee was not there to discuss this or that and, other Committee members seemed confused as to what could or could not be discussed. The Committee presented no agenda that included topics of discussion, the Committee lacked direction, focus, leadership and, openly argued among themselves. It is clear that if it was within the Committee's scope to offer an opinion or, properly assess whether a department needs or doesn't need additional employees they are not prepared or able to do so. I have recently attempted to schedule another joint meeting with the DPWEC and the BOWC only to find out that the Chairman will not schedule any further meetings until the BOS appoints two additional members.

With that said and, having our budget approved now at two Annual Town meetings that include funding for an additional Water Tech I feel the Water Department has been more than patient in attempting to meet the BOS wishes. For these reasons the Water Department respectfully requests your authorization to hire an additional Water Technician.

Thank you for your time and consideration.

## Utility Service Group

Scott Kelley, Water Systems Consultant  
843 North Barnstead Rd  
Center Barnstead, NH 03225  
603-724-8226  
skelley@utilityservice.com



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# Fitchburg Road Tank 500,000 Gallon Ground Storage Tank Condition Assessment Report

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Townsend Water Department, Townsend, MA



### Prepared For:

Paul Rafuse  
Superintendent  
Townsend Water Department  
50 Main Street, Townsend, MA 01474

**Assessment Performed** October 27, 2014

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# WATER STORAGE TANK CONDITION ASSESSMENT REPORT



Utility Service Group  
 Merithew Service Center  
 128 Elm St Bridgewater MA 02324  
 508-279-9965 Fax: 508-279-9948

Date: 10/27/14	Project: 130976	Task: 1.01
Tank Name: Fitchburg Rd Tank		
Address: 105 Fitchburg Rd	City: Townsend	State: MA
County: Middlesex	Lat: 42.55	Long: 71.76
Capacity: 500,000 gallons	Tank Type: GST	Construction: Riveted Steel
Height: 35' shell	Diameter: 50'	Yr Built: NA By: NA
Exterior Last Painted: NA	Exterior Color: Light blue	Interior Last Painted: NA Interior Color: White
		Tank ID Plate: No
		Contract: NA

Exterior Roof Conditions: All questions are Yes / No / NA / NR unless listed (G/F/P) for Good / Fair / Poor / NA / NR

Tank Area	Item of Concern	Status	Comments
Roof Coating	Coating visual assessment? (G/F/P)	Good	<p><b>Coating Type:</b> Alkyd <b>Lead Bearing:</b> Yes <b>DFT:</b> 7.4-20.2 mils</p> <p>The coatings along the roof are in good condition with at least 98.5% of the coating intact and providing an adequate level of protection. The remaining surfaces are exhibiting scattered areas of cracked and delaminated coating resulting in the exposure of the base coat of primer and/or the steel substrate, which is currently exhibiting light to medium rusting.</p> <p>The majority of this deterioration is along the roof lap seams and surfaces immediately adjacent to the seams. The finish coat is also heavily weathered resulting in minor surface degradation, and the surfaces are heavily chalked and soiled.</p>
	Actionable checking / delamination?	Yes	
	Actionable corrosion / deterioration?	Yes	
	Is there any graffiti paint or etchings?	No	
	Coating adhesion assessment? (G/F/P)	Good	
	Does soiling impact visual appearance?	No	
	Will antenna equipment impact recoat?	No	
Roof Structure	Structural visual assessment? (G/F/P)	Good	<p>The roof appears to be in good structural and sanitary condition with no significant metal loss or fatigue observed, however there are a few small holes due to missing rivets along the perimeter of the center dollar plate and unsealed gaps in the bolting holes which secure the base of the finial ball to the center of the roof.</p> <p>The outer perimeter of the roof is not sealed to the shell rim angle. There is a slight gap 1/4" to 1/2" in width along the entire perimeter of the roof which helps to serve as venting for the tank.</p>
	Are all plate seams sealed?	NA	
	Significant pitting or metal loss visible?	No	
	Rigging holes / access ports sealed?	NA	
	Other unsealed penetrations present?	Yes	
	Is the roof perimeter watertight?	No	
Roof Vent	Design meets state standards?	No	<p><b>Finial Stub OD:</b> NA</p> <p>The roof is not equipped with a finial vent assembly, the finial ball serves only as a pivot point and support for the roof revolving ladder. There is a cutout located within the top of the vent that is used for rigging purposes however this cutout is currently sealed with a plug assembly.</p> <p>It appears that the overflow pipe and the unsealed roof/shell perimeter junction serves as the venting for the tank which conflicts with current state standards.</p>
	Screen intact?	NA	
	Vacuum pallet functional?	NA	
	Unsealed penetrations present?	No	
Roof Access	At least two hatches to WC present?	No	<p>The roof is equipped with a single roof hatch with a cover that sits flat to the roof and appears in sound structural condition and is equipped with a working lock. The hatch does not meet current state standards as it does not have a raised neck or frame to prevent rain runoff from entering.</p>
	Primary meets state standards?	No	
	Additional meet state standards?	NA	
	All roof access points secured?	Yes	
	Antenna equipment affects roof entry?	No	
Roof Safety	Is there a roof ladder / stair present?	Yes	<p>The roof is equipped with a rolling ladder that is attached to the neck of the finial ball. The ladder appears intact, structurally sound and in functional condition. The center pivot point (finial ball) also appears intact and structurally sound at least as viewed from the exterior of the tank.</p> <p>The coating along the ladder assembly is in generally fair to good condition with the exception of scattered areas of cracked and delaminated coating along a number of ladder rungs. This deterioration has resulted in the exposure of the steel surfaces and medium to heavy surface rusting.</p>
	Is there a guardrail system present?	No	
	Required fall arrest system present?	No	
	Are the roof FAA lights operational?	NA	

Exterior Shell Conditions: All questions are Yes / No / NA / NR unless listed (G/F/P) for Good / Fair / Poor / NA / NR

Tank Area	Item of Concern	Status	Comments
Shell Coating	Coating visual assessment? (G/F/P)	Fair	<p><b>Coating Type: Alkyd Lead Bearing: Yes DFT: 6.1-12.6 mils</b></p> <p>The coatings along the shell surfaces are in generally very good condition with at least 98% of the coating still intact and providing sound protection to the underlying steel surfaces. The remaining surfaces are exhibiting minor stone damage which has chipped away the coatings at point of impact, resulting in medium to heavy rusting, as well as areas of topcoat delamination resulting in the exposure of the base coat of primer which was noted to still be intact with minimal degradation observed.</p> <p>The majority of this delamination was found along the bottom few inches of the shell, just above the foundation. There was also a significant amount of rust staining along the top shell ring which appeared to be emanating out from the unsealed junction of the roof and shell.</p> <p>Testing of the exterior shell coatings revealed 13,000ppm of lead and 9.7ppm of chromium as shown on the attached laboratory report.</p>
	Actionable checking / delamination?	Yes	
	Actionable corrosion / deterioration?	Yes	
	Logo visual assessment? (G/F/P)	NA	
	Is there any graffiti paint or etchings?	No	
	Coating adhesion assessment? (G/F/P)	Fair	
	Does soiling impact visual appearance?	Yes	
Will antenna equipment impact recoat?	No		
Shell Structure	Structural visual assessment? (G/F/P)	Good	<p>The tank is comprised of (5) shell rings riveted together. The shell plates, as well as the lap seams and rivets, appeared to be in sound structural condition with no evidence of any aggressive corrosion, active metal loss or leaks present.</p> <p>There is evidence of previous metal loss in the form of surface pitting however these areas are currently protected by the existing coating, therefore there is no furtherance in metal loss taking place at this time.</p>
	Are all plate seams sealed?		
	Significant pitting or metal loss visible?	No	
	Unsealed penetrations present?	No	
	Floor plate extension condition? (G/F/P)	NA	
	Any active leakage observed?	No	
	Painter's angle or rigging rail present?	No	
Foundation	Structural visual assessment? (G/F/P)	Good	<p>The concrete ringwall appears to be in good condition with the exception of surface erosion which has resulted in the exposure of some of the larger aggregate as well as one localized area of cracked and spalled concrete.</p> <p>This deterioration is adjacent to a previously repaired area which is currently exhibiting some cracking and spalling of the patching material. There are no anchor bolt assemblies present along the base of the tank.</p>
	Anchor bolt corrosion / separation?	NA	
	Grout or sealer in sound condition?	Yes	
	Does grade promote good drainage?	Yes	
	Failure or undermining of foundation?	No	
Shell Access	At least two manholes present?	Yes	<p>The shell is equipped with (2) 18"x24" oval manways each with internally placed covers secured by (2) retention clamp and bolt assemblies. One is original to the tank based on its riveted design while the second was added later based on its welded design. Both manways meet state standards and are in sound structural condition with no signs of leaks.</p> <p>The coatings along both are in generally good condition with minimal degradation and rusting currently taking place however the surfaces of both are heavily coated with mildew.</p>
	Primary meets state standards?	Yes	
	Additional meet state standards?	Yes	
	Structural damage / leakage visible?	No	
Shell Safety	Required shell ladder present?	Yes	<p><b>Safety Climb Type: Flex Cable</b></p> <p>The shell ladder is equipped with a safety cage, flexible cable fall prevention device, and a locked anticlimb gate. The referenced items are in sound condition with no significant deterioration occurring at this time. The coatings along the ladder and cage assembly are also in fair to good condition with only minor areas of degradation and rusting taking place at this time.</p> <p>The bottom 6' of the ladder cage is also wrapped in a small mesh fencing material in order to prevent access through the side of the ladder cage.</p>
	Required safety climb system present?	Yes	
	Is shell ladder equipped with a cage?	Yes	
	Are there rest platforms present?	No	
	Actionable corrosion / deterioration?	No	
	Functional security gate present?	Yes	
	Do antennas / cables impact climbing?	No	
Overflow	Extends to near ground level?	Yes	<p><b>Pipe OD: 4" ID</b></p> <p>The overflow pipe appears to be intact and in good structural and sanitary condition. The coatings however are exhibiting localized areas of cracking and delamination which has resulted in the exposure of the steel substrate and light to medium rusting along at least 35% of the pipe surfaces, as well as the top and bottom 90° elbows. There is also areas of cracked and delaminated coating along the shell surfaces surrounding one of the pipe support brackets.</p> <p>The discharge opening of the overflow pipe is equipped with an intact screen</p>
	External weir box sealed / secured?	NA	
	Actionable corrosion / deterioration?	No	
	Unsealed penetrations present?	No	
	Required air gap present?	NA	
	Screen is intact or was replaced?	Yes	
	Flapper is functional or was replaced?	NA	

	Drain, spillway or rip-rap present?	Yes	over a larger metal screen and discharges between 12"-24" above grade onto a small area of riprap.
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**Interior Roof Conditions:** All questions are Yes / No / NA / NR unless listed (G/F/P) for Good / Fair / Poor / NA / NR

Tank Area	Item of Concern	Status	Comments
Roof Coating	Coating visual assessment? (G/F/P)	Good	<p><b>Coating Type:</b> Epoxy <b>Lead Bearing:</b> No <b>DFT:</b> 6.6-19.4 mils</p> <p>The coatings along the underside of the roof and the roof rafters were found to be in generally good condition with at least 98% of the coatings still intact and providing adequate protection to the referenced surfaces. The remaining surfaces were exhibiting scattered areas of failure to the substrate and light to medium rusting primarily along lap seams, rivets and junctions between the roof plates and rafters.</p> <p>There are also additional areas of medium to heavy rusting scattered on the webs and bottom flanges of the rafters, as well as the ends of the stabilizer rods and the bolted connections of the center compression ring. The greatest degree of coating failure and subsequent rusting was along the outer perimeter retention bolts and J-bolt assemblies, as well as the top face of the shell rim angle with at least 35% of these surfaces affected.</p> <p>Testing of the interior shell coatings revealed 280ppm of lead and 88ppm of chromium as shown on the attached laboratory report.</p>
	Actionable blistering / delamination?	No	
	Actionable corrosion / deterioration?	Yes	
	Coating adhesion assessment? (G/F/P)	Good	
	Rafter visual assessment? (G/F/P)	Good	
	Roof to shell junction? (G/F/P)	Poor	
Roof Structure	Structural visual assessment? (G/F/P)	Good	<p>The underside of the roof plates as well as the rafters appear to be in good structural condition with no significant metal loss observed. All bolted connections observed from the roof hatch appeared sound, however scattered bolts along the outer roof perimeter as well as the J-bolt assemblies were exhibiting at least slight to moderate metal loss along the retention nuts.</p> <p>The sanitary condition of the roof appeared to be good however there was evidence of light leaks along the point of attachment for the finial ball and along a few areas of roof plates caused by missing rivets. These areas could permit runoff from the roof to enter the water chamber however there was no evidence to suggest that this has been an issue in the past.</p>
	Are all plate seams sealed?	NA	
	Significant metal loss on plates visible?	No	
	Significant metal loss on rafters visible?	No	
	Roof bolted connections sound?	Yes	
	Light leaks visible from the interior?	Yes	

**Interior Shell & Floor Conditions:** All questions are Yes / No / NA / NR unless listed (G/F/P) for Good / Fair / Poor / NA / NR

Tank Area	Item of Concern	Status	Comments
Shell & Floor Coatings	Coating visual assessment? (G/F/P)	Good	<p><b>Coating Type:</b> Epoxy <b>Lead Bearing:</b> No <b>DFT:</b> NR</p> <p>The coatings along the shell surfaces were found to be in very good to excellent condition with at least 99% of the coatings still intact and providing sound protection to the underlying steel surfaces.</p> <p>The remaining surfaces are exhibiting isolated areas of medium to heavy rusting primarily along expansion joints of the fissure plates as well as extremely isolated areas of lap seams and rivets.</p>
	Actionable blistering / delamination?	No	
	Actionable corrosion / deterioration?	Yes	
	Coating adhesion assessment? (G/F/P)	NR	
Shell & Floor Structure	Structural visual assessment? (G/F/P)	Good	<p>The interior shell appear to be in good structural condition with no immediate concerns observed. There are however a few isolated areas of large tubercle formations which would suggest the probability of at least slight metal loss in the form of pitting. These areas should be periodically monitored.</p> <p>There is also evidence of widespread pitting from past corrosive activity however these areas as well as the large majority of all lap seams and rivet heads are still affectively sealed by the existing coating system.</p> <p>The shell to floor junction appears to be good however the majority of these surfaces were obscured by sediment.</p>
	Are all plate seams sealed?	Yes	
	Significant pitting or metal loss visible?	No	
	Column or wall conditions? (G/F/P)	Good	
	Shell to floor junction? (G/F/P)	Good	
	Fill line opening in sound condition?	Yes	
	Is there a silt stop present?	Yes	
	Is a separate floor drain present?	No	
Shell Safety	Is an interior shell ladder present?	No	<p><b>Safety Climb Type:</b> NA</p> <p>The interior of the tank is not equipped with an access ladder nor is one required or recommended.</p>
	Required safety climb system present?	NA	
	Actionable corrosion / deterioration?	NA	
	Internal balcony or platform present?	No	

<b>Water Quality</b>	Water quality visually acceptable?	Yes	<p>There is a 1/8"-2" layer of sediment which covers 99% of the floor surfaces affectively impeding visual assessment of the underlying surfaces. Localized areas were cleared of the sediment by the ROV and the tops of the rivet heads were readily visible along most surfaces.</p> <p>The coatings along these visible surfaces were found to be in good condition with no appreciable deterioration or rusting observed. Furthermore there was no evidence of any significant coating failure or rust tubercle formations protruding up through the silt.</p>
	Significant staining or biofilm present?	Yes	
	Significant floor sediment present?	No	
	Is there a mixing system present?	No	
	Is there a cathodics system present?	No	
	Is there a level indicator present?	No	

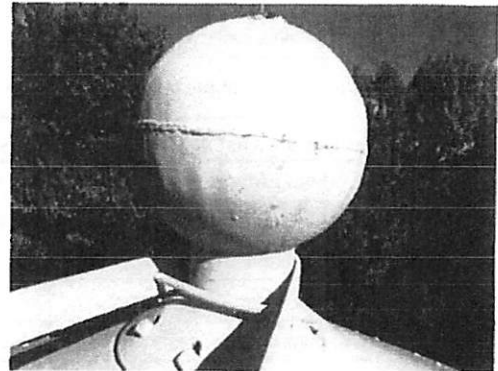
**Site Conditions:** All questions are Yes / No / NA / NR unless listed (G/F/P) for Good / Fair / Poor / NA / NR

<b>Tank Area</b>	<b>Item of Concern</b>	<b>Status</b>	<b>Comments</b>
<b>Site</b>	Is site equipped with a security fence?	Yes	The tank is surrounded by a perimeter fence which appears intact and serving as an effective deterrent base on the fact that there is no graffiti or any other signs of unauthorized access. The room within the confines of the fenced perimeter is limited, however additional space is available for a staggging area along the access road.
	Any signs of damage to the fence?	No	
	Are fence gates secured with locks?	Yes	
	Is a vault or pump house present?	Yes	There is a valve vault located at the base of the tank which is equipped with a hinged, lockable steel door. The coatings along the piping located within the vault are in fair to poor condition with extensive failure to the substrate and subsequent rusting taking place.
	Sample tap onsite?	Yes	
	Is there telemetry / SCADA onsite?	No	The vault was free of standing water at the time of this inspection.
	Is there non-tank pooling water onsite?	No	
	Is there electrical service onsite?	Yes	SCADA is reportedly being installed by the 1 <sup>st</sup> of the year.
	Are there power lines near the tank?	No	
	Is there a non-tank water source onsite?	Yes	The sample tap is an acceptable threadless design and it appears to be functional.
	Is the tank located in a coastal area?	No	
	Site utility during tank rehab (G/F/P)?	Fair	

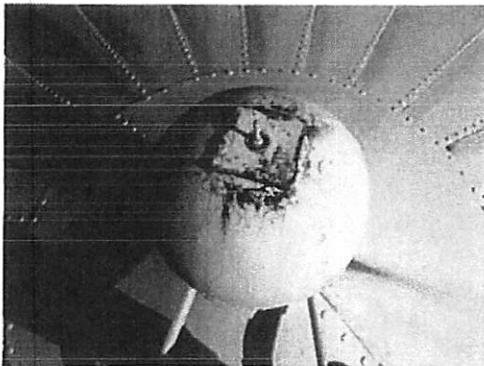
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



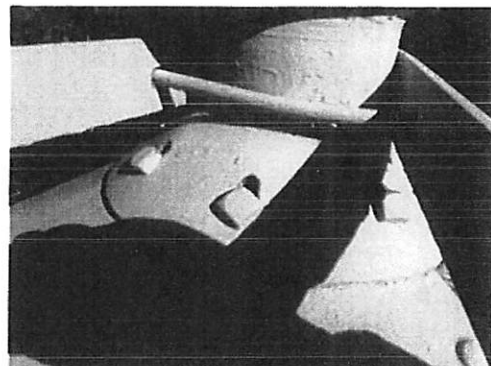
Showing the overall view of the Fitchburg Rd 500KG GST in Townsend, MA.



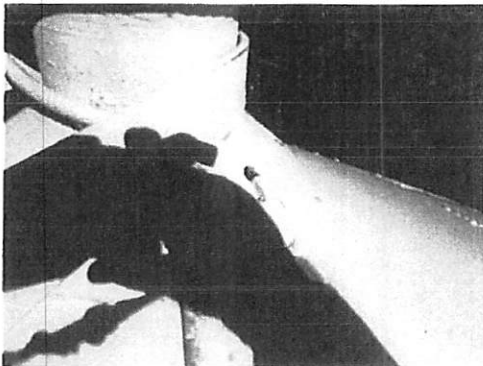
Roof exterior: showing center of roof fitted with a finial ball that does not function as a roof vent.



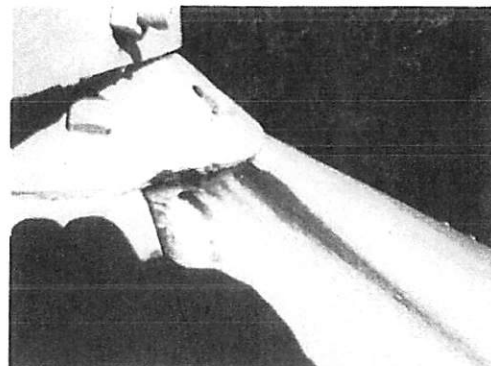
Roof exterior: showing scattered coating failure and rusting along top of finial ball and its rigging port.



Roof exterior: showing open penetrations resulting from slotted bolting holes at the base of the finial ball.



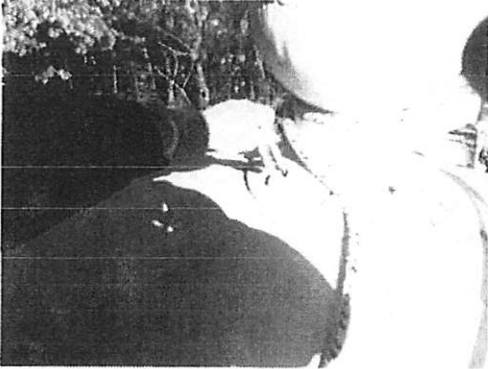
Roof exterior: showing light to medium rusting along the base of the finial ball.



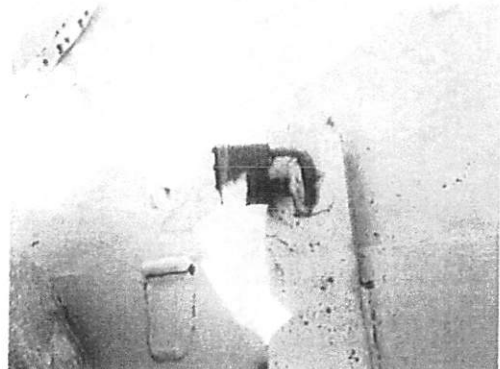
Roof exterior: showing finial ball connection to roof to be visually acceptable at least as viewed from the exterior of the tank.



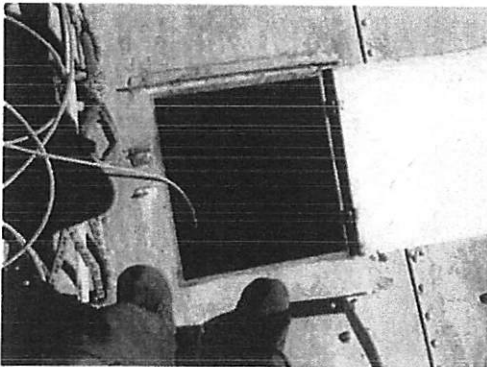
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



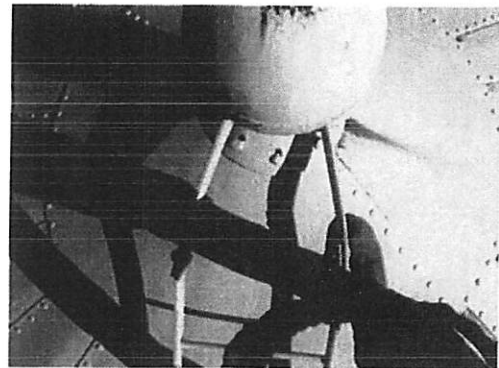
Roof exterior: showing open penetrations resulting from slotted bolting holes which appears to penetrate to inner surfaces.



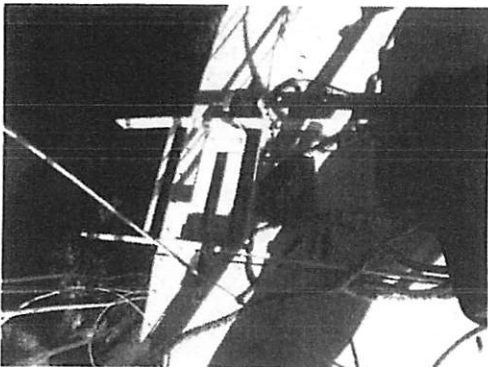
Roof exterior: showing hatch cover equipped with a locking hasp and lock which was secured in place prior to and after inspection.



Roof exterior: showing existing hatch does not meet current state standards however is intact and functional.



Roof exterior: showing rolling revolving ladder is securely attached to the finial ball.



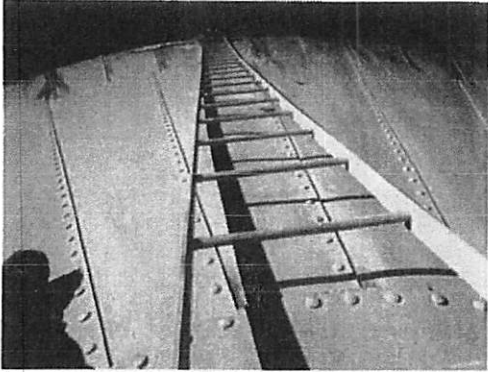
Roof exterior: showing bottom section of roof ladder equipped with the wheel assembly which is functional.



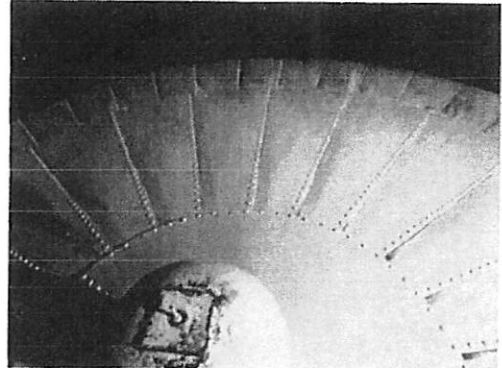
Roof exterior: showing revolving ladder to be intact and in good structural condition.



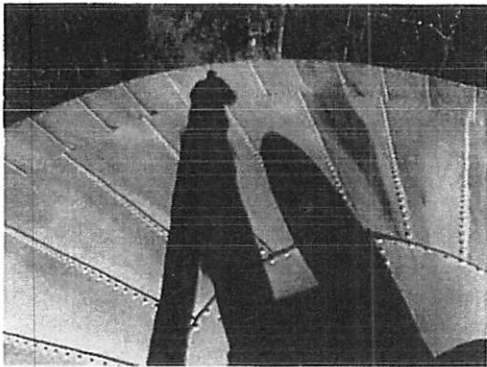
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



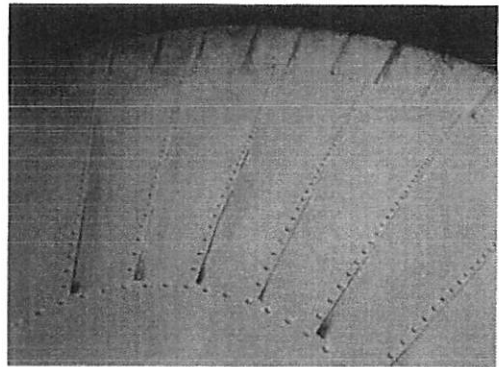
Roof exterior: showing coatings along ladder assembly to be in good condition with only minor failure and rusting evident.



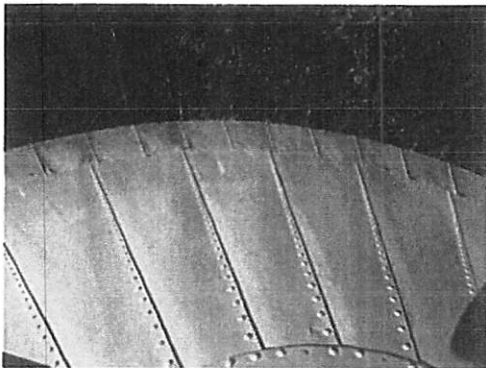
Roof exterior: showing coatings to be in fair to good condition with only minor degradation and localized rusting taking place.



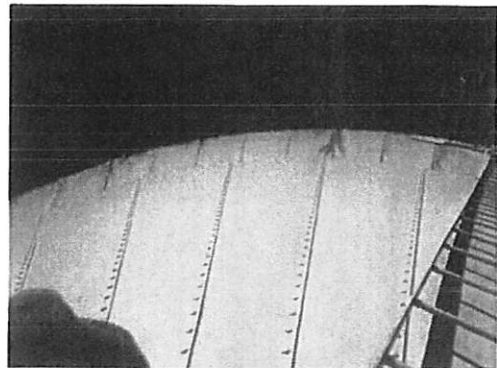
Roof exterior: showing existing coating to be in fair to good condition with only minor degradation and rusting taking place.



Roof exterior: showing weeping stains from the riveted lap seams as well as small spots of top coat delamination.

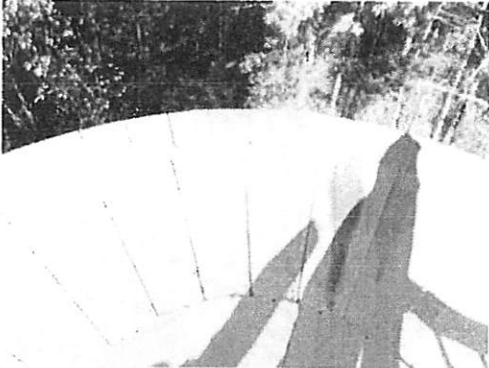


Roof exterior: showing surfaces to be in good structural condition with no aggressive corrosion or metal loss evident.



Roof exterior: showing roof lap seams to be generally tight with no open penetrations observed.

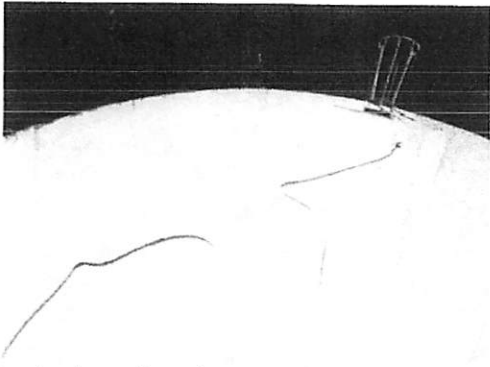
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



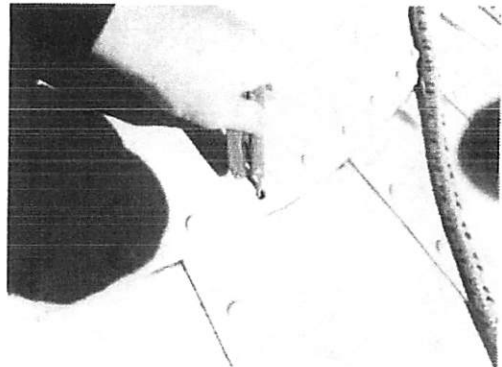
Roof exterior: showing coatings to be heavily chalked and moderately soiled in areas.



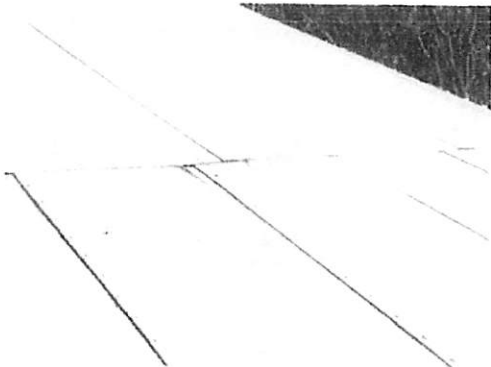
Roof exterior: showing coatings to be in fair to good condition with only minor degradation and localized rusting taking place.



Roof exterior: showing coatings to be in fair to good condition with only minor degradation and localized rusting taking place.



Roof exterior: showing minor hole resulting from a missing bolt along the outer perimeter of the center dollar plate.

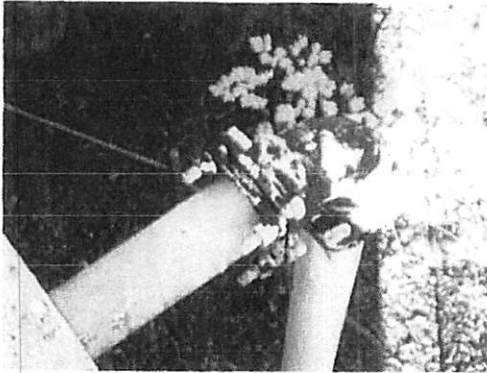


Roof exterior: showing roof lap seams to be generally tight with no open penetrations observed.

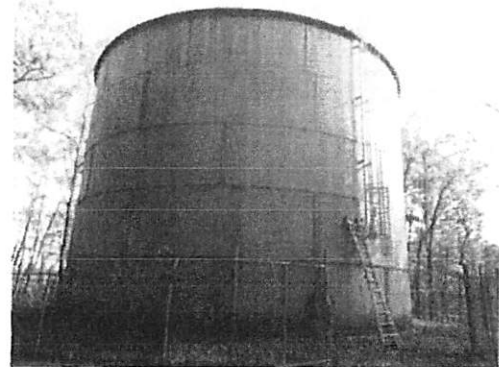


Roof exterior: showing results of adhesion test indicating good adhesion at all interfaces.

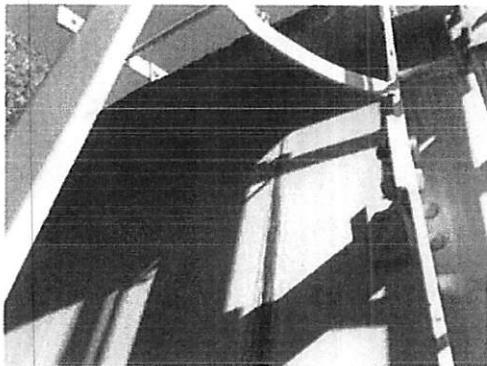
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



Showing coating failure and heavy rusting is present on the top elbow assembly of the overflow pipe.



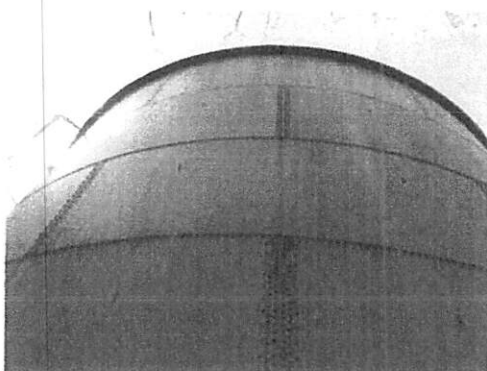
Shell exterior: showing coatings to be heavily weathered however in generally good condition.



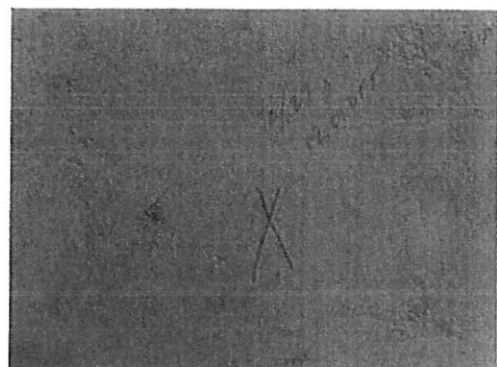
Shell exterior: showing rust staining weeping down from the unsealed roof to shell junction.



Shell exterior: showing rust staining weeping down from the unsealed roof to shell junction.

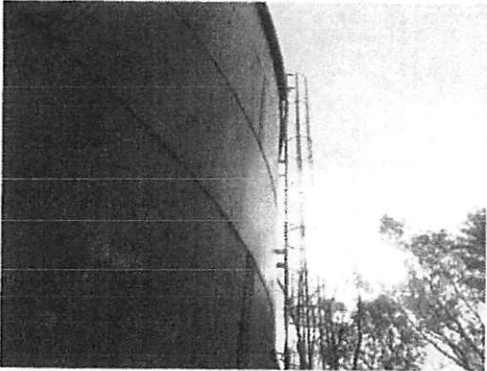


Shell exterior: showing no appreciable coating failure or rusting currently taking place.

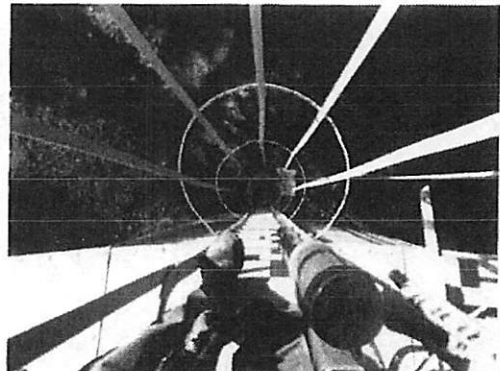


Shell exterior: showing results of adhesion testing indicating fair adhesion at interface with primer.

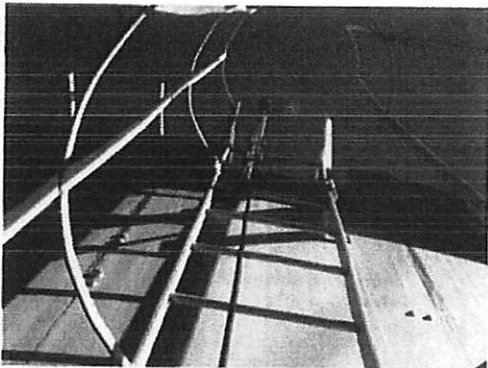
**Fitchburg Rd 500,000 Gallon GST  
Inspection Performed October 27, 2014**



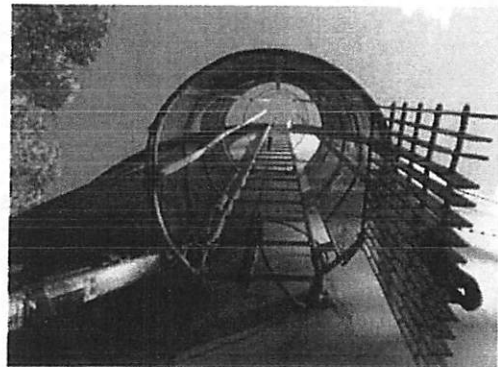
Shell exterior: showing access ladder and safety cage to be intact and structurally sound.



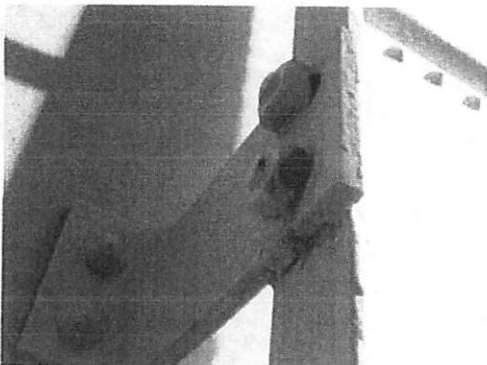
Shell exterior: showing coatings along access ladder assembly to be in good condition with minimal deterioration and/or rusting evident.



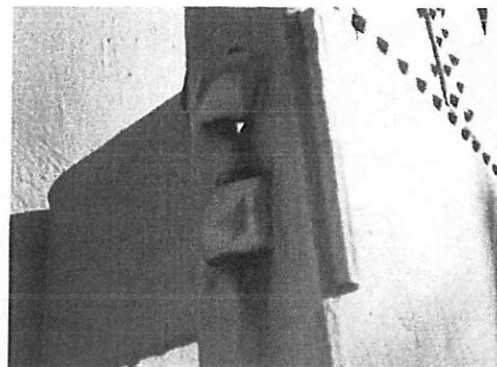
Shell exterior: showing access ladder assembly equipped with a functional fall prevention device.



The shell ladder is equipped with a lockable anticlimb gate located at the opening of the ladder cage.

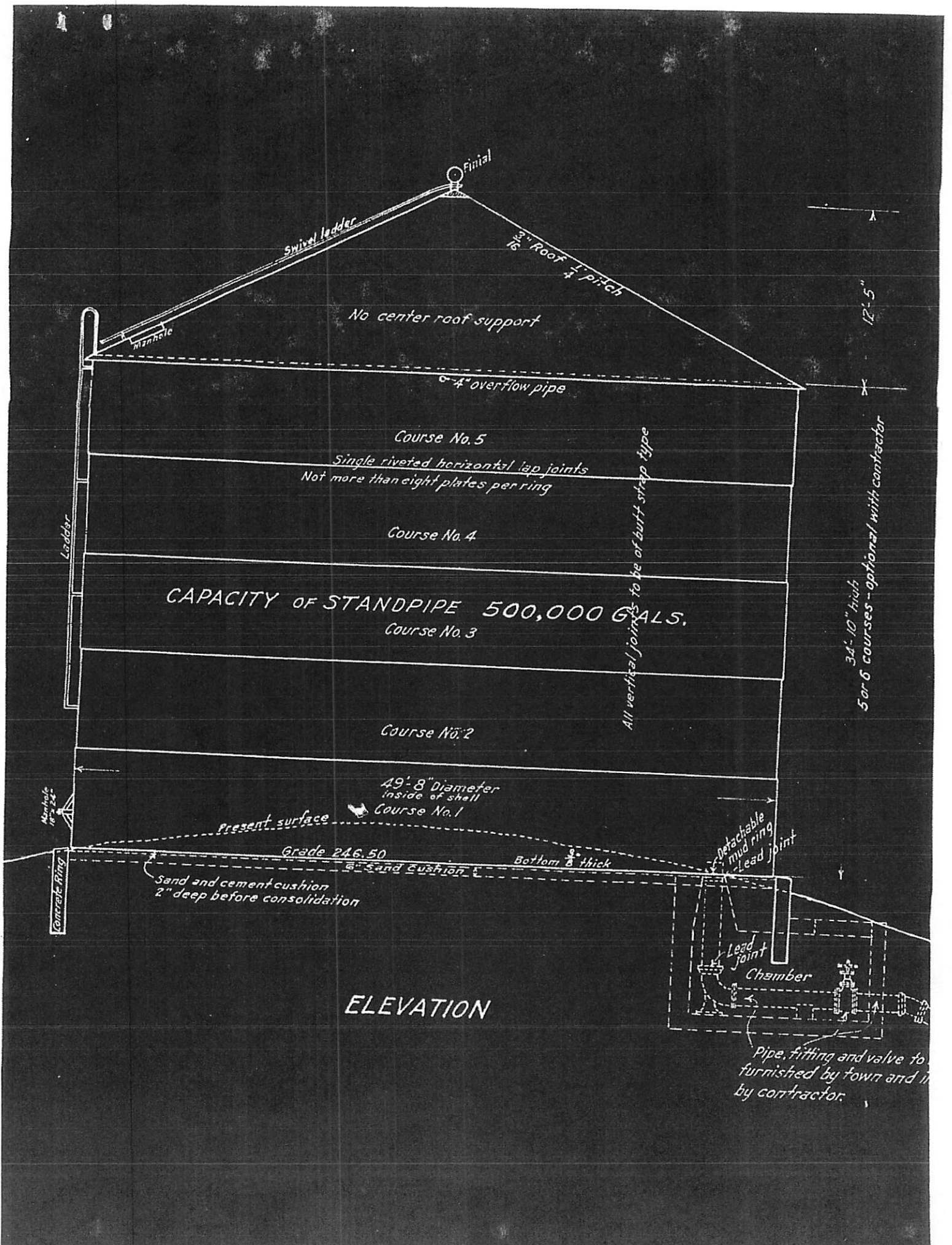


Shell exterior: showing minor degradation and rusting of the ladder side rail connections.



Shell exterior: showing additional degradation and rusting of the ladder side rail connections.





ELEVATION

CAPACITY OF STANDPIPE 500,000 GALS.

Pipe, fitting and valve to be furnished by town and installed by contractor.

# **Fitchburg Road Tank Repairs**

## **Request for Quotes**

Townsend Water Department

Superintendent

Paul Rafuse

May 2016

**Tighe&Bond**

Fitchburg Road Tank  
Townsend, MA

Description of Tank

The existing Fitchburg Road Tank is a 500,000 gallon riveted steel ground storage tank. The tank has a shell height of 35-feet, and a diameter of 50-feet. The tank is located at approximate address 105 Fitchburg Road, Townsend, MA. The exterior paint color is light blue, and the interior paint color is white.

Scope of Work

Sanitary Improvements

1. There are several open penetrations through the roof of the tank that could potentially pose risk to the sanitary condition of the water supply. The oversized bolt holes along the base of the roof's center finial ball as well as the (3) missing rivet heads along the roof center plate peripheral lap seam could, and currently do, provide a potential passageway for rain runoff to enter the interior of the tank. These areas are to be sealed with an elastomeric caulking.

Structural Improvements

2. The tank is currently not equipped with a finial vent assembly. The existing finial ball is sealed, with no venting capabilities, furthermore there is no designed venting along the roof to shell junction. Instead, venting for the tank appears to be achieved through the random narrow gaps along the unfitted roof to shell junction as well as the overflow pipe. The existing finial ball assembly shall be replaced with a freeze/vacuum resistant finial vent assembly to ensure compliance with AWWA standards and current MA Chapter 8 Guidelines:

The vent shall open downward, and be fitted with either four mesh non-corrodible screen, or with finer mesh non-corrodible screen in combination with an automatically resetting pressure-vacuum relief or release mechanism, as required by MassDEP. If a vacuum release mechanism is utilized, a four mesh screen must surround this mechanism in order to prevent contaminants from entering the tank when the relief mechanism is activated and to assure that objects do not prevent the mechanism from reseating properly

3. When the finial vent is installed it will require the existing roof revolving ladder be detached from the existing finial ball and welded into a stationary position by welding a series of vertical standoffs to the roof and side rails of the ladder. Brackets needed for welding ladder to roof shall be spaced a maximum of 10-feet apart. The Contractor shall provide a protective coating system to match existing color of the tank at all areas damaged during installation of vent, for new components, and at all new welding areas. New components and areas needing repair shall be prepared with a power tool cleaning to a SP3 specification. The coating system shall be:
  - Prime Coat: Modified Urethane
  - Intermediate Coat: Epoxy (60% solids or better)
  - Top Coat: Epoxy (60% solids or better)

4. The existing tank roof hatch is a cover that sits flat to the roof. The hatch does not meet current State standards as it does not have a raised neck or frame. The existing roof hatch shall be removed and replaced with a 24"x24" square hatch that complies with State guidelines. The hatch shall have a 4-inch raised neck, a 2-inch overlapping cover and a locking hasp. The new hatch shall be furnished with a shop prime coat of paint. Areas that the prime coat is damaged during installation shall be power tool cleaned to a SP3 specification. The finished coating system shall be of a color to match the existing tank color and shall be:

- Prime Coat: Modified Urethane
- Intermediate Coat: Epoxy (60% solids or better)
- Top Coat: Epoxy (60% solids or better)

Note: See recent tank inspection report for additional details.

**REQUEST FOR QUOTE DUE DATE: May 20, 2016; 2 P.M. EST**





**FITCHBURG ROAD TANK REPAIRS  
TOWNSEND, MA**

**FITCHBURG ROAD TANK SITE  
101 Fitchburg Road**

DATE: 4/15/16

SCALE: 1" = 250'

FIGURE 1

**Tighe & Bond**  
www.tighebond.com

04/15/16 10:00 AM C:\Users\jacob\Documents\Tighe & Bond\Projects\Townsend\101 Fitchburg Road\101 Fitchburg Road.dwg

SECTION 00410

REQUEST FOR QUOTATION

PROJECT IDENTIFICATION:

Fitchburg Road Tank Repairs

TABLE OF ARTICLES

1. Quote Recipient
2. Contractor's Acknowledgements
3. Contractor's Representations
4. Contractor's Certifications
5. Basis of Quote
6. Time of Completion
7. Quote Submittal

ARTICLE 1 - QUOTE RECIPIENT

- 1.1 This Quote is submitted to:

Townsend Water Department

540 Main Street, West Townsend, MA 01474

- 1.2 The undersigned Contractor proposes and agrees, if this Quote is accepted, to perform all Work as specified or indicated in the Documents for the prices and within the times indicated in this Quote and in accordance with the other terms and conditions of the Documents.

ARTICLE 2 - CONTRACTOR'S ACKNOWLEDGEMENTS

- 2.1 The Quote will remain subject to acceptance for 30 days after the opening, or for such longer period of time that Contractor may agree to in writing upon request of Owner.

ARTICLE 3 - CONTRACTOR'S REPRESENTATIONS

- 3.1 In submitting this Quote, Contractor represents, as set forth in the Agreement, that:
- A. Contractor has examined and carefully studied the Documents, and any data and reference items identified in the Documents and hereby acknowledges the receipt of all Addenda.
  - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Documents; and any Site-related reports and drawings identified in the Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Contractor agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Quote for performance of the Work at the price Quote and within the times required and in accordance with the other terms and conditions of the Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Documents, and confirms that the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Quote constitutes an incontrovertible representation by Contractor that Contractor has complied with every requirement of this Article, and that without exception the Quote and all prices in the Quote are premised upon performing and furnishing the Work required by the Documents.

#### ARTICLE 4 - CONTRACTOR'S CERTIFICATION

- 4.1 Contractor certifies that Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work, that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee, and that Contractor will comply fully with all laws and regulations applicable to awards made subject to MGL Chapter 30, Section 39M.

#### ARTICLE 5 - BASIS OF QUOTE

- 5.1 Contractor proposes to furnish all labor and materials required for construction of the Fitchburg Road Tank Repairs, Townsend, MA in accordance with the accompanying

Documents prepared by Tighe & Bond, Inc., for the Contract Price specified below, subject to additions and deductions according to the terms of the Documents.

5.2 This Quote includes Addenda numbered \_\_\_\_\_.

5.3 The proposed Contract Price (base Quote) is:

Ten Thousand Six Hundred Sixty Seven and 00/100 dollars  
(words)

(\$ 10,667.00 )  
(figures)

**ARTICLE 6 - TIME OF COMPLETION**

6.1 Contractor agrees that the Work will be substantially completed and ready for final payment within 45 calendar days from a Notice to Proceed.

6.1



# TOWNSEND WATER DEPARTMENT

540 Main Street West Townsend, Massachusetts 01474

Michael MacEachern, Chairman  
Paul L. Rafuse,  
Water Superintendent  
Email-water@townsend.ma.us

Nathan Mattila, Vice Chairman

Lance Lewand, Clerk  
(978) 597-2212  
Fax (978) 597-5611

NO. 16-11

5/31/2016

## SCHEDULE OF BILLS RECEIVABLE

To the Accountant:  
Treasurer:

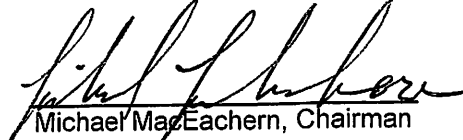
The following bills, amounting in the aggregate to

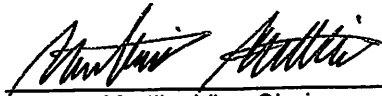
THREE THOUSAND THREE HUNDRED ONE AND 42/100\*\*\*\*\* Dollars

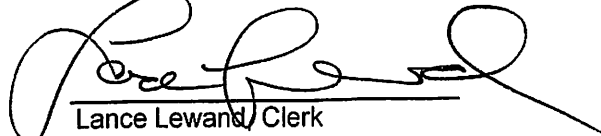
are herewith committed for collection.

<u>DATE</u>	<u>USER CHARGES</u>	<u>SERVICE CHARGES</u>	<u>CONN CHARGES</u>	<u>BACK FLOW</u>	<u>LATE CHARGES</u>	<u>TOTAL</u>
05/31/16	460.50	687.52	0.00	0.00	2153.40	3,301.42

BOARD OF WATER COMMISSIONERS

  
Michael MacEachern, Chairman

  
Nathan Mattila, Vice-Chairman

  
Lance Lewand, Clerk

6.4

**FISCAL YEAR 16 SUMMARY**  
**TOWNSEND WATER DEPARTMENT - ACCOUNTS RECEIVABLE**  
June 30, 2016

UNCOLLECTED FROM JUNE 30, 2015

75,812.05

**CHARGED 07/01/14- 06/30/16**

	5/31/2016	Previous Balance	Total
USER CHARGES	608.00	1,016,799.50	1,017,407.50
SERVICE CHARGES	2,142.07	30,842.03	32,984.10
CONNECTION CHARGES	2,000.00	20,000.00	22,000.00
LATE CHARGES	1,348.59	19,109.10	20,457.69
BACKFLOW	0.00	9,875.00	9,875.00
SUBTOTAL	<b>6,098.66</b>		
TOTAL CHARGES			<b>1,102,724.29</b>

**1,102,724.29**

**1,178,536.34**

**RECEIVED 07/01/14- 06/30/16**

	6/30/2016		
USER CHARGES	8,938.93	978,378.89	987,317.82
SERVICE CHARGES	1,969.96	30,564.30	32,534.26
CONNECTION CHARGES	2,000.00	20,000.00	22,000.00
LATE CHARGES	628.73	15,456.16	16,084.89
BACKFLOW	100.00	9,245.46	9,345.46
SUBTOTAL	<b>13,637.62</b>		
TOTAL RECEIPTS			<b>1,067,282.43</b>

**1,067,282.43**

SENT TO LIEN  
LIENS COLLECTED  
ABATEMENTS  
ADJUSTMENTS  
UNCOLLECTED

0.00  
14,512.18  
35.00  
-1,145.98  
**97,852.71**

**1,178,536.34**

**OUTSTANDING:**

USER CHARGES	\$	<b>85,200.31</b>
SERVICE CHARGES		2,570.35
CONNECTION CHARGES		0.00
LATE CHARGES		9,452.51
BACKFLOW		629.54
TOTAL OUTSTANDING	\$	<b>97,852.71</b>