

**EAST LYME WATER & SEWER COMMISSION
REGULAR MEETING
Tuesday, APRIL 26th, 2016
MINUTES**

The East Lyme Water & Sewer Commission held a Regular Meeting on Tuesday, April 26, 2016 at the East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic, CT. Chairman Nickerson called the Regular Meeting to order at 7:45 PM immediately following the previously scheduled Information Meeting on: Cardinal Road Water Main Extension.

PRESENT: Mark Nickerson, Chairman, Steve DiGiovanna, David Jacques, Joe Mingo, Dave Murphy, Carol Russell, Roger Spencer, Dave Zoller

ALSO PRESENT: Attorney Edward O'Connell, Town Counsel
Joe Bragaw, Public Works Director
Brad Kargl, Municipal Utility Engineer
Anna Johnson, Finance Director

ABSENT: Dave Bond

FILED IN EAST LYME
CONNECTICUT
May 2 2016 AT 2:45 AM (PM)
Carol Russell
EAST LYME TOWN CLERK

1. Call to Order

Chairman Nickerson called the Regular Meeting of the East Lyme Water & Sewer Commission to order at 7:45 PM after the previously scheduled Information meeting. The Pledge was previously observed.

2. Approval of Minutes

▪ **Regular Meeting Minutes – March 22, 2016**

Mr. Nickerson called for a motion or any discussion or corrections to the Regular Meeting Minutes of March 22, 2016.

****MOTION (1)**

Mr. Murphy moved to approve the Regular Meeting Minutes of March 22, 2016 as presented.

Mr. Spencer seconded the motion.

Vote: 5 – 0 – 3. Motion passed.

Abstained: Mr. Nickerson, Mr. DiGiovanna, Mr. Zoller

▪ **Special Meeting Minutes – April 11, 2016**

Mr. Nickerson called for a motion or any discussion or corrections to the Special Meeting Minutes of April 11, 2016.

****MOTION (2)**

Mr. Zoller moved to approve the Special Meeting Minutes of April 11, 2016 as presented.

Mr. Murphy seconded the motion.

Vote: 7 – 0 – 1. Motion passed.

Abstained: Mr. DiGiovanna

3. Delegations

Mr. Nickerson called for delegations.

Dave Godbout, 15 Cardinal Road said that regarding his FOI requests that he has had a lot of problems with getting the public records he is looking for. He said that the Town Meeting clause is only activated when there is a quorum and when two of them are meeting and speaking that is a meeting.

Mr. Mingo said that he would differ with him on that as he took this Commission to task and sued them nine (9) times on this type of thing and he lost every time. He said to Mr. Godbout that he is wrong about what he is saying.

Mr. Godbout said that the FOI Act has changed over the years and that he expects that the information that he has requested will be coming to him in a timely fashion. Regarding the Cardinal Road project he said that he thinks it is dead already due to the violation of the FOI Act and if it moves forward there will be an injunction filed in Superior Court about the violations. In other matters he said that he appreciated them moving the hydrant to Cardinal Road from across the street however he expects them to follow the law. He submitted: April 2016 – Town’s Continuing Obstruction to Access to Public Records and Access to Public Meetings – Cardinal Rd Water Extension Project. (Copy attached)

4. Cardinal Road Water Main Extension – Draft Survey

Mr. Nickerson asked if they are to go forward with the survey that he would like staff to incorporate more accurate costs and state that the costs and price may differ based on ledge and the condition of each property.

Mr. Mingo said that in his 35 years with the Commission that this is the first time that this issue has come before them and he thinks that it should be put on the back burner until some rules regarding this type of situation are put together as there are areas that have bad water and no hydrants and they would have to be done first. He said that he thinks that they need a set of rules and that they are ‘shooting in the dark’ here and that they should ‘deep-six’ this at this time. He said that he would make a motion on this to that effect.

****MOTION (3)**

Mr. Mingo moved to table this process until a set of rules is established for this type of situation as there are areas of the Town that are in more desperate need of this.

Mr. DiGiovanna seconded the motion.

Mr. DiGiovanna said that he agreed that they are not prepared to deal with this at the present time and they need to establish rules.

Ms. Russell said that she thinks that they also need to come up with a threshold for the survey and a policy on how many would have to be in favor and how they would move on it and they do not have that at this time.

Mr. Mingo said that this is also consuming a lot of staff time and they are not getting any revenue from it.

Mr. Nickerson said that he thinks that the interest has dissipated since last July when it first came forward and that Chief Levandoski has put a lot of this to rest along with the hydrant that was installed on Cardinal Road and no longer having to stop traffic to cross the main street with the hose. He added that it is also not something that they are in any position to do now.

Vote: 8 – 0 – 0. Motion passed.

Mr. DiGiovanna asked that they let the people on Cardinal Road know of this action and the vote. Mr. Nickerson said that they would.

Mr. Zoller noted that they are also in the process of updating their regulations and have been working on the sewer regulations.

5. Finance Director Report

Ms. Johnson said that she had provided them with her report. She noted that the monthly water billing for the prison was lower as the male prisoners were moved out.

Mr. Murphy asked Ms. Johnson if she had the information on the bonds.
Ms. Johnson said that she would bring that to the next meeting.

6. Proposed Water and Sewer Budgets for FY 2017

Mr. Nickerson asked Mr. Bragaw to present these.

Mr. Bragaw recalled that at the special meeting that they had a few weeks ago that they were looking at a 5% increase for the Water department over the current year's budget. Since that time he said that he has done a comprehensive study and they have found some hydrants that were not being billed who should have been and who now are. This should increase revenues. The current projection is for a 2.5% increase which brings them to a more acceptable level for the ratepayers.

****MOTION (4)**

Mr. Murphy moved to approve the FY16/17 Water department budget as proposed (\$2,791,205) with a 2.5% increase.

Mr. DiGiovanna seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

Mr. Bragaw reviewed the Sewer department budget for FY 16/17 noting that they were looking at a 7% increase in this budget. He said that had been reduced to a 1.5% increase as he has done a complete review of the reduced flows from the prison with the absence of the male population there. He explained that he had reviewed the relative costs for the chemicals, electricity, etc based on the reduced flows and factoring in some savings from New London on the reduced flows. This revised budget represents those savings and is as efficient as it can be.

Mr. Spencer suggested that they could ask for a 3% or 5% increase and put some in contingency.

Mr. Nickerson said that he wants to get the water and sewer departments running as efficiently as possible and Mr. Bragaw has been doing a great job on getting them there.

****MOTION (5)**

Mr. Murphy moved to approve the FY16/17 Sewer department budget as proposed (\$2,133,619) with a 1.5% increase.

Mr. DiGiovanna seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

7. Approval of Bills – Attachment B – April 26, 2016

Mr. Nickerson called for a motion on the Well 1A & 2A Treatment Study.

****MOTION (6)**

Mr. DiGiovanna moved to approve payment of the following Well 1A & 2A Treatment Study bills: Tighe & Bond, Inv. #031690103 in the amount of \$26,250.00.

Mr. Zoller seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

Mr. Nickerson called for a motion on the Saunders Point Sewer Study bill.

****MOTION (7)**

Mr. Zoller moved to approve payment of the following Saunders Point Sewer Study bill: Weston & Sampson, Inv. #455146 in the amount of \$2,981.85.

Mr. Murphy seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

8. Water Project Updates

- **Well 1A & 2A Treatment Study – Scope Amendment for Pilot Study**

Mr. Kargl said that he is looking to have a pilot testing study done now as Tighe & Bond has gone through enough of the design to do it now and the people who can do it have a window in which to do it in the next week or two. The cost is \$25,000 and involves one week of pilot testing for Well 1A, 2A & 3B. He said that he had found areas within the capital plan to move dollars to be able to have the \$25,000 to do the study. It would involve authorization for the \$25,000 for Amendment No. 1 to the study.

Mr. Nickerson noted that on Item 13 where he had added \$5400 for the radios that there is a new radio system coming into play that will solve the problems here and those dollars would not be needed. He asked Mr. Kargl if he was aware of it.

Mr. Kargl said that he had not heard about it but would welcome sitting down to discuss it.

****MOTION (8)**

Mr. Murphy moved to authorize the Chair of the Water and Sewer Commission to execute and deliver Amendment No. 1 to the Agreement for Engineering Services for the Well 1A and 2A Treatment Study with Tighe & Bond in the amount of \$25,000 increasing the total cost of the study to \$100,000 subject to the approval by the CT Department of Public Health.

Mr. Zoller seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

9. Sewer Project Updates

▪ **Saunders Point Wastewater Planning Study**

Mr. Kargl reported that Weston & Sampson is working on this and that the report could possibly come before the Commission as early as June.

▪ **Request for Qualifications – On-call Wastewater Consulting & Engineering Services**

Mr. Kargl said that they have a list of five respondents. The intent is to have a consultant that can come on board to help them with projects when necessary. Interviews will be conducted once they have narrowed down the respondents to three.

10. Correspondence Log

There was no discussion.

11. Chairman's Report

Mr. Nickerson reported that he had spent the previous Friday at the FOIA Commission Annual Meeting. He reminded them that if they have not forwarded any information for the FOI request to him that they please do so.

He thanked Mr. Bragaw and Mr. Kargl for all their hard work on the various projects before them.

12. Staff Updates

a. Water Department Monthly Report

Mr. Murphy asked about the 17% increase in February.

Mr. Kargl said that the February usage was high this year compared to last year and that three issues contributed to this: There was an extra day in February this year; they found a water main break that was running for two months and fixed it and there was one cold snap over a weekend in February that had 25 issues as a result of it. This cost some 1.2M gallons of water. He noted that they could see that it had gone down considerably in the most recent month.

b. Sewer Department Monthly Report

There were no comments.

13. ADJOURNMENT

Mr. Nickerson called for a motion to adjourn.

****MOTION (9)**

Mr. Murphy moved to adjourn the April 26, 2016 Regular Meeting of the East Lyme Water & Sewer Commission at 8:55 PM.

Mr. DiGiovanna seconded the motion.

Vote: 8 – 0 – 0. Motion passed.

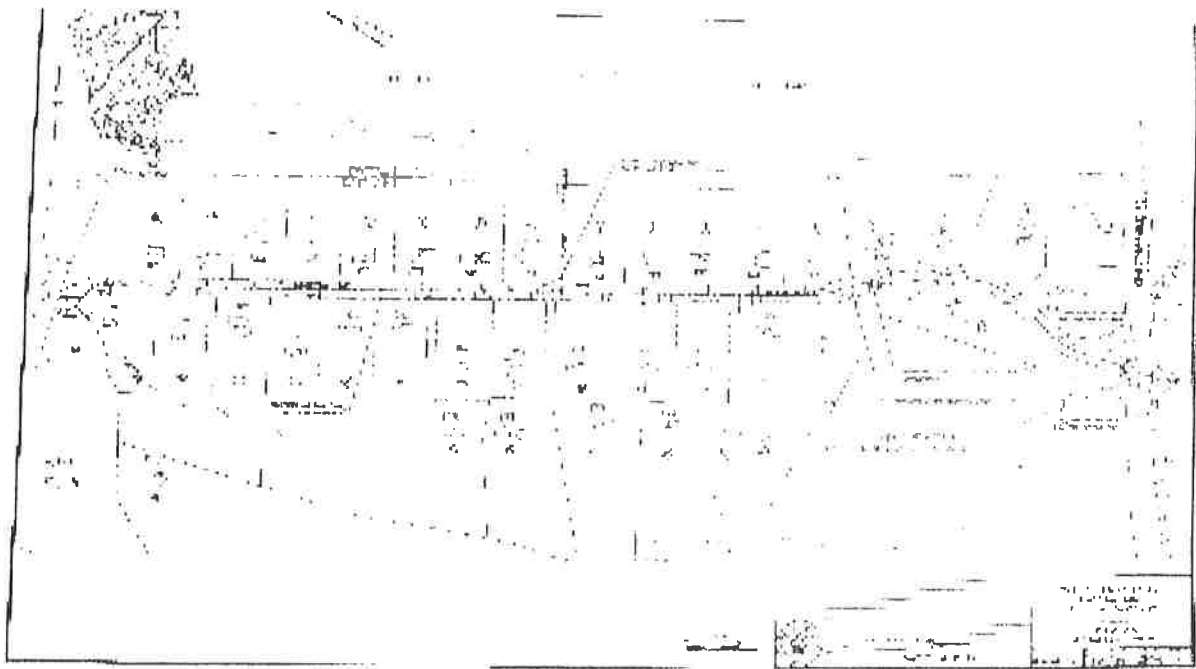
Respectfully submitted,

Karen Zmitruk,
Recording Secretary

CARDINAL RD WATER EXTENSION PROJECT

TOWN'S CONTINUING OBSTRUCTION TO ACCESS TO PUBLIC RECORDS AND
ACCESS TO PUBLIC MEETINGS

APRIL 2016



Regular Meeting →
Informational Session - Cardinal Rd.
Submitted Attachment Was 4/26/16

Special Informational Meeting Does/Did Not Comply With Open Meetings Laws

(26 APR 16 6:30pm)

- CGS Sec 1-225(d) [our state's special meetings open meetings law] mandates the following:

- That a NOTICE be issued by the agency**
- That the address of the meeting place be on the notice**
- That the notice be delivered to the homes of the agency members *(to avoid packing of a meeting)***

The agency did not do any of the above required actions but simply slapped an annotation onto a regular meeting agenda. No one is going to be looking for a special meeting items to be discussed in a regular meeting agenda.

The agency conducts OUR business, not theirs !

Did You Know ?

Of all the Water and Sewer Commission local agencies of the state, ours, the Town of East Lyme's, has the disreputable distinction of being found guilty of violating our open meetings laws the most of any such agency in the entire state (they going for a national record)?

And its not hard to see why....upon last "Informational Meeting" in January the Water and Sewer Commission was reminded of their obligations under the law to properly notice meetings. And the Water and Sewer Commission refused to even acknowledge if the gathering was a meeting or just a gathering. However it was clear it was a meeting as defined by our open meetings laws, highlighted in CGS Sec. 1-200:

(2) "Meeting" means any hearing or other proceeding of a public agency, any convening or assembly of a quorum of a multimember public agency, and any communication by or to a quorum of a multimember public agency, whether in person or by means of electronic equipment, to discuss or act upon a matter over which the public agency has supervision, control, jurisdiction or advisory power. "Meeting" does not include: Any meeting of a personnel search committee for executive level employment candidates; any chance meeting, or a social meeting neither planned nor intended for the purpose of discussing matters relating to official business; strategy or negotiations with respect to collective bargaining; a caucus of members of a single political party notwithstanding that such members also constitute a quorum of a public agency; an administrative or staff meeting of a single-member public agency; and communication limited to notice of meetings of any public agency or the agendas thereof. A quorum of the members of a public agency who are present at any event which has been noticed and conducted as a meeting of another public agency under the provisions of the Freedom of Information Act shall not be deemed to be holding a meeting of the public agency of which they are members as a result of their presence at such event.

And currently, the open meeting provisions activate when any 2 members meet.

Instead of correcting an issue that was highlighted to the commission in January 2016 the commission now continues upon a path of continuing to call illegal meetings ~ putting the work into jeopardy as illegal meetings can lead to voiding of actions of an agency.

Water and Sewer Commission Members Hiding Public Records

- Of course the solution to the illegal meetings of the members, which includes meetings via email, telephone calls, and personal visits wherein the members do not allow members of the public to even observe the meeting and of which they produce no meeting minutes to even apprise the public of what went on behind closed doors is to simply DENY ACCESS TO PUBLIC RECORDS THAT SHOW EVIDENCE OF THESE MEETINGS.

- CGS Sec. 1-210 [part of our open records laws] clearly notes that members of the commission must deposit their records at the town clerk's office as it states:

Each such agency shall keep and maintain all public records in its custody at its regular office or place of business in an accessible place and, if there is no such office or place of business, the public records pertaining to such agency shall be kept in the office of the clerk of the political subdivision in which such public agency is located or of the Secretary of the State, as the case may be.

However, the members do not deposit their records at the clerk's office necessitating members of the public who want to see their records to contact them directly. The members have had no problem whining, lamenting, and otherwise telling the public that they don't want to be bothered with providing public records to the public and some refuse to even speak to members of the public.

- On 26 MAR 16, a month ago, I sought to inspect records that the members are hiding from the public. I have not gotten ANY access to these records although I was only seeking records from a time period of only three (3) days.

- On 4 APR 16, about a month ago, I requested records of the timeline of 27 MAR 16 thru 4 APR 16..a scant couple of days. Again, no access to ANY records has been provided in response to the request from any of the members of the Water and Sewer Commission.

Our open records laws require public officials to comply with the open records laws; they are all certainly aware of the laws as they are not hidden.

CGS Sec. 1-206(a) even provides a time when the records should be available:

(a) Any denial of the right to inspect or copy records provided for under section 1-210 shall be made to the person requesting such right by the public agency official who has custody or control of the public record, in writing, within four business days of such request, except when the request is determined to be subject to subsections (b) and (c) of section 1-214, in which case such denial shall be made, in writing, within ten business days of such request. Failure to comply with a request to so inspect or copy such public record within the applicable number of business days shall be deemed to be a denial.

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And the records requested should have already been at the town clerk's office making access that should be easy and quick. However, they refuse to comply with our open records laws.

Members of the public should not have to hound down public officials to obtain access to public records. Its not supposed to be a hide and seek game.

On 22 APR 16 I requested the following records from the town's department of public works:

22 APR 16

Dear Mr. Kargl,

I hope that you have a draft of the Cardinal Rd. Survey available. Please forward the electronic file to this email acct.

I would also be interested in obtaining any other pre-draft surveys that were produced - which you can email me too, ie any other versions of the draft survey that you intend on providing to the public during the next regular Water and Sewer Commission meeting of 26 APR 16.

And also I am interested in inspecting and for emails to be forwarded to me relating to any emails relating to the Cardinal Rd. Ext. project that you have from the dates 23 MAR 16 thru the present date.

-

I would have expected to get more than just the single record of the draft survey to be discussed in the regular meeting of the commission on 26 APR 16 given that the last survey back in October 2015 underwent many revisions through changes made by the commission, performed after discussion via email meetings of the members.

Instead, this time, I did not obtain any of these records that likely exist. Its not surprising though, given that last time the department manager specifically asked members of the water and sewer commission to destroy public records in the past. (see attached email showing the request to delete public records created). Of course what does our open records law say about destroying public records? CGS Sec. 1-240 speaks for itself:

Sec. 1-240: (Formerly Sec. 1-21k). Penalties. (a) Any person who wilfully, knowingly and with intent to do so, destroys, mutilates or otherwise disposes of any public record without the approval required under section 1-18 or unless pursuant to chapter 47 or 87I, or who alters any public record, shall be guilty of a class A misdemeanor and each such occurrence shall constitute a separate offense.

From : /O=FIRST ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIE **Date Time** : 8/18/2015 3:04:00 PM

To : Joe Bragaw<JBragaw@eltnhnhall.com>, Brad Kargl<BKargl@eltnhnhall.com>

Cc :

Bcc :

Subject : final delete all others Engineers estimate - Cardinal Road.xls

Attachments :  Engineers estimate - Cardinal Road.xls

TOWN OF EAST LYME



Let's
4/26/16

WATER DEPARTMENT

PROPOSED FY 16-17 BUDGET

W&S MEETING – April 26, 2016 @ 7pm at the Town Hall

HIGHLIGHTS

1. We are proposing a operating budget at this time of \$2,791,205 for FY 16-17 which is a \$68,078 (or 2.5%) increase from the present fiscal year.
2. We have been informed by the State Dept of Corrections that they have removed the male population at the prisons as of February of this year (2016). We are estimating that this will be a big effect on water usage from our largest customer however it is too soon to understand the actual impact on projected revenue. We will be closely monitoring water usage and revenue from the prisons over the next 5-6 months so we will have a better understanding of projected revenue before we need to decide on our rate structure at our October W&S meeting.
3. Although the PW, Fin Dir and Util Eng line is increasing by \$51,455, this is because we are taking on half of the sewer superintendent's salary as he is now overseeing both. The Admin Assistant salary is up by \$8,455 because the PW Admin Asst is spending approximately ¼ of her time paying water department bills so ¼ of her salary was moved over to the water dept. Overall, the Admin labor budget is down one person and is \$17,905 less than the present year's budget.
4. We added a line for capital projects of \$20k to pay to clean out the lagoon at the Well 3A treatment facility.

EAST LYME WATER & SEWER COMMISSION
APR 26 2016
AGENDA # <u>6</u>

W&S Reg. Mtg. 4/26/16 #6

TOWN OF EAST LYME



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4/26/16

SEWER DEPARTMENT

PROPOSED FY 16-17 BUDGET

W&S MEETING – April 26, 2016 @ 7pm at the Town Hall

HIGHLIGHTS

1. We are proposing an operating budget at this time of \$2,133,610 for FY 16-17 which is a \$31,531 (or 1.5%) increase from the present fiscal year.
2. We have been informed by the State Dept of Corrections that they have removed the male population at the prisons as of February of this year (2016). We are estimating that this will be a big effect on water usage from our largest customer however it is too soon to understand the actual impact on projected revenue. We will be closely monitoring sewer flows and revenue from the prisons over the next 5-6 months so we will have a better understanding of projected revenue before we need to decide on our rate structure at our October W&S meeting.
3. The two major increases in the budget where \$35k for NL treatment costs (up 4.3%) and \$41.5k for chemicals (up 40.1%). The reason for such a high increase on the chemical line item is because of monitoring that Waterford is doing down the line in holding us to maximum hydrogen sulfide levels.
4. The proposed operating budget (not including treatment and chemicals) is actually down 3.82%.

W&S Reg. Mtg. 4/26/16 #6

Proposed and/or Ongoing Capital Projects
\$6.5 Million Authorization
2/11/2016 (Revised 04-26-16)

SHORT TERM PROJECTS	FY 16	FY 17	FY18 and later	Total Amount	Remaining Capital Balance	Status
1 Well 1A & 2A Treatment Study	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ 808,177	
2 Bride Lake Filter Refurb. (Filters 2 & 5) - Install	\$ 32,000	\$ -	\$ -	\$ 32,000	\$ 708,177	Include \$25,000 for pilot testing in the treatment study now rather than in the design phase - 4/26/16
3 Clarks Hollow Blow-off Installation	\$ 11,304	\$ -	\$ -	\$ 11,304	\$ 676,177	Completed 03/16
4 Society Road Bridge	\$ -	\$ 35,000	\$ -	\$ 35,000	\$ 664,873	Completed 11/15
5 Route 1 Bridge over Pattagansett River	\$ 18,000	\$ -	\$ -	\$ 18,000	\$ 629,873	Approx. \$6,000 spent to date on bridge modifications; review options, worst case cost
6 Rt 1 Bridge over Pattagansett River ⁽¹⁾	\$ 20,000	\$ -	\$ -	\$ 20,000	\$ 611,873	"Betterment" work to coincide with CTDOT water main relocation; purchase mat. now; 4/1/16 start date
7 MacKinnon Place Booster Station Upgrade	\$ 36,000	\$ -	\$ -	\$ 36,000	\$ 591,873	CTDOT watermain relocation; reimbursable cost; purchase materials now; 4/1/16 start date
8 Jean Drive Booster Station Upgrade	\$ 36,000	\$ -	\$ -	\$ 36,000	\$ 555,873	Recommend that pumps and controls be ordered now due to 6 week lead time; complete by 5/1/16
9 Well 5 Replacement Well Investigation	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ 519,873	Recommend that pumps and controls be ordered now due to 6 week lead time; complete by 6/1/16
10 SCADA Control Imp. for Chemical Feed Lockouts	\$ 8,000	\$ -	\$ -	\$ 8,000	\$ 494,873	Well 5 is losing capacity; 26 years old, complete preliminary investigation by 12/31/16
11 Bride Lake Filter Refurbishment (Filters 1 & 6)	\$ 10,000	\$ 90,000	\$ -	\$ 90,000	\$ 486,873	Completed 03/16
12 Roxbury Road Water Storage Tank Improvements	\$ 10,000	\$ -	\$ -	\$ 10,000	\$ 396,873	The last two of six filters to be refurbished by 3/17
13 Chesterfield PS Jockey Pump/VFD/Cellular Radios	\$ 38,400	\$ -	\$ -	\$ 38,400	\$ 386,873	Anchor bolt and cone crack repair and valve chamber access hatch repl.; complete by 7/1/16
Short Term Projects Subtotals	\$ 334,704	\$ 125,000	\$ -	\$ 459,704	\$ 348,473	Added \$5,400 for cellular radio redundancy (changed from \$33,000) - 4/26/16
LONG TERM PROJECTS						
2 Well 5 Filter Refurbishment	\$ -	\$ 45,000	\$ 90,000	\$ 135,000	\$ 213,473	Spend over 3 years
3 Well 1A GAC and Well 6 Fe/Mn Filter Refurb.	?	?	?	?	\$ 213,473	Evaluate after treatment study findings
4 Ancient HWY Booster Station Upgrade	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 163,473	
5 Emergency Generator Well 1A	\$ -	\$ 31,000	\$ -	\$ 31,000	\$ 132,473	\$31,000 represents remaining payment on portable generator (changed from \$100,000) - 4/26/16
6 Security Fencing, Cameras	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 92,473	
7 Well 4A Air gap	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ 67,473	
8 Building Upgrades - Well 1A GAC Filter Building	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ 47,473	Evaluate after treatment study findings
Long Term Projects Subtotals	\$ -	\$ 171,000	\$ 130,000	\$ 301,000	\$ 47,473	
TOTALS	\$ 334,704	\$ 296,000	\$ 130,000	\$ 760,704	\$ 47,473	

(1) State Reimbursement Anticipated

Attachment Wes Reg. Mtg. 4/26/16 New B.A.

Exhibit A
Scope of Services – Amendment No. 1
Well 1A and 2A Treatment Study
Town of East Lyme, Connecticut
Tighe & Bond, Inc.
April 11, 2016

Scope of Services

Task 6 – Piloting Study

Pilot testing will evaluate the efficacy of iron and manganese removal using Greensand Plus media at three sources (Well 1A, Well 2A, and Well 3B) in East Lyme. Well 3B will be examined because it has the poorest water quality for iron and manganese at the Bride Lake site. The pilot work will consist of:

- Pilot set up and performed at the Well 1A site using raw water from Well 1A and will test 2 different oxidant scenarios (sodium hypochlorite only and a blend of sodium hypochlorite and potassium permanganate).
- Analysis of raw and filtered water from the Bride Lake WTP, which will be temporarily modified to isolate and treat water from Well 3B only.
- Jar test raw water from Well 2A for treatability using equipment at the Well 1A pilot.

The goals of the study are to determine the ability of the process to remove dissolved contaminants from the raw water sources and to determine media performance at proposed filter loading rates, appropriate chemical feed rates, maximum run times, finished water quality, backwash water characterization and other information necessary for the design and permitting of the full-scale treatment system. The anticipated one week period of pilot testing will be in May or June 2016.

ENGINEER will retain the services of a piloting firm, Blueleaf Incorporated, to provide a mobile pilot filtration system to perform the proposed pilot study. The pilot filters with appurtenant equipment and field-testing laboratory are housed in a cargo-style trailer. The pilot system will be connected to the raw water source and electrical power at the Well 1A site. All filter columns are constructed of 6-inch diameter clear PVC, approximately 0.2 ft² in section area, 60 inches high, flanged at top and bottom, with bulkhead fittings through the flanges for the inlet (top) and outlet (bottom) piping. Filtered water and backwash water will be drained to waste by gravity.

The pilot trailer is equipped with four valve panels for controlling an array of filter columns. Each panel is equipped with a series of valves to direct flow for either filtration or backwash, a rotameter and globe valve to measure and control flow rates, and a pressure gauge to measure filter outlet pressure. The filter inlet pressure is monitored by a pressure gauge on the common manifold that supplies all filters.

\$25,000 fee

1

Study amended to \$100,000 cost from 75,000

Attachment Wes Reg. Mtg. 4/20/16 Item #8.a.

The filter discharge to the sump will serve as the finished water sampling point. The pilot system also has ports for sampling raw water prior to chemical pretreatment, and the chemically pretreated filter influent (common to all filters).

The pilot trailer is equipped with a PC-based data acquisition system for continuous monitoring and recording of pressure and turbidity. The data acquisition system can simultaneously monitor the untreated raw water and the filtered effluent from each of the four filters.

Subtask 6.1 – Develop Pilot Testing Protocol

A successful pilot testing program results from the use of an approach that focuses on gathering key data to develop process design criteria. The pilot testing protocol will include:

- Overall objective of the pilot testing
- Schedule of specific pilot plant runs
- Run duration and testing sequences
- Pilot train configurations and operating conditions
- Pilot operations responsibility
- Sample collection and field analytical requirements

The protocol will be submitted and reviewed with the TOWN. The treatment technologies will include Greensand Plus for treatment of iron and manganese.

We anticipate that pilot testing will require approximately one week of operation to complete including the pilot equipment set up and configuration. The study protocol can be modified as necessary during the project to ensure that the goals of the pilot testing program are achieved.

Subtask 6.2 – Conduct Pilot Plant Operations

ENGINEER will monitor and coordinate the execution of the pilot plant on a daily basis during the one week pilot testing period. ENGINEER will contract with Blueleaf, Inc. to operate the pilot plant. Blueleaf is a process engineering company located in Charlton, MA that specializes in pilot studies for water treatment systems and has completed over 100 pilot studies for groundwater sources.

ENGINEER will direct and coordinate with Blueleaf Inc. in operating the plant and making modification and decisions required during the pilot study as it relates to obtaining the necessary information for evaluation.

Blueleaf, Inc. will monitor flow rate, filter head loss, temperature and water quality during filter runs at Well 1A. Water quality parameters that will be monitored include raw and filtered water pH, turbidity, dissolved and total iron, dissolved and total manganese using generally accepted field test methods. All buffer solutions, reagent and miscellaneous supplies for field analyses will be supplied by Blueleaf, Inc., and all reagent waste will be collected for disposal in an appropriate manner. Blueleaf will measure backwash water volumes and complete settling tests on backwash water for each run. Blueleaf will perform troubleshooting of all mechanical equipment and perform all minor repairs such as small leak repair, chemical feed pump priming and recalibration and cleaning of on line meters. Blueleaf will provide spare parts as needed.

Raw water samples from Well 2A will be collected by the TOWN and transported to the Well 1A pilot for jar testing and analysis. Raw and filtered water samples from the Bride Lake

WTP isolated to treat water from Well 3B will be collected by the TOWN and transported to the Well 1A pilot for analysis.

Field samples are to be collected and analyzed in accordance with generally-accepted field methods. The frequency of the field samples will be determined by field conditions, with the minimum number of samples specified in the Pilot Study Protocol.

The pilot plant will be staffed 8 hours per day during the pilot testing period. The pilot plant at Well 1A will run unattended during off hours and weekends. Blueleaf will provide a data acquisition system to collect continuous data from the pilot equipment. Blueleaf will be responsible for all on-site sampling (at Well 1A). Blueleaf will be responsible for analysis of both on-site sampling (from Well 1A) and off-site sampling from Wells 2A and 3B.

Subtask 6.3 – Prepare a Pilot Study Report and Memorandum

Blueleaf will prepare a pilot study report that will include the following sections:

- Executive Summary, Table of Contents, List of Figures, List of Tables, Introduction and Background
- Method and Equipment used during the pilot program
- Results and Discussions
- Conclusions
- Appendices

ENGINEER will review the pilot study report and recommend revisions, if necessary and will prepare a memorandum, which will summarize the Blueleaf's report and determine the following based on the pilot results for each treatment facility:

- Allowable filter loading rates
- Appropriate chemical feed rates
- Maximum run times
- Finished water quality
- Backwash water characterization and volumes
- Other information necessary for the design and permitting of the full-scale treatment system.

ENGINEER will prepare a draft memorandum, conduct a conference call with the Town to discuss and then finalize the memorandum base upon agreed upon revisions.

Services Performed by the Town

The TOWN will provide the following:

At Well 1A Site:

- 1) A location to install a cargo trailer measuring 10-feet wide, 16-feet long, and 11 feet tall, with access to the right side and back of the trailer.
- 2) Two 120 Volt, 20 Amp outlets to power the pilot trailer processes, heat and lights.

- 3) A ¾-inch to 1-inch connection at each source that is to be used as source water to the pilot system. The supply should be available 24 hours per day, be able to supply 12 gallons per minute, and have at least 30 psi pressure.
- 4) A location to discharge the treated water (up to 12 gpm) to a location no greater than 200 feet from the pilot location.
- 5) A location to discharge the backwash water (up to 100 gallons per day).
- 6) Access to the site at all times during pilot operations.
- 7) Allow for continuous operation of the source being tested 24 hours per day

At the Bride Lake Site:

- 1) Process modifications necessary to isolate Well 3B for treatment at the Bride Lake WTP using only two of the filters containing Greensand Plus media with Well 3B pumping at approximately 570 gpm.
- 2) Raw and effluent water samples from the filtration facility with filter isolation and loading rate as described above.

At Well 2A Site:

- 1) Raw water samples prior to any chemical addition for use in Jar testing at the Well 1A site pilot.