

23 Highland Street
Guilford, Ct 06437
203 214 3020

Elizabeth Kozarec Architect October 20, 2016

Mr. Eric McPhee
Department of Public Health
Drinking Water Section
410 Capitol Avenue, MS #51WAT
PO Box 340308
Hartford, CT 06134-0308

Regarding: Proposed Water Supply Extension
Long Cove, Indian Cove, Mulberry Point, Tuttle Point

Dear Eric,

I am writing as a resident of Tuttle Point regarding the proposed water extension into the above referenced neighborhoods. The information I have read available on the Town website, including the reports published by Luchs, the engineering consultant hired by the Town, prompts a number of questions that should be answered for the homeowners.

What will the impact on the environment be?

This has not been quantified. Engineer Ballou (Appendix D), a sub consultant to Luchs, states in his 2011 letter to Luchs that water use by residents will increase once connected to a public water supply. Ballou goes on to state that the majority of septic systems are older and he makes the point that the additional water use will overload those systems, resulting in discharge of untreated effluent to the groundwater. The obvious concern is that this effluent will reach Long Island Sound. Ballou recommended a number of actions, one of them being testing of septic systems, and another that any systems found to be near failing be corrected before connecting to the public water supply. That was four years ago. How many septic systems have been tested? In spite of Ballou's documented concerns, Dennis Johnson's written update to the Association's reports Luchs is not concerned with the older septic systems, if the Town takes peripheral actions. The peripheral actions listed in the report are

1. The Luch's report recommends the Town review septic system records. What action will be taken when for undocumented systems? How many systems are undocumented? What action will be taken if a system is found to be noncompliant? Many of the homes are older and their septic systems likely are poorly documented, if at all, and do not comply with current standards.

2. The Luch's report recommends public education to restrict water usage when the public water is available. But this is not enforceable without penalty and enforcement itself will be costly. What will the penalty be?

3. The Luchs report recommends Town inspections of septic systems. What will an inspection entail? Will the Health Department declare it will inspect every septic system that is not documented as a compliant system? What will it cost to do this? I doubt the health department and its budget have the capacity for this additional role. In fact, the department does not enforce the existing regulation that septic tanks be pumped every 5 years—our own household recently and voluntarily pumped out our tank 12 years after it was first installed without any insistence by the Town.

4. The Luchs report recommends the Town maintain current “land use controls”. But it can be argued that the current zoning department has created this problem. Few residents, if any, reported water problems 20 years ago. Since then zoning and planning has relaxed the land use controls and allowed small cottages to be demolished and replaced with much larger consumers of water. Another example of lack of land use controls: a teardown project on Marshall Road was given permission to construct a septic system in fill in a flood zone—the system was scoured away by one of the hurricanes. Finally, the planning department has neglected to inform residents that water service will result in even larger homes because restrictive clearances to wells will go away.

Conflict of Interest?

Is there a conflict of interest here? The Town’s engineer, Luchs, is diluting the recommendations of its consultant, Ballou. And is Luchs in line for the contract to design the water system? If so, then why would Luchs recommend the more restrictive recommendations by Ballou if the cost of those recommendations will potentially derail the project?

Incomplete Research and Documentation

The Town departments have not released enough information to demonstrate they are following a proper sequence of actions to ensure the natural environment will remain unaffected by a public water supply. The Town of Guilford has no plans on implementing the recommended environmental safeguards suggested in the Ballou study, and further stated town policy that individual septic issues are the responsibility of the land owner. The future water quality of my individual well water is in jeopardy from this project. In addition, the lack of controls on the environmental impact of unlimited water to this community could impact not only the vintage septic systems, but the shell fishing beds directly adjacent to these neighborhoods.

The town has failed to investigate less invasive individual whole house measures for those homeowners who might run low on water or have salt content in their water. The issues found with the wells, salt content and low water in drought conditions, do not mandate the environmentally disruptive and drastic measures of bringing in city water. If a professional organization would take the time to review the most recent well water testing (which was selectively hand-picked to reflect those with issues), it would become clear that the percentage of those wells with contaminates is minimal. And those with contaminates could be controlled by correcting failing septic systems or targeting a point source. This is clearly a convenience issue not a health issue. Please let me know if your organization can help to safeguard the delicate balance of the well water quality of our neighborhood from the potential impacts of unlimited city water in an area of aging septic systems

before we go any further down this costly and environmentally disruptive path and create a septic problem leading to sewers.

It should also be noted that the town already is currently condoning direct dumping of roof and ground/street run off into the sound in three locations in Mulberry Point. This is directly due to the overdevelopment of the properties directly adjacent to the direct dump locations. And they are planning to route a portion of the city water line through a marsh which has been under restoration by the DEP. Lastly, the origination path of the water route will allow for a major development along the western side of Long Cove cutting off the Guilford Land Conservation Trust's continuous wildlife corridor that now exists. For these and all the previous reasons, I am hopeful that you will call into question the merits of this ill thought out project.

Thank you for your time and attention to this matter.
Respectfully Submitted,
Elizabeth Kozarec

From: Brad Lareau
To: DPH.SourceProtection
Cc: [Bisacky, Patricia](mailto:Patricia.Bisacky)
Subject: RE: Environmental concerns for proposed Water Main project
Date: Friday, October 21, 2016 11:24:33 AM

Please note that the below information pertains to Scoping Notice #3:

Notice of Scoping for Town of Guilford (Bittner Park)- Mulberry Point Water Main Extension

From: Brad Lareau
Sent: Friday, October 21, 2016 11:17 AM
To: 'DPH.SourceProtection@ct.gov'
Cc: 'Patricia.Bisacky@ct.gov'
Subject: Environmental concerns for proposed Water Main project

To whom it may concern,

The Town of Guilford has proposed a large scale water main project, to supply unlimited drinking water to an area with septic systems that may not be able to handle the increased use expected, and the potential for harm to the environment exists. The Town of Guilford has no plans in place to monitor or address this concern for the environment, and has decided not to implement the suggestion from the engineers hired by the town to evaluate the septic systems in relation to this project. The attached document is listed in the town records for this project as Appendix D, and is focused on the potential impacts of this project on the existing residential septic systems. When asked if any of the recommendations would be implemented, the Town officials stated that septic issues are the responsibility of individual residents, and unless a system is obviously failing, and that situation if brought to the attention of the town officials, no action was warranted. There is no plan to implement any of the recommendation listed in Appendix D, and no plans to evaluate the impact of this project on the environment or in relation to the unlimited amounts of water introduced into these aging septic systems.

My concern is for the overall environment of these coastal properties, the surrounding Shellfishing beds, the Long Island Sound, and the Land Trust areas adjacent to these aging and substandard septic systems. As the attached study states, "By today's standards of design the existing septic systems on the vast majority of the lots are considered substandard. The residents have to continually "husband" their water use for fear of exacerbating currently malfunctioning septic systems." My concern is for the environment of this area when unlimited water, with no plans for control, is brought into a community that is known to have substandard septic systems. The Town of Guilford has no plans on addressing this issue before the project is started, and my hope is that an Environmental organization takes an interest in this project, and forces the Town to create a plan to address all of the issues raised in their own study, and assures the community that the protection of the environment is addressed before the project is approved.

It should also be noted that many of the water tests conducted to justify this study had high

levels of Nitrates, and failed for potable standards for this reason. Nitrates are known to originate from failing septic systems, and human and animal waste. The Town is aware of this, but has pointed out that no official study linking high Nitrates to septic systems is available, so without proof, they will not address the septic connection. As the attached study states in regards to addressing the issues that are causing the need for this project "Post Water Main Extension: With the extension of the water main to both residential communities will also come an increase in water use. There will also be an increase in water using devices such as All of the above-mentioned additional water uses will occur in spite of the fact that what "precipitated" the need for the water main extension will not have been altered one whit." Suggesting that failing septic systems and ground contaminations that are causing a need for clean water is not being addressed, and with the introduction of unlimited water use, the potential for harm to the environment exists.

The Closing Comments section of Appendix D should be noted:

"There are a number of reasons for extending the potable water main to the sea-shore communities. The prime reason is due to pollution of the existing ground water as-well-as diminishing quality of the ground water supply.

The massive expense to remediate the situation in the two communities warrants the introduction of much needed restrictive water use measures.

These restrictive water use measures are to insure that the pollution of the ground water and the large number of failing & near failing septic systems will gradually reverse direction with a continuing improvement to the local environment."

Thank you for your time,

Brad Lareau
81 Spencer Avenue
Guilford, CT 06437

From: Brian Walls
To: [DPH.SourceProtection](#)
Cc: [Bisacky, Patricia](#)
Subject: Environmental Impact Assessment Request - Guilford, CT
Date: Sunday, October 23, 2016 1:58:32 PM

To whom it may concern,

I am a resident of Mulberry Point in Guilford, CT. As you are likely aware, a small coalition of residents who overbuilt in a remote portion of this community have been leading an effort for over 20 years to route municipal water to them due to issues with their septic systems that they never worked to address. After several thwarted previous efforts over the years where the surrounding residents blocked the water line route, the Town of Guilford has now succumbed to this coalition and says it will allow a water line to be extended. Many of us in this community are against the project's new route through protected government land trust property, and we feel that the abundant water supply will overtax the very septic systems that led to the issues these residents have. They will likely jeopardize the surrounding marsh and Long Island Sound environment, not to mention the damage the proposed construction will cause.

Despite documented proof that the aquifer supporting this community is healthy and clean, much do to the proactive work of DEEP, the people behind the municipal water have pushed this project forward. People who have just neglected their septic systems and are looking for an easy path to cleaner water versus working through appropriate means to rectify the septic situation. The project has not been based on any true scientific research or studies, and the use of unrelated water tests from various years, questionably selected current wells, and no control group smells of a political decision made without regard to its implications.

Looking at the bidding process alone, without any geological or ecological research, it is a frightening proposal that ranges from \$3M - \$6M based on engineering guesswork. Anytime one sees a random number with a 100% potential variance and no valid research being rushed into existence by a questionable political process, rationality begs it to be questioned. On behalf of the people who do care much about the impact of this project, we ask that your department step in and act.

Sincerely,

Brian Walls

From: Tiffany Simonds
To: [DPH.SourceProtection](#)
Subject: Scoping for Mulberry Point Water Extension
Date: Friday, October 21, 2016 4:52:23 PM

Scoping for Town of Guilford (Bittner Park) Mulberry Point Water Main Extension

Dear Mr. Eric McPhee,

I am writing in regard to the Mulberry Point water main extension in the Town of Guilford. I have been following this proposed project since 2011. At that time, the neighborhood I live in, Indian Cove Association (ICA), was also a part of the project. Indian Cove is a private neighborhood that owns its roads and when a vote was taken to determine whether or not to join the project, we voted No. The main concerns for many residents, aside from the cost, was the environmental impact of such a project. The fear of blasting ledge on one lane roads so close to home foundations, the risk of polluting our shell fishing bay from septic run off due to an increase in water use with public water and the overdevelopment that would change the character of our sea side neighborhood. When ICA voted not to participate, a new route was chosen and this one concerns me even more since my property abuts the "open area" that is the Fisher property.

The current water main path will traverse an open area between Vineyard Point Rd and Lower Road. This land is privately owned by a Mr. Edwin Fisher and he has agreed to give a water easement over his property. The land owned by Mr. Fisher is a 40 acre piece of land that has been classified as forest land, and as such, costs very little in property taxes. It is basically untouched, with many old trees and an incredible amount of wildlife. To the south of the Fisher property is a 25.75 acre piece of land that belongs to the Guilford Land Conservation Trust, (GLCT) and to the north, is a 23.31 acre piece of property belonging to a Mr. Peter Johnson. Last year, Mr. Johnson gave a conservation easement over his property to the GLCT. To the north of Johnson's property is land owned by the GLCT. This piece connects with another 20 acres that runs south to Daniel Ave. and the bay, also owned by the GLCT. All of these pieces connect together, comprising one of the last large areas of undeveloped land in the populated Guilford shoreline. I regularly walk these parcels of land and appreciate the varied habitat, from tidal marsh to old undisturbed forest. The wildlife found in the area is extremely diverse. From the water birds like egrets, herons and osprey, to the birds of the forest like woodpeckers and owls. The animal population is vast from small to large with fisher cats, fox, coyote and deer.

My concern is the overall impact to the environment and wildlife when a road is cut through the woods, and the blasting of ledge begins. It will cut in half this "open area" or corridor for wildlife. I fear that not only will this area be badly disturbed while the water line is put in, but there will then be an incentive for the Fisher property to be developed, as there will be a free water main crossing the property. I had hoped to see an incentive for conservation, not development for this piece of land surrounded by protected parcels.

My other concern is the lack of due diligence by the Town of Guilford and the fact that this project has been pushed forward by a small number of people who believe this is the only solution. The Feasibility Study that was conducted focused on a route that followed existing roads. The Fisher property has not been studied and has not been surveyed, as it was not a part of the Feasibility Study. Core samples were taken on the existing roads to see the depth to ledge, but very little testing was done on actual water quality of wells. The current project has 144 properties and only 28 wells have been tested. The wells that had problems, were high in Nitrates, which is caused by leaking septic systems. The Feasibility Study, Appendix D, done by a Mr. Ballou, explains that water use will go up with public water and this will stress the older septic systems. He recommends that older systems be updated before hooking up to a public water line and that water quantities be limited. Whenever residents have voiced their concerns about this to the Town, they are told water use won't increase and septic problems are the responsibility of the property owner. The environmental risks to the bay will only increase with public water, directly affecting the shell fishing beds in the bay and the waters of Long Island Sound.

I urge you to carefully look over the actual data, both from the Feasibility Study including Appendix D and the recent well testing done by the Town of Guilford. I don't believe there is enough data to merit such drastic measures to try and help such a small group of people. There are other methods to resolve these problems. The fact that the

residents environmental concerns are continually disregarded and that the Town is not planning to implement any of the recommendations of the Ballou Study should raise a red flag. The risks to the environment are just too high.

I Thank you for looking into these environmental issues and am at your disposal should you need more information.

Tiffany Simonds
104 Highland Ave.
Guilford, CT 06437
203-464-7508

From: ACS
To: [Bisacky, Patricia](#)
Cc: [Labadia, Catherine](#)
Subject: Mulberry Point Water, Guilford
Date: Saturday, October 22, 2016 8:30:15 AM

Hello Patricia,

I am wondering if an archaeological survey was supposed to be done for the Mulberry Point Water connection project in Guilford. Can you check with Cathy Labadia at Connecticut State Historic Preservation Office? Email copied, phone is 860-256-2764. Thanks,

Greg Walwer
203-623-4600 cell

Gregory F. Walwer, Ph.D
ACS Director
Phone: (203) 458-0550
Fax: (203) 672-2442
E-mail: acsinfo@yahoo.com

10-20-16

Mr. Eric McPhee
Department of Public Health
Drinking Water Section
410 Capitol Avenue, MS #51WAT
PO Box 340308
Hartford, CT 06134-0308



Re: Mulberry Point Water Main Extension

Dear Mr. McPhee,

If you were to exam this project in detail as it has evolved over the years you would either quickly or eventually realize that it has been developed with a 'kick the can down the road' philosophy with many mistakes and shortfalls occurring along the way. This is most likely attributable to the fact that it is a politically motivated effort that has bypassed the utility of good science, engineering and business practice. It remains to be seen as to whether or not and to what extent the political aspect applies at the State level. Certainly I can't supply six years of my observations and interactions with this project in a complaint letter. To that end though I'm submitting a letter to you that I sent to Cameron Walden earlier this year in regard to what I felt was very inadequate collection and analysis of well water data for this project. Apparently, as an upshot of that letter, the DPH requested that additional testing be performed by the Guilford Health Department. However the additional testing continues to lack scientific standards and is not being monitored for selection bias. Neither the State nor the local health department has offered any statement regarding hypothesis and methodology for applying statistical inference to the available data, yet such inference is applied. Additionally and perhaps of particular interest to you is Appendix D of the original feasibility study. Appendix D is the work of a sub-consultant to Luchs Consulting Engineers that examines the existing septic conditions and potential impact of public water on the future state of the septic field in the project area. Obviously any considered attention brought to this aspect of the project would be from the politically motivated point of view a major impediment to moving the project forward. It's no surprise then that the consulting engineer (Luchs) has relagated one sentence of the Feasibility Report to dealing with this topic (please see pages 27-31 of the enclosed letter). The DEEP is already in other shoreline communnities aggressively involved in dealing with this issue of marginal septic fields. Why is it being glossed over in the case of the Guilford project?

My hope is that you will take the initiative and spend some time investigating this project for it's true merits based on what should be sound scientific principles as well as fair business practices. The three estimates (copies enclosed) garnered for budgeting purposes for presenting costs to the participating public ranged from just under \$3 million to \$6 million and were acquired without using a standardized bid form. How can anything meaningful be derived from that kind of practice? And yet these are the numbers that the Town puts forward without detailed explanation of the methodology by which they are derived. My suggestion would be to read the original Feasibility Report as a politically motivated marketing agenda and much if not all of what I and others in the community have been struggling with will become clear.

Thank you for your time in considering this matter.

Respectfully submitted,

Chris Tietjen
18 Meriden St.
Guiford, CT 06437
203-458-7000
ckth@att.net

Dear Mr. Walden,

I'm writing to you subsequent to a conversation I had with Raul Tejada on 1/5/16 regarding an application submitted to the DWSRF by the Town of Guilford for funding for the Mulberry Point Water Main Extension Project. My concerns, as I expressed them to Mr. Tejada, are that the data points being supplied to you by the Town are in general outdated and in those few cases where the data has been more recently obtained, that data is lacking in sufficient scope to be a representative sample of all the households potentially involved in the project. In addition to the datedness and insufficiency in scope of the data, I would also suggest that a selection bias exists. This situation, in my opinion, has occurred because no true needs assessment for the project has ever been conducted. Such an assessment has not been undertaken by the Town nor the engineering firm that did the original feasibility study.

The Feasibility Report states in section 1.3, "The Guilford Health Department has collected water data and performed extensive testing of drinking water wells in the project area over the past 10 years." (The ten year period that is being referenced is 2002 to 2012, 2012 being the year the Feasibility Report was presented for review.) However, by examining the actual data being supplied by the health department (see appended), it is self evident that extensive testing has not been conducted. In that ten year period only 64 of the 283 households in that larger project scope were tested. Of those 64 households tested, 6 households were on the same community well. So in actuality only 58 independent wells were tested. Data for 80% of the wells was never collected. The Feasibility Report goes on in the same paragraph to state, "In one survey of well water quality 70% of wells exceeded recommended secondary contaminant levels and 40% exceeded primary MCL for nitrates." That survey was a 2002 survey that only looked at 31 households out of a possible 283. Eleven percent were examined while 89% of the households were not represented in that data set. In the application before you, on the sheet titled "System Consolidation Project Worksheet", item #10, you will see a list of wells that are labeled "Documented instances of water contaminants exceeding the MCL or action levels standards for private wells." Of the 21 wells listed in item #10, 18 of them are showing test results from this 2002 survey. These test results are 14 years old and are being submitted as a principal basis for funding.

In the interest of further illustrating this situation I've appended a map and a spread sheet summary that shows the time frame and location of all of the testing results available to date (as of Nov. 13, 2015). The map shows only those wells that have 'failed' results. The data shown has been made available to me by the Guilford Health Department (see appended with covering email text). To the best of my knowledge this is the entire data set of tested wells for the project before you. It consists of well data that was acquired in 2002 (21 observations), data that was subsequently acquired between 2002 and 2007 (16 observations) and then additional data that was acquired between 2007 through 2015 (9 observations). None of this data (46 observations of a possible 155) was acquired in a systematic way (or in a single time frame) as part of a comprehensive study to determine the condition of wells in the current project area for the current project. There has been no analysis of remedial methods that might be applied to those wells with water issues, some of which can be readily corrected by well owners. Eight of the well data points shown in the current application minimally fail only for sodium at the 'Notification Level' of 28 mg/L. The condition of these wells can be readily re-mediated by methods available to the individual well owners. A great leap has been made to conclude from this small collection of mostly outdated data that public water is 1) the only solution that applies to re-mediating the water situation for those households represented with data and 2) that this public water solution should also apply to a much larger, untested group of households, that may have wells with no

compliance failings or with failings that can be re-mediated by methods readily available to individual owners. Without accurate and comprehensive data the general need for public water over the entire project area cannot adequately be determined. It has not been determined by data whether the current effort to bring public water to the area is based on actual health related need or merely desire for economic and life-style improvement of personal property.

I would also like to point you to a YouTube video titled "Board of Finance 11/11/15 Pt 2 of 2" with the link being <https://www.youtube.com/watch?v=e-m_gZsH8Y8>. In the first 9:23 minutes of this recording you will hear the summary conclusions of the Guilford Board of Finance members regarding a petition to acquire by eminent domain an easement from Indian Cove Association for this project brought to them by some residents of the Mulberry and Tuttle's Point Associations. I would recommend that you listen to this short segment of video as it will further illustrate the lacking comprehensive and scientific approach that the Town has taken in regard to putting this project forward. The more inclusive conversation between Town officials at that meeting can be viewed at <<https://www.youtube.com/watch?v=6fYsSB2jsdk>> between time frame 1:05:48 and 1:59:02. I would suggest that you view this also as it addresses the concerns that I mention in this communication without what might be seen as my personal bias.

Thank you for your attention to this matter.

Chris Tietjen
18 Meriden St.
Guilford, CT 06437

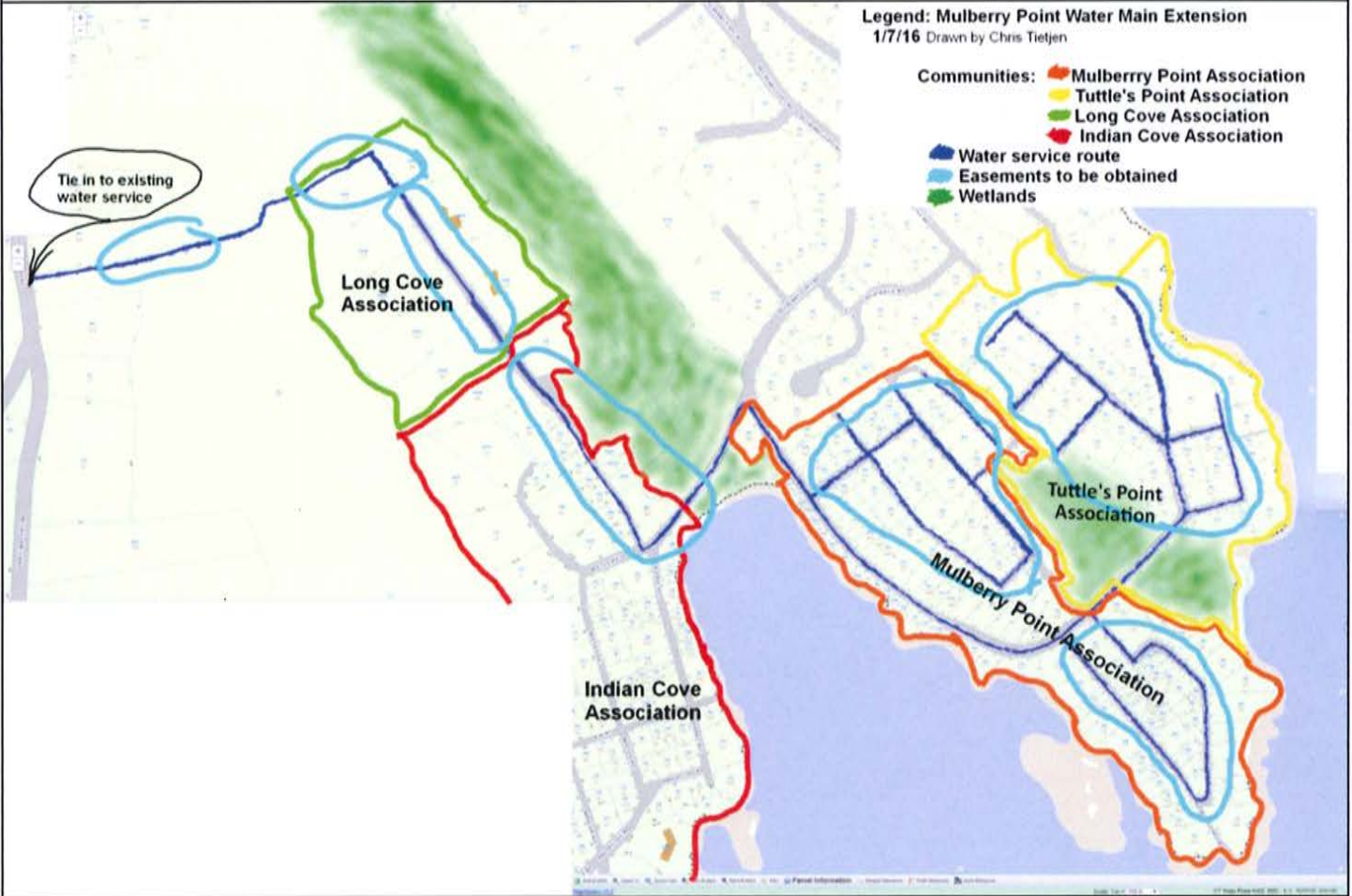
203-458-7000

Appended Items

Map showing current project area, communities and easements.	Page 3
Map based on all data available as of 11/13/15 showing failed well test results in the current project area.	Page 4
Summary spreadsheet based on all data available as of 11/13/15 of well test data in the current project area.	Page 5
Excerpt from Feasibility Report - Sec. 1.3 questioning the veracity of the Feasibility Report. The claim in language of "extensive testing" combined with the lack of actual validating data constitutes a major failure of professionalism.	Page 6
Newspaper article (New Haven Register) contributing more evidence to the discrepancy between claims to having data and actually having it.	Page 7
Recent email text pointing to validation of the 14 pages of well test data to follow.	Page 8
All available well test data as of 11/13/15.	Pages 9 - 22
Newspaper article (Guilford Courier) and email text documenting and validating the nearly 50/50 split regarding interest in the original water project of 2011-2012.	Pages 23 - 24
Comments on the Feasibility Report - Sec. 2.3 - last paragraph regarding septic system impact.	Page 25
Appendix D of the Feasibility Report.	Pages 26 - 28
Dennis Johnson's response to the criticism by the Board of Finance at the 11/11/15 meeting regarding lack of attention to Appendix D. Excerpted from update posted on the Town website; "Mulberry Point/Tuttle's Point Water Main Extension Updates: Update #1".	Page 29
Map of well/septic conflicts showing how ineffective "current controls" have been in maintaining best practices.	Page 30

Legend: Mulberry Point Water Main Extension
1/7/16 Drawn by Chris Tietjen

- Communities:**
- Mulberry Point Association
 - Tuttle's Point Association
 - Long Cove Association
 - Indian Cove Association
- Water service route
■ Easements to be obtained
■ Wetlands

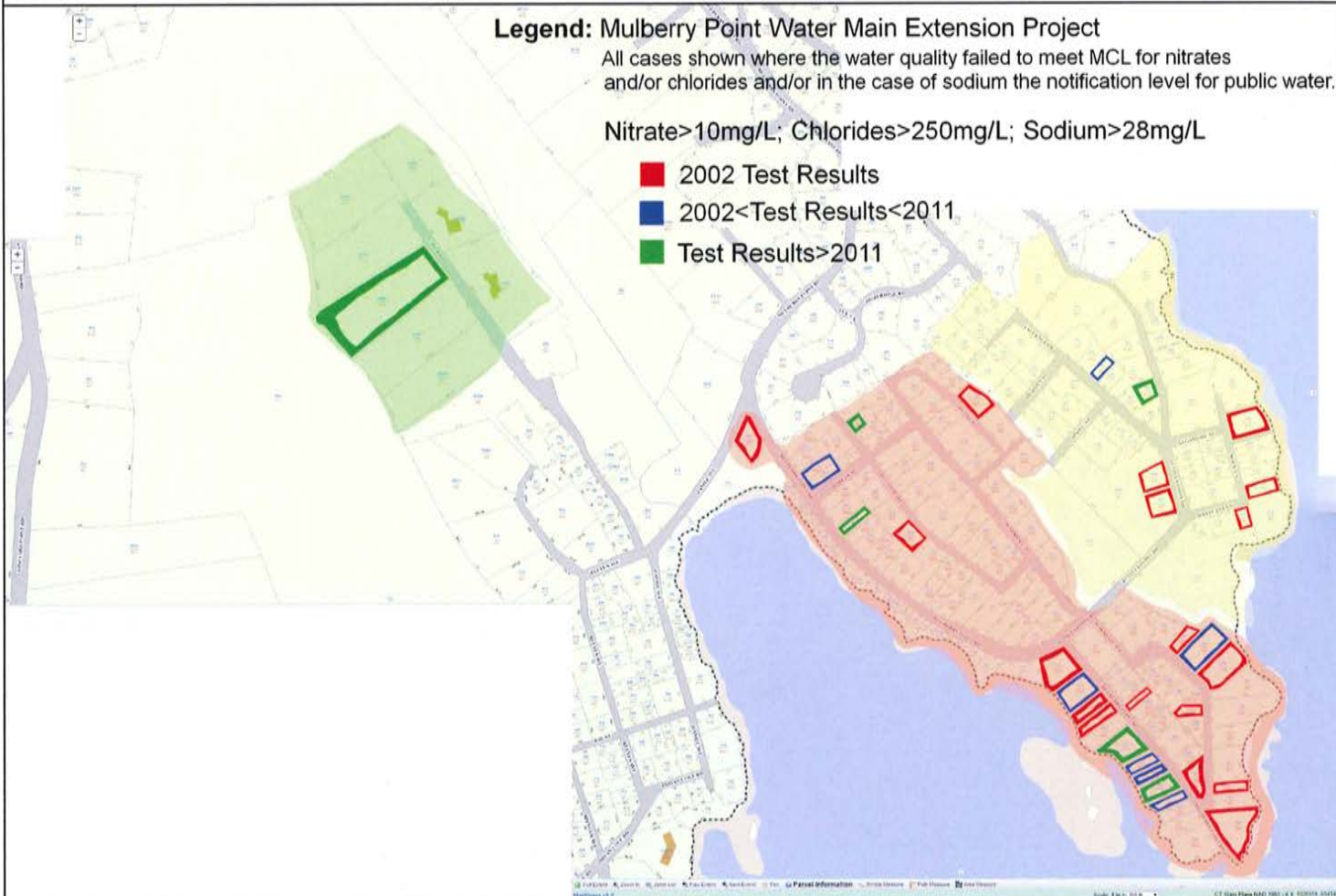


Legend: Mulberry Point Water Main Extension Project

All cases shown where the water quality failed to meet MCL for nitrates and/or chlorides and/or in the case of sodium the notification level for public water.

Nitrate > 10mg/L; Chlorides > 250mg/L; Sodium > 28mg/L

- 2002 Test Results
- 2002 < Test Results < 2011
- Test Results > 2011



1	A	B	C	D	E	F	G	H
	Year	Street Number	Street	Sodium	Chlorides	Nitrate	Notes 1	Notes 2
2	2002	52	Decatur	31	41	23.00		From April 2002 survey.
3	2002	66	Decatur	15.6	19	5.10		From April 2002 survey.
4	2015	97	Decatur	35.3	106	6.70		Verified date.
5								
6	2011	57	Faulkner	23	35	6.50		Date unverified. 2002<date>2011
7	2010	35	Faulkner	33.3	32.6	2.00	Best of two tests 2010.	Verified date.
8								
9	2002	595	Mulberry Point Rd.	30.2	65	8.94		From April 2002 survey.
10	2002	694	Mulberry Point Rd.	28	54	0.05		From April 2002 survey.
11	2002	751	Mulberry Point Rd.	56	62	5.50	Bacteria present.	From April 2002 survey.
12	2002	773	Mulberry Point Rd.	263	575	11.10		From April 2002 survey.
13	2002	777	Mulberry Point Rd.	1420	2100	18.30		From April 2002 survey.
14	2002	786	Mulberry Point Rd.	15	990	13.50		From April 2002 survey.
15	2002	836	Mulberry Point Rd.	394	310	11.20		From April 2002 survey.
16	2009	624	Mulberry Point Rd.	30.7	112.2	7.00		Verified date.
17	2011	622	Mulberry Point Rd.	18.7	127	8.70		Date unverified. 2002<date>2011
18	2011	763	Mulberry Point Rd.	190	451	12.00		Date unverified. 2002<date>2011
19	2011	801	Mulberry Point Rd.	55	93	13.04	Bacteria present.	Date unverified. 2002<date>2011
20	2011	805	Mulberry Point Rd.	12.8	45		Bacteria present.	Date unverified. 2002<date>2011
21	2011	819	Mulberry Point Rd.	98	220	4.80	Bacteria present.	Date unverified. 2002<date>2011
22	2011	825	Mulberry Point Rd.		880	6.20	Bacteria present.	Date unverified. 2002<date>2011
23	2011	829	Mulberry Point Rd.		1700	9.40	Bacteria present.	Date unverified. 2002<date>2011
24	2012	789	Mulberry Point Rd.	36.9	129	12.00		Verified date.
25	2013	815	Mulberry Point Rd.	220	208	8.07		Verified date.
26	2014	815	Mulberry Point Rd.	77.3	209	11.90		Verified date.
27	2015	648	Mulberry Point Rd.	34	60	17.40		Verified date.
28								
29	2002	8	Marshall Ave.	59	140	11.00		From April 2002 survey.
30	2002	9	Marshall Ave.	93	340	10.20		From April 2002 survey.
31	2002	23	Marshall Ave.	31	79	10.90		From April 2002 survey.
32	2002	27	Marshall Ave.		60	8.80		From April 2002 survey.
33	2002	32	Marshall Ave.	51.8	90	14.40		From April 2002 survey.
34	2002	35	Marshall Ave.	49	230	13.90		From April 2002 survey.
35	2002	63	Marshall Ave.	797	1150	14.80		From April 2002 survey.
36	2007	45	Marshall Ave.	42	78	8.40		Verified date.
37	2007	55	Marshall Ave.	200	650	5.20		Verified date.
38	2011	9	Marshall Ave.	93	1515	10.20		Date unverified. 2002<date>2011
39								
40	2011	12	Lower Rd.	24.1	63.3	0.00		Date unverified. 2002<date>2011
41	2013	122	Lower Rd.	71.4	24	0.00		Verified date.
42								
43	2011	5	Meriden St.	50	140	3.00		Date unverified. 2002<date>2011
44								
45	2011	39	Rock Lane	36	61	11.40		Date unverified. 2002<date>2011
46								
47	2002	1	Ruth Lane	770	1800	0.40		From April 2002 survey.
48	2002	19	Ruth Lane	33	30	7.20		From April 2002 survey.
49	2002	27	Ruth Lane	24	25	8.00		From April 2002 survey.
50	2011	9	Ruth Lane	33	70	7.20		Date unverified. 2002<date>2011
51								
52	2002	62	Tuttle's Point Rd.	170	390	5.10		From April 2002 survey.
53	2002	78	Tuttle's Point Rd.	88	250	4.40		From April 2002 survey.
54	2011	145	Tuttle's Point Rd.	540	1100	0.01		Date unverified. 2002<date>2011
55	2015	110	Tuttle's Point Rd.	50.3	136	3.40		Verified date.
56								
57	2002	23	Whitetop	36	50	7.60		From April 2002 survey.

The data above is the complete data set that was available for this project as of 11/13/15.

The section below is from the Feasibility Report
by Luchs Consulting Engineers.

1.3 **Background**

The Indian Cove, Mulberry Point and Tuttle's Point shoreline areas are densely developed summer and year round residential neighborhoods located on the Long Island Sound shoreline in Guilford, Connecticut. Many of the homes in these densely developed areas were built in the early 1900's as seasonal cottages, utilizing private water supply wells and on-site sewage disposal methods which have experienced problems over the years. Septic system issues within the communities have been addressed, but private well quality and quantity issues remain. Residential structures vary from the small Connecticut shoreline summer cottage to new year-round residences. There are approximately 350 homes in the 126 acre area. The Town of Guilford has worked with residents of the area who have experienced private well and septic system problems for many years.

The Guilford Health Department has collected water data and performed **extensive testing** of drinking water wells in the project area over the past 10 years. In one survey of well water quality 70% of wells exceeded recommended secondary contaminant levels and 40% exceeded primary MCL for nitrates. Neighborhoods adjacent to the study area showed concentration of contaminants below recommended action levels.

No such extensive testing has ever been performed. In the 2002 survey referenced only 11% of the wells were examined; 89% of the wells were not included in the survey. Of the 31 wells tested at that time, 10 were in the Indian Cove Association, 18 were in the Mulberry Point Association and 3 were in the Tuttle's Point Association. Of the 18 wells in the Mulberry Point Association, 10 of those that tested bad were on the Mulberry Point peninsula. Those 10 represent a very small group of people with a unique problem specific to their geographic location.

Department of Public Health's Water Utility Coordinating Committee (WUCC) process. The CWC supported efforts by the Town and area residents during the 2000 to 2002 timeframe when a water main extension to the area was considered, and remains in support of this new initiative.

Please note below the exaggerated claim of well tests made. The total number of tests made available at that time were 64 with six of them being from water on the same community well. Hence only 58 distinct wells were tested of approximately 280 and that included wells no longer in the current project scope.

Public water for coastal areas to be costly

This article appeared in the December 20, 2011 issue of the New Haven Register

By Susan Misur
Register Staff

smisur@nhregister.com

GUILFORD — Residents of three coastal neighborhoods learned Monday that piping public water to their properties could cost the 287 households more than \$10,000 each.

The news raised a heap of questions about the proposal.

If the project comes to fruition, all home and property owners in Tuttle's Point, Indian Cove and Mulberry Point would need to pay the special assessment, even if they don't

plan to hook up to public water and keep using their wells, Town Health Director Dennis Johnson said.

The project will not use tax dollars because it only affects a few specific areas, Johnson explained during an information session held at the Nathanael B. Greene Community Center.

More than 100 people attended the meeting, which was held to discuss results of a feasibility study on improving water quality for three neighborhoods, and gauge interest of coastal residents of switching to public water.

Well water in those areas is at risk of contamination

because of the properties' proximity to Long Island Sound.

"We did a thorough analysis back in 2003 and sampled about 150 wells and found that approximately 70 percent of wells had trace amounts of nitrates or exceeded the acceptable amount, and that generally comes from untreated sewage. Others had problems with e. coli and bacteria," Johnson said.

The water quality issue has been discussed for years, but when the town received a state grant for the latest study in 2010, plans for public water resurfaced.

Johnson worked with Luchs Consulting Engineers on the study, which considered various alternatives for a new water supply system. The town recommends extending a nearby waterline because it's the cheapest option and easiest method to get approved by the state, said Ronald Nault, of Luchs Consulting Engineers.

Branching waterlines off an existing line on nearby West Lane to the three Shoreline areas would cost \$3.5 million. The Connecticut Water Co. would contribute \$665,000, Nault

See Guilford, B4

The next page is an email exchange between myself and Dennis Johnson presented to validate the following 14 pages of raw data that has been represented to be the total data set available for this project as of the 11/13/15.

The first three pages of that data is what was being used to validate the project during the 2011-2012 period when the project scope included the Indian Cove Association. The relevant portions of those three pages and the remaining eleven pages are the data detailed on the map and summary spreadsheet shown earlier. The map shows only the failed wells.

Water Tests(3)

ckth@att.net

To

Dennis Johnson

11/13/15 at 12:17 PM

Hi Dennis,

Just to document our conversation this morning, I'm looking for clean copies of two studies I already have.

One is titled:

"Water Quality Survey n=31 Apr-02
Mulberry Point, Tuttle's Point, Indian Cove"

The other is titled:

"Well Water Test Results Mulberry Point Area, Tuttle's Point and Indian Cove"

This is data that I received from you during the vetting of the water project in 2011-2012. At that time you indicated that they comprised the sum total of data that you had concerning complaints of bad water quality.

If there is new data available that has been collected since that time because of water quality complaints I would also like that.

I would also like the water quality data you have on the new Marshall Ave properties that you alluded to having.

Lastly, I'm more than willing to spend my own time sorting through any data that you have regarding well tests that are associated with change of ownership.

Thanks for your attention to this.

Chris

Dennis Johnson <djohnson@ci.guilford.ct.us>

To

'ckth@att.net'

11/17/15 at 3:39 PM

Chris:

Attached are clean copies of the two studies you requested and copies of the more recent well water test results, including the real estate well inspection reports.

Dennis

Well Water Test Results Mulberry Point Area, Tuttle Pt and Indian Cove

<u>ADDRESS</u>	<u>Secondary Standard</u>		<u>Primary Standards</u>
	<u>SODIUM</u> (28mg/l)	<u>CLORIDES</u> (250mg/l)	<u>NITRATE</u> (10mg/l)
14 Bay St	28.5	39.2	12.4
18	28	51	6.0
97 Daniel Ave	21	30.4	1.0
101	26.4	54.6	2.3
103	17	24	13
106	37	21	<0.1 Fuel Oil Present
119	19.2	31	6.40
131	21.4	17.5	7.64
149	22.2	50	9.1 (bacteria present)
162	28	51	6.0
114	39	70	<0.05
52 Decatur	31	41	23
66	15.6	19	5.1
57 Faulkner Dr	23	35	6.5
35	31	49	5.2
14 Highland	24	31.5	8.9
3 Indian Cove Rd	28	51	12.4
15	28	51	6.0
70	-	4.1	16.0
595 Mulberry Pt. Rd	30.2	65	8.94
622	18.7	127	8.7
694	28	54	<.05
751	56	62	5.5 (bacteria present)
763	190	451	12.0
773	283	575	11.1
777	1420	2100	18.3
786	15	990	13.5
801	55	93	13.04(bacteria present)
805	12.8	45	(bacteria present)
825	-	880	6.2 (bacteria present)
819	98	220	4.8 (bacteria present)
829	-	1700	9.4
836	394	310	11.2
8 Marshall Ave	59	140	11
9	93	1515	10.2
23	31	79	10.9

Marshall (cont.)

27	-	60	8.8
32	51.8	90	14.4
35	49	230	13.9
45	125	430	28.5
63	797	1150	14.8
12 Lower Road	24.1	63.3	0.0
5 Meriden St	50	140	3.0
25 Prout St	32	22	2.5
7 Reeves Ave	28	51	12.4
27 Reeves Ave	-	47.8	6.7
39 Rock Lane	36	61	11.4
1 Ruth Lane	770	1800	0.4
9	33	70	7.2
19	33	30	7.2
27	24	25	8.0
2 Spencer Ave	22 (6.2pH)	42	6.3
25	19.6	12.5	1.4
24			8.0
45	20	30	5.5
126	23	35	5.1
131	36	39	1.4
62 Tuttle Point Rd	170	390	5.1
78	88	250	4.4
145	540	1100	<0.01
23 Whitetop	36	50	7.6

29



3 Research Drive - Woodbridge, CT 06525

WATER ANALYSIS REPORT

TO: FIVE STAR INSPECTION SERVICES ,LLC
PO BOX 1345
MADISON, CT 06443-

TEST ID: B09011531
DATE SAMPLED: 9/1/2015
SAMPLE POINT: KITCHEN SINK
AFTER TREATMENT SYSTEM
SAMPLED BY: WARREN TOMEK

PROPERTY LOCATION: 648 MULBERRY POINT ROAD - GUILFORD, CT

BACTERIA			LIMITS	METHOD
COLIFORM (total)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
E. COLI (fecal)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
CHLORINE	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT -	

PHYSICAL PARAMETERS	RESULT	UNITS	LIMITS	MRL	METHOD
pH	6.7	SU	6.4 - 10 S	0	SM 4500-H B
TURBIDITY	0.30	NTU	5 -	0.10	SM 2130 B
COLOR	ND	CU	15 S	5	SM 2120 B
ODOR	0	TON	2 S	0	SM 2150

CHEMICALS	RESULT	UNITS	LIMITS	MRL	METHOD
FLUORIDE	ND	mg/L	4 P	0.3	EPA 300.0
CHLORIDE	60	mg/L	250 P	3	EPA 300.0
NITRITE NITROGEN	ND	mg/L	1 P	0.1	EPA 300.0
* NITRATE NITROGEN	17.4	mg/L	10 P	1	EPA 300.0
SULFATE	36	mg/L	250 S	4	EPA 300.0
CALCIUM	66	mg/L	NONE -	0.5	SM 3111 B
MAGNESIUM	9	mg/L	NONE -	0.5	SM 3111 B
* HARDNESS	201	mg/L	200 S	4	SM 2340 B
* SODIUM	34.0	mg/L	28 S	0.5	SM 3111 B
COPPER	0.18	mg/L	1.3 S	0.04	SM 3111 B
IRON	ND	mg/L	0.3 S	0.04	SM 3111 B
MANGANESE	ND	mg/L	0.05 S	0.04	SM 3111 B

RADON WATER	RESULT	UNITS	LIMITS	MRL	METHOD
SINGLE RADON WATER	697	pCi/L	5,000 S	51	SM 7500-Rn

CONCLUSION: Based on the above results, this water was not safe for drinking purposes at the time of collection. Corrective measures, followed by re-examination, are recommended.

P = Primary limit, used to judge potability
S = Secondary limit, recommended but not required
MRL = Minimum Reportable Level
* Limit exceeded
ND = None Detected
CT License #PH-0466, Aquatek Labs

David M. Graham, Ph.D.
Laboratory Director



3 Research Drive - Woodbridge, CT 06525

WATER ANALYSIS REPORT

TO: SCHAEFER INSPECTION SERVICE
ONE BRADLEY ROAD
WOODBIDGE, CT 06525

TEST ID: D08271520
DATE SAMPLED: 8/27/2015
SAMPLE POINT: BATHROOM SINK
NO TREATMENT SYSTEM
SAMPLED BY: PHIL RELLA

PROPERTY LOCATION: 97 DECATUR AVENUE - GUILFORD, CT

BACTERIA			LIMITS	METHOD
COLIFORM (total)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
E. COLI (fecal)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
CHLORINE	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT -	

PHYSICAL PARAMETERS	RESULT	UNITS	LIMITS	MRL	METHOD
pH	7.0	SU	6.4 - 10 S	0	SM 4500-H B
TURBIDITY	0.70	NTU	5 -	0.10	SM 2130 B
COLOR	ND	CU	15 S	5	SM 2120 B
ODOR	0	TON	2 S	0	SM 2150

CHEMICALS	RESULT	UNITS	LIMITS	MRL	METHOD
FLUORIDE	ND	mg/L	4 P	0.3	EPA 300.0
CHLORIDE	106	mg/L	250 P	3	EPA 300.0
NITRITE NITROGEN	ND	mg/L	1 P	0.1	EPA 300.0
NITRATE NITROGEN	6.7	mg/L	10 P	1	EPA 300.0
SULFATE	17	mg/L	250 S	4	EPA 300.0
CALCIUM	62	mg/L	NONE -	0.5	SM 3111 B
MAGNESIUM	9	mg/L	NONE -	0.5	SM 3111 B
HARDNESS	191	mg/L	200 S	4	SM 2340 B
* SODIUM	35.3	mg/L	28 S	0.5	SM 3111 B
COPPER	0.04	mg/L	1.3 S	0.04	SM 3111 B
IRON	ND	mg/L	0.3 S	0.04	SM 3111 B
MANGANESE	ND	mg/L	0.05 S	0.04	SM 3111 B

RADON WATER	RESULT	UNITS	LIMITS	MRL	METHOD
DUAL RADON WATER (AVG)	106	pCi/L	5,000 S	51	SM 7500-Rn

The two radon levels used to calculate the above average agree within established limits.

SPECIAL TESTS	RESULT	UNITS	LIMITS	MRL	METHOD
ARSENIC	ND	mg/L	0.010 P	0.003	EPA 200.9
URANIUM	ND	µg/L	30 P	1.00	EPA 200.8

CONCLUSION: Based on the above results, this water was safe for drinking purposes at the time of collection.

P = Primary limit, used to judge potability
S = Secondary limit, recommended but not required
MRL = Minimum Reportable Level
* Limit exceeded
ND = None Detected
CT License #PH-0466, Aquatek Labs

David M. Graham, Ph.D.
Laboratory Director

Reference Laboratory: Environmental Consulting Lab
1005 Boston Post Road
Madison, CT 06443



3 Research Drive - Woodbridge, CT 06525

WATER ANALYSIS REPORT

TO: COASTAL HOME INSPECTION
23 CARDINAL STREET
EAST LYME, CT 06333-

TEST ID: B06021569
DATE SAMPLED: 6/1/2015
SAMPLE POINT: BATHROOM SINK
NO TREATMENT SYSTEM
SAMPLED BY: ELLERY KINGTON

PROPERTY LOCATION: 110 TUTTLES POINT ROAD - GUILFORD, CT

BACTERIA			LIMITS	METHOD
COLIFORM (total)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
E. COLI (fecal)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
CHLORINE	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT -	

PHYSICAL PARAMETERS	RESULT	UNITS	LIMITS	MRL	METHOD
pH	6.6	SU	6.4 - 10 S	0	SM 4500-H B
TURBIDITY	0.45	NTU	5 -	0.10	SM 2130 B
COLOR	10	CU	15 S	5	SM 2120 B
ODOR	0	TON	2 S	0	SM 2150

CHEMICALS	RESULT	UNITS	LIMITS	MRL	METHOD
FLUORIDE	ND	mg/L	4 P	0.3	EPA 300.0
CHLORIDE	136	mg/L	250 P	3	EPA 300.0
NITRITE NITROGEN	ND	mg/L	1 P	0.1	EPA 300.0
NITRATE NITROGEN	3.4	mg/L	10 P	1	EPA 300.0
SULFATE	17	mg/L	250 S	4	EPA 300.0
CALCIUM	79	mg/L	NONE -	0.5	SM 3111 B
MAGNESIUM	4	mg/L	NONE -	0.5	SM 3111 B
* HARDNESS	213	mg/L	200 S	4	SM 2340 B
* SODIUM	50.3	mg/L	28 S	0.5	SM 3111 B
COPPER	ND	mg/L	1.3 S	0.04	SM 3111 B
IRON	0.25	mg/L	0.3 S	0.04	SM 3111 B
MANGANESE	ND	mg/L	0.05 S	0.04	SM 3111 B

RADON WATER	RESULT	UNITS	LIMITS	MRL	METHOD
SINGLE RADON WATER	124	pCi/L	5,000 S	51	SM 7500-Rn

CONCLUSION: Based on the above results, this water was safe for drinking purposes at the time of collection.

- P = Primary limit, used to judge potability
- S = Secondary limit, recommended but not required
- MRL = Minimum Reportable Level
- * Limit exceeded
- ND = None Detected
- CT License #PH-0466, Aquatek Labs

David M. Graham, Ph.D.
Laboratory Director

Aquatek Labs

3 Research Drive - Woodbridge, CT 06525

WATER ANALYSIS REPORT

TO: NPI CLINTON
32 HERITAGE CIRCLE
CLINTON, CT 06413

TEST ID: E01311449
DATE SAMPLED: 1/29/2014
SAMPLE POINT: KITCHEN SINK
AFTER TREATMENT SYSTEM
SAMPLED BY: KEVIN J. GOFF

PROPERTY LOCATION: 815 MULBERRY POINT ROAD - GUILFORD, CT

BACTERIA			LIMITS	METHOD
COLIFORM (total)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
E. COLI (fecal)	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT P	SM 9223
CHLORINE	<input checked="" type="checkbox"/> ABSENT	<input type="checkbox"/> PRESENT	ABSENT -	

PHYSICAL PARAMETERS	RESULT	UNITS	LIMITS	MRL	METHOD
pH	7.2	SU	6.4 - 10 S	0	SM 4500-H B
TURBIDITY	0.15	NTU	5 -	0.10	SM 2130 B
COLOR	10	CU	15 S	5	SM 2120 B
ODOR	0	TON	2 S	0	SM 2150

CHEMICALS	RESULT	UNITS	LIMITS	MRL	METHOD
FLUORIDE	ND	mg/L	4 P	0.3	EPA 300.0
CHLORIDE	209	mg/L	250 S	3	EPA 300.0
NITRITE NITROGEN	ND	mg/L	1 P	0.1	EPA 300.0
* NITRATE NITROGEN	11.9	mg/L	10 P	1	EPA 300.0
SULFATE	26	mg/L	250 S	4	EPA 300.0
CALCIUM	116	mg/L	NONE -	1	SM 3111 B
MAGNESIUM	15	mg/L	NONE -	1	SM 3111 B
* HARDNESS	353	mg/L	200 S	1	SM 2340 B
* SODIUM	77.3	mg/L	28 S	0.1	SM 3111 B
COPPER	0.10	mg/L	1.3 S	0.02	SM 3111 B
IRON	0.03	mg/L	0.3 S	0.02	SM 3111 B
MANGANESE	ND	mg/L	0.05 S	0.02	SM 3111 B

RADON WATER	RESULT	UNITS	LIMITS	MRL	METHOD
SINGLE RADON WATER	79	pCi/L	5,000 S	51	SM 7500-Rn

SPECIAL TESTS	RESULT	UNITS	LIMITS	MRL	METHOD
ARSENIC	ND	mg/L	0.010 P	0.001	EPA 200.9
URANIUM	ND	µg/L	30 P	1.00	EPA 200.8

CONCLUSION: Based on the above results, this water was not safe for drinking purposes at the time of collection. Corrective measures, followed by re-examination, are recommended.

P = Primary limit, used to judge potability

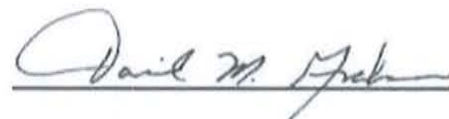
S = Secondary limit, recommended but not required

MRL = Minimum Reportable Level

* Limit exceeded

ND = None Detected

CT License #PH-0466, Aquatek Labs



David M. Graham, Ph.D.

Laboratory Director

Reference Laboratory: Environmental Consulting Lab
1005 Boston Post Road
Madison, CT 06443



131 Bradley Road - Woodbridge, CT 06525

17-59

RECEIVED

MAY 21 2010

HEALTH DEPARTMENT
GUILFORD, CONNECTICUT

Water Analysis Report

WATER SOURCE: 35 FAULKNER DRIVE - GUILFORD, CT
NO TREATMENT, KITCHEN FAUCET

TO: MCGUIRE, JOSH
128 TUTTLE POINT ROAD
GUILFORD, CT 06443

DATE: 05/19/2010
TEST#: C0519007

BACTERIOLOGICAL EXAMINATION

Total Coliforms Present _____ Absent X

Fecal Coliforms Present _____ Absent X

PHYSICAL/CHEMICAL EXAMINATION	RESULT	AL	UNITS
Turbidity	0.50	5.0	NTU
Color	10	15	---
Odor	N.D.	2	---
pH	7.1	10.0 - 6.4	---
Calcium	35.1	None	mg/L
Magnesium	3.8	None	mg/L
Hardness	103.3	200	mg/L
Nitrate Nitrogen	2.0	10.0**	mg/L
Nitrite Nitrogen	N.D.	1.00**	mg/L
Sulfate	19.4	250.0	mg/L
* Sodium	33.3	28.0	mg/L
Chloride	32.6	250.0	mg/L
Copper	0.03	1.30**	mg/L
Iron	0.03	0.30	mg/L
* Manganese	0.07	0.05	mg/L

CONCLUSIONS: Based on the above results, this water was safe for drinking purposes at the time the sample was collected.

Sampled By: Willlliam Denslow under the direction of Aquatek Labs.

AL = Advisory Level = EPA Maximum Contaminant Level (MCL) or State enforceable standard when value followed by **.

N.D. = None Detected

* = exceeds AL, see attached sheet

✓ = below AL, see attached sheet

David M. Graham, Ph.D.
Laboratory Director

CT License #PH-0466



131 Bradley Road - Woodbridge, CT 06525

MAP 10
LOT 2
RECEIVED

SEP 18 2009

Water Analysis Report

HEALTH DEPARTMENT
GUILFORD, CONNECTICUT

WATER SOURCE: 624 MULBERRY POINT ROAD - GUILFORD, CT
NO TREATMENT, KITCHEN FAUCET

DATE: 09/15/2009
TEST#: B0915913

TO: RHODES, JIM
60 MOUNTAIN BROOK ROAD
NORTH HAVEN, CT 06473

BACTERIOLOGICAL EXAMINATION

Total Coliforms	Present _____	Absent <u>X</u>
Fecal Coliforms	Present _____	Absent <u>X</u>

	<u>RESULT</u>	<u>AL</u>	<u>UNITS</u>
PHYSICAL/CHEMICAL EXAMINATION			
Turbidity	0.80	5.0	NTU
Color	10	15	---
Odor	N.D.	2	---
✓ pH	6.2	10.0 - 6.4	---
Calcium	71.0	None	mg/L
Magnesium	6.5	None	mg/L
* Hardness	204.2	200	mg/L
Nitrate Nitrogen	7.0	10.0**	mg/L
Nitrite Nitrogen	N.D.	1.00**	mg/L
Sulfate	15.4	250.0	mg/L
* Sodium	30.7	28.0	mg/L
Chloride	112.2	250.0	mg/L
* Copper	1.48	1.30**	mg/L
Iron	N.D.	0.30	mg/L
Manganese	N.D.	0.05	mg/L

CONCLUSIONS: Based on the above results, this water was safe for drinking purposes at the time the sample was collected.

Sampled By: Rich Rainieri under the direction of Aquatek Labs.
AL = Advisory Level = EPA Maximum Contaminant Level (MCL) or State enforceable standard when value followed by **.

N.D. = None Detected
* = exceeds AL, see attached sheet
✓ = below AL, see attached sheet

David M. Graham, Ph.D.
Laboratory Director

CT License #PH-0466

1005 BOSTON POST ROAD
MADISON, CT 06443



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

CT TOLL-FREE
1-800-246-9624 / 203-245-0568
Fax 203-318-0830
Connecticut Certification PH-0535

Report of Analysis

Name: Shemitz, Norman
815 Mulberry Point Road
Guilford, CT 06437

Sample ID#: 89675
Sample Type: Drinking Water
Sample Source: Well Water - Drilled Well with Softener
Sampler: Client

Sample Date: 7/22/2013
Receipt Date: 7/22/2013
Report Date: 7/30/2013
Sample Site: Kitchen Sink

Parameter	Sample Result	Units	Limits	Minimum Detection Level
Biological				
Coliform, E. Coli	<1.0	MPN/100mL	0	0
Coliform, Total	<1.0	MPN/100mL	0	0
Chemical				
Chloride	208	mg/L	250	0.5
Chlorine- Residual, Total	ND	mg/L	0	0.02
Fluoride	ND	mg/L	2	0.01
Hardness-Total	1.14	mg/L	250	1
Nitrate as N	8.07	mg/L	10	0.1
Nitrite as N	ND	mg/L	1	0.01
Sulfate	32.6	mg/L	250	0.5
Metals				
Iron	<0.05	mg/L	0.3	0.05
Manganese	<0.01	mg/L	0.05	0.01
Sodium	220	mg/L	28	0.1
Physical				
Color	<1.00	CU	15	1
Odor	0	TON	2	0
PH	7.21	pH	6.4 - 8.5	1
Turbidity	0.30	NTU	5	0.05

DAVID BARRIS - LABORATORY DIRECTOR

ND = Not Detected

Comments: Sodium exceeds notification level. Elevated levels of chloride and nitrate. Recommend inspection of treatment system operation and monitoring nitrate levels biannually. See attached yellow sheet for explanation of testing terms.

1005 BOSTON POST ROAD
MADISON, CT 06443



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

CT TOLL-FREE
1-800-246-9624 / 203-245-0568
Fax 203-318-0830
Connecticut Certification PH-0535

Report of Analysis

Name: Town of Guilford Dept. of Public Health
50 Boston Street
Guilford, Ct 06437
Attn: Mr. Dennis Johnson

Sample ID#: 85552
Sample Type: Drinking Water
Sample Source: Mulberry Point
Sampler: Client

Sample Date: 7/11/2012
Receipt Date: 7/11/2012
Report Date: 7/19/2012
Sample Site: 789 Mulberry Pt. Road *Williston*

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Biological						
Coliform, E. Coli	<1.0	MPN/100mL	SM9223B	0	7/11/2012	DB
Coliform, Total	<1.0	MPN/100mL	SM9223B	0	7/11/2012	DB
Chemical						
Chloride	129 (250)	mg/L	EPA300.0	0.5	7/12/2012	KC
Chlorine- Residual, Total	ND	mg/L	SM4500-Cl G	0.02	7/11/2012	DB
Nitrate as N	12.0 (10)	mg/L	EPA300.0	0.1	7/12/2012	KC
Metals						
Sodium	36.9 (29)	mg/L	EPA 200.7	0.1	7/12/2012	JM

() recommended levels*

FILE COPY

RECEIVED

JUL 23 2012

HEALTH DEPARTMENT
GUILFORD, CONNECTICUT

DAVID BARRIS - LABORATORY DIRECTOR

ND = Not Detected



3 Research Drive - Woodbridge, CT 06525

WATER ANALYSIS REPORT

TEST ID: A09231363

DATE SAMPLED: 9/23/2013

SAMPLE POINT: KITCHEN SINK

AFTER TREATMENT SYSTEM

SAMPLED BY: WARREN TOMEK

TO: FIVE STAR INSPECTION SERVICES ,LLC
PO BOX 1345
MADISON, CT 06443-

PROPERTY LOCATION: 122 LOWER ROAD - GUILFORD, CT

BACTERIA		LIMITS		METHOD
COLIFORM (total)	<input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> PRESENT	ABSENT	P	SM 9223
E. COLI (fecal)	<input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> PRESENT	ABSENT	P	SM 9223
CHLORINE	<input checked="" type="checkbox"/> ABSENT <input type="checkbox"/> PRESENT	ABSENT	-	

PHYSICAL PARAMETERS	RESULT	UNITS	LIMITS		MRL	METHOD
pH	6.9	SU	6.4 - 10	S	0	SM 4500-H B
TURBIDITY	0.20	NTU	5	-	0.10	SM 2130 B
COLOR	ND	CU	15	S	5	SM 2120 B
ODOR	1	TON	2	S	0	SM 2150

CHEMICALS	RESULT	UNITS	LIMITS		MRL	METHOD
FLUORIDE	ND	mg/L	4	P	0.3	EPA 300.0
CHLORIDE	24	mg/L	250	S	3	EPA 300.0
NITRITE NITROGEN	ND	mg/L	1	P	0.1	EPA 300.0
NITRATE NITROGEN	ND	mg/L	10	P	1	EPA 300.0
SULFATE	31	mg/L	250	S	4	EPA 300.0
CALCIUM	ND	mg/L	NONE	-	1	SM 3111 B
MAGNESIUM	ND	mg/L	NONE	-	1	SM 3111 B
HARDNESS	ND	mg/L	200	S	1	SM 2340 B
* SODIUM	71.4	mg/L	28	S	0.1	SM 3111 B
COPPER	ND	mg/L	1.3	S	0.02	SM 3111 B
IRON	0.02	mg/L	0.3	S	0.02	SM 3111 B
MANGANESE	ND	mg/L	0.05	S	0.02	SM 3111 B

RADON WATER	RESULT	UNITS	LIMITS		MRL	METHOD
SINGLE RADON WATER	492	pCi/L	5,000	S	51	SM 7500-Rn

CONCLUSION: Based on the above results, this water was safe for drinking purposes at the time of collection.

P = Primary limit, used to judge potability

S = Secondary limit, recommended but not required

MRL = Minimum Reportable Level

* Limit exceeded

ND = None Detected

CT License #PH-0466, Aquatek Labs

David M. Graham, Ph.D.

Laboratory Director

EAL EASTERN ANALYTICAL LABORATORY, Inc.
 134 Boston Post Road; P.O. Box 809; Old Saybrook, CT 06475

Tel. (860) 388-2378

SAMPLE #0257-6

RESULTS OF DRINKING WATER SUPPLY (19-13B101)

CLIENT: Dennis Hickey
 BILLING ADDRESS: 181 Armory St.
 Hamden, CT 06517
 OWNER OF SUPPLY: Dennis & Joan Hickey
 LOCATION OF SUPPLY: 45 Marshall Ave.
 Guilford, CT
 DATE AND TIME OF SAMPLING: 1/29/07 8:00 a.m.
 PERSON OBTAINING SAMPLE: R. Kirpas, EAL

RECEIVED

JAN 31 2007

HEALTH DEPARTMENT
 GUILFORD, CONNECTICUT

TYPE OF SAMPLE: Grab - Tap, untreated

PARAMETER(S)	RESULTS	Max. Contaminant Level Allowed	Method	Detection Limit
COLIFORM & SANITARY CHEMICALS				
Coliform Bacteria, M.F.	Absent	col/100 ml	None Present	
Residual Chlorine	ND	mg / l	Absent	
Escherichia coli		col/100 ml	None Present:	0.1
Nitrite-N	0.02	mg / l	1.0 mg / l	
Nitrate-N	8.4	mg / l	10.0 mg / l	0.01
Chloride	78	mg / l	250 mg / l	0.1
			SM9222B	
			SM4500B	
			EPA1105	
			SM4500B	
			SM4500D	
			SM4500B	

Test Results of this sample meet the current limits for Maximum Contaminant Levels, for the parameters performed.

Test Results of this sample exceed the current limits for the Maximum Contaminant Levels, for the parameters performed. Maximum Contaminant Levels exceeded are indicated by an (*).

PHYSICAL TESTS	RESULTS	Units	Other Recommended Levels	Method	Detection Limit
Color, Apparent	10	Units	15 Standard Units	SM2120B	1
Odor	0	Units	2	SM2150B	0
Turbidity	2.00	Units	5 (NTU)	SM2130B	0.05
pH	6.4	Units	6.4 - 10.0 range	SM4500B	0.1
INORGANIC TESTS					
Hardness (CaCO ₃)	182	mg / l		EPA130.2	5
Iron	0.28	mg / l	200 mg / l	SM3111B	0.01
Manganese	0.04	mg / l	0.30 mg / l	SM3111B	0.01
Sodium	42***	mg / l	0.05 mg / l	SM3111B	2
Sulfate	18	mg / l	28 mg / l (Notification Level)	EPA375.4	2
Ammonia Nitrogen		mg / l	250 mg / l	SM4500C	0.006
Copper		mg / l	1.3 mg / l (Advisory Level)	SM3111B	0.02
Fluoride		mg / l	4.0 mg / l	SM4500B	0.1
MBAS (Surfactants)	ND	mg / l	0.5 mg / l	SM5540C	0.02
Lead		mg / l	0.015 mg / l (Advisory Level)	ICP/M5200 & PH0465	0.002
Total Dissolved Solids	317	mg / l	1000 mg / l	EPA160.1	10
Organic Nitrogen		mg / l		EPA351.2	
ORGANICS					
Volatile Compounds		mg / l		EPA524.2	0.0005

OK'D 2/1/07

ND = None Detected
 *** Persons on low salt diets should be warned when Sodium exceeds 28 mg/l.

David M. Kirpas

CT-PH0448, EPA-CT038

David M. Kirpas / W. J. O'Shaughnessy, Technical Directors

Date 1/30/07

(DrWtrPv)EAL-1SA 1/06

EAL EASTERN ANALYTICAL LABORATORY, Inc.

134 Boston Post Road; P.O. Box 808; Old Saybrook, CT 06475

Tel. (860) 388-2378

SAMPLE # 3567-3

RESULTS OF DRINKING WATER SUPPLY (19-13B101)

RECEIVED

CLIENT Carl Davia
 BILLING ADDRESS 2661 Whitney Ave.
 Hamden, CT 06518
 OWNER OF SUPPLY Carl Davia
 LOCATION OF SUPPLY 55 Marshall Rd.
 Guilford, CT

DEC 31 2007

HEALTH DEPARTMENT
 GUILFORD, CONNECTICUT

DATE AND TIME OF SAMPLING 12/20/07 3:09pm TYPE OF SAMPLE Grab, Tap, Untreated
 PERSON OBTAINING SAMPLE David M. Kirpas, EAL

PARAMETER(S)	RESULTS	Max. Contaminant Level Allowed	Method	Detection Limit
COLIFORM & SANITARY				
CHEMICALS				
Coliform Bacteria, M.F.	Absent	col/100 ml	None Present	
Residual Chlorine	ND	mg / l	Absent	
Escherichia coli		col/100 ml	None Present	0.1
Nitrite-N	0.08	mg / l	1.0 mg / l	
Nitrate-N	5.2	mg / l	10.0 mg / l	3.01
Chloride	650*	mg / l	250 mg / l	0.1
			SM9222B	
			SM4500B	
			EPA1105	
			SM4500B	
			SM4500D	
			SM4500B	

Test Results of this sample meet the current limits for Maximum Contaminant Levels, for the parameters performed.

Test Results of this sample exceed the current limits for the Maximum Contaminant Levels, for the parameters performed. Maximum Contaminant Levels exceeded are indicated by an (*).

PHYSICAL TESTS	RESULTS	Units	Other Recommended Levels	Method	Detection Limit
Color, Apparent	10	Units	15 Standard Units	SM2120B	1
Odor	0	Units	2	SM2150B	0
Turbidity	2.20	Units	5 (NTU)	SM2130B	0.05
pH	6.0**	Units	6.4 - 10.0 range	SM4500B	0.1
INORGANIC TESTS					
Hardness (CaCO ₃)	620**	mg / l	200 mg / l	EPA130.2	20
Iron	2.5**	mg / l	0.30 mg / l	SM3111B	0.1
Manganese	0.46**	mg / l	0.05 mg / l	SM3111B	0.01
Sodium	200***	mg / l	28 mg / l (Notification Level)	SM3111B	10
Sulfate	82	mg / l	250 mg / l	EPA375.4	2
Ammonia Nitrogen		mg / l		SM4500C	0.006
Copper		mg / l	1.3 mg / l (Advisory Level)	SM3111B	0.02
Fluoride		mg / l	4.0 mg / l	SM4500B	0.1
Lead		mg / l	0.015 mg / l (Advisory Level)	ICPMS200 & PH0455	0.0010
MBAS (Surfactants)	ND	mg / l	0.5 mg / l	SM5540C	0.02
Total Dissolved Solids	1944	mg / l	1000 mg / l	EPA160.1	10
ORGANICS					
Volatile Compounds		mg / l		EPA524.2	0.0005

ND = None Detected

** Test Results Exceed Other Levels Recommended By CT or Local Health Departments.

*** Persons on low salt diets should be warned when sodium exceeds 28 mg/l.

David M. Kirpas

CT-PH0448, EPA-CT038

David M. Kirpas / W. J. O'Shaughnessy, Technical Directors

Date 12/26/07

(DrWirPv)EAL-15A 5/07

I've included this article and the email transmission on the following page to show how low the interest in the project was at that time (2011-2012) and to also show in part how in my opinion there has been a repeated activity of adjusting numbers to favor the project. This tendency shows up again in the Feasibility Report in section 2.2- Point of Use Treatment of Individual Wells. Numbers are given without supplying any supporting data. In summary the method is to start with incomplete data for well conditions, followed by what appears to be anecdotal and inflated costs of remediation at point of use, which are then used to summarily dismiss individual owner action and responsibility for their personal property.

Water Line Deemed Too Expensive

By Kelly Smith
Courier Staff Writer

The latest effort to extend public water services to three shoreline neighborhoods with notoriously poor water quality has come up dry. The project's increasing price tag took the blame in this go-round.

"We decided that we don't have a sufficient amount of support to make the project go through at this point," said Guilford Health Director Dennis Johnson.

Several wells in the shoreline neighborhoods

have chronic problems with salt-water intrusion and low yields and contain high levels of sodium, chloride, and bacteria and nitrates, which are products of inadequate wastewater treatment, according to Johnson.

After learning the expected price to supply public water had increased, the town sent out another round of "ballots" to the residents of the Tuttle's Point, Mulberry Point, and Indian Cove neighborhoods, seeking feedback on whether residents are in favor or against the water project.

The town received 240 ballots, or 87 percent, responding to the survey; 64 percent of respondents were in favor of public water and 36 percent opposed.

We did the surveys again because we wanted to do that again in consideration with the new prices and the new information that we shared with the residents," said Johnson. "Unfortunately we didn't get a supermajority like we were hoping we would."

Because there weren't about 80 percent of

See WATER LINE page 15

The numbers shown above are incorrect. Upon correction 53% were in favor and 46% were opposed. (Even then there is still an error $53 + 46 = 99$ that may be due to rounding.)

Water Line Deemed Too Expensive

Continued from page 1

residents who were in favor of the project, however, plans were recently canceled.

"Bonding the money and borrowing the money was based upon the super majority support of the residents," Johnson said.

Johnson explained that the updated price for property owners in that area to share an extending water line into the neighborhood went up from \$10,000 to \$11,220

on the narrow street—that's the reason they felt that would be kind of a bit of an obstacle and it might take more time to maneuver around," Johnson explained. "When you have a 10 feet wide street versus a 30 feet wide street, it might take more time, so it was more of an increase for time."

The project was initiated and funded by a \$200,000 Small Town Economic Assistance Program (STEAP) grant in October

Run or Walk in Memory of Som

Sunday,
Han

15th ANNUAL
Run THE

Fw: Water Main Study(7)

Dennis Johnson <djohnson@ci.guilford.ct.us>

To

'ckth@att.net'

10/19/12 at 10:17 AM

Chris:

Thanks for catching the addition error in the poll breakout. I must have transposed the number when I was creating the spreadsheet. I can understand your rationale for including the "no response" votes into the "no" category although I don't believe all of the no response votes can be interpreted to mean public water is not wanted. This is based upon follow-up with several of the "no response" residents following the poll. These residents appeared to express their intentions in three general categories. 1) Those believing that public water would be a good idea but are not certain they could afford it. 2) Others did not want public water because their wells were good but would pay for it if it was installed. 3) Still, other residents were undecided and could not indicate their preference either way. Although some of the residents contacted post-survey did submit a ballot, many of them still did not express an opinion one way or the other which still indicates uncertainty with the proposal. There were also "no-responses" attributed to homes which were empty, seasonal, owned by an estate, on vacation, rented or apparently just not interested. In spite of these varied opinions and indecision an 83% response rate is very good.

It is probably more appropriate to include the "no response" percentage with the no vote since these residents have not expressed solid support for public water and could be a potential reimbursement liability if they were categorized as in-favor. Even if the "no response" category was combined the yes votes there still would only be 70 % in favor and 30% opposed, not enough to proceed to a referendum.

The break out would then be:

Out of 286 residents, 53% (153/286) are considered to be in favor of public water and 46% (85+47)/286 would be opposed.

I will share this tabulation with the association presidents and selectman.

Contact me if you have further questions.

The numbers above refer to the results of the poll used to determine whether or not to proceed with the larger water project proposed in 2011-2012. In the Guilford Courier of October 4, 2012 the numbers were erroneously reported as 64% of respondents in favor and 36% opposed. In fact the numbers should have been 53% in favor and 46% opposed (with an 83% response rate). Clearly at that time there was not an overwhelming interest amongst residents in acquiring public water.

On the next three pages you will find "Appendix D- Septic System Impact Study" of the Feasibility Report. Appendix D is the work of an independent engineer.

investigation of subsurface conditions was conducted to determine soil depths and the presence and type of rock that would be encountered when constructing the water main. The full findings of the subsurface

In the paragraph below what fails to be acknowledged is that what the Public Water System Extension will do is allow for economic development of many properties that are now constrained by health regulations (well/septic setbacks). It is in fact these health regulation constraints that have kept over-building from occurring. Availability of public water will circumvent those constraints and without other zoning or health requirements imposed on these properties septic system abuses may occur, potentially adversely affecting the waters of the LIS. This could be an unfortunate unintended consequence of moving forward with this project without fully regarding and analyzing the situation as detailed in Appendix D. Additionally unintended consequences may spill into the area of zoning regulations involving but not limited to lot setbacks and building size. It appears to me that Appendix D has been summarily dismissed in the interest of expediency to move the project forward without applying due diligence.

The Public Water System Extension option will eliminate the issue of drinking water wells being too close to septic systems as currently exists on many properties not in conformance with State Health regulations. As part of this Study, an analysis was conducted to assess the possible negative impact that having unlimited water supply might have on existing septic systems. This analysis is contained in Appendix D. Findings from this study were that continued use of proper land use controls, public education and periodic Town inspection should minimize concerns regarding septic system impacts.

This is from Appendix D, last paragraph of Section 2.3



DONALD T. BALLOU
Professional Engineer

April 5, 2011

Ronald J. Nault, P.E.
Luchs Consulting Engineers
89 Colony Street
Meriden, Connecticut 06451

RE: Proposed Water Main Extension Area
Indian cove Shore Areas
Guilford, Connecticut

Dear Mr. Nault:

Please find enclosed herewith commentary concerning the potential impacts on the existing residential septic systems that may result from the extension of the potable water main to the two communities located beside Indian Cove & remedial measures.

INTRODUCTION--PRE WATER MAIN EXTENSION

This commentary is applicable to the two residential communities located on both sides of Indian Cove. The east side is about 105 acres comprised of lot sizes varying from 1/8th acre to 2 acres with the predominant lot size averaging about 1/4 acre. The west side is about 55 acres with the predominant lot size averaging a little larger than a 1/4 acre. Note that an 1/8th acre = 5,000 sq-ft and a 1/4 acre = 10,000 sq-ft when one is considering a "building acre" as 40,000 square-feet. The total area of about 160 acres is an area of relatively poor soils, large amounts of ledge including a great amount of ledge outcroppings at the surface, and, is located on the seashore of Long Island Sound.

By today's standards of design the existing septic systems on the vast majority of the lots are considered substandard. The residents have to continually "husband" their water use for fear of exacerbating currently malfunctioning septic systems.

Potable water is currently obtained via individually owned private wells. A large number of the wells have become, or, are becoming inadequate for a variety of reasons; too shallow, brackish, varying degrees of pollution from septic systems and the availability of supply.

POST WATER MAIN EXTENSION

With the extension of the water main to both residential communities will also come an increase in water use. There will also be an increase in water using devices such as laundry washing machines, dish washers, in-sink garbage grinders, building additions which will include water closets, bath tubs, showers, etc., etc.. The water closets,

DONALD T. BALLOU
Professional Engineer

April 5, 2011
Water Main Extension
Guilford, Connecticut

bath tubs & showers may be added without building additions.

All of the above-mentioned additional water uses will occur in spite of the fact that what "precipitated" the need for the water main extension will not have been altered one whit.

CONSIDERATIONS FOR CONTROLLING POTABLE WATER USE

- 1) A study of a number of existing septic systems on selected 1/4 acre lots should be accomplished in order to determine the effects of increased water use.
 - a) Install 2 to 3 observation wells at each site for at least a month.
 - 1) Monitor the wells for normal usage.
 - 2) The usage should be metered.
 - b) Increase the normal usage by 50 percent for at least a month.
 - 1) Monitor the wells as well as metering the water usage.
 - c) In the well monitoring several items can be evaluated.
 - 1) Ground water level changes twixt a) and b) above
 - 2) Samples may be taken for testing of the quality.
 - d) The monitoring wells should remain to collect historic data concerning the long term ground water levels throughout the year.
 - 1) The precipitation should also be measured so as to compare the annual precipitation during the testing period to the ground water levels. A 50" precipitation year should produce a higher ground water level than a 44" year.
- 2) Any historical data the Town may have on file for the septic systems should be utilized for correlation evaluation as-well-as serving as useful information.
- 3) Any failing or near failing septic systems regulated by the Town should remain the responsibility of the owner to correct. These systems should be corrected as a condition of being connected to the proposed potable water system.
- 4) The following restrictive water uses should be considered for implementation:
 - a) Residential metering.
 - b) Low flow fixture devices for lavatories & showers.
 - c) Residences with no washing machines, dishwashers & insink garbage grinders should be flagged and considered for nonpermittal use of these items.

(page 2 of 3)

DONALD T. BALLOU
Professional Engineer

April 5, 2011
Water Main Extension
Guilford, Connecticut

- d) Land use controls should be considered for:
- 1) Not adding a bedroom or additional bathroom to an existing residence.
 - 2) Limiting the size of any proposed residence regarding bedrooms, bathrooms and any other water using device.
- e) Limits should be considered for lawn watering as portions of this water also penetrates to the groundwater table. This water carries with it the various lawn chemicals & fertilizers.

CLOSING COMMENTS

There are a number of reasons for extending the potable water main to the two sea-shore communities. The prime reason is due to pollution of the existing ground water as-well-as diminishing quality of the ground water supply.

The massive expense to remediate the situation in the two communities warrants the introduction of much needed restrictive water use measures.

These restrictive water use measures are to insure that the pollution of the ground water and the large number of failing & near failing septic systems will gradually reverse direction with a continuing improvement to the local environment.

Please call if you have any questions.

Respectfully,

Donald T. Ballou
Donald T. Ballou, P.E.



DTB/stm

This was Dennis' response to criticism by the Board of Finance at the 11/11/15 meeting regarding a lack of follow through regarding Appendix D. The conversation and exchange that occurred between the Board of Finance members and the other Town officials involved can be seen at <https://www.youtube.com/watch?v=6fYsSB2jsdk> between time frame 1:05:48 and 1:59:02.

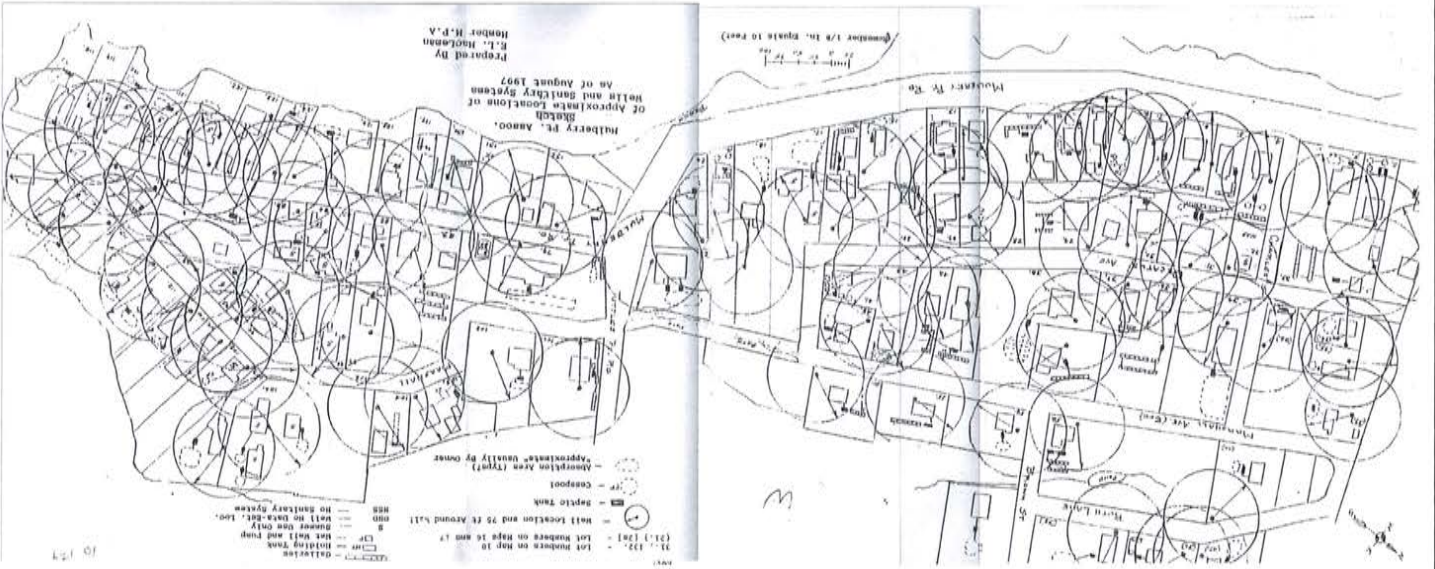
I think anyone wishing to be well informed about this water project would benefit from listening to this video. It speaks directly to the concerns that I have expressed here.

commitment letters will contain latest cost estimates and financial information for the affected residents to review. The CWC has indicated a preference for the Town to distribute the commitment letters to residents. There are approximately 145 properties included in the proposed service area which includes the associations of Lo

Septic System Impact Study

It is extremely self-serving and highly representative of a conflict of interest that Luchs Engineering should be passing over the contents of the independent report in Appendix D with such a light touch given the particular detail of the analysis and recommendations contained therein. There is additional evidence as shown in the Well-Septic Separation Map that current land use controls have not been adequate to address concerns.

During the performance of the engineering investigations as part of the Water Supply Feasibility Study, consideration was given to the potential impact to existing septic systems by extending public water to the service area. These considerations were contained in Appendix D of the Study. It was determined by consultant Luchs Engineering that with the implementation of proper land use controls (currently in existence), public education and periodic Town inspections of septic systems, these controls adequately address concerns and that no further analysis was recommended or needed. However, as part of the overall assessment process the health department will review septic system information currently available for the 145 affected properties in an attempt to categorize those systems that may be significantly substandard or lack capacity to accommodate any anticipated increase in water use.



Regarding Project Budget Estimates

TOWN OF GUILFORD

HEALTH DEPARTMENT

50 BOSTON STREET – TOWN HALL SOUTH

GUILFORD, CONNECTICUT 06437

SETTLED IN 1639



TELEPHONE: (203) 453.8118
FAX: (203) 453.8034

Update #3: Mulberry Point, Tuttle Point, Long Cove Water main project

Well Water Sampling Completed

During January and February well-water samples were collected from 21 private wells throughout the study area. These samples were collected at the request of the State Health Department to verify the current status of water quality. Water analysis results revealed the presence of one or more elevated levels of coliform bacteria, nitrates, sodium and chloride in 80 percent of the wells. These results are similar to past water quality studies and indicate that ground water quality is being impacted by both septic system contaminants and by the infiltration of brackish water into certain aquifer zones. In addition to water quality problems some residents have also reported water quantity problems during dry seasons.

Feasibility Study Report Accepted

The Connecticut Department of Public Health (DPH) has reviewed the Feasibility Study Report for Mulberry Point, Tuttle Point and Indian Cove Water Supply prepared by Luchs Consulting Engineers for the Town of Guilford. The DPH concluded that the report has met the applicable regulatory requirements of the Regulations of Connecticut State Agencies and further accepts the findings of the report, to extend a water main to the project area, to be appropriate.

Correction: In update report #1 the Septic system study of the Feasibility Report was mistakenly referred to as being located in Appendix E of the report instead of the correct location in Appendix D.

✂ Construction Estimates Received

Construction cost estimates have been received by the three water main contractors. The estimates are higher than the original estimate (\$2,427,640) contained in the 2012 Luchs Feasibility Study. The new estimates received are: \$2,886,098 (Schumack), \$4,193,921 (B&L) and \$6,327,152 (Paganelli). The construction estimates represents one element of the overall project cost. The Town will provide residents with more comprehensive cost information on a unit basis prior to residents considering their commitment to connecting to the water main.

3/22/2016

Dennis Johnson

From: John MacLean <JMacLean@paganelliconstruction.com>
Sent: Monday, February 22, 2016 6:00 PM
To: Dennis Johnson
Subject: FW: Guilford Water System Extension

Dennis,

I have adjusted the new quantities with new totals.

John MacLean
Project Manager / Superintendent

Paganelli Construction Corp.
51 Lawnacre Road
Windsor Locks, Ct. 06096
P: (860) 623-0245
F: (860) 623-0660
C: (860) 883-7088
JMacLean@paganelliconstruction.com

From: John MacLean
Sent: Wednesday, February 17, 2016 10:52 AM
To: 'Ronald Nault' <nault@luchs.com>
Subject: RE: Guilford Water System Extension

Ron,

Do not really have enough information to put a complete estimate together. I have put some budget number together for the Item I feel ok with. If you have any other questions give me a call on my cell phone listed below.

ITEM	Quantity	Cost Per	TOTAL for item with cost
Current trench excavation	5151 cy +/- @	\$ 50.00 =	257,550.00
Current Rock excavation	1545 cy +/- @	\$300.00 =	463,500.00
8" DIP Water Main	8590 Lf +/- @	\$235.00 =	2,018,650.00

12" DIP Water Main	3260 Lf +/- @ \$295.00 =	961,700.00
Process Aggregate Base	3652 cy +/- @ \$ 55.00 =	200,860.00
Bituminous Concrete Class 1	3851 tn +/- @ \$250.00 =	962,750.00
Domestic Services	160 ea +/- @ Not enough information	
Hydrants	18 ea +/- @ \$6,500.00 =	117,000.00
Houses	147 ea +/- @ Not enough information	

\$4,992,010.00

John MacLean
Project Manager / Superintendent

Paganelli Construction Corp.
51 Lawnacre Road
Windsor Locks, Ct. 06096
P: (860) 623-0245
F: (860) 623-0660
C: (860) 883-7088
JMacLean@paganelliconstruction.com

From: Ronald Nault [<mailto:nault@luchs.com>]
Sent: Wednesday, February 17, 2016 9:04 AM
To: John MacLean <JMacLean@paganelliconstruction.com>
Cc: Dennis Johnson <djohnson@ci.guilford.ct.us>
Subject: RE: Guilford Water System Extension

John – are you out there? Pls confirm receipt of this and we ask for a price by this Friday 2/19 at noon---Ron

Ronald J. Nault, P.E.
 President - Project Manager
Luchs Consulting Engineers, LLC
DeCarlo & Doll Architects/Engineers
 89 Colony Street
 Meriden, CT 06451

Schumack

ENGINEERED CONSTRUCTION

February 19, 2016

Ronald Nault, P.E.
Luchs Consulting Engineers, LLC
DeCarlo & Doll Architects/Engineers
89 Colony Street
Meriden, CT 06451

Re: Guilford Water Extension
Our Total "Revised" Proposed Cost is \$2,272,519.00

Scope of Work:

- >Trench Excavation
- >Rock Excavation
- >Installation of 8" Ductile Iron Pipe
- >Installation of 12" DIP
- >Installation of Domestic Services
- >Installation of Fire Hydrant

Subtotal of Water Main ... \$1,359,767.00

- >Process Aggregate
- >Bituminous Paving Class I

Subtotal of Road ... \$732,592.00

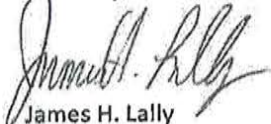
- >Maintenance & Protection of Traffic
- >Mobilization
- >Testing: Pressure, Bacterial & Compaction
- >Clean up disturbed areas

Subtotal Misc. Work ... \$180,160.00

The above numbers are "Budget" Numbers based on the quantities provided to our company from Luchs Consulting Engineers, LLC with revision dated August 10, 2012. Our numbers are based on those quantities starting with Ruth Lane to Daniel Avenue, skip West Lane & Reeves Avenue North and include Lower Road & Lower Road Extension.

Thank you for inviting our company to quote this project. We look forward to working with you in the future.

Sincerely,



James H. Lally
President

93A Glenwood Road, Clinton, CT 06413
860-669-7115 • 860-669-4032 FAX

Copy 2 John



B & L Construction, Inc.

P.O. BOX 814 • 756 MIDDLESEX TURNPIKE • OLD SAYBROOK, CONNECTICUT 06475
TEL (860) 388-9665 • FAX (860) 395-0653
www.blexcavating.com • E-Mail: b.l.construction@snet.net

February 10, 2016

Ronald J. Nault, P.E.
Luchs Consulting Engineers, LLC
89 Colony Street
Meriden, CT 06451

Re: Mulberry Point & Tuttle Point Water Main Extension

Guilford, CT

Budget Pricing

Per Drawings By Luchs Consulting Engineers Dated December 2011 Drawings WL-01 To WL-25

Scope of Work:

Water Main

Tap Existing Water Main at Sachem Head Road

Furnish and Installation of 12" DIP Water Main through Woods Easement to Lower Road

Furnish and Installation of 12" DIP Water Main from Lower Road to Mulberry Point Rd

Furnish and Installation of 12" DIP and 8" DIP Water Main throughout Mulberry Point and Tuttle Point Associations

Clearing and Grubbing as Necessary for Woods Easement Work

Sawcutting as Necessary for Water Main Installation

Rock Removal by Blasting with the Exception of Indian Cove Association area by Mechanical Means

Fire Hydrants:

Furnish and Install 6" DIP Fire Hydrant Line

Furnish and Install Fire Hydrants (18)

Water Service Lines:

1" Water Service Taps

Furnish and Install 1" Copper from Main to Curb Stop

Furnish and Install 1" Curb Stop

Site Restoration:

Pavement Base for Town Roadways

Town Road Temporary Paving at Daniel Ave Only

Town Road Reconstruction

Reclaim Roadway

Fine Grade

Furnish and Install 1.5" Class 1 Binder

Furnish and Install 1.5" Class 2 Top

Loam and Seed Disturbed Lawns and Woods Crossing

Work Not Included:

Any Item Not Listed Above

Unsuitable or Contaminated Material Removal or Replacement

Retaining Walls

Fencing or Guardrail

Concrete

Utility Fees

Work Not Included (Continued):

- Signs
- Inspections, Testing or Permits
- Bonds or Special Insurance
- Winter Conditions
- As Builts
- Relocation of Existing Utilites
- Any Gas Line Work
- Engineering and Design of Water Main
- Tapping Fees
- Electric Related Work
- Meter Pits
- Water Service Connections beyond Curb Stops
- Interior Building Water Connections

Please Note this is a budget number only for the project and is not a final proposal to provide the services listed above. We would be happy to provide a final proposal once a completed set of bid documents is available for the project.

Total for Scope of Work: 3,302,300.00

Thank you for the opportunity to provide a budget number for you on this project. Feel free to contact us should any questions or concerns arise upon your review of the above.

We look forward to the prospect of working with you!

Respectfully,

Allen E. Hull
President