

EXECUTIVE SUMMARY OF THE BOLTON FIRE PROTECTION REGULATIONS ADVISORY COMMITTEE

March 18, 2014



**MEMBERS OF THE
BOLTON FIRE PROTECTION REGULATIONS ADVISORY COMMITTEE**

Planning and Zoning Commission

TOM MANNING

JIM CROPLEY, VICE-CHAIRMAN

Board of Selectmen

ROBERT MORRA

Board of Selectmen Alternate

ANY OTHER MEMBER OF THE BOARD OF SELECTMEN

Economic Development Commission

NEAL KERR

Fire Marshal

RAYMOND WALKER, JR.

Fire Chief (at time of appointment)

JAMES PREUSS, JR.

Alternate to Fire Marshal and / or Fire Chief

Cpt. DALE BONN

Business Owner

MILTON HATHAWAY, CHAIRMAN

Residential Builder

JAMES D. ALDRICH

Member at large

WILLIAM ANDERSON

Ex Officio

JOHN D. PAGINI, AICP through 7/12/13

JAMES RUPERT



EXECUTIVE SUMMARY

BOLTON FIRE PROTECTION ADVISORY COMMITTEE

In 2005, The Bolton Fire Department presented to the Bolton Planning and Zoning Commission a request to amend its Zoning and Subdivision Regulations to provide water supplies fire protection for new residential subdivisions and new or expanded commercial and industrial development. Working within a rural community, both organizations realized that it had limited resources committed to fire protection, in contrast to its more highly developed suburban neighbors. One aspect of their work has never changed: their mission is life safety and property preservation. As a small community with lacking substantial capital funds, the Regulations were an opportunity to start somewhere to begin adding those necessary protections to its new developments and businesses by creating provisions both in the Zoning and Subdivision Regulations. The approach they selected was to place the onus on developers, landowners, and, inevitably, to pass on that cost to future residents and principally to small businesses that wished to expand or move to Bolton. In 2006, after considerable study and planning, and little real opposition, the Planning and Zoning Commission adopted the Regulations, modified somewhat from the original submission. Both Regulations required developers to install 30,000 gallon water supply or meet acceptable alternates both in residential subdivisions and associated with commercial and industrial developments or their expansions, based on distances calculated to accommodate its hose lengths and diameters, and the flow it could maintain. Mutual aid tanker truck shuttles from surrounding towns were, and still are, necessary in many cases especially where water supplies do not exist to prevent loss of life and secondarily, the destruction of property.

The PZC saw little commercial and industrial activity over the past 7 years largely due to the economic downturn, approving and installing two cisterns in residential subdivisions, and one fire pond associated

with a forestry business. However, complaints began to emerge as small businesses began to probe the possibilities of establishing new businesses, or existing businesses began looking at expansion opportunities. Some of those businesses were not that small, with fairly large storage and warehousing additions, concerned regarding the burdensome cost to meet this requirement, in some cases claiming that the cost of fire protection would exceed the cost of building their addition. Businesses and business prospects talked of leaving for a “more friendly” business atmosphere.

We believe, based on our research, that most businesses were prepared to make reasonable investments in fire protection – to ensure and safeguard themselves, their families, their employees, their homes, and their livelihood. The Bolton Economic Development Commission was the recipient of many complaints, having its own members experience the frustration of wanting to build, but not being able to afford to meet the zoning requirements as enacted by the town. The same conclusions were reached by the Town’s Community Development Director, who met frequently with local businesses and prospects, never to hear from some of those prospects once again, often due to the cost of these fire protection improvements. As Town revenues declined, Town Officials began to focus on what they perceived as compounding the Town’s economic doldrums – the existing fire protection regulations. Sincere efforts were made by both the Fire Department and the Board of Selectmen to find solutions, but they were elusive. More recently, a much larger and diverse group of stakeholders, both from the public and the private sector, decided to form an ad hoc committee, with the joint support of the Selectmen and the PZC. That Committee of 10, with the advisory and technical assistance of the Building Official and Community Development Director, brought their significant and diverse talents together in an effort to find a solution – one which balanced the Fire Department’s important goal of preserving and protecting life and property, while finding ways to significantly reduce the burden on businesses and residents. The discussion was lively, and sometimes heated, but each member worked in earnest, both alone and in a series of six subcommittees, meeting outside of the regular Committee meetings, to understand each other’s issues better based on technical and legal fact-finding, and to seek reasonable solutions.

The background, research, issues, and possible options that the Committee considered during the course of its deliberations were:

- Reviewed ISO (Insurance Services Office) and NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting.
- Identified existing water supplies and their service areas meeting the standards in place at this time.
- Identified gaps in service areas town-wide required under the standards in place at this time.
- Identified gaps in fire protection water supplies town-wide required under the standards of the current regulations.

- Relative costs of cisterns and ponds versus other alternatives including residential sprinklers and alarm systems.
- Projected the numbers and approximate locations of water supplies
- Identified the differences between ISO and NFPA 1142 standards as applied to required or recommended fire flows.
- Determined the influence of building height and area on the effectiveness of fire protection systems
- Considered the respective roles of the Fire Department and Town in locating optimum locations for water supplies as well as related Town acquisition for easements at these locations.
- Considered the Town role in lieu of the regulatory role to provide water supplies in commercial areas.
- Considered different building models for water demand analysis.
- Considered comparative scenarios for fighting fires at the Notch Road Municipal Center, one with a cistern and tanker shuttles, and the other solely with tanker shuttles, demonstrating the necessity, in that case, of water supplies along with tanker shuttles.
- Identified a comprehensive list of fire protection alternatives.
- Identified businesses which may have been influenced by the existence of the current cistern requirements in their decisions not to locate, expand or to leave Bolton.
- Considered the effects of different fire protection alternatives on insurance premiums
- Considered the comparable costs of several fire protection alternatives, including the relative costs of cisterns and sprinkler systems.
- Considered the financial feasibility of various Town roles in fire protection which may involve water supplies.
- Considered fee in lieu of installation as a potential funding source for the Town
- Considered Tax Increment Financing (TIF) as a possible funding source for a dedicated fire protection fund to install improvements.
- Considered relative hazards of older homes and newer home construction in terms of "flashover" time.
- Considered a variety and/or combination of alternative solutions.

After due consideration, the final recommendations made by the Committee are as follows but not all of the recommendations receive the full support of the Bolton Volunteer Fire Department and its representatives.

Recommendations

1. The Committee recommends that the Fire Department in conjunction with the Town develop and prioritize a master plan for the installation of dry hydrants for all areas of Town. The master plan should also identify and prioritize the installation of other water supplies for the commercial/industrial areas of Town.
2. The Committee recommends that the Fire Department create a five year business plan.
3. The Committee recommends that all dry hydrants proposed by the master plan and all commercial/industrial water supplies be funded by the Town.
4. The Committee recommends that the funding sources to be considered should include; the Town capital budget, a bonding package and an additional percentage fee to be added to all building permit fees only to be used for improvements to existing water supplies and the establishment of new water supplies. It is important to note that the Committee makes this distinction because it is not intended to replace or augment any part of the Fire Department normal operating budget.
5. The Committee finds that the current Section 3C of the Bolton Zoning Regulations which impact commercial and industrial developments adversely affects economic growth in this community by placing economic burden both on existing businesses, and also on those new businesses with an interest in locating in Bolton. The Committee puts forward two options for consideration to replace the commercial/industrial portion of the existing regulation.
 - a. Receiving majority support of the Committee was to remove the existing commercial/industrial regulation not contingent on the master plan or funding. The master plan as described is to be implemented and paid for by the Town to fund the dry hydrants and the construction of water supplies within the commercial/industrial areas of Town.
 - b. Receiving minority support of the Committee was to replace the existing regulation with;

The developer may adhere to the existing regulation. In lieu of a 30,000 gallon water supply, or approved alternate for new construction of 1000 square feet or greater cumulative from the date of the original regulation, for those additions or new structures with any portion of the proposed construction

greater than 1000 lineal feet as measured along roads and driveways, from an approved year round water supply a developer may:

Submit an analysis by a qualified fire protection engineer that demonstrates the proposed building requires a lesser quantity of water for fire flows. The information must be reviewed and is subject to approval by the Fire Marshal and Fire Chief to install a smaller water supply which shall be no less than 15,000 gallons. Or, submit plans for the proposed building of non-combustible construction, as defined in the current State Building Code, showing a complete building protection UL listed and or FM placarded fire alarm system which shall continuously be monitored by a similarly qualified central station. The monitored alarm system may be substituted for a water supply in buildings constructed of non-combustible construction up to 2500 square feet.

Sunset provision:

At such time as the Town or other acceptable authority has placed in service cisterns, dry hydrants or pressurized water systems designed for fire protection that meet the distance requirements of these regulations then water supplies or approved alternates such as sprinklers would not be necessary for any size or class of construction unless required by other State building, fire or life safety codes.

Making its recommendation, the minority recommend the above proposed Zoning Regulation amendment serve as an interim measure pending the funding by the Town and installation of the water supplies in the adopted master plan located in commercial, industrial and mixed use areas. It is the Committee's further recommendation that if this installation were to occur, this Zoning Regulation on fire protection should be eliminated from the Regulations.

6. The Committee finds that water supplies are essential to protect businesses and mixed use communities from loss of life, damage from fire, and the economic consequences of those types of losses, and believes that the Town of Bolton should be responsible for developing a financing plan to make possible the installation of water supplies in accordance with an adopted master plan. The following locations are intended to identify areas to be considered in the development of the master

plan. The master plan should take into consideration local conditions such as topography, fire loads, Bolton VFD capabilities, limitations, equipment and the development potential in areas to be served by water supplies.

#1 at or near 140 West Street.

#2 at the location of a potential pond site near Loomis and West Street.

#3 near 263 Boston Turnpike.

#4 at or near 1150 Boston Turnpike.

#5 at or near 681 Boston Turnpike.

#6 at or near Howard Road.

#7 at or near 146 Hop River Road.

#8 at or near Route 6 and Stony Road.



7. Another important priority area for water supply construction is in the Town Center where most of the Town's public facilities are located. One cistern installed at or near the entrance to the Center School will provide service for the Senior Center, the Center School, the Notch Road Municipal Center, Town Garage and surrounding

residential neighborhoods, if such service is based on the residential standard. A second fire pond located behind the present Town Hall, as proposed in the recent Town Center Study, would provide coverage for the Town Hall, Library, Bolton Heritage Farm, the Congregational Church, the Herrick Park Recreation Center, and some surrounding residential neighborhoods.



Possible Town Center Fire Protection Service Options (Locations?)

8. The Committee suggests that the Town rely on the guidance of the Bolton Fire Department and Town staff to assist the Board of Selectmen in establishing a Master plan, and in identifying the precise locations and size of adequate water supplies which will then enable the Town to estimate costs, acquire easements, and decide on the manner in which these water supplies will be funded. The Committee also recommends that the cisterns be installed as expeditiously as possible, but also believes that the Board of Selectmen and the Fire Department should prioritize the list of water supplies deemed necessary in the master plan.
9. The Committee is concerned with the idea of abandoning cisterns for new residential development. This conclusion is based on the findings and testimony of the members of the Bolton Fire Department, and other experts on the Committee, who have

concluded that the flashover times in new home construction which may occur in only 3-5 minutes justifies the expense of installing cisterns. The Committee supports retaining the distance of 2,000 feet between a dry hydrant and a residential single-family structure, and 1,500 feet for a multi-family structure, but also concludes that a 30,000 gallon cistern or pond is not necessary to provide fire protection for these residential uses. We hereby recommend that the Regulations be amended as follows:

A developer may adhere to the existing 30,000 gallon requirement with no part of a single family dwelling being more than 2000 lineal feet from a year round water supply as measured along roads and driveways. Or, for residential dwellings other than single family dwellings a distance not to exceed 1500 lineal feet as measured along roads and driveways. The developer installing a 30,000 gallon water supply may apply to the PZC to reduce the road width by 2' excluding the cul de sac, and or extend the cul de sac by 250' measuring from the beginning of the road to the entrance to the cul de sac.

Or, a developer may choose to submit an analysis of fire flow calculations based on sound engineering practice and design a water supply to meet the fire flow / total gallon requirements for the largest proposed home within the subdivision and no home could be constructed exceeding that square footage. The information must be reviewed and is subject to the approval of the Fire Marshal and the Fire Chief. The maximum required water supply would be 15,000 gallons. The distance requirements would be the same as above.

The water supply would not need to be installed until a Certificate of Occupancy is requested for the 3rd dwelling at which time the installation, testing and approval are required prior to the issuance of said CO. If alternate, approved fire suppression systems, such as NFPA 13D sprinkler systems are installed to meet the requirement they must be inspected and approved prior to the issuance of the CO for any dwelling in which they are installed.

Sunset provision:

At such time as the State adopts a code or codes the IRC or other applicable code(s) that would require sprinkler protection for all dwellings of residential construction after that date would not need a water supply and any subdivision approved by the PZC and requiring a water supply that is not yet built could

apply to eliminate said water supply based upon the State code, requiring sprinklers, in effect at the time building permits are applied for.

10. The Committee recognizes that these measures reach some of the most important areas of town from a public safety standpoint and from the standpoint of encouraging and protecting existing and new businesses. But it also acknowledges that a large portion of existing residential areas do not now meet the standards for fire protection as set down in Section 13.4 of the Subdivision Regulations. The Committee has estimated that the number of water supplies needed to cover the remaining Town residential neighborhoods is in the 38-40 range – well beyond what the Town can afford. The Committee recommends that a Town-wide study and Master Plan be authorized to identify priority areas for continued fire safety improvements. The Fire Department has pledged to continue its search for appropriate locations of farm / fire ponds, both existing and new, as well as additional dry hydrant locations and to continue to educate the residential community concerning the importance of the installation of alarm systems and home sprinkler systems. The Committee also hopes that long-pending changes to the fire code will be approved which will make it far more affordable for homeowners to install residential sprinkler systems by authorizing other types of professionals, and perhaps even homeowners, to install their own systems at far less cost than at present.

This summary is the result of the significant efforts of Committee members who brought their knowledge, experience, and talents to the table, and, after thorough consideration, decided on the above recommendations. Not all members are in full agreement with these recommendations, but the result is at least a roadmap to address the most pressing issues which inspired the creation of this Committee, in a manner that considers our unique character and needs, while pledging to continue to address the more expansive need to protect life and property further throughout the Town. The background information which was considered may be found by reviewing the full report of the Fire Protection Regulations Advisory Committee. This Committee urges interested parties to participate in the public hearing process should the Planning and Zoning Commission choose to eliminate or amend any or all of the existing regulation.

Sincerely,

Milton Hathaway, Chairman

REPORT OF THE BOLTON FIRE PROTECTION REGULATIONS ADVISORY COMMITTEE

March 18, 2014



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BOLTON FIRE PROTECTION REGULATIONS ADVISORY COMMITTEE

SUBCOMMITTEE MEMBERS

Committee ID	Committee Tasks	Committee Membership
A	Fire loads and water flow calculations	Raymond Walker, Jr. Dale Bonn James Preuss, Jr.
B	Map indicating areas of possible development, location of current water supplies, identify locations for possible new water supplies utilizing distances in current regulations	Robert Morra James Cropley James Preuss, Jr. John D. Pagini
C	How size of buildings may relate to and trigger a water supply requirement	Thomas Manning James Aldrich
D	Codes, uses, and types of construction, and their potential role in this regulation	Thomas Manning James Aldrich
E	Gather similar information from other towns in CT for comparative purposes	Dale Bonn John D. Pagini
F	Economic Analysis and town wide solutions	Bill Anderson Neal Kerr Milton Hathaway



Town of Bolton

222 BOLTON CENTER ROAD • BOLTON, CT 06043

MEMORANDUM

TO: Bolton Board of Selectmen
Bolton Planning & Zoning Commission

FROM: Milton Hathaway, Chairman
James Cropley, Vice-Chairman
Bolton Fire Protection Regulations Advisory Committee

SUBJECT: Report of Committee

DATE: March 18, 2014

BACKGROUND / PURPOSE

In 2005, the Bolton Fire Department (BFD) appealed to the Bolton Planning and Zoning Commission (PZC) to enact regulations which it felt were essential to the provision of water supplies necessary to protect life and property in the Town of Bolton. At the meetings and hearings leading up to the adoption, there was considerable discussion about how best to fulfill that need when new development occurs. A fact sheet presented by Fire Marshal Raymond Walker at the time gives a sense of the considerations made during the formulation of these regulations. Ultimately, effective on January 1, 2006, the PZC enacted regulations which required the installation of 30,000 gallon cisterns or fire ponds, and established distances between the sources of water and residential, commercial, and industrial structures. The regulations also held open the alternative of installing sprinklers for fire protection. Although a smaller (10,000 gal.) capacity cistern was first discussed by the BFD, ultimately the PZC

included a 30,000 gallon capacity cistern or pond as a requirement. The regulations (referred to hereafter as “the Regulations”, were and still remain codified as Section 3C of the Zoning Regulations, and Section 13.4 of the Subdivision Regulations.

The provisions of these Regulations are as follows, and the Regulations themselves are attached to this report as Appendix A, and the main aspects of the Regulations are summarized as follows:

Requirement	Zoning Section 3C	Subdivision Section 13.4
Zones / Land Uses	Commercial / Industrial Standards	Residential Standards
Tank or Pond Capacity	30,000 gal.	30,000 gal.
Distance from water supply and structure	2,000’ single family/ 1,500’ multi-family	2,000’ 1,500’
Threshold or trigger	1,000 s. f. footprint	3 or more lots
Sprinkler as alternative?	Yes.	Yes.

Since the enactment of these Regulations more than 7 years ago, two cisterns have been installed within residential subdivisions, and one fire pond was installed in connection with a commercial forestry business. A dry hydrant associated with an existing pond was also required in connection with one other subdivision, but the subdivision has failed to move forward, and these improvements have not been made. Also since the enactment of the regulations, the concerns of business owners, prospective businesses, property owners, the Board of Selectmen (BOS), the Economic Development Commission (EDC), and other related stakeholders began to mount based on their perception that these current regulations place an undue financial burden on them which has stymied, delayed, or limited the extent of new or expanded commercial or industrial development, and economic development, generally, in the Town. There was especial concern for its impact on small businesses, which comprised the bulk of the Bolton commercial community.

Several years ago, in response to these mounting concerns, the BOS formed a subcommittee in an effort to resolve these concerns. That effort ended in a stalemate as common ground could not be found. Others heard the concerns and recognized the issues, not the least of which was the PZC which established as one of its highest annual priorities for action the amendment of its regulations to address the business concerns surrounding the Regulations, while still fulfilling its statutory mandate, similar to the BFD’s, to preserve public health and safety.

The PZC and the BOS, in league with the BFD and a number of private stakeholders with their own level of expertise to contribute, agreed in late 2012 to mutually pursue a planning process to address the regulations. The BOS and the PZC agreed on a Committee composition which blended members of their own bodies with individuals from the BFD, the EDC, the business, contracting, and building communities, as well as an at large member, who collectively would bring to the table both considerable knowledge and expertise in fire protection, but knowledge of the economic needs of the Bolton community. Several key Town staff were also designated as ex officio members – the Building Official and the Director of Community Development. The Committee was named the Bolton Fire Protection Regulations Advisory Committee, but for the purpose of this report it will be referred to by the abbreviated name of “The Fire Committee”. The Fire Committee fits the qualifications of an ad hoc Town Committee, and has been operating as such. The members of the Fire Committee are listed in the early pages of this report.

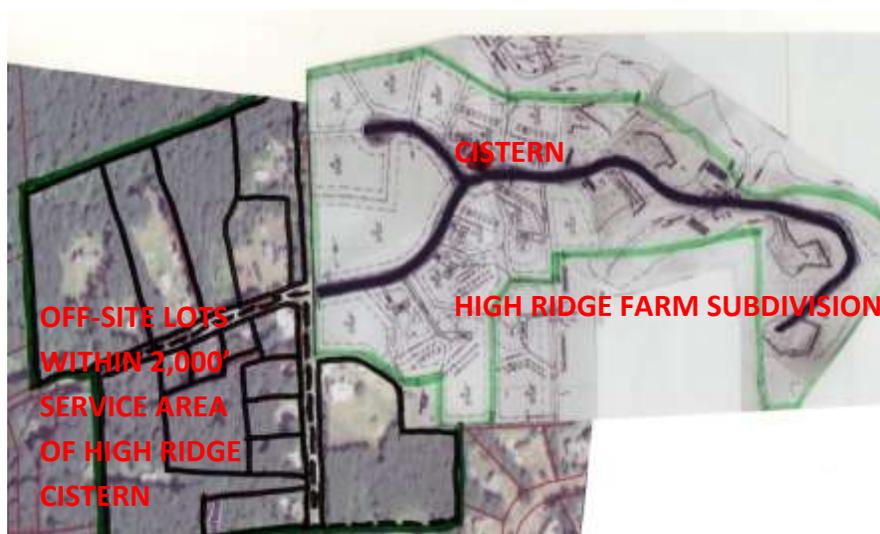
The PZC, at the same time, and in consultation with the Fire Marshal, Building Official, and Director of Community Development, drafted a Charge / Scope of Work, dated January 9, 2013, to guide the Fire Committee’s work program which ultimately would be submitted jointly to the PZC and BOS.

What is important to recognize in this report is the primary mission not only to reexamine the regulations to provide for fire protection in the Town, but to balance that protection primarily with economic development and other community interests, values, and assets.

The formation of the Committee and the examination of the existing regulations was inspired largely by the concerns of business owners, prospective businesses, property owners, the EDC, and other related stakeholders who felt that the current Regulations place an undue financial burden on them concerning their development or expansion plans, and that such regulations stifled economic development in the Town, especially for small businesses. Some concerns were also expressed by a developer of one of the residential subdivisions. The basis for the concerns is the current provision in the Zoning Regulations which requires that any structure with 1,000 new square feet of building area is required to install a 30,000 gallon cistern and associated improvements. The requirement would apply to any type and size of new or expanded commercial and or industrial structure creating or adding over 1,000 s. f. of new space. Thus, a small

business, such as an office, would be required to install a 30,000 gallon cistern or fire pond, or install sprinklers as an alternative, as would a much larger industrial or commercial structure. Under the current Regulations, one size cistern would fit all. Further, nothing exists in the Zoning Regulations or its enabling zoning statutes which would require that those who also benefit from the cistern or pond (i.e., any business or property owner within 1,000 feet of the water sources) would share the cost of these improvements, and thus the full burden of the cost of the facility has been placed on the backs of single property or business owner s.

With respect to the Subdivision Regulations, there is more of an opportunity for a developer to pass on the cost of a cistern to the lot owners within the subdivision who would receive the benefit. Nevertheless, this Regulation has its obvious flaws, since the owners of a smaller subdivision would assume a larger proportionate share of the cost of the same size cistern or fire pond than the owners of a larger subdivision with the same sized cistern. Further, the benefits of a cistern installed within the subdivision might also benefit residents beyond the subdivision itself if they happen to reside within 2,000 feet of the cistern, but would not be required to pay a proportionate share of the cost of that cistern. As in the Zoning Regulations, the Subdivision Regulations (nor its authorizing statutes) contain no provisions to fairly allocate those costs to off-site residents who benefit from the water supply. One clear example is the High Ridge Farm Subdivision. Both situations are due to the one-size-fits all characteristics of the two Regulations, requiring a 30,000 gallon cistern for commercial, industrial, and residential subdivision developments, regardless of the scale of the development.



High Ridge Farm Subdivision Depicting Off-site Service Area

THE PROCESS AND ANALYSIS

The Fire Committee, guided by the scope of work, established a meeting schedule which sought to conclude the process by the end of June. The initial meetings were designed to bring forward as much information as possible about Fire Codes and related guidance manuals; the history of the current regulations; samples of other regulations that might apply to Bolton; information about alternative water supply options; authority given the Town under the Connecticut General Statutes to enable it to play a role in fair distribution of costs; and possible capital improvement and bonding options. The participants shared information about the influence of building materials, building size, and other factors which may contribute to decisions on types of water supplies, and their effectiveness in putting out fires; insurance costs; scenario exercises demonstrating the water and time needed to fight fires in buildings of different types, occupancies, and scales; documentation of the extent of fire protection currently in Bolton; a projection of water supply needs for new development and for existing areas not now served with water supplies; and documentation of the economic impacts of the current regulations. The Committee established a series of 6 Subcommittees (also listed in the initial pages of this report) to work between meetings to engage in specific tasks related to the scope of work, and to report back to the full Fire Committee with its results. At the conclusion of this data and information gathering process, the Fire Committee would seek the input of the public through a formal Public Informational Meeting. Following the gathering of its own information, and that additional information received from the public, the Committee would also engage in a process of determining in which areas the Committee had consensus, and where their differences might lie. Following that exercise, the staff assigned to the Fire Committee would prepare a first draft of a report documenting the work of the Fire Committee, and the conclusions reached, notwithstanding differences of opinion by members in approaches or possible solutions. The final two meetings would be dedicated to bridging the gap further, and drafting final recommendations.

The following is a summary of the highlights of meetings held by the Fire Committee:

March 21, 2013

This first meeting of the Fire Committee was the organizational meeting at which the following took place:

- Election of officers (Milton Hathaway, Chairman, and Jim Cropley, Vice-Chairman);
- Review and acceptance of the charge of the Committee as drafted by the PZC;
- The Committee agreed to an aggressive schedule of 7 meetings, extending between the end of March through the end of June. The Committee also agreed to establish two public comment periods within each agenda, one at the beginning of the meeting, and one at the end of the agenda, and two Public Informational Meetings, one held early in the process, the other near or at the end of the process.

April 4, 2013

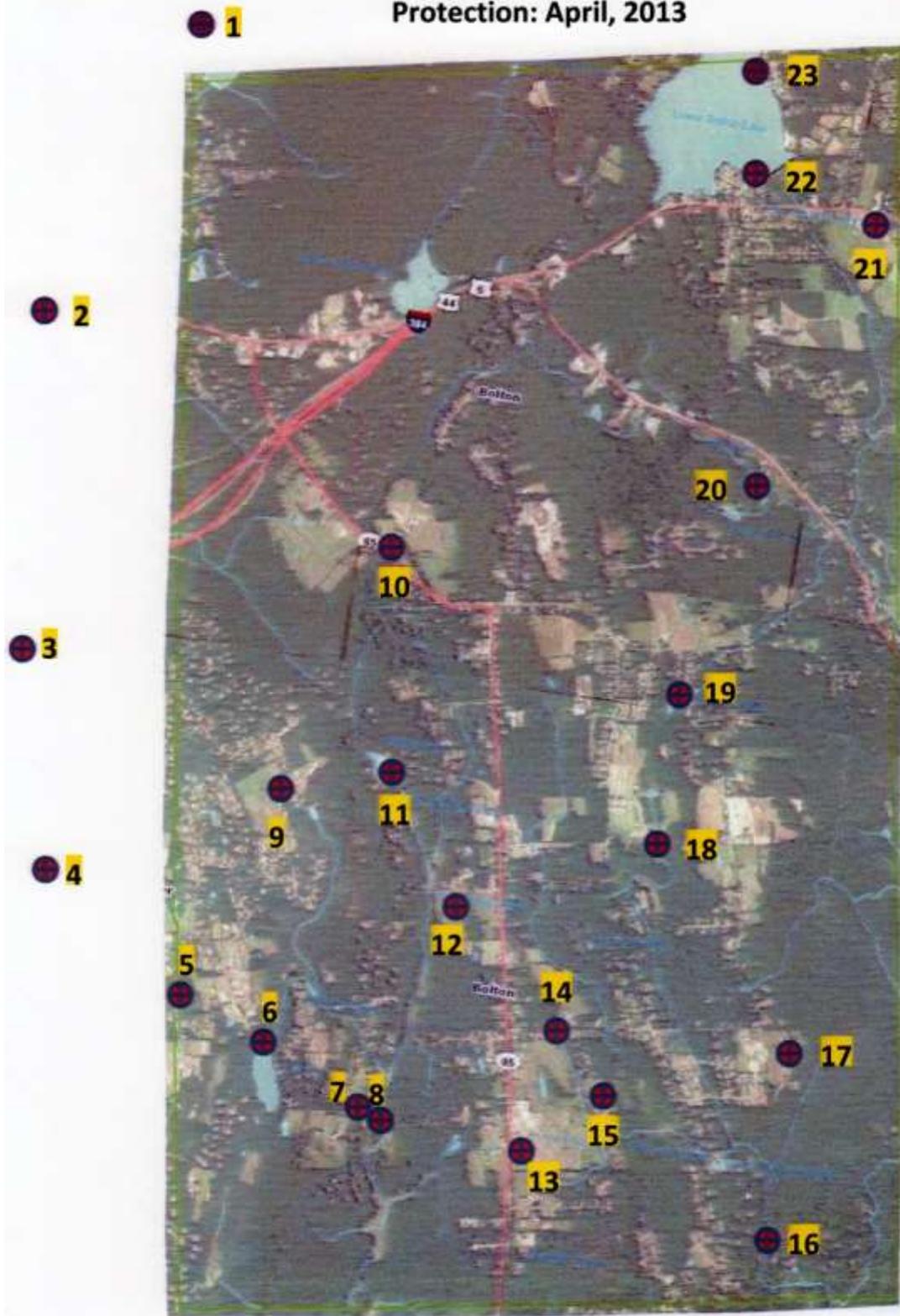
This second meeting was dedicated to providing the Committee with background to the current regulations; the locations of existing water sources for fire protection utilized by the BFD (following this paragraph); technical information concerning the requirements of relevant fire codes, as well as the guidance document NFPA 1142; and the powers given to municipalities to provide fire protection infrastructure, and to assess the cost of fire improvements to those who receive benefits. (see Appendix C).

Town of Bolton **Existing Water Supplies for Fire Protection**

1. **Lake Street and Bridle Path**
A FIRE HYDRANT IN THE TOWN OF VERNON
2. **East Middle Tpke. (Rt. 44) and Garth Street**
A FIRE HYDRANT IN THE TOWN OF MANCHESTER
3. **Camp Meeting Road and Carter Street**
A FIRE HYDRANT IN THE TOWN OF MANCHESTER
4. **Birch Mountain Road and Dennison Ridge**
A FIRE HYDRANT IN THE TOWN OF MANCHESTER
5. **60 Villa Louisa Road**
A YEAR ROUND POND
(POND IS EQUIPPED WITH A DRY HYDRANT)
6. **60 Tinker Pond Road (Tinker Pond)**
A YEAR ROUND POND
(POND IS EQUIPPED WITH A DRY HYDRANT)
7. **Tinker Pond Road and French Road**
A YEAR ROUND POND
(NO DRY HYDRANT)
8. **Lyman Road**
A YEAR ROUND STREAM
(NO DRY HYDRANT)

9. **60 Birch Mountain Road (Paggioli Pond)**
A YEAR ROUND POND
(POND IS EQUIPPED WITH A DRY HYDRANT)
10. **Bolton Center Road (Dimock Pond)**
A YEAR ROUND POND
(POND IS EQUIPPED WITH A DRY HYDRANT)
11. **French Road and Camp Meeting Road**
A POND THAT IS NOT ACCESSIBLE IN THE WINTER
(NO DRY HYDRANT)
12. **Deming Road**
A YEAR ROUND STREAM
(NO DRY HYDRANT)
13. **280 West Street (C&M Farms)**
A YEAR ROUND POND
(POND IS EQUIPPED WITH A DRY HYDRANT)
14. **19 - 30 School Road**
POND NOT ACCESSIBLE IN THE WINTER
(NO DRY HYDRANT)
15. **Tumblebrook Drive**
A YEAR-ROUND CISTERN WITH A 6" MALE HOOK UP
(30,000 GALLONS OF WATER)
16. **Shoddy Mill Road (On The Bridge)**
A YEAR ROUND STREAM
(NO DRY HYDRANT)
17. **High Ridge Farm**
A YEAR ROUND CISTERN WITH A 6" HOOK UP
(30,000 GALLONS OF WATER)
18. **Loomis Road (Peases Pond)**
A YEAR ROUND POND
(POND IS EQUIPT WITH A DRY HYDRANT)
19. **Bayberry Lane Pond**
NOT ACCESSIBLE IN THE WINTER
(DRY HYDRANT IS OUT OF SERVICE)
20. **Johnson Road (Johnson Pond)**
A YEAR ROUND POND
(NO DRY HYDRANT)
21. **1239 Boston Turnpike**
A YEAR ROUND POND
(POND IS EQUIPPED WITH DRY HYDRANT)
22. **Boston Tpke. (Rt. 44) (Lower Bolton Lake Boat Launch)**
A YEAR ROUND LAKE
(NO DRY HYDRANT AND WATER IS LOWER IN THE WINTER MONTHS)
23. **Lynwood Drive and Colonial Road (Rosedale Beach)**
LAKE IS NOT ACCESSIBLE WHEN THERE IS SNOW ON THE GROUND
(NO DRY HYDRANT)

Location of Sources of Water Usable for Fire Protection: April, 2013



In particular, a large range of opinions and observations were put forward throughout the meeting, as follows:

- The cost of a cistern compared to the cost of a residential sprinkler system would be important information to obtain.
- The zoning and subdivision requirements of some other communities for water supply for fire protection, compared to Bolton's requirements, would reveal how we compare with other communities, but might also give us ideas for amendments.
- The Insurance Services Office(ISO) sells insurance databases, and has an influence on the extent of these requirements for insurance purposes.
- Alarm systems should be considered as a fire protection alternative.
- The guidance document NFPA 1142 is useful in calculating the amount of water needed for different uses.
- Differing opinions were expressed as to whether the ISO flow requirement of 250 GPM is the minimum to maintain a consistent water supply, yielding a minimum water supply of 30,000 gallons, the standard that is in our Regulations and many others.
- Other options are:
 - Passive protection measures such as fire resistant materials.
 - Active protection measures such as alarms and sprinklers.
- The Town should consider acquiring cistern easements based on optimum locations, versus location of cisterns solely as the developer's choice
- A final solution may be a mix of different techniques
- Fee-in-lieu of installation paid by a developer could be a good source of funds to install cisterns at locations specified by the Town as ideal locations.
- In some cases, a mix of structural improvements and a cistern may not be a cost-effective solution.
- The Town Center contains the vast majority of Town facilities with no fire protection (except at the High School).
- One-size-fits-all (referring to the current regulations) may not be the best solution.
- Some communities size cisterns based on the calculations from the application of NFPA 1142.
- Mapping of the locations of existing water sources for fire protection; existing developed areas; existing areas with development potential, and areas such as

open space which does not have fire protection needs would be useful in illustrating where needs are being met, and what our future needs are.

- Building different building models for water demand analysis would be useful.
- Other existing water bodies or streams should be identified and evaluated for its future potential.
- The BFD's existing fire equipment is in part obsolescent and lacking in meeting the fire-fighting needs of the community.

It was also agreed that reports would be given at the next meeting on a series of issues which included the following:

- a. Structure and use options and related firefighting and water supply needs
- b. A list of all firefighting options discussed during this meeting.
- c. A Land Use Map depicting developed and undeveloped areas serviced and not serviced, including town facilities; and land permanently preserved as open space.
- d. A Power point presentation by Jim Aldrich (10 minutes)

April 25, 2013

Among the subject matter and opinions discussed at this meeting were:

- A list of thirteen possible fire protection alternatives that had been discussed during the last meeting (see listed below)
- The desire and need to have a series of structural scenarios and associated fire flow calculations.
- The cost of sprinklers according to one scenario by professionals in the sprinkler field amounted to \$6 /s. f. for residential construction (see Appendix D, with calculations)
- Areas that need cisterns should be identified and added to a long-range capital budget.
- The BFD currently has an annual budget that is not adequate to allow the funding of dry hydrants.
- The addition of sprinklers would not alleviate the need for water.
- Residential sprinkler systems are life-saving systems, and not suppression systems. Water supply systems would still be needed to protect exposures.
- The current Regulations do not require both systems.

- The solution for small subdivisions may be sprinkler systems rather than cisterns.
- Spreading cisterns throughout Town may require a lower per-person cost and a fairer solution overall.
- Different tax schemes could be employed, such as Year 1 taxes being dedicated to cisterns.
- Risk-based regulations should be applied utilizing NFPA 1142 water calculations.
- A Town-wide solution is preferred, identifying areas of the greatest risk as high priorities, but cannot be an unfunded mandate.

Bolton Fire Protection Regulations Advisory Committee

Fire Protection Alternatives Discussed at the April 4, 2013 Meeting

1. Regulations as written
2. Regulations based on actual water demand for each use based on NFPA 1142, size of structure, hazard presented by each use, and age and construction type of building (New Canaan example)
3. Modification of Regulations to require developers to install larger cisterns / fire ponds at strategic locations predetermined by the Town, and controlled by the Town through easement acquisition.
4. Keep current Regulations, or modified version of Regulations, but Town establishes utility districts to allocate costs to those who receive benefits.
5. Residential sprinkler systems as an alternative to cisterns / fire ponds
6. Alarm systems connected to an emergency response organization
7. Smoke detection systems connected to an emergency response organization
8. Use of fire resistant materials (passive measure)
9. Combinations of 2 or more of the options outlined in 5, 6, 7, 8, above.
10. New fire vehicles, including pumper trucks with greater capacity and pressure flow
11. Consideration of response time for certain areas and uses
12. Consider fee in lieu of installation to fund account to enable the Town to install cisterns
13. Conduct land use analysis to determine areas in need of fire protection, both developed and with development potential. Solutions may be tailored to each geographic area in need of fire protection.

Subcommittees

The Committee examined the three lists reviewed at the beginning of the meeting, and developed from them a list of Subcommittees which would be utilized to further study,

analyze, organize, and digest the great deal of information that they have amassed thus far. The Subcommittees are listed in the front of this report.

It was decided, that, given the work established for the Subcommittees to prepare, the May 2 Fire Committee meeting would be cancelled and the May 23 meeting would be the deadline for presentation of the reports.

May 23, 2013

The meeting of May 23, 2013 was entirely devoted to the presentation of Subcommittee reports. These reports are summarized as follows:

Report of Subcommittee A: Fire Loads and Water Flow Calculations

Subcommittee A developed a comparison of five (5) existing sites, and a conceptual 6th site (a general business office), and provided an estimated sustained flow in gallons per minute needed to suppress a fire in each one of the structures, based on ISO standards and NFA standards. Under NFPA 1142, the total gallons needed are provided on the basis of 1,000 gallons per minute sustained flow. The results are as follows:

SITE	ISO (GPM)	NFPA 1142 (total gallons @ 1,000 GPM)	NFA (GPM)
Congregational Church	1,161	248,400	550
Carlyle Johnson Machine Company	4,365	158,400	5,280
England's (west building)	2,592	78,100	2,080
Notch Road Community Center	2,980	50,880	2,280
Simoniz	12,350	86,070	5,160
General Business Office*	1,530	25,710	2,400

*Typical 10,000 s. f., 24' high, two-story, constructed of wood and masonry

Mr. Bonn also presented two scenarios for fighting a fire at the Notch Road Municipal Center which demonstrated the response times with and without a 30,000 gallon cistern. The following is a comparative summary of those results:

RESPONSE TO NOTCH ROAD MUNICIPAL CENTER			
With tanker shuttle		With 30,000 gallon cistern	
<u>Assumptions:</u>		<u>Assumptions:</u>	
<ul style="list-style-type: none"> Initial Bolton alarm (1 tanker response - 3,000 gal.), 2 Andover (1,000 gal. ea.) & 1 Hebron mutual aid tanker (3,000 gal.) - total 8,000 gallons 5 minutes until arrival of Bolton Fire Officer Officer calls for mutual aid Vernon and Columbia tankers Assumes all trucks take 5 minutes to get on the air, and 2 minutes for Bolton apparatus to arrive 		<ul style="list-style-type: none"> Initial Bolton alarm (1 tanker response - 3,000 gal.), 2 Andover (1,000 gal. ea.) & 1 Hebron mutual aid tanker (3,000 gal.) - total 8,000 gallons) 5 minutes until arrival of Bolton Fire Officer Assumes all trucks take 5 minutes to get on the air, and 2 minutes for Bolton apparatus to arrive 30,000 gallon cistern on site, 3 minutes to hook up No additional mutual aid tankers 	
Min. on Scene	Water Available on Scene (Gal.)	Min. on Scene	Water Available on Scene (Gal.)
0	3000	0	3000
1	2000	1	2000
2	1000	2	1000
3	0	3	30000
4	0	4	29000
5	0	5	28000
6	0	6	27000
7	0	7	26000
8	0	8	25000
9	0	9	24000
10	0	10	23000
11	2000	11	24000

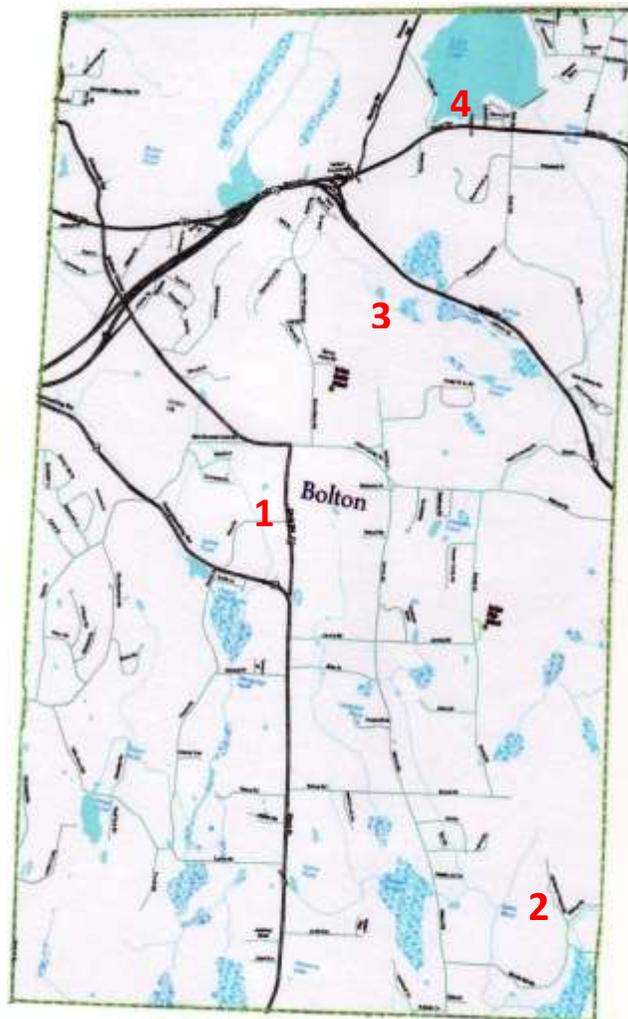
RESPONSE TO NOTCH ROAD MUNICIPAL CENTER (cont'd)			
With tanker shuttle		With 30,000 gallon cistern	
Min. on Scene	Water Available on Scene (Gal.)	Min. on Scene	Water Available on Scene (Gal.)
12	1000	12	23000
13	0	13	22000
14	0	14	21000
15	3000	15	23000
16	2000	16	22000
17	3000	17	21000
18	5000	18	20000
19	4000	19	19000
20	6000	20	18000
21	5000	21	17000
22	4000	22	16000
23	3000	23	15000
24	2000	24	14000
25	1000	25	13000
26	0	26	12000
27	0	27	11000
28	0	28	10000
29	5000	29	9000
30	4000	30	8000
31	3000	31	7000
32	2000	32	6000
33	4000	33	5000
34	3000	34	4000
35	4000	35	3000
36	3000	36	2000
37	2000	37	1000

RESPONSE TO NOTCH ROAD MUNICIPAL CENTER (cont'd)			
With tanker shuttle		With 30,000 gallon cistern	
Min. on Scene	Water Available on Scene (Gal.)	Min. on Scene	Water Available on Scene (Gal.)
38	4000	38	0
39	3000	39	0
40	7000	40	0
41	6000	41	0
42	5000	42	0
43	4000	43	0
44	6000	44	0
45	5000	45	0
46	6000	46	0
47	5000	47	0
48	4000	48	0
49	6000	49	0
Mutual Aid Tanker Response Times			
Town	Size in Gallons	Response Time (min. on Road)	
Andover (ET 115)	1,000	18 min.	
Andover (ET 215)	1,000	18 min.	
Columbia (t105)	3,000	17 min.	
Vernon (ET 241)	2,000	14 min.	
Ellington (T143)	3,000	25 min	
Hebron (T110)	3,000	17 min.	
Tolland (T 140)	3,000	24 min.	
Tolland (T 440)	3,000	35 min.	

These models demonstrate the critical gap in water supply for the first ten minutes of the response period without a cistern on-site. This period is the most critical period for life-saving. In the cistern model, the tankers and cisterns act in tangent to provide a continuous supply of water, not only for critical life-saving, but for full suppression as well.

Report of Subcommittee "B": Map indicating areas of possible development, location of current water supplies, identify locations for possible new water supplies utilizing distances in current regulations

This group performed two functions: Mr. Morra, Mr. Preuss and Mr. Cropley, led by Mr. Morra, identified some additional natural water bodies and stream locations which might have the potential for future water supply sites for fire protection. A map of the location of these potential sites follows:

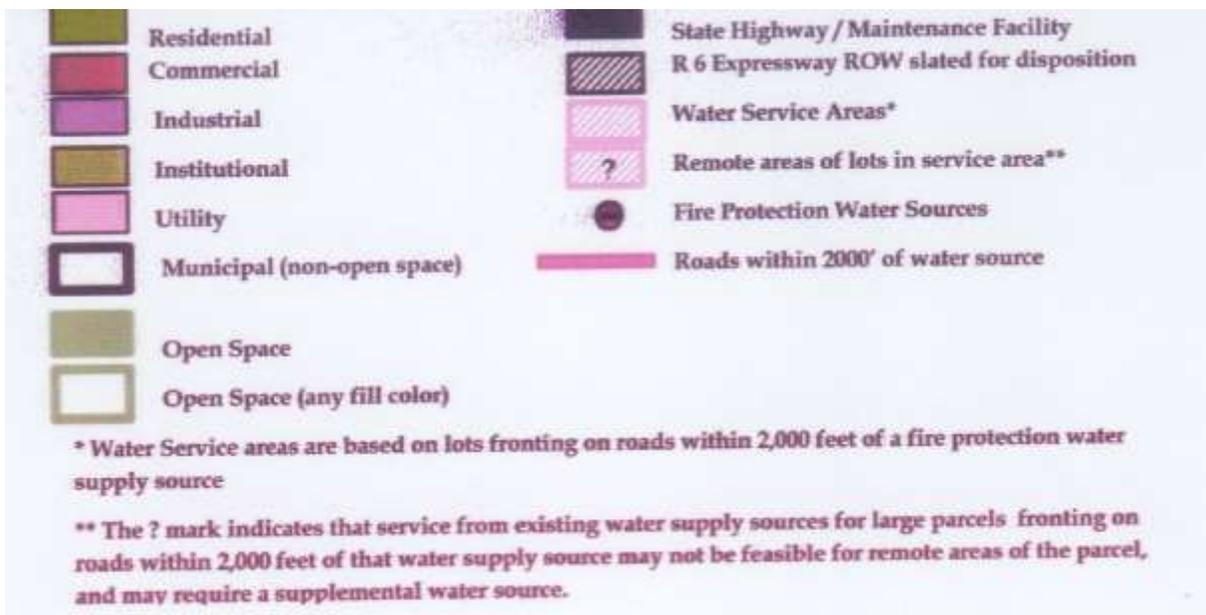


Map Key Potential additional Water Supply Sites

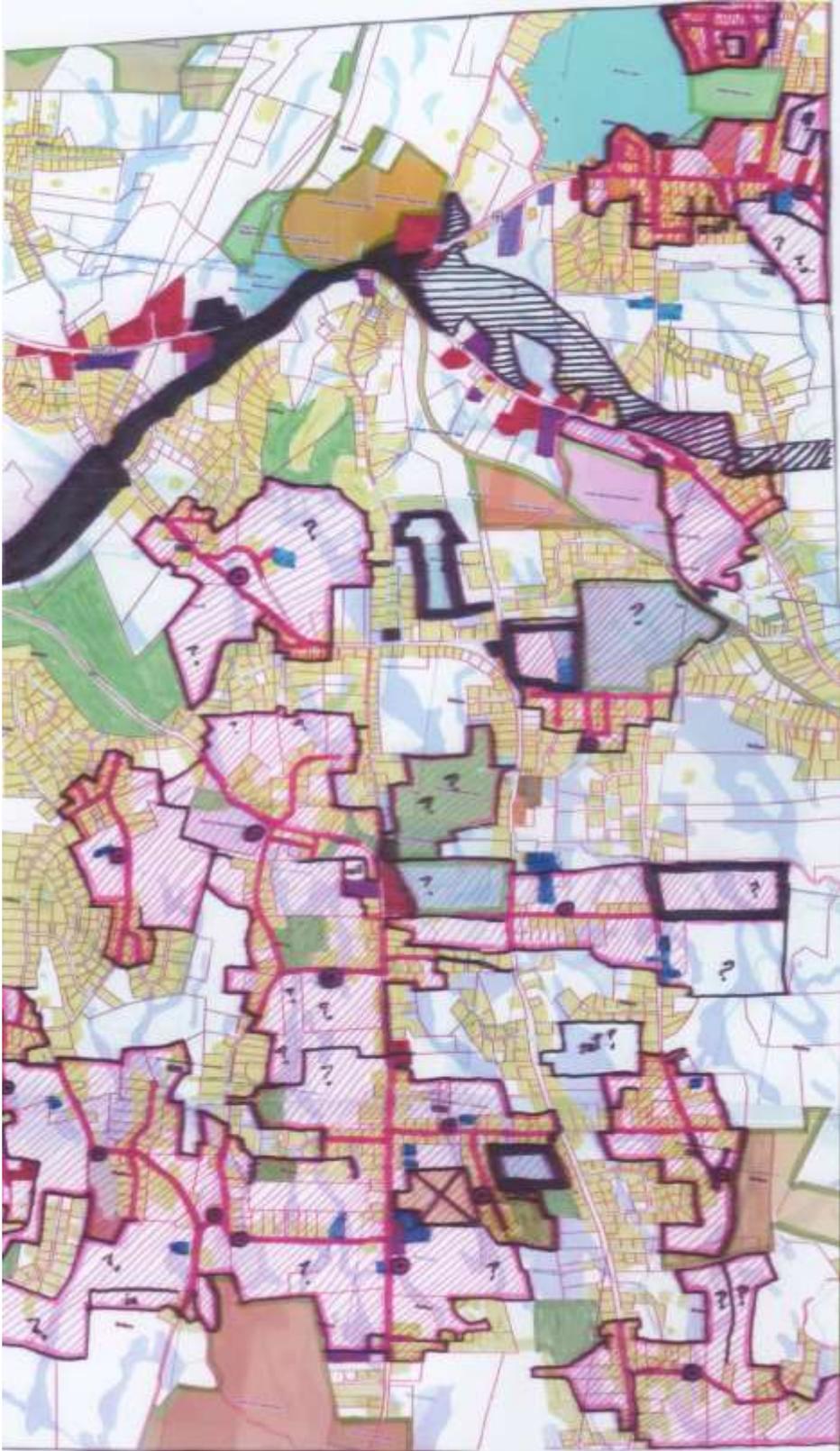
- 1 Clark Road –Rear of Landie Construction Garage- Water source Pond
- 2 Skinner Road (near intersection of Shoddy Mill) Water source-Pond
- 3 Rte. 6 Rear of Nursery (deep irrigation pond above street grade) –Water source-Pond
- 4 Rear of former Apartment build corner Rte. 44 and Vernon Road –Water source Bolton Lake.

John Pagini created the following map which includes the following:

- All land uses
- All municipal non-open space land
- All wetlands
- All open space land
- State Highway ROWs and maintenance property
- Route 6 ROW acquired by the State
- Water Service Areas, including parcels that may require further water service facilities due to their size
- Existing Fire Protection Water sources identified by the BFD
- All roads within 2000 feet of water sources



Map Key



Map depicting land uses, open spaces, wetlands, existing water sources, and existing service areas

The pink striped areas represent service areas that result from the application of the 2,000' standard distance in the Zoning and Subdivision Regulations between the water source and a structure, tracking existing roads and driveways. The question marks located to the rear of larger parcels indicate a possibility that additional water sources may be necessary to service these areas. Some observations concerning what the map tells us are:

- The area of the town encompassed by existing service areas is estimated at approximately $\frac{1}{4}$ of Bolton, with most coverage located in the southwest.
- There are considerable existing residential neighborhoods which are not in service areas as defined in our current Zoning Regulations
- Large areas in the northwest section of Town , SW section, and on the central east border are unlikely to be developed due to watershed and aquifer protection regulations, proximity to the State Forest, and very difficult terrain northeast , east, and southeast of the High school. These are also areas designated as un-fragmented forest by the DEEP.
- The north central part of town is virtually devoid of coverage. This area contains most Town facilities. The sole exception is the High School, where a cistern was installed as a part of the recent reconstruction and expansion of the facility. A water body on the east side of Bayberry Lane has provided service extending to the Town hall and surrounding neighborhood, but is inaccessible in winter, and the dry hydrant is out of commission at this time.
- Only the easternmost section of the commercial areas of Route 44 have limited services due to the installation of the Arbors, Turf and Gardens pond located near the Coventry border at the apex of Old Coventry Road and Route 44. The service coverage is based on the 1,000 foot commercial and industrial standard of the Zoning Regulations. The graphic at the left represents the coverage of the service area of the Arbors, Turf, and Gardens fire pond based on that commercial standard. Because the pond adjoins residential areas, the 2,000 l. f. standard, illustrated at the right, provides more extensive coverage for residential areas in Bolton and Coventry based on the Regulation's residential standard of 2,000 l. f..



Commercial Service Area



Residential Service Area

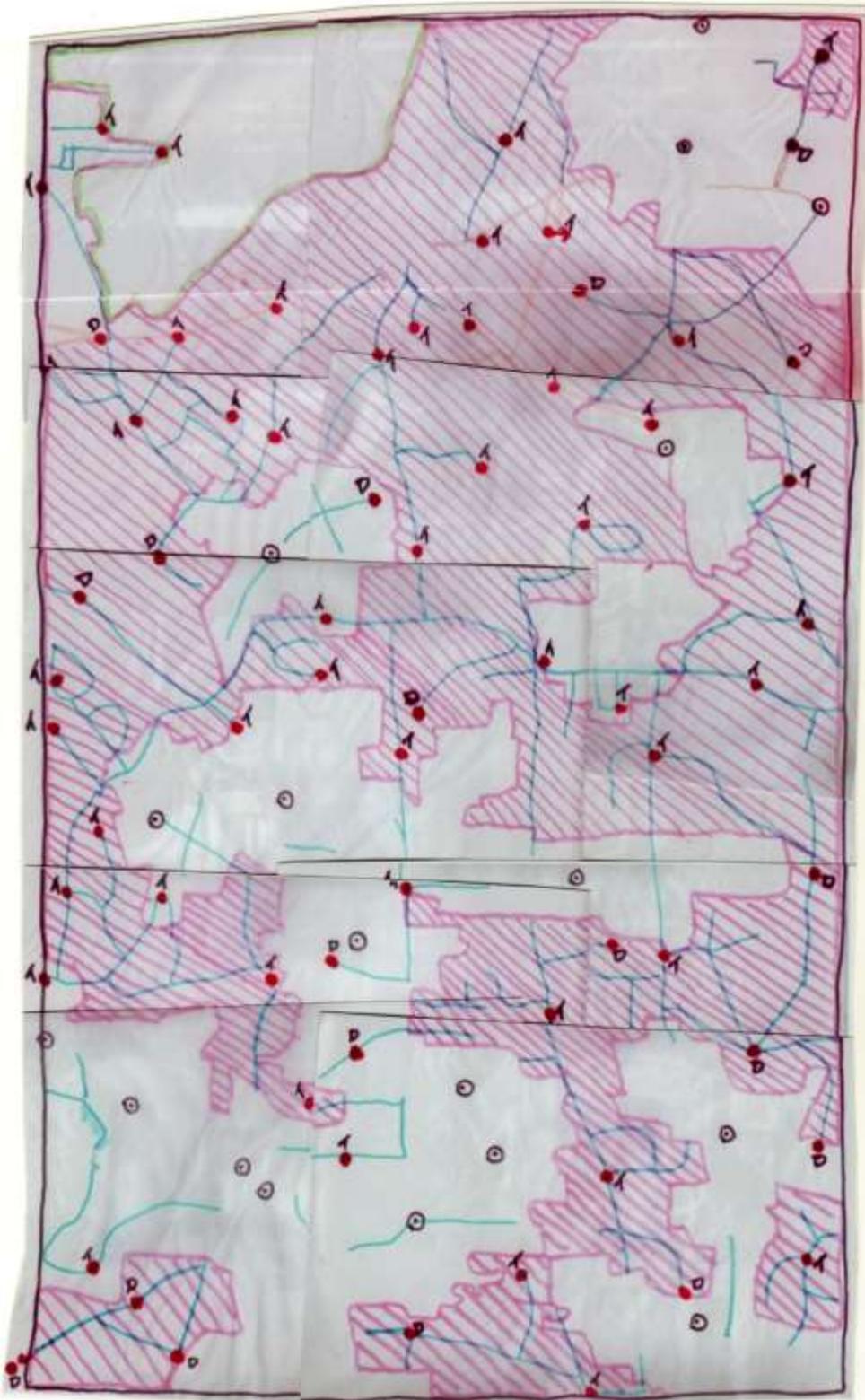
- The east end of the Route 44 commercial area is virtually devoid of any water supply for fire protection, with the sole exception being the voluntary action of Simoniz to install cisterns and its own sprinkler system.
- Route 6 commercial areas are also lacking water supply for fire protection, except for a single property in the shape of a lens, extending between Johnson Road and Route 6, which is serviced by a pond located within the Scout camp property.

An overlay map was developed to determine the numbers of cisterns or ponds which would be necessary town-wide to supplement the existing ponds and cisterns and provide town-wide coverage at build out based on the standards in the current regulations.

The total cisterns or ponds required at build out are estimated at 65 as follows:

- 9 water supplies in commercial, industrial, or mixed use zones (included in them is one public water supply hydrant assumed for extension to the intersection of Cider Mill Road and New Bolton Road, and to be provided by a private developer).
- 38 water supplies located in existing residentially developed areas
- 18 water supplies to be constructed by developers.

The overlay map is as follows:



Inasmuch as the commercial water supply requirement in the Zoning Regulations was the principal reason why this process and report were initiated, the following more detailed study of possible locations which fit the zoning requirements of 1,000 foot

separation from the water source to the structure is illustrated below. We caution that there may be alternative scenarios to this one which may be more efficient and desirable to the BFD based on further detailed study and other considerations:



**Key to the Commercial / Industrial / Mixed Use Areas Map of
Possible Cistern / Fire Pond Locations Areas**

- The black dots represent existing water sources.
- The red dots suggest possible water supply locations which fit the 1,000 foot requirement.
- The red dot with the X and black circle surrounding it represents the anticipated extension of the Manchester Water Company municipal water system to service the Cider Mill Village development.
- The light orange on existing roads represent the service routes meeting the 1,000 foot standard of the Zoning Regulations.
- The light orange lines on private parcels suggest possible new private or public roads to service larger parcels.
- In addition to the hydrant near Cider Mill, there are 9 water supply locations identified, aside from those located on larger parcels and presumed to be the responsibility of future developers.

Report of Subcommittees C & D:

1. How size of buildings may relate to and trigger a water supply requirement
2. Codes, uses, and types of construction, and their potential role in this regulation

Mr. Manning and Mr. Aldrich discussed the size of buildings as a factor in fire protection, concluding that no matter the type of construction or size, water is essential. Mr. Aldrich stated that there were other variables in building construction that are addressed in the Code, and which affect water that is needed, citing type of construction, sprinkler systems, and fire walls as examples. He noted that NFPA 1142 does not consider these factors. He added that fire walls as a fire protection measure can be a very expensive proposition, since it would be required for each 24,000 s. f. of space.

Report of Subcommittee E: Similar Regulations from other Towns in Connecticut and elsewhere for comparative purposes.

Mr. Bonn and Mr. Pagini, with the assistance of Mr. Walker, had amassed a total of 31 different ordinances from three states through distribution of surveys and list serve inquiries to fire departments and planning departments. They also conducted an internet search which yielded more regulations or ordinances, especially from out of state. The distribution of these fire protection regulations are as follows:

- 18 - Connecticut
- 3 - Massachusetts
- 11 - New Hampshire

The characteristics of the regulations have been summarized in the spreadsheet attached to this report as Appendix F

Residential Standards

The summary of the data collected from the 31 towns is as follows for single-family residential development:

Residential Standards		
Median threshold # of lots requiring a cistern or fire pond	Median distance from water supply to residential structure	Median size cistern or pond
3-4 (most common standard is 3,	Between 1,200-1,500 l. f. (most common	15,000 gallons (most liberal standard is

with a range from 3 - 10 lots)	distances utilized are 1,000 l. f. and 2,000 l. f.	2,500 gallons [Epsom, NH], and the most stringent a 250,000 gallon natural water source [Bethany, CT]. Most common size is 30,000 gal.
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Only two communities polled had no specific residential water supply standard, one stating that that decision was “at the discretion of the Commission”, while the other simply stated that the applicant needed a “credible water source”.

However, some communities have more complex equations and bear mention, notably Watertown, CT, West Newbury, MA, Barkhamsted, CT, Brookfield, CT, and Marlborough, CT, as follows:

Cistern Standards from Select Communities				
Watertown, CT	West Newbury, MA	Barkhamsted, CT	Brookfield, CT	Marlborough, CT
1-3 lots (no water supply required)	1-10 lots – 15,000 gal. cistern	1-5 lots – 10,000 gal. cistern	30,000 gallons for each 10 lots (except the 1 st 3-10 lots)	10,000 gallon cistern for each 10 houses.
4-9 lots (20,000 gal. cistern required)	11-35 lots – 30,000 gal. cistern	6 or more lots - 20,000 gal.		
10 or more lots (30,000 gallons)	or 2,000 gallons per building lot, whichever is greater			

In addition, additional standards from other towns are worth citing:

- Somers requires a 15,000 gallon capacity fire pond, or a 10,000 gallon capacity cistern.
- Torrington requires a cistern greater than 10,000 gallons as specifically sized using the ISO formula.

In this comparison of towns requiring residential cisterns or ponds, Bolton is on a par with the median lot threshold; more liberal than most towns in the distance from water

supply to residential structure; and more stringent from towns based on the median size of tank.

Commercial / Industrial Standards

The summary of the data collected from the 31 towns is as follows for commercial and industrial developments. In contrast to residential fire prevention standards across the board, only 11 of the 31 communities polled had commercial or industrial standards, and 9 of those were in Connecticut:

Commercial / Industrial Standards		
Median threshold size of structure which triggers the requirement	Median distance from water supply to commercial / industrial structure	Median size cistern or pond
Only 5 towns have threshold standards for buildings, ranging from 1,000 s. f. to 10,000 s. f. with 2,500 as the median. Bolton has the strictest standard among the Towns polled	1,000 feet to 1,500 feet median distance. Minimum is 500 feet (Torrington and the maximum is 2,500 feet (Ashford)	20,000 gal. to 25,000 gal. for cisterns; one pond size was 40,000 gallons, and one "natural water source" size of 250,000 gallons

In this comparison of towns which choose to regulate commercial and industrial areas, Bolton stands in the median range for distance from water source to structure; has the strictest standard for building thresholds which trigger the cistern requirement, and is in the higher range for water supply sizes.

Subcommittee F: Economic Analysis and Town-wide Solutions

The members of Subcommittee F reported that it has learned from Bolton business owners that the cost of implementing the current zoning regulations was a deterrent to the expansion of new and existing businesses. The subcommittee had spoken with many businesses which have already purchased property in other communities due to the cost of the Fire Protection Regulations in their report entitled "Subcommittee F: Economic Analysis: Conclusion and Summary" attached as Appendix G. The Subcommittee observed that the following businesses had planned to expand but the cost of fire protection regulations caused them to cancel or delay their plans.

1. Redwood Landscaping. Large equipment storage building
2. Happy Hauler RV Storage. Additional storage space. Owner purchased property in Andover and moved his business there. The cost of selling his property according to a realtor needed to be reduced by \$50,000 to cover the cost of installing a cistern for a prospective new owner.
3. Munson's proposed a modest retail expansion. Although other hurdles were overcome, Munson's has put their plans for a modest expansion on hold due to fire code requirements. A key action to move the project forward was recently approved by DEEP. The company scrapped acquisition of adjoining State land due to difficult terrain which would be costly to overcome.
4. TK J Commercial LLC. A 10,000 square-foot multi-use general business building was not pursued you the time of the adoption of the cistern regulations the cost of design and construction of the sister alone would amount to approximately \$80,000.
5. Dean Cabinetry. 2000 s. f. expansion to double the size of his existing workshop on Boston Turnpike.
6. Able Coil. This firm planned to expand in Bolton but is now pursuing acquisition in another town. Costs of a fire wall and cistern were factors.
7. Net Source. A manufacturer of digital assembly parts employing 50 people has placed a 100% expansion on hold at least in part due to fire regulation requirements.

Other businesses have chosen to delay construction or consider relocation for reasons not exclusively related to the fire regulations. Simoniz outgrew its space at its existing complex for warehousing, having leased space in Manchester and then recently acquired a facility in Rocky Hill for that purpose, despite efforts by town staff and its consultants to demonstrate feasibility of a 100,000 square-foot expansion on Ansaldi property across from their corporate headquarters. Cider Mill Village delays were not influenced by the fire protection regulations and its very scope necessitated a solution involving Manchester municipal water service. In addition, issues concerning water quality concerns with the Manchester Water Company water supply watershed land and aquifer protection area were recently resolved in a meeting between Town staff and the OPM, and resulted in a key action to move the project forward when DEEP recently held a scoping session which was favorable for the developers. Other properties are heavily financed and made it difficult for prospects to afford the additional cost of fire protection improvements.

The Subcommittee has recommended the full abolition of the existing residential and commercial fire protection regulations due to their effects on stifling business expansion and thus preventing the generation of needed tax revenues. The Subcommittee also recommended that the BFD create a town-wide master plan to provide water to all its citizens and businesses and not place an undue burden on a few to assume costs for those benefitting from those improvements without assuming their fair share of costs. Once completed, the Subcommittee felt implementation should be funded by those residents and businesses receiving the benefits of these improvements. The plan must prioritize action based on the most serious needs of the community. How this will be achieved will be an admittedly difficult debate as utility districts, capital programming, and municipal bonding, among other financial options, will need to be considered.

First Public Informational Meeting

The Fire Committee hosted its first formal Public Informational Meeting on June 10, 2013. Solicitation for the event was made through the Everything Bolton Facebook site; an article prepared by Joyce Stille in the *Journal Inquirer*; EDC e-mail lists; and contractor contact lists. Nineteen were in attendance. John Pagini gave a brief presentation outlining the characteristics and requirements of the two Water Supply Regulations currently in effect.

A summary of the comments received during this meeting are as follows:

<ul style="list-style-type: none">• The need for a simplified map just showing areas of coverage provided by existing water supplies
<ul style="list-style-type: none">• Comments concerning the cost-effectiveness of residential sprinkler systems
<ul style="list-style-type: none">• Questions concerning the costs of residential sprinkler systems, with a response that the cost locally is approximately \$6 per square foot
<ul style="list-style-type: none">• In the future, residential sprinkler systems may be authorized to be installed by P-1 plumbers, and perhaps homeowners.
<ul style="list-style-type: none">• Informed that a sprinkler system for a 2,000 s. f. house might cost \$12,000.
<ul style="list-style-type: none">• The reduction in the cost of insurance premiums associated with the installation of alarm systems in order to expand his business is not an unreasonable cost (i.e., \$50,000 - \$60,000)
<ul style="list-style-type: none">• Businesses who do their homework and review the Regulations would never come to Bolton.

<ul style="list-style-type: none"> • The current Regulations are too strict and are stifling growth
<ul style="list-style-type: none"> • Community wells and hydrants in Subdivisions could resolve some of the issues
<ul style="list-style-type: none"> • Tankers are a possible solution
<ul style="list-style-type: none"> • Acquisition of easements for cisterns is akin to confiscation.
<ul style="list-style-type: none"> • In one instance, the cost of a cistern was greater than the addition proposed to an existing building.
<ul style="list-style-type: none"> • A recent appraisal of a property requiring a cistern discounted the value of the business by \$50,000.
<ul style="list-style-type: none"> • A cistern location for one business would occupy storage spaces that would generate \$72,000 in rental fees over a 10 year period.
<ul style="list-style-type: none"> • Although Bolton requires a 30,000 gallon tank, other towns may require 10,000 and 15,000 gallon tanks.
<ul style="list-style-type: none"> • A 15,000 gallon poly tank might cost \$15,000, whereas a 30,000 gallon concrete tank would cost \$60,000.
<ul style="list-style-type: none"> • Smaller cisterns installed by a town crew might be another solution.
<ul style="list-style-type: none"> • Northeast Solutions found that cisterns over 10,000 gallons in seismic zones need to be constructed of steel.
<ul style="list-style-type: none"> • The cost of a recently installed fire pond was \$70,000. It should be noted that the pond serves other functions for the property such as storm water management and possible use for irrigation of vegetation.
<ul style="list-style-type: none"> • Distances between water supplies and structures are based on national standards, and the diameter and amount of hose.
<ul style="list-style-type: none"> • A 10,000 gallon tanker truck would be problematic accessing narrow roads and being able to maneuver.
<ul style="list-style-type: none"> • A larger tanker would cost \$400,000 to \$500,000; the existing fire station would need expansion to house this size vehicle.
<ul style="list-style-type: none"> • In the case of ledge, which would impede the construction of an underground tank, an alternative is an above ground tank with 54" of cover material, including the thickness of tank walls.
<ul style="list-style-type: none"> • A Town solution would require a financial analysis to determine feasibility.
<ul style="list-style-type: none"> • House fires in the winter are more frequent and more severe.
<ul style="list-style-type: none"> • To provide cistern / fire pond coverage town-wide, approximately 63 total additional water sources would be necessary. Approximately 9 cisterns / ponds would be required to service the Route 44 and Route 6 business / industrial / mixed use zoned areas.
<ul style="list-style-type: none"> • The funding by the Town of 63 cisterns / ponds would be cost-prohibitive,
<ul style="list-style-type: none"> • A fee-in-lieu of installation per lot is a fair solution. Lots in smaller subdivisions under current regulations assume a disproportionately high

cost to fund cisterns.
<ul style="list-style-type: none"> • Cisterns dedicated to the Town as public improvements are a long-range maintenance cost which can be significant with failure of cisterns.
<ul style="list-style-type: none"> • Bringing a water line down Route 44 associated with the current proposal to divert water from the Farmington River Valley to UConn Storrs might be the ultimate solution.
<ul style="list-style-type: none"> • DEEP agreed that extending a public water line from Manchester to the limits of their water supply watershed is a desirable option in terms of promoting ground water recharge both in the aquifer and the watershed. This would extend public water service in the vicinity of Georgina's and the State Maintenance site.
<ul style="list-style-type: none"> • The BFD needs a separate budget with their own sources of funding.
<ul style="list-style-type: none"> • 2,000 gallons of water calculated as needed through an NFPA 1142 analysis. Under some circumstances, more water, even 30,000 gallons, may not be enough to put out a fire.
<ul style="list-style-type: none"> • We should address what already exists.
<ul style="list-style-type: none"> • Older buildings are a greater risk than new buildings.
<ul style="list-style-type: none"> • It is the Town's responsibility to extend a water line down Route 44.
<ul style="list-style-type: none"> • Under current Regulations, one property owner would assume the full cost of a cistern and related improvements, with no mechanism in place to share costs with those who also benefit from that installation.
<ul style="list-style-type: none"> • The Town Hall and Notch Road Municipal Center have no protection, and no new development should occur in that area.
<ul style="list-style-type: none"> • One business proposes a modest 1,000 s. f. expansion, and the cost of fire protection makes it cost-prohibitive.
<ul style="list-style-type: none"> • The Town should look seriously at funding the 8 cisterns in the business districts
<ul style="list-style-type: none"> • How many of the 169 towns have similar regulations? This is difficult to answer, because the survey and list serve solicitations did not generate comprehensive responses. Also, many of the larger towns have pressurized water systems that provide a water supply for fire protection and those towns did not respond to the survey.
<ul style="list-style-type: none"> • The BFD had proposed a 10,000 gallon cistern in connection with the original proposal in 2005, but ultimately the 30,000 gallon standard was selected and agreed to by the PZC.
<ul style="list-style-type: none"> • Where are cisterns needed? The answer was for big fires, big potential losses, especially in the center of Town.
<ul style="list-style-type: none"> • The pond advocated in the VCI / Bolton Center Study near Town Hall should be built
<ul style="list-style-type: none"> • 30% of the responses the BFD receives required a 30,000 gallon cistern.
<ul style="list-style-type: none"> • The focus should be to get people out of buildings safe, and the homeowners should rely on insurance for property losses.

<ul style="list-style-type: none"> • ISO requires that the minimum flow required was 250 gallons per minute for a 2-hour period.
<ul style="list-style-type: none"> • ISO ratings are on a Town-wide basis and the insurance premium savings were negligible.
<ul style="list-style-type: none"> • In one instance, the presence of a fire pond across the street from a business amounted to \$100 savings in insurance per year.
<ul style="list-style-type: none"> • Community systems might be a viable solution. Response was that this had been explored and found to be cost prohibitive due to storage and pressure needs.
<ul style="list-style-type: none"> • The installation of a few cisterns will not change the Town's ISO rating of 9. However, there are Town-wide and locational standards.
<ul style="list-style-type: none"> • Asked whether the Town would entertain a tax assessment like a sewer, the 1st Selectmen stated that his administration was not in favor of that approach, but would be open to other equitable solutions.
<ul style="list-style-type: none"> • Did other towns have similar issues as those this Town is experiencing? The question was asked in a survey by the BFD, but no answers were given.
<ul style="list-style-type: none"> • Residential fire protection regulations were common, but commercial regulation uncommon, based on the responses received.
<ul style="list-style-type: none"> • Eliminating the current Regulations would be good for business, but the cost might be measured in human life.
<ul style="list-style-type: none"> • Older homes can reach flashover in 20 minutes, but newer homes may experience it in 3-5 minutes.
<ul style="list-style-type: none"> • Flashover in the basement of a new home can be dangerous with carpeted first floors.

June 13, 2013

This meeting was devoted to an effort to identify areas of consensus and areas wherein no consensus has occurred. A worksheet was devised for each subcommittee at the May 22, 2013 meeting, with instructions to meet as Subcommittees and attempt to reach consensus on a variety of questions related to the Scope of Work and the feedback from the Committee. The questions asked were as follows:

<p>Questions to be addressed by Subcommittees</p>
<ul style="list-style-type: none"> a. Does the research lead us to conclude that we should maintain the status quo? b. Does the research lead us to conclude that constructive modifications can and should be made to the current regulations? <ul style="list-style-type: none"> i. Concerning Commercial, Industrial, Farm, and Institutional Development / Uses: <ul style="list-style-type: none"> 1. Should cistern / fire pond capacities change?

2. Are there other solutions / fire protection options that should be added to the Regulations
3. Should distances between water sources and structures change; if so, why and how?
4. Should the regulations address water needs based on the specific fire code requirements for each use?
- ii. Concerning Residential Subdivisions:
 1. Should cistern / fire pond capacities change?
 2. Are there other solutions to be added to the Regulations?
 3. Should distances between water sources and residential structures change; if so, why and how?
 4. Should subdivisions with larger building sizes and development along long driveways have special fire protection standards by regulation.? If so, what would they be?
 5. Should the "free lots" standard in place now in the subdivision regulations be adjusted?
- c. Does the research conclude that other regulatory approaches than those in place now could be more effective? How and why?
- d. Should the Town proactively locate and secure easements for the future placement of cisterns?
- e. If so, should the Town create a priority system for securing these easements based on need?
- f. Should developers be required by regulations to place cisterns only in places identified in this group's report, or within easements already secured by the Town?
- g. Should the Town play any other role in providing needed water supplies in perhaps existing residential neighborhoods with no or little development potential, and therefore no possibility of developer subsidy?
- h. If so, should the Town utilize some form of utility district to allocate costs to those receiving benefits?
- i. And / or, should the Town float bonds or otherwise allocate funds through its capital improvement program, if feasible over the long term, to fund the installation / construction of cisterns / fire ponds in those residentially developed areas without service?
- j. Should the Town subsidize or have some other funding role for Industrial, Commercial, Farm, or institutional uses?
- k. Should the Town serve as a catalyst for private entities to secure Economic Development funding to help fund fire protection improvements?
- l. Any other approaches or thoughts from the Subcommittees

Staff aggregated the answers from the Committees, and found that there was unanimity for 7 of the 21 questions (33%); a tie vote for 4 (19%), and 9 (43%) had majority votes. One question was not well understood among recipients. The votes are summarized in the following chart:

Summary of Subcommittee Meetings Polling Responses on Major Issues :

Consensus, Tie, & and Majority	
Question	Consensus / Tie / Majority
a. Does the research lead us to conclude that we should maintain the status quo?	Consensus No
b. Does the research lead us to conclude that constructive modifications can and should be made to the current regulations?	Tie (3-3)
i. Concerning Commercial, Industrial, Farm, and Institutional Development / Uses:	
1. Should cistern / fire pond capacities change?	Consensus Yes
2. Are there other solutions / fire protection options that should be added to the Regulations	Majority Yes (4-2)
3. Should distances between water sources and structures change; if so, why and how?	Majority Yes (3-2-1)
4. Should the regulations address water needs based on the specific fire code requirements for each use?	Majority No (5-1)
ii. Concerning Residential Subdivisions:	
1. Should cistern / fire pond capacities change?	Consensus Yes
2. Are there other solutions to be added to the Regulations?	Tie (3-3)
3. Should distances between water sources and residential structures change; if so, why and how?	Tie (3-3)
4. Should subdivisions with larger building sizes and development along long driveways have special fire protection standards by regulation.? If so, what would they be?	Consensus No
5. Should the "free lots" standard in place now in the subdivision regulations be adjusted?	Question Not Well Understood
c. Does the research conclude that other regulatory approaches than those in place now could be more effective? How and why?	Majority Yes (3-2-1)
d. Should the Town proactively locate and secure easements for the future placement of cisterns?	Consensus Yes
e. If so, should the Town create a priority system for securing these easements based on need?	Consensus Yes
f. Should developers be required by regulations to place cisterns only in places identified in this group's report, or within easements already secured by the Town?	Majority No (3-2-1)

g. Should the Town play any other role in providing needed water supplies in perhaps existing residential neighborhoods with no or little development potential, and therefore no possibility of developer subsidy?	Consensus Yes
h. If so, should the Town utilize some form of utility district to allocate costs to those receiving benefits?	Majority Yes (4-2)
i. And / or, should the Town float bonds or otherwise allocate funds through its capital improvement program, if feasible over the long term, to fund the installation / construction of cisterns / fire ponds in those residentially developed areas without service?	Majority Yes (4-2) (incl. 2 Y/N, depending on circumstances)
j. Should the Town subsidize or have some other funding role for Industrial, Commercial, Farm, or institutional uses?	Majority Yes (4-2)
k. Should the Town serve as a catalyst for private entities to secure Economic Development funding to help fund fire protection improvements?	Majority Yes (3-2-1)
l. Any other approaches or thoughts from the Subcommittees	Tie (1-1)

Issues with Full Consensus Achieved	
1.	The status quo in terms of the current regulatory approach to fire protection is unacceptable, and the Zoning and Subdivision Regulations concerning fire protection need to be either amended or eliminated.
2.	Cistern and fire pond minimum capacities should be changed for residential, commercial, and industrial developments. Although not specified in responses, it seemed that the support was for smaller cistern and pond facilities.
3.	No changes are supported for a different (more stringent) approach towards fire protection for larger buildings or long private driveways, such as found associated with rear lots in subdivisions.
4.	Members strongly supported the idea of a Town role in identifying and securing easements for future cistern or pond sites.
5.	These Town easement sites should be built if accordance with the town's most pressing priorities, and based on careful study of the optimum, most efficient, operationally viable, and cost-effective location for such future water supply facilities.
6.	The members felt that the Town had a special responsibility to provide needed water supplies in existing neighborhoods which were highly unlikely to receive water supplies from developers operating under the Subdivision Regulations

Issues With Majority Vote Support	
1.	A substantial margin of the Subcommittees said it would support other

	regulatory approaches rather than those in place now. One comment supported the idea of building flexibility into the current regulations by allowing an increase in the building size threshold should the building be constructed of non-combustible or fire-resistive construction, or protected by a fire alarm system. Several other Committees supported the total removal of the fire protection regulations now in place, favoring a Town-wide approach utilizing risk-based rules derived from NFPA 1142 and the current Building Code.
2.	Only by a slight margin did the subcommittees agree that the separating distances between water sources and buildings be modified for commercial and industrial development.
3.	Subcommittees were adamant (with one exception) that water needs should not be based on the specific fire code requirements for each use.
4.	By a slight margin, Subcommittees agreed that other regulatory approaches could be more effective than our current regulations.
5.	Also by a slight margin, Subcommittees agreed that cisterns should only be placed at locations secured by the Town.
6.	There was fairly strong support among Subcommittees with respect to a requirement that utility districts be established to allocate costs to those property owners receiving benefits. However, these “yes” votes included two which stated that this approach “might be considered”. One of the Subcommittees advocated the creation of a taxing district for municipal, public, and non-profit structures, due to the fact that these entities pay few if any taxes now. No private or non-profit entity would be taxed under this suggested plan.
7.	With a 4-2 vote (2 of which were somewhat ambivalent on the issue, and their answer was dependent on the circumstances), Committee members supported the idea of the funding of cisterns and related improvements through bonding and / or through a capital improvement program.
8.	By a substantial affirmative vote, the Subcommittees generally agreed that the Town could or should have a role in subsidizing or having some sort of funding role as an inducement for industrial, commercial, agricultural, and institutional uses.
9.	By a very slight margin, the Subcommittees agreed that the Town should serve in the role of a catalyst for private entities to secure funding to defer the cost of fire protection improvements.

Deadlocked Issues (Tie Votes)	
1.	The Subcommittees were deadlocked on the issue of whether constructive modifications or other solutions should be made to the Regulations.
2.	Similarly, no majority of the Subcommittees supported the idea of any change in the distance (2,000’) for residential development established in the current Regulations between the water source and the structure.

June 27, 2013

The Committee had received a first draft of the Committee's report prepared by John Pagini based largely on the work performed by the subcommittees and on the efforts made at its June 13, 2013 meeting to narrow the issues.

The discussion initially focused on how the Town might finance improvements to ensure fire protection for the community. All acknowledged that Zoning Regulations could only address new development, and the PZC was not empowered to implement financing options, or ways to allocate costs equitably among others who might benefit from fire protection improvements. There was additional discussion about various types of funding mechanisms, including some form of tax increment financing which could be a source of funds to allay the Town's cost of installing fire protection improvements, or might be used to reimburse property owners who had invested in the cost of the improvements. Some members noted that they were skeptical about this concept, since the purpose of encouraging new growth was to increase the Town's tax base, not drain it.

Some Committee members felt at a loss to pursue this issue further without historic data.

Other options discussed were long-range annual capital program allocations for periods of for instance, 10 years.

It was also mentioned that Manchester has a fire permit fee as a source of funds.

The Chairman noted that there appear to be 5 or 6 funding choices available to the town. Another could be bonding of the improvements and repayment of the debt over a 25 to 30 year period. Again, there was discussion about the need for a Master plan to identify priority improvements and develop a specific strategy to fund them.

The discussion switched to the theoretical installation of cisterns along either Route 44 or 6, and stated that when full build out potential is considered, and the demands of certain uses, the size of tanks required to fight fires under these circumstances may exceed 30,000 gallons.

Mr. Manning then put a proposal on the table which contained the following components:

1. Eliminate the current Fire Protection Requirements out of both the Zoning and Subdivision Regulations, except any provisions which may allow the PZC to require easements.
2. He proposed that the Town install 8 cisterns as follows (as modified by discussion):
 - a. #1 at or near the Town Hall
 - b. #2 at or near the Notch Road Municipal Center
 - c. #3 at or near the A-1 Market
 - d. #4 at the location of a potential pond site near Loomis and Hebron Road.
 - e. #5 near Dean's Cabinetry on 6/44;
 - f. #6 at or near 7 acre property on 44 near Lower Bolton Pond dam
 - g. #7 at or near Howard Road
 - h. #8 at or near the Ice Palace and Munson's.
3. Do nothing for residential development

There seemed to be general acceptance of the concept of the Town taking responsibility for commercial / industrial cisterns as generally described by Mr. Manning in discussion.

There was further discussion about getting existing ponds to work for fire protection purposes. Others felt that we needed to do something for residential development.

Mr. Bonn noted that the 30,000 gallon standard in the Regulations at this time is unnecessary for residential development, because the Town generally has large lots, and experiences no more than one fire at any one time in any single-family neighborhood. After discussion, it was felt that a 7-10,000 gallon cistern was all that was needed.

There was some discussion about the possibility of relaxing some of the subdivision regulations as they relate to road width if cisterns are installed, because having cisterns alone would not require a tanker shuttle. This would be one way of reducing the cost of the subdivision overall. Others felt that the limited width was not warranted, and could lead to other capacity issues.

Some members said that they were opposed to removing all regulations removed, in particular the requirement for residential water for firefighting. One member argued that many residents are putting in alarm systems, but, after discussion, there was general agreement that it would be nearly impossible to enforce keeping either alarms or sprinklers active.

Another member expressed the opinion that tankers alone were needed for protection of homes, but that bigger structures need to be considered as well. Further discussion ensued concerning the use of tankers exclusively, including the need for tanker turnarounds, and perhaps longer cul-de-sacs to accommodate them (the current regulations are not based on length of road, but on the number of lots (20) on a street or streets accessing a through road.

Discussion then returned to an effort at consensus as follows:

- Require a 10,000 to 15,000 gal. cistern
- Allow a C/O for the 3rd house before the cistern is required to be installed
- Increase the cul-de-sac length by allowing additional lots

It was agreed that Ray Walker, Jim Preuss, Jr., and Dale Bonn would meet to fine-tune the recommendation suggested, and bring it to the full Committee.

There was continued concern for the flashover time for newer homes, which is generally 3-5 minutes.

Other members were concerned about the ownership of any new residential cistern. It was clarified that the cistern and easement were the property of the Town and their requirement to maintain after acceptance.

- a. **RECOMMENDATIONS**1. The Committee finds that the current Section 3C of the Bolton Zoning Regulations which impact commercial and industrial developments adversely affect economic growth in this community by placing a large and unfair economic burden both on existing businesses, and also on those new businesses with an interest in locating in Bolton. Therefore, the Committee recommends that in lieu of the 30,000 gallon water supply or automatic sprinkler protection for all construction at the 1,000 sq. ft. threshold a developer may
 - a. submit an engineered analysis that shows that the proposed building requires a lesser quantity of water. The minimum capacity water supply would be 15,000 gallons

OR

- b. submit a plan for any building of non-combustible construction, as defined in the CT Building Code, showing a complete building protection UL listed and/or FM placarded fire alarm system monitored by a similarly qualified central station. The monitored fire alarm system may be substituted for a water supply in such buildings up to 2,500 sq. ft.

OR

- c. an automatic fire suppression system accordance with Section 9.7.3.1 of the Connecticut Fire Safety Code may be substituted for the water supply or automatic sprinkler system.

d. Sunset Provision:

At such time as the Town or other acceptable (legitimate?) authority has placed in service cisterns, dry hydrants, or pressurized water supplies designed for fire protection that meet the distance requirements of these regulations, then water supplies or sprinklers would not be needed (required?) for any size or class of construction unless required by other adopted State building, fire, or life safety codes.

- a. In making its recommendation, the Committee recommends the above proposed Zoning Regulation amendment serve as an interim measure pending the funding by the Town and installation of the eight (8) essential water supplies located in commercial and mixed use areas referenced in below. It is the Committee's further recommendation that if this installation were to occur, this Zoning Regulation on fire protection should be eliminated from the Regulations.
2. The Committee finds that water supplies are essential to protect businesses and mixed use communities from loss of life, damage from fire, and the economic consequences of those types of losses, and believes that the Town of Bolton should be responsible for developing a financing plan to make possible the

installation of the following essential eight (8) water supplies, most located on or near existing State Roads, which it believes will come very close to closing any gap in servicing any development along the Route 6, Route 44, and Route 85 Business and Mixed Use Zone Areas:

- #1 at or near 140 West Street
- #2 at the location of a potential pond site near Loomis and West Street
- #3 near 263 Boston Turnpike
- #4 at or near 1150 Boston Turnpike
- #5 at or near 681 Boston Turnpike
- #6 at or near Howard Road
- #7 at or near 146 Hop River Road
- b. #8 at or near Route 6 and Stony Road



11. 3. Another important priority area for water supply construction is in the Town Center where most of the Town's public facilities are located. One water supply installed at or near the entrance to the Middle School will provide service for the Senior Center, the Middle School, the Notch Road Municipal Center, and surrounding residential neighborhoods, if such service is based on the residential standard. A second water supply located behind the present Town Hall, as proposed in the recent Town Center Study, would provide coverage for the Town Hall, Library, Bolton Heritage Farm, the Congregational Church, the Herrick Park Recreation Center, and some surrounding residential neighborhood properties. The proximity of the Fire

Station to this area is a factor that minimizes travel time, and may justify lesser travel distance standards.



Possible Town Center Fire Protection Service Options (Locations?)

4. The Committee suggests that the Town rely on the guidance of the Bolton Fire Department and Town staff to assist the Board of Selectmen in establishing a Master plan, and in identifying the precise locations and size of adequate water supplies which will then enable the Town to estimate costs, acquire easements, and decide on the manner in which these water supplies will be funded. The Committee also recommends that the water supplies be installed as expeditiously as possible, but also believes that the Board of Selectmen and the Fire Department should prioritize the list of water supply locations, as set down above.

5. The Committee is concerned with the idea of abandoning water supplies for new residential development. This conclusion is based on the findings and testimony of the members of the Bolton Fire Department, and other experts on the Committee, who have concluded that the flashover capability of new home construction of only 3-5 minutes justifies the expense of installing cisterns. The Committee supports retaining the distance of 2,000 feet between a water supply and a residential single-family structure, and 1,500 feet for a multi-family

structure, but also concludes that a 30,000 gallon capacity is not necessary to provide fire protection for these residential uses. We hereby recommend that the Subdivision Regulations be amended as follows:

- a. In lieu of the 30,000 gallon water supply or NFPA 13D sprinkler requirement a developer may choose to:
 - i. Design a water supply to meet the fire flow / total gallon requirements for the largest proposed home. The minimum size would be 15,000 gallons.
 - ii. Either water supply would not need to be installed until a Certificate of Occupancy is requested for the 3rd dwelling. There would not be 2 home delay for the NFPA 13D sprinkler requirement.
 - iii. A developer choosing to install a 30,000 gallon water supply may apply to the PZC reduce the road width by 2 feet (excluding the width of the cul-de-sac), and/or extend the cul-de-sac by 250' (measured from the start of the street to the point of entrance to the turnaround).(alternate language: "to increase the number of development lots by 2."
- b. Sunset Provision to be added:

At such time as the State adopts a code or codes that would require sprinkler protection for all dwellings any residential construction after that date would not need a cistern AND any subdivision approved by the PZC and requiring a cistern but the cistern is not yet built could apply to eliminate the un-built cistern based upon the State code, requiring sprinklers, in effect at the time building permits are applied for.

6. The Committee recognizes that these measures reach some of the most important areas of town from a public safety standpoint and from the standpoint of encouraging and protecting existing and new businesses. But it also acknowledges that a large portion of existing residential areas do not now meet the standards for fire protection as set down in Section 13.4 of the Subdivision Regulations. The Committee has estimated that the number of water supplies needed to cover the

remaining Town residential neighborhoods is in the 38-40 range – well beyond what the town can afford. The Committee recommends that a Town-wide study and Master Plan be authorized to identify priority areas for continued fire safety improvements. The Fire Department has pledged to continue its search for appropriate locations of water supplies, both existing and new, as well as additional dry hydrant locations and to continue to educate the residential community concerning the importance of the installation of alarm systems and home sprinkler systems. The Committee also hopes that long-pending changes to the fire code will be approved which will make it far more affordable for homeowners to install home sprinkler systems by authorizing other types of professionals, and perhaps even homeowners, to install their own systems at far less cost than at present.

This report is the result of the significant efforts of Committee members who brought their knowledge, experience, and talents to the table, and, after thorough consideration, decided on the above recommendations. Not all members are in full agreement with these recommendations, but the result is at least a roadmap to address the most pressing issues which inspired the creation of this Committee, in a manner that considers our unique character and needs, while pledging to continue to address the more expansive need to protect life and property further throughout the Town.

Fire Protection Regulations Advisory Committee

Minutes of the Public Informational Meeting
June 10, 2013
Bolton Senior Center, 104 Notch Road

Members Present: Chairman Milton Hathaway, Vice Chairman James Cropley, 1st Selectman Robert Morra, Fire Marshal Raymond Walker, James Preuss Jr., Thomas Manning, William Anderson, Neal Kerr, James Aldrich, Dale Bonn also present were ex officio members John Pagini, AICP and James Rupert, Building Official.

Others present: Gerry Wright, Jim Florence, Gary Bergeron, Jim Preuss, Randall Bobb, Jonathan Treat, John Toomey, Richard Treat, Dawn Rousseau, Eric Luntta, Rich Hayes, Ron Rousseau, Graham MacDonald, Nancy Silverstein, Larry Fiano, Morris Silverstein, Kevin Byam, Kym Soper, Robert Galle

The meeting was called to order at 7:00 pm. by Mr. Hathaway at which time he asked all members of the Committee to introduce themselves. After introductions a brief presentation about the current regulations was given by Mr. Pagini.

Mr. Richard Treat asked for a clarification on the map presented by Mr. Pagini. He asked about a simplified map just showing areas of coverage provided by existing water supplies. He asked if the Committee was comfortable with the presented map. This question was answered by Mr. Morra and Mr. Copley who indicated that they felt the map is a close to accurate representation of current conditions.

Mr. Hayes commented regarding residential sprinkler systems, the cost and possibility of their effectiveness in providing adequate protection for residential dwellings. Mr. Rupert gave a brief overview of residential sprinkler systems in response. Mr. Silverstein asked how these types of systems were powered. Mr. Walker responded and provided an example of nitrogen gas powered systems. Mr. Silverstein inquired as to the cost of residential systems. Mr. Walker responded that national data showed costs as little as \$2 per square foot but perhaps locally could be as high as \$6. He also explained that there are plans in the works to potentially enable installation of the systems by other than S-1 contractors, that in the future they might be able to be installed by P-1 plumbers or perhaps even homeowners in single family owner occupied dwellings. Mr. Aldrich gave an example of a 2000 SF home costing about \$12,000.00. Mr. Preuss Sr. expressed his opinion that 12 to 15K for life safety or the prevention devastation by fire was not unreasonable. He further explained that there was a fire at his business and in a very short time he could have lost everything including the ability to re-establish his business. He also expressed that the sewer system connections were mandated and related that to the cistern requirement. He made a statement regarding the reduction in the cost of insurance premiums for the installation of alarm systems and that if he were to expand his business he would have no issue with spending 50 to 60k in order to meet the regulation.

Mr. Anderson expressed his opinion that the current regulations are not promoting business.

Mr. Kerr stated that businesses have not expanded because of the current regulations.

Mr. Hayes stated that businesses doing their homework and reviewing the regulations never come to Bolton.

Mr. Aldrich gave the example of Able Coil and the proposed expansion that did not come to pass because of the expense of a fire wall and the expense of a cistern.

Mr. Silverstein stated the regulation was too strict, it was stifling growth, that the Town needs to grow the grand list and that it is a fire department and Town issue. He further commented that community wells and hydrants in subdivisions such as High Ridge could resolve some of the issues. He offered tankers as a possible solution and expressed his opinion that permanent easements were akin to confiscation, that someone worked hard on the existing regulations but another solution is needed.

Mr. Wright of Bolton Notch RV explained that he had proposed a 42 X 50 steel building to house RV's under service and the cost of the cistern was greater than the proposed addition. He stated that during a recent appraisal the appraiser discounted the value of the business by 50k because of the requirement. He further expounded that his property was more difficult because it was mostly ledge and that in order to install a cistern he would not have the use of 8 parking spaces and not collect 72k in rental fees over ten years. Bolton Notch RV is for sale.

Mr. Jonathan Treat asked what the regulations required for capacity. Mr. Hathaway replied that 30K is the current capacity required. Mr. Treat then asked if it was smaller in other towns. Mr. Bonn replied that of 30 towns he received information regarding that some were 10K some were 15K and some were 30K and that based on his research most of the cost was in the site work and not the size of the cistern. Mr. Kerr responded that his research indicated that a 15K poly tank was about 15K whereas a 30K concrete tank was about 60K. Mr. Treat inquired if other smaller sizes were being considered? Mr. Anderson responded that the Committee was considering every possible option. Mr. Preuss stated that the Bolton FD clears every hydrant after every storm. Mr. Treat offered that smaller cisterns installed by the Town Crew might be a possible solution.

Mr. Wright stated that Northeast Solutions found that all tanks over 10,000 gallons need to be steel in order to conform with seismic conditions.

Mr. Kerr found that 40 to 60K was the average installed price of a 30K cistern.

Mr. Byam stated that the cost of his fire pond was about 70K. he then asked how the distances from the water supply were arrived at. Mr. Walker responded that national standards were used in conjunction with the diameter and amount of hose carried by the Bolton Fire Department as well as the calculated water demand at the scene.

Mr. Wright asked if a 10,000 gallon tanker would be enough. Mr. James Price Jr. said that the size of that large a tanker would be problematic achieving access to properties on the smaller roads in Bolton due to size and maneuverability. He further explained that maintaining drivers with appropriate endorsements could be problematic and relying on tankers alone you run out of water. He felt that the largest tanker Bolton could support would be 3,000 gallons.

Mr. Byam inquired as to the cost of a large tanker. Mr. James Preuss Jr. indicated the cost would be 400 to 500K. Mr. Hathaway also brought up the point that the building would need to be expanded to house the vehicle.

Mr. Wright raised the point that due to the ledge circumstances on his property he would have to heat an exterior tank. Mr. Walker responded stating that an alternative was to mound the tank about 54" which could include the thickness of the tank walls and there were other alternatives.

Mr. Hathaway noted that a Town solution would require someone to analyze financing solutions.

Mr. Jonathan Treat queried if there were more house fire in the winter. Mr. Walker responded that statistically there were more house fires in the winter and the severity tended to be greater.

Mr. Hayes inquired how many cisterns would be required to service the Town based on the current regulations. Mr. Pagini replied that it was about 63. Mr. Hayes then asked how many it would take to serve the 6 and 44 corridors. Mr. Pagini noted that under current regulations it would be about 8 for the commercial area. Mr. Morra stated that 63 would be cost prohibitive but strategic installations should be considered in the business districts. He also indicated that it would be more fair to impose some sort of fee in lieu type of incentive per lot for developers and that the per lot cot to developers for small subdivisions was not equitable.

Mr. Cropley stated that the approve cisterns become a public improvement which the Town will have to maintain and expressed his concern over the ongoing costs to the Town.

Mr. Hayes expressed that bringing a water line down route 44 and abolishing the regulation was a solution. Mr. Pagini responded stating that DEEP seems to agree with bringing a water line into Bolton at least as far as the State Garage since there are wells in that area serving the Manchester Water Company which draw from that aquifer.

Mr. Hathaway expressed the need for the Fire Department to have a separate budget and recommend solutions which would be funded and administered through their budget. Mr. Aldrich noted that the Manchester F.D. budget was \$344 per capita and Bolton was \$33 per capita. He further stated that NFPA 1142 calculations required 2,000 gallons of water for the average single family dwelling but that in a recent fire in Columbia they had much more than that and could not save the building. He also stated that for larger structures more than 30, 000 gallons would not be enough.

Mr. Bergeron asked how we could address what already exists. Mr. Aldrich stated that the older buildings currently in existence are a greater risk than new buildings. Mr. Bergeron expressed that this is a Town responsibility and a water line should be installed through the business

district. Mr. Pagini stated that if someone constructed a cistern all business within 1000' benefited without the responsibility of sharing the cost. Mr. Morra indicated that the Committee was looking at ways to resolve that very issue. Mr. Kerr noted that the Town Hall and Notch Rd. Municipal Center have no protection and that no new development can occur in those areas.

Mr. Florence stated that Munson's was looking to expand and the cost of cisterns was making an addition greater than 1000 sf. cost prohibitive. He was hopeful that the Town could resolve this issue and make expansion more viable.

Mr. Jonathan Treat stated that he felt the Committee should look at the 8 in the business district.

Mr. Richard Treat asked of the 169 towns in Connecticut how many have similar regulations. He expressed his indications were that it was a small percentage and yet there was a list of business opportunities lost in Bolton as a result of this regulation. Mr. Walker stated that there were 19 on the list compiled by Mr. Bonn but that it was not a comprehensive list in that they relied on others responding to their query about existing regulations. He also noted that the original proposal to the Planning and Zoning Commission was 10,000 gallons but after vetting and ISO input a 30,000 gallon cistern was adopted, but the distances remained the same. Mr. Treat asked how many towns had a similar 30,000 gallon requirement. That the cost versus situations and value did not seem warranted. He also expressed that being opposed Fire Department projects was akin to being opposed to motherhood. He asked what the cost of maintaining the cisterns was reported to be in 05 when the regulation was proposed. Mr. Walker responded that the cost was reported as none. Mr. Treat asked where is it needed? and then responded to his question by stating that it is needed for big fires, for big losses, in the center of Town. He stated the VCI committee recommended a pond, "build it!" he said, "build it efficiently". He asked there was any data that said cisterns support their community and stated if there was not get rid of them.

Mr. Bonn stated that about 30% of the 30 responses he received required a 30,000 gallon cistern and that overall there were less cisterns in Connecticut than other states due to overall population density and public infrastructure.

Mr. Galle spoke and stated that businesses were concerned about the regulation and in a perfect world he would love to see them. But, he felt the focus should be on the health, welfare and safety of the community and that the focus should be to get people out safe and insure for the property losses.

Mr. Wright asked what it would cost to insure the 30K tank and what the liability would be if it ruptured.

Mr. Hayes asked if they had been used. Mr. James Preuss Jr. reported that there had been consideration to using the American Arborist pond during a recent event but it not actually been used.

Mr. Jonathan Treat asked if ISO only recognized 30K tanks. Mr. Aldrich responded that he spoke with ISO in New Jersey. He further expounded that a minimum fire flow of 250 gallons per minute for a 2hour period was the minimum desired. Mr. Walker reported that in 05 when ISO was contacted the stated that they only recognized cisterns with a capacity of 30K or more and that cost reductions for insurance were based on a number of factors not just water supplies. Mr. Kerr stated that the ISO rating was on a Town wide basis and the insurance premium savings were negligible. Mr. Hayes expressed that ISO sold information to insurance companies and that he felt there was a conflict of interest. Mr. Copley stated that he reported the installation of the Byam pond to his insurance company and it translated to \$100.00 per year cost savings for his business. Mr. Rousseau stated that Bolton currently had a nine rating and that the installation of a few cisterns was not likely to change that. Mr. Bonn stated that there is both town wide and location ratings.

Mr. Silverstein expressed that he felt community systems one of which could have been installed in High Ridge could be the answer. Mr. Morra said that the Town had explored that option with Connecticut Water in the Rosedale Beach area and it was cost prohibitive because of the storage and pressure needs for fire suppression water. Mr. Silverstein then asked about a tax abatement to compensate those who installed cisterns.

Mr. Florence urged the Committee to conduct a complete evaluation of the regulations. Mr. Morra stated that the Committee was only advisory to PZC, that they had explored a substantial number of ideas and hoped to complete the process by the months end.

Mr. Wright expressed that the Town needs to grow but business owners can't do what is being required of them so he urged the Committee to wipe it off and find another solution.

Mr. Byam asked if there was a Town solution would it involve a tax or an assessment like the sewer. Mr. Morra stated that that would not be his idea under the current administration but he would rather find more equitable solutions.

Mrs. Silverstein urged the Committee to ask other towns if they had similar issues and if they found solutions. Mr. Walked informed her that in the query for information about similar regulations they requested that kind of feedback but received none. Mr. Pagini stated in his request for the information he found regulations for subdivisions but it was rare for towns to have cistern regulations for business development.

Mr. Toomey Commended the Committee and the Town Staff. He stated that he had no fire experience but that the experience of the Fire department should be considered while referring to the comments made earlier by Mr. James Preuss Sr. He expressed his concern that the

private business interest may eliminate the regulation and the cost will be measured in human life.

Mr. Wright stated it would cost him \$70K for the installation of a cistern to build a \$50K addition.

Mr. Kerr stated that cisterns are not considered a life safety device that their purpose was for fire suppression and property preservation.

Mr. Toomey referred to a conversation he had with the Fire Chief and how older houses do not burn as fast as the newly constructed ones. Mr. Walker stated that the new homes can reach flashover in 3 to 5 minutes and that older homes are about 20 minutes. He also talked about how in newer homes if flashover is reached in the basement and the floor is compromised it can be difficult to tell on a floor overlaid with high quality carpeting.

Mr. Hathaway thanked all for coming and providing the Committee with their input.

Mr. Morra moved to adjourn the meeting, the motion was seconded by Mr. James Preuss Jr. and was passed unanimously. The meeting adjourned at 9:15 pm.

Respectfully Submitted,
James Rupert