

BOXBOROUGH WATER RESOURCES COMMISSION

Minutes of November 8, 1983 Meeting

The meeting was called to order at 8:15 PM. Present were members George Krusen, Virginia Weeks and Glenn Zoski. It was noted for the record that no meeting was held in October due to schedule conflict for two of the members .

Old Business:

It was noted by George Krusen that the ideas submitted by the WRC to the Planning Board regarding testing the NEC leaching field effluent on a periodic basis were incorporated into the NEC permit.

George Krusen received a response from K. Sorrell of the Municipal Environmental Research Laboratory regarding TOX levels found in the last surface water analysis. Of interest in the response was the noted fact that the TOX method may actually be reporting values lower than expected. In general the TOX method measures higher molecular weight halogenated organics. George Krusen will report on this when he has completed writing the final phase II report.

New Business:

Virginia Weeks reported on the "Groundwater Management Issues In Mass." meeting which she attended Oct. 27, 1983. Since a great deal of the meeting dealt with issues of importance to the WRC it was proposed that an abstract of the meeting be prepared and filed in the WRC file for later reference by the WRC or other interested parties. One specific issue from this meeting was the idea by some towns to have certain days set aside in the year at which time the town would sponsor a hazardous waste disposal program. This idea could be relevant to Boxborough . All too often the contents of trash are not checked for hazardous materials prior to being dumped. This problem should be addressed. Boxborough could attempt to have a similar hazardous waste program in cooperation with towns such as Acton.

Georger Krusen proposed the following ideas as a list :

(1) catalog reference materials and resources presently stored in the WRC file.

(2) The WRC should check the gas tank at the state highway garage for leaks on a periodic basis.

(3) We should invite the WRC liason, John Dubois, to pertinent meetings.

(4) The WRC should make every effort to attend selected local meetings and seminars which are deemed of interest to the WRC.

It was noted that the missing maps are still missing. Efforts are still being made to locate these maps. In addition to the maps it was noted that the Mass. Water policy report must also be located.

George Krusen indicated that he recently found that the Flerra Meadows was being chemically treated. WRC will find out what is being used since this region is in one of the selected aquifer areas.

The WRC received the MDC Report. The contents of this report will be reported on at the next meeting by Glenn Zoski. Several upcoming public meetings are of importance to the WRC and will be attended by Glenn Zoski. Any relevant information from these meetings will be reported in the next meeting of the WRC.

It was decided that the discussion of the MAPC report would be put off to a later time to be announced by George Krusen. The meeting was adjourned at 11:00 PM.

Respectfully submitted,



Glenn Zoski

Secretary

cc:Attendees

Selectmen

Planning Board

Board of Health

Conservation Commission

Susan N. Pierce

J. David Naparstek

BOXBOROUGH WATER RESOURCES COMMISSION

Minutes of April 10, 1984 Meeting

The meeting was called to order at 8:08 PM. Present were committee members George Krusen II, Glenn Zoski, Virginia Weeks and Kay Royal from the Planning Board.

Minutes of the February meetings were read and approved.

Old Business:

The results of sampling at NEC were discussed. A report on these results will follow from George Krusen.

The publication #314 Commonwealth of Mass. Regulations on the requirements for certain permits was received.

George Krusen reported on his findings regarding the faults within Boxborough. These faults are important because they can act as fast transfer paths. Kay Royal noted as an example that the Blanchard School is in a potential aquifer zone, is on the fault line and has a fuel tank which is greater than 30 years old. If the tank should leak, the fault could carry fuel oil to nearby water supplies.

Virginia Weeks reported further on her study of the existing underground tanks in Boxborough. She noted that according to John Morse, very poor records have been kept and therefore it is not known how many underground tanks exist. There are three gas stations in town of which two still operate. It is not known if the closed station has had the tanks drained.

New Business:

Kay Royal discussed the bylaw for aquifer protection to be put forth at town meeting. She noted that the bylaw generally followed the Dartmouth bylaw.

The question of how to update the records on underground tanks was discussed. The idea of a questionnaire was considered.

The question of how to handle the inspection of hazardous waste in the town was also discussed. Further discussion will be required.

The meeting was adjourned at 10:30

Respectfully submitted,


Glenn Zoski

BOXBOROUGH WATER RESOURCES COMMISSION

Minutes of May 22, 1984 Meeting

The meeting was called to order at 8:08 PM. Present were committee members George Krusen II and Glenn Zoski .

Old Business:

The results of the aquifer protection bylaw as amended and approved at town meeting was discussed.

Glenn Zoski suggested that in the future, information found by the WRC which may be of interest to the town public should be published or in some way made available .

New Business:

Suggestions of how to best use the funds remaining in the WRC budget were discussed. The most interesting suggestion considered using the funds for removal of hazardous waste. This idea will be discussed at future meetings.

George Krusen was contacted by the Planning Board to prepare inserts for three permits. The inserts are to be similar to the water testing requirements added to the NEC permit. The three permits are for Winstanley Assoc., Genrad and Auric Realty and Trust.

George Krusen was authorized to purchase the U.S.G.S. water survey paper, "Study of Interaction of Chemical Characteristics of Natural Water".

The meeting was adjourned at 10:11 PM.

Respectfully submitted,



Glenn Zoski

BOXBOROUGH WATER RESOURCES COMMISSION

Minutes of June, 19 1984 Meeting

The meeting was called to order at 8:08 PM. Present were committee members George Krusen II, Glenn Zoski, Virginia Weeks and Planning Board member Kay Royal.

The minutes of the May meeting were read and approved.

Old Business:

George Krusen indicated that he had sent for the U.S.G.S. publication as indicated in the May meeting and had not yet received it.

New Business:

George Krusen moved that Glenn Zoski be the chairman for the next year. Virginia Weeks seconded the motion.

George Krusen will serve as secretary .

The WRC received a letter from the Littleton Water Department advising us that a meeting of town officials from Boxoborough and Littleton will be held Wed. June 27, 1984. The meeting will be to discuss water issues of common interest to both towns.

Kay Royal gave a copy of a report on Groundwater Pollution to the WRC.

The subject of selling water to Littleton and Acton was discussed. The advantages of such a venture would be to provide the monies for a detailed engineering study of the aquifer zones and for the acquisition of land in the aquifer zones if necessary. The disadvantages of the venture would be the possible legal entanglements of control of the water sources. Kay Royal also noted in this context that the DEQE provides money for aquifer protection. This point will need to be checked. George Krusen will draft a letter to the Selectmen concerning the sale of water.

The meeting was adjourned at 10:00 PM.

Respectfully submitted,


Glenn Zoski

BOXBOROUGH WATER RESOURCES COMMISSION
Minutes of November 14th, 1984 Meeting

Present: George Krusen, Virginia Weeks and visitor, Louis Colonna-Romano

The minutes of the October 10, 1984 were approved. It was discovered that two sets of the September 11, 1984 meeting were issued. It was voted to consider official the one standing alone, not the one on the same sheet of paper with the Minutes for October 10th.

Thank-you notes were sent to Mr. Roy and to Carolyn Gray for recognition of their participation in the Educational Seminar of October 18th.

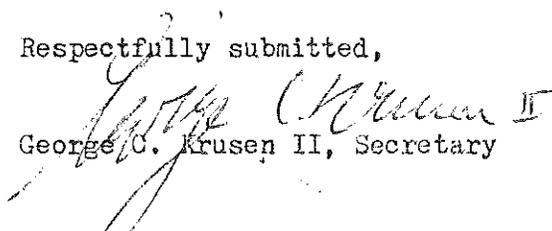
Virginia Weeks has had difficulty in contacting Mr. McCloud relative to Acton's progress in determining the source of pollution to the well along rt 11. He asked that we stay in touch with him (letter of 5/11/83). She will continue her efforts.

It was voted to proceed thru the first step of the DEQE for certifying a public water supply. This would involve a pumping test of short duration (4 hr) on the installed test wells and an analysis of water samples therefrom. George Krusen will get an estimate from IEP for this work. Virginia will draft questions for the Town Counsel relative to running such a test on land not owned by the town, etc..

Mr. Colonna-Romano suggested that a metal scan be done on any water streams tested from electronic "assembly" plants.

The meeting adjourned at 10:30 PM.

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen
Board of Appeals
Conservation Commission
Planning Board
Board of Health

BOXBOROUGH WATER RESOURCE COMMISSION
Minutes of December 11, 1984 Meeting

Present: Virginia Weeks, Glen Zoski and prospective member
Louis Colonna-Romano

The meeting was called to order at 8:15 P.M. Mr. Louis Colonna-Romano agreed he would be willing to become a member of the Water Resource Comm. if approved by the Selectman. Virginia Weeks has agreed to chair the commission for the coming year now that former chairman Glen Zoski has moved to Hudson.

The minutes from the Nov. 14 meeting were read and approved, along with letters to be sent to the Selectmen regarding personnel changes on the W.R.C.

Incoming mail was reviewed. Passage of the \$1500 for participation in a joint Hazardous Waste Day with Littleton was discussed. It was felt that information gained during the recent WRC information night might be of interest to the Selectman in organizing this day--e.g. advising citizens to combine up oil based paints before bringing to the disposal sites.

Notes from George Krusen (absent due to illness) were discussed. He is in the process of compiling a final report on the final tests done on water samples from test wells at the NEC leaching field. No organic contamination was found there though pH was extremely low and NH_3 -N high.

George Krusen also has received information from IEP on the expenses that would be incurred in having pump tests done on test wells in town aquifer areas (as a first step in having DEQE approve a public water supply). Those present at the meeting felt it would be good to have both the wells at the Harvard Sportsmans Club and the Flerra Meadows tested at one time. It was felt more discussion of the issue with George present would be desirable.

The meeting adjourned at 10:05 P.M.

Respectfully submitted,

Virginia L. Weeks

cc: Selectmen
Board of Appeals
Conservation Commission
Planning Board
Board of Health

1984 ANNUAL REPORT

WATER RESOURCES COMMISSION

At the 1979 Annual Town Meeting (Article 19) a commission of three members was established to:

1. Locate and investigate areas with water bearing potential, and supervise a program of drilling test wells.
2. Set up a program to monitor the water quality from selected well sites to include wells in town buildings.
3. When the need arises, provide the town with information about all available options for providing public water to the town or parts of the town.
4. Report annually.

Residents now obtain water via their wells from sand and gravel deposits (aquifers) and from cracks in the bedrock. The commission has done work in both these areas. The aquifer locations determined by our consulting hydrologist were transferred to the pertinent assessors' maps (1 in. = 200 ft) so a land owner could determine whether part or all of his land was over an aquifer. These maps were helpful to the Planning Board who guided an aquifer protection article through the 1984 Town Meeting. In addition, information as to the location of major faults thru Boxborough has been obtained. This will be useful in anticipating improper placement of leaching field and other pollution sources in relation to existing wells.

The Planning Board had specified in their site-plans that new industries monitor groundwater in certain critical locations. Such directions were issued to NEC, Winstanley Associates, GenRad and Auric Realty & Trust. The three testings at NEC have been done on schedule. No requests have been received for the other investigations.

In keeping with our educational function, the commission sponsored a public meeting on October 19th. The following topics were presented by town and guest speakers: Problems with household chemicals, a slide show, "Out of Sight-Not Out of Danger" addressing the problem of contamination of water resources, a report on the Hazardous Waste Collection Day at the Action Landfill and the function of the Boxborough Hazardous Waste coordinator.

We have kept in contact with the water problems of neighboring towns by meetings with the Littleton Water and Light Department and the area town meeting in Acton on March 8th.

Mr. Glen Zoski resigned from the commission due to moving to Hudson. The Selectmen appointed Mr. Louis Colonna-Romana to the vacancy in December.

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES OF JANUARY 8, 1985, MEETING

The meeting was called to order at 8:45 P.M.

PRESENT: Virginia Weeks, Louis Colonna-Romano, George Krusen

The minutes of the December Meeting were UNANIMOUSLY Approved.

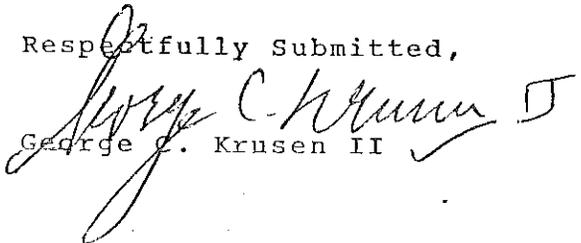
Acton's Study of contamination in the Clapp well is being done by John Swallow and Associates. We noted that Trichloroethylene was found in water at the Applewood Apartments during 1981 and has since disappeared. George was authorized to pass on this information to Dr. Swallow; it may be significant to his study. (A copy of "Results of Ground Water Sampling Program - Phase 1, 3/21/83" was transmitted).

The draft of the groundwater sampling report for NEC was reviewed. It was agreed that emphasis should be placed on the results from NEC's Laboratory, pH paper would be useful in tracing the changes in pH, an analysis for dissolved metals should be required and that the ground water level should be monitored.

A discussion was started on, how to carry out future groundwater samplings specified in Site Plan Approved Permits.

The meeting was adjourned at 11:00 P.M.

Respectfully Submitted,


George C. Krusen II

cc: Selectmen
Board of Appeals
Conservation Commission
Planning Board
Board of Health

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES: MARCH 12, 1985

Present: Virginia Weeks, Lou Colonna-Romano

The meeting was called to order at 8:00 P.M. and the minutes of the February meeting approved.

We were visited by Selectman Sue Elenbaas who spoke on plans for building a solid waste transfer station in town. The selectmen have decided they would like to situate the transfer station adjacent to the highway dept. on Mass Ave. next to Blanchard School. This site is in a primary aquifer recharge area, but as Sue mentioned all town owned land has such problems. The transfer station must meet with many DEQE regulations and in general should be a fairly "clean" operation. Garbage when brought to the station would be deposited directly into steel containers, the containers dumped into a compacter and the resulting trash taken away in enclosed trailers to N. Andover for incineration. The transfer station would only be open on Saturdays and the trash hauled away at the end of the day collected. Special containment areas would be built to house the equipment at the transfer station, to prevent accidental leakage into the ground. There will be restrictions about types of materials that can be brought to the station. A recycling area for papers, glass, etc. will be set up to try and keep costs of haulage to N. Andover down. Sue gave us a copy of the DEQE regulations regarding installation, operation and maintenance of solid waste transfer stations to review. She says the Bd. of Health will be having a hearing within a week or so which we can attend.

We also talked to Sue about plans for the Hazardous Waste Day. She told us that Chuck Beer now heads a town committee involved in arranging the day, which will probably occur towards summer in Boxboro at the police station. We will be going in with Stow and Littleton for the day.

Notes were reviewed on conversations George Krusen has had with people at Harvard Sportsman Club and at NEC. George contacted Mr. Robert Fesko of Harvard Sportsman's Club to see if the club would be willing to allow the WRC to do further testing at their site. Mr. Fesko said we should come to their next Board meeting to discuss what we want to do.

Regarding NEC, our report on water testing at NEC was received by them. We were concerned about the lowered pH at their leaching field. George discussed testing sewage pH prior to its entering their septic system to determine if the pH is lowered at this point or after travelling through the system. NEC has reviewed its inventory to see if any items they use could be accounting for lowered pH. They say the only chemical used in any quantity is Blue Label floor stripper from Spectrowax (Boston)- has ethylene glycol and 2% NaOH. Since this solution is prepared with base it should not be adding to the acidity problems. They will be doing further water testing at the leaching field.

We reviewed mail received. Of particular note was a letter from Harvard Road residents regarding their concerns for a proposed septic system on Lot A, Old Harvard Rd., owned by Resource Development Corp. It seems to us they have some reason for concern and it might be worth attending relevant hearings.

We adjourned at 10:10 P.M.

Respectfully submitted,

Virginia L Weeks

Virginia Weeks

cc: Selectmen
Board of Appeals
Conservation Commission
Planning Board
Board of Health

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES: MARCH 12, 1985

Present: Virginia Weeks, Lou Colonna-Romano

The meeting was called to order at 8:00 P.M. and the minutes of the February meeting approved.

We were visited by Selectman Sue Elenbaas who spoke on plans for building a solid waste transfer station in town. The selectmen have decided they would like to situate the transfer station adjacent to the highway dept. on Mass Ave. next to Blanchard School. This site is in a primary aquifer recharge area, but as Sue mentioned all town owned land has such problems. The transfer station must meet with many DEQE regulations and in general should be a fairly "clean" operation. Garbage when brought to the station would be deposited directly into steel containers, the containers dumped into a compacter and the resulting trash taken away in enclosed trailers to N. Andover for incineration. The transfer station would only be open on Saturdays and the trash hauled away at the end of the day collected. Special containment areas would be built to house the equipment at the transfer station, to prevent accidental leakage into the ground. There will be restrictions about types of materials that can be brought to the station. A recycling area for papers, glass, etc. will be set up to try and keep costs of haulage to N. Andover down. Sue gave us a copy of the DEQE regulations regarding installation, operation and maintenance of solid waste transfer stations to review. She says the Bd. of Health will be having a hearing within a week or so which we can attend.

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We reviewed mail received. Of particular note was a letter from Harvard Road residents regarding their concerns for a proposed septic system on Lot A, Old Harvard Rd., owned by Resource Development Corp. It seems to us they have some reason for concern and it might be worth attending relevant hearings.

We adjourned at 10:10 P.M.

Respectfully submitted,

Virginia L Weeks

Virginia Weeks

cc: Selectmen
Board of Appeals
Conservation Commission
Planning Board
Board of Health

BOXBOROUGH WATER RESOURCES COMMISSION

MINUTES: APRIL 9, 1985

Present: George Krusen, Virginia Weeks, Lou Colonna-Romano
and visitor Dr. Frank Roth

The meeting was called to order at 8P.M. Dr. Roth, representing the Bd. of Health, spoke about a recently received letter from the engineers representing NEC. The letter states that further water tests have been conducted at NEC subsequent to receiving the WRC report. They've tested sewage entering the system and found a pH of 7 and therefore feel the pH 6 reading at the leaching field is not due to chemicals introduced at the plant but may be due to acid rain. We questioned the likelihood that ground water pH has changed so drastically in the last year or two. We also felt a one shot test of water entering the septic system may not rule out more acid pH's from the plant at other times. Dr. Roth says the Bd. of Health will be responding to NEC's letter within the next couple of weeks. They will probably ask that the company post notices about the high levels of sodium in their drinking water and may ask for other tests (e.g. heavy metal scan).

Notes George Krusen made on his visit to the Harvard Sportsman's Club were discussed. He's written a report on this meeting and is in the process of writing a formal request to them for permission to run further pump tests on their land.

Questions for town counsel regarding issues related to running further pump tests on town aquifer lands have been submitted.

A request for information on our town water plan was received from Mark Wetzel of Dufresne-Henry who is doing a study for the Acton Water District. George gave him the information he needed.

Incoming mail was reviewed and minutes from the last meeting approved. The meeting adjourned at 10:15 P.M.

Respectfully submitted,

Virginia L. Weeks

Virginia L. Weeks

WRC ✓

cc: Selectmen; Bd. of Appeals; Conservation Comm.; Planning Bd.;
Bd. of Health

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES: May 21 and 28, 1985

May 21, 1985 -

The meeting was called to order by Secretary Krusen at 8:00 PM with Louis Colonna-Romano present. The meeting was adjourned at 8:30 PM since only two members were present. It was determined that \$6,408 is available for ground water exploration.

May 28, 1985 -

The meeting was called to order at 8:30 PM by Chairman Weeks. All three members were present.

George Krusen reported on resolving differences on analytical results between Stevens Water Analysis and himself. He will prepare a letter with the findings for all interested parties. The results were from the 3rd testing at NEC.

The Commission was requested verbally on May 27, 1985 by our liaison with the Selectmen, John Dubois, to comment on Mr. Paul Sweeney's plan of providing a water source to the Town along Beaver Brook. This will be done by June 17th.

Opinions from Marullo & Barnes (May 6, 1985) as requested on "Access to Water Supplies" were discussed. We were impressed by the speed and the coverage of the subject by the Town Counsel.

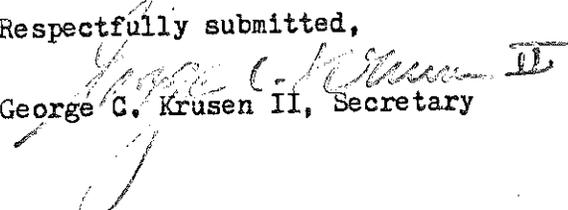
Information gathering on the capacity of the two town aquifers is continuing:

1. The Commission will have a 2nd meeting with the Harvard Sportsmens Club to explain what tests will be carried out. Mr. Mulica from IEP will be at that meeting. The date is June 6, 1985.
2. George Krusen is to continue his contact with Savas Danos, Littleton Water Company, for information transfer.

Louis Colonna-Romano ^{will} redraft a letter to the Planning Board suggesting the best way of staffing the ground water monitoring programs being established by various Boards.

The meeting was adjourned at 10:30 PM.

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen; Bd of Appeals; Conservation
Commission; Planning Bd; Bd of Health

BOXBOROUGH WATER RESOURCES COMMISSION

MEETING OF JULY 23, 1985

The meeting was called to order by Chairman Weeks at 8:30 PM. George Krusen and Louis Colonna-Romano were also present.

The minutes of May 21 and 28th were approved.

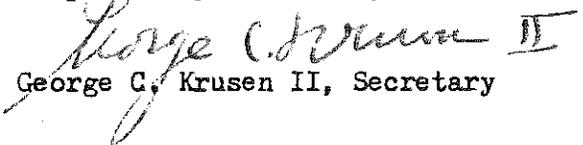
The meeting with the Board of Directors of the Harvard Sportsmens' Club on July 11th was discussed. This commission was represented there by George Krusen, Louis Colonna-Romano and Michael Hudson(IEP). The sportsmen agreed that we can conduct a pumping test on their land. George Krusen is to send them a letter.

George Krusen was authorized by our liaison on the Selectmen, John Dubois, to take a copy of our memo(June 21, 1985) to them to Mr. McCloud of the Acton Water District. He was also given a copy of the IEP Report. This was done on July 11th. The memo is attached as part of these minutes. In summary, The WRC recommends that Mr. Sweeney's offer be rejected since the potential of a good water supply from his land is small.

The members voted unanimously to also conduct a pumping test on the Flerra Meadows land. Money is available from article 16 of the 1981 Town Meeting. Virginia Weeks will set up a meeting with the Selectmen to discuss this on August 12th. G. Krusen will write a memo to the Conservation Commission asking for permission to do the pumping test.

The meeting was adjourned at 10:00 PM.

Respectfully submitted,


George C. Krusen II, Secretary

cc: Slectmen
Bd of Appeals
Conservation Commission
Planning Bd
Bd of Health
Recreation Commission

BOXBOROUGH WATER RESOURCES COMMISSION
MEETING OF SEPTEMBER 10, 1985

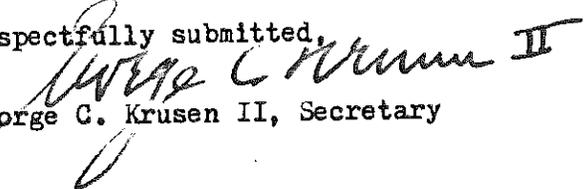
The meeting was called to order by Chairman Weeks at 8:30 P.M.. Members George Krusen, Louis Colonna-Romano and Virginia Weeks were present. Our guest was Don Mackie of the Boxborough Board of Health.

Virginia and Louis reported on their meeting with the Selectmen August 12th concerning Mr. Paul Sweeney's offer of land in Beaver Valley.

The pumping tests by Chapman Drillers supervised by IEP are underway. The test was completed at the Harvard Sportsmen's Club yesterday. Testing was started at Flerra Meadows today. It will be completed tomorrow. The report should be completed by November 1st. The yield is good in both locations but there are questions about the quality.

The meeting was adjourned at 10:30 P.M..

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

BOXBOROUGH WATER RESOURCES COMMISSION
MEETING NOVEMBER 12, 1985

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M.. Members George Krusen and Virginia Weeks were also present.

The September Minutes are amended to add a second purpose in meeting with the Boxborough Selectmen on August 12th: Permission was sought and granted for the Commission to expend up to \$6000 for pumping tests and a study to be done by IEP, Inc..

A short meeting was held by the WRC on October 8th at 8:00 P.M.. Virginia Weeks and Louis Colonna-Romano were present. Mr. Colonna-Romano agreed to be chairman during the 1986 fiscal year.

The first payment() to IEP, Inc. was approved. Expense money of \$46.70 was approved for George Krusen.

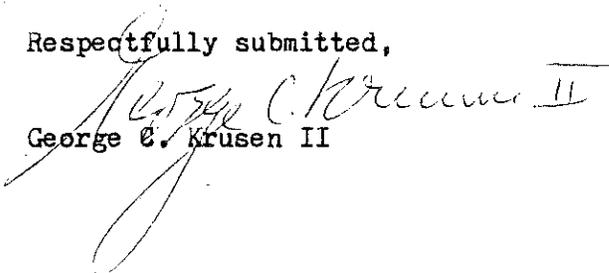
There was a discussion as to whether the Commission should oppose the payment of Town money for the drilling on the Colonial Trust Land by the Acton Water District. We decided to act as individuals on this matter.

It was decided to invite Savas Danos of the Littleton Water and Light Company as well as Peter Jackson, Harvard Water Study Committee, to the future presentation of the pumping test report by IEP. All groups receiving these minutes are also invited.

An article will be prepared for the next annual town meeting asking for the abandonment of this Commission and the establishment of a Ground Water Protection Committee.

The meeting was adjourned at 10:00 P.M..

Respectfully submitted,


George E. Krusen II

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

BOXBOROUGH WATER RESOURCES COMMISSION

MEETING December 10, 1985 -

The meeting was called to order by Chairman Colonna-Romano at 8:00 PM. Members George Krusen and Virginia Weeks were also present.

The minutes of the November 12th meeting were accepted as read. It was voted to pay the 2nd bill submitted by IEP for \$596.46. This brings the total payments out of the \$6000 authorized to \$5280.91. This money is for the pumping tests at two locations: the Harvard Sportsmen's Club and Flerra Meadows.

The meeting was adjourned at 8:15 PM so the members could attend the Planning Board Hearing concerning a by-law that "would allow for more affordable housing and more housing variety".

Respectfully submitted,
George C. Krusen II
George C. Krusen II, Secretary

MEETING January 14, 1986 -

The meeting was called to order by Chairman Colonna-Romano at 8:00 PM. Members George Krusen and Virginia Weeks were present together with Mr. Michael Hudson of IEP.

Mr. Hudson gave a preliminary report on the pumping tests:

1. Both wells produced more water than he had expected.
2. Both waters had high iron contents, about 8-10 parts per million. Over 3 ppm the water must be treated as a public water supply.
3. More water could be expected at the Flerra site had the well screen been located higher in the more coarse gravel deposits.
4. A land use survey was made within a 1/2 mile radius of each well. No potential sources of pollution were noted.
5. Discrepancies were noted between water analysis results done by the State, Reitzel Labs and George Krusen (Hach Kit). The same sample was analyzed at the HSC. At the Flerra site, the samples for the State and Reitzel were taken about 2 hours later of pumping after the Krusen sample.

George Krusen is to look at the data and tell IEP what additional sampling, if any, should be done.

A third payment, \$312, to IEP was voted (total now paid to \$5592.91).

The meeting was adjourned at 10:30 P.M..

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

Respectfully submitted,
George C. Krusen II
George C. Krusen II, Secretary

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES OF MEETING FEBRUARY 11, 1986

Town Hall

The meeting was called to order by Chairman Colonna-Romano at 8:15 PM. Members George Krusen and Virginia Weeks were also present.

The minutes of the January 14th meeting were accepted as read.

A fourth payment to IEP for \$152.00 was authorized for payment. The total authorized to date is now \$5744.91. This fourth payment is from Article 16, 1981. The report on the pumping tests should be received soon.

George reported sending a copy of the original IEP Report (defining aquifers) to Beals & Thomas, Engineers of Westborough. They requested it for work along Codman Hill Road.

Louis will prepare a draft of the annual report for the Town Report. He will have it approved by the other members and submit it by the deadline, February 21st.

After discussion it was voted to ask the Town to amend the article establishing our Commission. We will then be authorized "to set up programs to monitor the water quality in surface waters and to make studies to gain a better understanding of underground water flows and to take appropriate action to prevent pollutants from entering the groundwater". This is a reversal of our intent as expressed at our November Meeting to convert our Commission only to a Ground Water Protection Committee.

It was voted to prepare two additional articles for the Town Meeting:

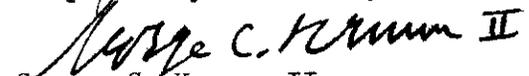
1. To more accurately define the bounds of the Flerra Meadows Aquifer - This of the two aquifers identified is more centrally located in the Town and is in more danger of being contaminated. The map now used by the Planning Board can be updated on the basis of this new information.
2. To do random sampling of water quality from existing wells in bedrock - Most prior analyses have been on water from the sand & gravel aquifers. Little attention has been given to the bulk of our water sources, the individual home well. These data will also be useful if a study of water flow in the bedrock is done in fiscal year 1988.

George will obtain dollar figures for the two articles and submit them to the Selectmen. Virginia will get costs for Radon testing (from State of Maine Health Department and from Terradex Corp., 460 N. Wiget Lane, Walnut Creek, California 94590).

The meeting was adjourned at 10:45 PM.

cc: Slectmen
Bd of Appeals
Conservation Commission
Planning Bd
Board of Health

Respectfully submitted,


George C. Krusen II
Secretary

Office Copy

BOXBOROUGH WATER RESOURCES COMMISSION
MINUTES OF MEETING MARCH 11, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:15 PM. Members George Krusen and Virginia Weeks were present. The liaison member from the Conservation Commission, Norman Hanover, attended the meeting.

Common problems were discussed concerning obtaining the most information on groundwater quality from the many observation wells which are now in place. Both groups should work with the Hazardous Waste Coordinator; we don't know who he or she is.

It was agreed that investigation and controls on underground fuel oil tanks is in order to eliminate any water contamination problems.

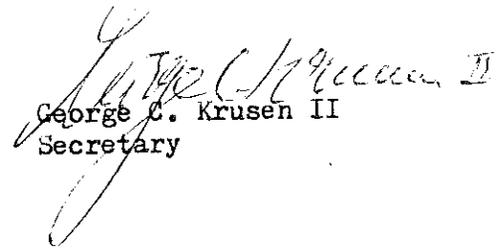
Virginia Weeks has received information from two laboratories on Radon testing.

Mr. Dennis Sweeney has requested copies of IEP Reports and minutes of our meetings. They are available.

The final report on the pump tests has not been received from IEP.

The meeting was adjourned at 10:30 PM.

Respectfully submitted,


George C. Krusen II
Secretary

- cc: Selectmen
- Bd of Appeals
- Conservation Commission
- Planning Bd
- Board of Health

MINUTES OF MEETING

WATER RESOURCES COMMISSION

April 8, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M.
Members George Krusen and Virginia Weeks were present.

The minutes of the March Meeting were approved as read.

The "Report on 1985 Test Well Investigations, Boxborough, Massachusetts" has still not been received from our Hydrologist, LEP. (four copies of the report were received about April 18 - One copy lent to the Harvard Sportsmen's Club on April 17).

Responsibility was accepted for presenting our articles at Town Meeting:

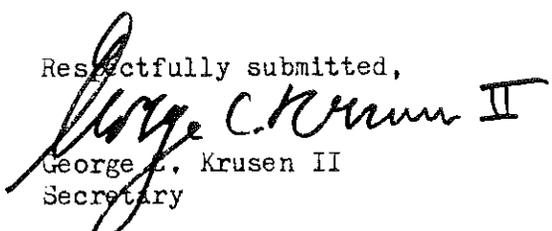
Modification of our 1979 annual Town Meeting authorization - Louis

Money for water analysis - Virginia

Further define the Flerra Meadow Aquifer - George

We will meet with the Planning Board on April 15 to discuss our articles for Town Meeting.
The meeting adjourned at 8:30 P.M..

Respectfully submitted,


George C. Krusen II
Secretary

CC: Selectmen
Bd of Appeals
Conservation Commission
Planning Bd
Board of Health

MINUTES OF MEETING

WATER RESOURCES COMMISSION

May 6, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M..
Members George Krusen and Virginia Weeks were present.

The minutes of the April Meeting were approved as read. This May meeting
is not being held on the second Tuesday since we must prepare for Town
Meeting on May 12th.

The meeting was spent discussing our justifications for the three articles
in the Town Meeting Warrant.(they were all passed on May 13th).

The meeting was adjourned at 8:30 so the Commissioners could attend a hearing
by the Planning Board concerning Towermarc Corporation.

Respectfully submitted,

George C. Krusen II
George C. Krusen II
Secretary

cc: Selectmen
Bd. of Appeals
Conservation Commission
Planning Bd
Board of Health

MINUTES OF MEETING
WATER RESOURCES COMMISSION
July 15, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M..
Member George Krusen was also present.

There was no meeting in June.

We were asked by the Planning Board to review the the changes in Botech's building for N.E. Research Center on Swanson Road. The following comments were made orally:

1. The M2.2 Floor Plan Piping Plan is missing.
2. The modified area of the building is not in the aquifer zone.
3. There appear to be no floor drains that would convey waste to the leaching field
4. Is there easy access from the manufacturing area to the wash rooms. If so, chemicals could get to the leaching field and into the groundwater.

We reviewed a letter dated 7/15/86 from William R. O'Reilly Jr., ^{representing Gen Rad} to the Planning Board requesting an article in the fall town meeting to modify the aquifer zone on their property by the intersection of Rts 111 and 495. We told the P.B. we would support such an article once we saw data that supported such a change.

IEP sent a letter saying that an invoice for \$260.00 dated 9/9/85 had not been paid. George Krusen will investigate and have it paid, if it is owed.

Water analyses taken at the test wells at both the Harvard Sportsmen's Club and At Flerra Meadows were received by IEP from the DEQE. This second set was done to resolve deficiencies in the first set.

A letter was sent to Savas Danos of the Littleton Light and Water Company indicating where they will take conductivity reading on streams in Boxborough. This Survey will show any areas of high salt content should they exist.

Respectfully submitted,

G.C.K. II
George C. Krusen II
Secretary

cc: Selectmen
Ed. of Appeals
Conservation Commission
Planning Bd
Board of Health

Town Hall file ✓

MINUTES OF MEETING
WATER RESOURCES COMMISSION

Town Hall
file

August 12, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:15 PM. Members George Krusen and Virginia Weeks were also present.

The minutes of the May 6th and July 15th Meetings were approved as written.

We were informed that GenRad is withdrawing their request to submit an article for the fall special town meeting to modify the aquifer zone on their property. We will not pursue the data which supposedly supports their "rezoning".

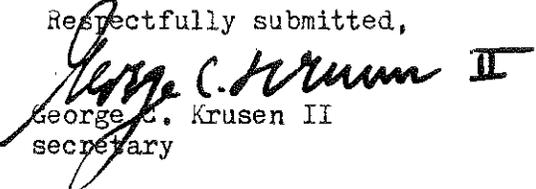
The discussion on N.E. Research Center reported in the July Minutes was continued. Louis and George to try to find the solubility and other data on Mercury Cadmium Telluride which is to be fabricated at that location.

The conductivity survey of our streams by the Littleton Light and Water Company has not been started (note: it was conducted on August 20th).

Virginia moved and it was voted to start the groundwater analysis project as authorized by the 1986 Town Meeting. 23 locations were tentatively picked which cover the town. George is to draft a letter for Commission approval to 1) explain the purpose of the work 2) ask permission for a water sample from the well in question 3) ask for certain information from the owner - well location, depth, any chemical data available 4) impose a deadline by which this information must be submitted.

The meeting was adjourned at 9:50 PM.

Respectfully submitted,


George C. Krusen II
secretary

cc: Selectmen
Bd. of Appeals
Conservation Commission
Planning Board
Board of Health

MINUTES OF MEETING
WATER RESOURCES COMMISSION

WRC
Town Hall File

September 27, 1986

The meeting was called to order by Chairman Colonna-Romano at 8:20 PM. Members George Krusen and Virginia Weeks were also present.

The minutes of the August 12th meeting were approved as written.

\$30 from Article 19, 1979 was approved to reimburse Virginia Weeks for the charge of the Municipal Ground Water Supply Seminar. This was held September 17th at the Westboro Plaza Hotel. Topics which interested the Commission were:

1. There is a new and more extensive set of DMR Regulations governing the establishment of a town water supply. These will be studied in regard to our work at Flerra Meadows and at the Harvard Sportsman's Club.
2. Information on well engineering.
3. There have been reported problems with fiberglass tanks for storing petroleum products underground.
4. A storage facility for contaminated soil in Lunenburg is proposed.

The following responsibilities were assigned for the groundwater sampling project.

1. Prepare a list of people to be contacted with addresses and phone numbers - Virginia
2. Contact Waterfest for price information and method of payment - George
3. Prepare the letter and accompanying form to be sent to the participants - Louis

These tasks will be finished by the October 14th Meeting Date.

The meeting was adjourned at 10:30 PM.

Respectfully submitted,

George C. Krusen II
George C. Krusen II
Secretary

cc: Selectmen
Bd. of Appeals
Conservation Commission
Planning Board
Board of Health

Minutes of Meeting
Water Resources Commission

Meeting of October 14, 1986 -

The meeting was called to order by Chairman Colonna-Romano at 8:10 Pm. Members George Krusen and Virginia Weeks were also present.

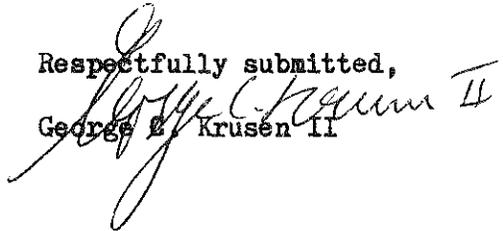
The minutes of the September 27th meeting were approved as amended.

Plans for measuring water quality in bedrock wells within the town were discussed. It was decided to retest any wells which might have been done and reported in the Report, Assabet River Basin by Samuel J. Pollock and William B. Fleck, 1964. A check of the report and of the Massachusetts Water Resources Commission in Boston indicated that water samples had never been taken in Boxborough. Some had been taken in Acton, Stow and Harvard.

It was voted to purchase 20 analyses from WaterTest in Manchester, N.H.. A voucher was made out for \$1822.00 for 19 standard tests and 1 super test. Each test includes a mineral analysis and a check for the heavy metals. The super test, which will be used at the Blanchard School will also include a "scan" for the chlorinated hydrocarbons. The funding is for \$1700 from Article 24 - 1986 Town Meeting and for \$122 from Article 20 - 1979 Town Meeting.

The meeting was adjourned at 9:15 PM.

Respectfully submitted,


George C. Krusen II

Meeting of November 4, 1986 -

The meeting was called to order at 8:15 PM. All commissioners were in attendance.

We have received seven requests for well sampling. The process will start November 12th.

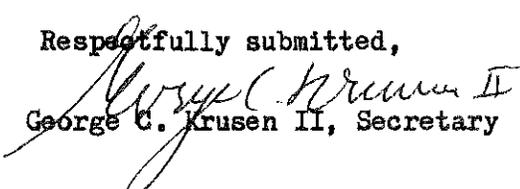
It was voted to test the Blanchard School well for Radon Gas. A \$22 check was authorized from Article 20 - 1979 Town Meeting to the State of Maine. That state Laboratory sends the required container and instructions.

The \$4700 contract was signed with IEP to further define the bounds of the Flerra Meadows Aquifer.

The Littleton Water Department submitted a report dated November 4, 1986 with the conductivity measurements in Boxborough's streams. Previous measurements had been taken by the Commissioners during November 1982. There were both increased and decreased values. A more detailed analysis will be done. The Water Department plans to repeat the measurements shortly after the next snow storm; the object is to find whether there is increased conductivity from road salt.

The meeting was adjourned at 10:30 PM.

Respectfully submitted,


George C. Krusen II, Secretary

File

Minutes of Meeting

Water Resources Commission
Meeting of December 9, 1986

The meeting was called to order by chairman Colonna-Romano at 8:00 P.M.. Members George Krusen and Virginia Weeks were also present.

The minutes of October 14th and November 4th were approved as read.

The conductivity study done graciously for us by the Littleton Water Department was reviewed. No startling changes noted since our survey in 1982. George Krusen is to check the sample locations at Heathen Brook and at Fort Pond Brook; we want to insure that all parties sampled at the same location.

A tentative meeting on December 17th is scheduled with IEP for an initial report on the first task, Update Hydrogeologic Maps, of the Flerra Meadows Aquifer Study.

The Planning Board wants to again collect water levels from the monitoring wells in Beaver Brook Valley. We suggest that the building inspector or his assistant do this. We would be glad to go the first time, locate the wells and assist with the measurements.

Additional locations for water sampling are needed. Richardson's Farm Store, the Ceglowskis, Mrs. Downey and a location on Stow Road will be contacted.

The meeting was adjourned at 9:30 P.M..

Meeting of January 13, 1987

The three commissioners were present. The meeting started at 7:00 P.M..

Michael J. Hudson, IEP, met with us to discuss the Flerra Meadows Project. The meeting on December 17th had been cancelled by mutual agreement. Since the aquifer extends to the Stow Line, it was decided to do seismic work there in addition to that at the Burroughs Farm and in Mrs. Erikson's property (parcel 192). George Krusen will seek the owner's permission. The boring and pump test work will be eliminated.

Members of the Commission will contact certain property owners and obtain information on wells drilled since 1981. It is more efficient and cost effective for us to do this. The engineer can verify the information by contacting the well driller who is now identified. The seismic work is scheduled for 1/30 and 2/2.

The meeting adjourned at 9:45 P.M..

Meeting of February 11, 1987

The three commissioners were present. The meeting opened at 8:00 P.M..

The well water survey is complete with results sent to all the participants. A report will be put in the library. Peter Rudenko came to the meeting with questions: Why no recommended limit for sodium in water and why do glass lined hot water heaters fail?

It was voted to pay the \$1,375.75 billing to IEP after a check by Krusen on unit labor prices.

Meeting of February 11, 1987(continued)

Incoming mail:

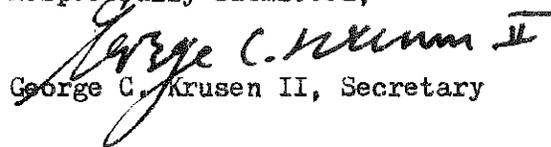
1. 2/24 meeting on monitoring wells by Planning Board
2. Request for street map by the Division of Water Resources - George will provide.
3. Request to fill out a form by the Metropolitan Area Planning Council - Ginger will study it and fill it out with any needed help.
4. A Division of Water Resources Report, Contamination in Municipal Water Supplies - Dec. 1986. Louis to read and study.

We submitted an expense budget for 1988 of \$450.

The Commission was contacted by Mr. Lauro Ruiz of Gutierrez Co., Developers, concerning the "GenRad" land at Cunningham Road. Haley and Aldrich have prepared a report using the data of Anderson-Nichols to justify a change in the location of the aquifer zone there. He will send a copy to Chairman Colonna-Romano. We will review it and send our recommendations to the Planning Board as requested.

The meeting was adjourned at 9:45 P.M..

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen
Bd. of Appeals
Conservation Commission
Planning Board
Bd of Health

Water Resources Commission

In 1979, the Water Resources Commission (WRC) was established to investigate areas with water bearing potential, to monitor the water quality of selected existing wells, and to provide the town with information about available options for providing a public water supply for the residents of Boxborough when the need arises. At the 1986 Annual Town Meeting, three articles were passed which strongly influenced the activities of the Commission during the past year. The first of these articles expands the charter of the WRC to include the monitoring of surface waters. With the help of the Littleton Water Department, a conductivity survey of the streams within the town was performed late in 1986; conductivity is a fairly simple measurement used to monitor the level of dissolved material (for example, road salt) in the water.

The other two articles mentioned above concern new studies undertaken by the commission. The purpose of the first of these is to get a better understanding of the quality of well water presently in use through the testing of about twenty widely dispersed wells in town for a number of common contaminants. At this time, the samples have been taken and analyses performed; a final report of the results is in preparation. A number of wells had fairly high sodium levels which is probably due to the use of salt on the roads over the years. A more complete analysis of the water at the Blanchard Memorial School was performed as part of this study; in this case a test for radon was also performed, however, no significant amount was discovered.

The second study authorized last year involves the further definition of the Flerra Meadows aquifer. The groundwater below Flerra Meadows is believed to be Boxborough's best potential public water source. A contract has been let to perform a seismic refraction survey of this area to determine the depth of the aquifer and the soil characteristics where this data is lacking and to update our hydrogeologic maps. Much of this work has been delayed due to the extensive snow cover this winter but should be completed in the early spring.

In the coming year, the Commission plans to complete the studies presently underway and to concentrate more on long-range groundwater protection issues.

Minutes of Meeting

Water Resources Commission
Meeting of March 11, 1987

The meeting was called to order by Chairman Colonna-Romano at 8:10 P.M..
Members George Krusen and Virginia Weeks were also present.

The minutes of the December 9th, January 13th and February 11th meetings
were accepted as written.

Expense money, \$33.02, was voted for George Krusen for phone calls and car
mileage.

A request by WaterTest Company for a letter of recommendation was discussed.
Altho their work was satisfactory, we felt that a letter on Town stationery
might be misused. George is to write and tell Ross Krummel that we will give
a verbal reference if contacted.

Material from our files was supplied to Virginia Scarlett who is completing
the open space report*for the Conservation Commission. This report was
initially worked on by Ann Marie Brady.

* Conservation & Recreation Commissions 5 year plan

Additional data for Ground Water Quality Study:

Gene Munn's well was sampled prior to 1981 for Uranium and other
parameters by the National Uranium Resource Evaluation. George is
to contact the latter office to find if more data is available on
wells in Boxborough and surrounding towns.

Duncan Brown reported a significant natural fluoride level in the water
near Whitcomb Road. This bourned out by values he had seen from the
apartments(1979) on Swanson Road taken by DEQE. Analyses of heavy
metals, sodium, fluoride and nitrate are required of such apartments
every three years. This has not been done. George will try to get
the numbers at the Worcester Office.

The meeting was adjourned at 10:00 P.M..

Meeting of April 8, 1987 -

All members present with meeting called to order by Chairman Colonna-
Romano at 8:00 P.M..

By copy of a letter from the Board of Health we learned that Joule Power
has been cited for non-compliance in handling hazardous wastes. We will de-
termine what materials are involved.

Received a letter from L&P saying there would be an overrun on the
Flerra Meadow's Project. George will contact them and get more details. Payments
for \$2,265.60 were authorized. \$3,641.35 authorized to date.

Gutierrez Company will be informed that the restrictions under the
aquifer by-law are the same in the primary zone as in the recharge area. Thus
they may decide not to pursue the redefinition bound between the two areas.

The meeting was adjourned at 9:50 P.M..

cc: Selectmen
Bd. of Appeals
Conservation Commission
Planning Board
BD of Health

Respectfully submitted,

George C. Krusen II
George C. Krusen II, Secretary

Minutes of Meeting

Water Resources Commission
Meeting of May 27, 1987

The meeting was called to order by Secretary Krusen at 8:00 PM. He and Virginia Weeks were present.

Ten copies of the IEP Inc Report on The Flerra Aquifer were received and it was voted to distribute them to the other Boards with a copy to Mr. Flannery. The covering letter will ask that the copy be returned for our files if the Board does not have a need for it.

It was noted in a letter from the Fire Chief that an oil leak was found on the property of Steven Moore at 674 Massachusetts Avenue. On investigation it turned out to be an underground tank for fuel oil. The tank was of unknown age. The DEQE was notified and a contractor hired to clean up the spill and to remove the tank.

A groundwater monitoring regulation was received from the Planning Board.

Our minutes of March 11th and April 8th were approved. The meeting adjourned at 9:30 PM.

Meeting of June 10, 1987

The meeting was called to order by Chairman Colonna-Romano at 8:00 PM. Members George Krusen and Virginia Weeks were also present.

Two bills were approved for payment to IEP INC.; total approved to date \$4,126.35.

<u>Invoice</u>		
07462	\$235.00	
07802	\$250.00	From Article 25, 1986

Payment to Hach Co. for water test chemicals was approved: \$49.50 from Article 19, 1979.

Received a copy of the Board of Health well regulations adopted May 6, 1987. Received notice of a Planning Board hearing on the NEC expansion on June 23rd. George and Louis will attend.

Set dates of summer meetings for July 8th and August 12th. Adjourned at 10:00 PM.

Meeting of July 8, 1987

The meeting was called to order at 8:29 PM. Members Krusen and Colonna-Romano were present.

cc: Selectmen The final payment to IEP Inc. for the Flerra Meadows work was voted, \$705.60.
 Bd. Appeals This included a 2.8% overrun paid from Article 19, 1979(now 0.00) and from
 Cons. Comm. Article 16, 1981.
 Planning Bd. The expansion at NEC was discussed. No one at the 6/23 hearing was aware of the
 Bd. of Health groundwater contamination and monitoring well problems which were documented in
 our January 31, 1985 report, NEC Third Water Sampling - Special Permit #83-6.
 George and Louis made this information known at that meeting. George will send
 a letter to the Planning Board.

Protection of the Flerra Meadows Aquifer was discussed.

Respectfully submitted,

Town Hall

Minutes of Meeting

Water Resources Commission
August 12, 1987

The meeting was called to order by Chairman Colonna-Romano at 8:05 P.M..
Members Krusen and Weeks were present.

The minutes of May, June and July were approved with one exception. Ginger weeks was not present at the June Meeting.

Mike Hudson has left IEP. Hydrologist Gretchen Rich is taking over his duties.

A test form from DEQE was rerouted to the Blanchard School.

Expenses for postage, phone and mileage were voted for George Krusen; \$22.39 from Article 16, 1981.

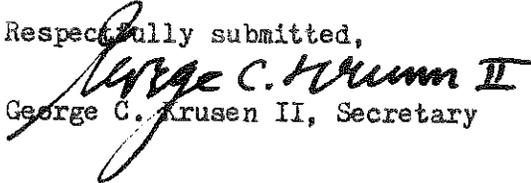
We will study the consistency of the Littleton, Boxborough and Acton aquifer zoning by-laws. Krusen to obtain the material.

We are concerned that all parties (NEC, Bd of Health, Planning Bd, Savas Danos) are not aware of the NEC groundwater problems outlined in our three reports on file with our town Boards.. We will contact the above groups and explain our concerns.

Krusen to further discuss aquifer studies on Heath Hen Meadows Subdivision with IEP and John Flannery, the developer. The Planning Board hearing is scheduled for August 18, 1987.

The meeting was adjourned at 8:50 P.M.

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Bd
Bd of Health

Minutes of Meeting
Water Resources Commission
October 13, 1987

The meeting was called to order by Chairman Colonna-Romano at 8:00 PM. Members Krusen and Weeks were also present.

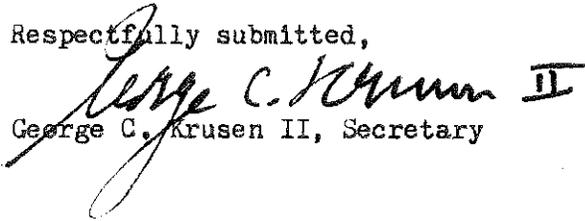
The minutes of the August 12th meeting were approved as written.

An additional bill dated 8/19/87 was received for the Flerra Meadows Aquifer Study (purchase of pumping test analysis software) for \$100.00. It was agreed that it should not be paid. George Krusen will contact IEP concerning this.

The remainder of the meeting was spent discussing the aquifer under the Heath Hen Meadow Sub-Division. Four borings completed for Mr. Flannery, the owner, indicate porous sands and gravels only to a depth of 12-15 feet, and not all the way to bedrock, more than 50 feet down. The lower material does not appear to be porous altho pumping tests will be performed. This material was also encountered at the well on the Flerra Meadows Conservation Land; it surprised the hydrologist in charge that the pumping rate was as good as it was.

The meeting was adjourned at 9:05 PM.

Respectfully submitted,


George C. Krusen II, Secretary

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

WRC file

Minutes of Meeting
Water Resources Commission
November 10, 1987

Town Hall
File

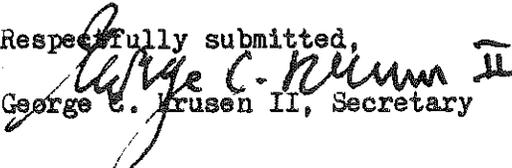
The meeting was called to order by Chairman Colonna-Romano at 8:00 PM. Members Krusen and Weeks were also present.

Krusen reported on progress in obtaining the status of aquifer zoning in towns surrounding Boxborough. The various consultants reports are being reviewed in Acton by their Planning Board so an article can be adopted by the Town Meeting.

An article by us for the Boxborough Bee, on the subject of what a family living in an aquifer zone can do to protect that aquifer, was considered. Virginia Weeks will start on this project.

It was decided to attend all future board meetings concerned with the Gutierrez and Towermarc projects due to their possible impact on surface and ground water quality.

The meeting was adjourned at 8:50 PM.

Respectfully submitted,

George C. Krusen II, Secretary

Meeting of December 8, 1987 -

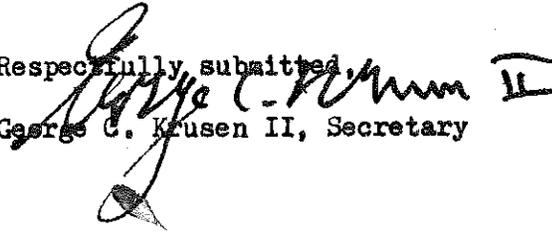
Called to order at 8:10 PM by Chairman Colonna-Romano. Krusen and Weeks also present.

The aquifer bylaw from Littleton was received from their planning board. The proposed aquifer bylaw for the January Stow Town Meeting was also received. Given to Louis to study and to report back to the Commission on their consistency with the Boxborough by-law.

Received 12/2/87 memo from Board of Health on "Zoning Changes". It is not apparent to us why this is necessary. Louis will contact the Board of Health for further information.

A draft budget is due December 21st to the Selectmen. George Krusen will review this years expenditures and draft a budget for consideration by the Commission.

The meeting adjourned at 8:30 PM so the members could attend the Gutierrez and Towermarc hearings before the Planning Board:

Respectfully submitted,

George C. Krusen II, Secretary

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

MINUTES OF MEETING
WATER RESOURCES COMMISSION
JANUARY 12, 1988

The meeting was called to order by Chairman Colonna-Romano at 8:10 p.m. Members Krusen and Weeks were present.

The minutes of the November and December 1987 meetings were accepted as read.

It was brought to our attention that there was an oil spill at Munn-Hines on December 12, 1987; some oil flowed to Beaver Brook. George Krusen will get more details from Fire Chief Morse. The objective will be to determine whether practical preventive measures can be taken to prevent similar occurrences.

Data was received from the Littleton Water Department from ground water monitoring at:

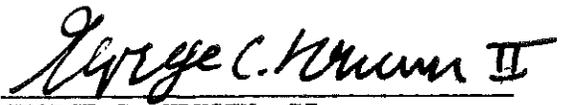
1. Digital Equipment Corporation, Codman Hill Road;
2. Boxborough Commons, Mass. Avenue;
3. Boxborough Technical Park I & II, Swanson Rd.;
4. NEC, 141 Mass. Avenue.

We commend Mr. Alan Catheart, Environmental Technician, for his part in preparing these reports. We will also review the data and contact Alan with comments and questions.

The Commission voted unanimously to order publication c.181 from the University of Massachusetts Extension for \$2.00. The title is Toxics, Hazardous Waste and Water Supply Contamination.

A budget of \$400.00 was approved for Fiscal 1989 and submitted to our Selectmen.

Respectfully submitted,


GEORGE C. KRUSEN, II
Secretary

Town Hall Copy

Minutes of Meeting
Water Resources Commission
February 9, 1988

The meeting was called to order by Chairman Colonna-Romano at 8:25 P.M..
Member Krusen was also present.

The minutes of the January 12th meeting were approved as read.

Louis Colonna-Romano will write the report for the Town Report and submit it.
Our 1989 Budget is being sought by the Finance Committee; George Krusen
will find where it has gone astray and get it to Jonathan Panek.

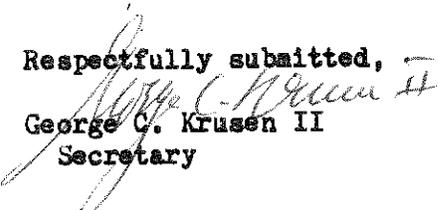
It was voted that we should follow up our request to the Planning Board
that the Aquifer Zoning Map be amended at this Spring Annual Town Meeting.
The Flerra Meadows Aquifer is much larger than originally defined (see
Report on Geophysical Explorations - Flerra Meadows Aquifer, Boxboro, MA.
May 1987 by IEP Inc.).

The following locations should be examined to determine any adverse effects
on the groundwater:

1. State highway garage at Rt 111 and Swanson Road.
2. The closed sanitary landfill
3. Ponds in aquifer zones
4. Salting of roads - both by the State and our town highway department.

The meeting was adjourned at 8:55 P.M..

Respectfully submitted,


George C. Krusen II
Secretary

cc: Selectmen
Bd of Appeals
Conservation Commission
Planning Board
Bd of Health

Minutes of Meetings
Water Resources Commission

April 12, 1988 -

The meeting was called to order at 8:10 by Chairman Colonna-Romano. Member George Krusen was also present.

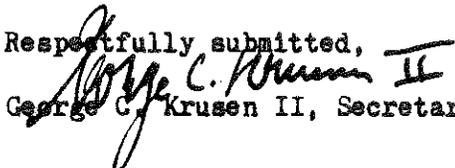
Our third member, Virginia Weeks, has decided to resign and has indicated her intention to write a letter, so stating, to the Selectmen.

The effect of the planned leaching fields by Gutierrez Company on the water quality in Beaver Brook was discussed. We will attend the meeting by the Conservation Commission tomorrow night and voice our concerns*

1. There are stream criteria for nitrate and phosphate which have not been addressed.
2. Since the disposal involves more than 15,000 gallons per day, jurisdiction is not in the hands of the Boxborough Board of Health.
3. Gutierrez should get assistance from the Ground Water Regulatory of the Commonwealth. This group may have water quality data from Beaver Brook.

The meeting adjourned at 9:00 P.M..

* After the hearing, a letter was sent to the Conservation Commission on April 23rd concerning the problem.

Respectfully submitted,

George C. Krusen II, Secretary

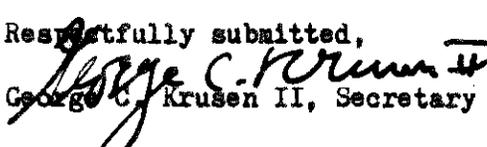
June 21, 1988 -

The meeting was called to order at 8:00 P.M. by Chairman Colonna-Romano. George Krusen was also present.

George reported that Judy Jacobs is having sepias made of the aquifer zoning map as well as a supply of copies. This need was mentioned in our minutes of March 15th.

It was suggested that Savas Danos of the Littleton Electric Company be contacted about any incidents of eutrophication which have occurred in Beaver Brook due to fertilization by runoff. Such occurrences may have a bearing on what questions we ask about the Gutierrez Project before the Conservation Commission. George Krusen will do this.

The meeting was adjourned at 8:30 P.M..

Respectfully submitted,

George C. Krusen II, Secretary

Minutes of Meetings
Water Resources Commission

September 13, 1988

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M..
Member George Krusen was also present.

It was noted with satisfaction that the oil storage tank at the Blanchard School has been removed from the property. There was no sign of oil leakage.

The minutes of the April and June meetings were read and approved. No meetings were held during July or August.

Some Radon testing has been done in Boxborough. The school was tested. Data are available from the homes of our Chairman and Eugene Munn. All of these values were less than a danger level.

The following monitoring reports were received from the Littleton Water Department:

August 3, 1988	Boxborough Tech. Park	Micom/Interlan
August 3, 1988	Boxborough Tech. Park	NEC
August 30, 1988	1740 Mass. Avenue	New Resource Development
July 26, 1988	1414 Mass. Avenue	NEC
July 28, 1988	1300 Mass. Avenue	NEC
August 30, 1988	Swanson Road	Digital
August 10, 1988	Codman Hill Road	Digital

Respectfully submitted,

George C. Krusen II
George C. Krusen II, Secretary

November 15, 1988

The meeting was called to order at 8:15 P.M.. Members Colonna-Romano and Krusen were present.

The question was raised as to whether the Littleton Light Company (Savas Danos or Alan Cathcart) was aware of the work on Beaver Brook water quality that Gutierrez was undertaking at the request of the Boxborough Conservation Commission. George Krusen will contact Alan.

A more "in-depth" analysis was commissioned by Gutierrez on the brook situation. It is being done by William Walker of Concord, MA.. Michael Speidel will send us a copy of the final product which is completed. The latter informed George Krusen that Nancy Serbella of the USGS has recently done stream sampling on Beaver Brook within Boxborough.

Louis will examine the voters list for a potential third member of this Commission.

Respectfully submitted,

George C. Krusen II
George C. Krusen II, Secretary

cc: Selectmen
Conservation Commission
Planning Board
Bd of Health
WRC file ✓

Minutes of Meetings
Water Resources Commission

January 10, 1989

The meeting called to order by Chairman Colonna-Romano at 8:00 PM.
Member George Krusen was also present.

The September and November, 1988 minutes were approved as read.

We will attend the "Center of Rural MA." presentation on January 23rd.
The annual report was worked on.

Meeting adjourned at 9:30 PM.

No February Meeting

March 14, 1989

The meeting called to order by Chairman Colonna-Romano at 8:15 PM. Member
George Krusen was present.

Reviewed Munn-Hines water sampling of monitoring wells by the Littleton Water
Company. The sodium level is high from salt put on Rt 111.

We will attend the Conservation Commission on 3/22; Subject - dredging pond on
the Towermarc Property. How will it affect the downstream water quality in
Beaver Brook? Also reviewed the Town Center By-law(proposed).

Meeting adjourned at 9:23 PM.

No April or May Meetings

June 13, 1989

The meeting called to order by Chairman Colonna- Romano at 8:00 PM. George
Krusen was present.

Discussed presence of Vanadium in sediment at Towermarcs Pond(3/22 hearing).
Rumor of battery manufacturing in area, from waste oil or concentrated by
fresh water crustaceans? George is to investigate(Memo sent to Conservation
Commission 7/7/89 - levels are below those found in soils and clays so this
is probably not a problem).

Sent a memo to the Planning Board as the result of recent sampling of mon-
itoring wells at New Resource Development. The latter may have information
which will verify that traces of metals are coming from dissolving copper
water pipe.

Nancy Filmore has shown an interest in being a member; Louis will contact her.

2nd and 3rd rounds of sampling monitoring wells by the Littleton Water Company
are being completed. We must organize better to interpret the data. George to
discuss this with the Planning Board. Data from each location and corresponding
correspondence will be put in individual folders.

A follow-up conductivity study of Boxborough surface water is planning for the
summer.

Meeting adjourned at 10:00 P.M.

Respectfully submitted,
George C. Krusen II
George C. Krusen II, Sec.

cc:
Selectmen
Con. Comm.
Planning Bd
Bd of Health
Bd of Appeals
Town Hall file ✓

Minutes of Meetings
Water Resources Commission

August 8, 1989

There was not a meeting since the only member present was George Krusen. Mr. Dan Forster from the Beacon came. He was told about the Commission's history and activities.

September 12, 1989

The meeting was called to order by Chairman Colonna-Romano at 8:00 P.M.. George Krusen and Nancy Filmore were there.

It has been found that the Boxborough Minute Men are having a well dug at Flerra Meadows as a source of water for town activities. George Krusen will ask whether a well-log and water analysis are available.

The Commission was contacted by Deborah Peters of Codman Hill Condominiums. She requested the fluoride content of the water. She was referred to the Worcester Office of the Department of Environmental Quality Engineering. It was our recollection that the required semi-annual water analysis includes fluoride.

The following reports from the Littleton Light & Water Company were reviewed as to the analyses from monitoring wells:

Company

DCA I - Boxborough Business Center(off Codman Hill Road)

NEC 1300 Mass. Avenue

DEC Codman Hill Road

Boxborough Technical Park

Mercury, Cadmium and copper were present in small quantities. This recalled the past use of Telluride material at this location.

October 10, 1989

George Krusen and Nancy Filmore present.

The 1983 Stream Survey was reviewed. A phone inquiry from Laurin Kirwin, Liberty Mutual Insurance Company, asking about fire protection at Applewood Condos was answered. She didn't realize there is no town water. This answered her concern.

Monitoring at New Resources Development was discussed. Their resistance to continuing the requested (by Planning Board) monitoring is due to initially having been asked to do a modest amount. Then the Board specified a more rigorous standard procedure for all permits.

A monitoring report was received from The Littleton Water and Light Co. on NEC - 1414 Mass. Ave.

November 14, 1989

George Krusen and Louis Colonna-Romano present.

It was voted to submit the same budget as last year. Environmental Impact Statements for Towermarc were studied. The question was raised as to whether our town aquifer by-law is compatible with State Water Resource Policy. Further work will be done on this question.

cc: selectmen
con. commission
Planning Bd
Public Health

copy in Town Hall ✓

Respectfully submitted,
George C. Krusen II
George C. Krusen II, Sec.

WATER RESOURCES COMMISSION
MEETING MINUTES

February 13, 1990

The meeting was called to order by Chairman Colonna-Romano at 8:00 pm with George Krusen present. The minutes of the December 1989 and January 1990 meetings were approved as written. We adjourned at 8:05 pm to meet with the Planning Board and Alan Cathcart of the Littleton Water Department.

March 19, 1990

George Krusen was the only one present. Written monitoring well reports had been received from (1) Boxborough Commons 11/20/89 (2) Boxborough Tech I & II 12/7/89 (3) Micom/Interlan Tech I & II 12/7/89 and (4) Digital, Codman Hill Road 12/19/89.

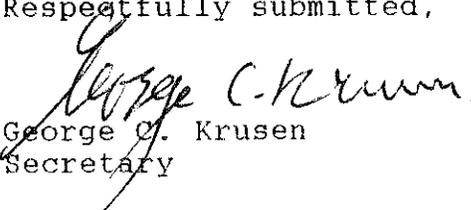
May 9, 1990

The meeting was called to order by Chairman Colonna-Romano at 8:00 pm with George Krusen present. The April 17, 1990 letter sent to the Planning Board concerning water tests at Liberty Tree Acres was discussed. George is to find our map with the key of sampling locations; then Louis will determine water conductivities at these locations. Additional tests will be done upstream and downstream of the landfill. The meeting adjourned at 9:30 pm.

June 13, 1990

The meeting was called to order by Chairman Colonna-Romano at 8:00 pm with George Krusen present. To support the monitoring well project at the landfill just passed by the Town Meeting, we voted to analyze for inorganic components in Elizabeth Brook SE of the landfill. Biological oxygen demand samples will also be taken. Krusen is to get prices. The meeting adjourned at 9:19 pm.

Respectfully submitted,


George C. Krusen
Secretary

cc: Selectmen
WRC file - Town Hall

WATER RESOURCES COMMISSION
MEETING MINUTES

October 9, 1990

The meeting was called to order at 8:00 pm with Louis Colonna-Romano and George Krusen present. George Krusen presented for review the report of water analysis taken from about 20 wells in Boxborough during 1986. Our copy will be placed in the library. Louis did not think the names and addresses shall be made public; Krusen did. We will table a decision until the next meeting. In the meantime, Krusen will find the letter sent to participants; they had to consent to their participation.

The test data on Elizabeth Brook is complete and must be reported to the Board of Health. Meeting adjourned at 9:00 pm

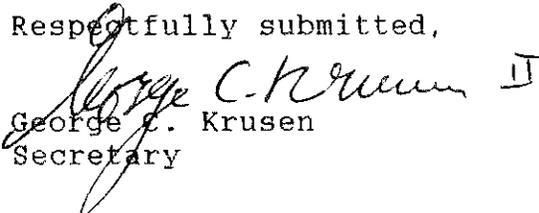
November 8, 1990

The meeting was called to order at 8:00 pm with Louis Colonna-Romano and George Krusen present. Long range goals are to be to Judith Jacobs by 11/26/90. We could not think of any. Krusen will work on this. George is to fill out our budget for fiscal year 1992 and get it to the Finance Committee. Meeting adjourned at 8:30 pm.

December 11, 1990

Meeting Cancelled.

Respectfully submitted,


George C. Krusen
Secretary

cc: Selectmen

WATER RESOURCES COMMISSION
MEETING MINUTES

January 8, 1991

Krusen and Louis Colonna-Romano present. We authorized the purchase of chemicals for fluoride analysis and agreed to submit the question of making public the source of water analysis to arbitration by the Selectmen.

February 12, 1991

Krusen and Colonna-Romano present. The annual report was completed. We received a memo from Judih Jacobs stating the water analysis discussed at the January 8th meeting could be made public.

March 12, 1991

Krusen and Colonna-Romano met briefly to verify the 8% cut in the budget as requested by the Finance Committee.

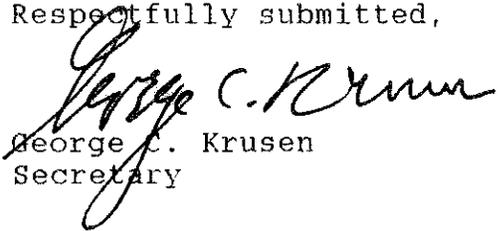
April 9, 1991

Krusen and Colonna-Romano reviewed the new well monitoring reports from the Littleton Water Company.

May 14 and June 11, 1991

No meetings were held due to attendance at Town Meeting.

Respectfully submitted,


George C. Krusen
Secretary

cc: Selectmen
✓ WRC file - town hall

WATER RESOURCES COMMISSION
MEETING MINUTES
September 10, 1991

The meeting was called to order by Chairman Louis Colonna-Romano at 8:00 pm. He and George Krusen were present.

Krusen attended the EPA seminar in Worcester entitled Suggested practices for the design and installation of ground water monitoring wells on August 21-22. Mileage payment was authorized for 137 miles at \$.20 = \$27.40. A text and very good notes are available for anyone who would like to borrow them.

Krusen visited the Department of Environmental Protection in Worcester today to update our well monitoring data with their data from community supplies. The state mandates a complete test of inorganic and organic constituents when the well is first installed followed by inorganic analysis every three years. There was data "visible" for:

49 Spencer Road	1988
81 Liberty House	1988
Center Village	1987
Brook Village	1990
Carriage House	1990
Codman Hill Apartments	1990
Harvard Ridge	1990

An additional mileage payment was authorized for 33 miles at \$.20 = \$6.60 for this trip.

Louis Colonna-Romano submitted a letter of resignation to the Selectmen as of this date.

Respectfully submitted,

George C. Krusen II
George C. Krusen II
Secretary

cc: Selectmen
Conservation Commission
Planning Board
Board of Health
Board of Appeals

WRC Town Hall file