

Shutesbury Board of Selectmen
At the Department of Environmental Protection Regional Office
436 Dwight Street, Springfield, MA
October 24, 2011 Meeting Minutes

Shutesbury Select Board: Chairwoman Elaine Puleo and members Al Springer and April Stein.

Other Shutesbury Officials: Fire Chief Walter Tibbetts, Town Administrator Rebecca Torres, and Administrative Secretary Leslie Bracebridge recording.

Department of Environmental Protection (DEP) Officials: Section Chief for Emergency Response David “Dave” Slowick, Bernard “Ben” Fish, and Section Chief of Site Management Richard “Rick” Green.

Also present: Licensed Site Professional James “Jim” Okun from O’Reilly, Talbot, & Okun Assoc. Inc.

Meeting opened at 10:23 A.M. at DEP Springfield headquarters at 436 Dwight St., Springfield.

Topics

1. **Jim Okun** introduced the meeting with a summary of his written answers to questions previously put to him by the Shutesbury Board of Selectmen (attached):

- We’re seeing gasoline in the monitoring well closest to the fire station.
- The 3 wells along the wetlands 60 feet out from the fire station are clean.
 - Assume that in time they will also test positive.
- What should the town do? They’re looking for guidance from DEP. They’ve done a lot.
 - Class III is an option.
 - Soil Vapor Extraction (SVE)?
 - Re-dig the narrow location every three years to capture the migrating gas?
 - If the town had the ability to develop a public water supply and supply all buildings within 500 feet of the release area could a permanent solution be achieved? DEP officials denied the public water supply alone as a permanent solution. Decontamination efforts would still be needed.

Elaine: At what height of the water table is Soil Vapor Extraction (SVE) feasible?

Jim: This year was extremely wet, last year extremely dry. We need more than a 4 foot depth to run the SVE system.

In a normal year it could run for 6 months; the \$50,000 estimate would be to run it for a full year; a 6 month run would be less. Two to 3 calendar years of operation will hit a point where the additional amount of capture, wouldn’t justify running longer.

David “Dave” Slowick:

- Cut off ground water flow under fire station?
- Trench around and add a sheet barrier?
- Ground water extraction so that SVE can work more efficiently?

Jim: It could be done, there would be more materials, handling and cost.

Dave: Could just the corner be “sheet-piled?”

Source(s) of the following comments not recorded:

- Can’t drive sheet pile through boulders.
- Divert water around to depress ground water enough under the station so SVE would be more effective?
- Ground water right now at 4 foot 3 inches.

Dave asks Jim’s opinion from an engineering perspective:

Jim: If there are fractures in the rock? How to seal it with the rock?

Dave: It doesn't require 100% seal. Just eliminate some of the hydraulic migration through there: "Sheet wall," "slurry-wall," various methods, thick, heavy corrugated steel, tongue-in-groove. It's a common usage of material. Refers to Jim – Would this work?

Jim: Boulders. We won't know until we do it. The whole area was once probably a wetland.

Dave: If it dropped the ground water to 8 feet, SVE would be a more effective system. What can we do to get that source of migration out of there?

Becky: We know the flow of water is migrating the gas out of there. SVE took 3.5 gallons/week; meanwhile the groundwater is flushing it out.

Dave: Described Becky's suggestion as "counterintuitive": "We like to control the source area."

Jim: They're talking about re-digging the area.

Jim: Agrees with Dave that action is best directed at source control rather than chasing a plume.

Source(s) of the following comments not recorded:

- The wetlands do degrade gas effectively.
- Nothing will make it completely go away – a permanent solution is a Public Water supply.
- Is it possible to do watchful waiting?

Jim: "Monitoring natural attenuation" ... is that something DEP is receptive to?

Dave: It's been there for so many years – it's not what we are looking for.

Rick: We're still seeing benzene.

Source(s) of the following comments not recorded:

- The town doesn't want to go down the road of something not desired by DEP.
- Rick(?): Doesn't see "monitoring natural attenuation" as a likely option.

Rick: "Chem. - ox?" (Provides chemical oxidants that break down the gasoline.) Initially concerned with this option because of elevated levels.

Jim: Vapors into the fire station.

Rick: High ground water is good for "chem. Ox" (as it carries the chemicals to the gas.)

Dave: New chemicals are more effective than older chemicals. This would need several applications.

Jim: Asks, "Isn't 'chem. - ox' more for 'polishing'?"

Dave: Install an injection trench on the north side. **Walter:** There is a well there already.

Dave: We would need to monitor chem. – ox pretty carefully.

Jim: A chemical reaction underground could generate heat.

Dave: Wouldn't use hydrogen peroxide. Monitor the air quality within the station.

Rick: Typically takes 1 to 2 years. (Several applications/year.)

Elaine: Do it when ground water is high?

Rick: Ground water brings the chemicals down. It's not cheap, but you're not paying for electricity.

(?): Package deal for \$150,000 for a previous project elsewhere.

Dave: If considering, select a product and ask the manufacturer.

Jim: Basically oxidizing the gasoline underneath.

April: How much danger?

Dave: Very dangerous with hydrogen peroxide.

- The newer products are safer; mix in slurries, and add them to wells.

April: Is it possible to run a test?

Jim: The hardest part is to know how well it is working. If I'm right, 8,000 pounds of gas needs at least 10,000 pounds of oxidation materials; roughly the same cost as vapor extraction. Could install an oxidation trench, get a vendor to put in so many gallons, and see what happens.

Elaine: What would we be looking for?

Dave: Look for chemistry in the ground water pre and post treatment.

Rick: The primary thing is oxygen levels.

Dave: At some point cease the injections, allow it to stabilize, and then see if there are improvements.

Ben: It's pretty easy.

April: Which is the best way to go?

Dave: Used to give promises and then couldn't match the guarantee.

(**Ben and Jim** have both done both SVE and chem. - ox.)

Dave: Solicit a couple of proposals.

- Rocks do not affect the effectiveness.
- He would probably give it a try. Contact vendors; ask for a proposal. See what they think.
- The material is a liquid.
- It could be done in the winter.
- Limited only by the amount of material getting to the sub-surface. It sounds like a really tough geology: Might be fighting to get a gallon in.

Walter: We've dug in front and back: Would that change the migration by taking the easier route around and through the new soils or would it permeate straight through.

Dave: Injections would go into the wells right in the station.

Dave: What would recommend for my town? – I would probably give it a shot.

Elaine: Are the chemicals contaminants themselves?

Dave: You shouldn't see a long-term effect. You'll see in writing the recommended proximity to private and public wells. Dave doesn't recall any of them going bad.

Becky: Where would we end up if chem. – ox is successful?

Dave: Maybe we don't inject every 3 months or we get to "monitor natural attenuation."

Al: So we're talking years before we close it up?

Dave: Yes; similar to time frame with SVE.

Rick: SVE is limited because of the ground water level.

Dave: Pump and treat at 2-3 gallons/minute, remediate and then dump into wetlands?

Rick: You'd go through a lot of carbon.

Al: Price per hour to treat?

Dave: People put in pump and treat and run them forever. You'd be using a lot of power and electricity.

Elaine: Noise pollution.

Dave: Give chem. ox a try.

Rick: If vendor says the levels are not too high, give it a try.

Elaine: So we don't have to do the soil digging right now?

Rick: You would be digging every year.

- You could put injections on that side and treat the re-contaminated soil.
- Both methods would come to about \$200,000 to make a meaningful dent in the gas.
- Less uncertainty with chem.-ox because it is not effected by ground-water levels.

Dave: Shifting gears: It doesn't sound like you're planning to take the building down, not for this reason alone? No design stage within the next 3 years?

Jim: What would the price be to take down that corner and rebuild? – We've talked about it but not looked at it real hard.

Walter: The building was built in 3 different stages: where the doorways are it's slab on grade; cinder block under the supporting members; the front corner is 80 year old cinder block construction supporting truss system in the building.

Jim: For \$200,000 it's worth looking into.

April: We've talked before about the risk of explosion in a confined space, working in the fire station.

Dave: We could put in containment and ventilate to take the gasoline vapors and strip them out through carbon...(Secretary can't seem to re-piece this response 100%.)

Elaine summarized:

- High ground water makes the SVE remediation the least effective option.

- Chemical - ox next best method.
- Third option: take down part of the building and take the contaminated soil out.

Jim: Answers a question about levels under bays: “Not worth chasing.”:

- Hot spot: from half-way down the building. Office and entrance could stay.
- Needs a lot of thought: how it would work out if took down part of the building.

Dave: Is it feasible to deconstruct without affecting the other parts of the building?

Walter support and heating system: The supporting wall of the two buildings is between the two rooms.

April: Have to weigh the cost versus the benefit.

(Ben leaves temporarily.)

Dave: You weigh out everything: I don’t think this is an issue you want to deal with in 2020.

Elaine: So we’re working toward the goal of monitored natural attenuation no matter what we do?

Jim: Well with a 500 foot radius.

Dave: Questions finding enough water to meet your needs. We love people to put in public water supplies:

Design, piping: talking multiple millions.

Jim: At the end of the process the town has an asset of value to the town:

(Ben rejoins the meeting.)

Elaine: Town water supply says you will sign off, but we still have gas under the fire station:

Dave: Would still need chem.- ox. It’s not an option to do nothing.

Jim: I’ve misled the town: Before we realized we would have migration, we used to think a temporary solution was still on the table.

Becky: 1000 gallons under fire station; Chem. - ox might get it????

April: Is the efficiency between SVE and chem. – ox comparable?

(?): Not predictable.

Becky: If we still have a blue sheen – we’re going to continue to be the same status as today.

Rick: Unlikely to see the sheen.

Becky: Dissolved gasoline could get down to the wetlands.

Dave: Chem. - ox has a lot of advantages for improving sub-soil, not 100%.

Rick: We expect the ground water readings of gasoline would go down after several treatments so then could get a temporary solution.

Becky: If we got a new fire station we’d have cleaner soil.

Dave: Chem. ox should clean-up the soil; doesn’t want to build up hopes; encourages discussion with vendors. It’s amazing how the prices differ when bid it out.

Rick: Vendors could say the levels are just too high. Then what?

(?): SVE, barrier.

Dave: It’s and interesting site. We don’t see really bad ones. This is the worst one in 10 years.

Rick: Ground water is so high it prevents vertical integration.

Elaine: After dig, it’s already re-contaminated.

Rick: From groundwater. There is much more permeable soil there now.

Walter: (Regarding original soil permeability) The first PID readings above and below soil levels were zero and in the middle they were 400.

Dave requests Jim keep DEP “in the loop” in chem.-ox research; as DEP will have to sign-off on it.

(**Rick:** Announces that he is retiring in January.)

The Select Board **left the DEP meeting room at 11:40 AM** and resumed conversation with Jim Okun on patio outside DEP headquarters:

1. Selectmen voiced their surprise that a temporary solution was now “off the table” and agreed they think the chem.-ox treatment is a feasible and preferred option to the SVE. **Select Board unanimously**

voted to request Jim Okun create a 2-page summary concerning chem. – ox treatment to circulate to vendors.

2. **Emergency Management Director Tibbetts:** Summarized his completion of a Federal FY 2009 Emergency Management Performance “Supplemental” Grant application which the October 17 Emergency Management Team had voted he prepare, to finish replacement and enhancement of the radio system used by the town for emergency operations:
- a. The need to replace this equipment comes from a federal mandate to “narrow band” all VHF and UHF radio equipment by January 1, 2013.
 - b. To completely finish the replacement and enhancement of the radio system started under the original FFY 2009 Emergency Management Performance Grant requires an additional \$11,975.00.
 - i. The grant will match 50% of the total cost.
 - ii. The Finance Committee has voted to match the remaining \$5,500 from the reserve account to get the most possible gain from the FFY 2009 supplemental grant.
 - iii. Start date for this supplemental grant is January 9, 2012 and the funds must be used by June 30, 2012.
 - iv. No contract need be signed as it was already signed under the original grant application but there is a signature line for “official approval.”

Selectmen unanimously voted to sign their “official” approval of this FFY 2009 Emergency Management Performance “Supplemental” Grant application.

Selectmen adjourned at 11:50 AM.

Respectfully submitted,

Leslie Bracebridge
Administrative Secretary