

Reality Check

Rah 2010-06-12

A building conditions report would say “replace everything”.

A feasibility report would say, “with \$\$\$ anything is possible”.

We already know all that, we all know what the reality is.

Lets see if it's the fixer upper you've been looking for.

Action items are highlighted, italics are contract / purchase issues.

To keep down time on this, I didn't edit it down, it's wordy.

House and Property

Property: Let's start with this most unique feature of the house.

I did this as pluses and minuses, seemed to work for this section.

Plus:

1. Long way from houses by main road.
2. Pond between houses at main road and house. A major reconstruction of the pond could also be the ideal place to place the loop of a ground source heat pump, assuming you can dig it down a good 8 to 10 feet (it could silt up after loop placement), and that it'll hold at least 6 feet of water all year. Which is what you'll want for fish anyway. You can do fish with as little as five feet, but that has to be YEAR ROUND, and unless it's a paved pool, it's pretty hard to ensure a set depth year round. It'll take a few years of measured observation to determine flow rates, seasonal water levels, and what will then be feasible for the pond. Obviously it can be some kind of water feature, we just can't tell how “big” a water feature is feasible. *It would be useful to know where and how this pond drains, presumably into a culvert of some sort to it's north end. The surveyor could provide this, along with pictures of it, or you can hunt it out yourself.* Please don't mess with it, it's possible to get stuck in these things at an akward angle, you become a plug, you can't get above the rising water, and.....
3. Backs on state land (which being in the watershed means it's forever wild, will never be logged, though, recreational use is allowed. It seems unlikely any heavy recreational use would occur.
4. There's a pond, and the potential for a nice pond.
5. The lot appears to encompass both sides of the pond. *It is advisable to have a surveyor stake out the property, taking photos of all stake locations. Where adjacent to land owned and actively maintained by a neighbor, ie, mowed lawn, trimmed bushes, paving, dirt path or road, it might be advisable to confirm verbally with landowner that lot line appears to be where they thought it was.*
6. Off main road.
7. Spring. The plot plan indicated a spring on one of the adjacent neighbors properties feeding into the property and probably main house. This could be of value to you for “pump free” irrigation, and at the least, not “wasting” water from the aquifer on irrigation. In extreme situations, over pumping a well can lead not just to temporary lack of water for the house, but also dirty water, and even filling of the well with sand and mud little by little each time it's

over pumped. Landowners have the responsibility to maintain water flowing through their property in as much as the discharge point must remain unchanged and in a manner that will not negatively impact the down hill landowner. However, they are not usually responsible for maintaining flow, ie, they can use the water, and leave you little, or none.

8. Large field to the south of the property has adequate area for a ground loop of a ground source heat pump, that might be considered in the future for heating and cooling, after insulating and sealing the house. It is very efficient, but the upfront costs become prohibitively high unless heat loss is first minimized. Be aware, the excavation will be AT LEAST the same area as the house (both floors), and five feet deep, while perfectly feasible, it will be shocking. If you wish to pursue this, any use of the south of the lot should accommodate this future work.
9. Spring. The plot plan indicated a spring on one of the adjacent neighbors properties feeding into the property and probably main house. This could be of value to you for “pump free” irrigation, and at the least, not “wasting” water from the aquifer on irrigation. In extreme situations, over pumping a well can lead not just to temporary lack of water for the house, but also dirty water, and even filling of the well with sand and mud little by little each time it’s over pumped. Landowners have the responsibility to maintain water flowing through their property in as much as the discharge point must remain unchanged and in a manner that will not negatively impact the down hill landowner. However, they are not usually responsible for maintaining flow, ie, they can use the water, and leave you little, or none.
10. Barn. While we did not investigate the barn, it is standing, even though every door and window is open. This is actually too small to be a barn. It was either a stable for a couple of horses and a carriage for the first owners, or added later for cars or other uses. There is an second floor, which might indicate that this was or was modified for habitation, such as a driver / handyman or couple also providing housekeeping and even cooking to one of the owners over the years. Having the structure removed might be the easiest and fastest solution to it’s condition, and provide an nice area to develop in many ways. However, once gone, it’s problematic rebuilding, or replacing it. Zoning and code is flexible or non – existent, and is often dependent on town meetings where essentially your neighbors get to decide what you can or can’t build. However, as a pre – existing structure, whatever it was used as is as of right, and even changing use is less of an issue. What might you want to develop this for, well, a garage is handy in the winter, and a rental for someone that will also watch the house, or for family, friends, a get away from the main house, storage so you can use your attic for living and keep your basement empty, which given the dampness is a really good idea.

Minus:

1. Two relatively adjacent neighbors. Of course, for a city, they are far away. It’s all relative.
2. One neighbor keeps horses, the horses are kept uphill. It’s possible in addition to wind drift of horse related smell, it’s possible if there is a mountain above the horse field, even on a still day as air cools in the evening, it will roll down the mountain, bringing with it, aroma of horse. On the day of the visit it had been approximately one week since it rained, it had been in the upper 70’s for several days, it was mostly cloudy, and there was only occasionally an almost indiscernible odor.
3. Water flows downhill, so water soaking through the horse field might percolate out on the property, in a wet area to the south of the lot, or through the basement. It’s unlikely that after

traveling over a hundred feet through soil it would be dangerous. **However, a test of standing or flowing water on the site might be advisable.**

4. Ditto water from the septic fields of the two nearby houses, though, given the locations, any issues from those septic fields is more likely to impact the pond than the house and adjacent lot. **Again, a test of the pond water at each end and in middle might be advisable.**
5. Determine if access road is private, which is unlikely, antidotal evidence indicates the road is plowed in winter by the town. **You might want to have the seller state in the contract of sale that the road is owned and maintained by the town to save you the trouble of doing the research.**
6. The driveways to the nearby neighbors are relatively steep, which might be problematic for them in the winter. While it should not effect this property if they road park in the winter, it might restrict area on the road you are planning on using in winter, ie, you'll need to have a turn around plowed out on your land instead of turning around on the town road.
7. The lot line for the property runs down the centerline of the road. **It is advisable to determine any "property line" between town road and your property, and how town maintenance and perhaps ownership / easement on the road effects you.** The survey should be able to determine this, especially if you write it into your contract with the surveyor. Alternatively, you could ask that a statement regarding this from the seller be included in the contract. I can only guess that the town has an easement allowing them all rights of ownership, and that they are fully responsible for the road, drainage, guard rails, signage, etc. The big question would be how far from the centerline the easement goes. It is vital that the surveyor mark out this boundary with a continuous line, so your driveway, turn around, off highway parking, plantings, and planned changes to and use of pond, etc, are not within or effected by the town easement.
8. Water rights: This is bloody unlikely, but, it's the weird stuff that really hurts. It's fairly obvious the historic water source for the main house was a spring that is now off property (see section on spring). In the basement, towards the direction of this spring, is a section of culvert pipe filled with what appears to be fairly fresh water. Over this are two water supply pipes coming through the wall. These pipes are cross connected and connected to what appears to be a drilled well to the south of the house. The cross connected pipes are the only insulated pipes in the basement. While it is possible that someone cross connected the spring to the well, to provide a back up water source, that is not only weird, and crazy, but really inadvisable, and unlikely a plumber or well driller would do so. There is a major difference between well and surface water, oxygen. Well water does not have it in sufficient quantity to make rusting of the well pipe an issue. Spring water is full of oxygen and will readily fill an pipe with layers of rust which will make the water un-usable long before the pipe fails. There are also the organics that would colonize and grow in the well pipe. So, what are all these pipes and cross connections all about??? Is it possible that the drilled well is feeding back up the old spring line? What could it be feeding? What could it be feeding that required insulating the pipes (note the heat is off in the house) so they wouldn't freeze (yet we were informed anti freeze was poured in all the house pipes)? It is possible, though so very unlikely that the drilled well is feeding back via the old spring line to supply the two adjacent neighbors, who might have also been feeding off the spring. It's unlikely, but we don't know why the property was divided this way, the nearby neighbors could have first been relations to the owner of the main house, and provided with water so they didn't have drill expensive wells. Anything is possible. My house was fed for over 75 years from a

spring on an adjacent property AND it also fed the house down valley from us. None of this appeared in any of the deeds. See the correlation between the two situations, yours and mine? **Obtain statement from seller stating that there is no cross connection between the spring and drilled well, and that the drilled well is not providing water off property, AND insist the seller either identifies the pipes leaving the basement in the direction of the spring, in writing, in the contract, or installs padlocked valves on these pipes, and you then padlock them shut.** They could be cut, but if they lead out to the barn, maybe you'll want to use these some day.

9. You should anticipate road runoff will be directed into the pond. While this is not necessarily a pollution problem, or will make eating fish from the pond problematic, you should be aware of the potential. If you are very concerned, perhaps in addition to testing the pond water, test some bottom mud to see if any problematic substances from the road are accumulating. Controlling and treating run off, even if not done by the town, should not be burdensome via work you could have done, such as culvert pipe, recharge basin or run off ditch, etc.
10. Site water. There is some water on the site towards the south end of the lot, and as the buyer surmised, this should be drained via a trench or pipe through a small rise into the pond area. I could go on for days about maintaining drainage ditches, the fall risk they present, the different ways pipe can clog, and the ultimate danger of getting trapped under water when trying to clean them, so, pick your poison. **It might be advisable, if a bit extreme, to drain via a 6 inch pipe, and regrade the south of the lot to provide a gradual swale with the low point centered along and above the pipe, which could provide an "overflow" drain if the pipe clogs, without creating a dangerously deep pool, and without the danger and maintenance issues of a drainage ditch.** A plus from this work should be making fill available for raising other areas of the lot well so they remain high and dry year round. If wet soils extend over a large area, and it is not possible to intercept the infiltrating water with a perimeter drain it might be necessary to lay several perforated drains to collect the water for disposal. It is unknown if the water flows year round, so use of it for a year round water feature cannot be determined. This saturated area would be ideal for the ground loop of a ground source heat pump, see item in PLUS section. Saturation aids in conduction of heat from soil to loop.
11. There was one large tree that if it fell might impact the house. It was located off the southwest corner of the house. Several branches appeared dead. The tree was large, meaning old, and nothing lasts forever. While not an immediate risk, **large tree should be monitored, and dead limbs removed so they don't fall on people.** Such work is usually beyond DIY'ers, and I'd certainly advise against it. Such work is usually not inexpensive, running hundreds of dollars for a single limb, or over a thousand for a day of limb trimming. Removing the entire tree could also cost over a thousand dollars, or be free if there is good wood to be had, hard to say.
12. The Property line between this lot and lot of nearby property with horses presents two potential problems. This property line appears to run down the centerline of the road, and through an open area bounded by stone retaining walls and the side of the barn. I am going to guess that at one time the barn included this area, but when the properties were divided, I'm guessing the barn was truncated, and the open stone walled area left as a parking spot for the adjacent neighbor. This property line continues along the slope of a hill to state land. This creates a relatively useless triangle of wooded land with it's other limit the horse field

atop the hill. There is a spring noted in this triangle, see separate section on the spring. The parking area can be very problematic, as anything could end up there, up close and personal to your main entry area. What? Think “old junker or two, bunch of old lawn mowers, garbage cans that could become a vermin and bear attraction, picnic area with smoky fire pit, someplace to throw the empties. It would appear the current neighbor is unlikely to do any of this, but, anyone can end up living there. *As there are two problematic elements in this triangle of land, the “parking pad” adjacent to the barn, and the spring, it might be advisable to obtain this land from the adjacent neighbor to rationalize the property line. A rational property line that would eliminate these potential problem issues might run a few feet uphill of the retaining wall towards the neighbors house through a point a few feet uphill of the spring, and continuing to state land.* While making the sale contingent on the seller obtaining this sliver of land might be extreme, you may wish to “incentivize” the broker by offering to give her a lump sum, perhaps \$5,000, for her to use to obtain the land with any remainder to become her fee for doing so. If the neighbor does indeed use the “parking pad”, perhaps in winter, then the sale could include a rent back for a stipend. This would allow the neighbors continued use, and your control over what happens so close to your house. Win – Win.

Floors

Seem in good condition with the exception of some warped and lifted wood around some radiators. All visible flooring on the first and second floors appeared to be thin strip wood flooring suitable for sanding. *You might want to take a rag and some water with you next time and clean up a piece of floor in each room to see more what it would look like sanded and coated.*

Carpeting, was there any? Remove along with padding, I’d assume the range of dust, mold, animal dander, etc. can only be problematic.

I doubt the linoleum would survive rolling, but if it can be moved and you want to keep it a while longer as a curiosity, you could use it in the attic, it would tend to cut drafts a tiny bit, and keep any little drip from instantly penetrating to the second floor ceilings. It would also cut dust in the attic, and make cleaning up there easier. **Until you’re ready to replace the linoleum might as well leave it. Cheapest flooring is carpet on foam pad, it can be really cheap and you could plan on just chucking it in 5 yrs after maybe the worst of the restoration is over.**

The attic floor is tongue and groove, fairly wide thick planks, might clean up good. An annoying amount has been ripped up from an abortive insulation attempt, and from some electrical work done many a decade ago. **However, not so much you shouldn’t fix it and save the existing t and g flooring.** It’s also helping hold the house together, really, makes a nice solid diaphragm that resist twisting, wind loads, etc.. Also water resistant to damage, unlike plywood, and other modern flooring materials. **Don’t bother trying to insulate between the attic floor joists, just too hard and expensive for what you’ll gain.** By the way, if you don’t want them, **I’ll take the old sacks of insulation stacked in the S end of the attic, not to use, just for historical value.**

Walls and ceilings.

Plaster and lath. In good condition – considering the age, though the ceiling shows signs of sagging, some holes, and at least one area where the plaster fell off the lath. **Plaster of this age usually didn't have asbestos fiber reinforcing, they used horse hair. You might want to have it tested. Paint almost always contained lead, you can have tested for curiosity's sake, but I'd assume lead. This makes sanding painted surfaces a bit problematic, but be neat, use disposable (ie the thin and cheap plastic tarps), keep dust from drifting, use a HEPA mask, and a HEPA vacuum to clean, and you should probably do all this anyway, and you're ok. Just touching lead paint isn't a problem, you have to ingest it, usually by EATING chips, a lot of chips. Casual exposure to dust, well, breathing in the dust, you'd choke before the lead became a problem. On the ceilings too.** Many of the walls are covered with wall papers and panels. This was often done when crazing in the plaster made painting problematic. Of course, lots of people just plain liked it too. It is very possible all plaster is unsuitable for painting due to crazing and cracking. If walls and ceilings are worked on to put in elec / plumbing, cracking and loosening of plaster and lath is likely. This could even happen just spraying and scraping the wall paper off. Once you start removing loose plaster, it can be hard to find a “firm” spot to stop. If you hire out elec, plumbing, or other work, and you pretty much have to, lots of other more fun work for any DIY you want to do, then those workers will use hammers to smash holes and pull and pry lath out, sawzalls to slash holes (which cause ENORMOUS vibration damage), and in short order, you can loose half a wall to a couple of light switches and an outlet. You can hire someone to make holes carefully without power tools, at a cost, you can do it yourself. Of course you need cooperative plumbers and electricians, and they will no doubt charge more for the additional time it will take. Yes, even if you make the holes, it's faster for them to smash and slash in huge holes which will allow them to run their work fastest, and if you miss a hole, like, who put in an extra stud there????, then they'll need to carefully make a hole at it, notch it, etc.. **Hence, my tendency to do the work, have the work done, and patch the mess roughly, then layer gypsum board over the wall.** Bonus if you GB over the walls, more sound deadening **You can special order thin GB, I thing ¼ inch even, but you'll still need new base moldings as the GB will project out over the existing base moldings. A wall or ceiling that is salvageable, that you want to paint, or even paper, should probably be treated with fiberglass reinforcing, like “tape” used in spackling GB, very wide, 3 feet or more, the whole wall, and then the wall skim coated with a fiber reinforced plaster or dry wall compound.** Plastic wall papers and paneling can be applied safely to the existing plaster walls. .

There is also a good deal of what appears to be old office partition systems consisting of vertical beaded wood, which I bet would look great naturally finished, don't, too hard to strip, and glass, which was replaced with thin wood panels. Mom and sis say it's likely to have been made at the old furniture factory that was the reason the town existed. It's old hulk was torn town a few years ago. Big field opposite the post office in town. At any rate, probably installed when house was turned into rooming house, to create more bedrooms and suites. Should probably be removed. Perhaps it could be used to divide / panel the walls of the barn if it comes out easily in panels.

Doors

I don't remember any problems, sticking, etc. Any keys for locks are long gone though. **They look short, if you need new doors, you may need to special order or get SOLID wood, more costly,** ie, solid stave wood doors, not “solid” particle board or wafer board, which has a lot of voids in from

the edges. You could then cut the solid core stave wood doors to fit. Door hanging isn't terribly easy, so if your short on time with a lot of other DIY work, this is good to sub out.

Windows

Seemed not to leak, water at least. There are exterior fixed storms, which I suspect are rather hard to operate, and any screens, were there any, would be fragile and easily punctured / ripped. We used to have the, all the rage when they came out. Worked great too. **The good news, heat loss wise, the windows are the LAST problem to fix.** Highly ineffective cost wise, especially hi tech specially treated ones. Also, replacement windows will go inside the existing openings and the window frames will make the window lights smaller, and these windows are generally on the small size now. **You'll want to install, or have installed, good gaskets around the sashes, which could take hours to discuss right there. Ensure the fixed storms are caulked to the building, and that all the sashes in the storms are glazed and caulked if applicable. If there are screen panels for the storms, you'll probably want / need to replace insect screen with modern plastic screening.** This should be doable, it's probably held in with a fairly standard strip of round rubber / plastic gasket. A doable DIY job if you want, as they fail, etc.. If there are not screens, you'll want to buy or make ones to fit inside the regular windows when they are open.

Trims

Minimal and simple with exception of dining room, probably the living room, might be under the current facing material, and second floor room finished with beaded wood, the proposed "office" on the south side of the house. I'm guessing the stair hall will have something too.

Insulation:

Exterior Walls:

1. Blow it in the walls from the outside, which leaves 1 inch dia plastic plugs all over the place. Don't remember seeing that. If possible I'd say foam, not cellulose. Foam won't get wet from leaks, but foam costs more, and if badly done, pops the siding off. Decisions, decisions.
2. Rip the siding and sheathing off and insulate also doing new wiring while you're in there. Then reside. If all you have is siding, something to think of, if you have sheathing, 3/4 inch or inch old growth hemlock or hardwood, you'd be a fool to sacrifice that strength.
3. Add nail base insulation to the outside over the siding, you can still run new electrical. Saves money of demo, and eliminates thermal bridging at studs, which knocks out like 20% of the R value. Then reside. You probably need to extend eaves and build out the basement walls, but you want to insulate both those areas anyway, so you'd want to do that anyway. You can also blow insulation into the walls. You can even do that like now, to get some insulation in now, then get most of your insulation value when you put on nail base insulation.

Attic:

1. Discussed in attic.
2. Temporary attic – two layers 9 inch bat paper faced, one face down, one face up. Over Tyvek brand name house wrap with taped seams, and taped to floor at edges. This can be reused for knee wall insulation at sides of attic when you get to finishing that off.

Foundation:

1. First off 4 inches of foam on foundation wall under porch, set in concrete at bottom and caulk or foam to house at top, maybe install membrane flashing at top, maybe fill with concrete between foam and rough foundation wall. Hmmm, be nice to get a termite shield in there somewhere.
2. You'll want to go around the house as time goes by and cover the rest of the foundation with 2 to 4 inches of foam, then cover that with something, cement board, lath and mortar, stone face, etc. If you'll insulate over the siding someday, then stop at the sill plate, if you won't, then continue foam up over rim joist. You can make this a discrete water table, or make it big like I'm doing for planters. By the way, planters might be the best place to grow some veggies vermin like, like parsley, carrots, beets, parsnips, etc.. Can also be started on porch and moved out when it gets warmer to get a jump on season.
3. You might want to also extend an apron of 2 inch foam insulation around the whole house, along the ground, topped with pavers, gravel, bark (termite / carpenter ant potential with that). This will keep the ground from freezing against the foundation and making the basement really cold in the winter, and thus your house.
4. You might want to think of 1 or 2 inches of foam between the basement and house. Double edge sword, don't want the basement too cold. Also, if power is out, furnace fails, etc, the ground that is normally about 40 under a house in winter will radiate heat up. My place lasted 3 days at sub 20 degree weather, and never dipped under 40. Then again, the rest of time, 99.99999999% of the time, I'm heating the dirt under the house. I don't actually have the option of insulating between the first and crawl space though, not unless I hire the job out to midgets or miner. This is an old European idea that is being adopted in the states, even the US Army up at Fort Drum?? Where the 10th mountain division trains on the N side of the Adirondacks, really cold up there.
5. Temporary wall insulation 2nd floor, Owens corning used to make a plastic encased fiberglass, hence "clean". "Hang" this along outside walls, and cover with a house wrap or plastic sheet. I'd go right over the windows, and secure at the top via a furring strip screwed through to the studs. Weight the bottom with a couple of 2x6's, you can always use these, make great garden bed sides! I don't know what to use the insulation for later, maybe the second floor of the barn?? Maybe the porch roof, and build some swing down glazing for the winter, that would make the porch real toasty right through Thanksgiving when the sun was out and needless to say, help keep the house behind warmer.

Shingles – Roofs – Flashings – Gutters

Shingles appear in good condition. Flashings are not visible (these would be going between chimney and under the siding, from shingle roofs up under siding. It is unknown, but unlikely that ice and water shield, a self sealing waterproof membrane, has been used at eaves, where ice damming will almost certainly occur, potentially forcing water back up in between layers of shingles and / or through nail holes, etc.

Ice damming is when snow melting and refreezing can backup water up the roof, where it can for instance enter at junctions between roof and sidewall, between layers of shingles, etc.. **Shoveling the roofs periodically can alleviate or eliminate the problem until it can be addressed.** For

flashings, there are also flexible adhesive membranes, even white, that would substantially solve the problem. There is no retrofit solutions to ice dams, though electric defrosting lines do help, at substantial cost.

The gutters need cleaning. Leaders should be checked and cleared, and extensions run at least 3 feet from the house to areas that will continue draining away from the house, if necessary run into 3 inch pvc on or buried in ground, with cleanouts are turns. If aesthetics aren't an issue, replacing leaders with 3 inch pvc and cutting larger drains from the gutter bottom will ensure leaves, etc. won't clog the gutter drains. I find gutter screens problematic, leave and especially needles lodge in the screening, removing it and replacing it damages it, and when ice forms in the gutter, ice dams form, when chopped off, the gutter screen is likely to go with it.

Attic – Roof Decking – Roof framing – Attic Use

Attic roof framing is old growth 3 x 6, there is a similar ridge beam, which is undersized, however this was compensated for by breaking the span up with posts. No sagging or splitting was seen. No water penetration was observed.

The center portion of the attic end to end can be used as habitable space.

To get a useable amount of space, knee walls to either side of the attic will need to be four feet tall. This creates areas of insufficient head room. **Design and layout of furniture should allow for this and minimize the likelihood of people standing where there is insufficient head room. NO suspended lights or exposed framing should be used anywhere in the attic, it should be smooth gypsum board tight to the ceiling. You may wish to consider high density fiberglass panels covered with fabric velcroed to the gypsum board to provide protective padding (and some additional insulation)**

The posts helping support the small ridge beam are problematic to the reuse of the attic as habitable space. At the least you may have walls put in where some posts could be located, and any "long" sections of ridge beam then sistered for stability. **If you want a totally open attic, which I suspect would look cool, then the ridge can be sistered, reinforced, and rafters every 8 to 10 feet doubled or tripled to run loads to outside walls.** Consult engineer to ensure horizontal component of load transfer will not "push" outer building walls out.

If the attic is used for habitable space, then the primary insulation will need to be between the 6 inch rafters. As this is insufficient depth for fiberglass insulation, cellulose, etc, and since it is directly under the roof membrane, and likely to receive some water at some time, foam should be used.

Ideally, between the rafters, a GC can apply spray foam, though you can DIY foam sheets "glued" in place with bottled spray foam sealing all gaps. This will also provide an air and vapor barrier. This would provide approximately R30 net, and maybe R20 after allowing for thermal bridging through the rafters. If additional insulation is desired, and R30 is the current standard for a well insulated new house in this climate, then when the roof is replaced, foam insulated panels, either nail base or structural sandwich panels with wood facings can be installed on the roof, adding an additional R-10 to R-20 and eliminating thermal bridging through the rafters.

Foundation, perimeter:

Are substantially sound, with the exception of the SE and South basement walls, and an area around two pipes going through the basement wall to the E under the kitchen, probably related to the spring

that originally fed the house, which are damaged, collapsing or missing. Water is entering through the wall at all major breaches. This appears to not be affecting building stability as most of the missing wall is around an unexcavated area to the SE. **It is likely that the sill plate will need mortaring to the wall top to ensure a good air seal, if possible, a termite shield should be incorporated at this point. I would be surprised if spot pointing was not needed throughout. Obviously the missing walls need replacing, and soil backfilled until level with existing. Concrete block is suitable and easy to set, even for a DIY, though it's messy uncomfortable work in the basement.** Set at least one foot below slab level, if there is a slab, or 18 inches below soil level, fill cores solid with gravel mix, set 3 foot min rebar in each core, wire to next rebar, use ladder reinforcing every course, extend wall to underside of joists. Install solid 2 x blocking over entire length of walls, use continuous caulk all sides of blocking for air tight seal. Install termite shield between wall and joists / blocking, and mortar / caulk to bottom of joists. Leave access holes to crawl space beyond, frame with pressure treated wood, cover with min. ½ inch plywood. It probably isn't worth insulating the outside of the new walls, as the bulk of the foundation will remain un-insulated.

Foundations, interior

Are substantially sound.

Basement - Boiler Room

Simple stuff first.

All basement doors are in very poor to horrible condition. Replace with new ASAP. Doors to boiler room should be metal, due to water, install stone sills at least one inch, preferably two inches high, with ½ inch spaced between sill and door. Close gap with flexible weather strip. **Install separate air intake pipe to outside for furnace, cast iron is preferred. Consult with HVAC contractor,** or have contractor install so properly sized, otherwise you can back draft the furnace exhaust into the house. Install gravity damper to prevent cold air from entering unless furnace is drawing air. Alternatively, run intake one inch into bucket, really, it mostly works. Monitor temperatures, perhaps with a remote sensing thermometer in the kitchen with lead down through hole in floor. **If temperatures in boiler room drop below 40 degrees, have HVAC contractor install one or more ceiling mounted radiators (on the ceiling there is very little chance of them freezing, ever).** All other doors should be wood fire rated one hour doors. **Exterior door should be sold as an outside door, metal clad wood or insulated is advised.** There are two exterior doors, one to the area under the porch, which needs a new concrete saddle dug and pored, the other into the building basement proper. Keep doors shut when not using rooms.

Bigger issue.

Water is evident in all rooms. While sealing and replacing outside walls should help, I'd be it won't cure the water problem. **Figure on installing perforated drain pipe trenched into soil floors. Where floor is concrete, it might be necessary to chop grooves in it to direct water to drains, that might need to be chopped into the slabs and run to the perforated drains. Run drain out under door to porch, then under door to outside.** Run at least one foot under ground, 2 wouldn't hurt. Run to hill to pond. Close end of drain with ¼ inch galvanized hardware cloth tightly wired to pipe. You can "hide" the pipe with large loose rocks, just remember to clean them out every few years. Install clean outs at turns in pipes. Where floor is soil, see if drains dry them

up, or if flooring is required. Minimally, gravel helps, concrete pavers alone, or on gravel, and finally, concrete slab min 3 inches with woven wire mesh, alone or on gravel.

Plan on installing water resistant “green board” GB to fireproof underside for floor after cleaning up / replacing all wiring and piping. Two layers 5/8 inch fire code X type. Stagger joints. Tape and spackle joints in each layer, though this can be pretty rough. In the boiler room, clean up as much as you can now, and install similar GB ceiling ASAP. Apply to any wood framed walls also. Fireproofing a furnace room is pretty basic, if it's not (double ck) then I feel it's a legitimate reason for lower bid price.

Slate ceiling basement

I can only guess this was the “furnace” or “boiler room” and the 3 inch slate in steel frame was an early fireproofing. It might be advisable to install additional steel screw jacks, or pipe columns at framing intersections until it can be determined if steel is sound. Mortar cracks between slates and slates and steel, or at the very least fill cracks with cans of spray fireproofing foam to make them airtight, bug tight, etc..

Heating system

See above for boiler room. Heating system is oil fired steam, with some evidence of leaks damaging floors. Other damage can also be assumed, but not visible. Steam is difficult to “moth ball” when turning off heat to the building for the winter. Turning off heat to the building should only be done if it will remain vacant at least two months in freezing weather. You need to hire an HVAC and plumbing contractor to do the work, and reactivate, unless you have the skills, and feel lucky. **It is vital to have the heating system tested in your presence prior to purchase, or discount the purchase price by at least \$10,000 to allow for new boiler and minimal repairs to distribution.** On the side of the boiler are service notes, being installed in 1997, and last serviced May 2010, when it was probably disabled and shut down. Being a relatively new furnace, it is probably fairly efficient, in the 80% range. Maximum efficiency of modern systems is in the 85% range. You may wish to have the seller verify that no asbestos insulation remains on any heating piping, I didn't notice any, but didn't look for that in the maze of piping in the basement. Distribution may be inefficient, but, since all heat remains in the building, all heat lost in piping will remain as heat in the building. There are two oil tanks in the south basement, approx. 300 gallons each. They appear fairly new. I saw no oil sheen in the water ponding in this room. **I don't know where the oil fill pipe is, but if it isn't, it needs to be run through the basement at the ceiling to rise as close to the road as possible. It will be your responsibility to shovel a path to the fill wherever it is, so the closer to the road, the better. You may wish to consult with your oil provider as to location.** Locate at least 3 feet above ground to clear snow. Put concrete pavers or concrete pad under to catch spilt oil and allow it to evaporate instead of seeping into ground. Thermostatic control is unknown. Distribution is via small steam radiators. I would expect uneven heating. I would expect system to have to run very hot to heat house with limited observed radiators, this is usually less efficient than running at low temps, though, with a steam system, this is less noticeable than in hydronic or air systems. **If additional heating is desired, fan powered fan coil units could be added to the first floor, where hot air from them can easily drift through the whole floor.**

This will also heat the second floor as it rises. Try to minimize expenses on heating system as you'll no doubt wish to replace it.

Plumbing system

Can only be described as chaotic. Every material or every age is observed. Ad hoc repairs has created a system that might actually defy logic. There is no reason to suspect any of the plumbing system will ultimately be left after the renovations. I would suggest all new work be devoted to building out the new system, even though initially this will probably cost more. Any work to the existing system is money down the drain.

Anti Freeze was reported to have been used in the piping system. **The seller should state in writing in the contract exactly what kind of anti freeze was used, and it's health related effects. Ideally the seller should flush the system for a day or so, and then take water samples from each tap, and have them analyzed to ensure no antifreeze is left in the system.** Of course, if they poured cheap vodka into the pipes, I 'd guess you could just flush the system. **You should insist the entire supply and drain system be activated, and test every faucet and drain, hot and cold, and drink the water, if you're not comfy doing that now, you won't be latter.**

We talked about the sewer / septic system, where it is likely to be, and it's condition, and that **DEP will test and replace it for free.** You might want to call and ask if they'll at least look before you buy and see if they have a problem locating the septic in the field to the south (it's we, remember). If you're lucky, they'll say it's wet, but they'd run pipe on the surface, then bury under 3 feet of dry fill, and you'll have your wet spot taken care of. To allow possible use for the loop of a ground source heat pump, you'd want the septic in a corner of the field. DEP won't want it close the house, the well is right near the house, or near the drop off to the pond, which means probably the far SE corner, or into the base of the hill behind you. Just a guess, tell me if I was right when it happens. DEP will do everything outside the house, you'd need to have a plumber run the sanitary, probably the main drain is right over those pipes exiting the the basement to the east, and that would need to be rerun out through the E wall to tie into the DEP line. Try to think of future plans, you might want to have that DEP tie in someplace else along the east wall.

Electrical system

Luckily appears to be fed by BX cable, a relatively modern cabling. This was observed in the basement at the circuit panel and in the attic. I would still assume some old asbestos clad wiring in the walls and ceilings, which is fragile if bent and can often crack and cause a short. I lost a half dozen devices last year on an old circuit that no doubt some vermin ate the insulation off of. \$2,000 later they were fixed with exposed wire mold, along with a half dozen new outlets I had installed. Like the plumbing system there is no reason to suspect any of the electrical system will ultimately be left after the renovations. **I would suggest all new work be devoted to building out the new system at least from the circuit panel outwards, if not replacing the circuit panel itself now, even though initially this will probably cost more. Any work to the existing system is money down the drain.** Incoming service wire is insufficient for what you'll want, and what code requires. An electrician will need to install a new hooded service pipe to where the utility wires connect to the building at the NE corner. **A new 150 to 200 amp distribution panel with at least 50 circuits is needed. If possible locate on the first floor, away from basement seepage and dampness.** This

would require you to commit to new panel location on the first floor NOW, and live with it forever, or spend a couple of grand to have it moved a foot, double or triple to move it across the house.

There are few outside lights, you probably want two on each side, switched from the inside, so you can investigate noises without coming face to face with whatever furry thing is nosing around. It's cool in a blizzard at night too! There are wireless control systems that would let you turn on some or all from your car, so if it's night, you get light to find the house. I added this to my place a couple of years ago, big quality of life improvement. Motion sensor lights work sometimes, sometimes not, and often just keep going on and off as nature waltzes by in all it's forms, which can be annoying if you're trying to sleep.