2021-10-18 Statement and Questions on the matter of Colonial Water Company's capacity to meet the expanded needs imposed by an increase in its customer base.

To Alan Fryer & Sean Reardon,

In Regard to Red Robin Pastures, applicant under MGL c. 40B:

The Board of Health has previously responded in writing regarding the two major concerns that the Board has over Red Robin Pastures (the "Development") as it would for any development dependent on installation of a considerably sized private sewage processing system and being dependent on providing potable drinking water to a large size population of consumers at a given address.

As is well-known and undisputed, almost all potable water provided and consumed in Dover is drawn from the groundwaters beneath the soil of the Town, excepting those few who are connected to either Walpole Municipal Water or Natick Municipal Water. That is to say, the consumer base using Dover's water consists of private well owners, a few residences on Old Farm, and the customers of the Colonial Water Co ("Colonial").

As of the last several meetings before the Board of Appeals and before the Board of Selectmen in televised meetings, the matter of provisioning of water has produced a set of conflicting statements and shown a base for considerable concern, not just to the possible future occupants of the Development and its neighbours, but to all private well owners in the Town.

According to a letter hand-dated 11/2/20, the Colonial added further restrictions on the amount and use of water that the company would provide to the development, and thus put some limits on the offer previously made some three years ago to supply water. In the meantime, in the meetings noted above that occurred this year, the senior management of the holding company of Colonial, New England Service Co. "(NESC") stated several times, as recorded, that there was question as to the ability of Colonial to service its current consumer base, and that without consideration of any expansion of customers. Those statements can be viewed in the recordings of two Selectmen's meetings that are publicly on YouTube. Then, on September 8, 2021, Colonial published a letter to customers requesting in strict language that customers further restrict their demand on the water supply as problems proceeded relative to certain form(s) of contamination as would later be determined to be an excess of manganese mineral in the water. On September 24, 2021, Colonial published a rephased letter in which it acknowledged that only with consumer demand reduced was it able to continue to service its customer base as it had to lose operation of one well. On September 14, 2021, Tata & Howard ("Tata"), a well-known engineering consulting firm of good repute, engaged by Colonial in order to meet demands of the M A Department of Environmental Protection ("MDEP") and Colonial's own customers, issued a report focusing primarily on the matter of the manganese contamination.

Throughout the summer of 2021 Colonial in published documents attributed a water contamination problem to the very fact that its existing base of customers were drawing water in quantities that proved to be problematic to the operation of Colonial's system. Indeed, for many years, Colonial's own MDEP-required Annual Statistical Reports ("ASR") have documented the consistent fact that Colonial has overdrawn water beyond the legally-limited quantity of its MA Water Management Act ("WMA" MGL c.21G) as documented in its permit limiting daily withdrawal to 130,000 gallons per day, or annual amount of 47,450,000 gallons per year. Colonial's ASRs document that the daily average

consumption per consumer person (known as "RGPCD" has consistently exceeded the national (EPA) and state (MDEP) standard of 65 gallons per day per person. Colonial's ASR also document the company's failure to restrict its "lost water" (Unaccounted for Water, "UAW") to the MDEP standard and requirement of 10%., with Colonial consistently exceeding this amount.

Salient points in the Tata Report

- Page 6: "The high pH and chlorine levels are likely leading to a portion of the water quality issues in the distribution system. At higher pH levels (typically greater than 7.2 to 7.3), the oxygen in the source water will oxidize the manganese and it will drop out of solution. The same is true for the high chlorine levels."
  The import of this statement is that given the required mode of sanitation of water introduced in part in 2019 in response to a limited E.coli and contamination identified at the Draper pumping facility and then the far more intensive mode of sanitation introduced in the summer of 201 at the requirement set by MDEP in response to an apparent system-wide contamination of similar nature, the report strongly suggests and advises that the very contamination now being suffered by consumers, namely water that is discoloured, odiferous, and generally unpalatable is in fact "likely" attributable to the very need for sanitation as it is being done by Colonial.

- Pages 9-13 provide recommendation on three alternative approaches for Colonial to use in order to rectify the current contamination problem.

- Pages 14-15, in Tables 5-1 and 5-2, Tata provides estimates of the initial cost to implement the alternative remedial measures with the costs between $2,375,000 and $2,465,000. Additional and ongoing annual expenses that may be required after the immediate remediation are not documented, as is noted in footnotes to the two tables.

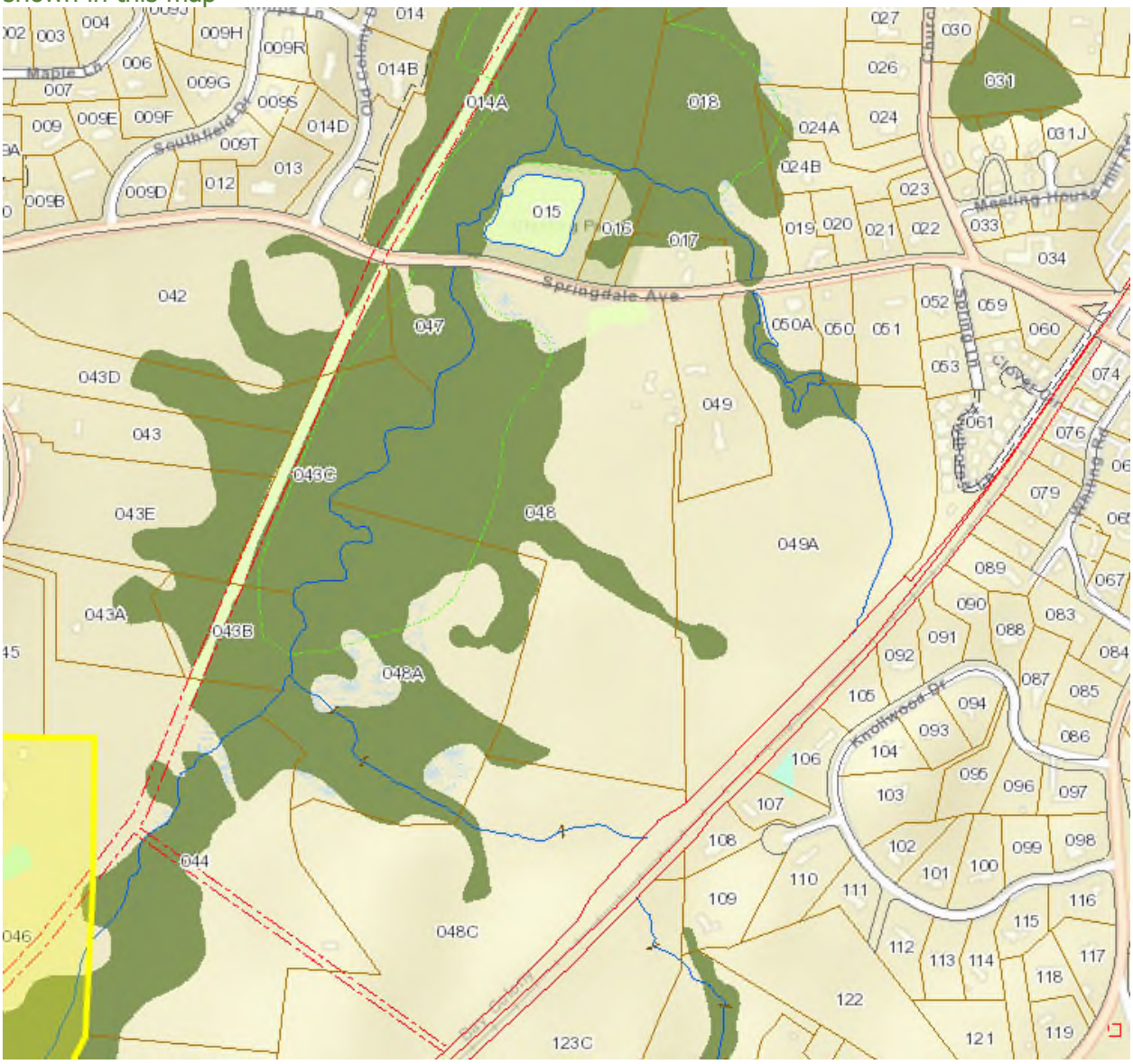
- This raises the question of Colonial's financial capacity to address these costs. The following financial amounts are drawn directly from Colonial's 2020 "Annual Report" to the Massachusetts Department of Public Utilities ("MDPU").
  - Annual Operating Revenue $1,670,918
  - Annual Operating Expense $1,034,727
  - Net Operating Income $ 396,931

- Page 17: Tata references the Knollwood Drive pumping facility and raises the question of increasing the current pumping amount at that location. Mention had previously been made in discussions that there might exist a document dating back to the 1960's or early 1970's making claim that then, prior to the build-out of the 28 homes on Knollwood Dr., additional capacity might be available. Note that Colonial's 2020, and earlier, ASR reports, on the 16th page entitled Source Protection – Zone II a distance from the Knollwood wells of at least 400 feet to any source of contamination. However, it would seem logical that this citation of 400' feet distance was inserted from the days when the wells were first installed in 1968 (MDEP Annual Return, Page 402, Supply Information #4 – Wells). Thus, this supposed protection radius does not reflect the subsequent build-out in the 1970's period by Ralph Porter & John Joyce homes and septic systems perhaps as close as 232 feet.

  Increasing withdrawal rate may lead to new incursion of contaminants.

Note also that at the time of installation of the Knollwood wells, there was an actively flooded compensatory storage basin located with 500' feet of the wells. Today the brook or stream feeding that area is no longer consistent, and even only intermittent and the basin now fully forested and vegetated shows no water storage.

Further of import is that the Knollwood wells are "upstream" of the Trout Brook with its surrounding wetlands consisting of conservation properties owned by diverse entities as shown in this map

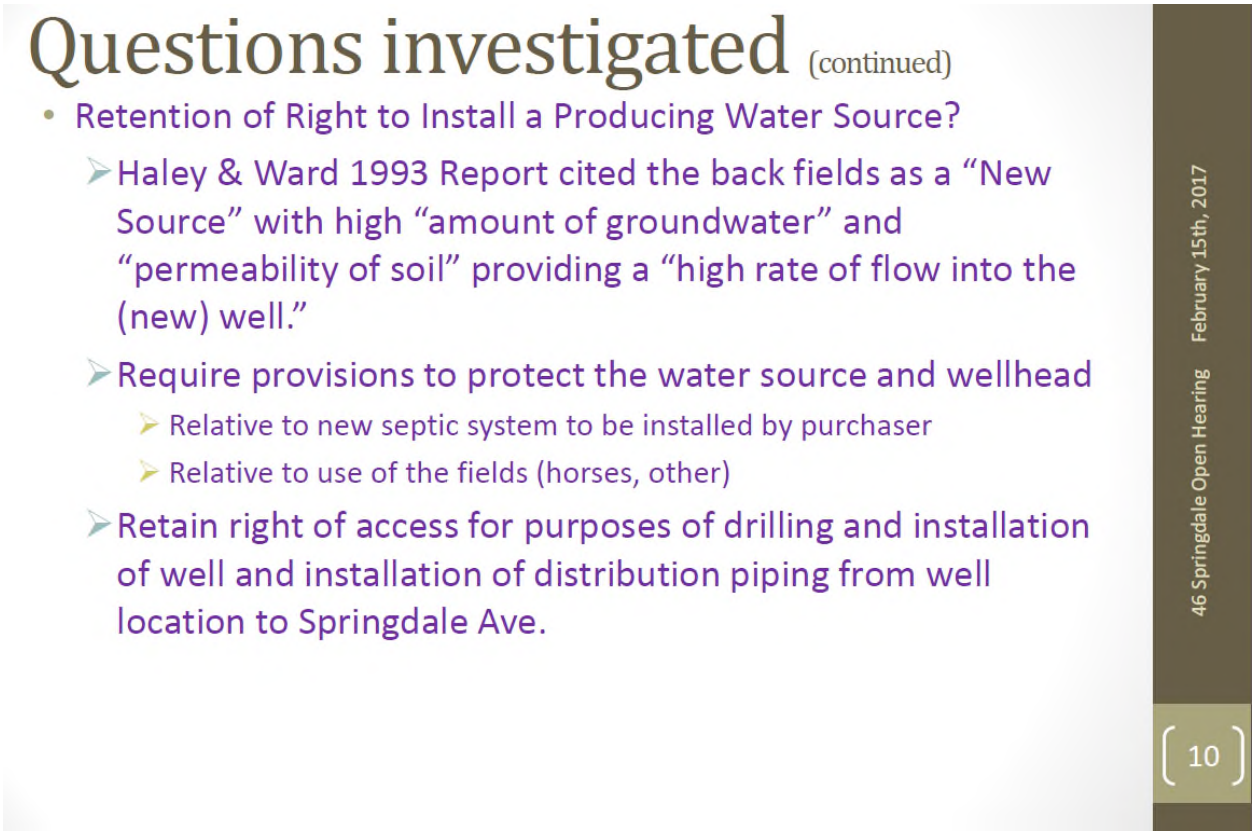


including the U.S.A. Army Corps of Engineers, the Dover Land Conservation Trust, the Dover Town Conservation Commission.

In 2017, after being presented the conversion of certain acreage then under MGL c.61A restriction to active development, and with the acreage located at 46 Springdale Ave, in the near vicinity of the Knollwood wells, in immediately adjacent to the wetlands mentioned, the Town voted to acquire the entire property and then to sell off the house and immediately

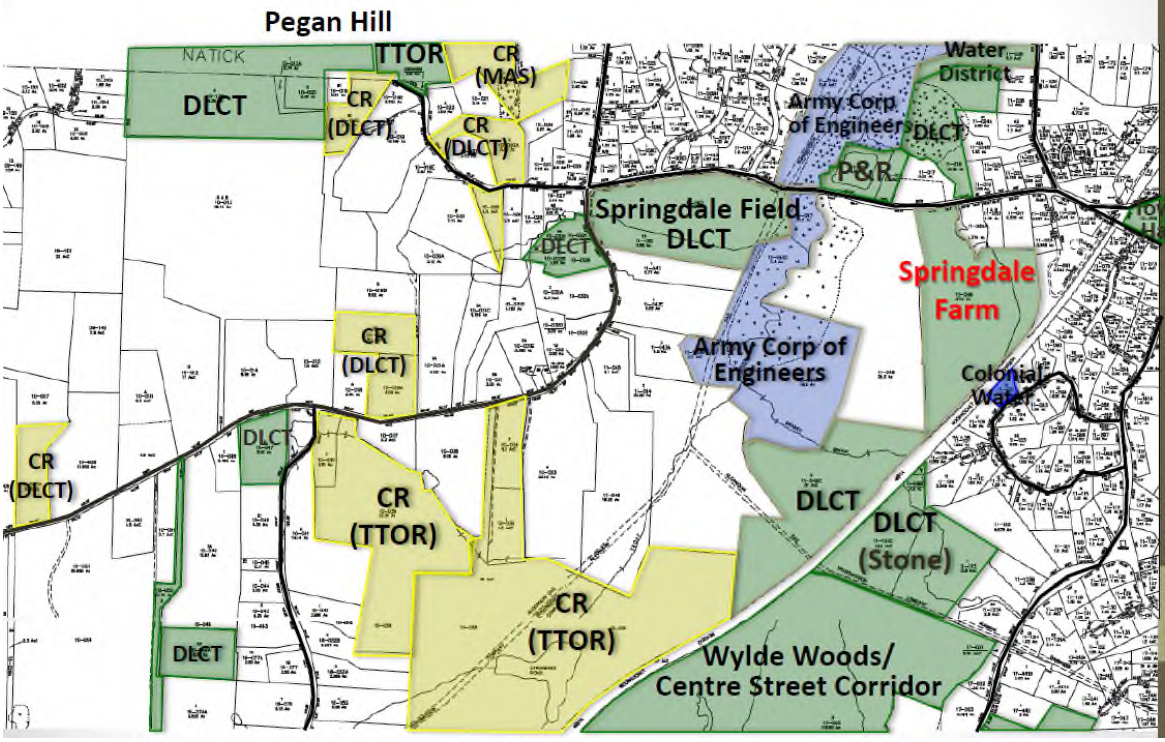
adjacent driveway and area around the house while retaining the "back 20 acres."

As can be seen from the presentation slide offered for discussion at a meeting of February 15, 2017, the information contained persuaded the body to agree to the retention of the back acreage specifically because that land offered the future of use of the groundwater as measured by the report cited. This was an opportunity that could in the future provide the Fire Department with a ready source of water for fire fighting and recharging tanker trucks, whether drawn at the site or pumped to a standpipe at the Highway Garage. The estimated groundwater capacity also offered the possibility of providing the Town's own Dover Water Dept.' municipal water system a means of recovery from the 1990 Mobil Oil contamination of the source wells on Church St.



This area, the back 20 acres, are down stream from the Knollwood wells as is all of the Troutbrook wetlands area and thus at risk of depletion with any increase in pumping at Knollwood.

Springdale Farm in context



2021-09-29

Statement on the record of facts relating to the Colonial Water Co.'s capacity to service its existing consumer base.

- The company has had reported capacity problems as demonstrated by pressure problems and consistent consumer complaints.
- Company over-pumps in excess of its MA WMA (Groundwater protection) permit of 130,000 gal./day. It self-reports ("ASR") that for 7 months a year it pumps high, some months as much as 40-50% over permitted level.
  Some years its report shows as high as 30% over permitted level with the most recent self-report (2020" ASR") reduced to still nearly 6.5% still over permitted on an annual basis despite pressure from Town and consumers.
- The company has never met the EPA and MA DEP per person usage ("RGPCD") of 65 gal/person and for 2020 per person usage was 73 gal/day.
- It fails to meet the EPA & DEP standard of not more than 10% "Unaccounted Water" ("UAW"); in 2020, it reported 12% of water pump lost or unaccounted..
- It's one day maximum pumping was 368,000 gal. (2.83X daily allowance; 183% excess).
- In 2019, the company suffered a contamination event involving its Draper St. wells with coliform and E.coli detected. At that time, the company acknowledged it had no water sanitation system installed and no capacity to execute that need.
- In fact, the only water treatment in place at all until the summer of 2020 was the use of potassium hydroxide for corrosion control; this was a measure imposed on its predecessor company, Dover Water Co., in the late 1970's by the DPU after successful action of consumers before the DPU.
- In August, 2020, the company suffered a lengthy (many weeks) of contamination within the predominance of its distribution system (Draper, Francis, and Knollwood) with again E.coli present. The company demonstrated great difficulty in understanding how to successfully decontaminate its distribution system. Only the independent and unconnected Springdale and Chickering systems were not affected. Television reports on WCVB showed the provisioning of bottled water to consumers over the long period endured.
- The company, in televised and recorded meetings with Town Selectboard has acknowledged that in fashion similar to many public water supply companies its operation is not profitable until the irrigation season commences and that season is what allows it to reach profitability. Then, the company has in public statements blamed consumers doing irrigation as the reason for its difficulties in water quality and water pressure.
- The company in a second televised and recorded meeting acknowledged that it did not know and had concerns that it lacked sufficient volume capacity to meet demands. It stated it was engaging a consultant to assist it in determining its condition. At that same televised meeting, the company stated that any letter commitment made to expand the customer base to new housing was made some three years ago but would now have to wait for determination from the consultant on whether or not there was sufficient capacity.
- The company experienced a contamination of its water drawn from its primary well(s) on Francis St. in 2021, a contamination stated to be excessive manganese that has now continued for multiple months. The DEP has designated the contamination at a secondary level and has suggested that it is not a threat to public health. This is in contrast to the public documents published by other states municipal water systems. In any case, consumer complaints have continued for many months now of discoloured water that is tainted by odiferous smell and bad taste. Consumers have also, anecdotally, reported damage to

bathroom and kitchen sinks. The difficulty continues even now with the company providing a $20/week payment to consuming households.

- The company published on its website and made other public statements that assigned blame for the contamination in August, 2021, on consumers using excessive water in July for irrigation. July, as was also August, a month of extreme precipitation against the norm leading to the wettest July and likely wettest year on record. The statement would seem to be inconsistent with the facts of the precipitation.
- The company has in September published a statement, now some two weeks old but still in place, that in order to attempt to correct the secondary contamination one of the Francis St wells, being the newest and highest capacity in the system, was being taken offline and requesting consumers to minimize water usage because with that well offline the company acknowledged there would be insufficient capacity.

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