



Belmont Citizens Forum

Athletic Fields? Police Station? Solar Farm? Bike Park?

The Future of the Incinerator Site

by Lucia Wille

Belmont's former trash incinerator facility occupies 25 acres on Concord Avenue, close to the Lexington town line. About two-thirds of the site was owned by the Commonwealth of Massachusetts until May 2017, when it was conveyed to Belmont. The conveyance represents a windfall for a town often struggling with space constraints. As Belmont balances its municipal and recreational needs, the incinerator site presents a valuable opportunity for the community

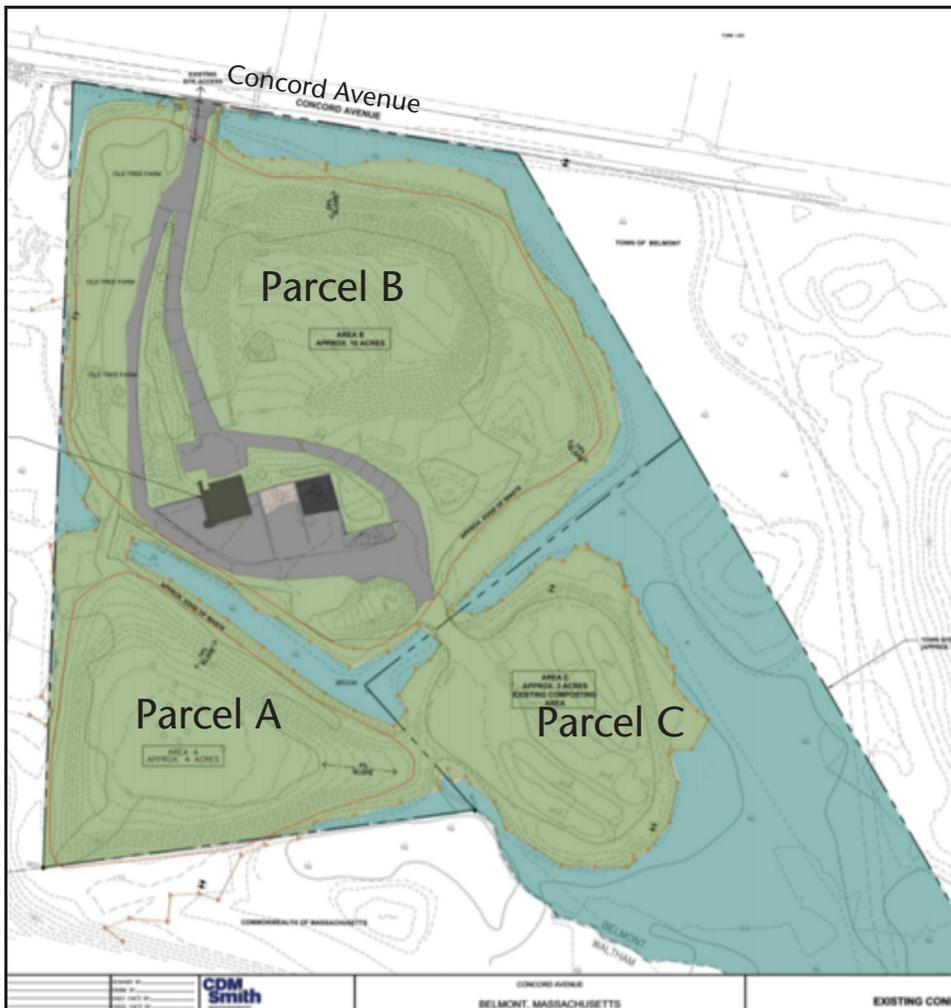
to either ease municipal space constraints or add to its portfolio of recreational assets, with the potential to further Belmont's status as a desirable town for current and future residents.

The incinerator site is surrounded by the Rock Meadow conservation land to the south and east and by the Beaver Brook North Reservation to the west. Both Rock Meadow and Beaver Brook contain heavily traversed multiuse trails, including the Western Greenway, a destination for families, hikers, dog walkers,

and mountain bike riders.

The town operated the incinerator from 1959 through the mid-1970s. After the incinerator was closed, the site functioned as a transfer station through the mid-1990s.

Because the site also served as a landfill for the incinerator ash, the Massachusetts Department of Environmental Protection (MassDEP) required that it be capped, meaning that a barrier had to be constructed over the landfill surface to protect humans and the environment from the harmful contents. Although Belmont did not own the land, the town was responsible for capping the site. This prompted members of town government to approach our state legislators for help in



CDM SMITH

Parcels A, B, and C around the incinerator site.

conveying the parcel to Belmont from the Commonwealth. House Bill 2869 in 2014 accomplished that result.

The bill restricts future use of the land to noncommercial applications, such as “recreation, public works, and other municipal uses.”

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Physical Properties of the Site

The site consists of three parcels, referred to as A, B, and C in public town documents (see map on page 1). Parcels A and B represent the approximately 16 acres of land conveyed to the town by House Bill 2869; Parcel C represents approximately nine acres of land the town already owned. Roughly eight acres of the site are wetland resources, meaning that they are protected and cannot be developed. Thus, 17 acres of land are available for potential active use.

Parcel C is currently being used by the Belmont Department of Public Works (DPW) for leaf and yard waste composting. Of this parcel, six acres are wetlands and the remaining approximately three acres could be developed. The land is zoned as Single Residence D, which allows for municipal development and single family residences with a minimum of 125 feet of road frontage, in addition to many other requirements. Parcel C does not abut Concord Avenue and therefore does not have the road frontage necessary for single-family residences. A private developer would be required to apply to the Zoning Board of Appeals for a variance. The land, which is across the street from Belmont Country Club and has easy access to Route 2 and Route 128, might be attractive to a developer.

Parcel B, the site of the incinerator building, abuts Concord Avenue and has approximately 10 acres of developable land.

As part of the capping process, the incinerator building will be demolished.

The land on Parcel B is currently being used for temporary DPW storage. Parcel A has approximately four acres of developable land that is currently not being used. To date, all proposals for this parcel suggest reserving it for future use by the DPW as temporary storage. This is necessary to accommodate the DPW’s needs if it were to relinquish use of Parcel C.

According to Glenn Clancy, director of community development, Parcel C requires road frontage to make it a buildable lot. One option is to add land, which would have to go through Rock Meadow. This option is unlikely. It’s also unlikely that the state legislature would allow for a road to be built through parcel B to allow for private development of parcel C given how the uses for parcel B as already defined.

In addition, Clancy thought it unlikely that parcel C would be given a variance by the zoning Board of Appeals. There are strict guidelines governing why variances can be given, and not having frontage (or enough frontage) does not constitute a reason for a variance.

The town hired consultants in 2012 to study possible post-closure uses. In 2014, after House Bill 2869 was passed, a community meeting was held to discuss potential uses. A report of that meeting to the selectmen lists four potential ideas: a new police station, the DPW building, recreational ball fields, and/or a solar farm. At the 2016 Town Meeting, Town Meeting members voted to accept parcel A and B from the state; the deed for the land was officially recorded on May 17, 2017.

Post-Closure Usage Assumptions

In both 2012 and 2016, the town retained consultants CDM Smith to evaluate post-closure uses of the site. Only Parcel B was evaluated for future use, as it was assumed that the DPW would need Parcel A for storage purposes. Parcel C was not considered given it could potentially be developed.

Parcel B is the only parcel with frontage on Concord Avenue, and any development on areas A and C will have to include an access road through Parcel B. All options outlined below include such an access road.

Belmont Police Station

Of the capital projects identified in 2000 by the town's Major Capital Projects Working Group as being in need of renovation or replacement, four major projects remain unaddressed: a new or renovated high school, a new police station, a new library, and new DPW facilities.

Current thinking is that the high school and library would remain on their current sites.

CDM Smith's assessment is that the incinerator site could easily accommodate the police station building and required parking. This would include an access road for Parcel C without the need for extensive retaining walls around the building plateau, and additionally, leave enough space available for DPW use. This option would free up the current police station site at Pleasant Street and Concord Avenue for other uses.

One downside of relocating the police station to the incinerator site on the edge of town is possible longer response times. In addition, landfilled ash can compress over time by as much as 20%, requiring supplemental foundation support, adding to construction costs.

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The Town DPW

Moving the DPW to the former incinerator site has been considered. However, the CDM Smith report notes that even if a 6 to 8-foot retaining wall was constructed around much (if not all) of the facility plateau in order to maximize the available building space, the land available at the

incinerator site is too small to accommodate all of the DPW's space requirements, which include equipment and sand and salt storage. Building a retaining wall would also significantly increase the costs of constructing a new DPW facility and was not recommended by CDM Smith.

Athletic Fields

Belmont has a shortage of athletic fields for both recreational leagues and school use. CDM Smith's post-closure evaluation included configurations of either soccer fields and/or baseball/softball diamonds separately or combined. Depending on the configuration of fields, approximately 60 to 70 parking spaces could be added to the field plateau or at the bottom of the hill. CDM Smith's report recommends further design work to optimize the location of the access road and the DPW's ongoing requirements for the site. A retaining wall around a portion of the fields may also be required to reach the necessary plateau area.

Ball fields must be relatively flat, with slopes below the minimum required by MassDEP, necessitating either a variance from the state or additional fill to level the surface.

A consideration for developing athletic fields at the incinerator site is a MassDEP regulation that stipulates a maximum and a minimum slope of 20% and 5%, respectively, on capped landfills. Ball fields must be relatively flat, with slopes below the minimum required by MassDEP, necessitating either a variance from the state or additional fill to level the surface, which increases the costs of the final project. Generally speaking, however, ball fields are considered a compatible post-closure use with landfilled sites.

In addition to the known shortage of athletic fields at the high school, there is some uncertainty surrounding the physical dimensions of a new Belmont High School, a project still in preliminary stages.

A significant change of the current footprint



JOHN DICOCO

Jack Ubbells of Arlington rides ahead of his mother, Estelle Clamon, and sister on the Arlington section of the Minute Man Bike Trail. Clamon says they would love to see a new bike park.

may necessitate moving one or more ball fields to a different location. Placing ball fields at a distance from the high school would require busing students on a regular basis from the school to the fields, adding long-term costs.

A Solar Array

Massachusetts has a green initiative to produce 100 megawatts of renewable energy (solar and wind) on former landfills by 2020. If it meets this goal, the state would generate 20% of the electricity used in Massachusetts each year through renewables. This goal supports a larger state-level initiative to reduce emissions by 80% from the 1990 baseline level by 2050.

In addition, Belmont adopted its own Climate Action Plan in 2009, mirroring the state's goal of reducing emissions by 80% by 2050.

A solar array on the former incinerator site would support Belmont's and the Commonwealth's green energy initiatives. According to Becca Keane, an energy resources analyst at Belmont Light (BL), no solid plans have been developed for such an array. However, she indicated that BL would be enthusiastic about considering this option should the town decide to use the incinerator site for this purpose. BL is already researching the feasibility of a utility-scale solar array for Belmont.

There are multiple ways in which a solar array could be installed by BL on the former landfill site. One option is that the array could be owned and operated by the municipal utility.

Another option is that the utility could lease the land, generally for 20 to 25 years, to a third party, which would be responsible for installing and maintaining the array and selling the electricity generated back to the municipal utility. It is too early to determine the impact of a solar array on customers' utility bills.

A Bike and Skate Park

In addition to the uses highlighted by the CDM Smith report, another potential use of the land would be a bike and skate park. Most people are familiar with skate parks, as there are more than 30,000 public skate parks in the US, including many in the surrounding communities of Lexington, Concord, Cambridge, and Waltham. On the other hand, most people are not as familiar with bike parks.

A bike park is essentially a playground for bicycles. Generally speaking, it's a set of circular tracks that provide obstacles for the rider as berms and jumps. A well-designed bike park provides a riding space for people of all ages and all skill levels, including the very earliest beginners on balance bikes.

According to *Mountain Bike Reviews* (MTBR), the US currently has about 1,000 municipal bike parks and pump tracks, and



The bike pumping track at Beaver Brook North Reservation in Waltham.

be temporary, such as storage of building material, or permanent, such as relocating one of the capital projects to the site.

DEP Considerations

The town needs to complete its environmental evaluation of the site, including wetlands and remediation requirements. Once the state approves the evaluation, the town will be required to design a cap, tear down the incinerator building, and finally cap the site. In order to minimize future costs, post-closure use would ideally be determined prior to the capping process.

Lucia Wille is a Belmont resident.

public bike parks are “one of the fastest growing attractions in recreational amenities,” a sentiment echoed by the International Mountain Biking Association. A pump track is a continuous loop of dirt berms and “rollers” (smooth dirt mounds) that you ride without pedaling. The name “pump track” comes from riders shifting the weight of their upper and lower body (rather than pedaling) as they ride around the track.

Due to the smooth dirt surface, pump track cyclists of all ages and skill levels can ride, including bikes with training wheels. The incinerator site is ideally located for a bike and skate park since it is adjacent to an already existing network of extensive mountain biking trails, including the Western Greenway. With the growing popularity of the Western Greenway and the community path getting closer to being a reality, a bike and skate park would further Belmont’s status as a pro-bicycle community.

Next Steps: Town Considerations

The Major Capital Projects Working Group, charged with incorporating the incinerator site into a comprehensive plan that includes all other outstanding capital projects, will be evaluating potential uses. These uses may

Bike Parks: A Growing Trend

Bike parks are natural-surface cycling terrains containing a combination of pump tracks and slopestyle courses to challenge bikers at every skill level with enough variety to keep riders coming back for years.

Local pump tracks to visit:

- Beaver Brook North in Waltham has a pump track across from the Metfern Cemetery.
- Russell Mill Pond and Town Forest in Chelmsford has a pump track that can be reached by parking at the Mill Road parking lot.

To see photos, videos, and more about bike parks, visit:

- <http://bijoubikepark.org>
- <https://bouldercolorado.gov/parks-rec/valmont-bike-park/>
- Belmont Bike and Skate Park Facebook page about a potential bike park on the incinerator site to learn of any new developments.

Could Congestion Pricing Work Here?

A Cure for Belmont Traffic Congestion

by Sumner Brown

Nothing spoils Belmont's small town atmosphere as much as our traffic. Residents complain it is terrible, getting worse, and they feel they can't do anything about it. In fact, anger about traffic congestion dominated recent Planning Board meetings on Belmont Day School's request to add a new driveway off Concord Avenue. In the future, perhaps in my lifetime, there is hope in technology-enabled solutions.

Consider congestion pricing, made possible by technology such as Fast Lane. It's working in London and other European cities. There is no fundamental reason why congestion pricing could not soon be used in every town in Massachusetts.

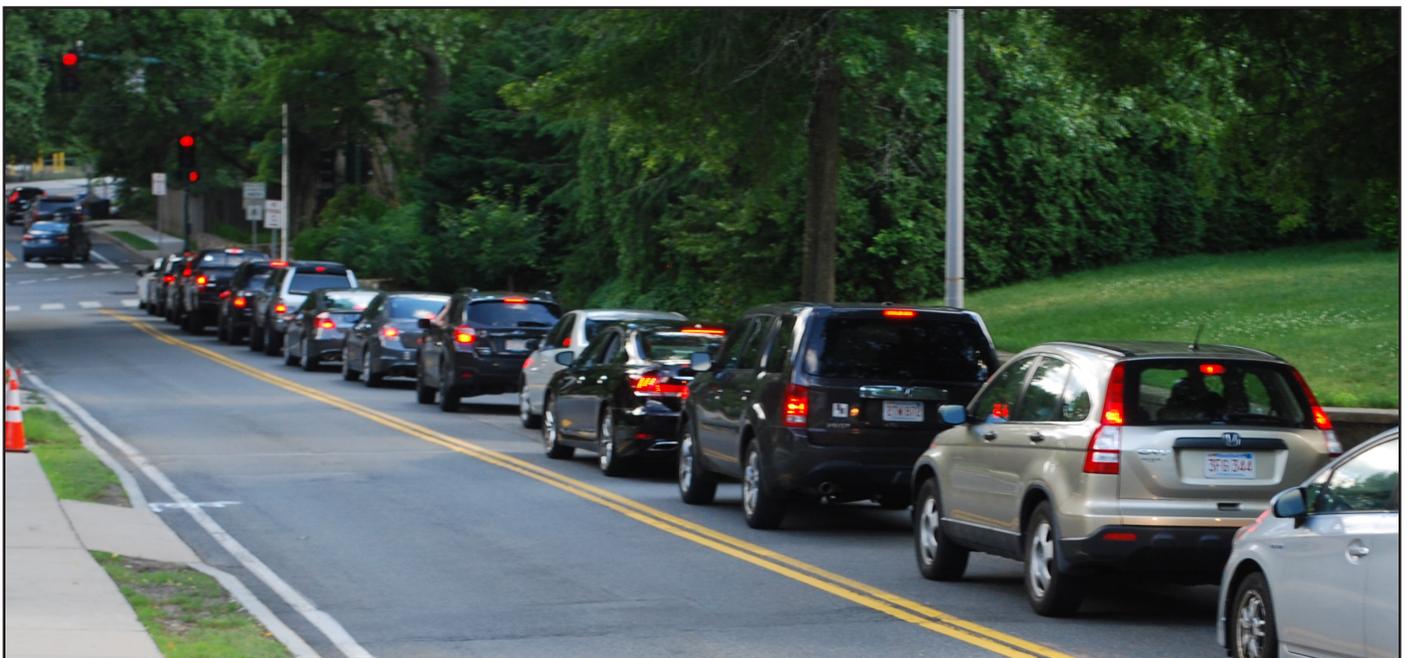
Belmont Day School Traffic

The Day School, a private elementary school located on 11.8 level acres on Concord Avenue, proposes adding a new building and a new driveway on Concord Avenue. Neighbors fear increased traffic congestion. On weekday mornings during

the school year, cars carrying young children turn up Concord Avenue from Wellington Lane toward Belmont Day School. Often the traffic coming down Concord Avenue in the other direction is backed up to a standstill, waiting to get through the light at Pleasant Street an eighth of a mile away.

I am interested because I regularly cross Concord Avenue at Wellington Lane by foot, last year more than 200 times during the morning rush. Frankly, the stalled traffic made my pedestrian crossing easier: look for no movement ahead, make eye contact with a driver, and then run between stopped cars. I also noticed the traffic was not much better during the summer, when school was out and summer camps were operating.

How much does Day School traffic actually impact Concord Avenue congestion? On May 1, I took pencil, paper, and clipboard to Day School Lane and counted cars during morning rush. Between 7:30 and 9 AM that day, about one in six cars travelling on Concord Avenue toward Belmont Center came from Day School Lane, and as many as one in four during the worst quarter-hour



JOHN DICOCOCO

This is a 5 PM view looking east (downhill) on Clifton Street just before it crosses Pleasant Street, where traffic can sit through several light cycles during the morning or evening commutes.

period. Depending on how you look at this, Belmont Day School traffic causes drivers to wait at the Pleasant Street light for four cycles instead of three.

I conclude that even if Belmont Day School moved to Weston (as it has considered), eastbound Concord Avenue traffic over Belmont Hill would still be terrible, now and in the years ahead. The problem is just the total number of cars trying to drive into Boston every day. Drivers continually adjust to find their best route; if Concord Avenue traffic became slightly better without the school, then other motorists would arrive to replace Day School vehicles, and you might still wait four light cycles at the bottom of Concord Avenue.

Depending on how you look at this, Belmont Day School traffic causes drivers to wait at the Pleasant Street light for four cycles instead of three.

The Planning Board for some projects requires a traffic demand management (TDM) study, with ways to mitigate traffic to and from the proposed development. The Day School had a consultant conduct such a study, and now plans to follow TDM recommendations that include carpooling, school-operated buses and vans, consider staggering class start times, or other remedies. These mitigations ought to be popular with the school's parents, too, and may well decrease total vehicle trips to the Day School even as the enrollment increases (about 45 new students are expected) with the new building.

Except for traffic, Belmont Day School is considered an excellent citizen. While schools are exempt from property taxes, it educates 61 Belmont students (270 overall) in pre-kindergarten through 8th grade, thus saving the town about \$600,000 on school expenditures. Many Belmont children learn to swim at summer programs there.

Besides the dominant topic of traffic, the Planning Board also heard a range of concerns, including for the tranquility of

the cemetery adjacent to the proposed new school driveway and the effect on storm-water in that vicinity of Wellington Hill. On July 10, the Office of Community Development agenda includes the design and site plan improvements for the gymnasium at the school.

Why Belmont Traffic Got Worse

My father-in-law worked at one company at one location for about thirty years. He built a house within walking distance of where he worked. If you work in Boston or Cambridge today, you probably cannot afford to live close to where you work in a house where you would feel comfortable raising children. If you do find a house close to where you work, you are unlikely to keep that job for as long as you wish. The high price of real estate and the "gig" economy, where, increasingly, jobs are short-lived or temporary, conspire to make commutes long, and a great many of these commutes seem to cut through Belmont. Typically people are so desperate to solve their housing and employment problems that they do not realize how grating their commute will be.

Traffic congestion is an example of a failure of a market economy to find a comfortable solution.

Traffic congestion is an example of a failure of a market economy to find a comfortable solution. When I drive, I do not pay for the annoyance my car makes for others who wish to enjoy a free road without traffic. Every driver is irritated by other drivers, but fails to pay for, or even realize, his contribution to congestion.

Civil engineers and elected officials have tried solutions to traffic congestion and high real estate prices. The Long Island Freeway is a famous example. This road into New York City was designed to simultaneously solve a housing problem and a transportation problem. The result was that potato farms were turned into Levittowns as fast as the

road could be built. More people with more cars made traffic terrible, and real estate prices rose.

Congestion Pricing

People who live in Manhattan mostly have given up on car ownership. They do fine with subways, walking, bicycling, cabs, and ride-sharing apps. Traffic congestion in New York City is overwhelmingly from vehicles driven by non-residents. Congestion pricing was proposed. City residents were enthusiastic, but they needed state approval. They did not get it because drivers from Long Island wanted free use of city streets, and used their political power to block the city from implementing congestion pricing.

Congestion pricing as implemented in London is a fee that must be paid by any vehicle that enters some central portion of London between 7 AM and 6 PM, Monday through Friday. It works. It is popular. The fee, about \$13, is high enough to change people's behavior.

Belmont alone could not implement congestion pricing for Belmont. It would require the state to make it work. Will each town be taxing drivers from every other town? Yes, that's the likely outcome.

The technology would be the easy part. Every vehicle that has a license plate would also be required to have an E-Z Pass or Fast Lane transponder. Enough vehicles now have these devices (which allow turnpike tolls to be paid without stopping) that tollbooths are rapidly being eliminated. Local towns would decide where to place their toll points, the hours of operation, and how much to charge.

The technology would be the easy part. Every vehicle that has a license plate would also be required to have an E-Z Pass or Fast Lane transponder.

Given how GPS works, we might not need any special toll points. Cross a town border or toll point, and you incur a charge. One policy might be to discount charges if

one stayed on "designated routes" (such as Route 2 and Route 95/128). The fees collected could pay for school buses.

Considering that Belmont believes that most of our congestion comes from cut-through traffic, Belmont would expect to gain financially.

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Perhaps the hardest part of congestion pricing for people to accept is that each of us, not just other people, contribute to traffic congestion. If congestion pricing comes to Massachusetts, it would be preceded by discussions of new taxes, cost, and privacy. Considering that Belmont believes that most of our congestion comes from cut-through traffic, Belmont would expect to gain financially. Some percentage of our town's revenue would come from our congestion pricing tolls.

Cut-through Traffic Would Pay Most

Drivers cutting through Belmont would, we believe, pay most of these tolls. We would pay some of those tolls, but our property taxes would be less than if we did not have revenue from out-of-town drivers paying to use our roads. Of course, we would pay to pass through other towns' congestion toll points during congestion hours as well.

Revenue is not the reason for congestion pricing. The goal is to change peoples' behavior by a market mechanism.

The specific behaviors that would be changed are whatever happens when there is a cost that people can see when they contribute to society's problem. Changes would occur. In our household, we would have paid for school busing and stopped driving kids through Belmont Center to school.

Congestion pricing is working in London. It could work in Belmont.

Sumner Brown is a board member of Belmont Citizens Forum.

The Nature of Traffic

When someone drives between two points, parallel roads present alternatives. A driver chooses a route based on factors that include congestion. If, say, Trapelo Road is compromised by construction, other routes look better and will get more traffic. I believe if Belmont would end its practice of charging for school buses, more children would take buses, and car trips to schools would go down. However, this would benefit people who go from Arlington to Watertown, and more of them would go through Belmont Center, so congestion would not be reduced by nearly as much as would be expected by the reduction of cars going to and from schools. This is why completely eliminating Belmont Day School traffic would reduce morning traffic by less than the 16% presently due to the school.

Don't blame GPS navigational aids for the least obnoxious route. People have been searching for better routes for as long as there has been congestion. What is new is that drivers can now try unfamiliar side roads at a moment's notice when they encounter unexpected traffic trouble, and then the side roads get more congested.

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Illustrate objects or ideas?

BCF Newsletter is seeking talented high school, college, or adult **writers, photographers, and illustrators.**

We can't offer payment but we do provide exposure, credits or bylines, and sincere gratitude.

Contact:

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A Project of Belmont Staycation 2016

New Lilac Planted



MICHAEL SANTORO, BELMONT DPW

A new lilac bush on the Town Green.

by Anne-Marie Lambert

Now that the drought is officially over, Belmont Citizens Forum requested that a new lilac bush be planted on the Town Green by Wellington Station. This was the wish of the top winner of our Belmont Staycation 2016 raffle, who was sad to see a dying lilac bush on her walks by the Green.

We are grateful to the Board of Selectmen, who accepted the donation of a replacement bush on May 15, and to Mike Santoro's team at the Department of Public Works, who planted the bush on June 1. Other 2016 Staycation prizewinners enjoyed a "Belmont Rocks" tee shirt donated by Champion's, gift certificates to Ranc's and Groundwork Yoga, and the book *Birds of North America* by Belmont author Chandler S. Robbins.

While we don't have a formal 2017 Staycation program, we hope readers take time to plan their own this summer. We'd love to hear your stories and ideas about what Belmont has to offer, about reading local authors, or about planting trees in places that mean something to you. Every bit of vegetation counts; every avoided airplane trip is a plus.

Anne-Marie Lambert is a board member of Belmont Citizens Forum.

Leaks and Illegal Connections Create Pollution

Fix the Stormwater System: It's the Law

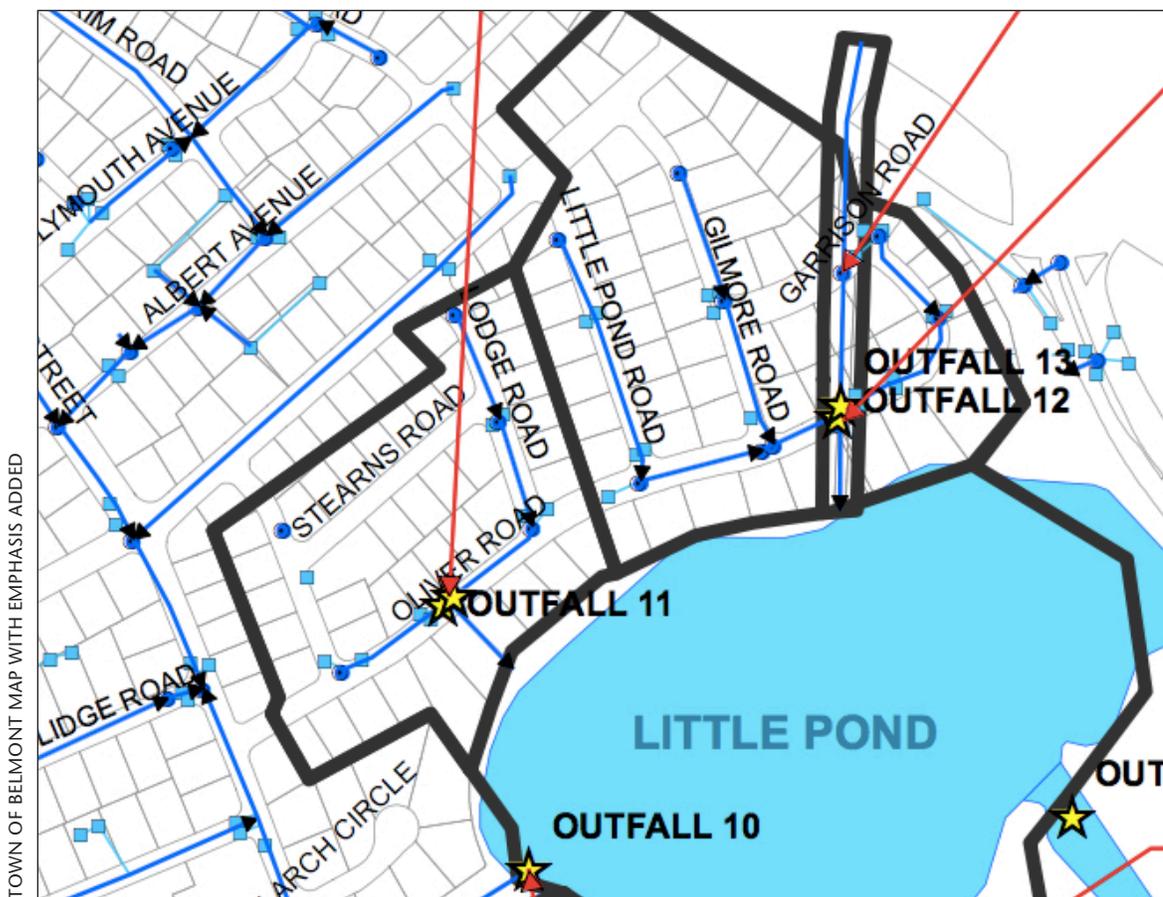
by Anne-Marie Lambert

After months of negotiation with the EPA, on May 15 the Belmont Board of Selectmen approved and signed a 2017 EPA Administrative Order for Compliance on Consent (<http://bit.ly/2u2jWXm>). This enforcement action makes mandatory a negotiated plan for addressing our illegal discharge of sewage into the Mystic River watershed. It requires the town to investigate and remove all pollution within five years, a daunting task.

The likely sources are leaks and illegal connections in over 50 miles of Belmont's 76 miles of street drains, as well as in over 50 miles of lateral drains connecting homes and other buildings with the street drains. It sure would be helpful—and cost effective—if homeowners who know or suspect they have an illegal connection would fix it.

Responsible action by homeowners means the town could avoid spending our tax dollars on the expensive detective work that's needed to find illegal connections. It could instead spend its resources on actually fixing the problem. In many cases, the town will cover the repair work right up to the foundation.

On May 19, the town submitted a detailed document, known as an "IDDE Plan" (Illegal Discharge Detection and Elimination) for review and approval by the EPA. This plan is posted on the town website (<http://bit.ly/2unwTKx>) and includes a map showing the 17 places (known as "outfalls") where Belmont's drains empty stormwater into water bodies flowing into the Mystic River. The consent order requires that the town complete the search for pollution sources discharging through the two highest volume



outfalls, Winn's Brook and Wellington Brook, by November 1, 2017. The drains into Winn's Brook (outfall #10) include more than 175 drain manholes. The underground Winn's Brook culvert then drains into Little Pond, collecting stormwater from as far away as Marsh Street, Village Hill Road, and Rutledge Road on Belmont Hill, as well as

Figure 1. Drainage to Little Pond from outfalls 11, 11A (right next to 11) and 12 (from the IDDE Plan street map). To learn more, visit <http://bit.ly/2u2jWXm>.

from Belmont Center and along Channing Road by the railroad tracks. The drains into Wellington Brook (outfall #8) include about 400 drain manholes. Wellington Brook is larger and drains into Blair Pond off Brighton Street, collecting stormwater from as far away as Old Concord Road on Belmont Hill, Trapelo Road just before Star Market near Grant Road, Belmont Street between Lexington and Common Streets, and neighborhoods around the Chenery Middle School.

The town proposes prioritizing investigation of the areas draining into three low-volume outfalls that flow directly into Little Pond; these are independent of Winn’s Brook and Wellington Brook. Figure 1 on page 10 shows the areas—11, 11A, and 12—that drain into these outfalls. The table below summarizes the level of pollution and the key “suspects.” It’s instructive to consider the detective work involved in trying to find the sources of pollution even in the relatively tiny areas associated with these outfalls.

Phase 1: Sampling/Storm Drain Inspections near Oliver Road

Very high levels of *E. coli* have been detected at these outfalls during both wet and dry weather. Following an approach

recommended by the EPA, the proposed first phase of investigation will be for town contractors to identify strategic junctions at the outer edges of this portion of the drain system, then to work with the Department of Public Works (DPW) to lift the manhole above each selected junction, and place sandbags to catch dry weather flow. Stormwater drains should not contain any flow during dry weather.

Very high levels of *E. coli* have been detected at these outfalls during both wet and dry weather.

If, after 24 hours, the area is still dry, they move on to the next junction closer to the outfall. If they notice liquid or other discharge coming from upstream of the sandbags, they take a sample and send it to a lab to test for *E. coli* and other evidence of sewage that may not be obvious from its odor or appearance. If the test is negative, the liquid may be just groundwater seeping in through open joints in the drain system. If the test is positive, they move to Phase 2. This outside-in approach is based on the experience of the Boston Water and Sewer Commission¹, and assumes residents are at home when the testing is done. The consent

Areas to investigate in the most polluted low-volume outfalls to Little Pond.				
Outfall Number	<i>E. coli</i> (MPN/100 ml* in dry weather sample)	Phase 1: Select & inspect drain manholes	Phase 2: Inspect street drains	Phase 2B: Inspect home connections ²
11 & 11A	11: >10,000 ml 11A: 8,600 ml	Total: about 6 drain manholes	Staunton rd., Oliver Rd (2-71), Stearns Rd., Lodge Rd., Cross St. (303)	About 40 houses, of which 20 are near a street drain
12	10,000 ml	Total: about 10 drain manholes	Oliver Rd. (75-140), Gilmore Rd., Little Pond Rd., Cross St. (321-346), Lake St. (244-300)	About 60 houses, of which 45 are near a street drain

*EPA’s threshold for *E. coli* in Class A or B waters (internal waters) is 235 coliform-forming units/100 milliliters (cfu/100 ml). Sample measurements are sometimes designated in Most Probable Number (MPN) [of coliform-forming units].

1. Boston Water & Sewer Commission 2004, “A Systematic Methodology for Identification and Remediation of Illegal Connections,” 2003 Stormwater Report, Ch. 2.1.

2. Streets and house counts estimated by correlating street names and addresses in Figure 1 Sub-catchment Area Locations, in Town of Belmont IDDE Plan Memo dated May 19, 2017, with those in Google maps.

order stipulates that testing be done during morning hours.

Phase 2: Dyed-water Testing

Having identified areas suitable for more intensive investigation, the town proposes examinations under streets where they know a sewer pipe is located above a storm drain. Town staff and contractors deposit dyed water into the sewer pipe, then check to see if the dye stays in the sewer system as it should, or shows up in the downstream storm drain. If dye traces are detected in the storm drain, they know there is a problem with the main line under the street.

Presumably the town will schedule repairs of any leaks or collapsed sewer or stormwater drains they find under the streets.

If the dye test doesn't find any problems in the main lines under the streets, similar tests are used to look for illegal connections or broken lateral lines between each of the homes near a street drain. They start knocking on homeowners' doors to ask permission to deposit a safe dye into a sink or toilet, so they can check whether the dye shows up in the storm drain system. If traces of dye are found downstream, then they know there is a problem with the lateral connection between a house and the mainline. Even in these low-volume outfalls, there are about 65 homes near a storm drain. That's a lot of doors to knock on during summer vacation season.

Phase 3: Closed Circuit Televised (CCTV) Inspections

The next step the town "detectives" propose is to send a special camera down the sewer and storm drains to look for leaks and collapsed pipes where there is evidence of contamination. They also propose inspecting any lateral connections identified in Phase 2. CCTV inspection is even more expensive than dye testing, as it requires that the drains first be cleaned, a trained

crew operate the expensive equipment, and a police detail be used in cases where traffic has to be rerouted to ensure worker safety.

While it's not stated explicitly in the IDDE plan, during Phase 3, presumably the town will schedule repairs of any leaks or collapsed sewer or stormwater drains they find under the streets. Depending on the scope of the damage, this may involve relining a section of pipe between two manholes, or possibly going out to bid for the job of digging up the street to replace the pipe.

Phase 4: Illicit Connection Removal

When an illicit connection from an individual home is identified, the town will use information from CCTV and an internal plumbing inspection to determine the appropriate rehabilitation step. The 2017 EPA Administrative Order for Compliance on Consent requires that the town remove illicit discharges within 60 days of verification, or submit an alternative schedule for EPA approval. If an illicit discharge is the responsibility of a property owner, the town must:

- Notify the property owner in writing within 30 days.
- Send a letter within 60 days if the illicit discharge is not yet eliminated, citing the owner's responsibility to remove the illicit discharge as expeditiously as possible; the legal consequences of failing to comply; and the range of available enforcement options from penalties to terminating service.
- Send a second letter within 90 days if the illicit discharge is not yet eliminated, describing the commencement of fines to be included in the owner's water and sewer bill. This letter must describe how the fines will escalate until the illicit discharge is removed and enumerate further actions the town may take.
- Prosecute property owners who do not remove their illicit connections.
- Report to the EPA on each legal action and step taken to escalate enforcement.

The Task Ahead

When I think about the effort it will take just to find the sources of pollution flowing into a few very low-volume outfalls, I wonder how we could possibly meet a requirement to find and eliminate all sources of pollution in the large-volume Winn's Brook and Wellington outfalls within five years.

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Together these two large-volume outfalls drain an area about 100 times larger than that associated with the three most-polluted, low-volume outfalls (see Figure 1 on page 10). Town staff seems focused on matching the number of inspections to a manageable re-construction process within the Pavement Management Program. The EPA regulations also seem to discourage detecting more problems than we can fix at once.

Nonetheless, with the "outside-in" approach to inspection, I'm hopeful more detective work can happen in parallel throughout the watershed, and that modern sensor technologies become part of the plan.

As the town waits for the EPA to review their proposed IDDE plan, pollution continues to flow out of Belmont with each flush from an illicit connection and with each rain storm flowing in and out of our broken pipes.

The selectmen and town staff seem to think we're moving as fast as possible and claim not to know what they would do with more funding. The town and EPA are working together to clean up our waterways. Take a look at what they posted on the town website, and let them know if you have knowledge or ideas which might further accelerate the cleanup.

Anne-Marie Lambert is a board member of Belmont Citizens Forum.

See Lambert's multiple references for this article online at belmontcitizensforum.org. In addition, there have been multiple stories in recent issues of this newsletter:

"Cleaning Up Belmont's Polluted Waterways," *May/June 2017*

"Belmont Driveways Can Soak Up Rainwater," *January/February 2016*

"How to Measure Belmont's Stormwater," *November/December 2015*

"EPA Proposes Expanded Stormwater Permit," and "Stormwater Forum Details Flooding, Pollution," *November/December 2015*

Winn's Brook "Earns" D- Grade

As we were preparing to go to press, the EPA and Mystic River Watershed Association issued their 2016 Water Quality Report Card for the Mystic River Watershed.

The news is still grim.

Winn's Brook barely improved to a "D-" from its 2015 and 2014 grades of "F." Little River is up to a "D" from last year's "D-."

From their news release: "For the third year in a row . . . water quality in the main stem of the Mystic River, including the Upper and Lower Mystic Lakes is very good [grades for these sections ranged from A+ to A-] on a regular basis and meets water quality standards [for boating and swimming] nearly all of the time, especially in dry weather. However, water quality in many of the tributary streams feeding the Mystic is poor . . . Water quality is frequently poor due to bacterial contamination in tributary streams such as Winn's Brook, the Island End River, and Mill Creek, even in dry weather. . . The main causes of high bacteria counts [include] illicit sewer discharges. . ."

See the full 2016 report card here : <http://bit.ly/2tGdDeN> and an historical comparison here: <http://bit.ly/2uwbZsQ>.

CORRECTION

In the last issue of this *Newsletter* (May/June 2017), we had an incorrect caption on page 4. It is Wellington Brook that flows into Claypit Pond, not Winn's Brook. We apologize for the error.

Environmental Events

Boston Area Beekeepers Assoc. Open Hives

Saturdays, July 8, 15, 22; 10 AM–Noon

Learn all about how honey bees make honey, survive the winter, and much more at our onsite apiary. Free; registration required. Register online or call 617-983-8500. www.babeekeepers.org. Boston Nature Center, 500 Walk Hill Street, Mattapan.

Fresh Pond Monarch Watch

July 11: Milkweed Planting in Lusitania Meadow

July 16 & 18: Pod Patrol Weed-Out

July 14, 20, & 28: Caterpillar checkups—come see how they are growing.

August 6: Butterfly release parade.

This raise-and-release project of the threatened monarch butterfly is aimed at encouraging a monarch population at Fresh Pond. For more information, contact Martine at 617-349-6489, mwong@cambridgema.gov. <http://bit.ly/2twJe2t>. 250 Fresh Pond Parkway, Cambridge.

Comparing Animal Skeletons

Tuesday, July 11, 6:30–8 PM

Book reading and signing with Sara Levine. Compare human and animal skeletons. There will be hands-on activities including putting together a human skeleton and a short walk. Ages 6 and up with an adult partner \$6 member/\$8 non-member. <http://bit.ly/1dSBiVw>. Habitat Education Center, 10 Juniper Road, Belmont.

Thank you for your continued support.

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Each *Newsletter* issue costs about \$4,000 to publish. Thank you for your support.

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Does your employer have a matching gift program?

Yes, my employer matches charitable giving. Please contact me for details.

BCF depends on volunteers.

Join us in helping to maintain Belmont's small-town atmosphere.

Writing or editing for the Newsletter

Community path work

Newsletter mailings

Event organizing

Creating Resilient Infrastructure & Watersheds Conference & Exhibit

Wednesday, July 12, 8 AM–4 PM

The NEWEA Watershed Management Committee, the New England Water Works Association, the New England Chapter of the American Public Works Association and New England Interstate Water Pollution Control Commission are hosting a conference of interest to municipalities, utilities, watershed associations, state agencies, and others that are responsible for transportation, water, sewer, stormwater, and other infrastructure as our climate changes and sea levels rise. <http://bit.ly/2sidcWv>. Hale Street, UMASS Lowell Conference Center, Lowell.

Boston Sustainability Breakfasts

Wednesday, July 19, August 16, September 20, 7:30–8:30 AM

Join us every month for Net Impact Boston's informal breakfast meetup of sustainability professionals for networking, discussion, and moral support. eventbrite.com Pret A Manger, 101 Arch Street, Boston.

Night Fliers

Tuesday, July 25, 7:30–9 PM

The night sky is alive with the beating of bat and moth wings. Using a few tricks we'll get a glimpse into this secret nocturnal world. Come see and hear what the darkness has to offer. Bring bugspray. Rain Date: July 26. Ages 5 and up with an adult partner. \$6 member /\$8 nonmember. <http://bit.ly/1dSBiVw>. Habitat Education Center, 10 Juniper Road, Belmont.

10th Annual Boston Greenfest

Friday–Sunday, August 11–13, 10 AM–5 PM

Eco-forums, music, art and craft displays, family events, organization booths, new product demos, eco-kids tent, and refreshments. bostongreenfest.org. Boston City Hall Plaza.

A Night at the Pond

Tuesday, August 22, 6:15–8:15 PM

Explore the ponds to see what wildlife awaits us. We'll bring our ponding gear and nets to see what you can catch, and then take a closer look at our collection of strange and wonderful water creatures and learn a bit about them. Bring boots and bug spray. Rain date: August 23. Ages 5 and up with an adult partner. Fee: \$8 member/\$10 nonmember. Register at massaudubon.org or call 617-489-5050. habitat@massaudubon.org. Habitat Education Center and Wildlife Sanctuary, 10 Juniper Road, Belmont.

Boston Area Sustainability Group

Tuesdays, September 5, October 3, 5–7:30 PM

Local Sustainable Economies: Building Entrepreneurship & Community Resilience <https://basgdotorg.wordpress.com/> Cambridge Innovation Center, Venture Cafe, One Broadway, Cambridge.

Sustainable Belmont Meetings

Wednesdays, September 13, October 4, November 1, 7–8:30 PM

Sustainable Belmont's regular monthly meeting. Assembly Room, Belmont Public Library, Concord Avenue, Belmont.

Belmont Citizens Forum
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July/August 2017

INTERNS WANTED

Summer and/or During the School Year

Belmont Citizens Forum is seeking high school-age interns to help with research on various projects of concern to the town. These are part-time, unpaid volunteer positions. If you want to learn more about the environment, history, urban planning, government, or journalism, please contact us and we will match you with the appropriate Forum mentor. You'll earn community service credits, valuable experience to add to your resume, and you will be making an important contribution to your home town.

To learn more, write to Evie Malliris:
info@belmontcitizensforum.org

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Please visit our website for updates and to see this issue in color: belmontcitizensforum.org