Housing Boom Comes to North Cambridge

By Meg Muckenhoupt

The Welcome Wagon is going to get a workout. Belmont will soon have more than 2,400 new neighbors in eight new apartment complexes under development in Cambridge between Route 2 and Concord Avenue. Ranging in size from 61 to 398 units, these structures will increase Cambridge’s population by more than 2.25 percent—and a lot of that new population is going to be leaving for work at the same time as Belmont’s residents. Traffic at Alewife and Fresh Pond will get even worse.

How could this happen? Easily. Any individual development doesn’t have much effect on traffic around Alewife and Fresh Pond. The decision document issued by Cambridge’s Planning Board for the 398-unit 160 Cambridgepark Drive, which is predicted to cause 1,324 new trips, states, “The project is expected to have minimal impact on traffic and will not cause congestion, hazard, or substantial change to the established neighborhood character.”

Ominously, the decision continues: “It is also noted that the traffic generated by the project is anticipated to be less than that associated with the office/research and development project on 150, 180 and 180R Cambridgepark Drive for which entitlements currently exist under a previously granted special permit.” In short, if the city of Cambridge accepted a potential increase in traffic for a special permit in the past, the city should accept that increase in traffic for all future permits—no matter how much the population has increased in the meantime.

Bridge May Ease Traffic . . . Eventually

All of these developments are theoretically within walking distance of the Alewife MBTA station, two grocery stores, a drug store, and...
many other amenities—but it’s difficult actually to walk to all these places from any of the developments. The problem is the commuter rail tracks. The tracks cut off the Alewife station and the housing on Cambridgepark Drive from the shopping and keep the Concord Avenue and Fawcett Street residents from getting to the T.

The single obvious pedestrian connection between Concord Avenue and Cambridgepark Drive is a narrow sidewalk that runs right alongside Alewife Brook Parkway from the Fresh Pond rotary to the Alewife T stop, but it’s unprotected.

These six combined developments will produce an estimated 6,364 more car trips per day on Concord Avenue, Route 2, and the Concord-Alewife rotary.

No trees or shelters provide protection from the summer sun or winter wind, there are no benches where walkers can rest—and walking directly next to a four-lane highway and parking lots is unpleasant in the mildest weather. Bicyclists and pedestrians could cross from Cambridgepark Drive to the east side of Alewife Brook Parkway in other ways—via the underpass at Alewife Station, and down Rindge Avenue to Sherman Street, for example—but those routes are lengthy and go far out of the way.

Cambridge does have a plan for making the area more bicycle and pedestrian-friendly, eventually. On July 29, the Cambridge City Council awarded $375,000 for a feasibility study for another pedestrian bridge across the railroad tracks. The bridge was recommended in Cambridge’s 2006 Concord Alewife Planning Study, and the developers of 160 and 130 Cambridgepark Drive were required to contribute money towards the study and to reserve open space for a possible bridge in their project designs. “All projects on the north side of the railroad tracks have provisions for a pedestal for a bridge,” said Jeffrey Roberts, a staff project planner in Cambridge’s Community Development Department.

However, the current study is simply a study. Building a bridge may not be feasible. If it is, it will have to be designed, put out to bid, and built—a process that could take years and millions of dollars.

Alewife Approaches Gridlock

The bridge may be too late. Alewife’s traffic is already approaching gridlock, and the new developments are going to make local traffic slightly worse. A January 18, 2011, memorandum about the Residences at Alewife at 231, 233, and 235 Concord Turnpike (the former Faces nightclub site) listed five out of seven intersections at the site as having a Level of Service as D or below.
during morning and evening rush hours, which means traffic is delayed at least 35 seconds.

The Residences at Alewife alone will increase traffic along Alewife Brook Parkway at Rindge Avenue by almost 1 percent—just a block from where all the Cambridgepark Drive residents will be starting their morning commute.

According to city of Cambridge estimates, those six combined developments will produce an estimated 6,364 more car trips per day on Concord Avenue, Route 2, and the Alewife rotary. This is not a trivial increase. The average total weekday daily traffic on Alewife Brook Parkway between Cambridgepark Drive and Concord Avenue was 27,000 trips per day according to a 2006 study by the Boston Metropolitan Planning Organization.

If all those cars ended up on Alewife Brook Parkway, they would increase daily traffic by 24 percent. They won’t. Some cars will go west on Route 2, and others will drive off towards Storrow Drive, into Cambridge, or out Concord Avenue into Belmont. The trips from the Concord Avenue/Wheeler Street and Fawcett Street developments—about a third of the total increase—may bypass Alewife Brook Parkway, though they’ll certainly clog up Concord Avenue.

Critical Movements Jam Concord Ave

Concord Avenue and the Alewife Brook Parkway rotary won’t escape traffic woes. Cambridge’s 2005 Concord Alewife Plan included a “critical movement analysis” of the area. Critical movements are conflicting traffic movements. They are the times when vehicles block each other from moving, such as when a car turns left and crosses a lane of oncoming traffic. The Concord Alewife Plan reports that for the area roughly bounded by the Route 2/Route 16 intersection, the Alewife Brook Parkway, and Concord Avenue, service starts to deteriorate when a roadway reaches the “critical sum” of 1,500 vehicles per hour, or 1,800 vehicles per hour for rotaries. Below those numbers, and most motorists can get through an intersection in two or fewer light cycles. Above those thresholds, you’ll wait at that light a long time.

As of 2005, the Concord/Route 2 rotary was already operating at 1,880 critical interactions—80 above the threshold—with a total traffic volume of 4,300 trips per day, while Concord Avenue at Blanchard Road had already reached 1,400 “critical sums” per hour, with 2,460 trips per day.

The report also predicted vehicle trips per day for 2024 for the area after Cambridge’s rezoning (which Cambridge enacted in June 2006.) The permitted 70 Fawcett Street development, which will be located between these two intersections, by itself promises to add enough vehicle trips to reach the predicted 2024 buildout trip level by 2014—and there’s plenty more space for apartments and garages alongside between the Concord Avenue rotary and Blanchard Road.

Bike Parking Won’t Make a Difference

To be fair, the developers of these various projects are attempting to make car-free commuting more attractive to their residents. Several of these buildings have extensive

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<th>Concord Avenue Intersection Trips Per Day</th>
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<tr>
<td>Location</td>
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<tr>
<td>Concord Rotary</td>
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<td>Concord/Blanchard</td>
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<td>Total</td>
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<td>2014 totals (2005 + trips from 70 Fawcett Street)</td>
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bicycle-parking facilities, including the Faces site and 160 Cambridgepark Drive. But the city of Cambridge doesn’t anticipate that those bicycles will get much use. For 398-unit 160 Cambridgepark Drive, for example, the city estimates the residents will make 1,324 daily car trips, and 202 pedestrian trips, but just 98 journeys by bike.

The builders along Cambridgepark Drive are also planning to share their parking facilities with local businesses. Once their residents have left for their daily stint of idling on Alewife Brook Parkway, those buildings’ parking spaces will be available to employees.

T Will Be Crowded

Of course, some of these buildings’ residents will take the T to work—if they can fit on the T. As of 2010, the Alewife MBTA station had an average of 10,657 boardings per day on weekdays: the developments planned around Alewife will increase boardings by 30 percent, adding another 3,202 trips per day.

The Red Line is already “congested” and running at capacity, according to a June 2012 study by the Urban Land Institute titled *Hub and Spoke: Core Transit Congestion and the Future of Transit and Development in Greater Boston*.

The report states, “Replacements are needed for 74 cars, about one-third of the fleet, built in 1969-70. Vehicle availability, as tracked by the MBTA scorecard, is already problematic. The Red Line has been able to run with the 168 vehicles needed, but barely—there are generally 171 or 172 Red Line cars available at any given time. Recent breakdowns on the Red Line may well become a common occurrence if the hoped-for procurement is delayed due to lack of funds and the number of available vehicles falls below the minimum number needed to maintain current capacity.”

Yet more and more commuters are taking the Red Line. The city of Cambridge predicts that by 2030, Kendall Square commuters alone will account for 3,000 more Red Line trips per day.

The MBTA is looking into connecting the Alewife MBTA stop with commuter rail to help suburban commuters get into Boston faster. In 2005, the MBTA rejected putting in a commuter rail stop at Alewife because there wasn’t enough new ridership projected to make up for the delays other commuters would suffer, according to *Cambridge Day* reporter Marc Levy. But since then, “the area has grown rapidly,” Levy states.

For now, the MBTA is considering using small trains called diesel multiple units (DMU) to link Alewife with an as-yet-unspecified commuter rail stop, according to Brian Murphy, assistant city manager for community development. DMU cars do not have separate engines; each car can be powered and steered by itself, allowing for varying capacity to match demand.

So what does the future hold for Concord Avenue and the Alewife Brook Parkway? Will it become like the restaurant that made Yogi Berra remark, “Nobody goes there. It’s too crowded.”? Cambridge’s 2,444 new residents are going to need answers—and so is anyone who travels on Concord Avenue, Alewife Brook Parkway, Route 2, or the Red Line.

Meg Muckenhoupt is Editor of the Belmont Citizens Forum *Newsletter.*
By Sue Bass

After more than a decade of talk, Belmontians will start to see some action this fall on the redevelopment of the Trapelo Road/Belmont Street corridor. They can expect much more beginning next spring.

A $14.5 million bid for reconstruction of the 2.5-mile roadway was accepted by the state Highway Department in July. The MBTA will take down the overhead wires that power the trackless trolley system in September. For about two years during the road construction, the trolleys will be replaced by diesel buses.

Fear of working under the wires, even with the power turned off, drove road contractors to submit much higher bids—about $2.5 million higher—last November, explained Glenn Clancy, Belmont’s director of Community Development. Finally, the T agreed to take the wires down and put them back up later, and the project was put out to bid again.

Meanwhile, work will begin on Cushing Village, three buildings at Trapelo Road and Common Street that will be connected by an underground parking garage. After receiving Planning Board approval at the end of July for the $60 million, 161,000-square-foot development, Chris Starr of Smith Legacy Partners said they’ll get “a shovel in the ground this fall.” He hopes to have tenants moving into the first building by the fall of 2014.

In a few more years, changes will also be visible in Waverley Square, where the DeStefano brothers have just bought more than an acre of commercial property. The site is on the north side of Trapelo Road, bordered by White Street and the commuter rail tracks.

What will these projects mean for the corridor and the town? The road work will replace horridous potholes with a smooth surface, of course. The road, now a wide expanse where vehicles drift among unmarked lanes, will be clarified. For much of its length, the corridor will be narrowed to one car lane in each direction, except for turning lanes, but bicycle lanes will be added and sidewalks widened. The roadway carries a varying amount of traffic, Clancy noted: about 30,000 cars a day coming into Waverley Square from Waltham, as few as 15,000 a day between Waverley Square and Belmont Street, and about 25,000 a day on Belmont Street east to the Cambridge line.

A major change will be the addition of a large number of trees to give the barren, sun-baked
street the look of a boulevard. It should be especially handsome along the stretch of Belmont Street in front of the Oakley Country Club, where a median strip will be added. To select locations and species for the new trees, Clancy said, the Belmont Shade Tree Committee and Historic District Commission worked for several months with the town Tree Warden and landscape experts from the BSG Group, town consultants on the project. “They came up with a shade-tree plan that I think people will really be pleased with,” he said.

Cushing Village to Increase Density

Cushing Village will mark a major change for Belmont, too. Some of the town’s past development was accidental, the result of inadequately considered zoning bylaws. Much development, like that on the McLean campus, was initiated by landowners or developers.

Not Cushing Village. In 2005, as part of a study of lots that were split between commercial and residential zones, members of the Planning Board noticed the property’s potential for underground parking. Thus, when Starr asked

Look What We Allowed: Belmont’s Zoning Mistakes

Two buildings on Trapelo Road illustrate a common problem with zoning: even experts don’t know when they draft the provisions what will be built. “You make every good effort to write a bylaw,” said Jeffrey Wheeler, Belmont’s planning coordinator. Then a developer finds a loophole that the drafters and Town Meeting hadn’t spotted. “People see [the building] and realize, ‘Oh my God, look what we allowed!’ ”

125 Trapelo Road is a 60-foot, seven-story apartment building (converted to condos in 2005) that looms over the one-story commercial buildings in Cushing Square. It was built in 1962, when zoning for the local business districts allowed buildings as high as the street was wide. The rules were changed in 1973.

556 Trapelo Road is a three-story office building with parking underneath in Waverley Square across from Shaw’s. It was built in 1968 in the middle of a row of mostly one-family houses when both sides of Trapelo Road in that area were zoned for local business. The building seems especially out of place since it protrudes out to the sidewalk, with no front setback, and it has a blank face at street level. The area was rezoned general residence in 1970.

—Sue Bass

125 Trapelo Road in all its glory.
permission to replace a one-story building on Common Street (which had to be demolished because a tenant’s toxic spill had polluted the groundwater) with a three-story, 20,000-square-foot building, the board suggested he consider a larger project. In 2006, at the recommendation of the Planning Board, Town Meeting passed overlay zoning for Cushing Square, a zoning option offered to property owners who accept conditions.

It was a deliberate effort to increase density and town revenue in a central business district that is well served by public transportation. (The number 73 bus offers an eight-minute trip to Harvard Square and the Red Line as often as every five minutes.) The overlay zoning encourages residences over retail stores and, at the discretion of the Planning Board, allows up to four stories for buildings with underground parking.

Many people are nervous about how Cushing Village will look, given that most commercial property in Belmont is just a single story. “The size is a little scary,” remarked Paul Winters Jr., a real estate professional whose family owns a two-story commercial building across Common Street from Cushing Village. Winters says his family, whose property is within the Cushing Square overlay zoning district, has no interest in replacing the landmark Winters building. “We have an affinity for that building and would like to keep it intact.”

Neighbors, especially those on Horne Road, which Cushing Village will straddle, have been arguing for years make the project smaller, although the neighborhood supported both the concept of denser development and the overlay zoning bylaw.

The approved plan will have only one building that reaches four stories: the Pomona building at the corner of Trapelo Road and Common Street. Starr hopes to lease its 20,000-square-foot first floor to a grocery store. The Pomona building could also be filled by multiple smaller businesses—similar to the vision for the first floors of the three-story Winslow building, which will be built on the site of the municipal parking lot, and the three-story Hyland building at the intersection of Common and Belmont streets. Starr will buy the parking lot from the town for $850,000 and will replace its 50 spaces with 50 spaces of town-managed underground parking.

Upstairs in the three buildings will be a total of 115 apartments, including up to 60 two-bedroom units, with the rest one-bedroom or studios, some with studies. Ten percent of the units of each size will be affordable, rented only to those whose household annual income is 80 percent or less of the median income in the Boston area.

The economic impact of Cushing Village on the town will depend largely on who lives in the apartments. How many will be families with schoolchildren? How many will be retirees or graduate students with no children? About $11,000 per child in the public schools, education is by far the most expensive service Belmont provides.

Economist Elisabeth Allison, a member of the Planning Board, estimates that the town will net an additional $66,000 to $115,000 a year in property taxes from the complex. While the
additional money will be welcome, the amounts will be modest. That reinforces the caution from the consultants who prepared Belmont’s Comprehensive Plan in 2009 and 2010 that the town could not—or would not want to—develop enough commercial property to solve its revenue problems. “Even if you built out all the commercial area to its maximum, it’s not going to affect the situation that much,” said Jeffrey Wheeler, the town’s planning coordinator.

For the town, Cushing Village is an experiment in development. The first thing the town has learned is that the overlay zoning requires revision. The 2006 provisions allowed much greater density than the town can stomach, judging by Planning Board hearings: a floor-area ratio (FAR) of up to 3.0—three times as much square footage of building space as of land. The final approved density of Cushing Village is just over 2.0 FAR. Other provisions will likely need changes too. The Planning Board will begin consideration of those changes this fall, according to Chairman Sami Baghdady.

King Property Could Have Apartments

Joe and Jim DeStefano of Desco Associates have just bought five parcels totaling about 50,000 square feet of commercial property in Waverley Square for $2.7 million (see map previous page.) They plan to redevelop it in three to five years. The land, known as the King property, is on the north side of Trapelo Road and wraps around onto White Street. It abuts the commuter railroad tracks just where the first inbound car stops. With MBTA permission, Joe DeStefano said, he and his brother would like to add an access staircase there. Now the only access to the train is on the south side of Trapelo Road.

They’re thinking of building perhaps 20 to 30 residential units and 12,000 to 15,000 square feet of ground-floor retail space with surface parking and perhaps one level of underground parking—much smaller than Cushing Village, Joe DeStefano said. “I want a colonial look,” he said. “We want to do something very New England.” He believes he can do so that without a change in zoning, just with special permits from the Planning Board and the Zoning Board of Appeals.

Sue Bass is a director emerita of the Belmont Citizens Forum.

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**Depavers Wanted**

The Belmont Citizens Forum is seeking volunteers for future depaving projects to help pull and pry up pavement from areas around Belmont, leaving the ground open. Removing pavement will reduce stormwater runoff pollution, increase the land for habitat restoration and native plants, and make open space more beautiful.

For more information, see the Belmont Citizens Forum web site, www.belmontcitizensforum.org, or e-mail bcfprogramdirector@gmail.com.
Clarke House Could Move to Permanent Home

By Vincent Stanton, Jr.

On February 18, 2012, after 252 years at 59 Common Street, the Thomas Clark house was moved to Concord Avenue. The Selectmen agreed to allow the house to be stored on town land while a permanent location was identified, a process initially expected to take less than one year. Over 18 months later, what is to become of this historic building?

For more than a year Michael Smith, co-chair of the Belmont Historic District Commission (HDC), and Sean McDonnell of the Architectural Heritage Foundation have participated in discussions with the First Armenian Church of Belmont about relocating the Clark house to property owned by the church next to the Belmont Public Library. The discussions ended without an agreement, although a variety of privately financed uses, including a house or an office building, were considered. Since then, members of the Historic District Commission and other citizens interested in preserving the Clark house have been exploring alternatives.

On September 6, the HDC filed a preliminary grant application with the Belmont Community Preservation Committee (CPC) requesting $600,000 to locate the Clark house permanently on town-owned land next to the Belmont Public Library. An additional $150,000 would be raised privately, for a total budget of $750,000. The house would face Concord Avenue, adjacent to the First Armenian Church property, occupying space that is currently maintained by the Belmont Garden Club. The $750,000 budget is expected to cover the cost of pouring a foundation, moving the Clark house, purchasing, installing, and connecting electrical, plumbing, and HVAC systems, landscaping, and renovating the house interior. The house is in reasonably good condition apart from peeling paint, according to Smith, who toured the interior of the building in August.

The HDC Plan

The HDC wishes to preserve the Thomas Clark house, a handsome 1760 farmhouse that
is one of the oldest buildings in Belmont. It is unusual in the degree to which its 18th-century interior is undisturbed. The small rooms, low ceilings, sloping floors, and plain carpentry are part of what made the house unappealing to 21st-century home buyers.

The HDC plan envisions the Clark house as the new home of the Belmont Historical Society. The Society currently occupies the Claflin Room in the Belmont Public Library, a space made possible by a gift from Helen Claflin in 1965, when the library was built. The move would provide the Society with its own home and would afford increased space for exhibitions and collection storage. The first and second floors of the 26-by-36-foot Clark house comprise approximately twice the area of the Claflin Room, albeit in smaller spaces.

The library would recover approximately 900 square feet of space on the first floor, which could be used for any of a variety of purposes—collections, computer lab, exhibits, or public programs. The library trustees identified limited space as one of several reasons for a new library in the recent debate about whether Belmont should accept a $7.5 million grant from the state library building fund. With a new library no longer under active consideration, this opportunity to add space in the existing building might be an attractive short-term solution.

The house would occupy part of the garden that borders the library parking lot. The garden contains both benches and trees dedicated as memorials to former Belmont citizens. There is no way to site the house without moving at least two memorial trees.

The house would also be located within 100 feet of Wellington Brook, a wetlands zone protected by law. The Belmont Conservation Commission would have to issue a permit for the house, and a permit might require significant environmental remediation.

### Project and Operating Costs

The HDC is still assembling the project details required for an itemized budget for the final CPC application, which is due on November 1. In the

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<tr>
<th>Project Title</th>
<th>Type</th>
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OSR=Open Space and Recreation; CH=Community Housing; HP=Historic Preservation.
meantime, donors contributed $11,000 to renew the insurance policy on the house for a year.

The $600,000 request is more than the cost of any of the nine projects funded by Town Meeting in the first cycle of CPA projects considered last May. However, it would amount to just over one quarter of the approximately $2.3 million currently available for CPC projects. There is no financial or legal barrier to a $600,000 project, and CPC chair Paul Solomon stated that the committee has no policy on project scale.

Assuming the house could be moved and renovated for $750,000 (and assuming that $150,000 could be raised privately), would the Belmont Historical Society be able to bear the annual operating costs? The HDC application states, “While the town would own the building as an annex to the library, it may be possible to have the Historical Society provide some of the annual operating expenses.” This statement begs the question: who would cover the remaining operating expenses? Several selectmen have stated in the past that the town cannot afford any expenses related to the Clark house, so it would seem necessary to have a firm plan for privately funding all operating costs if the Selectmen are to approve the move.

The Historical Society’s current arrangement with the library does not entail any rent. According to its most recent Form 990-EZ filing, available online from the Massachusetts Attorney General’s website, the Historical Society had revenues of $8,385 in the year ending May 31, 2012 (mostly dues and contributions), offset by $7,371 in expenses (mostly printing costs and a $2,200 scholarship), resulting in a $1,014 surplus for the year. The numbers are similar for other recent years, so it is fair to conclude that the Historical Society’s net operating revenues could not sustain the cost of maintaining the building. The Society would have to create a development committee and increase fund raising by at least $10,000 to 15,000 per year.

Is this Plan Likely to Succeed?

The proposal falls squarely within the scope of the Community Preservation Act. One of the central purposes of the Act is to preserve historically important structures. The CPC has invited the HDC to file a full application, albeit with some challenging conditions, including Planning Board and Conservation Commission review. At that point the proposal is likely to receive much closer scrutiny from the CPC and other interested parties.

Informal conversations with the Historical Society and the library Board of Trustees were sufficiently encouraging for the HDC to proceed with its preliminary application. However, members of both boards were hesitant to comment without more certainty about the details of the HDC plan.

The Belmont Historical Society board heard about the plan from Smith on September 11. In the weeks before the meeting, President Emilio Mauro Jr. had said the Society is “open to considering” the HDC’s plan, but may need some time to reach a decision. Several other members of the Historical Society board had pointed out that taking financial responsibility for a 253-year-old house would entail not only paying utility bills and insurance but also the risk that, in any given year, a major repair might be required. (The Historic Society has some experience with property management: it owns and maintains Wellington Station, the small octagonal building on the town green beside the Unitarian church.)

Library Director Maureen Connors pointed out that the library parking lot (41 spaces) is not big enough to meet state standards. If the library were to expand in the future the presence of the Clark house, and its parking requirements, could constrain the available options.

Members of the Garden Club are unlikely to favor a plan that involves significant loss of space, particularly if it also requires moving memorial trees.

In summary, while saving the Clark house, an attractive and historic building, would be an impressive feat, it is not clear that the HDC proposal will win the broad political support necessary to carry the day. Clark house proponents are working on creative alternatives, but there is little more than a month to come up with a new approach.

Vince Stanton, Jr., is a Director of the Belmont Citizens Forum.
BHS Parking Lot Plan Could Clean Up Pond

By Darrell King

The Belmont High School parking lot was recently repaved, and an opportunity was missed to improve the stormwater runoff situation that currently plagues Clay Pit Pond—but that stormwater runoff may be reduced in the future, thanks to a plan by Fred Dominici, Buildings and Grounds director of Belmont Public Schools.

In January, Sustainable Belmont submitted a proposal to the Belmont Public Schools suggesting that pervious asphalt or pavers could be used in the repaving to reduce the amount of stormwater runoff from entering the pond, and Roger Colton provided much research supporting this approach. However, because money for paving had already been earmarked and because of fear that the clay subsoil would keep impervious paving from working well, the paving with standard asphalt went ahead.

Dominici then thought of an alternate approach. He pointed out that all of the storm drains that carry runoff from the lot eventually empty into the pond at a single point. He proposed capturing this stormwater, filtering it, and storing it for watering landscaping at the school and other town sites. I subsequently met at the school parking lot with Dominici; Patrick Herron, Mystic Monitoring Network director, Mystic River Watershed Association; Bob Neville, PhD, senior watershed hydrologist, The Bioengineering Group; and Jim Decoulos, PE, Decoulos & Company.

It was raining the morning we met, and we all had an opportunity to see how water flows on the surface of the lot. The two sides of the lot drain into two specific areas before ending up at the single drain going into Clay Pit. The environmental engineers had some excellent suggestions and worked up an initial estimate and time frame for doing this work. The work would involve creating two retention areas with some landscaping. These areas would naturally filter the water before it ends up in a storage basin.

According to a very preliminary proposal, the run-off for the one-half inch “first flush” produces 1,558 cubic feet of rain from the western portion of the parking lot nearest the building and 2,285 cubic feet from the eastern end. In each case there appears to be adequate space to construct bioretention basins that can fully contain the first flush. Bioretention—processing stormwater by letting it filter through roots and soil—can remove up to 90 percent of the pollutants from parking lot stormwater runoff.

Bioretention—processing stormwater by letting it filter through roots and soil—can remove up to 90 percent of the pollutants from parking lot stormwater runoff.

In this case, all of the first flush can be stored at a depth of one foot and infiltrated through an engineered soil. The depth of that engineered soil would be based upon critical elevations needed to insure drainage including subdrains that would be required because of the relatively impervious clay soil. Runoff in excess of the first flush would drain directly to the pond through beehive catch basins at both locations with rims elevated one foot above the surface storage area. Beehive catch basins are essentially grates, sometimes with a rounded top surface, that prevent large objects from clogging the drainage system beneath. The one foot of stored runoff would infiltrate—that is, sink into the engineered soil—at a rate of approximately 2 inches per hour and be removed in six hours by infiltration into the engineered soil and out through the subdrains, eventually ending up in a storage tank for later use.

The area surrounding Clay Pit Pond has been designated as open space and a passive recreation area (walking path) and is slated for improvements. This enhancement would further protect the pond from pollution as well as provide clean, fresh water for maintaining green open spaces and landscaping around the town.

Darrell King is co-chair of Sustainable Belmont.
Green Infrastructure Grant to Reduce Pollution

By Patrick Herron

Arlington has received a Massachusetts grant to support a cooperative effort with Belmont and the Mystic River Watershed Association (MyRWA) to identify opportunities to place green stormwater structures in the two communities. These types of structures, which can include rain gardens, vegetated swales, and street trees, reduce the non-point source pollution entering local waterways.

Governor Deval Patrick announced in July that the town of Arlington was one of only five recipients this year awarded a 604(b) Water Quality Management Planning Grant from the Massachusetts Department of Environmental Protection (MassDEP). The amount of the grant is $39,580.

The two towns are taking a proactive approach to wet-weather management, by identifying pollution sources, and reducing pollutant loading through the installation of “green” structural treatment devices (often referred to as BMPs, for “Best Management Practices.”) This approach uses small-scale facilities distributed throughout the watershed to slow down, cleanse, infiltrate, and reuse rainwater where it falls.

Glenn Clancy, director of Belmont’s Department of Community Development, will lead the effort on behalf of the town.

Grant Requires Cooperation

For a successful outcome, the project requires the Belmont Department of Public Works, the Conservation Commission, and the public to agree on priorities. The Belmont Citizens Forum plans to play an active role in identifying opportunities and communicating residents’ interests.

Wayne Chouinard, town engineer for Arlington, says the project is a great opportunity to expand on our current stormwater awareness program. “By working with colleagues in a neighboring municipality we can begin to develop stormwater solutions that are progressive and sustainable throughout the watershed rather than limited to the town’s boundaries,” Chouinard says. “We are choosing to focus on ‘green’ structural BMPs because of their demonstrated performance, cost effectiveness, and the broad community benefits that they impart.”

As of early September, Arlington was still working with the state to define a set of contract deliverables. They expect the project will undertake a broad set of tasks, including:

- Call kick-off meeting to discuss municipal goals;
- Conduct Global Information System (GIS) analysis of pollutant sources and most feasible opportunities in each community;
- Analyze of nutrient loads at Alewife and Mill Brook;
- Prioritize opportunities based on criteria identified by municipality;
- Visit sites to examine feasibility, and
- Develop conceptual designs at each of two sites in each community.
The project will draw on the expertise of its key partners. MyRWA, which played a key role in developing the proposal, will provide water quality data and assist with project management. Jeff Walker, a PhD candidate at Tufts University, will perform GIS analysis to identify optimal sites for the biggest expected improvement on stormwater. Finally, The Bioengineering Group, an environmental engineering firm that specializes in green infrastructure, will develop conceptual designs for two treatment devices in each municipality.

The project is trying to address a problem shared by almost every community in the watershed, state, and country: non-point source pollution. Non-point source pollution is the mixture of pollutants picked up by rainfall as it moves through the soil and built environment. These pollutants include fertilizers (nutrients), herbicides, oil, grease, sediments, salt, and bacteria (e.g., dog waste).

When these pollutants reach a body of water, they contribute to the degradation of waterways for recreation and wildlife habitat. Degradation can include elevated bacteria levels that make recreation unsafe, high nutrient levels that promote algal blooms, overgrowth of invasive plants, and a long-term decline in habitat quality.

Urban stormwater pollution problems stem in part from the physical alteration of our local hydrology and in part from the introduction of chemicals and fertilizers. Building and paving over large areas prevents rain from soaking into the ground, which would bind pollutants to the soil before they reach local waterways. Instead, these impervious areas shed water, resulting in rapid sheet flow of stormwater and transportation of pollutants directly to waterways.

Arlington and Belmont share an interest in reducing nutrient pollution to Alewife Brook. Each community also has multiple water bodies that could benefit from reduction in nutrients. Arlington’s waterways include Mill Brook, Lower Mystic Lake, and Spy Pond; Belmont has Clay Pit Pond, Winn’s Brook, Wellington Brook, Little Pond, and Little River.

The collaborative approach between towns allows their teams to share key expertise at reduced cost, foster communication on the shared Alewife Brook, and learn from similar projects in bordering towns. The project ultimately aims to develop conceptual designs of four green structural treatment devices—two within each municipality—that will reduce pollutant loading to water bodies in the Alewife Brook sub-watershed.

While a pilot program of just four devices will have a limited effect on the total pollutant load, the project will better equip our towns with the information, experience, and tools necessary to move forward with more widespread BMP implementation in the future.

Patrick Herron is senior scientist at the Mystic River Watershed Association.
Beaver Brook Dam Gets Emergency Repairs

By Lauren Gunther

Belmont’s Duck Pond Dam failed a safety inspection by the Massachusetts Department of Conservation and Recreation (DCR) in May and has been closed to the public for emergency repairs. Located off Mill Street in Belmont’s Beaver Brook Historic Reservation, the Duck Pond Dam is a 12-foot high earthen impoundment built on Beaver Brook, a tributary of the Charles River. Sinkholes up to three feet in diameter and six feet deep have been found around the dam’s crest, making the dam a public safety hazard.

In July, following the failed inspection, the DCR applied to the Belmont and Waltham Conservation Commissions for an emergency certification to give DCR 30 days to evaluate the dam’s condition and perform emergency work. After the 30 days, the DCR will issue a Notice of Intent that specifies the future work on the dam.

The DCR and its engineering consultant Pare Corporation have closed the area to the public and drained Duck Pond in order to reduce the load on the dam. Twenty-three sinkholes of various sizes had formed around the dam’s crest. Further inspections will determine the cause of the sinkholes and other structural issues and identify potential solutions. Mitigation strategies could include removing vegetation from the dam, restoring the gate, upstream armoring, and reconstructing the dam embankment in order to prevent erosion and protect the downstream habitat. The Pare Corporation also suggested hydrologic and hydraulic analyses, evaluating the structure of the downstream walls, and regrading the crest to a consistent elevation.

Dam Has History of Neglect

The DCR will have a hard time figuring out when and how the dam began to fall apart. There are no prior inspection reports on record for the Duck Pond Dam. No formal operations or maintenance plans are on record either, which could account for the lack of recorded observations over time.

How will the drainage affect the Charles River watershed? The drawdown from the Duck Pond has drained its water into Waltham waterways and eventually the Charles River, most likely also releasing sediment long settled on the bottom of pond. Without a record of water quality on Duck Pond or Beaver Brook, however, it will be difficult to assess the effect on the larger watershed downstream.

Lauren Gunther served as a watershed science intern at the Charles River Watershed Association last summer.
By Anne-Marie Lambert

The fate of the Uplands, a 15.6 acre site abutting the Alewife Brook Reservation, has been unfolding at a frustratingly slow pace, both for developers who envision luxury and affordable apartments on the site and for activists who envision permanent preservation of the ecosystem for wildlife habitat and water retention. However, with a long-awaited court ruling just issued, the next few months could prove more interesting.

Uplands Court Rulings

On September 9, a Massachusetts Appeals Court panel determined that the Coalition to Preserve the Belmont Uplands does not have standing and issued a decision to dismiss the Coalition’s complaints about the planned development but to deny developer AP Cambridge Partners’ request for double fees and costs. The judgment rests largely on the precedent from a recent ruling by the Supreme Judicial Court in Board of Health of Sturbridge v. Board of Health of Southbridge. According to that decision, in order to have standing, the Coalition members would have to prove that the project “substantially and specifically affected” them.

Claiming that the court records did not connect where the coalition members live relative to the proposed project, the panel considered the Coalition’s objections to “amount to no more than a ‘general and collective assertion of injury,’ which does not suffice to confer standing.”

The panel did not evaluate the merits of the case, which alleges errors both in the Massachusetts Department of Environmental Protection (DEP)’s decision to approve the project and in the Superior Court judge’s confirmation of the DEP decision.

The Coalition disputes the decision and is likely to appeal within the required 20 days of the September 9 decision. According to Idith Haber, president and co-chair of the Coalition to Preserve the Belmont Uplands, “This decision has wide negative ramifications for all citizens interested in preventing harm to the environment.” The Coalition asserted in the case that under Massachusetts General Law Chapter 214, section 7A, they have standing as a group of 10 citizens “seeking to prevent potential harm to the environment.”

Wetland Protection Act Enforcement

The current enforcement agent for the Wetlands Protection Act (WPA) is Rachel Freed of the DEP. A Superseding Order of Conditions was issued by the DEP in December 2012 granting provisional approval for the project after the Belmont Conservation Commission denied the developer’s Environmental Permit application on December 21, 2007. The Conservation Commission based its denial on claimed violations of WPA requirements.

After several rounds of appeals, in March 2013 the Conservation Commission terminated their appeal of DEP’s December 2012 final approval of the project. On June 11, the Conservation Commission wrote to Freed expressing interest in cooperating with DEP on WPA enforcement should the proposed development proceed.

In the letter, the Conservation Commission lists concerns and makes enforcement suggestions based on recent experience elsewhere in Belmont. These suggestions include adding more conditions if field tests pre- and post-development warrant further mitigation.

Based on the 2013 failure of underground infiltration chambers installed at the First Church of Belmont Unitarian Universalist in 2004, the Conservation Commission suggested that the infiltration basin proposed for the Uplands be designed with access to observe and measure sediment buildup and to remove leaves, debris, and sediment.

The Conservation Commission also expressed concern about how the proposed operation and maintenance plan for the Uplands infiltration basin only considers sediment buildup to a depth of six inches to be a trigger for cleaning. That trigger would be appropriate for a sump or catch basin, the letter states, “but not for a device that needs to be free of sediment to function.”
The Conservation Commission suggests that during construction, the developer should confirm the estimated infiltration basin exfiltration rate (0.18 cubic feet per second) and of the subsurface soil components affecting the drainage system and/or runoff rates during storm events. At its August meeting, the Conservation Commission had not received any written response from the DEP; only oral confirmation that the DEP considers itself the regulatory body in this case.

FEMA and Flooding

In response to a letter from Haber, Glenn Clancy, Belmont’s director of community development, contacted Uplands developer AP Cambridge Partners and received a letter explaining their views on why the proposed project does not violate FEMA requirements that floodways not be obstructed by construction fill. In the Applicant’s explanation, detailed grading plans propose that the two floodway areas affected by the proposed development will

Map of the proposed Belmont Uplands development. Five buildings are shown in gray: the other two gray shaded areas show where the developer plans to “cut” rather than fill the 100-year flood boundary (indicated by the dotted line). Route 2 is to the right, Acorn Park Drive is at bottom.
The Waltham Land Trust invites folks to experience the beautiful Western Greenway Trail on a route through cattail marshes, forests, vernal pools, and open meadows. The $25 fee will be used to continue building the trail and support the Race Around Waltham series. www.walthamlandtrust.org.

Start/finish line party at Elsie Turner Field; park at Federal Archives, 380 Trapelo Road, Waltham.

Little River Walk: The Past
Saturday October 12, 10 a.m.-noon
Once part of the “Fresh Pond Marshes,” the area around today’s Little River was polluted by output from late 19th-century industrial sites, slaughterhouses, and sewage. Learn about subsequent decisions to reduce pollution and preserve the land as a park. www.friendsofalewifereservation.org. Acorn Park Drive parking lot, Alewife Brook Reservation, Cambridge.

Lone Tree Hill Clean-Ups
Sundays, October 27 and November 2
Join the Land Management Committee for Lone Tree Hill to clean up footbridge trail 8 (October) and clear up erosion and on the Old Coal Road off Pleasant Street. grimble.lmc@gmail.com. Meet at 251 Mill Street Parking lot October 27: November meeting place TBA, times TBA.

Western Greenway 5K
Saturday, October 5, 10 a.m.-1 p.m.

Congressional Forum
Thursday, September 26, 6:30 p.m.
An environmental forum with the candidates vying for Senator Markey’s vacant fifth congressional district seat will be held in Arlington. The event is free. Sponsored by Mass Audubon and the Environmental League of Massachusetts. massaudubon.org. Arlington Town Hall, 730 Massachusetts Avenue, Arlington.

Climate Change and Public Health with Dr. Richard Clapp
Wednesday, October 2, 7-9 p.m.
Dr. Richard Clapp, professor emeritus, Boston University School of Public Health, will present some of climate change’s direct and indirect effects, including heat- and cold-related illness and deaths, vector-borne diseases, and population dislocation. Clapp will also speak about lessons from extreme events such as Hurricanes Katrina and Sandy and policy choices for a more sustainable future. www.sustainablebelmont.net. Assembly Room, Belmont Public Library, 336 Concord Avenue, Belmont.

The Waltham Land Trust invites folks to experience the beautiful Western Greenway Trail on a route through cattail marshes, forests, vernal pools, and open meadows. The $25 fee will be used to continue building the trail and support the Race Around Waltham series. www.walthamlandtrust.org. Start/finish line party at Elsie Turner Field; park at Federal Archives, 380 Trapelo Road, Waltham.

Environmental Events

Anne-Marie Lambert is a director of the Belmont Citizens Forum.
**Winn’s Brook Exploration**

**Saturday, November 2, 8-11 a.m.**
Belmont has two streams that run across the town: Wellington Brook and Winn’s Brook. In recent time these streams have largely disappeared from view. Join a three-mile walk tracing the journey of a droplet of water from Habitat’s vernal pool to Little Pond on the Belmont/Cambridge border. Fee: $16 Mass Audubon members, $20 non-members. Registration required. www.massaudubon.org. Habitat Education Center and Wildlife Sanctuary, 10 Juniper Road, Belmont.

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**Little River Walk: The Future.**

**Sunday, November 10, 3-5 p.m.**
Learn about proposed developments and competing visions for the land near Little River including proposed office park developments on Acorn Park Drive, the Alewife Reservation Stormwater Wetland Project, and the controversial Uplands property. www.friendsofalewifereservation.org. Acorn Park Drive parking lot, Alewife Brook Reservation, Cambridge.

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If you can volunteer even a few hours a month, you can make a difference. You do not need to be an expert—just a person who cares about our town.

**I can devote time to:**

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- Environmental Protection
- Planning & Zoning
- Community Path
- Walking in Belmont
- Mailings
- Newsletter

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- $100
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- $250

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**Thank you!**

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September/October 2013

Cambridge Sees Housing, Traffic Boom . 1
Major Changes Come to Trapelo Road . . 5
Clark House Could Get New Home . . . 9
Parking Lot Plan Could Clean Pond . . . 12

Town to Grow Green Infrastructure . . 13
Dam Gets Emergency Repairs . . . 15
Panel Rules Against Uplands Group . 16
Environmental Events . . . . . 18