

**Members:**

- ✓ = present

**Current:**

- ✓ Bob Robbins (Chair) – Hudson
- ✓ Kathryn Nelson (Vice Chair) -- Nashua
- ✓ Karen Archambault (Secretary) -- Nashua
- David Scaer – Hudson

**Pending Renewal:**

- ✓ Jim Barnes (Treasurer) – Hudson
- Glenn McKibben – Litchfield
- ✓ George May - Merrimack

**Associate Members:**

- ✓ Mildred Mugica – Nashua

**Also in attendance:**

- Geoff Daly, corridor resident and potential member, Nashua
- Michael Redding, prospective member, Merrimack
- Minda Shaheen, Environmental Planner, NRPC
- M. Joseph Fayyad, FERC
- Hank Sennott, Director of Corporate Affairs and Communications, Enel North America
- Kevin Webb, Regulatory Affairs Coordinator, Enel North America
- Andy Cloutier, Nashua
- Nelson Disco, Merrimack Planning Board
- Paul (or Phil) Glavey, Littleton, fisherman/recreational boater
- Julie Hudon, Hudson, river resident
- Dave Hudon, Hudson, river resident and boater
- John Markiewicz, Nashua
- Ron Purington, Hudson
- Tom West, Nashua Telegraph
- Helen Wing

The meeting was called to order at 6:05pm in the East wing downstairs at the Nashua Public Library by Chairman Bob Robbins. Members welcomed Minda Shaheen from NRPC to discuss the proposed Maximum Impervious Surface Zoning Ordinance.

**Maximum Impervious Surface Zoning Ordinance**

Minda handed out updated copies of the draft ordinance for members to review. The updates were based on comments received from LMRLAC members and other stakeholders.

Kath asked Minda for a status on the process of the effort. Minda stated that meetings with the member communities would be scheduled over the summer and into the fall. Minda stated the presentations would cover the draft ordinance and the Low Impact Development (LID) Guidebook. She expects to have a draft version of the LID Guidebook available early next week for review and comment. Minda explained that she plans to incorporate comments on the ordinance and guidebook, finalize both, and then schedule presentations with the member

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communities. She stated she plans to present to Planning Boards, but will schedule presentations with Conservation Commissions if the Planning Boards are not available. The effort will be complete by December.

Kath asked that LMRLAC be informed of the meetings so the LAC can send a representative to the meeting, or provide information if members cannot attend. She also suggested that Conservation Commissions be invited to the Planning Board meetings, so that they can perhaps send a representative to hear the presentation.

Kath asked Minda what the goal of the meeting would be with each town. Minda replied that there will be one meeting per community, with the intent to provide enough information that the town could adopt the ordinance. The current grant just runs to December, so additional effort to specialize the ordinance per town might not be possible. Kath pointed out, and members agreed, that adoption is not likely to occur after a single meeting, thus the LAC must be prepared to support the process in each town post-presentation.

Mike asked what kind of grant was funding the effort. Minda replied that it is a 604(b) grant, funded to address one of the priority recommendations in the 2008 revision of the Corridor Management Plan.

Mr. Disco asked Minda where the 15% amount (maximum impervious surface allowance) comes from. Minda replied that 15% is not mentioned in the Corridor Management Plan but that there is information available that at between 10-15% impervious surface, the water quality in a watershed starts to decline. Minda also mentioned the UNH Stormwater Center is a good resource for research and information.

Mr. Disco also asked why the ordinance only covers the quarter-mile corridor along the Merrimack River. Minda replied that LMRLAC's jurisdiction is the quarter-mile corridor, so the Corridor Management Plan and therefore the ordinance could only reference that corridor. She mentioned that communities could pass ordinances that cover more than just the corridor. Kath asked Minda if the draft ordinance/presentation could address the contractual limitations under the grant and Minda agreed.

Bob requested that the ordinance provide definitions for pervious and impervious surfaces, based on absorption rate. Kath pointed out that there are definitions in the Comprehensive Shoreland Protection Act and in the Alteration of Terrain permit process. Discussion continued on factors contributing to absorption rate, from surface material to compaction to landscape features.

Mike handed out copies of a draft Site Plan Review Regulations Update – Stormwater Management Section – from the Town of Durham, which includes the following definition of impervious surface: “A material with low permeability that impedes the natural infiltration of moisture into the ground so that the majority of the precipitation that falls on the surface runs off or is not absorbed into the ground. Common impervious surfaces include, but are not limited to, roofs, concrete or bituminous paving such as sidewalks, patios, driveways, roads, parking spaces or lots, and storage areas, compacted gravel including drives and parking areas, oiled or compacted earthen materials, stone, concrete or composite pavers, wood, and swimming pools.”

Mike pointed out the Durham draft includes a section on reducing the effective impervious area for redevelopment sites with more than 40% existing impervious cover. He pointed out that this addresses the existing issue of impervious cover within the watershed.

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Bob pointed out that there could be more flexibility on a site, for example, there could be 20% impervious surface permitted on a site if the runoff was directed to an onsite treatment area. Bob also asked about adding a section to the ordinance on LID. Minda mentioned that the purpose of the LID Guidebook is to address this in more detail.

Kath suggested the ordinance point to water bodies that are already impaired.

Bob asked what the source was for standards for drainage requirements on site. Mike mentioned that soil type is one factor. Mr. Disco stated that surface treatment is another factor (e.g. grass, forest, etc.) Bob asked whether the ordinance could expand on treatment options more than simply the 15% impervious surface, and asked Mr. Disco whether Planning Boards could define how much runoff is acceptable for a site. Mr. Disco replied that Planning Boards can define that, and explained that Merrimack's approach is that post-development runoff cannot exceed pre-development runoff.

Kath asked about the apparent residential focus of the proposed ordinance. Minda expressed her view that an ordinance applying to industrial/commercial would be politically difficult to pass. In response, members made the point that, since commercial/industrial sites have a site plan, such uses need to come before the Planning Board for any changes to the site plan. On the other hand, modifications such as paving a driveway (for example) can occur on residential sites without a building permit and thus without Planning Board involvement. Mr. Disco pointed out that it will be hard, if not impossible, to make separate rules based on use. Minda agreed to add commercial/industrial sites to the proposed ordinance.

Mr. Disco asked how the proposed ordinance ties in to EPA Phase II stormwater regulations. Minda replied that towns should have already adopted Phase II ordinances. She also pointed out that Phase III, currently in draft form, will be even more performance standard-based than Phase II.

Further discussion followed on writing performance-based standards. Minda replied that she can put some performance-based information into the ordinance, but cannot rewrite it to be performance-based under the terms of the current grant.

Geoff asked whether grants could be available for writing performance-based standards. Minda replied that there is a pre-proposal phase currently underway, with a deadline of July 22, and a full proposal deadline somewhere around August 10.

Minda indicated she feels she has a good sense of what the LAC is looking for, based on the discussion. She will update the draft based on the feedback and provide it to the LAC again for further review.

Kath asked about coordinating LAC attendance at meetings. Minda replied that she will try to coordinate meeting dates with LAC member availability. Kath pointed out that LMRLAC should have a 'canned message' about the ordinance if no member can attend a particular meeting.

Members thanked Minda for attending and discussing the draft ordinance.

## **Minutes**

The minutes of May 27, 2010 were approved with changes circulated June 22.

## **Water Quality Testing**

George stated the second water quality test was completed last Tuesday and the Merrimack River is in 'excellent' condition, at least as determined by the tests that are performed. He stated that e. coli and dissolved oxygen levels are within acceptable levels, except that the e.

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coli level was high at a site near the Tyngsboro bridge. George stated there is construction near that site; the test result may be due to that or it may be an aberration.

### **Statewide TMDL Study for Bacteria Impaired Waters Draft Report**

Kath stated that New Hampshire has recently released the Statewide Bacteria Total Maximum Daily Load (TMDL) Report in draft form, open for public comment. She mentioned that she has just started her review of the document, and will forward it along to the rest of the LAC. She also stated the LAC may wish to submit comments on the report.

### **Boott Hydropower Dam**

Bob introduced himself and LMRLAC to the members of the public present to hear the Enel North America presentation on the proposed crest gate system for the Boott Hydropower Dam in Lowell. He also clarified that LMRLAC is not a regulatory body. He stated LMRLAC's concerns have to do with the fluctuating water level in the Merrimack River.

Mr. Fayyad from FERC introduced himself and stated that he was available to discuss the process of the application after Enel representatives give their presentation. He clarified that Enel has not yet filed an application.

Hank Sennott introduced himself and Kevin Webb from Enel North America. Mr. Webb explained he is the Regulatory Affairs Coordinator for Enel, and serves as the primary liaison between FERC and Enel.

Mr. Webb explained that Enel owns both the Lowell and the Lawrence dams. He summarized the pin and flashboard system and summarized the process for repairing such a system after it fails. He stated that both dams had the pin and flashboard system until about three years ago, when Enel applied to FERC to replace the pin and flashboard system on the Lawrence dam with a crest gate system.

Mr. Webb described the appearance of the crest gate system. It is a series of hinged steel panels, supported by a series of 'air bags' on the downstream side. The air bags deflate in response to higher water pressure against the steel panels, and re-inflate when the pressure reduces.

Mr. Webb stated that the Lawrence dam, with the crest gate system in place, has been in commission for approximately 6 months. He stated there has been little fluctuation in the river water level in Lawrence since the crest gate system became operational. In contrast, Mr. Webb stated that the water level has fluctuated about 7 feet in Lowell.

Mr. Webb and Mr. Sennott handed out information packets to attendees, with information about Enel North America, the crest gate system, dam operations, before and after photographs of the Lawrence dam, and an architectural rendering of the Lowell dam with the crest gate system in place. Mr. Webb indicated information on the crest gate system is available at <http://www.enel.it/northamerica/BoottCrestGateHome.asp>.

Mr. Webb continued, explaining that, since the Boott dam has multiple sections with angles, the crest gate system would likely involve four sections, with piers at the angles. The construction season would probably last two years, during which there would be times when draw down would be needed. Once installed, the need for fluctuations would be minimal.

Mr. Webb summarized the status of the project. He stated Enel has notified FERC of the intent to amend the license, and submitted a draft application. The draft application went to FERC and to Federal and State resource agencies. Enel will revise the application in response to comments, and expects to file the application in early to mid July. He stated that the

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Massachusetts Office of Environmental Affairs has conducted its site visit and hearings and is now deliberating on what state permits are needed for the job. Enel will also be going to the Army Corps of Engineers, since the crest gate installation effort will require a Dredge and Fill permit.

Mr. Fayyad of FERC summarized the process the application will take. The draft application went through a very informal review. The application will undergo a formal review for adequacy. FERC will post a Public Notice once its adequacy review is complete. The public can then submit comments against or in support of the application. The public can also submit motions to intervene. The commission reviews the submissions, completes its review and makes its decision. It can accept the application as filed, reject it, or modify and approve it.

Kath asked whether the LAC could be notified when the application is filed. Mr. Fayyad replied that a Public Notice will be filed in the Federal Register and will be published in a newspaper in the county where the project is located. Interested parties can go online and subscribe to the FERC eLibrary to check the status of an application. The project number for the Boott dam is P-2790.

Kath asked what criteria FERC uses to make a decision. Mr. Fayyad replied there are no specific criteria. He stated that the license codifies the requirements and conditions. He also mentioned that, with no height change expected from the current dam, it makes the application a simpler one. Mr. Fayyad compared the application to a replacement in kind, but clarified that it would be similar to, but not identical to, replacement in kind.

Mrs. Hudon asked whether the Lowell Historical Society owned part of the dam. Mr. Webb replied that the ownership issues are complex. Mr. Sennott stated that Enel owns the dam and that the dam is part of the Lowell Historic Park. Mr. Webb stated that the National Park Service has always opposed the proposed crest gate system – that it would irreversibly change an historic structure. Mr. Webb mentioned the agreement with the Park Service to maintain canal levels for tours. Mr. Webb stated that Enel understands concerns about historic impact.

Mr. Fayyad stated that the process started three years ago, in response to neighborhood complaints that the (Pawtucketville, or Clay Pit Brook area) neighborhood flooding was due to dam operation. Mr. Fayyad indicated that FERC requested studies, and mentioned one finding was that most of the neighborhood is in the floodplain. FERC asked Enel to come up with a better system.

Discussion followed about the flashboards and pins. Mr. Webb stated it was his understanding that 5 foot flashboards were first used in 1896. He explained that the pins had been 6 inches shorter – i.e. 4 and a half feet tall – until a couple of years ago, when FERC pointed out that the approved flashboard drawings showed 5-foot pins. Enel has, or will, request to amend its license to shorten the pins.

Mr. Purington commented that he had marked full pond level on a pier at a boat launch in Lowell a couple of years ago, and the water level is now running 8-12 inches higher than that. Mr. Webb replied that there had been a period of time when 4-foot flashboards were installed on the dam.

George asked for clarification of the 4-foot board installation. Mr. Webb replied that the 4-foot boards were installed in response to neighborhood concerns, with permission from FERC. The 4-foot installation involves using the 4x8 plywood without the 1 foot rip strip installed above it. Mr. Webb stated the dam currently has 5-foot pins and 5-foot flashboards.

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George asked for the difference in impact between the 4-foot and 5-foot boards. Mr. Webb stated there is no difference in surface flooding between the two flashboard heights.

George asked whether the water backed up into the tributaries. Mr. Webb replied that it does back up to some extent.

George asked about how the crest gate system is controlled. Mr. Webb replied that it is computer controlled with two separate monitoring computers. Mr. Sennott indicated the system has manual monitoring as well.

Bob asked what would happen to the system if the power went out, and what the failsafe position is for the panels. Mr. Webb replied that failsafe is full down with a manual valve.

George asked whether the system can be used for flood control. Mr. Webb replied that it could but that the effect would be nil. The dam is a run of river dam. He stated it would delay the rise of a flood wave, but not prevent it.

Bob pointed out in response to objections about changes to historic buildings that he has been to the park, and noted that the facilities have lighting and indoor plumbing.

Kath asked what FERC's considerations would be, and stated that LMRLAC feels the frequency of fluctuations is not beneficial for the reach of the river under LMRLAC's purview. Mr. Fayyad indicated that this process is not re-opening the license – this specific proposal is not to change the license. Mr. Fayyad gave an example of a request to add boards to raise the impoundment level, explaining such a request would require a new license. Mr. Fayyad also summarized that there are three levels of review, depending on the nature of the comments and requests to intervene received.

Kath asked Mr. Fayyad about the kind of comments FERC would review, and what considerations are used when reviewing the comments. Mr. Fayyad indicated the public and organizations can submit whatever comments they wish, and FERC will determine whether they fit the application.

Geoff brought up Article 19 of the Boott dam license, which discusses erosion and sedimentation control. Mr. Fayyad replied that the proposal should not adversely affect the terms of Article 19.

In response to a question, Mr. Webb commented that Enel does expect an increase in power generation after the installation of the crest gate system. One attendee commented that the current flashboards appear to be poorly seated with water leaking underneath them.

Jim asked for the time period for public comment. Mr. Fayyad replied it extends 30 days from the posting. Jim asked how long FERC then takes to review the comments and Mr. Fayyad replied that it depends on the feedback received.

A brief discussion followed on the needed permits for the application. Mr. Fayyad explained that FERC has jurisdiction for the dam operation. Mr. Fayyad explained that FERC could approve the application, but Enel still has to procure the necessary local permits. The Army Corps of Engineers has jurisdiction for dredge and fill activities. State and local authorities have jurisdiction over wetlands and historic sites.

Mrs. Hudon asked Mr. Webb how long the river would be lowered during the construction process. Mr. Webb replied that he expects two construction seasons, avoiding high water in the spring and fish passage in mid-July.

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A brief discussion followed on the notification that Enel has provided to the public regarding water level lowering for maintenance activities. It was asked whether Enel could also provide notice when the drawdown was complete, so river users would know when to expect the water levels to rise again. Mr. Webb replied that they will try to put that on the Web site.

George asked whether there had been any downstream problem with fish passage. Mr. Webb replied that there are downstream fish bypass systems at both the Lowell and Lawrence dams.

George asked whether there were any negatives to the crest gate system. Mr. Webb briefly described a fatal dam failure in Australia. Mr. Webb indicated the dam in Australia had an older bladder design, with a single bladder. He also stated he understood that the area had had a hailstorm prior to the failure. Mr. Webb explained that the proposed system for the Boott dam has a series of 20-foot bladders with check valves between them.

Mr. Webb and Mr. Sennott stated they had extra information packets for attendees to take and distribute as they wish. Mr. Webb also stated that the information either is, or will soon be, available on the Web site.

Members thanked Mr. Sennott, Mr. Webb, Mr. Fayyad, and the rest of the attendees.

Meeting adjourned 8:45pm.

Next meeting is currently scheduled for Thursday, July 22, at 7pm at the Nashua Public Library.

Respectfully submitted,  
Karen Archambault  
secretary