

**Members:**

- ✓ = present
  
- ✓ Bob Robbins (Chair) – Hudson
- ✓ Kathryn Nelson (Vice Chair) -- Nashua
- ✓ Karen Archambault (Secretary) -- Nashua
- Glenn McKibben (Treasurer) – Litchfield
- ✓ Cynthia Ruonala (Public Relations) – Nashua
- George May - Merrimack
- Jim Barnes – Hudson
- Ray Peeples – Litchfield
- Stan Kazlouskas – Hudson
- ✓ Will Jewett – Litchfield

**Also in attendance:**

- ✓ Millie Mugica, corridor resident, Nashua
- ✓ Stephen Chapman, Vice President, Fay, Spofford and Thorndike
- ✓ Lee Carbonneau, Senior Wetlands Scientist, Normandeau Associates
- ✓ Richard Fixler, Assistant Director, Manchester-Boston Regional Airport
- ✓ Harry Stewart, Director of Environmental Services, NH DES

Chair Bob Robbins called the meeting to order at 7:35 pm in the meeting room in the East Wing at the Nashua Public Library. It was determined that a quorum was present.

**Minutes**

In the interest of time, reading and approval of past minutes was postponed. Hard copies of the draft minutes for May, June, July, and August were handed out to members for review.

**CSO Structure 003 (Farmington Road) Outfall Reconstruction Project, Nashua**

Stephen Chapman of Fay, Spofford and Thorndike and Lee Carbonneau of Normandeau Associates presented plans for the City of Nashua to replace an existing Combined Sewer Overflow (CSO) into the Merrimack River, located adjacent to the southerly end of the Nashua Country Club, off Farmington Road.

Mr. Chapman started by summarizing the nature of the area and the reason for the project. The existing stone box culvert is roughly 2 feet by 3 feet in size. The box culvert was initially constructed to carry an existing stream under the railroad. A 36-inch CSO pipe feeds into the stone box culvert, as does a 12-inch intake pipe for country club irrigation. In 2005, significant erosion occurred in the roughly 20-foot high embankment at the CSO outfall. Several factors were cited for the erosion, including

- lowering of the Merrimack River by the Boott Dam in Lowell to effect repairs
- portion of the stone box culvert could have collapsed
- stone box culvert could have had a blockage

In the fall of 2005, the City of Nashua made emergency repairs to the area. The Mother's Day storm in May of 2006 blew out much of the City's repairs.

## **LMRLAC – September 28, 2006**

This construction and repair effort will entail installation of two new 42-inch pipes under the railroad tracks south of the existing stone box culvert. The pipes will be installed using a jacking process, which will drive the pipes through the ground underneath the railroad tracks. A headwall will be constructed of reinforced concrete. The headwall is proposed to be roughly 18 and a half feet long and about 12 feet high. One pipe will carry the perennial stream, the other will carry the CSO.

The embankment restoration will use rock to fill the 2:1 slope. Larger rocks of 18 to 36-inch diameter on average will be chinked in with smaller rocks. This stone fill will occur on either side of the headwall. Limit of work along the bank is about 100 feet.

Kath asked if options other than concrete were considered for the headwall. Mr. Chapman replied that stone would not be as stable for holding pipes in place.

Bob asked if water will always flow out the pipes. Mr. Chapman responded that flow from the perennial stream will always be present in the one pipe.

Mr. Chapman continued that the pipes may not be visible, depending on the time of the year and the height of the river.

Kath asked whether less headwall and more rock could be used. Mr. Chapman replied that with the steep bank and fluctuating water level it would be very difficult to place earth and keep it stable.

Kath asked about high flows and what would prevent slumping behind the headwall. Mr. Chapman indicated that the spring water level is below the top of the rock fill level. The integrated mass of rocks has been engineered to hold in place.

Mr. Chapman gave a summary of the construction sequence. During construction, dewatering will take place using steel sheeting in two phases. At the conclusion of the project, the sheeting will be cut off at one foot below mud line and will help to protect the toe of slope.

Bob asked how long the toe would be protected. Mr. Chapman indicated that it should be a permanent fix.

Bob asked about the aesthetic appearance of the rock face and concrete headwall, contrasting it to the stone work at the Salmon Brook outfall, and whether a more natural solution could be put into place for the headwall. Kath asked about colored concrete. Cynthia also expressed concerns about the project's appearance, echoing Bob's comments. Mr. Chapman indicated later that the rock face at completion is intended to have the appearance of a wall, rather than a pile of rocks.

Bob asked which side of the river is being scoured in this area. Ms. Carbonneau replied that the river is straight in this area, with nearly vertical banks, and that undercutting on both banks occurs in this area.

Bob asked if what was proposed was a new approach for projects such as this. Mr. Chapman responded that it's a common practice, indicating that Boston Harbor and areas along the Charles River have examples of such construction.

Lee Carbonneau then summarized the revegetation plan for the area of work along the river. She indicated that the area has currently mature oaks, some of which hang into or over the river. The planting plan includes red oak, white oak, and white pine above the ripped area, and eventually will help to disguise the fill above the headwall. She indicated that these choices were considered in part because of the concern about wintering bald eagles in the area. Eagles

## **LMRLAC – September 28, 2006**

prefer pines for night roosting, but eagle monitoring near the Manchester airport has indicated that oaks are used by eagles for perching.

In response to a question about whether either the State or US Fish and Wildlife had been involved in reviewing the project, Ms. Carbonneau indicated that it was believed that this project would not have an impact on fish. She went on to indicate that brook floaters are a concern in the area. She said that part of the project will involve identifying all mussels in the project area. If any brook floaters are found, they will pursue an emergency permit from DES.

Ms. Carbonneau indicated that many trees have already fallen into the river and that a couple of large trees will need to be cut. Kath asked what size tree will be planted as part of the planting plan; Ms. Carbonneau responded that most of the trees are either 2½ to 3 or 3 to 4 feet tall. Specimens larger than that have a greater transplant shock. There is a survival requirement for at least 2 years for the plantings.

Kath asked whether the stream in the pipe was considered jurisdictional for the Dredge and Fill permit. Ms. Carbonneau indicated that it was not, that the stream had already been flowing through a pipe for many years.

Ms. Carbonneau indicated that the DES public hearing is the week of October 2<sup>nd</sup>.

Again the committee returned to concerns about whether the repairs would prevent further erosion in the area, and expressed concern about erosion occurring either upstream or downstream of the work area. Ms. Carbonneau and Mr. Chapman indicated that the project is being designed and construction is intended to take care at either end of the work area to integrate the repairs into the existing embankment in such a way that it would not cause erosion at the edges.

Mr. Chapman described how the limits of work area were determined. The northerly end of the area is delimited by mature oaks. On the southerly end a 36-inch oak marks the limit, but that oak has since been found to have 6 or 7 feet of undermining. Committee members agreed that some undermining of roots is natural along a river of this nature. Mr. Chapman also indicated that the length of the concrete headwall structure end-to-end is the minimum required for the site as determined by engineering study.

Mr. Chapman indicated that any inspection post-construction of the continued integrity of the structure is the responsibility of the City. During construction, representatives of FST and Normandeau Associates will inspect the site. The railroad requires that it have an inspector onsite at all times during the project.

Kath asked whether any city land abuts the work area. Mr. Chapman indicated that the land to the north of the work area is owned by the railroad, but that the land to the south, between the railroad and the river, is under some conflict as to its ownership.

In response to a question about existing bare areas, Ms. Carbonneau indicated that the planting plan goes as close to the railroad as it can without affecting the right-of-way. The areas north and south of the site are fairly well vegetated except for the steep slope itself.

The project has 120 days to complete upon receiving a 'notice to proceed'. Mr. Chapman indicated that construction completion was originally intended to be January 15, 2007, but he's now hoping for completion by the end of January. Plantings will take place in April.

The DES file number for this project is #2005-02660. This is the number originally assigned for the emergency repairs in November 2005, and DES indicated the same file number should be kept for the permanent repair effort. Bill Thomas is the DES inspector in charge of this project.

## **LMRLAC – September 28, 2006**

The committee thanked Mr. Chapman and Ms. Carboneau for their presentation. Kath will draft a letter to DES with the committee's comments.

### **Airport Deicing runoff concerns to Little Cohas Brook and the Merrimack River**

Richard Fixler, Assistant Airport Director of the Manchester-Boston Regional Airport and Harry Stewart, Director of Environmental Services at DES came before the committee to discuss the issue of airport runoff into Little Cohas Brook, which flows into the Merrimack River just north of LMRLAC's area of focus. White foam has been seen entering the river, which was determined to be from propylene glycol (deicing fluid) runoff from the airport.

Mr. Fixler described how the airlines deice their planes on the terminal apron and the overnight parking aprons. Runoff from the aprons goes through an oil-water separator, which has coalescing plates in it. This device does not remove deicing fluids. The treated flow then flows from there to a detention pond and from there to Little Cohas Brook, which in turn flows into the Merrimack.

Over one million gallons of deicing fluid is used at the airport per year.

Discussion followed on options available for detention and treatment in general at the airport, including permeable parking lots and graveled wetlands. Members asked whether the airport was considering low-impact development (LID) principles by keeping more of its runoff on-site as opposed to sending it directly off-site to the river.

Mr. Fixler indicated that the first phase of a multi-phase plan is to take the airport runoff and pipe it directly to the Merrimack, thus bypassing Little Cohas Brook and improving its quality. Once the EPA comes out with effluent guidelines for deicing, expected in 2009, the airport plans to provide treatment for the deicing runoff. Mr. Fixler indicated that the proposed pipe to carry the glycols to the Merrimack is compliant with the airport's existing Federal stormwater permit.

Mr. Fixler explained that taking the effluent to Manchester's wastewater treatment plant is not an option since the plant is past capacity. Onsite storage was considered but the cost was astronomical. There was a study to provide the effluent to the Granite Ridge power plant in Londonderry, which buys effluent to use as their cooling water. However, the study indicated that the glycols would not evaporate and their presence in the cooling water would affect the efficiency of the cooling towers. There was concern about odor as well.

The airport is spending 2 million dollars on this initial phase of its project, to divert the flow directly to the Merrimack River. Once treatment is in place, then the treated water would be the discharge into the river. The airport has decided to wait until the EPA guidelines are in place so they will know what level to treat to.

Cynthia asked how dangerous the substance is. Mr. Stewart replied that propylene glycol is considered non-toxic in dilute form. It is considered an oxygen burden on rivers. Ethylene glycol, on the other hand, was historically used and that substance is very toxic. Bob pointed out that propylene glycol is biodegradable. It was further pointed out that the substance is a sugar and thus edible to microorganisms.

It was pointed out that, due to the impoundment of the Merrimack at Lowell, the committee has concerns that the river can act more like a lake than a river when it comes to handling pollutants.

The pipe will be below the surface of the Merrimack. Therefore, the surface appearance to the river is expected to be small upwelling. The impact to the Merrimack is minimal – it will receive

## **LMRLAC – September 28, 2006**

the same amount of glycols that it does now from Little Cohas – it may be a small increase because what was previously evaporating during the foaming in Little Cohas will now be getting in to the Merrimack rather than evaporating.

Kath suggested that the airport consider a demo project with UNH. Kath asked about Best Management Practices (BMPs) for the use of deicing fluid. Mr. Fixler replied that the airport does not regulate deicing with the airlines.

Mr. Fixler asked for contact information for LID and Bob indicated he would provide it. Kath brought up the local example of the parking lot at Pennichuck Square in Nashua and indicated she would forward information on that to Mr. Fixler.

The committee thanked Mr. Fixler and Mr. Stewart for coming in, and asked to be kept informed of developments on the project.

### **River Corridor Management Plan Update**

Bob requested that any comments on Danielle's river tours summary, distributed via e-mail earlier in the week, should be submitted back to Kath.

### **DES parcel sale proposal**

Kath will send a letter to DES indicating LMRLAC has no objections to its proposed sale of 8 parcels near the Sagamore Bridge.

Meeting adjourned at 9:10 pm.

Next meeting will be held on Thursday, October 26 at 7:30 pm at the Nashua Public Library.

Respectfully submitted,  
Karen Archambault  
secretary