

APPENDIX E

Public Meeting Summaries:

- **Summary of Meetings Held on November 15, November 30, and December 13, 2000**
- **Summary of Meeting Held on March 8, 2001**

Cambridge Sewer Separation/Alewife Brook CSO Control Plan
Public Meeting Summaries: November 15, 30 and December 13, 2000
Sponsored by the Massachusetts Water Resources Authority and the City of Cambridge

The following is a summary of three public meetings that took place in November-December 2000 regarding the Cambridge Sewer Separation/Alewife Brook CSO Control Plan. These meetings were sponsored by the Massachusetts Water Resources Authority (MWRA) and the City of Cambridge in order to discuss proposed revisions to a sewer separation plan originally recommended in 1994 to control CSO discharges to the Alewife Brook. The first meeting, held on November 15, covered the background and purpose of the projects, their benefits and the reasons for the proposed changes to the plan for CSO control. The second meeting, held on November 30, presented construction requirements and focused on potential environmental and community impacts and mitigation measures. Due to the length of the November 30th meeting, a third meeting was held on December 13 to accommodate further presentation and more complete public discussion on the environmental impacts.

Stephanie Moura, MWRA, facilitated and began each meeting with a discussion of its purpose, introduction of the team members, and recognition of public officials present (see Appendix for list of meeting attendees). The project team involved in the meetings were: MWRA, who is responsible for the regional sewer system and long-term CSO control planning; and its consultants Metcalf & Eddy (M&E), and Regina Villa Associates (RVA); City of Cambridge, who is responsible for design and construction of the project; and its consultants SEA Consultants Inc. (SEA), Montgomery Watson, BSC Group, and Presley Associates.

November 15, 2000

Stephanie Moura (MWRA) called the meeting to order at 7:15 PM. She discussed the purpose of the meeting, which was to be the first in a series of public meetings on the revised plan for Alewife Brook Combined Sewer Overflow (CSO) control. MWRA proposed to file a Notice of Project Change (NPC) with MEPA (then proposed for mid-December) regarding the sewer separation project. MWRA with assistance from Cambridge planned the public meetings to ensure that the public's issues and concerns were identified and adequately addressed in the December NPC. MWRA and Cambridge also planned to conduct an additional public meeting after filing the NPC.

Planning and Regulatory Background

Ms. Moura began by defining a CSO, the necessary release of stormwater mixed with sewage to relieve overburdened combined sewer systems during wet weather. To provide a context for attendees, Ms. Moura outlined the key planning and regulatory elements related to the project. She noted that both **federal and state CSO policy** call for minimizing CSO discharges to area receiving waters. The MWRA was required by a **federal court schedule** to commence design of Alewife CSO improvements by January 1997, commence construction by July 1998, and

complete construction by January 2000. MWRA, through a cooperative agreement with Cambridge, met the milestones for start of design and construction, but due to unforeseen circumstances described later, construction could not be completed on schedule.

Ms. Moura described the development of MWRA's 1994 **CSO control plan**, which recommended sewer separation in certain areas tributary to Alewife Brook, to minimize, but not eliminate, CSO discharges. This plan was identified as the most cost effective CSO control alternative. Regulatory approval of the plan depends upon DEP redesignating the Alewife Brook water quality standard from Class B (fishable/swimmable) to Class B (cso), which permits remaining, infrequent CSO discharges under the assumption that further control would cause economic hardship and not yield additional water quality benefit. To address this issue, DEP has issued a **Variance** for the Alewife Brook, through March 2002, during which time MWRA and selected communities have been directed to gather additional stormwater and CSO- related water quality data. At the conclusion of the Variance period, DEP will make a determination about the designation of the Alewife Brook.

Original Projects/Design Discoveries/Need for Reassessment

Owen O'Riordan (Cambridge DPW) reported the history of design and construction efforts. In 1996, MWRA entered into an agreement with the City of Cambridge, by which Cambridge would design and construct the sewer separation project with MWRA funding. Cambridge planned to do complete separation in two of the areas, the North Massachusetts Ave. area associated with CSO outfall CAM002 and the area immediately adjacent to Fresh Pond associated with outfall CAM004. The cost of this separation work was estimated then to be \$12.5 million. Field investigations during 1997-1998 revealed significant differences between actual sewer and drainage system conditions compared to the information that was available during CSO planning in 1994. The two most significant findings were the discoveries of a previously unknown CSO outfall immediately south of Massachusetts Ave. (CAM401B) and a major cross-connection between sewer and storm lines in the CAM004 area, also previously unknown. It was also determined that the existing CAM004 outfall pipe provided little to no conveyance capacity for additional stormwater flow that would result from separation. A new outfall would be necessary. These findings contributed to higher estimates of the frequency and volume of existing CSO discharges and to a higher cost estimate to attain the intended control goals.

With this new information, the project cost estimate (originally at \$12.5 million) increased to \$75.6 million. In response, MWRA and the City of Cambridge decided to reassess the cost/benefit of the sewer separation plan, although some construction was already under way. Mr. O'Riordan ended his remarks by describing the status of ongoing design and construction efforts.

Re-assessment/Proposed Revised Recommended Plan

Don Walker (M&E) then presented the reassessment approach that led to the revised CSO plan for Alewife Brook. Consistent with national CSO policy, the reassessment utilized two analytical approaches: technology-based and water-quality based. Mr. Walker discussed the range of alternatives evaluated for the project reassessment, which included sewer separation, storage, and treatment. As part of this analysis, MWRA also considered the feasibility of increasing the conveyance capacity of the existing wastewater transport system (system optimization). It was determined that the capacity of MWRA's interceptor sewers and Alewife Brook Pumping Station could not be augmented, but that local connections between the Cambridge/Somerville systems and the MWRA interceptors could be increased in size and capacity.

Mr. Walker then presented cost/performance information for the various alternatives. He explained that two targeted sewer separation alternatives were most effective for CSO control in terms of cost versus performance. Then, he compared cost versus reduction in the average annual pollutant load. Due to the impact of non-CSO sources, such as stormwater, a 100% reduction in the annual CSO bacteria load would result in only a 68% reduction in *total* load. The most cost effective targeted separation alternatives would achieve a 54% reduction in *total* bacteria load. The cost difference between achieving a 54% versus a 68% reduction is \$34 million. The question of whether that additional reduction is worth \$34 million was addressed using a receiving water model, in the water-quality based approach.

Mr. Walker said that the model predicted that even in dry weather, portions of the Brook violate the boating standard for bacteria (and the swimming standard are violated at some locations at all times.) The model results were supported by recent sampling data. In wet weather, the bacteria concentrations in the Brook far exceed the boating standard, primarily due to stormwater. There was very little difference between the predicted concentrations accounting for all pollutant sources and the predicted concentrations assuming CSO sources were eliminated. From these model results, it was concluded that providing levels of CSO control, beyond the level proposed by targeted sewer separation, would not yield measurable water-quality benefit and therefore would not be worth the increased cost.

Mr. Walker then compared the 1994 plan with the revised recommended plan. The 1994 plan estimated 16 CSO activations (totaling 18.3 million gallons) annually under existing conditions, and predicted that the annual volume would be reduced to 2.9 million gallons, an 84% reduction in average annual volume. Based on the new field information, 63 CSO activations (totaling 49.7 million gallons) are estimated annually under existing conditions. With the revised recommended plan implemented, the annual volume is predicted to decrease to 7.4 million gallons, also an 84% reduction in average annual volume.

Next Steps

Ms. Moura then presented reasons to move forward with the revised recommended plan. She pointed out that there were significant benefits to the plan in terms of CSO control and federal court schedule compliance, neighborhood flood control (in the upstream CAM004 area), and protection of the Fresh Pond Reservoir (a drinking water supply). Ms. Moura then discussed the proposed upcoming schedule including the next public meeting and anticipated NPC filing date.

Questions/Discussion

One attendee asked about the maximum flow the interceptors allowed before an overflow. Mr. Walker said the pumping station has a capacity of 75 million gallons per day. The combined capacity of the two MWRA interceptors that carry flow to the pumping station is about 110 million gallons per day. If the flow into the station exceeds the station's maximum capacity, the flow backs up into the interceptors. The exact flow rate, which causes overflows to the brook, varies with wet weather conditions. Opening up local flow connections to the interceptors will not overburden these pipes. The proposed separation will reduce the amount of flow to the interceptors by removing considerable quantities of stormwater.

Concern was raised about where this extra stormwater water would go. Mr. Kubiak explained that the stormwater would be directed to the Alewife Brook. Ms. Moura and Mr. O'Riordan explained where the stormwater would enter the Brook, adjacent to the existing CSOs. The attendee was concerned about existing flooding conditions along the Brook. Mr. Kubiak said that the separation plan is intended not to aggravate current flood conditions, but also was not

intended to solve current flooding problems. The hydraulic modeling of the additional stormwater discharges will be discussed at the November 30 meeting by the Cambridge team.

Another member of the audience was concerned about the number of ratepayers who would pay for this work. Mr. Kubiak addressed the issue by saying the project would be paid for by all MWRA ratepayers (in 43 communities), not simply those in the Cambridge area.¹

A third observer wanted additional handouts from the PowerPoint presentation. She was told that handouts would be made from the presentation and sent to anyone who requests a set.

Another member of the community wanted to know if the graphs of wet-weather and dry-weather scenarios used in Mr. Walker's presentation addressed the removal of illicit sewer connections to storm drains. Mr. Walker indicated that the average bacteria concentrations in stormwater used in the modeling were based on recent sampling conducted along Alewife Brook, and took into account the removal of an illicit connect that had been connected in Somerville. The sensitivity of model results to further reductions in stormwater bacteria was also assessed.

Another attendee had three questions. First, she wanted to know the effects of inflow and infiltration (I/I) on the plan. She was told that the 1994 plan found that reasonably achievable levels of (I/I) reduction did not affect CSO volumes. She then wanted to know what effect the current reworking of the National CSO policy would have on this revised recommended plan. Representatives from the MWRA said that the 1994 National CSO policy is not being reworked, but that it was recently brought in under the Clean Water Act by Congress and is not simply an EPA policy anymore. She then wondered if the targeted 7 activations in 2008 would be in violation of Class B(cso). Mr. Walker said that the classification is based on the percentage of time CSO contributes to water quality standards violation, not the number of activations. Modeling indicated that CSO's would exceed Class B standards approximately 2% of the time, which falls within the 5% guideline.

The final questions at the meeting involved how the stormwater would be cleaned before it was discharged into the Brook. Mr. Kubiak responded that there would be controls placed throughout the system. The attendee wondered about items like oil that could be trapped. Ms. Moura and Mr. O'Riordan said that illegal dumping still needs to be addressed through citizen education programs. At this point, Mr. O'Riordan mentioned that these stormwater controls, known as Best Management Practices (BMPs), would be discussed at the next meeting in more detail.

The meeting was adjourned at 9:30 PM.

November 30, 2000

Stephanie Moura (MWRA) called the meeting to order at 7:04 PM. She discussed the meeting agenda, which was to describe the plan and projects in greater detail and then leave time for discussion of the issues.

Dry Weather Flow Connection Relief

Don Walker (M&E) first addressed an issue brought up at the November 15 meeting. He presented an Alewife Brook bacteria profile and noted that even if there were no bacteria load in the Brook under dry conditions, under wet weather conditions bacteria loads would still overwhelm the Brook.

¹ Because MWRA is funding only a part of the total project cost, Cambridge ratepayers will bear a proportionately higher cost.

He then presented schematics of the three locations where relief of the dry weather flow connections is proposed: SOM01A; CAM002; and CAM 401B. He discussed the impacts of this construction such as traffic, dust and noise, which would be mitigated. Ultimately, though, he noted that this connection relief would reduce CSO discharge, and the construction impacts are short-term and minor.

Rindge Avenue Siphon Relief

The schematic for the existing Rindge Ave. siphon was presented along with the proposed new siphon. Under the proposed plan, a parallel pipe would allow more flow into the higher capacity Alewife Brook Conduit. This would reduce overflows from 2.8 to 1.8 million gallons per year.

MWR003 Modulating Gate & Floatables Control

Under this proposed plan, Mr. Walker explained that a modulating gate and floatables control structure (with a net) would be installed at outfall MWR003. The normally closed gate would open to facilitate the discharge of flow through MWR003 under extreme conditions. The gate would remain closed during typical year storms, and overflows would only occur when the depth of flow exceeded the existing weir elevation. The relatively minor construction impacts would include a small, cylindrical gate housing above grade.

A floatables control net would also be installed and would cause construction impacts including the need for a permanent access road (for routine maintenance) and hatches at grade. He explained the mitigation measures for this construction. Attendees expressed concern about the maintenance of the proposed netting system and wondered about alternative options and technologies.

CAM400 Sewer Separation

Mr. O’Riordan then discussed the construction impacts and mitigation measures of the CAM400 sewer separation. The separation is intended to: reduce inflows into the sanitary sewer from roof drains and catch basins; eliminate illicit connections; remove nine common manholes, and reduce CSOs to Alewife Brook.

Floatables Controls at CAM Outfalls

Bill Pisano (Montgomery Watson) then explained the need for floatables control. He noted that it enhanced water quality, reduced the potential for odors, and improved the aesthetic quality. He described the different technologies including baffle and Continuous Deflective System (CDS) that would be used in the outfalls.

Question and Answers

The first questions surrounded the issue of floatables control. One attendee wondered if there would be breakdowns in the CDS unit. Mr. Pisano said there would not be because there were no moving parts and the unit would be checked quarterly to be sure it was fully operational. Rep. Wolf asked why this technology used at the CAM outfalls was not used at the MWR003 outfall (where a netting structure was proposed). She was told that the peak flows at the MWR003 outfall were potentially much higher, complicating the installation of a CDS unit.

Another attendee wanted to know if the floatables control part of the project was instituted to meet the 1997 EPA deadline and has caused a delay in the project.² Mr. O’Riordan said that this plan was given the same priority as all of projects.

A participant wanted to know if the catch basins would be able to handle the increased stormwater flow (which would include things like illegal antifreeze dumping). Mr. O’Riordan said he expected stormwater quality to improve, but would talk more specifically about predicted benefits later.

An attendee felt that the Towns of Arlington and Somerville were not being adequately represented at the meetings. Mr. O’Riordan said that the presentations had been focusing on Cambridge because that was where the construction projects would be located. He explained that the project team was in touch with contacts from each of the neighboring communities and that these communities were notified of these public meetings. He further explained that, in addition to working with affected communities, the project team also was accountable to the state and federal permitting procedures required.

A question was raised about the ability of the Alewife to assimilate the additional bacteria. Mr. Walker noted that bacteria loads to the Brook would be greatly reduced as a result of the proposed project, despite the increased stormwater discharges. This is due to the relatively low concentration of bacteria in stormwater as compared to CSO. Mr. Walker also noted that while sedimentation will build up over time, bacteria dies off and does not accumulate. Arlington Selectman Mahon asked for clarification of the planned construction schedule. Another attendee suggested an ombudsman be selected to facilitate better communication and problem solving among the different agencies and neighbors during the construction phase.

CAM004 separation

Mr. O’Riordan then gave the current contract status and the plan for the CAM004 sewer separation. He indicated that the new stormwater outfall, needed to carry separated stormwater, would be located adjacent to the existing outfall then turn west and cross under the railway line before turning north to discharge into a detention basin (created wetlands) located in the Alewife Reservation.

After an attendee question, Mr. O’Riordan noted that sewer separation design had not begun for the CAM004 area yet, so the exact streets affected were not yet known. As part of this separation, he noted that through the implementation of BMPs, discharge of pollutants such as TSS and oil, would be reduced as much as possible.

Mr. Pisano then presented information about the hydraulic and water quality aspects of this CAM004 separation and related stormwater outfall. He provided attendees with comparisons of pre- versus post-sewer separation conditions. When the CAM004 separation is complete: stormwater volume to the Little River will increase by 65.7 million gallons per year; TSS loading will decrease by 53%³ and fecal coliform discharge will be cut by 90%.

Mr. Pisano then demonstrated using modeling results that with the existing system, a 10-year 24-hour storm causes significant to severe flooding within three drainage subareas associated with

² Staff understands this to refer to EPA National CSO policy. Under this policy, municipalities and other sewer authorities were expected to comply with the “Nine Minimum Controls,” which included floatables control.

³ This number has subsequently been revised to 47%.

CAM004 and CAM401. With project in place, two areas would experience only minor flooding (CAM004 areas) but the CAM401 area would still experience a severe failure. So while the project will alleviate flooding in certain Cambridge neighborhoods up to the 10-year storm, he did note that the new drainage system would be overwhelmed beyond the 10-year storm.

Mr. Pisano described in some detail the modeling approach used to evaluate the effect of the project on the water levels in the Alewife Brook. He explained that the function of the 8.8 acre-foot wetland detention basin was twofold: to attenuate stormwater flows to the Little River and to provide treatment to minimize pollutants such as TSS and bacteria. He concluded that, with the CAM004 sewer separation and new stormwater outfall / detention basin complete in 2008, river elevations in the Brook may rise between 0.72 inches and 1.68 inches from Mass Ave. Bridge to Perch Pond, respectively. Several attendees raised concerns about creating a system that increased stormwater discharges to the Little River/Alewife Brook because it may worsen flooding along low-lying areas. Some wondered whether the FEMA data was outdated. Rep. Wolf remarked that there was already flooding at Sherman St. (Cambridge), Arlington and Belmont. Mr. O'Riordan responded that the proposed plan would not mitigate flooding conditions in the Sherman St. area. He reiterated that there would be a slight elevation in the Alewife Brook.

Participants expressed concern that flood mitigation for Cambridge was coming at the expense of other areas. They wanted to know if the team had met with the Engineering departments of Arlington and Belmont. The team said they had met with the Arlington DPW and would also meet with Belmont. An attendee then asked if additional building in Cambridge would impact this project, i.e. increase stormwater flows more, but was told that the plan took into account full build out. Mr. Pisano explained that the new 4-foot by 12-foot box culvert outfall is not intended to provide enhanced drainage service for the downstream commercial areas north of Concord Avenue to the Little River. It is assumed that the existing drainage system in this area will continue to discharge up to its full pipe capacity during storms greater than the 2-year 24-hour. It is assumed that in the future the City will impose additional stormwater management requirements on any existing development proposing modifications to reduce peak runoff.

At this point, Ms. Moura indicated that a third meeting would be scheduled to accommodate all of the questions and the rest of the presentation. She allowed more time for discussion at this point.

One attendee suggested that the handouts be placed on a web site.⁴ Then, this attendee said that the issue of future building had not been fully addressed, nor had the coordination between towns. He noted that although there was not documented evidence about flooding in Cambridge and Arlington, there seemed to be plenty of anecdotal evidence. He felt there should be more of a storage solution to the stormwater problem. Ms. Moura noted that there would be an opportunity to discuss this further at the next meeting and reminded attendees that the mandate of this plan was CSO control not to resolve the larger flood control issues of the watershed. Other residents felt that flood control should be part of the plan because flooding and Brook maintenance is a very important issue. The meeting was adjourned at 10:15 PM.

December 13, 2000

Stephanie Moura of the MWRA called the meeting to order at 6:40 PM, setting out the agenda of the meeting. The goals were twofold: allow time to finish the presentations regarding environmental impacts from the previous meeting and then have an open discussion, including question and answer (Q & A). During the presentation section, she requested that only clarification questions be asked and all other questions be deferred to the Q & A.

⁴ The materials have been made available on the Cambridge web site: ci.Cambridge.ma.us

Cambridge Park Drive Area Drainage Project

Wetlands/Wildlife

Burt Bryan, a biologist with BSC Group (subconsultants to SEA), addressed the vegetative and wildlife impacts to the Alewife Reservation as a result of the Cambridgepark Area Drainage Project (detention basin). He described in some detail the current discernable vegetative areas throughout the Alewife Reservation. He then discussed the effects the detention basin would have on the environment and wildlife. The detention basin is planned for the areas that are mostly upland shrubs—leaving most of the forested land intact. The plan will result in a change in some wildlife habitat—replacing some upland vegetation with wetlands.

Landscape Design

Melissa McDonald of Pressley Associates (subconsultants to SEA) then discussed the proposed landscaping around the basin. While certain segments of existing trails are to be removed to make room for the basin, the trail system will remain whole due to the creation of additional segments. Ms. McDonald said that the trail surface would be mixed with a natural stabilizer so the trail would be very natural. She also explained that layers of various species of vegetation would be planted to stabilize the banks of the basin and create a constructed wetlands system.

Mr. Bryan then discussed the long and short-term effects of the basin on wildlife. In the short term, there will be construction impacts. For example, the area will not be accessible to wildlife for a few months during construction. He suggested that by timing the construction properly, the effects on certain species would be minimized. He believed that the best time to do construction would be late fall or winter. After construction, the area would need time to stabilize.

In the long-term the vegetation in the area would become more diverse. The detention basin would be designed to retain a shallow pool of water the majority of the time with vegetation that is beneficial for a number of species. Overall, Mr. Bryan noted that the work would restore a piece of marsh that used to be there years ago.

Construction Management

John Struzziery, the construction manager from SEA, discussed the construction impacts (both short and long-term). He indicated that the project includes a variety of approaches to mitigate these impacts. To mitigate the wetland and wildlife disruption, construction would be limited to certain seasons of less import, including construction access and stockpiling, and the surrounding reservation land would be protected during construction with fencing and hay bales.

An attendee then asked how large the construction zone would be. Project staff explained that the stockpiling would occur at the area under the bridge near the Fresh Pond Mall, an area that has been in use for this specific purpose for about 2 ½ years. Another attendee wanted to know the start date of the project. He was told that construction was planned to begin July/August 2001. The attendee recommended holding another public meeting devoted solely to the environmental aspects of construction.

During the period of temporary construction dewatering of the excavation, perimeter groundwater monitoring wells would be installed to track potential drawdown, and the dewatering discharge would be in compliance with permit conditions. Mr. Struzziery indicated that the project would be designed to not affect adjacent groundwater.

To mitigate the effects of the excavation, no construction would occur in the Alewife Brook during the spawning period, soils would be assessed for contamination, monitoring procedures

would be required, top soils would be used to re-vegetate the area, and a limited work area would be zoned for the stockpiling. Attendees wanted to know if stockpiles would be placed on playing fields and tot lots. Mr. O’Riordan said this would not occur and that the area under the bridge near the Fresh Pond Mall) would be used for stockpiling. Another participant wanted to know if the Little River would be widened as part of this effort. Mr. O’Riordan reiterated the mitigation measures (clean up, widening, and bank restoration) to be performed on a short stretch of Alewife Brook (near the MBTA parking structure), but that there would be no widening of the Little River. In fact, widening and cleaning of Alewife Brook is proposed in part to reduce the historical scoring (??) of the bank of Little River due to high Alewife Brook storm flows.

Mr. Struzziery resumed his presentation at this point. The effect of the truck and construction traffic would be mitigated through the development of a traffic management plan; construction vehicles would be washed before leaving the work zone, and construction-parking alternatives would be developed. To limit the dust and noise, there would be noise limits on all construction equipment and dust control procedures would be established with the contract documents.

Representative Wolf inquired about traffic management during the construction of this project. She pointed out that Alewife Brook Parkway does not allow trucks. Mr. O’Riordan said they would investigate and find an acceptable route. Another attendee wanted to know how workers were going to get onto the site and the impact of construction trucks on the reservation itself.

Another participant wanted to know if this work on the reservation overlapped with the sewer separation work near Whittemore Ave. He was told that any overlap would be limited to about six months because the design portion of the CAM400 separation would take place in 2001, with construction not beginning until 2002.

Hydraulics/Flooding Potential

To complete and summarize his presentation from the November 30 meeting, Mr. Pisano then discussed the hydraulic impacts from this project. During the first phase of construction, stormwater from the upper CAM004 area would be directed to the existing Wheeler Street Drain. After 2008, when all the construction is complete, water will flow in both the new stormwater outfall and the existing Wheeler Street Drain. According to Mr. Pisano, the water from small storms will be detained for about 3-4 days in the detention pond before it discharges to the Little River. This dampens the flow so the peak is lagged from the other parts of the system.

Rep. Wolf then asked if there were other alternatives than the pond. Mr. Pisano responded that pumping the flow to the Charles River was not practical.

The presentation continued with Mr. Pisano reporting that during significant rain events for the last two years, the Alewife Brook near the Mass Ave. Bridge never got above elevation 3 (results of continuous flow gage). After some questions pertaining to the significance of “elevation 3,” Mr. O’Riordan explained that the underside of the Mass. Ave Bridge is elevation 7.

Mr. Pisano then said that the team used computer models to simulate the effects of a 10 Year- 24 Hour Storm on the hydraulics. He noted that during this peak storm flow, the drainage systems in the CAM004, downstream CAM004, and CAM401 areas all fail currently. With the new controls, only the CAM401 area would fail. There would be minor flooding in the CAM004 and downstream CAM004 areas. He noted that the model predicts that even the new drainage system would fail completely in the 25-year and 100-year storm. The new system would not bring additional stormwater to Little River, however.

Mr. Pisano noted that the excavation required for the new detention pond creates 3.65 acre-feet of additional flood plain storage, which helps mitigate the effects of the 10-25 year storms for areas along Alewife Brook. Using 1982 FEMA data, he concluded that the new project (after the project is completed and the detention basin is in place) only increases the Alewife Brook surface level from 0.72 inches to 1.68 inches in the 10-year storm. Due to the flat topography of Cambridge and the river elevation, the new system is unable to convey additional stormwater, beyond the 10-year storm, to the Little River.

Construction Planning/Scheduling

Mr. O’Riordan described the environmental permits needed for the project and reviewed their status. Most permits will not be considered until after the project receives a Secretary’s Certificate from MEPA review of and public comment on the Notice of Project Change.

Question and Answer

In response to a question, Mr. Walker reiterated that the performance of the current recommended plan was then compared to the original 1994 CSO plan. In both plans, the annual CSO volume is reduced by 84%. Under the 1994 plan, 2.9 million gallons of CSO would remain per year; under the revised plan, 7.4 million gallons would remain.

A participant objected to the protocol of waiting until the end of the presentations for questions. He asked whether the project would affect the ADL site. He was told there would be no significant impact on the site.

Arlington Selectman Mahon felt that the town of Arlington was not being suitably included in the public review process. Project staff clarified that there would be minor construction impacts in a small area of Arlington related to the dry weather flow connections at CAM002 and CAM401B, at Mass. Ave and Rt. 16. She asked whether the team was filing a Notice of Intent (NOI) with the Arlington Conservation Commission. Ms. Daly-Woodbury (Cambridge DPW) said that they do not anticipate filing an NOI with the Arlington ConCom, but would check whether any aspects of the project might necessitate that.

Grace Perez of the Mystic River Watershed Assn. indicated the group would be making a request to have MWRA fund the services of an independent consultant to assist the Assn. in evaluating the impacts of the proposed project and in preparing comments on the NPC. Ms. Moura acknowledged the request and said the MWRA would take it under advisement.

After a break, Amy Barad of the Friends of Alewife Reservation wanted to know if there were stormwater storage alternatives prior to the water reaching the detention basin. Mr. Pisano said that if a storage conduit were built under Cambridge Park Drive, only 3 acre feet would be created at a cost of \$7 million, as opposed to the 8.8 acre feet created by the pond. He indicated that putting tanks upstream at the Tobin School would negatively affect the area and only yields 1-2 acre-feet of storage.

Aram Hollman, Arlington resident, asked to what extent other alternatives for stormwater detention were looked at in the cost/benefit analysis. For example, he suggested the use of Jerry’s Pond. Mr. Pisano and Mr. O’Riordan said that using this pond was impossible due to relative elevations.

Dan Driscoll of the MDC Planning Office noted at this point that he had participated in 3 meetings with the team and was pleased with their responsiveness by hiring a biologist and landscape architect. He said that MDC had to be convinced of the serious ecological value of the

project before approving. He also stated that he viewed the project mitigation as an opportunity for funding further improvements to the Reservation.

George Lake, of Arlington, said that he disagreed with the MDC stance on the project and felt from a public policy perspective, it was wrong to use public parkland for this type of project. He felt using the reservation should be considered as a last resort. Concerns were expressed about the potential water quality consequences of stormwater in the basin and the possibilities for increased flooding along the Brook.

Representatives of FAR expressed concerns about the frequency of CSO discharges. Mr. Walker revisited federal and state CSO policy (see summary of November 15). Selectman Mahon said that the town of Arlington had voted to keep the Alewife Brook at Class B designation. Mr. Kubiak said that DEP will ultimately decide the level of CSO control and the water quality designation of the Brook. He reiterated that the purpose of the Variance is specifically to reconsider these issues after additional data is gathered.

Julia Bowdoin of the Cambridge Conservation Commission was concerned about groundwater monitoring. Rep. Paulsen asked that if work were done to the Amelia Earhart Dam would it have any effect on the project. Mr. Pisano indicated that long-term actions could have a beneficial impact on a 10-year storm. Elsie Fiore then said that she would like to see the reservation restored to a swamp again. She also expressed concern about the flooding.

To close the meeting, Ms. Moura noted the next steps in the process for the Notice of Project Change. MWRA and Cambridge anticipated submitting the NPC by January 2, 2001.⁵ On January 10, a notice would be placed in the *Environmental Monitor* and the 30-day public comment period would begin. A public hearing was planned for late January. By mid-February, they hoped to have a Secretary's Certificate.

⁵ The schedule for the MEPA process is currently being updated, due to the delay in filing of the NPC.

Attendees

November 15, 2000 – Homestead Inn Best Western, Cambridge

Amy Barad	
Karen Bjorkman	
Lisa Brukilacchio	Conservation Commission, Somerville
Regan Checchio	RVA
Catherine Daly-Woodbury	Cambridge DPW
Alison Demoy	
Kathleen and Angelo Dias	
Nancy Farrell	RVA
Roger Frymire	
Stephanie Gvos	Massachusetts Community Water Watch
David Holtzman	
Paul Kirshen	
David Kubiak	MWRA
Kwabena Kyei-Aboagye	EOEA
Trillium Levine	
Stephanie Moura	MWRA
Owen O'Riordan	Cambridge DPW
Grace Perez	Mystic River Watershed Association
Betty Radwanski	
Jean Rogers	CWD
Mark Shea	Operations Engineer, Town of Arlington
Nadine Smoske	MWRA
John Struzziery	SEA
Don Walker	M & E
Ralph Yoder	
Tony Zuena	SEA

November 30, 2000– Homestead Inn Best Western, Cambridge

Charles and Elaine Agnillo	
Amy Barad	
Jim Barsanti	
Cori Beckwith	Arlington Conservation Commission
Loren Bernardi	
Karen Bjorkman	
Julia Bowdoin	Cambridge Conservation Commission
Burt Byron	BSC Group
Chris Brown	
Emily Callahan (Rep. Jim Marzilli)	State House
Regan Checchio	RVA
Sheila G. Cook	
John Crow	CPD Genetics Institute
Catherine Daly-Woodbury	
Lorraine Dawes	MWRA
Michael Denney	
Angelo Dias	
Kathleen Dias	Selectman, Arlington
Jennifer Doyle-Breen	M&E
John Durant	
Roger Frymire	
Stephanie Gros	
Aram Hollman	

**Notice of Project Change
CAM004/400 Project Area
Pre-submittal Information Meeting
March 8, 2001**

On March 8, 2001, the fourth in a series of public meetings regarding the Cambridge Sewer Separation/Alewife Brook CSO Control Plan was held. The Massachusetts Water Resources Authority (MWRA) and the City of Cambridge sponsored the meeting in order to discuss proposed revisions to a sewer separation plan originally recommended in 1994 to control CSO discharges to the Alewife Brook. The purpose of this meeting was to describe additional evaluations since the last meeting, identify project modifications and review key elements of the revised plan prior to Notice of Project Change (NPC) submittal and the MEPA review process. Stephanie Moura (MWRA) facilitated the meeting.

Ms. Moura called the meeting to order at 6:41 PM. She discussed the goal of the Plan, which was to accomplish court-mandated CSO control in the Alewife Brook. Ms. Moura noted that since the third meeting in December, MWRA, Cambridge and their consultants¹ held a series of targeted meetings with various interested parties to further explore project benefits, impacts and mitigation. These parties included the Mystic River Watershed Association and its Board members (including Friends of Alewife Reservation), the Coalition for Alewife and the Towns of Arlington and Belmont. A meeting with the MDC had to be rescheduled due to weather. (Subsequently, there have been two meetings between Cambridge/MWRA and MDC.) In some cases, these meetings resulted in modifications to the proposed revised recommended plan. This final public meeting was being held to discuss these modifications.

Ms. Moura explained that the format of this meeting was intended to be different from the previous three. Unlike the open Question and Answer approach from previous meetings, the presenters would describe the additional evaluations, identify and project modifications and answer clarifying questions. She noted that the MEPA review process would provide the formal opportunity for the public to weigh in with additional comments and questions.

Program Overview

¹ The project team includes: MWRA, who is responsible for the regional sewer system and long-term CSO control planning; MWRA's consultants, Metcalf & Eddy (M&E) and Regina Villa Associates (RVA); City of Cambridge, who is responsible for design and construction of the project; Cambridge's consultants, SEA Consultants Inc. (SEA), Montgomery Watson, BSC Group, and Presley Associates.

CAM 004/400 Projects

Owen O'Riordan (Cambridge DPW) reviewed the contract status for the CAM004 (sewer separation and new stormwater outfall/wetland detention basin) and CAM400 (sewer separation through elimination of common manholes) projects.

He also noted that the earlier plan had proposed additional stormwater flows to CAM401 (Sherman St.drain), but after further evaluations it was determined that this would have caused an adverse impact on flood levels of the Alewife Brook. Therefore, this element of the revised plan has been dropped.

Due to public concern about flooding along the Alewife Brook, Mr. O'Riordan reported that a survey with instruments was conducted in January 2001 to determine more precisely the impact of additional stormwater to the Brook. The survey determined that during a 10-year storm event, 6 properties on Boulevard Ave. would be impacted about 1 additional inch beyond existing conditions. He described the project team's proposal to construct a low, earthen berm adjacent to the roadway that would protect properties during 10 and 25-year storms. This proposed berm would provide protection from *existing* flooding, as well as mitigate the marginal increase (less than two inches) in river elevation from the project.

Mr. O'Riordan then outlined the NPC Project Schedule. He said that after 2008, the new system would be fully operational.

Alewife Brook Water Quality

Class B vs. B(cso)

Don Walker (M&E) then discussed the water classification of the Alewife Brook. He pointed out that the DEP Variance process, not the approval of NPC through the MEPA process, will ultimately decide the classification of the Brook (Class B or B(cso)), at the end of the Variance period in March 2002.

A participant asked if changed conditions (such as the elimination of illegal connections) has changed things. Mr. Walker emphasized that reasonable reductions in bacteria loads from non-CSO sources would not change the conclusions regarding the proposed level of CSO control.

Mr. Walker said that to attain Class B standard in the Alewife Brook would require CSO elimination through complete sewer separation in the area. This complete separation was not being recommended for three reasons: total cost, issues of practical implementability, and a cost-benefit analysis. The B(cso) standard which requires that, considering CSO sources only, Class B standards must be met *at least 95%* of the time, minimizes CSOs to the point where providing more control is not cost effective, given non-CSO sources of pollutants

Mr. Walker reiterated that even in dry weather, the Brook still exceeds a Class B standard for bacteria. A participant asked why, and he said that likely causes are illicit

connections, and geese/wildlife waste. Ms. Moura emphasized that this project will reduce annual CSO volume by about 84% in a typical year and that, considering *CSO sources only*, the Brook would meet Class B standards about 98% of the time. An attendee wanted to know if there was any documentation of this. She was told that it had been provided in previous meetings and would also be in the NPC.

Rep. Wolf wanted to know how the issue of illegal hookups were being dealt with. Selectman Mahon said the Town of Arlington was required to determine the illegal connections and take steps to remove them. Ms. Moura noted that EPA and DEP had issued "308 enforcement letters" requiring all communities to take steps to identify and correct illicit sanitary connections to storm drains, and some communities were being more effective at the removal of illicit connections than others. Rep. Wolf asked for specific examples. Ms. Moura said that DEP keeps records on each community's progress and noted that the City of Cambridge was doing a very good job of removing the connections.

Floatables Control at MWR003

Mr. Walker then discussed the location of the MWR003 gate and netting chamber, designed to catch floatables before they reach the Brook. Because some individuals had expressed concern at the gate's visual impact on the Reservation, the project team looked at alternatives such as a physical move or a continuous deflective system device (CDS).

Mr. Walker said that installing a CDS unit would require an area of the Reservation that is three times the area needed for the netting chamber, at approximately two times the cost. A participant asked about the need for an access road to allow workers to remove the net. Mr. Walker said that an access road for vehicles would be needed no matter what form of floatable control was considered. He noted that the access road would be made of a pervious material that blends in with the surroundings and path surfaces. A truck would only use the road about 5 or 6 times a year, and he suggested strategic plantings as a visual screen.

Mr. Walker said that physically moving the regulator downstream (closer to the Little River) would still impact the Reservation. If it is moved upstream, it can only go as far as the end of the CAM004 outfall. A participant asked if it would be moved to the Arthur D. Little parking lot. Mr. Walker said that was not possible, given the route of the existing interceptor. Another participant asked out the net would be removed for cleaning. Mr. Walker replied that a truck with a boom-arm would lift the net up through a hatch in the top of the netting structure. Mr. Walker concluded that it appeared there was no less sensitive area to which to relocate the regulator. Mr. Walker also informed another attendee that no floatables control is currently provided for outfall MWR003. An attendee asked who would maintain the facility and was told that MWRA would, about 6 times a year. Another attendee suggested that when the new access road is built, an unused dirt road (located near the Bridge) be taken out.

Because the meeting was approaching its scheduled ending time of 8:30 PM, some attendees requested that Ms. Moura discuss the MEPA process because they needed to leave. At this point, Ms. Moura said that the NPC will be submitted to MEPA either on April 2 or April 17. Approximately one week after submittal, a notification will appear in the Environmental Monitor. At this point, the project team has agreed to a 30-day comment period (instead of the required 21 days) that will include one more public hearing or workshop. The MEPA office will review the NPC and the public comments, and the Secretary will issue a certificate that will approve, approve with conditions or disapprove the NPC.

A participant asked about the distribution list for copies of the NPC. Ms. Moura said that the document is large and expensive to produce so not everyone on the mailing list will receive it automatically. Copies will be distributed to municipal libraries and town officials. The typical practice is to distribute copies to relevant agencies, municipalities, libraries and involved groups. The notice of the NPC in the Environmental Monitor will list a contact name to request copies. Generally, these requests are filled on a first come, first served basis. About 100 copies are expected to be produced. Ms. Moura said that the project team will consider ways to make the document available if the requests exceed the number of printed copies².

Alternatives for Stormwater Attenuation and Hydraulics Analysis

Bill Pisano (Montgomery Watson) presented several alternatives to constructing a wetland detention basin in the Reservation that the team had evaluated, at the public's request, since December 2000. He explained that any alternative must attenuate or dampen the stormwater flow to the Little River/Alewife Brook. He described five stormwater management alternatives, including conveying flows to the Charles River, various locations for retention/detention, and directing flow to Jerry's Pond. Each of these posed either significant construction impacts and durations or serious implementability problems. In addition, their costs ranged from four to eight times the cost of the recommended plan. He then reviewed Alternative 6 (the proposed construction of a 4 ft. by 12 ft. box culvert and detention basin in the Alewife Reservation), which would cost \$15,000,000. He then presented four other ways to optimize alternative 6. He concluded that creating a wetland detention basin in the Reservation was not only the most cost effective alternative, but that it was potentially an enhancement to the Reservation.

² The team expects the final NPC to be 2 volumes and cost approximately \$100 per copy to produce.

Mr. Yoder asked if the detention basin could be moved to another location not on the reservation. Mr. Pisano reiterated that there are limitations, due to hydraulics, as to where the detention basin can be located. The land is too flat to push water that far.

Another attendee asked how Belmont would be impacted by the proposal. He was told that Belmont was not affected at all, and Arlington would only be affected minimally.

Mr. Pisano then said that in order to address the *existing* flooding in Arlington, the project proposes a berm to be constructed that would provide protection up to a 25-year storm. He said that Mr. Zuena (SEA) would discuss the berm in more detail.

An attendee asked if the Conservation Commission had approved this. Staff replied that the project team met with the Arlington ConCom for preliminary discussions on the berm. Another attendee wanted to know about flooding along the Cambridge side of the Brook and was told that the topography was higher and there were no houses on the other side.

Key Mitigation Measures

Detention Basin

Tony Zuena (SEA) then presented the effects of the detention basin. He noted that the basin would function as a giant sponge, decreasing the rate of flow into the Little River/Alewife Brook. For example, in a 10-year 24-hour storm, the detention basin attenuates the flow from 189 cfs to 50 cfs.

Mr. Zuena emphasized that the detention basin would not be utilized until 2008, when construction is complete. Until the sewer separation is complete, the weir will be closed, and no flow will go into the detention basin. He stated that the detention basin is intended to match the elevation of the Little River during dry weather periods. No standing water would accrue in the basin except right after a storm event. Most of the time, the area would be a wetland, except for a minor channel.

Mr. Zuena said once a year, two truckloads of sediment would be removed from the basin. He said that although 12,000 sq. ft. of wetlands would be modified to create the basin, 62,000 would be created.

He then discussed the short term impacts of detention basin construction, including: wetlands/wildlife disruption; vegetation clearing and site prep; temporary dewatering; soils excavation/stockpiling; truck/construction equipment traffic; and dust/noise.

At this point, an attendee, concerned about the West Nile virus, wanted to know if Dept. of Public Health had approved the creation of additional wetlands. She was told that DPH hadn't approved it yet, but both local and state health officials have been briefed on the project and will have the opportunity to comment during the MEPA process.

Another attendee wanted to know if the Little River would have to be dredged for this project. He was told no.

Mr. Yoder then expressed his concerns that the work done on the Reservation might adversely affect the insect population, which contributes to the decrease of diseases.

Another attendee asked if the MDC had agreed to the use of the land for these purposes. He was told that Cambridge and MWRA are in discussions with MDC about the project but have not yet reached conclusion. The project team anticipates requesting a permit from MDC for construction of the wetland basin.

Ms. Perez expressed her concerns about the effect of the construction on the spawning ground of herring. At this point, Ms. Moura noted that the design of the detention basin is not finished. She noted that many of these issues could be raised during the final design process, which would be done in conjunction with MDC.

Ms. Fiore then said that she was mistrustful of state agencies who promise projects and do not follow through. She said area residents had been promised things by the MBTA, that were not completed. Mr. O'Riordan said that the budget was already allocated for both construction and upkeep of these projects.

At this time, Mr. Laite said that he felt it was inappropriate to use public park land for these purposes. He wanted to know if the MDC rejected the permit, if an alternative site had been chosen. Mr. O'Riordan reiterated that several alternatives for stormwater management had been evaluated and there is not a suitable alternative. He said that if the MDC rejected the permit, the project would be derailed. He stated that this was the most appropriate and cost-effective plan. Ms. Moura also emphasized that this plan essentially returned a portion of the Reservation to wetland and restored its original ecological function of stormwater attenuation/treatment. In addition, because of landscaping efforts, it would provide enhanced recreational/access opportunities.

Flood Control Berm

Mr. Zuena then discussed the proposed 1,900 ft. berm to mitigate existing flooding, and marginal water elevation increases from the project, along the Alewife Brook up to the 25-year event. This earthen berm would range in height up to approximately three feet and lie along the MWRA easement on MDC property that currently contains raised manhole structures.

Long Term Improvements

Water Quality Benefits

Mr. O'Riordan then discussed the water quality benefits of this project. He noted that in the post-sewer separation condition, the Total Suspended Solids (TSS) would be lowered in three areas. In the Upper CAM 004 Area, the input would be 150 mg/l and the discharge to the new stormwater detention basin would be only 32 mg/l. In the lower area, input begins at 100 mg/l and the discharge to the new stormwater detention basin

would be 32 mg/l. In the detention basin, the discharge from the box culvert would be the 32 mg/l, and the discharge into the Little River would decrease to 8mg/l. Mr. O’Riordan said that there would be a 47% reduction in TSS loading to the Little River.

Maintenance Commitments

Mr.O’Riordan then said that the City of Cambridge was committed to maintaining the detention basin after construction. He then emphasized that the City is legally obligated (Wetlands Protect Act, MDC Agreement (to be negotiated), EPA Regulations) for maintenance of the system. He pointed out that there is significant enforcement muscle in the Clean Water Act, saying the EPA could levy fines up to \$100,000 per day if the City does not maintain its commitments.

Ms. Perez, of the Mystic River Watershed Association, thanked MWRA, Cambridge, and its consultants for holding these meetings. However, she said she did not feel a 30-day comment period was sufficient for the public. Ms. Moura pointed out that the period had been extended from 21 days to 30 days, and that the project has deadlines that need to be met to preserve funding. She noted that MEPA, in response to public requests, has the ability to extend the comment period, if warranted

Ms. Erat, a Cambridge resident, said that she felt the project had not been given enough press in the Cambridge papers. Ms. Moura said that the papers were given notices of the meetings, and the Arlington paper was covering the issue in depth.

Mr. Yoder said that he was still concerned about other pollutants (oil and grease, pesticides, etc.) in stormwater. He did not feel that this plan adequately addressed that issue.

Two other residents expressed their thanks for the public meetings and were grateful that the project team had altered tonight’s format to allow time for audience questions.

Conclusions

Reasons to Move Forward

Ms. Moura closed the meeting with a discussion of the significant benefits of this project. She noted the plan would have significant water quality benefits (an 84% annual deduction in CSO volume, overall reduction in stormwater pollutant loads due to BMPs/detention basin); public drinking water supply protection through closure of the CAM004 regulator; and flood protection both in Cambridge residential areas and downstream in Arlington, along the Alewife Brook. She emphasized that the project was currently in violation of a court schedule and needed to move forward. She also pointed out that implementing this plan preserves future additional CSO control options, if DEP concludes through the Variance process that a higher level of control is warranted. Mr. O’Riordan noted that even if additional CSO control is required in the future, the proposed project is the first step to getting there.

She again reviewed the steps in the NPC process. The meeting was adjourned at 10:23 PM.

