The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Matthew A. Beaton
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Mill Street (Tel-Electric) Dam Removal
PROJECT MUNICIPALITY	: Pittsfield
PROJECT WATERSHED	: Housatonic River
EEA NUMBER	: 15510
PROJECT PROPONENT	: City of Pittsfield
DATE NOTICED IN MONITOR	: May 11, 2016

Pursuant to the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA Regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a Single Environmental Impact Report (Single EIR). The City of Pittsfield submitted an Expanded Environmental Notification Form (EENF) with a request that I waive the requirement for the preparation of a mandatory EIR, or if I declined this waiver (301 CMR 11.11), allow a Single EIR to be prepared in lieu of the usual two-stage Draft and Final EIR process pursuant to Section 11.06(8) of the MEPA regulations. The City should submit a Single EIR in accordance with the Scope included in this Certificate. The Scope is limited to providing additional sediment and hydraulic analysis, identifying additional mitigation measures, responding to comments, and providing draft Section 61 Findings for each State Agency that will issue Permits.

Project Description

As described in the EENF, the project includes the removal of the Mill Street Dam (also known as the Tel-Electric Dam), which is located on the West Branch of the Housatonic River in

Pittsfield. It is proposed to restore the connectivity of the channel and enhance fish habitat and fish passage along the River system. The City of Pittsfield also views the project as a component of its goal for revitalizing the neighborhood and enhancing green space along the River.

The project includes the following components:

- Removing the primary spillway, low flow outlet, secondary outlet, and bypass flume;
- Constructing a concrete retaining wall on the river's west bank to protect the foundation of the adjacent mill building;
- Constructing a retaining wall on the river's east bank to stabilize the bank and protect an existing sewer line;
- Removing an abandoned railroad bridge upstream of the dam;
- Adding scour protection around the foundations of two other railroad bridges upstream of the dam; and,
- Installing a boulder grade control structure approximately 1,200 feet upstream of the dam near the West Street Bridge to enhance an existing riffle and to protect buried utility line crossings of the river.

In addition, the sediment built up behind the dam (upstream) will be managed by mechanical dredging of a portion of the material and by allowing natural transport of sediment by river flows upon removal of the dam. Approximately 3,000 cubic yards (cy) of sediment and debris from the impoundment will be disposed of at an upland site. Approximately 6,000 cy of sediment will be passively released.

Worthington Street on the east side of the river will be used for construction access and a staging area will be established between the bridges. Temporary easements from private property owners will be required to establish construction access. Construction vehicles will avoid the Mill Street Bridge because of its weight limit. The removal of the dam will occur in three stages. First, the impoundment will be dewatered by gradually releasing water through the low-level outlet and/or by notching the secondary spillway. The dewatering will also direct flow around the primary spillway to facilitate its demolition in a subsequent stage. The upstream grade control structure near the West Street Bridge will be installed at this stage to protect the utility line crossings from scour due to increased flow velocity upon removal of the dam.

Second, an abandoned railroad bridge upstream of the dam will be removed. This bridge is in poor condition, appears to be unused, and it has become an attractive nuisance of concern to the City and police. In addition, increased flow velocity and erosion associated with the removal of the dam may destabilize the bridge if it is left in place. Two other railroad bridges upstream of the dam will remain in place. This stage of construction will include protecting bridge abutments from scouring by removing sediment from the base of the abutments and placing rock or stone. Approximately 3,000 cy of sediment will be dredged from the impoundment to facilitate removal of the dam, construction of retaining walls, and creation of stable grades in the river channel. Sediment will be placed adjacent to the east bank of the river between railroad bridges and allowed to dewater before being removed from the site. Finally, the dam and associated structures will be removed and the retaining walls will be constructed. The existing retaining wall adjacent to the mill building foundation will be reinforced with a concrete abutment and scour protection stones placed upstream of this wall. A retaining wall will be

constructed on the east bank of the river to stabilize areas disturbed by removal of the dam structure. River flow will be diverted into the low-level outlet to facilitate these activities.

The removal of the dam and restoration of natural stream flow will be accompanied by the gradual downstream transport of approximately 6,000 cy of sediment that has accumulated above the natural river bottom. Sediment migration would occur in response to large flow events over the course of months or years. The drop in water level surface will expose former banks and support restoration of a riparian corridor. The project will include planting of native floodplain species to re-establish a native forest community in the riparian corridor.

The project has been in the planning stages for over ten years. In 2006, it was awarded Priority Project status by the Massachusetts Riverways Program, which is now part of the Massachusetts Department of Fish and Game's (DFG) Division of Ecological Restoration (DER). In 2008, the project was approved by the Housatonic River Trustee Council as a preferred restoration plan for the first round of funding under the General Electric (GE) Housatonic River Natural Resource Damages settlement. DER has also obtained funding for the project from the federal Department of the Interior (DOI) and National Fish and Wildlife Foundation's Hurricane Sandy Coastal Resilience Competitive Grants Program.

Project Site

The project site is located on the West Branch of the Housatonic River. It is located in an urbanized section of Pittsfield with seven river crossings in the vicinity of the dam. The river flows past the dam in a generally north-south direction. The site is bordered on the west by a former mill building that is in industrial use. Mill Street crosses the river on a bridge approximately 200 feet south (downstream) of the dam. East of the dam, the site is bordered by Mill Street, commercial uses and parking lots. Three railroad bridges cross the river between 75 and 170 feet north of the dam. Beyond the railroad bridges, a residential complex is located on the west side of the river and commercial uses on the east side of the river. The West Street Bridge crosses the river approximately 1,200 ft upstream of the dam. Two water lines and a sewer line cross the river immediately downstream of the bridge and a double sewer line crosses the river 140 ft upstream of the bridge.

The Mill Street Dam is at least 120 years old and was constructed to provide power to the adjacent mill building. The dam is approximately 18 ft high and 40 ft wide, and has a 30-ft curved spillway face. A secondary spillway leading to a nine-ft diameter outlet and a low-level outlet are located on the eastern end of the dam. The west end of the main spillway is structurally integrated with the foundation of the adjacent mill building. The foundation and associated concrete retaining wall along the west bank extend approximately 200 feet to the Mill Street Bridge. The bank of the east side of the river includes a retaining wall with a cobble base between the dam and the Mill Street Bridge. The EENF noted that the dam was determined to be in overall poor condition with significant operational or maintenance deficiencies when it was inspected in March, 2000, by the Department of Environmental Management (now incorporated into Department of Conservation and Recreation (DCR)). According to DCR, the dam is classified as "Low Hazard Potential" where dam failure may cause minimal property damage and where no loss of life is expected. However, I note that the City of Pittsfield considers the

dam to be an attractive nuisance and comment letters indicate that it was the site of a drowning death in 2014.

This section of the West Branch of the Housatonic River is designated as a Class B waterway in the Massachusetts Surface Water Quality Standards (314 CMR 14.00) for aquatic habitat. The river is generally a low-gradient meandering stream with long pools and floodplain vegetation along its banks separated by urban encroachment. The Massachusetts Department of Environmental Protection's (MassDEP) 2014 Integrated List of Waters classified the majority of the river (identified as MA21-18) as a Category 5 Water impaired for multiple uses and requiring the development of Total Maximum Daily Loads (TMDL). MassDEP found that the river is impaired due to combined biota/habitat bioassessments, debris/floatables/trash, fecal coliform, presence of polychlorinated biphenyls (PCB), and taste and odor. The poor water quality and habitat value is reflected in the impoundment, which is trash-filled, stagnant, and devoid of natural vegetation. Approximately one mile downstream of the dam and just before its confluence with the East Branch of the Housatonic, the river enters the Upper Housatonic River Area of Critical Environmental Concern (ACEC). The confluence of the West and East Branches of the Housatonic River also marks the boundary of the "Rest of River" investigation area of the Environmental Protection Agency's (EPA) GE-Pittsfield/Housatonic River cleanup site.

According to the Massachusetts Historical Commission (MHC), several structures at or in the vicinity of the project site are listed in the Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory). The site is adjacent to the Eaton, Crane & Pike Company Factory Historic District (MHC # PIT.H), which is listed in the State and National Registers of Historic Places. The railroad bridges upstream of the dam are listed in the Inventory, including: the Boston and Maine (B&M) Railroad Spur Line Bridge (PIT.914), which is to be removed as part of the project; the section of the B&M Railroad Bridge over Mill Street (PIT.910), which will be removed along with the Spur Line; the B&M Railroad Bridge (PIT.909); and the Conrail Bridge (PIT.911). The Mill Street Bridge (PIT.919) downstream of the dam is also listed in the Inventory. Of these bridges, only the B&M Railroad Bridge (PIT.909) is eligible for listing in the National Register of Historic Places. The Board of Underwater Archaeological Resources (BUAR) believes the area is archaeologically sensitive due to the historic presence of mill sites.

Environmental Impacts and Mitigation

The project is proposed to address a public safety concern and includes ecological restoration with the goal of restoring water quality, aquatic habitat, and wetlands resource areas to the West Branch of the Housatonic River. Although it will provide environmental benefits, it will result in secondary impacts to wetland resources associated with the dewatering of the impoundment, creation of a narrower stream of the river, and a reduction in the area inundated by the 100-year flood. These impacts include permanent loss of 1.1 acres of Land Under Water (LUW), one acre of Bordering Land Subject to Flooding (BLSF), and 0.7 acres of Riverfront Area. The LUW will be converted to BLSF, Riverfront Area, and approximately 0.7 acres of Bordering Vegetated Wetland (BVW). The project will include planting native vegetation in these areas to enhance habitat value. The length of the Bank is expected to increase slightly and to naturally relocate from its current location along the impoundment's shoreline toward the new river channel. The project will remove 9,000 cy of sediment and debris from the impoundment,

of which 3,000 cy will be dredged and disposed of at an upland location and 6,000 cy will be gradually carried downstream by the river. Some of the released sediment may be discharged into an ACEC. The project will add fill material in the river to protect the bridge footings and utility lines from scour and to provide a riffle feature in the river. Potential impacts of the project to the historic railroad bridge structures will be reviewed by MHC as part of the Section 106 process during federal permitting.

Portions of the stream bed exposed due to lowered river levels will be replanted with native plants to create BVW and restore the riparian corridor. Construction activities will be conducted consistent with any necessary time-of-year (TOY) restrictions, such as may be required to protect the Northern Long-Eared Bat (*Myotis septentrinalis*). The project will also provide scour control measures to protect infrastructure, including utility lines and bridge foundations, from increased water velocity.

Permits and Jurisdiction

This project is subject to MEPA review and a mandatory EIR pursuant to 301 CMR 11.03(3)(a)(4) because it requires State Agency Actions and will result in the structural alteration of an existing dam that causes a decrease in impoundment capacity. The project also exceeds ENF thresholds at 301 CMR 11.03(3)(b)(1)(b), alteration of 500 or more linear feet of inland bank, and 301 CMR 11.03(3)(b)(1)(f), alteration of ½ acre or more of any other wetlands (LUW, BLSF, and Riverfront Area). The project will require a 401 Water Quality Certification (WQC) from MassDEP and a Chapter 253 Dam Permit from the DCR Office of Dam Safety (ODS).

The project will also require Section 106 Historical Review from the MHC. An Order of Conditions will be required from the Pittsfield Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP). The project requires the filing of a Pre-Construction Notification (PCN) with the Army Corps of Engineers (ACOE) under the Massachusetts General Permits.

The project will be funded in part by Financial Assistance from DER. Therefore, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Waiver Request and Single EIR Request

The Proponent requested a waiver from the requirement to prepare an EIR, or alternately, to prepare a Single EIR in lieu of Draft and Final EIRs. The EENF was subjected to an extended comment and review period as required. The EENF included supporting documentation to justify the waiver request, including the results of various environmental studies, a discussion of alternatives, and a description of proposed mitigation measures.

Waiver Criteria

The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate

and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

(a) Result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; and,

(b) Not serve to avoid or minimize Damage to the Environment.

The MEPA regulations at 301 CMR 11.11(3) state that, in the case of a waiver of a mandatory EIR review threshold, I shall at a minimum base the finding required in accordance with 301 CMR 11.11(1)(b) stated above on a determination that:

(a) The project is likely to cause no Damage to the Environment; and,

(b) Ample and unconstrained infrastructure facilities and services exist to support those aspects of the project within subject matter jurisdiction.

Single EIR

A Single EIR may be allowed, provided that the EENF: a) describes and analyzes all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope; b) provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and, c) demonstrates that the planning and design of the Project use all feasible means to avoid potential environmental impacts.

Review of the EENF

The EENF described the existing conditions within the project area and the proposed project and its programmatic and physical elements. The EENF included existing and proposed conditions plans and identified environmental resources and proposed impacts. It included a Project Feasibility Study that examined several dam removal alternatives, a Preliminary Design Memorandum with a study of the hydrological conditions contributing to the flow past the dam and hydraulic modeling, and a draft Sediment Management Plan (SMP) that presented sediment quantity and quality data for the impoundment and upstream and downstream areas.

The EENF provided detailed design information necessary to understand potential environmental impacts. The Preliminary Design Memorandum included a hydrologic study that reviewed previous studies, including the 1987 Flood Insurance Study conducted by the Federal Emergency Management Agency (FEMA) and a 2006 analysis conducted for this project. The purpose of the hydrologic study was to understand the in-stream hydraulics and peak flood flow through the river as it could affect the design of the dam removal of the dam and impacts to infrastructure. The 2006 study established a daily mean discharge of the West Branch of the Housatonic of approximately 69 cubic feet per second (cfs) and determined that the 100- and 500-year flood flows may be significantly higher than the 1987 FEMA study due to higher precipitation rates and increased impervious cover in the watershed. Removal of the dam will

lower the water surface elevation by approximately 8.4 ft for the annual mean flow and up to 10 ft for flood flows. Under 500-year flood conditions, a 50 percent increase in peak flow would result in a 14 percent increase in water velocity and a 17 percent increase in the shear stresses. Velocities around the railroad abutments are projected to increase by eight feet per second (fps) for the annual mean flow condition and up to 14.5 fps for the 500-year flood flow. Shear stresses in these locations will increase by four pounds per sf during annual mean flows and 8.6 pounds per sf for the 500-year flow. Velocity and shear stress will increase by up to four fps and two pounds per sf, respectively, at the West Street Bridge. According to the EENF, the use of these values for velocity and shear stress in designing the project and scour protection measures will result in a conservative approach that will minimize impacts of increased flow rate to infrastructure. The dam is considered a "run-of-river" dam with no capacity to store large volumes of water and attenuate flood flows. Removal of the dam will not increase downstream flooding but will reduce upstream flood levels.

Alternatives Analysis

The EENF included an alternatives analysis that compared No Action alternative, Dam Repair or Modification alternative, and the Preferred Alternative. It also discussed three dam removal alternatives. It did not provide an analysis of dredging techniques (e.g. mechanical, hydraulic).

The No Action alternative would leave the dam in place as it is. This alternative would not meet the project objectives of achieving ecological benefits by restoring river connectivity and enhancing public greenspace in the neighborhood. In addition, leaving the dam in place in its current deteriorating condition would risk its failure and an uncontrolled release of water and sediment. The dam is a public safety concern for the City of Pittsfield because it has attracted vandalism and illegal activities. The EENF also dismissed the Dam Repair or Modification alternative because it does not meet project objectives and because the dam serves no purpose to its owner and, therefore, its costly repair would not benefit the property owner.

The Project Feasibility Study included in the EENF reviewed three dam removal alternatives that differed in the manner and timeframe in which the project would proceed and in management of impounded sediment. It was completed in 2006 before an inadvertent drawdown of the dam released sediment from the impoundment. The estimate of the volume of impounded sediment at this time was approximately 14,500 cy. The Project Feasibility Study was developed prior to detailed assessments of sediment quality and hydraulics, and it acknowledged that specific design or construction measures would be developed based on that information. Each alternative considered in this study included similar impacts to wetlands resource areas because of the extent of the dam structure to be removed, areas to be protected from scour, and riparian restoration are similar in each alternative.

Alternative A, which is similar to the Preferred Alternative, would remove the dam and either all or 50 percent of the sediment in the impoundment. Dredging and disposing of all the sediment would be the most-costly option and would not contribute sediment to sediment-starved areas downstream. Alternative B would involve removal of the dam and construction of a riffle extending between 60 and 240 feet upstream from the current location of the dam. This

alternative would require a small volume of dredging. The purpose of the rock riffle in this location would be to limit the upstream extent of the headcut (area where sediment is eroded form the stream channel), to restore fish passage, and to potentially provide scour protection for the railroad bridges. The riffle resembling a rock ramp would be constructed in a location where a more pronounced riffle may have existed prior to construction of the dam based on subsurface investigations. This alternative would minimize dredging upstream of the dam. Depending on the slope and exact design of the riffle, approximately 740 to 1,900 cy of sediment would need to be dredged. Sediment upstream of the riffle would be mobilized naturally due to the increased stream velocity. The Project Feasibility Study indicated that this volume of sediment would be less than for the Preferred Alternative, but did not provide a more specific estimate. This alternative would not reduce upstream flood levels to the extent that Alternative A would because the riffle would act as a grade control.

Alternative C would lower the impoundment over a period of years by gradually notching the secondary spillway. Sediment would be released downstream with a minimal amount of dredging. The intent of this alternative would be to allow for natural conditions to gradually return the river, including riparian vegetation and restoration of sediment-starved conditions downstream of the dam, before the dam structure is removed. This alternative would release a similar volume of sediment downstream as the Preferred Alternative, but over a longer period of time. The removal of the dam would take place in a similar way to the other alternatives.

Sediment management alternatives were reevaluated based on updated sediment data, as discussed in more detail below. Passive release of all impounded sediment is not considered to be feasible because erosion in certain areas could impact existing infrastructure. Dredging and upland disposal of the entire volume of impounded sediment would cost between $2 and $8 million, which the Proponent has determined is infeasible based on cost. According to the EENF, this option would not provide sediment downstream to sediment-starved areas. The Preferred Alternative includes dredging to remove sediment that could cause damage to infrastructure and allow the majority of sediment to mobilize naturally and provide needed sediment to downstream areas.

The Preferred Alternative is based on the dam removal alternatives considered in the Project Feasibility Study. It has been refined based on more recent data on sediment quality and quantity in the impoundment, discussed below, that suggests that a combination of dredging and passive release of sediment is feasible. The Preferred Alternative was selected because it will restore the river channel while balancing sediment removal with the benefits of downstream release to sediment-starved areas and providing protection for infrastructure. As discussed in more detail in the Scope, the Single EIR should provide additional information regarding the potential impact of sediment on downstream areas and consider alternatives that would minimize the release of contaminated sediment.

Sediment Management

The EENF included an SMP that reviewed sediment data collection efforts, characterized the physical and chemical properties of sediment in the impoundment, provided volume estimates, and analyzed sediment management options. An objective of dam removal projects is

to restore natural sediment transport patterns that have been interrupted. As documented in the EENF, areas downstream of the dam show signs of being sediment starved, which contributes to habitat degradation. Chemical constituents of the sediment include pollutants that are common in urban areas, including heavy metals, PAH, and PCBs. The EENF included analyses of the ecological and human health risks of the sediment and floodplain soils.

Initial sediment investigations were conducted in 2004, 2009 and 2011 and included a due diligence review, collection and analysis of sediments from the impoundment and upstream and downstream regions, and cost estimates for disposal options. The EENF included sediment quality data from 2004 that indicated high levels of contaminants in the impoundment, including metals, PAH, and PCB. Chromium, lead, total PAH and individual types of PAH, and PCB exceeded the Probable Effects Concentration (PEC). Concentrations above the PEC indicate that the sediment has a high likelihood of being toxic to the environment. These studies estimated the volume of impounded sediment at 12,500 to 16,000 cubic yards. Cost estimates were prepared based on dredging and upland disposal of all sediment due to its toxicity, and ranged from $2.5 to $6.6 million. This option was rejected as infeasible due to its cost.

In 2012 the low level outlet failed resulting in an unintended drawdown of the dam as all flow was discharged through the low level outlet rather than the spillway. The low water condition allowed DER to collect additional and more accurate data on the shape of the stream channel and volume of impounded sediment. Nine sediment samples from the channel upstream of the dam and six samples from the exposed floodplain soils were collected. Chemical constituents included contaminants found in previous samples, but at lower concentrations than were found in previous sampling efforts. In addition, the data indicated only 4,500 cy of sediment in the impoundment would be mobilized by dam removal, in contrast to earlier estimates of at least 12,500 cy. The lower sediment volume was attributed to more accurate collection of data during low flow conditions and the likely downstream transport of sediment through the low level outlet. Based on the reduced volume of sediment in the impoundment, additional sediment investigations were conducted in 2014 to reevaluate the project's feasibility. The 2014 sediment studies included collection of three upstream samples used to determine background sediment quality, two deep sediment samples from the impoundment, and eight downstream samples, including one from the confluence with the East Branch of the Housatonic River. This analysis found that concentrations of heavy metals and PCBs were higher upstream and downstream than in the impoundment, and that concentrations of heavy metals were generally consistent throughout the sampling area. Additional survey work and data analysis performed for the Preliminary Design Memorandum after the 2014 investigations produced the current estimate of 9,000 cy of impounded sediment that must be managed.

To determine the ecological risks from the passive release of contaminated impounded sediment, concentrations of Total PAH, Total PCB, chromium, copper, zinc, and mercury from upstream, downstream, and impoundment samples collected in 2012 and 2014 were compared to the applicable PEC. Concentrations of Total PAH and chromium in samples of impounded sediment exceeded PEC values. However, the concentration of PAH in the impoundment was found to be lower than the downstream concentration and the concentration of chromium in the impoundment was found to be lower than the upstream concentration. According to the EENF, the data suggest that release of PAH from the impoundment would not have a negative effect

downstream because the downstream sediments are degraded and have higher concentrations of contaminants. The EENF indicates that the presence of high concentrations of chromium in sediment upstream of the impoundment suggests that there is an upstream source of this contaminant that may continue to be released into the project area regardless of how impounded sediment is managed. In addition, analysis of the sediment samples containing chromium indicated that the samples contain primarily a naturally-occurring form of the metal rather than a highly toxic type that is produced as an industrial waste product

Concentrations of 32 contaminants found in six floodplain soil samples from the project site were compared to natural and background soil concentrations and Method 1 (S-1/GW-1) cleanup values listed in the Massachusetts Contingency Plan (MCP). The MCP values are related to the human health risk associated with exposure to the contaminant concentrations. Values for barium, chromium, and PCBs were above the urban background concentrations. Of these three contaminants, only the concentration of chromium also exceeded the MCP cleanup standard. Based on the finding that the sediment in the impoundment was comprised primarily of the less toxic form of chromium, the EENF concluded that the floodplain soils are likely to also contain the naturally-occurring form of the metal.

MassDEP's comments acknowledge that passive release of all or a portion of impounded sediment has been the preferred approach for dam removal projects because it restores a sediment source to downstream sediment-starved habitat areas. MassDEP generally concurs with the analysis of sediment quality presented in the EENF and notes that additional information and analysis will be required in the WQC permitting process to ensure that impacts are avoided and mitigated, and that anti-degradation provisions of the Water Quality Standards are met with respect to downstream release of sediments. According to MassDEP, its review will include:

- Review of sediment quality data and requirement for additional analysis if necessary;
- Removal of contaminant hot spots if they are identified in impounded sediments;
- Review sediment data and hydraulic models to determine whether additional sediment transport modeling is necessary to evaluate downstream impacts; and
- Evaluate public health and ecological risk factors associated with the sediment management plan.

As noted below, the focus of the Single EIR should be to demonstrate that downstream impacts of the sediment release will be minimized. I recommend that the City consult with MassDEP prior to filing the Single EIR so that the information provided in the Single EIR will address WQC permitting requirements and, therefore, facilitate subsequent permitting.

Wetlands and Waterways

The project will result in the permanent loss of 1.1 acres of Land Under Water (LUW), one acre of Bordering Land Subject to Flooding (BLSF), and 0.7 acres of Riverfront Area. These changes will be caused by the dewatering of the impoundment, creation of a narrower stream, and a reduction in the area inundated by the 100-year flood. The LUW will be converted to BLSF, Riverfront Area, and approximately 0.7 acres of Bordering Vegetated Wetland (BVW).

The project will include planting native vegetation in these areas to enhance their habitat value. The length of the Bank is expected to slightly increase, but it will move from its current location along the impoundment's shoreline toward the new river channel. Removal of this "run-of-river" dam will not increase downstream flooding but will reduce upstream flood levels.

Greenhouse Gas Emissions (GHG)

The project is subject to the MEPA Greenhouse Gas Policy and Protocol (GHG Policy) because it exceeds thresholds for a mandatory EIR. The GHG Policy includes a *de minimis* exemption for projects that will produce minimal amounts of GHG emissions. This is an ecological restoration project that is designed to improve habitat and water quality. GHG emissions will be limited to the construction period of the project. As such, this project falls under the GHG Policy's *de minimis* exemption and the City need not prepare a GHG analysis.

Conclusion

The EENF included substantial analysis of the complex environmental and infrastructure factors considered in the development of the project design. The EENF included detailed design studies and technical memoranda addressing sediment quality and quantity, hydrology and hydraulics, and aquatic habitat, including analysis of alternative designs and impacts associated with each. Based upon the information submitted in the EENF and after consultation with the relevant State agencies, I find that the City should prepare a Single EIR to provide additional information on the proposed passive release of sediment.

Downstream release of impounded sediment, when supported by sufficient sediment and water quality data, has been commonly used in dam removal projects. The technique improves aquatic habitat by restoring sediment to sediment-starved areas and reduces the cost of achieving the full range of ecological benefits associated with dam removal. As documented in the EENF, the impounded sediment contains concentrations of PAH and chromium that exceed PEC levels, indicating the potential toxicity of the sediment. Additional data collection and analysis is necessary to demonstrate that the project will not cause Damage to the Environment and, therefore, the project cannot meet the criteria necessary to grant a EIR waiver. The EENF did provide a detailed alternatives analysis, provided information regarding environmental impacts and included commitments to avoid, minimize and mitigate ion measures and analysis, that I am confident the City

SCOPE

General

The Single EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope. It should respond to comments received on the EENF and, as appropriate, identify and commit to specific environmental mitigation measures, and provide draft Section 61 Findings. The focus of the Single EIR should be providing additional analysis, sediment and hydraulic analysis to demonstrate that downstream impacts will be minimized.

The Single EIR should identify any changes and design refinements to the project since filing the EENF. The Single EIR should include existing and proposed conditions plans at a legible scale to provide context for the limited Scope and Response to Comments. The Single EIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards. The Single EIR should include a list of required State Agency Permits, Financial Assistance, or other State approvals, as well as any local or federal permitting. The City should consult with BUAR and the Single EIR should acknowledge the need to prepare a contingency plan in the event that historic or archaeological resources are discovered during the construction period. The Single EIR should include a post-construction monitoring plan for assessing the success of the project in restoring river habitat, such as downstream areas that are currently sediment-starved and the revegetated areas upstream of the dam, and the effectiveness of scour control measures to protect infrastructure.

I received comments from the Berkshire Regional Planning Commission (BRPC) and others recommending that the City be required to consider an alternative that would rehabilitate the dam and add the capacity for hydroelectric generation or other forms of renewable energy at the site. While I appreciate the potential for hydropower to generate electricity without emitting air pollutants and GHG, I note that MEPA is an environmental disclosure process intended to identify environmental impacts of a proposed project. MEPA does not review the purpose and need of a project of approve or deny projects. Reconstruction of the dam to incorporate hydropower would not be consistent with the project purpose, which is to remove a potential hazard and restore the ecological connectivity of the river. Therefore, I am not requiring analysis of this alternative.

Sediment Management

The Single EIR should provide additional information, data, and analysis to document that downstream impacts of the release of sediment will be minimized. The City should consult with MassDEP prior to filing the Single EIR. The City's preparation of the Single EIR should be guided by the data analyses that will be required as part of the WQC permit review process. The Single EIR should provide results and analysis of any additional sediment or soil samples collected since the filing of the EENF. At a minimum, the Single EIR should include sediment transport modeling, risk assessments, and/or additional analysis and sampling of sediment and soil to document potential downstream impacts. The Single EIR should explore the feasibility of identifying contaminant hot spots in the sediment and soils to be removed from the impoundment for upland disposal to minimize the concentration of these contaminants in the sediment to be passively released. To the extent feasible, the Single EIR should address the extent to which contaminants that were released in the 2012 drawdown of the dam contributed to background levels. The Single EIR should describe any post-construction monitoring that will be performed to assess the sediment modeling.

The Single EIR should include an analysis of alternative dredging techniques, including hydraulic dredging. It should identify the feasibility of available techniques and compare the environmental impacts of each on land alteration, wetlands, and water quality.

Construction

The EENF noted that the City must obtain easements from private property owners for construction-period access to the site. The City must also obtain permission from the owners of the railroad bridges to be demolished or protected. The Single EIR should report on the City's progress in obtaining these landowner approvals and any potential changes to the project or construction procedures. The City should consult with the Massachusetts Department of Transportation (MassDOT) regarding the potential need for an approval to demolish the bridge or other construction activities in the railroad right-of-way, such as an approval under M.G.L. Chapter 40, Section 54A.

According to the EENF, the project may generate significant volumes of demolition debris. The Single EIR should include a disposal plan, including recycling or reusing as much of the material as possible.

Mitigation and Draft Section 61 Findings

The Single EIR should include a section that summarizes proposed mitigation measures and provides draft Section 61 Findings for each State Agency Action. The Single EIR should contain clear commitments to implement these mitigation measures (including monitoring), estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Responses to Comments

The Single EIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the Single EIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended, and shall not be construed, to enlarge the scope of the Single EIR beyond what has been expressly identified in this certificate.

Circulation

The Proponent should circulate the Single EIR to those parties who commented on the EENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the Single EIR should be made available for review at the local branch of the Pittsfield Public Library.

July 29, 2016
Date

Matthew A. Beaton

Comments Received:

06/06/2016	Ken Egnaczak
06/30/2016	Ken Egnaczak
07/04/2016	Ken Egnaczak
07/06/2016	Connecticut Department of Energy and Environmental Protection
07/06/2016	MassAudubon
07/06/2016	Environmental Stewards Consulting, Inc. on behalf of the Housatonic River Initiative and Housatonic Environmental Action League
07/07/2016	Board of Underwater Archaeological Resources (BUAR)
07/07/2016	Housatonic Valley Association
07/08/2016	Department of Conservation and Recreation (DCR)
07/14/2016	Berkshire Regional Planning Commission (BRPC)
07/22/2016	Berkshire Environmental Action Team (BEAT)
07/22/2016	Housatonic River Commission
07/22/2016	Massachusetts Department of Environmental Protection (MassDEP)/ Western Regional Office (WERO)
07/22/2016	Kathy Kessler
07/22/2016	Massachusetts Department of Fish and Game (DFG)/MassWildlife

MAB/AJS/ajs

AS

Comments on the MEPA consultation session of 27 May 2016 concerning the removal of the Tel-Electric dam in Pittsfield, Ma.

During the consultation session it became apparent that an alternative to removing this dam was not considered. This alternative would be to repair the dam and restore the hydro-electric capacity. The restoration of the hydro capacity could also be accompanied by canoe passage, fish passage and transporting sediment downstream.

A 1980's publication "Potential for Hydropower Development at Existing Dams in New England" shows that the Tel-Electric dam had an output of 21.5 kW at 70% capacity factor. With net metering, this site could meet the electrical needs of nearly 20 homes. Another way of looking at this is to consider that this site can produce more energy than 450 solar PV panels.

The hydro can be harvested by a number of 21st century technologies but I would recommend consideration of the fish friendly, debris tolerant Archimedes screw hydro generator. Included are 2 images of Archimedes screws. An Archimedes screw would likely fit in the area of the present large diameter penstock so the dam structure should not be affected and no additional land would have to be acquired. This technology has been employed extensively in Europe. New England Hydropower Company on Cape Ann in Massachusetts and GreenBug Energy in Canada are two vendors for this equipment that I know of.

Canoe passage can be accomplished by the installation of a canoe ramp or sometimes called a canoe chute. 2 images of canoe ramps are included. The pictured canoe ramps are in Europe and they look like an

exciting alternative to a boat lock or portage. These ramps can also provide upstream fish passage for stronger fish.

Fish passage can be facilitated by a fish ladder or fish lift. The fish lift could be powered by the hydropower.

Downstream sediment dispersal can be conducted by periodically opening a low elevation gate at the dam. Opening this gate in a controlled manner would create a high flow condition to carry the impounded sediments downstream. This capacity may already exist at this dam. Many dams with impoundments had these low gates to drain the impoundment for dam inspection and repair. Keeping the dam in place and controlling the sediment transport would mean that impoundment dredging would not be needed and there would be no impacts to existing upstream water levels and in-water structures.

So before we spend over a million dollars to destroy this dam only to end up with a million dollar ditch why not consider spending our money for a productive renewable energy purpose. The May 15th Metro section of the Boston Globe had a front page article showing that only 2% of Massachusetts' existing hydro sites are utilized for power generating. What an incredible waste of this renewable energy resource. It is bad enough that we aren't using our dams, we should not be destroying our existing hydropower infrastructure.

Let's stop the old 20th century "urban renewal" mentality of paying millions of dollars to end up with a vacant lot, or in this case a ditch in a blighted urban area. Instead why not adopt the 21st century vision of combining renewable energy generation with recreation and fish passage for this site. This would be an enhancement to the proposed Greenway considered for this section of the river.

Ken Egnaczak Cheshire, Ma.

Ken Egnaczak 1 JUNE 2016


ARCHIMEDES SCREW HYDRO
GENERATOR


ARCHIMEDES
SCREW


CANOE RAMP


CANOE
RAMP

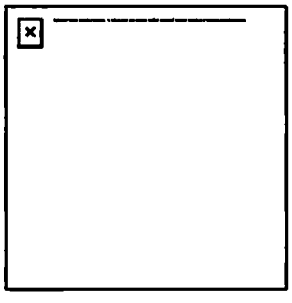
Strysky, Alexander (EEA)

From: KENNETH A [KSEgnaczak@msn.com]
Sent: Thursday, June 30, 2016 7:39 AM
To: jmcgrath@pittsfieldch.com; Strysky, Alexander (EEA)
Subject: Tel electric

Please see the attached. Why can't the Tel Electric site be a community hydro ? In the comments to the attached article is a link to the developer's site showing the Archimedes screw hydro generator

Ken Egnaczak

http://cleantechnica.com/2016/06/29/scotlands-first-community-urban-hydro-project-begins/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+IM-cleantechnica+%28CleanTechnica%29



Scotland's First Community Urban Hydro Project Begins

cleantechnica.com

Work has begun on Scotland's first community urban hydro project, in Aberdeen, at a site which used to be the location of a paper mill. The Donside hydro plant will use water from the River Don in order to produce electricity. Electricity generated by the facility will be sold to the national grid in order to raise funds each year

Strysky, Alexander (EEA)

From: KENNETH A [KSEgnaczak@msn.com]
Sent: Monday, July 04, 2016 12:13 PM
To: Strysky, Alexander (EEA); jmcgrath@pittsfieldch.com
Subject: Mill St. Dam

Hello

Please add this to my previous comments about re-powering the Mill St. dam.

During the MEPA presentation it was pointed out that the two active railroad bridges had historical significance. The Mass. Cultural Resource Information System (MACRIS) lists the abandoned bridge, planned to be removed, as INV. No. PIT910. I would recommend that this historic bridge not be removed. I suggest that the contaminating creosote laden wooden ties be removed and a solar PV system be installed on top of the bridge. This solar PV addition and the reuse of the bridge (avoiding demolition costs) would only compliment the reuse of the re-powered dam and demonstrate two forms of renewable energy in one location on the proposed Greenway.

Lets not destroy a renewable energy asset (the dam) and a historic cultural resource (the bridge) with the MEPA presented plan. Lets put them both back to work making clean energy.

Ken Egnaczak
Cheshire, Ma

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

July 6, 2016

Mr. Alexander Strysky
MA DEP MEPA Office
100 Cambridge Street, 9th Floor
Boston, MA 02114
Submitted via email: alexander.strysky@state.ma.us

Re: EEA No. 15510 Mill Street (Tel-Electric) Dam Removal/West Branch of Housatonic River Restoration Project, Pittsfield

Dear Mr. Strysky;

Thank you for the opportunity to comment on the dam removal project to be conducted at the Mill Street (Tel-Electric) Dam in Pittsfield, MA. The Housatonic River is an important resource shared between the Commonwealth of Massachusetts and the State of Connecticut. We both have learned that activities and contamination in Massachusetts have ramifications for Connecticut. Contamination from the General Electric facility in Pittsfield released to the Housatonic River has impaired the river in Connecticut impacting the health of our ecological populations and limiting our citizen's ability to catch and eat fish caught from the river. While the project at the Tel-Electric dam is not part of the on-going cleanup of polychlorinated biphenyls (PCBs) associated with releases from the Pittsfield General Electric site, the contamination from the Tel-Electric dam resides in the same river system. Controlling the downstream transport of PCBs and other contaminants from the Massachusetts portion of the Housatonic River into Connecticut is of critical importance to our state and is one of the key components of EPA's proposed remedial approach for the Housatonic River.

While there may be local benefits to removing the Tel-Electric Dam, the management of contaminated sediments as currently proposed for this project is unacceptable to Connecticut because it will likely result in increased transport of contamination downstream which may ultimately impact Connecticut. While we cannot support the project as currently proposed, we believe that there are modifications that could be made which could allow us to support the project in the future. We are identifying several components of the proposed project, detailed below, for which we request an adjustment to the currently proposed course of action.

The current project includes a proposal to remove 3,000 cubic yards of sediment via mechanical dredging, allowing the remaining sediments, estimated at 6,000 cubic yards, to redistribute downstream. This management approach was selected to minimize project costs and was based on a determination that project sediments were of similar quality to sediments downstream from the project area.

The sediments associated with this project are contaminated with heavy metals, petroleum hydrocarbons and PCBs. Samples were collected upstream of the dam, within the impoundment as well as downstream from the dam. Concentrations of cadmium, chromium, copper, lead, mercury, zinc, petroleum hydrocarbons and PCBs exceed sediment quality benchmarks (Threshold Effects Concentrations) in most samples indicating a potential risk for sediment related impacts to the aquatic community. This potential was further evaluated by comparing sediment concentrations to Probable Effects Concentration sediment benchmarks. Sediment levels of chromium, lead, petroleum hydrocarbons and PCBs exceeded these benchmarks which are predictive of direct toxic impacts to aquatic organisms. Additionally, the toxicity associated with exposure to multiple contaminants within these sediments was evaluated by calculating a mean Probable Effects Quotient for each sediment sample. This evaluation indicated that 15 of the 17 samples included in the project evaluation would likely be toxic to aquatic organisms based on the mixture of contaminants. This leads us to conclude that these sediments are highly contaminated and would be likely to adversely impact downstream portions of the river if the sediments were allowed to redistribute within the river system.

There was an evaluation done to compare sediments within the impoundment to downstream sediments which concluded that sediment quality within the project area was similar to that for downstream areas, supporting the decision to release sediments downstream for in river management. This comparison is problematic at this site for several reasons. First, sediments within the West Branch of the Housatonic River below the dam have been impacted by previous releases of contaminated sediments from the Tel-Electric Dam. The 2012 Technical Memo prepared by Tighe and Bond and the Supplemental Sediment Evaluation (January 2014) conducted by Tighe & Bond both indicate the impoundment at the Tel-Electric Dam was drawn down in 2012 and 2013 which resulted in the downstream transport of contaminated sediments from the impoundment. Comparing sediment quality within the impoundment to that below the dam and impacted by previous releases from the impoundment would obviously result in a determination of no significant difference with downstream sediments, as it is likely a comparison of sediment contamination displaced from the same source.

Second, comparing sediment quality within the impoundment with sediments collected below the confluence of the East and West Branches of the Housatonic River is a comparison both with sediments potentially impacted by releases from the Tel-Electric Dam as well as releases from the General Electric facility. It is a comparison of sediments within two areas directly impacted by contaminant releases. The presence of contamination in downstream areas should not be used to support selection of management measures which serve to further distribute contamination within the watershed. It is of interest to note, however, that metals concentrations in sediments collected in the main stem of the river are present in lesser concentrations than in the West Branch of the Housatonic River and are generally below Threshold Effects Concentration benchmarks with the exception of lead, which is slightly elevated over benchmarks.

Third, the evaluation of potential impacts on downstream waters did not include an analysis of the potential for contamination to be transported at distances to potentially impact Connecticut. The comparison was done considering only the areas within the West Branch of the Housatonic River and within the main stem of the Housatonic River immediately below the confluence with the East Branch. It is clear from the presence of PCB contamination in the Housatonic River in Connecticut, that contamination from the upper reaches of the Housatonic River basin in Massachusetts migrates

downstream, eventually impacting Connecticut. Studies conducted as part of EPA's Rest of River project for the Housatonic River have shown that contamination within the river is dynamic and does not deposit and remain sequestered. Rather, over time sediments move within the river bottom sediments, banks and the floodplains and are transported downstream. EPA's studies also indicate that the impoundments within the Massachusetts portion of the Housatonic River do not trap and hold contaminated sediments in a substantial way. For example, EPA estimates that approximately 90% of the contamination which enters Woods Pond leaves the pond and is transported downstream. It is reasonable to expect that contaminated sediments released from the Tel-Electric Dam will increase the contaminant load which is transported downstream into Connecticut. This is further compounded by elevated levels of both PCBs and mercury in the sediments behind the Tel-Electric Dam. Both mercury and PCBs are causes of impairments within the Housatonic River in Connecticut.

The federal Clean Water Act focuses on resolving water quality impairments and preventing releases which could either cause or contribute to existing impairments. The potential additional transport of both mercury and PCBs into Connecticut from the proposed release of contaminated sediment at the Tel-Electric Dam is inconsistent with these provisions in the Clean Water Act. This is another reason why the proposed project must be adjusted.

Another concern with the current proposal is that the amount of sediments proposed for downstream transport from the Tel-Electric Dam is likely underestimated. The proposal states that 6,000 cubic yards of contaminated sediments are proposed for downstream transport. This estimate represents a planned release of contaminated sediments from the impoundment and does not consider the further downstream transport of contaminated materials previously released from the impoundment during 2012 and 2013. Based on the 2014 Tighe & Bond Supplemental Sediment Evaluation, the additional amount of sediments could include 4,500 cubic yards of contaminated sediments which was already released to the West Branch of the Housatonic River.

Ask Alex

As part of this project, sediment removal is proposed to be conducted using mechanical dredging. Use of this dredging technique could lead to re-suspension of sediments and downstream transport of materials during excavation. In order to minimizing the downstream transport of contaminated materials during implementation of this project, other dredging technologies, such as hydraulic dredging used in conjunction with siltation controls, should be evaluated and employed.

Once the dam is removed, a portion of the sediments will become upland area. This area will still contain contamination and depending upon how these upland areas are constructed and managed, may serve as an on-going source of contamination for potential downstream transport. As part of the Housatonic River study, EPA has identified that river banks and floodplain areas contribute more contamination to downstream portions of a watershed when those upland areas do not follow a natural channel design. Connecticut recommends that natural channel design principles be used to establish the final configuration of the restored river banks and upland areas in order to minimize the potential for erosion and downstream transport of contamination from these areas. This will also have the added benefit of providing a more natural environment for the river at that location.

Again, thank you for the opportunity to provide comments on this project. While we have identified issues with the dam removal as currently proposed, we believe that modifications could be made which would address Connecticut's very real concerns about the downstream transport of

contaminated sediments and contaminants from eroded river banks and upland areas while supporting removal of the Tel-Electric Dam.

Regards,

Denise Ruzicka
Director
Planning and Standards Division
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy and Environmental Protection

cc: Mr. Robert Cianciarulo, EPA
Mr. Dean Tagliaferro, EPA
Mr. Michael Gorski, MADEP
Ms. Susan Peterson, CT DEEP

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contaminated sediments and contaminants from eroded river banks and upland areas while supporting removal of the Tel-Electric Dam.

Regards,

Denise Ruzicka
Director
Planning and Standards Division
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy and Environmental Protection

cc: Mr. Robert Cianciarulo, EPA
Mr. Dean Tagliaferro, EPA
Mr. Michael Gorski, MADEP
Ms. Susan Peterson, CT DEEP

Mass Audubon

Advocacy Department
208 South Great Road ▲ Lincoln, Massachusetts 01773
tel 781-259-2172 ▲ email hricci@massaudubon.org

July 6, 2016

Secretary Matthew Beaton
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, EEA #15510
100 Cambridge Street, Suite 900
Boston, MA 02114

Via Email: Alexander.Strysky@state.ma.us

Re: **EOEEA# 15510, Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration, Pittsfield**

Dear Secretary Beaton:

On behalf of Mass Audubon, I submit the following comments on the Expanded Environmental Notification Form (EENF) for this project. Mass Audubon supports the proposed removal of the Tel-Electric Dam on the West Branch of the Housatonic River in Pittsfield.

This is one of the thousands of dams in Massachusetts that are obsolete and no longer serve any useful purpose. Removal of such dams is an increasing priority given the effects of climate change, including increasing storm intensities and greater urgency in the need for connectivity for aquatic life to maintain healthy populations. This dam removal project is also supported by the Massachusetts Division of Ecological Restoration in its priority projects designations, and funding for the project is provided through the GE/Housatonic Natural Resources Damage Settlement and the National Fish and Wildlife Foundation's Coastal Resiliency Competitive Grants Program.

The dam removal project will improve public safety, riverine habitat and connectivity, and water quality. In addition to the removal of the barrier imposed by the dam, and restoring the impoundment to a free-flowing stream, the project will involve removal of accumulated trash, debris and sediment.

The EENF contains ample documentation including hydrologic and hydraulic analyses, sediment analysis and sediment management plan, and engineering design plans. Mass Audubon recommends that the requested waiver from the requirement to produce a full Environmental

Impact Report be granted. Any remaining details should be able to be addressed through the required permitting.

Thank you for considering these comments.

Sincerely,

E. Heidi Ricci

E. Heidi Ricci
Senior Policy Analyst

cc: Laura Wildman, Princeton Hydro
Alex Hackman, Massachusetts Division of Ecological Restoration
Lealdon Langley, Massachusetts Department of Environmental Protection
Pittsfield Conservation Commission

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1141 Fax (617) 626-1240 Web Site: www.mass.gov/eea/agencies/czm/buar/

July 7, 2016

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: Alex Strysky, MEPA Unit
100 Cambridge St., Suite 900
Boston, MA 02114

RE: Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration, Pittsfield (EEA#15510)

Dear Secretary Beaton,

The staff of the Massachusetts Board of Underwater Archaeological Resources has reviewed the above referenced project's ENF (EEA#15510) and supporting materials prepared by the City of Pittsfield on behalf of the City of Pittsfield. We offer the following comments.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. No record of any underwater archaeological resources was found. Several structures are listed in the MHC's MACRIS files; the dam was not listed and several structure were determined not eligible for listing in the National Register of Historic Places. However in examining early historic maps of this area, there were numerous early mill sites whose precise locations could not be determined to be within or outside the project area. Based on the results of this review, the Board cannot determine there are no submerged cultural resources in the project area.

Therefore, the Board considers this area to be archaeologically sensitive. With the removal of the current dam and resulting dewatering of its impoundment and upstream river channel, previously unknown mill/dam structures or other cultural resources might become exposed. The proponent needs to develop a plan to deal with the possibility that heretofore-unknown submerged cultural resources might be encountered during the course of the project which includes steps to limit adverse affects and notify the Board and the Massachusetts Historical Commission, as well as other appropriate agencies. The Board suggests the proponent adopt a plan consistent with the Board's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources*.

The Board appreciates the opportunity to provide these comments as part of the review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address above, by email at victor.mastone@state.ma.us, or by telephone at (617) 626-1141.

Sincerely,

Victor T. Mastone
Director

Housatonic Valley Association

150 Kent Road
P.O. Box 28
Cornwall Bridge, CT 06754
860-672-6678

1383 Pleasant Street
P.O. Box 251
South Lee, MA 01260
413-394-9796

19 Furnace Bank Road
P.O. Box 315
Wassaic, NY 12592
845-789-1381

www.hvatoday.org

July 7, 2016

Secretary Matthew Beaton
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, EEA #15510
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Tel-Electric Dam Removal Proposal, Pittsfield,

Dear Secretary Beaton,

I am writing to offer the full support of the Housatonic Valley Association (HVA) to the proposed removal of the Tel-electric (Mill St, Nash) Dam in Pittsfield Massachusetts. This 100 year obsolete derelict of a structure has been an obstacle in the waterway for far too long and should be removed to allow for the heathy restoration of the West Branch of the Housatonic River.

This dam is a long out-of-use structure that impedes river paddling, has a major negative impact to the natural riverine habitat, and should be a cause of serious concern for downstream life and safety. In 2000, the Massachusetts Office of Dam Safety designated the dam to be in very poor and unsafe condition with 'significant operational or maintenance deficiencies'. Failure of the dam during a storm event could have catastrophic upstream and downstream effects. That was why the dam owner, the City of Pittsfield, and the Massachusetts Department of Environmental Restoration (previously the Ma Riverways Program), agreed on a strategy to have the dam removed, and the river restored.

Removal of this dam, would greatly assist the city of Pittsfield in their ongoing urban revitalization efforts of one of the most dangerous and blighted sections of the City. The dam site is presently an attractive nuisance which tends to be an area that is known for various illegal activities, plus the swirling waters of the deteriorating structure have already claimed the life of one individual.

This proposed removal would help to bring the river back to its natural condition of running colder water which will reconnect healthier upstream and downstream sections of the West Branch. It would also alleviate the safety concerns of downstream flooding in case of an unexpected breach, and eliminate an attractive nuisance.

We have heard of possible concerns over downstream contaminated sediment transfer occurring during and after the dam removal process. However, recent surveys of the sediment above and below the dam have found that sediment containments are higher below the dam rather than above the dam. Especially since the majority of the dam sediment upstream of the dam will be removed before the dam breach, this does not appear to be an issue that would prohibit the dam removal. Also concern over downstream transfer of contaminate soil may be due to the past reputation of the high concentration of PCBx found in the East Branch of the Housatonic River bottom. The West Branch of the Housatonic has historically not been found contain as mush sediment contamination as the East Branch.

We have also head concerns expressed about the loss of hydro potential. While this issue is a valid and timely concern, we feel that hydro development needs to be addressed on a site specific, case by case basis. Hydro power is a viable concern, but may not be appropriate at every location. Hydro does have a cost to the river in terms of major disturbances to the natural habitat and to continuity of fish and wildlife travel. Hydro also has a related construction and operating expense and would definitely need the desire of the landowner to install and maintain the operation. This specific location, does not have the support of the landowner to develop a hypo location at this site. Since he has been informed by the Massachusetts Office of Dam Safety to either fix or remove the dam, he has elected, with strong support of the City of Pittsfield, and The Department of Ecological Restoration, that this dam could and should be removed.

Therefore, HVA also strongly supports the removal of this dam, and look forward to the revitalization and restoration of the West Branch of the Housatonic River.

Sincerely,

Dennis Regan
Berkshire Director

dcr
Massachusetts

July 8, 2016

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Alex Strysky
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

RE: EOEEA # 15510 Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration

Dear Secretary Beaton:

The Department of Conservation and Recreation ("DCR") Office of Dam Safety ("ODS") has reviewed the Environmental Notification Form ("ENF") for the Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration project located in the City of Pittsfield, submitted by the City of Pittsfield (the "Proponent").

Background
ODS notes that the Mill Street (Tel-Electric) dam is classified as "Low Hazard Potential." Dams are deemed to be a Low Hazard Potential where dam failure may cause minimal property damage to others, and where loss of life is not expected.

Project Description
As described in the ENF, the Mill Street Dam Removal Project preliminary design includes removal of the primary spillway and appurtenant structures (i.e. low level outlet, secondary outlet and by-pass flume). The intent is to remove the full vertical extent of the dam and enough of the lateral extent of the spillway to restore channel connectivity between upstream and downstream reaches and restore fish passage to pre-dam conditions. Right and left river bank retaining walls are proposed to stabilize the adjacent mill building (right river bank) and to stabilize the surrounding slope and a sewer line on the left river bank. An abandoned railroad bridge will also be removed, and scour protection is being proposed at two additional railroad bridges.

The dam removal component of this environmental restoration project will require a Chapter 253 Dam Safety Permit. The permit application will be submitted to DCR and reviewed. We will communicate with the design engineer as part of the permit process to ensure all required documentation is provided. Based on a review of all currently available information pertaining to this project, implementation of the project design will result in a controlled, engineered removal of the dam and will result in the dam not being capable of impounding water, which will result in its classification by ODS as non-jurisdictional. This project both complies with dam safety regulations and is in the interest of public safety. ODS is available to provide additional guidance through the permitting process.

Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston MA 02114-2119
617-626-1250 617-626-1351 Fax
www.mass.gov/dcr

Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Matthew A. Beaton, Secretary, Executive
Office of Energy & Environmental Affairs

Leo Roy, Commissioner
Department of Conservation & Recreation

The Project aims to restore river connectivity, improve water quality, restore passage of aquatic organisms, and restore floodplains and riparian wetlands. The removal of the Mill Street dam is also removing a known public safety hazard. The DCR supports this dam removal project as it benefits the environment, public safety, and public recreation.

DCR appreciates the opportunity to comment on this project. Please contact Mark Geib at (617) 626-1396 with any questions or to request additional information or coordination with the Office of Dam Safety.

Sincerely,

Leo Roy
Commissioner

cc: Norman Orrall, DCR Chief Planning and Engineering
William Salomaa, Dam Safety Director
Nat Tipton, MEPA Review Coordinator

Berkshire Regional Planning Commission
Environmental Review Report

July 14, 2016

SUBJECT:	**Tel-Electric Dam Removal**
EOEA#:	**15510**
LOCATION:	**Pittsfield**
ESTIMATED COST:	**$1.5 million (construction)**
REVIEW TYPE:	**EENF**
PROPONENT:	**City of Pittsfield and Div. of Ecological Resources (DER)**
COMMENTS DUE:	**July 22, 2016**

PROJECT DESCRIPTION:

The proposed project involves the removal of the Tel-Electric Dam and an abandoned railroad trestle, which is located on the West Branch of the Housatonic River in Pittsfield. The City of Pittsfield is proposing to remove the dam because it is in poor condition, represents a public safety risk and attracts illegal activity, and hinders the City's vision for a greenway along the river that could serve as a catalyst for neighborhood revitalization.

The privately owned dam was originally constructed to provide power to the mill building to which it is structurally attached. The dam is approximately 18' high and 40' wide, with a 30' slightly curved spillway. A secondary spillway directs water through a bypass conduit. A new low-level outlet with a drop-gate was installed in 2014. The Dept. of Conservation and Recreation Dam Safety office inspected the dam in 2000 and found it to be a low-hazard dam in poor condition.

The proposed project includes the removal of the dam and excavation of sediment and debris behind the dam. The amount of sediment built up behind the dam and within the impoundment is calculated to be approximately 9,000 cubic yards (cy). The project proposes to mechanically excavate 3,000 cy of sediment located closest to the dam and dispose of it in a landfill. The remaining 6,000 cy in the upstream portion of the impoundment will be allowed to "passively" migrate gradually downstream, which is expected to be over the course of several large storm events. Once river channel grades stabilize, sediment movement would also stabilize.

Studies conducted over several years demonstrate that the sediment within the impoundment contains contaminants, including elevated polycyclic aromatic hydrocarbons (PAHs), heavy metals and PCBs. The contaminants found are not uncommon in stretches of river that flow through urban areas such as this location. DER's *Sediment Management Plan* (April 2016) states that "with a history of industry in the upstream watershed and known oil and hazardous materials releases at Dorothy Amos Park (~1,400 feet upstream) and the King Street Dump (~5,500 feet upstream), multiple threats to sediment quality were identified."

A previous study recommended removing 12,000-15,000 cy of sediment to remove most of the contamination within the impoundment, which brought with it a $4.5 million cost of excavation and disposal. This level of cost would stop the project from going forward. However, in 2012

an inadvertent release of water and sediment effectively drained the impoundment. Due to this event the amount of sediment left in the impoundment was greatly reduced, bringing sediment management to the current level of 9,000 cy. While this benefited the dredging project, it also increased contamination levels in the stretch of river downstream of the dam. As a result, the contamination levels below the dam are now actually slightly higher than in the upper reaches of the impoundment. Because the contamination levels are approximately equal in the immediate upstream and down reaches, the proponents believe that the overall contamination levels will remain the same when the 6,000 cy are allowed to passively move downstream during the dam breaching and during successive storm events.

Given that contaminants will likely continue to enter the river through various pathways, project proponents believe that allowing contaminated sediment to migrate downstream is a "justifiable balance between cost and protecting existing infrastructure." If dredging of all impoundment sediment were required, the project would be "likely financially infeasible." (DER, April 2016).

The project also includes several other components:

- Installation of a concrete retaining wall to protect the foundation of the attached mill building immediately downstream of the dam
- Removal of an abandoned railroad bridge just upstream of the dam
- Installation of scour protection at the abutments of two active railroad bridges immediately upstream of the bridge being removed
- Installation of boulders upstream near the West Street bridge to protect water, sewer and utility lines that cross the river and are embedded in the river channel.

The project is currently at the 25-30% design phase, with the next engineering phase to focus on the work involving railroad bridge removal and stabilization.

The proposed project meets or exceeds these MEPA thresholds:

- Alteration of a dam that causes any decrease in impoundment capacity
- Alteration of 500 or more linear feet of bank
- Alteration of ½ or more acres of Land Under Water (the impoundment is expected to transition to Boarding Vegetated Wetland, Riverfront and Land Subject to Flooding)

The proposed project will require these permits:

- Wetlands Protection Act Order of Conditions from the Pittsfield Conservation Commission, with possible Superceding Orders from the Mass. Dept. of Environmental Protection (DEP)
- 401 Water Quality Certification from the Mass. DEP
- Chapter 253 Dam Permit from the Mass. Office of Dam Safety
- Section 404 Permit from the Army Corps. of Engineers

The project has received $30,000 in state financial assistance from the DER for project feasibility study so MEPA purview is broad. The project has received and continues to receive

technical assistance from DER staff. The project has also received $750,000 from the GE Natural Resources Damages (NRD) Funds and $1million from the U.S. Dept. of the Interior. The project meets the thresholds for a mandatory EIR, but the proponents are requesting a waiver from the EIR process.

PROJECT ALTERNATIVES:

In 2006 a dam removal feasibility study was conducted to assess various approaches to dam removal. Dam repair and various fish passage structures for improved aquatic connectivity were mentioned briefly but not analyzed in this study. Rehabilitation of the dam for energy generation was not mentioned at all.

The EENF lists No Action and Dam Repair or Modification as the alternatives considered. Reasons for rejecting the No Action option include the continued inherent risks of dam failure: the uncontrolled release of water and sediment to sites downstream and the headcutting and scour damage to the railroad bridges immediately upstream of the dam. Lastly the dam and impoundment are viewed by the City of Pittsfield as a public safety concern, attracting vandalism, illegal activity and a past drowning death. The reason given for rejecting the Dam Repair/Modification option is "As the dam no longer serves a purpose, there is no imperative for the dam owner to perform costly ongoing maintenance and repairs that would be required to satisfy requirements for dam safety." (EENF p. 7).

Neither the dam owner, the City of Pittsfield nor the DER considered investigating the option of rehabilitating the dam to generate hydropower as part of the EENF filing.

COMMENTS AND RECOMMENDATIONS:

Generally BRPC supports the City of Pittsfield's proposal to remove the Tel-Electric Dam. Removing dams that are in poor condition and are not likely to be rehabilitated for energy generation, and which offer benefits such as reduced public safety risks and improved aquatic connectivity is consistent with Sustainable Berkshires. Removing the Tel-Electric Dam is an action item listed in the *Pittsfield Hazard Mitigation Plan* and development of a greenway corridor along the river in the West Side Neighborhood has been noted in other city planning efforts for the past several years. BRPC has in the past provided a letter of support for federal funding for removal of the dam.

At this time we cannot support the proponents' request for a waiver from filing an EIR because the EENF lacks information in two key areas: 1) the lack of any type of analysis to determine if the dam could reasonably be rehabilitated to produce hydropower and 2) a lack of information about the impacts of the release of 6,000 cy of contaminated sediment to fisheries and other aquatic organisms downstream of the dam. We would, however, support a request for an extension of the MEPA review process to allow the proponent to provide supplemental information on the two key areas listed above. Our main concerns regarding the project are discussed herein.

We respectfully would propose that providing key analyses, including hydropower potential and more detailed downstream impacts, should serve as a new model for any future dam removal projects for protection of the environment and to aid the search for renewable energy generation. This is all the more important where the Commonwealth is the project proponent and/or where public funding is involved.

Energy Generation Alternative

The Commonwealth of Massachusetts has established broad policies to protect the environment which include the dual goals of improving aquatic connectivity and reducing greenhouse gas emissions. While we acknowledge some benefits of removing the Tel-Electric dam, this section of the Housatonic River does not provide ecologically significant habitat; it is not a cold water fishery nor does it support rare or endangered species. Allowing the dam to remain and possibly generate renewable energy should have at least been investigated by the owners and/or the proponents as part of the alternatives analysis. A potential to generate renewable energy and reduce greenhouse gas emissions is a missed opportunity at this site. The height and width of the dam and the volume of water flowing over it indicate that, of the largest 50 dams in Berkshire County, it is in the top 15 for its potential to generate electricity if rehabilitated for hydro power.

BRPC encourages the proponent to seek technical assistance from the Massachusetts Department of Energy Resources (DOER) and the Clean Energy Center (CEC) to investigate the feasibility of rehabilitating the Tel-Electric Dam for hydropower generation. As BRPC has commented consistently in recent years, dam repair / rehabilitation and dam removal projects should include an investigation as to whether the dam in question could be suitable for hydroelectric power generation. Given the recent Massachusetts Supreme Judicial Court's decision, stating that the Commonwealth is falling short of meeting the mandates of the Global Warming Solutions Act, it is all the more important that state agency actions involving dam repair/rehabilitation or dam removals require an analysis of the potential hydro-electric generating power of the dam being reviewed – particularly those that receive public funding. This would require a coordinated effort between state agencies such as DCR Dam Safety, DER, DOER and DEP.

In the short term BRPC respectfully requests that the Secretary direct the DOER and CEC to provide technical assistance to the City of Pittsfield so that it can expeditiously investigate the feasibility of hydropower generation at the dam. In the longer term we also take this opportunity to again petition the Commonwealth to conduct a statewide dam assessment to determine which ones may offer the opportunity to generate hydroelectric power and aid the state in its efforts to reduce greenhouse gas emissions.

Impacts to Fisheries and Aquatic Organisms

The EENF lacks a detailed analysis of the impacts of "passively" releasing 6,000 cy of impounded sediment to the river ecosystem downstream of the dam. Although the Sediment Management Study discusses options for removing and disposing of impounded sediment, the studies included in the EENF have not analyzed in detail the impacts of sediment release on

aquatic life downstream of the dam. DER staff have publicly stated that physical smothering of aquatic habitat and benthic organisms is a short-term impact that will occur over a period of a few years until a series of large storm events can actively redistribute the sediment. DER staff have stated that the area immediately below the dam is sediment-starved, and redistribution of sediment will in the long term offer an improved habitat for aquatic organisms.

We are concerned that no site-specific studies have been conducted to determine impacts to aquatic habitat and life for the species living there. The DER has stated that it has not conducted a site-specific impact study because sediment-related impacts are well known and understood through the literature of fisheries biology and fluvial morphology and through dam removal projects at other sites. BRPC requests that the DER provide to MEPA and the public a summary of the fisheries community below the dam and findings from the literature and from past dam removal sites to demonstrate that a site-specific fisheries impact study is not needed for the Tel-Electric Dam removal project. The findings should be drawn from scientific literature and dam removal projects that are similar in size, riverine conditions and fisheries populations to serve as comparisons to that of the West Branch Housatonic River at the dam site.

Dam Owner Commitment

We are concerned with the apparent lack of financial commitment to the project from the dam owner who, like every other dam owner across the state, has a legal responsibility to maintain the structural integrity of their dam. The owner of the dam has apparently tried for years to convince the City of Pittsfield to accept ownership of the dam, approaching several successive mayors. Wisely none have accepted ownership. The City has, however, dedicated a great deal of staff time and effort to the project, identifying possible funding sources, writing grants, and bringing the funding and technical assistance together to reach the current 30% design phase.
The dam owner appears to be purely a beneficiary of the project rather than a partner. Although we recognize the public and connectivity benefits of this dam removal, it is clear that the dam owner is receiving benefits equaling millions of dollars to remove a dam that is a nuisance and public safety liability to him. We urge the City of Pittsfield and the DER to get a financial commitment from the dam owner that would at a minimum cover the cost of reinforcing and stabilizing the foundation of the mill building that he owns. This foundation is currently deteriorating and will continue to do so regardless of whether the dam is removed or not. Public funds are removing the liability of the dam, and it is the owner's responsibility to stabilize the building itself. Public funds for this type of project are limited, and the significant amount of funding being directed to this project means that other equally deserving dam repair or removal projects go without.

A Pittsfield resident that attended the MEPA site visit on May 27, 2016 asked City of Pittsfield personnel who would be liable if impacts of the dam removal construction further acerbated the deterioration of the building foundation, or if other unforeseen consequences were to occur at the site. That resident suggested that the City of Pittsfield obtain a legal release from liability as part of project negotiations with the dam owner and future contractors. We agree. The City, the Commonwealth and their contractor(s) should be legally held harmless from any damage to the building caused by efforts to remove the dam or to stabilize the structure.

Contamination

We continue to have concerns with the proposal to release 6,000 cy of contaminated sediment to downstream sections of the Housatonic River, regardless of existing contamination within the receiving stretch of river. At a minimum, if the DEP allows the proponent to remove only 1/3 the total amount of contaminated sediment and allow "passive" release of 6,000 cy of contaminated sediment, it seems prudent to at least require the proponents to selectively remove hot spot areas and areas where contamination concentrations are greatest. While this may entail additional detailed sediment sampling, it is more protective of the downstream environment in the long term.

While all parties agree that removing greater amounts of contaminated sediment from the river system would be preferable, the proponents have stated that excavating and disposing of greater amounts of contaminated sediment is cost prohibitive. This is another instance where we believe that a financial commitment from the dam owner would benefit the project. Funds brought to the project by the dam owner could be directed towards the additional costs of removing greater amounts of contaminated sediment from the environment. BRPC urges the DEP continue to review this project closely and work with the proponents, including the dam owner, to develop a plan that will minimize to the extent feasible the contamination levels of the sediment being allowed to migrate downstream and that being left in future floodplain. This project is a golden opportunity to remove significant levels of contamination from this stretch of the river and it should not be easily dismissed.

These comments were approved as amended by the BRPC Environmental Review Committee on July 1, 2016, and approved by the BRPC Full Commission on July 14, 2016.

BEAT
Berkshire Environmental
ACTION TEAM

July 22, 2016

Secretary Matthew Beaton
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office Alex Strysky, EEA No. 15510
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration – Pittsfield

Dear Secretary Beaton,

Please accept the following comments from Berkshire Environmental Action Team, Inc. (BEAT) whose mission is to protect the environment for wildlife in support of the natural world that sustains us all.

BEAT strongly supports the removal of the Mill Street Dam and restoration of the West Branch of the Housatonic River. BEAT has worked for more than a decade with many other organizations and hundreds of volunteers to remove trash from the West Branch of the Housatonic River, and the river is much, much cleaner as a result of our continuous efforts.

The West Branch runs through a Minority and Income Environmental Justice Neighborhood. In 2007, the state with the City of Pittsfield lead an Urban Rivers Visioning process that resulted in a long-term vision of connecting the surrounding neighborhood with their river in multiple ways. Part of this vision included the removal of the Mill Street Dam, installing canoe launches along the river, as well as building a riverside park. One canoe launch has already been installed by the Housatonic Valley Association behind Wahconah Park, upstream of the Mill Street Dam. Once the Mill Street Dam has been removed it will be possible to canoe from Wahconah Park, through the neighborhood, to the new park that has not yet been built and Durant Park on the opposite shore of the river, on to Dorothy Amos Park, on to Clapp Park, on to Fred Garner Park at the confluence of the East and West Branches, and from there all the way down to Woods Pond where the next river spanning dam is located. Having such access to a canoeable river will help further connect this neighborhood with their river. BEAT anticipates developing educational programming around short canoe trips along the West Branch.

Dams do much more than block fish passage. Dams prevent many aquatic organisms from moving up and downstream, but perhaps more importantly dams prevent the nutrients and sediments from moving downstream. This starves the river of essential elements for many organisms to live, breed, and disperse. Above the dam the water is wide, shallow, stagnant, filled with sediment, and very warm. Below the dam there is almost no sediment. The river below the dam does not have the substrate nor the food to support a vibrant ecosystem of macroinvertebrates and the fish that would feed upon them. By removing the dam, the river's ecosystem will be restored. Areas that were inundated above the dam will become floodplain forest, and the river below the dam will receive sediment that will, after a year or two, support a riverine foodweb.

Currently the area surrounding the dam is incredibly dangerous. We stopped holding river cleanups near the dam or canoe trips ending near the dam because of this. The conduit pipe around the dam has always been terrifying, and in 2014 a young person lost their life after being swept into this pipe. In addition, the area across from the old mill building and under the railroad tracks has become a "party spot" with drug and alcohol use evident and an incredible amount of trash. There is also a small, dead end road along the river under the railroad tracks that people use to drive in and dump large amounts of trash, contractor waste, and other debris. Removal of the 1940's era bridge, leaving the historic bridge, will greatly increase the attractiveness of this area. We hope active use of the area for canoeing will also deter the use of the area for illegal dumping as well as for drug and alcohol use.

While this is definitely an urban river, removal of the dam should be a tremendous asset to the surrounding neighborhood.

BEAT strongly supports the removal of the sediment above the dam from the railroad bridges to the dam. We wish this had been done before the failure of the lower gate of the dam apparently released the higher levels of PCB contamination downstream. This should serve as a warning that we should remove all the high level PCB contamination behind the Wood Pond Dam, so that if it were ever to fail, we would not allow all that contamination to go further downstream.

BEAT also supports releasing some less contaminated sediment from further upstream to help replenish the sediment starved areas below the dam. It will be important to ensure that there are no hot spots of PCB or other toxins in this sediment before it is released.

BEAT agrees with other commenters that we should proactively determine which dams should have hydropower. But we firmly believe that nature should not pay the price for our thirst for electricity when we have many less environmentally damaging alternatives. We should install hydropower on the Onota Lake, Pontoosuc Lake, and Richmond Pond dams in Pittsfield. But we should remove the Mill Street Dam and restore this branch of the Housatonic River as soon as possible.

Thank you for considering our comments.

Sincerely,

Jane Winn, Executive Director

BEAT ~ 29 Highland Ave, Pittsfield, MA 01201-2413 ~ team@thebeatnews.org ~ 413-230-7321

Housatonic River Commission

"to coordinate on a regional basis the local management and protection of the Housatonic River Valley in northwestern Connecticut"

July 22, 2016

Mr. Alexander Strysky
MA DEP MEPA Office
100 Cambridge Street, 9th Floor
Boston, MA 02114

RE: EEA No. 15510 Mill Street (Tel-Electric) Dam Removal/West Branch of Housatonic River Restoration Project, Pittsfield

Dear Mr. Strysky,

Thank you for the opportunity for the Housatonic River Commission to provide comments on the dam removal project to be conducted at the Mill Street (Tel-Electric)) Dam in Pittsfield, MA.

The Housatonic River Commission (HRC) was created in 1979 by the Connecticut towns of Canaan, Cornwall, Kent, New Milford, North Canaan, Salisbury and Sharon with the object of coordinating the local management and protection of the Housatonic River in Connecticut. The two HRC commissioners from each town are appointed by their respective municipalities.

The 14 Commissioners are in agreement with the comments you received from Denise Ruzicka, director of Planning and Standards Division, Bureau of Water Protection and Land Reuse, Connecticut Department of Energy and Environmental Protection in her letter of July 6, 2016. All of the concerns she identified need to be addressed. As she states, "The Housatonic River is dynamic and meandering and over time sediments move within the river bottom and floodplain and are transported downstream. Allowing an estimated 6,000 cubic yards of contaminated sediment to redistribute downstream is unacceptable."

Although the HRC has advocated for the removal of dams, this removal project needs to be managed to prevent more toxic sediments from entering the Housatonic River. The water quality in Connecticut's section of the river depends on controlling the sources of contamination upriver.

The HRC believes that a mandatory, complete and comprehensive Environmental Impact Report (EIR) is indicated for this proposed dam removal to, in part:

- Better characterize the existing contaminated sediment deposits behind the dam, surrounding the various bridge structures, in the river bank soils, and sediments and soils upstream of the dam;
- Further investigate actual and potential (near and far upstream) point sources for the toxins that are carried downstream and deposit behind the dam;

- Provide a more thorough characterization of the sediments preexisting downstream... the uppermost layer of sediment being relatively recently (2012) deposited from unauthorized releases and/or dam component failures;
- Provide a more thorough fate and transport model for any sediment proposed to be released downstream;
- And further investigate alternatives for contaminated sediment removal/dredging scenarios, potential treatment of sediments, and potential transport to a licensed landfill.

Again, thank you for the opportunity to provide comments on this project.

Regards,

Bill Tingley

Chairman
Housatonic River Commission

Cc: Mr. Robert Cianciarulo, EPA
Mr. Dean Tagliaferro, EPA
Mr. Michael Gorski, MADEP
Ms. Susan Peterson, CT DEEP

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

July 22, 2016

Matthew A. Beaton, Secretary
Executive Office of Energy & Environmental Affairs
Massachusetts Environmental Policy Act Office
Alex Strysky, EEA No. 15510
100 Cambridge Street, 9th Floor
Boston, MA 02114-2524

Re: West Branch Housatonic River Restoration Project, Tel-Electric Dam Removal Mill Street, Pittsfield

Dear Secretary Beaton,

The Massachusetts Department of Environmental Protection (MassDEP), Western Regional Office (WERO) appreciates the opportunity to comment on the Expanded Environmental Notification Form (EENF) submitted for the proposed West Branch Housatonic River Restoration Project, Tel-Electric (A.K.A. Mill Street) Dam Removal, Pittsfield, MA (EEA# 15510). MassDEP staff attended the on-site MEPA scoping session on May 27, 2016. The applicable MassDEP regulatory and permitting considerations regarding drinking water, wastewater, wetlands, waterways, air pollution, solid waste, and waste site cleanup are discussed.

I. Project Description

The Tel-Electric Dam, located in Pittsfield on Mill Street along the West Branch Housatonic River, is a privately owned abandoned, run-of-river hydropower facility that is inoperable and constructed as part of the adjacent mill built in the 1800's. The dam is 18 feet high, 40 feet wide with an approximately 30 feet long spillway face. A secondary spillway exists left of river. MassDCR Office of Dam Safety (ODS) determined the dam to be in poor condition in 2000. The Project Proponent is the City of Pittsfield with support from the Massachusetts Department of Fish and Game, Division of Ecological Restoration.

The intent of the project is restoration of natural flow of this section of the river and project funding is through various sources including NRD, Division of Ecological Restoration and the U.S. Dept. of the Interior. The project design is currently 30% complete and the sequenced phases of the project are as follows: conduct a controlled

dewatering of the impoundment via the low level outlet and notched secondary spillway; dredge and dispose of approximately 3,000 cubic yards (c.y.) of sediment; remove an abandoned railroad bridge upstream of the dam; incrementally remove the dam, construct retaining walls and allow approximately 6,000 c.y. of sediment to redistribute downstream through natural redistribution.

The project is subject to a Mandatory Environmental Impact Report (EIR) because it requires a State Agency Action and the structural alteration of an existing dam. The project requires a Chapter 253 Permit from ODS, a 401 Water Quality Certification from the MassDEP and a 404 Permit from the U.S. Army Corp of Engineers. The project also requires an Order of Conditions from the Pittsfield Conservation Commission (or a Superseding Order of Conditions from MassDEP in the event the local Order is appealed). The project will result in conversion of resource areas through decreasing Land Under Water Bodies and Waterways but increasing Bank, Bordering Land Subject to Flooding and Riverfront Area. The project projects no increase in downstream flooding potential.

Environmental impacts associated with this project include:

- Discharge of sediment into an Area of Critical Environmental Concern,
- Approximately 3,000 linear feet of Bank (Temporary),
- 9,000c.y. of dredged sediment material (3,000 c.y. dredged and disposed, 6,000 c.y. of sediment to be sluiced downstream),
- 47,916 square feet (s.f.) of Land Under Water and Waterways (LUWW),
- 30,492 s.f. of Riverfront Area (RA), and
- 43,560 s.f. Bordering Land Subject to Flooding.

II. Required Mass DEP Permits and/or Applicable Regulations

Wetlands& Waterways
310 CMR 10.00
314 CMR 9.00
Air Pollution
310 CMR 7.00
Solid Waste
310 CMR 16.00
Bureau of Waste Site Cleanup
310 CMR 40.000

III. Permit Discussion

Bureau of Water Resources

Wetlands & Waterways

The scope of the project requires that a Notice of Intent (NOI) be filed with the Pittsfield Conservation Commission; prior to commencement of project construction, a final Order of Conditions (OOC) must be issued by the Commission.

If a NOI is filed prior to completion of the MEPA process, the Conservation Commission will be advised to hold any hearing open until the Secretary's Certificate is issued, and

all comments are received from other State and Federal permitting agencies, as appropriate. MassDEP will not issue any permits until the MEPA process is completed.

The Site appears to contain Bank (Inland), Land Under Water Bodies and Waterways (LUWW), Bordering Vegetated Wetlands, Bordering Land Subject to Flooding and Riverfront Area.

Resource Delineation
All delineation of jurisdictional resource areas should be accomplished through flagging in the field, surveying, and then presentation on a scaled site plan. All resource area alteration should be quantified.

Riverfront Area General Performance Standards
Work conducted in Riverfront Area typically must meet the *General Performance Standard* as detailed in the regulations at 310 CMR 10.58(4), with an accompanying alternatives analysis. However, it appears the project may qualify as an Ecological Restoration Project, as well as for the Riverfront redevelopment provisions outlined at 310 CMR 10.58(5).

Delineation of the Mean Annual High Water Line (MAHWL) of should be performed in accordance with regulation. Use of "bankfull field indicators" may be necessary to establish the MAHWL in certain reaches as detailed in regulation. The Proponent should be prepared to describe and justify the selected methodology to the Conservation Commissions.

Ecological Restoration Project Provisions
The project appears to be eligible for review under the provisions for an *Ecological Restoration Project* per 310 CMR 10.13(1) and (2). The Pittsfield Conservation Commission is referred to provisions outlined in regulation for review. MassDEP staff is available to provide guidance to the Proponent and the Commission.

401 Water Quality Certification
As proposed, this project will require a Clean Water Act Section 401 Water Quality Certification (WQC) for dredging and filling due to the proposed dredge and the sluicing of sediments. The Proponent should submit a copy of the application to both the Western Regional and the Boston Office of MassDEP for review. One permit will be issued, however regional staff will assist in the details of the permitting. MassDEP staff are available to facilitate a pre-permitting discussion. The Proponent acknowledges Time of Year in-stream work limitations as outlined in the Corps of Engineers Massachusetts General Permit (General Condition #18) which generally require such activities to occur between July 1 and August 31 of a given year.

MassDEP has reviewed comments from the Connecticut Department of Energy and Environmental Protection (DEEP) regarding this proposed project including concerns that the approach is solely based on cost and that the sluiced sediment would result in environmental degradation in Connecticut. Although there is a cost saving through sluicing some of the sediments downstream, sluicing of all or some of the sediment is the preferred approach for recently permitted and proposed dam removal and maintenance projects currently proposed. Dams and impoundments trap sediments that under natural conditions would be transported downstream. Controlled reintroduction of

the sediment into the natural environment restores downstream sediment starved reaches of river.

This dam is rated in poor condition with significant deficiencies and there have been previous efforts to remove the dam due to the inherent dangers of an inner city dam where at least one recent drowning death has occurred and there exists the potential for a catastrophic structural failure. Failure of the low level outlet structure in 2012 is an example of the very real risk of failure. Catastrophic failure would result in not only a danger to public health and safety downstream due to an uncontrolled release of water, but also potential failure of adjacent structures, and uncontrolled release of the entire sediment load and debris. In addition, part of this proposed project is to construct a boulder, grade-control structure near the West Street bridge that is upstream of the dam. Two water mains and two sewer mains cross the river near the West Street bridge; a catastrophic failure without the grade control may result in exposure, damage and potential failure of these vital utilities.

MassDEP has permitted and is currently reviewing or discussing projects using this same approach. Following a controlled drawdown, dam removal projects dredge some sediment in the area where the presumed natural channel would form and then incrementally remove the dam to allow a natural cannel to cut thorough remaining sediment while stabilizing the newly forming banks and actively re-vegetate the banks for stabilization. Urban debris behind this impoundment will require some sediment removal and it is proposed to re-establish the historic channel. Long term maintenance plans for other existing impoundments include systematic, conditioned release of sediment downstream mimicking natural sediment transport during high flow events such as storms or the spring freshet. In all of these projects MassDEP 401 WQC permitting process requires detailed sediment sampling, sediment and water control during work, adequate and recent sediment sampling to determine quality, volumes of sediment, and modeling of sediment transport and channel development. Regulations ensure permitting is protective of public health and safety and the environment under Massachusetts statutes and regulations.

With respect to the comment regarding use of "*natural channel design principles*", Princeton Hydro, Inc. (Princeton) has provided a preliminary engineering design and developed a hydraulic model of the restored natural channel with an estimated removal of approximately 3,000 c.y. of sediment and debris. Princeton reviewed multiple flood protection, hydraulic and scour studies for previous dam removal proposals as well as conducting their own hydraulic analysis utilizing industry standard USACE HEC-RAS program. Princeton acknowledges additional data gathering and modeling is necessary and has proposed bank and floodplain stabilization and replanting to re-establish a transitional floodplain forest.

With respect to the sediment quality, the West Branch of the Housatonic River is within an urbanized area of Pittsfield that includes several potential sources of contaminants to river sediment upstream and downstream of the impoundment based on the historical uses of this area. The Sediment Management Plan submitted by the Proponent as an attachment to the EENF did not establish background concentrations for contaminants detected in West Branch sediment. However, contaminant concentrations upstream and downstream of the impoundment and within the impoundment were determined. To

evaluate potential risk to organisms within aquatic habitats, MassDEP[1] outlines a decision process that includes comparison of concentrations to background and/or "local conditions", and if concentrations are elevated in comparison to background or local conditions, effects-based screening should be conducted.

The Sediment Management Plan uses the comparison of downstream sediment concentrations to impoundment sediment concentrations to support leaving approximately 6,000 cubic yards of the estimated 9,000 cubic yards of sediment located within the impoundment that will be allowed to redistribute downstream. In addition to the urbanized location of the West Branch, there is at least one significant potential source of contamination to West Branch sediment downstream of the dam, the former 50 East Mill Street Mill. Contaminants detected in upland soil adjacent to the West Branch at the 50 East Mill Street site are similar in composition to those identified in the sediments downstream of the dam provided in Sediment Management Plan.

Consistent with MassDEP's decision process for determining whether sediment in the impoundment may pose incremental risk, MassDEP also compared sediment concentrations within the impoundment to sediment concentrations upstream of the impoundment. Review of the sediment quality assessment indicates that sediment concentrations within the West Branch are similar upstream of the impoundment and it therefore may not be feasible to reduce the concentrations of these contaminants in the West Branch. Although effects based screening as indicated by the report, demonstrates that concentrations of several metals, PAHs, and PCBs are greater than several effects based screening criteria (Probable Effects Concentrations and Threshold Effects Concentrations[2]), in a dynamic aquatic environment, removal of contamination from a limited area may not result in permanent concentration reduction if the area is likely to be re-contaminated by sediments from immediately upstream of the removal area.

The Sediment Management Plan also compared future floodplain soil to Massachusetts background concentrations and for those contaminants exceeding background to Massachusetts Contingency Plan human health based risk standards. Three contaminants were determined to be above background – barium, chromium, and PCBs. Of those, only chromium (assumed to be trivalent chromium) exceeds the MCP promulgated risk standard (Method 1 standard); however, based on a site-specific risk standard (Method 3), the chromium concentration within future floodplain soil is below risk limits.

The Sediment Management Plan does not address the potential for downstream sediment transport following dam removal. Existing sediment data for metals in sediment within the East and West Branches suggests that significant transport of contaminated sediment has not occurred from the West Branch. As noted by other reviewers, metals concentrations within the East Branch (i.e., main stem) are present in concentrations lower than in the West Branch and are below or near Threshold Effects Concentrations. The volume of sediment within the Tel-Electric impoundment proposed to be sluiced downstream (6,000 c.y.) represents a very small fraction of the total

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[1]Massachusetts Department of Environmental Protection, 1996.*Guidance for Disposal Site Risk Characterization, Section 9.4, Aquatic Habitats and Organisms.*Interim Final Policy WSC/ORS-95-141. April 1996.

[2]Massachusetts Department of Environmental Protection, 2006.*Technical Update, Revised Sediment Screening Values.* January 2006.

amount of sediment present in the remaining mile reach of the West Branch. It is unlikely that the volume of contaminated sediment anticipated to sluice downstream in the West Branch would result in increased incremental risk to downstream ecological receptors. In addition, downstream of confluence of the East and West Branches, there are several impoundments and depositional areas that serve as sediment traps, including Woods Pond Dam, Columbia Mill Dam, Eagle Mill Dam, Willow Mill Dam, and Glendale Dam. As previously noted, the 401 WQC permitting process requires modeling to determine quality and volumes of sediment transport.

In summary, with regard to permitting, MassDEP has adequate authority through the 401 WQC permitting process to determine the potential environmental impacts from the project and to ensure that all feasible measures are taken to avoid, minimize and mitigate any negative impacts, as necessary. MassDEP staff will review the sediment quality and potential impacts from sluicing sediment downstream for this project and may include but not be limited to the following:

- Review currently available data, identify if data gaps exit and evaluate the need for additional sampling,
- Review data relative to the 401 WQC and other applicable regulations,
- Require removal and appropriate disposal of sediments if hot spots are identified,
- Review potential need for sediment transport modeling, and
- Evaluate potential public health and environmental risk factors.

Area of Critical Concern
As previously noted, the project site is not located within an Area of Critical Concern (ACEC) however; the Housatonic ACEC is located approximately one mile downstream from the project site. There is no designation of an Outstanding Resource Water in this ACEC.

Chapter 91 Waterways
This resource area is within jurisdiction of the Waterways program, and the activity may require a dredge permit from MassDEP. The work is proposed to result in environmental improvements that bring collateral benefits.

Drinking Water and Wastewater

There are no permits required for this project relative to water and sewer infrastructure. However, a grade control structure is proposed near the West street dam consisting of the emplacement of embedded boulder weirs to protect water and sewer mains crossing the river bed. MassDEP recommends close coordination with the Pittsfield Department of Public Utilities in the design.

Bureau of Air and Waste

Air Quality

Construction and Demolition Activities
The construction and demolition activity must conform to current Air Pollution Control Regulations. The proponent should implement measures to alleviate dust, noise, and odor nuisance conditions that may occur during the construction and demolition activities. Such measures must comply with the MassDEP's Bureau of Waste Prevention Regulations 310 CMR 7.01, 7.09, and 7.10.

Asbestos
If any portion of the proposed project involves removal or abatement of regulated asbestos-containing material, an asbestos removal notification (AQ04) must be sent to MassDEP using the asbestos notification form ANF 001, at least 10 working days prior to initiating work. The handling and removal of asbestos from a facility and/or facility component must adhere to the requirements at 310 CMR 7.15.

Construction Period Air Quality Mitigation Measures
MassDEP believes it is necessary to mitigate the construction-period impacts of diesel emissions to the maximum extent feasible and thus recommends that the project proponent participate in the MassDEP Diesel Retrofit Program. Pursuant to 40 CFR 80.510, all non-road engines shall be operated using only ultra low sulfur diesel (ULSD) with a sulfur content of 15 ppm.

Solid Waste

The proponent shall properly manage and dispose of all solid waste generated by this proposed project pursuant to 310 CMR 16.00 and 310 CMR 19.000, including the regulations at 310 CMR 19.017 (waste ban).

The BUD regulations at 310 CMR 19.060 establish levels of assessment for four categories of beneficial use. These regulations would be applicable to reuse of any materials generated by this project that would otherwise be considered solid waste.

The project proponent is advised that construction activity at the site must comply with both Solid Waste and Air Quality Control regulations. The appropriate Solid Waste provisions addressing this include M.G.L. Chapter 40, Section 54.

Bureau of Waste Prevention

There are no identified disposal sites governed by the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c. 21E, and the Massachusetts Contingency Plan (310 CMR 40.0000) within the immediate project site. However, as noted above the 401 WQC application review will take into consideration the MCP review thresholds as applicable.

If soil and/or groundwater contamination is encountered during construction activities, the proponent should retain a Licensed Site Professional (LSP). The MCP details procedures to follow for the parties conducting work. MassDEP staff are available for guidance.

Spills Prevention
A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activitiesshould be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases. In addition, due to the work being conducted in a fishery, the Proponent should specify non-petroleum based lubricants in the construction equipment.

IV. Other Comments/Guidance

As noted previously, the Proponent has requested a Waiver from the Mandatory EIR requirement; MassDEP notes that the project may be eligible for a De Minimis Exemption from the Greenhouse Gas (GHG) Policy review requirement. Mass DEP has no objection to the Secretary issuing a Waiver for the EIR and the GHG review Exemption as he deems appropriate. As noted previously, MassDEP has adequate authority through the 401 WQC permitting process to determine the potential environmental impacts from the project and to ensure that all feasible measures are taken to avoid, minimize and mitigate any negative impacts as necessary. MassDEP concurs that the long term GHG impacts from the construction stage of this project are De Minimis.

If you have any questions regarding this comment letter or pre-permitting, please do not hesitate to contact Catherine Skiba at (413) 755-2119.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Michael Gorski
Regional Director

cc: MEPA File

Potential Effects of Tel-Electric Dam Removal on the Housatonic River

Prepared by Environmental Stewards Consulting, Inc. on behalf of the Housatonic River Initiative and Housatonic Environmental Action League

July 6, 2016

Recommendations:

On the basis of existing sampling data, a comprehensive Environmental Impact Report must be conducted. The current sampling indicates concentrations of contaminants, especially PAHs, is too high to allow these contaminated sediments to move downriver after dam removal.

Effect of Polycyclic Aromatic Hydrocarbons (PAHs) on Freshwater Organisms

Introduction

Polycyclic Aromatic Hydrocarbons (PAHs) are a group of chemicals formed from the incomplete burning of carbon-based fuels or living matter. There are over 100 different types of PAHs, which typically occur as mixtures, not as single compounds (ATSDR, 1995).

Natural sources of PAHs enter the environment from crude oil seeps, forest fires and volcanic eruptions. Anthropogenic sources of PAHs enter the environment from the incomplete combustion of fossil fuels. PAHs can be found in dyes, plastics, pesticides, medicines, asphalt, crude oil, creosote, roofing tar, coal, and coal tar pitch. Primarily, PAHs are released into air in the environment from automobile exhaust, forest fires, wood burning, and volcanoes. Atmospheric deposition of airborne PAHs is an important source that accounts for most of their ubiquity in surface water. PAHs can also be released directly into water via discharges from industrial facilities or runoff of contaminated soil and sediment (ATSDR, 1995).

Once released into the environment, PAHs tend to adhere to solid particles in soil, water, and air. In water, PAHs do not dissolve easily and tend to settle to the bottom, attached to solid particles. Sediment binding is an important concept as PAHs will likely be found in higher concentrations where reservoir sedimentation occurs in bodies of water. Microorganisms generally aid in breaking down PAHs in soil or water, and usually this breakdown takes between weeks to months. In surface water, PAHs tend to bind to particulates or sediment, or bioaccumulate in organisms that can't metabolize PAHs (generally smaller organisms).

Ecological Toxicology

Bio-concentration

PAHs are toxic to aquatic animals, including insects, snails, freshwater mussels, fish and more. Chemical pollution, including PAH contamination, is a large-scale problem associated with the deterioration in the quality of fish and invertebrate communities. In aquatic organisms, such as fish and crustaceans, the bio-concentration rate of PAHs can range from 10 – 10,000. The large fluctuation in bio-concentration rates is because

species that cannot metabolize PAHs (like mollusks and algae) tend to accumulate more as opposed to larger organisms, such as fish or arthropods that metabolize PAHs and therefore accumulate less of them.

Fish larvae and embryos are more likely to have a greater PAH exposure compared to adults due to enhanced bio-accumulation at earlier stages of life and they are less mobile with less opportunity to avoid exposure (Dupuis and Ucan-Marin, 2015; Brette et al., 2014).

One study investigated the effects of predation on the bioaccumulation of PAHs at various aquatic trophic levels. Results suggest that biomagnification occurs due to the enhanced uptake rates caused by predation and by higher lipid contents in higher trophic organisms, as long as hydrophobic organic compounds have not yet reached bioaccumulation equilibrium. If bioaccumulation equilibrium has been reached, biomagnification occurs due to the higher lipid contents in higher trophic organisms (Xia et al., 2015).

The most toxic PAH, benzo[a]pyrene (B[a]P), was used to determine the effects of PAHs on two cladoceran species and the zooplankton community. Even with a short residence time, the study results indicate that B[a]P in a water body can adversely impact zooplankton abundance and community structure. However, it was found to precipitate to the bottom and if washed from the water body rapidly, did not remain, so further assessment of the potential toxicity of PAHs is needed (Ikenaka et al., 2013).

Carcinogenic Effects
Perhaps the greatest concern for aquatic organisms is that certain PAHs create carcinogenically active metabolites, and PAHs in sediments have a positive correlation with the generation of abnormalities and tumor growth in bottom dwelling fish (Mallin, 1988). Therefore, greater PAH concentrations in ecosystems can negatively impact aquatic life and potentially humans who eat organisms that either have abnormalities or higher bio-concentration rates of PAHs.

Non-Carcinogenic Effects
The enhanced exposure to PAHs of organisms in early life stages can result in morphological deformities, damage to the heart, and photo-enhanced toxicity. Fluorenes, dibenzothiophenes, phenanthrene, and three ringed PAHs, have been shown to cause toxicity to the developing hearts of fish embryos, leading to structural deformities of the heart (Brette et al., 2014). This factor could lead to decreased survival rates for adolescent fish.

PAHs can cause endocrine disruption that can adversely affect reproductive health. Endocrine disruption can cause delayed sexual maturation, alter sex hormones, and cause hormone disruption on the molecular level (Dupuis and Ucan-Marin, 2015). PAH exposure can affected physiology and has been known to alter the function of fish gills, which can lead to many other problems. Additionally, PAH implications on early life

development and the endocrine system can have adverse effects on the integrity of an organism's physiology.

PAHs can cause DNA damage on a biochemical level. PAHs negatively impact organisms by binding to cellular proteins and DNA causing cell damage and biochemical alterations that can lead to tumors, cancers, and mutations. Prolonged exposure to PAHs can degrade genetic information, which can lead to decreases in survival rates. Studies show that long term exposure to PAH-contaminated sediments has a positive correlation with the growth of tumors in organisms (Dupuis and Ucan-Marin, 2015).

PAHs can also cause immunotoxic reactions that lead to increased inflammation, immune suppression, and increased risk of disease. A 1999 study regarding the Exxon-Valdez oil spill off the coast of Alaska revealed increased liver damage in Herrings as the result of PAHs in the water from the spill, which was thought to be caused from a toxic reaction that made the Herrings less resistant to disease (Marty, 1999). Exposure to PAHs can cause behavioral disruption in aquatic organisms such as lethargy (Dupuis and Ucan-Marin, 2015).

How PAH Toxicity is Determined

Toxicity of PAHs is determined by photo-oxidation and metabolism, and PAHs are usually more toxic when Ultraviolet Light is present (Igwe 2015). Bioavailability, regarding sediment sequestration, solubility, and exposure also determines the toxicity of PAHs. In bodies of water, sediment often carries higher PAH concentrations than the water itself (since PAHs bind to particles), but sediment generally has a lower bioavailability than water, therefore reducing the toxic potential of PAHs.
The U.S. Environmental Protection Agency has set Maximum Contaminant Levels (MCL) for Polycyclic Aromatic Hydrocarbons as follows:

- Benz (a) anthracene: .0001 mg/L
- Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k)fluoranthene, Chrysene: .0002 mg/L
- Dibenz (a,h) anthracene: .0003 mg/L
- Indenol (1,2,3, -c, d) pyrene: .0004 mg/L

PAH Degradation

PAHs are degraded naturally by organism metabolism as well as by photolysis (decomposition by light exposure), photo-oxidation, and chemical oxidation. Anthropogenic remediation of PAHs can involve a variety of methods such as: bioremediation/mycroremediation, solvent extraction, electrokinetic degradation, as well as thermal treatment (Gan and Lau, 2009).

Dispersal of Sediments after Dam Removal

Managing sediment is often one of the most crucial and challenging aspects of dam removal. Sedimentation in freshwater systems, particularly fast flowing cold water streams, is a major source of impairment. The release of sediments following dam removal has some potentially adverse consequences, including releasing contaminants

(in the case of the Housatonic: PAHs), burying fragile ecosystems downstream (such as riffles: shallow sections of streams with rapid currents; riffles are integral to forming stream meanders), and creating potential flood risks (Downs, Dietrich, and Sklar, 2009). However, the long term benefits of dam removal results in the restoration of natural flow fluctuations in a river, which leads to an increase in biodiversity and population sizes of natural aquatic organisms (Higgs, 2002). This is particularly true so long as contaminated sediments are not present.

Generally, sediment dispersion has temporary effects on rivers, so long as the sediment is removed from the system, as natural sediment flows typically resume. After dam removal, larger sediments generally will become exposed again (in regards to reservoir sedimentation), as smaller sediments generally cover them. This change provides restored spawning habitats for certain aquatic organisms. But the part of the system where the sediments accumulate are subject to sediment impacts, and the animals exposed to the sediment and associated chemicals are subject to adverse effects. Shortly after dam removal, dispersed sediments can adversely affect spawning habitats, water quality, and sources. This effect can be especially destructive if the sediments contain toxins (Wood and Armitage, 1997). Removing a dam on a contaminated river can potentially have adverse affects on biotic communities (regarding keeping toxins stationary). However, analysis of the sediment quantity and quality, initial sediment removal, and careful planning and timing of dam removal can limit these adverse affects.

The Milltown Dam in Montana is an example of problems stemming from dams with metal-contaminated sediments present. A large amount of contaminated sediment was released downstream of the dam during an emergency drawdown of the reservoir. Most of the river's fish were killed. The dam was removed in 2008 and is the most significant dam removal project with contaminated sediment to date. Approximately 5 million cubic meters of heavy metal-contaminated sediments were stored in the reservoir by the 1980s (Evans, 2008).

The Fort Edwards Dam on the Hudson River was removed in 1973, releasing 336,300 cubic meters of sediment and retaining 765,000 cubic meters in the former reservoir all during the first year. Scientists later found that the sediments were contaminated with PCBs, leading to the CERCLA PCB remediation dredging project (Evans, 2008).

Management options for contaminated-sediment at dam removals include no action, sediment removal, and capping. Some situations may not warrant these options based on a number of conditions. On average, more than 80% of reservoir sediments are remobilized within several years following dam removal; this number depends on the frequency of floods. Contaminant stratigraphy should be considered but is generally overlooked. The severity of downstream effects after removal depends on whether or not any "hot layers" are exhumed and remobilized after dam removal. If impounded contaminated sediments are suspected, follow-up studies should be implemented to assess sediment quality for each suspected contaminant. Not all states require sediment management plans prior to dam removals (Evans, 2008).

Conclusions

Current sampling indicates elevated PAH concentrations that, if allowed to flow downstream after the dam removal, would have a negative impact on aquatic life. Although some PAHs exist naturally through mechanisms like forest fires, volcanoes, and in fossil fuel reservoirs, anthropogenic sources of PAHs pose adverse effects to biological systems. Major negative implications of PAHs on organisms include the degradation and alteration of early stages of development, endocrine systems, immune systems, genealogy, and physiology, as well as carcinogenic effects.

As investigations into all aspects of PAHs continue around the globe, new information continues to reveal several trends:

- PAHs enter the environment from both natural and manmade sources
- PAHs adhere to solid particles; they do not easily dissolve in water
- PAHs threaten both ecological and human health
  - Bioaccumulate and move up the food chain
  - Can cause carcinogenic and non-carcinogenic effects

Given the toxic nature of PAHs, more research needs to be conducted on their ecological toxicity. In particular, the majority of information on the impacts of PAHs focus on their effect on marine species and human health; additional research needs to be conducted on their impacts on freshwater ecosystems.

Likewise, very little information is available on the dispersal of PAH-contaminated sediments after dam removal. Research has found that dam removal has the potential to cause adverse consequences on downstream ecosystems, such as releasing contaminants, burying downstream ecosystems, and creating potential flood risks. Considering the sediment-binding nature of PAHs and the amount of sediment dispersion resulting from dam removals, more research should be conducted on the dispersal of PAHs following dam removal and their implication on the surrounding ecosystem.

Strysky, Alexander (EEA)

From: Kathy Kessler <kathy.kessler@gmail.com>
Sent: Friday, July 22, 2016 8:47 AM
To: Strysky, Alexander (EEA)
Subject: Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration – Pittsfield - EEA # 15510

Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration – Pittsfield - EEA # 15510

Secretary Matthew Beaton
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office Alex Strysky, EEA No. 15510
100 Cambridge Street, Suite 900 Boston MA 02114

Re: **Mill Street (Tel-Electric) Dam Removal and West Branch Housatonic River Restoration** – Pittsfield - EEA # 15510

Please consider the following comments in regard to the Mill Street Dam Removal and River Restoration Project.

I would like to add my comments to what the Berkshire Environmental Action Team (BEAT) has detailed in their message (included below). I support the reasons presented there, and rather than restate them, I want to emphasize that while it is important to explore all options for developing clean energy in our region, this only makes sense where such a project is feasible. While there are a number of areas where existing dams represent viable sources of hydropower and every effort should be made to take advantage of their potential to provide clean, renewable energy, the privately owned Mill Street Dam is clearly not one of those.

At this time it is more urgent to take this single opportunity to restore the river ecology and connect sections of the developing greenway in the Pittsfield area, to enhance the quality of life for local residents and to support and encourage appreciation for the fragile and important natural resources that organizations like BEAT and others have worked for decades to protect and restore. The community living around the Housatonic River, as well as the river's ecosystem itself, have historically borne the brunt of industrial malfeasance, greed, and neglect. We have a responsibility to turn that around by protecting and restoring what we have, making the area

safe and conducive for recreation, and last but not least, allowing the sensitive river ecology to return to a lasting healthy state. Removing the Mill Street Dam will help accomplish all of those things in a cost effective and timely way.

Thank you for your consideration.

Sincerely,

Kathy Kessler

25 Christian Hill Road

Great Barrington, MA 01230

Comments from the Berkshire Environmental Action Team:

The state should determine which dams are not going to ever be removed and ensure that when those dams are repaired that hydropower is installed if at all possible. In Pittsfield, hydropower should be strongly considered on Pontoosuc Lake, Onota Lake, and Richmond Pond Dams all of which will not be removed. Throughout Berkshire County there are dozens of dams that contain reservoirs or lakes where dams make sense.

Nature should not have to pay the price for human thirst for energy. There are many less impactful ways to generate electricity than a dam that spans a river including run-of-the-river, microhydro, and turbines in water mains.

Dams do much more than block fish passage. Dams prevent many aquatic organisms from moving up and downstream, but perhaps more importantly dams prevent the nutrients and sediments from moving downstream. This starves the river of essential elements for many organisms to live, breed, and disperse. Above the dam the water is wide, shallow, stagnant, filled with sediment, and very warm. Below the dam there is almost no sediment. The river below the dam does not have the substrate nor the food to support a vibrant ecosystem of macroinvertebrates and the fish that would feed upon them. By removing the dam, the river's ecosystem will be

restored. Areas that were inundated above the dam will become floodplain forest, and the river below the dam will receive sediment that will, after a year or two, support a riverine foodweb.

The Tel Electric (aka Mill Street) dam disrupts the ecosystem of the west branch of the Housatonic River. This branch flows from Onota and Pontoosuc lakes through the west side of Pittsfield – through a Minority and Income Environmental Justice neighborhood. This is an area where the City of Pittsfield, the state of Massachusetts, and environmental organizations, including BEAT, have been working to reconnect the neighborhood with their river.

In 2007, the city and state held an Urban Rivers Visions 2 process engaging the community in forming a vision for the westside along the west branch of the Housatonic River. The community put forth a vision of how to reconnect with the river. Since then a canoe launch was installed behind Wahconah Park and land has been obtained along the river for a park with river access. Once the Tel Electric Dam is removed, it will be possible to canoe from Wahconah Park to Clapp Park, and then continue downstream all the way to Woods Pond in Lenox.

The Mill Street Dam owner also owns the buildings next to the dam. These buildings are already zero net energy use. The dam owner is not going to install hydropower.

The dam removal project will also remove an unused, dilapidated railroad bridge, while maintaining an historic paired railroad bridge just upstream.

The dam is incredibly dangerous

- one person has already died by being swept into the chute
- the area across from the building is heavily used for drug activity
- the area across from the building is heavily used for illegal dumping

Strysky, Alexander (EEA)

From: Hartley, Richard (FWE)
Sent: Friday, July 22, 2016 8:26 AM
To: Strysky, Alexander (EEA)
Cc: Glorioso, Lauren (FWE); Richards, Todd (FWE)
Subject: EEA# 15510 Mill Street (Tel-Electric) Dam REmoval and West Branch Housatonic River Restoration

Alexander, the Division has reviewed the ENF for the above referenced projects and supports the proponents request to waive the mandatory EIR.

Richard A. Hartley
Fisheries Biologist
MassWildlife
1 Rabbit Hill Road
Westborough, MA 01581
Phone (508) 389-6330
Fax (508) 389-7890