

City of Keene
New Hampshire

CONSERVATION COMMISSION
MEETING MINUTES

Monday, November 16, 2015 5:15 PM 2nd Floor Conference Room, City Hall

Members Present:

Chair Thomas P. Haynes
Matthew Walton
Thomas Lacey
Brian Reilly
George Hansel (Arrived at 5:23)

Staff Present:

Tara Kessler, Planner
Rhett Lamb, Planning Director
Kürt Blomquist, Public Works Director

Members Not Present:

Councilor Janis Manwaring

Others Present:

Sadie Butler
Denise Burchsted
Kim Goddu
Eloise Clark, Friends of Open Spaces
Jim Mayo, Eversource Energy
Scott Perkins, Eversource Energy
Dave Bergeron, Brickstone Land Use Consultants, LLC
Peter Walker, VHB
Barbara Scully, Ashuelot River Local Advisory Committee

1. Call to order

Chair Haynes called the meeting to order at 5:15 PM.

2. Minutes – October 19, 2015

Mr. Reilly made a motion to approve the minutes of October 19, 2015. Mr. Lacey seconded the motion, which carried unanimously with the following changes: Ms. Butler stated that page 6 refers to the subgroups created and noted that she and Ms. Burchsted should be switched.

3. Friends of Open Spaces

Eloise Clark approached the Commission. Ms. Clark read aloud an invitation to the Conservation Commission to participate in a fair for groups involved with open space in Keene. Ms. Clark stated that the fair would occur on Tuesday, April 10, 2016, in the multipurpose room at the Keene Recreation Center from 7:00 PM to 8:30 PM.

Ms. Clark stated that the fair would provide an opportunity for various departments, boards, committees and commissions in the City to meet one another in an informal setting and it would

allow participants to learn what other groups are trying to accomplish. Ms. Clark stated that Rhett Lamb will speak about conservation efforts in the City. Ms. Clark asked the Conservation Committee to act as a cosponsor. She continued, noting that agreeing to be a cosponsor would mean spreading the word about the fair, and attending with a table display.

Chair Haynes stated that the Commission would be interested and noted that this is a great way to reach out to the community. Mr. Walton asked what co-sponsorship entails. Ms. Clark stated that it means that the Commission will have a presence at the event and Friends of Open Spaces can advertise that the Committee is a co-sponsor. She continued, stating that that Friends of Open Spaces are willing to organize everything.

Mr. Walton made a motion for the Conservation Commission to be a cosponsor at the Friends of Open Space's fair. Mr. Reilly seconded the motion, which carried unanimously.

Ms. Clark asked who she should contact for further details. Chair Haynes referred her to Ms. Kessler for further communication.

4. Communications and Notifications

a) 76W5 and L76W5 Distribution Line Project – Eversource Energy

Mr. Mayo stated that Eversource Energy is proposing to install a new 12.47-kilovolt distribution line (known as 76W5 line) along the western side of an existing electric utility right-of-way to the north of the proposed North Keene Substation. The proposed 76W5 line will extend north from the North Keene Substation approximately 900 feet to NH Route 12, and then extend an additional 200 feet north across the highway terminating at a wood pole just off the northern shoulder of the highway. Mr. Perkins stated that Eversource proposes to construct a second 12.47-kilovolt distribution line (known as L76W5 line) that will extend west from the proposed 76W5 line along the southern shoulder of NH Route 12 for approximately 1.1 miles to Maple Avenue. Mr. Mayo passed out plans showing the proposed line to the Commission. Mr. Mayo stated that the infrastructure would be above ground.

Mr. Mayo noted that they had previously thought wetlands would not be impacted by this development but as the NH Department of Transportation has requested Eversource to build further away from the pavement, there are potential wetland impacts. He noted that permanent impacts will result from the installation of proposed structure along the lines, and that temporary impacts will result from the placement of swamp mats within wetlands to access and install each structure. He noted that some vegetative clearing will also be necessary in order to establish safety clearances required for electrical distribution lines. A total area of 92 square feet of permanent wetland impacts and 10,530 square feet of temporary wetland impacts are being proposed. Mr. Mayo stated that they are prepared to file for a wetlands permit from the NH Department of Environmental Services (DES). He continued, stating that all permits will be filed this week.

Mr. Lamb asked what the width of the clearing would be. Mr. Mayo stated that along the right-of-way the clearing would be approximately 50 feet on each side. He continued, stating that there

are three structures in tenant swamp and Eversource will be hand-clearing growth that is over six feet tall. Mr. Mayo stated that along the road there would be 8-feet of clearing on either side.

Mr. Lamb stated his concern about having mature trees cleared on the south side of the intersection on Maple Avenue. Mr. Mayo stated that this section will only have an 8-foot clearing and the 50-foot clearing is along Eversource's right-of-way. Mr. Mayo explained the specifics of the diagram to the Commission for clarification. Mr. Mayo stated that once a permit is approved, they will begin construction by winter, hopefully. The Commission did not have any further questions.

c) Cheshire County Shooting Sports Education Foundation Wetlands Application

Dave Bergeron of Brickstone Land Use Consultants approached the Commission. Chair Haynes stated that there was concern by the applicant about this application being submitted to NH DES on time, so this item was added last minute to the agenda. Although the Commission did not have the opportunity to conduct a site visit before the meeting, they can still request one, if necessary. Mr. Bergeron stated that the Planning Board approved the plan being presented for an indoor shooting and educational building at the Cheshire County Fish and game Club several years ago.

Mr. Bergeron displayed a diagram of the building in a blown-up format. He explained the setup of the building. He stated that the proposed building will be a one-story structure of approximately 26,138 square feet and will be located adjacent to the existing outdoor shooting range. A new parking area will also be constructed to support the new building and access will be by the existing driveway off Ferry Brook Road to the outdoor range. Mr. Bergeron noted that there is a youth club involved with the shooting range and they have won several awards and scholarships. He continued, stating that there are currently about 800 members.

Mr. Bergeron displayed a diagram of the existing shooting range, which is approximately 180 acres. Mr. Bergeron noted the areas of wetlands and the location of Ferry Brook, which runs through the property. Mr. Bergeron stated that the wetland area that would be impacted by this proposal is a 1,725 square foot isolated pocket to the west of the proposed building and parking area and is entirely within the proposed storm water control pond onsite. A berm will be constructed to the west of the wetland to form the storm water control pond placing the wetland area within the pond.

Mr. Bergeron displayed a power point to the Commission showing photos of the area including the road to the shooting ranges, the shooting ranges, and the wetland area being impacted. Mr. Bergeron stated that the application is for a Minimum Impact Expedited Wetlands Permit. He continued, stating that he hopes the Commission will sign the application.

Mr. Reilly asked if the area holds enough water to become a vernal pool. Mr. Bergeron stated, no. Mr. Hansel stated that he has never seen water in the area. Mr. Lacey asked if it will be a trench. Mr. Bergeron stated that a berm will be put into place as well as a retention basin. He continued, stating that the Wetland Bureau considers it a wetland impact but it will actually be

larger because of the retention basin. Mr. Bergeron stated that with the parking lot and structure there will be increased runoff and the retention pond meets the City's standards.

Mr. Walton asked about treatment of the runoff. Mr. Bergeron stated that there will be grass swales near the parking lot and they will apply for an Alteration of Terrain Permit, which requires a mandatory pre-treatment. Mr. Bergeron stated that retention basins are favorable because of wetland vegetation, which helps treat the storm water.

Mr. Hansel made a motion to sign the permit as presented. Mr. Lacey seconded the motion, which carried unanimously.

5. VHB Presentation on West Street Dam Study Preliminary Findings

Mr. Lamb stated that VHB was hired by the City of Keene to evaluate the impacts of the following scenarios: if the existing West Street dam were repaired to maintain normal water levels; if the dam were to be removed; and, if the dam were to be repaired and the normal water level was raised by one foot using flashboards. This study was requested by the Conservation Commission to more fully understand the implications on wetlands and floodplains that would result from the proposed scenarios. Mr. Lamb noted that since the time this study was requested, the membership of the Commission has changed significantly.

Peter Walker of VHB approached the Commission and began his presentation. Mr. Walker stated that the presentation objectives are to discuss the scope of study; present preliminary results of the hydraulic model; identify key natural resources; and, discuss the next steps of the study. Mr. Walker stated that this is not the final presentation and there will be at least one more presentation to the Conservation Commission.

Mr. Walker stated that a previous study conducted by DuBois & King on a small stretch of the Ashuelot River examined the impacts of dam removal. VHB was asked to expand the hydraulic model study further upstream to Court Street. He continued, stating that VHB conducted topographic and bathymetric surveys. Mr. Walker stated that the scope is to take the results of the hydraulic model and examine the impacts on wetlands, floodplain forest, wildlife, and threatened and endangered species.

Mr. Walker displayed a map of the river valley and pointed out key cross sections. He continued, stating that VHB used HEC-RAS (Hydrologic Engineering Center River Analysis System) to model the flow of water through the river channel. Mr. Walker stated that there are different flood and river flows during the year and VHB reviewed these different flow patterns. Mr. Walker noted that the hydraulic model output determines water surface elevations, velocities, hydraulic depth, and channel width.

Mr. Walker stated that hydrology flows from the West Street Dam were reviewed back to the 1940s using the river gauge data. He continued, stating that VHB calculated the low flow (55 cubic feet per second (cfs)), high flow (540 cfs) and annual average flow (187 cfs). Mr. Walker stated that he will be discussing the 100 year flood flows as well. Mr. Walker displayed a map representing cross section locations. He continued, stating that these are not distributed

uniformly but are seen as significant cross sections, specifically, in areas near bridges. Ms. Burchsted asked if Tenant Swamp is represented exclusively in the model. Mr. Walker replied, no. Mr. Blomquist asked about the minimum flow to maintain the stream. Mr. Walker stated that the minimum flow would be represented in the hydraulic model.

Mr. Walker displayed a graph of what the average annual and 100-year flood flow levels would be if the dam were removed. He explained that the graph includes the stream bed, a sediment wedge (area of sediment built up behind the dam) and the dam's existing location. Mr. Walker stated that when looking at the topography, a sediment wedge is viewed upstream of the dam. Mr. Walker stated that this component is important because if the dam was taken out, the controlling elevation would be the sediment wedge upstream. Mr. Walker stated that you would not see much difference but the sediment wedge would likely move if the dam was taken out. Mr. Walker stated that they ran the model both with and without the sediment wedge. They found that the presence of the wedge makes a difference within the first several hundred feet of the dam upstream. Mr. Lamb requested a height reference for the graph in terms of scale. Mr. Walker stated that the dam is about 15 to 16 feet high. Mr. Blomquist noted that the graph displays 100' per line along the x-axis and 1' per line along the y-axis.

Mr. Walker stated that the red line is indicative of the water level at average annual flow under existing conditions. The other lines represent changes to the flow level if the dam was removed. Mr. Walker stated that the dam has an influence on average annual flow up to Court Street and the water level would drop approximately half of a foot if the dam were removed. Mr. Walker stated that there is not much of a change with the higher flow if the dam is removed or stays in place. Mr. Walker stated that it is under lower flow conditions that one can see the difference. Mr. Walker stated that there would be a significant change close to the dam.

Mr. Blomquist stated that at times the Army Core of Engineers is discharging water at a rate of 800 to 1,000 feet per second and the average annual flow is susceptible to the Core if it is discharging. Chair Haynes noted that natural flow data cannot be determined because the flow is being controlled. Mr. Walker stated that VHB choose to use gauge data because the flow is regulated.

Mr. Walker displayed a graph that reviews the scenario of dam repair with flashboards compared to existing conditions. Mr. Walker stated that if flashboards were added, water elevation would rise about 1-foot in proximity to the dam and 9/10th of a foot by the Route 9 Bridge. Mr. Walker noted that the depth of the river would increase up to Court Street. Mr. Walker showed hydraulic results at key cross section locations for existing conditions, dam repair with flashboards, and dam removal. Mr. Walker stated that if you look downstream of the West Street dam the water elevation is at 461 feet, which is about 10-feet below the crest of the dam. He continued, stating that the velocities under average annual flow are about 3 feet per second at existing conditions, the average depth is approximately 1-foot, and the width is 60-feet wide. Mr. Walker stated that if the dam is removed there is not a substantial change downstream for either scenario. Mr. Walker stated that if the dam is removed, velocities would increase from 0.3 feet per second to 2.3 feet per second at approximately 500 feet upstream of the dam. Mr. Walker stated that there would be a substantial decrease in the width of the river with the dam removal. He continued,

stating that the width would decrease by as much as 90 feet, about 60 to 70 feet immediately near the dam. Mr. Walker noted that adding flashboards would increase the width but by very little.

Mr. Walton asked where the dwarf wedgemussels are in the downstream area. Mr. Walker stated that he does not have that answer tonight and that Ethan Nadeau would be able to answer this question. Ms. Burchsted stated that the downstream habitat is not favorable to the dwarf wedgemussels.

Mr. Lacey asked if adding the flashboards would result in a typical regimen of the river without the flashboards. He continued, asking if the amount of water added would be there at some point without the flashboards as well. Mr. Walker stated hydrology and hydraulics are different and that the amount of water in the river is independent of the dam. Mr. Blomquist stated that by raising the level of water the land might remain wet longer or more often. Ms. Burchsted stated that this change would not affect a large portion of the river. Mr. Walker stated that adding flashboards would not change the river as much as removing the dam. He continued, stating that this change is not limited to those 500 feet upstream, however.

Mr. Walker stated that, as the dam is a run of the river dam there would be limited change downstream. Mr. Walker noted that the key findings include: minimum change downstream; dam influences as far as Court Street; dam has more influence on lower flows than high flood flows; dam removal would have 4-foot decrease in water surface elevation that would diminish upstream; and, flashboards have a 1-foot increase throughout study and increase water surface elevation to about 1-foot. Mr. Walker discussed annual fluctuations and their ecological meaning.

Mr. Walker discussed the natural features on the map and identified lower floodplain forest, oxbow communities, tenant swamp, floodplain forest, and aquatic bed habitat. Mr. Walker noted the potential threatened or endangered species present including: the Northern Bog Violet, which would not be impacted; the Canada Shore Quillwort, which is a spore-bearing species that looks like grass on sandbars and aquatic areas; the common nighthawk; the wood turtle; and, the dwarf wedgemussel.

Mr. Walker pointed out oxbow communities on the map and stated that they would change substantially. He continued, stating that this area would change but it is not likely that the wetlands would change drastically. Mr. Walker noted that there is a large amount of human activity in the area as well. Mr. Walker pointed out a large forested emergent wetland area on the west side of the river and stated that this area would have a half-foot of change in the water surface elevation. Mr. Walker noted that the changes to tenant swamp would be limited.

Mr. Walker stated that the next steps include a draft report in December as well as a second presentation to the Conservation Commission and a public informational setting. Mr. Walker noted that Ryan Lizewski of VHB built the model.

Mr. Reilly asked about Tenant Swamp and if there is a culvert under Route 12. Mr. Walker replied, yes. Mr. Walker reviewed the differences in the wetland habitats including emergent,

forested, scrub-shrub, open water, and riverine. Ms. Burchsted asked if it is possible to include an overlay on the map that displays channel width. Mr. Walker replied, yes this is possible.

Barbara Skully from the Ashuelot River Local Advisory Committee asked if the low flow conditions will be reviewed. Mr. Walker stated that there are results available and this will be discussed at the next presentation. Ms. Skully stated that she cannot tell if the wetlands are feeding the river or being fed. Mr. Walker stated that this would also be discussed in further detail. Mr. Walker stated that Tenant Swamp is less dependent on river hydrology than the lower flood plain.

Mr. Hansel stated that it would seem logical to focus on the first 500 feet close to the dam. Ms. Skully brought up recreational use and noted that it may affect the trail. Mr. Blomquist noted that if there is a change in height it may change the classification of the dam and the berm may fall into another regulatory category. It is currently a low hazard dam. Ms. Skully asked if you can repair the dam with the sediment bank. Mr. Walker stated that he is unsure. Mr. Blomquist stated that it depends on the required repairs and there are ways to act on these repairs. He continued, giving the history of the dam.

Ms. Burchsted asked about the potential for erosion and stated concern about the erosion point upstream from the sediment wedge. She continued, stating that there needs to be assessment to know if the sediment wedge will be mobile at the velocity predicted. Mr. Blomquist stated that the original intent from the Conservation Commission was to review the natural resources and have additional information on the dam. He continued, stating that this information will go onto City Council to decide what should be done next and if the dam should be removed. Mr. Blomquist stated that additional studies might be necessary depending on the Commission and City Council. Chair Haynes stated these are questions for down the road.

Mr. Lamb stated that West Street Hydro is part of the project and this information helps move their project forward as well. Mr. Walker noted that VHB communicates regularly with representatives from West Street Hydro about the project.

Mr. Hansel asked what the Conservation Commission is trying to review at this point in terms of the dam and whether a recommendation is needed. Chair Haynes stated that the Commission previously recommended removing the dam. He continued, noting that the Commission did not know the hydrology or the data provided today. Mr. Walton stated that one aspect is the dwarf wedgemussel and its preservation; however, the mussel study has not been conclusive. Chair Haynes stated that the Commission must decide if it is best to keep or remove the dam and what is the best approach with respect to conservation value. Ms. Burchsted asked if it is within the abilities of the Commission to make a recommendation like this. She stated that either solution is not without issues or concerns. The Commission continued to discuss the priorities and concerns that might influence their recommendation.

Ms. Kessler noted that the Commission stated that they needed more information before making a recommendation to City Council. Mr. Lacey stated that there are other important community issues that the dam repair or removal might influence in addition to the conservation/natural resource impacts. Chair Haynes stated that there is a historical impact as well. Ms. Burchsted

asked if the Commission concentrates specifically on conservation or includes social and economic aspects as well. Chair Haynes replied that he is not sure of the boundaries. Mr. Walton stated that the Commission focuses on the natural resources of the community. Ms. Kessler gave background on why the study was requested. She stated that the dam was determined to be insufficient, and so further studies were necessary to examine the potential impacts of either dam repair or removal. Ms. Kessler discussed the details of how West Street Hydro became a partner in this project.

Ms. Burchsted stated that the Nature Conservancy is committed to the removal of the dam to improve fish passage and flow. She continued, stating that there is a push towards opening up access. Mr. Reilly stated that the fish would stop at the Surry Dam. Chair Haynes noted that there are other dams that would stop passage as well. Ms. Burchsted noted that the space above West Street would be favorable for a shad spawning habitat.

Ms. Kessler stated that City Council is aware of the Conservation Commission's interest in studying the impacts of potential scenarios and that other committees and organizations in Keene are sharing recommendations for the future of the dam. Ms. Kessler noted that West Street Hydro is performing studies as well. She continued, stating that it is essentially City Council's decision and it will take some time before a final decision occurs. Ms. Kessler stated that more studies might be necessary. Chair Haynes noted that there are numerous variables to this project. Mr. Walton asked what the City's obligations are since the dwarf wedgemussel is federally protected. Ms. Burchsted stated that this triggers additional studies and would feed into the biological opinion of the effects of the dam repair or removal on the mussel population.

6. Conservation Master Plan Discussion

a) Reports from Conservation Master Plan Working Groups

Chair Haynes stated that most of the working groups have met. Chair Haynes provided a brief update on the working group focused on greenways. He stated that there are greenways for rivers, paths and trails, scenic drives etc. He continued, stating that his group came away with actions strategies related to undertaking wildlife study, assessing the feasibility of rail trails, exploring the Quabbin to Cardigan partnership and how it fits into the larger plan. Ms. Butler stated that she reviewed plans and studies that the city has developed including the future land use section of the Keene Comprehensive Master Plan.

Mr. Reilly stated that he and Mr. Lacey reviewed the Natural Resource Inventories (NRIs) that are complete for city-owned parcels. He continued, stating that they are also trying to identify guidelines for using NRI information to create a conservation plan. Mr. Lacey stated in his research he found that for almost 30-years there have been requests for the City to conduct a comprehensive forest profile and this has never been done.

Mr. Hansel stated that the wildlife working group will provide an update at the next meeting.

On behalf of the surface water working group, Mr. Walton stated that they focused on the Ashuelot River and on the need for a possible inventory of what organisms currently use the river. He continued, stating that there needs to be a better understanding of this and the

management part of it. Mr. Walton stated that they looked at flood control, as well as at ways to increase the diversity of the river. Ms. Walton noted that fish spawning has not been identified as a priority. Ms. Burchsted stated that the next steps are to decide what the role and goals of this sub-group are and noted that there are so many options for potential action strategies. Ms. Burchsted stated that they will continue to review previous studies that have been conducted.

Chair Haynes stated that the conservation plan developed by Keene State College students has many documents that could be useful as well. Ms. Kessler stated that there is a summary of this report available electronically and there is a hard copy of the plan available. Chair Haynes stated that he will contact Mr. Fleeger to obtain an electronic copy of this student plan. Ms. Burchsted stated that she will also look into finding the document.

7. Subcommittees

a) Surface Water Protection Ordinance

Due to the late hour, Mr. Blomquist, Director of Public Works, will discuss this item with the Commission at the next meeting.

8. Commission Membership

a) Member Updates

Ms. Kessler noted that the City Council has approved Ms. Butler's nomination to serve as an alternate to the Conservation Commission. The City Council will vote to approve Ms. Burchsted's nomination on November 19, 2015.

b) Recruitment

Ms. Kessler stated that Mr. Walton's term is expiring at the end of the year. She has requested the Clerk's office investigate when Chair Hayne's second term officially ends. She continued, stating that there was confusion about Mr. Hansel's representation as a City Councilor. Mr. Hansel stated that he would like to stay on the Commission. Ms. Kessler stated that she will check with the Clerk's office.

Chair Haynes stated that recruitment is necessary.

Ms. Kessler stated that in speaking with the Mayor's office, it is anticipated that the Council will be approving nominations for commissions at their meeting on December 17, which is the deadline for the start of the year. Ms. Kessler explained the terms of members and alternate positions.

c) Leadership

Chair Haynes asked if the Commission would like him to continue as chair if he is able to stay. The Commission agreed.

9. Staff Updates

No updates were provided at this time.

10. New or Other Business

No new or other business was shared at this time.

11. Adjournment-Next meeting date-December 21, 2015

Chair Haynes adjourned the meeting at 7:20 PM.

Respectfully submitted by:
Lana C. Bluege, Minute-taker
November 16, 2015

Edited by:
Tara Kessler, Planner
December 14, 2015