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STATE OF MAINE  
DEPARTMENT OF CONSERVATION  
LAND USE PLANNING COMMISSION  
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WALTER E. WHITCOMB  
COMMISSIONER

# PERMIT

## AMENDMENT A SHORELAND ALTERATION PERMIT SA 1068 AND WATER QUALITY CERTIFICATION

The Maine Land Use Planning Commission, through its staff, after reviewing documents submitted by the Appalachian Mountain Club and related record materials, finds the following facts:

1. Permittee: AMC Maine Woods, Inc. (AMC)  
c/o Appalachian Mountain Club  
Attn: Walter Graf  
5 Joy Street  
Boston, MA 02108
2. Date of Original Permit: August 28, 2013
3. Location of Project: AMC's Medawisla Wilderness Lodge on Second Roach Pond  
Shawtown (TA R12 WELS), Piscataquis County  
Plan 01, Lot 2.2
4. Zoning: (D-GN) General Development Subdistrict  
(P-GP) Great Pond Protection Subdistrict  
(P-WL1) Wetland Protection Subdistrict
5. Affected Waterbody: Second Roach Pond, is a Resource Class 1B undeveloped accessible lake with significant scenic, fishery, cultural, and physical resources. The Roach River is a Class A water.
6. AMC's lot is developed with a lakefront commercial sporting camp. A rock dam with fish passage structure extends from the end of an existing filled fixed pier structure located on the shoreline of the site. The rock dam with fish passage structure extends across the lake onto lands that are part of a conservation easement with the State of Maine, Bureau of Parks and Lands. The rock dam with fish passage structure controls the water elevation of Second Roach Pond and flow from the pond to the Roach River.

### Background

7. On May 1, 2012, the LUPC met with AMC in the Greenville Office to discuss the design of its proposed reconstruction of the rock dam on Second Roach Pond at their Medawisla sporting camp site. The LUPC agreed to meet on site with AMC to observe the water level on Second Roach Pond during the spring seasonal high flow period to establish a high water elevation for the proposed project. AMC agreed to install a gauge to record the high water elevation and to monitor the seasonal fluctuations of the water elevation of Second Roach Pond to determine a low water elevation, in addition to the high water elevation.
8. On May 12, 2012, the LUPC met on site with AMC to establish an approximate full pond elevation for Second Roach Pond for the proposed reconstruction of the existing rock dam. The pond elevation observed on that day equated to an approximate measure of 3.6 feet at the gauge installed by AMC. To

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- establish the seasonal low pond elevations, AMC agreed to monitor the seasonal changes in pond elevation and record the results as measurements from the same gauge. Based on the seasonal monitoring of this gauge, AMC observed a low pond elevation of approximately 2.7 feet at the gauge on September 24, 2012.
9. On April 25 2013, AMC submitted an application for a Shoreland Alteration Permit to reconstruct the existing rock dam and to install a fish passage on Second Roach Pond. The application was reviewed by the Commission and provided to other agencies for comment, including to the Department of Inland Fisheries and Wildlife (DIFW), Bureau of Parks and Lands (BPL), and Department of Environmental Protection (DEP).
  10. AMC's application indicated the dam reconstruction project would alter 3,741 square feet of P-WL1 wetland of special significance and that this impact would be limited to the pond bottom. As noted in SA 1068, finding #9, this impacted area represents the footprint of the reconstructed rock dam, the removal of several large rocks, the footprint of the rock tiered fish passage and rip-rap placed along the banks of the existing fixed/filled pier. AMC's application stated there is no reasonable alternative to the reconstruction project because the "dam must be repaired to maintain [the] existing water level of Second Roach Pond and minimize eroded materials in [the] Roach River." (Supplement S-3.) Additionally, AMC stated in its application: "The project proposes stabilization of an existing dam and supplementing the existing dam by adding a fish passage to allow fish access to Second Roach Pond. This project will not have a negative impact on the existing wetland function and values." (S3-C. Functional Assessment.) The application further provides: "No compensation is required for the proposed project as there will be no loss of wetland functions and values." (S3-D. Compensation Plan.)
  11. Based on review of the application materials and communications with AMC and its agents, the LUPC understood the dam reconstruction project would not increase the water level in Second Roach Pond and, therefore, would not flood and alter the existing freshwater wetlands adjacent to the pond and designated as P-WL1 wetlands of special significance. Similarly, the LUPC understood that the significant wildlife habitat adjacent to the pond would not be flooded or impacted by the dam reconstruction project. The LUPC understood that only the 3,741 square feet of pond bottom identified in the application would be impacted. Accordingly, the LUPC concluded in SA 1068:
    - A. "[T]he majority of the wetlands area disturbed by the proposed dam reconstruction is a wetland area previously disturbed during the original rock dam construction. Additionally, Commission staff, in conjunction with the Maine Department of Inland Fisheries and Wildlife's Regional Fisheries Biologist, have determined that the applicant's proposed installation of fish passage over the rock dam constitutes adequate compensation for the area of wetlands not previously disturbed." (SA 1068, Conclusion #26.)
    - B. "[T]here would be no adverse impact to Second Roach Pond in that the completion of the project would result in long term stabilization of the site and maintain historic water levels; and the impacted areas have been limited to the minimum amount necessary to complete the project." (Condition #27.)
    - C. "[T]he impact to the (P-WL) Wetland Protection Subdistrict has been limited to the minimum amount necessary to complete the project . . ." (SA 1068, Conclusion #28.)
  12. On August 28, 2013, the LUPC issued Shoreland Alteration Permit SA 1068 to AMC for the reconstruction of an existing rock dam on Second Roach Pond with fish passage.
  13. On July 11, 2014, AMC commenced construction of the rock dam with fish passage approved pursuant to Shoreland Alteration Permit SA 1068.
  14. On July 22, 2014, AMC requested emergency authorization to extend the dam an additional 85 feet, stating the extension was needed to ensure the dam works as intended and does not reroute the Roach River

around the dam. The U.S. Army Corps of Engineers issued a written approval for this requested amendment for the extension. The LUPC provided conditional authorization on an emergency basis to continue construction while the contractor was on-site in order to avoid rerouting the river and diverting flow from the fish passage. As part of this authorization, AMC was required to submit a formal permit amendment application for full Commission review.

15. On July 29, 2014, AMC submitted an application to amend Shoreland Alteration Permit SA 1068. The amendment application was deemed incomplete by the LUPC and remains on hold. While on hold, AMC has continued to work with the LUPC to evaluate the design and operation of the dam as reconstructed. The LUPC expects submission of a revised and complete amendment application by April 30, 2015. (See Condition #6, below.)
16. On August 8, 2014, AMC completed construction of the dam with fish passage approved pursuant to the Shoreland Alteration Permit SA 1068, plus the 85 foot extension.
17. On September 17, 2014, the LUPC issued AMC a notice of violation associated with the blockage of flow from Second Roach Pond to the Roach River for the period August 8 through 18, 2014. (See EC 14-47.) As part of the corrective actions taken by AMC to restore flow to the river and ensure the flows are adequate, AMC initially pumped water from the pond to the river and subsequently installed four 18-inch culverts through the dam. Since being contacted by the LUPC on August 18 about the blockage of flow, AMC has been working constructively with the LUPC to address and resolve EC 14-47. Those resolution efforts remain underway.
18. On October 27, 2014, IF&W observed the high water elevation in Second Roach Pond to be approximately 4.25 feet as measured on AMC's water level monitoring gauge. IF&W observed flooding along the edge of the pond and observed the water from the pond near the end of the 85 foot extension and close to flowing around the dam. Three of the four 18 inch culverts were flowing, one was intentionally blocked and water was flowing over the fish passage.
19. On October 29, 2014, the LUPC observed the high water elevation in Second Roach Pond to be approximately 4.1 feet as measured on AMC's water level monitoring gauge. Emergent wetlands along the shoreline adjacent to the Medawisla site were flooded and flooding was observed extending into the woody scrub-shrub vegetation along the opposite shoreline of the pond.
20. On November 7, 2014, AMC submitted a draft report, "Second Roach Pond Dam Hydrologic and Hydraulic Evaluation," dated November 2014 and prepared by the engineering firm Wright-Pierce. The draft report compares and evaluates the performance of the dam under five scenarios: pre-reconstruction, post-reconstruction (i.e., the existing dam), and three scenarios involving future modifications to the dam. The draft report indicates, among other things, that:
  - A. The normal pond levels measured by AMC at its gauge in 2012 and 2013 prior to reconstruction align closely with the modeled results for conditions under the pre-reconstruction scenario.
  - B. The existing dam structure appears to have elevated the normal water surface level in Second Roach Pond by an average of 1.3 feet (ranges between 1.13 and 1.73 feet depending on time of year), when compared to the estimated pre-reconstruction condition.
  - C. In addition to raising the water level of the pond, the existing dam will not function as intended in that flows regularly will be conveyed through the vegetated overbank area around the northeast end of the dam. Under the existing condition (post-reconstruction), there is potential for localized erosion due to scouring at the northeast end of the dam structure. This localized scour could begin a head-cutting process that, in the longer term if left unaddressed, ultimately results in the formation of a lower discharge channel around the northeast end of the dam. To prevent water from running

around the end of the dam during storm events less than the 50-year flood, the dam would need to be extended 200 feet, in addition to the already constructed 85 foot emergency extension.

- D. The existing dam will function significantly different than the prior dam during flood events. While the existing dam (post-reconstruction) has reduced flood flow discharges for the common flood flows (less than the 10-year event), in the more extreme flood events (greater than the 10-year event) flood discharge rates have been substantially increased. The draft report projects that the 25, 50, and 100 year peak discharges from Second Roach Pond have increased by 145%, 151%, and 147% respectively.
21. On November 21, 2014, representatives of AMC, the LUPC, BPL, and DIFW met, along with the Wright-Pierce engineers who prepared the draft report, to discuss the information contained in the report and any potential modifications to the dam. The State agencies expressed concerns about: (a) the impact of the existing dam on the water level of Second Roach Pond and the associated impacts to adjacent emergent wetlands and significant wildlife habitat, (b) the potential for the existing dam to cause erosion and establish a new channel diverting flow around the dam, and (c) the performance of the dam during peak discharges from Second Roach Pond and the potential impact to the downstream dam at First Roach Pond operated by DIFW and downstream fish habitat.
  22. On December 4, 2014, AMC submitted a memorandum from Wright-Pierce, dated December 2, 2014 with the subject line, Hydraulic Performance Update – Concept #4 Temporary Overwinter Plan Second Roach Pond Dam – Medawisla. The memo supplements the November 2014 draft report prepared by Wright-Pierce with a fourth scenario involving modification to the existing dam – the temporary overwinter condition. Under this scenario, depicted on the submitted plan “Concept #4 – Temporary Over Winter Condition,” a “V” notch channel would be excavated through the existing fish passage down to elevation 1,266.1. The “V” notched channel would taper down to a width of approximately 40 feet at the bottom. The four 18” culverts would be closed, but left in place as part of the temporary overwinter condition. AMC seeks to implement the temporary overwinter condition, including closing the culverts and leaving them in place, in response to concerns raised by State agencies at the November 21 meeting. The work to implement the temporary overwinter condition would be completed immediately, as weather permits. The final design of the dam would be addressed through a subsequent permit amendment application filed by AMC for structural modifications to be completed in 2015.
  23. On December 5, 2015, AMC submitted a revised memorandum from Wright-Pierce, dated December 5, 2014 with the subject line, Hydraulic Performance Update – Concept #4 Temporary Overwinter Plan Second Roach Pond Dam – Medawisla. This submission added Table 3.18, Summary of Peak Discharge Rates, to the memo submitted the day prior.
  24. The analysis presented in the December 4 and December 5 submissions indicate that under the temporary overwinter condition surface water elevations in Second Roach Pond will be similar to those that existed pre-reconstruction; the surface water elevation of the pond will increase .08 feet during April and decrease between .01 to .16 feet during the remainder of the year (based on estimated median base flow and the modeling summarized and applied in Wright-Pierce’s draft report). Additionally, the temporary overwinter condition will have better flood flow performance than the existing dam, with peak discharge rates comparable to, and slightly lower than, the pre-reconstruction rates. Pre-reconstruction peak discharge rates range from 233 CFS for a 2-year event to 785 CFS for a 100-year event. Under the temporary overwinter condition the range is from 217 CFS to 767 CFS for the same events.
  25. On December 5, 2014, the U.S. Army Corps of Engineers amended permit number NAE-2011-1663, authorizing the corrective action work in Second Roach Pond at T1 R12 WELS as shown on the plan labeled, Concept #4 – Temporary Over Winter Condition. This is the same plan submitted to the LUPC on December 4 as part of the submission summarized in Finding #22, above.

**Statutory and Regulatory Authority**

26. Pursuant to 12 M.R.S. § 685-B(5), the Commission may, acting in accordance with 5 M.R.S. § 10003, amend, modify or refuse to renew any Commission approval or permit where the Commission determines that the criteria for approval set forth in section 685-B(4)(A) through (F) have not been, are not being, or will not be satisfied.
27. Pursuant to 12 M.R.S. § 685-B(4), the Commission may not approve an application, unless, among other things, (a) adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to ensure there will be no undue adverse effect on existing uses and natural resources in the area likely to be affected by the proposal, (b) the proposal will not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water, and (c) the proposal is otherwise in conformance with Chapter 206-A and the regulations, standards and plans adopted pursuant thereto. The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected.

**Review Comments**

28. The Maine Department of Inland Fisheries and Wildlife Regional Fisheries Biologists reviewed the temporary overwinter condition presented in AMC's December 4 and 5 submissions and found the proposal acceptable.
29. The Maine Bureau of Parks and Lands reviewed the temporary overwinter condition presented in AMC's December 4 and 5 submissions and found the proposal acceptable.
30. The facts are otherwise as represented in the record materials for SA 1068 and this Amendment.

**Based upon the Findings above and the following analysis, the Commission, through its staff, Concludes:**

1. The criteria for approval set forth in 12 M.R.S. § 685-B(4)(C) – that an applicant demonstrate that there will be no undue adverse effect on natural resources in the area likely to be affected by the proposal – has not been and is not being satisfied by AMC with regard to the dam as reconstructed on Second Roach Pond.
  - A. The field observations made by DIFW on October 27, 2014 and by the LUPC on October 29, 2014, along with the analysis presented in Wright-Pierce's November 2014 draft report, indicate the reconstructed dam has increased the water level of Second Roach Pond. The increased pond level has and will flow new areas, as well as alter the time of year and duration of time other areas are flowed. AMC has not evaluated the potential impacts of increasing the water level of the pond. In particular, it has not evaluated the impacts to existing P-WL1 wetlands of special significance adjacent to the pond or to significant wildlife habitat adjacent to the pond. In the absence of any evaluation of the potential impacts associated with increasing the water level of the pond, AMC has not demonstrated the reconstructed dam will have no undue adverse effect on natural resources. Without modification of the dam, the LUPC is concerned a sustained increase in the water level of the pond, including over the winter and through the spring and early summer, until low water conditions most favorable for work on the dam return, may result in significant adverse impacts to natural resources.
  - B. The analysis presented in Wright-Pierce's November 2014 draft report indicates that as reconstructed the dam is too short to prevent water, during higher flow periods, from running around the end of the dam and potentially carving a new channel. In addition to diverting flow

from the dam's fish passage, there is a risk of erosion associated with the potential carving of a new channel around the dam's end. The dam was not designed with the intent of producing this result and AMC has not evaluated or submitted any information regarding the potential impacts, including erosion impacts, associated with diverting flow around the dam. In the absence of any such evaluation or information, AMC has not demonstrated the reconstructed dam will have no undue adverse effect on natural resources. Without modification of the dam, the LUPC is concerned that during high flow periods the dam may result in undue adverse impacts to natural resources, particularly the Roach River, as a result of erosion.

2. The criteria for approval set forth in 12 M.R.S. § 685-B(4)(C) – that an applicant demonstrate that there will be no undue adverse effect on existing uses in the area likely to be affected by the proposal – has not been and is not being satisfied by AMC with regard to the dam as reconstructed on Second Roach Pond. The analysis presented in Wright-Pierce's November 2014 draft report indicates that as reconstructed the dam will substantially increase flood discharge rates during 25-, 50-, and 100-year peak discharges from Second Roach Pond. AMC has not evaluated or submitted any information concerning the potential downstream impacts of increased flood discharges, including to the dam at First Roach Pond operated by DIFW. In the absence of any such evaluation or information, AMC has not demonstrated the reconstructed dam will have no undue adverse effect on existing uses, specifically the dam at First Roach Pond. Without modification of the dam, the LUPC is concerned that if a significant flood event were to occur, the reconstructed dam may cause increased downstream flooding that would overwhelm the dam at First Roach Pond.
3. The criteria for approval set forth in 12 M.R.S. § 685-B(4)(D) – that an applicant demonstrate its proposal will not cause unreasonable soil erosion or reduction in the capacity of land to hold water – has not been and is not being satisfied by AMC with regard to the dam as reconstructed on Second Roach Pond.
  - A. As noted in Conclusion #1.A above, the reconstructed dam has raised the water level of Second Roach Pond. AMC has not evaluated the potential impacts of increasing the water level of the pond. In particular, it has not evaluated how this increase may impact the ability of the land, including wetlands, around the pond to hold water. In the absence of any evaluation of the potential impacts associated with increasing the water level of the pond, AMC has not demonstrated the reconstructed dam will not reduce the capacity of land to hold water.
  - B. As noted in Conclusion #1.B above, the reconstructed dam creates the risk of erosion associated with the potential carving of a new channel around the dam's end. The dam was not designed with the intent of producing this result and AMC has not evaluated or submitted any information regarding the potential impacts, including erosion impacts, associated with diverting flow around the dam. In the absence of any such evaluation or information, AMC has not demonstrated the reconstructed dam will not cause unreasonable soil erosion. Without modification of the dam, the LUPC is concerned that during high flow periods the dam may cause unreasonable soil erosion.
4. The criteria for approval set forth in 12 M.R.S. § 685-B(4)(E) – that an applicant demonstrate its proposal is otherwise in conformance with the Commission's standards – has not been and is not being satisfied by AMC with regard to the dam as reconstructed on Second Roach Pond. As noted in Conclusion #1.A above, the reconstructed dam has raised the water level of Second Roach Pond. This increase in water level has and will impact adjacent emergent wetlands, designated as P-WL1 wetlands, wetlands of special significance. Projects altering any area of P-WL1 wetlands trigger Tier 3 review unless the Commission determines the activity will have no undue adverse impact. The Commission made such a finding when it understood that only 3,741 square feet of pond bottom, most of which had been previously disturbed, would be impacted by the dam reconstruction project and that the project would result in long term

stabilization of the site and maintain historic, pre-reconstruction water levels. Had AMC proposed to increase the water level in Second Roach Pond and had the LUPC understood this would be the result of the dam reconstruction project, the project would have been subject to Tier 3 review, including the requirement for avoiding wetland impacts, minimizing those that are not avoided, compensating for any lost or degraded wetland functions, and demonstrating no unreasonable impacts to P-WL1 wetlands. (Section 10.25,P,2.) Having not stated the project would impact freshwater wetlands and not provided information to support a Tier 3 review, AMC has not demonstrated that the dam as reconstructed is otherwise in conformance with the Commission's Land Use Districts and Standards.

5. The temporary overwinter condition is a reasonable, immediate and temporary solution that: (a) restores the water level of Second Roach Pond to approximate pre-reconstruction water levels and thereby minimizes any existing and future impacts to adjacent wetlands and significant wildlife habitat, (b) reduces the risk of rerouting flow around the end of the dam and causing related erosion problems, and (c) reduces the risk of downstream flooding during peak discharge events.

**Therefore, the Commission, through its staff, pursuant to its authority under 12 M.R.S. § 685-B(5), amends Shoreland Alteration Permit SA 1068, authorizing implementation of the temporary overwinter condition as presented by AMC in its December 4, 2014 and December 5, 2014 submissions, subject to the following conditions:**

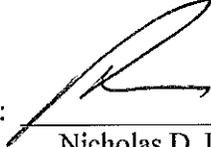
1. The modification to the dam to implement the temporary overwinter condition, as shown on the plan – Concept #4 – Temporary Over Winter Condition – must be completed no later than January 16, 2015 without written authorization from the LUPC extending the completion deadline.
2. The excavation and reconfiguration of the dam and fish passage must be limited to what is shown in the plan Concept #4 – Temporary Over Winter Condition prepared by Wright-Pierce and included with AMC's December 4, 2014 submission. The reconstructed dam and fish passage must achieve water surface elevations in Second Roach Pond and peak discharge rates consistent with the results predicted in the December 4 and December 5 submissions.
3. In undertaking the authorized work on the dam, AMC shall ensure that adequate flows to the Roach River, as determined by DIFW, are maintained at all times, including during and after construction.
4. A representative from Wright-Pierce shall be on site to oversee the entire construction project and ensure that it is consistent with the Concept #4 – Temporary Over Winter Condition.
5. Pursuant to 12 M.R.S. § 685-B(5) and 5 M.R.S. § 10003, the Commission may amend AMC's Shoreland Alteration Permit SA 1068, but may not do so without AMC having the opportunity for a hearing. AMC has a legal right to a hearing if AMC desires a hearing. By commencing the construction activity authorized in this amendment, AMC elects not to request a hearing. If AMC would like to exercise its right to a hearing, it must do so prior to commencement of the authorized construction and within 21 days of the date of this amendment. Upon request for a hearing by AMC, this amendment is null and void.
6. By April 30, 2015, or another date mutually agreed to by AMC and the LUPC, AMC shall submit engineered plans for a final design for the rock dam and fish passage at this site and a complete permit amendment application. The final design shall achieve pond levels comparable to those that existed prior to the 2014 dam construction, for example, through implementation of a variation of the Concept #3 design in the draft report, "Second Roach Pond Dam Hydrologic and Hydraulic Evaluation" dated November 2014 and prepared by Wright-Pierce. The final design also shall provide fish passage, including at low water levels, and shall not reroute flow from Second Roach Pond around the dam or unreasonably increase

downstream flooding risks. The final plan must be implemented during the 2015 low flow periods under the supervision of the engineering firm that designs the project or another qualified engineer.

7. Any machinery operating below or adjacent to the normal high water mark must be driven on a bed of logs, mats or the rock dam surface to prevent undue disturbance of lakebed materials. No equipment may be driven below the normal low water mark across the unprotected lake bottom of Second Roach Pond.
8. Rocks removed during construction may be temporarily stockpiled on the Medawisla site for future use and/or removal after the final phase of the dam reconstruction with fish passage has been completed. Excavated filter fabric and other construction debris must be disposed of in accordance with the State of Maine Solid Waste Disposal Laws. Construction debris must not be disposed of in a wetland. All construction debris must be removed from the lake and stream.
9. Upon completion of the project, all areas of exposed mineral soil above the normal high water mark of Second Roach Pond and the Roach River must be stabilized in accordance with industry standards for sedimentation and erosion control, recognizing that the work authorized in this amendment will be completed during winter conditions.
10. Erosion control measures appropriate for winter construction shall be utilized during excavation and reconstruction of the notch through the dam. Should significant erosion or sedimentation occur during construction, the permittee shall cease construction and contact the Commission immediately, notifying it of the problem and describing all proposed corrective measures.
11. Filter fabric must be installed under the rocks in order to prevent fine particles from washing into the waterbody.
12. Upon completion of construction and while the contractor and engineer are still on site, contact the Land Use Planning Commission's Greenville Field Office to request a compliance inspection.
13. Upon completion of construction, the permittee shall submit a report prepared by their licensed engineer certifying that the construction was completed in accordance with this permit and the referenced plans. The engineer's report shall be submitted within 14 days of the project's completion.

This permit amendment is approved upon the information set forth in the materials provided to the Commission, including supporting documents, except as modified in the above stated conditions, and remains valid only if the permittee complies with all of these conditions. Any variation from the terms and condition of this permit amendment is subject to prior Commission review and approval. Any variation undertaken without Commission approval constitutes a violation of Land Use Planning Commission law. In addition, any person aggrieved by this decision of the staff may, within 30 days, request that the Commission review the decision.

DONE AND DATED AT GREENVILLE, MAINE, THIS 8<sup>TH</sup> DAY OF DECEMBER, 2014.

for:  NICHOLAS D. LIVESAY  
Nicholas D. Livesay, Executive Director