

New Hampshire Department of Environmental Services
Response to Comments
Water Quality Certification No. 2022-485A12IV-001
Owl's Nest Resort Water Withdrawal from the Pemigewasset River
July 26, 2022

From June 13, 2022 to July 13, 2022, the New Hampshire Department of Environmental Services (NHDES) posted for public comment draft Water Quality Certification No. 2022-485A12IV-001 (the Certification) for the Owl's Nest Resort Water Withdrawal from the Pemigewasset River (Activity). The Certification is required under NH RSA 485-A:12, IV before LCJ Management, LLC (LCJ Management), the applicant for water quality certification of the Activity, may commence the Activity. On July 26, 2022, NHDES issued with conditions the final Certification to LCJ Management for the Activity. During the public comment period, NHDES received comments from Kathy Mitchell, Sally Davis, Jim and Lyndell Helgerson, and the Pemigewasset River Local Advisory Committee. In this document, NHDES lists the comments that NHDES received and provides responses to those comments. In some cases, NHDES has paraphrased the comments it received. In addition, NHDES describes changes that NHDES made to the Certification because of some of those comments and other minor changes that NHDES made to the Certification after the public comment period.

A copy of the original comments and a marked-up version of the draft Certification showing all changes to the Certification may be obtained from NHDES upon request by contacting James Tilley, Supervisor of the NHDES Water Quality Certification Program, at [\(603\) 271-0699](tel:6032710699) or james.w.tilley@des.nh.gov.

Responses To Comments

A. Comments from Kathy Mitchell

Comment A.1: How is the gage that measures streamflow monitored? Is it through an automated system or will there be human intervention? I would like to know more about that gage, understanding how it works, reliability, and monitoring.

NHDES Response: On days when withdrawals occur, Condition E-15 of the Certification requires LCJ Management to maintain the following daily electronic records to demonstrate compliance with the Certification:

- a. Date;
- b. River flow at US Geological Survey (USGS) Gage 01075000 (Pemigewasset River at Woodstock, NH) and the time the river flow at the gage was recorded;
- c. Time that withdrawals start and stop;
- d. Pumping rate (in cfs [cubic feet per second] and gpm [gallons per minute]);
- e. Withdrawal / river flow (in percent);
- f. Volume pumped (in gallons);
- g. Storage Pond freeboard (in feet);
- h. Source of predicted rainfall amounts (in inches);
- i. Predicted rainfall amounts for that day and the next day;
- j. Actual daily rainfall amounts (in inches) as measured by a rain gage located at the Owls Nest Resort; and
- k. Time that screens on the intake pipe were cleaned.

Condition E-15 also requires LCJ Management, to the maximum extent practicable, to automate the operation of the Activity, including the generation of records.

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Real-time flow information for USGS Gage No. 01075000 is available online via an automated system at the following USGS website: [PEMIGEWASSET RIVER AT WOODSTOCK, NH - USGS Water Data for the Nation](https://waterdata.usgs.gov/monitoring-location/01075000/#parameterCode=00065&period=P7D).¹ Accessing the website requires some human intervention, but it is possible to automate periodic data downloads from that website.

Prior to withdrawing water from the Pemigewasset River, Condition E-18 of the Certification requires LCJ Management to, among other things, prepare and obtain NHDES approval of an Operations, Maintenance, and Reporting Plan (OMRP) that describes, in detail, how the withdrawal will be operated and recorded so that LCJ Management complies with Condition E-15 of the Certification.

NHDES does not maintain USGS stream flow gages. The following USGS Utah Water Science Center website provides more information about how USGS operates its gages: [What is a streamgage? | U.S. Geological Survey \(usgs.gov\)](https://www.usgs.gov/centers/utah-water-science-center/science/what-streamgage?qt-science_center_objects=0#overview).²

Comment A.2: Is this typical in NH that a private company can take water from a river for their golf course?

NHDES Response: NHDES does not maintain a database that identifies whether a golf course company that is withdrawing water from a surface water is a private or public company. However, NHDES' Water Use Registration and Reporting Program (WURR) maintains a database of water withdrawals from surface waters by user type, including golf courses. According to a recent query of that database, there are approximately 44 active withdrawals from rivers, streams, or brooks for golf courses that report water used for golf courses to NHDES' WURR Program. Note that this value excludes surface water withdrawals from lakes and ponds.

Comment A.3: When rivers are low, I strongly prefer that water is not used for irrigating a golf course. I don't think this is a good idea. Maybe there's more to the story that I'm not aware of that would convince me to think otherwise.

NHDES Response: NHDES acknowledges your preference and thoughts on the withdrawal. NHDES is required to comply with statutory and regulatory requirements when a person proposes water withdrawals in New Hampshire. NHDES summarizes some of those requirements under Comment A.4, below. Under Finding D-18, NHDES determined that 7Q10 low flow at the USGS Gage 01075000 is approximately 58 cfs.³ Note that Condition E-11.h prohibits LCJ Management from withdrawing any water from the Pemigewasset River when upstream river flow is less than 60 cfs as measured at USGS gage 01075000, which is 2 cfs above the 7Q10 low flow.

¹ USGS website address: <https://waterdata.usgs.gov/monitoring-location/01075000/#parameterCode=00065&period=P7D>.

² USGS website address: https://www.usgs.gov/centers/utah-water-science-center/science/what-streamgage?qt-science_center_objects=0#overview.

³ The 7Q10 is the average 7-day low flow that occurs, on average, once every 10 years. Based on DFLOW program, the 7Q10 low flow at USGS gage 01075000 for the period 2001 – 2020 is approximately 58 cfs.

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Comment A.4: What if other places of business want to do the same?

NHDES Response: A business that wants to withdraw a cumulative amount of more than 20,000 gallons of water per day from a surface water of the state, averaged over any 7-day period, or more than 600,000 gallons of water over any 30-day period, would need to register the withdrawal with NHDES's WURR Program in accordance with [NH RSA 488:3](#) and, prior to commencing the withdrawal, apply for and obtain a water quality certification from NHDES in accordance with [NH RSA 485-A:12, IV](#).^{4, 5} During a review of an Application for Water Quality Certification, NHDES would determine whether there is reasonable assurance that operation of the withdrawal would be conducted in a manner that would comply with New Hampshire surface water quality standards specified under [NH RSA 485-A:8](#) and [NH Code of Administrative Rules Env-Wq 1700](#) (Surface Water Quality Standards).^{6, 7} If NHDES determined that the withdrawal would comply with Surface Water Quality Standards and the withdrawal caused an insignificant lowering of water quality, instead of a significant lowering of water quality, as specified under Env-Wq 1708.09, NHDES would authorize and certify the withdrawal as required under Env-Wq 1708.06(b) and RSA NH RSA 485-A:12, IV. A certification for the withdrawal must include conditions on, modifications to, or monitoring of the proposed activity necessary to provide reasonable assurance that the proposed activity would comply with applicable Surface Water Quality Standards. For additional information on how NHDES determined that the withdrawal complies with applicable Surface Water Quality Standards, please see Appendix A that is attached to the Certification and NHDES' response to Comment D.2, below.

Also, NHDES determined the following as presented in Finding D-14 of the Certification:

"The Pemigewasset River in the vicinity of the Activity is a designated river and is classified as a rural-community river. As such, the Activity is within the jurisdiction of the NHDES Designated Rivers Program. In accordance with [NH RSA 483:9-c](#) and [Env-Wq 1900](#) [hyperlinks added ^{8, 9}], NHDES must establish protected instream flows (PIFs) and adopt water management plans (WMPs) for each designated river that include details on how to implement the PIFs. To comply with PIFs and Surface Water Quality Standards associated with instream flow, affected water users must comply with the adopted WMPs. NHDES has not yet established PIFs or a WMP for the Pemigewasset River. If and when NHDES adopts a WMP that establishes PIFs, and if NHDES specifies withdrawal limits for the Activity in a WMP that are more stringent than the withdrawal conditions specified Condition E-11 of this certification, then Condition E-11 would

⁴ General Court of New Hampshire website address: <http://www.gencourt.state.nh.us/rsa/html/L/488/488-3.htm>.

⁵ General Court of New Hampshire website address: <http://www.gencourt.state.nh.us/rsa/html/L/485-A/485-A-12.htm>.

⁶ General Court of New Hampshire website address: <http://gencourt.state.nh.us/rsa/html/L/485-A/485-A-8.htm>.

⁷ NHDES website address: https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Wq_1700.pdf.

⁸ General Court of New Hampshire website address: <http://gencourt.state.nh.us/rsa/html/L/483/483-mrg.htm>.

⁹ NHDES website address: <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Wq%201900.pdf>.

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need to be modified in accordance with Condition E-3 of this certification (See Facts C-47 and C-48).”

Therefore, if and when NHDES adopts a WMP that establishes PIFs, NHDES would specify withdrawal limits in a WMP for all withdrawals from the Pemigewasset River that are subject to requirements of a WMP. For additional information about Instream Flow Program, WMPs, or PIFS, please contact Joe Schmidl, NHDES Instream Flow Specialist, at (603) 271-3280 or Joseph.Schmidl@des.nh.gov or Tracie Sales, NHDES Rivers & Lakes Programs Administrator, at (603) 271-2959 or tracie.j.sales@des.nh.gov.

If a business wanted to conduct intermittent water withdrawals from surface waters that do not require registration under NH RSA 488:3 (i.e., withdraw a cumulative amount of more than 20,000 gallons of water per day from a surface water of the state, averaged over any 7-day period, or more than 600,000 gallons of water over any 30-day period) the business would not be required to apply for and obtain a water quality certification from NHDES and may not be required to obtain any approval from NHDES.⁴ The intermittent withdrawal, however, would need to comply with Surface Water Quality Standards, among other things, as described in [NHDES Fact Sheet DWGB-1-17 Intermittent Water Withdrawals from Surface Waters](#).¹⁰

B. Comments from Sally Davis

Comment B.1: How will measuring the water flow upstream be monitored and communicated so withdrawal control as described actually occurs?

NHDES Response: In addition to the conditions described in NHDES Response A.1, above, Condition E-16 requires LCJ Management to notify NHDES via email within 48 hours of any discovery of non-compliance with the Certification. Such notification must include the date(s) of non-compliance, reasons for non-compliance, corrective actions taken to prevent such non-compliance from reoccurring, and date(s) the LCJ Management achieved compliance. In addition, Condition E-5 requires LCJ Management to allow NHDES to inspect the Activity and affected surface waters to monitor compliance with the conditions of the Certification. Finally, NH RSA 485-A:12, IV specifies, among other things, that NHDES may enforce compliance with any such conditions, modifications, or monitoring requirements as provided in [NH RSA 485-A:22](#).^{5, 11}

Comment B.2: Rain happens at night so is the Owl's Nest going to have someone monitoring the river conditions 24 hours a day, 7 days a week?

NHDES Response: Monitoring river conditions 24 hours per day and 7 days per week is not necessary because Condition E-11.i. of the Certification requires LCJ Management to determine instantaneous river flow based on daily checks of USGS Gage 01075000, and Conditions E-11.c. and E-11.d., which prohibit withdrawals of at least one day prior, one day following, and during

¹⁰ NHDES website address: <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/dwgb-1-17.pdf>.

¹¹ General Court of New Hampshire website address: <http://gencourt.state.nh.us/rsa/html/L/485-A/485-A-22.htm>.

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precipitation events in the vicinity of the Activity that result in 2.6 inches more over a 24-hour period. Condition E-12 requires LCJ Management, prior to operation of the Activity, to submit, and receive NHDES approval of, a plan that describes how the predicted and actual precipitation amounts (in inches) will be determined to comply with Conditions E-11.c and E-11.d. Condition E-15 requires LCJ Management to record and maintain daily records, on days that withdrawals occur, of certain information about the withdrawals. Condition E-18 requires LCJ Management to, among other things, prepare and obtain NHDES approval of an OMRP that describes, in detail, how the withdrawal will be operated and recorded so that LCJ Management complies with Condition E-15 (see NHDES' Response A.1, above, for a listing of records required under Condition E-15).

Comment B.3: How is an average withdrawal of 0.75 cfs over a 24 hour period compatible with 500 gallons per minute, which is equivalent to approximately 1.1 cubic feet per second (cfs), 1 percent of upstream river flow when upstream river flow is less than 120 cfs and greater than or equal to 60 cfs; and a maximum daily withdrawal of 482,400 gallons (i.e., an average of 0.75 cfs over a 24-hour period)?

Changes made: Based on this comment, NHDES changed Condition E-11.g. of the Certification so that LCJ Management may withdraw water up to a flow rate of 1 percent of upstream river flow when upstream river flow is less than 111 cfs and greater than or equal to 60 cfs as measured by USGS Gage 01075000. In its Application for Water Quality Certification for the Activity, LCJ Management stated that its maximum withdrawal rate would be 500 gpm, which is approximately 1.11 cfs and would be the maximum withdrawal capacity of LCJ Management's pumping equipment for the withdrawal. Based on this equipment limitation, NHDES determined that LCJ Management would be unable to pump a flow rate of 1 percent of upstream river flow when upstream river flow is less than 120 cfs (i.e., 1.2 cfs withdrawal rate) and greater than or equal to 112 cfs (i.e., 1.12 cfs withdrawal rate). Therefore, NHDES changed Conditions E-11.f and E-11.g to match the physical limitations of the withdrawal pumping equipment that LCJ Management proposed. NHDES also changed Condition E-11.f to from 1.114 cfs to 1.11 cfs because USGS Gage 01075000 only records streamflow using 3 significant digits.

NHDES Response: Condition E-11 of the Certification requires LCJ Management to comply with the following withdrawal conditions, among other conditions [changes to the draft Certification are shown in ***bold italics***]:

- e. Not exceed 482,400 gallons per any 24-hour period;
- f. Not exceed 1.114-***["4" is deleted]*** cfs or 500 gpm when upstream river flow is greater than or equal to ~~120~~ ***111*** cfs as measured by USGS Gage 01075000;
- g. Not exceed ***a flow rate of*** 1 percent of upstream river flow when upstream river flow is less than ~~120~~ ***111*** cfs and greater than or equal to 60 cfs as measured by USGS Gage 01075000;
- h. Not occur when upstream river flow is less than 60 cfs as measured at USGS gage 01075000;

LCJ Management proposed those operating provisions in its Application for Water Quality Certification for the Activity. NHDES determined that those provisions would not cause violations of Surface Water Quality Standards and would cause insignificant lowering of water quality, instead of a significant lowering of water quality, as specified under Env-Wq 1708.09.⁷ Therefore, NHDES

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included those proposed operating provisions as withdrawal conditions in Condition E-11 of the Certification.

NHDES also notes the following calculations to respond to the comment:

500 gallons per minute (gpm) is approximately equal to 1.1 cfs (i.e., $500 \text{ gpm} \div 60 \text{ seconds per minute} = 8.333 \text{ gallons per second}$; $8.33 \text{ gallons per second} \div 7.48052 \text{ gallons per cubic foot} \approx 1.1 \text{ cfs}$).

$0.75 \text{ cfs} \times 86,400 \text{ seconds per day} = 64,800 \text{ cubic feet of water} \times 7.48 \text{ gallons per cubic foot} \approx 482,400 \text{ gallons}$.

Comment B.4: The Activity would not withdraw any water when upstream river flow is less than 60 cfs, or prior to, during, or immediately after a 2-year or greater rain event” seems vague and impossible to monitor when no actual number of minutes or hours are indicated in the rule.

Changes made: Based on this comment, NHDES further specified that it LCJ Management is prohibited from withdrawing water at least one calendar day prior to and one calendar day following a precipitation event in the vicinity of the Activity that results in 2.6 inches or more of precipitation over a 24-hour period.

NHDES Response: The language used in this comment is taken from Finding D-1 of the Certification, which summarizes the Activity that LCJ Management proposed in its Application for Water Quality Certification. Condition E-11.c and E-11.d further specify that LCJ Management would be prohibited from withdrawing water when a precipitation event in the vicinity of the withdrawal is predicted to exceed, or has exceeded, 2.6 inches or more over 24-hour period, which is approximately equivalent to the 2-year precipitation event in the vicinity of the Activity as reported by the Northeast Regional Climate Center (see footnote 4 of the Certification) [changes to the draft Certification are shown in **bold italics**]:

- c. Not occur for at least one **calendar** day prior and during a precipitation event in the vicinity of the Activity that is predicted to equal or exceed 2.6 inches over a 24-hour period;
- d. Not occur for at least one **calendar** day following a precipitation event in the vicinity of the Activity that results in 2.6 inches or more of precipitation over a 24-hour period;

C. Comments from Jim and Lyndell Helgerson

Comment C.1: We've owned family property for 55 years on the Pemi. The Pemi has always provided a wonderful recreational waterway for ALL to enjoy including kayaking, tubing and fishing activities. Along with our concern, we have also listened to many in recent years voicing concern with the significant reduction in the water levels impacting their ability to make their way down river. We're concerned about allowing private enterprise privileges and the environmental and recreational impact this will have on the community at large. Owls Nest is a private community for a select few to enjoy. The Pemi provides recreation for everyone. The notice advises that water will be withdrawn typically during the driest, drought stricken months. It seems to us this would be at the

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worst time/greatest impact on reduction in water levels on the Pemi. We are adamantly opposed to this project if it moves forward. We feel this in no way benefits the Thornton/Campton recreational community.

NHDES Response: NHDES acknowledges your concerns and opposition to the withdrawal. NHDES is required to comply with statutory and regulatory requirements when a person proposes water withdrawals in New Hampshire. Some of those requirements specify how the State of New Hampshire, in part, holds surface waters in the public trust for the use and benefit of the people of the state. One of the key provisions for protecting the public trust, as it applies to surface water resources, is allowing "reasonable use" of those resources. Reasonable use under New Hampshire case law generally means that a riparian property owner may use the water in such a manner that it does not unreasonably interfere with the water use of the public or another property owner regardless of which use was established first. NHDES determined that LCJ Management' proposed withdrawal is a reasonable use of water from the Pemigewasset River by determining that the withdrawal would cause an insignificant lowering of water quality, instead of a significant lowering of water quality, as specified under Env-Wq 1708.09. For additional information on how NHDES determined that the withdrawal complies with applicable Surface Water Quality Standards and other requirements, please review Appendix A that is attached to the Certification and NHDES' responses to Comment A.4., above, and Comment D.2, below.

D. Comments from the Pemigewasset River Local Advisory Committee (PRLAC)

Comment D.1: Under state law, the purpose of the LAC is to advise the communities within the watershed and NH DES on matters pertaining to management of the river, comment on governmental plans within the corridor, develop a corridor management plan which communities may adopt as an adjunct to their master plan, and report to NH DES and communities on the status of compliance to laws and regulations. Our objective is to balance sensible environmental and economic goals while respecting the rights and desires of riparian property owners of the region as a whole.

As described in our Management Plan, there are six designated uses for freshwaters: aquatic life, fish consumption, drinking water supply after adequate treatment, swimming, boating, and wildlife. All of these uses are impacted by the volume of water in the Pemigewasset River. When volumes and flow rates change, so too changes the ability to swim, boat and other recreational activities. When volumes and flow rates change, the habitats change for those species that call the Pemi home. Areas that are full may be shallow now, the water temperature rises, and those species in those areas have to leave or they die off.

Our goal at PRLAC and our Management Plan, is to protect those freshwater uses. Any damage to those uses creates lack of recreational opportunities (which can affect tourism and state income). Loss of water quality and habitats can forever affect the biodiversity of the area as well.

Withdrawals - The water user registration and reporting program authorized by RSA 482:3 went into effect in 1987. All facilities which use more than 20,000 gallons per day (gpd), averaged over a 7-day

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period, or 600,000 gallons in any 30-day period, must register with NH DES. Once registered, the user must measure the amount of water used monthly and report these figures to the Water Division quarterly. The information collected under this program is a fundamental element in the overall assessment of water availability. Potential future problems relating to well interference, declining water tables, and/or diminished stream flows can be identified at an early stage and corrective action taken.

The above regulation needs to be updated to deal with the issue of multiple withdrawal sites. Here is a short story from Bali. Rice Paddies are watered by irrigation from mtn. streams which meander down the farmed slopes. It is the last farmer that dictates how much farmers can take from the stream above.... We would suggest the flow rate of the Pemi. be taken at a point above Ayers island dam or just before forming of the Merrimack. We would also request that the remaining flow at those measurement sites still be adequate to protect those freshwater uses described above, as well as throughout the withdrawal area. Some areas are shallower than others, so while there might be adequate levels in Bristol, areas between Ashland and Plymouth would be bone dry. The impact of these withdrawals should consider the effect all along the river.

NHDES Response: In its Application for Water Quality Certification for the Activity, LCJ Management proposed using USGS Gage No. 01075000 for the Pemigewasset River at Woodstock, New Hampshire (USGS Gage No. 1075000), to estimate flows at the withdrawal location of the Activity.

NHDES determined the following as presented in Finding D-17 through D-21 of the Certification:

“ D-17. United States Geological Survey Gage 01075000 is located upstream on the Pemigewasset River in Woodstock, New Hampshire. The drainage area to USGS Gage 01075000 is approximately 193 square miles (sm). Historical and real-time measurements of flow and river depth at USGS Gage 01075000 are available on-line on the USGS website. The drainage area at the location of the proposed withdrawal is approximately 266.8 sm. Flows at the location of the withdrawal can be approximated by using a drainage area ratio method, which involves calculating the ratio of the withdrawal drainage area to the USGS Gage 01075000 drainage area (i.e., $266.8 \text{ sm}/193 \text{ sm} \approx 1.38$) and multiplying the flow at USGS Gage 0107500 by that ratio (i.e., $\text{flow at USGS Gage 01075000} \times 1.38 \approx \text{flow at withdrawal location}$).

D-18. The 7Q10^[12] low flow at the USGS Gage 01075000 is approximately 58 cfs, which, based on drainage area ratio method (see Finding D-17), is approximately equal to 80 cfs at the location of the withdrawal (i.e., $58 \text{ cfs} \times 1.38 \approx 80 \text{ cfs}$). The Applicant proposes to stop withdrawing water when flow at USGS Gage 01075000 is 60 cfs, which is 2 cfs higher than the 7Q10 low flow USGS Gage 01075000 and would be approximately equivalent to 83 cfs at the location of the withdrawal (i.e., $60 \text{ cfs} \times 1.38 \approx 83 \text{ cfs}$).

D-19. The NHDES Water Use Database includes data submitted by those who must register and report withdrawals and discharges with the NHDES Water Use Registration and Reporting

¹² The 7Q10 is the average 7-day low flow that occurs, on average, once every 10 years. Based on DFLOW program, the 7Q10 low flow at USGS gage 01075000 for the period 2001 – 2020 is approximately 58 cfs.

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Program (WURRP) (see Fact C-46). According to the database, the sum of all withdrawals from USGS Gage 01075000 downstream to the proposed withdrawal is very small (only approximately 0.1% of the 7Q10 low flow) and is probably lower because a portion of the existing withdrawals is returned as base flow to the river via septic system discharges to the groundwater. This information is the WQC No. 2021-48512IV-001 issued by NHDES on April 8, 2021 for the temporary withdrawal of water from the Pemigewasset River to initially fill the Storage Pond at the Owls Nest Resort (see Fact C-60).

D-20. As stated in Finding D-11, all designated uses apply whether or not the uses are presently occurring. If not properly controlled, withdrawals from rivers and streams can result in impairment of designated uses including, but not limited to, aquatic life. Examples of how aquatic life can be adversely impacted by withdrawals include, but are not limited to, reductions in wetted habitat and river velocity due to less water, which can cause higher water temperatures and lower dissolved oxygen levels and be harmful to aquatic life. Reductions in water level caused by withdrawals can also expose amphibians and reptiles (e.g., turtles and frogs) that hibernate underwater in the winter to freezing temperatures and possible death. These potential impacts can contribute to violations of the Biological and Aquatic Community Integrity (see Fact C-33) Surface Water Quality Standards.

D-21. NHDES expects the withdrawal restrictions discussed in Finding D-28 and required in Condition E-11, as well as the requirement to equip the end of the water intake pipe with a screen in Condition E-10.b, will be protective of aquatic organisms and will help ensure the proposed withdrawal will comply with Surface Water Quality Standards.”

NHDES agreed to use USGS Gage No. 1075000 to approximate flows at the withdrawal location by using a drainage area ratio method because NHDES determined that that it would provide reliable flow readings that would be more representative of the drainage area of the withdrawal location than other active gages that NHDES reviewed. NHDES made this determination by comparing flow and 19 other drainage area characteristics (e.g., percentage of wetlands, mean annual precipitation at centroid of drainage area, mean drainage area slope, average percentage of impervious area, etc.) of the following 6 drainage areas: the withdrawal location; USGS Gage No. 1075000; USGS Gage No. 01076500 on the Pemigewasset River in Plymouth, New Hampshire; USGS Gage No. 01076000 on the Baker River near Rumney, New Hampshire; the Baker River watershed that terminates in Plymouth, New Hampshire at the confluence with the Pemigewasset River; and the Mad River watershed that terminates in Campton, New Hampshire at the confluence of the Pemigewasset River. During this comparison, NHDES determined that flow and drainage area characteristics of the drainage area of the withdrawal location most closely matched the flow and drainage area characteristics of the USGS Gage No. 1075000.

Typically, the closer a gage is to the location where flow is approximated using the drainage area ratio method (i.e., the closer the drainage area ratio is to 1), the less likely there will be significant variability of contributions of precipitation and groundwater to river flow that are influenced by drainage area characteristics. The drainage area ratio of the withdrawal location and USGS Gage No. 1075000 is approximately 1.38 (i.e., $266.8 \text{ sm}/193 \text{ sm} \approx 1.38$). USGS Gage No. 01076500 is the

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only gage operated and maintained by USGS operates that is upstream of the Ayers Island Dam and downstream of both USGS Gage No. 1075000 and the withdrawal location. USGS Gage No. 01076500 has drainage area of approximately 622 square miles, which would result in a drainage area ratio with the withdrawal location of approximately 0.43 (i.e., $266.8 \text{ sm}/622 \text{ sm} \approx 0.43$). USGS Gage No. 01081500 on the Merrimack River at Franklin Junction, New Hampshire is approximately 1 mile downstream of the beginning of the Merrimack River, several miles downstream of the withdrawal location, and has a drainage area of approximately 1507 square miles, which would result in a drainage area ratio with the withdrawal location of approximately 0.18 (i.e., $266.8 \text{ sm}/1507 \text{ sm} \approx 0.18$). If there was a USGS gage at the withdrawal location the drainage area ratio of the withdrawal location and USGS Gage would be equal to 1. The difference of the ratio of the drainage areas of the withdrawal location and USGS Gage No. 01076500 is 1.5 times greater than the ratio of the drainage areas of the withdrawal location and USGS Gage No. 1075000 and the withdrawal location (i.e., $1 - 0.43 = 0.57$ is 1.5 times greater than $|1 - 1.38| = 0.38$). The difference of the ratio of the drainage areas of USGS Gage No. 01081500 and the withdrawal location is approximately 2.2 times greater than the ratio of the drainage areas of USGS Gage No. 1075000 and the withdrawal location (i.e., $1 - 0.18 = 0.82$ is approximately 2.2 times greater than $|1 - 1.38| = 0.38$). Therefore, NHDES did not require LCJ Management to approximate flow at the withdrawal location using USGS Gage No. 01076500 or UGS Gage No. 01081500, and instead required LCJ Management to use USGS Gage No. 1075000.

For additional information on how NHDES determined that the withdrawal complies with applicable Surface Water Quality Standards and other requirements, please review Appendix A that is attached to the Certification and NHDES' response to Comment D.2, below.

Comment D.2: The Pemi is #2 on the DES priority list for implementation of the Instream Flow Program. Part of that program is an evaluation of all of the registered water withdrawals on the river, and the outcome of that program is a management plan that outlines how much water each water user can withdraw when flows start getting lower, and at what point flows are so low that they need to stop withdrawing altogether. We are hoping to start the study on the Pemi in 2025, but it will depend on how much funding gets approved in the 2024-2025 fiscal years budget. While we understand budget issues, I think this concern and program cannot wait for 2025.

In summary, we do not feel that adequate study has been done to allow this and future withdrawals of water from the Pemigewasset River. We ask DES to decline this and other water withdrawal permits until that study can be made. While this may slow some economic development, that is a minor price to pay for making sure irreparable damages are not done in the meantime.

NHDES Response: In Facts C-47 through C-48 of the Certification, NHDES describes its authorities under NH RSA 483 and Env-Wq 1900 to establish protected instream flows for designated rivers.^{8,9} In Finding D-14, NHDES explains that NHDES has not yet adopted a water management plan (WMP) with protected instream flows (PIFs) for portions of the Pemigewasset River that have been designated under those authorities. In Finding D-14, NHDES also explains that if and when NHDES adopts a WMP that establishes PIFs, and if NHDES specifies withdrawal limits for the withdrawal in a WMP that are more stringent than the withdrawal conditions specified Condition E-11, then

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Condition E-11 would need to be modified in accordance with Condition E-3. For mor information about NHDES Instream Flow Program, WMPs, or PIFS, please contact Joe Schmidl, NHDES Instream Flow Specialist, at (603) 271-3280 or Joseph.Schmidl@des.nh.gov or Tracie Sales, NHDES Rivers & Lakes Programs Administrator, at (603) 271-2959 or tracie.j.sales@des.nh.gov.

Under NH RSA 485-A:12, IV, before any water withdrawal from a surface water that requires registration under RSA 488:3 may commence, NHDES is required to, among other things, certify that a surface water withdrawal complies with New Hampshire surface water quality standards specified under NH RSA 485-A:8 and NH Code of Administrative Rules Env-Wq 1700 (Surface Water Quality Standards).^{4, 5, 6, 7} During a review of the LCJ Management's Application for Water Quality Certification for Activity, NHDES determined that LCJ Management would comply with Surface Water Quality Standards, including the antidegradation provisions of Env-Wq 1708. For example, NHDES determined that it would hold not less than 10 percent of the assimilative capacity of the Pemigewasset River in reserve to provide for future needs as required under flow standards of Env-WQ 1705.01(a), and that the withdrawal would cause an insignificant lowering of water quality, instead of a significant lowering of water quality, as specified under Env-Wq 1708.09.

As described in Finding D-28, in April of 2021, NHDES issued of Water Quality Certification (WQC) No. 2021-48512IV-001 to LCJ Management for a temporary withdrawal of water from the Pemigewasset River to initially fill a storage pond at the Owls Nest Resort. WQC No. 2021-48512IV-001 included an appendix (Appendix A) that described, in detail, how NHDES used a hydrologic approach to determine that the proposed temporary withdrawal would cause an insignificant lowering of water quality and would satisfy the antidegradation provisions of Env-Wq 1708. NHDES included a copy of Appendix A at the end of the Certification. Finding D-28 also explains that because the proposed withdrawal conditions of the Certification are more restrictive than those approved in WQC No. 2021-485A12IV-001 for the temporary withdrawal, and because the temporary withdrawal satisfied the antidegradation provisions in Env-Wq 1708, NHDES concluded that the withdrawal proposed for the Certification would also comply with the antidegradation provisions in Env-Wq 1708 and would cause an insignificant lowering of water quality of the Pemigewasset River. Therefore, NHDES is required to authorize the insignificant changes in water under Env-Wq 1708.06(b).

Other Differences Between The Final and Draft Certification

In addition to the revisions noted in the above, other changes made to the final Certification since the draft Certification was issued for public notice are not considered substantive. Examples include minor format revisions, grammatical corrections, updating broken hyperlinks, removing the word "DRAFT" in the header and watermark, changing the "Decision" status on the first page from "Pending" to "Granted with Conditions", adding a date of issuance and signature, adding a header and page numbers to Appendix A, etc.