

STATE OF NEW HAMPSHIRE

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August 14, 2020

Debra A. Howland  
Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301

RE: DW 19-135 Lakes Region Water Company, Inc.  
Petition for Approval of CoBank Financing  
Staff Recommendation for Approval of Petition

Dear Ms. Howland:

Commission Staff submits the following recommendation regarding Lakes Region Water Company Inc.'s petition for approval of CoBank Financing in the amount of \$633,000.

**Summary**

Lakes Region Water Company, Inc. filed a petition for approval of a \$633,000 loan from CoBank, ACB to finance the following: to reimburse itself for the replacement of the pump station at Dockham Shores (\$215,000), replacement of the pump station at Wildwood (\$260,000), and water main replacements at two Paradise Shores system locations, Paradise Shore Road (\$92,000) and Robin Lane (\$66,000). The Company supplemented the petition with pre-filed testimony and financial schedules, and submitted responses to five sets of data requests. Commission Staff discussed the Dockham Shores and Wildwood projects with the New Hampshire Department of Environmental Services. In the opinion of Commission Staff, including engineering consultant Douglas W. Brogan, the projects and the terms of the loan are reasonable, and the financing is in the public good. Commission Staff recommends that the Commission approve Lakes Region's petition. Commission Staff does not believe a hearing or additional process is necessary before the Commission issues an order on Lakes Region's request. Commission Staff has not done a prudence review, which would be premature at this time.

**Procedural Background**

On August 16, 2019, Lakes Region Water Company Inc. (Lakes Region or Company) filed a petition for approval of a \$633,000 loan from CoBank, ACB (CoBank). Lakes Region serves approximately 1,800 customers in 11 New Hampshire communities. The majority of those customers are seasonal,<sup>1</sup> although this varies by system, with Dockham and Wildwood customers being predominantly year-round customers. The petition, filed pursuant to RSA 369:1, stated that funds from the loan would be used to finance four projects (the Projects): (1) Dockham Shores pump station replacement, \$215,000<sup>2</sup>; (2) Wildwood pump station replacement, \$260,000; (3) Paradise Shore Road water main replacement, \$92,000; and (4) Robin Lane water main replacement, \$66,000. The petition was accompanied by the pre-filed testimonies of Lakes Region's president, Thomas A. Mason and its consultant, Stephen P. St. Cyr, and included financial schedules that present the pro forma effect of the financing.

This docket included several issues, including the Company's expenditure of \$215,000 above a previously approved level of financing for Dockham Shores; whether alternatives exist(ed) for the replacement of the Dockham Shores and Wildwood pump stations, poor quality water at Wildwood, and the potentially catastrophic impact that would likely result if the Wildwood pump station were to fail. In order to fully develop the record over the course of the proceeding Commission Staff (Staff) issued five sets of data requests, and engaged the services of engineering consultant Douglas W. Brogan, P.E. Staff also discussed the Dockham Shores and Wildwood projects with the New Hampshire Department of Environmental Services (NHDES). Based on his review of this information, in July, 2020, Mr. Brogan prepared a report summarizing his findings that the Projects appear reasonable from the standpoint of the necessity for the various system upgrades, and the reasonable nature of the proposed upgrades, themselves. In the opinion of Staff, including Mr. Brogan, the projects and the terms of the loan are reasonable, and the financing is in the public good.<sup>3</sup>

### **Lakes Regions' Proposed Projects**

The Projects are described in more detail as follows. *See* Petition (August 19, 2020), Testimony of Thomas A. Mason; Testimony of Stephen St. Cyr; Mr. Douglas Brogan, P.E.'s July 14, 2020 Report; Lakes Region's responses to five sets of Staff data requests.

#### *Dockham Shores Pump Station, \$215,000*

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<sup>1</sup> Lakes Region reported 1,290 of 1,813 total customers were seasonal in 2019. NHPUC Annual Report, p. 88.01, available at <https://www.puc.nh.gov/Water-Sewer/Annual%20Reports/2019/2019-GasWater-AnnualReport-Lakes-Region-Water-Company-20200519.pdf>.

<sup>2</sup> This amount is in addition to \$60,000 previously approved to finance system improvements in Commission Order No. 25,964 (November 10, 2016) in Docket No. DW 16-619. The total approved financing was \$135,000: \$60,000 for Lakes Region's acquisition of the Dockham Shores system, \$60,000 for capital improvements, and the remaining portion for acquisition related expenditures.

<sup>3</sup> *See* attachments to this Staff Recommendation: Mr. Douglas Brogan, P.E.'s report, dated July 14, 2020; an email from NHDES to Staff regarding replacement of the Wildwood pump station; and Lakes Region's responses to five sets of Staff data requests.

The Dockham Shores pump station was replaced in 2018 at a total cost of \$274,906. The Dockham Shores system serves 61 customers in Gilford, New Hampshire. The cost of the pump station was paid for largely with internal Company funds. Lakes Region seeks funding to reimburse itself for \$215,000. The reimbursement amount of \$215,000 is based on the total cost to replace the pump station, \$274,906, less \$60,000 in financing previously approved by the Commission. The Commission approved the \$60,000 financing, “to construct significant improvements to the [Dockham Shores] system required for safe operations,” when it approved Lakes Region’s acquisition of the assets and utility franchise of Dockham Shores Estates Water Company, Inc.<sup>4</sup> Capital costs for the replacement pump station included a new building, generator, pumps, and storage tank.<sup>5</sup>

*Wildwood Pump Station, \$260,000*

Lakes Region plans to spend \$260,000 of the financing proceeds to replace the Wildwood pump station. The Wildwood system serves 49 customers in Albany, New Hampshire. The Commission approved the acquisition of the assets and utility franchise of the Wildwood Water Company, Inc. (Wildwood Water) by Lakes Region in Order No. 26,114 (June 15, 2019) (Docket No. DW 17-176). The Wildwood pump station is aging. The previous owner of that system indicated that the current pump station was installed almost forty years ago, in 1972, which is consistent with the vintage reported in Wildwood Water’s 2017 NHPUC Annual Report.<sup>6</sup> In his pre-filed testimony, Mr. Mason referenced a Lakes Region January 22, 2018, Asset Checkup Report which rated the probability of failure as “high” for the Wildwood building, storage tank, and treatment equipment. In the same report, the consequence of failure was rated “major” and “catastrophic” for the Wildwood storage tank and treatment equipment, respectively.<sup>7</sup> After operating the pump station for a year, Lakes Region determined that it should be replaced. Mr. Mason stated that, in 2015, before Lakes Region acquired the Wildwood system, NHDES recommended the addition of an emergency/ backup generator at the Wildwood pump station because power failures had become more frequent.<sup>8</sup> Mr. Mason also stated that Wildwood customers “experience high iron and low pressure,” and that a new pump station “will provide constant pressure, adequate iron removal, larger well storage and a backup generator.” See Mason pre-filed testimony at 3.

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<sup>4</sup> See DW 16-619, Settlement Agreement (September 23, 2016), Section III (3) approved in Order 25,964 (November 10, 2016, DW 16-619) (approving \$60,000 for capital improvements).

<sup>5</sup> See Petition, St. Cyr. Attachment at SPS-5 and SPS-7

<sup>6</sup> See Schedule S-7 of Wildwood Water’s NHPUC Annual Report, p 45: [https://www.puc.nh.gov/Water-Sewer/Annual%20Reports/2017/wildwood\\_annual\\_report\\_2017.pdf](https://www.puc.nh.gov/Water-Sewer/Annual%20Reports/2017/wildwood_annual_report_2017.pdf)

<sup>7</sup> See Petition, Mason Testimony at 3; the referenced Asset Checkup Report (January 22, 2018) appears in Docket DW 17-176, as Exhibit 3 for a March 29, 2018 hearing.

<sup>8</sup> See Petition Mason pre-filed testimony p.3. The referenced N.H. Department of Environmental Services letter to Lakes Region, dated October 6, 2015, is included in Exhibit A of the Settlement Agreement (March 15, 2018) at Bates pages 18-20 in DW 17-176, approved by Order 26, 144 (June 15, 2018) (with certain revisions).

The proposed Wildwood pump station would include a new building, generator, storage tank, and treatment equipment. An estimate for the work lists a wood frame building, a 15,000-gallon tank, and all electrical and plumbing work. A notation on that estimate reads, "...Essentially A Duplicate Of The Recent Dockham Shores Pump Station."<sup>9</sup>

*Paradise Shore Road Water Main, \$92,000*

The Paradise Shore system serves 414 customers in Moultonborough, New Hampshire. If the financing is approved, two of the four proposed projects will involve main replacements in this system, at Paradise Shore Road and Robin Lane.

Lakes Region intends to use \$92,000 of the loan proceeds to install 1,000 feet of 8-inch water main at Paradise Shore Road. According to Mr. Mason's pre-filed testimony, this would replace aging 4-inch main and increase the flow of water service to the system. An estimate for the project lists 1,000 feet of 8-inch C/900 PVC pipe, excavation, installation, materials (pipe, sand, and gravel), and cleanup.<sup>10</sup>

*Robin Lane Water Main, \$66,000*

Lakes Region intends to use \$66,000 of the financing to replace 850 feet of 4-inch water main, service connections, and gate valves on Robin Lane, which has had numerous leaks over the past several years. By replacing the existing 4-inch pipe, the system would have fewer leaks and would thereby require less maintenance and reduce water loss. Lakes Region's estimate for the work included the following: 850 feet of 4" C900 water main at \$60.00 per foot, three 4" gate valves at \$2,500 each, and pipe bedding sand and gravel.<sup>11</sup>

**Lakes Region's Proposed Financing**

Lakes Region stated that it would borrow the proposed \$633,000 amount at a fixed interest rate over a twenty-year term. According to a CoBank term sheet dated April 30, 2020, the financing would be comprised of two secured loans in the amounts of \$433,000 and \$200,000. Lakes Region estimates that it will incur charges of \$8,000 to procure the loans, consisting of \$4,000 in loan origination costs and \$4,000 in accounting fees. The Company stated that it expected the closing could occur within 30 to 45 days following the issuance of a Commission order approving the financing.<sup>12</sup>

In discovery, the Company indicated that the interest rate on a CoBank loan to Lakes Region under the terms indicated in the instant petition would have been 4.75% as

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<sup>9</sup> See Lakes Region's response to Staff 1-12, Attachment [B] (attached).

<sup>10</sup> See Lakes Region's response to Staff 1-13 Attachment B (attached).

<sup>11</sup> See Lakes Region's response to Staff 1-13 Attachment C (attached).

<sup>12</sup> Lakes Region response to Staff 1-6 (attached).

of both October 3, 2019<sup>13</sup> and April 30, 2020.<sup>14</sup> In an October, 2019 data response, Lakes Region posited that it “does not expect that interest rates will exceed 5.5%” and “recommend[ed] that the Commission approve rates not to exceed 6%,”<sup>15</sup> In a May 8, 2020 data response, Lakes Region reiterated that position, requesting that the Commission only authorize the financing at an interest rate not to exceed 6.0%.<sup>16</sup>

### **Staff’s Review of Financing and Reasonableness of Proposed Projects**

#### Staff’s Review of Financing

During the discovery phase of this docket, Staff requested Lakes Region explain why it did not apply for low interest rate state financing through the Drinking Water State Revolving Fund (DWSRF) or the Drinking Water and Groundwater Trust Fund (DWGTF) administered by the NHDES. The Company responded that, because of NHDES’s method for prioritizing financing applications for awarding funds, and the location and seasonality of its customers, it was likely that Lakes Region’s request would have been assigned a low priority. Thus, in light of the work involved in making such an application, there was little assurance Lakes Region would ultimately receive financing approval. In addition, the Company was concerned that even if approved by NHDES, Davis-Bacon wage requirements would increase financing costs. The Company also pointed out that Lakes Region’s current relationship with CoBank requires it to comply with terms and conditions compliant to previous CoBank loan documents. Therefore, a DWSRF or DWGTF loan would require the Company to comply with a second set of financial covenants and security obligations, thus requiring additional staff resources and coordination.<sup>17</sup> Staff agrees that the Davis-Bacon Act wage requirements would increase the Company’s costs, and require additional staff resources and coordination.

Staff inquired whether Lakes Region had investigated any other financing options. Lakes Region responded that it had made an inquiry with the Bank of New Hampshire but the terms offered by CoBank are more favorable.<sup>18</sup>

In its pre-filed testimony, the Company frequently stated its intent to file a separate petition requesting a rate increase for Dockham Shores, and asserted that the rate increase was essential to allow the Company to recover its investment in the Dockham Shores pump station and make payments on the loan at issue. *See* Petition (August 16, 2019), Mason Testimony pp. 2, 4 and St. Cyr Testimony pp. 3, 5, 9. Upon inquiry however, the Company assured Staff that, pending any potential rate increase, the Company “has the necessary financial resources to service the debt....”<sup>19</sup> Staff notes that the Company filed a rate case for Dockham Shores on October 15, 2019. *See* Docket 19-177 Petition (October 15, 2019). This case is still pending before the Commission. *See*

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<sup>13</sup> Lakes Region response to Staff 1-8 (attached).

<sup>14</sup> Lakes Region response to Staff 5-3 and 5-3 Attachment (Quoted Fixed Rate Option) (attached).

<sup>15</sup> Lakes Region response to Staff 1-2 (attached).

<sup>16</sup> Lakes Region’s response to Staff 5-4 (attached).

<sup>17</sup> Lakes Region’s response to Staff 1-9 (attached).

<sup>18</sup> Lakes Region’s response to Staff 1-10 (attached).

<sup>19</sup> Lakes Region’s response to Staff 1-19 (attached).

*also* Order 26, 272 (July 11, 2019, DW 16-619) (Approving a Dockham Shores step increase based on the original approved \$60,000 financing for infrastructure improvements, with the remaining costs of the new pump station to be considered in a future proceeding).

#### Staff's Review of Reasonableness of Proposed Projects

In considering the reasonableness of the proposed projects, Staff contacted NHDES analyst Richard Skarinka, P.E. to discuss whether interconnecting Wildwood to the Conway Village Water District (CVWD) is a viable, less-costly alternative to installing a new pump station. Mr. Skarinka raised several possible concerns with that proposal, including whether CVWD's water source could adequately supply both its own customers and those on the Wildwood system. Mr. Skarinka also spoke with CVWD's Water Superintendent, Steve Anderson, about an interconnection south along Route 16 to the Wildwood development. Mr. Skarinka reported that Mr. Anderson estimated the cost of a 12-inch main extension of 1,600 feet, the distance to interconnect, would be approximately \$200,000, not including engineering services. Mr. Anderson also stated that the section of Route 16 in the proposed interconnection area "is narrow and that any water main might have to be located within the paved roadway, which NHDOT frowns upon."

Mr. Brogan prepared a report for Staff regarding the Projects, dated July 14, 2020. Mr. Brogan prefaced his report by stating that his review applied to the reasonableness, and not the prudence, of the Projects.

With regard to the replacement pump station at Dockham Shores, Mr. Brogan attested that the 'As Constructed' cost, \$274,906, is in line with that of similar pump stations in New Hampshire. He concluded that the new pump station is well built, reliable, and appropriately sized, and likely to eliminate equipment failures, water shortages, outages, and other problems associated with the old system.

With regard to the proposed new pump station at Wildwood and based on its design, Mr. Brogan stated that it is essentially the same as the replacement at Dockham Shores. Its estimated cost of \$260,000 is roughly 5% less than the cost of the Dockham Shores pump station and is also in line with that of similar pump stations in New Hampshire. Mr. Brogan noted that customers have complained about Wildwood's system failures, inadequate water pressure, water shortages, and conditions related to the water itself, including its taste, odor, color, and propensity for staining fabric when used for laundering. Mr. Brogan concluded that the proposed Wildwood pump station replacement appeared reasonable.

Lastly, Mr. Brogan reviewed the two proposed main replacement projects at Paradise Shores. Mr. Brogan stated that both proposed water main replacement projects, with costs totaling \$158,000, appear reasonable. With regard to his overall opinion of the

financing for the four projects, Mr. Brogan concluded that “[t]he proposed borrowing appears reasonable from the standpoint of the various system upgrade needs addressed.”<sup>20</sup>

### **Staff Analysis and Conclusion**

Lakes Region’s current capital structure is approximately 25% debt and 75% equity. The proposed financing would result in a capital structure of 36% debt and 64% equity. With Lakes Region’s capital structure less weighted towards the more costly equity financing and more in favor of less costly debt financing, Staff anticipates the Company’s overall cost of capital will be lower, which is more favorable to ratepayers. Lakes Region estimates that the financing will reduce the Company’s weighted average cost of capital from 8.69% to 8.24%.<sup>21</sup>

Pursuant to Order No. 26,340 (March 26, 2020) (DW 18-056) (Directing Lakes Region to Record Corporate Liabilities), Lakes Region will be filing a general rate case for all of its systems before the end of 2020.<sup>22</sup> Under the Company’s existing rate structure, the impact of the financing would result in a 0.35% increase to Lakes Region’s current consolidated revenue requirement, and would increase the respective current stand-alone revenue requirements of Dockham Shores by 40.73%, and Wildwood by 94.23%. While the increase is significant for Dockham Shores and Wildwood customers, increased revenue requirements of this nature may be required in small systems for necessary and reasonable infrastructure improvements, particularly where catastrophic failure and poor water quality are at issue. If the Company were to request inclusion of both the Dockham Shores and Wildwood systems in a consolidated rate, and if approved by the Commission, the impact of the financing would result in a 3.59% increase to Lakes Region’s consolidated revenue requirement.<sup>23</sup>

Mr. Brogan’s report indicates that the cost for each of the proposed projects appears reasonable. Staff gave weight to the fact that no less-costly or more favorable alternatives were identified, despite Staff’s investigation and the Company’s efforts to identify one. In Mr. Brogan’s opinion, “The proposed borrowing appears reasonable from the standpoint of the various system upgrade needs addressed.” Company president Mason and consultant Mr. St. Cyr stated that the financing is in the best interest of Lakes Region and its customers, and that replacement of the pump stations, at Dockham Shores and Wildwood, and the water mains, at Paradise Shore and Robin Lane, will increase the reliability of the systems.<sup>24</sup>

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<sup>20</sup> See Mr. Douglas Brogan, P.E.’s report, dated July 14, 2020 at 6 (attached).

<sup>21</sup> Lakes Region’s response to Staff 1-16 and Attachment 1-16 (attached).

<sup>22</sup> See Lakes Region’s Motion for Rehearing (April 27, 2020) (Company agrees to file a general rate case); Order 26,260 (May 27, 2020) (denying motion for rehearing); Lakes Region Water Company Appeal to New Hampshire Supreme Court (June 29, 2020); Supreme Court Notice of Docketing and Mandatory E-Filing (July 15, 2020).

<sup>23</sup> Lakes Region’s response to Staff 1-15, attached (Company seems to envision an initial rate increase for Dockham Shores followed by a subsequent request to consolidate rates).

<sup>24</sup> See Petition, Mason Testimony at 4; St. Cyr Testimony at 5.

Under RSA 369:1, public utilities engaged in business in this state may issue evidence of indebtedness payable more than 12 months after the date thereof only if the Commission finds the proposed issuance to be “consistent with the public good.” Analysis of the public good involves looking beyond the actual terms of the proposed financing to the use of the funds and the effect on rates to insure the public good is protected. *See* RSA 369; *Appeal of Easton*, 125 N.H. 205, 211 (1984); *see also* Pennichuck Water Works, Inc., Order 26,197 (December 3, 2019) at 4; *but see Hampstead Area Water Company, Inc.*, Order 26, 230 (March 29, 2019) at 7-8 (Dkt 18-138) (financing not routine; hearing required).

Staff acknowledges that the Company’s financing request would have a significant impact on the stand-alone revenue requirements of Dockham Shores and Wildwood. Due to the necessity of the proposed projects, however, the improvements appear to be investments made in the ordinary course of the Company’s operations, pursuant to its duty to provide safe, adequate, and reliable water service to its customers under RSA 374:1 (subject to future prudence review prior to any approval for rate recovery).

Staff reviewed the filing and recommends Commission approval of Lakes Region’s request for financing. The procurement of the CoBank loan ensures that the Company will finance the Projects at favorable rates resulting in a reduced cost to customers. The Projects enable Lakes Region to provide safe, adequate, and reliable water service to its customers.

For the above reasons, Staff concludes that Lakes Region has demonstrated that the purposed use of funds is appropriate and the financing is consistent with the public good and should be authorized pursuant to RSAs 369:1 and 4. Staff does not believe a hearing or additional process is necessary before the Commission issues an order on Lakes Region’s request.

Thank you for your attention to this matter.

Sincerely,

*/s/ David Goyette*

David Goyette  
Utility Analyst III, Gas-Water Division

cc: Service List

Attachments: (1) Douglas W. Brogan, P.E. July 14, 2020 Report to Staff, (2) NHDES email regarding potential Wildwood interconnection, and (3) Lakes Region’s Response to Staff Data Requests, Sets 1-5.

# Doug W. Brogan, P.E. Report to Staff

## MEMO REPORT

Date: July 14, 2020

**From:** Douglas W. Brogan, P.E.

**To:** Jayson Laflamme, Asst. Director, Gas & Water Division, NHPUC

**Re:** DW 19-135 Lakes Region Water Company  
Petition for Approval of Long Term Debt

I am writing this memo report as an engineering consultant to the Gas-Water Division to summarize my findings in the above-referenced docket, which is a financing request by Lakes Region Water Company (Lakes Region or company) to fund four projects:

- 1) Completed pump station replacement in Dockham Shores water system (Gilford);
- 2) Proposed pump station replacement in Wildwood water system (Albany);
- 3) Proposed water main replacement on Paradise Shore Road in Paradise Shores water system (Moultonborough);
- 4) Proposed water main replacement on Robin Lane in Paradise Shores water system (Moultonborough).

My review is based on material filed, and discovery in, this and related dockets; participation in technical sessions with Lakes Region and Staff; a file review of Dockham Shores and Wildwood at the New Hampshire Department of Environmental Services (NHDES); and photos of the previous Dockham Shores facilities taken in 2012. My review is limited to the engineering and operational aspects of the four projects. This report should not be considered a prudence review, but only a review of reasonableness for the purposes of the proposed financing.

### **A. Dockham Shores**

Lakes Region seeks to borrow \$215,000 to repay itself for construction of a new pump station serving the 61 customer Dockham Shores water system in Gilford. For background, Lakes Region filed with the Commission in May, 2016 to acquire the system in docket DW 16-619. The filing included a proposal to upgrade the existing well field and pump station for \$60,000. The acquisition

was approved by the Commission in Order 25,964, along with a future step increase limited to recovery of the \$60,000 upgrade, to be filed by December 31, 2017. After requesting and receiving two time extensions, the company filed instead, in December 2018, for a step increase reflecting the nearly \$275,000 cost (as subsequently adjusted by Staff audit) of an entirely new pump station, claiming to have determined the latter was necessary. The very significant cost increase; a sparsity of communication with Staff regarding the change from original 'Plan A' to new 'Plan B'; and the suggestion by Lakes Region that the new station 'contained all the bells and whistles'; created significant concern on Staff's part about the company's decisions in this regard. Partly as a result, a step increase based only on the original \$60,000 amount was approved in Order 26,272 (July 11, 2019, DW 16-619), with the remaining costs to be considered in a future rate proceeding. The instant (financing) docket was filed August 16, 2019.

The following is a summary comparing costs of the original plan to those of the final facilities as constructed:

	Original Proposal	As Constructed
Structures and Improvements, Pumping and Other Equipment, Meters	\$60,000	\$209,659
Wells		\$5,655
Storage Tank		\$29,975
Power Generation Equipment	<u>          </u>	<u>\$29,617</u>
Totals	\$60,000	\$274,906

As noted above, original 'Plan A' envisioned relatively minor improvements at two locations: the well field (consisting of two wells, a meter pit, and an outdoor electrical panel) and the in-ground pump station located over 1,000 feet away. What was built instead was a new pump station at the well field location, essentially replacing all of these facilities except the wells themselves.

Five sets of discovery were posed in the instant docket, many multi-part. Together with an earlier set in DW 16-619, some 70 questions were asked, with a majority pertaining to Dockham Shores. While some predated my own involvement, I believe that discovery in regard to the project was thorough; and sincerely thank Lakes Region for its willingness to respond to the many questions. For the sake of simplicity and brevity, rather than cite to specific responses, this report is intended as a fairly high level summary based on those responses and the other material outlined earlier. A number of obvious questions arose in regard to the need for, and cost of, the new facilities. What ultimately emerged was what I believe to be adequate support for the company's chosen course of action.

In addition to the upgrades at the well field site, the original proposal envisioned addition of a bulkhead/stairway access to the existing in-ground pump station to address confined space entry

concerns, and addition of a building on top of the station to address moisture and flooding problems. This proposal proved problematic for several reasons:

- 1) The proposal would have continued to rely on the system's existing, buried steel atmospheric storage tank at the pump station location. Although the tank had been repainted internally in 2009 in hopes of extending its life, the other buried tank at the same location (a pressure tank) had already failed prior to that time. Both tanks were of the same early 1970's vintage.
- 2) The supply line bringing water the 1,000-plus feet from the wells to the station was subsequently determined to be undersized and creating a severe restriction to flow.
- 3) The existing in-ground pump station was basically located in a neighbor's landscaped front yard, with only the access hatch visible. Construction of an above-ground building on top of the station would likely have elicited concerns from the neighbor(s) and possibly the Town of Gilford Planning Board, which the company ultimately had to appear before anyway.

The description of original 'Plan A' was contained in a single page synopsis prepared by a company field supervisor prior to acquisition of the system by Lakes Region. 'Plan B' emerged after Lakes Region hired Lewis Engineering (Lewis) to review the situation and provide additional input. Lewis is a small, highly regarded firm that has been designing cost-effective pump stations for several decades. It was Lewis' determination that a number of components of the system had reached the end of their useful lives, and that full replacement of the existing pump station made the most sense.

Regarding some of the additional 'Plan B' costs in the summary table above:

- 1) Well costs were the result of deepening one of the system's two wells, necessitated by declining yields that had resulted in water bans and restrictions in the first year after the company's purchase of the system.
- 2) The existing atmospheric storage tank was replaced with a pre-cast, in-ground, concrete tank that formed the foundation of the new pump station. Effective system storage was increased as a result.
- 3) Inclusion of emergency backup power capability has become more common in community water systems as a result of long term outages from severe ice and snow storms in recent years, and is generally encouraged by NHDES. The company indicated Dockham Shores had experienced an elevated frequency of outages compared to neighboring systems. Backup power will also prevent freezing of components in the new above-ground station.

The cost of the new facilities is in line with that of similar pump stations constructed elsewhere in the state. For a larger company, such pump station replacements are routine once determined necessary. Lakes Region is a smaller company with limited in-house expertise, which ultimately resulted in its reaching out to Lewis.

A potential alternative to the new station, which the company indicated it did not investigate, is interconnection with Laconia Water Works. From the company's responses and my own review, including discussion with the Water Works superintendent, such an interconnection may have been problematic for several reasons:

- 1) The nearest Laconia water main would require a main extension of some 2,500 feet to reach Dockham Shores, at significant cost. However, the previous 900 feet along that route was only completed this past winter, so would have been additionally required at the time the Dockham Shores station was under construction. The company indicated portions of Dockham Shores contain significant ledge, which could have further impacted the cost of an extension.
- 2) The deteriorating condition of the Dockham Shores facilities at the time of system acquisition involved a time concern. The original filing in DW 16-619 noted the need for upgrades as 'urgent' and 'extreme'.
- 3) Dockham Shores is in a different municipality (Gilford) than Laconia. Investigation of Laconia's willingness to serve, time frames, requirements, rates, and fees would have required additional time and cost; as would have further engineering and other review on the company's part.

A small number of company claims regarding the need for the project were determined through the discovery process to be unsupported, but are largely peripheral to the discussion and conclusions above.

In at least the nine years prior to completion of the new facilities (eight of them prior to Lakes Region ownership), customers of the system suffered through various system outages, water shortages, boil water orders, equipment failures and other problems. Those customers now have well-built facilities that are appropriate to a system of this size and that will likely eliminate such problems and provide reliable, cost-effective service for years to come.

## **B. Wildwood**

The company's Wildwood system in the town of Albany serves 49 customers and is of similar vintage to Dockham Shores, also dating from the 1970's. Lakes Region acquired the system in 2018

and proposes to borrow \$260,000 to replace the system's pump station with essentially a duplicate of the one built in Dockham Shores. A significant need for upgrades in Wildwood had been noted by the company in the acquisition docket (DW 17-176) but without specificity, as the company had not yet had experience operating the system.

Customers have complained both historically and recently of pressures that are sometimes marginal at best, and of significant water quality issues including discolored water, staining, taste and odor. The existing pump station is old, cramped and deteriorating and treatment is purportedly inadequate and outdated. While the company itself concedes it could probably make the system last some amount of additional time with short term fixes, it is concerned about the potential for catastrophic failure at some point.

For perspective, the company replaced the pump station in its Indian Mound system in 2015; and views Far Echo Harbor (due to water source issues), Wildwood and 175 Estates as its current highest priorities for pump station replacement, in roughly that order and with the last to be completed within the next five years. Each, like Dockham Shores, is a small, stand-alone water system. Aside from Wildwood, none are recent acquisitions, lending support to the belief the company is approaching upgrade needs objectively and not merely proposing to replace the entire pump station in every new system it acquires.

Similar to the situation in Dockham Shores, a potential alternative to some or all of the proposed upgrades in Wildwood exists via interconnection to a larger municipal system - in this case Conway Village Fire District (District). At Staff's urging, the company conducted some preliminary inquiry and analysis in this regard, which Staff supplemented with its own limited review. Those efforts indicate the following:

- 1) The estimated cost of required main extensions (by District and company) is roughly comparable to the cost of the proposed pump station replacement;
- 2) Unknowns include the willingness of NHDOT to grant a permit for the required extension along Route 16 given the specific conditions present in that area; and whether District pressures could adequately serve the upper portions of Wildwood.
- 3) Additional potential costs include that of the NHDOT permit if granted; the cost of a required meter pit including backflow protection; an initial assessment by the District of a \$1,000 connection fee per Wildwood customer; the cost of a booster station if required; the potentially significant engineering and legal costs required to determine project viability, design improvements and obtain service outside District boundaries; and incorporation of the District's own rates into the company's rate structure.

As a result, the company has indicated it does not support or recommend interconnection in this instance.

While the above arguments provide support for the proposed replacement, a final prudence review of the company's upgrade decisions in Wildwood will await a future rate proceeding.

### **C. Paradise Shores Water Main Replacements**

The company also seeks to borrow a total of \$158,000 for two water main replacement projects in its Paradise Shores system. Based on a review of the company's filing and discovery responses, these appear reasonable.

### **D. Conclusion**

The proposed borrowing appears reasonable from the standpoint of the various system upgrade needs addressed.

# NHDES Email Re Wildwood Interconnection

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**From:** Laflamme, Jayson  
**Sent:** Monday, April 20, 2020 12:58 PM  
**To:** Skarinka, Rick  
**Cc:** Pillsbury, Sarah; Suozzo, Randal; Unger, Michael; Klevens, Cynthia; douglas.brogan; Schwarzer, Mary; Goyette, David; Tuomala, Christopher  
**Subject:** RE: Skarinka Phone call with Conway Village re: Wildwood, conversation with Steve Anderson, Water Superintendent for Conway Village

Hi Rick:

Thank you for making the inquiry and providing this information. I have included Doug Brogan and other Staff on this reply.

Take Care,

*Jayson Laflamme*

Assistant Director, Gas-Water Division  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, New Hampshire 03301-2429  
(603) 271-6322  
[jayson.laflamme@puc.nh.gov](mailto:jayson.laflamme@puc.nh.gov)

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**From:** Skarinka, Rick <Richard.Skarinka@des.nh.gov>  
**Sent:** Monday, April 20, 2020 12:53 PM  
**To:** Laflamme, Jayson <Jayson.Laflamme@puc.nh.gov>  
**Cc:** Pillsbury, Sarah <Sarah.Pillsbury@des.nh.gov>; Suozzo, Randal <Randal.Suozzo@des.nh.gov>; Unger, Michael <Michael.Unger@des.nh.gov>; Klevens, Cynthia <Cynthia.Klevens@des.nh.gov>  
**Subject:** Phone call with Conway Village re: Wildwood

Hello Jason: I had a phone conversation with Steve Anderson, Water Superintendent for Conway Village regarding the potential interconnection to Wildwood water system in Albany. Steve mentioned that that he had a conversation with Lakes Region regarding the extension of Conway Village water south along Route 16 to the development. Steve estimated the cost of 12-inch main extension for 1600 feet at approximately \$200,000 not including engineering services. Also, Steve mentioned that the stretch of Route 16 in that area is narrow and that the water main may have to be located within the paved roadway which NHDOT frowns upon. If you need any further information please let me know.

Rick Skarinka  
NHDES

## Lakes Region's Data Responses, Sets 1-5

REQUEST: Please describe the nature and extent of the Company's previous communications with CoBank with regard to the proposed financing. Please provide copies of all pertinent documentation.

RESPONSE: The Company has a long-standing relationship with Bryan Ervin, Relationship Manager with CoBank. Including five (5) loans and a line of credit. The original request was emailed to Bryan Ervin on April 1, 2019, another request for additional funding was sent June 18, 2018, formal term sheet was received July 9, 2019 and approval was issued on August 22, 2019. See Exhibit DR Staff 1-1 PDF.

**Leah Valladares**

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**From:** Leah Valladares  
**Sent:** Monday, April 01, 2019 10:00 AM  
**To:** 'Ervin, Bryan.'  
**Cc:** Tom Mason  
**Subject:** LRWC Loan request  
**Attachments:** 1\_2018 LRWC Annual Report.pdf

Good morning Bryan,

Attached is our Annual Report for 2018. The audit review will be along by the end of the month.

We are looking to obtain a loan in the amount of \$400,000.00 for a couple of big projects coming up in Summer/Fall of 2019.

What do you need from us?

Quick note: The T02 loan will be paid off this June.

Thank you in advance,

Leah Valladares | Utilities Manager  
**Lakes Region Water Company, Inc.**  
420 Gov. Wentworth Highway | PO Box 389  
Moultonborough, NH 03254  
(O) 603.476.2348 (F) 603.476.2721  
[www.lakesregionwater.com](http://www.lakesregionwater.com)

## Leah Valladares

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Exhibit Staff 1-1B

**From:** Ervin, Bryan <ERVINB@cobank.com>  
**Sent:** Tuesday, June 18, 2019 10:17 AM  
**To:** Leah Valladares  
**Subject:** RE: New Loan

Leah, we already have approval for the \$400k and are working on documents. Are you okay with slowing this down as we will have to reapprove the loan at a higher amount?

Thanks.

Bryan Ervin  
CoBank  
303-740-4377

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**From:** Leah Valladares <leah@lakesregionwater.com>  
**Sent:** Tuesday, June 18, 2019 7:19 AM  
**To:** Ervin, Bryan <ERVINB@cobank.com>  
**Cc:** Tom Mason <Tom@lakesregionwater.com>  
**Subject:** New Loan

Good morning Bryan,

Attached is a new project schedule. We are requesting an additional \$232,906 giving a total loan amount of \$632,906.00.

The Dockham Shores project in the amount of \$214,906.00 has been completed.

Please let me know if you need anything else from me.

Thank you,

Leah Valladares | Utility Manager  
**Lakes Region Water Company, Inc.**  
420 Gov. Wentworth Highway | PO Box 389  
Moultonborough, NH 03254  
(O) 603.476.2348 (F) 603.476.2721  
[www.lakesregionwater.com](http://www.lakesregionwater.com)

*Unless specifically stated, (i) this email does not create a legal relationship between CoBank, ACB, including its subsidiaries and affiliates (collectively "CoBank") and the recipient, and (ii) CoBank disclaims any liability for the content of this email or for the consequences of any actions taken on the basis of the information provided in this email or its attachments. This email is intended solely for the use of the intended recipient(s) and may contain information that is confidential, privileged or otherwise protected from disclosure. If you are not the intended recipient of this email, please notify the sender, and delete it from your system. In communicating via email with CoBank, you consent to the foregoing.*

CoBank, 6340 S. Fiddlers Green Circle, Greenwood Village, CO 80111 [www.cobank.com](http://www.cobank.com)

C



6340 South Fiddlers Green Circle  
Greenwood Village, CO 80111  
800-542-8072  
www.cobank.com

Exhibit Staff 1-1, C

July 9, 2019

Mr. Thomas Mason, President and CEO  
Lakes Region Water Company, Inc.  
Moultonborough, NH 03254

Dear Mr. Mason:

The following term sheet is for information and discussion purposes only. This term sheet is neither a commitment nor an offer to extend credit and does not create any obligation on the part of CoBank. This term sheet is intended to provide a summary of the primary terms and conditions of the proposed transaction between CoBank and the Lakes Region Water Company; however, this terms sheet does not contain all of the terms and conditions applicable to a credit facility provided by CoBank and ultimately contained in any loan documentation. CoBank's decision to extend credit to the Lakes Region Water Company is contingent upon completion to CoBank's satisfaction of all necessary due diligence, receipt of internal credit approvals, and the preparation of final documentation in form and substance satisfactory to CoBank. All figures, terms, and conditions are subject to change at any time. A commitment by CoBank will exist only if a formal, written commitment letter or definitive loan documents are prepared and executed by CoBank and the Lakes Region Water Company, and not otherwise. This term sheet is strictly confidential and may not be released to or discussed with any third party without the prior written consent of CoBank.

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<b>Borrower:</b>	Lakes Region Water Company, Inc. ("Borrower")
<b>Type of Credit Facility:</b>	1. A secured term loan of up to 20 years and a maximum \$400,000 ("Term Loan 1") and 2. A secured term loan of up to 20 years and a maximum of \$233,000 ("Term Loan 2" together the "Loans")
<b>Purpose:</b>	To finance capital projects at Dockham Shores, Paradise Shores and Wildwood to include main replacements, pump stations and related infrastructure and miscellaneous closing and financing costs.
<b>Availability:</b>	Up to 12 months after closing.
<b>Interest:</b>	In accordance with one or more of the following interest rate options, as selected by the Borrower:  <u>Weekly Quoted Variable Rate Option:</u> Under this option, balances may be fixed at a rate established by CoBank on the first "Business Day" (to be defined) of each week. The rate established

shall be effective until the first Business Day of the next week. The interest rate under this option as of 7-1-19 is 5.14%.

Quoted Fixed Rate Option: At one or more rates to be quoted by CoBank. Under this option, rates can be fixed: (1) on balances of \$100,000 or more; (2) for periods of, 12 months to the final maturity of the Loan; and (3) for each facility, on no more than 5 separate balances at any one time.

Interest will be calculated on the basis of a year consisting of 360 days and shall be payable monthly in arrears by the 20<sup>th</sup> day of the following month.

Notwithstanding the foregoing, during the continuance of a default, interest shall accrue at 2% in excess of the rates that would otherwise be in effect.

**Origination Fees:**

Four thousand dollars payable at closing.

**Principal Repayment:**

In consecutive monthly installments, each due on the 20<sup>th</sup> of the month, with the first installment due on the 20<sup>th</sup> day of the second month following the month in which the availability period ends. The amount of each installment shall be the same principal amount that would be due and payable if the Loans were payable in level installments of principal and interest and such schedule was calculated using the interest rate applicable on the date the amortization schedule is created.

**Prepayment:**

Balances bearing interest at the Weekly Quoted Variable Rate Option may be prepaid without premium. Balances bearing interest at the Quoted Fixed Rate Option may be prepaid upon payment of a premium equal to the present value of CoBank's "Funding Losses" as defined in the Master Loan Agreement (MLA) plus a yield of .50% on a per annum basis.

**Capitalization:**

The Loans will be capitalized in accordance with CoBank's bylaws and its capital plan. As an existing customer, no additional capital purchase is required.

**Collateral:**

The Loans will be secured by a perfected priority lien on and security interest in all real and personal, tangible and intangible, present and future assets of the Borrower including a deed of trust or mortgage with evidence of title (in a form to be determined by CoBank) subject only to those exceptions approved by CoBank.

**Documentation:**

The Loans would be subject to the negotiation, execution, delivery, and, where appropriate, recording of loan and loan related documentation (including exhibits, opinions, and security documentation) satisfactory to CoBank and its counsel in its or their

sole discretion. In addition, all other matters whatsoever relating to the credit or the closing thereof must be approved by CoBank and its counsel in its or their sole discretion. Without limiting the foregoing, the loan documentation shall include conditions precedent, representations and warranties, covenants, events of default, remedies upon default, and various miscellaneous provisions.

**Representations  
and Warranties:**

Including, without limitation, representations and warranties as to organization; good standing and qualification; authorization of borrowing; compliance with law; financial condition; title to properties; liens; no material adverse change; litigation; payment of taxes; governmental regulations; disclosure; licenses; trademarks; and patents.

**Financial Covenants:**

As stated in the existing MLA

**Negative  
Covenants:**

As stated in the existing MLA.

**Reporting  
Requirements:**

As required by the existing MLA

**Expenses and  
Indemnification:**

The Borrower will indemnify CoBank against all losses, liabilities, claims, damages, or expenses relative to the Credit Facility or the use of loan proceeds. All reasonable costs and expenses incurred by CoBank in connection with this transaction including, without limitation, all legal fees and expenses for CoBank's legal counsel, shall be paid by the Borrowers.

**Defaults:**

As stated in the existing MLA.

**Patronage:**

At the sole discretion of CoBank's Board of Directors, each year eligible customers may qualify under CoBank's patronage plan for patronage certificates and distributions. CoBank reserves the right to sell, assign and/or participate in credit facilities discussed hereunder on a non-patronage basis.

**Leah Valladares**

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Exhibit Staff 1-1, D

**From:** Chambers, Odessa <OChambers@cobank.com>  
**Sent:** Thursday, August 22, 2019 4:50 PM  
**To:** Leah Valladares  
**Cc:** Ervin, Bryan; Maikoetter, Mary; Gulinson, Susan; Chambers, Odessa  
**Subject:** CoBank Loan Documents-Lakes Region Water  
**Attachments:** CoBank Loan Documents-Lake Region Water Company.pdf; LTR Opinion SLA.docx; Fed-Ex Return Label.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Good Afternoon Ms. Valladeres,

Attached are the documents for your new term loan with CoBank. Please note that CoBank is in the process of redocumenting all direct loan borrowers so in addition to the new loan you will find a Credit Agreement and all outstanding loans.

I have also attached in Word format a copy of the Opinion of Counsel, this can be forwarded to your attorney for their use.

To expedite closing you're more than welcome to email the signed documents to [riclosing@cobank.com](mailto:riclosing@cobank.com). Please note that CoBank requires originals to be returned to us, please forward originals to us using the Fed-Ex return label attached to this email.

Should you have any questions or are unable to open the attachment please do not hesitate to contact Bryan Ervin or me.

Thank you for choosing CoBank!

**Odessa Chambers**  
Loan Processing, Lead  
Ph) 303-740-4357  
[ochambers@cobank.com](mailto:ochambers@cobank.com)

 **COBANK** | 6340 S. Fiddlers Green Circle  
Greenwood Village, CO 80111

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CoBank, 6340 S. Fiddlers Green Circle, Greenwood Village, CO 80111 [www.cobank.com](http://www.cobank.com)

REQUEST: The Petition states the fixed interest rate will be “determined by CoBank at the time of closing” while Mr. Mason’s testimony p. 4 describes an estimated interest rate of 5.5%. Have the parties agreed upon an interest rate, a range, or a maximum rate?

RESPONSE: No, the parties have not agreed upon an interest rate, a range or a maximum rate. The Company inquired with Bryan Ervin what the interest rate would be and his response on July 9, 2019 was “The rate today would be about 5.2%, but if you use 5.5% for a financial model that should give you some leeway”. See Exhibit DR Staff 1-2. The Company does not expect that interest rates will exceed 5.5% but recommends that the Commission approve rates not to exceed 6% in case of unexpected changes in the market pending review and approval by the Commission.

**From:** [Ervin, Bryan](#)  
**To:** [Leah Valladares](#)  
**Subject:** RE: Lake Region term sheet June 2019  
**Date:** Tuesday, July 09, 2019 11:44:37 AM

Exhibit Staff 1-2

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The rate today would be about 5.2% but if you use 5.5% for a financial model that should give you some leeway.

Bryan Ervin  
CoBank  
303-740-4377

---

**From:** Leah Valladares <[leah@lakesregionwater.com](mailto:leah@lakesregionwater.com)>  
**Sent:** Tuesday, July 09, 2019 9:41 AM  
**To:** Ervin, Bryan <[ERVINB@cobank.com](mailto:ERVINB@cobank.com)>  
**Subject:** RE: Lake Region term sheet June 2019

That will work, Steve just needs something for the proformas.

Leah Valladares | Utility Manager  
**Lakes Region Water Company, Inc.**  
420 Gov. Wentworth Highway | PO Box 389  
Moultonborough, NH 03254  
(O) **603.476.2348** (F) 603.476.2721  
[www.lakesregionwater.com](http://www.lakesregionwater.com)

---

**From:** Ervin, Bryan <[ERVINB@cobank.com](mailto:ERVINB@cobank.com)>  
**Sent:** Tuesday, July 09, 2019 11:40 AM  
**To:** Leah Valladares <[leah@lakesregionwater.com](mailto:leah@lakesregionwater.com)>  
**Subject:** RE: Lake Region term sheet June 2019

I don't know what it would be a year from now. I can give you today's twenty year rate.

Bryan Ervin  
CoBank  
303-740-4377

---

**From:** Leah Valladares <[leah@lakesregionwater.com](mailto:leah@lakesregionwater.com)>  
**Sent:** Tuesday, July 09, 2019 9:34 AM  
**To:** Ervin, Bryan <[ERVINB@cobank.com](mailto:ERVINB@cobank.com)>  
**Subject:** RE: Lake Region term sheet June 2019

Thank you Bryan,

Do you know what the interest rate would be if we went with the Fixed Rate option?

REQUEST: Did the Company complete and submit either a loan application or pre-application with CoBank relative to the proposed financing? If yes, please provide a copy of the completed form(s).

RESPONSE: No, the Company has a long-standing relationship with CoBank that is governed by existing loan documents approved by the Commission in prior proceedings including DW 13 – 335 and DW 16 - 854. Please refer also to the response to DR Staff 1-1.

REQUEST: Has CoBank issued a Commitment Letter or similar documentation to the Company regarding the proposed financing? If yes, please provide a copy of that documentation.

RESPONSE: CoBank has submitted a “term sheet”. See Exhibit Staff 1-1, C reference is Staff 1-1.

REQUEST: Does the Company anticipate that CoBank will impose any restrictive covenants, liens, or other requirements relative to the proposed financing on the Company? If yes, please provide a detailed explanation.

RESPONSE: Yes. See Exhibit Staff 1-5- Credit Agreement. The Company is governed by existing loan documents approved by the Commission in prior proceedings. See Response to Staff 1-3.



Agreement No. 00086205SLA

Exhibit Staff 1-5

## CREDIT AGREEMENT

THIS CREDIT AGREEMENT (this “**Agreement**”), dated as of July 19, 2019 is entered into by and between **LAKES REGION WATER CO., INC.**, Moultonboro, New Hampshire, a corporation (the “**Borrower**”), and **COBANK, ACB**, a federally-chartered instrumentality of the United States (“**Lender**”).

### RECITALS

(A) The Borrower and Lender are parties to that certain Master Loan Agreement dated as of June 16, 2014 (as amended, the “**Existing Agreement**”). Pursuant to the terms of the Existing Agreement, the parties entered into one or more Supplement(s) and/or Promissory Note(s) and Supplement(s) thereunder (the “**Existing Promissory Note(s) and Supplement(s)**”). The Borrower and Lender now desire to amend and restate the Existing Agreement and to apply this Agreement to the Existing Promissory Note(s) and Supplement(s), as well as any new Promissory Note(s) that may be issued hereunder. For that reason and for valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the Borrower and Lender hereby agree that the Existing Agreement will be amended and restated by this Agreement.

In consideration of the agreements set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrower and Lender agree as follows:

**ARTICLE 1 Defined Terms; Accounting Principles.** Certain capitalized terms used in this Agreement bear the definitions given to them in this Agreement. References to accounting standards are to United States generally accepted accounting principles, or those required of the regulatory agency having jurisdiction over the Borrower, including but not limited to the system of accounts established by the United States Department of Agriculture acting through Rural Development or the Rural Utilities Service or their predecessors (“**RD/RUS**”), if applicable, or such other commission or body as may be agreeable to Lender (the “**Accounting Standards**”).

### **ARTICLE 2 The Facilities.**

**2.1 Promissory Note.** In the event the Borrower desires to borrow from Lender and Lender is willing to lend to the Borrower, or in the event the parties desire to consolidate any existing loans hereunder, the parties will enter into a promissory note (a “**Promissory Note**”). Each Promissory Note will set forth Lender’s commitment to make a loan or loans to the Borrower, the amount of the loan(s), the purpose of the loan(s), the interest rate or rate options applicable to the loan(s), the repayment terms of the loan(s), and any other terms and conditions applicable to the particular loan(s). Each Promissory Note will also contain the Borrower’s promise to make payments of interest on the unpaid principal balance of the loan(s), and fees and premiums, if any, and to repay the principal balance of the loan(s). Each loan will be governed by the terms and conditions contained in this Agreement and in the Promissory Note relating to that loan.

**2.2 Availability.** Loans will be made available on any day on which Lender and the Federal Reserve Banks are open for business (a “**Business Day**”) upon the telephonic or written request of an authorized employee of the Borrower. Requests for loans must be received by 12:00 p.m. Denver, Colorado time on the date the loan is desired. Loans will be made available by wire transfer of

LAKES REGION WATER CO., INC.  
Moultonboro, New Hampshire  
**Agreement No. 00086205SLA**

immediately available funds. Wire transfers will be made to such account or accounts as may be authorized by the Borrower.

**2.3 Security.** The Borrower's obligations under this Agreement and each Promissory Note will be secured by a statutory first lien on all equity that the Borrower may now own or hereafter acquire or be allocated in Lender. In addition, except as otherwise provided in a Promissory Note or in a closing instruction letter signed by the parties (an "**Instruction Letter**"), the Borrower's obligations hereunder and under each Promissory Note will be:

(a) secured by a first priority lien (subject only to exceptions approved in writing by Lender) on all real property of the Borrower determined by Lender to be primary property, and all personal property of the Borrower, whether now existing or hereafter acquired. The Borrower agrees to take such steps, including, without limitation, the execution and recordation or filing, as applicable, of mortgages, deeds of trust, security agreements, intercreditor or parity agreements, pledge agreements, control agreements, financing statements, and amendments to any of the foregoing, and such other instruments and documents as Lender may require to enable Lender to obtain, perfect, and maintain a lien on such property, and the payment of any applicable mortgage recording, documentary stamp, or intangible taxes; and

(b) guaranteed by an unsecured or secured, limited or continuing guarantee of payment, in form and substance and from such parties as may be required by Lender from time to time. If Lender requires such guarantee(s) to be secured by a lien on the real and/or personal property of a guarantor (a "**Guarantor**"), Borrower will cause each Guarantor to take such steps, including, without limitation, the execution and recordation or filing, as applicable, of mortgages, deeds of trust, security agreements, pledge agreements, control agreements, financing statements, and amendments to any of the foregoing, and such other instruments and documents as Lender may require to enable Lender to obtain, perfect, and maintain a lien on such property, and the payment of any applicable mortgage recording, documentary stamp, or intangible taxes.

**2.4 Payments Generally.** The Borrower's obligation to repay each loan will be evidenced by a Promissory Note. Lender will maintain a record of all loans, the interest accrued thereon, and all payments made with respect thereto, and such record will, absent proof of manifest error, be conclusive evidence of the outstanding principal and interest on the loans. Payments under each Promissory Note will be made by wire transfer of immediately available funds, by check, or by automated clearing house (ACH) or other similar cash handling processes as specified by separate agreement between the Borrower and Lender. Wire transfers will be made to ABA No. 307088754 for advice to and credit of "CoBANK" (or to such other account as Lender may direct by notice). The Borrower will give Lender telephonic notice no later than 12:00 p.m. Denver, Colorado time on the day the Borrower intends to pay by wire of such intent, and funds received after 3:00 p.m. Denver, Colorado time will be credited on the next Business Day. Checks will be mailed to CoBANK, Department 167, Denver, Colorado 80291-0167 (or to such other place as Lender may direct by notice). Credit for payment by check will not be given until the later of the next Business Day after receipt of the check or the day on which Lender receives immediately available funds. If any installment of principal or interest is due on a date that is not a Business Day, then such installment will be due and payable on the next Business Day.

**2.5 Broken Funding Surcharge.** Notwithstanding the terms of any Promissory Note giving the Borrower the right to repay any loan prior to the date it would otherwise be due and payable, the Borrower agrees to provide three Business Days' prior written notice for any prepayment of a fixed rate



**Agreement No. 00086205SLA**

## **CREDIT AGREEMENT**

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### **RECITALS**

(A) The Borrower and Lender are parties to that certain Master Loan Agreement dated as of June 16, 2014 (as amended, the “**Existing Agreement**”). Pursuant to the terms of the Existing Agreement, the parties entered into one or more Supplement(s) and/or Promissory Note(s) and Supplement(s) thereunder (the “**Existing Promissory Note(s) and Supplement(s)**”). The Borrower and Lender now desire to amend and restate the Existing Agreement and to apply this Agreement to the Existing Promissory Note(s) and Supplement(s), as well as any new Promissory Note(s) that may be issued hereunder. For that reason and for valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the Borrower and Lender hereby agree that the Existing Agreement will be amended and restated by this Agreement.

In consideration of the agreements set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrower and Lender agree as follows:

**ARTICLE 1 Defined Terms; Accounting Principles.** Certain capitalized terms used in this Agreement bear the definitions given to them in this Agreement. References to accounting standards are to United States generally accepted accounting principles, or those required of the regulatory agency having jurisdiction over the Borrower, including but not limited to the system of accounts established by the United States Department of Agriculture acting through Rural Development or the Rural Utilities Service or their predecessors (“**RD/RUS**”), if applicable, or such other commission or body as may be agreeable to Lender (the “**Accounting Standards**”).

### **ARTICLE 2 The Facilities.**

**2.1 Promissory Note.** In the event the Borrower desires to borrow from Lender and Lender is willing to lend to the Borrower, or in the event the parties desire to consolidate any existing loans hereunder, the parties will enter into a promissory note (a “**Promissory Note**”). Each Promissory Note will set forth Lender’s commitment to make a loan or loans to the Borrower, the amount of the loan(s), the purpose of the loan(s), the interest rate or rate options applicable to the loan(s), the repayment terms of the loan(s), and any other terms and conditions applicable to the particular loan(s). Each Promissory Note will also contain the Borrower’s promise to make payments of interest on the unpaid principal balance of the loan(s), and fees and premiums, if any, and to repay the principal balance of the loan(s). Each loan will be governed by the terms and conditions contained in this Agreement and in the Promissory Note relating to that loan.

**2.2 Availability.** Loans will be made available on any day on which Lender and the Federal Reserve Banks are open for business (a “**Business Day**”) upon the telephonic or written request of an authorized employee of the Borrower. Requests for loans must be received by 12:00 p.m. Denver, Colorado time on the date the loan is desired. Loans will be made available by wire transfer of

LAKES REGION WATER CO., INC.  
Moultonboro, New Hampshire  
**Agreement No. 00086205SLA**

immediately available funds. Wire transfers will be made to such account or accounts as may be authorized by the Borrower.

**2.3 Security.** The Borrower's obligations under this Agreement and each Promissory Note will be secured by a statutory first lien on all equity that the Borrower may now own or hereafter acquire or be allocated in Lender. In addition, except as otherwise provided in a Promissory Note or in a closing instruction letter signed by the parties (an "**Instruction Letter**"), the Borrower's obligations hereunder and under each Promissory Note will be:

(a) secured by a first priority lien (subject only to exceptions approved in writing by Lender) on all real property of the Borrower determined by Lender to be primary property, and all personal property of the Borrower, whether now existing or hereafter acquired. The Borrower agrees to take such steps, including, without limitation, the execution and recordation or filing, as applicable, of mortgages, deeds of trust, security agreements, intercreditor or parity agreements, pledge agreements, control agreements, financing statements, and amendments to any of the foregoing, and such other instruments and documents as Lender may require to enable Lender to obtain, perfect, and maintain a lien on such property, and the payment of any applicable mortgage recording, documentary stamp, or intangible taxes; and

(b) guaranteed by an unsecured or secured, limited or continuing guarantee of payment, in form and substance and from such parties as may be required by Lender from time to time. If Lender requires such guarantee(s) to be secured by a lien on the real and/or personal property of a guarantor (a "**Guarantor**"), Borrower will cause each Guarantor to take such steps, including, without limitation, the execution and recordation or filing, as applicable, of mortgages, deeds of trust, security agreements, pledge agreements, control agreements, financing statements, and amendments to any of the foregoing, and such other instruments and documents as Lender may require to enable Lender to obtain, perfect, and maintain a lien on such property, and the payment of any applicable mortgage recording, documentary stamp, or intangible taxes.

**2.4 Payments Generally.** The Borrower's obligation to repay each loan will be evidenced by a Promissory Note. Lender will maintain a record of all loans, the interest accrued thereon, and all payments made with respect thereto, and such record will, absent proof of manifest error, be conclusive evidence of the outstanding principal and interest on the loans. Payments under each Promissory Note will be made by wire transfer of immediately available funds, by check, or by automated clearing house (ACH) or other similar cash handling processes as specified by separate agreement between the Borrower and Lender. Wire transfers will be made to ABA No. 307088754 for advice to and credit of "CoBANK" (or to such other account as Lender may direct by notice). The Borrower will give Lender telephonic notice no later than 12:00 p.m. Denver, Colorado time on the day the Borrower intends to pay by wire of such intent, and funds received after 3:00 p.m. Denver, Colorado time will be credited on the next Business Day. Checks will be mailed to CoBANK, Department 167, Denver, Colorado 80291-0167 (or to such other place as Lender may direct by notice). Credit for payment by check will not be given until the later of the next Business Day after receipt of the check or the day on which Lender receives immediately available funds. If any installment of principal or interest is due on a date that is not a Business Day, then such installment will be due and payable on the next Business Day.

**2.5 Broken Funding Surcharge.** Notwithstanding the terms of any Promissory Note giving the Borrower the right to repay any loan prior to the date it would otherwise be due and payable, the Borrower agrees to provide three Business Days' prior written notice for any prepayment of a fixed rate

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(c) **Waiver of Venue.** The Borrower acknowledges and agrees that the venue provided above is the most convenient forum for the Borrower and Lender. The Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Agreement.

(d) **Waiver of Jury Trial.** The Borrower and Lender each hereby irrevocably waives any right it may have to a trial by jury in connection with any action directly or indirectly arising out of or relating to this Agreement or any other Loan Document. Each party hereto (1) certifies that no representative, administrative agent or attorney of any other person has represented, expressly or otherwise, that such other person would not, in the event of litigation, seek to enforce the foregoing waiver and (2) acknowledges that it and the other parties hereto have been induced to enter into this Agreement and other Loan Documents by, among other things, the mutual waivers and certifications in this section.

**10.8 USA Patriot Act Notice.** Lender hereby notifies the Borrower that pursuant to the requirements of the USA Patriot Act, it is required to obtain, verify, and record information that identifies the Borrower in accordance with the USA Patriot Act. The Borrower covenants and agrees it will not, and agrees to cause each of its subsidiaries not to, at any time, directly or indirectly be (a) a person with whom Lender is restricted from doing business under any Anti-Terrorism Law, (b) engaged in any business involved in making or receiving any contribution of funds, goods or services to or for the benefit of such a person or in any transaction that evades or avoids, or has the purpose of evading or avoiding, the prohibitions set forth in any Anti-Terrorism Law, or (c) otherwise in violation of any Anti-Terrorism Law (the Borrower will and will cause each of its subsidiaries to provide to Lender any certifications or information that Lender requests to confirm compliance by the Borrower and its subsidiaries with any Anti-Terrorism Law). “**Anti-Terrorism Law**” means any Law relating to terrorism or money laundering, including Executive Order No. 13224, the USA Patriot Act, the Laws comprising or implementing the Bank Secrecy Act, and the Laws administered by the United States Treasury Department’s Office of Foreign Asset Control, as any of the foregoing Laws may from time to time be amended, renewed, extended, or replaced.

**SIGNATURE PAGE FOLLOWS**

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balance and to pay to Lender a broken funding surcharge in the amount set forth below in the event the Borrower: (a) repays any fixed rate balance prior to the last day of its fixed rate period (whether such payment is made voluntarily, as a result of an acceleration, or otherwise); (b) converts any fixed rate balance to another fixed rate or to a variable rate prior to the last day of the fixed rate period applicable to such balance; or (c) fails to borrow any fixed rate balance on the date scheduled therefor. The surcharge will be in an amount equal to the greater of (1) the sum of: (i) the present value of any funding losses imputed by Lender to have been incurred as a result of such payment, conversion or failure; plus (ii) a per annum yield of 0.50% of the amount repaid, converted or not borrowed for the period such amount was scheduled to have been outstanding at such fixed rate, or (2) \$300.00. Any surcharge will be determined and calculated in accordance with methodology established by Lender, a copy of which will be made available upon request. Notwithstanding the foregoing, in the event of a conflict between the provisions of this section and of the broken funding charge section of a forward fix agreement between Lender and the Borrower, the provisions of the forward fix agreement will control.

**2.6 Taxes; Change in Law.** Any payment by the Borrower to Lender will be made net of any taxes (other than income and similar taxes imposed on or measured by Lender's overall net income). If any change in any law, rule, regulation, code, ordinance, order or the like to which the Borrower is subject, including, without limitation, all laws relating to environmental protection, and taxes (collectively, "**Laws**"), increases the cost of making or maintaining any loan (or any associated commitment to lend), or reduces the amount received or receivable by Lender hereunder then, upon request, the Borrower will pay to Lender such additional amount as will compensate Lender for such additional costs incurred or reduction suffered.

### **ARTICLE 3 Conditions Precedent.**

**3.1 Conditions to Initial Promissory Note.** Lender's obligation to extend credit under the initial Promissory Note hereunder is subject to the condition precedent that Lender receive, in form and substance satisfactory to Lender, each of the following, except as otherwise provided in the Promissory Note or in an Instruction Letter:

(a) **This Agreement.** A duly executed copy of this Agreement, the other Loan Documents (as defined below), the Instruction Letter accompanying this Agreement, and all instruments and documents contemplated hereby and thereby.

(b) **Banking Service Agreements.** A duly completed and executed copy of any banking service agreement, including any agreement relating to the provision by Lender of cash management services, required by Lender from time to time. Lender will be entitled to rely on (and will incur no liability to the Borrower in acting on) any request or direction furnished in accordance with the terms thereof.

**3.2 Conditions to Each Promissory Note.** Lender's obligations to extend credit under each Promissory Note hereunder, including the initial Promissory Note, is subject to the condition precedent that Lender receive, in form and substance satisfactory to Lender, each of the following, except as otherwise provided in the Promissory Note or in an Instruction Letter:

(a) **Promissory Note.** A duly executed copy of the Promissory Note and all instruments and documents contemplated by the Promissory Note.

(b) **Instruction Letter.** Any and all items or requirements detailed in an Instruction Letter.

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(c) **Evidence of Perfection.** Such evidence as Lender may require that it has duly perfected liens as required under this Agreement.

(d) **Evidence of Authority.** Such certified board resolutions, certificates of incumbency, and other evidence that Lender may require that the Promissory Note, all instruments and documents executed in connection therewith, and, in the case of the initial Promissory Note hereto, this Agreement, the other Loan Documents (as defined below) and all instruments and documents executed in connection herewith and therewith, including any security documents, have been duly authorized and executed.

(e) **Fees and Other Charges.** Any fees or other charges provided for herein, in the Promissory Note or in any invoice provided by Lender.

(f) **Insurance.** Such evidence as Lender may require that the Borrower is in compliance with Section 5.4 below.

(g) **Consents and Approvals.** Evidence as Lender may require that all regulatory and other consents and approvals referred to in Section 4.6 below have been obtained and are in full force and effect.

(h) **Opinion of Counsel.** An opinion of counsel to the Borrower (which counsel must be acceptable to Lender).

**3.3 Conditions to Each Loan.** Lender's obligation under each Promissory Note to make any loan to the Borrower thereunder is subject to the condition that no "**Event of Default**" (as defined in Section 8.1 below) or event that, with the giving of notice and/or the passage of time and/or the occurrence of any other condition, would ripen into an Event of Default (a "**Potential Default**") will have occurred and be continuing or would be caused by the making of such loan.

**ARTICLE 4 Representations and Warranties.** The execution by the Borrower of this Agreement and each Promissory Note hereunder, or any renewal or extension by Lender of any Promissory Note hereunder, will constitute a representation and warranty by the Borrower that:

**4.1 Instruction Letter; Loan Documents.** Each representation and warranty and all information set forth in any Instruction Letter and/or any of the Loan Documents (as defined below) and/or any other document submitted in connection with, or to induce Lender to enter into, such Promissory Note is correct in all material respects as of the date of such Promissory Note.

**4.2 Compliance; Legal Proceedings.** The Borrower and its subsidiaries and all property owned or leased or proposed to be acquired with the proceeds of any Promissory Note hereunder by the Borrower and/or its subsidiaries and all of its/their operations are in compliance with all applicable Laws and the terms of the Loan Documents and no Event of Default or Potential Default exists or is continuing. In addition, there are no pending legal, arbitration, or governmental actions or proceedings to which the Borrower or any subsidiary is a party or to which any of its or any subsidiaries' property is subject which, if adversely determined, might have a material adverse effect on the financial condition, operations, properties, profits, or business of the Borrower or any subsidiary, and to the best of the Borrower's knowledge, no such actions or proceedings are threatened or contemplated.

**4.3 Organization; Good Standing.** The Borrower (a) is duly organized, validly existing and in good standing under the Laws of its jurisdiction of organization, (b) has the lawful power to own or

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lease its properties and to engage in the business it conducts or proposes to conduct, and (c) is duly qualified and in good standing in each jurisdiction where the property owned or leased by it or the nature of the business transacted by it makes such qualification necessary.

**4.4 Binding Agreement.** The Loan Documents constitute legal, valid, and binding obligations of the Borrower that are enforceable in accordance with their terms.

**4.5 Conflicting Agreements.** Neither this Agreement nor any Promissory Note, or other instrument or document securing or otherwise relating hereto or to any Promissory Note (each a “**Loan Document**” and collectively, at any time, the “**Loan Documents**”) conflicts with, or constitutes (with or without the giving of notice and/or the passage of time and/or the occurrence of any other condition) a default under, any other agreement to which the Borrower is a party or by which it or any of its property may be bound or affected, and does not conflict with any provision of its bylaws, articles of incorporation or other organizational documents.

**4.6 Consents and Approvals.** No consent, permission, authorization, order or license of any governmental authority or of any party to any agreement to which the Borrower is a party or by which it or any of its property may be bound or affected, is necessary in connection with the project, acquisition or other activity being financed by such Promissory Note, or the execution, delivery, performance or enforcement of any Loan Document, except as have been obtained and are in full force and effect.

**4.7 Budgets; Full Disclosure.** All budgets, projections, feasibility studies, and other documentation submitted by the Borrower to Lender in connection with, or to induce Lender to enter into, such Promissory Note are based upon assumptions that are reasonable and realistic, and as of the date of such Promissory Note, no fact has come to light, and no event has occurred, that would cause any assumption made therein to not be reasonable or realistic. No Loan Document or other certificate, statement, agreement, or document furnished to Lender in connection with this Agreement or any other Loan Document (a) contains any untrue statement of a material fact, or (b) fails to state a material fact necessary in order to make the statements contained herein or therein, in light of the circumstances under which they were made, not misleading. The Borrower is not aware of any Material Adverse Change that has not been disclosed in writing to Lender. A “**Material Adverse Change**” means any material adverse change, as reasonably determined by Lender, in the condition, financial or otherwise, operations, business, liabilities (actual or contingent) or properties of the Borrower or in its ability to perform its obligations hereunder, under any security instrument or document, or under any other Loan Document.

**4.8 Accurate Financial Information.** Each submission of financial information or documents relating to the Borrower will constitute a representation and warranty by the Borrower that such information and documents (a) are true and accurate in all material respects, and (b) do not fail to state a material fact necessary in order to make the statements contained therein, in light of the circumstances under which they were made, not misleading.

**4.9 ERISA.** The Borrower and its subsidiaries are in compliance in all material respects with the applicable provisions of the Employee Retirement Income Security Act of 1974, and the regulations and published interpretations thereunder from time to time (“**ERISA**”).

**4.10 Margin Stock.** The Borrower is not engaged or intends to engage principally, or as one of its important activities, in the business of extending credit for the purpose, immediately, incidentally or ultimately, of purchasing or carrying margin stock (within the meaning of Regulation U, T or X as promulgated by the Board of Governors of the Federal Reserve System of the United States of America

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(the "Board")). No part of the proceeds of any loan made by Lender to the Borrower has been or will be used, immediately, incidentally or ultimately, to purchase or carry any margin stock or to extend credit to others for the purpose of purchasing or carrying any margin stock or in any way that is inconsistent with the provisions of the regulations of the Board. The Borrower or any subsidiary, if any, of the Borrower holds or intends to hold margin stock in such amounts that more than 25% of the reasonable value of the assets of the Borrower or subsidiary, if any, of the Borrower are or will be represented by margin stock.

**4.11 Water Rights and System Condition.** The Borrower has water rights with such amounts, priorities and qualities as are necessary to service adequately the Borrower's customers and members. The Borrower controls, owns, or has access to all such water rights free and clear of the interest of any third party and has not suffered or permitted any transfer or encumbrance of such water rights, has not abandoned such water rights, or any of them, and has not done any act or thing which would impair or cause the loss of any such water rights. The Borrower's utility facilities reasonably meet present demand in all material respects, are constructed in a good and professional manner, are in good working order and condition, and comply in all material respects with all applicable law.

**4.12 Rate Matters.** The Borrower's rates for the provision of water have been approved, if applicable, by any and all necessary governmental regulatory authorities, including, without limitation, each public service commission or public utilities commission that may have jurisdiction over the operations and rates of the Borrower. Further, there is no pending, and to the Borrower's knowledge, no threatened proceeding before any governmental authority, the objective or result of which is or could be to materially reduce or otherwise materially adversely change any of the Borrower's rates for the provision of water and/or waste water services, or otherwise have a material adverse effect on the condition, financial or otherwise, operations, properties, or business of the Borrower.

**ARTICLE 5 Affirmative Covenants.** Unless otherwise agreed to in writing by Lender, while this Agreement is in effect, the Borrower agrees to, and with respect to Sections 5.3, 5.4, 5.5, and 5.8, agrees to cause each subsidiary, if any, to:

**5.1 Reports and Notices.** Furnish to Lender:

(a) **Annual Financial Statements.** As soon as available, but in no event more than 120 days after the end of each fiscal year of the Borrower occurring during the term hereof, annual consolidated and consolidating financial statements of the Borrower and its consolidated subsidiaries, if any, prepared in accordance with the Accounting Standards. Such financial statements will: (1) be compiled by independent certified public accountants selected by the Borrower and acceptable to Lender; (2) be accompanied by a compilation report of such accountants containing an opinion thereon acceptable to Lender; (3) be prepared in reasonable detail and in comparative form; and (4) include a balance sheet, a statement of income, a statement of retained earnings, a statement of cash flows, and all notes and schedules relating thereto.

(b) **Interim Financial Statements.** Such interim financial statements as Lender may from time to time request, which statements must be prepared on an unconsolidated basis in accordance with the Accounting Standards and, if required by written notice from Lender, (1) on a consolidated and consolidating basis for the Borrower and its consolidated subsidiaries, if any, in accordance with the Accounting Standards, and/or (2) certified by an authorized officer or employee of the Borrower acceptable to Lender.

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(c) **Notice of Default.** Promptly after becoming aware thereof, notice of the occurrence of an Event of Default or a Potential Default, including, without limitation, any error in the Borrower's financial information previously provided to Lender and the occurrence of any breach, default, event of default or event that, with the giving of notice and/or the passage of time and/or the occurrence of any other condition, would become a breach, default or event of default under any loan agreement, indenture, mortgage, or other credit or security agreement or instrument to which the Borrower is a party or by which it or any of its property may be bound or affected.

(d) **Notice of Litigation, Environmental Matters, Etc.** Promptly after becoming aware thereof, notice of: (1) the commencement of any action, suit or proceeding before any court, arbitrator or governmental department, commission, board, bureau, agency, or instrumentality having jurisdiction over the Borrower, that, if adversely decided, could result in a Material Adverse Change; (2) the receipt of any notice, indictment, pleading or other communication alleging a condition that may require the Borrower to undertake or to contribute to a clean-up or other response under any environmental Law, or that seeks penalties, damages, injunctive relief, criminal sanctions or other relief as a result of an alleged violation of any such Law, or that claims personal injury or property damage as a result of environmental factors or conditions; and (3) any matter that could cause a Material Adverse Change, including any decision of any regulatory authority or commission.

(e) **Notice of Certain Events.** (1) Notice at least 30 days prior thereto, of any change in the Borrower's name or corporate structure; (2) notice at least 30 days prior thereto, of any change in the Borrower's organizational documents which changes must be approved in writing by Lender in its reasonable discretion; (3) notice at least 30 days prior thereto, of any change in the principal place of business of the Borrower or the office where its records concerning its accounts are kept; and (4) as soon as available after any changes thereto, copies of the Borrower's organizational documents certified by the Borrower's Secretary or equivalent officer acceptable to Lender.

**5.2 Instruction Letter.** Comply with any and all requirements detailed in an Instruction Letter.

**5.3 Corporate Existence, Etc.** Preserve and keep in full force and effect its existence and good standing in the jurisdiction of its incorporation or formation, qualify and remain qualified to transact business in all jurisdictions where such qualification is required, and obtain and maintain all licenses, certificates, permits, authorizations, approvals, and the like that are material to the conduct of its business or required by any Law.

**5.4 Insurance.** Maintain insurance with reputable and financially sound insurance companies or associations, including self-insurance to the extent customary, acceptable to Lender in such amounts and covering such risks as are usually carried by companies engaged in the same or similar business and similarly situated, and make such increases in the type or amount of coverage as Lender may reasonably request. All such policies insuring any collateral for the Borrower's obligations to Lender will have additional insured, mortgagee and lender's loss payee clauses or endorsements, as applicable, in form and substance satisfactory to Lender. At Lender's request, the Borrower agrees to deliver to Lender such proof of compliance with this section as Lender may require.

**5.5 Property Maintenance.** Maintain in good repair, working order and condition (ordinary wear and tear excepted) in accordance with the general practice of other businesses of similar character and size, all of those properties useful or necessary to its business, and make all alterations, replacements,

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and improvements thereto as may from time to time be necessary in order to ensure that its properties remain in good working order and condition. The Borrower agrees that at Lender's request, which request may not be made more than once a year, the Borrower will furnish to Lender a report on the condition of the Borrower's property prepared by a professional engineer satisfactory to Lender.

**5.6 Inspection.** Permit Lender or its agents, upon reasonable notice and during normal business hours or at such other times as the parties may agree, to inspect and visit any of its properties, examine and make excerpts from its books and records, and to discuss its business affairs, finances and accounts with its officers, directors, employees, and independent certified public accountants and to conduct reviews of any collateral.

**5.7 Books and Records.** Maintain and keep proper books and records of account in which full, true and correct entries of all its dealings, business and financial affairs will be made in accordance with the Accounting Standards.

**5.8 Compliance With Laws.** Comply in all material respects with all Laws and any patron or member investment program applicable to the Borrower. In addition, the Borrower agrees to cause all persons occupying or present on any of its properties to comply in all material respects with all Laws relating to such properties.

**5.9 Further Assurances and Other Information.** From time to time and at its expense, execute and deliver such documents and do such other acts and things as Lender in its sole discretion may deem necessary or advisable from time to time in order to more fully carry out the provisions and purpose of the Loan Documents, including delivery of such other information regarding the condition or operations, financial or otherwise, of the Borrower as Lender may from time to time reasonably request, including, but not limited to, copies of all pleadings, notices and communications referred to in Section 5.1(d) above.

**5.10 Capital.** Maintain its status as an entity eligible to borrow from Lender and acquire equity in Lender in such amounts and at such times as Lender may from time to time require in accordance with its Bylaws and Capital Plan (as each may be amended from time to time), except that the maximum amount of equity that the Borrower may be required to purchase in connection with a loan may not exceed the maximum amount permitted by the Bylaws at the time the Promissory Note relating to such loan is entered into or such loan is renewed or refinanced by Lender. The rights and obligations of the parties with respect to such equity and any patronage or other distributions made by Lender will be governed by Lender's Bylaws and Capital Plan (as each may be amended from time to time).

**5.11 Delivery of Original Loan Documents.** If copies of any executed Loan Documents are delivered to Lender as provided in Article 3 above, immediately deliver to Lender the original executed versions of such Loan Documents.

**5.12 Indemnity for Taxes.** At all times indemnify and hold and save Lender harmless from and against any and all actions or causes of action, claims, demands, liabilities, loss, damage or expense of whatsoever kind and nature incurred by Lender as a result of the non-payment of any documentary stamp tax, intangible tax, interest or penalties associated therewith or any other local, state or federal assessment required to be paid, but not paid in conjunction with the indebtedness evidenced by the Loan Documents. The Borrower agrees to pay to Lender, its successors and assigns, all sums of money requested by Lender hereunder within ten days of such request, which Lender will or may advance, pay or cause to be paid, or become liable to pay, on account of or in connection with failure to pay as required by

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the regulations of the governmental authority so imposing said payment. Lender will be entitled to charge for any and all disbursements made by it in good faith, under the reasonable belief that it or the Borrower is or was liable for the amount so assessed. Any default by the Borrower in making any payments required under this covenant will constitute a payment Event of Default under the Loan Documents and Lender may, at its option, declare the entire amount of principal plus accrued interest thereon due and payable without notice or demand.

**5.13 ERISA.** The Borrower and its subsidiaries, for so long as this Agreement remains outstanding, will remain in compliance in all material respects with the applicable provisions of **ERISA**, the failure to comply with which has or may cause a Material Adverse Change.

**5.14 Water Rights and/or Supplies.** Maintain or procure water rights and/or supplies with such amounts, priorities and qualities as are necessary to service adequately the Borrower's customers and members. The Borrower will continue to control, own or have access to all such water rights and/or supplies free and clear of the interest of any third party, will not suffer or permit any transfer or encumbrance of such water rights and/or supplies, will not abandon such water rights and/or supplies, or any of them, and will not do any act or thing that would impair or cause the loss of any such water rights and/or supplies.

**ARTICLE 6 Negative Covenants.** Unless otherwise agreed to in writing by Lender, while this Agreement is in effect, the Borrower will not:

**6.1 Other Indebtedness.** Create, incur, assume or allow to exist, directly or indirectly, any indebtedness or liability for borrowed money (including trade or bankers' acceptances), letters of credit, or for the deferred purchase price of property or services (including leases that should be capitalized on the books of the lessee in accordance with the Accounting Standards), except for:

- (a) debt to Lender.
- (b) accounts payable to trade creditors incurred in the ordinary course of business.
- (c) current operating liabilities (other than for borrowed money) incurred in the ordinary course of business.
- (d) purchase money security indebtedness and capitalized leases, provided that such indebtedness does not exceed 100.000% of the purchase price of the asset(s) being acquired and the aggregate amount of such indebtedness does not exceed \$250,000.00 outstanding at any one time.

**6.2 Contingent Liabilities.** Assume, guarantee, become liable as a surety, endorse, contingently agree to purchase, or otherwise be or become liable, directly or indirectly (including, but not limited to, by means of a maintenance agreement, an asset or stock purchase agreement, or any other agreement designed to ensure any creditor against loss), for or on account of the obligation of any person or entity, except by the endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of the Borrower's business.

**6.3 Liens.** Create, incur, assume, or allow to exist any mortgage, deed of trust, pledge, lien (including the lien of an attachment, judgment, or execution), security interest, or other encumbrance of any kind upon any of its property, real or personal (collectively, "**Liens**"). The foregoing restrictions will not apply to:

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- (a) Liens in favor of Lender.
- (b) Liens for taxes, assessments, or governmental charges that are not past due.
- (c) pledges and deposits under workers' compensation, unemployment insurance, and social security Laws.
- (d) pledges and deposits to secure the performance of bids, tenders, contracts (other than contracts for payment of money), and like obligations arising in the ordinary course of business as conducted on the date hereof.
- (e) Liens imposed by Law in favor of mechanics, material suppliers, warehouses, and like persons that secure obligations that are not past due.
- (f) easements, rights-of-way, restrictions, and other similar encumbrances that, in the aggregate, do not materially interfere with the occupation, use, and enjoyment of the property or assets encumbered thereby in the normal course of business or materially impair the value of the property subject thereto.
- (g) purchase money and capital lease Liens to secure indebtedness permitted hereunder.

**6.4 Transactions with Affiliates.** Enter into any transaction with any affiliate except in the ordinary course of and pursuant to the reasonable requirements of its business and upon fair and reasonable terms no less favorable to it than it would obtain in a comparable arm's-length transaction with a person or entity that was not an affiliate.

**6.5 Loans and Investments.** Make any loan or advance to, or make any investment in, or make any capital contribution to, or purchase or make any commitment to purchase any stock, bonds, notes or other securities of any person or entity, except for:

- (a) securities or deposits issued, guaranteed or fully insured as to payment by the United States of America or any agency thereof.
- (b) equity in, or obligation of, Lender.

**6.6 Dividends and Distributions.** Declare or pay any dividends or make any other distribution of assets to shareholders of the Borrower, or retire, redeem, purchase or otherwise acquire for value any capital stock of the Borrower, except that as long as no Event of Default or Potential Default exists or would result therefrom (including without limitation under Article 7 hereof) the Borrower may, in any fiscal year, make Distributions limited to net income.

**6.7 Mergers, Acquisitions, Etc.** Merge or consolidate with any other entity or acquire all or a material part of the assets of any other person or entity, or form or create any new subsidiary, or commence operations under any other name, organization, or entity, including any joint venture.

**6.8 Transfer of Assets.** Sell, transfer, lease, or otherwise dispose of any of its assets, except: (a) in the ordinary course of business; and (b) the sale, transfer or disposal of any obsolete or worn-out assets that are no longer necessary or required in the conduct of the Borrower's business.

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**6.9 Change in Business.** Engage in any business activities or operations substantially different from or unrelated to the Borrower's present business activities or operations.

**6.10 Use of Proceeds.** Use the proceeds of any loan made by Lender to the Borrower, whether directly or indirectly, and whether immediately, incidentally or ultimately, to purchase or carry margin stock (within the meaning of Regulation U of the Board) or to extend credit to others for the purpose of purchasing or carrying margin stock or to refund indebtedness originally incurred for such purpose.

**ARTICLE 7 Financial Covenants.** Unless otherwise agreed to in writing by Lender, while this Agreement is in effect:

**7.1 Debt Service Coverage Ratio.** The Borrower and its consolidated subsidiaries, if any, will have at the end of each fiscal year of the Borrower a Debt Service Coverage Ratio (as defined below) for such year of not less than 1.50 to 1.00. For purposes hereof, the term "**Debt Service Coverage Ratio**" means the ratio of: (a) net income (after taxes and after eliminating any gain or loss on sale of assets or other extraordinary gain or loss), plus depreciation expense, amortization expense, and interest expense, minus non-cash patronage, and non-cash income from subsidiaries and/or joint ventures, and grant income; to (b) all principal payments due within the period on all Long-Term Debt (as defined below) plus interest expense (all as calculated on a consolidated basis for the applicable period in accordance with the Accounting Standards). For purposes hereof, "**Long-Term Debt**" means, for the Borrower, on a consolidated basis, the sum of (1) all indebtedness for borrowed money, (2) obligations that are evidenced by notes, bonds, debentures or similar instruments, and (3) that portion of obligations with respect to capital leases or other capitalized agreements that are properly classified as a liability on the balance sheet in conformity with Accounting Standards or that are treated as operating leases under regulations applicable to them but that otherwise would be required to be capitalized under Accounting Standards, in each case having a maturity of more than one year from the date of its creation or having a maturity within one year from such date but that is renewable or extendible, at the Borrower's option, to a date more than one year from such date or that arises under a revolving credit or similar agreement that obligates the lender(s) to extend credit during a period of more than one year from such date, including all current maturities in respect of such indebtedness whether or not required to be paid within one year from the date of its creation.

**7.2 Total Debt to Total Capitalization.** The Borrower and its consolidated subsidiaries, if any, will have at the end of each fiscal year of the Borrower a ratio of Total Debt to Total Capitalization (each as defined below) of not greater than 0.60 to 1.00 (all as determined in accordance with the Accounting Standards). If the denominator in the ratio is less than 0.00, the Borrower will be deemed in non-compliance with this covenant. For purposes hereof: (a) "**Total Capitalization**" means Total Debt plus Net Worth (both as defined below); (b) "**Total Debt**" means all debt of the Borrower, and its consolidated subsidiaries, if any, including obligations pursuant to patron investment program; and (c) "**Net Worth**" means total assets less total liabilities, except that in determining Total Capitalization, contributions in aid of construction, advances for construction, customer deposits, or similar items reducing rate base calculations will be excluded.

**ARTICLE 8 Default.**

**8.1** Each of the following will constitute an "Event of Default" hereunder:

(a) **Payment Default.** The Borrower should fail to make any payment to Lender when due.

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(b) **Representations and Warranties.** Any representation, warranty, certification or statement of fact made at any time by the Borrower, herein or in any other Loan Document, or in any certificate, other instrument or statement furnished to Lender by or on behalf of the Borrower, will have been false or misleading in any material respect as of the time it was made or furnished.

(c) **Covenants.** The Borrower will default in the observance or performance of any covenant set forth in Article 5 (other than Sections 5.1(c), 5.1(d), 5.1(e)(1), 5.1(e)(2), and 5.2 above), and such default continues for 30 days after written notice thereof will have been delivered to the Borrower by Lender.

(d) **Other Covenants and Agreements.** The Borrower will default in the observance or performance of Sections 5.1(c), 5.1(d), 5.1(e)(1), 5.1(e)(2), and 5.2 or any other covenant or agreement contained herein or in any other Loan Document or if Borrower uses the proceeds of any loan for any unauthorized purpose.

(e) **Cross Default.** The Borrower should, after any applicable grace period, breach or be in default under the terms of any other Loan Document (including, without limitation, any security instrument or document) or any other agreement between the Borrower and Lender, or between the Borrower and any affiliate of Lender, including without limitation Farm Credit Leasing Services Corporation.

(f) **Other Indebtedness.** The Borrower should fail to pay when due any indebtedness to any other person or entity for borrowed money or any long-term obligation for the deferred purchase price of property (including any capitalized lease), or any other event occurs that, under any agreement or instrument relating to such indebtedness or obligation, has the effect of accelerating or permitting the acceleration of such indebtedness or obligation, whether or not such indebtedness or obligation is actually accelerated or the right to accelerate is conditioned on the giving of notice, the passage of time, or otherwise.

(g) **Judgments.** A judgment, decree, or order for the payment of money will have been rendered against the Borrower and either: (1) enforcement proceedings will have been commenced; (2) a Lien prohibited by this Agreement, any security instrument, or any other Loan Document, will have been obtained; or (3) such judgment, decree, or order will continue unsatisfied and in effect for a period of 30 consecutive days without being vacated, discharged, satisfied, bonded, or stayed pending appeal.

(h) **Loan Document Unenforceable.** Any of the Loan Documents ceases to be a legal, valid, and binding agreement enforceable against the Borrower or any Guarantor, if any or is in any way terminated (except in accordance with its terms) or becomes or is declared ineffective or inoperative.

(i) **Revocation of Guaranty.** Any guaranty, suretyship, subordination agreement, maintenance agreement, or other agreement furnished in connection with the Borrower's obligations hereunder and under any Promissory Note will, at any time, cease to be in full force and effect, or will be revoked or declared null and void, or the validity thereof will be contested by the Guarantor, surety or other maker thereof, or the Guarantor will deny any further liability or obligations thereunder, or will fail to perform its obligations thereunder, or any representation or warranty set forth therein will be breached, or the Guarantor will breach or be in default under the terms of any other agreement with Lender (including any loan agreement or security agreement), or a default set forth in sections (f) through (h) will occur with respect to the Guarantor.

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(j) **Insolvency, Etc.** The Borrower will: (1) become insolvent or will generally not, or will be unable to, or will admit in writing its inability to, pay its debts as they become due; or (2) suspend its business operations or a material part thereof or make an assignment for the benefit of creditors; or (3) apply for, consent to, or acquiesce in the appointment of a trustee, receiver, or other custodian for it or any of its property; or (4) have commenced against it any action or proceeding for the appointment of a trustee, receiver, or other custodian and such action or proceeding is not dismissed within 30 days of the date thereof, or a trustee, receiver, or other custodian is appointed for all or any part of its property; or (5) receive notice from any regulatory or governmental authority to the effect that such authority intends to replace the management of the Borrower or assume control over the Borrower; or (6) commence or have commenced against it any proceeding under any bankruptcy, reorganization, arrangement, readjustment of debt, dissolution, or liquidation law of any jurisdiction.

(k) **Material Adverse Change.** Any Material Adverse Change occurs, as reasonably determined by Lender.

**8.2 Remedies.** Upon the occurrence and during the continuance of an Event of Default or Potential Default, Lender will have no obligation to extend or continue to extend credit to the Borrower and may discontinue doing so at any time without prior notice or other limitation. In addition, upon the occurrence and during the continuance of any Event of Default, Lender may, upon notice to the Borrower:

(a) **Termination and Acceleration.** Terminate any commitment and declare the unpaid principal balance of the loans, all accrued interest thereon, and all other amounts payable under this Agreement, each Promissory Note, and all other Loan Documents to be immediately due and payable. Upon such a declaration, the unpaid principal balance of the loans and all such other amounts will become immediately due and payable, without protest, presentment, demand, or further notice of any kind, all of which are hereby expressly waived by the Borrower.

(b) **Enforcement.** Proceed to protect, exercise, and enforce such rights and remedies as may be provided by this Agreement, any security instrument or document, any other Loan Document, or under Law. Each and every one of such rights and remedies will be cumulative and may be exercised from time to time, and no failure on the part of Lender to exercise, and no delay in exercising, any right or remedy will operate as a waiver thereof, and no single or partial exercise of any right or remedy will preclude any future or other exercise thereof, or the exercise of any other right. Without limiting the foregoing, Lender may hold and/or set off and apply against the Borrower's obligations to Lender the proceeds of any equity in Lender, any cash collateral held by Lender, or any balances held by Lender for the Borrower's account (whether or not such balances are then due).

(c) **Application of Funds.** Lender may apply all payments received by it to the Borrower's obligations to Lender in such order and manner as Lender may elect in its sole discretion.

(d) **Interest upon default.** In addition to the rights and remedies set forth above and notwithstanding any Promissory Note: (1) upon the occurrence and during the continuance of an Event of Default, at Lender's option in each instance, the entire indebtedness outstanding hereunder and under each Promissory Note will bear interest from the date of such Event of Default until such Event of Default will have been waived or cured in a manner satisfactory to Lender at 4.00% per annum in excess of the rate(s) of interest that would otherwise be in effect on that loan under the terms of the applicable Promissory Note; and (2) after the maturity of any loan (whether as a result of acceleration or otherwise), the unpaid principal balance of such loan (including without limitation, principal, interest, fees and

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expenses) will automatically bear interest at 4.00% per annum in excess of the rate(s) of interest that would otherwise be in effect on that loan under the terms of the Promissory Note. All interest provided for herein will be payable on demand and will be calculated on the basis of a year consisting of 360 days.

## **ARTICLE 9 Expenses; Indemnification; Damage Waiver.**

**9.1 Costs and Expenses.** To the extent allowed by Law, the Borrower agrees to pay all reasonable out-of-pocket costs and expenses (including the fees and expenses of counsel retained or employed by Lender) incurred by Lender and any participants of Lender in connection with the origination, administration, collection and enforcement of this Agreement and the other Loan Documents, including, without limitation, all costs and expenses incurred in obtaining, perfecting, maintaining, determining the priority of, and releasing any security for the Borrower's obligations to Lender, and any stamp, intangible, transfer or like tax incurred in connection with this Agreement or any other Loan Document or the recording hereof or thereof.

**9.2 Indemnification.** The Borrower indemnifies Lender, its affiliates and its and their respective officers, directors, employees, agents and advisors (each an "**Indemnitee**") against, and holds each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses (including fees and expenses of employed or retained counsel) incurred by any Indemnitee or asserted against any Indemnitee by any third party arising out of or as a result of (a) the execution or delivery of any Loan Document, the performance or nonperformance by the Borrower of its obligations under any Loan Document or the consummation of the transactions contemplated thereby, including the use of the proceeds therefrom, (b) breach of representations, warranties or covenants of the Borrower under any Loan Document, or (c) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, including any such items or losses relating to or arising under environmental Laws or pertaining to environmental matters, regardless whether any Indemnitee is a party thereto; provided that such indemnity will not, as to an Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses are determined by a court of competent jurisdiction by a final and nonappealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnitee.

**9.3 Waiver of Consequential Damages.** To the fullest extent permitted by applicable Law, the Borrower will not assert, and hereby waives, any claim against any Indemnitee, on any theory of liability, for special, indirect, consequential or punitive damages arising out of, in connection with, or as a result of, any Loan Document, the transactions contemplated thereby or the use of the proceeds thereof.

## **ARTICLE 10 Miscellaneous.**

**10.1 Amendments; Waivers; Etc.** No amendment, modification, or waiver of any provision of this Agreement or the other Loan Documents, and no consent to any departure by the Borrower herefrom or therefrom, will be effective unless approved by Lender and contained in a writing signed by or on behalf of Lender, and then such waiver or consent will be effective only in the specific instance and for the specific purpose for which given. In the event this Agreement is amended or restated, each such amendment or restatement will be applicable to all Promissory Notes hereto.

**10.2 Notices.** All notices hereunder will be in writing and will be deemed to have been duly given when addressed to the party intended to receive the same at the address of such party set forth below (or such other address either party may specify by like notice), (a) upon delivery if personally

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delivered to a party at such address, (b) three days after the same is deposited in the United States mail as first class, certified mail, return receipt requested, postage paid, (c) one business day after the same has been deposited with Federal Express or another nationally recognized overnight courier service if designated for next-day delivery, and (d) upon delivery if sent by facsimile or electronic mail with confirmation of delivery of the same:

If to Lender, as follows:

For general correspondence purposes:  
P.O. Box 5110  
Denver, Colorado 80217-5110

For direct delivery purposes, when desired:  
6340 South Fiddlers Green Circle  
Greenwood Village, Colorado 80111-1914

Attention: Credit Information Services  
Fax No.: (303) 224-6101

If to the Borrower, as follows:

LAKES REGION WATER CO., INC.  
P.O. Box 389  
Moultonboro, New Hampshire 03254

420 Governor Wentworth Hwy  
Moultonboro, New Hampshire 03254

Attention: Manager  
Fax No.: (603) 476-2721

**10.3 Survival.** Notwithstanding anything to the contrary in this or any other Loan Document, Sections 5.12, 8.2, all of Article 9, and Section 10.7 will survive the termination of this Agreement, repayment of every Promissory Note, and the foreclosure, or any other enforcement action, of any and all security pledged pursuant to Section 2.3 above. The representations, warranties, acknowledgments, and agreements set forth herein will survive the date of this Agreement, but not its termination unless otherwise agreed.

**10.4 Effectiveness and Severability.** This Agreement will continue in effect until: (a) all indebtedness and obligations of the Borrower under this Agreement and the other Loan Documents have been paid or satisfied; (b) Lender has no commitment to extend credit to or for the account of the Borrower under any Promissory Note; and (c) either party sends written notice to the other party terminating this Agreement. Any provision of this Agreement or any other Loan Document that is prohibited or unenforceable in any jurisdiction will be ineffective to the extent of such prohibition or unenforceable without invalidating the remaining provisions hereof or thereof.

**10.5 Successors and Assigns.**

(a) **Successors and Assigns Generally.** This Agreement and the other Loan Documents will be binding upon and inure to the benefit of the Borrower and Lender and their respective successors and assigns, except that the Borrower may not assign or transfer its rights or obligations under this Agreement or the other Loan Documents without the prior written consent of Lender.

(b) **Participations, Etc.** From time to time, Lender may sell to one or more banks, financial institutions, or other lenders a participation in one or more of the loans or other extensions of credit made pursuant to this Agreement. However, no such participation will relieve Lender of any commitment made to the Borrower hereunder. In connection with the foregoing, Lender may disclose information concerning the Borrower and its subsidiaries, if any, to any participant or prospective participant, provided that such participant or prospective participant agrees to keep such information confidential.

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Patronage distributions in the event of a sale of a participation interest will be governed by Lender's Bylaws and Capital Plan (as each may be amended from time to time). A sale of a participation interest may include certain voting rights of the participants regarding the loans hereunder (including without limitation the administration, servicing, and enforcement thereof). Lender agrees to give written notification to the Borrower of any sale of a participation interest.

#### **10.6 Integration; Other Types of Credit; Counterparts.**

(a) **Integration.** The Loan Documents are intended by the parties to be a complete and final expression of their agreement. Each Promissory Note will be deemed to incorporate all of the terms and conditions of this Agreement as if fully set forth therein. Without limiting the foregoing, any capitalized term utilized in any Promissory Note (or in any amendment to this Agreement or Promissory Note) and not otherwise defined in the Promissory Note (or amendment) will have the meaning set forth herein or, if applicable, in the Accounting Standards. In the event the Accounting Standards are changed after the date hereof, then all such changes will be applicable hereto, unless Lender otherwise specifies in writing.

(b) **Other Types of Credit.** From time to time, Lender may issue letters of credit or extend other types of credit to or for the account of the Borrower. In the event the parties desire to do so under the terms of this Agreement, then the agreement of the parties with respect thereto may be set forth in a Promissory Note and this Agreement will be applicable thereto.

(c) **Counterparts.** This Agreement, each Promissory Note and any other Loan Document may be executed in counterparts, each of which will constitute an original, but all of which when taken together will constitute a single contract. Delivery of an executed counterpart of a signature page of this Agreement, each Promissory Note and any other Loan Document by facsimile or other electronic means will be as effective as delivery of a manually executed counterpart of each such agreement.

#### **10.7 Applicable Law; Submission to Jurisdiction; Service of Process; Waiver of Venue; Waiver of Jury Trial.**

(a) **Applicable Law.** Without giving effect to the principles of conflict of laws and except to the extent governed by federal law, the Laws of the State of Colorado, without reference to choice of law doctrine, will govern this Agreement, each Promissory Note and any other Loan Document for which Colorado is specified as the applicable law, and all disputes and matters between the parties to this Agreement, including all disputes and matters whatsoever arising under, in connection with or incident to the lending and/or leasing or other business relationship between the parties, and the rights and obligations of the parties to this Agreement or any other Loan Document by and between the parties for which Colorado is specified as the applicable law.

(b) **Submission to Jurisdiction; Service of Process.** The Borrower hereby irrevocably consents to the nonexclusive jurisdiction of any state or federal court in Denver, Colorado, and consents that Lender may effect any service of process in the manner and at the Borrower's address set forth herein for providing notice or demand; provided that nothing contained in this Agreement will prevent Lender from bringing any action, enforcing any award or judgment or exercising any rights against the Borrower individually, against any collateral or against any property of the Borrower within any other county, state or other foreign or domestic jurisdiction.

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(c) **Waiver of Venue.** The Borrower acknowledges and agrees that the venue provided above is the most convenient forum for the Borrower and Lender. The Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Agreement.

(d) **Waiver of Jury Trial.** The Borrower and Lender each hereby irrevocably waives any right it may have to a trial by jury in connection with any action directly or indirectly arising out of or relating to this Agreement or any other Loan Document. Each party hereto (1) certifies that no representative, administrative agent or attorney of any other person has represented, expressly or otherwise, that such other person would not, in the event of litigation, seek to enforce the foregoing waiver and (2) acknowledges that it and the other parties hereto have been induced to enter into this Agreement and other Loan Documents by, among other things, the mutual waivers and certifications in this section.

**10.8 USA Patriot Act Notice.** Lender hereby notifies the Borrower that pursuant to the requirements of the USA Patriot Act, it is required to obtain, verify, and record information that identifies the Borrower in accordance with the USA Patriot Act. The Borrower covenants and agrees it will not, and agrees to cause each of its subsidiaries not to, at any time, directly or indirectly be (a) a person with whom Lender is restricted from doing business under any Anti-Terrorism Law, (b) engaged in any business involved in making or receiving any contribution of funds, goods or services to or for the benefit of such a person or in any transaction that evades or avoids, or has the purpose of evading or avoiding, the prohibitions set forth in any Anti-Terrorism Law, or (c) otherwise in violation of any Anti-Terrorism Law (the Borrower will and will cause each of its subsidiaries to provide to Lender any certifications or information that Lender requests to confirm compliance by the Borrower and its subsidiaries with any Anti-Terrorism Law). “**Anti-Terrorism Law**” means any Law relating to terrorism or money laundering, including Executive Order No. 13224, the USA Patriot Act, the Laws comprising or implementing the Bank Secrecy Act, and the Laws administered by the United States Treasury Department’s Office of Foreign Asset Control, as any of the foregoing Laws may from time to time be amended, renewed, extended, or replaced.

**SIGNATURE PAGE FOLLOWS**

REQUEST: Assuming the Commission approves the proposed financing with CoBank, please describe the subsequent process required for the Company to close on the loan, including an anticipated timeline.

RESPONSE: CoBank requires an opinion of counsel to be provided confirming, inter alia, that all corporate and regulatory approvals have been obtained and remain in effect prior to closing on the loan. The Company expects that a closing would occur 31-45 days from the date of the Commission's order approving the financing. A subsequent opinion is required to confirm that CoBank is secured as a first priority lender following the closing.

REQUEST: Does the Company participate in CoBank’s patronage dividend program?

- a) If no, please explain.
- b) If yes:
  - 1) Please provide a brief explanation of this program as it specifically pertains to the Company.
  - 2) Please provide the amount of patronage dividends received by the Company during the current year (2019) as well as each of the prior three years (2016 – 2018) in both cash and equity.

RESPONSE: Yes.

The Patronage distribution is based on an average patronage eligible loan volume outstanding for our Company for the previous fiscal year.

The following patronage received is as follows;

Year Received	2019	2018	2017	2016
Loan Volume (Prev. FY)	957,005.00	875,969.00	781,160.00	823,346.00
Cash Patronage	4,596.62	8,013.88	5,858.70	6,175.10
Equity Patronage	3,062.42	2,189.92	1,952.90	2,058.36
<b>Total</b>	<b>7,659.04</b>	<b>10,203.80</b>	<b>7,811.60</b>	<b>8,233.46</b>

\*\*Note: In 2018 a special all-cash patronage was received in the amount of \$1,444.11 (15 basis points) due to the new tax law that went into effect in 2017. In 2019, the Patronage Distribution changed from 75%/25% to 60%/40%.

REQUEST: Please provide the current interest rate charged by CoBank for a loan similar to the one for which LRWC is seeking approval, i.e., a loan for \$633,000 and for a term of 20 years.

RESPONSE: The current interest rate charged by CoBank for a loan similar to the one for which LRWC is seeking approval for as of the date of the response is approximately 4.75%. See Exhibit Staff 1-8.

**From:** [Ervin, Bryan](#)  
**To:** [Leah Valladares](#)  
**Subject:** RE: Interest Rate question  
**Date:** Thursday, October 03, 2019 1:44:09 PM

## Exhibit Staff 1-8

Leah, as of today the interest rate on a similar loan would be approximately 4.75%. The interest rate is subject to change daily as market rates change and the final rate would be determined on the closing date of the loan.

Bryan Ervin  
CoBank  
303-740-4377

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**From:** Leah Valladares <leah@lakesregionwater.com>  
**Sent:** Thursday, September 26, 2019 3:46 PM  
**To:** Ervin, Bryan <ERVINB@cobank.com>  
**Subject:** Interest Rate question

Hi Bryan,

We received the following data request from Staff;  
DR#8 "Please provide the current interest rate charged by CoBank for a loan similar to the one for which LRWC is seeking approval, i.e., a loan for \$633,000 and for a term of 20 years."

Would you be able to help me with this? The three loans 20yr loans we have with you range from 5.45-5.50%, and are less than \$300,000.00.

Thanks,

Leah Valladares | Utility Manager  
**Lakes Region Water Company, Inc.**  
420 Gov. Wentworth Highway | PO Box 389  
Moultonborough, NH 03254  
(O) **603.476.2348** (F) 603.476.2721  
[www.lakesregionwater.com](http://www.lakesregionwater.com)

*Unless specifically stated, (i) this email does not create a legal relationship between CoBank, ACB, including its subsidiaries and affiliates (collectively "CoBank") and the recipient, and (ii) CoBank disclaims any liability for the content of this email or for the consequences of any actions taken on the basis of the information provided in this email or its attachments. This email is intended solely for the use of the intended recipient(s) and may contain information that is confidential, privileged or otherwise protected from disclosure. If you are not the intended recipient of this email, please notify the sender, and delete it from your system. In communicating via email with CoBank, you consent to the foregoing.*

CoBank, 6340 S. Fiddlers Green Circle, Greenwood Village, CO 80111 [www.cobank.com](http://www.cobank.com)

REQUEST: Did the Company make inquiries of or submit applications to NHDES to receive State Revolving Fund (SRF) or Drinking Water and Groundwater Trust Fund (DWGTF) financing relative to the four anticipated projects?

- a) If no, please provide a detailed explanation as to why relative to each of the four anticipated projects.
- b) If yes:
  - 1) Please provide a detailed description of the extent of the inquiries made or applications submitted relative to each of the four anticipated projects. Please provide copies of all pertinent communications and/or applications.
  - 2) Please provide a detailed explanation regarding the reasons why SRF and/or DWGTF financing options relative to each of the four anticipated projects were either i) not pursued by the Company, or ii) not approved by NHDES. Please provide copies of all pertinent documentation.

RESPONSE: No, the Company did not make inquiries of or submit applications to NHDES to receive SRF or DWGTF financing due to the following reasons;

1. In accordance with the Drinking Water Loan and Grant Program Rules for Construction Projects, there is no guarantee that an applicant would receive a loan or grant.
2. It is the Company's understanding that the way in which NH DES prioritizes its projects for loan/grant eligibility, it is likely that the Company would receive a low priority because of the locations and seasonality of its water systems. The projects in question are considered high priority to the Company to address the decaying infrastructure and improve reliability and service to Dockham Shores, Wildwood and Paradise Shores customers.
3. Davis Bacon wage requirements would result in higher project costs.
4. The Company's existing relationship with CoBank requires compliance with terms and conditions set forth in the CoBank loan documents. An SRF or DWGTF loan would impose a second set of financial covenants and security obligations that the Company would be required to administer which would require additional staff resources and coordination.

REQUEST: Did the Company investigate other financing options relative to the four projects? Please explain.

RESPONSE: The Company does its banking with Bank of NH and inquired about their rates for 20yr Commercial Loan. Bank of NH's proposed terms are;

- 80% loan to value financing with 20% down payment
- Rates would be around 4.5% fixed for five years, then adjusting every five years thereafter to the 5-year Federal Home Loan Bank of Boston rate plus 2.50%
- 20-year term and amortization

The Company believes the terms offered by CoBank are favorable terms for the project loans.

REQUEST: Regarding the Asset Check Up report referenced by Mr. Mason in his Prefiled Testimony, page 3 (which Staff located at the following link: [http://www.puc.state.nh.us/Regulatory/Docketbk/2017/17-176/TRANSCRIPTS-OFFICIAL%20EXHIBITS-CLERKS%20REPORT/17-176\\_2018-03-29\\_EXH\\_3.PDF](http://www.puc.state.nh.us/Regulatory/Docketbk/2017/17-176/TRANSCRIPTS-OFFICIAL%20EXHIBITS-CLERKS%20REPORT/17-176_2018-03-29_EXH_3.PDF)), please provide the source or basis (other than the opinion of LWRC personnel listed on the cover of that report), for entries made to the following fields for assets in that report with Probability of Failure listed as “High:”

- a) Installation Date
- b) Probability of Failure

RESPONSE: Exhibit 3 was an “EXAMPLE” of what an Asset Management Program would look like for “Wildwood “based on limited information prior to accusation.

- a) The installation date was based on the information provided by the previous owner.
- b) From the CUPPS User Manual (attached Exhibit Staff 1-11) Probability of Failure (PoF) measures the probability that the asset will fail (no longer perform its function) in a given year. Values for range from 1 to 10. A value of 10 would indicate certain failure. Probability of Failure =  $((\text{Estimated Useful Life} - \text{Remaining Useful Life}) / \text{Estimated Useful Life}) \times (1 - \text{Redundancy}) \times 10$

Redundancy	Value used in equation
0%	0
50%	0.5
100%	0.90
200%	0.98

Exhibit Staff 1-11

### Probability of Failure (PoF)

Probability that the asset will fail (no longer perform its function) in a given year. Values for PoF range from 1 to 10. A value of 10 would indicate certain failure.

$$\text{Probability of Failure} = \frac{((\text{Estimated Useful Life} - \text{Remaining Useful Life}) / \text{Estimated Useful Life}) \times (1 - \text{Redundancy})}{10}$$

### Consequence of Failure (CoF)

CoF is selected manually on the Asset Inventory form. CoF estimates the degree of impact on utility service should the asset fail. You should consider the real or hypothetical results when selecting a value, including impacts on regulatory compliance, local government, customers, and the community. Ask yourself, “How bad would it be if this asset failed unexpectedly?” The following are example of items you should consider when calculating your CoF if an asset;

1. Spill, Flood, Odor – Think about the duration (short, substantial, or sustained), the quantity (small, medium, or large) and number of complaints (none, few, or many). The larger the spill or number of complaints, the higher the CoF.
2. Water or Effluent Quality – Think about the impact on the water or effluent quality from no impact to loss of full control and effect on human health. The larger the impact on water or effluent quality, the higher the CoF.
3. Regulatory Compliance – Think about the permit violations from no impact to violation of the daily, weekly, or monthly standards that jeopardize the ability to meet the permit requirements. The greater impact on standards (i.e., monthly greater than weekly), the higher the CoF.
4. Loss of Service to Customers – Think about whether the asset can be down for a day, a month, a week or an hour and its impact on the overall service provided to customers. The shorter the asset can remain off line with severe impact on the service, the higher the CoF.
5. Equipment and Safety – Think about if the failure of the asset would affect the utility at the asset, function, system, or plant level. The greater the impact on the utility (i.e., affects the plant’s ability to function), the higher the CoF.
6. Economic Impact – Think about the cost of repairing the asset and the associated system parts and whether emergency funds can cover the costs of the asset failure and any associated costs with that failure; or if increases in rates and additional or new staff are needed to help manage the economic impact of the asset failing. The higher the cost, the greater the CoF.

REQUEST: Regarding the Wildwood Pump Station improvements:

- a) Please provide a detailed itemization of the individual components and costs that comprise the \$260,000 estimate for this project.
- b) What is the anticipated date for substantial completion of this project?
- c) Has there been a subsequent Sanitary Survey regarding the Wildwood system since October 6, 2015? If yes, please provide a copy of that Sanitary Survey.
- d) Is the Wildwood system currently subject to a Letter of Deficiency (LOD), a Significant Deficiency finding, or some such similar finding by the NHDES? If yes, please explain and provide the supporting pertinent documentation.

RESPONSE:

- a) The Company solicited the help of Lewis Engineering to develop the new pump station. Please see attached estimate. Exhibit Staff 1-12
- b) The anticipated date for substantial completion of this project is June 30, 2020.
- c) Yes, see attached Exhibit Staff 1-12, A.
- d) No, see Exhibit Staff 1-12 A email from NHDES.



The State of New Hampshire  
**Department of Environmental Services**

**Robert R. Scott, Commissioner**

DW 19-135  
Lakes Region Water Company, Inc.  
Attachment 1



October 23, 2018

via E-mail

**Exhibit Staff 1-12, A**

THOMAS MASON JR  
LAKES REGION WATER COMPANY INC  
PO BOX 389  
MOULTONBOROUGH NH 03254-0389  
lrwater@lakesregionwater.com

Subject: Sanitary Survey – PWS #0022010 Wildwood Development, Albany

Dear Mr. Quint Jr.:

On October 2, 2018, the New Hampshire Department of Environmental Services, Drinking Water & Groundwater Bureau (DES) performed a sanitary survey inspection of the subject public water system (PWS) pursuant to RSA 485 and Env-Dw 717 and 720. A sanitary survey consists of a physical review of the main elements of the water system to verify its capability to reliably produce safe drinking water. The eight sanitary survey elements evaluated are: well sources, treatment, distribution, storage, pumping, data records, management and operations.

In attendance at time of the inspection: Katie Murphy, DES Sanitary Surveyor  
Justin Benes and Richard Dearborn, Lakes Region Water Co. Inc.

SIGNIFICANT DEFICIENCIES

Pursuant to Env-Dw 103.52, a significant deficiency is one that "...can directly and adversely affect a public water system's water quality or that can reduce the water system's reliability and ability to deliver safe drinking water to its customers..." During the survey, the significant deficiencies listed below were observed.

- **Treatment Inoperative** – At the time of the survey, the potassium carbonate injection was noted as being inoperative. This water system needs to have the treatment facilities operating in order to meet federal and state water quality standards. This situation is unacceptable and must be corrected immediately. Please have the treatment facilities returned to proper service.
- **Source Tap and Check Valve** - Each well should have an individual tap or other means to obtain discrete samples for each source prior to any treatment followed by a check valve. There is a tap present that may currently be serving as the source sample tap; however, there is no check valve present. Please install the check valve between the source sample tap and the potassium carbonate injection.

**In order to avoid a violation: within 30 days of the date of the sanitary survey, all significant deficiencies must be corrected or a Corrective Action Plan (CAP) to address the deficiencies must be submitted to the Department for approval.** A CAP identifies the work that will be performed, along with a time frame by which the work will be completed.

Env-Dw 717.21 requires that the PWS owner notify us in writing upon the correction of significant deficiencies. Notification must be made within 30 days of completing the corrective action. We request that you provide a photograph with your submittal. Notifications by email submittals are preferred but not required.

PWS #0022010 Wildwood Development, Albany  
October 23, 2018  
Page 2 of 2

### SYSTEM DESCRIPTION

Wildwood Development obtains its water from gravel packed well # 1 (GPW 1-001) located within the pump house. The well is 119 feet deep and yields 90 gallons per minute. There are two levels in the pump house, an upper level (w/source tap and treatment equipment) and a lower level (w/hydropneumatic tank, control panel). The eight inch diameter well casing for the gravel packed well extends from the lower level up to the upper level. Water is pumped from the gravel packed well to the upper level of the pump house where it passes a source sampling tap and pressure gauge and is treated with potassium carbonate for corrosion control and ion exchange for inorganics removal. The treated water flows down to the lower level through a meter and enters the 4,850 gallon hydropneumatic storage tank. The treated water is distributed to 49 single family residences supplying approximately 123 people year round. Average water use was reported as approximately 5,000 gallons per day.

### EMERGENCY PLAN

The emergency plan copy that was in the pump house needs to be updated to reflect current contact information and water operator information. Please update the plan and place the updated copy in the pump house in the event of an emergency.

### SANITARY PROTECTIVE AREA

All public water supply system wells require a sanitary protective area (SPA) or protective well radius, under the control of the well owner, within which no septic tanks, leach fields, oil, debris or other hazardous materials may be located or stored. The SPA for your water system is a minimum of 175' radius around the well. Currently, the area contains a road ~75', residence with parking ~15-175' from the well. Per Env-Dw 406.12(f), roadways and parking lots are an acceptable use of the SPA and will not be sited as a significant deficiency. However, roadways and parking lots should be 50' from the wells according to Env-Dw 406.11(c). This requirement has been waived based on current site configuration as well as historical water quality.

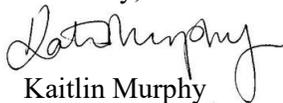
The water system's potential for reduced monitoring and future waivers from a portion of its chemical monitoring requirements shall be diminished by the location of buildings, roadways, parking lots, and other such construction within the well's protective radius.

### FUTURE CONSTRUCTION OR EXPANSION

Be advised that, under RSA 485:8 (Approval of Construction or Alteration), no new construction, addition or alteration involving the source, treatment, distribution or storage of water in any public water supply system can begin without approval by the Department.

In addition to any significant deficiencies listed above, enclosed are recommendations for system improvements. It is our intention to work with you in solving any water related problems that your system may have. Should you have any questions, please contact me at (603) 271-2539 or by e-mail at [kaitlin.murphy@des.nh.gov](mailto:kaitlin.murphy@des.nh.gov).

Sincerely,



Kaitlin Murphy  
Drinking Water and Groundwater Bureau

Enclosed: Recommendations for System Improvements

cc: Justin Benes, Lakes Region Water Co. Inc., Certified Operator

PWS #0022010 Wildwood Development, Albany  
October 23, 2018

## RECOMMENDED SYSTEM IMPROVEMENTS

The following recommended system improvements and operation and maintenance procedures are noted below to assist you in improving the water system's reliability in providing water to its users.

### Generator or Auto Transfer Switch, Emergency

Power loss and outages are becoming more commonplace due to recent extreme weather conditions and events. An emergency/backup generator or an automatic transfer switch is advisable to get you through periods of power outages. You are advised to research, plan and budget for installation of an emergency generator or automatic transfer switch.

### Gate Valves

To ensure that gate valves are in working order, routine maintenance and exercising are required. It is therefore recommended that routine valve inspections be conducted once a year in which the following tasks are performed:

1. Verify the exact location of all valves boxes.
2. Inspect the valve stem and nut for damage and possible leakage.
3. Close the valve fully, and record the number of turns to the fully closed position.
4. Reopen the valve and reestablish flow.
5. Clean the valve box cover seat.

Records should be upgraded to include a means to easily identify the location of all valves. Records should also include measurements from at least two reference points, the type of valve, and the number of turns required to open or close the valve.

### Flushing

Distribution systems are normally flushed once a year through the blow-offs. In some water systems, the flushing must be done more often to keep sediment and sand in the piping under control. The flushing should be done during time of minimum water use. The frequency of flushing should be such that it prevents legitimate consumer complaints.

### Leak Detection Survey

At least once a year the system should be checked for leakage. The water system's customers should be asked not to use any water between midnight to 6:00 A.M. on a particular evening. The water system operator should check system usage during this period by noting the usage on the meter or any change in the water level in your vented storage tanks (supply sources turned off). If there is any significant system demand, this can be attributed to leakage.

It is important to note that the force from this leakage sets in motion sand particles in the soil that will abrade the general area of the pipe ultimately to the point of total failure. The noise of this running water can normally be heard through the use of geophones, even though the leak has not surfaced. Intermediate and larger municipal water systems in your area likely have geophones and may be willing to loan them to you. If not, please contact our office for a list of contractors with this or more specialized types of equipment.

### Management – Records and Files

We suggest the establishment or continuation of a permanent file for water supply matters. The Safe Drinking Water Act (SDWA) requires that water system records be kept for the timeframes noted in DES Factsheet No. WD-DWGB-7-1 *Water System Record Retention*, available on our website at: <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>. Further, because of the vast number of systems we deal with, all requests for information concerning the system's water quality, whether from its users or town officials, will be referred to the water system's owner in the future.

### Monitoring Program

The water supply system satisfies the definition of a non-transient/non-community public water supply system. Under the Safe Drinking Water Act (SDWA), all non-transient/non-community public water supply systems are subject to certain requirements such as submitting samples of water for analysis and assuring that the water meets the quality standards of the Act.

If you fail to submit water samples on time, the State has the option of seeking substantial daily fines. Fines of up to \$2,000 can be assessed against systems for failure to monitor. Please insure that future samples are submitted in a timely manner.

A copy of the water system's master sampling schedule may be obtained from the DES Website at <http://www2.des.state.nh.us/DESOnestop/BasicSearch.aspx>

If you have any questions regarding the monitoring program, please contact this office at 603-271-2542 for bacteria and 603-271-3907 for chemical monitoring.

**From:** [Justin Benes](#)  
**To:** [Leah Valladares](#)  
**Subject:** Fwd: Wildwood check valve  
**Date:** Friday, October 04, 2019 11:31:00 AM

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Sent from my iPhone

Begin forwarded message:

**From:** "Murphy, Kaitlin" <[Kaitlin.Murphy@des.nh.gov](mailto:Kaitlin.Murphy@des.nh.gov)>  
**Date:** November 7, 2018 at 3:03:53 PM EST  
**To:** 'Justin Benes' <[justin@lakesregionwater.com](mailto:justin@lakesregionwater.com)>  
**Subject:** RE: Wildwood check valve

Justin,

Thanks for confirming that the potassium carbonate injection is working properly. I'll rescind that deficiency and close the check valve deficiency. You are all set.

Thanks,  
Katie

Kaitlin Murphy  
Water System Sanitary Surveyor  
Drinking Water and Groundwater Bureau  
New Hampshire Department of Environmental Services  
29 Hazen Drive, PO Box 95 | Concord, NH 03302-0095  
T (603) 271-2539 | F (603) 271-5171 | [kaitlin.murphy@des.nh.gov](mailto:kaitlin.murphy@des.nh.gov)

-----Original Message-----

From: Justin Benes [<mailto:justin@lakesregionwater.com>]  
Sent: Friday, November 2, 2018 3:02 PM  
To: Murphy, Kaitlin  
Subject: Wildwood check valve

Here is the new 1-1/2" check valve I installed prior to pot carb injection. Also, the sheet says pot carb wasn't working but that's false. Chem system is working just fine. Let me know if we are all set.

Thanks  
Justin  
LRWCO

LRW Water Service, Inc.  
 P. O. Box 309  
 Moultonboro, NH 03254  
 Day/Eve 603-476-5378/344-5363

# ESTIMATE

DATE	ESTIMATE
3/19/2019	411

Exhibit Staff 1-12

NAME / ADDRESS
Lakes Region Water Co., Inc.

DESCRIPTION	
Wildwood Pump Station Replacement <b>**ESTIMATE**</b> This Pump Station Is Essentially A Duplicate Of The Recent Dockham Shores Pump Station Including: Town & DES Permits 15,000 Gallon Concrete Tank Wood Frame Building All Site Work & Materials All Electrical All Plumbing Note: This Is A Turn Key Pump Station Per Lewis Engineering Plans (Plans & Specs Included) Estimated Price	260,000.00

\$260,000.00
--------------

Acceptance Of Proposal -The above prices, specifications and conditions are hereby accepted. You are authorized to do the specified work. Payment will be made as above.

Authorized Signature \_\_\_\_\_

REQUEST: Regarding the two main replacement projects at Paradise Shores:

- a) Please quantify the lost water within the Paradise Shores system during the current year (2019) as well as each of the three previous years (2016 – 2018).
- b) Please provide a detailed itemization of the individual components and costs for the Paradise Shores Road main replacement project in support of the estimated amount of \$92,000.
- c) Please provide a detailed itemization of the individual components and costs for the Robin Lane main replacement project in support of the estimated amount of \$66,000.
- d) What are the anticipated dates for substantial completion of the respective main replacement projects?

RESPONSE:

- a) 2019 Loss Water Report will not be completed until after the end of year. For 2016-2018 Please see attached Exhibit Staff 1-13, A Water Loss Reports, also located in each year's Annual Report. Please note that due to the use of the Company's Telemetry system, potential main breaks involving loss water of water are alarmed to Company personnel and quickly eliminated. This reduces the value of loss water as an indicator of the need for main replacement projects. The frequency and risks of future main breaks is an important factor to be considered.
- b) See attached Exhibit Staff 1-13, B
- c) See attached Exhibit Staff 1-13, C
- d) The anticipated dates for substantial completion of the respective main replacements' projects are as follows:
  - a. Paradise Shore Road 12/31/2020
  - b. Robin Lane 12/31/2020

Lakes Region Water Co., Inc.  
Loss Water Report  
Year Ending December 31, 2016

Exhibit Staff 1-13

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Lakes Region Water Co., Inc.																		
2	Loss Water Report																		
3	Year Ending December 31, 2016																		
4																			
5	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
6	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
7																			
8	<b>AVAILABLE WATER</b>																		
9	<b>Water Produced (1000 Gallons)</b>																		
10	Qtr # 1	23,858	880	5,202	277	2,190	896	943	461	536	1,013	1,105	900	720	602	202	4,890	2,081	959
11	Qtr # 2	23,524	593	6,805	383	803	1,194	462	445	567	1,257	1,185	944	896	465	202	4,123	2,024	1,176
12	Qtr # 3	28,093	931	8,555	491	766	1,226	654	777	410	1,382	1,081	998	967	544	838	4,539	2,506	1,428
13	Qtr # 4	23,327	606	5,526	387	901	1,172	572	622	354	1,562	1,442	670	712	501	413	4,573	2,410	904
14	Total Year	98,801	3,009	26,088	1,538	4,659	4,489	2,632	2,306	1,867	5,214	4,813	3,511	3,295	2,113	1,655	18,125	9,022	4,466
15	<b>Water Purchased (1000 Gallons)</b>																		
16	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	<b>Total Available Water (1000 Gallons)</b>																		
22	Qtr # 1	23,858	880	5,202	277	2,190	896	943	461	536	1,013	1,105	900	720	602	202	4,890	2,081	959
23	Qtr # 2	23,524	593	6,805	383	803	1,194	462	445	567	1,257	1,185	944	896	465	202	4,123	2,024	1,176
24	Qtr # 3	28,093	931	8,555	491	766	1,226	654	777	410	1,382	1,081	998	967	544	838	4,539	2,506	1,428
25	Qtr # 4	23,327	606	5,526	387	901	1,172	572	622	354	1,562	1,442	670	712	501	413	4,573	2,410	904
26	Total Year	98,801	3,009	26,088	1,538	4,659	4,489	2,632	2,306	1,867	5,214	4,813	3,511	3,295	2,113	1,655	18,125	9,022	4,466
27																			
28	<b>USAGE</b>																		
29	<b>Customer Usage Billed (1000 Gallons)</b>																		
30	Qtr # 1	4,436	79	1,456	76	489	246	284	320	303	564	239	380	-	-	-	-	-	-
31	Qtr # 2	5,235	73	1,968	81	462	258	284	352	310	662	389	395	-	-	-	-	-	-
32	Qtr # 3	8,097	420	2,704	215	557	565	541	723	337	617	586	833	-	-	-	-	-	-
33	Qtr # 4	5,466	411	1,227	236	469	527	258	530	313	741	263	489	-	-	-	-	-	-
34	Total Year	23,233	983	7,355	609	1,977	1,596	1,367	1,924	1,263	2,584	1,477	2,097	-	-	-	-	-	-
35	<b>POASI Usage Billed (1000 Gallons)</b>																		
36	Qtr # 1	2,354	-	2,354	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Qtr # 2	3,431	-	3,431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Qtr # 3	4,532	-	4,532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Qtr # 4	2,563	-	2,563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Year	12,881	-	12,881	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	<b>Estimated Usage by Non Metered Customers Based on Average of All Metered Customers (1000 Gallons)</b>																		
42	Qtr # 1	2,008	-	-	-	-	-	-	-	-	-	-	-	448	72	161	376	623	308
43	Qtr # 2	2,221	-	-	-	40	-	-	-	-	-	-	-	582	74	194	389	631	312
44	Qtr # 3	4,434	-	-	-	-	-	-	-	-	-	-	-	740	215	695	1,127	1,108	549
45	Qtr # 4	3,045	-	-	-	-	-	-	-	-	-	-	-	442	210	211	1,108	718	356
46	Total Year	11,708	-	-	-	40	-	-	-	-	-	-	-	2,212	570	1,281	3,000	3,079	1,526
47	<b>Line Flushing - Blowoffs (Estimate in 1000 Gallons)</b>																		
48	Qtr # 1	81	2	11	2	4	2	2	3	1	6	3	2	1	8	1	15	16	2
49	Qtr # 2	84	3	11	2	4	2	2	3	1	6	3	3	2	8	1	15	16	2
50	Qtr # 3	84	2	12	2	5	3	2	3	1	6	3	2	1	8	1	15	16	2
51	Qtr # 4	96	2	11	1	4	3	15	3	1	6	3	3	2	8	1	15	16	2
52	Total Year	345	9	45	7	17	10	21	12	4	24	12	10	6	32	4	60	64	8

- 90 -

Lakes Region Water Co., Inc  
Loss Water Report  
Year Ending December 31, 2016

Lakes Region Water Company, Inc.  
Attachment 1

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																			
2																			
3																			
4																			
5	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
6	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
7																			
53	<b>Known leaks or repair loss (Estimate in 1000 Gallons)</b>																		
54	Qtr # 1	6,810	249	264	98	194	323	105	43	-	-	583	324	-	298	-	2,484	1,326	518
55	Qtr # 2	6,033	138	-	194	194	518	-	-	-	-	583	273	-	194	-	2,100	1,327	512
56	Qtr # 3	3,605	259	-	14	194	438	-	-	-	-	283	-	-	194	-	1,576	453	194
57	Qtr # 4	3,425	-	-	-	194	151	-	-	-	-	583	-	-	194	-	1,656	453	194
58	Total Year	19,873	646	264	306	776	1,430	105	43	-	-	2,032	597	-	880	-	7,816	3,559	1,418
59	<b>Water Sold by Tanker</b>																		
60	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	<b>TOTAL USAGE (1000 Gallons)</b>																		
66	Qtr # 1	15,689	330	4,085	176	687	571	391	366	304	570	825	706	449	378	182	2,875	1,965	828
67	Qtr # 2	17,004	214	5,410	277	660	818	286	355	311	668	975	671	584	276	195	2,504	1,974	826
68	Qtr # 3	20,752	681	7,248	231	756	1,006	543	726	338	623	872	835	741	417	696	2,718	1,577	745
69	Qtr # 4	14,595	413	3,802	237	667	681	273	533	314	747	849	492	444	412	212	2,779	1,187	552
70	Total Year	68,040	1,638	20,545	922	2,770	3,076	1,493	1,979	1,267	2,608	3,522	2,704	2,218	1,482	1,285	10,876	6,702	2,952
71																			
72																			
73																			
74	<b>LOST WATER (1000 Gallons)</b>																		
75	Qtr # 1	8,169	550	1,117	100	1,503	325	552	95	232	443	280	194	271	225	20	2,015	117	130
76	Qtr # 2	6,520	378	1,395	107	143	376	176	91	256	589	210	273	312	189	7	1,619	51	349
77	Qtr # 3	7,341	250	1,307	259	10	221	111	51	73	759	209	163	226	128	142	1,821	929	683
78	Qtr # 4	8,732	192	1,724	150	234	491	299	90	39	816	593	177	268	89	201	1,794	1,223	352
79	Total Year	30,761	1,371	5,543	616	1,889	1,412	1,138	327	599	2,607	1,292	807	1,077	630	370	7,249	2,319	1,514
80																			
81	<b>LOST WATER (% of Available Water)</b>																		
82	Qtr # 1	34%	63%	21%	36%	69%	36%	59%	21%	43%	44%	25%	22%	38%	37%	10%	41%	6%	14%
83	Qtr # 2	28%	64%	21%	28%	18%	31%	38%	20%	45%	47%	18%	29%	35%	41%	4%	39%	2%	30%
84	Qtr # 3	26%	27%	15%	53%	1%	18%	17%	7%	18%	55%	19%	16%	23%	23%	17%	40%	37%	46%
85	Qtr # 4	37%	32%	31%	39%	26%	42%	52%	14%	11%	52%	41%	26%	38%	18%	48%	39%	51%	39%
86																			
87	Total Year	31%	46%	21%	40%	41%	31%	43%	14%	32%	50%	27%	23%	33%	30%	22%	40%	26%	34%
88																			
89	Last Year %	41%	18%	21%	60%	52%	63%	24%	18%	19%	36%	22%	28%	31%	10%	36%	24%	70%	31%
90																			
91																			
92	<b>LOST WATER IN GALLONS PER MINUTE</b>																		
93	Qtr # 1	62	4	9	1	11	2	4	1	2	3	2	1	2	2	0	15	1	1
94	Qtr # 2	50	3	11	1	1	3	1	1	2	4	2	2	2	1	0	12	0	3
95	Qtr # 3	56	2	10	2	0	2	1	0	1	6	2	1	2	1	1	14	7	5
96	Qtr # 4	67	1	13	1	2	4	2	1	0	6	5	1	2	1	2	14	9	3
97																			
98	Average YTD	59	3	11	1	4	3	2	1	1	5	2	2	2	1	1	14	4	3
99																			
100	Prior Year Ave	69	1	10	2	4	12	1	1	1	4	1	1	3	0	1	6	20	1
101																			
102																			
103	SALES TO PROPERTY OWNERS ASSOCIATION SWISSVALE, INC. IN (1000 Gallons) Included in Paradise Shores( PS)																		
104	Qtr # 1	1953																	
105	Qtr # 2	3425																	
106	Qtr # 3	4690																	
107	Qtr # 4	2235																	
108	Total Year	12303																	
109																			
110	***** Non metered in Division 4 WVG (Waterville Valley Gateway) is for the Pool.																		

Non metered water loss for prior year has been estimated in order to provide comparison

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Lakes Region Water Co., Inc.																	DW 19-135	
2	Loss Water Report																	Lakes Region Water Company, Inc.	
3	Year Ending December 31, 2016																	Attachment 1	
4	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
5	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
6	<b>CUSTOMER COUNT</b>																		
7	<b>METERED</b>																		
111	Prior Year	1081	85	401	42	84	119	55	71	59	74	44	47	0	0	0	0	0	0
112	Qtr # 1	1081	85	400	42	85	119	55	71	59	74	44	47	0	0	0	0	0	0
113	Qtr # 2	1082	85	401	42	85	119	55	71	59	74	44	47	0	0	0	0	0	0
114	Qtr # 3	1086	85	402	42	85	119	55	71	59	74	44	50	0	0	0	0	0	0
115	Qtr # 4	1093	85	405	42	85	119	55	72	59	74	44	53	0	0	0	0	0	0
116	Year Average	1,085	85	402	42	85	119	55	71	59	74	44	49	0	0	0	0	0	0
117	<b>POASI AND POOL</b>																		
118	Prior Year	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
119	Qtr # 1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
120	Qtr # 2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
121	Qtr # 3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
122	Qtr # 4	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
123	Year Average	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
124	<b>NON - METERED</b>																		
125	Prior Year	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54
126	Qtr # 1	590	0	0	0	0	0	0	0	0	0	0	0	101	44	51	231	109	54
127	Qtr # 2	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54
128	Qtr # 3	590	0	0	0	0	0	0	0	0	0	0	0	101	44	51	231	109	54
129	Qtr # 4	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54
130	Year Average	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54
131	<b>TOTAL CUSTOMERS</b>																		
132	Prior Year	1674	85	402	42	85	119	55	71	59	74	44	47	101	44	51	232	109	54
133	Qtr # 1	1672	85	400	42	86	119	55	71	59	74	44	47	101	44	51	231	109	54
134	Qtr # 2	1673	85	400	42	86	119	55	71	59	74	44	47	101	44	51	232	109	54
135	Qtr # 3	1677	85	402	42	86	119	55	71	59	74	44	50	101	44	51	231	109	54
136	Qtr # 4	1683	85	403	42	86	119	55	72	59	74	44	53	101	44	51	232	109	54
137	Year Average	1675.8	85	401.4	42	85.8	119	55	71.2	59	74	44	48.8	101	44	51	231.6	109	54

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Lakes Region Water Co., Inc																			DW 19-135
2	Loss Water Report																			Lakes Region Water Company, Inc.
3	Year Ending December 31, 2017																			Attachment 1
4	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
5	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG	DS
8	AVAILABLE WATER																			
9	Water Produced (1000 Gallons)																			
10	Qtr # 1	23,668	389	6,731	319	1,147	841	466	839	396	1,582	2,481	611	911	493	219	4,517	889	835	
11	Qtr # 2	24,234	515	7,199	419	1,116	749	475	711	406	1,531	1,723	673	946	491	251	4,851	1,111	1,067	
12	Qtr # 3	32,395	808	9,063	566	1,215	1,385	793	818	394	1,955	1,929	876	1,039	418	871	6,097	1,873	1,514	784
13	Qtr # 4	24,256	773	5,637	443	1,122	1,112	771	543	350	1,760	1,551	825	850	561	505	4,533	1,177	944	800
14	Total Year	104,554	2,485	28,629	1,748	4,600	4,087	2,505	2,912	1,545	6,829	7,684	2,985	3,746	1,963	1,846	19,997	5,050	4,360	1,584
15	Water Purchased (1000 Gallons)																			
16	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Total Available Water (1000 Gallons)																			
22	Qtr # 1	23,668	389	6,731	319	1,147	841	466	839	396	1,582	2,481	611	911	493	219	4,517	889	835	-
23	Qtr # 2	24,234	515	7,199	419	1,116	749	475	711	406	1,531	1,723	673	946	491	251	4,851	1,111	1,067	-
24	Qtr # 3	32,395	808	9,063	566	1,215	1,385	793	818	394	1,955	1,929	876	1,039	418	871	6,097	1,873	1,514	784
25	Qtr # 4	24,256	773	5,637	443	1,122	1,112	771	543	350	1,760	1,551	825	850	561	505	4,533	1,177	944	800
26	Total Year	104,554	2,485	28,629	1,748	4,600	4,087	2,505	2,912	1,545	6,829	7,684	2,985	3,746	1,963	1,846	19,997	5,050	4,360	1,584
27	USAGE																			
28	Customer Usage Billed (1000 Gallons)																			
29	Qtr # 1	4,492	116	1,270	77	603	387	248	292	262	517	269	453	-	-	-	-	-	-	-
30	Qtr # 2	4,709	74	1,528	72	503	326	284	353	209	560	327	473	-	-	-	-	-	-	-
31	Qtr # 3	8,328	399	2,821	232	553	539	251	601	355	604	581	681	-	-	-	-	-	-	731
32	Qtr # 4	6,480	451	1,445	260	540	685	407	480	290	544	251	489	-	-	-	-	-	-	647
33	Total Year	24,018	1,040	7,064	640	2,198	1,937	1,190	1,726	1,115	2,225	1,429	2,076	-	-	-	-	-	-	1,378
34	POASI Usage Billed (1000 Gallons)																			
35	Qtr # 1	3,256	-	3,256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	Qtr # 2	3,256	-	3,256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Qtr # 3	3,256	-	3,256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Qtr # 4	3,256	-	3,256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Year	13,025	-	13,025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Estimated Usage by Non Metered Customers Based on Average of All Metered Customers (1000 Gallons)																			
41	Qtr # 1	2,203	-	-	-	-	-	-	-	-	-	-	-	402	104	181	556	628	332	-
42	Qtr # 2	2,193	-	-	-	40	-	-	-	-	-	-	-	454	84	194	453	633	335	-
43	Qtr # 3	4,009	-	-	-	-	-	-	-	-	-	-	-	753	208	695	1,118	808	427	-
44	Qtr # 4	3,369	-	-	-	-	-	-	-	-	-	-	-	435	249	211	1,334	746	395	-
45	Total Year	11,774	-	-	-	40	-	-	-	-	-	-	-	2,044	645	1,281	3,460	2,815	1,489	-
46	Line Flushing - Blowoffs (Estimate in 1000 Gallons)																			
47	Qtr # 1	20	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	2
48	Qtr # 2	47	-	30	-	-	-	-	6	-	4	-	-	-	-	-	5	-	-	2
49	Qtr # 3	17	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	2
50	Qtr # 4	59	-	-	-	-	-	17	8	-	-	-	-	14	-	-	-	18	-	2
51	Total Year	143	-	30	-	-	-	50	14	-	4	-	-	14	-	-	5	18	-	8

Lakes Region Water Co., Inc.  
Loss Water Report  
Year Ending December 31, 2017

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	V	
1																				
2																				
3																				
4																				
5	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
6	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG	DS
7																				
53	Known leaks or repair loss (Estimate in 1000 Gallons)																			
54	Qtr # 1	7,564	162	1,329	115	-	315	-	538	-	748	853	-	-	242	-	2,851	412	-	-
55	Qtr # 2	11,688	400	1,937	164	133	315	197	182	-	798	1,073	-	-	205	-	4,352	974	959	-
56	Qtr # 3	9,787	258	2,047	255	635	315	151	207	-	1,281	662	-	-	35	-	2,209	701	1031	-
57	Qtr # 4	3,499	169	875	170	-	315	-	-	-	889	582	-	-	65	-	-	-	455	-
58	Total Year	32,538	989	6,188	704	768	1,258	348	927	-	3,716	3,150	-	-	546	-	8,412	2,087	2,445	-
59	Water Sold by Tanker																			
60	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	TOTAL USAGE (1000 Gallons)																			
66	Qtr # 1	17,536	278	5,855	192	603	701	266	830	262	1,265	1,122	453	402	346	181	3,407	1,040	334	-
67	Qtr # 2	20,934	474	6,752	236	636	681	481	541	209	1,362	1,400	473	454	290	194	4,809	1,607	337	-
68	Qtr # 3	23,635	657	8,124	487	1,188	854	418	808	355	1,885	1,244	661	753	243	695	3,327	1,509	429	731
69	Qtr # 4	16,026	620	5,576	430	540	1,000	424	488	290	1,433	813	489	449	313	211	1,334	764	852	847
70	Total Year	78,131	2,029	26,307	1,344	2,988	3,235	1,588	2,667	1,115	5,945	4,578	2,076	2,058	1,192	1,281	12,877	4,920	1,952	1,378
71																				
72																				
73																				
74	LOST WATER (1000 Gallons)																			
75	Qtr # 1	8,132	111	875	127	544	140	200	10	134	317	1,359	159	510	148	38	1,110	(151)	501	-
76	Qtr # 2	3,301	41	447	184	480	68	(6)	170	197	169	324	200	492	202	57	42	(496)	730	-
77	Qtr # 3	7,976	151	939	79	27	531	375	10	39	70	686	215	286	175	176	2,770	364	1,084	53
78	Qtr # 4	7,430	153	60	13	582	112	347	54	60	327	738	336	401	248	284	3,199	413	92	153
79	Total Year	24,839	457	2,322	404	1,634	852	917	245	430	883	3,106	908	1,688	771	565	7,120	129	2,408	206
80																				
81	LOST WATER (% of Available Water)																			
82	Qtr # 1	26%	29%	13%	40%	47%	17%	43%	1%	34%	20%	55%	26%	56%	30%	17%	25%	-17%	60%	1%
83	Qtr # 2	14%	8%	6%	44%	43%	9%	-1%	24%	49%	11%	19%	30%	52%	41%	23%	1%	-45%	68%	1%
84	Qtr # 3	25%	19%	10%	14%	2%	38%	47%	1%	10%	4%	36%	25%	28%	42%	20%	45%	19%	72%	7%
85	Qtr # 4	31%	20%	1%	3%	52%	10%	45%	10%	17%	19%	48%	41%	47%	44%	58%	71%	35%	10%	19%
86																				
87	Total Year	24%	18%	8%	23%	36%	21%	37%	8%	28%	13%	40%	30%	45%	39%	31%	36%	3%	55%	13%
88																				
89	Last Year %	41%	18%	21%	60%	52%	83%	24%	18%	19%	38%	22%	28%	31%	10%	36%	24%	70%	31%	31%
90																				
91																				
92	LOST WATER IN GALLONS PER MINUTE																			
93	Qtr # 1	47	1	7	1	4	1	2	0	1	2	10	1	4	1	0	8	-1	4	0
94	Qtr # 2	25	0	3	1	4	1	0	1	2	1	2	2	4	2	0	0	-4	6	0
95	Qtr # 3	61	1	7	1	0	4	3	0	0	1	5	2	2	1	1	21	3	8	0
96	Qtr # 4	57	1	0	0	4	1	3	0	0	2	6	3	3	2	2	24	3	1	1
97																				
98	Average YTD	47	1	4	1	3	2	2	0	1	2	6	2	3	1	1	14	0	5	0
99																				
100	Prior Year Ave	69	1	10	2	4	12	1	1	1	4	1	1	3	0	1	6	20	1	1
101																				
102																				
103	SALES TO PROPERTY OWNERS ASSOCIATION SWISSVALE, INC. IN (1000 Gallons) Included in Paradise Shores( PS)																			
104	Qtr # 1				3,256															
105	Qtr # 2				3,256															
106	Qtr # 3				3,256															
107	Qtr # 4				3,256															
108	Total Year				13025.08															
109																				
110	**** Non metered in Division 4 WVG (Waterville Valley Gateway) is for the Pool																			
111																				
112	CUSTOMER COUNT																			
113																				
114	METERED																			

Non metered water loss for prior year has been estimated  
in order to provide comparison

Lakes Region Water Co., Inc.  
Loss Water Report  
Year Ending December 31, 2017

Lakes Region Water Company, Inc.  
Attachment 1

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1																				
2																				
3																				
4																				
5	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
6	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG	DS
7																				
115	Prior Year	1088	85	401	42	84	119	55	72	59	74	44	53	0	0	0	0	0	0	0
116	Qtr # 1	1087	85	400	42	85	119	55	71	59	74	44	53	0	0	0	0	0	0	0
117	Qtr # 2	1089	85	401	42	85	119	55	72	59	74	44	53	0	0	0	0	0	0	0
118	Qtr # 3	1153	85	402	43	85	119	55	73	59	74	44	53	0	0	0	0	0	0	61
119	Qtr # 4	1157	85	405	43	85	119	55	74	59	74	44	53	0	0	0	0	0	0	61
120																				
121	Year Average	1,115	85	402	42	85	119	55	72	59	74	44	53	0	0	0	0	0	0	24
122																				
123	<u>POASI AND POOL</u>																			
124	Prior Year	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	Qtr # 1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	Qtr # 2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	Qtr # 3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	Qtr # 4	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129																				
130	Year Average	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131																				
132	<u>NON - METERED</u>																			
133	Prior Year	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54	0
134	Qtr # 1	591	0	0	0	0	0	0	0	0	0	0	0	100	44	52	236	104	55	0
135	Qtr # 2	591	0	0	0	0	0	0	0	0	0	0	0	100	44	52	236	104	55	0
136	Qtr # 3	591	0	0	0	0	0	0	0	0	0	0	0	100	44	52	236	104	55	0
137	Qtr # 4	591	0	0	0	0	0	0	0	0	0	0	0	100	44	52	236	104	55	0
138																				
139	Year Average	591	0	0	0	0	0	0	0	0	0	0	0	100	44	52	235	105	55	0
140																				
141																				
142	<u>TOTAL CUSTOMERS</u>																			
143	Prior Year	1681	85	402	42	85	119	55	72	59	74	44	53	101	44	51	232	109	54	0
144	Qtr # 1	1679	85	400	42	86	119	55	71	59	74	44	53	100	44	52	236	104	55	0
145	Qtr # 2	1679	85	400	42	86	119	55	71	59	74	44	53	100	44	52	236	104	55	0
146	Qtr # 3	1740	85	402	43	86	119	55	71	59	74	44	50	100	44	52	236	104	55	61
147	Qtr # 4	1745	85	403	43	86	119	55	72	59	74	44	53	100	44	52	236	104	55	61
148																				
149	Year Average	1704.8	85	401.4	42.4	85.8	119	55	71.4	59	74	44	52.4	100.2	44	51.8	235.2	105	54.8	24.4
150																				

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Lakes Region Water Co., Inc.																	DW 19-135	
2	Loss Water Report																	Lakes Region Water Company, Inc.	
3	Year Ending December 31, 2018																	Attachment 1	
4																			
5	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
6	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
7																			
8	AVAILABLE WATER																		
9	Water Produced (1000 Gallons)																		
10	Qtr # 1	22,200	504	5,409	397	1,220	1,250	562	1,409	421	817	908	873	918	576	357	3,362	1,280	888
11	Qtr # 2	24,571	579	7,077	127	1,325	912	665	1,323	422	897	863	873	1,042	470	427	3,886	1,277	1,184
12	Qtr # 3	30,175	1,059	8,752	405	1,333	979	572	1,068	392	1,016	1,141	921	893	592	899	4,934	1,969	1,969
13	Qtr # 4	24,931	819	6,644	314	1,180	868	465	547	369	1,321	1,124	652	789	505	303	5,067	1,572	1,572
14	Total Year	101,877	2,960	27,881	1,243	5,058	4,010	2,264	4,347	1,604	4,052	4,037	3,320	3,642	2,143	1,985	17,248	6,098	5,613
15	Water Purchased (1000 Gallons)																		
16	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Total Available Water (1000 Gallons)																		
22	Qtr # 1	22,200	504	5,409	397	1,220	1,250	562	1,409	421	817	908	873	918	576	357	3,362	1,280	888
23	Qtr # 2	24,571	579	7,077	127	1,325	912	665	1,323	422	897	863	873	1,042	470	427	3,886	1,277	1,184
24	Qtr # 3	30,175	1,059	8,752	405	1,333	979	572	1,068	392	1,016	1,141	921	893	592	899	4,934	1,969	1,969
25	Qtr # 4	24,931	819	6,644	314	1,180	868	465	547	369	1,321	1,124	652	789	505	303	5,067	1,572	1,572
26	Total Year	101,877	2,960	27,881	1,243	5,058	4,010	2,264	4,347	1,604	4,052	4,037	3,320	3,642	2,143	1,985	17,248	6,098	5,613
27																			
28	USAGE																		
29	Customer Usage Billed (1000 Gallons)																		
30	Qtr # 1	4,920	119	1,214	95	586	310	242	270	303	523	242	459	-	-	-	-	-	-
31	Qtr # 2	5,850	97	1,710	79	538	242	266	321	310	590	468	511	-	-	-	-	-	-
32	Qtr # 3	8,689	426	2,667	298	685	542	392	651	346	537	626	802	-	-	-	-	-	-
33	Qtr # 4	5,917	405	1,333	260	552	517	290	411	298	518	247	572	-	-	-	-	-	-
34	Total Year	25,376	1,046	6,923	732	2,361	1,612	1,189	1,652	1,257	2,168	1,583	2,343	-	-	-	-	-	-
35	POASI Usage Billed (1000 Gallons)																		
36	Qtr # 1	3,319	-	3,319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Qtr # 2	3,319	-	3,319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	Qtr # 3	3,319	-	3,319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Qtr # 4	3,319	-	3,319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Year	13,276	-	13,276	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Estimated Usage by Non Metered Customers Based on Average of All Metered Customers (1000 Gallons)																		
42	Qtr # 1	2,358	-	-	-	-	-	-	-	-	-	-	-	390	91	181	501	597	316
43	Qtr # 2	2,448	-	-	-	-	-	-	-	-	-	-	-	526	73	194	400	628	332
44	Qtr # 3	4,779	-	-	-	-	-	-	-	-	-	-	-	713	220	695	1,209	971	513
45	Qtr # 4	3,360	-	-	-	-	-	-	-	-	-	-	-	409	206	211	1,133	700	370
46	Total Year	12,945	-	-	-	-	-	-	-	-	-	-	-	2,038	591	1,281	3,244	2,896	1,532
47	Line Flushing - Blowoffs (Estimate in 1000 Gallons)																		
48	Qtr # 1	749	3	5	-	1	1	33	648	-	-	2	2	2	37	-	-	5	5
49	Qtr # 2	733	1	6	1	1	2	10	648	-	2	1	1	5	37	-	1	7	5
50	Qtr # 3	131	5	5	1	1	3	16	15	-	1	1	1	5	38	-	4	25	5
51	Qtr # 4	120	1	6	1	-	1	18	16	-	-	3	-	3	37	-	1	18	5
52	Total Year	1,733	10	22	3	3	7	77	1,327	-	3	7	4	15	149	-	6	55	20

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Lakes Region Water Co., Inc.																		DW 19-135
2	Loss Water Report																		Lakes Region Water Company, Inc.
3	Year Ending December 31, 2018																		Attachment 1
4	Division #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
5	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
6	Known leaks or repair loss (Estimate in 1000 Gallons)																		
7	Qtr # 1	6,128	275	665	29	526	835	120	29		109	430	216	150	109		1,987	324	324
54	Qtr # 2	7,904	329	1,421	-	756	651			20	239	197	324	151	259		2,851	353	353
55	Qtr # 3	7,494	292	1,200	104	526	132				338	197	65	65	259		3,632	331	331
56	Qtr # 4	5,394	91	761	-	526	-				653	197	-	10	86	14	1,572	742	742
57	Total Year	26,920	987	4,047	133	2,334	1,618	120	29	20	1,339	1,021	605	376	713	14	10,042	1,750	1,750
58	Water Sold by Tanker																		
59	Qtr # 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	Qtr # 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Qtr # 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Qtr # 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	Total Year	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	TOTAL USAGE (1000 Gallons)																		
65	Qtr # 1	17,474	397	5,203	124	1,113	1,146	395	947	303	632	674	677	542	237	181	2,488	926	645
66	Qtr # 2	20,254	427	6,456	80	1,295	895	276	969	330	831	666	836	682	369	194	3,252	988	690
67	Qtr # 3	24,389	723	7,190	403	1,212	677	408	666	346	876	824	868	783	517	695	4,845	1,327	849
68	Qtr # 4	18,110	497	5,419	261	1,078	518	308	427	298	1,171	447	572	422	329	225	2,706	1,460	1,117
69	Total Year	80,228	2,043	24,268	868	4,698	3,237	1,386	3,008	1,277	3,510	2,611	2,952	2,429	1,453	1,295	13,292	4,701	3,302
70	LOST WATER (1000 Gallons)																		
71	Qtr # 1	4,726	107	206	273	107	104	168	462	118	185	234	197	376	338	176	874	354	243
72	Qtr # 2	4,317	152	621	47	30	17	389	355	92	66	198	37	360	101	233	634	289	494
73	Qtr # 3	5,786	336	1,562	2	121	302	165	402	47	140	317	53	110	75	204	88	643	1,120
74	Qtr # 4	6,821	322	1,225	54	102	350	157	121	71	151	677	80	367	176	78	2,361	111	454
75	Total Year	21,649	917	3,613	375	360	773	878	1,339	327	542	1,426	367	1,213	691	690	3,957	1,397	2,312
76	LOST WATER (% of Available Water)																		
77	Qtr # 1	21%	21%	4%	69%	9%	8%	30%	33%	28%	23%	26%	23%	41%	59%	49%	26%	28%	27%
78	Qtr # 2	18%	26%	9%	37%	2%	2%	59%	27%	22%	7%	23%	4%	35%	22%	55%	16%	23%	42%
79	Qtr # 3	19%	32%	18%	0%	9%	31%	29%	38%	12%	14%	28%	6%	12%	13%	23%	2%	33%	57%
80	Qtr # 4	27%	39%	18%	17%	9%	40%	34%	22%	19%	11%	60%	12%	47%	35%	26%	47%	7%	29%
81	Total Year	21%	31%	13%	30%	7%	19%	39%	31%	20%	13%	35%	11%	33%	32%	35%	23%	23%	41%
82	Last Year %	24%	18%	8%	23%	36%	21%	37%	8%	28%	13%	40%	30%	45%	39%	31%	36%	3%	55%
83	LOST WATER IN GALLONS PER MINUTE																		
84	Qtr # 1	36	1	2	2	1	1	1	4	1	1	2	2	3	3	1	7	3	2
85	Qtr # 2	33	1	5	0	0	0	3	3	1	1	2	0	3	1	2	5	2	4
86	Qtr # 3	44	3	12	0	1	2	1	3	0	1	2	0	1	1	2	1	5	9
87	Qtr # 4	52	2	9	0	1	3	1	1	1	1	5	1	3	1	1	18	1	3
88	Average YTD	41	2	7	1	1	1	2	3	1	1	3	1	2	1	1	8	3	4
89	Prior Year Ave	69	1	10	2	4	12	1	1	1	4	1	1	3	0	1	6	20	1
90	Non metered water loss for prior year has been estimated in order to provide comparison																		
91	SALES TO PROPERTY OWNERS ASSOCIATION SWISSVALE, INC. IN (1000 Gallons) Included in Paradise Shores (PS)																		
92	Qtr # 1			3319															
93	Qtr # 2			3319															
94	Qtr # 3			3319															
95	Qtr # 4			3319															
96	Total Year			13276															
97	***** Non metered in Division 4 WVG (Waterville Valley Gateway) is for the Pool.																		
98	CUSTOMER COUNT																		

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Lakes Region Water Co., Inc.																		DW 19-135
2	Loss Water Report																		Lakes Region Water Company, Inc.
3	Year Ending December 31, 2018																		Attachment 1
4	Division #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
5	Division Name	TOTAL	FEH	PS	WP	WVG	HV	WC	PC	DR	WG	ELW	BH	TWW	175	DC	LOV	IM	GG
6	<b>METERED</b>																		
7	Prior Year	1142	85	401	42	84	119	55	71	59	74	44	47	0	0	0	0	0	0
113	Qtr # 1	1164	85	408	43	85	119	55	74	59	74	44	57	0	0	0	0	0	0
114	Qtr # 2	1164	85	408	43	85	119	55	74	59	74	44	57	0	0	0	0	0	0
115	Qtr # 3	1165	85	409	43	85	119	55	74	59	74	44	57	0	0	0	0	0	0
116	Qtr # 4	1164	85	409	42	85	119	55	74	59	74	44	57	0	0	0	0	0	0
117	Year Average	1,160	85	407	43	85	119	55	73	59	74	44	55	0	0	0	0	0	0
118	<b>POASI AND POOL</b>																		
119	Prior Year	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
120	Qtr # 1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
121	Qtr # 2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
122	Qtr # 3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
123	Qtr # 4	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
124	Year Average	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
125	<b>NON - METERED</b>																		
126	Prior Year	591	0	0	0	0	0	0	0	0	0	0	0	101	44	51	232	109	54
127	Qtr # 1	590	0	0	0	0	0	0	0	0	0	0	0	100	43	52	236	104	55
128	Qtr # 2	590	0	0	0	0	0	0	0	0	0	0	0	100	43	52	236	104	55
129	Qtr # 3	590	0	0	0	0	0	0	0	0	0	0	0	100	43	52	236	104	55
130	Qtr # 4	590	0	0	0	0	0	0	0	0	0	0	0	100	43	52	236	104	55
131	Year Average	590	0	0	0	0	0	0	0	0	0	0	0	100	43	52	235	105	55
132	<b>TOTAL CUSTOMERS</b>																		
133	Prior Year	1735	85	402	42	85	119	55	71	59	74	44	47	101	44	51	232	109	54
134	Qtr # 1	1744	85	400	43	86	119	55	71	59	74	44	57	100	43	52	236	104	55
135	Qtr # 2	1744	85	400	43	86	119	55	71	59	74	44	57	100	43	52	236	104	55
136	Qtr # 3	1739	85	402	43	86	119	55	71	59	74	44	50	100	43	52	236	104	55
137	Qtr # 4	1743	85	403	42	86	119	55	72	59	74	44	53	100	43	52	236	104	55
138	Year Average	1741	85	401.4	42.6	85.8	119	55	71.2	59	74	44	52.8	100.2	43.2	51.8	235.2	105	54.8

LRW Water Service, Inc.  
 P. O. Box 309  
 Moultonboro, NH 03254  
 Day/Eve 603-476-5378/344-5363

# ESTIMATE

DATE	ESTIMATE
3/19/2019	412

Exhibit Staff 1-13, B

NAME / ADDRESS
Lakes Region Water Co., Inc.

DESCRIPTION	
Paradise Shores Water Main Replacement Replace 1000 Feet (+ or -) 4" Water Main With 8" C/900 PVC Pipe From Upper Pump Station To Quinlan Lot Excavation, Installation, Materials (Pipe, Sand, Gravel) & Cleanup @ \$92.00 Per Foot <b>**NOTE: No Pavement Included</b> Note: Any Removal Of Large Boulders Or Blasting Of Ledge Will Be An Additional Fee	92,000.00

\$92,000.00
-------------

Acceptance Of Proposal -The above prices, specifications and conditions are hereby accepted. You are authorized to do the specified work. Payment will be made as above.

Authorized Signature \_\_\_\_\_

LRW Water Service, Inc.  
 P. O. Box 309  
 Moultonboro, NH 03254  
 Day/Eve 603-476-5378/344-5363

# ESTIMATE

DATE	ESTIMATE
4/9/2019	420

Exhibit Staff 1-13, C

NAME / ADDRESS
Lakes Region Water Co., Inc.

DESCRIPTION	
Replace Water Main & Service Connections Paradise Shores/Robin Lane	
850 Feet (+ or -) 4" C900 Water Main @ \$60.00 Per Foot	51,000.00
(3) 4" Gate Valves @ \$2,500.00 Each	7,500.00
(3) Service Connections @ \$2,500.00 Each	7,500.00
Pipe Bedding Sand & Gravel Included	
Note: Blasting Of Ledge Or Large Boulders Will Be An Additional Fee	
Pavement Patch To Be Charged When Completed (Amount Unknown)	

\$66,000.00
-------------

Acceptance Of Proposal -The above prices, specifications and conditions are hereby accepted. You are authorized to do the specified work. Payment will be made as above.

Authorized Signature \_\_\_\_\_

**LRWC / Dockham Shores**

**Staff 1-14b  
Attachment**

**Rates**

**Current Rates**

	<u># of Customers</u>	<u>Base Rate</u>	<u>Revenue from Base Rates</u>
Base Rates	61	\$ 193.84	\$ 11,824.24
	<u>2018 Usage</u>	<u>Consumption Rate per 100 gallons</u>	<u>Revenue from Cons Rate</u>
Consumption Rate	2,509,000	\$ 1.232	\$ 30,910.88
Total Revenue			\$ 42,735.12

**Projected Rates**

	<u># of Customers</u>	<u>Base Rate</u>	<u>Revenue from Base Rates</u>
Base Rates	61	\$ 265.21	\$ 16,177.93
	<u>2018 Usage</u>	<u>Consumption Rate per 100 gallons</u>	<u>Revenue from Cons Rate</u>
Consumption Rate	2,509,000	1.69	\$ 42,292.27
Total Revenue			\$ 58,470.19

Note: The projected rates include \$15,736 of Preliminary Revenue Requirement associated with \$214,909 of Dockham Shores additions to plant as cited in SPS-5. The projected rates do not include other additions to plant, changes in the capital structure and/or cost rates, changes in operating revenues, expenses, etc.

SPSt. Cyr  
9/25/2019

REQUEST: Regarding the \$215,000 of total plant additions proposed for Dockham Shores and Mr. Mason's statement in his Prefiled Testimony, page 4, that "The Company plans to file a separate DS rate petition to increase rates to DS customers," please respond to the following:

- a) Please provide the number of customers, broken down by class (residential, commercial), that are presently served by Dockham Shores.
- b) Please provide a calculation that shows the estimated additional amount that will be added to the monthly bill of a customer, of each customer type, of Dockham Shores if the instant financing and the separate DS rate petition are approved.
- c) When is the Company anticipating submitting its filing for a rate increase for the Dockham Shores system?
- d) Were the Company to delay "reimbursing itself" for funds expended for DS improvements, could the company afford all or part of the financing necessary to complete the other projects, identified as projects 2-4 without a DS or LRWC rate increase? Please be specific. Why does the Company wish to reimburse itself for the DS project at this time, instead of waiting to do so after its anticipated DS rate case?

RESPONSE:

- a) At 8/31/19, Dockham Shores serves 61 residential customers.
- b) See attached 1-14b attachment, which shows the calculation of the estimated additional amount that will be added to the quarterly bill of a customer.
- c) The Company expects to file a "Notice of Intent to File for Rate Change" in the next week or two and the rate case 30 – 60 days following the Notice.
- d) No. The annual debt service associated with projects 2-4 is \$34,504. It was the Company's desire to reimburse itself at the time of the step increase, namely August 12, 2019. The plant was placed in service on 12/31/18, providing service to customers since that time. While the Company currently contemplates a 2020 rate case with a 2019 test year, such a decision won't be made until the 1<sup>st</sup> quarter 2020 and would likely not be filed until mid 2020.

REQUEST: Regarding the Company's second contemplated rate case to be filed during 2020, will that petition also contain a request to include the Dockham Shores system in the Company's consolidated rate?

- a) If no, please explain.
- b) If yes, and in light of the step adjustment recently approved for Dockham Shores in Commission Order No. 26,272 (July 11, 2019) in DW 16-619:
  - 1) Please explain why the inclusion of a subsequent rate adjustment for Dockham Shores in a second rate case would be reasonable in light of that portion of RSA 378:7 which states, "*The commission shall be under no obligation to investigate any rate matter which it has investigated within a period of 2 years, but may do so within said period at its discretion.*"
  - 2) Would it not be more efficient, less costly, and more likely to mitigate rate shock to customers if the contemplated rate adjustment for Dockham Shores was only included in the Company's general rate increase petition in 2020 rather than having two separate rate proceedings involving Dockham Shores? Please explain.

RESPONSE:

- a) It is likely to include a request to include the Dockham Shores system in the consolidated rate.
- b)
  1. The language quoted in RSA 378:7 applies in cases commenced by the Commission "upon its own motion or upon complaint". This statutory provision applies to cases where an investigation occurs as a result of a complaint or the Commission's own investigation. It does not apply where a utility petitions for a rate increase pursuant to RSA 378:5 & RSA 378:27 et seq., owing to increases in the cost to provide service attributable to inflation, changes in market conditions (e.g. labor, fuel, insurance), plant additions or other circumstances. The purpose of the 2 year rule is to eliminate the need to re-investigate in response to each and every complaint when those complaints concern a subject previously determined in a proceeding. It is not a prohibition against filing new schedule for permanent or temporary rates.

The Company's need for a rate increase for Dockham Shores owes to the unique circumstances under which that system was acquired based on rates and facilities that had not been timely updated. The goal is to recover cost of major capital additions made on an expedited basis in order to maintain service to customers in compliance with NHDES Rules and RSA 374:1. The Company's long-term goal is to consolidate Dockham Shores rates with the Company's general rates for service in 2020.

The Company does not object to deferring review of the Company's overall cost to provide service to a full rate proceeding in 2020 in order to avoid duplication of review by Staff and the Commission. The Company could seek a waiver of the requirement to file full rate schedules in its Dockham Shores filing for that purpose.

2. See Response above. Likely yes. The Company needs to seek rate relief for Dockham Shores in 2019 due to the costs of plant placed in service to service customers, i.e. \$215,000 in additional plant placed in service as of 12/31/18. Conceptually, this could be considered as a step adjustment and a full rate review deferred to a proceeding in 2020 based on a 2019 test year. The Company included Dockham Shores in this financing so that the capital structure used to calculate its rates could be adjusted to promote future consolidation and avoid future rate shock that would result in the absence of a consolidated rate structure. Proceeding with a more limited review of Dockham Shores would also reduce rate case expenses for both the Company and its customers. Also, there is no assurance that the Dockham Shores system will be incorporated into the consolidated rate. In addition, there is no assurance that the Company will be able to justify LRWC rate case without knowing the 2019 financial results.

NHPUC Docket DW 19-135

Lakes Region Water Company

Cost of Capital Information

Staff 1-16  
Attachment  
Page 1 of 3

Overall Rate of Return	Component Ratio	Actual Component Cost Rate	Wght Avg Cost Rate		Component Ratio	Proforma Component Cost Rate	Wght Avg Cost Rate
Equity Capital	74.83%	9.60%	7.18%		64.98%	9.60%	6.24%
Long Term Debt	25.17%	5.98%	1.50%		35.02%	5.70%	2.00%
Total Capital	100.00%		8.69%		100.00%		8.24%

Capital Structure		2018 Actual Amounts	2018 Actual Ratios		2018 Proforma Amounts	2014 Proforma Ratios
Common Stock		\$ 10,000	0.25%		\$ 10,000	0.22%
Additional Paid in Capital		1,426,322	36.00%		1,426,322	31.26%
Capital Stock Expense		4	0.00%		4	0.00%
Retained Earnings		1,528,307	38.57%		1,528,307	33.50%
Total Equity		\$2,964,633	74.83%		\$ 2,964,633	64.98%
Long Term Debt		997,326	25.17%		1,597,568	35.02%
Total Capital		\$3,961,959	100.00%		\$ 4,562,201	100.00%

SPSt. Cyr  
10/4/2019

Lakes Region Water Co., Inc  
Pro Forma Year Ended December 31, 2018  
F35 Long Term Debt

Staff 1-16  
Attachment  
Page 2 of 3

Obligation (a)	Date of Issue (b)	Original Amount (c)	Date of Maturity (d)	Balance 12/31/2018 (h)	% Rate (l)	Interest Expense (k)	Amort of Fin Costs (l)	Total Int Exp (m)
221.01 CoBank T01 (15 Year note)	6/25/2014	474,567	6/20/2029	345,734	5.25%	21,040		21,040
221.03 CoBank T03(20 Year note) Indian Mound	4/27/2015	130,000	6/20/2030	104,016	5.50%	5,650		5,650
221.04 CoBank T04(20 Year note) Dockham	12/18/2017	135,000	11/20/2037	128,985	5.45%	7,824		7,824
221.03 CoBank T05(20 Year note) Step 2	12/18/2017	265,000	11/20/2037	254,713	5.45%	15,446		15,446
<b>CoBank</b>		<b>633,000</b>		<b>633,000</b>	<b>5.50%</b>	<b>34,369</b>	<b>400</b>	<b>34,769</b>
<b>Sub - Total (Sch F-35) (BS Line 13)</b>				<b>1,466,448</b>		<b>84,330</b>	<b>400</b>	<b>84,730</b>
Note: Excludes CoBank S01 Line of Credit								
224.05 N/P Ford Motor Credit- 2016 Ford F150	4/30/2016	41,633	6/30/2021	20,122	0.00%			-
224.07 N/P Ford Motor Credit- 6505-2014 Ford F150	10/16/2017	51,882	10/16/2022	40,756	4.34%	1,995		1,995
224.08 N/P Ford Motor Credit -2428-2018 Ford F250	2/8/2018	45,451	2/8/2023	37,434	4.84%	1,381		1,381
224.09 N/P Ford Motor Credit -2159-2018 Ford F250	2/8/2018	39,335	2/8/2023	32,808	4.84%	1,606		1,606
<b>Sub-Total (Sch F-35) (BS Line 16)</b>				<b>131,120</b>		<b>4,982</b>	<b>-</b>	<b>4,982</b>
<b>Total Long Term Debt (BS Line 17)</b>				<b>1,597,568</b>		<b>89,312</b>	<b>1,782</b>	<b>89,712</b>
								91,094
								5.70%

Note: Excludes CoBank S01 Credit Line of \$50,000.

SPSt. Cyr  
10/4/2019

Lakes Region Water Co., Inc  
Year Ended December 31, 2018  
F35 Long Term Debt

Staff 1-16  
Attachment  
Page 3 of 3

Obligation (a)	Date of Issue (b)	Original Amount (c)	Date of Maturity (d)	Balance 12/31/2018 (h)	% Rate (l)	Interest Expense (k)	Amort of Fin Costs (l)	Total Int Exp (m)
221.01 CoBank T01 (15 Year note)	6/25/2014	474,567	6/20/2029	345,734	5.25%	21,040		21,040
221.02 CoBank T02 (5 Year note)	6/25/2014	318,810	6/20/2019	27,923	3.45%	2,654		2,654
221.03 CoBank T03(20 Year note) Indian Mound	4/27/2015	130,000	6/20/2030	104,016	5.50%	5,650		5,650
221.04 CoBank T04(20 Year note) Dockham	12/18/2017	135,000	11/20/2037	128,985	5.45%	7,824		7,824
221.03 CoBank T05(20 Year note) Step 2	12/18/2017	265,000	11/20/2037	254,713	5.45%	15,446		15,446
<b>Sub - Total (Sch F-35) (BS Line 13)</b>				<b>861,371</b>		<b>52,615</b>	<b>-</b>	<b>52,615</b>
Note: Excludes CoBank S01 Line of Credit								
224.02 N/P Ford Motor Credit - 9888-2013 Ford F250	8/16/2013	36,918	8/15/2018	-	5.95%	43		43
224.03 N/P Ford Motor Credit - 8051-2013 Ford F250	8/26/2013	8/25/1972	8/26/218	-	5.95%	25		25
224.06 N/P Cat Financial - 2014- Exavator 2014	3/27/2014	8/23/2078	4/5/2019	-	0.72%	9		9
224.04 N/P Ford Motor Credit- 6505-2014 Ford F150	8/6/2014	31,771	8/6/2019	4,835	6.24%	536		536
224.05 N/P Ford Motor Credit- 2016 Ford F150	4/30/2016	41,633	6/30/2021	20,122	0.00%			-
224.07 N/P Ford Motor Credit- 6505-2014 Ford F150	10/16/2017	51,882	10/16/2022	40,756	4.34%	1,995		1,995
224.08 N/P Ford Motor Credit -2428-2018 Ford F250	2/8/2018	45,451	2/8/2023	37,434	4.84%	1,381		1,381
224.09 N/P Ford Motor Credit -2159-2018 Ford F250	2/8/2018	39,335	2/8/2023	32,808	4.84%	1,606		1,606
<b>Sub-Total (Sch F-35) (BS Line 16)</b>				<b>135,955</b>		<b>5,595</b>	<b>-</b>	<b>5,595</b>
<b>Total Long Term Debt (BS Line 17)</b>				<b>997,326</b>		<b>58,210</b>	<b>1,382</b>	<b>58,210</b>
								59,592
								5.98%

Note: Excludes CoBank S01 Credit Line of \$50,000.

SPSt. Cyr  
10/4/2019

REQUEST: Please provide a schedule that shows the calculations of LRWC's weighted average cost of capital both before and after the proposed financing.

RESPONSE: See 1-16 Attachment, showing the weighted average cost of capital.

REQUEST: Ref St. Cyr Prefiled Testimony, Page 10. Please explain how the estimate for CoBank's origination fee of \$4,000 s was determined.

RESPONSE: Please see CoBank July 9, 2019 term sheet (Exhibit Staff 1-1 C), which state an Origination Fees of \$4,000.

REQUEST: Ref St. Cyr Prefiled Testimony, Page 10. Please explain how the estimate for accounting fees totaling \$4,000 was determined.

RESPONSE: As of 8/31/19, LRWC has incurred \$3,482.50 of actual accounting fees in its preparation and filing of the Financing. Also, it has incurred \$66.00 of legal fees. At this point, it is seems certain that the financing costs will exceed the \$4,000 estimate.

REQUEST: Ref. St. Cyr Prefiled Testimony Page 3 (DS rate increase to recover its investment and pay the loan), Page 5 (The Company plans to file a separate DS rate petition to increase rates to DS customers. Depending on its financial result, the Company is tentatively planning on filing a LRWC rate petition in 2020 to increase rates to LRWC customers), Page 9 (The Company's ability to repay the new debt is only possible with an increase in rates); Mason prefiled Testimony, Page 2-3 (It should be noted that the Company plans to file a separate petition requesting a DS rate increase to recover its investment and pay the loan. Page 4 (Company anticipates DS rate increase and possible LRWC rate increase).

If the Commission approves the proposed financing, does the Company possess the necessary financial resources to service that debt until such time that the contemplated DS rate increases may be approved and may be in effect? Please explain.

RESPONSE: During the construction, the Company used internal cash for the portion of construction expenditures that exceeded the \$60,000 CoBank loan. The use of internal cash lowered the Company's cash position, which effects to the Company's ability to meet all of its obligations. Since the Dockham Shores assets are long lived assets, it is appropriate to finance such asset over the long term, reflect such assets in rate base and recover such assets over the life of the assets. In the interim, the Company has the necessary financial resources to service the debt until such time that the contemplated DS rate increase.

REQUEST: Ref. Mason, Prefiled Testimony Page 2.

Mr. Mason describes the company as “owned by a family trust held by [his] mother, Barbara G. Mason.” Is Mrs. Mason the sole trustee? Is she also the sole beneficiary? Please explain how this structure comports with the Company’s description of itself in its 2018 Annual Report as a corporation with Barbara G. Mason as the sole shareholder holding 20 shares of common stock.

RESPONSE:

On the advice of counsel, the 2018 Annual Report is correct that Barbara G. Mason holds all 20 shares. However, as noted in the referenced testimony, she holds all 20 shares *as trustee*. Specifically, she holds 10 shares as trustee of the Barbara G. Mason 1994 Trust (which currently is revocable by Barbara) and 10 shares as trustee of the Thomas A Mason 1994 Trust (which currently is irrevocable and of which Barbara is the primary beneficiary). The terms of the Trusts are specific but in general, they provide that upon Barbara’s death, the trust assets are to be held in “further trusts” for the benefit of the children of Grantors, i.e. the children of Barbara G. Mason and Thomas A. Mason (“Sr”). The transfer of shares by the Trustee under the terms of each Trust is not believed to have any impact on customers or require Commission approval under RSA 374:33 or RSA 369. However, Barbara G. Mason, as Trustee, can provide the Trust documents to Staff for its review as confidential non-public documents under the provisions of RSA 91-A:5, IV, if necessary, upon request.

LAKES REGION WATER COMPANY, INC.  
DW 19-135  
PETITION FOR APPROVAL OF FINANCING  
STAFF DATA REQUEST- SET 2

Data Request Received: 10/25/2019  
Request No. Staff 2-1

Date of Response: 10/31/19  
Witness: Leah Valladares

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REQUEST: Refer to LRWC's response to Staff 1-10.

- a) Please confirm whether the terms offered by CoBank are more favorable to the Company than the terms offered by Bank of New Hampshire.

RESPONSE:

The terms offered by Cobank are more favorable to the Company than the terms offered by Bank of New Hampshire for the following reasons;

1. Bank of New Hampshire requires 80% loan to value financing with 20% down payment. - Cobank does not have this requirement.
2. Bank of New Hampshire rates would be around 4.5% fixed for five years, then adjusting every five years thereafter to the 5-year Federal Home Loan Bank of Boston rate plus 2.5%. The rate after five years could change to anywhere from 7% to 12.5% during the last 15 years of the loan. Cobank offers a fixed rate at the time of closing that remains with the life of the loan. Giving the trend, interest rates may rise in the future the Company feels Cobank offers the best fixed rate at the estimated 5.5%.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 1

Witness: Leah Valladares

Tom Mason

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Below is a condensed chronology of events relating to the change from the initial \$60,000 Justin Benes improvements proposal for the Dockham Shores facilities ('Plan A') to the Lewis Engineering design that was ultimately built ('Plan B'). The chronology was derived from information in dockets DW 16-619, DW 19-135, DW 19-177, a file review at NHDES, and other sources.

- May 31, 2016 Initial filing in DW 16-619 including Justin Benes \$60K proposal.
- Jul 1, 2017 Lakes Region acquired ownership of system.
- Oct 2, 2017 Company filed request for 9 month extension to step increase filing deadline of Dec 31, referencing involvement of the Engineer and noting "Detailed levels of surveyed plans are in process". (Extension was granted through Oct 1, 2018).
- Nov 2017 Email correspondence between Lewis Engineering and NHDES relating to new project design.
- Apr 2018 Final Lewis Engineering submittal to NHDES.
- May 8, 2018 Conditional NHDES approval ("Based on the information presented to NHDES on February 21, 2018 and April 18, 2018").
- Oct 2, 2018 Company filed request for 60 day extension to step increase filing deadline of Oct 1, indicating "The project is nearing completion". (Extension granted through Dec 1, 2018).
- Oct 25, 2018 First in-person indication to Staff of Plan B (see DW 16-619, DR 1-6). This had been preceded by a single phone call to Staff at an earlier date, generally indicating the project 'would cost a lot more' than originally anticipated.
- Nov 20, 2018 NHDES Sanitary Survey of completed facilities.
- Dec 4, 2018 Step increase filing (first formal notice to Commission of plan B).

In this regard:

- a) The company referred to having "on numerous occasions advise[d] Staff of the updates" regarding transitioning from 'Plan A' to 'Plan B' (Staff Recommendation filed June 21, 2019 in DW 16-619, p. 4). Does the company dispute the above chronology? If so, please provide detail.
- b) Please indicate the date on which the initial contract with Lewis Engineering was signed.
- c) To what extent was the company aware of the magnitude of the cost impact as time progressed? Please provide detail.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

- d) To what extent, if any, were customers apprised of the potential magnitude of the cost or rate impact as time progressed?

RESPONSE:

- a. The Company generally agrees with the items listed in chronology. However, the chronology does not include the dates when Lakes Region contacted Staff informally to advise staff of changes to the plans for the Project. The following additional detail is provided to complete the chronology:

On March 22, 2018, we requested an opinion from Lakes Region’s legal counsel as to how to proceed due to changes to the scope and cost of the project as a result of both experience operating the Dockham Shores system and the changes required by the Gilford Planning Board. We requested guidance on whether an additional the PUC approval was required prior to construction of those changes.

On March 23, 2018, Lakes Region’s legal counsel responded and advised that PUC approval was not required for the changes. *See Attachment 3-1.* However, Lakes Region’s legal counsel agreed with our plans to advise PUC staff of the changes, stating that he agreed “it makes sense to contact the PUC staff and inform them of the change in the implementation from a rebuild to a complete replacement. However, if it is a prudent thing to do from an engineering and operations standpoint etc., I can't see a good reason the PUC would oppose it.”

At the time of this consultation, a hearing was scheduled for March 29, 2018 for the acquisition of the Wildwood system in Docket No. DW 17 – 176. Following the hearing, we met informally with Staff and advised Staff of the changes to the scope and cost of the project. We did not have specific cost estimates or detailed plans at that time. This was an informal meeting. We do not suggest that Staff approved or suggested that it would have approve changes to the project. However, had Staff directed that Lakes Region file a formal update to the project costs or an E-22, we would have done so.

In May of 2018, Tom Mason called Staff (Jayson Laflamme) to discuss potential rate consolidation because he was concerned about the project costs and rate impacts.

- b. Lakes Region has worked with Lewis Engineering on an on-going basis for several decades. Lakes Region did not require a formal written contract with Lewis Engineering.
- c. See Response (a), above.
- d. Customers were notified in DW 16 – 619 on December 3, 2018 (“The schedules support a total plant addition of \$300,599, a rate of return of 8.91 %, a step adjustment amount of \$53,894 or 141.70%.”). On July 11, 2019, the Commission issued Order No. 26,272

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

which noted on Page 2 that “Lakes Region initially petitioned for a step adjustment of \$53,894, or 141.70 percent ... based on \$300,599 of total plant additions”. On July 15, 2019, Lakes Region submitted an Affidavit of Publication advising that it had “notified ALL customers of Dockham Shores of the Order Nisi authorizing the step adjustment via first class mail post marked July 15, 2019.”

Customers also received notice of the Project by the Town of Gilford Planning Board as part of its site plan review pursuant to RSA 674:43 and RSA 676:4, I (d)(1) (“Notice to the applicant, holders of conservation, preservation, or agricultural preservation restrictions, abutters, and the public shall be given as follows...”). The Planning Board held several public hearings in which Company revised its plans for the Project in response to review by the Planning Board.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 2

Witness: Leah Valladares

Tom Mason

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Regarding the original Justin Benes proposal:

- a) Please confirm the proposal anticipated two above-ground buildings; one at the well site and one on top of the then-existing in-ground pump station.
- b) Is the company aware Dockham Shores was on the approved 2012 SRF list for \$102,000 for various improvements including adding a bulkhead to the in-ground pump station to eliminate confined space entry, various plumbing, electrical and meter upgrades, and provision for backup power at both locations (well site and pump station) (see also response to Staff 1-9 in DW 19-135)?

RESPONSE:

- a. No. The original proposal contemplated **a** cover for the electrical controls at the well site. A building was proposed for the pump station site on the existing concrete slab.
- b. No. Lakes Region was not aware of the 2012 SRF approvals.

Please note that any 2012 SRF approvals expired prior to acquisition by Lakes Region in July of 2017. The 2012 SRF approval relate to the prior owner which was a separate corporation. Under the Asset Purchase Agreement approved by the Commission in DW 16 – 619, Lakes Region acquired only the assets owned by the corporation (e.g. plant, property and equipment), free and clear of both the benefits and liabilities of the prior corporation. Lakes Region did not assume or acquire any interest existing loans and loan approvals by the prior corporation.<sup>1</sup>

The reasons that the prior owner did not complete the projects in the 2012 SRF approval are not known to Lakes Region. However, it is likely that these projects would have been imprudent from an operational and financial standpoint for the reasons stated in Lakes Region's *Response to Staff 3-3, below*.

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<sup>1</sup> Section 1.3 states *inter alia* that: "Buyer will not assume any liabilities or obligations of the Seller of any nature, whether accrued, absolute, contingent or otherwise, asserted or unasserted, known or unknown, in connection with the sale and purchase of the Purchased Assets, and is expressly not assuming any State of New Hampshire Drinking Water Revolving Loan Fund loans ("SRF Loans") outstanding as of the Closing."

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 3

Witness: Leah Valladares

Tom Mason

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Please provide estimates for how an SRF grant in the amount of \$102,000 would have impacted additional work, if any, at Dockham Shores. What projects (beyond initial \$60K and then \$102,000 SRF funded work) would LRWC have concluded remained necessary and what did those projects cost?

RESPONSE: Please note that the 2012 SRF approval was never pursued by the prior owner. As explained in Lakes Region’s Response to Staff 3-2, above, this approval likely expired prior to Lakes Region’s acquisition in July of 2017.

The reasons the SRF grant approval was not pursued by the prior owner are not known and call for a degree of speculation. However, it is likely that the prior owner did not proceed with these projects because the projects approved in the 2012 SRF grant for \$102,000 would have been both inadequate and imprudent from both a financial and operational perspective due to the physical deterioration of the system.

This is consistent with our own conclusions. As explained in Lakes Region President Tom Mason’s testimony in DW 19 – 177, Lakes Region’s original plans to rehabilitate the pump station for \$60,000 had to be changed after acquiring in July of 2017. Lakes Region concluded that the original proposal would have only been a temporary solution and the system would have needed to be completely replaced. As stated on Page 3:

A. After acquiring the system and operating it for an initial period, it became clear that the system was in considerably worse shape than originally believed. The deteriorated condition of the system was described in detail in response to Staff Data Requests in DW 16 – 619 and in Attachment C. By way of summary:

- o One of the two storage tanks had failed and the second tank had deteriorated to the point where it was leaking and could not be repaired.
- o The well yields were lower than anticipated which required LRWC to impose water use restrictions and bans.
- o The system also experienced frequent electric power outages during storm events which required a portable generator to be manually set up.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

The frequency of power failures was unusual compared to other nearby systems operated by LRWC.

**If LRWC had proceeded with its initial plan, it would have only been a temporary fix. The Company would have likely needed to entirely replace the pump station 3 to 4 years later. This would have had an adverse impact on both rates and service to customers.**

Lakes Region did not proceed with its \$60,000 proposal for improvements because it was deemed imprudent and not in the best interests of customers. The entire system would need to be replaced 3 to 4 years later.

The projects included in the 2012 SRF approval for \$102,000 identified in Staff Request 3 – 2 include a “bulkhead to the in-ground pump station to eliminate confined space entry, various plumbing, electrical and meter upgrades, and provision for backup power at both locations (well site and pump station)”. These projects would have faced the same problem. Had the prior owner completed these project, he would have spent even more money than Lakes Region proposed but would still need to improve the well yields and entirely replace the pump station. It seems likely that the prior owner would have concluded, as we do, that these projects were not prudent from an operational or financial standpoint.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 4

Witness: Leah Valladares

Tom Mason

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LRWC asserts that SRF funding would increase Dockham Shore project costs because the “Davis Bacon wage requirement would result in higher project costs” and because of increased administrative /staff costs associated with a 2<sup>nd</sup> set of financial covenants and security obligations. *See* Staff 1-9. Please estimate those costs and the impact on the cost of SRF funding.

RESPONSE:

*Davis Bacon and Administrative Costs.* Lakes Region does not have the resources to quantify or estimate the Davis Bacon and related costs. Based on experience in the water industry, we expect that the impact of the SRF requirements on the costs of a small project similar to Dockham Shores, including but not limited to the Davis Bacon prevailing wage requirements, contract bidding, administration and oversight requirements, “Buy American” and other SRF requirements, could increase the total project costs by as much as 35% or more. For larger (>\$1,000,000) projects, the cost impact of the SRF requirements is mitigated or offset by lower interest rates. Principal forgiveness is another factor that can mitigate or offset the cost impact of the SRF requirements. However, for a small project like Dockham Shores that does not qualify for principal forgiveness, the cost of SRF requirements would adversely impact customers.

*CoBank and SRF Financial Requirements.*

Lakes Region’s existing loans with CoBank ACB require that it obtain approval from CoBank for a second loan. Lakes Region understands that both CoBank and the SRF Program require that their loans receive first priority status. Lakes Region does not know what CoBank would require in order to obtain approval for a third-party (SRF) loan, either as a first or second priority loan. There legal costs to navigate these requirements and obtain modifications or waivers to loan documents from each lender would likely be significant and approval uncertain.

By using CoBank as its existing lender, Lakes Region can reduce or avoid: (a) legal costs associated with approval of a second lender; (b) legal costs for a new mortgage; and (c) other expected and unexpected legal costs that may arise with any new loan program. The benefits of working with a single, competitive financial institution benefit both Lakes Region and its customers.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 5

Witness: Leah Valladares

Tom Mason

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Based on correspondence from former owner Colin Robertson at the time, the interior of the atmospheric tank was inspected, sandblasted and repainted with epoxy paint by Lakes Region in June 2009 (the pressure tank was found to have a pinhole leak and was abandoned in place at that time, rather than attempting to weld and reline it). The epoxy lining was estimated to have a useful life of 30 years. A note painted on the tank itself indicates the tank was subsequently “Inspected on 12/3/10 by LRW Co”. However, an inspection by Lewis Engineering, presumably in 2017, determined the tank to be “unserviceable” (DW 16-619, DR 1-5). Lakes Region has indicated it “was deteriorating (re welded in 2008)” (DR 1-1, para. 3). New testimony by Thomas Mason in DW 19-177 appears to indicate the tank at that time “had deteriorated to the point where it was leaking and could not be repaired.” (p. 3, line23). In these regards:

- a) On what basis does the company believe the atmospheric tank was re-welded in 2008?
- b) If re-welded at that time, was it an interior or exterior repair?
- c) Why does the company now also believe the tank was leaking in the 2017/2018 time frame (visual leak, meter discrepancy, pressure test, etc.)? Please provide detail, including any investigation done or determination of repairability or cost.
- d) Please provide any further detail available on why the tank was considered ‘unserviceable’ in 2017.

RESPONSE: There appear to be several errors in this request. Please note:

Neither Lakes Region nor LRW Water Service repainted the tank with epoxy paint. LRW Water Service discussed this with the prior owner and did not recommend repainting with epoxy paint.

The source of this statement the epoxy lining would “have a useful life of 30 years” is unclear. Lakes Region does not agree with that statement or believe that it or LRW Water Service made or would have made such an estimate.

Our best recollection is that the prior owner hired a company from Vermont to perform the welding and repainting with epoxy paint. The tank was inspected by LRW Water Service (not Lakes Region) on 12/3/10 and this was before the welding had been performed by the company from Vermont. Leaking into the tank was observed at the time of the inspection prior to the repair. The company from Vermont performed welding and painting on the interior of the tank only as the tank is underground and its exterior is inaccessible.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

The quoted testimony that the tank “had deteriorated to the point where it was leaking and could not be repaired” refers to the condition of the tank after the system was acquired by Lakes Region in July of 2017.

- a. Based on further review, the 2008 date may be **in**correct. See response, above.
- b. The welding repair was only the interior. The exterior of the tank was not accessible.
- c. See Response to Staff Request 1 – 5 in DW 16 – 609. Lewis Engineering inspected the storage tank and observed that: “The old water tank had been repaired and coated in 2008, upon inspection by Bruce Lewis of Lewis Engineering, it was advised to replace due to the old water tank being unserviceable.” See also Response to Staff Request 1 – 14 B (NHDES Inspection Report noting a significant deficiency in 2018 that: “STM storage tank maintenance required” .
- d. See Para c above.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 6

Witness: Leah Valladares

Tom Mason

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The change from ‘Plan A’ to ‘Plan B’ occurred in part “due to the requirements imposed by the Town’s Planning Board” (DW 16-619, DR 1-7; see also DR 1-8, “changes required by the Town”). Similarly, the “Engineer hired for the permitting process advised [the existing pump station site] was not a practical location” (DR 1-1, Para. 1). In these regards:

- a) Please indicate the requirements considered or imposed by the Town of Gilford related to the improvements.
- b) Please elaborate on why the existing pump station site was not considered a practical location.

RESPONSE:

- a) The quoted language in this request is incomplete. The quoted response to Staff 1 – 7 states that: “Following acquisition, the Company was required to modify its original plan to improve system due to the requirements imposed by the Town’s Planning Board and due to further assessment of the systems’ needs by the Company and its Engineer.” (emphasis added).

Similarly, the quoted response to Staff 1 – 8 states that: “Unfortunately, the changes required by the Town and Engineer and required to maintain service made it imprudent to rebuild the pump station as originally proposed and expected.” (emphasis added).

The Company originally sought a building permit without site plan review as is typically allowed for utilities serving retail customers in New Hampshire. In this case, the building inspector required Lakes Region to obtain site plan approval from the Planning Board which then required the Company to present detailed plans concerning its proposed changes. *See e.g. Seabrook v. Vachon Management, Inc.*, 144 N.H. 660 (2000) (explaining that even minor changes may be subject to site plan review because “[i]f a town is not permitted to review site plans for all changes in use, it will be unable to measure the impact of such changes on the existing infrastructure and site conditions to protect the public health, safety, and welfare.”). Lakes Region was required to provide detailed plans that met the requirements of the Town of Gilford’s site plan regulations.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

The actual changes submitted for approval were designed by the engineer based on the NHDES requirements. This is also explained in Response to Staff 1-12A in DW 16 – 619.

- b. The existing pump station was located in a property owners landscaped yard. A new and larger pump station building would be problematic. The existing location created operational problems due to the 1100 to 1400 feet of telemetry line, electrical lines, and water lines located at great distance from the wells and in a landscaped yard. The lines had multiple changes in direction. This arrangement was highly unusual and irregular. It would have imposed additional costs to replace the lines if the new pump station was at this location.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 7

Witness: Leah Valladares

Tom Mason

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Mr Mason, in his testimony in DW 19-177, indicates “The system also experienced frequent electric power outages during storm events which required a portable generator to be manually set up. The frequency of power failures was unusual compared to other nearby systems operated by LRWC.” (p. 3, lines 28-31). The response to DW 16-619 DR 1-3 cites a single (3 day) power outage in late 2017, although noting customers “have expressed via phone conversations the frequency of outages”. In these regards:

- a) Please provide any additional data on dates and duration of outages in the time period leading up to 2018.
- b) Please provide any available records of customer phone calls during this time frame relating to this issue.

RESPONSE:

The Company does not have additional data or phone records beyond those previously provided. We believe three separate customers discussed outages. However, this is a personal recollection and records were not kept of these discussions.

The NHDES recommends backup generators on all public water systems due to the frequency of severe storm events. Backup power is important because it reduces burdens on the utility and emergency responders during storm events.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 8

Witness: Leah Valladares

Tom Mason

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The main from the wells to the former pump station appears to have consisted of approximately 1100' of 2-inch polyethylene (although reported by Lewis Engineering as approximately 1400'). Lewis Engineering indicated the line "had a severe restriction to flow" (DW 16-619, DR Staff 1-12 A). Similarly, Lakes Region indicated the line "had obstructions" (DR 1-1, para. 4). In these regards:

- a) Please indicate the basis for believing the line had obstructions and/or a significant flow restriction.
- b) When did the company first learn of this condition?
- c) Please provide a range of what might have been possible costs to remedy the situation (for example, inserting a line to locate the obstruction).

RESPONSE:

- a. Lewis Engineering identified this line as a 2" line. However, it was a 1 ¼ inch line.

Lakes Region's operators observed that the line had limited flows. When Lakes Region acquired the system, the meters connected to the wells were inoperable. These were replaced which led to the discovery that the yields were lower and high pressures above 100 psi were observed.

- b. Lakes Region learned of this condition following acquisition in July of 2017 and replacement of meters for the wells. See Lewis Engineering Report dated May 18, 2018.

*See Response to Staff 1-12 A* referenced in the Request ("As the operation of the facilities were more closely looked at, it became apparent that a number of items were effectively at the end of their useful life, and in some cases did not meet current [NHDES] general water works, or OSHA standards. ... the single well line between the well field and pump house (approximately 1,400 feet) that had a severe restriction to flow, and needed to be replaced, were among the major items that lead to the decision to design and install new facilities meeting current [NHDES] and industry standards.").

- c. The 1 ¼ inch line did not meet NHDES and industry standards. It would not be prudent or cost effective to repair. This was one of the many factors that led to the decision to replace the pump station before it failed completely.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 9

Witness: Leah Valladares

Tom Mason

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The company indicated it has “improved treatment systems” in Dockham Shores (DW 16-619, DR 1-8, last paragraph). In this regard:

- a) Were both the UV and particulate (cartridge filter) treatment units transferred from old to new pump station? Please explain.
- b) Was any further treatment added?
- c) Please indicate any ways in which water treatment or quality was improved.

RESPONSE:

- a. Both the UV and particulate treatment units were transferred to the new pump station.
- b. No.
- c. The December 3, 2018 application for a step increase correctly stated that: “Provision has been made for future water treatment, if needed.” Lakes Region’s Response to Staff DR 1 – 4, Attachment 1-4A also correctly stated that: “There is provision for water treatment, and for a standby generator.”).

The Response to Staff DR 1 – 8 submitted on March 25, 2019 was incorrect. We apologize for this error.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 10

Witness: Leah Valladares

Tom Mason

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Mr. Mason testified in DW 19-177 that one of the benefits of the new improvements is “increased ... storage capacity” (p. 4, line 15). However, atmospheric storage actually decreased from 16,000 gallons (former steel tank) to 15,000 (new concrete tank). Please explain.

RESPONSE:

The tank was advertised to be 16,000 gallons. However, this is incorrect. Lakes Region personnel measured the tank dimensions to be 8 feet high by 30 feet long. This works out to an actual storage 11,280 gallons if the tank is filled completely. The replacement tank is 15,000 gallons.

The use of vertical turbines in the new tank also allow more of the storage capacity to be used as the prior pumps could not access the bottom 18 inches of the tank. This increases the effective storage compared to the old tank.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 11

Witness: Leah Valladares

Tom Mason

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The NHDES approval letter issued May 8, [2018] [sic] (DW 16-619, DR Staff 1-14 C) contained requirements for decommissioning the former pump station (p. 2, Item 2). The Audit Report issued by Staff on January 30, 2019 in that docket noted \$12,500 of work billed by LRW Water Service “relating to the cost of removing the old pump station” (p. 4, see also pp. 5-6). Has this work been completed? Please explain.

RESPONSE:

The tank has been disconnected and from the system. However, it has not been backfilled because the property owner did not want his yard to be disturbed. This needs to be completed and Lakes Region will work with the property owner to minimize disturbance.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 12

Witness: Leah Valladares

Tom Mason

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Given the fairly extreme potential rate impacts to customers compared to the original proposal, please indicate any and all efforts made to minimize cost impacts in the new design.

RESPONSE:

The pump station was designed to be as cost effective as possible without compromising the quality of service. A detailed comparison or study has not been completed by the costs seem reasonable compared to other projects approved by the Commission. For example:

\$432,900 HAWC Settler’s Ridge, DW 10 – 241, Staff Recommendation dated December 29, 2010 (“The total estimated cost submitted by HAWC for the construction of the pumphouse and other associated assets was \$432,900.”).

\$603,000 PEU Liberty Tree, DW 11 – 108, Staff Recommendation dated June 15, 2011 (“The overall project is expected to cost approximately \$603,000, with the balance coming from the company’s internal funds.”).

\$376,805 HAWC Wells Village, DW 16-825, Staff Recommendation dated December 14, 2016 (cost of project after deducting water meters, service lines, and mains).

Lakes Region has proposed debt financing and rate consolidation to minimize impacts on customers. Over time, rate consolidation reduces impacts to customers as the Lakes Region invests in improvements to each system.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

Request No. Staff 3 – 13

Witness: Leah Valladares

Tom Mason

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Regarding a possible interconnection with the Laconia water system:

- a) Has the company had any discussions with Laconia in this regard? Please provide full details.
- b) What length of main extension would have been required to service Dockham Shores?
- c) What would the estimated cost of such an extension have been?

RESPONSE:

- a. No. Lakes Region does not agree that an interconnection to the Laconia water system was “possible” or appropriate under the circumstances for several reasons:
  - o First, Lakes Region was *required* to complete improvements to the pump station as part of the Settlement Agreement approved by the Commission in DW 16 – 619 on or before December 31, 2017. Delays and changes resulted from the poor condition of the system and the requirement to obtain site plan approval from the Gilford Planning Board. *See Response to Staff 3 – 6 and to Staff Set 3 generally.* However, Lakes Region was *required* to upgrade the system. It did so in a cost-effective manner.
  - o Second, Lakes Region did not have the luxury of time to delay or evaluate alternatives. It is required to maintain service to customers, RSA 374:1, and the need to replace the failing pump station was urgent. *See Petition in DW 16 – 619, Page 7* (“Delaying the necessary improvements risks failure of system components that need to be replaced immediately. The need for both improvements and a mechanism for cost recovery is urgent.”).
  - o Third, the debt financing for improvements to the Dockham Shores system was required as part of an overall plan to increase the debt in Lakes Region’s capital structure approved by the Commission. *See Order No. 25,969, Page 4* (“Among the items agreed to by the Settling Parties was a *pro forma* test year capital structure consisting of 64 percent equity and 36 percent debt based on the expectation that Lakes Region will be undertaking certain future capital improvement projects which it intends to finance primarily through debt.”).

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

- o Lastly, we do not agree that an interconnection to the Laconia water system would be a reasonable alternative from a financial perspective. It might appear to be less expensive in the short term. However, when considered over the 40-year life of the pump station, the costs of a main extension plus future Laconia water rates would greatly exceed the cost of the pump station.
- b. The length and point of interconnection are not known.
- c. Lakes Region does not have a cost estimate. An estimate was not pursued or considered for the reasons stated above. Please note that a reliable cost estimate would need to consider or include many costs in addition to a main extension, including: (i) cost of any NHDOT permit requirements; (ii) costs for shoreland design and permitting under RSA 483-B; (iii) costs for ledge removal, if any; (iv) costs for any upgrades required by the City of Laconia; (v) costs for Laconia Water rates over the life of any extension; and (vi) other costs that might be discovered.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 14

Witness: Leah Valladares

Tom Mason

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Was interconnection with any other privately owned water system considered? Please provide details.

RESPONSE: No.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 15

Witness: Leah Valladares

Tom Mason

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In new testimony in DW 19-177, Mr. Mason states “If LRWC had proceeded with its initial plan, it would have only been a temporary fix. The Company would have likely needed to entirely replace the pump station 3 to 4 years later.” (p. 3). At the time of the original Justin Benes proposal, Lakes Region was already fairly familiar with the system (see, for example, October 7, 2016 final hearing transcript, pp. 7-8 and pp. 25-26). The proposal would have addressed moisture and confined space entry concerns, remote alarm capability, the deteriorated (long distance) well to tank communication, meters and other issues. While denying neither that the existing facilities were aging nor the value of the improvements made, it seems possible that lesser improvements more along the lines of the original proposal may have sufficed for a significant period of time (storage volume was adequate, booster pumps were already VFD controlled, treatment remained unchanged, etc.). Given the potential rate impact of entirely new facilities on such a small system, please comment, including why the originally proposed improvements may have lasted only a few years.

RESPONSE:

This information is covered in Lakes Region’s prior responses and testimony. Lakes Region’s March 25, 2019 Response to Staff 1-1, states:

After further review of the existing pump station site and discussion with the Engineer, the decision was made to change the pump station site to the well location for the following reasons:

1. Engineer hired for the permitting process advised it was not a practical location.
2. Hydropneumatic Tank had failed and was abandoned,
3. Storage Tank was deteriorating (re welded in 2008),
4. Piping from well field to tank had obstructions,
5. Electrical between well field and tank deteriorated and needed replacing,
6. The existing site was located on the edge of and under a customer’s landscaped front yard.

Lakes Region’s Response to Staff 1-12, Attachment 12 A, includes a letter from Lewis Engineering explaining that:

“As the operation of the facilities were more closely looked at, it became apparent that a number of items were effectively at the end of their useful life, and in some cases did not

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

meet current NHDWGB, general water works, or OSHA standards. Items such as restricted confined space entry into underground structures, a pump house that was subject to flooding, electrical equipment and controls that were corroded, and the single well line between the well field and pump house (approximately 1,400 feet) that had a severe restriction to flow, and needed to be replaced, were among the major items that lead to the decision to design and install new facilities meeting current NHDWGB and industry standards.”

As explained throughout these responses. The system was in dire need to replacement before it failed completely. A patchwork of small repairs would not have been prudent as the entire system would still need to be replaced as explained in Response to Staff 3-3.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 16

Witness: Leah Valladares

Tom Mason

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Please indicate which, if any, of Lakes Region's other pumps stations have been rebuilt in their entirety, including date and approximate cost.

RESPONSE:

Lakes Region replaced the Indian Mound pump station in 2015 at a cost of \$198,807. See DW 15 – 209 Permanent Rate Settlement Schedule JPL-2, Schedule 2, Page 70.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 17

Witness: Leah Valladares

Tom Mason

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Please describe and list any and all due diligence activity undertaken to ascertain the condition of the Dockham Shore's pump station, including inspections, assessments, valuations, equipment testing, and any other activity. For each activity, provide: (a) the date (b) a detailed description of the work performed (c) the identity and qualifications of each individual that took part, and, if the work was performed by an outside company or consultant, (d) the identity of that outside company or consultant and (e) the cost of performing that work.

RESPONSE:

Please see Lakes Region's responses to Staff Requests No. 1-1, 1-2, 1-3, 1-4, 1-12 and 1-14 in Docket DW 16 – 619. See also December 3, 2018 Application for a step increase which included an April 2018 Report prepared by Lewis Engineering entitled *Engineering Design & Operational Summary, Dockham Shores Water Improvements*.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

Request No. Staff 3 – 18

Witness: Leah Valladares

Tom Mason

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Regarding a possible interconnection with Conway Village Fire District:

- a) Has the company had any discussions with CVFD in this regard? Please provide full details.
- b) What length of main extension would be required to service Wildwood?
- c) What would be the estimated cost of such an extension?

RESPONSE:

- a. No.
- b. The length and point of interconnection are not known.
- c. Lakes Region does not have a cost estimate. Please note that a reliable cost estimate would need to consider or include many costs in addition to a main extension, including: (i) cost of any NHDOT permit requirements; (ii) costs for ledge removal, if any; (iv) costs for any upgrades required by the CVFD; (v) costs for CVFD rates over the life of any extension; and (vi) other costs that might be discovered.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 19

Witness: Leah Valladares

Tom Mason

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Order 26,144 in DW 17-176, approving the Wildwood acquisition, was issued June 15, 2018.

Mr. Mason’s testimony in DW 19-135 states “On July 1, 2018 the Company finalized its purchase of Wildwood’s utility assets” (p. 3). However, a note written by the NHDES sanitary surveyor on the date of the last survey of the system (Oct 2, 2018) indicates ‘LRW purchased system - just closed on Monday’ - presumably Oct 1, 2018. In this regard please clarify:

- a) When the company took over physical operation of the system.
- b) When the final closing took place.

RESPONSE:

- a. The owner requested that Lakes Region assume responsibility for operations prior to the actual closing. Lakes Region formally assumed responsibility for the system on June 15, 2018. Prior to that date, we assisted the prior owner at his request. This was unusual but deemed necessary in part to reduce risk of system failure prior to closing.
- b. The closing took place on Monday September 24, 2018 with an effective as of July 1, 2018.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/21/2020

Request No. Staff 3 – 20

Witness: Leah Valladares

Tom Mason

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The petition in DW 19-135 indicates the Wildwood project is “expected to start in 2019 and be completed in 2020” (p. 2). The response to Staff 1-12 (b) in that docket states the “anticipated date for substantial completion ... is June 30, 2020.” In this regard please indicate the current status of the following:

- a) Project design;
- b) Project approvals (NHDES, town, other);
- c) Project construction.

RESPONSE:

Plans for upgrades to the Wildwood system are on hold pending PUC review and approval in this proceeding. The design, approvals or construction plans will be finalized based on approval in this proceeding. See Response to 3-21, below.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

Request No. Staff 3 – 21

Witness: Leah Valladares

Tom Mason

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Mr. Mason’s testimony in DW 19-177 states the new Dockham Shores pump station “is considered a model that LRWC will use as upgrades are needed at other systems” (p. 4, lines 21-22). The cost estimate provided as an exhibit to Staff 1-12 in DW 19-135 indicates the proposed Wildwood station ‘is essentially a duplicate of the recent Dockham Shores pump station’. In these regards:

- a) If this is to be a model going forward; and given the need for the company to fully justify the prudence of its improvements choices, including why some or all of the existing facilities could not remain in service (for example, in Wildwood’s case confined space entry concerns were eliminated in 2004, and the system has apparently operated without use of its installed atmospheric storage for its entire life); is there no way to trim or otherwise ameliorate costs of such stations for systems as small as these, given the cost impact (\$275,000 for 60 Dockham Shores customers, \$260,000 for 49 Wildwood customers)?
- b) Might any of the existing Wildwood facilities (potassium carbonate treatment, potassium permanganate treatment, booster pumps, etc.) be re-used in the new facility?
- c) To what extent are Wildwood customers aware of the potential cost or rate impact of the proposed facilities?

RESPONSE:

- a. Lakes Region believes that the best approach is to pursue rate consolidation for both the Dockham Shores and the Wildwood systems. Rate consolidation avoids the short-term rate impacts when upgrades are required for a single system. However, over time rate consolidation benefits all customers as upgrades are made to each system. In addition, unlike the Dockham Shores system, the Wildwood system may qualify for SRF principal forgiveness which would reduce the financial impact on customers. Lakes Region would consider pursuing SRF funding only if the system would qualify for principal forgiveness.
- b. No. These are old technologies that are not recommended and should be discontinued.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

- c. Lakes Region has not notified customers. Lakes Region expects to notify customers in its general rate case which it plans to file in 2020. This will include a request to consolidate rates for Dockham Shores and Wildwood customers with those charged to Lakes Region's other customers for the reasons stated in response to Staff Request 3 – 12.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

Request No. Staff 3 – 22

Witness: Leah Valladares

Tom Mason

Mr. Mason's testimony in DW 19-135 states the "Paradise Shore Rd. main needs an estimated 1000' of aging 4" main replaced with a larger 8" main to increase the flow of water servicing the system" (p. 3). In this regard:

- a) What relationship, if any, does this replacement have to the Paradise Drive replacement that was part of the step 2 increase granted by Order 26,143 (June 8, 2018) in DW 15-209? Please also indicate whether 'Paradise Shore Road' and 'Paradise Drive' refer to the same street.
- b) What problems has the lack of a larger diameter main created in the system, and over what period of time?
- c) Is the replacement related in any way to supply from the Mt. Roberts well field?
- d) Is the replacement related in any way to service to the Suissevale system?
- e) Has any engineering review of the need for the upsizing been done? If so, please provide details.
- f) What is the material of the existing main?
- g) What is the age of the existing main?
- h) When would work likely begin?
- i) Roughly between what cross streets will the replacement occur?

RESPONSE:

- a. Paradise Shore Road and Paradise Drive are the same road. This proposed project is to replace a different section of main on the same road.
- b. As currently configured, water in the mains passes through a 12 inch main to a 4 inch main and then to a 6 inch main. The changes in pressure cause water to bubble and appear milky which is purely an aesthetic issue but one which is appropriate to correct because of the age, condition and construction of the main. This impacts approximately 800 homes in both Lakes Region's Balmoral system and in the Suissevale system which is supplied from this main.
- c. No. Mt. Roberts is the source of supply but the projects are unrelated.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

- d. Yes. Suissevale is supplied from this main which is part of the Paradise Shores system. The costs of the Paradise Shores system are allocated to both Lakes Region and Suissevale customers under the wholesale contract approved by the Commission.
- e. No.
- f. The existing 4 inch main to be replaced is PVC plastic pipe.
- g. The existing PVC plastic pipe was installed in approximately 1976.
- h. Lakes Region plans to construct the project in 2020, subject to approval by the Commission in this proceeding.
- i. There is not a cross street that delineates the section to be replaced. The project consists of a total of 1000 feet of main replacement below Route 109.

Lakes Region Water Company

DW 19 – 135

Staff Set 3

Date Request Received: 1/14/2020

Date of Response: 2/26/2020

Request No. Staff 3 – 23

Witness: Leah Valladares

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Tom Mason

Mr. Mason's testimony in DW 19-135 states that "Robin Lane, over the past several years, has had numerous leaks. The replacement of 4" main and services along that road would reduce future leaks, resulting in less maintenance and water loss." (p. 3). In this regard:

- a) Please provide the main break history of this main over the last several years.
- b) What is the material of the existing main?
- c) What is the age of the existing main?
- d) What would the diameter of the new main be?
- e) When would work likely begin?
- f) The full length of Robin Lane appears to account for only some three quarters of the length of the project. Does the replacement involve other roads as well?

RESPONSE:

- a. There was a major break in August 2015 of 284gpm; a break in February 2016 of 28gpm; and in September 2018 of 15gpm.
- b. Asbestos Transite Pipe.
- c. The existing main was installed in 1969 and is approximately 51 years old.
- d. 4"
- e. Lakes Region plans to construct the project in 2020, subject to approval by the Commission in this proceeding.
- f. The project includes a total of approximately 400 feet of main as well as new gate valves on Sunrise Drive and Glen Forest Drive that are adjacent to Robin Lane.

Request No. Staff 4 – 1

Witness: Leah Valladares

Tom Mason

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**Staff 4-1**

Regarding the response to Staff 3-2 a):

The original Justin Benes proposal indicates, in the third line under the heading ‘WELL FIELD’, “Meters proposed are able to be installed above ground in the building proposed”. A cost breakdown in Schedule SPS 7 in the original filing includes \$10,000 for “Building” under “Well Improvements”. Both are indicated as separate from the building and other improvements proposed at the pump station site. Please clarify or explain how the proposed ‘building’ was envisioned as only “a cover for the electrical controls at the well site”.

**Response:**

The original Justin Benes proposal (Exhibit B to the Petition in DW 16 – 618) is attached. Please note that this was not a detailed proposal; it was a 1-page plan prepared before Lakes Region acquired the system, based on limited information. No engineering had been performed. There were no plans or design at the time of this original proposal.

Staff is correct that Schedule SPS 7 includes \$10,000 for a “building.” This did not mean that a conventional ‘walk in’ building or structure was required. The costs included a concrete slab for a foundation. The building could have been either an electric cover or a very small prefabricated wooden shed. Lakes Region never decided on the type of building because its plans had to be revised for the reasons stated in response to Staff 3 – 3.

The original proposal and SPS 7 show that the proposed building required very little space for equipment. It included an electric panel, two 2” Badger meters, the Devar wireless signal system and the GS400 (telemetry) system. This equipment would have required approximately 3 feet by 3 feet.

# LAKES REGION WATER COMPANY INC.

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Telephone: 603-476-2348, Fax: 603-476-2721

## DOCKHAM SHORES ESTATES PROPOSED CAPITAL IMPROVEMENTS

### WELL FIELD

Beginning at the well field, the source meters for each well are 20+ yrs. old. These meters are located in concrete pits and are confined spaces. This makes reading not only difficult but dangerous for any operator. Meters proposed are able to be installed above ground in the building proposed. This allows not only better monitoring, but the ability to view the meters on Telemetry. The wells run currently on a float system in the Atmospheric Storage tank. Unfortunately the signal wire that is DIRECTLY buried in the ground has long outlived its life expectancy. Moving to a wireless signal system (Devar) enables the well cycles to accurately run without the use of a buried cable.

### PUMP STATION

The existing pump station, though semi-functional, is in EXTREME need of improvement. It is in a “confined space”, OSHA requirements are similar to NHDES and for good reason. A bulkhead can be easily installed to comply with requirements. The existing station is also very wet due to ground water. All electrical panels and controls should be moved upstairs to the proposed building. This prevents premature failure of electronics due to dampness and corrosion. The proposed panel will also be able to run both well pumps, boosters, monitor tank height, pressure, and outbound flow and send alarms to operators upon ANY system problems.

### IN CLOSING

Dockham Shores system is outdated in many ways and needs upgrading- it has functioned for 40+ years. Customers will have a more reliable, worry free infrastructure with these proposed improvements. This translates to quicker response to problems, less down time to customers and overall a better view of the system parameters.

### IMPROVEMENTS WILL ADDRESS

- Confined space hazard in well meter pits and pump station
- Inadequate components: buried signal wire to wells from pump station (900’ plus of 40 yr old wire), well meters way past expected life (inaccurate source readings) and existing well panel near wells has rodents living inside it.
- Telemetry makes monitoring the system easier.
- Badger meters will create accurate readings.
- Electrical panel will be moved to a dry location.

Justin Benes  
Field Supervisor



# Lakes Region Water Co., Inc.

SPS 7

## 2016 Financing with CoBank - Dockham Shore acquisition and improvements

### Plant

#### Preliminary Accumulated Depreciation and Depreciation Expense

<u>PUC</u> <u>Acct. No.</u>	<u>Description</u>	<u>Cost</u>	<u>Depr.</u> <u>Rate</u>	<u>Annual</u> <u>Cost</u>	<u>Accum</u> <u>Depr.</u>
	<u>Acquisition</u>				
101	Plant in Service	\$ 158,973			
108	Accumulated Depreciation	(70,030)			
	Net Utility Plant	\$ 88,943			
114	Plant Acquisition Adjustment	<u>(28,943)</u>			
	Total Net Utility Plant	<u>\$ 60,000</u>			

Note: Plant, A/D & Acq. Adj. are reflected on B/S & I/S. As such, no additional depreciation expense and accumulated depreciation is required on the acquisition.

<u>PUC</u> <u>Acct. No.</u>	<u>Description</u>	<u>Cost</u>	<u>Depr.</u> <u>Rate</u>	<u>Annual</u> <u>Cost</u>	<u>Accum</u> <u>Depr.</u>
	<u>Well Improvements</u>				
304	Panel, Devar & GS400	\$ 15,300	2.50%	\$ 383	\$ 191
311	2 - 2" Badger Meters	4,400	10.00%	440	220
304	Building	10,000	2.50%	250	125
304	Electrical and Plumbing	9,000	2.50%	225	113
	<u>Pump Station Improvements</u>				
304	Bulkhead / Building	13,000	2.50%	325	163
311	1 - 2" Badger Meter	2,200	10.00%	220	110
304	Exhaust Fan & Transducer	1,600	2.50%	40	20
304	Plumbing	1,500	2.50%	38	19
304	Miscellaneous Labor	<u>3,000</u>	2.50%	<u>75</u>	<u>38</u>
	Total Improvements	<u>\$ 60,000</u>		<u>\$ 1,995</u>	<u>\$ 998</u>

SPSt. Cyr  
5/25/2016

Request No. Staff 4 – 2

Witness: Leah Valladares

Tom Mason

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**Staff 4-2**

Regarding the response to Staff 3-5:

- a) Please indicate whether and how the company’s response would change in light of the attached 2009 Colin Robertson correspondence referenced in the question.
- b) In the response to part c), the indicated quote does not appear on the copy of the Staff 1-14 B NHDES Inspection Report Staff has. This inspection was done upon completion of the new facilities in late 2018 (the previous Sanitary Survey in 2015 indicated only the need for an atmospheric tank emergency fill pipe as a Significant Deficiency). Please clarify or provide the referenced document.

**Response:**

- a. This does not change our prior response, but it does provide more information. Please see the following additional explanation by Mr. Mason:
  - The 2009 Colin Robertson correspondence confirms that LRW Water Service (“LRW”) discovered the “pin hole” leak after the tank had been emptied to address sedimentation. I recommended that he “replace the tank”. However, Mr. Robertson declined to do so as he stated: “A quick estimate to replace the leaking tank was too expensive and too disruptive.”
  - The remainder of the 2009 Colin Robertson correspondence describes his own efforts to address the problem. Neither Lakes Region, LRW, nor I were directly involved in these efforts.
  - We did not recommend “weld repairing the leaking tank”. Doing so would have repaired one leak, but there would be a risk that a 30 to 40-year old tank would leak at another location. Again, our recommendation was to replace the tank. Mr. Robertson declined to do so and investigated options on his own.
  - However, I was very interested in how the project and the system would move forward. Mr. Robertson would occasionally ask LRW for assistance on projects.

I remained in contact with him as he explored his options but I was not directly involved.

- The 2009 Colin Robertson correspondence next states that: “A suggestion was made that the smaller, hydro-pneumatic tank was no longer required, if a state-of-the-art pump system was considered. This new pumping system involves a variable frequency drive (VFD) control system, with two (2) new, three (3) phase motors, using the existing, pump station booster pumps.” I did not make this suggestion, but I agree that VFD pumps would be an appropriate interim solution. I disagree with the statements that the existing tanks could be abandoned in place and that an epoxy lining would have “a useful life of about thirty (30) years.” Painting the interior of the tank would not address its corrosion from the outside. The tank needed to be replaced, even with VFD pumps.

- b. The response to Staff 3 – 5 (c) referenced and quoted our Response to Staff Request 1 – 5 in DW 16 – 619 which stated:

The design of the new pump station required a new water tank. The old water tank had been repaired and coated in 2008, upon inspection by Bruce Lewis of Lewis Engineering, it was advised to replace due to the old water tank being unserviceable.

(See attachment DR Staff 1-1 A and DR Staff 1-4 A).

This was our response based on what Lewis Engineering recommended after reviewing the system.

Lewis Engineering’s written explanation is attached to Staff 1-12A in DW 16 – 619 and confirms that: “As the operation of the facilities were more closely looked at, it became apparent that a number of items were effectively at the end of their useful life, and in some cases did not meet current NHDWGB, general water works, or OSHA standards. Items such as restricted confined space entry into underground structures, a pump house that was subject to flooding, electrical equipment and controls that were corroded, and

the single well line between the well field and pump house (approximately 1,400 feet) that had a severe restriction to flow, and needed to be replaced, were among the major items that lead to the decision to design and install new facilities meeting current NHDWGB and industry standards.”

**DOCKHAM SHORES ESTATES WATER CO., INC.**

**191 White Oaks Road  
Laconia, New Hampshire 03246**

**Telephone: 491-1710 (cel)  
FAX: 524-2864  
e-mail: cfrobertson@netzero.net**

**5 June, 2009**

**TO: Residents of Dockham Shore Estates**

**Please accept my apologies for the delay in providing you with a written explanation for the difficulties you have been experiencing with the water system. This situation was not anticipated and efforts have been concentrated on finding a solution to the unexpected problems, which did not leave time for much communication.**

**The problems started with a plan to clean the two (2) water storage tanks, at the underground booster pump station, located at the corner of Margaret Way and Robertson Drive. Sediment accumulates at the bottom of the tanks and had not been cleaned for several years. Lakes Region Water Company (LRW) was contracted to do this work, based upon their experience, equipment and availability. They planned on using the submersible well pumps, located at the remote wells, behind the Castellon home, to distribute water through the system. After re-plumbing the pump house piping, they planned to drain and clean the tanks. They expected the whole cleaning operation to be completed in one (1) working day, with no interruption in water delivery. This made sense, since we have had no problems, with previous tank cleaning operations.**

**Unfortunately, LRW reported discovering a "pin hole" leak, in the bottom of the smaller (2290 gallons), hydro-pneumatic tank, which made it necessary to continue the temporary pumping arrangement over-night. A quick estimate to replace the leaking tank was too expensive and too disruptive. Weld repairing the leaking tank, in place, was investigated, which also involved sand blasting and epoxy painting both tanks. It took time to get proposals for the several repair options, including an estimate to weld repair one tank and epoxy paint both**

tanks, for \$69,000. This cost was not acceptable, for a small community water system.

A suggestion was made that the smaller, hydro-pneumatic tank was no longer required, if a state-of-the-art pump system was considered. This new pumping system involves a variable frequency drive (VFD) control system, with two (2) new, three (3) phase motors, using the existing, pump station booster pumps. A small pressure tank can be used and the existing, leaking, hydro-pneumatic tank abandoned, in place. The new pumping system would have the additional advantage of providing a constant, higher pressure for the water distribution system. This would improve conditions for those homes, at the highest elevations, where water pressures now meet legal requirements, but are variable and frequently quite low, in pressure. The cost of the new pumping system was proposed to be about \$15,000, while the sand blasting and epoxy painting of the larger storage tank (16,000 gallons) was proposed not to exceed \$20,000. The epoxy lining was estimated to have a useful life of about thirty (30) years. The above total cost is about half the cost of the original alternative and is in process.

Predictably, it takes time to order parts and to get crews on site, to do the work. Currently, the large tank has been sand blasted and painted. With epoxy paint, approved to meet drinking water standards, it takes about seven (7) days to cure. Then, the tank is treated and chlorinated, before being filled with water and put back into use, again.

The pump components have been ordered and are reported to be currently available, with installation done next week, while the epoxy paint is curing and being treated. Hopefully, the pumps and tanks will be ready to go back on line, by the end of the week and the water system will return to normal.

Please note that the cost estimate of about \$35,000 is significantly higher than the gross, annual income of this community water system. Given the cost to operate this system, under the directions of both the P.U.C. and the D.E.S., since 1989 (20 years), it has been previously recommended that a rate increase would be appropriate. That recommendation was never, previously, seriously considered. However, given this sudden, unexpected cost, it will not be possible to continue operating, at the current rate. Discussions are now in process, to apply

**for a rate increase, to amortize the additional costs over the following years, by means of an increased water rate.**

**We have been in frequent communication with both the Department of Environmental Services (DES) and with the Public Utilities Commission (PUC), throughout this recent experience. They have both been very helpful and supportive and recommended this communication, to keep you informed. We hope that the inconvenience, which has been caused by this situation, will be ended next week and life will resume a normal course, where showers can be taken, laundry done, toilets flushed and lawns watered.**

**If there are questions, which you feel have not been addressed, please feel free to contact me at 491-1710 or at [cfrobertson@netzero.net](mailto:cfrobertson@netzero.net). It would be appreciated if you would not call our home phone, since I am not always available there and Mary can only sympathize with the fact that the water pressure is low. Jim Zimmerman spoke with me today and hopes to share his information with you, on the web site dockham shores.com. Again, let's hope that the water system becomes a normal, dependable part of your home life, by the end of next week.**

**Respectfully submitted,**

**Colin F. Robertson, P.E.  
President**

**P.S. During the period remaining, before the new system is operating, it would be helpful if everyone could strive to conserve water, to the extent possible. As suggestions, reducing the number and duration of showers, doing the laundry at the Laundromat and especially minimizing the watering of the grass, particularly with the automatic irrigation systems would be very helpful. This would reduce the demand for water, from the temporary water distribution system and increase the pressure available to each home.**

Request No. Staff 4 – 3

Witness: Leah Valladares

Tom Mason

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**Staff 4-3**

Regarding the response to Staff 3-6:

- a) Does the company have any information on how likely the Town would have been to approve construction of a building on top of the existing pump station?
- b) Did the company have an easement that would have allowed construction of such a building at that location?
- c) Regarding the response to part b) of Staff 3-6: as both the well site and pump station site had individual electric meters, were there indeed “electrical lines” running between the two sites in addition to the telemetry line? Please explain.

**Response:**

- a. No. As explained in response to Staff 3-6, this option was not pursued due to operational problems, increased cost and impacts on the abutting property owner.

Lakes Region selected its design because it was lower cost to construct, operate and maintain and because it would have less impact on abutters and therefore be more likely to receive timely approvals. A challenge by an abutter could delay the approval process for well over a year during which time the risk of complete system failure would be present. However, we do not know the likelihood that any other designs would or would not be approved.

- b. This question seeks an opinion of title. Lakes Region has not undertaken or requested a legal opinion as to this question but believes the answer is: “Likely yes.”

Lakes Region provided some or all of the title and easement records in response to Staff Requests 1 – 7 through 1 – 10 in Docket DW 16 – 619.

- c. The electric lines between the pump station and well field were electric lines such as would be used for indoor electric wiring. It was being used as a ‘signal wire’ not as an electric service line. There were multiple wires buried with the water line but many were corroded and no longer worked. Lakes Region had to test each wire individually and found that only the minimum required were operational.

Request No. Staff 4 – 4

Witness: Leah Valladares

Tom Mason

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**Staff 4-4**

Regarding a recommendation by NHDES for “backup generators on all public water systems” (response to Staff 3-7):

- a) Please provide any general history, time line or further support the company is aware of for the existence of a general recommendation by NHDES in this regard.
- b) How many of the company’s other systems currently have on-site backup power generation?
- c) How many of the company’s other systems currently have other forms of backup power capability, such as wiring to accept portable generation?
- d) For systems with limited or no backup power capability, does the company have plans to upgrade that capability in the next 5 to 10 years? Please explain.
- e) In the response to Staff 3-12, neither of the two HAWC pump stations appears to have on-site backup power generation. Does the company have any information to confirm that observation?

**Response:**

- a) To the best of our knowledge, the NHDES has recommended emergency backup generators in its sanitary survey recommendations for decades. For example, a copy of the Sanitary Survey for the Wildwood and Tamworth systems are attached and state:

Generator or Auto Transfer Switch, Emergency

Power loss and outages are becoming more commonplace due to recent extreme weather conditions and events. An emergency/backup generator or an automatic transfer switch is advisable to get you through periods of power outages. You are advised to research, plan and budget for installation of an emergency generator or automatic transfer switch.

The most recent sanitary survey for Dockham Shores did not recommend emergency generators because the prior owner had installed a connection for a portable generator that he kept at his home and could, in theory, connect to the system. In practice, this was not an acceptable solution because of the difficulty to connect during major storm events, outages or emergencies and because of the requirement to refuel during those conditions.

All public water system owners are legally required to prepare an Emergency Plan for approval by the NHDES. The current rule is set forth in Env-DW 503.21 (b)(13) and requires that the Emergency Plan include: “A description of the system’s backup power capabilities...”. This rule or a similar one has been in place for many years. See e.g. former Rule Env-Ws 360.14 (January 2002).

In recent years, the NHDES has placed increased emphasis on this recommendation due to increased severity of major storm events. In October 2014, the NHDES Drinking Water & Groundwater Bureau published a Climate Change Resilience Plan (WD-14-02) which explains the importance of automatic emergency backup power for public water systems.

- b) Lake Ossipee Village and Paradise Shores (Wells #5 &6) have manual transfer switches. Dockham Shores is the first system using an automatic transfer switch for on-site backup power per the NHDES recommendation.
- c) See (b) above.
- d) Yes. In addition to the pump station at Wildwood, replacement of the pump station at Far Echo is also a priority. The pump station at 175 Estates needs to be replaced in the next five years and would be next in priority after Wildwood and Far Echo are addressed.

Lakes Region recommends that options for automatic backup power be evaluated as each system or pump station is upgraded or improved. In general, Lakes Region agrees with the NHDES recommendation to install automatic transfer switches because it maintains water service during emergencies or outages without the need for manual operation.

Lakes Region does not recommend a fixed schedule, such as 5 or 10 years, for all 19 systems. This would take funding away from other capital projects such as additional wells, main replacements or other projects that could be a higher priority.

- e) Lakes Region does not have any additional information.



The State of New Hampshire  
**Department of Environmental Services**

**Robert R. Scott, Commissioner**

DW 19-135  
Lakes Region Water Company, Inc.  
Attachment 1



October 23, 2018

*via E-mail*

THOMAS MASON JR  
LAKES REGION WATER COMPANY INC  
PO BOX 389  
MOULTONBOROUGH NH 03254-0389  
lrwater@lakesregionwater.com

Subject: Sanitary Survey – PWS #0022010 Wildwood Development, Albany

Dear Mr. Quint Jr.:

On October 2, 2018, the New Hampshire Department of Environmental Services, Drinking Water & Groundwater Bureau (DES) performed a sanitary survey inspection of the subject public water system (PWS) pursuant to RSA 485 and Env-Dw 717 and 720. A sanitary survey consists of a physical review of the main elements of the water system to verify its capability to reliably produce safe drinking water. The eight sanitary survey elements evaluated are: well sources, treatment, distribution, storage, pumping, data records, management and operations.

In attendance at time of the inspection: Katie Murphy, DES Sanitary Surveyor  
Justin Benes and Richard Dearborn, Lakes Region Water Co. Inc.

SIGNIFICANT DEFICIENCIES

Pursuant to Env-Dw 103.52, a significant deficiency is one that "...can directly and adversely affect a public water system's water quality or that can reduce the water system's reliability and ability to deliver safe drinking water to its customers..." During the survey, the significant deficiencies listed below were observed.

- **Treatment Inoperative** – At the time of the survey, the potassium carbonate injection was noted as being inoperative. This water system needs to have the treatment facilities operating in order to meet federal and state water quality standards. This situation is unacceptable and must be corrected immediately. Please have the treatment facilities returned to proper service.
- **Source Tap and Check Valve** - Each well should have an individual tap or other means to obtain discrete samples for each source prior to any treatment followed by a check valve. There is a tap present that may currently be serving as the source sample tap; however, there is no check valve present. Please install the check valve between the source sample tap and the potassium carbonate injection.

**In order to avoid a violation: within 30 days of the date of the sanitary survey, all significant deficiencies must be corrected or a Corrective Action Plan (CAP) to address the deficiencies must be submitted to the Department for approval.** A CAP identifies the work that will be performed, along with a time frame by which the work will be completed.

Env-Dw 717.21 requires that the PWS owner notify us in writing upon the correction of significant deficiencies. Notification must be made within 30 days of completing the corrective action. We request that you provide a photograph with your submittal. Notifications by email submittals are preferred but not required.

PWS #0022010 Wildwood Development, Albany  
October 23, 2018  
Page 2 of 2

### SYSTEM DESCRIPTION

Wildwood Development obtains its water from gravel packed well # 1 (GPW 1-001) located within the pump house. The well is 119 feet deep and yields 90 gallons per minute. There are two levels in the pump house, an upper level (w/source tap and treatment equipment) and a lower level (w/hydropneumatic tank, control panel). The eight inch diameter well casing for the gravel packed well extends from the lower level up to the upper level. Water is pumped from the gravel packed well to the upper level of the pump house where it passes a source sampling tap and pressure gauge and is treated with potassium carbonate for corrosion control and ion exchange for inorganics removal. The treated water flows down to the lower level through a meter and enters the 4,850 gallon hydropneumatic storage tank. The treated water is distributed to 49 single family residences supplying approximately 123 people year round. Average water use was reported as approximately 5,000 gallons per day.

### EMERGENCY PLAN

The emergency plan copy that was in the pump house needs to be updated to reflect current contact information and water operator information. Please update the plan and place the updated copy in the pump house in the event of an emergency.

### SANITARY PROTECTIVE AREA

All public water supply system wells require a sanitary protective area (SPA) or protective well radius, under the control of the well owner, within which no septic tanks, leach fields, oil, debris or other hazardous materials may be located or stored. The SPA for your water system is a minimum of 175' radius around the well. Currently, the area contains a road ~75', residence with parking ~15-175' from the well. Per Env-Dw 406.12(f), roadways and parking lots are an acceptable use of the SPA and will not be sited as a significant deficiency. However, roadways and parking lots should be 50' from the wells according to Env-Dw 406.11(c). This requirement has been waived based on current site configuration as well as historical water quality.

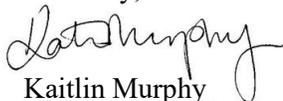
The water system's potential for reduced monitoring and future waivers from a portion of its chemical monitoring requirements shall be diminished by the location of buildings, roadways, parking lots, and other such construction within the well's protective radius.

### FUTURE CONSTRUCTION OR EXPANSION

Be advised that, under RSA 485:8 (Approval of Construction or Alteration), no new construction, addition or alteration involving the source, treatment, distribution or storage of water in any public water supply system can begin without approval by the Department.

In addition to any significant deficiencies listed above, enclosed are recommendations for system improvements. It is our intention to work with you in solving any water related problems that your system may have. Should you have any questions, please contact me at (603) 271-2539 or by e-mail at kaitlin.murphy@des.nh.gov.

Sincerely,



Kaitlin Murphy  
Drinking Water and Groundwater Bureau

Enclosed: Recommendations for System Improvements

cc: Justin Benes, Lakes Region Water Co. Inc., Certified Operator

PWS #0022010 Wildwood Development, Albany  
October 23, 2018

## RECOMMENDED SYSTEM IMPROVEMENTS

The following recommended system improvements and operation and maintenance procedures are noted below to assist you in improving the water system's reliability in providing water to its users.

### Generator or Auto Transfer Switch, Emergency

Power loss and outages are becoming more commonplace due to recent extreme weather conditions and events. An emergency/backup generator or an automatic transfer switch is advisable to get you through periods of power outages. You are advised to research, plan and budget for installation of an emergency generator or automatic transfer switch.

### Gate Valves

To ensure that gate valves are in working order, routine maintenance and exercising are required. It is therefore recommended that routine valve inspections be conducted once a year in which the following tasks are performed:

1. Verify the exact location of all valves boxes.
2. Inspect the valve stem and nut for damage and possible leakage.
3. Close the valve fully, and record the number of turns to the fully closed position.
4. Reopen the valve and reestablish flow.
5. Clean the valve box cover seat.

Records should be upgraded to include a means to easily identify the location of all valves. Records should also include measurements from at least two reference points, the type of valve, and the number of turns required to open or close the valve.

### Flushing

Distribution systems are normally flushed once a year through the blow-offs. In some water systems, the flushing must be done more often to keep sediment and sand in the piping under control. The flushing should be done during time of minimum water use. The frequency of flushing should be such that it prevents legitimate consumer complaints.

### Leak Detection Survey

At least once a year the system should be checked for leakage. The water system's customers should be asked not to use any water between midnight to 6:00 A.M. on a particular evening. The water system operator should check system usage during this period by noting the usage on the meter or any change in the water level in your vented storage tanks (supply sources turned off). If there is any significant system demand, this can be attributed to leakage.

It is important to note that the force from this leakage sets in motion sand particles in the soil that will abrade the general area of the pipe ultimately to the point of total failure. The noise of this running water can normally be heard through the use of geophones, even though the leak has not surfaced. Intermediate and larger municipal water systems in your area likely have geophones and may be willing to loan them to you. If not, please contact our office for a list of contractors with this or more specialized types of equipment.

### Management – Records and Files

We suggest the establishment or continuation of a permanent file for water supply matters. The Safe Drinking Water Act (SDWA) requires that water system records be kept for the timeframes noted in DES Factsheet No. WD-DWGB-7-1 *Water System Record Retention*, available on our website at: <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>. Further, because of the vast number of systems we deal with, all requests for information concerning the system's water quality, whether from its users or town officials, will be referred to the water system's owner in the future.

### Monitoring Program

The water supply system satisfies the definition of a non-transient/non-community public water supply system. Under the Safe Drinking Water Act (SDWA), all non-transient/non-community public water supply systems are subject to certain requirements such as submitting samples of water for analysis and assuring that the water meets the quality standards of the Act.

If you fail to submit water samples on time, the State has the option of seeking substantial daily fines. Fines of up to \$2,000 can be assessed against systems for failure to monitor. Please insure that future samples are submitted in a timely manner.

A copy of the water system's master sampling schedule may be obtained from the DES Website at <http://www2.des.state.nh.us/DESOnestop/BasicSearch.aspx>

If you have any questions regarding the monitoring program, please contact this office at 603-271-2542 for bacteria and 603-271-3907 for chemical monitoring.



November 7, 2019

*Via email*

Thomas Mason Jr  
Lakes Region Water Company Inc.  
PO Box 389  
Moultonborough, NH 03254-0389  
lrwater@lakesregionwater.com

Subject: Sanitary Survey – CWS PWS #2311010 Tamworth Water Works, Tamworth

Dear Mr. Mason:

On October 16, 2019, the New Hampshire Department of Environmental Services, Drinking Water & Groundwater Bureau (DES) performed a sanitary survey inspection of your community water system (CWS) pursuant to RSA 485 and Env-Dw 717 and 720. A sanitary survey consists of a physical review of the main elements of the public water system (PWS) to verify its capability to reliably produce safe drinking water. The eight sanitary survey elements evaluated are: well sources, treatment, distribution, storage, pumping, data records, management and operations.

In attendance at time of the inspection: Katie Murphy, DES Sanitary Surveyor  
Richard Dearborn, Lakes Region Water Co., Inc., Certified Operator

#### SIGNIFICANT DEFICIENCIES

Pursuant to Env-Dw 103.52, a significant deficiency is one that "...can directly and adversely affect a public water system's water quality or that can reduce the water system's reliability and ability to deliver safe drinking water to its customers..." At the time of the sanitary survey there were no significant deficiencies noted.

#### SYSTEM DESCRIPTION

Tamworth Water Works obtains its water from one active gravel packed well (GPW 1-005), located 100 feet south of the pump house. GPW 1-005 (per well completion report #233.0461) was constructed in 2004, is 123 feet deep with 51 feet of 6 inch diameter steel well casing, and reportedly yields 25 gallons per minute.

Water is pumped from GPW 1-005 to the pump house where it passes a source tap, check valve, and sediment filter for particulate removal before being treated for corrosion control with a Georgia marble filter. Water is metered before entering the bottom of the 20,000 gallon steel atmospheric storage tank. Two booster pumps operating in lead/lag configuration pump water from the bottom of the tank. One 7.5 hp booster pump operates as the lag pump and sends water straight to distribution and one 2 hp booster pump operates as the lead pump and transfers water to a 5,000 gallon steel hydropneumatic storage tank with a distribution entry point (DEP) sample tap and meter post storage. Treated water is supplied to approximately 265 people through 67 service connections. Average water use is approximately 10,000 gallons per day.

SANITARY PROTECTIVE AREA

All public water supply system wells require a sanitary protective area (SPA) or protective well radius, under the control of the well owner, within which no septic tanks, leach fields, oil, debris or other hazardous materials may be located or stored. The SPA for your water system is a minimum of 200' radius around the well. Currently, the area contains a seasonal wetland 75' S of the wellhead.

NEW PFAS STANDARDS EFFECTIVE SEPTEMBER 30, 2019

New Perfluorinated Alkyl Substances (PFAS) maximum contaminant levels (MCLs, table below) were adopted in July 2019 and became effective Sept 30, 2019. All non-transient public water systems must collect four quarterly samples to establish baseline contaminant levels. If the first two quarterly samples show that all four regulated compounds are below the detection limit of 2 parts per trillion (ppt), please request a sampling WAIVER for the remaining two quarters attention to [Tricia.Madore@des.nh.gov](mailto:Tricia.Madore@des.nh.gov). Once baseline levels are established, subsequent sampling frequency will be set to ANNUAL if the level for any PFAS contaminant is between 50 to 100% of the MCL, or to TRIENNIAL if the levels are below 50% of the MCL. If levels are above the MCL, a violation will be issued and remedial actions will be required. Compliance options for PFAS may include water treatment, blending, interconnection to another water system, or a new shallow well source. Any system modifications for PFAS should be submitted for DES approval attention to [Cynthia.Klevens@des.nh.gov](mailto:Cynthia.Klevens@des.nh.gov), (603) 271-3108.

PFAS Contaminant MCLs Effective Sept 30, 2019

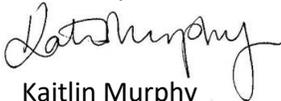
Perfluorohexane sulfonic acid (PFHxS)	18 ppt
Perfluorononanoic acid (PFNA)	11 ppt
Perfluorooctane sulfonic acid (PFOS)	15 ppt
Perfluorooctanoic acid (PFOA)	12 ppt

FUTURE CONSTRUCTION OR EXPANSION

Be advised that, under RSA 485:8 (Approval of Construction or Alteration), no new construction, addition or alteration involving the source, treatment, distribution or storage of water in any public water supply system can begin without approval by the Department.

In addition to any significant deficiencies listed above, enclosed are recommendations for system improvements. It is our intention to work with you in solving any water related problems that your system may have. Should you have any questions, please contact me at (603) 271-2539 or by e-mail at [kaitlin.murphy@des.nh.gov](mailto:kaitlin.murphy@des.nh.gov).

Sincerely,



Kaitlin Murphy  
Drinking Water and Groundwater Bureau

Enclosed: Recommendations for System Improvements

cc: Justin Benes, Lakes Region Water Company, Inc., Primary Operator

## RECOMMENDED SYSTEM IMPROVEMENTS

The following recommended system improvements and operation and maintenance procedures are noted below to assist you in improving the water system's reliability in providing water to its users.

### Abandoned Well

An abandoned/inactive well was found to exist near GPW 1-005. The well was not observed as it was tightly covered with a plastic bag. It is recommended to seal these wells or properly abandon them to ensure there are no open conduits to the aquifer that could potentially contaminate the aquifer.

### Inspect/Clean Storage Tanks

If the storage tanks have not been inspected or cleaned in the last 10 years, DES recommends inspecting the tanks for structural strength, corrosion, and other factors related to water quality and tank integrity, as well as cleaning the interior of the tanks. DES offers a grant to assist you financially with the atmospheric tank inspection and cleaning. More information is available at the following link:

<https://www.des.nh.gov/organization/divisions/water/dwgb/asset-managment/documents/nhdes-w-03-196.doc>

### Generator or Auto Transfer Switch, Emergency

Power loss and outages are becoming more commonplace due to recent extreme weather conditions and events. An emergency/backup generator or an automatic transfer switch is advisable to get you through periods of power outages. You are advised to research, plan and budget for installation of an emergency generator or automatic transfer switch.

### Gate Valves

To ensure that gate valves are in working order, routine maintenance and exercising are required. It is therefore recommended that routine valve inspections be conducted once a year in which the following tasks are performed:

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At least once a year the system should be checked for leakage. The water system's customers should be asked not to use any water between midnight to 6:00 A.M. on a particular evening. The water system operator

should check system usage during this period by noting the usage on the meter or any change in the water level in your vented storage tanks (supply sources turned off). If there is any significant system demand, this can be attributed to leakage.

It is important to note that the force from this leakage sets in motion sand particles in the soil that will abrade the general area of the pipe ultimately to the point of total failure. The noise of this running water can normally be heard through the use of geophones, even though the leak has not surfaced. Intermediate and larger municipal water systems in your area likely have geophones and may be willing to loan them to you. If not, please contact our office for a list of contractors with this or more specialized types of equipment.



# NEW HAMPSHIRE RULEMAKING REGISTER

## OFFICE OF LEGISLATIVE SERVICES

DIVISION OF ADMINISTRATIVE RULES  
ROOM 219, STATE HOUSE ANNEX  
25 CAPITOL STREET

CONCORD, NEW HAMPSHIRE 03301-6312  
Tel. (603) 271-3680

Website: [www.gencourt.state.nh.us/rules/index.html](http://www.gencourt.state.nh.us/rules/index.html)

TDD Access:  
Relay NH 1-800-735-2964

Fax (603) 271-7871

VOLUME XXII, Number 1, January 4, 2002

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b. Notices of Proposed Rules	1

2. COMMITTEE (JLCAR)

Meeting Date(s): Friday, January 18, 2002, 9:00 a.m.  
Rooms 306/308, Legislative Office Building

**NEW HAMPSHIRE RULEMAKING REGISTER**

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Notices of Proposed Rules

<u>Notice Number</u>	<u>Rule Number</u>	<u>Agency and Short Title of Rule</u>	<u>Page No.</u>
2001-175	Liq 701.01 (f), (l), (m), (s), 702.04, 702.07-702.09 & 706.33 intro, (a), (b) intro	Liquor Commission Rules for Required Management Training.	1
2001-176	Env-Ws 360.14 & 371.20 (b)(5)	Department of Environmental Services Division of Water Emergency Plans for Community Water Systems.	3
2001-177	Env-Ws 381	Department of Environmental Services Division of Water Lead and Copper Corrosion Control.	6
2001-178	Ed 507.35	Board of Education Ed 507.35 Educational Interpreter/Transliterators for Ages 3-21.	9

Notice Number 2001-176

Rule Number

**Env-Ws 360.14, Env-Ws  
371.20 (b)(5)**

<p>1. Agency Name &amp; Address:</p> <p><b>NH Dept of Environmental Services 6 Haven Drive Concord, NH 03301</b></p>	<p>2. RSA Authority: <b>RSA 485:3, I(c) RSA 485:41, II</b></p> <p>3. Federal Authority: _____</p> <p>4. Type of Action:</p> <p>Adoption <u>  X  </u></p> <p>Amendment _____</p> <p>Repeal _____</p> <p>Readoption _____</p> <p>Readoption w/amendment <u>  X  </u></p>
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5. Short Title: Emergency Plans for Community Water Systems

6. (a) Summary of what the rule says and the effect of the rule on those regulated:

The proposed rule requires the owner of a community water system (CWS) to prepare and maintain an emergency plan for the water system. A community water system is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. The rule requires a formal plan to be submitted to the department once every six years. A system owner will be required to review the emergency plan at least annually and revise it as necessary. The system owner shall make the emergency plan available for review by state inspectors during inspections.

6. (b) Brief description of the groups affected:

The groups affected are owners and operators of community water systems, which are public water systems that serve at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents. There are approximately 690 community water systems in the state serving approximately 778,575 individuals.

6. (c) Specific section or sections of state statute or federal statute or regulation which the rule is intended to implement:

New Hampshire Rule	NH State Statute	Federal Regulation
Env-Ws 360.14	RSA 485:3, I(c) and RSA 485:41, II	None
Env-Ws 371.20 (b)(5)	RSA 485:3, I(c) and RSA 485:41, II	None

NN 2001-176 Continued

DW 19-135  
Lakes Region Water Company, Inc.  
Attachment 1

7. Contact person for copies and questions including requests to accommodate persons with disabilities:

Name:	<b>Linda Magoon</b>	Title:	<b>Program Specialist</b>
Address:	<b>NH Dept. of Environmental Services Water Supply Engineering Bureau 6 Hazen Drive Concord, NH 03301</b>	Phone #:	<b>271-0672</b>
		Fax#:	<b>271-3490</b>
		E-mail:	<b>lmagoon@des.state.nh.us</b>
	<b>The text of the proposed rule is available at www.des.state.nh.us/wseb/wsebrules.htm</b>	TTY/TDD Access:	<b>Relay NH 1-800-735-2964 or dial 711 (in NH)</b>

8. Deadline for submission of materials in writing or, if practicable for the agency, in the electronic format specified: February 19, 2002

Fax                                       E-mail                                       Other format (specify):

9. Public hearing scheduled for: February 6, 2002

Date and Time: 10:00 a.m. to 12:00 p.m.

Place: Conference Room 112  
DES Offices  
6 Hazen Drive  
Concord, NH 03301

NN 2001-176 Continued

DW 19-135  
Lakes Region Water Company, Inc.  
Attachment 1

## 10. Fiscal Impact Statement (Prepared by Legislative Budget Assistant)

FIS # 01:171 , dated 12/12/01**1. Comparison of the costs of the proposed rule(s) to the existing rule(s):**

When compared to the existing rules, the proposed rules may increase costs to community water systems owned by political subdivisions by requiring the preparation and annual update of emergency plans.

**2. Cite the Federal mandate. Identify the impact on state funds:**

No federal mandate, no impact on state funds.

**3. Cost and benefits of the proposed rule(s):****A. To State general or State special funds:**

None.

**B. To State citizens and political subdivisions:**

There are 135 community water systems owned by political subdivisions. The amount of time needed to create an emergency plan for these water systems is expected to be approximately 8 to 16 hours if they serve a population greater than 500 persons, and 4 to 8 hours if they serve a population less than 500 persons. It is estimated that 6 hours per year would be needed to perform the annual plan update. It is anticipated that systems would use existing staff and resources and no additional expenditures would be required. However, if an owner or a community water system is unable or unwilling to seek technical assistance to prepare the plan, the owner may hire an outside consultant to prepare the plan. These costs could range between \$400 to \$800 to prepare the plan for a large system, and approximately \$200 to \$400 to prepare the plan for a small system. The cost of an annual plan review and update performed by an outside consultant is estimated to be \$300 for a large system and \$100 for a small system. Costs will vary depending on whether the review and update are done by existing staff or a contractor. There are no anticipated costs to citizens.

**C. To independently owned businesses:**

There are approximately 555 privately owned community water systems. A community water system owner will be required to have an emergency plan available for review by the Department of Environmental Services, update the plan annually, and submit the revised plan to the department once every six years. Grant money is currently available through the DES Source Water Protection Grant Program to assist water systems, regardless of population served, in creating the plan. Political subdivisions, non-profit organizations, and water suppliers are eligible to participate, therefore there are no anticipated costs.

## 11. Statement Relative to Part I, Article 28-a of the N.H. Constitution:

The proposed rule reinstates a program or responsibility that was inadvertently repealed in 1997. There are 135 community water systems owned by political subdivisions. Under the proposed rule, each system will be required to prepare an emergency plan. Since technical assistance and grant money is available through the department to assist water systems in creating a plan, the state is funding compliance with the rule. Thus, the rule does not violate Part I, Article 28-a of the New Hampshire Constitution.



## **Climate Change Resilience Plan**

### **Resilience & Preparedness in State Government Project**

#### **New Hampshire Department of Environmental Services Drinking Water & Groundwater Bureau**

**Thomas S. Burack, Commissioner  
Vicki V. Quiram, Assistant Commissioner  
Eugene Forbes, Division Director  
Sarah Pillsbury, Bureau Administrator**

**Prepared by Bethann McCarthy**

**October 2014**

## Acknowledgements

This material is based upon work supported by the U.S. Department of Energy under Award Number(s) DE-EE0000228. This grant was received through the New Hampshire Office of Energy and Planning's State Energy Program, which was funded by the American Recovery and Reinvestment Act (ARRA) of 2009. The purpose of the grant was to support efforts by the New Hampshire Department of Environmental Services (NHDES) to develop data and tools that will help institutionalize resilience, mitigation and adaptation to severe weather and natural events across all department programs.

The Drinking Water and Groundwater Bureau would like to acknowledge the following NHDES staff who contributed to the development of this Plan:

Bethann McCarthy, who conducted the research and wrote the Plan on behalf of the Bureau;

Paul Susca, who provided guidance in developing the plan and performed final editing of the Plan;

Christine Bowman, Mary Clairmont, Dan Dudley, Brandon Kernen, Cindy Klevens, Chip Mackey, Selina Makofsky, Jennifer Mates, Johnna McKenna, Leah McKenna, Kevin Riel, Steve Roy, Rick Skarinka and Susan Willoughby, who assisted in developing, vetting, and prioritizing the list of action items and provided technical information;

Diana Morgan and Gail Dailey-St. Onge who reviewed and assisted in editing the Plan;

Sherry Godlewski, who provided information on resilience planning projects in New Hampshire communities;

Chris Skoglund, who obtained the grant to fund this project and provided background climate data and guidance in developing the Plan; and

Sarah Pillsbury for her leadership in recognizing the need to implement programmatic changes to evaluate and improve the resilience of the state's public water systems in light of climate challenges.

Commissioner Thomas Burack and Assistant Commissioner Vicki Quiram for their leadership in promoting a Department-wide assessment of climate change impacts and potential adaptation and mitigation strategies in the interest of environmental protection and public health and safety.

# Climate Change Resilience Plan

## New Hampshire Department of Environmental Services Drinking Water and Groundwater Bureau

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## 1.0 Introduction

### 1.1 Overview of the Project

New Hampshire's climate is changing, and will continue to change in the future. Many aspects of this changing climate have stressed and will further stress the state's water systems. Climate trends that are expected to stress drinking water systems include: higher temperatures, more intense rainfall events, increased ice, wind and snow storms, earlier snow melt, and potentially more frequent and/or periods of short-term low stream flows and groundwater levels in the summer. The New Hampshire Department of Environmental Services' (NHDES) Drinking Water and Groundwater Bureau (DWGB) has developed this action plan<sup>1</sup> to guide the Bureau's activities to help community water systems (CWSs) become more resilient to the impacts associated with climate change.

What does *resilience* mean? The National Research Council defines resilience as "a capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment." (National Research Council, 2013)

With this plan, the DWGB identifies some of the most likely impacts of extreme weather events on New Hampshire's CWS and some examples of adaptation measures that CWSs could take to improve resilience. The plan also identifies priorities for changes to the Bureau's policies, operations, regulations and education/outreach and technical assistance activities as resources allow for these changes. Short-, medium- and long-term action items are listed in section 3.4.

A list of resources that can be accessed for climate change data and predictions and guidance on how to proceed on action items is included at the end of this Plan.

### 1.2 Overview of the Drinking Water & Groundwater Bureau

There are four key functions of the NHDES DWGB:

- Administering the federal Safe Drinking Water Act (SDWA) and state statutes to ensure that safe drinking water is reliably being provided at approximately 2,400 public drinking water systems throughout the state.
- Protecting groundwater by regulating large groundwater withdrawals and discharges to groundwater, working with municipalities and water systems to implement local groundwater protection programs, coordinating the efforts of other NHDES programs to protect drinking water sources, and implementing the state's Water Well Program.
- Promoting conservation and ensuring accurate water use reporting.
- Evaluating and accrediting laboratories that test water and wastewater.

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<sup>1</sup> This Plan is in keeping with the NHDES 2010-2015 Strategic Plan, which states that: "*NHDES will consider and integrate climate change mitigation and adaptation across all existing NHDES program areas.*"

## 2.0 Characterization of the Problem

### 2.1 Climate Change Science

Climate is the normal range of temperature, humidity, wind, precipitation and other weather variables in a region over a long period. In contrast, weather is the condition of these variables over a short period. Earth's climate is influenced by numerous factors, including the so-called "greenhouse gases" (GHGs) that act as a "blanket" to retain heat from the Sun and protect Earth from the cold of space. Carbon dioxide (CO<sub>2</sub>) makes up less than 0.05 percent of Earth's atmosphere, but is critical to life on Earth.

As a result of activities like driving, manufacturing, electricity generation and clearing of land, the concentration of CO<sub>2</sub> in the atmosphere has grown from 280 ppm (parts per million) before the industrial revolution to more than 395 ppm in 2013. Other GHGs, such as methane, have also risen significantly. As a result of these increases, the global average temperature has increased by more than 1.5°F over the last century (IPCC, 2013). This rapid rate of change has been attributed to human activities by an overwhelming majority of the scientific community (NASA, 2013). Depending on future emissions of GHGs and how Earth responds, average global temperatures are projected to increase by 2°F to 11.5°F by 2100. (NRC, 2010)

### 2.2 Changing Regional and State Weather Trends

As a result of the change in global temperature, the very character of the New Hampshire has changed over the past several decades.

- Since 1970, annual temperatures have risen by nearly 2°F while winter temperatures have risen by 4°F.
- The state has, in general, experienced more precipitation each year, with more falling as rain and less as snow. More of this precipitation has also fallen in extreme precipitation events.
- The most pronounced change has occurred in winter, with an increase in the rain-to-snow precipitation ratio and fewer days with snow on the ground, and with spring occurring earlier. There have also been earlier ice-out dates, earlier spring runoff, earlier spring bloom dates for lilacs and longer growing seasons.
- Sea-level rose about 5.3 inches during the 75 year period of 1926 to 2001.

### 2.3 Challenges for New Hampshire's Drinking Water Systems

The following principal challenges to water systems in the Northeast have been identified by the U.S. Environmental Protection Agency ((EPA), 2013). Some systems will be affected more than others, based on parameters such as proximity to the seashore and Great Bay, location in relation to fresh water bodies, elevation of system components, size of contributing watershed to a surface water source, and geologic settings of groundwater sources. Responses to a survey that DWGB distributed in 2013 to CWSs (described in Section 3) indicate that many water systems have already experienced impacts over the past 5 to 10 years to a greater extent than they had in the past.

- **Damage to infrastructure.** More frequent extreme precipitation events will cause physical damages to water system infrastructure. Wellheads, pumps and pump houses could be flooded, flood waters could damage access roads and undermine and sever distribution pipes. Loss of electrical power will result from more intense storms. Downed trees can also damage infrastructure. Intense storms and rising sea level will be particularly troublesome along the coast, causing greater damage to coastal facilities and an increased risk of inundation.

- **Water quality concerns.** Water quality could be degraded by algal blooms associated with higher ambient water temperatures and altered lake stratification cycles; nutrients and contaminants becoming more concentrated with longer residence times at periods of low flow; increased loading of sediment and associated nutrients during storm and flooding events; groundwater being pumped from a longer distance, where there could be more potential for contaminants, at periods of low water levels.
- **Water availability concerns.** With reduced snowpack and higher temperatures, the amount and timing of spring runoff will be altered: peak runoff periods will occur earlier in the year. Higher temperatures and longer growing seasons will cause water demand to rise due to increased human and irrigation/agricultural needs. There will also be greater evapotranspiration from soil and plants and evaporation of surface waters. With more precipitation falling in extreme events, groundwater recharge may be decreased. Summer precipitation is expected to increase somewhat but not as much as during the winter and spring seasons and is not expected to keep pace with evapotranspiration and evaporation losses and increased uses. These combined factors will result in more frequent low summer groundwater and surface water levels and, and more frequent short-term (1 to 3 months) and medium-term (3 to 6 month) droughts.

**Outdated floodplain mapping.** In addition to the challenges posed by climate change described above, a particular problem arises from the use of standard methodologies and tools that use historic precipitation data to evaluate the risk to infrastructure. Many design professionals and regulators use floodplain mapping issued by the U.S. Federal Emergency Management Agency (FEMA) through the National Flood Insurance Program to determine design parameters for infrastructure, typically referencing the 100-year floodplain and the 100-year flood elevations. In most areas of New Hampshire, FEMA's reports and mapping represent results of analyses performed in the 1980s which were based on precipitation data collected prior to 1960.

In the last four to five decades, precipitation and flooding have become more severe in the northeast United States. Floods that were considered 100-year floods in the past are occurring more often. When 100-year flood calculations are performed using statistical analysis of current data, 100-year flood discharges are typically higher. Further, since the magnitude and frequency of extreme precipitation events are expected to increase due to climate change, designing for the future based on current hydrologic conditions, let alone 60 year-old data, does not adequately address future flooding threats.

## 2.4 Reducing Greenhouse Gas Emissions

Although this plan is focused on helping community water systems in New Hampshire become more resilient to the impacts of climate change, it is important to also work towards reducing greenhouse gas emissions. If we continue with business as usual, the impacts will be more severe and will happen more quickly than if we change course. If we act quickly to reduce our reliance on fossil fuels, Earth's climate will continue to change for many years in the future, but we can avoid the more severe impacts to water systems and other infrastructure, as well as to human and ecological health.

There is some risk in losing sight of this, when we talk about climate change as a "given" and something we need to adapt to. People may feel that since we are taking actions to adapt or become more resilient, there is no need to reduce greenhouse gas emissions. With this in mind, outreach to water systems on adaptation strategies should also include some focus on energy efficiency and renewable energy. Reducing energy use has the added benefit of reducing the cost of providing water and/or freeing up funds to invest in infrastructure improvements.

## 3.0 Response to the Challenge

### 3.1 Department of Environmental Services Response

NHDES' [2010-2015 Strategic Plan](#) outlines goals and actions to achieve its mission of helping to “sustain a high quality of life for all citizens by protecting and restoring the environment and public health in New Hampshire.” Goal Number 1 of the Strategic Plan is to “...address climate change through effective mitigation and adaptation strategies and efforts to foster the transition to a clean energy economy.” “Mitigation” in the climate change context means actions that reduce net carbon emissions and limit long-term climate change.<sup>2</sup> Adaptation (resilience) actions pertinent to the DWGB Resilience Plan include:

- NHDES will continue to participate in regional and national initiatives to better prepare for the impacts of climate change.
- NHDES will collaborate with partners to provide information and technical assistance to communities and organizations that are seeking to incorporate adaptation measures into their projects and plans.

In recognition that climate change is real, serious and substantially man-made, and that New Hampshire's residents, economy and environment are already experiencing its impacts, NHDES has launched a two-year effort: the “Department Climate Initiative.” Under this initiative, agency management and staff are engaged in a strategic review of all NHDES programs and activities to identify where and how programmatic changes could be made to improve resiliency around the state and also to reduce energy use by both the department and our customers. Changes to the department's outreach activities, grants and regulatory programs are currently being considered and this work has been incorporated into NHDES' 2010-2015 Strategic Plan.

### 3.2 DWGB Activities Related to Climate Change Resilience Leading up to this Plan

Some of the programs that have been implemented by DWGB related to emergency planning and vulnerability assessments can serve as a basis for expanding the bureau's activities to improve resilience to climate change impacts. Some steps taken to date are outlined below.

Emergency Planning and Vulnerability Assessments Prior to September 11, 2001, emergency plans were required for CWSs serving 500 people or more. In March of 2002 the Emergency Plan rules were revised to require Emergency Plans for all community systems, regardless of size. Systems are required to update their Plan at least annually and submit the Plan to NHDES every six years.

The 2002 Bioterrorism Act required community systems that serve 3,300 people or more to develop and submit vulnerability assessments directly to EPA. While the efforts following 9/11 were focused on terrorism, over the past twelve years water systems have been impacted by various natural hazards such as ice storms, floods, tornadoes and drought. DWGB has expanded its technical and financial assistance related to emergency preparedness to include an all-hazards approach.

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<sup>2</sup> B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds). Climate Change 2007: Mitigation of Climate Change; Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Accessed September 10, 2013 at [http://www.ipcc.ch/publications\\_and\\_data/ar4/wg3/en/ch3s3-5.html](http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch3s3-5.html).

DWGB's education and outreach efforts regarding all-hazards preparedness address:

- Assessment of vulnerability to various hazards, including flooding and droughts.
- Emergency planning.
- National Incident Management System (NIMS) and Incident Command System (ICS).
- Radiological events.
- Cyber security.
- Community-based tabletop exercises involving water system personnel and local officials.
- Emergency planning and security webpage.
- Partnerships with EPA, NH Homeland Security & Emergency Management (HSEM), NH Information and Analysis Center, and the NH Public Works Mutual Aid program.
- Grant programs that funded emergency interconnection studies and security measures such as fencing, alarms and generators.
- Hazard mitigation funding outreach.
- No trespassing signs.
- Flood risk mapping.
- Department of Homeland Security physical security and cyber assessments.
- Improved bulk water requirements.
- Distribution of security and storm related advisories.

In-house efforts to improve DWGB's all-hazards preparedness include having go-kits that contain important contact and system information at key off-site locations, developing an emergency event tracking system, and participating at the State Emergency Operations Center during drills and real events.

2010 Flood Survey In 2010, a survey pertaining to flood-related experiences was distributed to all community water systems in the state. The goal of the survey was to define the types, causes and costs of flood-related impacts to CWSs over the past five years. The intent was to use the results of the survey to help guide changes to existing programs and administrative rules to improve water system preparedness and response to a damaging flood, and identify additional resources available to flood-impacted drinking water systems. The recommended action items that were identified as a result of the survey were included among those considered for inclusion in this Plan. The report is included as Appendix E.

Preliminary Evaluation of Climate Change Adaptation Strategies A preliminary identification of actions that could be taken to address the effects of climate change through DWGB programs was prepared by the Hydrology & Conservation Section (2010). These action items were also included among those considered for inclusion in this Plan.

Climate Change Vulnerability during Sanitary Surveys DWGB developed a list of questions concerning climate change impacts to ask operators during the drinking water system sanitary surveys. The vulnerability questionnaire is an extension of the sanitary survey program to assist in evaluation of sustainable capacity and assessment of the impacts of natural hazards at CWS.

Participating in regional and national work groups DWGB staff participate in the New England Interstate Water Pollution Control Commission (NEIWPCC) Climate Change Work Group, the Groundwater/Source Water Protection Work Group, the Drinking Water Administrators Work Group, and the Climate Change Work Group on the regional level. On the national level, bureau staff participate in the Source Water Protection working group of the Association of State Drinking Water Administrators (ASDWA), as well as ASDWA's Water Availability, Variability, and Sustainability initiative, and serve as representatives on the ASDWA Security Committee and on the ASDWA Water Sector Government Coordinating Council.

Additional Data and Information Collection To develop this Plan, DWGB performed a literature review of climate change science topics, especially those studies specific to New Hampshire and/or the northeast U.S. Tools for planning and implementing climate change resilience strategies were also reviewed. A list of literature that was reviewed and utilized in preparation for this study is included in Section 4. Many of these documents can be used to further develop bureau policies and outreach material or when providing technical assistance.

In addition to the literature review, surveys of CWS contacts and of DWGB staff were performed as described below.

CWS Extreme Weather Event Survey In 2013, a survey was developed to obtain information from community water system representatives relative to climate change impacts. The objective of the survey was to elicit information on impacts that CWSs are experiencing and also to gauge the level of concern regarding current and future impacts. The survey was designed to collect the following information:

- Current experiences with extreme weather events (wind, snow and ice storms, flood, drought, water quality).
- Perceptions of the threats to drinking water systems due to climate change.
- Needs for education, outreach and technical assistance related to climate change impact.
- Names of system representatives that would be interested in assisting in outreach on climate change adaptation strategies.

The survey used both multiple choice and priority ranking questions, with the intent that qualitative data could be obtained through open-ended questions. Survey Monkey was used for survey development and distribution. The survey was sent to 614 representatives of small and large community water systems. The initial survey request was sent on August 2, 2013 and responses were collected through August 23, 2013. Two hundred (200) online questionnaires were completed, 19 of which were partially completed. Appendix F includes a summary of the responses.

DWGB Staff Survey A questionnaire was provided to key DWGB staff to guide conversations about the concerns of staff relative to climate change impacts and to prioritize the many potential action items that had been identified during previous efforts and in recent phases of the development of this Plan. The questionnaire was filled out by eight key staff, including four section supervisors. After evaluating the responses, a preliminary prioritized list of action items (Short-, Medium- and Long-Term) was developed for further review by key staff members and the Bureau Administrator.

Bureau Climate Change Coordinator A staff person has been assigned duties related to climate change resilience, including coordinating the bureau's activities related to climate resilience and being the contact person for climate change-related issues for public water systems, inter-department personnel and EPA. These responsibilities complement other responsibilities within an existing engineering position. She has been reaching out to CWSs through presentations, newspaper articles, etc. on the climate change impacts to CWSs and adaptation strategies that can be taken.

### **3.3 Strategies Water Systems Can Use to Become More Resilient**

There are many ways that drinking water systems can improve their resilience to the impacts of climate change. The methods vary based on the threat (flood, drought, increased turbidity, etc), the type and degree of impact, and the system's design and treatment processes. Options include planning, operational and infrastructure improvements. Some examples of resilience measures are described below:

## General

- Conduct training for personnel in climate change impacts and resilience, as well as in energy efficiency, to help staff understand the long-term impacts and resilience strategies.
- Educate customers, municipal officials and commissioners on the impacts of climate change and how the changes are expected to impact the water system. This may help in obtaining “buy-in” for required upgrades, water conservation and source water protection initiatives.
- Participate in community and regional planning related to climate change adaptation.
- Maintain an inventory of all assets, including photographs. Pre- and post-event documentation is important to document damages in support of insurance claims and in obtaining FEMA reimbursement, Hazard Mitigation Funding and other public assistance funding.
- Take advantage of forecasting tools to assist in reservoir operations.
- Investigate alternative management procedures (such as reservoir operations, reuse of gray water and water conservation) to ensure adequate supply, especially for the summer months.
- Have redundant sources in case one source becomes damaged, contaminated or does not have adequate storage.
- Expand resources by developing interconnectivity to an adjacent water system.
- Perform a vulnerability assessment to evaluate the impacts of climate change on a drinking water system and identify system weaknesses.
- Participate in mutual aid programs and agreements, such as those offered by the New Hampshire Public Works Mutual Aid Program.

## Severe Storms (e.g. rain, wind, ice, snow)

- Large water systems should have back-up power for all critical infrastructure.
- Small water systems should install a transfer switch to readily accept a generator when necessary.
- Consider a rental agreement to obtain priority over customers with non-emergency needs.
- Identify reliable sources for obtaining generator fuel in an emergency.
- Monitor the health of trees near critical infrastructure and remove trees and/or limbs when they threaten system components and/or power lines.

## Floods

- Raise wellheads to ensure flood water does not contaminate sources.
- Raise equipment and generators.
- Raise pumps and pump houses above flood levels.
- Strap fuel and water storage tanks to prevent flotation during floods.
- Raise access roads as wetlands permitting allows. Install or upgrade to adequately sized culverts to avoid road washouts.
- Armor stream banks susceptible to erosion, to prevent the banks from back-cutting and threatening damage to wells, pump houses, distribution pipes, etc. Use bio-engineering techniques which use natural materials to the extent possible.
- Build berms to protect critical infrastructure from flood waters.
- Install flood barriers (for example: door gates) to prevent flood waters from entering pump houses.
- Set aside land to support future flood-proofing needs (such as berms, dikes and retractable gates).
- Ensure that emergency response plans deal with flooding and include stakeholder engagement and communication.

### Low Water Levels/Short- and Medium-Term Drought

- Encourage and implement water conservation techniques, including fixing and repairing leaks.
- Monitor well yield using data from pump run-time meters or level transducers in conjunction with flow meters.
- Incorporate monitoring of groundwater conditions and climate change projections into groundwater models.
- Support systems to recycle water, including use of grey water in homes and businesses.
- Practice demand management through communication to customers on water conservation actions.

### Source Water Quality

- Team with community stakeholders to reduce sources of transported sediment and other non-point pollutants in watersheds, thereby minimizing the amount of treatment required.
- Encourage Low Impact Development and other stormwater infiltration practices in places where they are appropriate (green roofs, reduction in impervious land cover, use of pervious pavement, etc.) and incorporation of those practices into land use permitting in order to preserve hydrologic function of watershed lands while protecting groundwater quality.
- Treat raw water or increase storage of treated water prior to predicted high turbidity events to the extent feasible, if the treatment plant does not run continuously.
- Purchase or conserve critical tracts of land within the watershed and otherwise support the preservation of lands (e.g., riparian buffers) important to protecting water quality.
- Increase water quality monitoring at times of high turbidity.
- Develop a Source Water Protection Program that includes some combination of public education, management of potential contamination sources and land use restrictions.

There are many actions that can be taken to improve resilience of drinking water systems, and drainage/river systems in general. NHDES recognizes that communities have limited resources, so will need to prioritize efforts in implementing resilience strategies as resources allow.

### 3.4 Actions NHDES Can Take to Promote Water System Resiliency

Based on the results of the studies, research and surveys/interviews described above, the following action items were selected for implementation by DWGB, as resources allow, to help drinking water systems prepare for and respond to the threats of climate change. When implementing these recommendations, DWGB should coordinate with other bureaus and agencies, when applicable, to ensure that their actions and the actions of others do not lead to adverse unintended consequences.

#### Short-Term Action Items (1 month to 1 year)

DWGB hopes to implement the following action items within the next year. Action items that will be continued as on-going activities are marked with an asterisk (\*).

1. Increase staff awareness and education. Encourage staff to obtain training in climate change in order to stay on top of the science, solutions and available resources related to DWGB and its role.  
Individual/Section(s) to Implement: Bureau Administrator or Designee
2. Continue to focus on ensuring adequate supply and system redundancy, as well as on identifying potential system vulnerabilities.\*  
Section(s) to Implement: Hydrology & Conservation; Engineering & Survey
3. Continue to encourage system interconnections when appropriate and feasible.\*  
Section(s) to Implement: Engineering & Survey
4. Stay abreast of updated flood and sea level rise mapping that may be developed by state or federal agencies or other organizations and use this data as appropriate to determine flood elevations and/or inundation limits for well siting and CWS design requirements.\*  
Section(s) to Implement: Engineering & Survey; Hydrology & Conservation
5. Develop a short set of questions to ask during Sanitary Surveys to evaluate the threat of flooding, extended periods of low flow, and other impacts of extreme ice/wind/snow storms. Inquire as to whether there are any threats/damages to distribution pipes that cross rivers and view potentially damaged areas when feasible.  
Section(s) to Implement: Engineering & Survey
6. Enhance outreach on the following topics, in cooperation with Granite State Rural Water Association and NH Water Works Association (NHWWA), and/or in DWGB activities, publications and correspondence\*:
  - a. Best management practices for source water protection.  
Section(s) to Implement: Hydrology & Conservation; Planning, Protection & Assistance;
  - b. Installing generators and/or automatic power switches.  
Section(s) to Implement: Engineering & Survey
  - c. Developing back-up water sources and developing interconnections.  
Section(s) to Implement: Hydrology & Conservation; Engineering & Survey
  - d. Tracking pump run times and water levels to evaluate supply adequacy.  
Section(s) to Implement: Engineering & Survey
  - e. Maintaining an inventory of all assets and documenting condition of assets with photographs before and after extreme weather in support of hazard mitigation funding applications.

Section to Implement: Engineering & Survey

- f. Encouraging community water systems to become members of the New Hampshire Public Works Mutual Aid program.

Section to Implement: Engineering & Survey.

- g. Include articles in the Supply Lines with The Source newsletter on climate change impacts and resilience strategies.\*

Section(s) to Implement: Planning, Protection & Assistance

**Medium-Term Action Items (1-3 years)**

DWGB plans to implement the following action items within the next 1-3 years. Action items that will be initiated and then continued as on-going activities are marked with an asterisk (\*).

- 1. Develop and implement a climate change vulnerability assessment program for water systems. (See further explanation to right.)

Section(s) to Implement: Engineering & Survey

- 2. In any guidance that DWGB develops for asset management plans, incorporate consideration of climate change impacts into risk assessments.

Section(s) to Implement: Engineering & Survey

- 3. Work with Homeland Security and Emergency Management to ensure timely notification of public water systems when hazard mitigation and public assistance funding is available.\*

Section(s) to Implement: Engineering & Survey

- 4. Improve the After Action Review process by developing a list of systems that are impacted during natural disasters. Follow up with the systems to inquire whether assistance is needed during recovery.

Section(s) to Implement: Engineering & Survey

- 5. Include climate change impacts and adaptation strategies in emergency planning workshops as appropriate given time constraints of workshops.\*

Section(s) to Implement: Engineering & Survey

- 6. When scientifically acceptable methods have been used to develop updated flood mapping, use inundation areas and flood levels from these maps/analyses for required system component elevations, if the information is more current than FEMA mapping.\*

Section(s) to Implement: Engineering & Survey; Hydrology & Conservation

- 7. Encourage collection of raw water quality data (e.g. bacteria, disinfection by-product pre-cursors) by CWSs to use in evaluation of short- and long-term trends for surface water and groundwater sources, as applicable.\*

Section(s) to Implement: Engineering & Survey

- 8. Recruit water systems with surface water sources to participate in a voluntary monitoring and reporting network for algae blooms, to allow DWGB to assess trends in algal outbreaks.\*

**Vulnerability Assessments**

DWGB will develop a program to evaluate the usefulness of climate change vulnerability assessments for water systems. Based on knowledge of potential vulnerabilities from results of past CWS surveys, known flooding problems, discussions with system staff, etc., DWGB will recruit systems to participate in a pilot program.

The bureau then hopes to engage a contractor to prepare vulnerability assessments for a small number of interested systems. These assessments could include hydrologic modeling and stress tests on sources. The goal of the assessments would be to assess the risk of impacts, as well as associated costs, and to prepare CWSs to develop climate change adaptation plans.

Section(s) to Implement: Planning, Protection & Assistance

9. Provide outreach to regional planning commissions to encourage them to involve public water systems in climate change planning projects and in hazard mitigation planning.\*

Section(s) to Implement: Planning, Protection & Assistance

10. Include education on climate planning and mitigation measures in Certified Operator training.\*

Section(s) to Implement: Engineering & Survey

11. Develop climate change impact and resilience fact sheets, as well as climate change mitigation (water and energy efficiency initiatives) fact sheets.

Section(s) to Implement: Engineering & Survey

12. Incorporate climate change impacts and examples of adaptation strategies into emergency plan templates as “optional” concerns to be addressed, until rules are amended in 2015. Also include a sample water purchase agreement in the template for Emergency Plans.

Section(s) to Implement: Engineering & Survey

13. For large CWSs, require that wellheads be three feet above the 100-year flood level or the highest known flood elevation, whichever is greater. This will replace DWGB’s current practice of requiring the wellhead to be two feet above the 100-year flood level, which has been the policy in response to the Ten State Standards language, “or as reviewing authority dictates.”

Section(s) to Implement: Engineering & Survey

14. Adopt the following amendments to administrative rules relative to design standards for new and modified structures:

Section(s) to Implement: Engineering & Survey

- a. For large and small CWSs, require that pump run time meters be installed (Env-Ws 372 and 374). Requiring pump run time meters is recommended as they are useful tools to enable system operators to evaluate the capacity of their wells, which usually changes over time. Detecting degradation of capacity in early stages is one strategy that will help ensure long-term viability of a source, especially given the potential for longer periods of drought.

- b. For small CWSs, require a minimum five ft depth for distribution pipes crossing water bodies 15 ft or wider (Env-Ws 372). Ten State Standards require this of large CWSs.

- c. For small CWSs, require isolation devices at each side of distribution pipes crossing a water body greater than 15’ in width (Env-Ws 372). Ten State Standards require this of large CWSs.

- d. For small CWSs, increase the required elevation for the wellhead to three feet above 100-year flood or three feet above highest known flood elevation, whichever is greater (Env-Ws 372). Recognizing that existing flood mapping and analyses are outdated with respect to current climate conditions, and the fact that the 100-year flood does not take into account future

**Existing Elevation Requirements for CWSs**

Requirements for *large* systems are included in Env-Ws 374, which references *Recommended Standards for Water Works* (Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2012), commonly called the “Ten State Standards.”

Requirements for *small* CWSs are in Env-Ws 372, but the rules only have required elevations for wells and pump houses. The rules require these components to be above the 100-year flood elevation. (DWGB may decide to extend the freeboard above 3 feet in the future as conditions warrant.)

- increases in flood magnitudes, three feet represents a safety factor for wellheads and pump houses. This matches the criteria included in the Ten State Standards.
- e. For small CWSs, increase the required elevation of pump houses to three feet above 100-year flood or three ft above highest known flood elevation, whichever is greater (Env-Ws 372).
  - f. Require an automatic power transfer switch for generators at new small CWSs (Env-Ws 372).
15. For large and small systems, recommend that isolation valves be spaced at not more than 500 feet in flood plains or in areas with high erosion potential.
  16. Provide outreach on energy efficiency activities at large and small systems, such as pumping efficiency, energy efficient treatment techniques and the relationship between water conservation and energy efficiency.
  17. Work with NHWWA and the Public Utilities Commission to expand energy efficiency incentives administered by electrical and gas utilities.

### **Long-Term Action Items (More than 3 years)**

DWGB plans to implement the following action items within the next eight years.

1. Perform a detailed review of this Plan every five years and revise as necessary.  
Section(s) to Implement: Administrator's designee
2. Review siting and design standards on a routine basis (every five to eight years) to assess the need to integrate new knowledge on predicted climate change impacts during rule re-adoption (which typically occur every ten years). If a rule amendment appears to be key to ensuring resilience based on observed climate change impacts, consider amending the rule prior to its expiration or recommending that CWSs comply with a higher standard.  
Section(s) to Implement: Engineering & Survey
3. Amend Env-Ws 360.15 to require that emergency plans include consideration of climate change impacts and how systems will respond to increased frequency of flooding, drought and other climate impacts. At the latest, this should be accomplished when the rules are readopted in 2023. However, DWGB will consider amending the rule in time for the submission of updated Emergency Plans, in 2021.  
Section(s) to Implement: Engineering & Survey

## **3.5 Implementation of the Plan**

This plan is very ambitious and includes many action items to be integrated into the overall work of the bureau. Implementing this plan will require vigilance and, in some cases, finding some additional resources. The tasks and responsibilities outlined in this plan complement other important on-going programs as needed to help ensure resilience of water systems against the impacts of climate change.

An important factor to ensure implementation of the Plan is that the Bureau Administrator delivers a consistent message: climate change adaptation is necessary to ensure safe and reliable drinking water. As stated in short-term action item No. 2, the Bureau Administrator will assign a staff person to coordinate implementation of this Plan. In fact, this duty has been included in a job description for a position in the engineering and survey section that will be filled in the next few months. This "Plan Coordinator" will check in with section supervisors every few months to see that sections are on track with meeting the goals to implement specific activities and that the activities are integrated in the annual initiative report for the section. As staff resources and other work priorities present challenges to full implementation, the

Plan Coordinator will work with the Administrator and staff to develop strategies to find alternative approaches that may require different resources or additional time. To ensure forward progress in the face of challenge, the Plan Coordinator will perform a formal review of the plan every five years and update it as necessary.

It is important to note that some of the recommended action items will potentially require additional expenditures by water systems. DWGB works closely with the water industry and intends to vet the initiatives in this plan through them for their input and recommendations on how to best achieve resilience goals. Further, the bureau, as a matter of routine, convenes stakeholder groups for any rule changes and will do so for rules and policy changes envisioned in this plan.

Request No. Staff 4 – 5

Witness: Leah Valladares

Tom Mason

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**Staff 4-5**

Regarding the response to Staff 3-11, if the backfilling has not yet been completed, please indicate generally what work the \$12,500 involved.

**Response:**

The \$12,500.00 is to decommission the old tank that is in the ground, as required by NHDES.

Request No. Staff 4 – 6

Witness: Leah Valladares

Tom Mason

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**Staff 4-6**

Regarding the response to Staff 3-16, please indicate:

- a) Whether storage tanks were replaced as part of the upgrade.
- b) Whether the new pump station is in-ground or above-ground.
- c) Whether the upgrade included backup power capability, and if so, what type.
- d) The approximate age of the facilities replaced.
- e) Whether the company anticipates the need for full pump station replacements at any other systems in the next 5 to 10 years.

**Response:**

- a. Yes.
- b. The new Indian Mound Pump Station is above ground. It is a poured in place concrete tank and the equipment is located in the building on top of it.
- c. No backup power is currently installed.
- d. The facilities retired included components of the original pump station constructed in the 1960s. The storage tanks were salvaged navy buoys. The original pump station was constructed prior to Lakes Region's acquisition of the system in 2004.
- e. See Response to Staff Request 4-4 (d).

Request No. Staff 4 – 7

Witness: Leah Valladares

Tom Mason

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**Staff 4-7**

While realizing the cost of the new Dockham Shores facilities is derived from separate charges to a long list of vendors, were any of the larger portions of the project put out to bid? Please indicate why or why not.

**Response:**

Lakes Region used LRW Water Service to perform contract work per its approved affiliate agreement which allowed Lakes Region to better manage cash flows. Lakes Region's costs using LRW Water Service are comparable to or lower than similar projects. *See Response to Staff 3 – 12.*

### **REQUEST Staff 5-1**

Please provide full, updated comment on the company's view of the current need for, and level of urgency of, replacement of the Wildwood facilities in light of the company's operational and other experience with the system since acquisition. In this regard, please include:

- a) What factors currently contribute to the need for the proposed work (pump station, storage, treatment, etc.);
- b) What factors currently contribute to the level of urgency of the proposed work;
- c) How the degree of urgency compares to that of other company systems or facilities needing upgrade such as Far Echo and 175 Estates (see response to Staff 4-4 d);
- d) Could the Wildwood upgrades wait for one year? Two years? Five years? Please explain;
- e) Could short-term fixes buy additional time? Please explain.

### **RESPONSE**

- a) The following factors significantly contribute to the need for the proposed work in order to provide reasonably safe and adequate service to customers:
  - i. Pressure - There is low pressure at the top of the hill, especially during peak hours of use. PUC 604.03 (a) and Env-Dw 405.32 (b) require that each utility shall maintain normal operating pressures of not less than 20 psi. The Company has observed pressures at 59 Wildwood Rd (at the top of hill) from 6-25 psi. At another location, 55 Tabor Circle (lower end of the development – next to the pump station), the customer has emailed when seasonal residents arrive and reported that water pressure is very low.
  - ii. Treatment- The current treatment is not adequate and needs to be replaced; it is functioning at about 25% and there is not enough room in the current pump station to support the required upgrades. A customer at 55 Tabor Circle emailed inquiring about improvements to remove the orange coloration from high iron. Other customers have verbally expressed the need for improvements.
  - iii. Pump station integrity- The current station structure is rotting.
- b) There is no immediate urgency other than the need to improve water quality and service to Wildwood customers. However, the age of the system does increase the risk of failure and interruption of service which would adversely impact customers.
- c) Far Echo Harbor is a higher priority due to water source issues in that system. 175 Estates compares to Wildwood in the sense of urgency and is lower than Far Echo Harbor- it needs the same pump station upgrade. LRWC believes it is better for customers to be proactive rather than reactive.
- d) The Wildwood upgrades could wait one year, two years or five years. LRWC could continue to replace things as they fail-essentially band-aiding the system until a

catastrophic failure occurs. However, the age of the system does increase the risk of failure and interruption of service which would adversely impact customers. As noted in Lakes Region's proceeding to acquire the system in DW 17 – 176, Exhibit 3, there are multiple components of the system that are at risk of failure due to their age – life expectancy.

- e) See response above.

## **REQUEST Staff 5-2**

Given the \$260,000 cost of the proposed Wildwood pump station replacement, at least a cursory investigation by LRWC of whether an interconnection with Conway Village Fire District (CVFD) as a potential lesser cost alternative seems appropriate. The CVFD appears to be already serving outside its boundaries in the area. In this regard, please provide information the company has regarding the following:

- a) The approximate length and potential cost of any required main extension;
- b) Whether CVFD pressures would serve all of Wildwood or require additional pumping for upper portions of Wildwood;
- c) Some preliminary indication of the level of interest on the part of CVFD in such an interconnection (presumably via bulk water sales through a master meter at the entrance to Wildwood), including:
  - a. Time frame (within 2 years? not for 20 years?);
  - b. Whether the district has already had hydraulic or other engineering studies done of the potential for extensions in that area;
  - c. Whether the cost might be shared with other potential customers along the route; and
  - d. What rates would apply.

## **RESPONSE**

The Company reached out to CVFD's Superintendent Steve Anderson both via email and via phone for a cursory ONLY investigation regarding an interconnection with CVFD. The following information was obtained.

- a) The distance from where the CVFD's water main end to the beginning of Wildwood is approximately 1500' with a potential cost as follows.
  - i. The water main extension would consist of 1500' of 12" Ductal iron @ \$125/ft=\$187,000
  - ii. Three (3) fire hydrants @ \$3000 each = \$9,000,
  - iii. Three (3) gate valves @ \$1,800 each= \$5,400,
  - iv. Three (3) 12" gate valves @ \$4,000 each = \$12,000
  - v. have to install approximately 400' water main down to the meter pit estimating also at \$125 per foot =\$50,000.

These amounts total a beginning cost of \$213,000. Please note: Permits would also need to be obtain from NHDOT to install the water main along NH Rte 16 with an additional unknown cost involved in that process. LRWC would also have to extend the main an additional 400' to meet the interconnect and add gate valves for an estimated cost between \$40,000-\$50,000. There would also be further unknown engineering costs and legal fees to develop a Water Supply agreement and obtain franchise approval.

- b) CVFD could provide pressures of 35 psi per telephone conversation with Super. Anderson on May 5, 2020. A meter pit would be installed (no cost was given) plus a 2” meter @ \$2,000, backflow protection would be required, and a testable dual check valve would be acceptable. There would possibly be a booster station needed.
- c) CVFD has expressed a willingness to consider an interconnection and would serve Wildwood via bulk water sales through a master meter at the entrance to Wildwood.
  - i. No time frame was discussed and LRWC is does not support or recommend an interconnection.
  - ii. CVFD advised a hydraulic study had been done in the past, but no record on file.
  - iii. There are there 3-4 other business along Rte. 16, they all currently have their own water source. No one was approached.
  - iv. There would be an initial \$1,000 connection fee per unit.  $49 \text{ units} \times \$1,000 = \$49,000$  that CVFD would assess. CVFD 2020 has a bulk water rate of .01 per gallon. Wildwood used 1,067,396 gallons last year = \$10,673.96 plus a yearly demand charge of \$2,100.00. At current rates, this would be an annual cost of \$12,773.96. Even if CVFD rates did not change, this would result in customer charges of \$255,479.20 over the first 20 years which would likely exceed the cost of the pump station. There would also be a rate to pass through increases in the CVFD water rates developed by LRWC. LRWC does not recommend an interconnection as the least cost alternative.

**REQUEST Staff 5-3**

Reference the CoBank 'term sheet' dated July 9, 2019, in Exhibit Staff 1-1.

- a) Please confirm that the identified financing terms and conditions remain available to LRWC or indicate any changes to those terms and conditions
- b) Please provide an updated term sheet with the updated terms and conditions, or an updated term sheet showing the same terms and conditions that were available in July 9, 2019 remain available.

**RESPONSE**

- a) Attached please see the updated Term Sheet from Cobank.
- b) Attached is an updated Term Sheet.

Data Request Staff 5-3

April 30, 2020

Mr. Thomas Mason, President and CEO  
Lakes Region Water Company, Inc.  
Moultonborough, NH 03254

Dear Mr. Mason:

The following term sheet is for information and discussion purposes only. This term sheet is neither a commitment nor an offer to extend credit and does not create any obligation on the part of CoBank. This term sheet is intended to provide a summary of the primary terms and conditions of the proposed transaction between CoBank and the Lakes Region Water Company; however, this terms sheet does not contain all of the terms and conditions applicable to a credit facility provided by CoBank and ultimately contained in any loan documentation. CoBank's decision to extend credit to the Lakes Region Water Company is contingent upon completion to CoBank's satisfaction of all necessary due diligence, receipt of internal credit approvals, and the preparation of final documentation in form and substance satisfactory to CoBank. All figures, terms, and conditions are subject to change at any time. A commitment by CoBank will exist only if a formal, written commitment letter or definitive loan documents are prepared and executed by CoBank and the Lakes Region Water Company, and not otherwise. This term sheet is strictly confidential and may not be released to or discussed with any third party without the prior written consent of CoBank.

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<b>Borrower:</b>	Lakes Region Water Company, Inc. ("Borrower")
<b>Type of Credit Facility:</b>	1. A secured term loan of up to 20 years and a maximum \$400,000 ("Term Loan 1") and 2. A secured term loan of up to 20 years and a maximum of \$233,000 ("Term Loan 2" together the "Loans")
<b>Purpose:</b>	To finance capital projects at Dockham Shores, Paradise Shores and Wildwood to include main replacements, pump stations and related infrastructure and miscellaneous closing and financing costs.
<b>Availability:</b>	Up to 12 months after closing.
<b>Interest:</b>	In accordance with one or more of the following interest rate options, as selected by the Borrower:  <u>Weekly Quoted Variable Rate Option:</u> Under this option, balances may be fixed at a rate established by CoBank on the first "Business Day" (to be defined) of each week. The rate established

shall be effective until the first Business Day of the next week. The interest rate under this option as of 4-30-20 is 2.95%.

Quoted Fixed Rate Option: At one or more rates to be quoted by CoBank. Under this option, rates can be fixed: (1) on balances of \$100,000 or more; (2) for periods of, 12 months to the final maturity of the Loan; and (3) for each facility, on no more than 5 separate balances at any one time. The interest rate under this option as of 4-30-20 is 4.75%.

Interest will be calculated on the basis of a year consisting of 360 days and shall be payable monthly in arrears by the 20<sup>th</sup> day of the following month.

Notwithstanding the foregoing, during the continuance of a default, interest shall accrue at 4% in excess of the rates that would otherwise be in effect.

**Origination Fees:** Four thousand dollars payable at closing.

**Principal Repayment:** In consecutive monthly installments, each due on the 20<sup>th</sup> of the month, with the first installment due on the 20<sup>th</sup> day of the second month following the month in which the availability period ends. The amount of each installment shall be the same principal amount that would be due and payable if the Loans were payable in level installments of principal and interest and such schedule was calculated using the interest rate applicable on the date the amortization schedule is created.

**Prepayment:** Balances bearing interest at the Weekly Quoted Variable Rate Option may be prepaid without premium. Balances bearing interest at the Quoted Fixed Rate Option may be prepaid upon payment of a premium equal to the present value of CoBank's "Funding Losses" as defined in the Master Loan Agreement (MLA) plus a yield of .50% on a per annum basis.

**Capitalization:** The Loans will be capitalized in accordance with CoBank's bylaws and its capital plan. As an existing customer, no additional capital purchase is required.

**Collateral:** The Loans will be secured by a perfected priority lien on and security interest in all real and personal, tangible and intangible, present and future assets of the Borrower including a deed of trust or mortgage with evidence of title (in a form to be determined by CoBank) subject only to those exceptions approved by CoBank.

**Documentation:** The Loans would be subject to the negotiation, execution, delivery, and, where appropriate, recording of loan and loan related documentation (including exhibits, opinions, and security

documentation) satisfactory to CoBank and its counsel in its or their sole discretion. In addition, all other matters whatsoever relating to the credit or the closing thereof must be approved by CoBank and its counsel in its or their sole discretion. Without limiting the foregoing, the loan documentation shall include conditions precedent, representations and warranties, covenants, events of default, remedies upon default, and various miscellaneous provisions.

**Representations  
and Warranties:**

Including, without limitation, representations and warranties as to organization; good standing and qualification; authorization of borrowing; compliance with law; financial condition; title to properties; liens; no material adverse change; litigation; payment of taxes; governmental regulations; disclosure; licenses; trademarks; and patents.

**Financial Covenants:**

As required in the existing MLA

**Negative  
Covenants:**

As required in the existing MLA.

**Reporting  
Requirements:**

As required by the existing MLA

**Expenses and  
Indemnification:**

The Borrower will indemnify CoBank against all losses, liabilities, claims, damages, or expenses relative to the Credit Facility or the use of loan proceeds. All reasonable costs and expenses incurred by CoBank in connection with this transaction including, without limitation, all legal fees and expenses for CoBank's legal counsel, shall be paid by the Borrowers.

**Defaults:**

As stated in the existing MLA.

**Patronage:**

At the sole discretion of CoBank's Board of Directors, each year eligible customers may qualify under CoBank's patronage plan for patronage certificates and distributions. CoBank reserves the right to sell, assign and/or participate in credit facilities discussed hereunder on a non-patronage basis.

**REQUEST Staff 5-4**

Reference Response to Staff 1-2. LRWC stated, “The Company does not expect that interest rates will exceed 5.5% but recommends that the Commission approve rates not to exceed 6% in case of unexpected changes in the market pending review and approval by the Commission.”

Please confirm that this remains LRWC’s position, or indicate the current interest rate that LRWC proposes the Commission approve, and the rate that LRWC proposes as the “shall not be exceeded” rate.

**RESPONSE**

Per the attached term sheet, Lakes Region recommends that the Commission authorize Lakes Region to borrow at interest rates that shall not exceed 6%.

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