

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: April 28, 2020
AT (OFFICE): NHPUC

FROM: James Schuler, Utility Examiner

SUBJECT: Pennichuck Water Works, Inc.
DW 20-020 Qualified Capital Project Adjustment Charge - QCPAC
FINAL Audit Report

TO: Steve Frink, Director Gas - Water Division, NHPUC
Jayson Laflamme, Asst. Director Gas - Water Division, NHPUC
Robyn Descoteau, Utility Analyst Water - Division, NHPUC

Introduction

Pennichuck Water Works, Inc. (PWW, the Company) had been participating in a Water Infrastructure and Conservation Adjustment (WICA) Pilot Program since approved by Commission Order 25,230 on June 9, 2011. In Docket DW 16-806 the Commission issued Order 26,070 replacing the WICA with the Qualified Capital Project Adjustment Charge (QCPAC).

On February 19, 2020, PWW filed the initial 2019 QCPAC reconciliation. This reconciliation, and the associated projects, subject to a Commission Audit and subsequent Order, would then be eligible for recovery through the QCPAC.

Regulatory Approval

As required by Order 26,070, to be eligible for recovery through the 2019 QCPAC, a project must meet the following standards:

- (1) Completed, in service and used and useful on or before December 31, 2019;
- (2) Financed by debt that has been approved by the Commission; and
- (3) Corresponds with a capital budget that has previously been submitted by the Company and approved by the Commission.

2019 Projects

The original PWW Board Approved Capital Expense Budget (CAPEX) for 2019 totaled \$14,968,170. On November 30, 2019, the last of four budget revisions increased that figure up to \$16,543,576. As presented to the Commission in Docket DW 18-022, the project costs as of December 31, 2019 was \$15,803,137 but was projected to cost \$15,395,402.

Review of Selected Projects

The following table shows the projects that were selected for review, a dollar total of those projects and the annual property tax impact, if applicable. In addition to the mains, services, and paving projects, to be eligible for recovery through the QCPAC a project can be related to replacement of vehicles, network infrastructure and building improvements. Audit reviewed approximately 70% of the total project costs.

Project Name/ Description	Work Order # Project #	Cost	Property Tax Expense
Merrimack River Intake Construction	1502180/1601369/1701489/1807360/1901612 / 1908505	\$ 6,299,764	\$ 181,811
City of Nashua, Lake Street Sewer	1915976	\$ 1,608,850	\$ 42,200
NWS Impov. Deerwood-NW Blvd Loop	1806806 / 1901610	\$ 1,302,871	\$ 34,174
Carbon Media Changeout-Filters 1, 2, 3, 4	1901614 / 1916780	\$ 990,662	\$ 25,985
Elm Street Water Main	1702871/1812907/1901599	\$ 373,328	\$ 9,792
New Vehicle	1918314	\$ 28,897	\$ -
WTP Booster Pump Rebuild	1914986	\$ 24,554	\$ 644
		\$ 10,628,926	\$ 294,606

Merrimack River Intake - \$6,299,764

Per the Company’s Capital Improvements/Expenditures form, this project was authorized in 2015 to supplement supply during higher demand periods, typically June through October when flow is low in Pennichuck Brook. The Company received only two bids for the project with the lowest bidder being chosen for the work.

The six Work Order Detail Reports totaled \$6,299,764 however the general ledger total shown below for the project was \$6,350,809, a difference of \$51,046. The Company explained that the difference represents *“the prior year AFUDC that was not included in the filing. We had to book it since the AFUDC was booked in prior year, but we are using 0.1 \$ likely to recover those costs rather than try to recover in QCPAC filing. This is the difference between what was booked GL and what is in CPR for these projects.”*

Work Order #1502180	\$ 152,707
Work Order #1601369	\$ 133,791
Work Order #1701489	\$ 109,069
Work Order #1807360	\$ 226,271
Work Order #1901612	\$ 96,652
Work Order #1908505	<u>\$5,632,319</u>
Total with Prior Year AFUDC	\$6,350,809

Work order #1502180 totaling \$150,343 consisted of three invoices from Substructure, Inc. of Portsmouth, NH and totaled \$92,400 which included initial evaluation and assessments, river bottom surveying and analysis. Engineering, project management and administrative work were provided by Tighe & Bond and totaled \$38,585. The Tighe & Bond invoices added a 15% administrative fee to their sub-contractor costs which totaled \$3,204. PWW engineering and

information system overheads totaled \$12,231 and were verified to the hourly rate sheets provided. Audit recalculated the rate charges and invoice totals with no exceptions noted.

Work order #1601369 totaled \$121,554 and consisted of twelve monthly charges in 2016 from Tighe & Bond and totaled \$114,859. The charges were categorized on the invoices as Data Collection/Conditions Assessment, Preliminary Design Memorandum, the sub-contractor and 30% Design. The Tighe & Bond invoices added a 15% administrative fee to their sub-contractor costs which totaled \$3,712. PWV engineering and information system overheads totaled \$6,192 and were verified to the hourly rate sheets provided. Audit recalculated the rate charges and invoice totals with no exceptions noted.

Work Order #1701489 totaled \$90,589 and consisted of twelve monthly charges for 2017 from Tighe & Bond and totaled \$90,310. The charges were categorized on the invoices as Data Collection/Conditions Assessment, Preliminary Design Memorandum, the sub-contractor and 30% Design. The Tighe & Bond invoices added a 15% administrative fee to their sub-contractor costs which totaled \$1,890. Audit requested support for an item described as an Outside Service Charge of \$3,000. The Company responded that the \$3,000 was for Phase I-A Archeological Study performed by Victoria Bunker, Inc. The study was associated with the permitting and financing (SRF and DWGTF) of two projects, the Merrimack River Water Main Project and the Merrimack River Intake. Tighe & Bond divided the invoice proportionately to each project based on the relative area of the river bank that was disturbed during construction. Audit reviewed the invoices with no exceptions noted.

Audit recalculated several line items with no exceptions noted. Also noted was that the hourly rate charges remained consistent throughout the year.

Work Order #1807360 totaled \$208,306 and consisted of twelve monthly charges for 2018 from Tighe & Bond and totaled \$170,200. The charges were categorized on the invoices as Permitting, Pennichuck Safe Yield Analysis and Intake Final Design and Bidding. The Tighe & Bond invoices added a 15% administrative fee to their sub-contractor costs which totaled \$895. PWV engineering and information system overheads totaled \$11,066 and were verified to the hourly rate sheets provided. Audit recalculated the rate charges and invoice totals with no exceptions noted.

Other costs included two invoices from Steamworks, PLLC totaling \$27,040. The invoices represented a Merrimack Safe Yield Study for \$24,240 and a final report in the amount of \$2,800. This work was performed in the first half of 2018 and charged to account 306000 – Lake, River & Other Intakes.

Work Order #1901612 totaled \$96,652 and consisted of two 2019 invoices from Tighe & Bond totaling \$83,309. The charges were categorized on the invoices as Permitting and Construction. The Tighe & Bond invoices added a 15% administrative fee to their sub-contractor costs which totaled \$1,867. PWV engineering and information system overheads totaled \$9,532 and were verified to the hourly rate sheets provided. Audit recalculated the rate charges and invoice totals with no exceptions noted.

Other costs included an invoice from Geosyntec Consultants for \$3,500. The invoice represented professional services associated with the Source Water Protection Plan Outline. The

invoice notes that the total contract sum is \$7,000 and that final billing of \$3,500 will be billed in 2020.

Work Order #1908505 totaled \$5,632,320 with the Kingsbury Companies LLC representing the major portion of the construction costs. Audit reviewed the Contractors Application for Payments from April 2019 through December 2019. Each application was supported by a Progress Estimate that described the type of work performed, unit price, quantity installed this period and value installed to date. The last application in December 2019 stated that the project was 95.69% completed with a value of \$246,000 remaining on the contract.

Tighe & Bond submitted eight monthly charges for 2019 totaling \$343,074. The charges were categorized on the invoices as Construction and Monitoring. PWW engineering and information system overheads totaled \$45,134 and were verified to the hourly rate sheets provided. Audit recalculated the rate charges and invoice totals with no exceptions noted.

The Tighe & Bond invoices showed that a sub-contractor, Evergreen Consultants of New England added a 15% administrative fee to their consulting services totaling \$18,151. Audit recalculated the charges with no exceptions noted. The total consulting charge for this work order is shown below:

Month	Base Charge	15% Administration Fee	Total Consultant Charge
June	\$25,502	\$3,825	\$29,327
August	\$20,541	\$3,081	\$23,622
September	\$14,883	\$2,232	\$17,116
October	\$21,061	\$3,159	\$24,220
November	\$16,098	\$2,415	\$18,513
December	\$22,920	\$3,438	\$26,357
	\$121,005	\$18,151	\$139,156

Other costs included an invoice from M&M Electrical Supply Company for a circuit breaker in the amount of \$2,957 and an invoice from B&M Locksmith for parts keys.

Vendor	Amount
Kingsbury Companies, LLC	\$ 5,241,145
Tighe & Bond	\$ 343,074
Engineering & ISOH	\$ 45,134
M&M Electric	\$ 2,957
B&S Locksmith	\$ 10
	\$ 5,632,320

The additions were posted to the general ledger on December 1, 2019 to the plant accounts shown below:

<u>Work Order #1502180/1601369/1701489/1807360/1901612/1908505 - Merrimack River Intake</u>				
Account	Description	Gross Plant	COR	Gross Book
306000	Lake, River, Other Intakes	\$ 6,350,810		\$ 6,350,810

The CAPEX shows that this project was in the 2019 Board approved budget and was estimated to cost 5,500,000 and revised to \$6,600,00 on August 24, 2019. The final work order totaled \$6,299,764. The River Intake project was financed through the Drinking Water and Groundwater Trust Fund (DWGTF) in Docket DW 19-026, order no. 26,247 which approved a loan of \$5,500,000. While the total cost of the project was \$6,299,764, the remaining amount of \$799,764 was financed by the fixed asset line of credit per the Company. The CAPEX also notes that \$300,000 of clean-up work is to be carried into 2020.

The Town of Merrimack tax rate of \$28.86/thousand results in an eligible property tax expense of \$181,811.

The Continuing Property Records did not show any cost of removal or retirement associated with the project. The Company stated that *“there are no retirements associated with this project. This asset will have no cost of removal as it did not replace anything, it actually extended out our current intake into the deeper part of the waterbed. The retirement was not necessary as it is still in use.”*

City of Nashua Sewer Replacement, Lake Street - \$1,608,850

Work order #1915976 consisted of costs to replace 2,950 linear feet of 6” CI pipe with 12” DIPCL on Lake Street in order to improve flow and replace the existing unlined pipe. The Capital Improvements and Authorization Form states that there are retirements and costs for removal associated with the project. The Record of Bids and Proposals shows three vendors bid on the project with the lowest bidder, N. Granese & Sons chosen for the work. The costs by vendor are broken out below:

Vendor	Amount
N. Granese & Sons, Inc.	\$ 1,195,645
City of Nashua	\$ 344,000
Engineering & ISOH	\$ 66,227
Drain Masters	\$ 2,824
Smith Plumbing	\$ 154
	\$ 1,608,850

N. Granese & Sons charges consisted of mobilization and demobilization activities, main replacement, excavation, temporary trench restoration and traffic control. Engineering and IS Overhead totaled \$66,227 and was verified to the hourly engineering wage sheets. The Company Drain Masters of Nashua was called in to unclog a sewer line in September 2019 per the vendor invoice and totaled \$2,824. Audit recalculated several line items with no exceptions noted. The Company booked the cost of the completed project as seen in the accounts below.

Work Order #1915976 - City of Nashua Lake Street Sewer

Account	Description	Gross Plant	COR	Gross Book
331002	Distribution Mains: Pavements	\$ 423,960	\$ 42,396	\$ 466,356
331200	Distribution Mains: New	\$ 846,685	\$ 84,668	\$ 931,353
331250	Distribution Mains: Gate Valves	\$ 172,500	\$ 17,250	\$ 189,750
333200	Renewed Services	\$ 98,785	\$ 9,879	\$ 108,664
335000	Fire Protection Equip: Hydrants	\$ 52,500	\$ 5,250	\$ 57,750
		<u>\$ 1,594,430</u>	<u>\$ 159,443</u>	<u>\$ 1,753,873</u>

The variance between the Work Order Detail Report amount of \$1,608,850 and the general ledger amount of \$1,594,430 is \$14,420. The Company provided a reconciliation to show the reason for the variance. The Company states that ‘the general ledger account 331200 on 09/03/19 was for \$719,085, of that amount \$7,600.00 was moved in RAM only from 1915976 to 1901602. Also, the general ledger account 331002 on 09/03/19 was for \$412,600, of that amount, \$780 was moved in RAM only from 1915976 to 1901602 per the project manager.’

With the cost of removal and these RAM changes, the net change and the variance is shown below:

COR booked to 108001	\$22,800
Mains Booked but moved to 1901602	\$(7,600)
Paving Booked but moved to 1901602	<u>\$ (780)</u>
Variance	\$14,420

The CAPEX shows that this project was in the revised Board Approved Budget and was estimated to cost \$1,710,500 in August of 2019. The final work order cost totaled \$1,608,850 and included a pavement contribution to the City of Nashua \$344,000. Per the CPRs, the cost of removal totaled \$181,405 on additions of \$1,608,850. Retirements shown on the Asset Disposition Report totaled \$1,260. Audit verified that the assets were depreciated at ½ per year in the first year of service per the CPR’s. The City’s tax rate of \$26.23/thousand results in an eligible property tax expense of \$41,200.

Northwest Water Main Improvements - \$1,302,871

The Capital Improvements and Authorization Form states that this project is for upgrading the water mains and system connection to accommodate the Kessler Farm tank replacement in 2020. Work Orders 1806806 and 1901610 totaled \$1,302,871 for adding approximately 3,400 linear feet of 20” HDPE and includes Rail Road pipe jacking. The Record of Bids and Proposals shows three vendors bid on the project with the lowest bidder, S.U.R West Construction chosen for the work.

The Work Order Detail Report notes that work order 1806806 was moved to 1813535 which the general ledger shows that \$83,594 was posted on December 1, 2019. This amount represents management costs that were allocated across all used and useful projects within the Northwest System project. The Company provided the support showing the total project allocation.

A breakdown of the project costs provided to Audit is shown below which agrees with the amount shown on the CAPEX:

1813535 Allocated across the Northwest System	\$ 83,594
Total 1806806 & 1901610	\$1,380,676
Engineering time paid by for by 0.1 DSRR	\$ (77,805)
CAPEX Total	\$1,302,871

The costs by vendor are broken out below from the Work Order Detail Report for #1901610 which does not agree with the CAPEX amount of \$1,302,871, a difference of \$70,397
Audit Issue #1:

Vendor	Amount
S.U.R Construction	\$ 1,252,370
Pennichuck	\$ 89,882
Frasca & Frasca Atty.	\$ 14,234
Fat Boys Realty, LLC	\$ 12,000
Invoice Adjustment	\$ 1,594
SpringTer	\$ 1,505
Schlossber	\$ 1,139
City of Nashua	\$ 545
	\$ 1,373,268

S.U.R Construction charged \$1,252,370 for water main work at the Nashua Airport, and Dumaine Avenue. Audit reviewed the Application and Certificate for Payment for all the invoices showing in detail the additions. Engineering and IS Overhead totaled \$89,882 and was verified to the hourly engineering wage sheets.

Work Order #1806806/1901610 - NWS Improvements, Deerwood Dr/NW Blvd Loop

Account	Description	Gross Plant	COR	Gross Book
331002	Pavements: Dist. Mains	\$ 58,774	\$ 5,877	\$ 64,651
331200	Distribution Mains: New	\$ 1,272,934	\$ 127,293	\$ 1,400,227
331250	Distribution Mains: Gate Valves	\$ 44,300	\$ 4,430	\$ 48,730
333200	Renewed Services	\$ 6,690	\$ 669	\$ 7,359
335000	Fire Projection Equip. Hydrants	\$ 46,248	\$ 4,625	\$ 50,872
		\$ 1,428,945	\$ 142,895	\$ 1,571,840

The City's tax rate of \$26.23/thousand results in an eligible property tax expense of \$34,174.

The CAPEX shows that this project was in the revised Board Approved Budget and was estimated to cost \$635,800 in August of 2019. In November the project estimate was revised to \$1,338,000. The final work order cost totaled \$1,302,871. Audit verified that the assets were depreciated at 1/2 per year in the first year of service per the CPR's.

Carbon Media Filters Change-Out - \$990,662

The costs in work order's 1901614 and 1916780 consisted of replacing the carbon media filters at the Nashua water treatment plant. The Company's Capital Improvement and Expenditures Authorization states that the present filters are approaching seven years old and that recent testing has shown that the granular activated carbon's absorptive capacity is exhausted.

Audit reviewed the work order detail, invoices, and other charges without exception.

CalgonCarbon Corporation, Invoice #90083437	\$495,331
CalgonCarbon Corporation, Invoice #90091445	<u>\$495,331</u>
Total W/O's #1901614/1916780	\$990,662

PWW posted the original acquisition cost (gross) to account 320310 – Water Treatment: Filter. The CPRs show that the Company is using straight line depreciation over seven years and posted half-year depreciation of \$70,762 in 2019, the year of installation.

The general ledger shows retirement credits posted for quarter 3 of \$454,132 and quarter 4 of \$625,167 which agrees with the Asset Disposition Report. The CPR's shows no cost of removal posted. The Company states that *"we did not book cost of removal on these assets due to this account number not being recognized in previous depreciation study. The company upon review agrees that there is a COR associated with the carbon media replacement and going forward will book the agreed upon 10% COR to this asset."* **Audit Issue #2**

The filter replacements were posted to the general ledger on August 1, October 1 and November 1 of 2019 to the account shown below:

Work Order #1901614/1916780 - Carbon Media Filters Changeout, Filters 1 & 2/ 3 & 4

<u>Account</u>	<u>Description</u>	<u>Gross Plant</u>	<u>COR</u>	<u>Gross Book</u>
320310	Water Treatment: Filter Media	\$ 990,662	\$ (99,066)	\$ 891,596

The CAPEX shows that this project was in the approved budget, financed in docket DW 17-183, and was estimated to cost \$975,000 as of November 30, 2019. The final work order cost totaled \$990,662. The City's tax rate of \$26.23/thousand results in an eligible property tax expense of \$25,985.

City Sewer Projects - Elm Street - \$373,328

Per the Company's Capital Improvements/Expenditures form, this project was authorized in 2017 to replace water main at multiple locations and corresponding with the City of Nashua Sewer replacements. The work order's 1702871, 1812907 and 1901599 pertained to the Elm Street main replacement and were to replace deteriorating 4", 6" and 8" unlined cast iron water main with DIPCL, ductile iron main. The Elm Street project consisted of replacing approximately 2,089 linear feet of 8" main that was installed from 1888 through 1939.

The Company provided the email exchange describing the paving agreement with the City of Nashua.

Work Order #1702871	\$ 4,704
Work Order #1812907	\$ 1,177
Work Order #1901599	<u>\$367,447</u>
Total	\$373,328

Work order 1702871 consisted of Engineering and Information System Overheads(ENGISOH) totaling \$3,130 and related bid advertising and notifications totaled \$1,574. Audit reviewed the engineering hours and rates provided in the project folder.

Work order #1812907 consisted of charges from J.P. Cardillo & Sons for 2018 pipe related materials and supplies totaling \$1,178. The contract support included materials and labor costs, unit costs, quantities and a total of work completed this period. Audit recalculated several line items with no exceptions noted.

Audit reviewed the invoice breakdown sheet from the vendor provided in the project folder.

J.P Cardillo & Sons, Labor & Materials	\$ 226,874
City of Nashua, PWW Paving Contribution	\$ 110,700
Microtech	\$ 18,641
Engineering & ISOH	\$ 14,953
Nashua Telegraph	\$ 686
Net Traffic	\$ 480
IMTEK Repro	\$ 449
Union Leader	\$ 438
Invoice Adjustment	\$ 83
M. Plamondon, Material	\$ 24
	<hr/>
	\$ 373,328

Work Order #1901599 shows .P. Cardillo & Sons charged \$226,874 for approximately 2,820 linear feet of 8” main replacement including temporary main, service reconnections and fire service. The Company explained that temporary main is used to provide continued domestic water supply and at times, fire protection until the new main is in service and all domestic services, fire services and hydrants are connected to the new main. Audit recalculated several line items with no exceptions noted.

Audit reviewed the December 19, 2019 invoice from the City of Nashua for road reclamation which listed the work order, location and length. The total invoice amount was \$110,700.

Microtek Staffing invoices totaled \$18,641 for engineering work performed by one staffer. The invoices listed employee name, hours worked. Audit requested an explanation for an item on the invoices described as ACA Surcharge. The Company provided Microteck Staffing’s response which is associated with the Affordable Care Act (ACA) legislation. In that response, Microteck explains that “*in order to be in compliance with the new law, Micro Tech*

Staffing has selected Option B and pay the \$2,000/employee tax. This mandatory cost increase will translate to a \$1.00/hour surcharge on bill rates for our contract employees. This increase is necessary just to cover the costs of the new law.” Audit reviewed several of the invoices and verified that the \$1 per hour charge was correct. Engineering and IS Overhead totaled \$14,953. Audit recalculated several line items on the ENGISOH sheets with no exceptions noted.

Audit traced the Accumulated Depreciation – Cost of Removal to account #108001. The Company booked the cost of the project as seen in the accounts below:

Work Order #1702871/1812907/1901599 - City of Nashua, Elm Street Sewer Project

Account	Description	Gross Plant	COR	Gross Book
331002	Pavements: Dist. Mains	\$ 151,324	\$ (15,132)	\$ 136,191
331200	Distribution Mains: New	\$ 88,032	\$ (8,803)	\$ 79,229
331250	Dist. Mains: Gate Valves	\$ 15,700	\$ (1,570)	\$ 14,130
333200	Renewed Services	\$ 112,963	\$ (11,296)	\$ 101,667
335000	Hydrants	\$ 5,310	\$ (531)	\$ 4,779
		\$ 373,328	\$ (37,333)	\$ 335,996

The CAPEX shows that this project was in the revised Board Approved Budget and was estimated to cost \$255,000 in August of 2019. The final work order cost totaled \$373,328 or approximately 40% over the budgeted figure.

The Company explained the cost overrun stating that “the Elm Street project was originally estimated in 2017 for construction in 2018. The project was separate but in conjunction with City sewer projects. The original budget was \$559,350. In addition to work on Elm Street, the planned project also included work on West Otterson Street as well. The City delayed work until 2019 and dropped the West Otterson work. The project scope was reduced hence the new budget value of \$255,000. This budget value did not include final paving restoration as Pennichuck had budgeted that separately for the for 2020. Two final things occurred in 2019 that brought the final cost to \$373,328. The length of water main replaced greater to coincide with an increase in City sewer replacement and final paving was required on the contractor in 2019 as opposed to 2020. Paving costs were \$67,650 and the additional water main brought the total project cost to \$373,328.”

Retirements totaled \$1,015 per the Asset Disposition Report for 1,517 feet of water main. The City’s tax rate of \$26.23/thousand results in an eligible property tax expense of \$9,792. The cost of removal was applied at 10% of the project cost totaling \$36,745. After reviewing the work order, Audit found no exceptions or inconsistencies.

Vehicle Replacement - \$28,897

Work Order #1918314 was for the purchase of a new vehicle for the new water supply technician hire. The cost of the 2019 Chevy 1500 Silverado was \$28,897 and posted to the general ledger account 341000 – Transportation Equipment on December 2, 2019

The Company's Capital Improvements and Expenditures form states that this was a new asset with no associated retirement.

The Company's Record of Bids and Proposals shows the bid date of December 11, 2019 for the new vehicle purchase. The record also shows that three bids were sought for the purchase and that the least expensive bid was chosen.

The new vehicle was posted to the general ledger account 341000 – Transportation Equipment shown below:

<u>Work Order #1918314 - New Vehicle</u>				
<u>Account</u>	<u>Description</u>	<u>Gross Plant</u>	<u>COR</u>	<u>Gross Book</u>
341000	Transportation Equipment	\$ 28,897	\$ -	\$ 28,897

The CAPEX states that this project was in unbudgeted with no QCPAC eligible property tax expense. After reviewed the work order, the dealership sales documentation and the Company's check request and found no exceptions or inconsistencies.

Booster Pump Replacement/Rebuild - \$24,554

This work order was to rebuild intermediate booster pump #3 at the water treatment plant in 2017 which had its bearings fail. The total cost to rebuild the build the pump and reinstall it was \$24,554.

Per the Company's Capital Improvements and Expenditures form, bids were not sought for the rebuild and installation, however the Company explained that R.H. White was the original installer of the pump and was well qualified to perform the work. The cost was treated as a capitalized repair of an existing asset with no cost of removal. The Continuing Property Records show the pump was capitalized on July 1, 2017 and being depreciated with a useful life of 22.75 years or 4.4%. One half year or \$540 was expensed in the first year of service.

The invoices are broken out by vendor below:

<u>Vendor/Description</u>	<u>Amount</u>
R.H. White Labor	\$ 9,060
Tierney & Dalton Materials	\$ 32
Tierney & Dalton Materials	\$ 43
Tierney & Dalton Materials	\$ 22
Assoc. Electrical-Mechancics, Refurbish Pump	\$12,275
Assoc. Electrical-Mechancics, MA Sales Tax	\$ 80
R.H. White Equipment 1758 2012 Ford F350	\$ 122
R.H. White Equipment 1895 2015 Ford F550	\$ 1,052
15% Profit on Materials Costs (12,452*15%)	\$ 1,868
Total Work Order	\$24,554

The pump rebuild costs were posted to the general ledger account 311210 – Electric Pumping Equipment: Pumps shown below:

Work Order #1914986 - Booster Pump Rebuild

<u>Account</u>	<u>Description</u>	<u>Gross Plant</u>	<u>COR</u>	<u>Gross Book</u>
311210	Electric Pumping Equipment: Pumps	\$ 24,554	\$ -	\$ 24,554

The CAPEX shows that this project was not in the Board Approved Budget but was in the August 24, 2019 revised approved budget with the cost being \$24,555. The City’s tax rate of \$26.23/thousand results in an eligible property tax expense of \$644. Audit reviewed the work order costs and found no exceptions or inconsistencies. Invoices from R.H. White included a 15% profit added to materials only which totaled \$1,868. There was no cost of removal associated with the pump rebuild.

Accounting for Funds Under Construction (AFUDC)

Per the Company’s testimony, as part of the 2019 PWW QCPAC filing, the Company would no longer calculate AFUDC and that they would replace the inclusion of AFUDC for a project total with the interest incurred on the Fixed Asset Line of Credit (FALOC). Audit noted that the AFUDC was credited out of the Work Order Detail Reports for those projects which had AFUDC. The Company provided the entry showing debits to account 420000 – AFUDC: Debt Component for \$32,646 and account 420100 – AFUDC: Equity Component for \$15,811. The offset was credited account 105222 – CWIP for \$48,457. The entries were posted on October 31, 2019 per the general ledger.

Overhead Rates

Overhead rates are input into Synergen by the Senior or Staff Accountant and are automatically calculated and posted to the general ledger when the work orders are posted to the general ledger at the end of the month.

For 2019 the Union overhead rate decreased from 63.24. This rate is calculated on the total Union labor hours for a specific job and is intended to capture the cost of benefits for Union employees while the general overhead rate remained at 2%. The general OH rate is calculated on the total job cost including the union labor rate as described above. The general OH rate is determined by an analysis of the union employee benefits which is reviewed/revised annually as part of the budget process. The Work Order Detail Reports that were reviewed by Audit did not contain any PWW labor.

Cost of Removal

The Asset Disposition Report listed by asset the cost of removal. The total cost of removal was \$815,598 on the gross investment \$15,646,798. Where the project was a new project, the Company correctly indicated and booked no cost of removal. Audit noted that the assets reviewed in 2019 all had a cost of removal rate of 10% of the total project cost.

Retirements

Audit requested the list of retired assets and documentation that those assets had been taken off the books and records of PWW associated with the specific projects chosen and PWW produced a spreadsheet that listed those retirements. Audit reviewed the Asset Disposition Report referencing specific general ledger account and traced several quarters to the general ledger for various accounts.

Depreciation

The Depreciation Asset List shows the total depreciation charge of \$267,376 on total additions of \$15,646,798. This figure represents a one-half year depreciation charge for 2019 in accordance with utility accounting standards. Audit recalculated several samples from all the plant accounts to verify the accuracy, the rates and the use of half-year convention for new additions. The Company used the straight-line method on the gross book value (after the cost of removal) and the rates used agreed with those specified in docket DW 16-806.

Record of Bids and Proposals

The Company provided the Record of Bids/Proposals for the projects for the fiscal years of 2016 through 2019. The bid summary was listed by Project Name, date and work order and included up to four bidders per project. Every work order indicated the lowest bidder was the chosen bidder. The Merrimack River Intake project received only two proposals with PWW choosing the lowest bid.

Taxes

Audit reviewed the Towns of Nashua and Merrimack tax rates for 2019 which showed Nashua listing their property tax rate at \$21.76 per thousand of valuation. The Town of Merrimack lists their 2019 property tax rate at \$24.13 per thousand of valuation. However, the CAPEX shows the QCPAC eligible property tax expense rates for Nashua of \$26.23 and Merrimack at \$28.86.

The Company provided an explanation as to how the tax rates have been calculated. The Nashua property tax amount was derived from using \$19.63 (\$21.76 less the \$2.13 State School tax) plus the \$6.60 State Utility tax. The Merrimack property tax amount was derived using \$22.26 plus the \$6.60 State Utility tax. Audit verified the rates from the tax bills provided.

The calculation for the various rate of \$27.02, which is shown on the CAPEX as those projects that span more than one community, was the average rates of Merrimack, Nashua, and Plaistow ($\$28.86 + \$26.23 + \$25.93 = \81.02 . $\$81.02/3 = \27.02).

Revenues

PWW applied a one-time recoupment charge to recover the cost of the debt service and property taxes incurred during the period between the bond issuance date and the date on which the 2019 QCPAC was implemented. All customer classes were charged based on the customer charge, the actual usage and fire protection in accordance with the 4.06% surcharge that was stipulated in order number 26,298 dated October 9, 2019.

Summary

In Summary, the Company submitted projects in the amount of \$15,803,137 and an initial tax impact of \$412,020 totaling \$15,715,157. The total projected QCPAC costs were \$15,395,402. After reviewing the material submitted, the Company has shown that these projects were used and useful and booked to the appropriate plant accounts as of 12/31/2019; financed by debt approved by the Commission in Order No. 26,121; and that the projects in question had been submitted to the PUC as part of DW 20-020. Support for project costs was provided in the form of the general ledger (GL) balances, journal entries, work orders, work order detail reports, E-22's, invoices and Excel spreadsheets.

Audit Issue #1

Northwest Water Main Improvements

Background

Northwest Water Main Improvements, Work Order 1901610 totals \$1,373,268 on the Work Order Detail Report.

Issue

The CAPEX total \$1,302,871, a difference of \$70,397 for the final project costs.

Recommendation

The Company should reconcile the two amounts and make adjustments as necessary.

Company Response

The line for “NWS Improvements - Deerwood Dr. Northwest Blvd Loop” includes two work orders and Audit had only reviewed one work order included in the project. The work orders are 1806806 and 1901610. The total project costs for these projects were \$7,408.31 for 1806806 and \$1,373,268.16 for 1901610. These costs included engineering labor which will be paid for by the 0.1 DSRR.

Of \$6,398.10 for 1806806 and \$71,406.93 for 1901610. When you take the total cost of the project minus the amount that will be funded by 0.1 DSRR, the total will be \$ 1,302,871.43 which is what PWV is reporting in the filing.

\$1,380,676.47	Total “NWS Improvements - Deerwood Dr. Northwest Blvd Loop”
	Total ENG. Time (paid with 0.1) NWS Improvements - Deerwood Dr. Northwest
<u>-\$ 77,805.04</u>	Blvd Loop
\$1,302,871.43	Total Filed for NWS Improvements - Deerwood Dr. Northwest Blvd Loop

Audit Conclusion

Audit concurs with the Company’s comments

Audit Issue #2

Cost of Removal

Background

The CPR's shows no cost of removal posted for work orders #1901614 and #1916780 which consisted of replacing the carbon media filters at the Nashua water treatment plant and totaled \$990,662.

Issue

The Company states that *"we did not book cost of removal on these assets due to this account number not being recognized in previous depreciation study. The company upon review agrees that there is a COR associated with the carbon media replacement and going forward will book the agreed upon 10% COR to this asset."*

Recommendation

The cost of removal at 10% of the total project would be \$99,066. Audit believes that amount is substantial enough to warrant an adjustment to the current QCPAC.

Company Response

We will apply the cost of removal to the assets as suggested by Audit, however the purchase cost will remain the same, please advise of adjustment needed to be made in QCPAC. The adjustment to cost of removal will only decrease the gross book value of the asset and the depreciation expense by that cost of removal percentage since this is calculated on the GBV.

Audit Conclusion

Audit concurs with the Company's comment that no adjustment to the filing for the acquisition or purchase cost needs to be done but entries to the accumulated depreciation and the related plant account should be posted to the general ledger.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-1

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Petition for 2020 QCPAC Adjustment

Page 2 of PWW's 2020 Petition for QCPAC Adjustment contains the foot note, "Because the QCPAC tariff pages are all original pages, no track change versions are provided." Please explain this statement given that PWW's current tariff shows the "First Revised" QCPAC tariff pages were accepted by the Commission on January 22, 2020.

RESPONSE:

This footnote is not applicable to this petition. It was applicable in the February 2019 filing. The "Draft" tariff pages submitted with the petition reflect the fact that they are a second revision.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-2

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Petition for 2020 QCPAC Adjustment

Page 4 of PWW's 2020 Petition for QCPAC Adjustment, item 12, states that this QCPAC filing is based on DW19-084, PWW's Petition for Adjustment in Permanent Rates. Does the Company intend to file revised QCPAC schedules reflecting the final decisions in DW19-084 upon the completion of that case?

RESPONSE:

Yes, the Exhibit DLW-1 schedules will be revised to reflect the actual revenues approved in DW19-084 and the 2020 QCPAC will be calculated on the approved DW19-084 revenues.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-3

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Petition for 2020 QCPAC Adjustment

Page 5 of PWW's 2020 Petition for QCPAC Adjustment contains the Company's request for the "...authority to pay the interest incurred on the FALOC each year by incorporating the interest into the amounts for which bonds are issued each year to pay off the FALOC." Please explain why this is a specific request when this authority was granted in Order #26,298 dated, October 9, 2019.

RESPONSE:

Per Order #26,298, dated October 9, 2019, the Company did not need to make the request on Page 5 of this petition.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-4

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Pre-Filed Direct Testimony of Donald L. Ware, Page 16 & Page 30- Customer Notice

It appears the cumulative QCPAC referenced in the testimony of Mr. Ware, 3.83%, is different than that referenced in the customer notice that was sent with the December 2019 customer bills, 4.47%. Please explain.

RESPONSE:

The customer notice was prepared two months in advance of the filing so that it could be sent to all customers in the form of a bill insert. Since bills get sent out weekly over a period of 30 days, and the notice to customers has to be at least 30 days in advance of the filing, it means that the notice is based on the best data at the time. The projected 3.83% included in my testimony versus the noticed amount of 4.47% is primarily due to the Company:

1. Using an estimated rate of 5% for the 30-year bonds it hopes to issue in early April at the time it prepared the customer notice versus the estimated rate of 4% used in the filing, and
2. The estimated amount of QCP's to be funds dropped by about \$700,000 between the November 30, 2019 update and the actual amount of QCP's completed that were included in the filing.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-5

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Pre-Filed Direct Testimony of Donald L. Ware, Page 16

The Company is hoping to have a Commission Order approving the 2020 QCPAC by mid-September 2020. In the event an Order is not issued by mid-September 2020, how does the Company plan to meet the monthly payment obligations of the SRF and CoBank financings? What impact does this have on the Company? Please explain.

RESPONSE:

The Company will pay its monthly SRF obligations with funds borrowed from its Working Capital Line of Credit. The Corporate Capital Line of Credit will be paid down with the cash recouped through the QCPAC after the order is issued. Pennichuck Water Works does not finance any of its projects through CoBank. The impact on the Company is that it currently has no regulatory vehicle to recover the cash impact of the interest paid by the Company on the short term borrowing through its Corporate Capital Line of Credit other than to pay for it out of either the 0.1 DSRR or the DSRR RSF.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-6

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Several of the projects contain notes in the explanation column appearing to indicate that the totals listed may be through 11/30 with a corresponding additional amount projected by years end. Please explain and revise if needed.

RESPONSE

The 12/31/2019 totals reflect total expenditures for the year. I have revised any notes on the revised Exhibit DLW-1 attached to these DR's to reflect the year end information as opposed to 11/30/2019 information.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-7

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Regarding Meters: Growth and Lead Meter Exchanges with a final project cost as of 12/31/2019 of \$207,025, please provide the total labor costs associated with exchanging lead meters. If none, please provide a detailed explanation.

RESPONSE:

All labor expenses associated with the final lead-based brass meters was expensed in 2019, not capitalized. This was done to incorporate the labor expense that will be associated with ongoing periodic tests into the 19-084 rate case as the labor that would have been capitalized would not have been supported by rates even though the period of time where labor could be capitalized stopped in late 2019. For more information regarding the Company's reasoning please see the data responses to Staff DR 1-23 and Staff DR 2-1 in DW19-84. I have attached those responses to supplement this data response.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-8

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“Protectus Meter Upgrade on Spitbrook Road” was approved as eligible for inclusion in the 2020 QCPAC surcharge with a budget of \$21,000. The estimated project cost as of November 30, 2019 was zero and final project cost as of December 31, 2019 was not filled in. The explanation provided on the schedule stated the project was deferred until 2020.

- a) Please provide a figure for the final project cost as of December 31, 2019.
- b) The project does not appear to be included in the Board Approved 2020 QCPAC Capital Additions (DLW-1, Exhibit 1, Page 3). Please provide the current status of this project.

RESPONSE:

- a) The explanation has not changed. This project was deferred into 2020 and hence no costs were reflected in the 12/31/2019 column. I have placed \$0 in that column to clarify that there are no costs for this project incurred in 2019.
- b) The Protectus Meter Upgrade on Spitbrook Road was part of the Board Approved PWW 2019 Capex Budget. This meter is part of the budget for “Meters 5/8"-6" Lead Meter Exchange - Core & CWS (3000).” The Spitbrook meter is a 6” meter made of brass with a lead content in excess of that currently allowed. The Protectus Meter will replace this meter.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-9

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Network Digital Display Installation was approved as eligible for inclusion in the 2020 QCPAC surcharge with a budget of \$2,700. The estimated project cost as of November 30, 2019 was \$2,597 and final project cost as of December 31, 2019 was zero. Two lines down from this project is similar project, Network Digital Display, identified as not eligible for inclusion in the 2020 QCPAC. The estimated project cost as of November 30, 2019 was \$1,323 and final project cost as of December 31, 2019 was 2,597.

- a) Please explain why these two projects were listed separately on the filing.
- b) Should the two projects be combined as one project? Or are they separate costs?

RESPONSE:

- a) This is one project that had two workorders. When the final Exhibit DLW-1 was put together for the filing we missed combining the two workorders into a single project. The revised Exhibit DLW-1 attached to these responses has combined these two projects into a single line.
- b) Yes, as described above, they are combined.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-10

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

Please provide additional information for the project reported with only a December 31, 2019 balance of \$174,347. Please explain why this was not eligible to be included in 2020 QCPAC.

RESPONSE:

The \$172,347 was associated with internal engineering and inspection work associated with the Northwest System watermain improvements. It was not included in the individual NW watermain improvement project totals as it was the Company's understanding that the DWGTF would not reimburse the Company for internal engineering and hence it was tracked separately. The cash to fund this engineering and inspection work came from the 0.1 DSRR account. Funds for this work could have been paid for with the FALOC but it was too late (February 2020) to make a draw from the FALOC when it was discovered that a request for reimbursement had not been made for these expenses. Since the project costs were paid for with 0.1 DSRR funds they are not recoverable through the 2020 QCPAC.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-11

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“NWS Improvements Ponemah Rd/Route 101A Loop” was approved as eligible for inclusion in the 2020 QCPAC surcharge with a budget of \$484,000, funded by DWGTF financing. The explanation provided on the schedule stated the project was cancelled and replaced with piping in other NWS Improvements.

- a) Please provide details concerning the Company’s decision to cancel the Ponemah Rd/Route 101A Loop Improvements.
- b) Please provide copies of communication with NHDES related to the Company’s decision to cancel this project and replacement it with piping.
- c) Please provide the Company’s thoughts on how many years it may be before the Ponemah Rd/Route 101A Loop Improvements may be considered a necessity.

RESPONSE:

- a) When the North West System watermain improvements project was originally planned and approved for DWGTF financing, the Ponemah Road and Rt 101A route Loop improvements planned to eliminate two very long dead-end water mains. When this project went to field design it was determined that the Ponemah Road/Route 101A intersection was a very busy and congested intersection than included a railroad crossing, intricate traffic and signal lights as well buried drainage and electric/telecom utilities. A detailed review with the NHDOT during the design phase identified that there was no feasible water main route available to cross through this intersection. As a result the Company fell back to an alternate location to close the dead end pipelines. The alternative design included the addition of newly installed water main attached to an existing water main on Veteran’s Road and looping it to an existing water main on Stearns Road.
- b) The change was made during the final design of the project and was approved by Mr. Michael Unger, P.E. of the NHDES when he authorized the Company to put the project out for bidding.
- c) With the connection at Veteran’s Road, the Company does not foresee a need to perform the Ponemah Road/Route 101A Loop.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-12

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

The explanation provided by the Company for the following NWS Improvements states that “some work will carry over into 2020 included.” For each project, please provide the total dollar amount pertaining to 2020 work that is included in the Final Project costs as of 12/31/2019.

a) Manchester Street	\$507,141
b) Route 101A and Route 121 (Amherst)	\$548,252
c) Tinker Road	\$369,378
d) Deerwood Dr & Amherst St Intersection	\$158,469
e) Deerwood Dr Northwest Blvd Loop	\$1,302,871

RESPONSE:

The explanation column was written to explain that the projects noted above had more work that needed to be completed in 2020. The explanation column has been updated on the attached revised Exhibit DLW-1, Page 2 to explain that the expenses shown in the 12/31/2019 column reflect the cash spent on the above referenced projects through 12/31/2019. The cash expenditures on each of the above named projects that occur in 2020 will either be paid for with DWGTF funds that remain available to these projects, 0.1 DSRR funds or will be recovered through the bonds sold in 2021 to pay for Capex expenditures made in 2020 in the event that DWGTF funds are fully utilized. The 2020 carry over dollars associated with these projects can be found on the attached, revised Exhibit DLW-1, page 3 in Rows 26 through 29.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-13

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“City of Nashua Paving – Mill St” was approved as eligible for inclusion in the 2020 QCPAC surcharge with a budget of \$17,900. Please provide a detailed explanation for the Company’s decision to charge this paving to Cost of Removal and pay these costs out of the 0.1 DSRR.

RESPONSE:

This project involved the abandonment of a 2” steel watermain. The abandonment involved changing the services over from the 2” watermain that was being abandoned to an existing 8” watermain that ran parallel to the existing 2” watermain. Since the project did not include the installation of a new watermain this work cannot be bonded for as there is no asset that was installed. The cash to pay for this project was drawn from the 0.1 DSRR account to pay for this necessary project as the 2” watermain was leaking and repairing it was not a realistic option based on the condition of the watermain.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-14

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

The explanation provided by the Company for the “Merrimack River Intake” states that “\$300,000 of cleanup work to be carried into 2020.” Please identify the total dollar amount of 2020 costs included in the Final Project costs reported as of 12/31/2019 of \$6,299,764.

RESPONSE:

The 12/31/2019 cost in the amount of \$6,299,764 does not include any of the referenced \$362,000 +/- of expenditures (per revised estimate and updated explanation column for this project) that will be made in 2020 to finish the project cleanup. The projected \$362,000 in 2020 expenditures will be funded partially through the DWGTF and any excess by the FALOC which will be reimbursed through the bonds sold in 2021. The \$362,000 of projected carry over is reflected in the 2020 capital budget that is part of this QCPAC petition.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-15

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Regarding the reported “Investment in developer installed services at 1x annual revenue” as of December 31, 2019 reporting a balance of \$90,434. Please provide the calculation support, by project.

RESPONSE:

Please see the attached spreadsheet detailing the “1xannual” revenue that the Company is required to pay to developers for each customer that connected to a watermain during 2019 in accordance with the Company’s current tariff.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-16

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“Miscellaneous Equipment Purchased: Replace Chlorine Analyzer, Twin Ridge” is identified as being in the Community of Nashua for Property Tax Expense calculation purposes. Should not this be in the Community of Plaistow for Property Tax Expense calculation purposes? Please verify the information filed and make corrections as necessary.

RESPONSE:

Staff is correct. The property tax expense calculation should be based on Plaistow Tax Rate, not Nashua tax rate. This correction has been made on attached, revised Exhibit DLW-1, Page 2.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-17

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

The explanation provided by the Company for the “Carbon media changeout - filters 1 & 2” states that the “remaining four filters to be replaced in Spring 2020.” Please identify the total dollar amount of 2020 costs included in the Final Project costs reported as of 12/31/2019 of \$990,662.

RESPONSE:

No 2020 costs are included in the 12/31/2019 cost amount of \$990,662. The 2020 capital expenditures detailed in Exhibit DLW-1, Page 3 reflect the cost to change out the above referenced remaining four filters in the estimated amount of \$500,000.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-18

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“Add 3rd pump at Main Dunstable Booster, replace 1 existing” had no budget approved for inclusion in the 2020 QCPAC surcharge. Please explain the Company’s decision to include a December 31, 2019 project total of \$15,995.

RESPONSE:

The Main Dunstable Booster Station is used to maintain pressure in the Nashua Core Southwest system. There are currently two pumps in this station. At certain times during the summer months both pumps ran during the past several years. As such, there was no back up pump if one of the two pumps failed during a high usage period. Consequently, to provide fully redundant back up for a pump failure the Company planned to install a third pump in 2019. When the plan went to design and the existing pumps were tested it was determined that one of the pumps was running well off of its operational curve and that rebuilding that pump would increase its capacity which when combined with improvements to area station suction side water mains would result in the need for only one pump to operate at a time to maintain adequate system pressures, hence the decision to rebuild one pump at a cost of \$15,995 versus installing a third pump at a cost of \$120,000.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-19

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
“Retainage” had no budget approved for inclusion in the 2020 QCPAC surcharge. Please explain the Company’s decision to include a December 31, 2019 project total of \$33,586. Please provide a detailed list showing the calculations related to the “Retainage for projects that were used and useful in 2018” of \$33,586.

RESPONSE:

Please see the attached spreadsheet detailing the retainage held and paid during 2019 on a project by project basis resulting in the noted cash impact of \$33,586.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-20

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Regarding the reported “Amount funded by SRF/DWGTF” as of December 31, 2019 reporting a balance of \$8,240,554. Please provide the calculation support, by project.

RESPONSE:

Attached please find DWGTF reimbursement requests for the Merrimack River Intake and the Northwest System watermain improvements. The attached reimbursement requests total \$8,359,754. Please note that invoice #7 for the Merrimack River Intake project in the amount of \$192,109 included \$140,375 of costs associated with work performed in 2020. This amount was removed from the QCPAC funding request resulting in an eligible DWGTF amount of \$8,219,379. The Company’s QCPAC filing reported a DWGTF balance of \$8,240,554 as of 12/31/2019 or \$21,175 more than the total of the attached reimbursement requests. This difference relates to a reimbursement request that the Company did not make for engineering services performed in 2017 for the Northwest System watermain improvements in the amount of \$21,175. The Company has decided to fund the cash used to pay for this invoice from its 0.1 DSRR funds. Exhibit DLW-1 has been adjusted to reflect this lower level of DWGTF request.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-21

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

The Company indicated Fixed Asset Line of Credit (FALOC) interest of \$230,645 as being included with the total cost of 2019 capital projects to be recovered through the 2020 QCPAC.

- a) Please provide calculation detail, including project descriptions, used to arrive at the FALOC interest of \$230,645.
- b) Were all the projects included in the calculation of the \$230,645 used and useful as of December 31, 2019?

RESPONSE:

- a) Please see the attached workbook that was used to estimate the FALOC interest incurred for the purposes of the filing. The attached workbook shows a total projected FALOC interest of \$248,045. The bulk of the difference between the attached estimate and the \$230,645 is the interest incurred on the unused portion of the line of credit in the amount of \$16,986 which I did not include in my initial calculation.

The actual calculation cannot be completed until the bonds are sold and the FALOC is paid off. The estimate is based on:

- 1. The FALOC draws that occurred during 2019, including interest charge that were incurred between January 1, 2019 and the sale of the 2019 bonds on April 4, 2019 to pay the FALOC off for the projects that were completed and used and useful to 12/31/2018. This FALOC interest was included in the current calculation as it was not recovered in the 2019 QCPAC.
 - 2. The FALOC interest that is being charged on FALOC draws that occurred for 2019 QCP's funded with the FALOC from January 1, 2020 to the date of the projected bond sale in April of 2020 to pay off the FALOC.
- b) Yes.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-22

Date of Response: 4/1/2020
Witness: Larry Goodhue

REQUEST: The Company's FALOC, approved by Order No. 26,121 (April 20, 2018) in Docket No. DW 17-183, was described as having an initial two-year term, subject to an annual renewal review by TD Bank in accordance with its customary business practices. Please address the following:

- a) What is the current status of the FALOC with TD Bank? Has the Company secured other means of short-term financing for their capital projects? Please explain.
- b) What impact, if any, will the FALOC renewal have on the 2020 capital projects currently under construction? Please explain.

RESPONSE:

- a) The current FALOC with TD Bank expires on 8/31/2020. The Company is already in discussions with the bank regarding the renewal of that line at its current level, and/or an expanded level of up to \$12 million, for a multi-year renewal. The Company is also evaluating whether there is a better option for the Company than TD Bank. Upon receiving a term sheet, the Company will be filing a financing petition with the Commission for the approval of that renewal. It is anticipated that the only substantive changes to that facility will be the overall dollar limit and the future date of expiration. The increase in the dollar value has been requested to allow for more "head room" for annual Capex projects over the next several years, as the cost of projects increases with either inflation and/or due to competition and what has been a fully consumed capacity for contractors bidding on the Company's capex projects. The FALOC instrument will continue to be the Company's facility for the funding of Capex projects during each year, leading up to the annual repayment of the moneys advanced on that facility, with its annual bond issuances.
- b) Giving consideration to a timely renewal of the FALOC by the due date of the existing facility, the renewal would have no impact on the 2020 capital projects.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-23

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Please provide the individual elements comprising each of the property tax rates used to estimate the increase of property taxes.

RESPONSE:

The individual elements included in each community's tax rate are based on the December 2019 tax bills and are as follow:

Nashua:

City Tax - \$ 8.68 per \$1,000 of valuation
County Tax - \$ 1.15 per \$1,000 of valuation
Local School Tax - \$ 9.80 per \$1,000 of valuation
Total Nashua Tax - \$19.63 per \$1,000 of valuation
Statewide Utility Tax - \$ 6.60 per \$1,000 of valuation
Total Tax rate applied to assets - \$26.23 per \$1,000 of valuation

Merrimack:

Town Tax - \$ 8.68 per \$1,000 of valuation
County Tax - \$ 1.20 per \$1,000 of valuation
Local School Tax - \$ 16.04 per \$1,000 of valuation
Hydrant Tax - \$ 0.31 per \$1,000 of valuation
Total Merrimack Tax - \$22.26 per \$1,000 of valuation
Statewide Utility Tax - \$ 6.60 per \$1,000 of valuation
Total Tax rate applied to assets - \$28.86 per \$1,000 of valuation

Plaistow:

Municipal Tax - \$ 5.84 per \$1,000 of valuation
County Tax - \$ 0.96 per \$1,000 of valuation
Local School Tax - \$ 12.53 per \$1,000 of valuation
Total Nashua Tax - \$19.33 per \$1,000 of valuation
Statewide Utility Tax - \$ 6.60 per \$1,000 of valuation
Total Tax rate applied to assets - \$25.93 per \$1,000 of valuation

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-24

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions

Please explain why the 2020 Budget does not contain estimates for retainage or short-term interest on FALOC.

RESPONSE:

It is practically impossible to project the amount of retainage that will be paid off each year on projects that were completed in the prior year. That being said it would make sense to include a placeholder in the projected cash outlays related to capital projects for each year based on an average run rate of retainage that is paid out on projected completed in prior years. The Company also agrees that a placeholder for short term interest on the FALOC should also be placed in each years QCPAC budget to account for cash that needs to be bonded for in the succeeding year and would have an impact on the QCPAC surcharge rate. Please note that neither retainage nor FALOC interest if shown in the QCPAC exhibits would be reflected in the annual capex budgets approved by the Board of Directors for the years where the cash expense shows up. Retainage is just a delayed payment of cash on a project being completed, it is not an additional cash expense. It shows up in the QCPAC as the Company seeks recovery of only cash expenses on a project so that if there is a project that carries over from one year to the next and retainage being held from the payment than the retainage is not included in the years QCPAC request but in the ensuing years request when the retainage is paid out.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-25

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions

The total 2020 Approved Budget Amount totals \$10,175,700. Attachment D, PWW Board resolution approving the 2020, 2021 and 2022 Capital Expenditure Projects, reports a total 2020 approved budget of \$9,566,000. Please explain the variance of \$609,700.

RESPONSE:

The Staff is not interpreting Attachment D correctly. The \$10,175,700 detailed in the QCPAC petition is found in the row titled "Total Capex Budget 2020-2022". This is the final approved budgeted amount approved by the Board at its January 2020 meeting. The Board reviews and approved a preliminary 2020-2022 capex budget in Dec of 2019 which was updated, revised and finalized for approval in January of 2020. The row titled ""Total Capex Budget 2020-2022 approved 12/20/2019" is for the preliminary budget reviewed and approved in December of 2019 in the amount of \$9,566,000. The final 2020 Board approved capital budget it \$10,175,700.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-26

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions
Please detail the difference between the 2020 project, “Automatic Entrance Gate at Distribution Facility,” with a budget of \$10,000 and the 2019 project, “Entrance Security Gate & Perimeter Fence,” with a final project cost of \$66,204.

RESPONSE:

This is the same project. \$66,204 was expended on the project in 2019. An additional estimated amount of \$10,000 will need to be expended in 2020 to complete the project (landscaping, signage, card entry pad, etc.) The gate was fully operational and used and useful as of 12/31/2019 but will not be fully complete until the work noted above is completed in 2020.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-27

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions
Please explain why “Landscape Improvements – repair hill sides at 16 DWH and oversee with erosion mix” is not includable in the Merrimack River Intake Project, a DWGTF project.

RESPONSE:

The “Landscape improvements” to be completed at 16 DWH, the Company’s Distribution facility have no relationship to the Merrimack River Intake project and hence cannot be included in the DWGTF financing.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-28

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions
Please explain why “Merrimack River Intake” budgeted for \$162,000 and “Merrimack River Intake” budgeted for \$200,000 are separate projects.

RESPONSE:

This is the same project with two different funding sources, hence the two budget lines. The remaining work to be completed on this project in 2020 is estimated to be \$362,000. There is only \$140,375 in remaining financing from the DWGTF loan so the remaining \$221,625 in funds for this project will be paid for with the proceeds from the Bonds to be sold in 2021 to pay for used and useful projects completed in 2020. The Exhibit DLW-1 attached to these data responses has been updated to reflect this estimate of the sources of capital required to complete this project.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-29

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 4, 2021 PWW QCPAC Additions

The total 2021 Approved Budget Amount totals \$10,956,000. Attachment D, PWW Board resolution approving the 2020, 2021 and 2022 Capital Expenditure Projects, reports a total 2021 approved budget of \$9,502,000. Please explain the variance of \$1,454,000.

RESPONSE:

The Staff is not interpreting Attachment D correctly. The \$10,956,000 detailed in the QCPAC petition is found in the row titled "Total Capex Budget 2020-2022". This is the final approved budgeted amount approved by the Board at its January 2020 meeting. The Board reviewed and approved a preliminary 2020-2022 capex budget in Dec of 2019 which was updated, revised and finalized for approval in January of 2020. The row titled "Total Capex Budget 2020-2022 approved 12/20/2019" is for the preliminary budget reviewed and approved in December of 2019 in the amount of \$9,502,000. The final 2020 Board approved capital budget is \$10,956,000.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-30

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 4, 2021 PWW QCPAC Additions
Please confirm whether or not “2020 Meters (Growth) 5/8” – 2” Core & CWS (TBD)” should read “2021 Meters (Growth) 5/8” – 2” Core & CWS (TBD).”

RESPONSE:

The correct reference is “2021” not “2020”. This reference error has been corrected on the attached, revised Exhibit DLW-1 file.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-31

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 4, 2021 PWW QCPAC Additions

For each of the following, please explain why the following projects appear to be the same project but with a different budget amounts for each year? Each project has the same description for both years.

	<u>2020</u>	<u>2021</u>
a) Brook Street	\$380,000	\$423,000
b) Hamilton Street	87,000	97,000
c) Burritt Street (8")	141,000	157,000
d) Burritt Street (4")	38,000	43,000
e) Verona Street	252,000	226,000
f) Sarasota Ave	93,000	83,000

RESPONSE:

They are the same project. The 2020 values are for water main installation. The 2021 values add the final paving and restoration estimate to the 2020 budget in order to provide a total project budget. Final paving generally takes place after the trenches have gone through winter freeze and spring thaw. The 2021 values for each of the above-named projects are found in the attached, revised Exhibit DLW-1 have been changed to reflect just the cost of the paving in 2021.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-32

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 5, 2022 PWW QCPAC Additions

The total 2022 Approved Budget Amount totals \$13,245,000. Attachment D, PWW Board resolution approving the 2020, 2021 and 2022 Capital Expenditure Projects, reports a total 2022 approved budget of \$7,316,000. Please explain the variance of \$5,929,000.

RESPONSE:

The difference of \$5,929,000 relates to an error in the 2021 carry over amounts that were part of the 2022 budget. The 2021 carry over costs that were entered into 2022 budget for the filing were input at the total project budget costs (2021 and 2022 expenditures) instead of just the carry over expenses. This mistake has been corrected on the attached revised Exhibit DLW-1, Page 5.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-33

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 5, 2022 PWW QCPAC Additions

With the exception of a dozen or so projects, the 2022 QCPAC Projected Capital Expenditures are the same as what was projected for the 2021 QCPAC Projected Capital Expenditures. For examples, please see the first 21 projects and the final 16 projects. Please explain why the 2022 QCPAC Projected Capital Expenditures are mostly duplicative of the 2021 QCPAC Projected Capital Expenditures.

RESPONSE:

The outer years of the three-year budget include a base run rate of capex work that is completed every year. The noted projects reflect those that happen every year, such as, replacement and new meters, meters, replacement gate valves, replacement vehicles, replacing and updating computer hardware and software, pump and well replacements, etc. Whereas these projects happen every year they repeat every year in the Company's capital budgets and hence explain the duplication noted in the data request.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-34

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Pre-Filed Direct Testimony of John J. Boisvert

The Asset Management program was viewed in 2017 as being in the fourth of a five year development, yet appears from Mr. Boisvert's testimony (see Bates p. 42, line 11; p. 43, lines 6-8; p. 45, lines 12-14) to be still under development. In this regard:

- a) What components of the program are still in process?
- b) Does the company see an end date for completion of the overall program?
- c) To what extent is the program currently providing the level of input necessary for full main replacement planning?
- d) Are there specific reasons for program development taking longer than anticipated?
- e) Will the program apply equally to core and community systems when completed? Please explain.
- f) To what extent is completion of the program likely to change the planned overall level of main replacements?

RESPONSE:

- a) Geographical Information System and asset registry QA/QC, the asset risk analysis (Risk = Likelihood of Failure x Consequence of Failure) that gives the Company prioritization for repair or replacement, and the preparation of the databases to coincide/complement the implementation of the Company's replacement Computerized Maintenance and Management System (CMMS) scheduled to be in service on December 31, 2020.
- b) Yes, the implementation will be complete in 2020 with the activation of the new CMMS.
- c) Within 2020 the analytical tools, GIS, Hydraulic Model and the CMMS will be active and integrated. The GIS will hold physical data on each water main asset, the Hydraulic Model will report on water main asset performance, and the CMMS will help assess asset criticality based on the required level of service and failure consequence. This will allow analysis in 2021 ahead of the 2022 budget process.
- d) Yes. The Nashua Core system is very complex. Though system records are good, the records are in various formats including paper maps, field books, micro fiche, electronic drawings, and photographs. It has taken considerable effort to reconcile these sources of information with both field (GPS survey) and office work. In addition, our current CMMS (Oracle WAM) does not integrate with Esri GIS. Data on vertical assets (treatment facility and equipment for example) is stored in WAM. Knowing that the Company would be migrating to a new CMMS (Cityworks) that is integrated with GIS, the Company decided to hold off on developing a "work around" that would have

allowed for integration of vertical assets into the asset management system in favor of waiting for the activation of Cityworks in 2021.

- e) Yes. The community systems have assets that are critical to the customers that are served in the Core system. Company assets receive consistent attention in order to ensure resources are applied to assets when needed to achieve the required level of service.
- f) In the next 3-5 years there may not be a significant change. Much of our planned activity over the next 3 to 5 years is in areas or on assets in need of replacement or is in coordination with other utilities and municipal projects. After the initial period of 3 to 5 years it is anticipated to play a major role in deciding the projects the Company needs to undertake and provide sufficient time for the Company to look for opportunities to partner with outer utilities and municipalities to share/save cost where for main project in particular.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-35

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Pre-Filed Direct Testimony of John J. Boisvert

Mr. Boisvert describes a pavement restoration agreement with the City of Nashua (testimony Bates p. 47, lines 10-16). In this regard:

- a) Please provide a copy of the agreement.
- b) Please indicate generally the nature of the dispute over paving costs and responsibility.
- c) Does the agreement also resolve issues going forward, or only historically (2015-2018)? Please explain.

RESPONSE:

- a) A copy of the email exchange between Nashua City Engineer Mr. Stephen Dookran, P.E. and PWW Chief Engineer John Boisvert, P.E. with a date of December 26, 2018 is attached. Also attached is the paving invoice referenced in the email. Note that there was an error in the amount stated in the email. After the invoice was issued, the Company confirmed the total with the Company's own figures and also confirmed the amount with the City Engineer.
- b) There isn't a dispute over paving cost. There is more of a difference between the Company's costs and the City's. In general, the City purchases and places a much larger quantity of pavement through their annual bidding process. As a result, it is usually, but not always, less expensive for the City to complete paving than it is for the Company to complete the same amount. Thus, it benefits the Company and its ratepayers for the Company to contribute a lesser amount to the City than what our low bid contractors would complete paving for by the City to combining the Company's paving restoration into the City's program. In addition, the City takes responsibility for management and oversight of the work relieving the Company of that obligation saving the Company further costs. Since the City's contractor performs the work all warranties become that of the City not the company.
- c) Only 2015-2018. The Company does anticipate similar case by case negotiations to go forward where there are synergies with City paving projects.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-36

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Pre-Filed Direct Testimony of John J. Boisvert

Regarding backup power generation:

- a) Approximately what portion of the company's pump stations currently have on-site backup power generation? Please distinguish between core and community systems.
- b) What portion have other forms of backup power capability (wiring to accept portable generation, etc.)?
- c) Please indicate generally the history of implementation in recent years, the forces behind that implementation (NHDES, etc.), and the extent to which backup power remains a current capex priority.

RESPONSE:

- a) All but 13 of Pennichuck Water Works 43 Booster/CWS Stations have on-site emergency generators.
- b) All the remaining stations either have Meltric Connections, dual hydrants that can pump from the suction side of the station to the discharge side of the station with an emergency portable station, have gravity storage or are fed from another system such that when power is lost all customers still have water, but at a reduced pressure..
- c) NHDES regulations in the 1970's and the 1980's did not require emergency generators for small community water systems and booster stations. The February 2007 Ice Storm, in conjunction with December 2008 Ice Storm and the October 2011 snowstorm that resulted in many of the Company's small community water systems being without power for extended periods of time resulting in a total loss of service to its customers. Many of those customers who had lost service called up to explain that they could buy a generator for temporary power but there was no way get temporary water. The Company concurred that it was essential that it provide emergency power to each location where water service would be lost during a power outage within a couple of hours. Consequently, The Company installed 30 on-site emergency generators between 2008 and the present. Of the remaining 13 locations without emergency power none of the customers downstream of those booster stations loses water service during a power outage. The remaining 13 locations either have gravity storage that provides water during a power outage or has an emergency, automatic connection with a system that has back up power. At present the Company has no locations where it sees the need to install emergency on site power.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-37

Date of Response: 4/1/2020
Witness: Donald L. Ware

REQUEST: What are the company's general annual main replacement goals currently in:

- a) The core system?
- b) The community systems?

RESPONSE:

The current PWW annual main replacement program for the core system is based upon the fact that the core system consists of about 422 miles of watermain with an average expected life of 80 to 150 years dependent upon the size and materials type of the watermain. As the mains in the core system age toward their expected lives this will result in the need to replace between 3.5 to 4.0 miles of watermain per year. The Company is currently targeting the replacement of unlined cast iron watermain (all over 80 years in life, total existing system footage of about 46 miles), Cement Asbestos watermain (all over 60 years of life, total existing system footage of about 39 miles) and galvanized steel watermain (all over 60 years of life, total existing system footage of about 6 miles) at a rate of 3 to 4 miles per year based on breakage history, coordination with sewer and storm drain work.

The current PWW annual main replacement program for community water systems involves working to replace watermains that were installed by developers which do not meet AWWA standards and have experienced a significant amount of breaks. The PWW Community water systems currently have about 74 miles of watermains which have been in service between 1 and 50+ years. As these mains age toward their expected lives of 60 to 150 years this will result in the need to replace between 0.5 to 1 miles of watermains per year.

The Company's annual water main replacement program, for both the core and community water systems will ultimately be directed by the Companies asset management plan, which will take into account the criticality and vulnerability of each watermain. The Company will be transitioning to an asset management driven watermain replacement plan within the next couple of years.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 1

Date Request Received: 3/19/20
Request No. Staff 1-38

Date of Response: 4/1/2020
Witness: John Boisvert

REQUEST: Please indicate the total feet of main replaced in each of the last five years, by type of main and core v. community systems.

RESPONSE:

Below is a table of the length of water main abandoned in the Core and CWS for 2015 – 2019.

The abandonment of ductile iron pipe for the CWS in 2017 was associated with a NHDOT project in Bedford. Widening, drainage installation, and reconfiguration of Route 101 and Nashua Road required relocation of 234 feet of water main.

The 2018 abandonment of ductile iron was all on a private developer. The developer installed new 6-inch diameter ductile iron main that went into service believing that the 6-inch main would be sufficient for providing fire flow. The 6-inch main turned out not to be sufficient and the 6-inch main was abandoned and the developer had to replace it with 8-inch diameter ductile iron main.

The 2019 abandonment of ductile iron in the Core was associated with the Northwest water main project (Veterans Road in Amherst and Dumaine Avenue in Nashua) and the Lake and Gilman Street projects in Nashua where intersections and new connections required replacement and realignment of existing water main.

Table 1: Feet of pipe replaced by year, by material for Core and CWS:

Year	System	Total (LF)	Asbestos Cement (LF)	Cast Iron Unlined (LF)	Cast Iron Lined (LF)	Galvanized Steel (LF)	Ductile Iron (LF)	Copper (LF)	PVC (LF)
2015	Core	10,384	3,333	6,037	803	529	17	0	115
	CWS	0	0	0	0	0	0	0	0
2016	Core	11,670	1,077	10,140	328	0	0	45	80
	CWS	0	0	0	0	0	0	0	0
2017	Core	7,713	7,599	0	0	0	90	0	24
	CWS	234	0	0	0	0	234	0	0
2018	Core	16,869	360	14,065	1,315	309	750	0	70
	CWS	0	0	0	0	0	0	0	0
2019	Core	10,168	1,224	7,754	162	0	747	281	0
	CWS	0	0	0	0	0	0	0	0

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 2

Date Request Received: 4/16/20
Request No. Staff 2-1

Date of Response: 4/30/20
Witness: Donald L. Ware

REQUEST: Petition for 2020 QCPAC Adjustment

Page 4 of PWW's 2020 Petition for QCPAC Adjustment, item 14, states that the Company is requesting recoupment of the uncollected QCPAC in a single month. Would the Company be amicable to recoupment of the uncollected QCPAC over two months? If not, please provide additional explanation.

RESPONSE:

Yes, The Company would be amicable to recoupment over two months.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 2

Date Request Received: 4/16/20
Request No. Staff 2-2

Date of Response: 4/30/20
Witness: John Boisvert

REQUEST: Follow up to Staff 1-11 (b), Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

Per the Company's response to Staff 1-11 (b), "The change [to the Ponemah Road/101A intersection] was made during the final design of the project and was approved by Mr. Michael Unger, P.E. of the NHDES when he authorized the Company to put the project out to bidding." Please provide copies of the final design reflecting Mr. Unger's approval.

RESPONSE:

Attached please find copies of the requested plans and a copy of the final approval letter from Mr. Unger.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 2

Date Request Received: 4/16/20
Request No. Staff 2-3

Date of Response: 4/30/20
Witness: John Boisvert

REQUEST: Prefiled Direct Testimony of John J. Boisvert, pp. 52-53

Was the Harris Pond Dam also subject to a Letter of Deficiency from NHDES? Please explain.

RESPONSE:

Yes, a copy of the Letter of Deficiency is attached.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 2

Date Request Received: 4/16/20
Request No. Staff 2-4

Date of Response: 4/30/20
Witness: Donald L. Ware

REQUEST: Prefiled Direct Testimony of John J. Boisvert, pp. 53-54

Regarding the Kessler Farm Tank replacement:

- a) Who installed the original tank and when?
- b) Were the long term economics of steel v. concrete tanks understood at that time? Please explain.

RESPONSE:

- a) The original Kessler Farm Tank was installed in 1989. I do not have access to the records that would indicate why the Company constructed a steel tank instead of a precast, prestressed concrete tank.
- b) I can not speak to the long-term economics of steel v. concrete tanks in 1989 from the Company's perspective as I was not working for the Company at the time. That being said here are some facts that were evident at that time:
 - i. The initial construction costs for a steel tank were about 40% less than the cost of constructing a concrete tank at that time.
 - ii. The Kessler Farm tank has a 54' high sidewall. Natgun, who was the primary contractor building precast, prestressed concrete tanks, at that time, had never built a concrete tank over 50'. The limits to a concrete tank height at that point in history were 40' high sidewalls, with a premium paid for sidewall heights in excess of 40'. The projected cost of building a concrete tank with 54' sidewalls would have been at least twice as much as a steel tank (if in fact they would have even considered taking on such a project).
 - iii. The cost of painting a steel tank in 1989 was about one quarter of what it is today, due to the environmental constraints and requirements associated with tank painting today, which were not in effect in 1989, such as:
 - the need to use low VOC paint,
 - the requirement to use recyclable blasting media, and
 - the need to fully enclose the tank during blasting and painting.

- iv. In 1989 about 50% of the tanks being built were steel. Today, only about 20% of the tanks being built are steel, due to:
- the narrowing of the cost differential between the two types of tanks today,
 - the ability to build concrete tanks at greater heights and capacities today, and
 - the relevant “life cycle” costs of the two types of tanks, when analyzing the cost of the tanks, and integrating the cost of rehabilitating steel tanks today as compared to 30 or more years ago.
- v. The Kessler Farm Tank was identified by the Company for construction in 1989 and the NHPUC has allowed it to be recognized into rate base since 1990. The Company interprets that to mean the Commission considered it to be a prudent decision to construct the tank of painted steel versus precast, prestressed concrete based on considerations relevant in 1989

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-1

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST:

Please provide an update on the 30-year bond interest rate, which was due to be established the first week of April 2020.

- a) Please provide supporting detail.
- b) Please provide the repayment terms of the 30-year bond, ie, repayment frequency, level of principal and interest payments, etc.
- c) Please provide updated schedules to reflect the Interest Rate received on Bonding Agreements.

RESPONSE:

- a) Supporting detail regarding the April 2020 bond issue is attached to this data response.
- b) The bond issuance was completed by the issuance of three term bonds, with annual sinking fund payments over the full 30-year term of the offering, with varying lives and interest rates for each of the three term bonds. The overall total interest cost for all the bonds was 4.261869% for 30 years (as shown on page 6 of the post-pricing document supplied as the attachment to item a immediately above).
- c) An updated schedule reflecting the final overall bond issuance TIC of 4.261869% is attached to this data response.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-1

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST:

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- a) Please provide supporting detail.
- b) Please provide the repayment terms of the 30-year bond, ie, repayment frequency, level of principal and interest payments, etc.
- c) Please provide updated schedules to reflect the Interest Rate received on Bonding Agreements.

RESPONSE:

- a) Supporting detail regarding the April 2020 bond issue is attached to this data response.
- b) The bond issuance was completed by the issuance of three term bonds, with annual sinking fund payments over the full 30-year term of the offering, with varying lives and interest rates for each of the three term bonds. The overall total interest cost for all the bonds was 4.261869% for 30 years (as shown on page 6 of the post-pricing document supplied as the attachment to item a immediately above).
- c) An updated schedule reflecting the final overall bond issuance TIC of 4.261869% is attached to this data response.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-2

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST:

Please provide a detailed revenue distribution of the 2019 QCPAC (DW 19-029, Order # 26,298) between MOERR, DSRR & 0.1 DSRR.

- a) Please include beginning and ending balances for each account.
- b) Please include corresponding general ledger detail.

RESPONSE:

- a) Please see the attached weekly cash transfer for the beginning and ending balances and monthly transfer backup detail.
- b) Please see the attached general ledger detail.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-3

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Follow up to Staff 1-11 and Staff 2-2

Other than as described in these two responses, have the overall Northwest High Pressure System improvements changed significantly from those anticipated in DW 18-133 (DWGTF approval docket)? Please explain.

RESPONSE:

There have been no significant changes consistent with responses to Staff 1-11 and 2-2.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-4

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

Aside from higher bids and changes in final permit requirements, was the Merrimack River Deep Intake Project essentially constructed as anticipated in DW 19-026 (DWGTF approval docket)? Please explain.

RESPONSE:

The project has been constructed as anticipated in DW-19-026 (DWGTF approval docket). Final site restoration of the riverbank is nearly complete and on budget.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-5

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions

The West Pearl Street main replacement results in a cost of some \$685/foot. Please provide justification for this amount.

RESPONSE:

The total length of watermain installed to complete the work was approximately 340 feet. Of the 340 feet approximately 120 feet was 8-inch ductile iron and 220 feet was 8 inch ductile iron. The work included the intersection of West Peal Street and Walnut Street. The complexity of the work (the intersection) coupled with a relatively small overall length of pipe results in a higher per foot cost. The final cost also included a \$27,000 contribution to the City of Nashua for pavement restoration.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-6

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
The Vilna Street main replacement (City of Nashua Paving) results in a cost of some \$1,160/foot. Please provide justification for this amount.

RESPONSE:

The project was necessary to replace a short section of 1.5-inch diameter galvanized steel piping that needed to be replaced and due to a shallow burry depth would not survive the work going on above it. Because of the small footage, contractor mobilization costs drive up the per foot cost.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-7

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions
Is the Merrimack River Pumping Station pump upgrade related to the Merrimack River Deep Intake Project? Please explain.

RESPONSE:

No. The Merrimack River Pumping Station upgrade is the addition of a third raw water pump at the River. Currently there are two raw water pumps at the River and both pumps need to run to meet typical summer system demands. If one pump fails, the capacity of a single pump does not meet the average day demand of the core water system from mid-May to later October. Given the change in PFAS standards and the higher quality water from the Merrimack River with regards to levels of PFAS, the Merrimack River is now the primary source of water used during the summer when Pennichuck Brook's PFAS levels are highest and would exceed the proposed NHDES PFAS standard for PFOA. Due to this change the Merrimack River needs the third pump so that the station has redundancy and can meet summer demands in the event of a pump failure.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20

Date of Response: 5/28/20

Date of Supplemental Response: 4/20/2021

Request No. Staff 3-1

Witness: Donald L. Ware

Request No. Staff 3-1 Supplemental

REQUEST:

Please provide an update on the 30-year bond interest rate, which was due to be established the first week of April 2020.

- a) Please provide supporting detail.
- b) Please provide the repayment terms of the 30-year bond, ie, repayment frequency, level of principal and interest payments, etc.
- c) Please provide updated schedules to reflect the Interest Rate received on Bonding Agreements.

RESPONSE:

- a) Supporting detail regarding the April 2020 bond issue is attached to this data response.
- b) The bond issuance was completed by the issuance of three term bonds, with annual sinking fund payments over the full 30-year term of the offering, with varying lives and interest rates for each of the three term bonds. The overall total interest cost for all the bonds was 4.261869% for 30 years (as shown on page 6 of the post-pricing document supplied as the attachment to item a immediately above).
- c) An updated schedule reflecting the final overall bond issuance TIC of 4.261869% is attached to this data response.

SUPPLEMENTAL RESPONSE:

This response is submitted to correct the interest rates used on the 2019 DWGTF loans for the Northwest System Improvements and the Merrimack River Intake. The QCPAC schedule updated as part of the response to Staff 3-1 incorrectly applied the same terms to the total amount borrowed for both loans for 2019 QCP's of \$8,219,379, 30 years at 3.38%. The correct terms for these loans were:

Northwest System Improvements - \$2,719,379 for 30 years at 2.704%
Merrimack River Intake - \$5,500,000 for 30 years at 3.38%

The difference in the DWGTF terms also impacts the calculation of principal and interest for the 2020 capital expenditures funded through these loans. The calculations on the attached spreadsheet for the 2020 capex were revised to reflect the correct funding terms.

A corrected QCPAC schedule is attached to this supplemental response reflecting the correct loan interest rates.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-2

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST:

Please provide a detailed revenue distribution of the 2019 QCPAC (DW 19-029, Order # 26,298) between MOERR, DSRR & 0.1 DSRR.

- a) Please include beginning and ending balances for each account.
- b) Please include corresponding general ledger detail.

RESPONSE:

- a) Please see the attached weekly cash transfer for the beginning and ending balances and monthly transfer backup detail.
- b) Please see the attached general ledger detail.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-3

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Follow up to Staff 1-11 and Staff 2-2

Other than as described in these two responses, have the overall Northwest High Pressure System improvements changed significantly from those anticipated in DW 18-133 (DWGTF approval docket)? Please explain.

RESPONSE:

There have been no significant changes consistent with responses to Staff 1-11 and 2-2.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-4

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
Aside from higher bids and changes in final permit requirements, was the Merrimack River Deep Intake Project essentially constructed as anticipated in DW 19-026 (DWGTF approval docket)? Please explain.

RESPONSE:

The project has been constructed as anticipated in DW-19-026 (DWGTF approval docket). Final site restoration of the riverbank is nearly complete and on budget.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-5

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
The West Pearl Street main replacement results in a cost of some \$685/foot. Please provide justification for this amount.

RESPONSE:

The total length of watermain installed to complete the work was approximately 340 feet. Of the 340 feet approximately 120 feet was 8-inch ductile iron and 220 feet was 8 inch ductile iron. The work included the intersection of West Peal Street and Walnut Street. The complexity of the work (the intersection) coupled with a relatively small overall length of pipe results in a higher per foot cost. The final cost also included a \$27,000 contribution to the City of Nashua for pavement restoration.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-6

Date of Response: 5/28/20
Witness: John Boisvert

REQUEST: Attachment DLW-1, Exhibit 1, Page 2, 2019 PWW QCPAC Additions
The Vilna Street main replacement (City of Nashua Paving) results in a cost of some \$1,160/foot. Please provide justification for this amount.

RESPONSE:

The project was necessary to replace a short section of 1.5-inch diameter galvanized steel piping that needed to be replaced and due to a shallow burry depth would not survive the work going on above it. Because of the small footage, contractor mobilization costs drive up the per foot cost.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Set 3

Date Request Received: 5/14/20
Request No. Staff 3-7

Date of Response: 5/28/20
Witness: Donald L. Ware

REQUEST: Attachment DLW-1, Exhibit 1, Page 3, 2020 PWW QCPAC Additions
Is the Merrimack River Pumping Station pump upgrade related to the Merrimack River Deep Intake Project? Please explain.

RESPONSE:

No. The Merrimack River Pumping Station upgrade is the addition of a third raw water pump at the River. Currently there are two raw water pumps at the River and both pumps need to run to meet typical summer system demands. If one pump fails, the capacity of a single pump does not meet the average day demand of the core water system from mid-May to later October. Given the change in PFAS standards and the higher quality water from the Merrimack River with regards to levels of PFAS, the Merrimack River is now the primary source of water used during the summer when Pennichuck Brook's PFAS levels are highest and would exceed the proposed NHDES PFAS standard for PFOA. Due to this change the Merrimack River needs the third pump so that the station has redundancy and can meet summer demands in the event of a pump failure.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Tech Session 6/10/20 Set 1

Date Request Received: 6/10/20
Request No. Staff Tech 1-1

Date of Response: 6/22/2020
Witness: Donald L. Ware

REQUEST:

Please confirm or explain the following findings by Staff regarding the Company Response to Staff DR Set 3 submitted to the Commission on 5/28/2020; 2019-2022 CapEx Revised Schedules.

- a) 2019 spreadsheet, cell I117: should not this read NO?
- b) 2019 spreadsheet, cell C143: the total does not appear to include cell L74, Bowers Deficiency. Should not the total be \$469,651?
- c) 2019 spreadsheet, cell M139: Should not this be calculated as follows?

a. DR1-20	\$5,359,625
b. cell M36	507,141
c. cell M37	548,252
d. cell M38	369,378
e. cell M39	158,469
f. cell M40	<u>1,302,871</u>
	\$8,245,736
- d) 2020 spreadsheet, cell G34: should not this be \$221,625 per DR 1-28?
- e) 2020 spreadsheet, cell G105: should not this read, “Total Projected PWW QCPAC Capex for 2020 funded with Bonds”?
- f) 2020 spreadsheet, cell G106: should not this read, “Total Projected PWW QCPAC Capex for 2020 funded with Drinking Water and Groundwater Trust Fund”?
- g) 2020 spreadsheet, cell H106: should not the cell reference G34 be corrected to refer to cell reference G33?
- h) 2022 spreadsheet, cell F60: should not this read, “Pennichuck Water Works Projected 2022 Total Capital Expenditure Budget”?

RESPONSE:

- a) This should read “No” as it is being funded with 0.1 DSRR funds. This has been changed on the attached revised DLW Exhibit 1, page 2.

- b) Yes. The referenced cell has been corrected to include the Bowers Pond project.
- c) No. Please see the Company's response to Staff DR1-20. The amount of funding being sought by PWW for DWGTF reimbursement is \$8,219,379 per this request. DLW Exh 1, Page 2 had been updated to reflect this amount.
- d) Yes, per DR1-28 this number has been changed to \$221,625 on DLW Exh. 1, Page 3.
- e) Yes, this cell has been corrected on the attached DLW Exh 1, Page 3.
- f) Yes, this cell has been corrected on the attached DLW Exh 1, Page 3.
- g) Yes, This cell has been corrected on the attached DLW Exh 1, Page 3.
- h) Yes. This cell has been corrected on the attached DLW Exh 1, Page 5.

Pennichuck Water Works, Inc.
DW 20-020
2020 QCPAC - Qualified Capital Project Adjustment Charge
Responses to Staff Data Requests – Tech Session 6/10/20 Set 1

Date Request Received: 6/10/20
Request No. Staff Tech 1-2

Date of Response: 6/22/2020
Witness: Donald L. Ware

REQUEST:

Follow-up to Staff 1-23:

Please explain how the Company arrived at the reported Merrimack Town Tax of \$8.68. Please provide supporting paperwork.

RESPONSE:

Attached please find the property tax bill for the Town of Merrimack. The correct rate for the Town Tax that should have been noted is \$4.71. The Town of Merrimack Tax rate used in DLW Exh 1, as submitted with the petition, is correct at \$28.86.

Town Tax - \$ 4.71 per \$1,000 of valuation
County Tax - \$ 1.20 per \$1,000 of valuation
Local School Tax - \$ 16.04 per \$1,000 of valuation
Hydrant Tax - \$ 0.31 per \$1,000 of valuation
Total Merrimack Tax - \$22.26 per \$1,000 of valuation
Statewide Utility Tax - \$ 6.60 per \$1,000 of valuation
Total Tax rate applied to assets - \$28.86 per \$1,000 of valuation

MEMO REPORT

Date: January 27, 2021

From: Douglas W. Brogan, P.E.

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

Re: DW 20-020 Pennichuck Water Works, Inc.
Petition for Approval of 2020 Qualified Capital Project Annual Adjustment Charge

I am writing this memo report as an engineering consultant to the Gas-Water Division to summarize my findings in the above-referenced docket. The Qualified Capital Project Annual Adjustment Charge (QCPAC) program was initially authorized for Pennichuck Water Works, Inc. (PWW or company) in DW 16-806 (Order 26,070, November 7, 2017). In the current docket PWW is seeking approval of a QCPAC surcharge for projects completed in 2019; preliminary approval of projects proposed for 2020; and has provided its capital budgets for 2021 and 2022 for informational purposes. My review is limited primarily to the engineering and operational aspects of the filing and is based on review of the filing, subsequent updates (in particular the most recent quarterly update filed January 11, 2021, containing data last updated November 30, 2020), case discovery, E-22 forms (Reports of Proposed Expenditures for Additions, Extensions and Capital Improvements to Fixed Capital), and associated materials.

2019 Projects

A significant portion of the company's capital investment each year involves replacement of water mains, either as a result of the company's own prioritization or involving coordination with City of Nashua and Town of Amherst sewer, storm drain and repaving projects as a cost saving measure. The company generally aims to replace 3 to 4 miles of older water main each year in its core system (Staff 1-37). Although the reality in recent years has been somewhat less (Staff 1-38), a major reason is that water main replacements are balanced with other significant capital improvements that may be required in a given year. Some of these other projects are identified below (along with one substantial stand-alone water main upgrade effort in the Northwest High Pressure System). Investment in water main replacements can nonetheless be significant, accounting for some **\$6,956,000** in 2019 (testimony of John J. Boisvert, p. 47, line 7). The company has affirmed that all

2019 projects proposed for inclusion in the QCPAC surcharge were used and useful as of December 31, 2019 (testimony of Donald L. Ware, p. 11, lines 19-21).

A. Merrimack River Deep Water Intake

This project involved moving the existing water supply intake from the bank of the Merrimack River to the center of the river to address limitations caused by low flows and winter ice. Primary funding was through a state Drinking Water and Groundwater Trust Fund (DWGTF) loan, as approved in DW 19-026 (Order 26,247, May 3, 2019). The Merrimack River has become an increasingly important supplement to the Pennichuck Brook supply in recent years as a result of water quality, redundancy and other concerns. Cost of the project increased from an original estimate of \$5,500,000, due largely to higher than expected bids and changes in final permit requirements in 2019 (\$1,100,000 increase) and a 2020 state requirement to develop a Source Water Protection plan (\$80,000 increase). The final cost for work completed in 2019 was **\$6,299,764**. According to the company, the project became used and useful in December 2019, even though some work remained for 2020.

B. Northwest High Pressure System (NWS)

This project involves substantial water main improvements to the portion of the system serving the northwest quadrant of Nashua and the town of Amherst, and that also supplies water through master meters to Merrimack Village District and the town of Milford. The improvements are intended to accommodate growth in the area in recent decades, eliminate distribution system dead-ends, improve redundancy, and address critical flow restrictions during high demand periods. The company has indicated the latter will be particularly important during replacement of the Kessler Farm tank, now proposed for 2021. Funding is primarily through a DWGTF loan approved in DW 18-133 (Order 26,197, Dec 3, 2018) for up to \$3,375,000. Total expenditures in 2019 were **\$3,060,459**.

C. Carbon Media Change-Out

The granular activated carbon (GAC) media at the company's primary treatment plant in Nashua requires periodic change-out as filtration effectiveness becomes exhausted. The plant has six filters (with two beds per filter, resulting in occasional reference to twelve filters). Change-outs had been planned at two filters per year beginning in 2019. The NH Department of Environmental Services (NHDES) subsequently implemented new standards for PFAS (per- and polyfluoroalkyl substances), with an initial effective date of September 30, 2019 (the rules were subsequently put on hold pending resolution of a legal challenge, becoming finally effective in the second half of 2020). The company determined carbon to be effective at reducing the PFAS chemicals below the new limits, resulting in an acceleration of the media replacements. Four of the six change-outs were performed in 2019, at a total cost of **\$990,662**.

2020 Projects

Apart from water main replacements, major projects proposed for 2020 include:

A. Merrimack River Pumping Station

The project entails installation of a third 350 HP raw water pump and motor at this station for needed redundancy in supplying Merrimack River water to the system, particular in light of increased usage of the river in summer months as a result of the new PFAS regulations. The work includes some station upgrades; and a limited amount of work will carry over into 2021. Estimated cost for 2020 is **\$600,000**. (A related project, rebuilding of one of the two existing pumps, is included separately at a cost of \$93,100 in 2020.)

B. Merrimack River Deep Water Intake

Remaining work including final river bank restoration, tree plantings, and development of Source Water Protection plan, all estimated at **\$452,109**.

C. Carbon Media Change-Out

Replacement of media in remaining two filters, at a total cost of **\$450,000**.

D. Northwest High Pressure System (NWS)

Final landscaping and paving, for total cost of **\$355,500**.

E. Kessler Farm Booster Pump Package

This primarily involves replacement of old pumps in the station, but now includes site work for the much larger Kessler Tank project (see below). Cost for 2020 is **\$188,000**.

2021-2022 Projects

Again apart from water main replacements, notable upcoming projects include:

A. Kessler Farm Tank Replacement

The existing 31 year old, 4.5 million gallon welded steel tank is being replaced with a much lower maintenance, precast, pre-stressed concrete tank of the same size, at an estimated cost of **\$3,328,000** excluding design costs. The company has provided reasonable economic

justification for this substantial project involving replacement of a relatively young tank (see, for example, Boisvert testimony, pp. 53-4, and response to Staff 2-4).

B. Spillway Improvements

Significant improvements at several dams upstream of the Nashua water treatment plant are currently proposed for 2021 in response to NHDES Letters of Deficiency. These include Bowers Pond (**\$1,100,000**), Supply Pond (**\$750,000**), and Harris Pond (the latter deferred from 2020, with an estimated cost per of **\$965,000** per Boisvert testimony, p. 52, line 23). Costs are exclusive of earlier engineering, permitting and design work.

C. Milford Booster Station Replacement

Involves replacement, relocation and upgrade of this 30 year old, below ground station. This project has been deferred since at least 2017 and has an estimated cost in 2021 of **\$660,000**.

Conclusion

I believe the company continues to demonstrate overall sound engineering competence in its planning and approach to the various capital improvement projects. For 2019, I would support a finding that each of the listed projects indicated as completed and in service at year-end was prudent, used and useful; and the 2020 projects as proposed appear reasonable.

Pennichuck Water Works, Inc.
DW 21-xx
Computation of QCPAC Surcharge
2/11/2021
Revised 4/20/2021 for Staff Supplemental 3-1
Revised 5/17/2021 to reflect correction to Staff Supplemental 3-1

	Approved DW19-084 Revenues per Order#		QCPAC For 2019 Capital Additions	QCPAC Surcharge for 2019 Capital Additions	QCPAC For 2020 Capital Additions pro forma	QCPAC Surcharge for 2020 Capital Additions	QCPAC For 2021 Capital Additions pro forma	QCPAC Surcharge for 2021 Capital Additions	QCPAC For 2022 Capital Additions pro forma	QCPAC Surcharge for 2022 Capital Addition	QCPAC For 2023 Capital Additions pro forma	QCPAC Surcharge for 2023 Capital Additions
City Bond Fixed Revenue Requirement (CBFRR)	\$ 7,729,032		\$ -	\$ 7,729,032	\$ -	\$ 7,729,032	\$ -	\$ 7,729,032	\$ -	\$ 7,729,032		\$ 7,729,032
DW19-084 Operating Expense Revenue Requirement	\$ 21,296,618 (1)		\$ 416,593	\$ 21,713,211	\$ 157,103 (4)	\$ 21,870,314	\$ 133,190 (4)	\$ 22,003,504 (4)	\$ 231,710	\$ 22,235,214	\$ 251,929	\$ 22,487,142
DW19-084 Annual Principal and Interest Payments	\$ 6,176,477 (2)		\$ 854,442	\$ 7,030,919	\$ 337,525 (5)	\$ 7,368,444	\$ 676,516	\$ 8,044,960	\$ 597,767	\$ 8,642,727	\$ 568,586	\$ 9,211,312
Principal and Interest Coverage Requirement	1.10 (3)			1.10		1.10		1.10		1.10		1.10
DW19-084 Principal and Interest Revenue Requirement	\$ 6,794,124			\$ 7,734,011		\$ 8,105,288		\$ 8,849,456		\$ 9,506,999		\$ 10,132,443
DW19-084 Revenue Requirement	\$ 35,819,774			\$ 37,176,254		\$ 37,704,634		\$ 38,581,992		\$ 39,471,245		\$ 40,348,617
DW19-084 Revenue Requirement less Other Revenues	\$ 35,399,062 (12)			\$ 36,755,541		\$ 37,283,921		\$ 38,161,279		\$ 39,050,532		\$ 39,927,905
DW19-084 Revenue Requirement less Other Revenues less Fixed Special Contract Revenues	\$ 34,792,618 (8)			\$ 36,149,098		\$ 36,677,478 (8)		\$ 37,554,836 (8)		\$ 38,444,089		\$ 39,321,462
Percent QCPAC Surcharge (9)				3.90%		1.52%		2.52%		2.56%		2.52%
Cumulative QCPAC Surcharge (13)				3.90%		5.42%		7.94%		10.49%		13.02%
Cumulative QCPAC monthly increase in average single family residential bill.				\$ 2.17		\$ 3.01		\$ 4.42		\$ 5.84		\$ 7.64
Average monthly single family residential bill with QCPAC.	\$ 55.65			\$ 57.82		\$ 58.67		\$ 60.07		\$ 61.49		\$ 63.29

Notes:

- Operating Expense Revenue requirement is the sum of the Total Operating Expenses, Property Tax Expense, Amortization Expense and Payroll Tax Expenses approved in NHPUC Order #26,425.
- Annual Principal and interest payments for PWW debt associated with all plant in service as approved in DW19-084.
- Principal and interest coverage of 1.10 is as approved in DW16-806.
- QCPAC operating expenses are based on the property taxes for used and useful plant added during the year
- Portion of Annual Principal and interest payments for debt associated with plant placed in service between 1/1/2020 and 12/31/2020 based on a 30 year bond with interest rate of 4.00%
- QCPAC Principal and Interest expenses are based on Hudson Annual Fixed Chg \$ 32,800
- QCPAC percent revenue surcharges based on increase in revenues from the revenues granted in DW19-084
- Reduction in revenues associated with fixed contracts as follows: Milford Annual Fixed Chg \$ 81,000
- QCPAC Principal and Interest expenses for DWGTF financing are based on a 30 year bond with interest rate of 3.38%
- Cumulative surcharge percentage is based on total surcharge revenues collected divided by the revenues granted in DW19-084 that are impacted by the QCPAC.
- Operating expense revenues approved in DW19-084 less total Other Revenues of \$ 420,712
- QCPAC percent revenue surcharges based on revenues approved in DW19-084.

Impact on Single Family Residential Home:

	DW19-084
Monthly meter charge approved in DW19-084 -	\$ 24.34
Average Single Family Consumption per DW19-084 (CCF) -	7.77
Volumetric Charge approved in DW#19-084 -	\$ 4.03
Ave. Single Family monthly bill with rates approved in DW19-084 -	\$ 55.65

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2019 Capex Budget	Board Approved 2019 Capex Budget, Revised 8/24/19	Eligible for 2020 QCPAC Surcharge	Final QCPAC eligible Project Costs as of 12/31/2019	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense (Based on Qtrly Update)	Explanation for Change/Addition/Deletion since Petition Filing
New Services (10)	Single Family, Owner Build, New Homes	20 workorders	DW17-183	26,101	2/2/2018	\$ 46,000	\$ 46,000	Yes	\$ 69,936	Various	Yes	\$ 27.02	\$ 1,890	12 installed through 12/31.
Renewed Services (20)	Replacement of failed services	21, 22 & 23 workorders	DW17-183	26,101	2/2/2018	\$ 92,000	\$ 92,000	Yes	\$ 101,648	Various	Yes	\$ 27.02	\$ 2,747	29 installed through 12/31.
Hydrants (10)	Replacement of failed hydrants	30 & 31 workorders	DW17-183	26,101	2/2/2018	\$ 50,000	\$ 50,000	Yes	\$ 40,209	Various	Yes	\$ 27.02	\$ 1,086	7 installed through 12/31.
Gates (10)	Replacement of Failed Gate Valves	12 & 13 workorders	DW17-183	26,101	2/2/2018	\$ 40,000	\$ 40,000	Yes	\$ 10,573	Various	Yes	\$ 27.02	\$ 286	4 installed through 12/31.
Radios (2750)	Replace out of warranty failed radio meter readers.	54 workorders	DW17-183	26,101	2/2/2018	\$ 275,000	\$ 30,000	Yes	\$ 48,942	Various	Yes	\$ 27.02	\$ 1,322	Deferred Radio Replacement program (Radios are 12 years old). 495 replaced through 12/31.
Meters (Growth) 5/8"-2" - Core & CWS (480)	Meters (Growth) 5/8"-2" - Core & CWS (480)	50 workorders	DW17-183	26,101	2/2/2018	\$ 48,000	\$ 48,000	Yes	\$ 48,000	Various	Yes	\$ 27.02	\$ 5,594	1732 installed/repaced through 12/31.
Meters 5/8"-6" Lead Meter Exchange - Core & CWS (3000)	Meters 5/8"-6" Lead Meter Exchange - Core & CWS (3000)	50 workorders	DW17-183	26,101	2/2/2018	\$ 300,000	\$ 300,000	Yes	\$ 207,025	Various	Yes	\$ 27.02	\$ -	
Entrance Security Gate & Perimeter Fence	Entrance Security Gate & Perimeter Fence	1901598	DW17-183	26,101	2/2/2018	\$ 75,000	\$ 75,000	Yes	\$ 66,204	Merrimack	Yes	\$ 28.86	\$ 1,911	
Replace 13 yr Vae Trailer - Safety & Maint issue	Replace 13 yr Vae Trailer - Safety & Maintenance issue	1917721	DW17-183	26,101	2/2/2018	\$ 100,000	\$ -	Yes	\$ 29,710	Merrimack	Yes	\$ 28.86	\$ 857	Then Company was leasing a vac machine for 2019. It was decided to buy out the lease.
Protectus Meter Upgrade	Spitbrook Rd Protectus Meter Upgrade	n/a	DW17-183	26,101	2/2/2018	\$ 21,000	\$ 21,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Deferred until 2020.
Pipe Freeze Kits (2)	RoFrost Turbo 2 Electric Pipe Freeze Kits	1915135	DW17-183	26,101	2/2/2018	\$ -	\$ 7,400	Yes	\$ 6,970	Nashua	No	\$ 26.23	\$ -	Existing Freeze kits have failed and not repairable 15+ years old.
Plate Compactors (4)	Replacement of failed compactors unable to obtain repair parts.	1918551	DW17-183	26,101	2/2/2018	\$ -	\$ 17,500	Yes	\$ 15,888	Nashua	No	\$ 26.23	\$ -	Existing units have failed and parts for repair are not available.
Network Digital Display for Distribution Department	Relocate & network display to Assignment room & new 75" display in Conference Room.	1917719	0.1 DSRR			\$ -	\$ 2,700	No	\$ 2,597	Merrimack	No	\$ 28.86	\$ -	Existing steel sander rusted through and was replaced with new sander.
Poly-Caster Sander	1917720	DW17-183	26,101	2/2/2018			Yes	\$ 7,460	Merrimack	No	\$ 28.86	\$ -		
2018 Dodge Ram 2500 (#313)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907613	0.1 DSRR			\$ -	\$ 1,969	No	\$ 1,969	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram 2500 (#314)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907612	0.1 DSRR			\$ -	\$ 1,969	No	\$ 1,969	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram 2500 (#315)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907615	0.1 DSRR			\$ -	\$ 2,542	No	\$ 2,542	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#347)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907987	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#348)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907988	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#349)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907989	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
Meter Data Logging Equipment	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907885	0.1 DSRR			\$ -	\$ 2,849	No	\$ 2,850	Various	Yes	\$ 27.02	\$ 77	Equipment used in leak detection.
Gilman Street	Replace 1470 LF of 8 inch CI with 12 inch DIPCL.	1607377, 1702856, 1806433, 1901176	DW17-183	26,101	2/2/2018	\$ 550,000	\$ 615,000	Yes	\$ 661,270	Nashua	Yes	\$ 26.23	\$ 17,345	Pavement contribution to the City of Nashua paid in 2018 (\$127,264).
Elm Street	Replace 875 LF of 6 inch CI with 12 inch DIPCL.	1702871, 1812907, 1901599	DW17-183	26,101	2/2/2018	\$ 559,350	\$ 255,000	Yes	\$ 373,328	Nashua	Yes	\$ 26.23	\$ 9,792	Pavement contribution to City of Nashua of \$67,650 included.
Monroe Street	Replace 310 LF of 4 inch CI with 8 inch DIPCL.	1702866, 1812908, 1901602	DW17-183	26,101	2/2/2018	\$ 122,270	\$ 120,000	Yes	\$ 97,541	Nashua	Yes	\$ 26.23	\$ 2,558	Pavement contribution to City of Nashua of \$18,000 included.
Garden Street	Replace 74 LF of 8" CIP with 8 inch DIPCL and reconnect City Hall Fire serviced missed during Elm St work.	1918487	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 61,918	Nashua	Yes	\$ 26.23	\$ 1,624	Connecting Nashua City Hall sprinkler connection that was missed during the Elm St project. Also replaces a portion of the Garden Street water main. Per City almost all work had to be performed on Sunday nights. Final paving in Spring 2020 \$18,000 not included.
W. Pearl Street	Replace 340 LF of 8" CIP with 120 LF of 12" DIPCL and 220 LF of 8" DIPCL.	1702869, 1812909, 1901603	DW17-183	26,101	2/2/2018	\$ 138,050	\$ 140,000	Yes	\$ 178,120	Nashua	Yes	\$ 26.23	\$ 4,672	Pavement contribution to City of Nashua of \$27,200 included.
Harvard Street	Replace 800 LF of 8 inch CI with 8 inch DIPCL.	1814742, 1901604	DW17-183	26,101	2/2/2018	\$ 247,500	\$ 249,200	Yes	\$ 259,668	Nashua	Yes	\$ 26.23	\$ 6,811	Pavement contribution to City of Nashua of \$38,000 included.
West Hollis Street Check Valve Pit	Install at the int of W. Hollis St and Panther Dr.	n/a	DW17-183	26,101	2/2/2018	\$ 88,000	\$ -	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Deferred to future year to accommodate additional water main projects.
NWS Improvements - Manchester Street	Add 2700 LF of 24 inch DIPCL on Manchester St.	1806805, 1900422				\$ 660,000	\$ 660,000	Yes	\$ 507,141	Nashua	Yes	\$ 26.23	\$ 13,302	Added security fence replacement (1,700 LF) along Manchester Street - some work will carry over into 2020 included.
NWS Improvements -Route 101A and Route 121 (Amherst)	Add 2200 LF of 12 inch DIPCL to close loop.	1806810, 1901607				\$ 550,000	\$ 550,000	Yes	\$ 548,252	Nashua	Yes	\$ 26.23	\$ 14,381	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2020.
NWS Improvements - Tinker Road	Replace 825 LF of 16 inch AC with 825 LF of 24 inch DIPCL.	1702835, 1806434, 1900421	Financing DW18-133	26,197	12/3/2018	\$ 522,500	\$ 522,500	Yes	\$ 369,378	Nashua	Yes	\$ 26.23	\$ 9,689	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2021.
NWS Improvements - Deerwood Drive & Amherst St. Intersection	Replace 1300 LF of 12 inch AC with 1300 LF of 24 inch DIPCL.	1806808, 1901609				\$ 467,500	\$ 467,500	Yes	\$ 158,469	Nashua	Yes	\$ 26.23	\$ 4,157	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2022.
NWS Improvements - Deerwood Dr. Northwest Blvd Loop	Add 3400 LF of 20 inch HDPE including RR pipe jacking.	1806806, 1901610				\$ 635,800	\$ 635,800	Yes	\$ 1,302,871	Nashua	Yes	\$ 26.23	\$ 34,174	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2023.
NWS Improvements Ponemah Rd/Route 101A Loop	Add 2200 LF of 12 inch DIPCL to close two loop major dead ends.	1901611				\$ 484,000	\$ 484,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Project cancelled and replaced with piping in projects above.
NWS Improvements - Engineering Design and Inspection	Engineering and Inspection of NW System watermain improvements.		0.1 DSRR			Included in NWS Improvements above	Included in NWS Improvements above	No	\$ 174,347	Nashua	Yes	\$ 26.23	\$ 4,573	
City of Nashua Sewer - Chase Street	Replace 470 LF of 6 inch CIP with 470 LF of 6 inch DIPCL.	1829925, 1900484	DW17-183	26,101	2/2/2018	\$ 176,000	\$ 190,000	Yes	\$ 175,370	Nashua	Yes	\$ 26.23	\$ 4,600	Project Complete
City of Nashua Sewer - Ash Street	Replace 710 LF of 6 inch CIP with 710 LF of 12 inch DIPCL.	1814367, 1915975	DW17-183	26,101	2/2/2018	\$ 242,000	\$ 162,800	Yes	\$ 156,252	Nashua	Yes	\$ 26.23	\$ 4,098	Pavement contribution to City of Nashua of \$20,832 included.
City of Nashua Sewer - Lake Street	Replace 2950 LF of 6 inch CI with 12 inch DIPCL.	1814740, 1915976	DW17-183	26,101	2/2/2018	\$ 990,000	\$ 1,710,500	Yes	\$ 1,608,850	Nashua	Yes	\$ 26.23	\$ 42,200	Pavement contribution to City of Nashua of \$344,000 included.
City of Nashua Paving - Vilna St.	Replace 15 LF of 1.5 inch steel with 2 inch HDPE for paving program.	1915860	DW17-183	26,101	2/2/2018	\$ -	\$ 16,750	Yes	\$ 17,400	Nashua	Yes	\$ 26.23	\$ 456	Includes final paving - complete
Interconnection to BWC	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1900429	0.1 DSRR			\$ -	\$ 3,400	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Woodward Avenue	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1910117	0.1 DSRR			\$ -	\$ 2,200	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Ritter Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1910116	0.1 DSRR			\$ -	\$ 6,890	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Factory Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1909270	0.1 DSRR			\$ -	\$ 20,209	No	\$ 20,209	Nashua	Yes	\$ 26.23	\$ 530	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Taylor Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1906988	0.1 DSRR			\$ -	\$ 233	No	\$ 233	Nashua	Yes	\$ 26.23	\$ 6	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Shakespeare HP System Exp	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1901942	0.1 DSRR			\$ -	\$ 257	No	\$ 257	Nashua	Yes	\$ 26.23	\$ 7	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
City of Nashua Paving - Mill St.	Abandon 1.5" Steel water main and switch customers over to parallel 8" water main.	1915006	0.1 DSRR			\$ -	\$ 17,900	No	\$ 17,321	Nashua	No	\$ 26.23	\$ -	Includes final paving - complete. Charged to Cost of Removal, Pay for with 0.1 DSRR.
City of Nashua Paving - Ferrysalls Ct	Replace 35 ft of 1" copper water main crossing Canal St with a 4" DIPCL Water Main.	1908316	DW17-183	26,101	2/2/2018	\$ -	\$ 58,580	Yes	\$ 51,988	Nashua	Yes	\$ 26.23	\$ 1,364	Ferrysalls was replaced last year to the limit of Canal St - complete this is phase 2 extending into Canal St - complete.
City of Nashua Paving - Salvaill Ct	Replace 1.5" Steel water main and install a 4" DIPCL Water Main (contaminated area).	1908317	DW17-183	26,101	2/2/2018	\$ -	\$ 95,000	Yes	\$ 79,258	Nashua	Yes	\$ 26.23	\$ 2,079	Includes final paving - complete
City of Nashua Paving - Nutt St - Final Paving and restoration	Pavement restoration and final landscaping	1702842, 1907682	DW17-183	26,101	2/2/2018	\$ -	\$ 13,000	Yes	\$ 6,549	Nashua	Yes	\$ 26.23	\$ 172	\$6,240 of this will be recovered from Liberty Gas.
City of Nashua Paving - Cheshire St - Final Cleanup	Fence repair and site clean up	1908353	DW17-183	26,101	2/2/2018	\$ -	\$ 1,400	Yes	\$ 486	Nashua	Yes	\$ 26.23	\$ 13	Completion of 2018 Workorder Project
City of Nashua - Simon St at Will St Upgrade	Abandon pump station pit and clean up intersection pipe work for improved flows.	1915974	DW17-183	26,101	2/2/2018	\$ -	\$ 215,100	Yes	\$ 174,754	Nashua	Yes	\$ 26.23	\$ 4,584	Includes base paving - Finished paving required in 2020 not included.
City of Nashua Paving - Main St.	Main St final paving at intersection with Factory St. Carry over from 2018.	1900348, 1915859	DW17-183	26,101	2/2/2018	\$ -	\$ 24,500	Yes	\$ 1,402	Nashua	Yes	\$ 26.23	\$ 37	Final paving bill for this project.
City of Nashua Paving - Lemon St - Carry over from 2017	Paving only - Carry over from 2017.	1702875, 1915858	DW17-183	26,101	2/2/2018	\$ -	\$ 24,850	Yes	\$ 18,316	Nashua	Yes	\$ 26.23	\$ 480	Final paving bill for this project.
City of Nashua Paving - Lowell St - Carry over from 2017	Paving only - Carry over from 2017.	1915857	DW17-183	26,101	2/2/2018	\$ -	\$ 37,000	Yes	\$ 37,084	Nashua	Yes	\$ 26.23	\$ 973	Final paving bill for this project.
City of Nashua Paving - Green St - Carry over from 2017	Paving only - Carry over from 2017.	1915844	DW17-183	26,101	2/2/2018	\$ -	\$ 10,000	Yes	\$ 8,906	Nashua	Yes	\$ 26.23	\$ 234	Final paving bill for this project.
City of Nashua Paving - Beard St - Carry over from 2017	Paving only - Carry over from 2017.	1915845	DW17-183	26,101	2/2/2018	\$ -	\$ 25,900	Yes	\$ 21,689	Nashua	Yes	\$ 26.23	\$ 569	Final paving bill for this project.
City of Nashua Paving - Terrace St - Carry over from 2017	Paving only - Carry over from 2018.	1915843	DW17-183	26,101	2/2/2018	\$ -	\$ 20,500	Yes	\$ 10,600	Nashua	Yes	\$ 26.23	\$ 278	Final paving bill for this project.
City of Nashua Paving - Warren St - Carry over from 2017	Paving only - Carry over from 2017.	1702870, 1915842	DW17-183	26,101	2/2/2018	\$ -	\$ 19,500	Yes	\$ 16,762	Nashua	Yes	\$ 26.23	\$ 440	Final paving bill for this project.
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River.	1502180, 1601369, 1701489, 1807360, 1901612, 1908505	Financing DW19-026	26,247	5/3/2019	\$ 5,500,000	\$ 6,600,000	Yes	\$ 6,299,764	Merrimack	Yes	\$ 28.86	\$ 181,811	Bids higher than Engineers estimate due to tight contractor market and changes in final permit requirements that impacted initial design that engineers estimate was based on. An estimated amount of \$362,000 of clean up work to be carried into 2020.
Asset Management Outside GIS Consulting Services	Outside GIS Consulting Services	1900414	DW17-183	26,101	2/2/2018	\$ 60,000	\$ 60,000	Yes	\$ 7,961	Various	No	\$ 27.02	\$ -	
Asset Management Water Modeling Consulting	Water Modeling Consulting	1900414	DW17-183	26,101	2/2/2018	\$ 36,000	\$ 36,000	Yes	\$ -	Various	No	\$ 27.02	\$ -	
Asset Management Trimble R2 Units	Trimble R2 Units	1900414	DW17-183	26,101	2/2/2018	\$ 14,000	\$ 14,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
WAM/Synergyn Upgrade Cost & Functionality Study	WAM/Synergyn Upgrade Cost & Functionality Study	1900568, 1910219	0.1 DSRR											

Chemical Feed pump replacements	Chemical Feed pump replacements	60, 61, 62 & 63 workorders	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	No replacements occurred during 2019.
Upgrade SCADA historian software, new hardware	Upgrade SCADA historian software, new hardware	n/a	DW17-183	26,101	2/2/2018	\$ 150,000	\$ 150,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	Scope of project was more clearly defined resulting in a reduction in cost.
Twin Ridge rebuild softener system, install radon treatment.	Twin Ridge rebuild softener system, install radon treatment.	1907731	DW17-183	26,101	2/2/2018	\$ 50,000	\$ 50,000	Yes	\$ 11,112	Plastow	Yes	\$ 25.93	\$ 288	Project scope was limited to MTM media replacement.
Misc. Structural Improvements	Misc. Structural Improvements	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 10,700	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	Reduced by replacement of failed Fire Alarm CPU.
Misc. Structural Improvements	Replace Fire Alarm System CPU.	1907102, 1910221	DW17-183	26,101	2/2/2018	\$ -	\$ 9,300	Yes	\$ 9,251	Nashua	Yes	\$ 26.23	\$ 243	Fire Alarm CPU failed due to electrical surge.
Misc. Structural Improvements	Replace Natural Gas Heater, High Pine Station.	1917491	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 4,050	Nashua	Yes	\$ 26.23	\$ 106	Failed heater. Part of run rate Misc Structural Improvements.
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased	n/a	DW17-183	26,101	2/2/2018	\$ 17,500	\$ 9,928	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous Equipment Purchased	Purchase 2 Gas Monitors for WS Confined Space Program.	1907611	DW17-183	26,101	2/2/2018	\$ -	\$ 4,568	Yes	\$ 4,568	Nashua	Yes	\$ 26.23	\$ 120	Routine Miscellaneous Equipment purchase
Miscellaneous Equipment Purchased	Purchase Entry Tripod and Winch for WS Confined Space Program.	1910296	DW17-183	26,101	2/2/2018	\$ -	\$ 3,004	Yes	\$ 3,004	Nashua	Yes	\$ 26.23	\$ 79	Routine Miscellaneous Equipment purchase
Miscellaneous Equipment Purchased	Replace Chlorine Analyzer, Twin Ridge	1915362	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 4,449	Nashua	Yes	\$ 26.23	\$ 117	Routine Miscellaneous Equipment purchase
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	\$ 30,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous SCADA/Electrical	Replace VFD, Pump #1 Bowers Landing	1916547	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 2,118	Various	Yes	\$ 27.02	\$ 57	
WTP Structural/HVAC	WTP Structural/HVAC	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	
WTP Structural/HVAC	Replace Heat Exchanger, WTP Office	1917470	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 8,328	Nashua	Yes	\$ 26.23	\$ 218	WTP Structural/HVAC project
Purchase new lab equipment	Purchase new lab equipment	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 18,500	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Reduced by purchase of HACH DR 900 below
Purchase new lab equipment	HACH DR 900	1908450	DW17-183	26,101	2/2/2018	\$ -	\$ 1,500	Yes	\$ 1,435	Nashua	Yes	\$ 26.23	\$ 38	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous Fencing and Security projects	WTP Perimeter Fence Carryover	1901608	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 6,744	Various	Yes	\$ 27.02	\$ 182	
Purchase new vehicle for Water Supply Electrician.	Purchase of a new vehicle for the Water Supply Electrician.	1918314	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 28,897	Nashua	No	\$ 26.23	\$ -	Unbudgeted. Made necessary due to the premature retirement of 2 dept. vehicles.
Replace Ferric Chloride Feed pump.	Replace Ferric Chloride Feed pump.	1901613	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 1,713	Nashua	Yes	\$ 26.23	\$ 45	Pump rebuild was determined to be best course.
Carbon media changeout-filters 1 & 2.	Carbon media changeout-filters 1 & 2	1901614 & 1916780	DW17-183	26,101	2/2/2018	\$ 1,000,000	\$ 1,050,000	Yes	\$ 990,662	Nashua	Yes	\$ 26.23	\$ 25,985	New PFAS regulations require that all filter media be changed out to ensure compliance with the new PFOA standard which is slated to go into effect on October 1, 2019. Filter media replacement being staged over 6 month intervals. 8 of 12 filters to be replaced in 2019, remaining four filters to be replaced in Spring 2020.
Add 3rd pump at Main Dunstable Booster, replace 1 existing.	Add 3rd pump at Main Dunstable Booster, replace 1 existing.	n/a	DW17-183	26,101	2/2/2018	\$ 120,000	\$ -	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Addition of 3rd pump deferred or eliminated until future date subject to performance of rebuilt 2nd pump.
Rebuild Main Dunstable pump #1	Rebuild Pump #1, Main Dunstable, Nashua	1901615	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 15,995	Nashua	Yes	\$ 26.23	\$ 420	
Replace Kessler Farm booster pump package.	Replace 20 year old package booster station pumps and piping. Piping is steel which is beginning to pit.	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	\$ 75,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Project deferred until 2020
Stump Pond Subwatershed assessment	Stump Pond Subwatershed assessment	n/a	0.1 DSR			\$ 25,000	\$ 25,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Stump Pond Stormwater BMP	Stump Pond Stormwater BMP	1908373	0.1 DSR			\$ 20,000	\$ 20,000	No	\$ 1,310	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Public Education - Watershed signage	Public Education - Watershed signage	n/a	0.1 DSR			\$ 20,000	\$ 20,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Replace 2 Hach Turbidimeters and associated control module	Replace 2 Hach Turbidimeters and associated control module.	1901618	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ 7,978	Nashua	Yes	\$ 26.23	\$ 209	
Camera System Upgrade	Carryover Costs from 2018 Project.	1819073, 1900413	0.1 DSR			\$ -	\$ 7,500	No	\$ 9,756	Nashua	Yes	\$ 26.23	\$ 256	Carry over costs from project completed in 2018, pay for with 0.1 DSR.
Dredging Feasibility Study	Carryover Costs from 2018 study.	1807145, 1901939	0.1 DSR			\$ -	\$ 24,600	No	\$ 39,520	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Source Water Protection Study	Carryover Costs from 2018 study.	1901740	0.1 DSR			\$ -	\$ 12,000	No	\$ 11,000	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Aquatic Vegetation Assessment	Carryover Costs from 2018 study.	1807147, 1906080	0.1 DSR			\$ -	\$ 4,200	No	\$ 9,545	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSR
Fiber Conduit between WTP and Dist	Install Fiber Conduit between Water Treatment Plant and Distribution to eliminate ongoing Comcast Ethernet line to one of the buildings.	1901619	DW17-183	26,101	2/2/2018	\$ 40,000	\$ 40,000	Yes	\$ 22,896	Nashua	Yes	\$ 26.23	\$ 601	
Munis FER Enhancements	Munis FER Enhancements	n/a	DW17-183	26,101	2/2/2018	\$ 35,000	\$ 35,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	No upgrades enhancements will be completed in 2019.
Wireless Access Points for Main Office	Wireless Access Points for Main Office	n/a	DW17-183	26,101	2/2/2018	\$ 14,000	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	Monies moved to Veeam Backup Project.
KVM for Data Center	Keyboard Video Mouse for Data Center so that multiple servers can be accessed by one console without having to move the Monitor/Keyboards/ Mouse connections each time.	n/a	DW17-183	26,101	2/2/2018	\$ 2,500	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
IOS Charging Station	Charging Station for multiple iPads to allow for upgrades across multiple devices concurrently.	n/a	DW17-183	26,101	2/2/2018	\$ 1,200	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Digital Signage for Distribution	Digital Signage for Distribution allowing notices and schedules to be more prominently displayed.	1908376	0.1 DSR			\$ 2,000	\$ 1,270	No	\$ -	Merrimack	No	\$ 28.86	\$ -	
VDI Pilot	A pilot to determine whether a Virtual Desktop Infrastructure would be feasible for our environment.	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	Misc Hardware	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 20,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	Mount in Vehicles	1908308	0.1 DSR			\$ -	\$ -	No	\$ 1,248	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	2 iPad Pros for IS Testing	1908309	0.1 DSR			\$ -	\$ -	No	\$ 2,298	Merrimack	No	\$ 28.86	\$ -	
Misc Software	Misc Software	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	\$ 12,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Website upgrades	Website upgrades	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	\$ 8,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Implement Customer Balances over the phone	Implement Customer Balances over the phone.	n/a	DW17-183	26,101	2/2/2018	\$ 4,000	\$ 25,500	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	Deferred
Click Resource Assistant	Allow for the moving of customer Appointment from an generic resource to a named resource.	1907952	0.1 DSR			\$ -	\$ 22,828	No	\$ 22,828	Merrimack	No	\$ 28.86	\$ -	
Database Server License for GIS and other Apps	Purchase Server license for Virtual Environment.	1915920	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 7,305	Merrimack	No	\$ 28.86	\$ -	Previously licensed software was not suitable for Virtual environment.
Veeam Backup Software	Replacement of existing backup software due to exorbitant vendor fees to keep original system running.	1909216	0.1 DSR			\$ -	\$ 25,550	No	\$ 15,530	Merrimack	No	\$ 28.86	\$ -	
New RCO Manager Computer	New RCO Manager Computer	1917001	0.1 DSR			\$ -	\$ -	No	\$ 1,797	Merrimack	No	\$ 28.86	\$ -	Replace failed desktop computer.
Kessler Farm Tank Design	Kessler Farm Tank Design	1915117	0.1 DSR			\$ -	\$ -	No	\$ 36,355	Nashua	No	\$ 26.23	\$ -	Engineering for tank to be constructed in 2020.
Retainage	Payment of Retainage for projects that were used and useful in 2018.		DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 33,586	Merrimack	No	\$ 28.86	\$ -	Retainage paid in 2019 for 2018 QCPAC projects.
Short term interest on the PWW Fixed Asset Line of Credit.	Capitalized interest incurred on FALOC draws to fund 2019 Capex from 1/1/2019 thru 4/2/2020.		DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 230,645	Various	No	\$ -	\$ -	
Performance Management Platform Implementation & Technical Integration	Performance Management Platform Implementation & Technical Integration	1916551	DW17-183	26,101	2/3/2018	\$ -	\$ -	Yes	\$ 13,804	Merrimack	No	\$ 28.86	\$ -	
Papercut MF Software for copiers	Papercut MF Software for copiers	1918363	DW17-183	26,101	2/3/2018	\$ -	\$ -	Yes	\$ 3,708	Merrimack	No	\$ 28.86	\$ -	
Pennichuck Water Works Projected 2019 Total Capital Expenditure Budget -						\$ 14,968,170	\$ 16,902,524		\$ 15,801,867	Projected Property Tax Expense associated with		\$ 416,593		

Total Projected PWW QCPAC Capex for 2019 -	\$ 16,832,524	\$ 14,898,170	\$ 15,374,227
Amount funded by SRF/DWGT Merrimack River Intake -	\$ -	\$ -	\$ 5,359,625
Amount funded by SRF/DWGT Northwest System Improvements -	\$ 8,819,800	\$ 8,819,800	\$ 2,859,754
Amount to be funded by 2020 Bond Issue -	\$ 8,012,724	\$ 6,078,370	\$ 7,154,848

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000
2. Projects funded by 0.1 DSR funds are not QCPAC eligible because the cash to fund these projects is not bonded. Total 2019 Capex to be funded by 0.1 DSR funds - \$ 427,640

12/31/2019

The 12/31/2019 0.1 DSR amount has been increased by \$ 21,175 to reflect the Staff DR21 response indicating that of the project costs being funded with DWGT is being funded with 0.1 DSR monies.

30 year bond with an actual TIC of	4.261869%	resulting in annual P&I expenses of	\$ 427,022
30 year bond with interest rate of	2.704%	resulting in annual P&I expenses of	\$ 140,376
30 year bond with interest rate of	3.38%	resulting in annual P&I expenses of	\$ 287,045

3. Portion of Annual Principal and interest payments for debt associated with plant placed in service between 1/1/2019 and 12/31/2019 based on a
4. QCPAC Principal and Interest expenses for DWGT financing for North West System improvements are based on a
4. QCPAC Principal and Interest expenses for DWGT financing for Merrimack River Intake are based on a

Pennichuck Water Works, Inc.
DW 21-xxx
2020 used and useful QCP's
2/11/2021
Revised 4/20/2021 for Staff Supplemental 3-1

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (I)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
New Services (10)	Single Family, Owner Build, New Homes	20 workorders	DW17-183	26,101	2/2/2018	\$ 50,000	Yes	\$ 31,090	\$ 36,746	Various	Yes	\$ 28.45	\$ 1,045	6 new services through 12/31/20.
Renewed Services (20)	Replacement of failed services.	workorders	DW17-183	26,101	2/2/2018	\$ 110,000	Yes	\$ 68,052	\$ 68,052	Various	Yes	\$ 28.45	\$ 1,936	19 Renewed Services Installed through 12/31/2020.
Hydrants (10)	Replacement of non-functional hydrants (Run rate) (8 YTD)	30 & 31 workorders	DW17-183	26,101	2/2/2018	\$ 60,000	Yes	\$ 48,000	\$ 41,401	Various	Yes	\$ 28.45	\$ 1,178	9 Hydrants Repaired/Replaced through 12/31/2020.
Gates (10)	Replacement of Failed Gate Valves	12 & 13 workorders	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 40,000	\$ 43,189	Various	Yes	\$ 28.45	\$ 1,229	12 Gates Repaired/Replaced through 12/31/2020.
Radios (560)	Replacement of out of Warrantee Failed Radios (280), New Meters for new customers (280).	54 workorders	DW17-183	26,101	2/2/2018	\$ 58,000	Yes	\$ 51,000	\$ 50,832	Various	Yes	\$ 28.45	\$ 1,446	498 Radios Installed/Replaced through 12/31/2020.
Meters (Growth) 5/8"-2" - Core & CWS (280)	Meters (Growth) 5/8"-2" - Core & CWS (280)	50 workorders	DW17-183	26,101	2/2/2018	\$ 29,000	Yes	\$ 96,000	\$ 94,393	Various	Yes	\$ 28.45	\$ 2,686	631 Meters Installed/Replaced through 12/31/2020.
Meters 5/8"-6" - Replace failed meters - Core & CWS (200)	Meters 5/8"-6" failed meters - Core & CWS (200)	50 workorders	DW17-183	26,101	2/2/2018	\$ 21,000	Yes	\$ -	\$ -	Various	Yes	\$ 28.45	\$ -	Total included in row above.
Replace Mud sucker pump	Replace 15+ year old ditch pump.	2005200	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,356	\$ 6,356	Various	Yes	\$ 28.45	\$ 181	
Replacement Utility Truck	Replacement for #47 - 2006 Ford F-350, 130K miles Does not pass inspection.	2006391	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 70,000	\$ 66,969	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	Replacement for #76 - 2008 Ford F-350, 150K miles, Does not pass inspection.	2006390	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 70,000	\$ 68,951	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	Replacement for #4 - 2010 Ford F-350, 140K miles Does not pass inspection.	2006389	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 7,000	\$ 68,429	Merrimack	No	\$ 28.52	\$ -	
Valve Turner & Vac Truck	Replacement for #60 - 14 Year Vac Trailer w/excessive rot, will not pass inspection.	n/a	DW17-183	26,101	2/2/2018	\$ 160,000	Yes	\$ -	\$ -	Merrimack	No	\$ 28.52	\$ -	Deferred. Not available due to impact of COVID19 on manufacturing.
Foreman's Truck	Replacement for #59 - 2011 International, 120K Miles, High Hours, Electrical, body issues.	2004436	DW17-183	26,101	2/2/2018	\$ 140,000	Yes	\$ 140,000	\$ 79,206	Merrimack	No	\$ 28.52	\$ -	Deferred until 2020.
Locker Room Benches @ Distribution Facility	Permanent Benches for Male & Female locker rooms.	n/a	DW17-183	26,101	2/2/2018	\$ 7,500	Yes	\$ -	\$ -	Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2021 due to COVID19 delays.
Locker Room Deep Wash Sinks	Deep stainless wash sinks to replace existing sinks in male & female locker rooms.	n/a	DW17-183	26,101	2/2/2018	\$ 7,500	Yes	\$ -	\$ -	Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2021 due to COVID19 delays.
Office Space for Const & Maint Supervisor	Permanent office space for Construction & Maintenance Supervisor.	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ -	\$ -	Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2020 due to COVID19 delays.
Landscape improvements	Repair Hill Sides @ 16 DWI and overseed with erosion mx.	2008276	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ 12,550	\$ 15,350	Merrimack	Yes	\$ 28.52	\$ 438	
Automatic Entrance Gate @ Distribution Facility	Replace manual gate @ Distribution facility with automatic gate.	2000718		0.1 DSR		\$ 10,000	No	\$ -	\$ 3,083	Merrimack	Yes	\$ 28.52	\$ 88	Work delayed on long range gate reader until 2021, due to COVID19.
Emergency Gas Detection Meters	Emergency Gas Detection Meters	2006033	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 10,411	\$ 10,411	Merrimack	Yes	\$ 28.52	\$ 297	Replace existing failed tractor.
Replacement Equipment/Excavator Trailer	Replacement Equipment/Excavator Trailer	2007566	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 19,457	\$ 17,917	Merrimack	Yes	\$ 28.52	\$ 511	
Buyout Lease of HP T2530PS Large Format Printer (OPS)	Buyout Lease of HP T2530PS Large Format Printer (OPS).	2008268	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,994	\$ 4,995	Merrimack	Yes	\$ 28.52	\$ 142	
West Hollis Street Check Valve Pit	Install at the intersection of W. Hollis St and Panther Dr.	n/a	DW17-183	26,101	2/2/2018	\$ 88,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred
NWS Improvements - Manchester Street	Install 1700 LF of 24 inch DI and new Fencing.	2000383		DWGTIF		\$ 125,000	Yes	\$ 86,000	\$ 85,059	Nashua	Yes	\$ 27.13	\$ 2,308	
NWS Improvements - Deerwood Dr. Northwest Blvd Loop	Add 3400 LF of 20 inch HDPE including RR pipe jacking.	2000386		DWGTIF		\$ 40,000	Yes	\$ 18,500	\$ 19,576	Nashua	Yes	\$ 27.13	\$ 531	
NWS Improvements Veteran's Rd/Route 101A Loop	Add 2200 LF of 12 inch DIPCL to close two loop major dead ends.	2000384		DWGTIF		\$ 125,000	Yes	\$ 125,000	\$ 125,566	Nashua	Yes	\$ 27.13	\$ 3,407	
NWS Improvements Tinker Road Paving and restoration	NWS Improvements Tinker Road Paving and restoration.	2000385		DWGTIF		\$ 125,000	Yes	\$ 126,000	\$ 125,458	Nashua	Yes	\$ 27.13	\$ 3,404	
Simon & Will Street - Paving	Simon & Will Street - Paving	2000387	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred
Garden Street - Final Paving	Garden Street - Final Paving	2000388	DW17-183	26,101	2/2/2018	\$ 18,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred
City of Nashua Sewer - Lake Street	Replace 2950 LF of 6 inch CI with 12 inch DIPCL (Paving).	2000378	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -	\$ 10,589	Nashua	Yes	\$ 27.13	\$ 287	
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River	2000380	DW19-026	26,247	5/3/2019	\$ 140,375	Yes	\$ 192,109	\$ 140,375	Merrimack	Yes	\$ 28.52	\$ 4,003	Amount of MRI raw water intake funds still available from DWGTIF.
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River	2000380	DW17-183	26,101	2/2/2018	\$ 221,625	Yes	\$ 260,000	\$ 253,590	Merrimack	Yes	\$ 28.52	\$ 7,232	Project cost increased by \$80,000 to develop Source Water Protection plan required by NHDES.
Replace Kessler Farm booster pump package	Replace 31 year old package booster station pumps and piping.	2000389	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ 188,000	\$ 190,901	Nashua	Yes	\$ 27.13	\$ 5,179	Budget to be increased as a portion of site work for the Kessler Farm Tank was transferred to this project. Winning project bid was higher than engineer's estimate.
Risk and Resilience Assessment and Emergency Response Plan	Complete Risk and Resilience Assessment and Emergency Response Plan as required by the USEPA.	2002053	DW17-183	26,101	2/2/2018	\$ 120,000	Yes	\$ 120,000	\$ 117,274	Various	No	\$ 28.45	\$ -	
Asset Management - GIS QA/QC ahead of NEW CMMS	GIS QA/QC Ahead of NEW CMMS	1900414, 2000362	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 40,000	\$ 56,448	Merrimack	Yes	\$ 28.52	\$ 1,610	
Brook Street	Replace 225 LF of 4 inch and 915 LF of 6 inch CI with 1140 LF of 8 inch DIPCL.	1502511, 2003423	DW17-183	26,101	2/2/2018	\$ 380,000	Yes	\$ 276,000	\$ 257,109	Nashua	Yes	\$ 27.13	\$ 6,975	Restoration work slated for 2021 was completed in 2020.
Hamilton Street	Replace 410 LF of 6 inch CI with 4 inch DIPCL.	1502512, 2003422	DW17-183	26,101	2/2/2018	\$ 87,000	Yes	\$ 137,000	\$ 126,068	Nashua	Yes	\$ 27.13	\$ 3,420	
Burrill Street	Replace 425 LF of 4 inch CI with 8 inch DIPCL.	1502513, 2003420	DW17-183	26,101	2/2/2018	\$ 141,000	Yes	\$ 146,800	\$ 134,733	Nashua	Yes	\$ 27.13	\$ 3,655	
Burrill Street	Replace 125 LF of 4 inch CI with 4 inch DIPCL.	n/a	DW17-183	26,101	2/2/2018	\$ 38,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Included in row above.
Verona Street	Replace 675 LF of 6 inch CI with 8 inch DIPCL.	2007542	DW17-183	26,101	2/2/2018	\$ 226,000	Yes	\$ 205,100	\$ 182,847	Nashua	Yes	\$ 27.13	\$ 4,961	Required the use of temporary main that was not initially part of the design.
Sarasota Ave.	Replace 250 LF of 6 inch CI with 8 inch DIPCL.	n/a	DW17-183	26,101	2/2/2018	\$ 83,000	Yes	\$ 70,000	\$ -	Nashua	Yes	\$ 27.13	\$ -	
Amherst Dodge Rd Watermain Abandonment	Abandon Approx. 700 LF of AC Main, Transfer 2 services & 1 Hyd to parallel 8" DIPCL water main.	2001229	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 146,000	\$ 149,710	Amherst	No	\$ 32.93	\$ -	Scope of job expanded to replace multiple broken or leaking valves discovered during the shutdown process.
Kessler Farm Tank Replacement	Replaced 4 MG painted steel water tank with 4 MG prestressed, precast water tank.	2000379		0.1 DSR		\$ 3,388,000	No	\$ 60,000	\$ 65,161	Nashua	No	\$ 27.13	\$ -	Design only. Construction deferred until 2021.
Replace Engineering Pickup	2020 Ford Escape SE - Replace Vehicle #101	2006652	DW17-183	26,101	2/2/2018	\$ 35,000	Yes	\$ 24,431	\$ 23,470	Merrimack	Yes	\$ 28.52	\$ 669	
Replace Engineering SUV #34	2020 Ford Escape SE - Replace Vehicle #401	2006755	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ 24,474	\$ 24,432	Merrimack	Yes	\$ 28.52	\$ 697	
Investment in developer installed services at 1x annual revenue	Per tariff	n/a	DW17-183	26,101	2/2/2018	\$ 60,000	Yes	\$ 80,000	\$ 79,591	Various	Yes	\$ 28.45	\$ 2,265	136 Developer Installed Services through 12/31/2020.
Asset Management Trimble R2 Units	Add two new GPS units for additional staff.	2003535	DW17-183	26,101	2/2/2018	\$ 24,000	Yes	\$ 24,000	\$ 21,963	Merrimack	No	\$ 28.52	\$ -	
Merrimack River Pumping Station	Add third 350 horsepower pump and motor with variable frequency drive.	2003759	DW17-183	26,101	2/2/2018	\$ 260,000	Yes	\$ 600,000	\$ 485,114	Merrimack	Yes	\$ 28.52	\$ 13,835	Added Pump Station roof hatches and roofing to facilitate pump replacement in the future. Bid price received for new pump was higher than anticipated. Added Electrical system upgrades for code and redundancy. There will be an additional \$140,000 of expenditures to complete this project in 2021.
Crescent Street (sewer related)	Replace 250 LF of 4 inch CI and 96 LF of 1 1/4 inch CI with 150 LF of 4" PVC.	2001230	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 39,000	\$ -	Nashua	Yes	\$ 27.13	\$ 1,484	Added due to Kessler Farm Tank deferral to 2021.
Crescent Street (paving contribution)	Replace 250 LF of 4 inch CI and 96 LF of 1 1/4 inch CI with 150 LF of 4" PVC.		DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 15,000	\$ 54,705	Nashua	Yes	\$ 27.13	\$ -	Added due to Kessler Farm Tank deferral to 2021.
School Street	Replace 400 LF of 4 inch CI with 680 LF of 6 inch DIPCL (creates a looped system).	2003533	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 267,000	\$ 270,734	Nashua	Yes	\$ 27.13	\$ 7,345	Added due to Kessler Farm Tank deferral to 2021, restoration work that was planned for 2021 was completed in 2020.
Fulton Street(Lake St Area PH2)	Replace 180 LF of 2" CI with 4" DIPCL - addition to Lake St Ph 2 project.	2007556	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 92,900	\$ 80,801	Nashua	Yes	\$ 27.13	\$ 2,192	Added due to Kessler Farm Tank deferral to 2021.
Manatee St (Lake St Area PH2)	Replace 240 LF of 6 inch CI with 8" DIPCL - addition to Lake St Ph 2 project.	2007543	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 54,500	\$ 49,820	Nashua	Yes	\$ 27.13	\$ 1,352	Added due to Kessler Farm Tank deferral to 2021.
Ash St (Lake St Area PH2)	Replace 480 LF of 6 inch CI with 8 and 6 inch DIPCL - added to Lake St Ph 2.	2007540	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 164,300	\$ 149,975	Nashua	Yes	\$ 27.13	\$ 4,069	Added due to Kessler Farm Tank deferral to 2021.
Fields Grove Crossing (Lake St Area PH2)	Cross City park with 16" HDPE direction bore - 890 LF - added to Lake St Ph 2.	2007557	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 20,000	\$ -	Nashua	Yes	\$ 27.13	\$ -	Added due to Kessler Farm Tank deferral to 2021.
Pine St (Lake St Area PH2) Manatee and Sarasota intersection work	Cut in trees for manatee and sarasota.	2007541	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 31,500	\$ 90,922	Nashua	Yes	\$ 27.13	\$ 2,467	Intersection work associated with Sarasota and Manatee projects.
Ingalls St - complete in 2020	Emergency water main replacement - 175' of Galv (1921) replaced with 4" PVC.	2007544	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 37,000	\$ 33,471	Nashua	Yes	\$ 27.13	\$ 908	Added due to Kessler Farm Tank deferral to 2021.
Walnut St - water main (added to crescent/school st project)	Paving related to water main replacement - replace 56' of 12" CI and 230' of 8" CI (1925-unlined) with 286' of 12" DIP.	2006558	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 84,000	\$ 74,774	Nashua	Yes	\$ 27.13	\$ 2,029	Added due to Kessler Farm Tank deferral to 2021, \$\$ from paving contribution in row 67 added in.
Walnut St (paving contribution)	Paving Contribution for paving in 2021.		DW17-183	26,101	2/2/2018	\$ -	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Added due to Kessler Farm Tank deferral to 2021, \$\$ in row 66.
Coburn Woods (all side streets)	Replace 4400 LF of 2 inch PVC with 4 inch DIPCL.	2002685	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 118,000	\$ -	Nashua	Yes	\$ 27.13	\$ -	Added due to Kessler Farm Tank deferral to 2021. The majority of this project will be occurring in 2021 due to later than expected bid opening.
Pennichuck Brook Ponds Aerial Survey	Pennichuck Brook Ponds Aerial Survey	2006039	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 21,700	\$ 2,209	Nashua	No	\$ 27.13	\$ -	Drought response. Survey of exposed bottom of Harris and Bowers Pond.
Upgrade SCADA historian software, new hardware	Upgrade SCADA historian software, new hardware.	2000376	DW17-183	26,101	2/2/2018	\$ 65,000	Yes	\$ 65,000	\$ 54,749	Nashua	Yes	\$ 27.13	\$ 1,485	
Bowers Dam LOD response engineering	Bowers Dam LOD response engineering	1901734, 1907078, 2000373		0.1 DSR		\$ 10,000	No	\$ 10,000	\$ 6,761	Nashua/Merrimack	No	\$ 27.83	\$ -	Bowers Dam LOD response engineering
Harris LOD response engineering	Harris LOD response engineering	1907076, 2000375		0.1 DSR		\$ 20,000	No	\$ 20,000	\$ 25,535	Nashua/Merrimack	No	\$ 27.83	\$ -	Deferred
Supply Pond LOD response engineering	Supply Pond LOD response engineering	1907077, 2000374		0.1 DSR		\$ 32,0								

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Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (%)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
Misc. Structural Improvements	Replace Fire Alarm System Control Boards - Damaged by Lightning Strike.	2006032	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 15,120	\$ 14,242	Nashua	Yes	\$ 27.13	\$ 386	
Misc. Structural Improvements	Replace Maple Haven Pump Station Rood.	2008269	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 4,235	\$ 5,170	Derry	Yes	\$ 29.06	\$ 150	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased	n/a	DW17-183	26,101	2/2/2018	\$ 17,500	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	
Miscellaneous Equipment Purchased	Replace Sewage Ejection Pump, Snow Station	2003515	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,300	\$ 3,287	Nashua	Yes	\$ 27.13	\$ 89	
Miscellaneous Equipment Purchased	WTP Replace Filter-to-Waste Valve	1918552	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,353	\$ 2,353	Nashua	Yes	\$ 27.13	\$ 64	This was in 2019 budget, but did not go useful until 2020.
Miscellaneous Equipment Purchased	Replace Sludge Pump #2, WTP.	2004525	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,410	\$ 3,406	Various	Yes	\$ 28.52	\$ 97	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -	\$ -	Various	Yes	\$ 28.52	\$ -	
Miscellaneous SCADA/Electrical	Replace VFD, Pump #3 - High Pines Booster	2003512	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,500	\$ 9,523	Nashua	Yes	\$ 27.13	\$ 258	
Miscellaneous SCADA/Electrical	Install cellular SCADA device, HI and LO, Derry.	2004180	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,500	\$ 2,354	Derry	Yes	\$ 27.02	\$ 64	
Miscellaneous SCADA/Electrical	SCADA control system, Powder Hill, Donald St.	2004989	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,500	\$ -	Bedford	Yes	\$ 27.02	\$ -	Deferred
Miscellaneous SCADA/Electrical	Replace Intermediate Pump 3, VFD at WTP.	2008126	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 5,500	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred
Rebuild NWS booster pump #2	Rebuild NWS booster pump #2.	2003436	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 50,000	\$ 43,464	Nashua	Yes	\$ 27.13	\$ 1,179	
WTP Structural/HVAC	WTP Structural/HVAC	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	
Purchase new lab equipment	Purchase new lab equipment.	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 5,000	\$ -	Nashua	Yes	\$ 27.13	\$ -	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ -	\$ -	Various	Yes	\$ 27.13	\$ -	
Replace Vehicle 200	Replace Vehicle 200	2007616	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 35,000	\$ 31,949	Nashua	No	\$ 27.13	\$ -	
Replace Vehicle 201	Replace Vehicle 201	2004137	DW17-183	26,101	2/2/2018	\$ 55,000	Yes	\$ 55,000	\$ 53,062	Nashua	No	\$ 27.13	\$ -	
Replace Vehicle 63	Replace Vehicle 63	n/a	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ -	\$ -	Nashua	No	\$ 27.13	\$ -	Deferred
Repair/Replace Soffit and Fascia, Boat House Bldg.	Repair/Replace Soffit and Fascia, Boat House Bldg.	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	No contractors available. Deferred until 2021.
Carbon media changeout-filters 5 & 6	Carbon media changeout-filters 5 & 6.	2003490	DW17-183	26,101	2/2/2018	\$ 500,000	Yes	\$ 450,000	\$ 495,331	Nashua	Yes	\$ 27.13	\$ 13,438	
Install new Day Fuel Tank, Controller and related equip., FWPS Generator	Install new Day Fuel Tank, Controller and related equip., FWPS Generator.	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred until 2021. Project scope being evaluated under new code.
SCADA PLC Replacements	SCADA PLC Replacements	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ -	\$ -	Nashua	Yes	\$ 27.13	\$ -	Deferred until 2021.
Replace 2 Hach Turbidimeters and associated control module	Replace 2 Hach Turbidimeters and associated control module.	2007545	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ 18,000	\$ 16,929	Nashua	Yes	\$ 27.13	\$ 459	Changed from 2 to 4 units.
Rebuild Merrimack River pump #2	Rebuild Merrimack River pump #2.	2008305	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 93,100	\$ 93,090	Merrimack	Yes	\$ 28.86	\$ 2,687	
Supply Pond Dam Modifications per NHDES LOD	Engineering, Permitting, Design Services	2008270		0.1 DSRP		\$ -	No	\$ 69,000	\$ -	Merrimack/Nashua	No	\$ 27.55	\$ -	Engineering Design Work only
Harris Dam Raise Earthen Embankment, Dike wall	Engineering, Permitting, Design Services	2008271		0.1 DSRP		\$ -	No	\$ 90,000	\$ -	Merrimack/Nashua	No	\$ 27.55	\$ -	Engineering Design Work only
Munis FER Enhancements	Munis FER Enhancements	n/a	DW17-183	26,101	2/2/2018	\$ 35,000	Yes	\$ 35,000	\$ -	Merrimack	No	\$ 28.52	\$ -	
Misc Hardware	Misc Hardware	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 1,500	\$ -	Merrimack	No	\$ 28.52	\$ -	
Misc Hardware	Laptop Purchase for Regulatory Department - JK	2001987	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,660	\$ 1,397	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for Regulatory Department - CAH	2002761	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,400	\$ 1,397	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for onboarding employees (5)	2002930	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,995	\$ 9,913	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for New Employee C. Harding	2005120	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,491	\$ 2,491	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Spare Laptop Purchase	2005238	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,005	\$ 1,005	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	New Laptop for Accounting new hire - Payroll Admin	2006388	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,160	\$ 1,160	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Software	Misc Software	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ -	\$ -	Merrimack	No	\$ 28.52	\$ -	
Misc Software	Macrola Development Environment for testing upgrade.	2002276	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 5,280	\$ 6,400	Merrimack	No	\$ 28.52	\$ -	
Misc Software	Tyler Notify	2003317	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,840	\$ 3,024	Merrimack	No	\$ 28.52	\$ -	
Misc Software	MSL Server License for Munis Upgrade	2005976	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,350	\$ -	Merrimack	No	\$ 28.52	\$ -	Deferred
Website upgrades	Website upgrades	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	Yes	\$ -	\$ -	Merrimack	No	\$ 28.52	\$ -	
Salmon Replacement at WTP	The server at WTP is over 7 years old and should be replaced. I am recommending to replace the server with a VM host for ease of use and reliability.	2005704	DW17-183	26,101	2/2/2018	\$ 15,000	Yes	\$ 15,000	\$ 9,366	Merrimack	No	\$ 28.52	\$ -	
Additional UPS for Distribution Data Center	We are starting to leverage this datacenter more with more equipment. The current UPS is over subscribed and we need to protect everything in there.	2003493	DW17-183	26,101	2/2/2018	\$ 1,600	Yes	\$ 1,600	\$ 2,060	Merrimack	No	\$ 28.52	\$ -	
Meraki Wireless AP's for WTP	The current AP's at WTP are tied into the wireless at HQ. We will be changing to the Meraki solution for HQ so these will need to be replaced.	2003426	DW17-183	26,101	2/2/2018	\$ 3,000	Yes	\$ 3,000	\$ 3,252	Merrimack	No	\$ 28.52	\$ -	
Storage Replacement for PS6110 Array	Nimble add-on shelf - 33b usable	2003425	DW17-183	26,101	2/2/2018	\$ 57,000	Yes	\$ 30,000	\$ 16,145	Merrimack	No	\$ 28.52	\$ -	
Veeam Backup of O365	Backup documents stored in the cloud within Office 365.	n/a	DW17-183	26,101	2/2/2018	\$ 2,000	Yes	\$ 2,000	\$ -	Merrimack	No	\$ 28.52	\$ -	
Client Remote Control Software	5 licenses	n/a	DW17-183	26,101	2/2/2018	\$ 1,300	Yes	\$ 1,300	\$ -	Merrimack	No	\$ 28.52	\$ -	
CMMS replacement project	Replace Synergen/WAM with newer more cost effective/improved functionality system.	2000368	DW17-183	26,101	2/2/2018	\$ 600,000	Yes	\$ 450,000	\$ 433,263	Nashua	Yes	\$ 27.13	\$ 11,754	Project implementation has been slowed due to COVID19. Project \$\$ not used in 2020 will carry over into 2021.
New Building	New Building	2001988		0.1 DSRP		\$ 78,300	No	\$ 140,000	\$ 610,337	Nashua	Yes	\$ 27.13	\$ 16,558	
New Building - Server Room Networking	Routers/Switches/Racks/Patch Panels	2100047		0.1 DSRP		\$ 19,000	No	\$ 12,800	\$ 14,888	Nashua	Yes	\$ 27.13	\$ 404	
New Building - Phone System	Replacement of existing Phone system. New system will not work with existing hardware.	2100043		0.1 DSRP		\$ 70,000	No	\$ 60,000	\$ 77,830	Nashua	Yes	\$ 27.13	\$ 2,112	
IAMF - IOS mobile Management	Software configuration support for IAMF product.	2004171	DW17-183	26,101	2/2/2018	\$ 6,000	Yes	\$ 6,000	\$ 5,400	Merrimack	No	\$ 28.52	\$ -	
Document Management	Software to allow for document tracking and flow management (Accounting).	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	Yes	\$ -	\$ -	Merrimack	No	\$ 28.52	\$ -	
Click Software move to MS sql	Move Click Database from Oracle to MS sql in order to retire Oracle after the WAM replacement project is complete.	2003421	DW17-183	26,101	2/2/2018	\$ 45,000	Yes	\$ 19,500	\$ 140,012	Merrimack	No	\$ 28.52	\$ -	
Lemon Street, Final Restoration	2020 Carryover Costs	2000693	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,500	\$ 1,500	Nashua	Yes	\$ 27.13	\$ 41	Not included in approved 2020 Budget.
Lowell Street, Final Restoration	2020 Carryover Costs	2000694	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,500	\$ -	Nashua	Yes	\$ 27.13	\$ -	Not included in approved 2020 Budget.
West Pearl Street, Final Restoration	2020 Carryover Costs	2000695	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 12,750	\$ 12,750	Nashua	Yes	\$ 27.13	\$ 346	Not included in approved 2020 Budget.
Retainage	Paid out in 2020 on retainage held on 2019 projects.	N/A	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 162,383	\$ 164,061	Nashua	Yes	\$ 27.13	\$ 4,451	
Retainage	Held on various projects listed above. Will be paid out in 2021.	N/A	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ (54,805)	\$ (35,202)	Nashua	Yes	\$ 27.13	\$ (957)	
FALOC interest	Interest accrued on PWW FALOC from 5/1/2020 to 4/1/2021.		DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 70,000	\$ 68,066	Various	No	\$ 28.45	\$ -	Projected interest accrued on FALOC \$\$ for funding of 2020 Capex projects.
Elm Street, Final Restoration	2020 Carryover Costs	2000696	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 21,750	\$ 21,750	Nashua	Yes	\$ 27.13	\$ 590	Not included in approved 2020 Budget.
Warren Street, Final Restoration	2020 Carryover Costs	2000697	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,500	\$ 1,500	Nashua	Yes	\$ 27.13	\$ 41	Not included in approved 2020 Budget.
New Drum Hand Truck	New Drum Hand Truck	2003534	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ -	\$ 1,383	Nashua	Yes	\$ 27.13	\$ 38	
Replace Sludge Discharge Pump #1	Replace Sludge Discharge Pump #1	2100054	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ -	\$ 3,522	Nashua	Yes	\$ 27.13	\$ 96	
M-Scopes & Metal Detectors	M-Scopes & Metal Detectors	2100055	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ -	\$ 9,910	Nashua	Yes	\$ 27.13	\$ 269	
Office Space Planning	Office Space Planning	1806837, 1917427		0.1 DSRP		\$ -	No	\$ -	\$ 30,045	Nashua	No	\$ 27.13	\$ -	
Pennichuck Water Works Projected 2020 Total Capital Expenditure Budget -						\$ 9,995,700		\$ 6,876,855	\$ 6,951,260	Projected Property Tax Expense associated	\$ 157,103			
0.1 DSRP Funded project Total -						\$ 229,300		\$ 334,800	\$ 849,428					
Total Projected PWW QCPAC Capex for 2020 -						\$ 9,766,400		\$ 6,542,055	\$ 6,101,832					
Total Projected PWW QCPAC Capex for 2020 funded with Bonds -						\$ 9,211,025		\$ 5,994,446	\$ 5,769,205					
Amount funded by SRF/DWGT/ Northwest System Improvements2 -						\$ 555,375		\$ 547,609	\$ 332,627					
Amount funded by SRF/DWGT/ Merrimack River Intake -									\$ 140,375					
Project Annual P&I on 2020 QCPAC eligible Projects -						\$ 530,560		\$ 355,254	\$ 337,525					
Estimated Bond Terms (Bonds to be sold in April 2021) -		30	Years @	3.5%	\$	500,816	\$	325,926	\$	313,679				
Merrimack River Intake DWGT/ Terms -		30	Years @	3.38%	\$	29,744	\$	29,328	\$	7,518				
Northwest System Improvements DWGT/ Terms -		30	Years @	2.704%	\$		\$		\$	16,328				

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (%)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
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Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (%)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
Foreman Truck	Upfit of Foreman's Truck body at JC Madigans.			01 DSR		\$ 61,000	No	Merrimack	Yes	\$ 27.02	\$ 1,648	
2021 New Services (10)	Single Family, Owner Build, New Homes		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
2021 Renewed Services (20)	Replacement of Failed Services		DW20-157		Awaiting Approval	\$ 110,000	Yes	Various	Yes	\$ 27.02	\$ 2,972	
2021 Hydrants (15)	Replacement of non-functional hydrants		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
2021 Gates (10)	Replacement of Failed Gate Valves		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 27.02	\$ 1,081	
2021 Radios (4250)	Yr 1 of 7 Replacement of all PWW Radios installed in 2007 (4000), New Radios for new customers (250).		DW20-157		Awaiting Approval	\$ 425,000	Yes	Various	Yes	\$ 27.02	\$ 11,484	
2021 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers (250). Replacement of failed meters(250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	No	\$ 28.86	\$ -	
Replacement Utility Truck	Replacement for Truck #83 - 2011 F350, 110K miles, High maint costs & lots of body rust/rot.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Utility Truck	Replacement for Truck #9 - 2014 F350, 110K Miles, High maint costs & significant rust.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Full Size Pickup	Replacement for Truck #95 - 2008 Ford Ranger 110K miles did not pass inspection.		DW20-157		Awaiting Approval	\$ 45,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Full Size Pickup	Replacement for Truck # 20 - 2008 Ford Ranger 135K miles did not pass inspection.		DW20-157		Awaiting Approval	\$ 45,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement SUV - Meter Reading	Replacement for vehicle #21 - 2013 Chevy Equinox 135k miles, high maint costs & suspension issues.		DW20-157		Awaiting Approval	\$ 35,000	Yes	Merrimack	No	\$ 26.63	\$ -	
Landscape Improvements	Irrigation system, loam & seed area at front of Distribution Building.		DW20-157		Awaiting Approval	\$ 15,000	Yes	Merrimack	Yes	\$ 26.63	\$ 399	
Replacement Valve/vac trailer	Replacement for # 96 - 2010 EHWA Valvemat - Valve Turner not functional and cannot get parts.		DW20-157		Awaiting Approval	\$ 65,000	Yes	Merrimack	Yes	\$ 26.63	\$ 1,731	
Replacement Equipment Trailer	Replacement for # 53 - 14' BigTex Trailer - Excessive rust & rot and safety issues.		DW20-157		Awaiting Approval	\$ 7,500	Yes	Merrimack	Yes	\$ 26.63	\$ 200	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157		Awaiting Approval	\$ 22,000	Yes	Nashua	Yes	\$ 26.63	\$ 586	
Valve Turner & Vac Truck	Replacement for #60 - 15 Year Vac/Valve Trailer with excessive rot, will not pass inspection.		DW20-157		Awaiting Approval	\$ 200,000	Yes	Merrimack	Yes	\$ 28.86	\$ 5,772	
Office Space for Const & Maint Supervisor	Permanent office space for Construction & Maintenance Supervisor		DW20-157		Awaiting Approval	\$ 15,000	Yes	Merrimack	Yes	\$ 28.86	\$ 433	
Locker Room Deep Wash Sinks	Deep stainless wash sinks to replace existing sinks in male & female locker rooms.		DW20-157		Awaiting Approval	\$ 10,000	Yes	Merrimack	Yes	\$ 28.86	\$ 289	
Locker Room Benches	Permanent Benches for Male & Female locker rooms.		DW20-157		Awaiting Approval	\$ 7,500	Yes	Merrimack	Yes	\$ 28.86	\$ 216	
Brook Street	Replace 225 LF of 4 inch and 915 LF of 6 inch CI with 1140 LF of 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 103,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,743	
Hamilton Street	Replace 410 LF of 6 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 33,000	Yes	Nashua	Yes	\$ 26.63	\$ 879	
Burrill Street	Replace 425 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 24,000	Yes	Nashua	Yes	\$ 26.63	\$ 639	
Burrill Street	Replace 125 LF of 4 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 12,000	Yes	Nashua	Yes	\$ 26.63	\$ 320	
Verona Street	Replace 675 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 56,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,491	
Sarasota Ave	Replace 250 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 24,000	Yes	Nashua	Yes	\$ 26.63	\$ 639	
Merrimack River Pumping Station	Add third 350 horsepower pump with electrical and Structural Improvements.		DW20-157		Awaiting Approval	\$ 140,000	Yes	Merrimack	Yes	\$ 28.86	\$ 4,040	
Kessler Farm Tank Replacement	Replace 4 MG painted steel water tank with 4 MG prestressed, precast water tank.		DW20-157		Awaiting Approval	\$ 4,000,000	Yes	Nashua	No	\$ 26.63	\$ -	
Coburn Woods (all side streets)	Replace 4400 LF of 2 inch PVC with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 1,855,000	Yes	Nashua	No	\$ 26.63	\$ -	
Merrimack River Intake	Merrimack River Intake Modified Source Water Protection Plan			01 DSR		\$ 30,000	No	Merrimack	No	\$ 28.86	\$ -	
Balcom Street	Replace 1240 LF 6 inch CI with 1240 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 294,000	Yes	Nashua	Yes	\$ 26.63	\$ 7,829	
Euclid Avenue	Replace 425 LF 6 inch CI with 425LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 100,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,663	
Sweet Hill Interconnection	Connecting Pipeline and Meter Pit			NHDES SRF or DWGTF		\$ 250,000	Yes	Plaistow	Yes	\$ 29.00	\$ 7,250	
Twin Ridge Interconnection	Connecting Pipeline and Meter Pit			NHDES SRF or DWGTF		\$ 100,000	Yes	Plaistow	Yes	\$ 29.00	\$ 2,900	
PWW RRA- ERP	Engineering Evaluations to Implement Recommendations			01 DSR		\$ 200,000	No	Various	No	\$ 27.02	\$ -	
Trimble GPS and Monitoring Equipment	Level Monitors, Pressure Monitors and Flow Monitors		DW20-157		Awaiting Approval	\$ 32,000	Yes	Various	Yes	\$ 27.02	\$ 865	
Merrimack River Watershed Council	Grant Match with othe Stakeholders \$40k for five years.		DW20-157		Awaiting Approval	\$ 40,000	No	Various	No	\$ 27.02	\$ -	
Investment in Developer Services	1x Annual Revenue		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
Engineering Vehicle	SUV Replaces a 2014 vehicle with over 150,000 miles.		DW20-157		Awaiting Approval	\$ 30,000	Yes	Nashua	No	\$ 26.63	\$ -	
Engineering Vehicle	SUV Replaces (#34) 2010 with over 190,000 miles.		DW20-157		Awaiting Approval	\$ 30,000	Yes	Nashua	No	\$ 26.63	\$ -	
COO Vehicle	SUV Replaces a 2014 vehicle with over 150,000 miles.		DW20-157		Awaiting Approval	\$ 30,000	Yes	Nashua	No	\$ 26.63	\$ -	
Bon Terrain Contractual Payment	Phase 1 payment per SNHWC contract with Tana Properties.		DW20-157		Awaiting Approval	\$ 129,200	Yes	Amherst	No	\$ 29.00	\$ -	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 27.02	\$ 1,081	
Well Pump replacements	Well Pump replacements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 27.02	\$ 405	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 27.02	\$ 270	
Supply Pond Spillway Improvements	Supply Pond Spillway Improvements		DW20-157		Awaiting Approval	\$ 750,000	Yes	Merrimack/Nashua	Yes	\$ 27.75	\$ 20,813	
Harris Dam raise earthen embankment, raise dike wall, regulatory requirement.	Harris Dam raise earthen embankment, raise dike wall, regulatory requirement.		DW20-157		Awaiting Approval	\$ 965,000	Yes	Merrimack/Nashua	Yes	\$ 27.75	\$ 26,779	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 27.02	\$ 540	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 27.02	\$ 540	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157		Awaiting Approval	\$ 30,000	Yes	Various	Yes	\$ 27.05	\$ 812	
Rebuild 1 High lift/Intermediate pump	Rebuild 1 High lift/Intermediate pump		DW20-157		Awaiting Approval	\$ 25,000	Yes	Nashua	Yes	\$ 26.63	\$ 666	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 27.02	\$ 270	
Purchase new lab equipment	Purchase new lab equipment		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	Yes	\$ 26.63	\$ 533	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 27.02	\$ 270	
Add Third pump - Donald Street Booster Station	Add Third pump - Donald Street Booster Station		DW20-157		Awaiting Approval	\$ 40,000	Yes	Bedford	Yes	\$ 25.50	\$ 1,020	
Vehicle replacement	Vehicle replacement-replace vehicle 210. >160,000 miles, 3K repairs in 2020.		DW20-157		Awaiting Approval	\$ 55,000	No	Nashua	No	\$ 26.63	\$ -	
Vehicle replacement	Vehicle replacement - Replace vehicle 351. >163,000 miles, 6K repairs in 2020.		DW20-157		Awaiting Approval	\$ 40,000	No	Nashua	No	\$ 26.63	\$ -	
Replace 6 filter turbidimeters (manufacturer no longer supports current units).	Replace 6 filter turbidimeters (manufacturer no longer supports current units).		DW20-157		Awaiting Approval	\$ 30,000	Yes	Nashua	Yes	\$ 26.63	\$ 799	
Rebuild of Pump 2 @ Merrimack River Intake.	Rebuild of Pump 2 @ Merrimack River Intake.		DW20-157		Awaiting Approval	\$ 75,000	Yes	Merrimack	Yes	\$ 28.86	\$ 2,165	
Repair/Replace Soffit and Fascia, Boat House Bldg.	Repair/Replace Soffit and Fascia, Boat House Bldg.		DW20-157		Awaiting Approval	\$ 30,000	Yes	Nashua	Yes	\$ 26.63	\$ 799	
Install new Day Fuel Tank, Controller and related equip. FWPS Generator	Regulatory requirement, existing equipment is malfunctioning and unreliable, Soft metals present in piping system which is not allowed.		DW20-157		Awaiting Approval	\$ 75,000	Yes	Nashua	No	\$ 26.63	\$ -	
CMMS replacement project (Estimate)	Replace Synergen/WAM with newer more cost effective/improved functionality system.		DW20-157		Awaiting Approval	\$ 100,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,663	
Infoview Licenses	Infoview Licenses		DW20-157		Awaiting Approval	\$ 65,000	No	Nashua	No	\$ 26.63	\$ -	
Redundant Internet	The new phone system, these phone lines use the internet to make and receive telephone calls. We currently only have a single internet feed for the office and the WTP/Distribution facilities. This project provides a secondary internet feed into the Distribution facility which internet will provide us a redundant path to the internet in case one fails. This secondary internet feeds the internet load from the 3 major locations between the 2 internet connections instead of one.		DW20-157		Awaiting Approval	\$ 69,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,837	
Treatment Plant and Distribution security retrofit	Update both the Treatment plant and Distribution to the same security system that the new HQ is using so that there is one badge procedure and system to maintain. It will also give us better analytics and notifications of access to each of the buildings.		DW20-157		Awaiting Approval	\$ 37,000	Yes	Nashua	Yes	\$ 26.63	\$ 985	
IT Storage Room / Work Room	Add tool box, work bench and parts storage to the IT room to keep things organized to provide a place to work on physical computers and perform repairs.		DW20-157		Awaiting Approval	\$ 4,000	Yes	Nashua	Yes	\$ 26.63	\$ 107	
Cybernetics Disk Array	Replace 7 year of device used for system back ups.		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	No	\$ 26.63	\$ -	
Virtual Desktops	The majority of the office computers will be 5 years old in 2021. The plan is create a Virtual Desktop that will support up to 50 concurrent users. By shifting the computing and disk requirements to a client server will increase computer speed that will allow the existing desktops to remain in service for several more years. Additionally the client server provides more flexibility to the end user to allow them to work at other locations and still get all their settings and programs to perform their job.		DW20-157		Awaiting Approval	\$ 106,000	Yes	Nashua	No	\$ 26.63	\$ -	
Computer Updates	There are 30 Computers that are due for replacement in 2023. These computers have very slow hard drives which make the		DW20-157		Awaiting Approval	\$ 6,000	Yes	Nashua	No	\$ 26.63	\$ -	
Snow Station Switch Replacement	Replace the outdated switch that connects the fiber optic cable from outside to the inside of the WTP.		DW20-157		Awaiting Approval	\$ 1,000	Yes	Nashua	Yes	\$ 26.63	\$ 27	
Munis FER Enhancements	Munis FER Enhancements		DW20-157		Awaiting Approval	\$ 35,000	Yes	Nashua	No	\$ 26.63	\$ -	

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
Click to Munis Data interfaces	Implement connection between ClickSoft and Munis to reduce the need of user to duplicate data entry into Munis from information captured in ClickMobile.		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	No	\$ 26.63	\$ -	
CMMS PLL Implementation	Implementation of Cityworks PLL. Cityworks PLL simplifies applications for customers and streamlines workflows for staff.		DW20-157		Awaiting Approval	\$ 170,000	Yes	Nashua	Yes	\$ 26.63	\$ 4,527	
Cityworks PLL License	License for above (Estimate)		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 26.63	\$ -	
Misc Hardware	Misc Hardware		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	No	\$ 27.02	\$ -	
Misc Software	Misc Software		DW20-157		Awaiting Approval	\$ 12,000	Yes	Various	No	\$ 27.02	\$ -	
WTP Wifi expansion	WTP Wifi expansion		DW20-157		Awaiting Approval	\$ 15,000	Yes	Nashua	No	\$ 26.63	\$ -	
Pennichuck Water Works Projected 2021 Total Capital Expenditure Budget -						\$ 12,015,200				QCPAC projects -	\$ 133,190	

Total Projected Bond funded PWW QCPAC Capex for 2021 - \$ 11,374,200
 Total Projected NHDES SRF/DWGTf funded PWW QCPAC Capex for 2021 - \$ 350,000
 Total for 0.1 DSRR Projects - \$ 291,000

Estimated Bond Terms (Bonds to be sold in April 2022) - 30 Years @ 4.0% resulting in P&I of \$ 657,771
 DWGTf Terms - 30 Years @ 3.38% resulting in P&I of \$ 18,745

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
2022 New Services (10)	Single Family, Owner Build, New Homes		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
2022 Renewed Services (20)	Replacement of Failed Services		DW20-157		Awaiting Approval	\$ 110,000	Yes	Various	Yes	\$ 27.02	\$ 2,972	
2022 Hydrants (15)	Replacement of non-functional hydrants		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
2022 Gates (10)	Replacement of Failed Gate Valves		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 27.02	\$ 1,081	
2022 Radios (500)	Replacement of failed Radios (250), New Radios for new customers (250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
2022 Radios (4000)	Yr 2 of 7 Replacement of all PWW Radios installed in 2007 (4000) by contractor.		DW20-157		Awaiting Approval	\$ 520,000	Yes	Various	Yes	\$ 27.02	\$ 14,050	
2022 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers, including PFOA (250). Replacement of failed meters(250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.86	\$ 1,443	
Replacement Boom Truck	Replacement for #19 - 2011 Ford F450 - High Milage, Maintenance & Safety issues.		DW20-157		Awaiting Approval	\$ 150,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 26.63	\$ -	
Replacement Supervisor Pickup	New Full Sized Pickup to Replace existing high mileage/maintenance pickup.		DW20-157		Awaiting Approval	\$ 45,000	Yes	Merrimack	No	\$ 26.63	\$ -	
Replacement Utility Van	New Utility Van to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Merrimack	No	\$ 26.63	\$ -	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157		Awaiting Approval	\$ 22,000	Yes	Nashua	Yes	\$ 26.63	\$ 586	
Miscellaneous Construction Equipment				0.1 DSR		\$ 40,000	Yes	Merrimack	Yes	\$ 26.63	\$ 1,065	
Balcom Street	Replace 1240 LF 6 inch CI with 1240 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 73,600	Yes	Nashua	Yes	\$ 26.63	\$ 1,960	
Euclid Avenue	Replace 425 LF 6 inch CI with 425LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 25,200	Yes	Nashua	Yes	\$ 26.63	\$ 671	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 47,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,252	
Temple St (south to gorman)	Replace 900 LF of 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 66,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,758	
School Street (High to W. Pearl Alleyway)	Replace 400 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 27,000	Yes	Nashua	Yes	\$ 26.63	\$ 719	
Sargent Street	Replace 1900 LF 6 inch CI with 1900 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 480,000	Yes	Nashua	Yes	\$ 26.63	\$ 12,782	
Courtland Street	Replace 1170 LF 4 inch CI with 1170 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 300,000	Yes	Nashua	Yes	\$ 26.63	\$ 7,989	
Ald Street	Replace 1860 LF of 6 & 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 740,000	Yes	Nashua	Yes	\$ 26.63	\$ 19,706	
Lawdale Avenue	Replace 1085 LF of 6 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 420,000	Yes	Nashua	Yes	\$ 26.63	\$ 11,185	
Benson Avenue	Replace 550 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 160,000	Yes	Nashua	Yes	\$ 26.63	\$ 4,261	
Spaulding Street	Replace 950 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 280,000	Yes	Nashua	Yes	\$ 26.63	\$ 7,456	
Alstead Avenue	Replace 240 LF of 4 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 61,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,624	
Spaulding Avenue	Replace 430 LF of 6, 2, & 1.25 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,130	
St Lazare Street	Replace 415 LF of 2 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,130	
Ingalls St (St Camille to end)	Replace 200 LF of 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,065	
Nye Avenues	Replace 400 LF of 2 & 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 73,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,944	
Copp Street	Replace 350 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 103,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,743	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 189,000	Yes	Nashua	Yes	\$ 26.63	\$ 5,033	
Gray Avenue	Replace 360 LF of 6 inch CI with 6 inch DIPCL.		DW20-157		Awaiting Approval	\$ 85,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,264	
Additional Water Main Replacement	To be determined		DW20-157		Awaiting Approval	\$ 1,100,000	Yes	Nashua	Yes	\$ 26.63	\$ 29,293	
2022 Nashua City Sewer Projects	To be determined		DW20-157		Awaiting Approval	\$ 900,000	Yes	Nashua	Yes	\$ 26.63	\$ 23,967	
PWW RRA- ERP	Implement Recommendations Evaluated in 2021		DW20-157		Awaiting Approval	\$ 500,000	Yes	Various	Yes	\$ 27.02	\$ 13,510	
Merrimack River Watershed Council	Grant Match with other Stakeholders \$40k for five years for land conservation/protection in the Merrimack River Watershed.			0.1 DSR		\$ 40,000	No	Various	No	\$ 27.02	\$ -	
Investment in Developer Services	1x Annual Revenue		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 26.63	\$ -	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 26.63	\$ -	
Milford Booster Station	Replace/Relocate/Upgrade the Milford Booster Station (>4MGD)		DW20-157		Awaiting Approval	\$ 800,000	Yes	Amherst	Yes	\$ 29.00	\$ 23,200	
Temple St (south to gorman)	Replace 900 LF of 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 263,000	Yes	Nashua	Yes	\$ 26.63	\$ 7,004	
School Street (High to W. Pearl Alleyway)	Replace 400 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 108,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,876	
Linwood Street	Replace 960 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 283,800	Yes	Nashua	Yes	\$ 26.63	\$ 7,558	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 27.02	\$ 1,081	
Well Pump replacements	Well Pump replacements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 27.02	\$ 405	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 27.02	\$ 270	
Install/replace treatment systems in small CWS.	Install/replace treatment systems in small CWS.		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 27.02	\$ 405	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 27.02	\$ 405	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 27.02	\$ 540	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157		Awaiting Approval	\$ 30,000	Yes	Various	Yes	\$ 27.02	\$ 811	
Well Rehabilitation	Well Rehabilitation		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157		Awaiting Approval	\$ 10,000	Yes	Nashua	Yes	\$ 26.63	\$ 266	
Purchase new lab equipment	Purchase new lab equipment		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	Yes	\$ 26.63	\$ 533	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157		Awaiting Approval	\$ 10,000	Yes	Nashua	Yes	\$ 26.63	\$ 266	
Re-paint FWPS ceiling	Re-paint FWPS ceiling		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	Yes	\$ 26.63	\$ 533	
WTP Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 65,000	Yes	Nashua	No	\$ 26.63	\$ -	
WTP Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 26.63	\$ -	
Bowers Spillway Reconstruction, regulatory requirement	Bowers Spillway Reconstruction, regulatory requirement		DW20-157		Awaiting Approval	\$ 1,100,000	Yes	Nashua	No	\$ 26.63	\$ -	
Misc Hardware	Misc Hardware			0.1 DSR		\$ 20,000	No	Nashua	No	\$ 26.63	\$ -	
Misc Software	Misc Software			0.1 DSR		\$ 12,000	No	Nashua	No	\$ 26.63	\$ -	
Network Hardware infrastructure improvements	Update aging network infrastructure.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	No	\$ 26.63	\$ -	
Major Software Replacement Project				0.1 DSR		\$ 60,000	No	Nashua	No	\$ 26.63	\$ -	
Munis Enhancements	Munis Enhancements		DW20-157		Awaiting Approval	\$ 35,000	Yes	Nashua	No	\$ 26.63	\$ -	
Pennichuck Water Works Projected 2022 Total Capital Expenditure Budget -						\$ 10,508,600						
QCPAC projects -						\$ 231,710						

Total Projected Bond funded PWW QCPAC Capex for 2021 - \$ 10,336,600
 Total Projected NHDES SRF/DWGTf funded PWW QCPAC Capex for 2021 - \$ -
 Total for 0.1 DSR Projects - \$ 172,000

Estimated Bond Terms (Bonds to be sold in April 2022) - 30 Years @ 4.0% resulting in P&I of \$ 597,767

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
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1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000

Pennichuck Water Works, Inc.
 DW 21-xxx
 Projected 2023 QCPAC Capital Expenditures
 2/11/2021
 Revised 6/16/2020 per Staff Tech DR-1

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
2023 New Services (10)	Single Family, Owner Build, New Homes		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
2023 Renewed Services (20)	Replacement of Failed Services		DW20-157		Awaiting Approval	\$ 110,000	Yes	Various	Yes	\$ 27.02	\$ 2,972	
2023 Hydrants (15)	Replacement of non-functional hydrants		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
2023 Gates (10)	Replacement of Failed Gate Valves		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 27.02	\$ 1,081	
2023 Radios (500)	Replacement of failed Radios (250), New Radios for new customers (250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
2023 Radios (4000)	Yr 2 of 7 Replacement of all PWW Radios installed in 2007 (4000) by contractor.		DW20-157		Awaiting Approval	\$ 520,000	Yes	Various	Yes	\$ 27.02	\$ 14,050	
2023 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers, including PFOA (250). Replacement of failed meters(250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 27.02	\$ 1,351	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Supervisor Pickup	New Full Sized Pickup to Replace existing high mileage/maintenance pickup.		DW20-157		Awaiting Approval	\$ 45,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Replacement Utility Van	New Utility Van to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157		Awaiting Approval	\$ 22,000	Yes	Nashua	No	\$ 26.63	\$ -	
Miscellaneous Construction Equipment	Miscellaneous Construction Equipment			0.1 DSRR		\$ 40,000	Yes	Merrimack	Yes	\$ 28.86	\$ 1,154	
PWW RRA- ERP	Implement Recommendations Evaluated in 2021.		DW20-157		Awaiting Approval	\$ 500,000	Yes	Various	Yes	\$ 27.02	\$ 13,510	
Sargent Street	Replace 1900 LF 6 inch CI with 1900 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 84,000	Yes	Nashua	Yes	\$ 26.63	\$ 2,237	
Courtland Street	Replace 1170 LF 4 inch CI with 1170 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 52,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,385	
Allid Street	Replace 1860 LF of 6 & 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 130,000	Yes	Nashua	Yes	\$ 26.63	\$ 3,462	
Lawndale Avenue	Replace 1085 LF of 6 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 73,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,944	
Benson Avenue	Replace 550 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 28,000	Yes	Nashua	Yes	\$ 26.63	\$ 746	
Spaulding Street	Replace 950 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 48,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,278	
Alstead Avenue	Replace 240 LF of 4 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 11,000	Yes	Nashua	Yes	\$ 26.63	\$ 293	
Spaulding Avenue	Replace 430 LF of 6, 2, & 1.25 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 14,000	Yes	Nashua	Yes	\$ 26.63	\$ 373	
St Lazare Street	Replace 415 LF of 2 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 14,000	Yes	Nashua	Yes	\$ 26.63	\$ 373	
Ingalls St (St Camille to end)	Replace 200 LF of 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 6,000	Yes	Nashua	Yes	\$ 26.63	\$ 160	
Nye Avenues	Replace 400 LF of 2 & 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 13,000	Yes	Nashua	Yes	\$ 26.63	\$ 346	
Copp Street	Replace 350 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 18,000	Yes	Nashua	Yes	\$ 26.63	\$ 479	
Gray Avenue	Replace 360 LF of 6 inch CI with 6 inch DIPCL.		DW20-157		Awaiting Approval	\$ 15,000	Yes	Nashua	Yes	\$ 26.63	\$ 399	
2022 Nashua City Sewer Projects	To be detremined (Paving)		DW20-157		Awaiting Approval	\$ 200,000	Yes	Nashua	Yes	\$ 26.63	\$ 5,326	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 47,000	Yes	Nashua	Yes	\$ 26.63	\$ 1,252	
Water Main Replacement Additional Paving Carry Over	TBD from 2022		DW20-157		Awaiting Approval	\$ 400,000	Yes	Nashua	Yes	\$ 26.63	\$ 10,652	
Booster Station Replacement/Upgrade	To be determined		DW20-157		Awaiting Approval	\$ 800,000	Yes	Nashua	Yes	\$ 26.63	\$ 21,304	
Water Main Replacement	To be determined		DW20-157		Awaiting Approval	\$ 3,700,000	Yes	Nashua	Yes	\$ 26.63	\$ 98,531	
2023 Nashua City Sewer Projects	To be determined		DW20-157		Awaiting Approval	\$ 900,000	Yes	Nashua	Yes	\$ 26.63	\$ 23,967	
Merrimack River Watershed Council	Grant Match with other Stakeholders \$40k for five years.			0.1 DSRR		\$ 40,000	No	Various	No	\$ 27.02	\$ -	
Trimble GPS and Monitoring Equipment	Level Monitors, Pressure Monitors and Flow Monitors		DW20-157		Awaiting Approval	\$ 32,000	Yes	Merrimack	No	\$ 28.86	\$ -	
Investment in Developer Services	1x Annual Revenue		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 27.02	\$ 2,432	
Replace Engineering SUV	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 30,000	Yes	Various	Yes	\$ 28.86	\$ 866	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 40,000	No	Various	Yes	\$ 28.86	\$ 1,154	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 28.86	\$ 1,154	
Well Pump replacements	Well Pump replacements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 26.23	\$ 393	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 26.23	\$ 393	
Carbon media changeout-filters 1 & 2 (Spring of 2023)	Carbon media changeout-filters 1 & 2		DW20-157		Awaiting Approval	\$ 500,000	Yes	Nashua	Yes	\$ 26.23	\$ 13,115	
Install/replace treatment systems in small CWS.	Install/replace treatment systems in small CWS.		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 26.23	\$ 393	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 26.23	\$ 525	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 26.23	\$ 525	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157		Awaiting Approval	\$ 30,000	Yes	Various	Yes	\$ 26.23	\$ 787	
Well Rehabilitation	Well Rehabilitation		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.86	\$ 1,443	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157		Awaiting Approval	\$ 10,000	Yes	Nashua	Yes	\$ 28.86	\$ 289	
Purchase new lab equipment	Purchase new lab equipment.		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	No	\$ 26.23	\$ -	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 27.02	\$ 270	
Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 65,000	Yes	Nashua	No	\$ 28.86	\$ -	
Carbon media chageout - 3 & 4 (Fall of 2023)	Carbon media chageout - 3 & 4		DW20-157		Awaiting Approval	\$ 500,000	Yes	Nashua	Yes	\$ 28.86	\$ 14,430	
Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 26.23	\$ -	
Misc Hardware	Misc Hardware			0.1 DSRR		\$ 20,000	No	Nashua	No	\$ 26.23	\$ -	
Misc Software	Misc Software			0.1 DSRR		\$ 12,000	No	Nashua	No	\$ 26.23	\$ -	
Network Hardware infrastructure improvements	Update aging network infrastructure.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	No	\$ 26.23	\$ -	
Major Software Replacement Project				0.1 DSRR		\$ 60,000	No	Nashua	No	\$ 26.23	\$ -	
Munis Enhancements	Munis Enhancements			0.1 DSRR		\$ 35,000	No	Amherst	No	\$ 28.85	\$ -	
Misc Computer replacements				0.1 DSRR		\$ 15,000	No	Nashua	No	\$ 26.23	\$ -	
Pennichuck Water Works Projected 2020 Total Capital Expenditure Budget -						\$ 10,054,000				QCPAC projects -	\$ 251,929	
Total Projected Bond funded PWW QCPAC Capex for 2021 -						\$ 9,832,000						
Total Projected NHDES SRF/DWGTf funded PWW QCPAC Capex for 2021 -						\$ -						
Total for 0.1 DSRR Projects -						\$ 222,000						
Estimated Bond Terms (Bonds to be sold in April 2022) -						30	Years @	4.0%	resulting in P&I of	\$ 568,586		

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000