

DW 20-153
PITTSFIELD AQUEDUCT COMPANY, INC.
PERMANENT RATES
SUMMARY - CALCULATION OF REVENUE REQUIREMENT FROM WATER SALES

	REVENUE REQUIREMENT PER COMPANY FILING	REVENUE REQUIREMENT PER SETTLEMENT
<u>CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)</u>		
1) City Bond Fixed Revenue Requirement (CBFRR) (Schedule 1)	\$ 147,539	\$ 147,539
<u>OPERATING EXPENSE REVENUE REQUIREMENT (OERR) (Schedule 2)</u>		
2) Total Pro Forma Operation & Maintenance Expenses	\$ 415,723	\$ 413,117
3) Pro Forma Property Tax Expense	187,462	147,931
4) Pro Forma Amortization Expense	3,086	3,086
5) Pro Forma NH Business Enterprise Tax Expense	1,258	1,740
6) Total Operating Expenses [(2) + (3) + (4) + (5)]	\$ 607,529	\$ 565,874
<u>MATERIAL OPERATING EXPENSE FACTOR (MOEF)</u>		
7) Less: Non-Material Operating Expenses (Schedule 2b)	(8,993)	(8,993)
8) Material Operating Expenses [(6) - (7)]	598,536	556,881
9) Material Operating Expense Factor (MOEF) per Settlement	x 6.00%	x 6.00%
10) MOEF Calculated Amount [(8) x (9)]	35,912	33,413
11) Operating Expense Revenue Requirement (OERR) [(6) + (10)]	\$ 643,441	\$ 599,287
<u>DEBT SERVICE REVENUE REQUIREMENT (DSRR) (Schedule 3)</u>		
12) Pro Forma Test Year Annual Debt Service	\$ 67,828	\$ 67,293
13) Debt Service Coverage Requirement	x 1.1	x 1.1
14) Debt Service Revenue Requirement (DSRR) [(12) x (13)]	\$ 74,611	\$ 74,022
15) CALCULATED REVENUE REQUIREMENT [(1) + (11) + (14)]	\$ 865,591	\$ 820,848
<u>CALCULATION OF PERCENT INCREASE (DECREASE) IN ANNUAL BASE RATE WATER REVENUES</u>		
16) Total Proposed Revenue Requirement [(15)]	\$ 865,591	\$ 820,848
17) Less: Pro Forma Test Year Other Operating Revenues (Schedule 2)	(2,663)	(2,663)
18) Total Proposed Water Revenues from Water Sales [(16) - (17)]	\$ 862,928	\$ 818,185
19) Less: Pro Forma Test Year Revenues from Water Sales (Schedule 2)	(776,144)	(775,935)
20) Proposed Increase / (Decrease) in Annual Revenues from Water Sales [(18) - (19)]	\$ 86,784	\$ 42,250
	11.18%	5.45%

**DW 20-153
 PITTSFIELD AQUEDUCT COMPANY, INC.
 PERMANENT RATES**

SCHEDULE 1 - CALCULATION OF PEU'S SHARE OF CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)

Total City Bond \$ 150,570,000
 Bond Interest Rate 4.09%
 Bond Period 30 yrs.

Total City Bond	\$	150,570,000
Less Rate Stabilization fund	\$	5,000,000
Amount of City Bond to be prorated between Utilities CBFRR	\$	<u>145,570,000</u>
PAC Share of CBFRR ⁽¹⁾		<u>1.66%</u>
PAC Prorata share	\$	2,423,594
Add back PAC Pro Rata Share of Rate Stabilization Reserve ⁽⁴⁾	\$	<u>100,000</u>
Total PAC Pro Rata Share for CBFRR/MARA	\$	<u>2,523,594</u>
Bond Interest Rate		4.09%
Bond Period		30 yrs.
PAC CBFRR Requirement	\$	<u>147,539</u>

Notes:

(1) Pro Rata Calculation as follows⁽²⁾:

PWW & Southwood Equity (12/31/2011) ⁽³⁾	\$	56,442,675	88.12%
PEU Equity (12/31/2011)	\$	6,540,063	10.21%
PAC Equity (12/31/2011)	\$	<u>1,066,353</u>	<u>1.66%</u>
	\$	<u>64,049,091</u>	<u>100.00%</u>

(2) Calculations are from DW 11-026

(3) Consists of Equity as of 12/31/2011 as follows:

PWW	\$	54,395,626
Southwood	\$	<u>2,047,049</u>
Total	\$	<u>56,442,675</u>

(4) Calculation of RSF Percentage based on Revenue requirements from DW13-126, 13-128 and 13-130:

RSF amount funded by City Bond -	\$	5,000,000	
PWW Revenue Requirement -	\$	27,689,214	per DW13-130 Settlement Agreement
PEU Revenue Requirement -	\$	6,913,261	per DW13-126 Settlement Agreement
PAC Revenue Requirement -	\$	745,186	per DW13-128 Settlement Agreement
PAC Share of RSF as a percentage -		2.11%	
PAC Share of RSF in \$\$ -	\$	100,000	

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PITTSFIELD AQUEDUCT COMPANY, INC.
PERMANENT RATES
SCHEDULE 2 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF REVENUE REQUIREMENT

	Company Proposal per Original Filing			Settlement Proposal			
	(1) 2019 Test Year Actual Operating Income	(2) Company Adjustments to Derive Permanent Rates	(3) Adjusted Test Yr Operating Income per Co' Filing (Co's Sch 1)	(4) Adj's per Settlement (Sch 2a)	(5) Pro Forma Operating Income per Settlement	(6) Revenue Increase per Settlement	(7) Revenue Requirement per Settlement
OPERATING REVENUES							
Revenues from Water Sales	\$ 771,874	\$ 4,270	\$ 776,144	\$ (209)	\$ 775,935	\$ 42,250	\$ 818,185
Other Operating Revenues	2,663	-	2,663		2,663		2,663
Total Operating Revenues	774,537	4,270	778,807	(209)	778,598	42,250	820,848
OPERATING EXPENSES							
Operation and Maintenance Expenses:							
Production Expense	131,316	1,603	132,919	(2,377)	130,542		130,542
Transmission and Distribution Expense	61,179	3,117	64,296		64,296		64,296
Customer Account and Collection Expense	15,594	(421)	15,173		15,173		15,173
Administrative and General Expense	26,789	624	27,413	(1,256)	26,157		26,157
Inter-Division Management Fee	174,537	1,385	175,922	1,027	176,949		176,949
Total Operation and Maintenance Expenses	409,415	6,308	415,723	(2,606)	413,117	-	413,117
Other Operating Expenses:							
Property Tax Expense	187,692	(230)	187,462	(39,531)	147,931		147,931
Depreciation Expense	101,572	(101,572)	-		-		-
Amortization of Contributions in Aid of Construction (CIAC)	(22,985)	22,985	-		-		-
Amortization Expense - Other	37,435	(34,349)	3,086		3,086		3,086
Total Other Operating Expenses	303,714	(113,166)	190,548	(39,531)	151,017	-	151,017
Income Tax Expense:							
Federal Income Tax Expense	11,593	(11,593)	-		-		-
State Income Tax Expense	1,936	(1,936)	-		-		-
NH Business Enterprise Tax	1,258	-	1,258	482	1,740		1,740
Total Income Tax Expense	14,787	(13,529)	1,258	482	1,740	-	1,740
Total Operating Expenses	727,916	(120,387)	607,529	(41,655)	565,874	-	565,874
Gains (Losses) from Disposition of Utility Property	1,431	(1,431)	-		-		-
NET OPERATING INCOME	\$ 48,052	\$ 124,657	\$ 171,278	\$ 41,446	\$ 212,724	\$ 42,250	\$ 254,974
CALCULATION OF REVENUE DEFICIENCY AND REQUIRED INCREASE:			PER COMPANY	SETTLEMENT ADJUSTMENTS	PER SETTLEMENT	REVENUE INCREASE	SETTLEMENT
NET OPERATING INCOME			\$ 171,278	\$ 41,446	\$ 212,724	\$ 42,250	\$ 254,974
LESS: CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)			(147,539)	-	(147,539)	-	(147,539)
LESS: MATERIAL OPERATING EXPENSE FACTOR (MOEF) CALCULATION							
TOTAL OPERATING EXPENSES			(607,529)	41,655	(565,874)	-	(565,874)
LESS: NON-MATERIAL OPERATING EXPENSES			8,993		8,993		8,993
MATERIAL OPERATING EXPENSES			(598,536)	41,655	(556,881)		(556,881)
X MATERIAL OPERATING EXPENSE FACTOR (MOEF)			x 6.00%	x 6.00%	x 6.00%	x 6.00%	x 6.00%
CALCULATED MOEF AMOUNT			(35,912)	2,499	(33,413)	-	(33,413)
LESS: DEBT SERVICE REVENUE REQUIREMENT (DSRR)							
PRO FORMA DEBT SERVICE			(67,828)	(535)	(67,293)		(67,293)
x DEBT COVERAGE REQUIREMENT			x 1.1	x 1.1	x 1.1	x 1.1	x 1.1
DEBT SERVICE REVENUE REQUIREMENT (DSRR)			(74,611)	(589)	(74,022)	-	(74,022)
CALCULATED REVENUE (DEFICIENCY) / INCREASE			\$ (86,784)	\$ 43,357	\$ (42,250)	\$ 42,250	\$ -
Revenue Requirement Component Summary:							
City Bond Fixed Revenue Requirement (CBFRR): \$ 147,539							
Operating Expense Revenue Requirement (OERR) including MOEF:							
Total O & M Expenses \$ 413,117							
Property Tax Expense 147,931							
Amortization Expense 3,086							
NH Business Enterprise Tax 1,740							
Total Operating Expenses 565,874							
Less: Non-Material Operating Expenses (8,993)							
Material Operating Expenses 556,881							
Material Operating Expense Factor (MOEF) x 6.00%							
Calculated MOEF Amount <u>33,413</u> 599,287							
Debt Service Revenue Requirement (DSRR):							
Pro Forma Debt Service \$ 67,293							
Debt Service Coverage Requirement x 1.1 <u>74,022</u>							
Total Permanent Rate Revenue Requirement: <u>\$ 820,848</u>							

DW 20-153
PITTSFIELD AQUEDUCT COMPANY, INC.
PERMANENT RATES
SCHEDULE 2a - OPERATING INCOME ADJUSTMENTS PER SETTLEMENT

OPERATING REVENUES

Revenues from Water Sales:

1	5-Year Average Revenues:	Staff 2-22	\$ (209)
TOTAL ADJUSTMENTS - OPERATING REVENUES			<u>\$ (209)</u>

OPERATING EXPENSES

OPERATION AND MAINTENANCE EXPENSES

Production Expense:

2	Purchased Power Expense:	Staff 2-21	\$ (25)
3	Maintenance: Water Treatment Equipment	Staff 3-8	<u>(2,352)</u>
Total Adjustments - Production Expenses			<u>(2,377)</u>

Administrative and General Expenses:

4	Insurance Expense:	Staff 2-12	(1,278)
5	Regulatory Commission Expense:	Staff 2-15	<u>22</u>
Total Administrative and General Expenses			<u>(1,256)</u>

Inter-Division Management Fee:

6	Non-Union Salary & Wages:	Staff 1-35	\$ 2,818
7	Non-Union Salary & Wages:	Staff 2-13	10
8	Non-Union Salary & Wages:	Staff 3-9	<u>34</u> 2,862
9	Health Retirement & Pension Expenses:	Staff 1-29	3,479
10	Tier 1 Management Fee Expense Allocation:	Staff 2-17	(5,216)
11	Tier 1 Management Fee Expense Allocation:	Staff 3-6	<u>(98)</u> (5,314)
Total Inter-Division Management Fee			<u>1,027</u>

TOTAL ADJUSTMENTS - OPERATION AND MAINTENANCE EXPENSES			<u>(2,606)</u>
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OTHER OPERATING EXPENSES

12	Property Tax Expense:	Staff 3-5	<u>(39,531)</u>
TOTAL ADJUSTMENTS - OTHER OPERATING EXPENSES			<u>(39,531)</u>

INCOME TAX EXPENSE

13	NH Business Enterprise Tax:	Staff 1-34	<u>482</u>
TOTAL ADJUSTMENTS - INCOME TAX EXPENSE			<u>482</u>

TOTAL ADJUSTMENTS - OPERATING EXPENSES			<u>\$ (41,655)</u>
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NET OPERATING INCOME ADJUSTMENTS			<u>\$ 41,446</u>
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**DW 20-153
 PITTSFIELD AQUEDUCT COMPANY, INC.
 PERMANENT RATES
 SCHEDULE 2b - NON-MATERIAL OPERATING EXPENSES**

Acct No.	Description	Per Co's 2019 Gen'l Ledger	Pro Forma Adj's per Co's Filing	Pro Forma Balance per Co's Filing	Pro Forma Adj's per Settlement	Pro Forma Balance per Settlement
923000	OUTSIDE SERVICES	\$ 8,973	\$ -	\$ 8,973	\$ -	\$ 8,973
930200	PUBLIC RELATIONS	20	-	20	-	20
930300	MEALS	-	-	-	-	-
930410	CHARITABLE CONTRIBUTIONS	-	-	-	-	-
	TOTAL NON-MATERIAL OPERATING EXPENSES	\$ 8,993	\$ -	\$ 8,993	\$ -	\$ 8,993

DW 20-153
PITTSFIELD AQUEDUCT COMPANY, INC.
PERMANENT RATES
SCHEDULE 3 - PRO FORMA TEST YEAR DEBT SERVICE

Docket No.	Order No.	Order Date	Holder	Term	Maturity	Int Rate	OUTSTANDING DEBT	PRO FORMA PRINCIPAL PAYMENTS				PRO FORMA INTEREST PAYMENTS				PRO FORMA DEBT SERVICE PER CO FILING	PRO FORMA DEBT SERVICE PER SETTLMNT			
								2019 Principal Payments	Pro Forma Adj's per Co Filing	Pro Forma Princ Pmts per Co Filing	Adjustments per Settlement	Pro Forma Princ Pmts per Sett'l'mnt	2019 Interest Payments	Pro Forma Adj's per Co Filing	Pro Forma Int Pmts per Co Filing			Adjustments per Settlement	Pro Forma Int Pmts per Sett'l'mnt	
PRO FORMA TEST YEAR DEBT:																				
Outstanding Debt at 12/31/2019:																				
DW 16-235	25,888	04/27/16	State of NH SRF: Catamount Road	30	04/30/48	1.960% (14)	\$ 164,458	\$ 2,443	\$ 113	\$ 2,556		\$ 2,556	\$ 3,265	\$ (77)	\$ 3,188		\$ 3,188	\$ 5,744	\$ 5,744	
Intercompany Debt:																				
DW 18-033	26,125	04/30/18	Pennichuck Corporation	30	05/31/48	3.200%	1,147,728	24,111	-	24,111		24,111	37,973		37,973	(535) (15)	37,438	62,084	61,549	
PRO FORMA TEST YEAR TOTALS							\$ 1,312,186	\$ 26,554	\$ 113	\$ 26,667	\$ -	\$ 26,667	\$ 41,238	\$ (77)	\$ 41,161	\$ (535)	\$ 40,626	\$ 67,828	\$ 67,293	

Adjustments:

(14) The Company's original filing indicated the interest rate of the State of NH SRF: Catamount Road Loan was 3.168%. The Company's response to Staff 1-40 indicated the correct interest rate of this loan is 1.96%.

(15) Adjustment per Company's response to Staff 3-7.

**DW 20-153
 PITTSFIELD AQUEDUCT COMPANY, INC.
 PERMANENT RATES
 SCHEDULE 4 - REPORT OF PROPOSED RATE CHANGES**

Rate or Class of Service	Effect of Proposed Change	Average Number Customers	Pro Forma Test Year Revenues	Change in Annual Revenues		
				Proposed Distribution of Revenue Requirement	Permanent Rate Change in Annual Revenues	
					Amount	% Increase
G-M	Increase	630	\$ 571,064	\$ 602,159	\$ 31,095	5.45%
Private FP	Increase	12	29,067	30,650	1,583	5.45%
FP - Hydrants	Increase	1	175,804	185,377	9,573	5.45%
Revenues from Water Sales	Increase	643	775,935	818,185	42,250	5.45%
Other Operating Revenues	No Change	-	2,663	2,663	-	0.00%
Total Operating Revenues	Increase	643	\$ 778,598	\$ 820,848	\$ 42,250	5.43%

Pennichuck East Utilities
DW17-128
Calculation of Rate Stabilization Funds

Pittsfield Aqueduct Company
MOEF and RSF Analysis
Revised per Staff DR1's, DR2's and DR3's Staff 3-9
6/11/21

Settlement Attachment B_DLW Exhibit 1

PAC Proforma Test Year 2019						
Proformed Revenue Requirement ^{1,2} - \$ 820,848						
Material Operating Expense Revenue Requirement, inclusive of						
	CBFRR	MOEF	Operating Expense Revenue Requirement ⁶	1.0 Debt Service Revenue Requirement	0.1 Debt Service Revenue Requirement	
Revenue Requirement ² -	\$ 147,539	\$ 590,295	\$ 8,993	\$ 67,293	\$ 6,729	
Percentage of Revenues -	17.97%	71.91%	1.10%	8.20%	0.82%	
Years coverage -	3	13,314	155,449	6,073	-	
Requested Rate Stabilization Fund by Revenue Category with no MOEF ^{3,4} -	\$ 13,000	\$ 155,000	No Stabilization Fund	\$ 6,000	No Stabilization Fund	
Requested Rate Stabilization Fund with MOEF -	\$ 13,000	\$ 81,000		\$ 6,000		
Based on largest negative variance from five year ave of -	6.44%					

Increase in Material Operating Expenses of 3.00% per year based on average increase of these expenses per year between 2015 and 2019. See Table below for calculation.

Requested MOEF -	6.00%
Rate increase @ requested MOEF -	5.45%
Annual MOEF Cash -	\$ 33,413
Requested RSF funds with no MOEF -	\$ 174,000
Requested RSF funds with MOEF -	\$ 100,000
MOERR from 1604.06 Sch A -	\$ 556,882

	2015 PAC Billed Revenue	2016 PAC Billed Revenue	2017 PAC Billed Revenue	2018 PAC Billed Revenue	2019 PAC Billed Revenue
Total Volumetric Charges	\$ 352,014	\$ 376,291	\$ 368,712	\$ 368,856	\$ 356,896
Total Meter Charges	\$ 223,994	\$ 211,437	\$ 212,466	\$ 211,604	\$ 213,224
Total Fire Protection - Public & Private (fixed)	\$ 200,317	\$ 200,363	\$ 204,787	\$ 204,871	\$ 204,871
Total Billed Revenue (does not include Total Other Revenues)	\$ 776,325	\$ 788,091	\$ 785,965	\$ 785,332	\$ 774,991
Total Other Revenues	\$ (15,792)	\$ 835	\$ 6,127	\$ 6,227	\$ (454)
Total Annual Revenues inclusive of Total Other Revenues	\$ 760,533	\$ 788,926	\$ 792,092	\$ 791,559	\$ 774,537
% of Revenues that are variable	46.3%	47.7%	46.5%	47.0%	46.1%
% of Revenues that are fixed	53.7%	52.3%	53.5%	53.0%	53.9%

Average percentage of revenues that were variable during the previous 5 years - 46.7%

Expense Type	2013 PEU Actual Variable Expenses	2014 PEU Actual Variable Expenses	2017 PEU Actual Variable Expenses	2018 PEU Actual Variable Expenses	2019 PEU Actual Variable Expenses
Electric	\$ 4,409	\$ 4,471	\$ 5,013	\$ 5,157	\$ 8,032
Chemicals	\$ 7,123	\$ 5,256	\$ 7,931	\$ 7,025	\$ 5,382
Total Variable Costs	\$ 11,532	\$ 9,727	\$ 12,944	\$ 12,182	\$ 13,414
Variable Expenses as a Percent of Total Revenues	1.49%	1.23%	1.65%	1.55%	1.73%

	2015 Actual CCF's sold by PAC	2016 Actual CCF's sold by PAC	2017 Actual CCF's sold by PAC	2018 Actual CCF's sold by PAC	2019 Actual CCF's sold by PAC
Annual Metered Sales (CCF)	52,620	58,012	57,018	57,011	55,382
Percentage Variance between Current and High Consumption Year	-10.25%	0.00%	-1.74%	-1.76%	-4.75%
Average Consumption (CCF) over the past five years	56,009				
Variance between current and 5 Yr Ave Consumption	-6.44%	3.45%	1.77%	1.76%	-1.13%

Largest percentage reduction in volumetric sales at PAC of	6.44%	over the past five years from the five year average of volumetric sales
Results in a Revenue loss of	\$ 22,983	
Results in an Operating Expense reduction of	\$ 864	
Results in an Operating Income reduction of	\$ 22,119	

Calculation of Annual Material Operating Expense Adjustment Percentage

	2015 PAC Material Operating Expenses	2016 PAC Material Operating Expenses	2017 PAC Material Operating Expenses	2018 PAC Material Operating Expenses	2019 PAC Material Operating Expenses	Increase in Operating Expense over the past four years	Average annual increase in Operating Expenses over the past four years	Increase in Operating Expense between 2018 and 2019
Production Expenses ⁷	\$ 111,170	\$ 98,386	\$ 116,764	\$ 128,290	\$ 131,316	18.12%	4.25%	2.36%
Transmission & Distribution Expenses	\$ 64,630	\$ 70,985	\$ 82,996	\$ 73,811	\$ 61,179	-5.34%	-1.36%	-17.11%
Customer Acct & Collection Exp	\$ 13,846	\$ 14,814	\$ 18,126	\$ 12,552	\$ 15,594	12.63%	3.02%	24.24%
Administrative & General Expense	\$ 31,900	\$ 17,877	\$ 19,654	\$ 23,978	\$ 26,789	-16.02%	-4.27%	11.72%
Inter Div Management Fee	\$ 133,199	\$ 157,305	\$ 172,080	\$ 183,320	\$ 174,537	31.03%	6.99%	-4.79%
Amortization Expense	\$ 3,583	\$ 3,161	\$ 3,088	\$ 3,088	\$ 3,086	-13.87%	-3.66%	-0.06%
Property Taxes	\$ 161,883	\$ 238,923	\$ 211,656	\$ 181,659	\$ 187,692	15.94%	3.77%	3.32%
Federal and State Income Taxes	\$ -	\$ -	\$ -	\$ 28,406	\$ 1,258			
Less NOERR Expenses	\$ 2,129	\$ 893	\$ 1,317	\$ 2,617	\$ 8,993			
Total Annual MOERR Expenses	\$ 518,082	\$ 600,558	\$ 623,047	\$ 632,486	\$ 592,459	14.36%	3.41%	-6.33%
Less variable expenses for the year	\$ 11,532	\$ 9,727	\$ 12,944	\$ 12,182	\$ 13,414	16.32%	3.85%	10.11%
Total Annual MOEs less variable expenses	\$ 506,550	\$ 590,831	\$ 610,103	\$ 620,304	\$ 579,045	14.31%	3.40%	-6.65%
Total Percentage Increase in Fixed Material Operating Expenses over the past four years -						14.31%		
Total Percentage Increase in Fixed Material Operating Expenses over the past three years -								-1.99%
Average annual increase in Material Operating expenses over the past four years -								3.40%
Average annual increase in Material Operating expenses over the past three years -								-0.67%

Calculation of MOER RSF, based on increase in MOE's over the past 5 years		
	Increased Operating Expenses	Revenue Shortfall
Yr 1 -	\$ 16,706	\$ 17,730
Yr 2 -	\$ 33,914	\$ 17,730
Yr 3 -	\$ 51,638	\$ 17,730
	\$ 102,259	\$ 53,191
Totals -	\$ 155,449	

Projected MOERR Revenues	Projected MOERR Expenses	Transfer into/out of MOER RSF Account	MOER RSF Balance
			\$ 81,000
\$ 590,295	\$ 573,588	\$ 16,706	\$ 97,706
\$ 590,295	\$ 590,796	\$ (501)	\$ 97,205
\$ 590,295	\$ 608,520	\$ (18,225)	\$ 78,980

Notes:

- Based on Debt Service Multiplier of 1.10 per Sch A of 1604.06 schedules.
- Revenue requirements per Sch A of 1604.06 schedules
- Requested Rate Stabilization fund for Operating Expense and P & I Coverage each have a contingency of 0% based on % of PAC revenues (2012 Case) to % of all three regulated utilities revenues (2012 TY Cases) or \$ 100,000
- PAC share of the \$5,000,000 RSF for distribution to the RSF, MOERSF and the P&IRSF is⁵ 2.11%
- Calculation of RSF Percentage based on Revenue requirements from DW13-126, 13-128 and 13-130
- For Calculation of Operating Expense Requirement see DLW Exhibit 1.1
- Production expenses for 2015 and 2016 are the production expenses from 2013 and 2014 to eliminate the impact of the extra production that occurred in 2015 and 2016 due to leakage.

PWW Revenue Requirement -	\$ 27,689,214	per DW13-130 Settlement Agreement
PEU Revenue Requirement -	\$ 6,913,261	per DW13-126 Settlement Agreement
PAC Revenue Requirement -	\$ 745,186	per DW13-128 Settlement Agreement
Total Utility Revenue Requirement -	\$ 35,347,661	

Narrative and Discussion of the of the Rate Stabilization Fund and associated Fixed Revenue Restricted Cash accounts, as modified from the definition and guidance provided in DW 11-026

In DW 16-806 Pennichuck Water Works (“PWW”) proposed that the \$5,000,000 City Bond Fixed Revenue Requirement Rate Stabilization Fund (“CBFRR RSF”) maintained by PWW, which was established under the Original Rate Structure in DW 11-026, should be re-allocated amongst the three Pennichuck Corporation Utilities, PWW, Pennichuck East Utility, Inc. (“PEU”), and Pittsfield Aqueduct Company (“PAC” or the “Company”) utilities such that PWW’s allocated share of the CBFRR RSF would be \$3,920,000, PEU’s allocated share of the CBFRR RSF would be \$980,000, with the remaining balance of \$100,000 of the CBFRR RSF being allocated to PAC.

The allocation of the \$5,000,000 CBFRR RSF between the three utilities is based on the revenue requirements established for each utility in DW13-126, DW13-128 and 13-130 divided by the total revenue requirement of all three utilities as established in those dockets. As part of this docket PAC proposes to bifurcate and allocate its share of the CBFRR RSF account of \$100,000 into three separate Rate Stabilization Funds or “buckets.” The purpose for splitting and allocating PAC’s share of the existing CBFRR RSF is to provide reserves which will ensure that during periods of reduced revenue (such as during period of wet weather resulting in decreased usage) and or increasing operating expenses that there will be sufficient cash to enable the Company to support its operations.

Under the new structure, PAC’s overall revenue requirement is proposed to consist of the following three components:

1. City Bond Fixed Revenue Requirement (CBFRR) as described in the Original Rate Structure.
2. Operating Expense Revenue Requirement (OERR) which is further composed of the following:
 - a) Material Operating Expense Revenue Requirement (MOERR).
 - b) Non-Material Operating Expense Revenue Requirement (NOERR).
3. Debt Service Revenue Requirement (DSRR) which is further composed of the following:
 - a) Debt Service Revenue Requirement - 1.0 (DSRR-1.0)
 - b) Debt Service Revenue Requirement - 0.1 (DSRR-0.1)

Attached following this narrative are flowcharts describing these requirements and how funds flow to and from each account created for each component.

This new revenue allocation will establish the following reserve stabilization funds:

1. The first fund will remain with the same purpose as the RSF, which was put in place as authorized and described in DW 11-026, for PWW, with access to by PAC. This will be renamed as the CBFRR RSF, which is being created to ensure the Company's ability to meet its obligations under the promissory note to the City. This reserve fund will operate in the same manner as originally established and authorized in DW 11-026 and is proposed as an imprest sum of \$13,000.
2. The second fund will establish a Material Operating Expense Revenue Requirement RSF ("MOERR RSF"). This account will be funded with \$81,000 from the \$100,000 of the original CBFRR RSF funds allocated to PAC. It would serve to provide rate stabilization and cash flow coverage for operating expenses between permanent rate filings. The monies in this fund will only be used to provide cash flow for allowable expenses; defined as PAC's Operation and Maintenance Expenses, Property Tax Expense and Amortization Expense.
3. The third fund will establish a Debt Service Revenue Requirement Rate Stabilization Fund ("DSRR-1.0 RSF"), consisting of a separate restricted cash account. This DSRR- 1.0 RSF¹ would be established as a fund used to support the payments related to the principal and interest obligations for PAC, in existence as of the most recent rate case test year. The establishment of this DSRR-1.0 RSF bucket is to allow the collection of revenues sufficient to pay the principal and interest of PAC's debt and to satisfy the debt service coverage ratio requirements of PAC's financings and Pennichuck Corporation's covenant requirements of its working capital line of credit, which is used by Pennichuck Corporation and its subsidiaries as a "back stop" to short-term working capital needs. This account will be funded with \$6,000, from the original \$100,000 of the original CBFRR RSF funds allocated to PAC.

¹ A second DSRR component will be created that is equal to 10% of the pro forma debt service payments for the test year and shall be referred to as the "DSRR-0.1." The establishment of the DSRR-1.0 relates to the use and replenishment of the DSRR-1.0 RSF. The intended purposes for the establishment of the DSRR-0.1 are 1) to allow for the collection of revenues sufficient to satisfy the debt service coverage ratio requirements of PAC's bond financings and Penn Corp's covenant requirements for its line of credit, which is used by Pennichuck Corporation and its subsidiaries as a "back stop" for short-term capital needs; and 2) to allow PAC to collect revenues over-and-above its actual debt service in order to comply with cash flow coverage requirements which are typical for such financings as well as to meet obligations on new debt incurred between rate filings. The DSRR-0.1 component does not have its own rate stabilization fund.

Methodologies and Procedures for PAC Rate Stabilization Funds

The following paragraphs present the methodologies and procedures that will apply to the establishment of the three Rate Stabilization Funds at PAC. The funds are described as follows:

1. City Bond Fixed Revenue Requirement Rate Stabilization Fund (CBFRR RSF)

This account will remain in the same structure as it had been, the amount in this RSF will be \$13,000. To facilitate accountability related to the CBFRR RSF, PAC will establish and maintain a separate restricted cash bank account (CBFRR Checking Account) which will consist of funds maintained for the CBFRR RSF. The purpose of the CBFRR RSF is to provide a cash reserve to be accessed or replenished based upon the amount in the CBFRR Checking Account. The CBFRR RSF may only be accessed if necessary to supplement the amount recorded in the CBFRR Checking Account for PAC to meet its portion of the monthly note payment obligation to the City and/or its quarterly standard dividend payment to the City, both as approved under DW 11-026 (i.e. if the monthly amount accrued to the CBFRR Checking Account is less than PAC's approved monthly CBFRR amount to the City). The cash amount will only be used for the payment of the CBFRR and will be reconciled monthly. Conversely, PAC will deposit additional funds in the CBFRR RSF Account when it accumulates cash in the CBFRR Checking Account in excess of the amount needed to meet its monthly and quarterly obligations to the City. At the time of each PAC rate case, the PAC CBFRR RSF Account will be subject to replenishment or reduction to an amount equal to the original balance of \$13,000. The replenishment or reduction amount will be reflected in PAC rates through a deferred debit or credit amortized over a three- year period.

2. Material Operating Expense Revenue Requirement Rate Stabilization Fund (MOERR RSF)

PAC will establish a MOERR RSF in the amount of \$81,000, initially funded via a transfer of funds in such amount from the original CBFRR RSF. This account will be used to fund cash flow needs related to allowable expenses (as defined above) which amount to costs of approximately 99.9% of the operating expenses of the Company, excluding interest expense. To facilitate accountability related to the MOERR RSF, PAC will establish and maintain a separate restricted cash bank account, known as the MOERR Checking Account. This fund will operate as an imprest fund from which funds could be drawn upon or deposited into on a monthly basis, based upon anomalies in the specified and covered operating expenses, as well as revenue fluctuations above or below levels. It would serve to provide rate stabilization and cash flow coverage for operating expenses between permanent rate filings. At the time of each PAC rate case, the MOERR RSF will be subject to replenishment or reduction to an amount equal to the original balance of \$81,000. The replenishment or reduction amount will be reflected in PAC rates through a deferred debit or credit amortized over a three-year period.

3. Debt Service Revenue Requirement 1.0 Rate Stabilization Fund (DSRR-1.0 RSF)

PAC will establish a DSRR-1.0 RSF in the amount of \$6,000, initially funded via a transfer of funds in such amount from the original CBFRR RSF. The DSRR-1.0 RSF will be used to ensure

that, even in adverse revenue conditions such as wet weather, there will be a sufficient cash reserve available to enable PAC to pay the debt service obligations on its long-term debt. To facilitate accountability related to the DSRR-1.0 RSF, PAC will establish and maintain a separate restricted cash bank account, known as the DSRR-1.0 RSF Account. This fund will operate as an imprest fund from which funds could be drawn upon if needed based upon the cash flow requirements to meet principal and interest payment obligations on outstanding debt and in meeting its debt covenant requirements. It would serve to provide adequate cash flow coverage for debt servicing between permanent rate filings. At the time of each PAC rate case, the PAC DSRR-1.0 RSF will be subject to replenishment or reduction to an amount equal to the established original balance of \$6,000. The replenishment or reduction amount will be reflected in PAC rates through a deferred debit or credit amortized over a three-year period.

4. CBFRR, DSRR-1.0, DSRR-0.1 and MOERR Bank Accounts

PAC will establish three new restricted checking accounts in addition to the existing CBFRR Checking Account; the DSRR-1.0 Checking Account, the DSRR-0.1 Checking Account, and the MOERR Checking Account. These accounts will have funds transferred into them from the main operating cash account of PAC on a weekly basis, based upon weekly cash collections for billed water revenues, for their pro-rata shares of the overall allowed revenue requirement. This is a consistent methodology to the accepted methodology established for the CBFRR account in DW 11-026.

Roadmap for Usage, Replenishment and Accounting for the Rate Stabilization Funds and the Associated Revenue Requirement Components

1. Funding of Stabilization Funds Based Upon Allocation of Revenue Requirement

In conformity with the manner in which the RSF fund established under DW 11-026 is funded or utilized, each of the Rate Stabilization Fund Restricted Cash accounts described above (CBFRR RSF, DSRR-1.0 RSF, MOERR RSF) will have money transferred into them, or withdrawn from them on a monthly basis based upon the actual monthly revenue performance, compared to 1/12 of the annual allowed revenue from the most recent rate case for the Company. If in any month, the actual revenues earned are less than 1/12 of the annual allowed revenue requirement, the pro-rata share of the deficit applicable to each of the RSF accounts will be extracted from each of the RSF accounts and transferred to the Company's main operating accounting. Conversely, if in any month, the actual revenues earned are in excess of 1/12 of the annual allowed revenue requirement, the pro-rata share of the excess applicable to each of the RSF accounts will be deposited into each of the RSF accounts from the Company's main operating account.

2. Weekly Deposits into the Revenue Requirement Restricted Checking Accounts (CBFRR, DSRR-1.0, and DSRR-0.1, MOERR)

In conformity with the manner in which the CBFRR account methodology was established under DW 11-026, on a weekly basis, the pro-rata share of cash collections on total revenues for each of these revenue accounts will be transferred from the Company's main operating cash account, into each of the respective restricted checking accounts.

3. Usage of Funds in the Revenue Requirement Restricted Checking Accounts (CBFRR, DSRR-1.0, DSRR-0.1, MOERR)

a. As payments are due to the City of Nashua for the monthly note payment and/or the quarterly required dividend in support of the full CBFRR requirement, these payments will be made out of the CBFRR Checking Account, as established under DW 11-026. To the extent there are insufficient funds in the CBFRR Checking Account to make these payments; funds will be transferred into the CBFRR Checking Account from the Company's main operating account to fund these payments. To the extent that funds in the CBFRR Checking Account are in excess of the monthly payment need (and/or quarterly dividend need, in the month paid), the excess funds will be transferred back into the main operating account.

b. On a monthly basis, the actual Material Operating Expenses, as defined above, for that month will be compared to the monthly revenue requirement provided from the MOERR portion of the last allowed revenue requirement, from the most recent rate case. To the extent that the identified expenses under the MOERR, for the month, are in excess of the pro-rata revenue allowance for these expenses, money will be transferred out of the MOERR Checking Account to the main operating account. To the extent that the identified expenses under the

MOERR, for the month, are less than the pro-rata revenue allowance for these expenses, money will be transferred to the MOERR Checking Account from the main operating account.

c. As payments are due to all other external debt holders of the Company on a monthly, quarterly, or semi-annual basis, these payments will be made out of the DSRR-1.0 Checking Account, consistent with the methodology for the CBFRR account under DW 11-026. To the extent there are insufficient funds in the DSRR-1.0 Checking Account to make these payments; funds will be transferred into the DSRR-1.0 Checking Account from the main operating account. And, to the extent that there are excess funds in the DSRR Checking Account, the excess funds will be transferred back to the Company's main operating account.

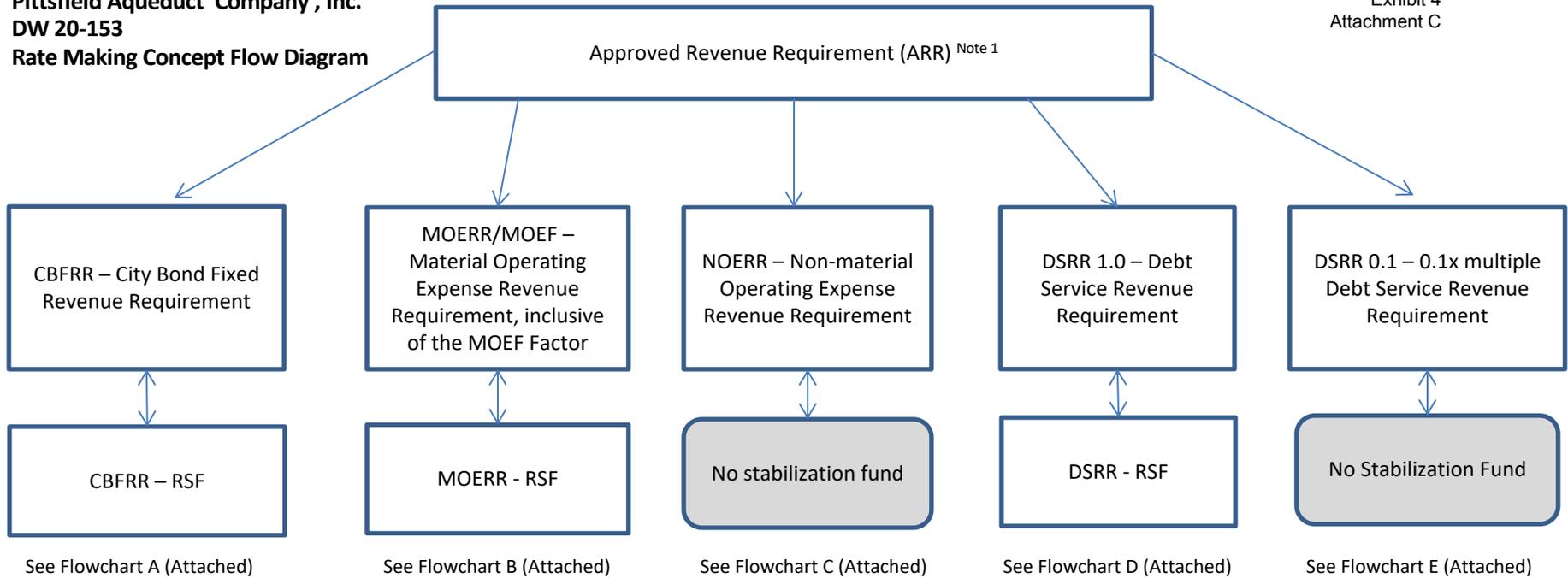
i. The monthly payment funding obligation will be based upon, and equal to the following:

1. The sum of all monthly debt service payment obligations in the aggregate;
2. 1/3 of the sum of all quarterly debt service payment obligations in the aggregate for the quarter; and
3. And 1/12 of the sum of all semi-annual debt service obligations in the aggregate for the fiscal year.

d. The funds that accumulate in the DSRR-0.1 Checking Account will be considered on an annual basis, at the end of each fiscal year. The accumulated funds in this account as of the close of each year-end will be utilized as the funding source for capital expenditure needed in the first months of the succeeding year, leading up to an annual bonding or financing event in support of capital expenditures for that succeeding year.

4. **Accounting for the CBFRR, DSRR-1.0 and MOERR Allocation Amounts**

In conformity with the methodology established in DW 11-026 for the CBFRR account, monthly accounting will be prepared by the Company, to establish and calculate the actual revenue performance versus the allowed revenue levels, on a monthly basis. These calculations will be the basis for the transfer of cash into and out of the Rate Stabilization funds for each fiscal month end. At each successive rate case, the excess or deficit in the CBFRR RSF, DSRR-1.0 RSF, and MOERR RSF, will be refunded to or collected from ratepayers over the succeeding three years, in the form of a Deferred Credit or Deferred Debit on the books of the Company, as established in that successive rate case proceeding.

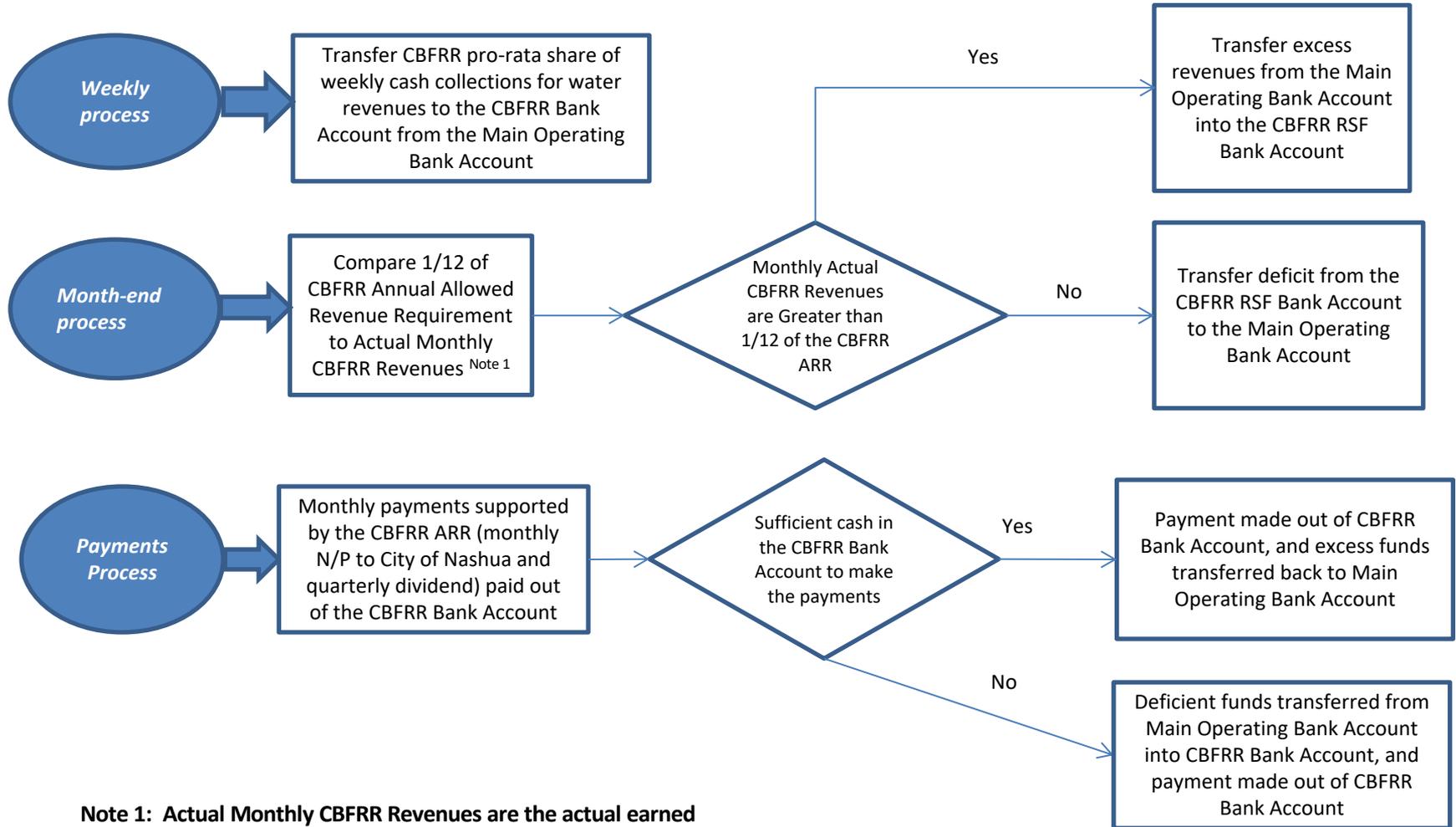


Note 1 – The Approved Revenue Requirement equals the annual revenue requirement established at the most recent rate case. This ARR is divided amongst the component Revenue Requirement items into the identified CBFR, MOERR/MOEF, NOERR, DSRR-1.0 and DSRR 0.1 revenue “buckets.”

Pittsfield Aqueduct Company, Inc. - DW 20-153
Definition of Terms

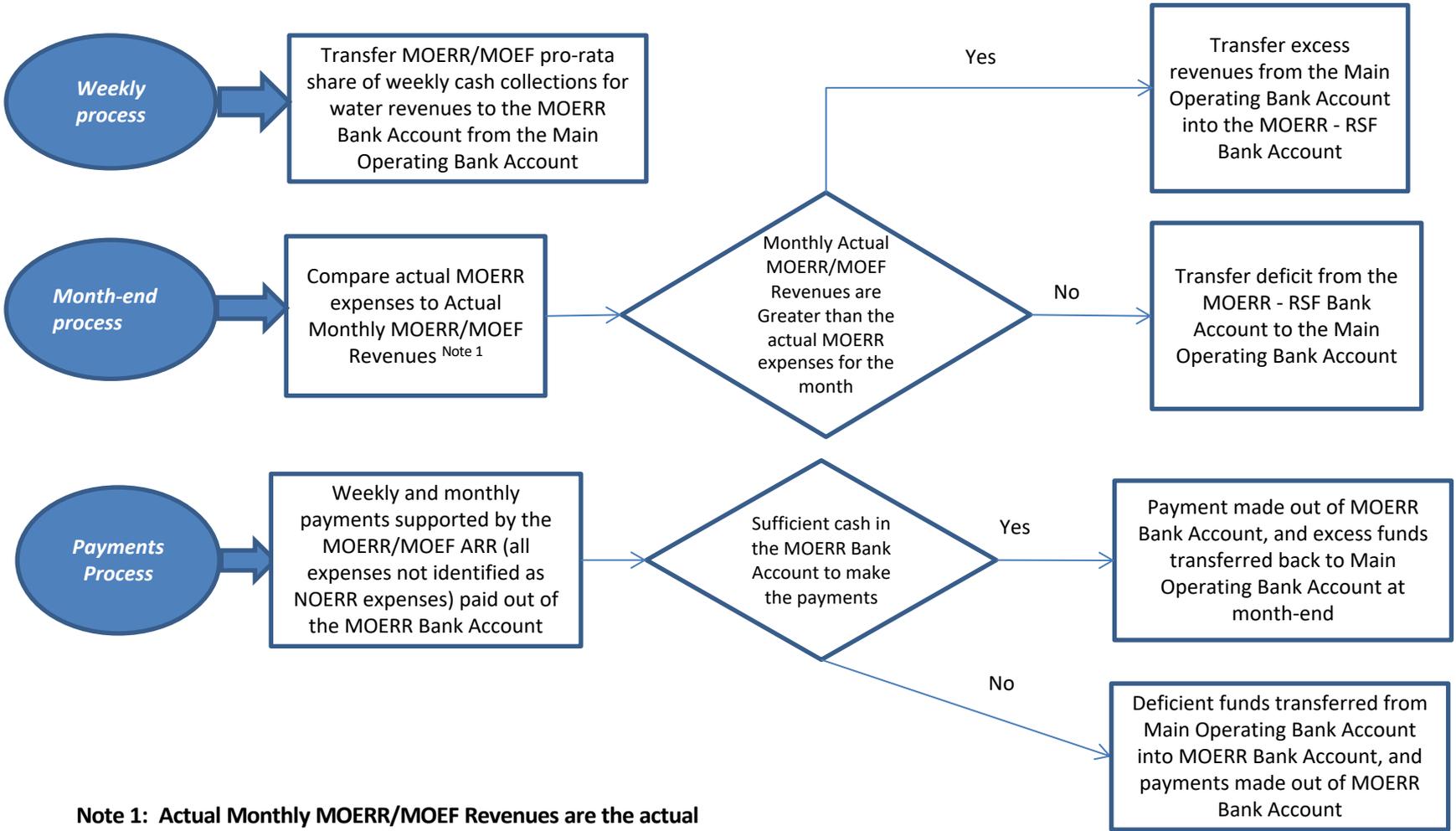
- **Approved Revenue Requirement:** equals the annual revenue requirement established at the most recent rate case. This ARR is divided amongst the component Revenue Requirement items, inclusive of the annual QCPAC surcharge increase allocated amounts, into the identified CBFRR, OERR and DSRR revenue “buckets.”
- **Actual Revenues and Actual Expenses:** In all cases with regards to the flowcharts and processes included on Flowcharts A thru E, Actual Revenues and Actual Expenses are on a GAAP basis, inclusive of accrued amounts.
- **CBFRR RSF:** Same as the former RSF as authorized and described in DW 11-026 and reaffirmed in DW 16-806. Allows for the maintenance of stable water utility rates, while providing a mechanism to ensure the Company’s ability to meet its obligations under the promissory note to the City.
- **MOERR RSF:** Funds used to provide cash flow for allowable expenses, defined as PAC’s Operation and Maintenance Expenses (less those in the NOERR), Property Tax Expense, Payroll Tax Expense, and Amortization Expense.
- **MOEF and MOERR/MOEF:** The MOEF is a factor embedded in the calculation of overall allowed revenues allocated to the MOERR portion of those revenues from the Company’s last rate case. This factor is included in the pro-rata allocation of allowed revenues by multiplying the allowed MOERR portion of the OERR revenues by a factor inclusive of the allowed MOEF. It calculated as:
 - $(\text{MOERR allowed revenues}) \times (1 + \text{MOEF}) = \text{MOERR/MOEF allowed revenues.}$
- **NOERR:** Funds expenses that are potentially imprudent expenditures within the context of a rate proceeding. The categorization of an expense item in the NOERR does not preclude PAC’s recovery of such in rates, as long as that expense item is found to be prudently incurred within the pro forma test year. They may not, however, be included in any use of or replenishment from the MOERR RSF.
- **DSRR-1.0 RSF:** used to support the payments related to the principal and interest obligations for PAC, in existence as of the most recent rate case test year. The establishment of this DSRR-1.0 RSF bucket is to allow the collection of revenues sufficient to pay the principal and interest of PAC’s debt and to satisfy the debt service coverage ratio requirements of PAC’s bond financings and Pennichuck Corporation’s covenant requirements of its line of credit, which is used by Pennichuck Corporation and its subsidiaries as a “back stop” to short-term working capital needs.
- **DSRR-0.1:** The intended purposes for the establishment of the DSRR-0.1 are 1) to allow for the collection of revenues sufficient to satisfy the debt service coverage ratio requirements of PAC’s bond financings and Pennichuck Corporation’s covenant requirements for its line of credit, which is used by Pennichuck Corporation and its subsidiaries as a “back stop” for short-term capital needs; and 2) to allow PAC to collect revenues over-and-above its actual debt service in order to comply with cash flow coverage requirements which are typical for such financings.

**Pittsfield Aqueduct Company, Inc. - DW 20-153
Rate Making Concept Flow Diagram - Flowchart A**

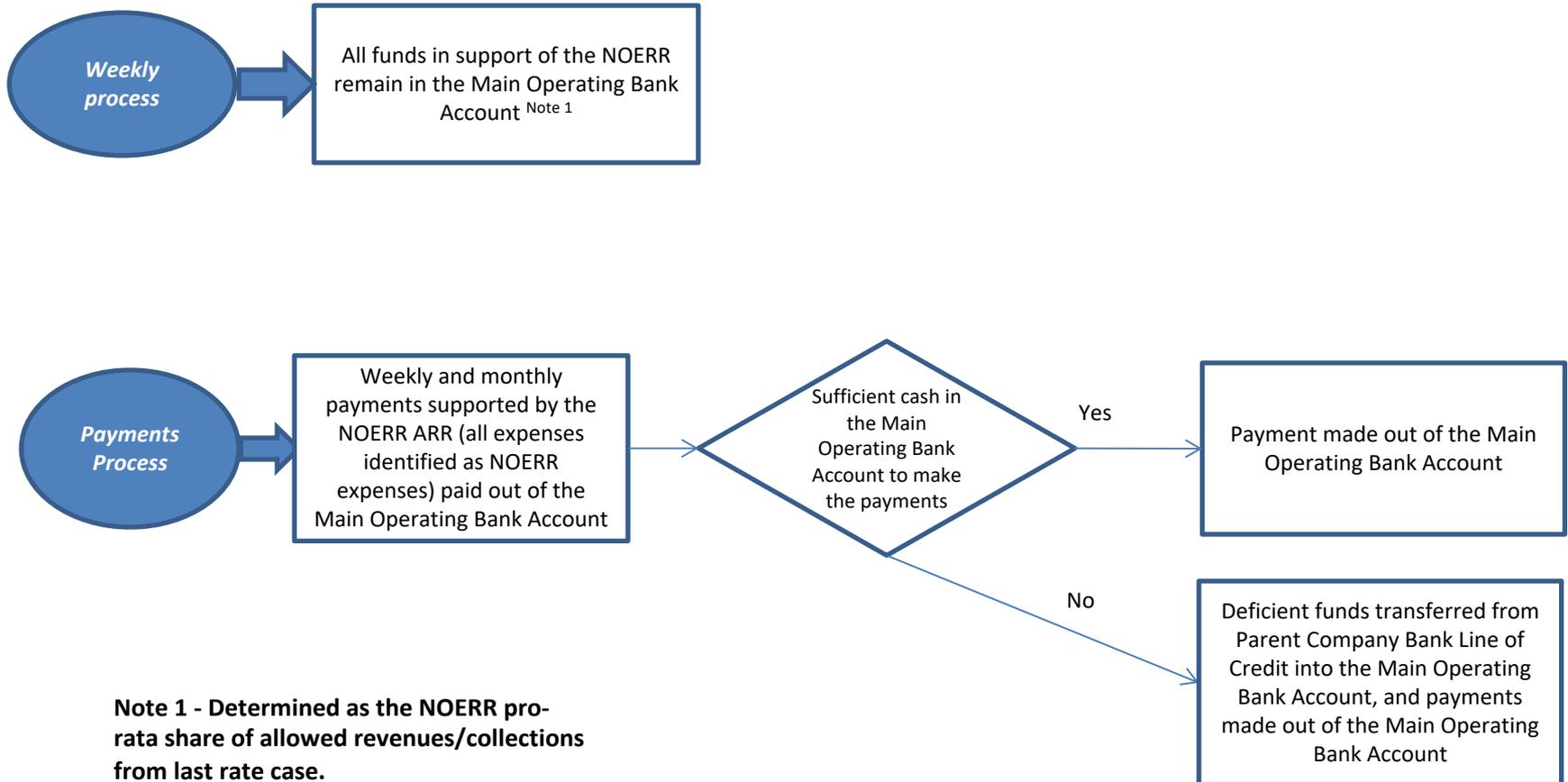


Note 1: Actual Monthly CBFRR Revenues are the actual earned water revenues in the month multiplied times the pro-rata percentage of revenues allocated to the CBFRR, per the last rate case.

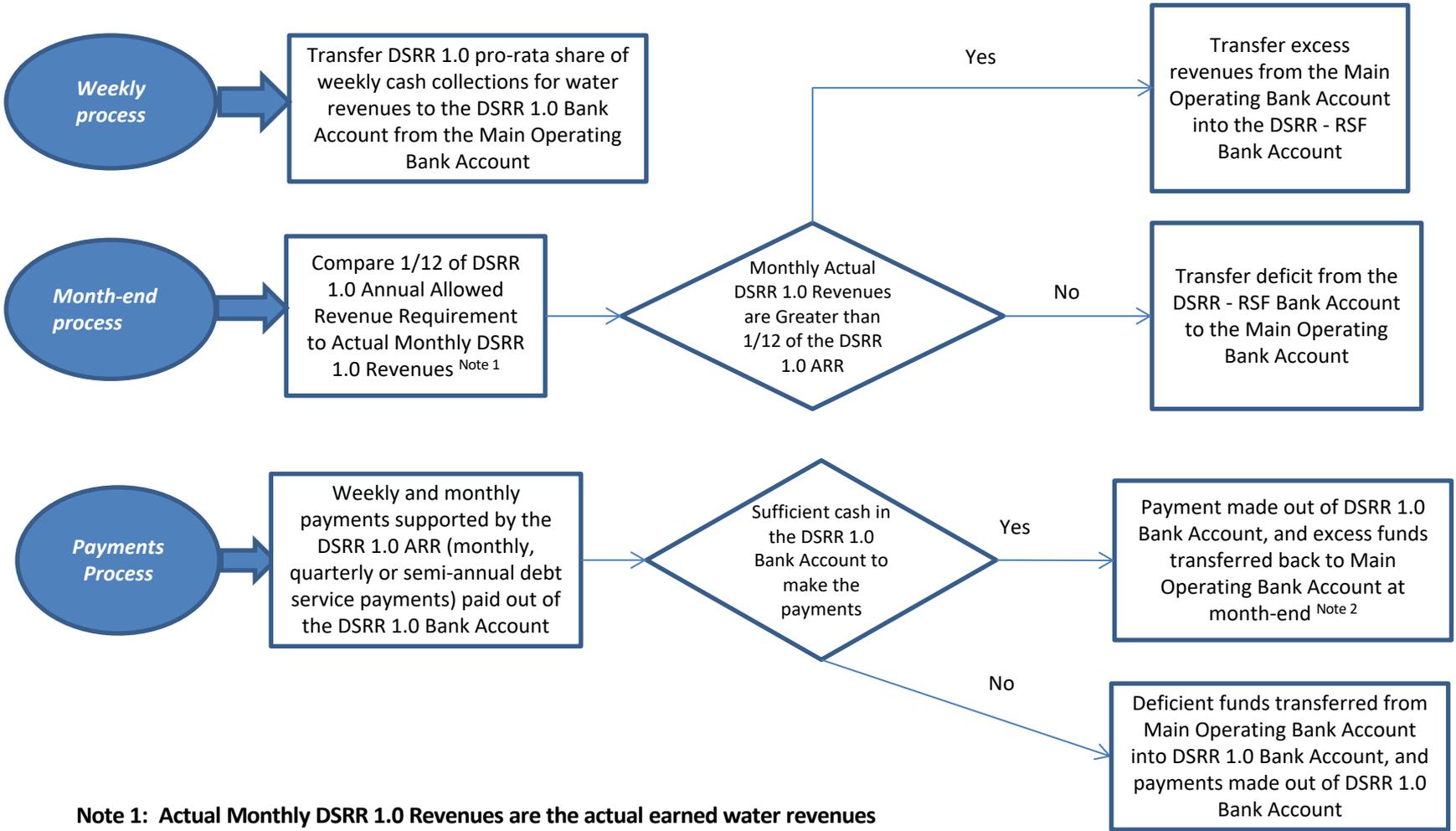
**Pittsfield Aqueduct Company, Inc. - DW 20-153
 Rate Making Concept Flow Diagram - Flowchart B**



Note 1: Actual Monthly MOERR/MOEF Revenues are the actual earned water revenues in the month multiplied times the pro-rata percentage of revenues allocated to the MOERR/MOEF, per the last rate case.



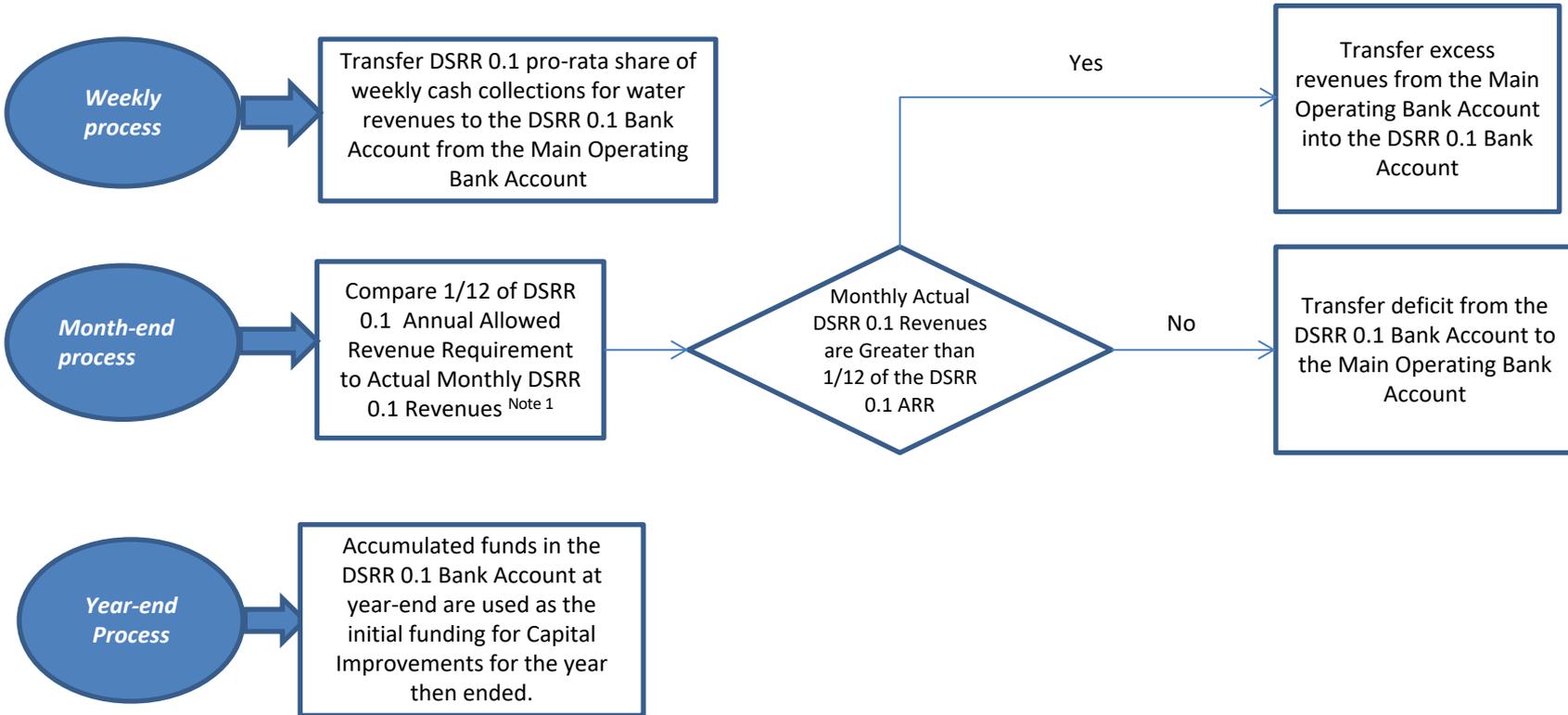
**Pittsfield Aqueduct Company, Inc. - DW 20-153
 Rate Making Concept Flow Diagram - Flowchart D**



Note 1: Actual Monthly DSRR 1.0 Revenues are the actual earned water revenues in the month multiplied times the pro-rata percentage of revenues allocated to the DSRR 1.0, per the last rate case.

Note 2: Adequacy of funds in the DSRR Bank Account each month will be determined as 100% of monthly payment obligations, 33 1/3% of quarterly payment obligations and 1/12 of the annual debt service for semi-annual payment obligations.

**Pittsfield Aqueduct Company, Inc. - DW 20-153
Rate Making Concept Flow Diagram - Flowchart E**



Note 1: Actual Monthly DSRR 0.1 Revenues are the actual earned water revenues in the month multiplied times the pro-rata percentage of revenues allocated to the DSRR 0.1, per the last rate case.