

a) Wells 4 & 5 treatment plant progress

Joel Moulton, of Underwood Engineers, informed the commission that the startup of the GAC system is scheduled to commence on or about September 7, 2020. This date may move up if the media is delivered earlier. The contractor is on track to meet the revised contractual substantial completion date of September 24, 2020. Vice Chairman W. von Schoen asked J. Moulton if and how an earlier startup of the GAC system was being pursued. Moulton explained that Penta is in communication with Evoqua daily. K. Pratt noted that Evoqua is on board with an on-time delivery but may be able to deliver the media sooner. That information should be available on Wednesday, August 19, 2020.

K. Pratt presented the commissioners with an amendment to Engineering Service Request (ESR) #46 (Amendment No. 1 to ESR #46), and explained that this is a no cost amendment, meaning it stays within the contract amount. The amendment proposes shifting dollars from one task to another to help cover the costs of additional time for Joel Moulton and Peter Pitsas to facilitate the project due to Penta's time extension. This is the first amendment directly from Underwood Engineers. It was explained that this money was budgeted in as an allowance but has gone unused.

**MOTION BY COMMISSIONER K. AYERS TO MOVE FORWARD WITH AMENDMENT NUMBER 1 TO ESR #46 FROM UNDERWOOD ENGINEERS DATED AUGUST 13, 2020
MOTION SECONDED BY COMMISSIONER W. VON SCHOEN**

A Viva Voce was conducted, which resulted as follows:

Yea:	Donald Provencher, Wolf von Schoen, John Lyons, Kenneth Ayers,	4
Nay:		0

MOTION CARRIED

b) Wells 7 & 8 treatment plant progress

J. Moulton informed the commissioners that Infrastructure Construction Corporation (ICC) has commenced work on the project. Moulton noted that the site has been cleared, the side of the existing building where the addition will be has been demolished, the residual waste line has been relocated, the excavation for the foundation has begun, the building wall demolition for well 7 has been completed, the existing propane tank and concrete pad have been removed in preparation for a new tank and slab, and site preparations have commenced for soil stabilization.

c) Wells 2 & 3 design progress

K. Pratt informed the commission that some building layout has been revised based on comments from the commissioners and MVD staff. He noted that the next step is to finalize the design, but Underwood is waiting on final outcomes from some of the ongoing work from the hydro-geo efforts, particularly as it relates to replacement well #3. K. Pratt noted that there is a work session scheduled for the week of August 23, 2020.

Superintendent R. Miner asked K. Pratt if well 2 is designed for 1,500 gallons / minute. Pratt stated that is what the presumption is, but there are questions regarding the long-term viability of that. This will be discussed in the upcoming work session.

d) Turkey Hill booster progress

J. Moulton stated that according to the most recent project schedule, the concrete slabs for the booster pump station and generator are scheduled to be poured the week of August 23, 2020. The delivery of the booster station is scheduled for on, or about, October 15, 2020. He noted that site electrical will be performed intermittently. The contractual substantial completion date is December 9, 2020. It was noted that the booster station will not be underground.

e) ESR #54 – Water Source Option Evaluation & Update

K. Pratt informed the commissioners that M. Metcalf put together an Engineering Service Request (ESR) at their request. K. Pratt explained that ESR #54 addresses several water supply source options that MVD has under consideration to either augment existing supplies or to replace an existing supply that requires treatment. The water supply source options include:

- Replacement Well for Well #3 which has high sodium and chloride, and requires treatment for PFAS, iron and manganese
- Completion and connection of the Mitchel Woods well
- Adding artificial recharge of Wells 4 & 5 from the Merrimack River to increase the sustainable yield of these wells
- Developing the Manchester Water Works (MWW) connection into a working supply option instead of just an emergency connection

K. Pratt noted that all options would have capital costs, O & M costs, advantages and disadvantages, water quality information and normalized cost curves. This will allow MVD to determine which options make the most sense and when to implement them. K. Pratt informed the commissioners that ESR #54 outlines the scope of work for the Mitchell Woods source option to be \$15,000, and the Artificial Recharge (AR) at Wells 4 & 5, and the MWW Connection to be \$9,000 each, totaling \$33,000. Mitchell Woods was originally estimated to be \$18,000, but with multiple source options underwood is able to be more efficient and scale back the expense.

The replacement for Well 3 is being looked at under a different scope of work, but all will be provided in one master plan once complete.

Chairman D. Provencher noted that he was unable to find recent information regarding MWW's PFAS concentrations, that he could only find PFAS data from 2016, which indicated low to mid single-digit ppt for PFOA, and stated that he would like to see more recent PFAS test results for MWW. He asked if it was possible to sample MWW's water if MWW is not regularly sampling themselves. K. Pratt stated that sampling could be discussed if MWW does not have the information. It is likely that MWW does have this information available. During the meeting, Commissioner K. Ayers found some PFAS data for MWW and confirmed low to mid-level ppt of PFOA results. Chairman D. Provencher indicated that the customers were informed, and therefore may expect, that the goal of the PFAS treatment warrants approved in 2019 was to have non-detect PFAS in MVD water, and requested K. Pratt to include a cost line item in their forthcoming cost analysis of source options to include a PFAS filtration plant for MWW water,

in the event that MVD customers would want to treat MWW for PFAS removal before introducing it into the MVD system.

Vice Chairman W. von Schoen stated that the ESR reads, “based on our evaluation, UE (Underwood Engineers) will identify the most feasible and cost-effective option for MVD use of chloraminated MWW water.” He noted that customers in Merrimack, in close proximity to the production wells, have complained of a strong chlorine odor in their water. He asked if this would also be the case with chloramine, and whether making a switch to chloramine would help mitigate the odor. He would like the ESR to cover that question. K. Pratt noted that switching to chloramine would provide both benefits and challenges. He also noted that there have been recent conversions regarding switching from chlorine to chloramine within the state and MVD could learn from those transitions. Superintendent R. Miner noted that MVD is not exceeding the allotted level of chlorine.

K. Pratt stated that he will add a bullet noting that considerations would be given to other benefits and challenges, including water quality, amongst others. Another bullet will be added to the task for consideration of PFAS treatment of MWW water.

Chairman D. Provencher asked K. Pratt to confirm all costs associated with their AR evaluation with Jamie Emery of Emery & Garrett Groundwater, Inc. (EGGI) to ensure all engineering and construction costs are included. Chairman D. Provencher mentioned a previous hydrogeologic evaluation scope of work for \$800,000 by EGGI, which was included in a grant application with the NH Drinking Water and Groundwater Trust (DWGT), which was subsequently denied. He indicated that that scope of work included column tests of infiltration basin soils with Merrimack River water, and questioned whether that scope of work was a necessity, and could be reduced to save costs. Chairman D. Provencher stated that that was an extremely high analysis cost compared to an estimated \$4 million construction cost budget previously indicated by EGGI. Chairman D. Provencher requested that K. Pratt be sure to confirm that the \$800,000 cost and scope of work is included in the overall AR cost analysis by Underwood.

MOTION BY COMMISSIONER W. VON SCHOEN TO ACCEPT ESR #54 WITH REVISIONS, AS DISCUSSED, FROM UNDERWOOD ENGINEERS DATED AUGUST 17, 2020, FOR THE AMOUNT OF \$33,000 TO COME FROM THE ENGINEERING BUDGET

MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce was conducted, which resulted as follows:

Yea:	Donald Provencher, Wolf von Schoen, John Lyons, Kenneth Ayers,	4
Nay:		0

MOTION CARRIED

K. Pratt noted that he would like to pursue additional grants from the Drinking Water Groundwater Trust Fund and asked the commissioners about timing. He noted that he felt like

January was a good time frame to move forward but would like to gather the opinions of the commissioners. It was decided to evaluate this as projects move along.

At this time, Vice Chairman W. von Schoen asked K. Pratt if P. Pitsas had changed the wording of Penta's request for an extension to include a commitment that Penta will not come forward with additional damages, extensions, or financial claims, as discussed during the July 20, 2020, Commissioners Meeting. K. Pratt was able to pull up the appropriate change order, which states, "this time extension addresses all time extension issues to date, there is no cost associated with this cost extension even though one is noted in attachment F." Vice Chairman W. von Schoen stated that this statement does not fully cover the expectation that there will be no additional monetary expectations put out by Penta for other delays.

At this time, Chairman D. Provencher informed the commission that Geoff Daly, of Niles International, reached out to him to make MVD aware that XTD Labs is running a Rapid Small-Scale Column Test (RSSCT) on zeolite. K. Pratt suggested that MVD request XTD's report to see the full report versus an interpretation of it. Chairman D. Provencher suggested that perhaps MVD could run its own RSSCT tests on the Zeolite media using MVD's own test columns to be constructed inside the WTP at Wells 4 & 5, and he agreed to follow up with Geoff on securing XTD's RSSCT report.

2. Board of Commissioners to discuss Capital Projects with Emery & Garret Groundwater to include:

a) Replacement Well #4R

Jamie Emery informed the commission that the drilling and pump testing is complete for Well 4R, the water quality data is in, and everything looks good. Emery & Garret is wrapping up the final report for NHDES.

b) Exploratory drilling along Naticook Brook

Emery informed the commission that Emery & Garrett is able to move forward with the last test wells. He has been working with the conservation commission on this. He noted that Dan Tinkham has a meeting scheduled with the conservation commission on August 18, 2020, to walk the site, identify the exact location, and review any concerns or restrictions they might have. The drilling is scheduled to take place the week of August 23, 2020.

c) Glyphosate

J. Emery informed the commission that he was asked by Business Manager J. Lavoie and Superintendent R. Miner to give an update regarding the usage of Glyphosate in the area of Parker Village. He noted that there has also been discussion of Parker Village putting in an irrigation well because their grass is getting brown. J. Emery stated that he is not in support of an irrigation well being placed in the area inside the zone of contribution and recharge area for Wells 4 & 5.

At this time, Business Manager J. Lavoie provided the commissioners with some background information. She informed the commissioners that she was contacted by the management company of Parker Village and they explained that they have invasive Japanese Knotweed.

Parker Village management noted they had been directed to use an oil-based herbicide (glyphosate) to treat this, but also noted their residents were unhappy with the inability to water their gardens/grass. Business Manager Lavoie passed this information on to Emery & Garret for guidance and direction. Chairman D. Provencher noted that he was concerned that Glyphosate is the chemical used in “Roundup” weed killer, which is the subject of lawsuits against the manufacturer of Roundup.

J. Emery noted that from a geological standpoint the occurrence of mobility (of glyphosate) in groundwater is generally thought to be relatively minor. He stated that the applications are typically oil based and focused on foliage, which is typically a lower threat. J. Emery noted that he does not think the use of glyphosate would present a threat if used correctly and would recommend having Parker Village submit a plan of action for use of this product.

Chairman D. Provencher asked if the town has authority to deny an irrigation well. J. Emery noted that he is not positive, but he does not believe the town has the authority to deny an irrigation well. If the well produces more than 40 gallons / minute, it would require a permit and they would have to demonstrate that they are not impairing an existing water source.

d) Mitchell Woods

J. Emery presented the commissioners with a proposal to conduct a short-term pumping test and water quality sampling event on the Mitchell Woods Production Well. The Scope of Work includes five tasks and has a lump sum cost of \$4,450. The scope of work was outlined as follows:

TASK 1 – Install a pump capable of producing 30-35 gallons per minute (gpm) in the Mitchell Woods Production Well (or adjacent monitoring well).

TASK 2 – Conduct a pumping test for approximately six hours and collect a water quality sample.

TASK 3 – Analyze water quality samples for Volatile Organic Compounds (VOCs) and PFAS compounds.

TASK 4 – Remove pump and close up the well.

TASK 5 – Prepare a brief summary report describing the findings and recommendations.

Chairman D. Provencher noted that he would like Task 3 to include arsenic, iron and manganese, chloride, and sodium. Emery noted that those would be included.

**MOTION BY COMMISSIONER W. VON SCHOEN TO MOVE FORWARD WITH THE EMERY & GARRET PROPOSAL DATED AUGUST 12, 2020, FILE NUMBER 33.P000050.21, FOR THE TEST PUMP AND WATER QUALITY ANALYSIS AT THE MITCHELL WOODS PRODUCTION WELL IN THE AMOUNT OF \$4,450
MOTION SECONDED BY COMMISSIONER K. AYERS**

A Viva Voce was conducted, which resulted as follows:

Yea: Donald Provencher, Wolf von Schoen, John Lyons, Kenneth Ayers,

4

Nay:

0

MOTION CARRIED

e) Well 6 funding

J. Emery informed the commission that the former Merrimack Industrial Metals (MIM) facility, now abandoned, is the reason why Well 6 is not in operation. Volatile Organic Compounds (VOC) from the MIM site migrated toward Well 6, causing it to be shut down in the late 1980s. He stated that he understands there are funds available for cleanup and investigation in the state of New Hampshire's brownfields program. Emery & Garret would like to know if MVD would be interested in supporting them with bringing this concept to the Town of Merrimack.

Chairman D. Provencher offered his support in using allocated grant money for this project. He asked Emery if there was information regarding a plume of groundwater contamination and whether contaminated soils, which were the source of contamination was still on site. Emery noted that it is his understanding that the site likely still has sources of contamination. It was noted that if nothing more, it would benefit the environment and MVD to remove the sources of contamination. Emery noted there is no request for MVD funding at this time.

f) Salt mitigation

J. Emery informed the commission that he has forwarded the salt mitigation PowerPoint presentation to NHDES. Branden Kernen, with NHDES's Drinking Water Groundwater Bureau, is sharing this information with others in the state. He believes that salt is a drinking water threat as well as a health threat. Emery stated that he and Kernen will be meeting to formulate a plan as to how they might identify and secure funds, and how they might lessen the salt use for large properties around the recharge areas. The commissioner stated that they would like to share the presentation with property owners. Chairman D. Provencher noted that it has been several months since MVD had met with and presented the salt mitigation powerpoint to the Town Council, and MVD still hasn't conducted any meetings with any land owners applying salt in MVD's well head protection areas. Chairman D. Provencher indicated that now is the time for setting up this meeting before the winter season. Emery will work towards setting up a date for a zoom meeting with NHDES and local stakeholders to attend a salt mitigation meeting.

g) Artificial Recharge at Wells 4 & 5

Chairman D. Provencher requested clarification of EGGI's prior \$800,000 scope of work for a DWGT grant application to evaluate AR at Wells 4 & 5, and informed J. Emery that Underwood was planning to contact J. Emery for specific AR related costs including engineering and hydrogeology services. Chairman D. Provencher felt that this was a very high cost compared to the estimated \$4 million AR project, and that MVD's new WTP at Wells 4 & 5 was equipped with test columns which may be used for some of the testing in that scope of work. J. Emery agreed to look at those test columns, and to go back and look at that scope of work.

3. Board of Commissioners to review the minutes from the May 18, 2020 Public Session, June 9, 2020 Special Meeting, June 22, 2020 Public Session, the July 7, 2020 Annual Meeting, and the July 20th Public session.

APPROVAL OF MINUTES

Board of Commissioners Public Session May 18, 2020

No amendments were offered.

**MOTION BY COMMISSIONER D. PROVENCHER TO ACCEPT THE MEETING MINUTES OF THE MAY 18, 2020 PUBLIC BOARD OF COMMISSIONERS MEETING AS PRESENTED
MOTION SECONDED BY COMMISSIONER K. AYERS**

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Kenneth Ayers,

3

Nay:

0

Commissioner J. Lyons abstained

**MOTION CARRIED
3-0-1**

Board of Commissioners Special Meeting June 9, 2020

No amendments were offered.

MOTION BY COMMISSIONER D. PROVENCHER TO ACCEPT THE MEETING MINUTES OF THE JUNE 9, 2020 PUBLIC BOARD OF COMMISSIONERS SPECIAL MEETING AS PRESENTED

MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Kenneth Ayers,

3

Nay:

0

Commissioner J. Lyons abstained

**MOTION CARRIED
3-0-1**

Board of Commissioners Public Session June 22, 2020

The following amendments were offered:

Page 4, line 35 reads, “why MVD is continuing to allow **tels** and...” but should read, “why MVD is continuing to allow **hotels** and...”

MOTION BY COMMISSIONER D. PROVENCHER TO ACCEPT THE MEETING MINUTES OF THE JUNE 22, 2020 PUBLIC BOARD OF COMMISSIONERS MEETING AS AMENDED MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Kenneth Ayers,

3

Nay:

0

Commissioner J. Lyons abstained

MOTION CARRIED

3-0-1

Board of Commissioners Annual Meeting July 7, 2020

The following amendments were offered:

Page 3, line 37, the first word is “extended” and should be changed to “expended”

MOTION BY COMMISSIONER D. PROVENCHER TO ACCEPT THE MEETING MINUTES OF THE JULY 7, 2020 BOARD OF COMMISSIONERS ANNUAL MEETING AS AMENDED MOTION SECONDED BY COMMISSIONER K. AYERS

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, Kenneth Ayers,

3

Nay:

0

Commissioner J. Lyons abstained

MOTION CARRIED

3-0-1

Board of Commissioners Public Session July 20, 2020

The following amendments were offered:

Page 8, line 1, bullet “d) Artificial Recharge” to be changed to “d) Artificial Recharge at Wells 4 & 5”

MOTION BY COMMISSIONER D. PROVENCHER TO ACCEPT THE MEETING MINUTES OF THE JULY 20, 2020 PUBLIC BOARD OF COMMISSIONERS MEETING AS AMENDED

MOTION SECONDED BY COMMISSIONER W. VON SCHOEN

A Viva Voce Roll Call was conducted, which resulted as follows:

Yea: Donald Provencher, Wolfram von Schoen, John, Lyons,

3

Nay:

0

Commissioner K. Ayers abstained

MOTION CARRIED

3-0-1

4. Board of Commissioners to review Action Items from previous meetings and those to be added from this meeting.

The Commissioners reviewed the list of Action Items, removing tasks that have been completed.

5. Old Business

None

6. New Business

At this time, Chairman D. Provencher referenced the Benchmark Water Levels for Groundwater Management table that was included in the board packet. He explained that this shows trigger levels in the MVD production wells and monitoring wells where critical depth to groundwater levels are set and where they measure at each reading. Chairman D. Provencher noted that the MVD-3 reading on August 10, 2020 of 36.21 puts this well between a Level 2 Warning and a Level 3 Emergency. Superintendent R. Miner noted that the reading at Well 3 will vary when the well is on versus when the well is off. He noted that he does not believe MVD well 3 to be in bad shape but will confirm with Emery & Garrett.

It was noted that the format of the table was difficult to read and suggestions were given on how to improve the readability and automation to flag well water readings that may be indicative of drawdown concerns as compared to their prescribed warning level setpoints.

7. Superintendent's Report

Superintendent R. Miner informed the commission that there is a test well site walk happening on Tuesday, August 18, 2020. He also noted that he would be on vacation the week of August 23, 2020. Chairman D. Provencher indicated that he would try to attend this meeting.

8. Questions from the Public

None

9. Questions from the Press

None

ADJOURNMENT

**MOTION BY COMMISSIONER J. LYONS TO ADJOURN
MOTION SECONDED BY COMMISSIONER K. AYERS**

A Viva Voce was conducted, which resulted as follows:

Yea:	Donald Provencher, Wolf von Schoen, John Lyons, Kenneth Ayers,	4
Nay:		0

MOTION CARRIED

The August 17, 2020 meeting of the Board of Commissioners was adjourned at 7:55 p.m.

Submitted by Amanda McKenna, Recording Secretary