

## SETTLEMENT AGREEMENT

This Settlement Agreement (“Agreement”) is made and entered into as of the 27th day of March, 2018 (“Effective Date”) by and between the Merrimack Village District (“MVD”) and Saint-Gobain Performance Plastics Corporation (“Saint-Gobain”) (collectively the “Parties”).

**WHEREAS**, MVD is the owner and operator of a municipal water system in Merrimack, New Hampshire; and

**WHEREAS**, samples taken on March 9, 2016, detected certain Per- and Polyfluoroalkyl substances (“PFAS”) in MVD supply wells 4 and 5 (the “Wells”); and

**WHEREAS**, MVD alleges that Saint-Gobain is liable for the PFAS detected in the Wells, and Saint-Gobain denies MVD’s allegations; and

**WHEREAS**, Saint-Gobain is working cooperatively with the New Hampshire Department of Environmental Services (“NHDES”) to investigate the source(s) and occurrence of perfluorooctanoic acid (“PFOA”) and perfluorooctanesulfonic acid (“PFOS”) in the Merrimack vicinity; and

**WHEREAS**, SGPP paid for MVD’s consultant, Underwood Engineers (“Underwood”), to perform a preliminary engineering design for a potential granular activated carbon (“GAC”) filtration treatment system to address the PFOA and PFOS detected in the Wells (“Preliminary Engineering Design”); and

**WHEREAS**, the Preliminary Engineering Design has been completed; and

**WHEREAS**, GAC has proven effective at treating PFOA and PFOS in public water supply wells at concentrations like those detected in the Wells, and may be effective with other PFAS; and

**WHEREAS**, the Parties now wish to work together to expedite the final design and installation of a GAC filtration system to address the PFAS detected in the Wells without the time and expense of litigation;

**NOW, THEREFORE**, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

### **1. MVD’S OBLIGATIONS**

MVD will, either through its own employees or through duly qualified and licensed professionals, consultants, and contractors (any one a “Contractor” and collectively “Contractors”), provide for all labor, services, materials, and equipment required to design, install, operate and maintain a GAC filtration treatment system (the “System”) in accordance with the thirty (30) percent specifications set forth in Exhibit A to treat the identified PFAS in the Wells. This exhibit will be amended to the 100% design subsequent to signing, and without impact on the financial obligations set forth herein. Without limiting the foregoing, MVD shall:

(a) Enter into written contracts ("Contracts") with the Contractors with respect to the provision of all services, labor, materials, and equipment required for the design, installation, operation and maintenance of the System;

(b) Pay the Contractors in accordance with the terms of the Contracts first using the funds in the Account described in Section 2 herein, and then, to the extent additional funds are required, using its own funds or funds obtained from parties other than Saint-Gobain;

(c) Apply for and obtain all required permits and government approvals necessary for the design, construction, operation and maintenance of the System;

(d) Supervise, administer, coordinate and oversee the design and installation of the System; and

(e) Supervise any required testing, inspections, or other activities required for the start-up or operation and maintenance of the System.

## **2. SAINT-GOBAIN'S OBLIGATIONS**

Subject to MVD's performance of its obligations set forth above and the Contractors' performance of their respective obligations under the Contracts, Saint-Gobain shall fund and authorize payment for the design, construction, operation and maintenance of the System as follows:

(a) In order to fund the design and installation of the System, Saint-Gobain will establish and maintain an interest bearing escrow account ("Account") with J.P. Morgan Chase Bank, N.A. ("Escrow Agent") in accordance with the terms of an Escrow Agreement in a form substantially similar to the escrow agreement attached hereto as Exhibit B and incorporated herein. Saint-Gobain will make an initial deposit of \$630,000 into the Account within thirty (30) days of the Effective Date to fund the final design and construction phase engineering of the System. In addition, Saint-Gobain shall deposit an additional \$2,720,000 into the Account within thirty (30) days after written notice by MVD of the completion of the final design phase engineering to fund the construction, installation and start-up of the System, including all construction management, oversight and administrative fees, and the costs of any permits, utility fees or other fees or costs associated with start-up of the System. In total, Saint-Gobain shall be obligated to pay \$3,350,000 for the final design phase engineering, installation and start-up of the System. In the event that total costs for the final design phase engineering, construction, installation and start-up of the System are greater than \$3,350,000, MVD shall be responsible for paying for such excess costs through use of its own funds or funds it obtains from parties other than Saint-Gobain, and Saint-Gobain shall have no further liability to MVD for the System, other than as set forth in Sections 2(b) and (c) below. In the event that total costs for the final design phase engineering, construction, installation and start-up of the System are less than \$3,350,000, any funds remaining in the Account after start-up and commissioning of the System, other than any accrued interest, shall remain in the Account to be disbursed to be used solely for future operation and maintenance of the System.

(b) Saint-Gobain shall also fund the ongoing operation and maintenance of the System for the first five (5) years following start-up of the System. In order to do so, Saint-

Gobain shall deposit \$106,900 into the Account within ten (10) days of receipt of written notice from MVD of the start-up of the System, and Saint-Gobain shall deposit an additional \$106,900 into the Account within one (1) year thereafter, and each successive year for a total of five (5) years. In the event that actual costs of operating and maintaining the System exceed an annual average of \$106,900 over the five year period, MVD shall be responsible for paying for such excess costs through use of its own funds, or funds it obtains from parties other than Saint-Gobain. Further, Saint-Gobain shall not be responsible for any operation or maintenance costs associated with the System after five years from start-up of the System. MVD shall provide Saint-Gobain with annual accounting statements documenting its operation and maintenance costs associated with the System for the prior year according to the allocation of System-related costs reflected in Exhibit A for Saint-Gobain's information; this documentation will have no impact on the financial obligations set forth herein. In the event that MVD's actual operation and maintenance costs during the first five years of System operation are less than \$534,500, any excess funds remaining in the Account (including any funds remaining from the construction and installation phase under subparagraph (a) above), other than any accrued interest, shall be disbursed to MVD to be used solely for future operations and maintenance of the System, and the Account closed pursuant to the Escrow Agreement. Upon the closing of the Account, any interest that has accrued in the Account shall be disbursed to Saint-Gobain.

(c) In addition to the amounts set forth in Paragraphs 2(a) and (b), MVD has furnished Saint-Gobain with all substantiating invoices and verification of payment relative to the engineering and technical costs MVD has incurred as of February, 2018 to address PFOA and PFOS, which MVD has represented to Saint-Gobain total \$438,500.52. Within thirty (30) days of receipt, Saint-Gobain shall timely review and approve the supporting documentation, such approval not to be unreasonably withheld, and shall directly reimburse MVD its actual engineering and technical costs incurred as of the Effective Date provided such costs are consistent with MVD's efforts to address PFOA and PFOS, and the Parties' related discussions. The amount of such reimbursement shall not exceed \$438,500.52. No additional expenses of the kind addressed by this subparagraph (c) shall be reimbursed by Saint-Gobain.

(d) The Parties understand and agree that Saint-Gobain is a funding source only for the design, engineering, installation, start-up, operation and maintenance of the System and is not responsible for the performance of any of the work required under the Contracts or the management of any parties performing any work related to the System.

### **3. ACCESS TO DOCUMENTATION**

MVD shall provide Saint-Gobain with copies of the fully executed Contracts, documentation of the completed work under each Contract, all water testing reports, all inspection reports, and all other documents related to the design engineering, construction, installation, start-up, operation or maintenance of the System.

### **4. RELEASE AND COVENANT NOT TO SUE**

(a) In consideration of the commitments made by Saint-Gobain under this Agreement, MVD and its current and former commissioners, servants, employees, directors, representatives, parents, subsidiaries, affiliates, successors and assigns hereby releases, acquits,

covenants not to sue and forever discharges Saint-Gobain and its current and former servants, employees, officers, directors, representatives, parents, subsidiaries, affiliates, successors and assigns (collectively the "Saint-Gobain Releasees") for any and all claims which MVD now has, or might have in the future, whether in law or in equity, against the Saint-Gobain Releasees relating to the presence of the PFOA, PFOS or any other PFAS in the Wells or the design engineering, installation, start-up, operation or maintenance of the System. However, the releases and covenants contained in this Paragraph shall not apply in the event that the levels of any PFOA, PFOS, or any other PFAS in the finished water following treatment by the System exceed any federal or state drinking water quality standards that may be applicable to any such constituents in the future, such exceedances are due to Saint-Gobain's operations, and such exceedances are not attributable to improper operation and maintenance of the System or a decision by MVD to cease operation of the System. Further, the releases and covenants contained in this Paragraph do not prevent MVD from bringing claims against Saint-Gobain to enforce the terms of this Agreement, or any claims unrelated to the proper operation of the System or the PFOA and PFOS that has been identified in the Wells. The releases and covenants contained in this Paragraph also do not prevent MVD from bringing any claims for contribution whatsoever, even if related to the Wells and the identified presence of PFOA and PFOS in the Wells.

(b) In consideration of the commitments made by MVD under this Agreement, Saint-Gobain and its current and former servants, employees, officers, directors, representatives, parents, subsidiaries, affiliates, successors and assigns hereby releases, acquits, covenants not to sue and forever discharges MVD and its current and former commissioners, servants, employees, directors, representatives, parents, subsidiaries, affiliates, successors and assigns (collectively the "MVD Releasees") for any and all claims which Saint-Gobain now has, or might have in the future, whether in law or in equity, against the MVD Releasees relating to the presence of PFAS in the Wells, or the design, installation, operation or maintenance of the System. However, the releases and covenants contained in this Paragraph shall not apply in the event that the levels of any PFAS in the finished water following treatment by the System exceed any federal or state drinking water quality standards that may be applicable to any such PFAS in the future, and such exceedances are not due to Saint-Gobain's operations or such exceedances are attributable to improper operation and maintenance of the System or a decision by MVD to cease operation of the System. Further, the releases and covenants contained in this Paragraph do not prevent Saint-Gobain from filing suit against MVD to enforce the terms of this Agreement, or for contribution claims, whether or not related to the operation of the System.

## **5. INDEMNITY**

The indemnity provisions set forth in this Section 5 shall survive termination of this Agreement and remain binding on the parties thereafter.

(a) To the fullest extent permitted by law, MVD shall indemnify and hold the Saint-Gobain Releasees harmless from all claims, damages, losses and expenses, including but not limited to legal fees, arising out of the design engineering, installation, start-up, operation and maintenance of the System, including claims, damages, losses or expenses for bodily injury, sickness, disease or death, or injury to, or destruction of, tangible property damage, to the extent caused by the negligent acts or omissions of MVD, its consultants, contractors, subcontractors

or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable, only as it pertains to the fulfillment of MVD's obligations under this Agreement.

(b) In claims against any person or entity indemnified under Section 5(a) by MVD, the indemnification obligation under Section 5(a) shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for MVD under workers' compensation acts, disability benefit acts or other employee benefit acts. In addition, MVD agrees that the indemnity obligations in this Agreement are valid and enforceable and shall not be abrogated by MVD's worker's compensation insurance coverage.

## **6. INSURANCE**

While performing any work or providing products or services related to this Agreement or any extension thereof, or as indicated otherwise herein, MVD and its contractors agree to maintain, at their own expense, all necessary insurance for themselves and their personnel of at least the kinds and limits set forth in Exhibit C, with reputable and financially strong independent insurance companies licensed or permitted to do business in the jurisdiction(s) where the work, products or services will be provided and rated at a minimum of "A-" VIII by AM Best (or similarly recognized rating agency in the country where the coverage was obtained).

## **7. MUTUAL REPRESENTATIONS AND WARRANTIES**

Each of the parties to this Agreement represent and warrant to the other that: (a) all recitals and representations made by it or in respect of it in this Agreement are true and correct; (b) it is duly formed or organized, validly existing, and in good standing under applicable law; (c) all requisite company or corporate action has been taken to permit it to enter into this Agreement and carry out the terms hereof; (d) the officers, commissioners, or employees signing this Agreement for it are authorized to do so; and (e) to the best of its knowledge, neither its execution of this Agreement nor the consummation of the transactions contemplated hereby will: (i) violate any provision of law or tariff or any judgment, writ, injunction, order, or decree of any court of competent authority applicable to it or any enabling document or by-law applicable to it, (ii) result in or constitute a breach or default (or an occurrence that, by lapse of time or the giving of notice, or both, would constitute a breach or default) under any indenture, contract, or other commitment or restriction to which it is a party or by which it is bound; or (iii) require any consent, vote, or approval that, at any time of the transaction involved, has not been obtained.

## **8. NO ADMISSION OF LIABILITY**

The Parties enter into this Agreement for settlement purposes only. Nothing herein shall be deemed or interpreted to be (a) an admission or finding of liability, fault, wrongdoing, or violation of any kind whatsoever by either party; (b) an acknowledgement that there has been a release or threatened release of PFOA, PFOS, or any other PFAS, or any hazardous waste or substances at or from any sites or any other industrial facilities now or formerly owned or operated by Saint-Gobain, either identified or unidentified; and/or (c) an acknowledgement by Saint-Gobain that a release or threatened release of PFOA, PFOS, or any other PFAS, or any hazardous waste or substances at or from any sites now or formerly owned or operated by Saint-

Gobain constitutes a threat to the public health or environment. Nor shall anything herein be deemed an admission or acknowledgment by Saint-Gobain that any treatment system is necessary or should be installed on the Wells. The Parties reserve all rights and claims they may have in law or equity against any person other than the other party to recover monies expended hereunder.

**9. ENTIRETY OF AGREEMENT**

The terms and conditions set forth herein, including information incorporated herein by reference, constitute the entire agreement between the Parties and supersede any communications of previous agreements with respect to the subject matter of this Agreement. There are no written or oral understandings directly or indirectly related to this Agreement that are not set forth herein.

**10. AMENDMENTS**

No change can be made to this Agreement other than in writing and signed by all Parties.

**11. ASSIGNMENT**

This Agreement may not be assigned by any of the Parties to another without the prior written agreement of all the Parties. Notwithstanding Section 16 hereof, if this Agreement is assigned, the rights and obligations of the assigning Party shall be binding on such Party's assignee, and any assignment agreement which includes either Party shall expressly so state.

**12. GOVERNING LAW**

This agreement shall be construed and enforced according to the laws of the State of New Hampshire and any dispute under this agreement must be brought in this venue and no other.

**13. NO WAIVER**

The waiver or failure of any of the Parties to exercise in any respect any right provided in this Agreement shall not be deemed a waiver of any other right or remedy to which the Parties may be entitled.

**14. NOTICES**

All notices required to be provided by any Party to another hereunder shall be provided by first class mail, as follows:

To: MVD

Merrimack Village District  
2 Greens Pond Road  
Merrimack, NH 03054  
Attn: Ronald Miner, Superintendent

To: Saint-Gobain

Chris Angier  
Senior Environmental Project Manager  
Saint-Gobain Performance Plastics  
14 McCaffrey Street  
Hoosick Falls, NY 12090

With a copy to:

Brett E. Slensky, Esq.  
Environmental Health & Safety Counsel  
Saint-Gobain Corporation  
20 Moores Road  
Malvern, PA 19355

**15. HEADINGS IN THIS AGREEMENT**

The headings in this Agreement are for convenience only, confirm no rights or obligations in either party, and do not alter any terms of this Agreement.

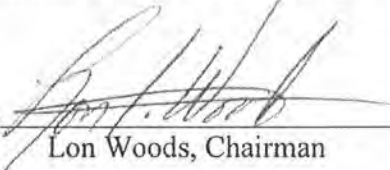
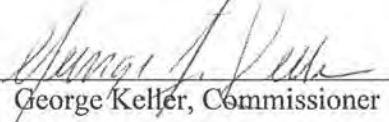


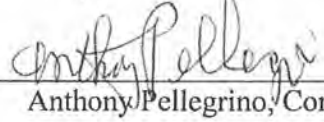
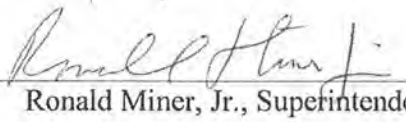
**16. THIRD-PARTIES**

Nothing contained in this Agreement shall be deemed to create any rights or obligations in persons or third-parties that are not a party to this Agreement.

**17. EXECUTED IN COUNTERPARTS**

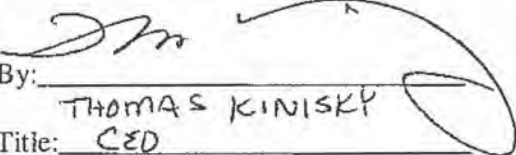
This Agreement may be executed in one or more counterparts, each of which when executed will be deemed to be an original but all of which when taken together will constitute one and the same agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

SAINT-GOBAIN PERFORMANCE PLASTICS CORPORATION	MERRIMACK VILLAGE DISTRICT
By: _____	By:  Lon Woods, Chairman
Title: _____	Date: <u>03-27-2018</u> 2018
Date: _____, 2018	By:  George Keller, Commissioner
	Date: <u>3-27</u> , 2018
	By:  Joseph Comer, Commissioner
	Date: <u>3/27</u> , 2018
	By:  John Balcom, Commissioner
	Date: <u>3/27</u> , 2018
	By:  Anthony Pellegrino, Commissioner
	Date: <u>3/27</u> , 2018
	By:  Ronald Miner, Jr., Superintendent
	Date: <u>3/27</u> , 2018



IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

SAINT-GOBAIN PERFORMANCE PLASTICS CORPORATION	MERRIMACK VILLAGE DISTRICT
By:  THOMAS KINISKY Title: <u>CEO</u> Date: <u>27 March</u> , 2018	By: _____ Lon Woods, Chairman Date: _____, 2018
	By: _____ George Keller, Commissioner Date: _____, 2018
	By: _____ Joseph Comer, Commissioner Date: _____, 2018
	By: _____ John Balcom, Commissioner Date: _____, 2018
	By: _____ Anthony Pellegrino, Commissioner Date: _____, 2018
	By: _____ Ronald Miner, Jr., Superintendent Date: _____, 2018

**EXHIBIT A**

**30% SPECIFICATIONS FOR GRANULAR ACTIVATED CARBON FILTRATION  
TREATMENT SYSTEM FOR MVD WELLS 4 AND 5, WITH ASSOCIATED COST  
BREAKDOWN**

2070.00

June 13, 2017

Mr. Ron Miner, Superintendent  
Merrimack Village District  
2 Greens Pond Road  
Merrimack, NH 03054

Re: ***Permanent PFAS Treatment at Wells #4 and #5  
30% Preliminary Design***  
Merrimack Village District, Merrimack, New Hampshire

Dear Mr. Miner:

In accordance with Engineering Service Request (ESR) #31, Underwood Engineers (UE) is pleased to provide this letter report summarizing the basis of design for the proposed perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) treatment facility at Wells #4 and #5 located off Front Street.

## **1.0 BACKGROUND AND GOALS**

A water treatment facility is needed to reduce per- and polyfluoroalkyl substances (PFAS) because the current combined level of PFOA and PFOS in both Wells #4 and #5 exceed the long-term health advisory of 70 parts per trillion (ppt) recently established by EPA. NHDES has established 70 ppt of PFOA, PFOS or PFOA + PFOS as an Ambient Groundwater Quality Standard (AGQS), which in NH, has the same enforcement requirements as a Maximum Contaminant Level (MCL). As a result, NHDES has de-activated the wells (see letter dated June 8, 2016, **Attachment A**).

UE previously completed a draft Technical Memorandum "PFOA Treatment at Wells #4 and #5 and Wells #7 and #8" dated May 16, 2016, which discussed temporary alternatives for removing PFAS at Wells #4 and #5 and identified granular activated carbon (GAC) and synthetic resins as possible treatment technologies. GAC is a proven technology and is being used elsewhere for public water supply treatment for PFAS, however, resins may be a more cost-effective option due to lower O&M costs. Since the May 2016 report focused on temporary treatment options, additional design phase services are needed to establish the basis of design for long-term treatment at Wells #4 and #5.

Therefore, the Preliminary Design presented here is intended to establish the recommended treatment technology, basis of design and opinion of cost.

The goals of this phase include:

- Compare alternative technologies to identify cost effective solutions that consider long-term operating costs.
- Identify the recommended treatment technology for Wells #4 and #5. Note, piloting may be needed in a future phase. Temporary treatment will effectively act as a “pilot”.
- Establish the basis of design including design flows, type of facility, size of facility, and location of facility.
- Identify next steps and schedule to design and construct a treatment facility.

Note, the design efforts described within the Scope of Work will be coordinated with MVD, NHDES, and Saint-Gobain High Performance Plastics (SGHPP) or their designated agents, together referred to as the “stakeholders”. However, MVD remains as the client.

## 2.0 EXISTING CONDITIONS

Wells #4 and #5 are located off Front Street in the northeastern area of Town adjacent to the Merrimack River (see **Attachment B**). Both wells draw from the Merrimack-Merrimack River aquifer which is a deposit spanning the River in North Merrimack and Litchfield. Well #4 was installed in 1956 for the Reeds Ferry Water District, which later merged with the MVD. Well #5 was installed in 1969, a few hundred feet away from Well #4 (see *Site Plan attached*). The production from each well is combined and treated (chemical feed only) at a facility located at the Well #5 wellhead.

Existing facilities at Wells #4 and #5 consist of a pump station for each well and a lime feed building adjacent to Well #5 with the following chemical feeds:

- Poly-orthophosphate blend for sequestering iron and manganese and to act as a corrosion inhibitor
- Calcium hypochlorite in tablet form for disinfection
- Lime to add alkalinity and increase pH for corrosion control

### 2.1 Water Quality

**Table 1** below summarizes recent available water quality. More detailed data are provided in **Attachment C**.



**Table 1**  
**Representative Water Quality Wells 4 & 5**

	Well #4		Well #5		Remarks
	Average	Maximum	Average	Maximum	
<b>Turbidity</b>	<.5	<.5	<.5	<.5	(1)
<b>Copper</b>	0.111	0.184	<.01	<.01	(1)
<b>Iron</b>	<.05	<.05	<.05	<.05	(1)
<b>Lead</b>	<.01	<.01	<.01	<.01	(1)
<b>Manganese</b>	<.01	<.01	<.01	<.01	(1)
<b>Sodium</b>	57.9	61.4	100	111	(1)
<b>Chloride</b>	101	111	198	229	(1)
<b>Nitrate</b>	3.7	4.0	1.8	2.1	(1)
<b>Alkalinity</b>	19	22	22	24	(1)
<b>Hardness</b>	55.5	62.4	77.2	83.3	(1)
<b>pH</b>	5.96	6.85	6.09	7.01	(1)
<b>PFOA</b>	77	130	52	79	(2)
<b>PFOS</b>	7	11	5	6	(2)
<b>VOCs</b>	ND	ND	ND	ND	(3)

(1) Quarterly samples of raw well water July 2014 to April 2016.

(2) UCMR 2014 and weekly raw well samples March 2016 to July 2016 posted on NHDES website last updated May 15, 2017.

(3) Combined Wells 4 & 5 finished water sample April 2013.

ND = below detection limit

The following additional water quality parameters are recommended to improve predictions of treatment efficiency by available technologies:

- Total Organic Carbon (TOC)
- Sulfate

## 2.2 Capacity

The capacity of Wells #4 and #5 was evaluated in a report by Emery and Garrett Groundwater Investigations (EGGI) in December 2003. EGGI recommended the following limits to groundwater withdrawals (Wells #4 and #5 combined):

- Annual Limit: 220 million gal/year. This corresponds to 600,000 gpd. This is the reported permitted production capacity.
- Maximum: 900,000 gpd (625 gpm) during short-term peak demand periods.

The Master Plan Update (draft November 2014 by UE) indicated that the well pumps are capable of producing over 800 gpm. The MVD does operate the wells at these rates, especially during summer demands, and requested that the treatment facility be designed to accommodate 870 gpm peak flow. This is possible but only if the wells are operated at this flow rate for short periods of



time to assist with peak demands. The total annual withdrawal from both wells combined should not exceed 220 million gallons. For example, if the wells are pumped at 870 gpm continuously 24 hours per day, they could operate for 175 days and then would need to be turned off for the rest of the year per the EGGI recommendation.

Per MVD, the current capacity of the wells and pumping equipment is 410 gpm for Well 4 and 620 gpm for Well 5.

For reference, a graph comparing production (pumpage) from all MVD wells and total system billed/metered consumption is provided as **Attachment D**.

### **2.3 Field Work**

#### **Survey**

A topographic survey of the Wells #4 and #5 site was conducted in November of 2016 and forms the base of the attached Preliminary Site Plan.

#### **Geotechnical Evaluation**

The geotechnical evaluation included the following tasks:

- Locate, conduct, and monitor soil borings in the vicinity of the proposed treatment facility
- Perform sieve analyses of representative soil samples
- Conduct engineering evaluation of the geotechnical aspects of the proposed treatment facility considering foundation design, soil properties, site preparation, and construction considerations

Four test borings were advanced to depths ranging from 22 to 27 feet below grade on January 27, 2017 and representative soil samples were collected at about 5-foot intervals using a split spoon sampler. Based on the borings and analysis of the samples, R. W. Gillespie & Associates, Inc., our geotechnical sub-consultant, reached the following conclusions:

- The soils are not considered susceptible to liquefaction and settlement due to an earthquake. Per the *2009 International Building Code*<sup>®</sup> the soil profile is classified as Site Class D. Therefore, structures can be supported by shallow foundations consisting of spread and/or continuous footings with slab-on-grade ground floors, all bearing on compacted structural fill.
- There is about 1.5 feet of medium to fine sandy fill on the site which should be removed and replaced with compacted structural fill if found below the proposed building.
- Particle size analysis indicates both the onsite fill and naturally deposited material are not suitable for use as structural fill.
- Groundwater was at about 20 feet below ground although this may not be representative of stabilized groundwater levels. It is anticipated that if groundwater is encountered during construction, it can be controlled through ditching, sumps and open pumping.



Additional borings are needed once a final site has been established for the new facility.

### **3.0 BASIS OF DESIGN: FLOWS AND TREATMENT GOALS**

#### **3.1 Flows**

Individual Wells (pumping equipment, raw water piping, etc.)

- Well 4 = 410 gpm (match existing)
- Well 5 = 620 gpm (match existing)

Combined (treatment processes, finished water piping, etc.)

- Peak Combined = 870 gpm for limited periods
- Average Combined = 625 gpm
- Annual Limit = 220 million gal/year. This corresponds to 600,000 gpd (420 gpm). This is the reported permitted production capacity.

#### **3.2 Treatment Goals**

Design Raw Water Parameters (based on historical highs)

PFOA	130 ng/L
PFOS	11 ng/L

Finished Water Quality

PFOA + PFOS (combined):	
Regulatory Limit	<70 ng/L 100% of the time
Treatment Goal	BDL
pH:	6.8 to 7.0 (maintain existing)
Chlorine Residual:	1 to 2 mg/L as Cl <sub>2</sub> (maintain existing)
Blended Phosphate:	1 to 2 mg/L as blended phosphate (maintain existing)

### **4.0 DESIGN DECISIONS**

The 30% design presented here includes design decisions based on the following evaluations.

#### **4.1 PFAS Treatment System**

Underwood Engineers evaluated both granular activated carbon (GAC) and ion exchange resin (IX) for PFAS removal. As noted in our May 16, 2016 draft report, GAC filters are by far the most commonly used treatment technology to remove PFAS from drinking water. Several full-scale examples of GAC treatment facilities exist in various areas of the northeast. Ion exchange has promise and is successfully treating PFAS in ground water remediation applications. However, UE is not aware of any full-scale resin systems treating PFAS in drinking water.



UE conducted a cost-effective evaluation (**Attachment E**). GAC systems have a lower upfront capital cost than IX. Using water quality data provided by UE, system manufacturers estimated the life of their respective media between replacements. UE used these replacement periods to estimate lifecycle costs. Future costs of media replacements were calculated in today's (2017) dollars assuming investments equal inflation. For example, the "Real Discount Rate" a forecast of real interest rates from which the inflation premium has been removed was 0.5% per Whitehouse OMB Circular 94 Appendix C November 2016. Using these assumptions, the lifecycle costs of the two media are comparable (\$1.89M for GAC and \$1.82M for IX).

***In summary, since GAC is a proven technology, there are no full-scale IX systems treating PFAS in drinking water, and the lifecycle costs are comparable, UE recommends GAC and has used it as the basis of this 30% preliminary design.***

A treatment system basis of design is provided as **Attachment F**.

#### **4.2 Chemical Feed**

The following chemical feeds are required. ***All chemicals will be injected after the filters.*** (Blended phosphate may be added prior to the filters to sequester iron and manganese and prevent blinding. This will be evaluated during final design.)

- **Chlorine for disinfection.** A calcium hypochlorite tablet chlorinator will be used for consistency with current treatment and other MVD wells. The current dose is not expected to change as a result of GAC.
- **pH adjustment.** Based on experience with the manganese greensand filters at Wells #7 and #8, lime can plate out on the filter media causing premature headloss and/or blinding of the filter. Given the age, condition, and issues associated with the lime feed stations, UE has recently initiated an evaluation of the pH/alkalinity adjustment for all the MVD wells. Options to be evaluated include rehabilitation of the lime feed facilities or switching to a feed of sodium hydroxide or soda ash. At this time we assume that a feed of sodium hydroxide would be initiated after the GAC filters. Delivery will be by tanker truck transferred to bulk tanks inside the treatment plant.
- **Blended phosphate for corrosion control.** The current dose and chemical (Aquacros HC-2060) is assumed for consistency with MVD's other supplies. Transferring from IBC Totes with a permanent transfer pump is recommended for ease of operation but drums can be used for consistency with other MVD wells.

#### **4.3 Sanitary and Backwash Waste Disposal**

The sanitary waste stream includes a toilet and lavatory and lab sink. Per discussions with NHDES, floor drains that capture water from emergency eyewashes and showers must also discharge to sanitary facilities due to human contact and contact with chemicals.

When GAC is first installed in the filters, it will need to be backwashed to remove fines. Given the current raw water quality, GAC manufacturers do not anticipate that backwash will be required





between media replacements. However, the ability to backwash to reduce headloss will be provided.

The design intent is to dispose of the sanitary and backwash waste to the sewer, which runs along the railroad adjacent to the site. UE contacted the Town of Merrimack to determine whether a sewer connection would be allowed and if so what the requirements would be. The Town confirmed a sewer connection would be allowed for sanitary waste, lab sink, online analyzers, and backwashing GAC fines after each fill. A Town permit application and an Industrial Discharge Request will be required.

#### ***4.4 Standby Power***

Permanent standby power will be provided by a generator located inside the building for protection from weather and animals and for operator comfort and safety. The generator will be sized to power all loads at the new treatment building and Wells 4 and 5. Fuel is anticipated to be liquefied petroleum gas (LPG).

#### ***4.5 Use of Existing Facilities***

MVD officials expressed interest in combining the new treatment building with the existing Well 5 building. Therefore, UE has aligned the new facility to facilitate an expansion that could encompass Well #5. Incorporating this concept should be included in final design so it can be completed as part of this work or at a future time.

The existing lime building will be demolished. pH adjustment will be provided at the new treatment building.

### ***5.0 DESIGN SUMMARY AND OPINION OF PROBABLE COST***

The current conceptual design assumes the following components:

- New well pumps for Wells #4 and #5 to provide process head. (High head well pumps will be used to pump through the filters directly into the distribution system.)
- Packaged GAC pressure adsorption system.
- Chemical feed systems to be located in new treatment building. Injection after GAC filters:
  - Calcium hypochlorite tablet chlorinator for disinfection.
  - Bulk sodium hydroxide (caustic soda) for pH adjustment.
  - Blended phosphate for corrosion control.
- Building (60' x 44' assumed) and ancillary systems (HVAC, electrical, controls, etc.).
- Controls incorporated into MVD's existing SCADA system.
- Emergency generator inside building.
- Connection to sewer for sanitary waste and discharge of carbon fines after initial installation.
- Work room with lab sink, countertops, desk.
- Site improvements to support the new facility, including:



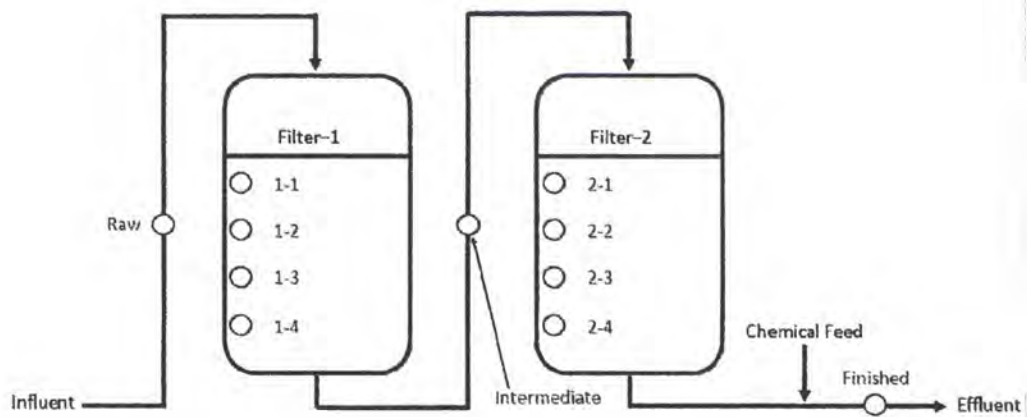
- Gravel driveway designed to accommodate bulk chemical delivery.
- Security gate.
- Grading and drainage.

See attached Preliminary Site Plan and Process Plan.

Underwood Engineers has prepared the attached Opinion of Probable Construction Cost (**Attachment G**) based on the above conceptual design. The recommended budget is \$4,430,000.

### **6.0 RECOMMENDED SAMPLING PLAN**

Underwood Engineers recommends the following sampling plan for both temporary and permanent treatment for the first two years of operation. The sampling frequency should be adjusted after 2-year trends are established. Data from the temporary treatment system can be used to assist with sizing the permanent treatment system.



**Filter-to-Waste / Startup**

Sample Location	Parameters	Frequency
Raw	PFOA+PFOS	Once
	pH	Daily
	Turbidity, Iron, Manganese, Sodium, Chloride, Alkalinity, Hardness	Once
	TOC	Once prior to Temp. treatment
Intermediate	PFOA+PFOS	Once
Finished	pH, PO <sub>4</sub> , Cl <sub>2</sub> residual	As needed until acceptable to place in service (plus pH & Cl <sub>2</sub> residual continuous online for perm. system)
	PFOA+PFOS	Once or repeat until acceptable to place in service

**System in Operation**

Sample Location	Parameters	Frequency
Raw	PFOA+PFOS	Weekly 1 <sup>st</sup> 3 months, Quarterly thereafter
	pH	Daily
	Turbidity, Copper, Lead, Iron, Manganese, Sodium, Chloride, Nitrate, Alkalinity, Hardness, TOC	Quarterly
1-1	PFOA+PFOS	Quarterly
1-2	PFOA+PFOS	Quarterly
1-3	PFOA+PFOS	Quarterly
1-4	PFOA+PFOS	Quarterly
Intermediate	PFOA+PFOS	Weekly 1 <sup>st</sup> 3 months, Quarterly thereafter
2-1	PFOA+PFOS	Quarterly
2-2	PFOA+PFOS	Quarterly
2-3	PFOA+PFOS	Quarterly
2-4	PFOA+PFOS	Quarterly
Finished	pH, Cl <sub>2</sub> residual	Daily for temp. system – Continuous online for perm. system; weekly grab to check calibration
	PO <sub>4</sub>	Weekly
	PFOA+PFOS	Weekly 1 <sup>st</sup> 3 months, Quarterly thereafter

Note: The sampling frequency should be adjusted after 2-year trends are established.



## **7.0 PERMIT CONSIDERATIONS**

We have considered potential permit requirements for this project as summarized below. This list is not exhaustive; the intent is to identify “red flags” that would affect project feasibility or significantly impact cost.

### **NHDES Drinking Water and Groundwater Bureau**

- Design review and construction approval.

### **Wetlands Permit**

- Not anticipated. No known wetlands at site.

### **Shoreland Protection Permit**

- Not anticipated. Project is outside 250-foot protected shoreland buffer.

### **Sewer Connection Permit**

- Town of Merrimack permit application required. Per Serita Croce at the Town, the proposed use is permissible (sanitary waste, lab sink, online analyzers, backwashing GAC fines after each fill).
- Industrial Discharge Permit required. Town reviews first and submits to NHDES for review.

### **Alteration of Terrain Permit**

- Not anticipated because disturbance <100,000 SF.

### **Floodplain**

- Project is outside Merrimack River floodplain.

### **Town of Merrimack Planning Board**

- Anticipate site plan review.

### **Town of Merrimack Code Enforcement**

- Anticipate design review.
- Contractor will be required to obtain building permits.

### **NPDES Construction General Permit**

- Will be required during construction since disturbed area > 1 acre.
- Contractor will be required to prepare and implement Stormwater Pollution Prevention Plan (SWPPP).
- Contractor and MVD to submit Notice of Intent (NOI) prior to construction.
- No significant impact on design or project cost anticipated.



In summary, certain permit applications will be required for this project. Based on the information Underwood Engineers has discovered to date, permitting and environmental review conditions may have minor impacts on the design of the project but are not anticipated to significantly impact overall project cost or feasibility or schedule.

### **8.0 TENTATIVE SCHEDULE**

Attached to this letter (**Attachment II**) is an overall schedule for both temporary and permanent treatment solutions. This schedule was presented in our March 27, 2017 letter report. It is conservative and was based on the fact that temporary treatment would be in place. Key considerations in the attached schedule include:

- Concurrence from Saint Gobain is critical to this schedule. The attached schedule is based on a commitment from Saint Gobain by July 1, 2017.
- Installation of temporary treatment may not be online in time for summer demands. The attached schedule shows temporary treatment online in fall or winter of 2017 at best. The schedule for temporary treatment could be shortened by a couple months if the MVD does not require a typical bid phase (see alternative schedule shown on the attached).
- Permanent treatment would not be online until summer 2019.

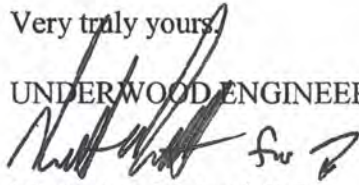
### **9.0 RECOMMENDATIONS**


- Proceed with final design to include:
  - Additional water quality sampling and analysis, including TOC and sulfates.
  - Laboratory Accelerated Column Test (ACT) to confirm GAC type and estimate time between regeneration if temporary units are not installed.
  - Permit applications as required.
  - Final site layout and design.
  - Building design.

Please call with any questions.

Very truly yours,

UNDERWOOD ENGINEERS, INC.

  
Michael B. Metcalf, P.E.  
Sr. Project Manager

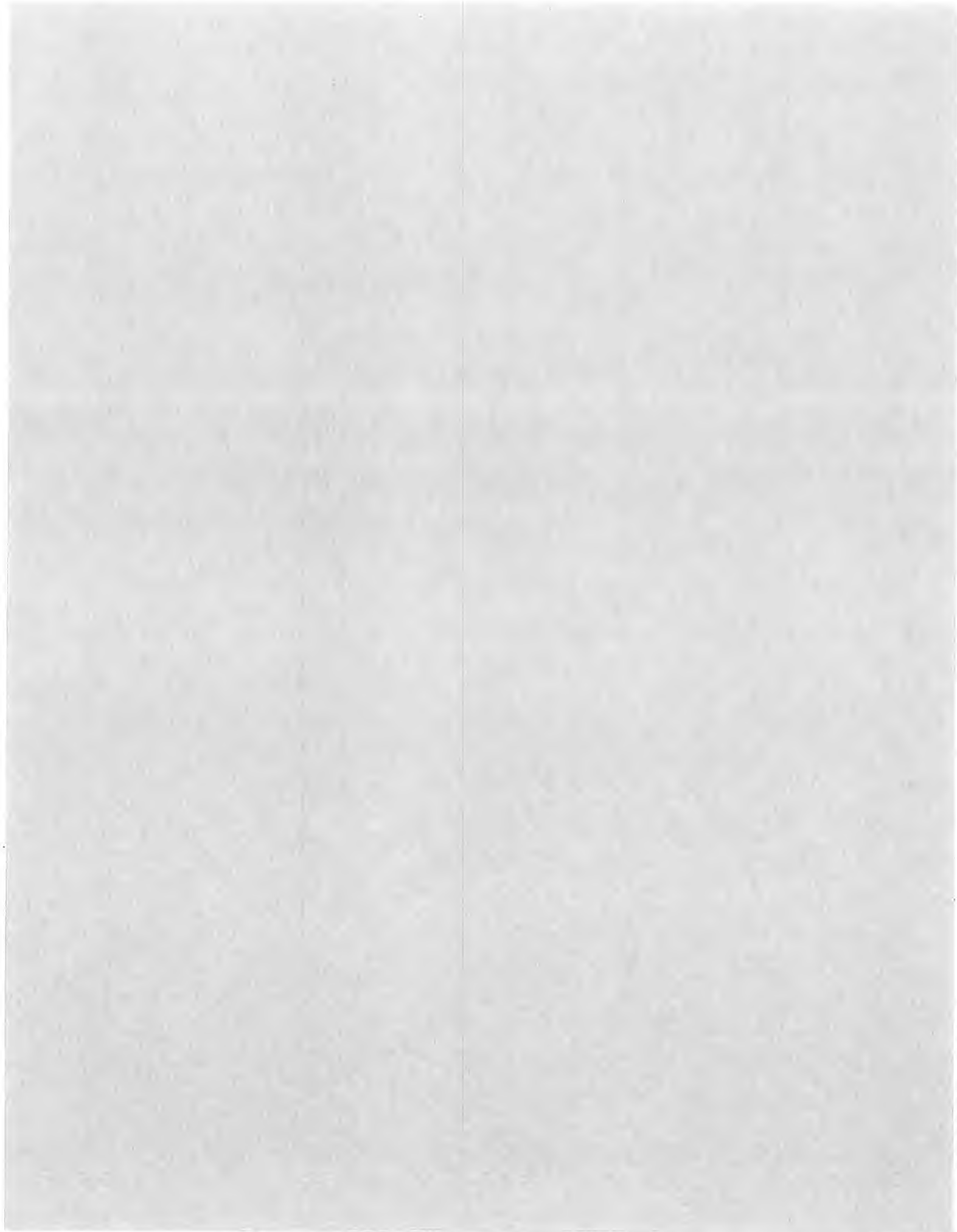
  
Michael C. Unger, P.E.  
Sr. Project Engineer

MBM/MCU/mcu

Encl.

- Attachments A through H
- 30% Preliminary Design Drawings





**ATTACHMENT A**



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Thomas S. Burack, Commissioner**

June 8, 2016

Tom Nutting  
Merrimack Village District  
2 Greens Pond Rd.  
Merrimack, NH 03054-4259

**Subject: Town: Merrimack - Public Water System: Merrimack Village District  
PWS ID: 1531010  
Inactivation of Well(s), Source ID: 004, 005  
Revised Chemical Monitoring Sampling Schedule**

Dear Mr. Nutting:

The records of the Department of Environmental Services ("DES"), Drinking Water & Groundwater Bureau, indicate that the subject wells; source ID 004 'GPW 4/ MVD 4' and 005 'GPW 5/MVD 5' have shown contamination of PFOA above the Ambient Groundwater Quality Standard (AGQS) of 0.000070 mg/L. Based on this information, the subject wells are hereby deactivated along with the blended chemical sample site ID 501 'ST PUMP STATION 5/OFF FRONT ST/BLEND 004 005'.

The subject wells are **NOT** to be used to supply water to the water system without prior DES approval. The wells should be locked out and tagged out to prevent inadvertent use.

The chemical monitoring requirements for the above water system have been updated. The revised Master Sampling Schedule (MSS) reflects all results received to date as well as future sampling requirements.

The MSS and all analysis request forms (which must accompany all samples to the laboratory) are available on line at: [www.des.nh.gov](http://www.des.nh.gov); click on A to Z list and select Public Water System Search and enter your specific PWS identifier. We encourage you to check your MSS and download new forms each time you collect a sample. The analysis request forms are pre-populated with information specific to your public water system. It is important that this information is correct to ensure that your laboratory can submit accurate data to us in a timely fashion.

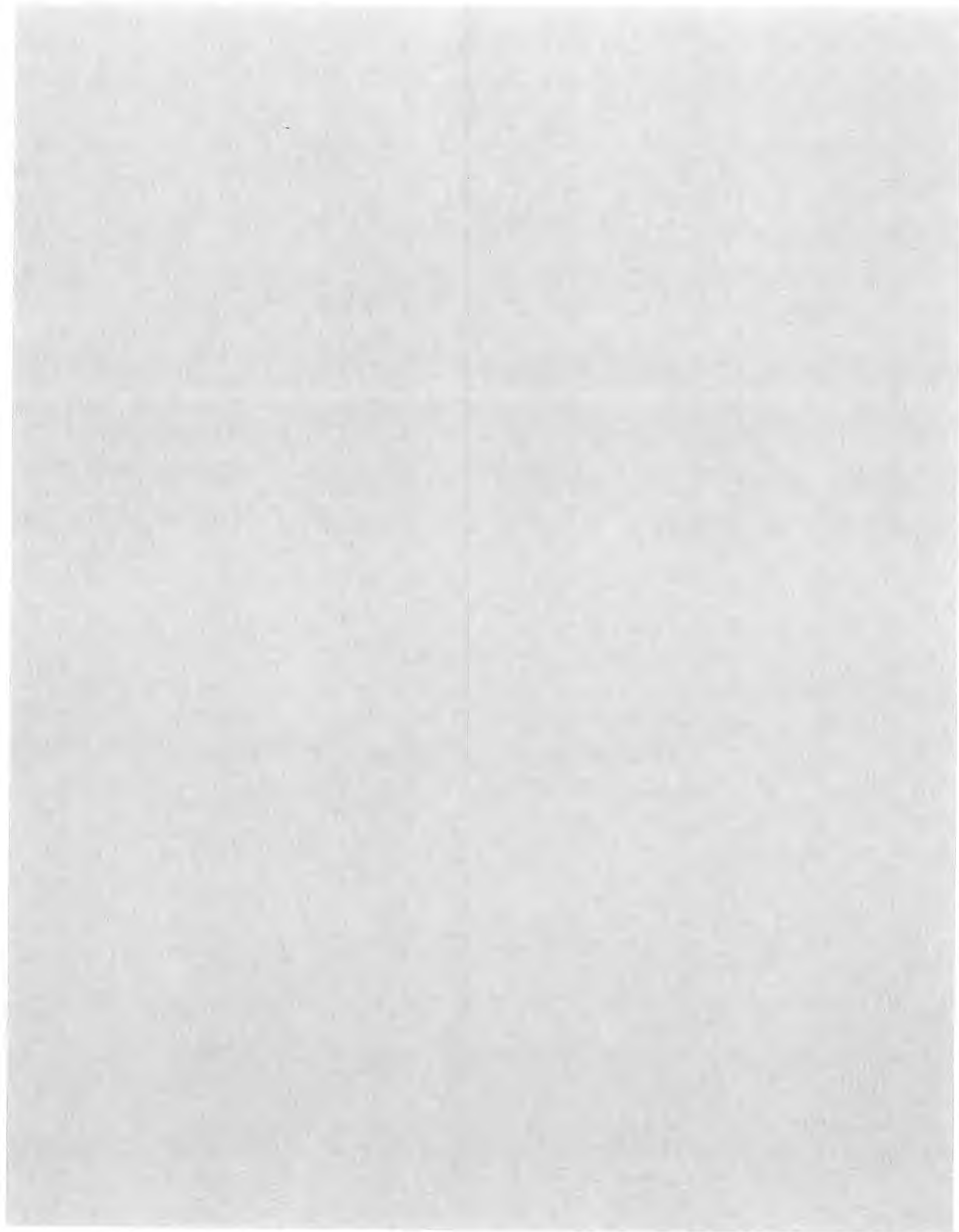
If you have any questions or need assistance, please contact Rick Skarinka at (603) 271-2948 or by email at [Richard.Skarinka@des.nh.gov](mailto:Richard.Skarinka@des.nh.gov).

Sincerely,

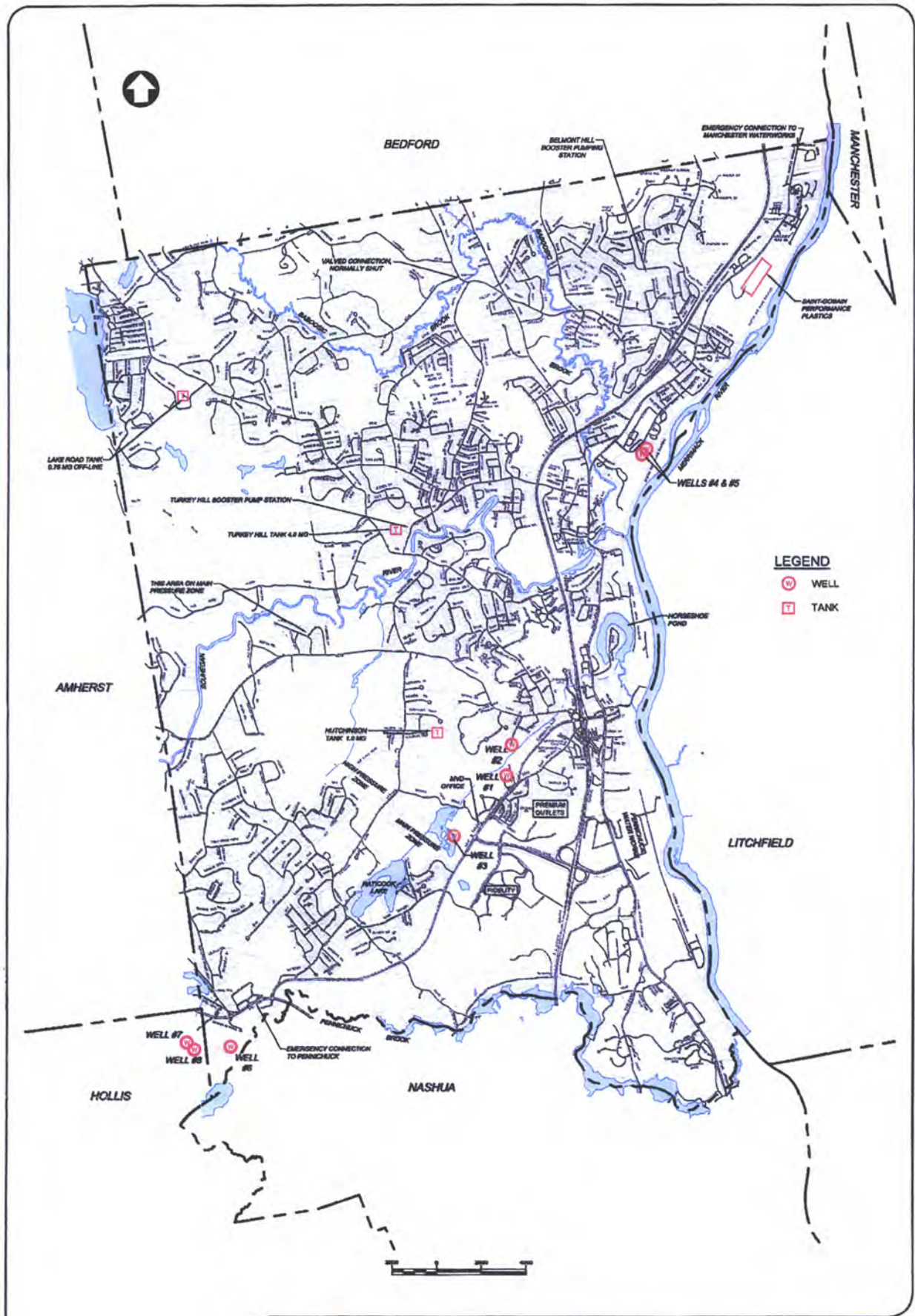
Harrison 'Chip' Mackey  
Drinking Water and Groundwater Bureau


cc: Ronald Minor Jr., Operator  
Rick Skarinka P.E., NHDES  
File

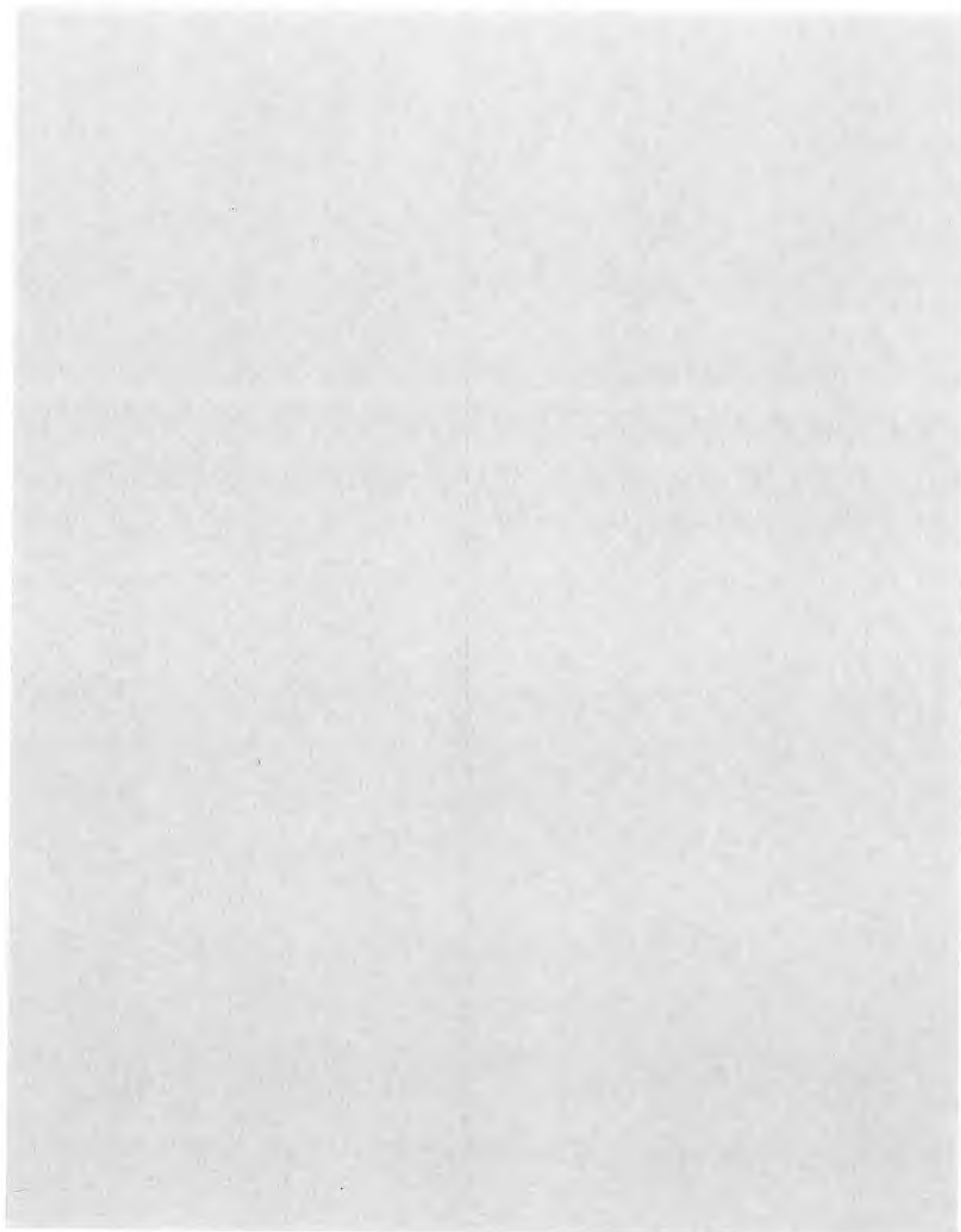




**ATTACHMENT B**



DATE 4/13/16		<b>MERRIMACK OVERVIEW</b> <b>MERRIMACK VILLAGE DISTRICT</b> <b>MERRIMACK, NEW HAMPSHIRE</b>	FIG. 1
PROJECT 2021	25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-438-9192 Fax. 603-431-4733		



**ATTACHMENT C**

Merrimack Village District  
 PFAS Data - Project No. 2070  
 last revised: May 31, 2017

Date	MVD4 (ng/L)																							
	Perfluorobutanoic Acid	Perfluoropentanoic Acid	Perfluorobutane Sulfonate	Perfluorohexanoic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonate	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid	Perfluorooctane Sulfonate (PFOS)	Perfluorodecanoic Acid	Perfluoroundecanoic Acid	Perfluorododecane Sulfonate	Perfluorododecanoic Acid	Perfluorooctylsulfonamide	Perfluoro-n-tridecanoic acid	Perfluoro-n-tetradecanoic acid	Perfluoroheptane sulfonate	N-(ethylperfluoro-1-octanesulfonamido)-ethanol	N-methylperfluoro-1-octanesulfonamide	2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol	6:2 Fluorotelomer sulfonate	8:2 Fluorotelomer sulfonate	
4/14/2014*							42																	
10/7/2014*							ND**																	
3/9/2016	ND	8.2	5.4	17	12	ND	90	ND	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/31/2016	ND	8.9	5.9	13	12	ND	90	ND	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/7/2016	ND	11	6	15	14	ND	94	ND	6.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/14/16 <sup>1</sup>							94		8.8															
4/21/16 <sup>1</sup>							93		7															
4/28/16 <sup>1</sup>							85		5.9															
5/5/16 <sup>1</sup>							130		11															
5/12/16 <sup>1</sup>							75		5.5															
5/26/16 <sup>3</sup>							34		ND															
6/2/16 <sup>3</sup>							25		ND															
7/7/16 <sup>1</sup>							85		5															
7/7/16 <sup>1</sup>							94		7.5															
7/7/16 <sup>3</sup>							61		ND															
7/7/16 <sup>3</sup>							59		ND															
7/7/16 <sup>2</sup>							84		ND															
<b>Average</b>							77		7															
<b>Maximum</b>							130		11															
<b>Notes:</b>																								
1. ALS Global - Isotope Dilution																								
2. Eurofins - Method 537 1.1																								
3. Regional Water Authority - Method 537 1.1																								
4. ALS Global - Method 537 1.1																								
*Sample is a blend of wells 4+5																								
**Result listed as <0.00067																								
All samples collected by MVD and posted on NHDES website, last updated May 15, 2017 with the exception of 2014 samples, which were taken by MVD as part of USEPA's UCMR3 (Unregulated Contaminant Monitoring Rule Round 3).																								

Merrimack Village District  
 PFAS Data - Project No. 2070  
 last revised: May 31, 2017

Date	MVD5 (ng/L)																							
	Perfluorobutanoic Acid	Perfluoropentanoic Acid	Perfluorobutane Sulfonate	Perfluorohexanoic Acid	Perfluoroheptanoic Acid	Perfluorohexane Sulfonate	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid	Perfluorooctane Sulfonate (PFOS)	Perfluorodecanoic Acid	Perfluoroundecanoic Acid	Perfluorododecane Sulfonate	Perfluorododecanoic Acid	Perfluorooctylsulfonamide	Perfluoro-n-tridecanoic acid	Perfluoro-n-tetradecanoic acid	Perfluorohexane sulfonate	N-(ethylperfluoro-1-octanesulfonamido)-ethanol	N-methylperfluoro-1-octanesulfonamide	2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol	6:2 Fluorotelomer sulfonate	8:2 Fluorotelomer sulfonate	
4/14/2014*							42																	
10/7/2014*							ND**																	
3/9/2016 (1)	ND	7.5	ND	13	8.6	ND	54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/9/2016 (2)	ND	7.8	ND	14	8.5	ND	52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/31/2016	ND	8.1	ND	11	8.6	ND	56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/7/2016	ND	9.1	ND	11	9	ND	52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4/14/16 <sup>1</sup>							67		5.5															
4/21/16 <sup>1</sup>							56		5.4															
4/28/16 <sup>1</sup>							57		ND															
5/5/16 <sup>1</sup>							66		4.7															
5/12/16 <sup>1</sup>							79		4.8															
5/26/16 <sup>3</sup>							35		ND															
6/2/16 <sup>3</sup>							21		ND															
7/7/16 <sup>1</sup>							53		ND															
7/7/16 <sup>3</sup>							37		ND															
7/7/16 <sup>2</sup>							48		ND															
<b>Average</b>							52		5															
<b>Maximum</b>							79		6															
Notes:																								
1. ALS Global - Isotope Dilution																								
2. Eurofins - Method 537 1.1																								
3. Regional Water Authority - Method 537 1.1																								
4. ALS Global - Method 537 1.1																								
*Sample is a blend of wells 4+5																								
**Result listed as <0.00067																								
All samples collected by MVD and posted on NHDES website, last updated May 15, 2017 with the exception of 2014 samples, which were taken by MVD as part of USEPA's UCMR3 (Unregulated Contaminant Monitoring Rule Round 3).																								

**WELL #4**  
 Quarterly Raw Water Sampling by MVD  
 November 2016

	MCL	SMCL	7-14-14	12-15-14	1-20-15	4-7-15	7-15-15	10-13-15	1-26-16	4-21-16	7-26-16	10-6-16
<b>Turbidity</b>	1.0 NTU		<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	OFF	OFF
<b>Copper</b>		1.3ppm	<.01	<.01	<.01	<.01	.086	.157	.184	.018		
<b>Iron</b>		0.30mg/l	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05		
<b>Lead</b>	.015ppm		<.01	<.003	<.01	<.01	<.01	<.003	<.01	<.01		
<b>Manganese</b>		0.05	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01		
<b>Sodium</b>		100-250	57.1	54.1	58.1	59.8	57.9	56.9	57.5	61.4		
<b>Chloride</b>		250	103	109	111	109	99.4	100	86.2	92.5		
<b>Nitrate</b>	10ppm		4.0	3.5	3.7	3.8	3.6	3.9	3.6	3.4		
<b>Alkalinity</b>			17	20	20	16	20	16	20	22		
<b>Hardness</b>	100ppm		47.7	54.9	54.5	53.5	62.4	58.6	53.3	58.7		
<b>pH</b>			5.86	6.00	5.87	5.86	5.88	5.62	6.85	5.73		

<b>KEY</b>	
ppm	Parts per million
mcl	Maximum contaminant level
bdl	Below detection level
smcl	Secondary (aesthetic )maximum contaminant level
mg/l	Milligram per liter
NTU	Nephelometric turbidity units



**WELL #5**  
 Quarterly Raw Water Sampling by MVD  
 November 2016

	MCL	SMCL	7-14-14	12-15-14	1-20-15	4-7-15	7-15-15	10-13-15	1-26-16	4-21-16	7-26-16	10-6-16
<b>Turbidity</b>	1.0NTU		<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	OFF	OFF
<b>Copper</b>		1.3ppm	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01		
<b>Iron</b>		0.30mg/l	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05		
<b>Lead</b>	.015ppm		<.01	<.003	<.01	<.01	<.01	<.003	<.01	<.01		
<b>Manganese</b>		0.05	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01		
<b>Sodium</b>		100-250	101	96.2	99.8	107	111	102	87.8	91.3		
<b>Chloride</b>		250	208	211	229	204	205	203	157	165		
<b>Nitrate</b>	10ppm		1.8	1.6	1.7	1.7	1.8	2.0	2.1	1.9		
<b>Alkalinity</b>			20	22	22	22	22	21	24	23		
<b>Hardness</b>	100ppm		76.3	78.3	78.1	76.4	83.3	81.2	69	74.7		
<b>pH</b>			5.94	6.09	5.97	5.88	6.02	5.83	7.01	5.94		

KEY	
ppm	Parts per million
mcl	Maximum contaminant level
bdl	Below detection level
smcl	Secondary (aesthetic) maximum contaminant level
mg/l	Milligram per liter
NTU	Nephelometric turbidity units



317 Elm Street  
Milford, NH 03055

(603) 673-5440  
Fax (603) 673-0366  
Sales@chemservelab.com

Friday, April 19, 2013

Jill Lavoie  
Merrimack Village District  
2 Greens Pond Rd  
Merrimack, NH 03054

Wells 4&5 Finished Water  
VOC's & Nitrate  
2013

**Project Name:** Merrimack Village Dist.  
**Project #:** EPA# 1531010  
**Project Location:** Merrimack  
**Control #:** 13040109

**Lab ID:** 13040109

**Date Received:** 4/8/2013

Dear Jill Lavoie

Enclosed please find the laboratory results for the above referenced samples that were received by the ChemServe sample custodian on the above referenced date. Any abnormalities to the samples upon receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed chain of custody with the corresponding control number, attached.

All samples analyzed by ChemServe are subject to quality standards. These standards are as stringent or more stringent than those established under NELAC, 40 CFR Part 136, state certification programs, and corresponding methodologies. ChemServe has a written QA/QC Procedures Manual that outlines these standards, and is available for your reference, upon request. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by NELAC. All units are based on "as received" weight unless denoted "dry".

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined within NELAC. ChemServe's certified parameter list can be found at <http://www.chemservelab.com/Laboratory-Information-and-Documentation.aspx>

Jay Chrystal - President/Laboratory Director



317 Elm Street  
 Milford, NH 03055  
 (603) 673-5440  
 Sales@chemservelab.com

Merrimack Village District  
 Jill Lavoie  
 2 Greens Pond Rd  
 Merrimack, NH 03054

Control #: 13040109  
 Project Number: EPA# 1531010  
 Project Name: Merrimack Village Dist.  
 Project Location: Merrimack

Lab ID: 13040109  
 Date: 4/19/2013

Lab ID: 13040109

**Sample Receiving and Comment Summary**

Were samples submitted with a chain of custody?	Yes
Do all samples received match the chain of custody?	Yes
Were all samples received within applicable holding times?	Yes
Were all containers intact when received?	Yes
Was there evidence of cooling if required?	Yes
Were samples for volatile organic analysis free of headspace (per method)?	Yes
Was the cooler temperature recorded if applicable?	Yes
If the sample pH was not correct was it adjusted where applicable?	Yes
Were samples for dissolved metals already filtered by the client or field sampling?	N/A
Were Samples for O-phos filtered in the field?	N/A

Sample	Method	Client Identity	Matrix	Analyst
13040109-001	EPA 300.0	501 Pump Station 5 / Off Front St / Blend 004 005	Drinking Water	MichelleG

Comment: no comment

\* Blank comment sections denote "No Comment"



317 Elm Street  
 Milford, NH 03055  
 (603) 673-5440  
 Sales@chemservelab.com

Merrimack Village District  
 Jill Lavoie  
 2 Greens Pond Rd  
 Merrimack, NH 03054

Control #: 13040109  
 Project Number: EPA# 1531010  
 Project Name: Merrimack Village Dist.  
 Project Location: Merrimack

**Analytical Results**

Lab ID: 13040109  
 Date: 4/19/2013

Sample	Method	Client Sample Identity	Units	Matrix	Analyst
13040109-001	EPA 300.0	501 Pump Station 5 / Off Front St / Blend 004 005	mg/L	Drinking Water	MichelleG

Start Date/Time Sampled: 4/8/2013 11:15:00 AM Composite End Date/Time:

Parameter	CAS Number	Result	Qualifier	Date/Time Analyzed	Dilution Factor	RDL
Nitrate		1.7 mg/L		4/8/2013 8:05:00 PM	1	1

Sample	Method	Client Sample Identity	Units	Matrix	Analyst
13040109-001	EPA 524.2	501 Pump Station 5 / Off Front St / Blend 004 005	ug/L	Drinking water	SarahP

Start Date/Time Sampled: 4/8/2013 11:15:00 AM Composite End Date/Time:

Parameter	CAS Number	Result	Qualifier	Date/Time Analyzed	Dilution Factor	RDL
1,1,1,2-Tetrachloroethane	630-20-6	< 0.5 ug/L		4/15/2013	1	0.5
1,1,1-Trichloroethane	71-55-6	< 0.5 ug/L		4/15/2013	1	0.5
1,1,2,2-Tetrachloroethane	79-34-5	< 0.5 ug/L		4/15/2013	1	0.5
1,1,2-Trichloroethane	79-00-5	< 0.5 ug/L		4/15/2013	1	0.5
1,1-Dichloroethane	75-34-3	< 0.5 ug/L		4/15/2013	1	0.5
1,1-Dichloroethene	75-35-4	< 0.5 ug/L		4/15/2013	1	0.5
1,1-Dichloropropene	563-58-6	< 0.5 ug/L		4/15/2013	1	0.5
1,2,3-Trichlorobenzene	87-61-6	< 0.5 ug/L		4/15/2013	1	0.5
1,2,3-Trichloropropane	96-18-4	< 0.5 ug/L		4/15/2013	1	0.5
1,2,4-Trichlorobenzene	120-82-1	< 0.5 ug/L		4/15/2013	1	0.5
1,2,4-Trimethylbenzene	95-63-6	< 0.5 ug/L		4/15/2013	1	0.5
1,2-Dichlorobenzene	95-50-1	< 0.5 ug/L		4/15/2013	1	0.5
1,2-Dichloroethane	107-06-2	< 0.5 ug/L		4/15/2013	1	0.5
1,2-Dichloropropane	78-87-5	< 0.5 ug/L		4/15/2013	1	0.5
1,3,5-Trichlorobenzene	108-70-3	< 0.5 ug/L		4/15/2013	1	0.5
1,3,5-Trimethylbenzene	108-67-8	< 0.5 ug/L		4/15/2013	1	0.5
1,3-Dichlorobenzene	541-73-1	< 0.5 ug/L		4/15/2013	1	0.5
1,3-Dichloropropane	142-28-9	< 0.5 ug/L		4/15/2013	1	0.5
1,4-Dichlorobenzene	106-46-7	< 0.5 ug/L		4/15/2013	1	0.5
2,2-Dichloropropane	594-20-7	< 0.5 ug/L		4/15/2013	1	0.5
2-Chlorotoluene	95-49-8	< 0.5 ug/L		4/15/2013	1	0.5



317 Elm Street  
 Milford, NH 03055  
 (603) 673-5440  
 Sales@chemservelab.com

Sample	Method	Client Sample Identity	Units	Matrix	Analyst
13040109-001	EPA 524.2	501 Pump Station 5 / Off Front St / Blend 004 005	ug/L	Drinking water	SarahP

Start Date/Time Sampled: 4/8/2013 11:15:00 AM Composite End Date/Time:

Parameter	CAS Number	Result	Qualifier	Date/Time Analyzed	Dilution Factor	RDL
2-Ethoxy-2-Methyl Propane (ETBE)	637-92-3	< 0.5 ug/L		4/15/2013	1	0.5
2-Methoxy-2-Methyl Butane (TAME)	994-05-8	< 0.5 ug/L		4/15/2013	1	0.5
2-Methoxy-2-Methyl Propane (MTBE)	1634-04-4	< 1 ug/L		4/15/2013	1	1
2-Methyl-2-Propanol (TBA)	75-65-0	< 5 ug/L		4/15/2013	1	5
4-Chlorotoluene	106-43-4	< 0.5 ug/L		4/15/2013	1	0.5
4-Isopropyltoluene	99-87-6	< 0.5 ug/L		4/15/2013	1	0.5
Acetone	67-64-1	< 10 ug/L		4/15/2013	1	10
Benzene	71-43-2	< 0.5 ug/L		4/15/2013	1	0.5
Bromobenzene	108-86-1	< 0.5 ug/L		4/15/2013	1	0.5
Bromochloromethane	74-97-5	< 0.5 ug/L		4/15/2013	1	0.5
Bromodichloromethane	75-27-4	< 0.5 ug/L		4/15/2013	1	0.5
Bromoform	75-25-2	< 0.5 ug/L		4/15/2013	1	0.5
Bromomethane	74-83-9	< 0.5 ug/L		4/15/2013	1	0.5
Carbon Disulfide	75-15-0	< 0.5 ug/L		4/15/2013	1	0.5
Carbon Tetrachloride	56-23-5	< 0.5 ug/L		4/15/2013	1	0.5
Chlorobenzene	108-90-7	< 0.5 ug/L		4/15/2013	1	0.5
Chloroethane	75-00-3	< 0.5 ug/L		4/15/2013	1	0.5
Chloroform	67-66-3	< 0.5 ug/L		4/15/2013	1	0.5
Chloromethane	74-87-3	< 0.5 ug/L		4/15/2013	1	0.5
Cis-1,2-Dichloroethene	156-59-2	< 0.5 ug/L		4/15/2013	1	0.5
Cis-1,3-Dichloropropene	10061-01-5	< 0.5 ug/L		4/15/2013	1	0.5
Dibromochloromethane	124-48-1	< 0.5 ug/L		4/15/2013	1	0.5
Dibromomethane	74-95-3	< 0.5 ug/L		4/15/2013	1	0.5
Dichlorodifluoromethane	75-71-8	< 0.5 ug/L		4/15/2013	1	0.5
Di-Isopropyl Ether	108-20-3	< 0.5 ug/L		4/15/2013	1	0.5
Ethylbenzene	100-41-4	< 0.5 ug/L		4/15/2013	1	0.5
Hexachlorobutadiene	87-68-3	< 0.5 ug/L		4/15/2013	1	0.5
Isopropylbenzene	98-82-8	< 0.5 ug/L		4/15/2013	1	0.5
Methyl ethyl ketone (MEK)		< 10 ug/L		4/15/2013	1	10
Methyl isobutyl ketone (MIBK)		< 10 ug/L		4/15/2013	1	10
Methylene Chloride	75-09-2	< 0.5 ug/L		4/15/2013	1	0.5
Naphthalene	91-20-3	< 0.5 ug/L		4/15/2013	1	0.5

Sample	Method	Client Sample Identity	Units	Matrix	Analyst
13040109-001	EPA 524.2	501 Pump Station 5 / Off Front St / Blend 004 005	ug/L	Drinking water	SarahP

Start Date/Time Sampled: 4/8/2013 11:15:00 AM Composite End Date/Time:

Parameter	CAS Number	Result	Qualifier	Date/Time Analyzed	Dilution Factor	RDL
N-Butylbenzene	104-51-8	< 0.5 ug/L		4/15/2013	1	0.5
N-Propylbenzene	103-65-1	< 0.5 ug/L		4/15/2013	1	0.5
Sec-Butylbenzene	135-98-8	< 0.5 ug/L		4/15/2013	1	0.5
Styrene	100-42-5	< 0.5 ug/L		4/15/2013	1	0.5
Tert-Butylbenzene	98-06-6	< 0.5 ug/L		4/15/2013	1	0.5
Tetrachloroethene	127-18-4	< 0.5 ug/L		4/15/2013	1	0.5
Tetrahydrofuran	109-99-9	< 10 ug/L		4/15/2013	1	10
Toluene	108-88-3	< 0.5 ug/L		4/15/2013	1	0.5
Total Xylenes	1330-20-7	< 0.5 ug/L		4/15/2013	1	0.5
Trans-1,2-Dichloroethene	156-60-5	< 0.5 ug/L		4/15/2013	1	0.5
Trans-1,3-Dichloropropene	10061-02-6	< 0.5 ug/L		4/15/2013	1	0.5
Trichloroethene	79-01-6	< 0.5 ug/L		4/15/2013	1	0.5
Trichlorofluoromethane	75-69-4	< 0.5 ug/L		4/15/2013	1	0.5
Vinyl Chloride	75-01-4	< 0.5 ug/L		4/15/2013	1	0.5

**Qualifier: Description:**

- B- Method blank contaminated with target analyte.
- B1- BOD had total oxygen loss. Result reported as ">"the highest dilution.
- B2- BOD had no oxygen loss. Result reported as "<" the lowest dilution.
- G- Reporting limit elevated due to matrix interference.
- H- Method prescribed holding time exceeded.
- J- Indicates an estimated value. Value is less than the quantitation limit.
- LH- Laboratory control spike(s) was high. Results may be biased high.
- LL- Laboratory control spike(s) was low. Results may be biased low.
- MH- Matrix spike recovery high due to matrix. Results may be biased high.
- ML- Matrix spike recovery low due to matrix. Results may be biased low.
- NC- Spike recovery was not calculated due to the concentration of the analyte being >4 times the concentration of the spike added.
- R- RPD outside acceptable recovery limits.
- RO- Sample received out of holding time.
- SH- Surrogate recovery high due to matrix
- SL- Surrogate recovery low due to matrix
- TNTC- Too numerous to count.
- U- BOD/CBOD blank had an oxygen depletion greater than the suggested amount of 0.200.
- V- Sample pH for volatile analysis was not <2 when checked at time of analysis.



## Surrogate Report

**Client:** Merrimack Village District

**Order #:** 13040109

**Matrix:** Drinking Water

Units:	ug/L		Percent	Control	Surrogate	Surrogate
Sample Number	Surrogate	Method	Recovery	Limits	Amount	Result
13040109-001	4-Bromofluorobenzene	EPA 524.2	76.25	75-125	4	3.05
13040109-001	Dibromofluoromethane	EPA 524.2	119.75	75-125	4	4.79
13040109-001	Toluene-d8	EPA 524.2	85.75	75-125	4	3.43



Drinking Water and Groundwater Bureau  
Analysis Request Form  
CHEMICAL

13040109 4/22

Compliance Sample Site(s) per Master Sampling Schedule

Questions: (603) 271-2513

PWS ID: 1531010

Collected By: Kevin Gushki

System Name: MERRIMACK VILLAGE DIST

Signature: [Signature]

I certify that all samples taken are from the site(s) listed below and all information provided on this form is valid.

PWS Town: MERRIMACK

Phone Number: (603) 424-9241

Date/Time Sample Collected: 4/18/13 1115

Locator ID#: 501 Sample Site Location: PUMP STATION 5/OFF FRONT ST/BLEND 004 005

Sample Period: Q1  Q2  Q3  Q4  Year:  Sample Type: Routine  Confirmation  Make-up

Check Test(s) Requested	# of Containers	Lab Sample ID	Check Test(s) Requested	# of Containers	Lab Sample ID
NITRITE *			Compliance Gross Alpha		
NITRATE *	✓ 1		Combined Radium		
VOC	✓ 2		Uranium mass		
SOC			OTHER:		
IOC **					

\* NOTE: Samples collected for NITRATE/NITRITE analysis MAY NEED to be collected prior to chlorination. Check with Lab.  
\*\* CYANIDE samples MAY NEED to be collected prior to chlorination. Check with Lab.

FOR LAB USE: Temp C (upon receipt): 8.9 On Ice? Y/N Batch ID (if different than sample ID prefix):

Relinquished by: [Signature] Received by: [Signature] Date/Time: 4/18/13 12:40  
Relinquished by: [Signature] Received at Lab by: [Signature] Date/Time: 8 Apr 13 13:00

Lab Conducting Analysis: \_\_\_\_\_ Signature: \_\_\_\_\_ Lab Accred. ID: \_\_\_\_\_ Phone: \_\_\_\_\_  
Reporting Lab (if different): \_\_\_\_\_ Signature: \_\_\_\_\_ Lab Accred. ID: \_\_\_\_\_ Phone: \_\_\_\_\_

NOTE: THIS IS NOT A REPORTING FORM. Results to be reported must include all information specified in Env-Dw 719, Reporting Monitoring Data.

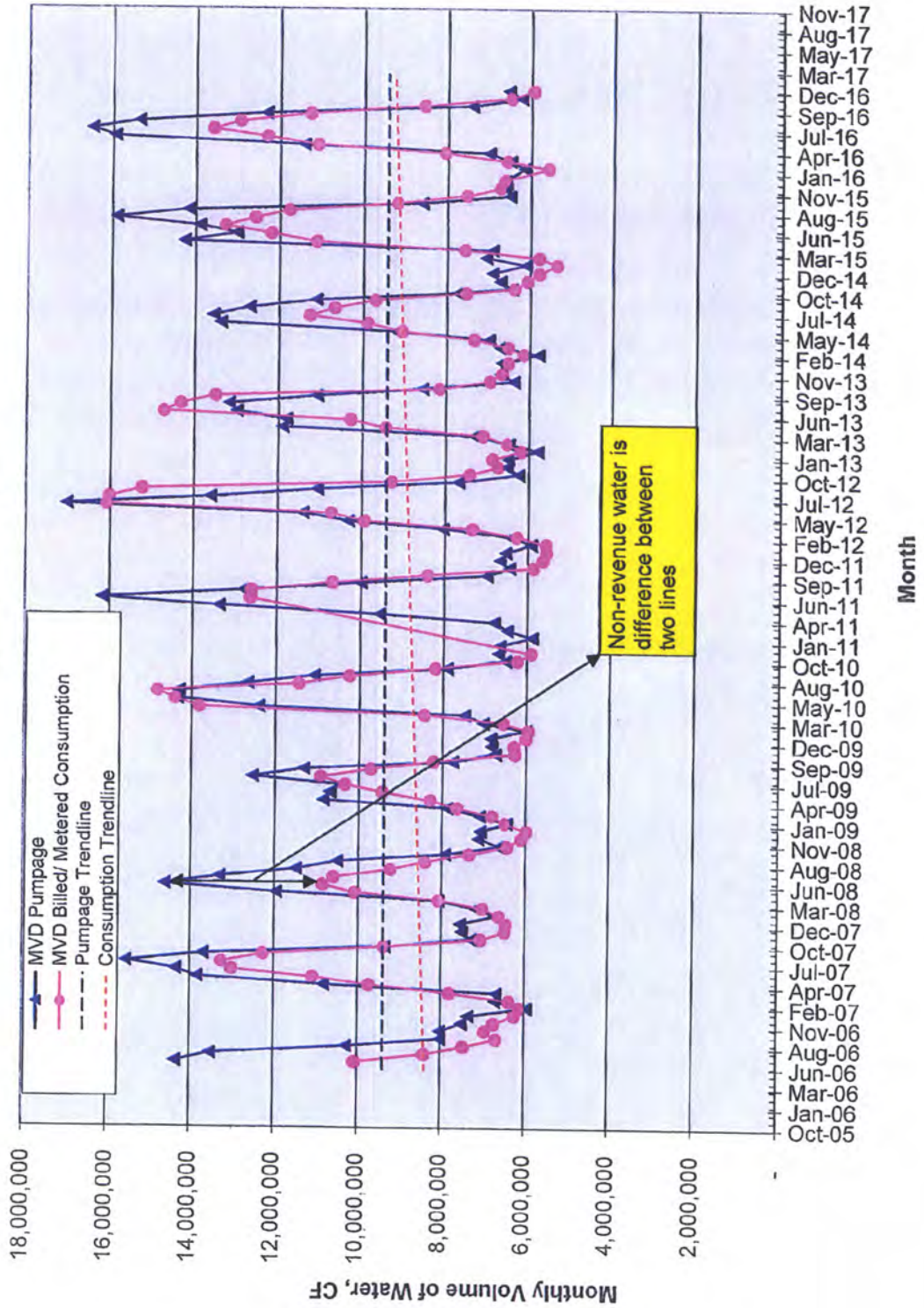
Results must be reported to DES within 2 business days of analysis completion unless acute contaminants are present/exceeded which must be reported within 24 hours.

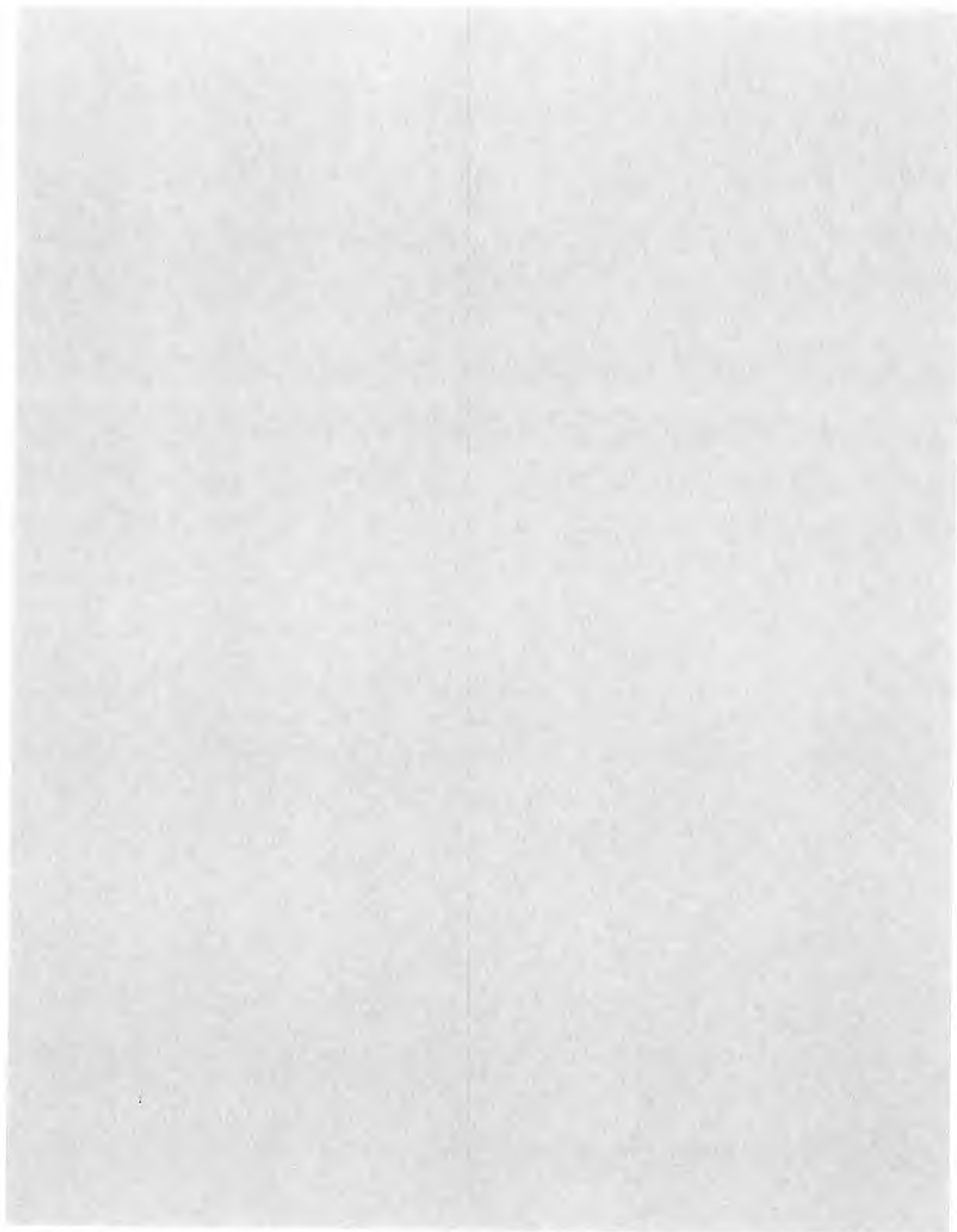




**ATTACHMENT D**

# Merrimack Village District System Pumpage





**ATTACHMENT E**

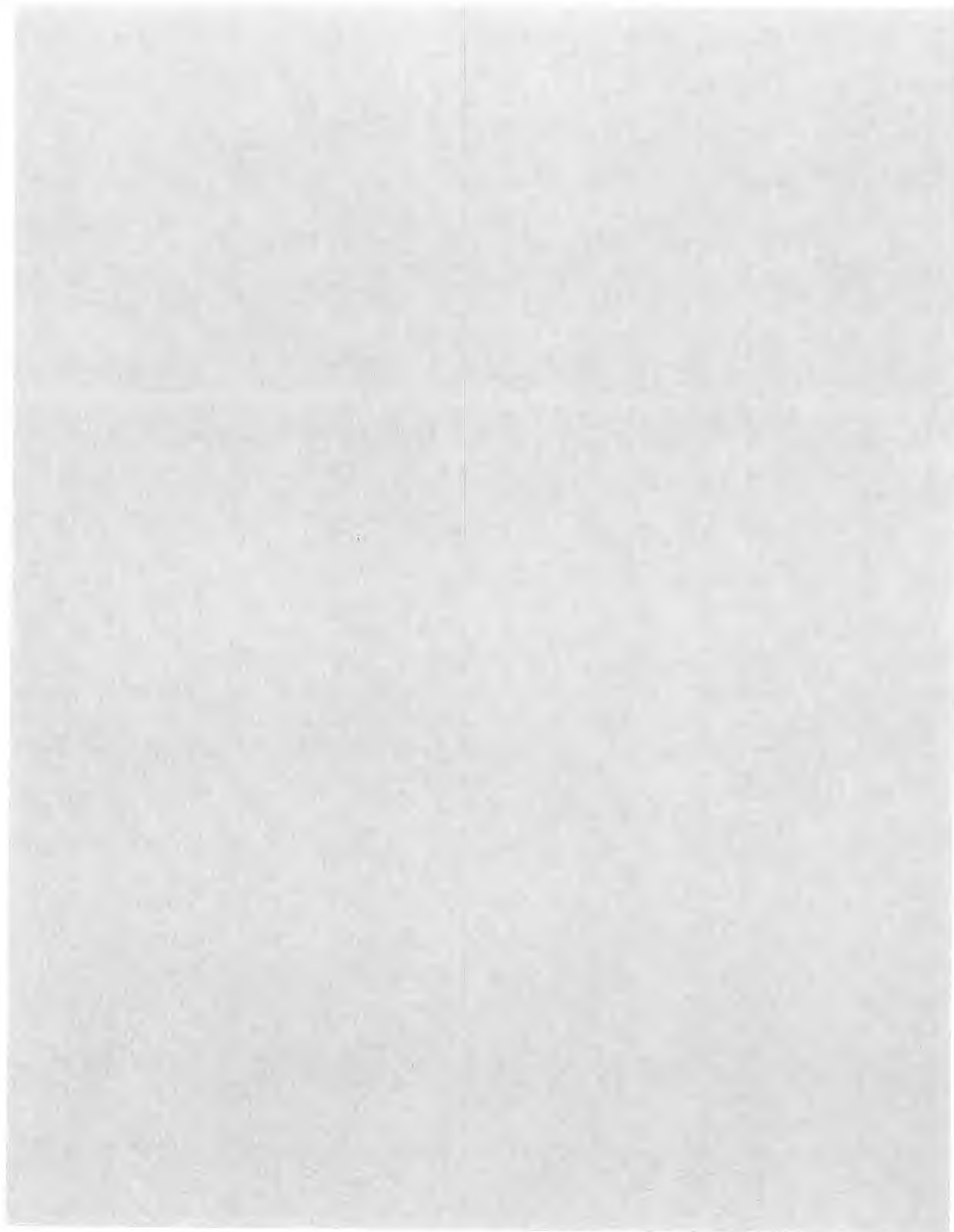
Merrimack Village District - Wells 4 & 5 PFAS Removal  
Treatment System Comparison  
5/31/2017

	PFOA TREATMENT TECHNOLOGIES - WELLS 4 & 5						ECT2 (IX)
	Hoosick Falls, NY		Calgon (GAC)		TIGG (GAC)		
	Draft Tech Memo	Preliminary Design Option 1	Draft Tech Memo	Preliminary Design Option 1	Draft Tech Memo	Preliminary Design Option 1	
Design flow - total (peak)	520 gpm	870 gpm	870 gpm	870 gpm	600 gpm	870 gpm	870 gpm
Max Flowrate per manufacturer per train	625 gpm	500 gpm	500 gpm	1000 gpm	750 gpm	870 gpm	435 gpm
Max Flowrate per manufacturer for system	625 gpm	1000 gpm	1000 gpm	1000 gpm	750 gpm	870 gpm	870 gpm
Model/Pkg	10 GAC	10 GAC	10 GAC	12-40 GAC	CP20K-10	CP40K-12	
No. of Trains	1	2	2	1	1	1	2
No. of Vessels	2	4	4	2	2	2	4
Diameter	10 ft	10 ft	10 ft	12 ft	10 ft	12 ft	
System Cost - complete with media	\$295,000	\$570,000	\$570,000	\$450,000	\$330,740	\$385,000	\$995,000
Replacement media cost (\$/lb.)	\$1.80	\$1.80	\$1.80	\$1.80	\$1.65	\$1.65	\$2.08
Media per vessel (lb.)	20,000	20,000	20,000	40,000	20,000	40,000	30,000
Total media (lb.)	40,000	80,000	80,000	80,000	40,000	80,000	120,000
Media Life per manufacturer (years)	2	2	2	2	0.82	0.82	6
Planning horizon	20 years	20 years	20 years	20 years	20 years	20 years	20 years
No. of Media Replacements	10	10	10	10	25	25	3.3
Lifetime Cost of Media Replacement (Note 1)	\$720,000	\$1,440,000	\$1,440,000	\$1,440,000	\$1,609,756	\$3,219,512	\$832,000
Preliminary Lifetime Cost	\$1,015,000	\$2,010,000	\$2,010,000	\$1,890,000	\$1,940,496	\$3,890,992	\$1,827,000

GAC = granular activated carbon  
IX = ion exchange

Notes:

(1) Future costs of media replacements were calculated in today's (2017) dollars assuming investments equal inflation. For example, the "Real Discount Rate" a forecast of real interest rates from which the inflation premium has been removed was 0.5% per Whitehouse OMB Circular 94, Appendix C, November 2016.



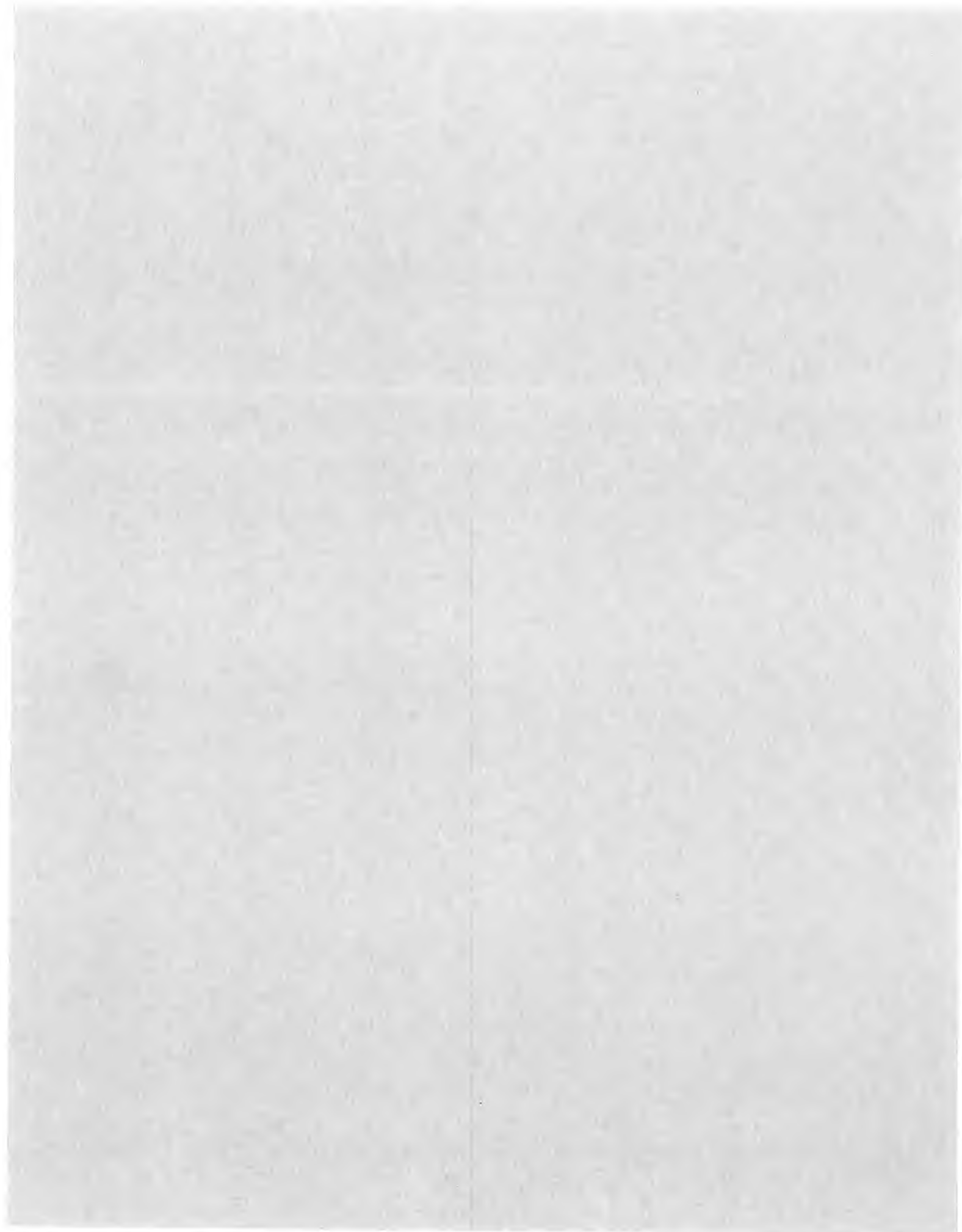
**ATTACHMENT F**



2070 Wells 4 & 5 PFC Treatment  
 Merrimack Village District, Merrimack, NH

**MVD Wells #4 and #5**  
**PFOA Permanent Treatment Preliminary Basis of Design**  
**5/12/17**

Well #4 pump design flow	410 gpm
Well #5 pump design flow	620 gpm
Design Flow (Combined) – Peak	870 gpm
Design Flow (Combined) – Average	625 gpm
Design Flow – Annual Total	220 MG/yr
Number of GAC trains	1
Filter diameter	12 ft
Filter vessels per train	2
Total number of vessels	2
Flow to each train	870 gpm – peak 625 gpm – average
Empty bed contact time	11.4 minutes – peak (per vessel) 16 minutes – average (per vessel)
Pounds GAC	40,000 lbs per vessel/ 80,000 lbs per system
Total GAC	80,000 lbs
Anticipated GAC replacement frequency	300 days (per TIGG) 2 years (per Calgon)
Headloss	15 psi max
Filter operation w/in system	Series; lead/lag
Loading rate per filter (3-10 gpm/sf recommended range for GAC)	7.7 gpm/sf – peak 5.5 gpm/sf – average
Mode of Operation	When effluent from first filter reaches half of the influent concentration, the lag filter is changed to the lead filter and the original lead filter media is changed
Backwash flowrate	904 to 1030 gpm (both wells at maximum capacity)
Backwash flux rate	8.0 to 9.1 gpm/sf (12 gpm/sf preferred, but Calgon will accept 8 gpm/sf)
Backwash volume	27,120 to 30,900 gallons per filter (based on 30 minute backwash)
Initial backwash	30+ minutes; remove air and fines from filter
Anticipated BW frequency	Only at initial startup and when media is changed (to remove fines). Not anticipated between media changes.
GAC wetting	24-72 hours wetting of new media, then backwash



**ATTACHMENT G**



**Wells #4 and #5 PFAS Permanent Treatment  
Merrimack, NH**

**Opinion of Probable Cost - 30% Design  
5/31/2017**

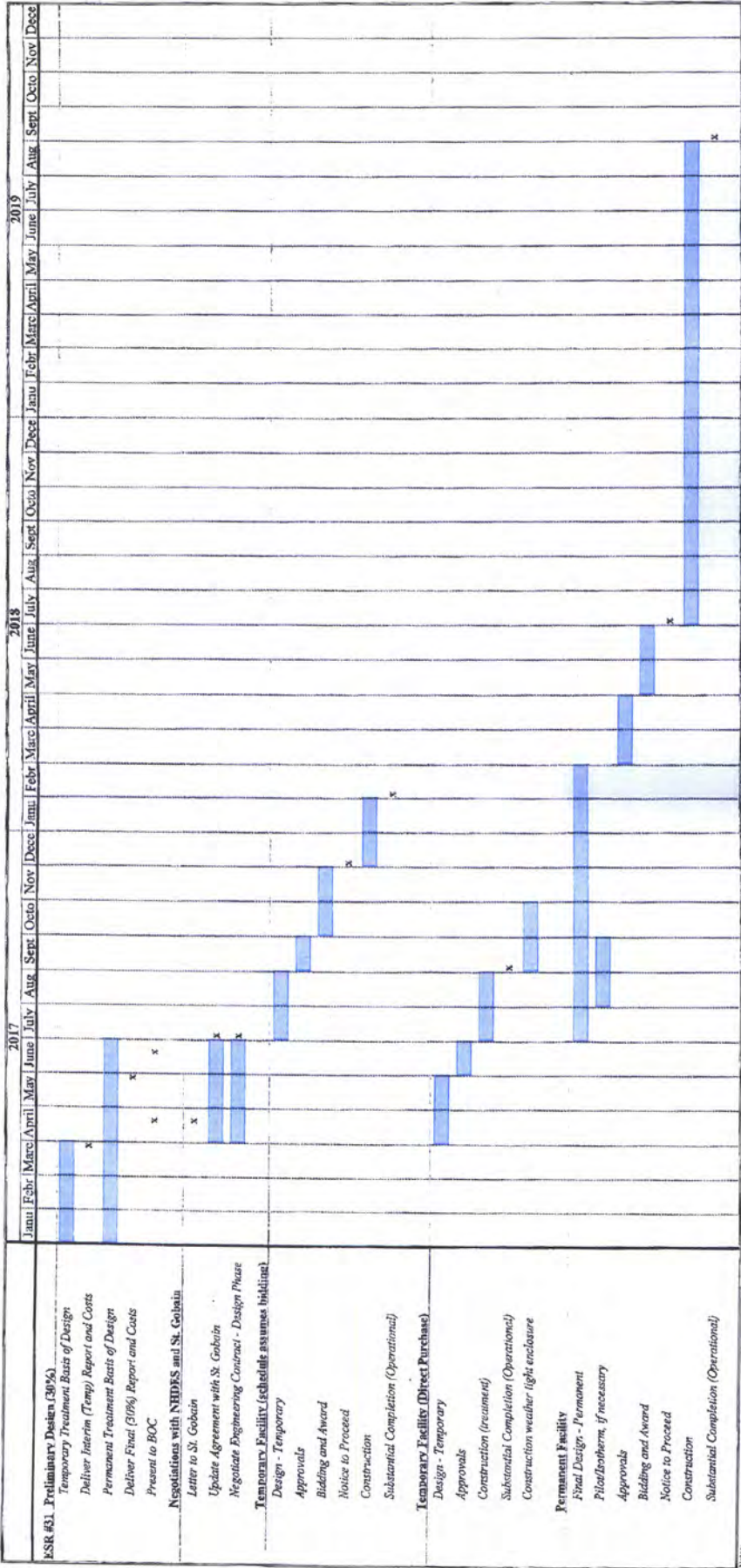
<u>Item</u>	<u>Ext. Total</u>
<b>Miscellaneous Costs</b>	
Admin + Legal	\$30,000
Other Project Administration and Utility Fee Allowance	\$50,000
<b>Miscellaneous Total</b>	<b>\$80,000</b>
<b>Construction</b>	
General Requirements (11.5% of construction)	\$279,220
<b>Wells #4 and #5 PFAS Treatment Facility</b>	
Sitework (building excavation, driveway, drainage, etc.)	\$135,000
Yard Piping (8" DI water from wells, drainage, sewer)	\$90,500
Structural/ Architectural	\$645,000
Process	
Increase Well Pump Heads (add stages)	\$40,000
Filtration Package	\$450,000
Filtration Installation (35%)	\$157,500
Chemical Feed Systems (caustic, chlorine, phosphate)	\$155,000
Process Piping and Valves	\$50,000
HVAC	\$115,000
Plumbing	\$60,000
Electrical	\$365,000
Instrumentation and Controls (SCADA)	\$135,000
Instrumentation and Analyzers (equipment)	\$30,000
<i>Construction Subtotal</i>	<i>\$2,710,000</i>
Contractor O&P (15%)	\$406,500
Contingency (15%)	\$406,500
<b>Construction Total</b>	<b>\$3,523,000</b>
<b>Engineering</b>	
Final Design Phase Engineering -- Permanent	\$300,000
Construction Phase Engineering (15%)	\$528,000
<b>Engineering Total</b>	<b>\$828,000</b>
<b>Project Total</b>	<b>\$4,430,000</b>

Notes:



**ATTACHMENT H**

**Wells #4 and #5 PFAS Treatment**  
**Merrimack, NH**  
**March 24, 2017**



# MERRIMACK VILLAGE DISTRICT

30% PROGRESS DRAWINGS

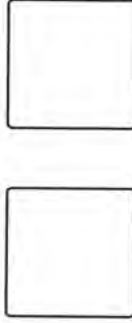
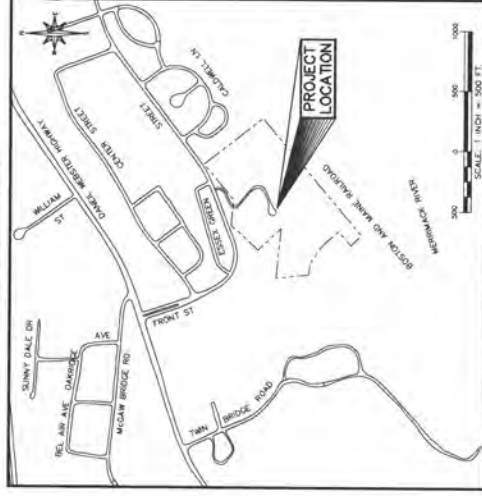
## WELLS #4 & #5 PFAS TREATMENT MERRIMACK, NEW HAMPSHIRE

PREPARED BY  
**UNDERWOOD ENGINEERS**  
PORTSMOUTH, NEW HAMPSHIRE

LOCATION PLAN



VICINITY MAP



### TABLE OF CONTENTS

SHEET TITLE	DWG. NO.	SHEET
COVER	-	0
LEGEND & ABBREVIATIONS	G1	1
GENERAL NOTES	G2	2
SITE PLAN	C1	3
PROCESS PLAN	P1	4
PROCESS SECTION	P2	5
ARCHITECTURAL ELEVATION	A1	6





### WATER DISTRIBUTION SYSTEM NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL WATER MAINS. THE NOTES TO BE MADE IN THE NEW WATER LINE IN THE APPROXIMATE LOCATION OF THE PLANS. EXISTING WATER LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXISTING WATER MAINS BY EXCAVATING THEM AND RECORDING THE EXACT LOCATION AND DEPTH OF EACH MAIN AND RECORDING THE DEPTH OF EACH MAIN.
2. EXISTING WATER MAINS SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER. ALL EXISTING WATER MAINS SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER. ALL EXISTING WATER MAINS SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER.
3. FOR NEW MAINS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL WATER MAINS. THE NOTES TO BE MADE IN THE NEW WATER LINE IN THE APPROXIMATE LOCATION OF THE PLANS. EXISTING WATER LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXISTING WATER MAINS BY EXCAVATING THEM AND RECORDING THE EXACT LOCATION AND DEPTH OF EACH MAIN AND RECORDING THE DEPTH OF EACH MAIN.
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15. ALL EXISTING WATER MAINS SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER. ALL EXISTING WATER MAINS SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER.

### SURVEY NOTES:

1. SURVEY BY FLETCHER LAND CONSULTANTS, P.L.L.C., 208 OLD ST. WILSON RD. 03055, DATED NOVEMBER 21, 2016.
2. 1.07 LINE BOUNDARY & EROSION CONTROL PLAN - (OF LAND) BEARING TO - MERRIMACK VILLAGE DISTRICT & - JAMES E. LYONS - TOWN BROOK ROAD - MERRIMACK, NEW HAMPSHIRE. DATED MARCH 5, 1997 BY MERRIMACK LAND SERVICES, INC. RECORDED IN THE MERRIMACK COUNTY RECORDS.
3. THE OWNER OF RECORD FOR TAX MAP LOT 50-1-3-4 IS MERRIMACK VILLAGE DISTRICT - 3 STEVENS FONG ROAD, MERRIMACK, NH 03055. DEED REFERENCE IS BK. 1325 PG. 328 DATED DATE 05/28/2008 IN THE MERRIMACK COUNTY RECORDS.
4. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF TAX MAP LOT 50-1-3-4.
5. THE TOTAL AREA OF THE SITE IS 1,138.42 ACRES OR 48,520.14 SQ. FT.
6. THE BOUNDARY BETWEEN THE PROPERTY AND BROOK ROAD SHALL BE THE REFERENCE PLAIN PLOTTED AND SHOWN AS A RESULT OF THE SURVEY BY FLETCHER LAND CONSULTANTS.
7. THE SURFACE ELEVATIONS AND BENT TOPOGRAPHY SHOWN ARE THE RESULT OF A SINGLE SURVEY BY FLETCHER LAND CONSULTANTS, P.L.L.C. DATED THE 10TH NOVEMBER 2016.
8. HORIZONTAL ORIENTATION IS NAD83/06. VERTICAL DATUM IS NAVD83 BY GPS BENCHMARKING.
9. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN CORRELATED FROM FIELD LOCATIONS. THE FIELD DATA OBTAINED TO DATE HAS BEEN CONSIDERED APPROPRIATE AND SHOULD BE USED AS A REFERENCE FOR CONSTRUCTION ACTIVITIES.

### STORMWATER MANAGEMENT, EROSION & SEDIMENTATION CONTROL NOTES

1. A NOTICE TO PROCEED FOR CONSTRUCTION ACTIVITIES IS REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS REQUIRED TO PREPARE AND SUBMIT BOTH A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND A STORM WATER POLLUTION CONTROL PLAN (SWPCP) TO THE MERRIMACK VILLAGE DISTRICT. THE SWPPP AND SWPCP SHALL BE APPROVED BY THE DISTRICT BEFORE CONSTRUCTION ACTIVITIES BEGIN.
2. THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A SCHEDULE TO INCLUDE ALL CONSTRUCTION ACTIVITIES TO BE CONDUCTED WITHIN THE PROJECT SITE.
3. EXCAVATION AND EARTHWORK SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE THE EFFECTS OF EROSION THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, PLACE EARTHWORK ACTIVITIES SO THAT THE SMALLEST PRACTICAL LAND AREA IS EXPOSED AT ANY GIVEN TIME.
5. ALL EXISTING EROSION CONTROL STRUCTURES AND MEASURES SHALL BE MAINTAINED AT ALL TIMES. ANY DAMAGE TO SUCH STRUCTURES SHALL BE REPAIRED IMMEDIATELY.
6. HANDMADE SILT FENCING AND EROSION CONTROL SHALL BE INSTALLED WHERE APPROPRIATE TO MINIMIZE THE EFFECTS OF EROSION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SILT FENCING THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
7. EROSION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY UPON THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
8. ANY EARTHWORK SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE THE EFFECTS OF EROSION THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
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### SEWER AND DRAIN NOTES

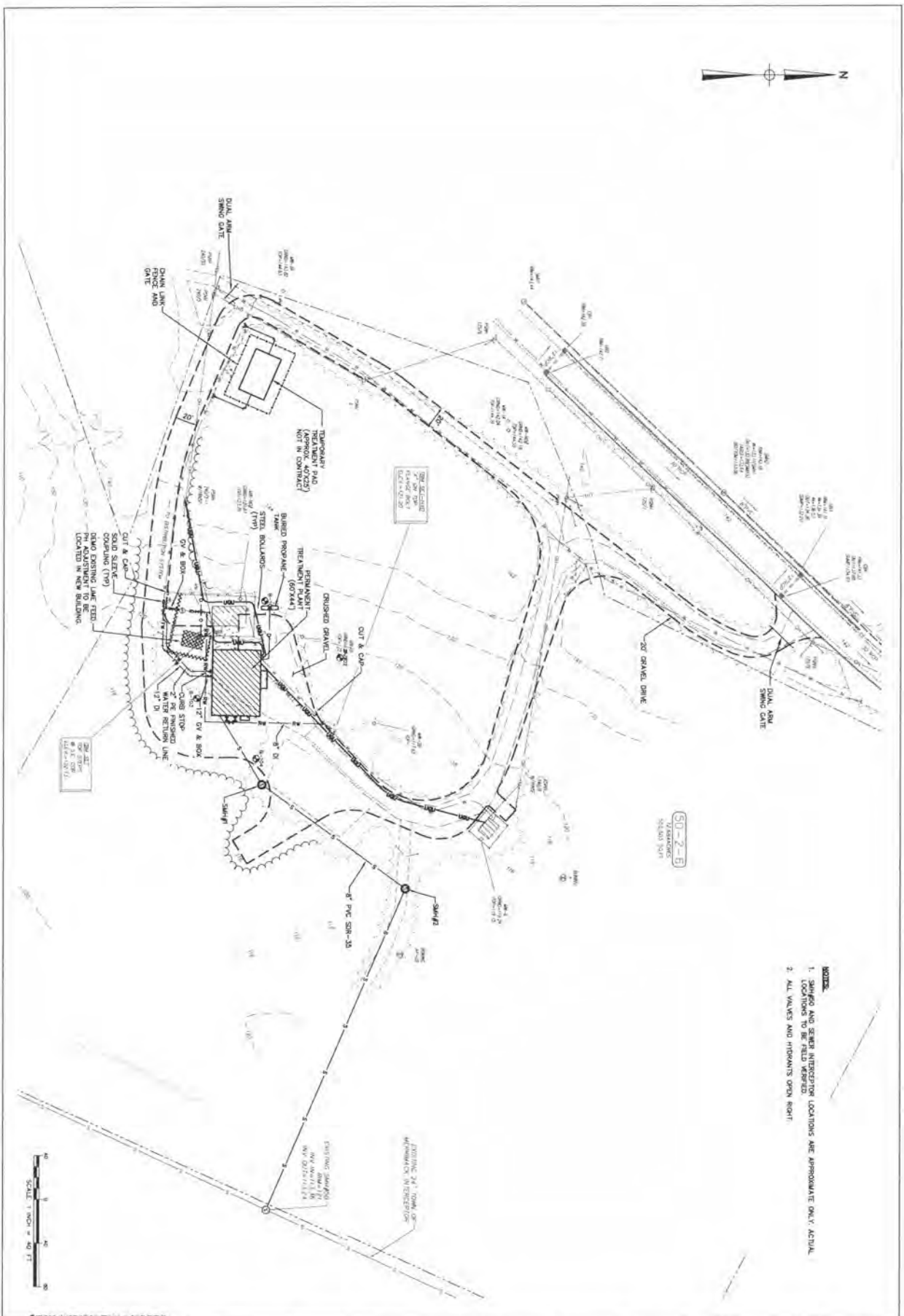
1. ALL EXISTING SEWER AND DRAIN LINES SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER. ALL EXISTING SEWER AND DRAIN LINES SHALL BE PROTECTED BY A MINIMUM 18" CONCRETE COVER.
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### GENERAL NOTES

1. THIS SET OF PLANS HAS BEEN PREPARED TO BE USED IN CONNECTION WITH A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND A STORMWATER POLLUTION CONTROL PLAN (SWPCP) SUBMITTED TO THE MERRIMACK VILLAGE DISTRICT.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND SERVICES.
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1. CONTRACTOR'S RESPONSIBILITY FOR SITE SECURITY AND SAFETY.
2. CONSTRUCTION SCHEDULE (TYPICAL) PERTAINING TO GENERAL IN THIS SCHEDULE.
3. A PERMIT TO START OR CONSTRUCTION, THROUGH A WRITTEN AGREEMENT OR CONSTRUCTION METHODS TO BE USED AND A PRELIMINARY SCHEDULE OF KEY ACTIVITIES.
4. PREPARE SITE WHERE CONSTRUCTION IS PROPOSED.
5. CONTRACTOR EMPLOYEES AND PERMANENT RESIDENTS SHOULD AVOID TRAFFIC THROUGHOUT CONSTRUCTION.
6. INSTALL PERMITS TO CONSTRUCTION TO BE INSTALLED AT THE ENTRANCE TO THE PROJECT SITE.
7. BEACH CLEANING AND MAINTENANCE - AFTER FINAL CLEANING.
8. AFTER ALL REQUIRED BEACH CLEANING AND MAINTENANCE IS COMPLETED AND DETACHED FROM THE PROPERTY, BEACH CLEANING SHOULD BE COMPLETED AND DETACHED FROM THE PROPERTY.
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<b>GENERAL NOTES</b> <b>WELLS #4 AND #5 PFAS TREATMENT</b> <b>MERRIMACK VILLAGE DISTRICT</b> <b>MERRIMACK, NEW HAMPSHIRE</b>		 <p>25 Vaughan Mall, Portsmouth, NH 03801 Tel: 603-436-6192 Fax: 603-431-4733</p>	<div style="border: 1px solid black; padding: 5px;"> <b>30% DESIGN</b>                      MAY 2017                      NOT FOR CONSTRUCTION                 </div>	<table border="1"> <tr> <th>Drawn/Checked</th> <th>Date</th> <th>Issue For</th> </tr> <tr> <td>Designed</td> <td>05/01/2017</td> <td>APPROVAL</td> </tr> <tr> <td>Checked</td> <td>05/01/2017</td> <td>By</td> </tr> <tr> <td>Approved</td> <td>05/01/2017</td> <td>CONSTRUCTION</td> </tr> <tr> <td>Date</td> <td>05/01/2017</td> <td>By</td> </tr> <tr> <td>Book No.</td> <td>001</td> <td>RECORD DRAWING</td> </tr> <tr> <td>Sheet No.</td> <td>001</td> <td>Date</td> </tr> <tr> <td>Scale</td> <td>AS SHOWN</td> <td>By</td> </tr> </table>		Drawn/Checked	Date	Issue For	Designed	05/01/2017	APPROVAL	Checked	05/01/2017	By	Approved	05/01/2017	CONSTRUCTION	Date	05/01/2017	By	Book No.	001	RECORD DRAWING	Sheet No.	001	Date	Scale	AS SHOWN	By
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- NOTES:**
1. DIMENSIONS AND SPACING AT INDICATED LOCATIONS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS TO BE FIELD VERIFIED.
  2. ALL VALVES AND FITTINGS OPEN RIGHT.



**SITE PLAN**

**WELLS #4 AND #5 PFAS TREATMENT**

**MERRIMACK VILLAGE DISTRICT**

**MERRIMACK, NEW HAMPSHIRE**

**UNDERWOOD**  
engineers

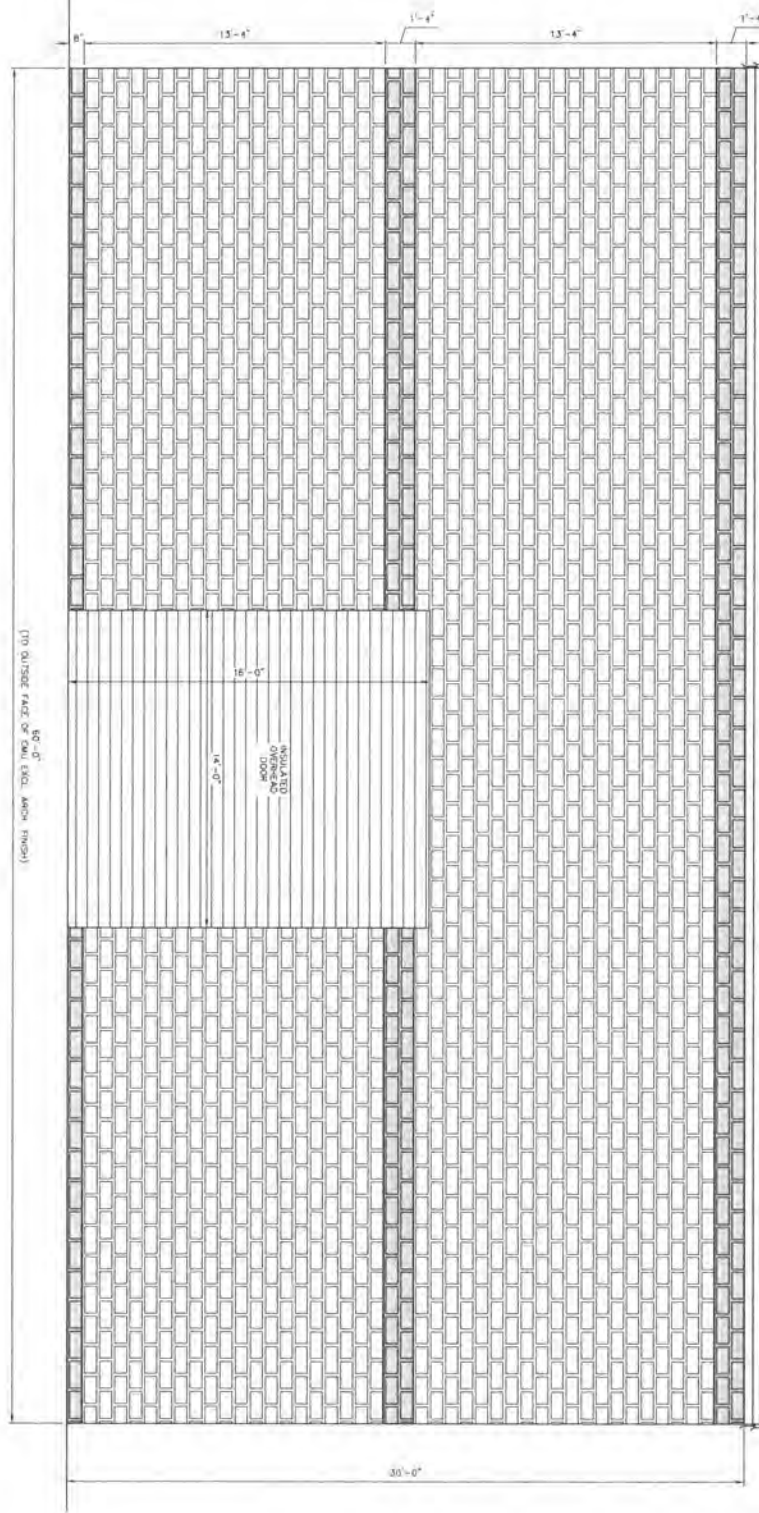
25 Vaughan Mall, Portsmouth, N.H. 03801  
Tel. 603-436-6192 Fax. 603-431-4733

**30% DESIGN**

**JUNE 2017**

**NOT FOR CONSTRUCTION**

Drawn/Chk. <b>mgj</b>	Issue For	NO.	REVISIONS	APPROV.
Designed <b>WDL</b>	Approval			
Checked <b>---</b>	Date			
Approved <b>---</b>	By			
Date <b>6/11/2017</b>	CONSTRUCTION			
Book No. <b>---</b>	Date			
Project No. <b>2626</b>	By			
Dwg. © <b>2015, base</b>	RECORD DRAWING			
Scale <b>AS SHOWN</b>	Date			
	By			



**NORTH ELEVATION**  
SCALE: 3/8" = 1'-0"

NOTES:  
1. FLAT ROOF SHOWN FOR SITE DESIGN, BUT ROOF MAY BE PITCHED TO MATCH WITH WELLS #7 & #8.

SCALE: 3/8" = 1'-0"

TREATMENT PLANT  
ARCHITECTURAL ELEVATION  
WELLS #4 AND #5 PFAS TREATMENT  
MERRIMACK VILLAGE DISTRICT  
MERRIMACK, NEW HAMPSHIRE

**UNDERWOOD**  
engineers  
25 Vaughan Mall, Portsmouth, N.H. 03801  
Tel. 603-436-6192 Fax. 603-431-4733

30% DESIGN  
JUNE 2017  
NOT FOR CONSTRUCTION

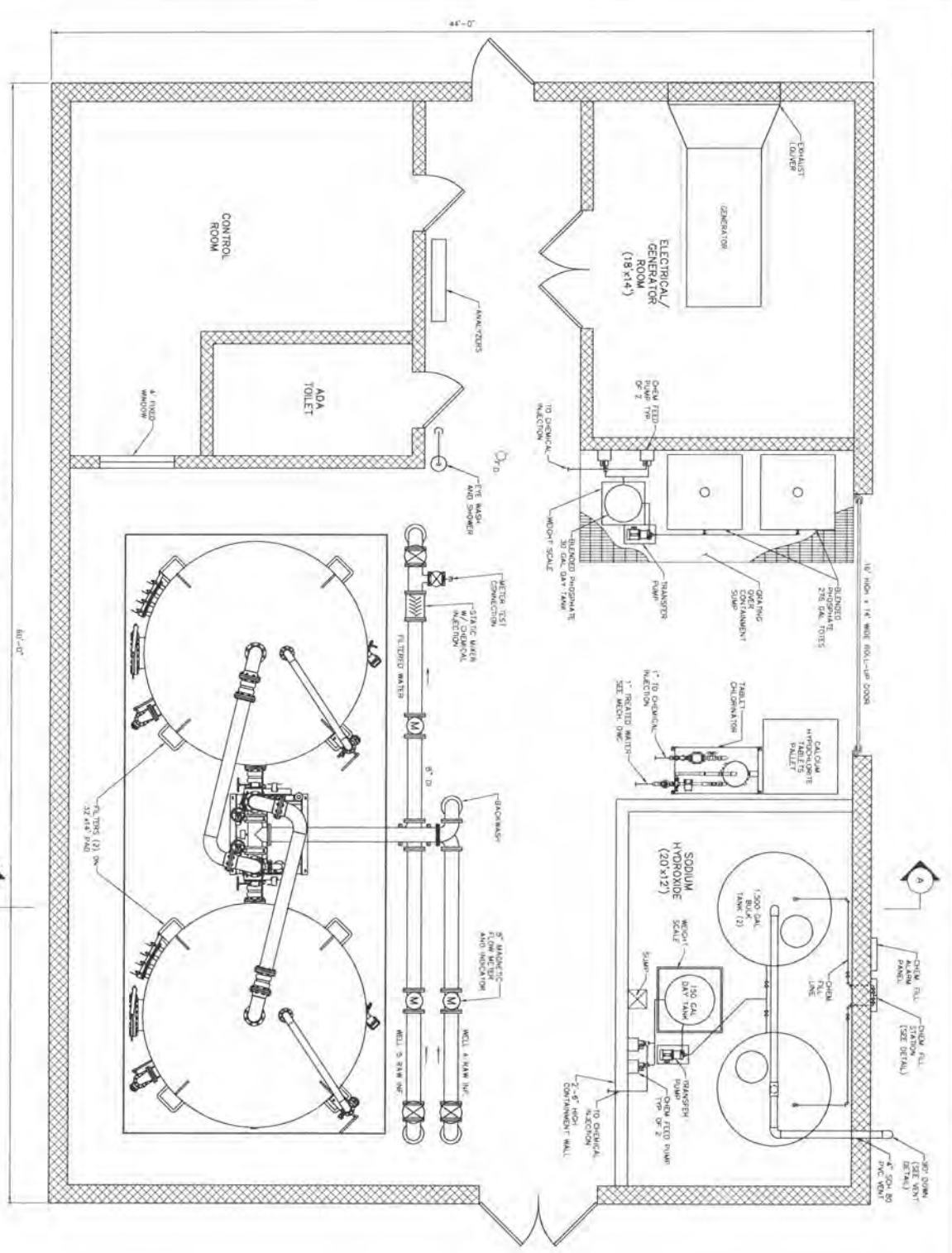
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AS SHOWN

NO.	REVISIONS	APP'D.

ISSUE FOR	
	APPROVAL
Date	By
	CONSTRUCTION
Date	By
	RECORD DRAWING
Date	By

# TREATMENT PLANT PROCESS PLAN

SCALE: 3/8" = 1'-0"



**TREATMENT PLANT PROCESS PLAN**  
**WELLS #4 AND #5 PFAS TREATMENT**  
 MERRIMACK VILLAGE DISTRICT  
 MERRIMACK, NEW HAMPSHIRE



30% DESIGN  
 JUNE 2017  
 NOT FOR CONSTRUCTION

Drawn/Checked	BWS
Designed	MCV
Checked	
Approved	
Date	6/22/2017
Sheet No.	
Project No.	2016
Day 10	2016
Scale	AS SHOWN

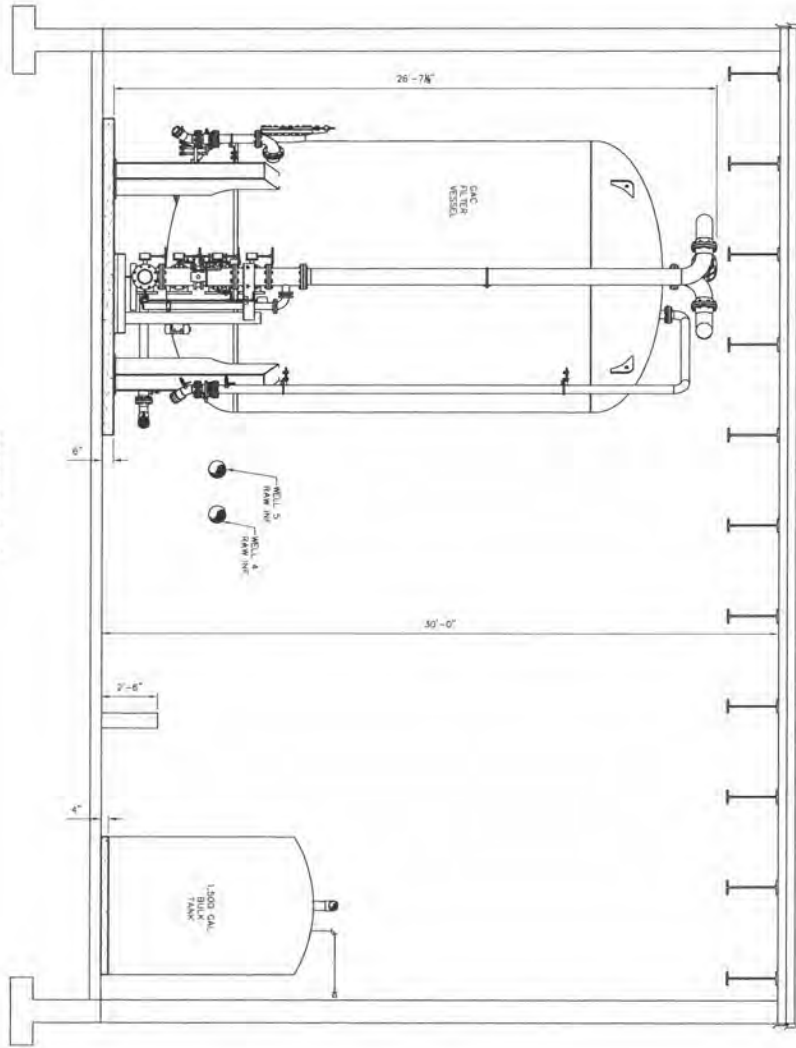
  

NO.	REVISIONS	APPROVED	DATE	BY

ISSUE FOR	DATE	BY
APPROVAL		
CONSTRUCTION		
RECORD DRAWING		

SECTION A-A  
SCALE 1/8" = 1'-0"



NOTES:  
1. FLAT ROOF SHOWN FOR 30% DESIGN, BUT ROOF MAY BE FINISHED TO MATCH WITH WELLS #1 & #2.



TREATMENT PLANT  
PROCESS SECTIONS  
WELLS #4 AND #5 PFAS TREATMENT  
MERRIMACK VILLAGE DISTRICT  
MERRIMACK, NEW HAMPSHIRE



25 Vaughan Mall, Portsmouth, N.H. 03801  
Tel. 603-436-6192 Fax. 603-431-4733

30% DESIGN  
JUNE 2017  
NOT FOR CONSTRUCTION

Drawn/Chk. JMS  
Designer WQU  
Checked  
Approved  
Date 8/23/2011  
Book No.  
Project No. 2010  
Dwg. No. 2010-001  
Scale AS SHOWN

NO.	REVISIONS	APP'D

ISSUE FOR	
APPROVAL	Date By
CONSTRUCTION	Date By
RECORD DRAWING	Date By



**Wells #4 and #5 PFAS Permanent Treatment**  
**Merrimack, NH**  
**Opinion of Probable Cost - 30% Design**  
**Updated 9/13/2017**

Item	Ext. Total	Adjustment for	Revised Total
	Complete WTP <sup>1</sup>	Non-PFAS Items	PFAS Related Items
<b>Miscellaneous Costs</b>			
Admin + Legal	\$30,000		\$30,000
Other Project Administration and Utility Fee Allowance	\$50,000		\$50,000
<b>Miscellaneous Total</b>	<b>\$80,000</b>		<b>\$80,000</b>
<b>Construction</b>			
General Requirements (11.5% of construction)	\$261,798	-\$51,520	\$210,278
<b>Wells #4 and #5 PFAS Treatment Facility</b>			
Sitework (building excavation, driveway, drainage, etc.)	\$125,000	-\$50,000	\$75,000
Yard Piping (8" DI water from wells, drainage, sewer)	\$90,500		\$90,500
Structural/ Architectural	\$600,000	-\$125,000	\$475,000
Process			
Increase Well Pump Heads (add stages)	\$40,000		\$40,000
Filtration Package	\$400,000		\$400,000
Filtration Installation	\$157,000		\$157,000
Chemical Feed Systems (caustic, chlorine, phosphate)	\$155,000	-\$140,000	\$15,000
Process Piping and Valves	\$50,000		\$50,000
HVAC	\$107,000	-\$32,000	\$75,000
Plumbing	\$56,000	-\$11,000	\$45,000
Electrical (including exterior generator, pad & enclosure)	\$340,000	-\$90,000	\$250,000
Instrumentation and Controls (SCADA)	\$126,000		\$126,000
Instrumentation and Analyzers (equipment)	\$30,000		\$30,000
<b>Construction Subtotal</b>	<b>\$2,540,000</b>	<b>-\$500,000</b>	<b>\$2,039,000</b>
Contractor O&P (15%)	\$381,000	-\$75,000	\$306,000
Contingency (15%)	\$381,000	-\$75,000	\$306,000
<b>Construction Total</b>	<b>\$3,302,000</b>	<b>-\$650,000</b>	<b>\$2,651,000</b>
<b>Engineering</b>			
Final Design Phase Engineering -- Permanent	\$281,000	-\$59,000	\$222,000
Construction Phase Engineering (15%)	\$495,000	-\$98,000	\$397,000
<b>Engineering Total</b>	<b>\$776,000</b>	<b>-\$157,000</b>	<b>\$619,000</b>
<b>Project Total</b>	<b>\$4,160,000</b>	<b>-\$807,000</b>	<b>\$3,350,000</b>

Notes:

<sup>1</sup>Based on WTP size of 51 ft x 48 ft

**EXHIBIT B**

**FORM OF ESCROW AGREEMENT**



## ESCROW AGREEMENT (Basic Three Party Escrow)

THIS ESCROW AGREEMENT is entered into as of March \_\_\_\_, 2018, by and among Merrimack Village District, (collectively "Party A" or "MVD"), Saint-Gobain Performance Plastics Corporation ("Party B" or "Saint-Gobain", and together with Party A, sometimes referred to individually as "Party" and collectively as the "Parties"), and JPMorgan Chase Bank, N.A. (the "Escrow Agent").

1. **Appointment.** The Parties hereby appoint Escrow Agent as their escrow agent for the purposes set forth herein, and Escrow Agent hereby accepts such appointment under the terms and conditions set forth herein.

2. **Fund; Investment.** (a) Saint-Gobain agrees to initially deposit with Escrow Agent the sum of \$630,000 ("Escrow Deposit"). Periodically thereafter, Saint-Gobain shall make additional deposits with Escrow Agent in accordance with the Settlement Agreement ("Settlement Agreement"), dated on or about March \_\_\_\_, 2018, among MVD and Saint-Gobain. Specifically, Saint-Gobain shall deposit an additional \$2,720,000 with Escrow Agent within thirty (30) days after completion of the final design phase engineering of the granular activated carbon filtration system ("System") for MVD supply wells 4 and 5, as provided for in the Settlement Agreement and described more fully in Exhibit A to the Settlement Agreement and any subsequent revisions to Exhibit A. In addition, Saint-Gobain shall deposit an additional \$106,900 with Escrow Agent within seven (7) days after start-up of the System, and shall deposit an additional \$106,900 with the Escrow Agent within one year thereafter, and each successive year thereafter for the next three years, for a total of five years. Saint-Gobain's total funding obligation under this Escrow Agreement shall not exceed \$3,884,500. Saint-Gobain shall notify the Escrow Agent in advance of the amount of any additional deposit. Escrow Agent shall hold the Escrow Deposit and any additional deposits made by Saint-Gobain under this Agreement in one or more demand deposit accounts and shall invest and reinvest the Escrow Deposit and the proceeds thereof ("Fund") in an interest bearing demand deposit account at JP Morgan Chase Bank, N.A., or a successor investment offered by Escrow Agent. Interest bearing demand deposit accounts have rates of interest or compensation that may vary from time to time as determined by the Escrow Agent. Any portion of escrowed funds deposited in interest bearing accounts shall be fully FDIC insured, or if applicable, held in SIPC-protected accounts at or below any applicable single account insurance maximum.

Instructions to make any other investment ("Alternative Investment"), and any instruction to change investments must be in writing and executed by an Authorized Representative (as defined in Section 3 below), of Saint-Gobain and of MVD and shall specify the type and identity of the investments to be purchased and/or sold.

(b) The Escrow Agent is hereby authorized to execute purchases and sales of investments through the facilities of its own trading or capital markets operations or those of any affiliated entity and the Escrow Agent or any affiliated entity may act as counterparty with respect to such investments. Escrow Agent will not provide supervision, recommendations or advice relating to either the investment of moneys held in the Fund or the purchase, sale, retention or other disposition of any investment described herein, and each Party acknowledges that it was not offered any investment, tax or accounting advice or recommendation by Escrow Agent with regard to any investment and has made an independent assessment of the suitability and appropriateness of any investment hereunder for purposes of this Agreement. Market values, exchange rates and other valuation information of any Alternative Investment furnished in any report or statement may be obtained from third party sources and is furnished for the exclusive use of the Parties. Escrow Agent has no responsibility whatsoever to determine the market or other value of any Alternative Investment and makes no representation or warranty, express or implied, as to the accuracy of any such valuations or that any values necessarily reflect the proceeds that may be received on the sale of an Alternative Investment. Escrow Agent shall not have any liability for any loss sustained as a result of any investment made pursuant to the terms of this Agreement or as a result of any liquidation of any investment prior to its maturity or for the failure of an Authorized Representative of Saint-Gobain to give Escrow Agent instructions to invest or reinvest the Fund. Escrow Agent shall have the right to liquidate any investments held in order to provide funds necessary to make required payments under this Agreement.

(c) All interest or other income earned under this Agreement shall be allocated to Saint-Gobain and reported by Escrow Agent to the IRS, or any other taxing authority, on IRS Form 1099 or 1042S (or other appropriate form) as income earned from the Escrow Deposit by Saint-Gobain whether or not said income has been distributed during such year. Any Alternative Investment shall be subject to a "stop loss order" and liquidated to cash to be held in interest bearing deposit accounts in the event that the balance of the Fund shall fall below 95% of the initial principal amount. Funds shall thereafter remain subject to the requirement of joint instruction from Saint-

Gobain and MVD prior to investment in any other Alternative Investments. The Parties hereby represent to Escrow Agent that no other tax reporting of any kind is required given the underlying transaction giving rise to this Agreement.

3. **Disposition and Termination.** As agreed to between the Parties, disbursements will be made only to pay for work completed by MVD or contractors retained by MVD to design, construct, operate and maintain the System. Reasonably promptly following the Escrow Deposit, MVD may submit a disbursement request to the Escrow Agent for an amount up to, but not in excess of, \$630,000 to fund the final design and construction phase engineering of the System. At least thirty-five (35) days after the completion of the final design phase engineering of the System, MVD may begin making disbursement requests to the Escrow Agent once every 30 days for the actual amounts of bona fide charges invoiced to MVD in the prior 30 days to pay for the construction, installation and start-up of the System. The total amount of such disbursements for construction, installation and start-up of the System shall not exceed \$2,720,000, and any deposited monies remaining in the Fund following start-up of the System shall remain in the Fund to pay for future operation and maintenance of the System. Following start-up of the System, MVD may make disbursement requests to the Escrow Agent once every 30 days for the actual amounts of bona fide charges invoiced to MVD in the prior month to pay for the operation and maintenance of the System. MVD may make disbursement requests to fund operation and maintenance of the System for five (5) years following start-up of the System. After five (5) years of operation and maintenance of the System, any monies remaining in the Fund, less any accrued interest, shall be disbursed to MVD to be exclusively used for future operation and maintenance of the System, any accrued interest shall be disbursed to Saint-Gobain, and this Escrow Agreement shall be terminated.

Disbursement requests shall be substantially in the form set forth in Exhibit A-1 ("Form of Disbursement Request") and shall be simultaneously submitted to both Saint-Gobain and the Escrow Agent. At least five (5) days prior to making a disbursement request, MVD shall provide written verification to Saint-Gobain that the work covered by the request has been satisfactorily completed. Any items which are invoiced to MVD by third parties but which cannot be certified as completed in the same 30-day period as the invoice is received by MVD may be included in the 30-day disbursement period following certification of completion. Unless Saint-Gobain submits to both the Escrow Agent and MVD an objection to the disbursement request substantially in the form set forth in Exhibit A-2 ("Form of Disbursement Request Objection Notice") no later than 5:00 p.m. NY time on the fifth (5th) Business Day after the Escrow Agent's receipt of the disbursement request, the Escrow Agent shall disburse the requested amount from the Fund to MVD within seven (7) Business Days after the date of receipt by the Escrow Agent of the disbursement request. In no event, however, shall the Escrow Agent disburse the requested amount before five (5) Business Days have passed following the date of receipt of the request by the Escrow Agent. In the event that an objection to a disbursement request is timely submitted and the amount in controversy is less than \$25,000, then Saint-Gobain and MVD shall work cooperatively to resolve the objection before the Escrow Agent disburses any portion of the amount requested. If MVD and Saint-Gobain are not able to resolve the objection within ten (10) Business Days of the date of the objection, then Escrow Agent shall disburse the requested amount and the matter may thereafter be submitted to binding expedited arbitration before \_\_\_\_\_, by and between Saint-Gobain and MVD with an award to issue within \_\_\_ days of submission and each party bearing its own expenses of arbitration. The amount of any award in favor of Saint Gobain shall thereafter be offset from any further and future disbursement. In the event that an objection to a disbursement request is timely submitted and the amount in controversy is in excess of \$25,000, then the Escrow Agent shall not disburse any portion of the amount requested in the disputed disbursement request to MVD until the objection is resolved. Saint-Gobain and MVD shall work cooperatively to resolve the objection, but if an agreement cannot be reached within ten (10) Business Days of the date of the objection, the dispute shall be submitted to binding expedited arbitration before \_\_\_\_\_ by and between Saint-Gobain and MVD with an award to issue within \_\_\_ days of submission and each party bearing its own expenses of arbitration. Upon determination of any award, the prevailing party shall send to Escrow Agent written instructions executed by an Authorized Representative of the instructing Party given to effectuate an attached final arbitration award, accompanied by written certification from counsel of the prevailing party attesting that such award is final and not subject to any further appeal or proceedings which is delivered to the Escrow Agent and to the other Party, and the Escrow Agent shall be entitled conclusively to rely upon any such certification and instruction and shall have no responsibility to review the order to which such certification and instruction refers or to make any determination as to whether such order is final.

Notwithstanding anything to the contrary contained in this Section 3, the Escrow Agent may assume that any Form of Disbursement Request, Form of Disbursement Request Objection Notice or other notice of any kind required to be delivered to the Escrow Agent and any other person has been received by such other person on the date it has been received by the Escrow Agent, but the Escrow Agent need not inquire or verify such receipt.

Notwithstanding anything to the contrary set forth in Section 8, any instructions setting forth, claiming, objecting to, or in any way related to the transfer or distribution of the Fund, must be in writing executed by the appropriate Party or Parties as evidenced by the signatures of the person or persons signing this Agreement or one of their designated persons as set forth on the Designation of Authorized Representatives attached hereto as Schedules 1-A and 1-B (each an "Authorized Representative"). Each Designation of Authorized Representatives shall be signed by the Secretary, any Assistant Secretary or other duly authorized officer of the named Party. No such instruction shall be deemed delivered and effective unless Escrow Agent actually shall have received it on a Business Day by facsimile or as a Portable Document Format ("PDF") attached to an email at the fax number or email address set forth in Section 8 and as evidenced by a confirmed transmittal to the Party's or Parties' transmitting fax number or email address and Escrow Agent has been able to satisfy any applicable security procedures as may be required hereunder. Escrow Agent shall not be liable to any Party or other person for refraining from acting upon any instruction for or related to the transfer or distribution of the Fund if delivered to any other fax number or email address, including but not limited to a valid email address of any employee of Escrow Agent.

The Parties each acknowledge that Escrow Agent is authorized to use the following funds transfer instructions to disburse any funds due to Party A and/or Party B, respectively, without a verifying call-back as set forth in Section 3(b) below:

Party A: Bank name:

Bank Address:

ABA Number:

Credit A/C Name:

Credit A/C #:

Credit A/C Address:

If Applicable:

FFC A/C Name:

FFC A/C #:

FFC A/C Address:

Party B: Bank name:

Bank Address:

ABA Number:

Credit A/C Name:

Credit A/C #:

Credit A/C Address:

If Applicable:

FFC A/C Name:

FFC A/C #:

FFC A/C Address:

It is understood and agreed that if multiple disbursements are provided for under this Agreement pursuant to the above funds transfer instructions, the date, amount and/or description of payments may change without requiring a verifying callback.

The Parties agree that any other repetitive funds transfer instructions may be given to Escrow Agent for one or more beneficiaries where only the date, amount of funds to be transferred, and/or the description of the requested payment may change ("Standing Instructions"). Any such Standing Instructions shall be set up in writing in advance of any actual transfer request and shall contain complete funds transfer information (as set forth above) for the beneficiary. Any such set-up of Standing Settlement Instructions and any changes in existing set-up, shall be confirmed by means of a verifying callback to an Authorized Representative. Standing Instructions will continue to be followed until cancelled by the Parties jointly in a writing signed by an Authorized Representative and delivered to Escrow Agent in accordance with this Section. Once set up as provided herein, Escrow Agent may rely solely upon such Standing Instructions and all identifying information set forth therein for each beneficiary. Each Party agrees that any Standing Instructions shall be effective as the funds transfer instructions of such Party or the Parties, as applicable, without requiring a verifying callback, as set forth in Section 3(b) below.

(b) In the event any other funds transfer instructions are set forth in a permitted instruction from a Party or the Parties in accordance with Section 3(a), Escrow Agent is authorized to confirm such instructions by a telephone call-back to one of the Authorized Representatives, and Escrow Agent may rely upon the confirmation of anyone purporting to be that Authorized Representative. The persons designated as Authorized Representatives and telephone numbers for same may be changed only in a writing executed by an Authorized Representative or other duly authorized officer of the applicable Party setting forth such changes and actually received by Escrow Agent via facsimile or as a PDF attached to an email. Except as set forth in Section 3(a) above, no funds will be disbursed until an Authorized Representative is able to confirm such instructions by telephone callback.

(c) Escrow Agent and other financial institutions, including the beneficiary's bank, may rely upon the identifying number of the beneficiary, the beneficiary's bank or any intermediary bank included in a funds transfer

instructions, even if it identifies a person different from the beneficiary, the beneficiary's bank or intermediary bank identified by name.

(d) As used in this Section 3, "Business Day" shall mean any day other than a Saturday, Sunday or any other day on which Escrow Agent located at the notice address set forth below is authorized or required by law or executive order to remain closed. The Parties acknowledge that the security procedures set forth in this Section 3 are commercially reasonable. Upon delivery of the Fund in full by Escrow Agent pursuant to this Section 3, this Agreement shall terminate and the related account(s) shall be closed, subject to the provisions of Section 6.

4. **Escrow Agent.** Escrow Agent shall have only those duties as are specifically and expressly provided herein, and no other duties, including but not limited to any fiduciary duty, shall be implied. Escrow Agent has no knowledge of, nor any obligation to comply with, the terms and conditions of any other agreement between the Parties, nor shall Escrow Agent be required to determine if any Party has complied with any other agreement. Escrow Agent may conclusively rely upon any written notice, document, instruction or request delivered by the Parties believed by it to be genuine and to have been signed by an Authorized Representative(s), as applicable, without inquiry and without requiring substantiating evidence of any kind, and Escrow Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document, notice, instruction or request. Escrow Agent shall not be liable for any action taken, suffered or omitted to be taken by it in good faith except to the extent that Escrow Agent's gross negligence or willful misconduct was the cause of any direct loss to either Party. Escrow Agent may execute any of its powers and perform any of its duties hereunder directly or through affiliates or agents. In the event Escrow Agent shall be uncertain, or believes there is some ambiguity, as to its duties or rights hereunder, or receives instructions, claims or demands from any Party hereto which in Escrow Agent's judgment conflict with the provisions of this Agreement, or if Escrow Agent receives conflicting instructions from the Parties, Escrow Agent shall be entitled either to: (a) refrain from taking any action until it shall be given (i) a joint written direction executed by Authorized Representatives of the Parties which eliminates such conflict or (ii) a court order issued by a court of competent jurisdiction (it being understood that Escrow Agent shall be entitled conclusively to rely and act upon any such court order and shall have no obligation to determine whether any such court order is final); or (b) file an action in interpleader. Escrow Agent shall have no duty to solicit any payments which may be due it or the Fund, including, without limitation, the Escrow Deposit. Nor shall the Escrow Agent have any duty or obligation to confirm or verify the accuracy or correctness of any amounts deposited with it hereunder. The Parties grant to Escrow Agent a lien and security interest in the Escrow Fund in order to secure any indemnification obligations of the Parties or obligation for fees or expenses owed to the Escrow Agent hereunder. Anything in this Agreement to the contrary notwithstanding, in no event shall Escrow Agent be liable for special, incidental, punitive, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if Escrow Agent has been advised of the likelihood of such loss or damage and regardless of the form of action; provided, however, that the foregoing shall not apply to the extent such loss or damage is caused by fraud on the part of Escrow Agent.

5. **Succession.** Escrow Agent may resign and be discharged from its duties or obligations hereunder by giving not less than thirty (30) days advance notice in writing of such resignation to the Parties, or may be removed, with or without cause, by the Parties at any time after giving not less than thirty (30) days prior written notice to the Escrow Agent. Escrow Agent's sole responsibility after such applicable thirty (30) day notice period expires shall be to hold the Fund (without any obligation to reinvest the same) and to deliver the same to a designated substitute escrow agent, if any, appointed by the Parties, or such other person designated by the Parties, or in accordance with the directions of a final court order, at which time Escrow Agent's obligations hereunder shall cease and terminate. If prior to the effective resignation or removal date, the Parties have failed to appoint a successor escrow agent, or to instruct the Escrow Agent to deliver the Fund to another person as provided above, or if such delivery is contrary to applicable law, at any time on or after the effective resignation date, Escrow Agent either (a) may interplead the Fund with a court located in the State of Delaware and the costs, expenses and reasonable attorney's fees which are incurred in connection with such proceeding may be charged against and withdrawn from the Fund; or (b) appoint a successor escrow agent of its own choice. Any appointment of a successor escrow agent shall be binding upon the Parties and no appointed successor escrow agent shall be deemed to be an agent of Escrow Agent. Escrow Agent shall deliver the Fund to any appointed successor escrow agent, at which time Escrow Agent's obligations under this Agreement shall cease and terminate. Any entity into which Escrow Agent may be merged or converted or with which it may be consolidated, or any entity to which all or substantially all of the escrow business may be transferred, shall be the Escrow Agent under this Agreement without further act.

6. **Compensation; Acknowledgment.** (a) Saint-Gobain shall pay Escrow Agent upon execution of this Agreement and from time to time thereafter reasonable compensation for the services to be rendered hereunder, which unless otherwise agreed in writing, shall be as described in Schedule 2.

(b) Each of the Parties further agrees to the disclosures and agreements set forth in Schedule 2.

7. **Indemnification and Reimbursement.** The Parties agree jointly and severally to indemnify and hold harmless Escrow Agent and its agents, employees, officers and directors (the "**Indemnitees**") from and against any and all losses, damages, claims, liabilities, costs or expenses (including attorneys' fees) (collectively "**Losses**"), resulting directly or indirectly from (a) Escrow Agent's performance of this Agreement, except to the extent that such Losses are determined by a court of competent jurisdiction to have been caused by the gross negligence, bad faith or willful misconduct of such Indemnitee; and (b) Escrow Agent's following, accepting or acting upon any instructions or directions, whether joint or singular, from the Parties received in accordance with this Agreement. The Parties hereby grant Escrow Agent a right of set-off against the Fund for the payment of any claim for indemnification, fees, expenses and amounts owing to Escrow Agent or an Indemnitee. The obligations set forth in this Section 7 shall survive the resignation, replacement or removal of Escrow Agent or the termination of this Agreement.

8. **Notices.** Except as otherwise expressly required in Section 3, all communications hereunder shall be in writing or set forth in a PDF attached to an email, and shall be delivered by facsimile, email or overnight courier only to the appropriate fax number, email address, or notice address set forth for each party as follows:

If to Saint-Gobain: Saint-Gobain Corporation  
20 Moores Road  
Malvern, PA 19355  
Attention: Carol M. Gray, VP & Deputy General Counsel  
Tel No.: 610-893-5663  
Fax No.: 855-205-9493  
E-Mail: carol.m.gray@saint-gobain.com

With copies to: Saint-Gobain Performance Plastics Corporation  
14 McCaffrey Street  
Hoosick Falls, NY 12090  
Attention: Chris Angier, Senior Environmental Project Manager  
Tel No. 518-308-5682  
Fax No.  
E-Mail: christopher.angier@saint-gobain.com

If to MVD :

With copies to:

If to Escrow Agent: JPMorgan Chase Bank, N.A.  
Escrow Services  
4 New York Plaza, 11<sup>th</sup> Floor  
New York, NY 10004  
Attention: Greg Shea/Audrey Mohan  
Fax No.: 212-552-2812  
Email Address: ec.escrow@jpmorgan.com

9. **Compliance with Court Orders.** In the event that a legal garnishment, attachment, levy, restraining notice or court order is served with respect to any of the Fund, or the delivery thereof shall be stayed or enjoined by an order of a court, Escrow Agent is hereby expressly authorized, in its sole discretion, to obey and comply with all such orders so entered or issued, and in the event that Escrow Agent obeys or complies with any such order it shall not be liable to any of the Parties hereto or to any other person by reason of such compliance notwithstanding such order be subsequently reversed, modified, annulled, set aside or vacated.

10. **Miscellaneous.** (a) The provisions of this Agreement may be waived, altered, amended or supplemented only by a writing signed by the Escrow Agent and the Parties. Neither this Agreement nor any right or interest hereunder may be assigned by any Party without the prior consent of Escrow Agent and the other Party. This Agreement shall be governed by and construed under the laws of the State of Delaware. Each Party and Escrow Agent irrevocably waives any objection on the grounds of venue, forum non-conveniens or any similar grounds and irrevocably consents to service of process by mail or in any other manner permitted by applicable law and consents to the jurisdiction of the courts located in the State of Delaware. To the extent that in any jurisdiction either Party may now or hereafter be entitled to claim for itself or its assets, immunity from suit, execution, attachment (before or after judgment) or other legal process, such Party shall not claim, and hereby irrevocably waives, such immunity. Escrow Agent and the Parties further hereby waive any right to a trial by jury with respect to any lawsuit or judicial proceeding arising or relating to this Agreement.

(b) No party to this Agreement is liable to any other party for losses due to, or if it is unable to perform its obligations under the terms of this Agreement because of, acts of God, fire, war, terrorism, floods, strikes, electrical outages, equipment or transmission failure, or other causes reasonably beyond its control. This Agreement and any joint instructions from the Parties may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument or instruction, as applicable. If any provision of this Agreement is held to be illegal, invalid, or unenforceable, the validity of the remaining portions of this Agreement shall not be affected. The Parties each represent, warrant and covenant that (i) each document, notice, instruction or request provided by such Party to Escrow Agent shall comply with applicable laws and regulations; (ii) such Party has full power and authority to enter into, execute and deliver this Agreement and to perform all of the duties and obligations to be performed by it hereunder; and (iii) the person(s) executing this Agreement on such Party's behalf and certifying Authorized Representatives in the applicable Schedule 1 have been duly and properly authorized to do so, and each Authorized Representative of such Party has been duly and properly authorized to take the actions specified for such person in the applicable Schedule 1. Except as expressly provided in Section 7 above, nothing in this Agreement, whether express or implied, shall be construed to give to any person or entity other than Escrow Agent and the Parties any legal or equitable right, remedy, interest or claim under or in respect of the Fund or this Agreement.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement as of the date set forth above.

**Saint-Gobain Performance Plastics Corporation**

By: \_\_\_\_\_  
Name: Carol M. Gray  
Title: Assistant Secretary

And

By: \_\_\_\_\_  
Name: Vincent E. DiNenna  
Title: Assistant Treasurer

**Merrimack Village District**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**JPMORGAN CHASE BANK, N.A.,**  
As Escrow Agent

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

EXHIBITA-1

FORM OF DISBURSEMENT REQUEST

[Date]

JPMorgan Chase Bank, N.A.  
Escrow Services  
4 New York Plaza, 11<sup>th</sup> Floor  
New York, NY 10004  
Attn: Greg Shea/Audrey Mohan  
Fax number: (212) 552-2812  
Email: ec.escrow@jpmorgan.com

[Name and Address of Other Party]

Dear Sir/Madam:

This notice is being delivered pursuant to Section 3 of the Escrow Agreement, dated \_\_\_\_\_, by and among Merrimack Village District ("MVD"), Saint-Gobain Performance Plastics Corporation ("Saint-Gobain"), and JP Morgan Chase Bank, N.A. ("Escrow Agent"). Capitalized terms in this letter that are not otherwise defined shall have their meanings set forth in the Escrow Agreement.

MVD hereby requests that Escrow Agent disburse \$ \_\_\_\_\_ ("Amount Certified") from the Fund to MVD as reimbursement for costs incurred by MVD in order to design, construct, operate and/or maintain the granular activated carbon filtration system for MVD public supply wells 4 and 5 for the month of \_\_\_\_\_. Pursuant to Section 3 of the Escrow Agreement, MVD hereby certifies that the work for the month of \_\_\_\_\_ has been satisfactorily completed and that MVD is entitled to the Amount Certified.

MVD further certifies to the Escrow Agent that this notice was delivered to Saint-Gobain on \_\_\_\_\_.

MERRIMACK VILLAGE DISTRICT

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

EXHIBIT A-2

FORM OF DISBURSEMENT REQUEST OBJECTION NOTICE

[Date]

JPMorgan Chase Bank, N.A.  
Escrow Services  
4 New York Plaza, 11<sup>th</sup> Floor  
New York, NY 10004  
Attn: Greg Shea/Audrey Mohan  
Fax Number: (212) 552-2812  
Email: ec.escrow@jpmorgan.com

[Name and Address of Other Party]

Dear Sir/Madam:

This notice is being delivered pursuant to Section 3 of the Escrow Agreement, dated \_\_\_\_\_, by and among Merrimack Village District ("MVD"), Saint-Gobain Performance Plastics Corporation ("Saint-Gobain"), and JP Morgan Chase Bank, N.A. ("Escrow Agent"). Capitalized terms in this letter that are not otherwise defined shall have their meanings set forth in the Escrow Agreement.

Saint-Gobain hereby objects to the Disbursement Request submitted to Escrow Agent by MVD on \_\_\_\_\_, and requests that the amount of such claim not be disbursed to MVD.

Saint-Gobain hereby certifies to the Escrow Agent that this notice was delivered to MVD on \_\_\_\_\_.

**SAINT-GOBAIN PERFORMANCE PLASTICS CORPORATION**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



Schedule 1-A

SAINT-GOBAIN PERFORMANCE PLASTICS CORPORATION

DESIGNATION OF AUTHORIZED REPRESENTATIVES

The undersigned, Carol M. Gray, Esq., being the duly elected, qualified and acting Assistant Secretary of Saint-Gobain Performance Plastics Corporation, does hereby certify:

1. That each of the following persons is at the date hereof an Authorized Representative as such term is defined in the Escrow Agreement, dated March \_\_\_ 2018, by and among Party A, Party B and Escrow Agent (the "Escrow Agreement"), that the signature appearing opposite each person's name is the true and genuine signature of such person, and that each person's contact information is current and up-to-date at the date hereof. Each of the Authorized Representatives is authorized to issue instructions, confirm funds transfer instructions by callback and effect changes in Authorized Representatives, all in accordance with the terms of the Escrow Agreement.

NAME	SIGNATURE	TELEPHONE & CELL NUMBERS
Vincent E. DiNenna	_____	610-893-5772 (cell) 484-612-3407
Carol M. Gray, Esq.	_____	610-893-5663 (cell) 610-517-0199
Donald J. Melroy	_____	610-893-5898 (cell) 609-220-8542

2. That pursuant to Saint-Gobain's governing documents, as amended, the undersigned has the power and authority to execute this Designation on behalf of Saint-Gobain, and that the undersigned has so executed this Designation this \_\_\_ day of \_\_\_, 20\_\_.

Signature: \_\_\_\_\_

Name: Carol M. Gray

Title: Assistant Secretary

**FOR YOUR SECURITY, PLEASE CROSS OUT ALL UNUSED SIGNATURE LINES ON THIS SCHEDULE 1-A**

All instructions, including but not limited to funds transfer instructions, whether transmitted by facsimile or set forth in a PDF attached to an email must include the signature of the Authorized Representative authorizing said funds transfer on behalf of such Party.

Schedule I-B

MERRIMACK VILLAGE DISTRICT

DESIGNATION OF AUTHORIZED REPRESENTATIVES

The undersigned, , being the duly elected, qualified and acting \_\_\_\_\_ of Merrimack Village District ("MVD") does hereby certify:

1. That each of the following persons is at the date hereof an Authorized Representative as such term is defined in the Escrow Agreement, dated October 14, 2016, by and among Party A, Party B and Escrow Agent (the "Escrow Agreement"), that the signature appearing opposite each person's name is the true and genuine signature of such person, and that each person's contact information is current and up-to-date at the date hereof. Each of the Authorized Representatives is authorized to issue instructions, confirm funds transfer instructions by callback and effect changes in Authorized Representatives, all in accordance with the terms of the Escrow Agreement.

NAME	SIGNATURE	TELEPHONE & CELL NUMBERS
	_____	(cell)
	_____	(cell)
	_____	(cell)

2. That pursuant to MVD's governing documents, as amended, the undersigned has the power and authority to execute this Designation on behalf of MVD, and that the undersigned has so executed this Designation this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**FOR YOUR SECURITY, PLEASE CROSS OUT ALL UNUSED SIGNATURE LINES ON THIS SCHEDULE I-B**

All instructions, including but not limited to funds transfer instructions, whether transmitted by facsimile or set forth in a PDF attached to an email must include the signature of the Authorized Representative authorizing said funds transfer on behalf of such Party.

SCHEDULE 2

J.P.Morgan

**Schedule of Fees and Disclosures for Escrow Agent Services**

**Account Acceptance Fee . . . . . WAIVED**

Encompassing review, negotiation and execution of governing documentation, opening of the account, and completion of all due diligence documentation. Payable upon closing.

**Annual Administration Fee . . . . . \$7,500 PER ANNUM**

The Administration Fee covers our usual and customary ministerial duties, including record keeping, distributions, document compliance and such other duties and responsibilities expressly set forth in the governing documents for each transaction. Payable upon closing and annually in advance thereafter, without pro-ration for partial years.

**Additional Fees and Expenses**

The Escrow Agent or any of its affiliates may receive compensation with respect to any Alternative Investment directed hereunder including without limitation charging any applicable agency fee or trade execution fee in connection with each transaction. Any additional services beyond our standard services as specified above, and all reasonable out-of-pocket expenses including attorney's or accountant's fees and expenses, will be billed at the Escrow Agent's then standard rate. The Escrow Agent may impose, charge, pass-through and modify fees and/or charges for any account established and services provided by the Escrow Agent, including but not limited to, transaction, maintenance, balance-deficiency, and service fees, agency or trade execution fees, and other charges, including those levied by any governmental authority. Payment of each invoice is due upon receipt.

**Disclosures and Agreements**

**Taxes.** The Parties shall duly complete such tax documentation or other procedural formalities necessary for Escrow Agent to complete required tax reporting and for the relevant Party to receive interest or other income without withholding or deduction of tax in any jurisdiction. Should any information supplied in such tax documentation change, the Parties shall promptly notify Escrow Agent. Escrow Agent shall withhold any taxes it deems appropriate in the absence of proper tax documentation or as required by law, and shall remit such taxes to the appropriate authorities.

**Representations Relating to Section 15B of the Securities Exchange Act of 1934 (Rule 15Ba1-1 et seq.) (the "Municipal Advisor Rule).** Each Party represents and warrants to the Escrow Agent that for purposes of the Municipal Advisor Rules, none of the funds (if any) currently invested, or that will be invested in the future, in money market funds, commercial paper or treasury bills under this Agreement constitute or contain (i) proceeds of municipal securities (including investment income therefrom and monies pledged or otherwise legally dedicated to serve as collateral or a source or repayment for such securities) or (ii) municipal escrow investments (as each such term is defined in the Municipal Advisor Rule). Each Party also represents and warrants to the Escrow Agent that the person providing this certification has access to the appropriate information or has direct knowledge of the source of the funds to be invested to enable the forgoing representation to be made. Further, each Party acknowledges that the Escrow Agent will rely on this representation until notified in writing otherwise.

**Patriot Act Disclosure.** Section 326 of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 ("USA PATRIOT Act") requires Escrow Agent to implement reasonable procedures to verify the identity of any person that opens a new account with it. Accordingly, you acknowledge that Section 326 of the USA PATRIOT Act and Escrow Agent's identity verification procedures require Escrow Agent to obtain information which may be used to confirm your identity including without limitation name, address and organizational documents ("identifying information"). You agree to provide Escrow Agent with

and consent to Escrow Agent obtaining from third parties any such identifying information required as a condition of opening an account with or using any service provided by the Escrow Agent.

**OFAC Disclosure.** Escrow Agent is required to act in accordance with the laws and regulations of various jurisdictions relating to the prevention of money laundering and the implementation of sanctions, including but not limited to regulations issued by the U.S. Office of Foreign Assets Control. Escrow Agent is not obligated to execute payment orders or effect any other transaction where the beneficiary or other payee is a person or entity with whom the Escrow Agent is prohibited from doing business by any law or regulation applicable to Escrow Agent, or in any case where compliance would, in Escrow Agent's opinion, conflict with applicable law or banking practice or its own policies and procedures. Where Escrow Agent does not execute a payment order or effect a transaction for such reasons, Escrow Agent may take any action required by any law or regulation applicable to Escrow Agent including, without limitation, freezing or blocking funds. Transaction screening may result in delays in the posting of transactions.

**Abandoned Property.** Escrow Agent is required to act in accordance with the laws and regulations of various states relating to abandoned property and, accordingly, shall be entitled to remit dormant funds to any state as abandoned property in accordance with such laws and regulations.

**Information.** Escrow Agent agrees to take customary and reasonable measures to maintain the confidentiality of the Parties' confidential information. The Parties authorize the Escrow Agent to disclose information with respect to this Agreement and the account(s) established hereunder, the Parties, or any transaction hereunder if such disclosure is: (i) necessary in the Escrow Agent's opinion, for the purpose of allowing the Escrow Agent to perform its duties and to exercise its powers and rights hereunder; (ii) to a proposed assignee of the rights of Escrow Agent; (iii) to a branch, affiliate, subsidiary, employee or agent of the Escrow Agent or to their auditors, regulators or legal advisers or to any competent court; (iv) to the auditors of any of the Parties; or (v) required by applicable law, regardless of whether the disclosure is made in the country in which each Party resides, in which the Escrow Account is maintained, or in which the transaction is conducted. The Parties agree that such disclosures by the Escrow Agent and its affiliates may be transmitted across national boundaries and through networks, including those owned by third parties.

**THE FOLLOWING DISCLOSURES ARE REQUIRED TO BE PROVIDED UNDER APPLICABLE U.S. REGULATIONS, INCLUDING, BUT NOT LIMITED TO, FEDERAL RESERVE REGULATION D. WHERE SPECIFIC INVESTMENTS ARE NOTED BELOW, THE DISCLOSURES APPLY ONLY TO THOSE INVESTMENTS AND NOT TO ANY OTHER INVESTMENT.**

**Demand Deposit Account Disclosure.** Escrow Agent is authorized, for regulatory reporting and internal accounting purposes, to divide an escrow demand deposit account maintained in the U.S. in which the Fund is held into a non-interest bearing demand deposit internal account and a non-interest bearing savings internal account, and to transfer funds on a daily basis between these internal accounts on Escrow Agent's general ledger in accordance with U.S. law at no cost to the Parties. Escrow Agent will record the internal accounts and any transfers between them on Escrow Agent's books and records only. The internal accounts and any transfers between them will not affect the Fund, any investment or disposition of the Fund, use of the escrow demand deposit account or any other activities under this Agreement, except as described herein. Escrow Agent will establish a target balance for the demand deposit internal account, which may change at any time. To the extent funds in the demand deposit internal account exceed the target balance, the excess will be transferred to the savings internal account, unless the maximum number of transfers from the savings internal account for that calendar month or statement cycle has already occurred. If withdrawals from the demand deposit internal account exceeds the available balance in the demand deposit internal account, funds from the savings internal account will be transferred to the demand deposit internal account up to the entire balance of available funds in the savings internal account to cover the shortfall and to replenish any target balance that Escrow Agent has established for the demand deposit internal account. If a sixth transfer is needed during a calendar month or statement cycle, it will be for the entire balance in the savings internal account, and such funds will remain in the demand deposit internal account for the remainder of the calendar month or statement cycle.

**MMDA Disclosure and Agreement.** If MMDA is the investment for the escrow deposit as set forth above or anytime in the future, you acknowledge and agree that U.S. law limits the number of pre-authorized or automatic transfers or withdrawals or telephonic/electronic instructions that can be made from an MMDA to a total of six (6) per calendar

month or statement cycle or similar period. Escrow Agent is required by U.S. law to reserve the right to require at least seven (7) days notice prior to a withdrawal from a money market deposit account.

**Unlawful Internet Gambling.** The use of any account to conduct transactions (including, without limitation, the acceptance or receipt of funds through an electronic funds transfer, or by check, draft or similar instrument, or the proceeds of any of the foregoing) that are related, directly or indirectly, to unlawful Internet gambling is strictly prohibited.

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Exhibit C  
INSURANCE

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*While performing any work or services related to this Agreement or any extension thereof, or as indicated otherwise herein, MVD shall maintain, or require its contractors to maintain, at their own expense all necessary insurance for themselves and their personnel of at least the following kinds and limits with reputable and financially strong independent insurance companies licensed or permitted to do business in the jurisdiction(s) where the work or services will be provided and rated at a minimum of "A-" VIII by AM Best (or similarly recognized rating agency in the country where the coverage was obtained), provided each such insurance coverage is commercially reasonable and available:*

(a) Workers' Compensation – in accordance with statutory requirements for all locations where work, products or services are to be provided.

(b) Employer's Liability – with a limit not less than \$1,000,000 each employee by disease, \$1,000,000 each accident, and \$1,000,000 disease policy limit.

(c) Commercial General Liability – with a limit of not less than \$1,000,000 per occurrence, \$1,000,000 for products and completed operations, and \$2,000,000 in the aggregate including, but not limited to, coverage for bodily injury, death, property damage, products and completed operations, independent contractors, premises/operations, sudden and accidental pollution coverage, and contractual, explosion, collapse, underground, and personal and advertising injury liabilities.

(i) Policy shall include endorsements ISO form CG 20 26 and CG 20 37 including Saint-Gobain as additional insureds afforded the same types of coverage as listed in declarations page of the named insured's policy.

(ii) Policy shall include a waiver of subrogation endorsement in favor of Saint-Gobain -.

(iii) Policy shall include a cross-liability and severability of interest clauses.

(iv) Policy shall contain endorsement 20 01 noting that MVD or its Contractors' insurance is primary and any other insurance carried by Saint-Gobain shall be noncontributory.

(v) Policy shall not contain any exclusions or limitations related to nature of products or services being provided under this Agreement.

(d) Excess\Umbrella Liability – with a limit of not less than \$2,000,000 per occurrence, at least with respect to policies required in 2., 3. and 4.; coverage shall provide excess limits and be at least follow form or broader.

(i) Policy shall include Saint-Gobain as additional insureds and afford the same types of coverage as listed in declarations page of the named insured's policy.

(ii) Policy shall include a waiver of subrogation endorsement in favor of Saint-Gobain.

(iii) Policy shall include a cross-liability and severability of interest clauses.

(iv) Policy shall contain an endorsement noting that MVD and its Contractors' insurance is primary and any other insurance carried by Buyer shall be noncontributory.

(e) Professional Liability (Errors & Omissions) – with a limit of not less than \$2,000,000 per claim and \$5,000,000 in the aggregate, and covering claims arising out of or related to acts, errors or omissions in connection with work or services provided by MVD or its contractors. The policy shall have a retroactive date on or before the Agreement date or the date of MVD or its contractors' first professional service, whichever is earlier. MVD or its contractors shall use commercially reasonable efforts to maintain such coverage for five (5) consecutive years following final delivery of work or services.

(f) Contractor Pollution Liability – For the duration of its work on this project, Underwood Engineers, Inc. will maintain its current policy with a limit of not less than \$2,000,000 dollars per claim and no less than \$2,000,000 in the aggregate, for losses caused by pollution conditions that arise from its operations described under the scope of services to be provided related to this project. MVD or Underwood shall provide notice to Saint-Gobain upon engagement of other contractors on the project which may handle hazardous materials; Saint-Gobain reserves the right to require those contractors to obtain Contractor Pollution Liability coverage, at Saint-Gobain's request and expense, so long as obtaining such coverage does not delay work on the project.

(g) All insurance policies required to be maintained by MVD or its contractors, except for Professional Liability, must be written on an occurrence form (claims-made form, occurrence reported form or modified occurrence not allowed) and shall be maintained without interruption during the term of this Agreement or as specified otherwise. Policies specified above may be maintained with limits listed in other foreign currencies, as long as they are equivalent to the amounts required herein. MVD and its contractors' required insurance limits may be satisfied by a combination of primary and excess/umbrella policies.

(h) Saint-Gobain will be provided with certificates of insurance and, where applicable, copies of policy endorsements, declaration pages and forms schedules prior to beginning of work or delivery of products or services and annually upon renewal of MVD and its



contractors' insurance programs evidencing that the aforementioned policies are in force and including the coverage required above. MVD and its contractors shall not commence work until the required certificates, declaration pages, form schedules and endorsement copies have been provided and approved by Saint-Gobain.

(i) The required insurance policies shall not be canceled or allowed to expire until at least 30 days' prior written notice has been given by MVD or its contractors, its insurance broker or carrier to Saint-Gobain. Any reduction in scope will be reported by MVD or its contractors, its insurance broker or carrier to Saint-Gobain within five (5) days of the reduction. The policies shall contain an endorsement requiring the insurer to give Saint-Gobain written notice of reduction, expiration and/or cancellation.

(j) If any of the foregoing insurance coverages are required to remain in force after expiration or termination of this Agreement, additional certificates evidencing continuation of such coverage shall be submitted on an annual basis to Saint-Gobain. Information concerning reduction of coverage on account of revised limits or claims paid under the general aggregate, or both, shall be furnished to Saint-Gobain as soon as reasonably possible in accordance with MVD and its contractors' information and belief.

(k) Should any loss occur under any of MVD or its contractors' required insurance policies, MVD and its contractors shall be liable for the amount of any deductibles, retentions or other self-insurance mechanisms specified in such policies. Furthermore, MVD and its contractors waive any claims they might have against Saint-Gobain for payment of any deductibles or retentions or other self-insurance mechanisms.

(l) None of the requirements contained herein as to types or limits or Saint-Gobain's approval of insurance coverage to be maintained by MVD or its contractors are intended to, and shall not in any manner, limit, qualify or quantify any liabilities and obligations assumed by MVD and its contractors under the Agreement or otherwise provided by law. Saint-Gobain reserves the right to review insurance requirements at any point in time and make changes in order to address additional exposures, which may exist as a result of MVD or its contractors' performance under the Agreement. Saint-Gobain's failure to monitor compliance or to object to noncompliance or unsatisfactory compliance with any terms of these insurance requirements does not modify or waive MVD and its contractors' obligations in any way.