

**On-Base Groundwater Remediation  
Performance Monitoring  
Former Griffiss Air Force Base  
Rome, New York**

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**FINAL  
BUILDING 775  
EXTRACTION & DISCHARGE SYSTEM  
OPERATION AND MAINTENANCE  
MANUAL**



**Contract No. W912DQ-06-D-0012**

**Revision 0.0  
January 2010**



DEPARTMENT OF THE AIR FORCE  
AIR FORCE REAL PROPERTY AGENCY

26 JAN 2010

MEMORANDUM FOR SEE DISTRIBUTION LIST

FROM: AFRPA-Griffiss  
Environmental Section  
153 Brooks Road  
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SUBJECT: Final Building 775 Extraction & Discharge System, Operation and  
Maintenance Manual.

1. Enclosed please find the Final Building 775 Extraction & Discharge System Operation and Maintenance Manual, On Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York, dated January 2010. It incorporates the responses to the comments provided by the USEPA on October 7<sup>th</sup>, 2009.
2. If you have any questions, please contact Cathy Jerrard at (315) 356-0810 ext. 204.

A handwritten signature in black ink, appearing to read "M. F. McDerrott".

MICHAEL F. MCDERMOTT  
BRAC Environmental Coordinator

Attachment: As Noted

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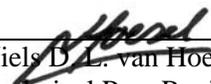
On behalf of FPM Group, Ltd. (FPM), the undersigned certify that the document(s) listed below were developed in conformance with FPM's Quality Control Plan, and further, that the work was performed in accordance with acceptable standards of engineering and scientific practice. Comments made by reviewers will be maintained in the project files in accordance with company policy.

**Final**  
**Building 775 Extraction & Discharge System**  
**Operation and Maintenance Manual**  
**On Base Groundwater Remediation**  
**Former Griffiss Air Force Base**  
**Rome, New York**  
**January 2010**

**Contract No. W912DQ-06-D-0012**  
**Task Order No.: 0001**

**Prepared for:**

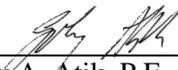
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Kansas City District  
601 East 12th Street  
Kansas City, Missouri 64106

  
\_\_\_\_\_  
Niels D. L. van Hoesel  
Technical Peer Reviewer

\_\_\_\_\_  
1/23/2010  
Date

  
\_\_\_\_\_  
Daniel Baldyga  
Editorial Reviewer

\_\_\_\_\_  
1/23/2010  
Date

  
\_\_\_\_\_  
Gaby A. Atik, P.E.  
Project Manager

\_\_\_\_\_  
1/23/2010  
Date

Date:	<b>ENGINEERING / DOCUMENT REVIEW</b>		
1/25/2010	Griffiss OBGW Project		Document: <i>Draft Building 775 Extraction &amp; Discharge System Operation And Maintenance Manual, August 2009</i>
<b>Comment No</b>	<b>Reference (Page and Para)</b>	<b>Comment</b>	<b>Response</b>
Reviewer – Doug Pocze, USEPA (Comments received on 7 October 2009)			
General Comments			
1		The O & M Manual should provide technical information, manufacturer's data, protocols, process parameters, operation procedures, staffing, training, and maintenance schedules. Revise the O&M Manual to include staffing requirements, qualifications, and certifications of all site personnel.	A section will be added to the O&M manual which discusses the personnel and their qualifications.
2		According to Section 3.1, System Components and Section 5, Drawings, as-built drawings for the Building 775 system are currently being developed as part of the Interim Remedial Action Completion Report and will be added to the O&M Manual as an updated appendix or addendum. Please ensure that the as-built drawings are included as an Appendix to the final O&M Manual.	The as-built drawings will be provided in the Final O&M Manual in Appendix E.
3		The Special Permit for the discharge of contaminated groundwater that was issued on June 10, 2008 for a five-year period is included in Appendix A. It is assumed in the ROD that long-term monitoring will be required for 20 years (i.e., ten years during the operation and maintenance of the Bldg. 775 extraction and discharge system, and ten years thereafter during the post-extraction, long-term monitoring period). Under CERCLA, five-year reviews will be required to ensure that the selected remedy is still performing as planned and is protective of public health and the environment. Revise the O&M Manual to include a schedule for the permit renewal, five-year reviews, and long-term monitoring activities.	A schedule for permit renewal, five-year reviews, and LTM will be provided in the final O&M Manual in Table 4-2.
4		According to Section 4.2, Maintenance Procedures, and Section 4.2.1, Maintenance Schedule, on Page 4-3, the Bldg. 775 extraction and discharge system will be inspected on a quarterly basis on approximately the 30th of each third month in conjunction with the quarterly sampling activities described in the Final Performance	The operation of the extraction and discharge system is observed weekly via the external 'pump on' lights on the control panel. Should these lights indicate that the pumps are not operating at the scheduled interval, additional

Date:	<b>ENGINEERING / DOCUMENT REVIEW</b>		
1/25/2010	Griffiss OBGW Project		Document: <u>Draft Building 775 Extraction &amp; Discharge System Operation And Maintenance Manual, August 2009</u>
<b>Comment No</b>	<b>Reference (Page and Para)</b>	<b>Comment</b>	<b>Response</b>
		Monitoring Work Plan (FPM, 2008). During the quarterly maintenance inspections, the control panel will be checked for normal operation, several pumping cycles will be observed and recorded on the Bldg. 775 O&M Inspection Checklist included in Appendix D of the O&M Manual, and recommended manufacturers' maintenance activities will be completed. However, the O&M Manual does not discuss the procedures that will be taken should there be a malfunction to the system or any of its components during the period between quarterly inspections. Revise the O&M Manual to discuss interim measures that will be taken in the event of equipment failure between the routine scheduled quarterly maintenance events.	inspection will be performed to identify the problem. If needed, it will be corrected according to the final O&M Manual in Section 4.2.2.
5		Appendix B, Equipment Documentation, includes specifications, installation, and operating instructions for the submersible pumps and water level measurement and control system equipment. While Section 2, Well Controls and Settings, of the O&M Manual presents the operational procedures for start-up of the system, shut-down of the pumps, and steps to remove/service a pump, there is no procedure for the removal of a submersible pump for maintenance, inspection, or in the event a pump needs to be repaired or replaced. Revise the O&M Manual to present procedures for removal and re-installation of a repaired or replacement pump, including the decontamination and disposal procedures of any down-hole components.	A section discussing pump removal and reinstallation, inspection and decontamination procedures will be included in the Final O&M Manual in Section 2.5.

Date:	<b>ENGINEERING / DOCUMENT REVIEW</b>		
1/25/2010	Griffiss OBGW Project		Document: <i>Draft Building 775 Extraction &amp; Discharge System Operation And Maintenance Manual, August 2009</i>
Comment No	Reference (Page and Para)	Comment	Response
6		6. Section 4.3, Documentation/Records Requirements, Page 4-3, describes that quarterly discharge reports will be prepared and submitted to the City of Rome Water Pollution Control Facility and system inspections will be documented on the Bldg. 775 O&M Inspection Checklist included in Appendix D of the O&M Manual. It is suggested that in addition to these documentation requirements, the Annual O&M Remedy Evaluation Checklist be completed to compile data routinely collected during O&M activities in order to assist in evaluating the efficiency and effectiveness of the remedial action. The Annual O&M Remedy Evaluation Checklist can be found at: <a href="http://www.epa.gov/superfund/cleanup/postconstruction/operate.htm">http://www.epa.gov/superfund/cleanup/postconstruction/operate.htm</a>	The Annual O&M Remedy Evaluation Checklist will be added to the Final O&M Manual in Appendix D. It will be completed annually.
<b>Specific Comments</b>			
1	Section 2.4, Settings, Page 2-1	Section 2.4, Settings, Page 2-1: The O&M Manual discusses the level control sensor settings in this section, but does not include text which substantiates why the presented settings are appropriate to achieve the operation objectives, or what, if any, conditions would necessitate a modification of these values. The O&M Manual states that, “[t]he level control sensors ON levels are set at 8.0 ft.”, and that the on/off cycle is 7 minutes. Revise the O&M Manual to substantiate how these values were arrived at, and what, if anything, would necessitate their adjustment.	The settings were finalized during the initial operational phase of the groundwater extraction and discharge system. Fine tuning was performed between January and March 2009 to achieve the recommended extraction rate of 4 gpm. These settings achieve that extraction rates.  No changes to the report text are required.
	<b>End of comments.</b>		

**FINAL**

**BUILDING 775**

**EXTRACTION & DISCHARGE SYSTEM**

**OPERATION AND MAINTENANCE**

**MANUAL**

**Prepared for:**

**On-Base Groundwater Remediation  
Former Griffiss Air Force Base  
Rome, New York**

**through**

**United States Army Corps of Engineers  
Kansas City District  
Kansas City, MO 68102**

**Prepared by:**

**FPM Group, Ltd.  
153 Brooks Road  
Rome, NY 13441**

**In association with:**

**Parsons Infrastructure & Technology Group, Inc.  
290 Elwood Davis Rd, Suite 312  
Liverpool, NY 13088**

**Contract No. W912DQ-06-D-0012**

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## TABLE OF CONTENTS

		<b>PAGE</b>
<b>1</b>	<b>INTRODUCTION.....</b>	<b>1-1</b>
1.1	DESCRIPTION OF THE EXTRACTION SYSTEM .....	1-1
1.2	PURPOSE OF THE SYSTEM .....	1-2
<b>2</b>	<b>WELL CONTROLS AND SETTINGS .....</b>	<b>2-1</b>
2.1	CONTROLS .....	2-1
2.2	FUNCTIONAL DESCRIPTION .....	2-1
2.3	ALARM .....	2-1
2.4	SETTINGS.....	2-2
2.5	OPERATION .....	2-2
<b>3</b>	<b>GENERAL INFORMATION .....</b>	<b>3-1</b>
3.1	SYSTEM COMPONENTS.....	3-1
3.2	MANUFACTURER CONTACT/ CONTACT INFORMATION.....	3-2
3.3	WARRANTY INFORMATION .....	3-4
3.4	SPARE PARTS.....	3-4
<b>4</b>	<b>OPERATION AND MAINTENANCE.....</b>	<b>4-1</b>
4.1	SAFETY REQUIREMENTS.....	4-1
4.1.1	Personal Protective Equipment.....	4-1
4.1.2	Lock Out/Tag Out Procedures .....	4-1
4.1.3	Confined Space Entry Procedures .....	4-1
4.1.4	Start-up/ Shut-down Procedures .....	4-2
4.1.5	Additional Safety Requirements/ Permits.....	4-2
4.2	MAINTENANCE PROCEDURES .....	4-3
4.2.1	Maintenance Schedule .....	4-3
4.2.2	Troubleshooting .....	4-3
4.3	DOCUMENTATION/ RECORDS REQUIREMENTS .....	4-4
<b>5</b>	<b>DRAWINGS .....</b>	<b>5-1</b>
<b>6</b>	<b>REFERENCES.....</b>	<b>6-1</b>

## LIST OF TABLES

Table 3-1	Manufacturer Contact Information.....	3-1
Table 3-2	Parsons Contact Information .....	3-3
Table 3-3	Warranty Information.....	3-4
Table 4-1	Maximum Daily Limits .....	4-2

## LIST OF FIGURES

Figure 1-1	Building 775 Site Map.....	1-3
Figure E-1	Power Distribution.....	2-3
Figure E-2	Pump Controls Wiring Diagram.....	2-4

## APPENDICES

Appendix A	Discharge Permit GAFB-775-1
Appendix B	Equipment Documentation
Appendix C	Activity Hazard Analysis
Appendix D	Building 775 O&M Inspection Checklist
Appendix E	As Built Drawings

## LIST OF ACRONYMS AND ABBREVIATIONS

<b>AFB</b>	Air Force Base
<b>AHA</b>	Activity Hazard Analysis
<b>AOC</b>	Area of Concern
<b>APP</b>	Accident Prevention Plan
<b>CSE</b>	Confined Space Entry
<b>DCE</b>	Dichloroethene
<b>DFR</b>	Daily Field Report
<b>EEEPC</b>	Ecology and Environment Engineering, P.C.
<b>FPM</b>	FPM Group. Ltd.
<b>gpm</b>	Gallon per minute
<b>GUSC</b>	Griffiss Utility Services Corporation
<b>HAZWOPER</b>	Hazardous Waste Operation and Emergency Response
<b>HSP</b>	Health and Safety Plan
<b>H-O-A</b>	Hand-Off-Auto
<b>LOTO</b>	Log out/Tag out
<b>OBGW</b>	On-Base Groundwater
<b>O&amp;M</b>	Operation and Maintenance
<b>OSHA</b>	Occupational Safety & Health Administration
<b>µg/L</b>	Microgram per liter
<b>mg/L</b>	Milligram per liter
<b>NYSDEC</b>	New York State Department of Environmental Conservation
<b>Parsons</b>	Parsons Infrastructure and Technology Group, Inc.
<b>PM WP</b>	Performance Monitoring Work Plan
<b>ppb</b>	Parts per billion
<b>PPE</b>	Personal Protective Equipment
<b>RA WP</b>	Remedial Action Work Plan
<b>RD WP</b>	Remedial Design Work Plan
<b>ROD</b>	Record of Decision

<b>TCE</b>	Trichloroethene
<b>TOIC</b>	Top of inside casing
<b>USACE</b>	United States Army Corps of Engineers
<b>WPCF</b>	Water Pollution Control Facility

## **1 Introduction**

This operation and maintenance (O&M) manual has been prepared by FPM Group, Ltd. (FPM) in association with Parsons Infrastructure and Technology Group, Inc. (Parsons), under contract to the United States Army Corps of Engineers (USACE), Kansas City District, Contract No. W912DQ-06-D-0012. This O&M Manual is applicable to the following On-Base Groundwater (OBGW) Area of Concern (AOC) Site: Building 775/Pumphouse 3 (Building 775) at the former Griffiss Air Force Base [AFB] (Figure 1-1).

The remedy selected for the Building 775 Site is a groundwater extraction and discharge system, as described in the Final Remedial Design Work Plan (RD WP) and Design Drawings by Ecology and Environment Engineering, P.C. (EEEPC, February 2008). The system was installed in 2008 as described in the Remedial Action Work Plan (RA WP) (Parsons, July 2008), with several modifications and additions as documented in submittals, memoranda, and daily field reports (DFRs) related to the OBGW Remediation Project.

### **1.1 Description of the Extraction System**

The groundwater extraction and discharge system was implemented at the Building 775 Site as the selected remedy for the cleanup of a contaminated groundwater plume. The groundwater extraction and discharge system is designed to contain the contaminated plume and extract the contaminants (>50 parts per billion (ppb)) from the aquifer.

The extraction system was originally designed for one extraction well to capture the entire width of the contaminated plume, with a second, further downgradient extraction well identified as a contingency. During installation, it was determined that two extraction wells were better suited for the remediation of the contaminated plume. The original extraction well (EW-1) was converted into a monitoring well and used for performance monitoring. Two extraction wells (EW-1R and EW-3) were installed to contain the width of the plume.

Currently, the system consists of the following components:

- Extraction well (EW-1R) with submersible pump and level sensor;
- Extraction well (EW-3) with submersible pump and level sensor;
- Valve boxes adjacent to each extraction well;
- A common force main discharging effluent groundwater to a public sewer manhole;
- A meter box which contains a mechanical total flow meter with electronic output to a totalizer located in the control panel;
- A locked control panel containing all electronic controls for the extraction pumps; and,
- A service pole with power meter and disconnect switch that supplies power to the system.

The submersible pumps are set at a depth of approximately 73 feet below the top of the inner casing (TOIC) in both extraction well locations.

A map of the site showing all system components and their location is provided in Figure 1-1.

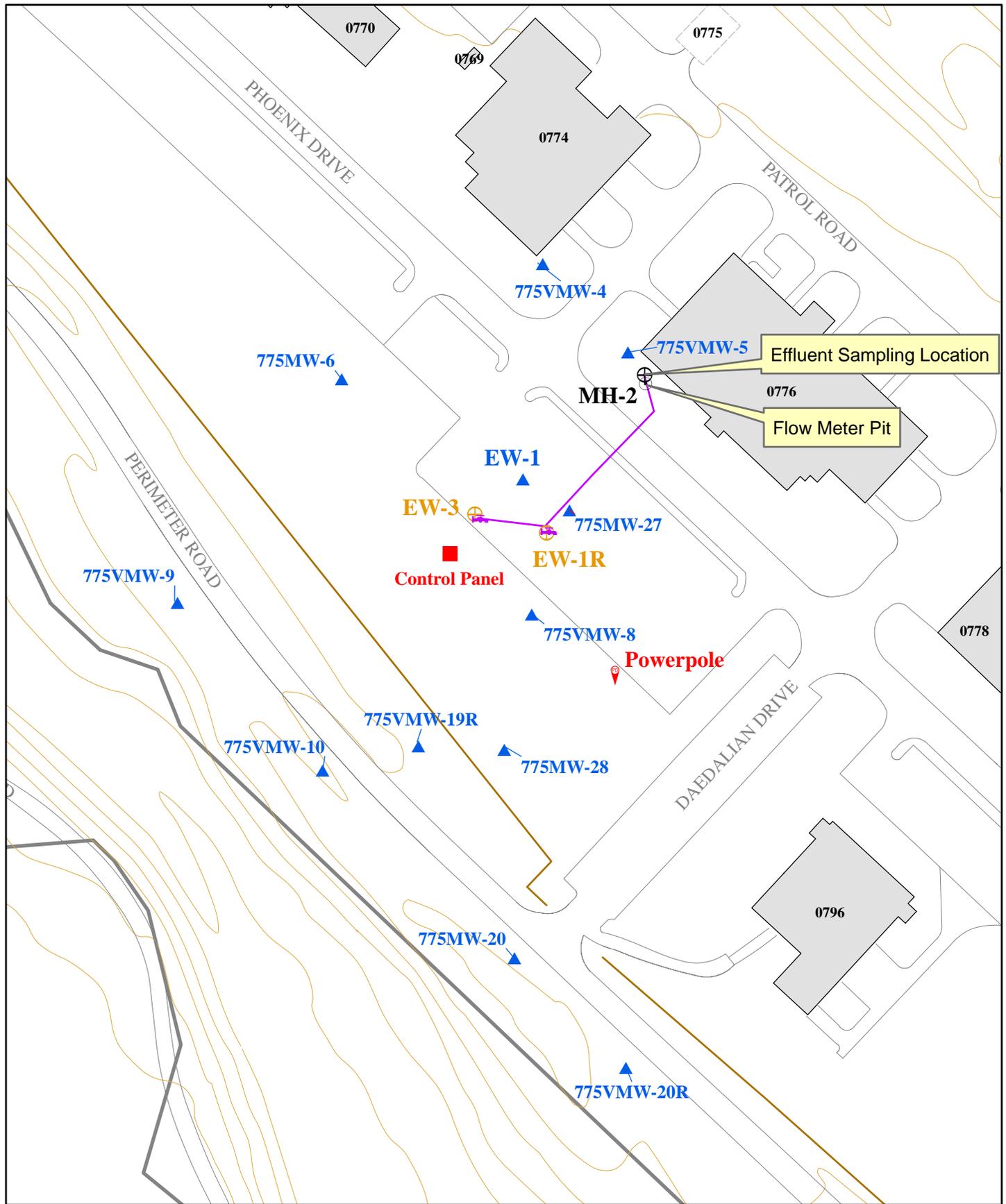
## **1.2 Purpose of the System**

The purpose of the system is to extract groundwater from the contaminated plume and discharge it to the sewer for treatment in the Rome Water Pollution Control Facility (WPCF). This discharge is regulated by the Permit No. GAFB-775-1 issued by the City of Rome, Water Pollution Control Facility on June 10, 2008 (Appendix A).

The Building 775 Site will be monitored in accordance with the Final Performance Monitoring Work Plan (PM WP) (FPM, September 2008). Sampling and groundwater capture evaluations will be performed as part of the monitoring effort.

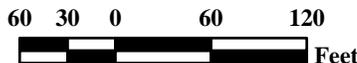
To demonstrate the site is meeting performance objectives and no further contingency is required, the performance monitoring must demonstrate a decreasing trend in concentrations towards 50 µg/L trichloroethene (TCE) or less. The intended purpose of the system at the site is to achieve the performance criteria as outlined in the Final Record of Decision (ROD) (AFRPA, April 2009) and listed below.

1. Achieve the cleanup goal for TCE (New York State Department of Environmental Conservation [NYSDEC] Class GA Groundwater Standard is 5 µg/L);
2. Prevent human exposure to groundwater through groundwater use restrictions until cleanup goals are achieved;
3. Prevent contaminated groundwater from the site from adversely impacting surface water (in Three Mile Creek), which is defined as surface water concentrations above performance indicators (NYSDEC Class GA Groundwater Quality Standards of 5 µg/L for dichloroethene (DCE) and 2 µg/L for vinyl chloride), and
4. Prevent development and use of the property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.



**Legend**

- |  |                 |  |                 |  |            |  |              |
|--|-----------------|--|-----------------|--|------------|--|--------------|
|  | Extraction Well |  | Monitoring Well |  | Power Pole |  | LF6 Boundary |
|  | Elec. Box       |  | Manhole         |  | Force Main |  | Existing     |
|  | EW valve        |  | Flow meter pit  |  | Topography |  | Demolished   |
|  |                 |  | Road            |  |            |  |              |



**Figure 1-1: Building 775 Site Map**



UNITED STATES AIR FORCE  
FORMER GRIFFISS AIR FORCE BASE  
ROME, NY

FPM group

Date: 8/20/2009

Page 1-3

## **2 Well Controls and Settings**

The Building 775 System is controlled by using a series of Well Watcher level controllers, flow meters, totalizers, and timing relays. These components are housed in a control panel located on the southwest end of the parking lot between Phoenix Road and Perimeter Road. The power is supplied from a nearby Griffiss Utility Services Corporation (GUSC) power pole located to the east of the parking lot. A transformer steps down the electrical power, converting it to 120/240 volt, single phase, and 100 amp supply and distributing it through a meter with a disconnect switch to the control panel. Figure E1 represents the current as-built power distribution plan.

### **2.1 Controls**

The controls for the wells are housed in an outdoor control panel located adjacent to extraction well EW-3. The control panel includes power circuit breaker panel, motor starters with Hand-Off-Auto (H-O-A) switches, Well Watcher level controllers, flow meter power supply and totalizer, and timing relays. On the side of the panel facing the parking lot is a green “Pump Running” light for each pump and a red “Alarm” indication light. Each extraction well has a submersible pressure transducer that is wired to the Well Watcher controllers located in the control panel. The pump controls and wire diagram are shown on as-built drawing Figure E2. There are no control functions accessible from the panel exterior. The panel is secured with a lock requiring a key.

### **2.2 Functional Description**

The Well Watcher level controller for each well has two output relays each individually programmable for on and off levels. The H-O-A switch selects which relay (mode) to control the pump. In Hand mode, the pump is cycled on and off based on the controller level settings. In Auto the relay is programmed by on - off levels and a repeat timing relay is incorporated to maintain a constant flow value. Each pump has the capacity to pump approximately 6 gallons per minute (gpm). The estimated flow rate to maintain capture of the plume is 4 gpm or 2 gpm per well. The repeat timing relay is set to control both pumps to an average total of 4 gpm. In wet seasons or as needed, one or both pumps can operate in Hand and deliver a higher flow. The flow meter measures and totalizes the flow and is required for reporting discharges and volumes to the City of Rome WPCF.

### **2.3 Alarm**

The controls will energize the red indicating light on the outside of the panel if either of the two pumps do not start within the one hour time setting of the alarm relay.

## 2.4 Settings

The Well Watcher level controllers are set at approximately 3 feet above the pump. The level control sensors ON levels are set at 8.0 ft. and the OFF levels are set at 0.00 ft.

### **In Auto:**

The repeat cycle timing relay is set for 7 minutes OFF and 3-minutes ON. The pumps will continue to cycle in this time interval unless the following conditions develop:

1. The water level reaches 0.00 feet at which point the pumps will shut OFF regardless of the time interval elapsed, or
2. The pumps will not turn ON until the water level is a minimum of 8 feet above the well controller

## 2.5 Operation

### **Start-up:**

1. Place disconnect switch at service pole in ON position.
2. Place pump H-O-A in O (Off) position.
3. Turn on all breakers in circuit breaker panel.
4. Once level Well Watcher controllers register, place H-O-A in A (Auto) position.
5. Repeat cycle timing relay may take seven minutes before pumps start.
6. Water level on Well Watcher has to be above 8.0 ft. before pumps start in Auto.
7. Both pumps should start immediately; flow meter should increase in value.
8. Pumps will stop after three (3) minutes, restart in seven (7) minutes if level is above 8.0 ft.

### **Shut-down Pumps:**

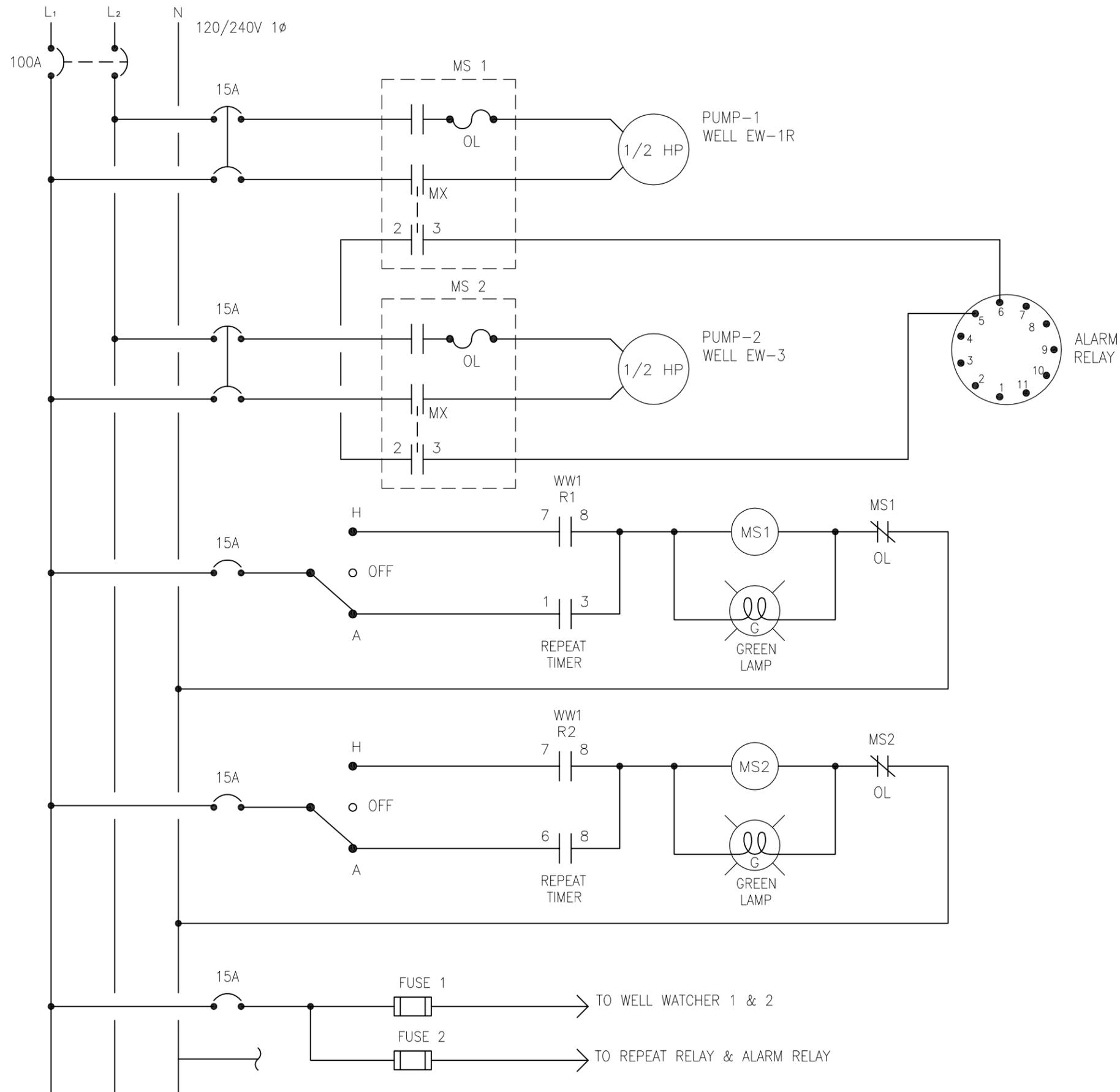
1. Place H-O-A in OFF. Perform for both pumps if system is to be shut down.
2. Place 2-pole breakers for pump/s in OFF position.

### **To remove/service a pump:**

**\* Note** – In accordance with the Grundfos Instructions Manual (Appendix B); electrical connections (as well as re-connections) should be carried out by an authorized electrician in accordance with local regulations. Additionally, all Lockout/Tagout procedures will be performed by an Authorized Person who is recognized as having the responsibility and expertise to perform electrical procedures in the course of normal duties.

1. Place H-O-A in OFF. Perform for both pumps if system is to be shut down.
2. Place 2-pole breakers for pump(s) in OFF position.
3. Place main breaker in OFF position.

4. Lockout disconnect at service pole in OFF position.
5. Utilizing the threaded T-handle, thread the bottom of the T-handle into the top of the pitless adapter at the connection in the well casing.
6. Lift the pump out of the well, make sure the motor cable is not damaged when the pump is lifted. **Note:** Do not lift or lower the pump using the motor cable.
7. Wash pump and downhole equipment with mild detergent wash and freshwater rinse before servicing.
8. Following service, re-install the pump in accordance with the manufacturers recommendations found in Section 9 of the Grundfos Instructions manual found in Appendix B in this O&M Manual.

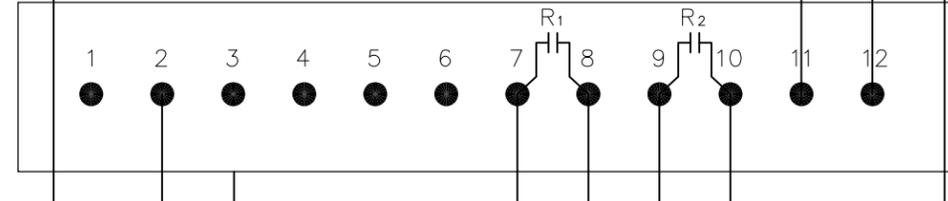
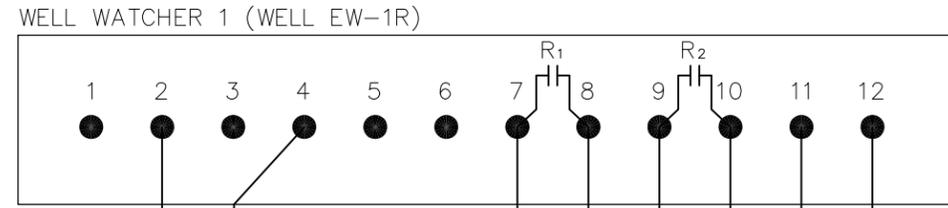
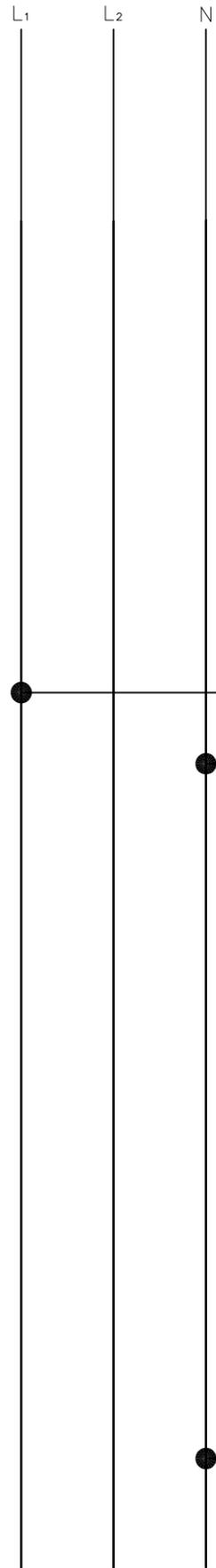


**LEGEND:**

- MS1 MOTOR STARTER #1
- MS2 MOTOR STARTER #2
- MX AUXILIARY CONTACT
- OL OVERLOAD RELAY
- R1 RELAY OUTPUT #1
- WW1 WELL WATCHER #1
- WW2 WELL WATCHER #2

AS-BUILT FIGURE E1
FORMER GRIFFISS AFB, ROME, NEW YORK GRIFFISS BUILDING 775 CONTROLS
<b>POWER DISTRIBUTION</b>
<b>PARSONS</b> <small>290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560</small>

120V/240V 1Ø



15A

TO MS1 (FIGURE E-1)

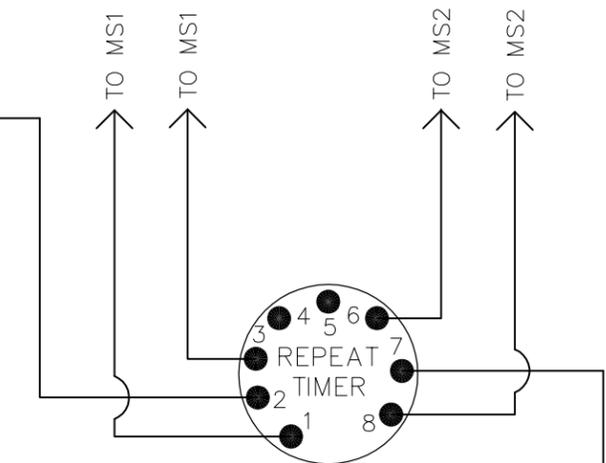
TO MS2 (FIGURE E-1)

WELL 1 PRESS SENSOR

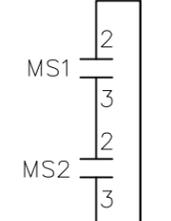
WELL 2 PRESS SENSOR

FUSE 1

FUSE 2



AGASTAT SRC 7ANNA



DAYTON 6A855



RED ALARM LAMP

AS-BUILT FIGURE E2

FORMER GRIFFISS AFB, ROME, NEW YORK  
GRIFFISS BUILDING 775 CONTROLS

PUMP CONTROLS WIRING DIAGRAM

**PARSONS**

290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

### 3 General Information

#### 3.1 System Components

Manuals for all equipment installed at the Building 775 Site have been included in Appendix B. These manuals include data sheets, cut sheets, installation, and maintenance procedures and are provided for the equipment listed in Table 3-1. Manufacturer drawings available for the equipment are also located in Appendix B. As-built drawings for the Building 775 System are included in this O&M Manual in Appendix E.

**Table 3-1  
Manufacturer Contact Information**

<b>Component</b>	<b>Manufacturer</b>	<b>Address</b>	<b>Phone Number</b>	<b>Email address/ Web Address</b>
Submersible pump	Grundfos Pump Corp.	17100 West 118 <sup>th</sup> Terrace Olathe, Kansas 66061	913-227-3400	N/A
Well Watcher-Hydrostatic Pressure Level Measurement System	Drexelbrook/ Ametek	205 Keith Valley Road Horsham, PA 19044	800-527-6297	deinfo@drexelbrook.com
Multi-Function/Multi Range Time Delay Relay	Dayton	Distributor: <b>Grainger</b> 6285 E. Molloy Rd. East Syracuse, NY 13057-1037	315- 433-2771	www.grainger.com
Repeat Cycle Time Delay Relay	Tyco Electronics	1050 Westlakes Drive Berwyn, PA 19312	610-893-9800	www.tycoelectronics.com
-Lamp Module -Push button Enclosure -Pilot Light Head	Schneider Electric	Distributor: <b>Grainger</b> 6285 E. Molloy Rd. East Syracuse, NY 13057-1037	315- 433-2771	www.schneider-electric.us www.grainger.com
-Load Center -Circuit Breaker -Molded Case Switch -Safety Switch -Motor Starter	Square D Schneider Electric	Distributor: <b>Grainger</b> 6285 E. Molloy Rd. East Syracuse, NY 13057-1037	315- 433-2771	www.schneider-electric.us www.grainger.com
Fuse Blocks	Littelfuses	Distributor: <b>Grainger</b> 6285 E. Molloy Rd. East Syracuse, NY 13057-1037	315- 433-2771	www.littelfuse.com www.grainger.com

Component	Manufacturer	Address	Phone Number	Email address/ Web Address
Flow Meter (Neptune T10)	Neptune Technology Group	Distributed: <b>McMaster Carr</b> 200 New Canton Way, Robbinsville, NJ 08691-2343	(609) 689- 3415	www.mcmaster.com
NonDelay Fuse	Bussmann	Distributor: <b>Grainger</b> 6285 E. Molloy Rd. East Syracuse, NY 13057-1037	315- 433- 2771	www.grainger.com

### 3.2 Manufacturer Contact/ Contact Information

The contact information for the manufacturers which provided the referenced equipment is listed in Table 3-1.

### 3.3 Personnel

Parsons is the prime contractor responsible for the Building 775 Extraction and Discharge System. FPM is responsible for the Building 775 O&M. Personnel involved with the project are listed in Table 3-2. Their contact information is provided in Table 3-3. GUSC is responsible for the local utility service and should be contacted at (315) 838-4872 regarding any main power supply issues.

**Table 3-2**  
**Personnel Information**

<b>Personnel</b>	<b>Company</b>	<b>Title</b>	<b>Qualifications</b>	<b>Certifications</b>
John Lanier	Parsons	Project Manager	B.S., Chemistry and Mathematics	Senior Project Manager
Rebecca Absolom	Parsons	Quality Control	B.S., Mechanical Engineering	40- hr- HazWOPER,
Dale Dolph	Parsons	Health and Safety	USMC MOS School for NBC Defense	Certified Construction Health and Safety Technician (CHST)
Wayne Simmons	Parsons	Electrical Engineer	A.A.S., Engineering	Certified Instrument Selection and Application
Dan Hoffner	Parsons	Construction Manager	B.S., Mechanical Engineering	40- hr- HazWOPER,
Jake Pratt	FPM	Field Technician	A.A.S., English	40- hr- HazWOPER, First Aid, CPR.
Peter Corigliano	FPM	Environmental Scientist	B.S., Environmental Science	40- hr- HazWOPER, First Aid, CPR.
Niels van Hoesel	FPM	Environmental Scientist	M.S., Environmental Science	40- hr- HazWOPER, First Aid, CPR.

**Table 3-3**  
**Personnel Contact Information**

<b>Personnel</b>	<b>Phone Number</b>	<b>Cell Number</b>	<b>Email Address</b>
John Lanier Project Manager	(315) 552-9704	(716) 998-3485	John.Lanier@parsons.com
Rebecca Absolom Quality Control	(315) 552-9671	(315) 569-9467	Rebecca.Absolom@parsons.com
Dale Dolph Health and Safety	(315) 552-9684	(315) 506-3939	Dale.Dolph@parsons.com
Wayne Simmons Electrical Engineer	(315) 552-9731	(315) 247-4554	Wayne.Simmons@parsons.com
Dan Hoffner Construction Manager	(716) 541-0748	(716) 807-8432	Dan.Hoffner@parsons.com
Jake Pratt System O&M	(315) 336-7721	-	J.Pratt@FPM-Group.com

Peter Corigliano III System O&M	(315) 336-7721	-	P.Corigliano@FPM-Group.com
Niels van Hoesel System O&M	(315) 336-7721	-	N.vanhoesel@FPM-Group.com

### 3.4 Warranty Information

Warranty information is provided by the manufacturer or distributor of some system components installed at the Building 775 Site. The available warranty information is provided in Table 3-3 below.

**Table 3-4**  
**Warranty Information**

<b>Component</b>	<b>Manufacturer</b>	<b>Warranty Information</b>	<b>Address</b>	<b>Phone Numbers and Email Address</b>
Submersible pumps	Grundfos	2 years from date of installation	17100 West 118 <sup>th</sup> Terrace Olathe, Kansas 66061	913-227-3400  e-mail: N/A
Level Measurement and Control Systems	Ametek	2 years from date of shipment	205 Keith Valley Road Horsham, PA 19044	800-527-6297  deinfo@drexelbrook.com

All other components, not listed above, are considered a shelf item and are available for purchase through the supplier or the distributor.

### 3.5 Spare Parts

Spare part numbers can be located on the datasheets/cut sheets for all system components. These datasheets/cut sheets are available in the equipment documentation included in Appendix B. Spare parts will require purchase at the time of replacement. Replacement of parts will be documented and Parsons will be updated. Any excess unused spare parts will be maintained in the FPM warehouse for future use or returned to the vendor as appropriate.

## **4 Operation and Maintenance**

### **4.1 Safety Requirements**

All O&M work at the Building 775 Extraction and Discharge System is performed under the Basewide Health and Safety Plan [HSP] (FPM, June 2003), the Accident Prevent Plan (APP) (Parsons, 2006), and the APP Update (Parsons, 2008). All activities will be conducted in accordance to the previously mentioned HSP. Additional work procedures relevant to the Building 775 O&M activities are described in detail below.

#### **4.1.1 Personal Protective Equipment**

As detailed in the Basewide HSP and the APP, all work at the Building 775 Site is being performed in modified Level D personal protective equipment (PPE). Level D PPE includes long pants, approved safety boots, safety glasses, and protective hand gear (work gloves). PPE can be modified based on the task performed, such as but not limited to, sampling, maintenance activities, etc.

#### **4.1.2 Lock Out/Tag Out Procedures**

Lock out/tag out (LOTO) procedures may be necessary at the Building 775 Extraction and Discharge System because the system has remote electronic controls for pumps and transducers which are not located in the direct vicinity of the control panel. This could result in a potential electrical hazard to workers. Any maintenance or repair activities that require LOTO will be performed by an “Authorized Employee” in accordance with requirements set forth in Occupational Safety & Health Administration (OSHA) 1910.147. Work activities and potential hazards concerning LOTO are covered in the Recovery System Start Up Activity Hazard Analysis (AHA) which is included in Appendix C.

#### **4.1.3 Confined Space Entry Procedures**

Confined space entry (CSE) procedures may be necessary at the Building 775 Extraction and Discharge System because the system has a manhole in which the mechanical total volume totalizer is located and the system discharge point is located inside a City of Rome sanitary sewer. No maintenance is expected on this robust meter or discharge piping, but should work in these areas be required, CSE procedures set forth in OSHA 1910.146 will be followed. Additionally, all personnel involved in the CSE activities shall have training that provides the understanding, knowledge, and skills necessary for the safe performance of CSE activities. Work activities and potential hazards concerning CSE are covered in the Recovery System Start Up AHA which is included in Appendix C. An example of a Confined Space Entry Permit and a Confined Space Evaluation Checklist are also included in Appendix C.

#### **4.1.4 Start-up/ Shut-down Procedures**

Start-up/shut-down procedures are necessary at the Building 775 Extraction and Discharge System because the system contains electric pumps and transducers which require a certain start-up/shut-down procedure. This activity could result in potential hazards to workers. To minimize risk associated with the Recovery System Start Up and Shut Down procedures, an AHA was created and is included in Appendix C. This AHA will be reviewed and updated periodically as a result of any changes in the start-up/shut down procedures (Section 2.3), or changes in site conditions.

#### **4.1.5 Additional Safety Requirements/ Permits**

As previously mentioned, the Building 775 System is discharging under Permit No. GAFB-775-1 issued by the City of Rome, Water Pollution Control Facility on June 10, 2008 (Appendix A). This permit allows the system to discharge contaminated groundwater to the City of Rome sanitary sewer manhole located southwest of the building on Phoenix Drive.

This permit is active for a period of five (5) years from June 10, 2008 through June 10, 2013. The effluent discharge must be sampled and the total volume discharged reported on a quarterly basis. The effluent sample is collected at the outlet of the force main where it discharges into the sewer manhole. The force main discharges the combined effluent from ER-1R and EW-3. The sample will be analyzed for the following parameters and compared to the maximum daily limit as shown in Table 4-1 below.

**Table 4-1**  
**Maximum Daily Limits**

<b>Parameter</b>	<b>Maximum Daily Limit (mg/L)</b>
Benzene	0.13
Ethylbenzene	1.59
Toluene	1.35
Xylene	1.35
Total BTEX	2.87
Total TTO	2.13

Notes:  
TTO - Total Toxic Organics

In addition to the discharge permit, a CSE permit is required anytime personnel enter the manhole containing the flow meter and the totalizer. Information regarding this permit was previously discussed in Section 4.1.3.

All personnel who handle the quarterly samples must be trained and certified in the OSHA 1910.120 and 1926.65, 40-Hour Hazardous Waste Operation and Emergency Response (HAZWOPER). Employees must maintain their 8-hour HAZWOPER Refresher.

## **4.2 Maintenance Procedures**

Sampling is performed on a quarterly basis in accordance with the Final PM WP (FPM, 2008). The maintenance procedures for the Building 775 Extraction and Discharge System are performed during this sampling event. During O&M visits to the site, the control panel is checked to confirm normal operation. Several pumping cycles are observed and observations are recorded on a Building 775 O&M Inspection Checklist, included in Appendix D. Any manufacturers' recommended maintenance activities will be completed as part of this effort.

### **4.2.1 Maintenance Schedule**

The Building 775 System will be reviewed on a quarterly basis on approximately the 30<sup>th</sup> of each 3<sup>rd</sup> month in conjunction with the required sampling activities. At this time, any maintenance activities will be implemented. Any manufacturers' recommended maintenance activities will be completed as part of this effort.

If one or more of the pumps or system components appear to malfunction, the component's vendor literature will be consulted for troubleshooting as described in Section 4.2.3.

### **4.2.2 Overall Schedule**

A long term schedule is included in Table 4-2 below. It summarizes the schedule for the permit renewal, CERCLA 5-year review, and LTM activities.

**Table 4-2**  
**Long Term Schedule**

<b>Event</b>	<b>Date</b>
CERCLA 5-year Review	2010
LTM activities	2016
Discharge Permit Renewal	June 10, 2013

### **4.2.3 Troubleshooting**

Refer to Appendix B for the System Component Manuals. These manuals should be reviewed and the troubleshooting guidelines followed to identify the problem. If problems persist and are not resolved through the use of vendor supplied information, then Parsons shall be contacted.

Parsons will be available to assist with any troubleshooting or system problems should they arise.

### **4.3 Documentation/ Records Requirements**

All field documentation will be maintained at the FPM office and transmitted to Parsons as appropriate. A current copy of this O&M Manual will be maintained in the control panel at all times. A copy of the Discharge Permit GAFB-775-1 is located in Appendix A. Quarterly Discharge reports will be prepared and submitted to the City of Rome WPCF with the required laboratory sample results in accordance with the discharge permit.

In addition, system inspections will be documented on the Building 775 O&M Inspection Checklist (Appendix D) and maintained in the project files. Building 775 system flow rates and discharge volumes will be recorded and submitted to Parsons.

Annually, the Annual O&M Remedy Evaluation Checklist (as provided in Appendix D) will be completed. This check list evaluates the efficiency and effectiveness of the remedial action.

## **5 Drawings**

Final as-built drawings (i.e., civil and electrical) for the Building 775 Extraction and Discharge System are included in Appendix E.

## **6 References**

AFRPA, Final Record of Decision for the On-base Groundwater AOC (SD-52) at the Former Griffiss Air Force Base, Rome, New York, April 2009.

EEEEPC, Final Remedial Design Work Plan (RD WP) and 90% Design Drawings, Former Griffiss Air Force Base, Rome, New York, February 2008.

FPM Group (FPM), Final Performance Monitoring Work Plan (PM WP), On-Base Groundwater Remediation, On-Base Groundwater Areas of Concern, Former Griffiss Air Force Base, Rome, New York, September 2008.

Parsons, Final Remedial Action Work Plan (RA WP), Remedial Action Work Plan, On-Base-Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York, July 2008.