Former Miller Container Site

OSWEGO COUNTY
VOLNEY, NEW YORK

Site Management Plan

NYSDEC Site Number: 7-38-029

Prepared for:
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October 2016

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

CERTIFICATION STATEMENT

I PATRICK T. MARTIN certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Signature

Patrick T. Martin, PE
NYS PE License No. #071014-1

OCTOBER 28, 2016
DATE

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

The New York State Department of Environmental Conservation (the "NYSDEC" or the "Department") issued its Record of Decision (the "ROD") for the Former Miller Container site (Site # 7-38-029 (hereinafter referred to as the "Site" or the "Property") in March 1995. Miller Brewing Company ("Miller" or the "Remedial Party") then implemented the selected remedy at the Site as updated over time (the "Remedial Program") in accordance with Order on Consent Index # A7-0322-9411, Site # 7-38-029 (the "Remedial Program Order"), which was effective on December 11, 1995. The Remedial Program also includes work undertaken under an Order on Consent (Index # A702659106–, Site No. 738029 – effective on August 12, 1991) (the "IRM Order"). Copies of the ROD, Remedial Program Order, and IRM Order are included in Appendix A of this SMP. The terms of the Remedial Program as specified in both the Remedial Program Order and the IRM Order are governed by this Site Management Plan ("SMP").

The SMP is being incorporated as a component of the Remedial Program at the Site. It is to be effective following NYSDEC approval and the re-classification of the Site from a Class "2" to a Class "4" site, that is one that has been properly closed that requires continued site management, consisting of operation, maintenance and monitoring (the "Effective Date").

The NYSDEC Project Manager is John Grathwol and he will serve as the NYSDEC Project Manager under this SMP. His contact information follows:

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NYSDEC reserves the right to change the name of the Project Manager upon notice to the current owner of the Property (or "Site Owner") and Miller.

1.1.1 General

A figure showing the area that was initially identified as the Site, consisting of approximately 50.2 acres, is provided as Figure 1-1. The boundary of the Site was modified in 2014 to approximately 12.7 acres. The new site boundary is shown on Figure 1-2.

This SMP was prepared to manage the implemented Remedial Program until the remediation goals identified in the ROD have been achieved so that the Site can be re-classified as a Class 5 site, that is, one that has been properly closed and requires no further action. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Operations & Maintenance Inc. under the direct guidance of Patrick T. Martin, P.E. (Golder Associates Inc. PC) in general accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP identifies the Institutional Controls (ICs) and Engineering Controls (ECs) that are required to be maintained and implemented for the continued remediation and monitoring of the Site.

1.1.2 Purpose

Engineering Controls identified in the remedial program have been incorporated in the Site Management Plan. The Declaration of Covenants and Restrictions (the "Declaration") granted to the NYSDEC and recorded in the Oswego County Clerk's Office (see Appendix B) requires compliance with this SMP and all ECs and ICs placed on the Site. The ICs identified in the Declaration place restrictions on Site use. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Declaration for contamination that remains at the Site. This SMP has been approved by NYSDEC, and the grantor of the Declaration and its successors and assigns

must comply with the terms of the SMP. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required as part of the Remedial Program, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan; (2) a Site Monitoring Plan; and (3) an Operation and Maintenance Plan. The SMP also includes a description of the Periodic Review Reports (PRR) that will be required for the periodic submittal of data, information, recommendations, and certifications to NYSDEC. Section 6.0 of the SMP describes the division of responsibilities between the Site Owner and Miller as the Remedial Party in preparing the required certifications to NYSDEC as part of the PRR process.

It is important to note that this SMP details the site-specific implementation procedures that are required by the Declaration. Failure to properly implement the SMP is a violation of the Declaration, the Environmental Conservation Law and 6 NYCRR Part 375 and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this SMP will be proposed in writing to the NYSDEC's Project Manager. In accordance with the Declaration, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Site is located in the Town of Volney, County of Oswego, New York and is identified as SWIS # 355800 Tax Map # 254.00-05-04.01 on the Town of Volney Tax

Map. The Site is an approximately 12.7-acre area that resides completely within the referenced tax map number. It is bounded by Riverscape Apartments to the north, Riverview Business Park to the south, Route 481 and a railroad to the east, and Route 57 to the west (see Figure 1-1 and Figure 1-2). The boundaries of the Site are more fully described in the legal description that is set forth in Appendix C – Metes and Bounds.

1.2.2 Site History

Miller Brewing Company purchased the Site in the early 1970s to construct and operate a can making facility. Miller produced aluminum cans for the adjacent brewery.

Rolls of flat aluminum were punched out and formed into the main body shape of the can. A blend of chlorinated cleaning solvents was used to remove all the lubricating oil from the can bodies prior to applying the labels and interior coatings. Through normal operations and inadvertent discharges, these solvents impacted the aquifer.

Miller sold the Site to R/M Can Company in October 1993. That company continued to produce aluminum cans until it shut down in 1996. The Site was then sold to Crysteel Manufacturing, Inc. in 1998.

Crysteel modified the interior of the manufacturing facility to produce dump truck boxes and associated hydraulic lift systems. Processes included steel and stainless steel plasma cutting, welding and spray paint coating of finished products. The area to the east of the facility was stripped of topsoil and a crushed stone parking lot was created for storage of finished products. Crysteel was in operation until April 2007.

The Site was purchased in September 2007 by Riccelli Fulton, LLC (Riccelli) to be used as a service and storage terminal for trucking operations. Riccelli used the facility for the storage of whole kernel corn and soy beans for three years from 2008-2010. In September 2008, Riccelli increased the size of the main parking lot eastward approximately 200 feet for outside material storage.

1.2.2.1 Underground Storage Tanks and associated Piping

At the time of construction of the manufacturing building that housed the Miller Container operations, ten (10) underground storage tanks (USTs) were installed and in operation. This section describes the tank locations and uses.

- Spill Containment Tank: This UST was located immediately north of the facility outside the footprint of the building. Floor drains and trenches located in a chemical storage room in the northwest corner of the main plant area collected any material that inadvertently spilled and directed the material via underground piping to the spill containment tank. This tank was removed in 1986 and the grossly contaminated soils surrounding the tank were removed from the excavation area and properly disposed of off-site. The piping and trench collection systems associated with this tank were removed at that time.

- Virgin Chemical Storage Tanks (3): These three tanks were located outside the footprint of the facility to the north adjacent to the Spill Containment tank. These tanks were used to store lubricating oil and coatings for the can making process. These tanks and associated piping were removed during a Miller initiative to relocate all underground processes to above ground in 1991.

- Industrial Wastewater Pre-Treatment Plant process tanks (4): These tanks are located beneath the facility floor in the southwest corner of the facility. These tanks were associated with the industrial pretreatment of wastewater at the facility. These four tanks were cleaned and permanently closed in place with the approval of the NYSDEC. The tanks were filled with pea stone just below the top of the tank and flowable concrete material was used to complete the filling of the tanks and manways. The floor was finished with a 5000 PSI concrete to stand up to vehicle traffic. The UST closure report (letter dated July 22, 2012 from Earth Tech) is attached in Appendix D. There are no remaining regulatory or remedial obligations with respect to these tanks.

- Fuel Oil storage Tanks (2): Two fuel oil underground storage tanks utilized by Miller outside of the footprint of the manufacturing facility were closed in-place. Copies of the records on their closure from the DEC Bulk Storage

Database are attached in Appendix E. These records show that both tanks were 70,000 gallon tanks. One of the tanks was used for # 2 fuel oil and the other for # 6 fuel oil.

- Underground Process Piping: The facility was originally constructed with underground process piping to convey process wastewater to the southwest corner of the main plant area where the industrial pretreatment facility was located. Miller went through a process in 1991 of cleaning and abandoning all underground process piping. All process pipes were cleaned using high pressure water jetting and the lines were filled with non-shrink grout.

1.2.2.2 History of Contamination

In April 1986, Miller retained Day Engineering to remove the spill containment tank and collect samples of the tank contents and surrounding soil. The results of this sampling led Miller to retain Calocerinos and Spina Engineering to perform the first phase of a hydrogeologic investigation later in 1986. Ten soil borings were completed and wells were installed at four of the locations. Data collected from these wells determined groundwater flow direction and indicated significant groundwater contamination in the area of the spill containment tank.

In August 1985, tetrachloroethene (PCE) was detected at Municipal Well #2 (M2), one of three Fulton water supply wells then in operation to the west of the Site. PCE was detected at concentration of 2.0 parts per billion (ppb). At that time, there was no readily identifiable source for this contamination and the level detected was far below guidance values then in effect (50 ppb).

In September 1986, Miller retained Malcolm Pirnie, Inc. (MPI) to conduct the second phase of the investigation. A total of 27 monitoring wells were installed at this point in the investigation.

Miller proposed a groundwater remediation protocol in February 1987. The NYSDEC and Miller negotiated a Consent Order for an Interim Remedial Measure ("IRM") outlined in the groundwater remediation protocol. Three recovery wells (RW-1, 2, 3) were installed in April 1987 and the construction of the treatment system (air

stripper) was begun in November 1987. The IRM recovery and treatment system was put into operation in June 1988.

Due to continuing deterioration of the water quality across the Site and at the municipal well field, the site investigation was expanded and Miller agreed to perform a full Remedial Investigation and Feasibility Study (RIFS). The RIFS Work Plan was approved in February 1991. The RI Report was submitted in August 1993 and final approval was given by NYSDEC in October 1993. Due to some differences in data interpretation, Miller conducted supplementary field work and submitted a report in July 1994. A draft FS report was submitted in July 1994 and NYSDEC-requested changes to the FS report were approved in September 1994.

Miller contracted with MPI to produce a Remedial Design report in May of 1995 that provided several options to address the site contamination. Solicitation of bids was sent to prequalified engineering firms and Earth Tech Inc. was selected to provide the final Design, Construction and Operation of the groundwater recovery and treatment system now in place.

Earth Tech submitted the 100% remedial design report in August 1996, which was approved by the NYSDEC. After the construction and demonstration period were completed, Earth Tech submitted the Final Engineering Report that included the Operation, Maintenance and Monitoring plan as well as the Emergency Contingency Plan in May 1998.

The groundwater recovery and treatment system has been in operation since the initial start-up date of February 15, 1997. Annual reports summarizing the operations and monitoring of the system have been prepared and submitted to NYSDEC since July 1998.

The manufacturing facility constructed by Miller in 1976 remains on-site and in useable condition. The grossly impacted soil noted at the time of spill containment tank removal has been removed and the ground surface restored to preexisting conditions.

Miller went through a process of cleaning and abandoning all of the underground process piping in 1991. The only underground piping in active service after this process was for sanitary sewer, roof drains, fire suppression and potable water supply.

1.2.3 Geologic Conditions

The underlying geology for the Site was characterized during the Remedial Investigation and is fully described in the RI Report included as Appendix F. The description of the Site geology below was taken from the 2012 Annual Report and 5-Year Periodic Review Report prepared by Golder Associates (copy attached as Appendix G). Conditions consist predominately of lodgment till, ablation till and glaciolacustrine sand and silt deposits as described below:

- Lodgment Till - The lodgment till is composed predominantly of compacted clay and gravels emplaced at the bottom of the glacial ice as it advanced over the area of groundwater recovery. The lodgment till is very dense and serves as a hydraulic barrier to the underlying bedrock. Variations in the till surface across the Site direct the groundwater flow as it progresses toward the Oswego River. A north trending ridge of lodgment till runs across the area of groundwater recovery. The ridge likely slows groundwater flow as it moves east to west, and may preferentially influence flow toward northern and southern flow paths. To the east of the ridge, a channel was formed in the lodgment till that generally parallels the ridge line further enhancing preferential flow along the ridge in a north-south direction as documented in the RI.

- Ablation Till - Overlying the lodgment till is a unit of ablation till, which consists of cobble size to clay size particles, deposited during the retreat of the glacier. This unit was reported in the RI to be present in each monitoring well installed during the RI. The ablation till is typically highly permeable. The original recovery wells targeted pumping from the ablation till.

- Glaciolacustrine Silt and Sand - Overlying the ablation till are glaciolacustrine (i.e. glacial lake deposits) silts and sands. These materials are permeable and

transport groundwater but are less permeable than the ablation till. The RI report describes these materials as well stratified on the western side of the lodgment till ridge and un-stratified on the eastern side. The un-stratified material would be more likely to facilitate downward flow of groundwater into the ablation till while the stratified unit is likely to impede downward flow and enhance flow parallel to the stratified units. Newly installed DPE wells and the replacement RW-5R well are screened in these un-stratified silts and sands located above the ablation till.

- To the east of the lodgment till ridge, silty clay has been described in the RI report as a horseshoe shaped deposit that may have been formed in an oxbow lake in an abandoned meandering river channel that formerly flowed through the area. The horseshoe shaped glaciolacustrine silty clay deposit was described to have been deposited contemporaneously with the glaciolacustrine silt and sand. As described in the RI report, it extends south from the eastern portion of the pond to the vicinity of MW-27D then turns northward toward the MW-56D area parallel to the lodgment till ridge. This horseshoe shaped deposit may influence groundwater flow by retarding groundwater flow in the Northern Plume area compared to groundwater flow to the south as evidenced by higher historical yields for the Southern Plume recovery wells compared to the Northern Plume recovery wells.

From a hydro-geologic perspective, the ablation till is the unit with the highest permeability and the most likely unit for contaminant migration. Results of aquifer pumping tests reported in the RI report indicate good connectivity between wells screened across the ablation till.

As reported in the RI, wells from 100 feet to over 200 feet from the pumping well (RW-1) indicated a good response to pumping and formed a drawdown ellipse parallel to the trend of the till ridge. Connectivity was also observed in intermediate wells believed to be screened in the silt and sands. This connectivity may indicate that contaminant capture from the intermediate zone is feasible.

1.2.4 Hydrogeology

1.2.4.1 Regional Hydrogeology

Ground water occurs in the bedrock formations and in the unconsolidated deposits overlying bedrock. In general, the most water is available from sand and gravel deposits, less is available from bedrock and the least from glacial till or silt and clay deposits.

Ground water receives recharge from the infiltration of snowmelt and rain water through the upper overburden soils to the saturated zone. Discharge occurs in streams, lakes and topographically low wetlands.

The water table in the unconsolidated deposits generally mirrors the land surface, flowing subparallel to topography. The general direction of deep ground water flow in the bedrock is toward Lake Ontario.

1.2.4.2 Site Hydrogeology

Ground water at the Site occurs predominantly under unconfined conditions. Water percolating downward through spaces between soil particles in the unsaturated zone joins the ground water body at the water table. The water table is in direct contact with the atmosphere through the open pores of the overlying material and is therefore under atmospheric pressure. Monitoring wells that are screened at the water table will have water levels that are reflective of atmospheric pressure. Below the water table, the combination of atmospheric pressure and the weight of overlying water create pressures in the zone of saturation. Monitoring wells screened in discrete intervals at depths considerably below the water table will have water levels that are representative of the head in the aquifer at the depth of the screened interval.

Ground water flows from areas of higher ground water pressure head to areas of lower ground water pressure head along flow lines defined by the system. By installing monitoring well clusters (adjacent wells screened at discrete intervals below as well as at the water table) and collecting water level data, the three-dimensional distribution of the ground water pressure head in the unconsolidated aquifer below the site can be established.

Typically, ground water elevations fluctuate on a seasonal basis with the highest annual elevations occurring in late winter/early spring months. The water levels generally decline throughout the summer, due to the reduction in water available for recharge as a result of reduced precipitation and to greater evapotranspiration, and reach overall lows in the late summer/early fall months. There is a gradual increase in water levels through the later fall due to increased precipitation and less evapotranspiration, through the winter months and into the spring. The depth to groundwater varies widely across the Site due to variation in elevation of the individual well head and throughout the year as the water table fluctuates from infiltration of precipitation. Table 1-1 represents a typical annual water level elevation data set collected from the site monitoring wells.

A geologic cross-section section prepared for the RI study is shown in Figure 1-3 and a groundwater flow figure for the deep zone is shown in Figure 1-4.

Monitoring wells were installed at three (3) different depths. As described above the majority of the lateral groundwater flow occurs in the ablation till above the confining lodgment till layer. This is considered to be the "Deep Aquifer". Wells screened at this layer are labeled with a "D" (MW-14D).

Many of the locations have associated shallow wells. These wells were installed to a depth that would allow for the screen to straddle the aquifer surface and fringe zone. These wells are labeled with an "S" (MW-21S). Certain well clusters include an intermediate well which is screened at the mid-point from the shallow and deep. These wells are labeled with an "I" (MW-37I).

A representative annual groundwater level data set is shown on Table 1-1 located on the CD inserted in the back of this SMP. This is the baseline for the groundwater flow during normal operations of the on-site GRS.

Groundwater quality was summarized by Golder Associates in the 2012 Annual Report on Figures 3 through Figure 6 - see Appendix G of this SMP.

1.3 SUMMARY OF REMEDIAL INVESTIGATION

1.3.1 Remedial Investigation / Feasibility Study

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the Remedial Investigation Report 1993 (see Appendix F). Generally, across the Site, in the various media, a large number of the class of compounds known as volatile organic compounds (VOCs) has been detected. Most prevalent, and found at the highest concentrations, are trichloroethane (TCA), tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and dichloroethane (DCA). The last two of these compounds, DCA and DCE, are believed to be both breakdown products of the original contaminants as well as components of the original spill. These compounds may occur when TCA, TCE, and PCE are acted upon by chemical and bacteriological processes in soil and groundwater, which act to break them down by partially de-chlorinating the parent compound. Additional contaminants found at the site include benzene, toluene, ethylbenzene, and xylene (BTEX), and several ketones, including methyl isobutyl ketone, methyl ethyl ketone, and acetone.

Contamination at the Site was found in wastes, soil, and groundwater as reported in the RI. The wastes and soil contamination were found in the source areas, which are located near the plant. The description of the source areas can be most effectively described by dividing the source areas into a Northern Unit and a Southern Unit that are described in the following paragraphs.

The ***Northern Unit*** includes the spill containment tank, the north parking lot source area and the groundwater plume that extends from this source area across the Site to the municipal wells.

Northern Unit soil contamination was limited to the vicinity of the removed spill containment tank and the northeastern corner of the parking lot. The most commonly detected compounds and their respective range of concentrations (in ppb), as noted in the ROD, are presented below. The identified soil clean-up values (SCOs) are based upon NYSDEC TAGM HWR-94-4046, “Determination of Soil Clean-up”.

Compound	Concentration Range (ppb)	Soil Clean-up level (ppb)
Acetone	17-110	253
1,1-Dichloroethene	16	400
1,2-Dichloroethene	380	300
1,1,1 -Trichloroethane	7-64	800
Tetrachloroethylene	7-380	2366
Methylene Chloride	7-16	100
Trichloroethylene	55	700
Toluene	210	1500
Xylenes	65-350	1200
Ethylbenzene	65	5500

The selected remedy for the Site does not target the soil in the Northern Unit as the levels reported were near or below the soil clean-up levels established. Soil sampling was not required as part of the remedial activities. One supplemental soil investigation in the Northern Unit was required and is described in Section 1.3.5.

Groundwater contamination in the Northern Unit extends in a well-defined plume across the Site from the northern source area. The following list of analytes taken from the ROD indicates the highest levels of groundwater contamination found for each of the most common site contaminants as reported in the RI. The SCG in the last column indicates the applicable groundwater or drinking water standard recited in the ROD.

Maximum Contaminant Level Reported in ROD

Compound	Maximum Concentration (μg/l/)	SCG (ug/l)
Methylene Chloride	4200	5
1,1-Dichloroethene	3200	5
1,1-Dichloroethane	1000	5
1,1,1-Trichloroethane	42000	5
Tetrachloroethene	14000	5
c-1,2-Dichloroethene	690	5

Throughout the past 19 years of remedial system operations, the contaminant levels noted in the Northern Unit groundwater[1] have decreased considerably. The following table represents the maximum levels detected in any monitoring well periodically sampled in the Northern Unit for the 2015-2016 reporting period.

Maximum Contaminant Level Reported (2015-2016)

Compound	Maximum Concentration (ug/l/)	SCG (ug/l)
Methylene Chloride	<5	5
1,1-Dichloroethene	27	5
1,1-Dichloroethane	65	5
1,1,1-Trichloroethane	20	5
Tetrachloroethene	260	5
c-1,2-Dichloroethene	450	5

Surface water found at the Site was sampled during the RI and found to contain no contaminants above the analytical detection limits. The surface water sample was collected from the on-site pond. Based on the results of the initial surface water sampling and knowledge of the contaminant characteristics, no further monitoring of the surface water was performed.

No discrete waste materials were found in the northern area during the RI. This source area consisted of contaminated soils that were removed when the spill containment tank and pipelines were removed. No waste materials were detected in the Northern Unit in any subsequent remedial investigation or remedial activities undertaken since the ROD was issued.

The ***Southern Unit*** encompasses the source beneath the southwest corner of the plant and the localized groundwater plume that extends from this source.

1 Contaminant levels used in this table include the highest concentration of individual compounds for the 2015-2016 reporting period from the periodic sampling of the Monitoring Wells and Recovery Wells identified in Table 3-1 of this SMP for the NOU functional monitoring group identified in Table 3-1 of this SMP.

Soil contamination in this area is primarily located beneath the southwest corner of the plant. The contamination appears to be the result of solvent and lubricant releases from two process tanks. The soil contamination was addressed in the Southern Unit using a SVE system consisting of six vapor extraction wells and two dual phase (water and vapor) extraction wells. A description of the SVE system is included in section 1.4.3.

Groundwater contamination from the Southern Unit is confined to a limited area extending to the south-southwest of the plant. Values given below are maximum concentrations of the most commonly detected contaminants in the southern plume as reported in the ROD. The SCG in the last column indicates the groundwater or drinking water standard.

Maximum Contaminant Level Reported in ROD

Compound	Maximum Concentration (ug/l)	SCG (ug/l)
Methylene Chloride	2800	5
1,1-Dichloroethene	1100	5
1,1-Dichloroethane	3000	5
1,1,1-Trichloroethane	11000	5
Trichloroethene	2000	5
Tetrachloroethene	1200	5
c-l, 2-Dichloroethene	52000	5
1,2-Dichloroethane	14	5
Carbon Tetrachloride	410	5
Toluene	110	5
Ethylbenzene	150	5
Xylene	200	5
Acetone	5600	50
Methyl Isobutyl Ketone	2400	50
Methyl Ethyl Ketone	25	50

Throughout the past 19 years of remedial system operations, the contaminant levels noted in the Southern Unit groundwater[2] have also decreased substantially. The

2 Contaminant levels used in this table include the highest concentration of individual compounds for the 2015-2016 reporting period from the periodic sampling of the Monitoring Wells and Recovery Wells identified in Table 3-1 of this SMP for the SOU functional monitoring group.

following table represents the maximum levels detected in any monitoring well periodically sampled in the Southern Unit for the 2015-2016 reporting period.

Maximum Contaminant Level Reported (2015-2016)

Compound	Maximum Concentration (ug/l)	SCG (ug/l)
Methylene Chloride	<5	5
1,1-Dichloroethene	72	5
1,1-Dichloroethane	19	5
1,1,1-Trichloroethane	20	5
Trichloroethene	29	5
Tetrachloroethene	96	5
c-l, 2-Dichloroethene	85	5

There was no surface water in the Southern area of the site.

Waste material found in the Southern Unit consisted of free oil found below the plant structure. The following table from the ROD lists concentrations of the most commonly detected contaminants, which were found in oil that flowed into excavations in the southern area. For comparison purposes, analytical results from oil contaminated soils from the excavation are also provided.

Compound	Stained Soil (ppb)	Waste Oils (ppb)
1,1-Dichloroethane	3-180	1000-218000
c-1 ,2-Dichloroethene	750	5000-350000
Tetrachloroethene	12-5700	8500-1140000
Trichloroethane	17-7000	20000-2070000
Trichloroethene	12-12000	7500-130000
Methylene Chloride	8-700	1500-75000

Recovery of the noted waste material in the Southern Unit was accomplished by converting three underground storage tanks (UST) into collection sumps and pumping the groundwater and product to the treatment facility. Two recovery wells were also used as product recovery wells for a period of time. The UST recovery system was in operation

for only a short period until the perched groundwater in the immediate area of the USTs was removed. The product recovery achieved from the two recovery wells was minimal and these wells were shut off after NYSDEC approval.

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Site and the criteria identified for evaluation of alternatives, the NYSDEC selected a system of extraction wells to capture groundwater contamination, a vapor extraction system for treating contaminated soils (source control), a groundwater treatment system with discharge to surface water, and a monitoring plan sufficient to assess the effectiveness of the remedy. The major elements of the selected remedy included:

- A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program.
- A groundwater collection and treatment system consisting of 13 recovery wells connected to a treatment area located adjacent to the existing main building.
- Soil vapor extraction to remove contaminants in the southern source area to levels that are protective of groundwater.
- Monitoring the different elements of the remedy to determine its effectiveness and identify changes necessary to achieve the remedial objectives for the site.
- Continued operation of the public water treatment system as necessary to prevent the entry of site related contaminants into the public water system.

1.3.2 Soil Vapor Intrusion Investigation

At the request of NYSDEC, Miller retained O'Brien & Gere Engineers of Syracuse, NY (OBG) to provide an evaluation of the soil vapor intrusion conditions of the on-site structures and potential soil vapor migration to surrounding properties.

Samples were collected in March 2006 from four locations approved by NYSDEC throughout the former Miller Container facility to assess the potential of vapor intrusion into the existing structure. During sampling, an indoor air survey was completed to inventory the locations of materials (for example, paint cans, cleaners) in the vicinity of the sampling as well as document building characteristics that may influence indoor air conditions.

In addition to, and concurrent with indoor air sampling, an ambient air sample was collected immediate to and upwind of the on-site building to assess the potential of impacts from upwind air sources on indoor air concentrations. The ambient air sample was located west of the building.

The results indicate elevated concentrations of chlorinated VOCs in sub-slab vapor. The highest concentrations were of 1,1,1-trichloroethane (TCA) and 1,1-dichloroethane (1,1-DCA), which were found to be 6,000 $\mu g/m^3$ and 5,700 $\mu g/m^3$, respectively, in the vicinity of the former USTs in the southwest corner of the facility. Trichloroethene (TCE) and cis-1,2-dichloroethene (cDCE) were also found to be highest at this location with concentrations of 120 $\mu g/m^3$ and 1,800 $\mu g/m^3$, respectively. The highest tetrachloroethene (PCE) and 1,1-dichloroethene (1,1-DCE) concentrations were 1,600 $\mu g/m^3$ and 790 $\mu g/m^3$, respectively, and they were found at the office area sub slab location. The location of the sampling points can be referenced in the full report prepared by OBG in Appendix H.

The highest indoor air concentrations of TCA, 1,1-DCA, PCE and cDCE were from the shop area and were 1.9 $\mu g/m^3$, 0.73 $\mu g/m^3$, 8.1 $\mu g/m^3$ and 0.75 $\mu g/m^3$, respectively. The highest indoor air concentrations of TCE and 1,1-DCE were found in the office area at 0.28 $\mu g/m^3$ and 0.48 $\mu g/m^3$, respectively.

Table 1 in the OBG SVI report presented attenuation factors calculated for each sample set. The attenuation factor is the ratio of the sub-slab vapor concentration to the indoor air concentration. The attenuation factors were useful in estimating which indoor air concentrations may have been attributable solely to vapor intrusion and which were likely attributable to indoor air sources.

Based on the review of data for compounds with elevated sub-slab concentrations with none or limited indoor use of the compounds, the attenuation factor in the office/cafeteria area is approximately 10^{-3}, while the attenuation factor in the shop area is approximately 10^{-4}. The lower attenuation factor in the shop area as compared to the office/cafeteria area was anticipated because the shop area does not have an HVAC system as the office and cafeteria do that can create negative indoor air pressure sufficient to draw in sub-slab vapors.

The report determined that the indoor air concentrations for the office/cafeteria area and shop area are not entirely attributable to vapor intrusion. Based on the report the only compounds attributable to vapor intrusion are TCA, PCE, and 1,1-DCE in the office and TCA, 1,1-DCE, and cDCE in the shop area.

The New York State Department of Health ("NYSDOH") Guidance Document[3] has decision matrices for Carbon Tetrachloride, TCE, 1,1,1-TCA, and PCE, which use the sub-slab and indoor concentrations to recommend the corrective action in managing actual or potential vapor intrusion. The recommended corrective action suggested by the NYSDOH guidance for sub-slab concentrations above 1,000 $\mu g/m^3$ for 1,1,1-TCA and PCE irrespective of indoor air concentration was mitigation, which is the case for the office area and the shop area. The NYSDOH's decision matrix for TCE recommended monitoring for the same two areas when compared to the analytical data reported in the SVI Investigation.

Updates were made to the NYSDOH guidance and they can be found at (https://www.health.ny.gov/environmental/indoors/vapor_intrusion/update.htm). The recommendations of the OBG report were made using the original NYSDOH guidance document. OBG's recommended response would not be changed when using the updated guidance.

Results from the soil vapor sampling show TCA was detected in concentrations at or less than 3.1 $\mu g/m^3$ in the soil vapor at the former Taylor property sampling locations. Assuming that these levels represent potential sub-slab concentrations for any proposed structures on this property, they are well below the NYSDOH decision matrix levels that would require any corrective actions. Concentrations of TCE and PCE were not detected in either sample collected at the former Taylor property.

Two samples were collected from locations located on the Riverview Business Park site to assess the potential migration of soil vapors in the southerly direction. PCE was detected at one location at a concentration of 5.1 $\mu g/m^3$. This concentration is well below the NYSDOH decision matrix level that would require any corrective action for

3 This NYSDOH Guidance Document is entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006).

sub-slab concentrations of PCE. These soil vapor results indicate that Site-related vapors are not migrating off-site toward the Riverview Business Park property.

The conclusion of the OBG SVI report indicated that mitigation of the on-site building was recommended using either a Sub-Slab Depressurization System or Vacuum Extraction System. The report also indicated that off-site migration of soil vapor does not pose a threat to the existing neighboring structures nor any proposed structures.

Miller evaluated Soil Vapor Extraction (SVE) and Sub-Slab Depressurization (SSD) systems to provide mitigation to the existing structure and determined that SVE would provide greater benefit by removing source contamination while better protecting the indoor air quality by using higher levels of vacuum.

1.3.4 Membrane Interface Probe Investigation

In 2008, Miller contracted with AECOM to perform an investigation to delineate possible source contamination beneath the facility floor. Using direct push and Membrane Interface Probe (MIP) technology, 36 individual locations were investigated and the vertical and horizontal limits of the suspected contamination were delineated. Elevated levels of VOCs were detected in the vadose and fringe zones in the western portion of the facility and in a small area to the south of the facility. A presentation was made to the DEC describing the results of the MIP investigation and recommendations were made for the installation of an SVE system to address the suspected contamination. The results of the investigation and the presentation slides and are included as Appendix I.

1.3.5 Supplemental Soil Investigation

During remedial efforts undertaken in 2012 by Riccelli, field screening equipment indicated VOC impacted soils were encountered in the soils removed from a small area off the north east corner of the original main parking lot. The soil was segregated and samples were collected from a staged soil pile.

When an elevated level of VOC contamination was detected at one location, the DEC requested that Miller perform an evaluation of the VOC contamination in the area

noted by Spectra Engineering, the consultant hired by Riccelli. GeoLogic NY, Inc. was selected to perform a soil boring program in the area as directed by the information provided by Spectra. No unacceptable levels of contamination were detected using field screening equipment or in samples collected and submitted to a certified laboratory. The report of this investigation can be found in Appendix J. The DEC accepted the results of the Supplemental Soil Investigation.

1.3.6 Post-ROD Remedial Alternative Assessments

In an effort to advance the clean-up of the Site, Miller investigated new treatment technologies while the pumping operations continued.

(a) URS/Radian performed a pilot study in 2000 to investigate the possible use of a Zero-Valent Iron Permeable Reactive Barrier (PRB). The initial study, included as Appendix K, indicated that the technology would provide treatment of the VOC contaminant plume. A full scale system was designed and installation was initiated after NYSDEC approval. However, after construction commenced, it was determined that the depth to the confining till layer was beyond the limits of the excavation equipment and the installation was abandoned. The site was restored to preexisting conditions.

(b) O'Brien & Gere was selected to provide an evaluation of the use of Enhanced In-situ Bioremediation (EISB). Work was performed during the period of June 2006 through August 2007. The full report (February 2008) is included as Appendix L. Four areas were targeted in a pilot study to evaluate different electron donors and bio-augmentation techniques. The results of the pilot study indicated that while EISB can be implemented, the natural groundwater flow conditions are not conducive to a passive EISB approach. Electron donor distribution would prove to be a significant challenge for EISB to be an effective solution at the Site.

1.4 SUMMARY OF REMEDIAL ACTIONS

1.4.1 Remediation History

Several remedial actions have been implemented at the Site to address the contamination. These actions are summarized below.

1.4.1.1 Spill Containment Tank Removal

The initial remedial action taken to address the contamination issue at the Site was the removal of the spill containment tank and the grossly contaminated soil. Day Engineering provided this work in 1986. No official records of this remedial action could be located.

1.4.1.2 Interim Remedial Measure (IRM)

The initial IRM was installed on-site in 1988 and it included three extraction wells and a small packed air stripping tower treatment system. The wells were located to capture the plume as it was thought to exist in 1986-1988. The three recovery wells were screened at the top of the confining till layer where the contamination was greatest at that time. The wells were pumped directly to a 12-inch diameter packed air stripping tower for treatment prior to discharge to the POTW. This system was in operation from June 1988 through July 1996.

1.4.1.3 City of Fulton IRM

A second IRM was implemented at the City of Fulton municipal well field to provide treatment of the water from three of the City's drinking water wells (M-2, K-2 and K-1) that were or potentially could be impacted by the contamination. Miller entered into IRM Order on Consent #A702659106 (effective on August 12, 1991 – the "IRM Order") (Appendix A) to design and construct a treatment facility capable of treating a maximum of 1 Million Gallons per Day (MGD) and provide the City with raw water for use.

The City of Fulton Water Treatment Facility was placed on-line in June 1992 and was in operation until May of 2012. A structural failure of the side wall of K-1 prompted the shutdown of the facility. At that time, detectable VOC contamination from M-2A had

not exceeded drinking water standards since October 2000 and water from K-1 had no detectable VOCs since September 2002. Given the foregoing, Miller petitioned NYSDEC at that time to amend the IRM Order, discontinue the operation of the water treatment system and establish a trigger level at which the water from either K-1 or M-2A would thereafter require a resumption of the treatment system.

To fulfill a requirement of the IRM Order in the construction of the City of Fulton Water Treatment Facility, Miller installed an emergency bypass line to the Oswego River to provide a contingency if the treatment system failed to remove the VOCs. A State Pollutant Discharge Elimination System (SPDES) permit and a Canal Corporation permit were obtained by Miller for the installation of this bypass line. The SPDES permit was transferred to the City of Fulton in April of 2012. The Canal Corporation permit was terminated and a new permit was issued to the City of Fulton June 1, 2012. Information on these permits and the transfer is included as Appendix M.

Miller worked with the City to implement the City of Fulton Water Treatment Facility Mothball Procedures (November 2012 - the "Mothball Plan"), a copy of which is attached as Appendix N. NYSDEC and the City of Fulton approved the Mothball Plan and Miller implemented the plan. Included as part of Appendix N is a copy of the mothball completion report of Operations & Maintenance, Inc., dated November 8, 2013, detailing the mothballing activities performed at the Water Treatment Facility.

There are procedures established in the NYSDEC's approved Operation, Maintenance & Monitoring Plan for the Water Treatment Facility (dated November 2013) for the start-up of the Facility after a shutdown lasting longer than 7 days. An assessment of the treatment system components will need to be performed should the need for treatment subsequently arise. Certain procedures completed as part of the mothballing will need to be undone prior to start-up. These tasks will be determined as part of the assessment.

After consultation with Miller, the NYSDOH and the City of Fulton, NYSDEC concluded in a letter dated November 26, 2013 to the City of Fulton and in a follow-up letter of January 10, 2014 to Miller (copies attached as Appendix O) that a level of 50% of the Maximum Contaminant Level (MCL) for an individual VOC is to be used as the

threshold above which treatment of the water would be required prior to introduction into the City drinking water supply. Appendix O also includes copies of Miller's letters dated June 27, 2012 and March 19, 2013 on this matter.

At the time of the NYSDEC decision on the treatment trigger level, K-1 water was being used directly by the City as a drinking water source as NYSDEC had previously concluded that treatment of the K-1 water was no longer required. The City had re-introduced K-1 water into its drinking water system beginning on December 13, 2012.

Water from M-2A is not being used by the City as a source of drinking water due to the presence of chloride above the drinking water quality standard of 250.0 mg/l in M-2A. As part of the remedial response to the chloride contamination, water from M-2A is being discharged to the Oswego River to satisfy a requirement under an Order between Riccelli and the NYSDEC (Case No. R7-201101810-66) (the "Riccelli Remedial Program Order" – copy attached as Appendix P).

In the event that the chloride contamination from M-2A is remediated to the satisfaction of NYSDEC and the City decides to re-introduce M-2A water into its drinking water supply, it shall so advise Miller in writing. Miller shall conduct quarterly monitoring of M-2A for one year starting from the date that the City places M-2A back into service as a drinking water supply source.

Should sampling of M-2A detect the presence of any of the contaminants of concern identified in the IRM Order above 50% of the MCL for an individual VOC, treatment of the water will be required prior to introduction in the City drinking water supply and quarterly sampling of M-2A will continue. The contaminants of concern identified in the IRM Order are as follows:

Benzene
1,2-Dichloroethane
Ethylbenzene
Toluene
1,1,1-Trichloroethane (TCA)
Trichloroethylene
Chloroform
1,1-Dichloroethane

Tetrachloroethylene (PCE)
1,1-Dichloroethylene
Xylenes, Total
Methylene Chloride
1,2-Dichloroethylene (cis- and trans-)

1.4.1.4 Record of Decision (ROD)

MPI prepared the Feasibility Study (July 1994) and FS Revisions (September 1994). Copies of the FS and FS Revisions are attached as Appendix Q. Thereafter In March 1995, NYSDEC issued the ROD that identified the remedial action to be taken for the Site. Following the issuance of the ROD, Miller entered into the Remedial Program Order on Consent # A7-0322-9411 (RPO) that required it to implement the selected remedial action.

Design and construction of a 13-well groundwater recovery system and associated groundwater treatment facility was completed in 1997. The groundwater treatment facility was constructed adjacent to the Site on the former Miller Fulton Brewery property. The groundwater recovery and treatment systems are still in operation.

The former Miller Fulton Brewery property was conveyed to Coolidge Fulton, LLC (now Riverview Business Park, LLC) at the end of CY 2000, but Miller continues to have access to the treatment facility in accordance with easements reserved in the Bargain and Sale deed between Miller and Coolidge Fulton, LLC. A copy of the deed that was recorded in the Oswego County Clerk's office is attached in Appendix R.

Construction and operation of an SVE system was required as part of the RPO to address contaminated soil located beneath the floor in the southwest corner of the facility. The SVE system installed in 1997 was in operation from February 1997 through 1999. Confirmatory soil samples were collected from the area effected by the SVE system and it was determined that the SVE system remediated the soils to acceptable levels. The SVE system was decommissioned with the approval of the DEC.

1.4.1.5 Supplemental Site Remediation

In an effort to accelerate the clean-up of the identified VOC contamination, Miller voluntarily provided a work plan to address sequestered contamination beneath the

former container facility identified in the MIP supplemental site investigation. A work plan was submitted to and approved by NYSDEC in 2010. Construction of a large scale SVE system was completed in December of 2010 and operation commenced.

1.4.1.6 Effluent Pipe Extension

In June 2011, the NYSDEC determined that the effluent discharge point for the Groundwater Treatment Facility (GWTF) would need to be extended out into the Oswego River due to the elevated level of Total Dissolved Solids (TDS), reportedly attributable to the storage of road salt by Riccelli at the Site. After an extended period of design and permitting at the local, state and federal level, the discharge pipe was extended approximately 10 feet into the river. A copy of the final construction report and associated permitting for the GWTF Effluent Pipe Extension Project is attached as Appendix S.

As part of the permitting of the effluent pipe extension, a wetland assessment was performed on the section of drainage ditch where the new pipe was to be installed. It was determined the installation of this section of pipe would not negatively impact the area. A copy of the wetland assessment is included in Appendix S.

1.4.2 Removal of Contaminated Materials from the Site

Soil cleanup objectives used for the site were established in the ROD. The most commonly detected compounds and their respective clean-up values based upon NYSDEC TAGM HWR-94-4046, "Determination of Soil Clean-up Objectives and Clean-up Levels" are shown in Table 1-2. Soil was removed from the site during the removal of the spill containment tank located outside the footprint of the facility. The exact quantity of material removed is not known.

Remaining soil contamination is limited to the unsaturated soils beneath the driveway to the south of the facility and the unsaturated soils beneath the facility floor as identified in the MIP investigation and noted in the Supplemental Source Remediation documents (see Appendix T). These two areas are under the influence of the current SVE system. Evaluation of the operation of the SVE system will confirm the levels of

contamination. The remaining contaminated soils, mentioned above, are located beneath the facility floor and paved areas to the south of the facility and are not accessible.

Table 1-2

Compound	Soil Clean-up Level (ppb)
Acetone	253
1,1-Dichloroethene	400
1,2-Dichloroethene	300
1, 1,1-Trichloroethane	800
Tetrachloroethylene	2366
Methylene Chloride	100
Trichloroethylene	700
Toluene	1500
Xylenes	1200
Ethylbenzene	5500

1.4.3 Site-Related Treatment Systems

In 1988, an interim on-site recovery and treatment system consisting of three recovery wells and a packed tower treatment system was installed. This system was in operation until its shutdown in 1996.

Construction of the full scale recovery and treatment system selected in the ROD was completed in 1997. The system was started February 15, 1997 and has been in operation since that time. The recovery system initially consisted of 13 groundwater recovery wells. Currently, there are eight of the original thirteen recovery wells in operation. One additional recovery well (RW-5R) was installed as part of the Supplemental Source Mitigation to replace the production of RW-5.

A Soil Vapor Extraction system was operated from February 1997 through April 1999. The SVE system was installed in the area of the USTs located in the southwest corner of the container facility and consisted of six vapor extraction wells and two dual phase extraction wells fitted with groundwater suppression pumps. Confirmatory samples were collected at various location at depth and it was determined that the SVE system remediated the soils that were targeted. The system was shut down and all wells were abandoned in-place with NYSDEC concurrence.

A larger scale SVE system was installed in 2010 to target soils beneath the former container facility and a small area beneath the roadway to the south of the facility near the shipping and receiving docks. This system consists of 11 north area and 3 south area single phase vapor extraction wells and 5 north and 3 south dual phase extraction wells described in detail in the Construction Completion Report from AECOM (see Appendix T).

Figure 1-5A depicts the location of the initial IRM 3-well recovery system (1987), Figure 1-5B presents the full scale 13-well recovery system and associated 8-well SVE system (1997) and, Figure 1-5C presents the 22-well SVE system (2010).

One off-site treatment system was constructed. Under the IRM Order, Miller constructed a 1-MGD Water Treatment Facility for the treatment of water from three (K-1, K-2 and M-2) municipal production wells. Contamination consistent with the on-site compounds was detected in one of the municipal wells in 1985 at levels below the drinking water standards at the time. The acceptable Maximum Contaminant Level (MCL) was lowered from 50 μg/l to 5 μg/l for the compounds of concern around the same time frame.

The Water Treatment Facility was constructed and operational in June 1992 and title to the Facility was conveyed from Miller to the City. Two of the production wells (M-2 and K-2) were subsequently abandoned and a replacement well (M-2A) was installed in April 1999 by the City on its own initiative. The Water Treatment Facility remained in operation until May 2012 when the collapse of K-1 prompted its shut down. After repairs to K-1 were completed by the City, the NYSDOH approved the resumption of the use of water from K-1 for the City's public drinking supply without treatment through the Water Treatment Facility.

As previously noted, water from M-2A is being directed to the Oswego River under the Riccelli Remedial Program Order due to the presence of elevated levels of chloride. The highest levels of VOC contamination in M-2A detected at the time of shut-down were approximately 1.0 μg/l of the two VOCs, PCE and TCA. These levels are well below the NYS drinking water standard of 5.0 μg/l for these contaminants.

If 50% of the MCL for any of the individual contaminants of concern listed in the IRM Order were to be detected in M-2A or K-1, the City will be advised by the NYSDEC that treatment of the water from the particular well is necessary for it to be used as a source of public drinking water. Treatment of the water will be the responsibility of the City with Miller's responsibility being one of financial support, the terms of which are specified in the IRM Order.

1.4.4 Residual Soil Contamination

The RI identified certain areas where soil contamination might be encountered. In the Northern Unit, this was limited to the immediate area around the former spill containment tank that was removed in 1986 and an area north of the main parking lot. It is anticipated that the soil contamination in the area north of the parking lot is below the guidelines established in the ROD (see Table 1-2 above) because of extensive soil removal activities that have been performed by Riccelli to address chloride contamination in this area. Also the Supplemental Soil Investigation performed in August of 2012 indicated no levels above the ROD SCO guidelines.

While it is possible that some VOC soil contamination exists in the immediate area of the former spill containment tank, it is expected to be at a depth greater than 4-feet and below the levels stated in the ROD SCOs. The grossly contaminated soil was removed at the time of the tank removal. If excavation in this area is necessary in the future, the soil management and handling provisions of the Excavation Work Plan (EWP)(see Appendix U) shall be implemented.

Figure 1-6 represents the existing underground utilities associated with the Groundwater Recovery System across the site. Caution should be exercised when excavating in the areas noted to avoid disruption of the remedial activities. Other underground utilities on the site, private or public, may exist and are not represented accurately on this figure.

1.4.5 Monitoring Well Decommissioning

Miller requested decommissioning of 36 monitoring wells and two piezometers located on and off the site in May 24, 2013. The list of wells to be decommissioned included wells that are no longer useful for monitoring either the VOC contamination or the Riccelli related chloride contamination.[4] In a letter dated November 1, 2013, the NYSDEC approved the decommissioning of 10 wells and two piezometers. The initial list of wells was decommissioned October 8, 2014.

Miller requested approval to decommission the remainder of the listed wells in a letter dated November 14, 2014. In a letter from John Grathwol (NYSDEC) dated April 17, 2015, approval was granted to decommission the remaining 26 wells. Copies of the proposals, approval letters and reports of the decommissioning are included in Appendix V.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil and groundwater/soil vapor exists beneath the site, Engineering Controls and Institutional Controls (EC/ICs) have been implemented to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site;

4 Riccelli continues to sample certain of the Miller groundwater monitoring wells for chloride contamination under the Riccelli Remedial Program Order (2012) which was amended in 2016. See Appendix P.

- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Declaration;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Controls.

As of the Effective Date of this SMP, the Engineering Controls at this Site consist of the Groundwater Extraction System (section 2.2.1.2), Groundwater Treatment Facility (section 2.2.1.3) and Soil Vapor Extraction System (section 2.2.1.4).

2.2.1.1 Soil Cover

There is no soil cover that serves as an engineering control as VOC contamination was not detected in the surface soils on the Site.

2.2.1.2 Groundwater Extraction System

Procedures for operating and maintaining the Groundwater Recovery System (GRS) are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP).

The GRS consists of nine recovery wells located across the site. The purpose of these recovery wells is to prevent off-site migration and provide mass removal of site related VOC contamination. Recovery wells RW-3, RW-4, RW-5R, RW-8 through RW-13 are in operation and their location is shown on Figure 1-5 B.

RW-3, RW-4, RW-5R, RW-8 and RW-9 are considered source remediation wells. The purpose for operating these wells is to reduce the level of VOC contamination in the source areas. Recovery Wells RW-10 through RW-13 are considered perimeter recovery wells. The purpose for operating these wells is to prevent the off-site migration of VOCs.

The operation of the recovery well submersible pumping system is controlled by the Programmable Logic Controller (PLC). The PLC receives input from the individual pressure transducers located in each well to either activate and deactivate the pumps or increase and decrease the speed of the pumps. The current program configuration of the PLC is set to maintain the lowest possible water level in each of the wells that is achievable based on the capacity of the pumps.

2.2.1.3 Groundwater Treatment Facility

Procedures for operating and maintaining the Groundwater Treatment Facility (GWTF) system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP).

The GWTF accepts water from the on-site recovery well network through underground piping. The system was designed to remove VOC contamination from the recovered groundwater and is capable of a maximum flow rate of 220 gallons per minute. The combined average flow rate from the recovery wells is currently approximately 18 GPM. After treatment, the treated effluent is discharged to the Oswego River.

The discharge of the treated effluent is governed by the substantive SPDES requirements developed by NYSDEC (see Appendix W). The Canal Corporation permit held by Riverview Business Park is utilized for the GWTF discharge as agreed to in the Bargain and Sale Deed between Miller and Coolidge Fulton, LLC (now Riverview Business Park, LLC). More information pertaining to this permit can be found in Appendix X.

2.2.1.4 Soil Vapor Extraction System

Procedures for operating and maintaining the Soil Vapor Extraction System (SVE) are documented in the Operation and Maintenance Plan (Section 4 of this SMP).

Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP).

The SVE system in operation recovers vapors from the vadose and fringe zones beneath the western portion of the former container facility and periodically from an area south of the facility near the loading docks. The purpose for installing the SVE system was to remove VOC contamination from the unsaturated zone before it is able to impact groundwater. Furthermore, the SVE system also reduces the potential for VOCs in vapor from entering the building.

2.2.2 Criteria for Completion/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives (RAOs) identified by the decision document. For this Site, see section 6.0 of the ROD, which identifies the following as the RAOs or Remediation Goals:

- Eliminate to the extent practicable the contamination present within the on-site soils/waste (reduce soil contaminant levels to levels protective of groundwater as indicated in soil tables in section 4.3 [of the ROD]).
- Eliminate the potential for direct human or animal contact with contaminated soils on-site.
- Mitigate the impacts of contaminated groundwater to the environment.
- Prevent, to the extent practicable, migration of the contaminants in the source areas to groundwater.
- To the extent practicable, provide for attainment of SCGs [Standards, Criteria, and Guidance] for groundwater quality at the limits of the area of concern (AOC). The AOC for the site is the area from the spill source locations to the Fulton municipal well field.

The framework for determining when remedial processes are complete is provided in Section 6 of NYSDEC DER-10/Technical Guidance for Site Investigation and Remediation.

2.2.2.1 Groundwater Extraction System

The groundwater extraction system will continue to operate until it can be demonstrated that the levels of contamination in any individual active recovery well has remained below the ROD SCGs for four consecutive quarters, or it can be demonstrated that the level of remaining contaminants will not adversely affect the municipal well field as a result of natural attenuation.

2.2.2.2 Groundwater Treatment Facility

The groundwater treatment facility will continue to operate to remove VOC contaminants from the extracted groundwater until it can be demonstrated that all of the individual wells contributing to the influent are below the allowable maximum contaminant level established in the SPDES substantive requirements as shown in Appendix W.

2.2.2.3 Soil Vapor Extraction (SVE) System

In the event that monitoring data indicates that the SVE system is no longer required, a proposal to discontinue the system will be submitted. This proposal will include details of a post-remedial soil boring program as well as a Soil Vapor Intrusion investigation to be performed during the heating season. Conditions that warrant discontinuing the SVE system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards, (2) have become asymptotic to a low level over an extended period of operation, or (3) the SVE system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located within the area of influence of the SVE system. The system will remain in place and operational until permission to discontinue its use is granted in writing by the NYSDEC.

2.3 INSTITUTIONAL CONTROLS

A Declaration of Covenants and Restrictions has been recorded on the Site in the Oswego County Clerk's Office, a copy of which is attached to this SMP as Appendix B.

The Site governed by this Institutional Control is the 12.704 acre inactive hazardous waste site illustrated in Schedule B of the Declaration of Covenants and Restrictions and Figure 1-2. The Declaration refers to the Site as the "Property" and it provides that Riccelli Fulton, LLC (the current Site Owner), for itself and its successors and/or assigns, covenants that:

- First, the Property subject to this Declaration is as shown on a map attached to this Declaration as Schedule "B" and made a part hereof.
- Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233.
- Third, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.
- Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for commercial or industrial purposes without the express written waiver of such prohibition by the Department or Relevant Agency.

- Fifth, the use of groundwater underlying the Property is prohibited without necessary water quality treatment, as determined by the NYSDOH or the Oswego County Department of Health, to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department or Relevant Agency.

- Sixth, the owner of the Property, shall, in coordination with Miller and in accordance with the SMP, provide to the Department a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

- Seventh, the owner of the Property shall, in coordination with Miller and in accordance with the SMP, continue in full force and effect any institutional and engineering controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

- Eighth, this Declaration is, and shall be deemed, a covenant that shall run with the land and be binding upon all future owners of the Property. The owner and its successors and assigns hereby consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions set forth in this Declaration and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

- Ninth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration.

Adherence to the foregoing Institutional Controls will be implemented under this SMP. Required certification of adherence to the terms of the Institutional Controls is described in Section 5.2 of this SMP. NYSDEC retains the right to access the Property at any time in order to evaluate the continued maintenance of any and all controls.

2.3.1 Excavation Work Plan

The Excavation Work Plan (attached as Appendix U to this SMP) details the procedures that must be followed for intrusive activities within the Site conducted by either Miller or the Site Owner. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared specifically for the particular project in accordance with current State and Federal health and safety requirements. Attached as Appendix Y are a copy of Miller's HASP and as Appendix Z a copy of a generic CAMP.

Any intrusive construction work subject to the EWP (i.e., excavations or intrusive activities) will be performed in compliance with the EWP and the applicable HASP and CAMP. The reports of the work will be included in the periodic inspection and certification reports submitted under reporting provisions of the SMP (see Section 5).

The Site Owner will ensure that its site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structure(s) on the Site that is planned to be occupied, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in substantial conformance with the most recent NYSDOH "*Guidance for Evaluating Vapor Intrusion in the State of New York.*" Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI investigation, applicable NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the Property by the Site Owner within 15 days of receipt of validated data. SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

The party proposing the construction (that is, either Miller or the Site Owner) will be responsible for satisfying the SVI requirements identified in this section and must detail its plan for satisfying these SVI requirements in the "change of use" notification that is provided to NYSDEC in accordance with this SMP and applicable statutory and regulatory requirements.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls (ECs) continue to perform as designed;

- If these controls continue to be protective of human health and the environment;
- Sampling and analysis of appropriate media during monitoring events; and
- Changes, or needed changes, to the ECs

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Report section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

The Site Owner will notify the NYSDEC with copy to the Remedial Party for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Order on Consent, 6 NYCRR Part 375, and/or Environmental Conservation Law.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written

confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

The Remedial Party will notify the NYSDEC with copy to the Site Owner as required under the Excavation Work Plan. In addition, upon being advised by the Site Owner of an event that may impact the operation of any Engineering Control, the Remedial Party shall investigate and notify NYSDEC as soon as practicable if any corrective action needs to be taken to address damage to any Engineering Control and thereafter submit status reports in accordance with the timetable described in this section.

Notifications will be submitted by the Site Owner to the NYSDEC with copy to the Remedial Party for any change in the ownership of the Site as follows:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of this SMP.
- Within 15 days after the transfer of all or part of the Site, the new Owner's name, contact representative, and contact information will be provided to NYSDEC in writing.

Unless otherwise provided in this SMP, notification to the NYSDEC shall be to the NYSDEC Project Manager identified in section 1.1 of this SMP. The Site Owner and Remedial Party will copy each other on their notifications to NYSDEC.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Site Owner or its representative must contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should be made to the emergency coordinator who is identified in Table 2-1. These emergency contact lists must be maintained in an easily accessible location at the site.

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 1902 Route 57, Fulton, NY 13069

Nearest Hospital Name: Fulton Medical Center, Oswego Health

Hospital Location: 510 South Fourth St, Fulton, NY 13069

Hospital Telephone: 315-592-2224

Directions to the Hospital:

1. Exit site onto Route 57 heading north toward Fulton
2. Turn left at the first light onto Route 481
3. Bear right onto South Fourth St. after rail road tracks
4. Hospital is on the left approximately 2 blocks

Total Distance: Approximately 2 miles

Total Estimated Time: Approximately 10 minutes

Table 2-1: Emergency Contact Numbers*

Medical, Fire, and Police:	911
One Call Center:	800-962-7962 or 811 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
Gary Mullen Jr., OMI Emergency Coordinator	315-378-5088
Steve Rogers, Miller Brewing Company	414-931-4599
Richard Riccelli, Riccelli Fulton, LLC	315-433-5115
Brett McGowan, Riverview Business Park, LLC	315-952-0734

* Note: Contact numbers subject to change and should be updated as necessary.

2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group must be notified immediately by telephone of the emergency. The emergency telephone number list is found at Table 2-1 of this Contingency Plan. The list will also be posted prominently at the Site and made readily available to all personnel at all times.

3.0 SITE MONITORING PLAN

The Site Owner, in coordination with Miller, will be responsible for the Engineering Controls at this Site. Miller will be the primary party for the implementation and performance of Site Monitoring associated with the Engineering Controls.

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to address the VOC contamination. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater and soil vapor);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Monitoring will be conducted as set forth in this SMP. Trends in contaminant levels in groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3-1 and outlined in detail in Sections 3.2 and 3.3 of this SMP.

Table 3-1: Monitoring/Inspection Schedule

Monitoring Program	Frequency	Matrix	Analysis
AST INF, Final EFF	Monthly	Recovered Groundwater	EPA Method 8260, Oil & Grease, TDS
Monitoring Wells*	Annually	Groundwater	EPA Methods 8260
Active Recovery Wells	Quarterly	Recovered Groundwater	EPA Methods 8260

* The monitoring well network consists of Early Warning Network (EWN) wells and Supplemental monitoring wells shown in Table 3-2 and on Figure 3-1**.** Sampling of the EWN should be conducted during the April quarterly monitoring event.

Table 3-2			
Monitoring Well	EWN	Supplemental	Frequency
MW-2S		X	Annual
MW-3D		X	Annual
MW-8I		X	Annual
MW-8D	X		Annual
MW-13D	X		Annual
MW-14D		X	Annual
MW-16D	X		Annual
MW-17D		X	Annual
MW-21S		X	Annual
MW-28S	X		Annual
MW-28I	X		Annual
MW-32D	X		Annual
MW-33S	X		Annual
MW-34D	X		Annual
MW-35D	X		Annual
MW-36S		X	Annual
MW-37I		X	Annual
MW-38S		X	Annual
MW-51D		X	Annual
MW-54I		X	Annual
MW-56D		X	Annual
MW-61D	X		Annual

NYSDEC eliminated the requirement under the IRM Order for the testing of water from municipal wells K-1 and M-2A in 2013. However, the sampling of M-2A (Analysis – 524.2) will be required if the City of Fulton decides to use water from this well for drinking water purposes. Currently, chloride contamination in the water from M-2A exceeds the drinking water standard and water from the well is being discharged directly to the Oswego River by Riccelli under the terms of the Riccelli Remedial Program Order. After the chloride contamination has been addressed to the satisfaction of the NYSDEC, the City of Fulton may decide to resume the use of water from M-2A as a source of drinking water. In that event, upon receipt of written notice from the City of its intent to resume use of the M-2A water, Miller shall monitor the water on a quarterly basis for one year for the presence of VOCs (Analysis 524.2).

Should sampling of M-2A detect the presence of any of the contaminants of concern identified in the IRM Order above the established 50% of the MCL for any

individual VOC, treatment of the water will be required prior to introduction into the City drinking water supply and quarterly sampling of M-2A will continue. The contaminants of concern identified in the IRM Order are as follows:

Benzene
1,2-Dichloroethane
Ethylbenzene
Toluene
1,1,1-Trichloroethane (TCA)
Trichloroethylene
Chloroform
1,1-Dichloroethane
Tetrachloroethylene (PCE)
1,1-Dichloroethylene
Xylenes, Total
Methylene Chloride
1,2-Dichloroethylene (cis- and trans-)

3.2 COVER SYSTEM MONITORING

This site does not employ a designed cover as part of the selected remedial action. If excavation activities are necessary at the site, the provisions of the Excavation Work Plan shall govern.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy and predict changes in the water quality in the municipal well field.

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions. The network of monitoring wells has been designed based on the criteria descried in the following paragraphs.

The majority of the monitoring wells were installed during the RI in a phased approach. The specifics of the decisions that lead to the placement of the wells are set forth in the RI Report. The coordinates, total depth and length of screens for the wells in the monitoring program are listed in Table 3-3 located on the CD inserted in the back of

this SMP. Figure 3-1 depicts the location of all of the monitoring wells sampled on a periodic basis,

Table 3-4 represents the list of monitoring wells, recovery wells and dual phase extraction wells to be sampled and the frequency of sampling (*f*) broken down into functions monitoring groups. The analysis required for this list of wells is USEPA 8260 VOC analysis. The Early Warning Network (EWN) and Supplemental wells are monitored to predict changes in the water quality of municipal well M-2A and assess the on-site remedial efforts. Monitoring well construction logs for these wells are included in Appendix AA.

Table 3-4

FUNCTIONAL MONITORING GROUPS											
Northern Operable Unit				Southern Operable Unit				Taylor Property		Municipal Wells	
Source Area		Plume Area		Source Area		Plume Area					
Well	*f*	Well	*f*	Well	*f*	Well	*f*	Well	*f*	Well	*f*
MW-2S	A	MW-8I	A	MW-36S	A	MW-37I	A	MW-14D	A	MW-28S	A
MW-3D	A	MW-8D	A	DPES-1	Q	MW-54I	A	MW-21S	A	MW-28I	A
MW-16D	A	MW-13D	A	DPEN-1	Q	RW-8	Q	MW-32D	A		
MW-38S	A	MW-17D	A	DPEN-4	Q	RW-9	Q	MW-33S	A		
RW-2	Q	MW-51D	A					MW-34D	A		
RW-3	Q	MW-56D	A					MW-35D	A		
RW-4	Q	MW-61D	A					RW-10	Q		
RW-5	Q	RW-13	Q					RW-11	Q		
DPEN-2	Q							RW-12	Q		

The sampling frequency of the EWN and Supplemental wells may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log as provided in Appendix BB. Other observations (e.g., well

integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

- Well gauging: Water level depth will be collected to the 1/100th of a foot prior to purging.
- Well purging: A total of three (3) calculated well volumes will be removed using the dedicated bailer installed in each well. Purge water removed from the wells will be discarded on the ground within 25 feet of the well.
- Sampling methodology: The samples for VOCs will be obtained from the dedicated bailer. Two 40 ml VOA vials will be filled for submittal to the approved laboratory. At the time of sampling, field parameters will be collected using field screening meters. Field parameters consist of pH (S.U.), temperature (degrees Celsius) and conductivity (µS/m).
- Analytical methodology:
    - Lab certification: The laboratory used will be certified by the NYSDOH ELAP.
    - Analytical methods: The approved method for VOC analysis of the monitoring well samples is EPA 8260.
    - Analytes: The complete list of analytes is listed in Appendix CC.
- Sample containers will be new and provided by the laboratory performing the analysis. Containers with preservative will be labeled as such.
- Sample holding times will be in accordance with the NYSDEC ASP requirements.
- Field QC samples (e.g., trip blanks, blind duplicates) will be collected as necessary.
- Laboratory provided Chain of Custody sheets will be used to provide sample tracking. Sampling personnel will initial and sign where appropriate. The samples will be hand delivered to the laboratory where applicable.
- With respect to calibration procedures:
    - All field screening equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the

instruments used for the analytical methods as governed by NYSDOH ELAP.

3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If bio-fouling or silt accumulation occurs in the monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic review report.

Well decommissioning without replacement will be done only with the prior approval of NYSDEC and it will be performed in accordance with NYSDEC's CP-24, "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 Groundwater Treatment Facility (GWTF)

Monitoring of the GWTF consists of monthly sampling of the Air Stripper Treatment Influent (AST Influent) and Final Effluent (Final EFF) of the treatment system. The samples will be collected from the sample taps located on the discharge lines of the associated pumps. The samples will be collected while the pumps are in operation. The AST Influent will be analyzed for USEPA 624 VOC analysis. The Final Effluent will be analyzed for USEPA 624, Total Dissolved Solids and Oil & Grease. Field parameters will be collected at the time of sampling including pH, temperature, conductivity and turbidity.

Quarterly sampling of the recovery wells in operation at the time of sampling will be completed. One quarterly round will coincide with the annual sampling of the EWN

to be performed in April. Samples will be collected from the sample taps located on the individual lines for each well. Field parameters will be collected at the time of sampling.

3.3.3 Municipal Water Production Well M-2A

The only monitoring requirement for the City of Fulton drinking water production wells and associated treatment system is quarterly monitoring of M-2A if the well is to be used as a drinking water supply. This requirement is for four consecutive quarters. If the results from the sampling of M-2A indicate levels of individual VOCs are below the established level of 50% of the MCL for an individual VOC, monitoring under this SMP will no longer be necessary.

The sample will be collected from the sample tap located inside the M-2 well house as directed by the City of Fulton personnel.

3.3.4 Soil Vapor Extraction (SVE) system

Monitoring of the SVE installation will be completed periodically by collecting one SUMA canister from select operating vapor extraction wells. Analysis by TO-15 protocol using the USEPA 601/602 analyte list will be performed by an ELAP approved laboratory.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe conditions, including weather or other natural occurrences, that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (copy included in Appendix BB). The form will assess the following:

- Condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection; and
- Whether SMP required records are up to date and all required monitoring has been performed.

3.5 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file at the GWTF process treatment building. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared and submitted subsequent to each sampling event. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater, sub-slab vapor, indoor air, etc);
- Sampling results in comparison to appropriate standards/criteria;
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

4.0 OPERATION AND MAINTENANCE PLAN

The Site Owner, in coordination with Miller, will be responsible for the Engineering Controls at this Site. Miller will be the primary party responsible for the Operation and Maintenance of the Engineering Controls.

4.1 PROCESS TREATMENT BUILDING

The process treatment building for the GWTF is located on the northern side of the former brewery operated by Miller located south of the former container facility. This location was selected to allow access through the former brewery property to minimize potential interference with the activities of the Site Owner. The dimensions of the building are 80 feet by 40 feet with an eave height of 18 feet.

4.1.1 Concrete Slab and Foundation

The process treatment building was constructed on a concrete slab and foundation after geotechnical evaluation determined it was feasible. The concrete slab is designed as a containment pad with a six inch curb in the event of a leak or discharge. The concrete slab is sloped to a common sump located near the center of the building. The water-tight sump is designed to contain any spills or leaks and will allow pumping of the contained liquids back into the equalization tank for treatment.

4.1.2 Pre-Engineered Building

A pre-engineered prefabricated metal building was specified to house the process treatment equipment. The building selection took into account potential snow loads, wind loads and other unique considerations for this geographical area. The pre-engineered building includes a control room, which houses the control panels as well as providing an office area for maintaining records. A rest room is included with a nearby emergency eye wash and shower station.

4.1.3 Mechanical

The mechanical systems addressed in this section include the Heating, Ventilation and Air Conditioning (HVAC), potable and non-potable water supply, sanitary sewer, and lighting.

4.1.3.1 Heating Ventilation and Air Conditioning (HVAC)

The HVAC for the process treatment area consists of two propane fired unit heaters that are mounted from the ceiling structure. These unit heaters are controlled by a thermostat for each unit, mounted on the wall to the left of the rest room door. For ventilation of the process area, two 36" exhaust fans and a 72" intake louver are utilized. Exhaust fans, located on the north and east walls, remove air from the building causing the outside air to enter through the intake louver located on the west wall. The fans are controlled by a single thermostat located near the EQ tank. The intake louver opens when either of the fans is energized.

The office area has one thermostat controlling two electric baseboard heaters to provide heat in the colder months. One window type air conditioning unit is installed in the south wall of the office to provide cooling during the warmer months.

4.1.3.2 Water Supply

The water supply for the rest room and emergency shower and eyewash is a non-potable water supply. The water originates from the Effluent Tank. A label stating "NON POTABLE WATER" is posted at the utility sink located in the rest room. Potable water is supplied in the office in the form of bottled water.

4.1.3.3 Sanitary Sewer

The sanitary sewer is tied into the existing sewer line for the former brewery. Only the water from the utility sink and toilet enter the sanitary sewer. The water from the emergency shower/eyewash will flow to the floor sump in the treatment and be pumped to the head of the system for treatment.

4.1.3.4 Lighting

The lighting for the treatment area consists of ten (10) 208V high pressure sodium light fixtures with 250 watt light bulbs in them. The office lighting consists of four standard fluorescent light fixtures with 34 watt bulbs. The exterior lighting consists of one LED light with a photoelectric cell, which energizes the light at dark located above each exit door. Emergency exit signs and lighting are located above each exit door on the interior of the building and are activated when a power failure occurs.

4.1.4 Electrical Provisions

The process treatment building mechanical and electrical requirements are supplied by a 208/120 volt subpanel service, which is obtained through the electrical service of the process equipment. The electrical service components of the process treatment building include lighting and receptacle service within the process equipment area as well as lighting and electrical service within the control room and rest room.

4.2 GROUNDWATER RECOVERY SYSTEM

The groundwater recovery wells were installed at locations identified in the design documents to maintain hydraulic control of the contaminant plumes while resulting in maximum contaminant mass removal. The groundwater recovery system includes the following major components.

4.2.1 Recovery Well Layout

Nine (9) recovery wells were installed to capture the northern unit contaminant plume.

Four (4) recovery wells were installed to provide hydraulic control and remediation of the southern unit.

Figure 1-5 B should be referred to for the location of the recovery wells.

4.2.2 Recovery Well Construction

Recovery well construction design was based upon a preliminary soil boring program conducted at the recovery well locations. The purpose of this program was to define soil conditions in the vicinity of the proposed recovery wells and establish the optimum screen length, screen slot size, and filter pack for each recovery well. These details were determined based upon soil boring lithology and sieve analysis. These field observations and analysis allowed each individual recovery well to be constructed in a manner that optimized the recovery of the contaminated aquifer.

The recovery well construction techniques included the following:

- use of a sand pack consisting of imported clean silica sand, appropriately sized for the formation within the screened interval;
- placement of sand in a manner to avoid any gaps or bridges within the sand pack; and
- the development of the wells using an appropriate combination of surging and pumping to produce a clear, sediment-free discharge.

Based upon the observed field conditions of each recovery well, field adjustments were made as needed in recovery well construction in order to optimize the effectiveness of each recovery well in capturing the contaminant plume.

4.2.3 Recovery Well Vault Construction

The recovery wells are housed within concrete vaults installed below grade. These vaults are placed on a gravel bed four feet below ground surface. The vaults contain an aluminum cover in order to protect the well from the elements. The well risers are cut off approximately six inches above the top of the gravel layer. The electrical panels for RW-5, RW-10, RW-11 and RW-12 are located in the vaults. The panels contain the Variable Frequency Drives (VFDs–) and the remote Input/Output (I/O–) communications. The remainder of the well panels, with the exception of RW-6 and RW-7, are located outside of the vaults, mounted on a metal frame. The panels for RW-6 and RW-7 were located on the wall nearest to the well in the former container facility. Each wellhead is capped within the vault and the vaults include steel rungs for access.

4.2.4 Recovery Well Pumps

Recovery well pumps were designed to maintain optimum recovery flow rate based upon groundwater elevation in each recovery well. The recovery wells are equipped with submersible pumps that have been sized according to expected yields and calculated head requirements.

All recovery well pumps have been installed approximately three feet from the bottom of the recovery wells. The submersible pumps are attached to specified diameter hoses using pitless adaptors connected to the side of the well riser. The pumps have been suspended at the specified depths in the well.

A variable speed motor is utilized to control the recovery flow rates based upon monitored groundwater elevation. The variable speed controllers are housed within the recovery well panels. The variable speed motors are controlled by a water elevation sensor to maintain the desired preset groundwater elevation in the well.

4.3 GROUNDWATER COLLECTION SYSTEM

Collection of contaminated groundwater in the Northern and Southern Unit groundwater plumes occurs through the continuous pumping of 10 groundwater extraction wells (that is, eight wells in the Northern Unit groundwater plume and two wells in the Southern Unit groundwater plume). The collection wells are comprised of 6.5-inch diameter FRP screens and Schedule 80 PVC riser pipes fitted with submersible pumps. The well pumping rate is maintained through a Programmable Logic Controller (PLC) that regulates flows from the pumping wells by automatically changing the speed of the motor based on relative groundwater elevations which are measured via pressure transducers at the bottom of each recovery well. The estimated maximum flow for the groundwater recovery system was approximately 220 gpm. The groundwater treatment system was designed to treat this estimated flow rate.

4.3.1 Collection System Maintenance

Due to the potential for mineral deposition and bio-fouling of the groundwater collection wells and pump screens, it is necessary to perform regular, routine maintenance of the collection system. Accordingly, the submersible pumps are to be pulled and inspected regularly, and the screens cleaned with a scale removal solution suitable to the pump construction materials.

In addition, it may also be necessary to periodically remove the pump and inject a non-sulfamic, non-hydrochloric granular or bullet acid coupled with a catalyst into the well to breakdown any inorganic precipitants and slime bacteria depositions/build-up on the well screen. The acid cleaning may be supplemented with physical agitation (such as wire brushing) to breakdown the scale.

Although the effects of dilution from the other pumping wells and the potential presence of lime scale in the treatment system may prevent pH excursions in the effluent water, low pH water resulting from acid cleaning of the well screen may need to be neutralized prior to resuming normal groundwater treatment operations. The neutralization should be accomplished in the following manner:

- Remove the acidified water from the well with a submersible pump to a

portable holding tank located at the well head. Continuous pH monitoring of the water being removed will determine the amount of water to be removed.

- After the pH of the water has stabilized in the acceptable range of 6.0 to 9.0 the permanent well pump can be placed back on-line.
- The water in the tank will be neutralized with sodium bicarbonate until the pH is in the acceptable range of 6.0 to 9.0. The water will then be pumped, via the existing line, to the treatment facility for treatment.
- Monitoring of the pH at the sample tap for the well will be necessary, immediately after start-up, and every one half hour, for a period of 2 hours. Monitoring of the pH will be necessary at the AST effluent sample tap, also for a period of 2 hours, to be initiated one hour after the well is restarted.
- Should the pH drop below the acceptable lower limit of 6.0, then it will be necessary to add more sodium bicarbonate to the effluent holding tank to bring the pH into the acceptable range. The water in the effluent holding tank will then be redirected to the equalization tank, via the backwash line, for treatment through the system.

4.3.2 Collection System Production Monitoring

Monitoring of the groundwater collection system will be conducted throughout its operational life to assist in the ongoing evaluation of the effectiveness of the system in remediating the contaminated groundwater in the Northern Unit and Southern Unit groundwater plumes.

Monitoring wells listed on Table 4-1 are sampled on an annual schedule. The data from the analysis of the samples collected at these wells are used to assess the water quality immediately upgradient of and within the cone of influence of the operating recovery wells. The Supplemental Monitoring wells and the Early Warning Network (EWN) wells provide information to assess the on-site collection systems effectiveness

The sampling and water level monitoring tasks were performed on a relatively frequent basis during the start-up period. The frequency of the data collection tasks decreased after the start-up period concluded. The frequency of water level monitoring and sampling are listed on Table 4-3. Samples are analyzed for the parameters on the USEPA Methods 601/602 lists, plus xylenes and cis-1,2,DCE.

Groundwater production rates are obtained by metering the discharge lines from each pumping well using separate flow meters for each line. The production rate of each

individual well is recorded on a weekly basis from the readout located at the individual meters.

Water levels (refer to Table 4-1) are collected on a Quarterly basis and the data is summarized as part of an annual monitoring report to accompany the PRR. It may be necessary to collect water level data at additional monitoring well locations to prepare comprehensive equipotential maps.

TABLE 4-1

WATER LEVEL MONITORING POINTS AROUND EACH RECOVERY WELL

RW-1	RW-2	RW-3	RW-4	RW-5	RW-6&7
MW-7D MW-8I MW-8D MW-16D MW-17D MW-19D MW-20D MW-41S MW-61D	MW-11S MW-11D MW-12S MW-12D MW-16D	MW-1S MW-1D MW-2S MW-2D MW-3S MW-3D MW-4S MW-4D	MW-38S MW-38D MW-62S MW-63S	MW-6S MW-6I MW-6D	MW36S MW-36D MW-47S MW-48S
RW-8	RW-9	RW-10	RW-11	RW-12	RW-13
MW-37S MW-37I MW-37D MW-39S MW-39I MW-54S MW-54I MW-54D	MW-12S MW-12D MW-53S MW-53I MW-53D	MW-21S MW-21D MW-33S	MW-34D	MW-14S MW-14D MW-18S MW-55D	MW-15D MW-51I MW-51D MW-56D

The frequency of water level and production rate monitoring are listed on Table 4-2.

Table 4-2		
Location	**Parameter(s)**	**Frequency**
Water Level Monitoring		
EWN	Water Level Elevation	Quarterly
Supplemental Monitoring Wells	Water Level Elevation	Quarterly
Production Rate Monitoring		
Recovery Wells	Totalizer reading	Weekly

4.4 GROUNDWATER TREATMENT SYSTEM

The groundwater treatment system has been installed and operated at the Site to reduce contaminant loadings in the collected groundwater to concentrations suitable for discharge to the Oswego River. A discussion of the pertinent operational requirements as well as the maintenance and monitoring activities for the system is presented below. Operations & Maintenance, Inc. is operating the groundwater treatment system on behalf of Miller.

4.4.1 Treatment System Operation

The treatment system will remain in operation until the groundwater quality in the delineated plume areas improves to below the discharge criteria (see Appendix W), or it can be demonstrated that the remaining contamination will not affect the City of Fulton municipal well field at which time operation of the treatment system may be discontinued following review and approval by NYSDEC.

Should the progression of the water quality improvement cease when contaminant concentrations are at unacceptable levels but asymptotic conditions exist, alternative remedial alternatives may be evaluated. The groundwater treatment system is designed for continuous flow operation with minimal operator attention. However, the necessary controls are in place to allow for batch operation if production rates decline with time to the extent that batch operation becomes more efficient than continuous operation.

To maintain continuous flow operation, adjustments to the process feed pump and air stripper pump discharge valve positions will need to be made to match the flow rate entering the equalization tank. These adjustments will be made by throttling the discharge control valve based on the level in the corresponding feed tank and air stripper sump.

4.4.2 Treatment System Maintenance

The treatment system components need routine maintenance to ensure effective operation. The operator is required to follow manufacturer and supplier maintenance manuals and instructions for all equipment. The supply of sequestering agent is stored in containers placed within the building and will be replaced as necessary by the operator.

When the pressure filter system is needed the filter bags will be replaced when the pressure drop through the filter vessel reaches 20 psi. Spent filter bags will be dried in the GWTF and analyzed to determine proper disposal method.

Waste disposal is coordinated by the operator, who will sign manifests (as necessary) as an agent of Miller Brewing Company.

Periodic cleaning of the air stripper may also be required to remove scale and sediment build-up. Backwashing of the liquid-phase activated carbon beds may be required when this treatment system is in operation on an as-needed basis when pressure build-up begins to inhibit pumping, or when the pressure nears the acceptable limits for the carbon vessel. Liquid and vapor-phase activated carbon will be replaced based on contaminant mass loadings, as recommended by the supplier to prevent breakthrough.

Pumps and blowers will receive routine maintenance according to the manufacturer's recommendations (for example, lubrication, seal replacement, etc.).

4.4.3 Treatment System Monitoring

Monitoring of the groundwater treatment system will be conducted to demonstrate compliance with the equivalent SPDES surface water discharge limits that have been set for the treated effluent. A copy of the current set of limits that are in effect until March

2018 is attached as Appendix W.[5] Monitoring also allows for the ongoing evaluation of the effectiveness of the system in remediating the collected groundwater, and the refinement of the degree and frequency of routine maintenance needs.

A log of the pertinent groundwater treatment system operating variables (that is, flow rates, air stripper exhaust pressure, upstream and downstream pressures in the filter vessels and activated carbon beds, and other general observations) were established by the operator during the start-up period and are maintained on file in the treatment building. System operating variables will be recorded by the operator on a weekly basis.

Treatment system performance was demonstrated through the collection and analysis of samples at various locations within the process train. Monthly sampling of the treatment system effluent is performed to demonstrate compliance with the SPDES equivalent discharge criteria. Monthly sampling for VOCs at the head of the treatment process is also conducted to provide an ongoing evaluation of the effectiveness of the system.

All samples collected across the treatment system are collected as single grab samples from a sample port on the appropriate process line or tank. Sampling is conducted in a manner such that the collected samples are representative of normal treatment process operation.

All samples are to be analyzed by a New York State Department of Health ELAP-certified laboratory. Table 4-3 identifies the parameters, methods, method references, detection limits, holding times, preservatives, and container specifications for analysis of the treatment system samples. Measurements of pH, specific conductivity, temperature, and turbidity are performed by the operator using field instruments.

5 A request for renewal must be received by NYSDEC 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

TABLE 4-3
MILLER BREWING COMPANY
FORMER MILLER CONTAINER SITE REMEDIATION
ANALYTICAL METHODS AND PROTOCOLS

Parameter	Method	Method Reference	Holding Time	Preservations	Container
VOCs	601/602 or 264	-1	7 days	HCL, Cool to 4 deg C	40 ml voa vials
Iron	200.7	-1	180 days	HNO, to pH <2	1 liter poly
Manganese	200.7	-1	180 days	HNO, to pH <2	
Copper	200.7	-1	180 days	HNO, to pH <2	
Zinc	200.7	-1	180 days	HNO, to pH <2	
Oil and grease	1664	-1	28 days	H_2SO_4 to pH <2 @4^0C	1 liter glass
pH, Temp, Turbidity, Cond	Field	NA	-2	None	500 ml poly

Notes/References:

(1) 40 CFR Part 136; Chemical Analysis of Water and Wastewater, EPA 600/4-49-020, Rev. March 93.

(2) Conduct test immediately following collection of samples.

4.5 SOIL VAPOR EXTRACTION SYSTEM

A soil vapor extraction (SVE) system is utilized to remediate overburden soils beneath the western portion of the former canmaking facility and an area south of the facility beneath the roadway to below 6 NYCRR section 375-6.8(b) Protection of Groundwater standards. A description of the operation, maintenance, and monitoring requirements for the SVE system is presented below.

4.5.1 SVE System Operation

The SVE system is designed to operate initially on a continuous basis then transition to pulsing on and off with the goal of remediating the unsaturated soils beneath

the facility floor (northern) and roadway (southern). Five dual phase wells in the northern area and three in the southern area provide groundwater suppression to expose the soils in the fringe zone to the effects of the SVE.

Eleven single phase extraction wells in the northern area and three in the southern area provide the necessary coverage to affect all of the impacted soils. Withdrawn air is pulled through an air/water knock-out tank followed by vapor-phase activated carbon prior to venting through the treatment system stack. Piezometers and vacuum gauging points located within the zone of influence are used to monitor the area of horizontal and vertical influence of the SVE system.

4.5.2 SVE System Maintenance

SVE system maintenance will generally consist of routine maintenance of the air/water separator discharge pump and the blower in accordance with the manufacturer's recommendations. Periodic cleaning of the air/water separator tank, particularly the entrainment separator, may also be necessary to remove scale build-up. At a minimum, the exit piping from the air/water separator tank should be disconnected and the entrainment separator should be examined on a monthly basis. Vacuum and sample ports should be routinely checked to make sure they are free of dirt and/or scale, and cleaned or replaced as necessary. Any vacuum leaks in exposed portions of the system should be repaired as soon as they are detected.

4.5.3 SVE System Monitoring

Monitoring of the SVE system will be conducted to assist in evaluating the effectiveness of the system in remediating the impacted soils. A log of the pertinent SVE system operating variables, including air flow rates from each wellhead, the applied vacuum at each wellhead and piezometer, and the vacuum and flow rate across the blower was established by the operator during the start-up period and will be maintained on file in the treatment building throughout the operating life of the SVE system. The operating variables are recorded by the operator on a monthly basis and whenever samples are collected. A summary of the SVE system monitoring program is presented in Table 4-4.

TABLE 4-4

SVE SYSTEM MONITORING PROGRAM

Monitoring Activity	Location	Parameter	Frequency
Post Start-Up:			
Air Sampling with SUMA canisters	Select active extraction wells	TO-15	Periodically
	Before each carbon vessel	TO-15	Periodically
	After each carbon vessel	TO-15	Periodically

SUMA canister samples will be collected from the manifold sampling locations for the extraction wells in use and upstream and downstream of each carbon vessel on a periodic basis and analyzed for the Method 601/602/8015 VOCs, plus xylenes, in accordance with USEPA Method TO-15. This will provide an indication of the degree to which the soils have been remediated.

Progress being made in the remediation of the soils will be evaluated when VOC concentrations recovered at the wellhead reach the cleanup objectives or the level of contaminants ceases to improve. In this regard, the operator will evaluate the effectiveness of the SVE system by comparing the initial VOC removal rates to the most recent VOC removal rates, and/or the product of the soil gas concentrations and flows recorded throughout the SVE system operation.

The need for collection and analysis of soil samples beneath the building floor to verify the effectiveness of the remediation will be determined by Miller and NYSDEC after the appropriate data have been reviewed. Factors such as the area of influence reached by the vacuum (as directed by piezometer monitoring) and the overall VOC content (if any) remaining in the soil gas at the wellheads will be examined in the evaluation.

4.6 DATA REPORTING

During and after the start-up period, the operator is required to prepare and submit letter reports of the treatment system effluent sampling results to the NYSDEC. The frequency of reporting is currently specified in the equivalent SPDES discharge criteria as monthly.

In addition, an annual report will be prepared and submitted along with the required Periodic Review Report to the NYSDEC, summarizing the groundwater sample results and all field measurements. A discussion of the effectiveness and integrity of the remedial measures will be presented in the annual report. Also included in the annual report will be a description of any major maintenance items performed over the past year of operations, and a section for conclusions and recommendations for improvements to the processes.

The results of the monthly sampling performed at the facility will be sent to the following:

(a) NYSDEC

Mr. John Grathwol
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau B, 12th floor
625 Broadway
Albany, NY 12233-7016

(b) Miller Brewing Company

Audrey Templeton P.E.
Miller Coors LLC
3939 West Highland Blvd.
P. O. Box 482
Milwaukee, WI 53201-0482

Stephen Rogers, Esq.
Vice President - General Counsel
Miller Brewing Company
3939 West Highland Blvd
P.O. Box 482
Milwaukee, WI 53201-0482

4.7 HAZARDOUS WASTE RESIDUALS

Groundwater treatment operations may generate hazardous waste residuals as a result of the separation processes incorporated in the treatment system and regular maintenance operations. These will include:

- silts/sludges from settling tanks and filters;
- pre-filtration system components; and
- personal protective equipment such as gloves, tyvek, etc.

Waste codes may include both listed and characteristic hazardous wastes. The wastes generated at the site will be stored in 55-gallon drums inside the treatment building prior to the results of sampling/analysis and determination of appropriate disposal methods. Off-site disposal of hazardous waste will be arranged using a licensed hazardous waste treatment, storage or disposal facility (TSDF). It is anticipated that the combined weight of the waste produced from these sources will be less than 1000 kilograms per month.

It should be noted that although the groundwater treatment process itself would technically be considered a TSDF under the RCRA regulations, because it treats environmental media (groundwater containing hazardous waste). However, the specific RCRA requirements for TSDFs are not applicable because the treatment operations are part of a remediation effort that is being performed under a New York State Department of Environmental Conservation consent order which exempts this process (treatment) from the TSDF permitting requirements.

4.7.1 Permitting

6 NYCRR Part 372.2(a)(3) required the procurement of an EPA identification number for the transportation and disposal of waste generated from the groundwater treatment facility. An EPA identification number (NYD000809350) for the Site has been obtained. The existing ID number will be referenced on all manifests and documentation relative to any hazardous waste generated at the site. Any applicable permits or registration required to dispose of waste materials in other states will be obtained prior to using any TSDF outside of New York State.

4.7.2 Accumulation and Storage

The operator will accumulate and store the hazardous wastes generated from the treatment process within the confines of the treatment building, which is designed to provide more than 100% secondary containment of free liquids in the event of a leak or tank/drum rupture. Additionally, the operator will be required to comply with the applicable sections of 6 NYCRR Parts 372 and 373, which identify specific labeling, marking and storage requirements for the hazardous waste containers, as well as the hazardous waste contingency plan and preventative measures that must be in-place to address contingency situations for releases, spills fires or other emergencies relative to the hazardous waste.

Labeling, marking and storage requirements include:

- the date at which accumulation begins will be clearly marked and visible for inspection on the drum/container;
- the wastes may not be stored for greater than 90 days;
- each drum/container will be clearly marked with the words "hazardous waste" and a description of the contents;
- each container will be an appropriate DOT approved container and have required DOT labels, shipping names, and any required 4” x 4” hazard class markings;
- the drums/containers will be in good condition, free from corrosion and leaks, and must not be handled in a manner that could cause a rupture or leak. The drums/containers must be inspected weekly for corrosion or leakage;
- the drum/containers will be constructed of materials compatible with their content;
- the drum/containers will be kept closed and sealed except when filling;
- continuously fed drum/containers must be equipped with the means to shut-off the waste inflow;
- the storage area must be inspected at least weekly to detect leaks and ensure conformance with the storage requirements; a record of the inspection must be maintained;
- ignitable and reactive wastes must be at least 15 meters from the property line and the generator must take pre-cautions to prevent accidental ignition/reaction; and
- incompatible wastes must be stored in a manner that prevents intermingling to preclude: generation of extreme heat, fire or explosion; production of

uncontrolled toxic mists, dusts or gases; production of flammable gases that could result in explosion; damage to the structural integrity of the container/drum; and any other threat to human health or the environment. Therefore, storage of incompatible wastes in the same container or storage of a hazardous waste in an unwashed vessel previously containing an incompatible waste is prohibited. Incompatible wastes must be separated by dikes, berms, walls or other devices.

Contingency requirements for the storage facility (that is, the treatment building) include:

- The facility must be maintained and operated to minimize the possibility of fire, explosion or unplanned release of hazardous waste or hazardous waste constituents to the air, soil, or surface water.
- The facility must be equipped with an internal communication or alarm system capable of providing emergency instruction to facility personnel. Persons involved in hazardous waste operations must have immediate access to such devices.
- The facility must be equipped with a device, such as a telephone or 2-way radio, capable of summoning emergency assistance from local authorities.
- At all times there must be at least one (1) employee on-site or on call with the responsibility for coordinating emergency measures.
- The name and number of the emergency coordinator can be found in Section 2.5 of this SMP. The location of fire extinguishers, and the telephone number of the fire department (unless the facility has a direct alarm) must be posted next to the telephone.
- The facility must be equipped with portable fire extinguishers and/or fire control equipment, as well as water at adequate volume and pressure to supply water hose streams or foam producing equipment or automatic sprinklers.
- Alarm systems, communication systems and fire-fighting equipment must be periodically tested and maintained (6 NYCRR Part 373.3(d)).
- The required aisle space must be available (e.g., to allow for firefighting).
- The facility operator must make a good faith effort to notify local authorities of the information pertinent to potential emergencies, including: the function and layout of the facility; an agreement designating a primary emergency authority where duplicate services may be provided; arrangements with government emergency response teams, contractors and equipment suppliers; and notification to local hospitals of the properties of the hazardous waste and the types of injuries or illnesses that may arise from exposure. Where local authorities decline to enter into such arrangements, the Owner or operator must document this refusal in the operating record.

4.7.3 Recordkeeping and Reporting

The operator will be responsible for recordkeeping and reporting requirements relative to the treatment facility, including manifesting and labeling waste shipments, and the preparation of required annual generator report. The annual generator reports (6 NYCRR Part 372.2(c)(2)) present an inventory of the types and quantities of hazardous wastes generated and are required by March 1st of the following calendar year if disposal occurred.

Waste manifests must also be completed for each shipment of hazardous waste sent off-site, and the appropriate copies must be distributed. Signed copies must be retained at the facility for a minimum of three years after shipment. Prior to shipment, the contractor will need to obtain a waste profile for each waste type. This involves analysis of the waste for the suspected contaminants by the TSDF, who will then issue a profile number to the generator for future reference. Each container/drum will be labeled and marked in accordance with U.S. Department of Transportation (USDOT) and NYSDEC requirements and so certified on the manifest form.

The operator will be responsible for preparing/signing annual generator reports and waste manifests as an agent of Miller Brewing Company.

4.7.4 Training

Annual RCRA training will be provided to person(s) involved in managing hazardous waste and the person(s) involved supervising them. The training will consist of materials handling, waste characterization and identification, packing requirements, labeling and marking requirements, temporary accumulation requirements, shipping paper preparation, emergency preparedness, spill response and the facility contingency plan. DOT training in hazardous materials will be provided at least once every three years as required by 49 CFR 172.700. Training for new operators will be performed prior to allowing them to perform operations involving hazardous wastes. Additional training may be required if the applicable requirements, regulations or management practice are altered or if new information necessary to properly manage the hazardous wastes becomes available.

4.8 SAFETY

The safety practices employed at the Site are designed to provide a reasonable standard of care in executing the normal operating procedures and practices for the groundwater recovery and treatment system. The procedures and practices established here represent those that will be most commonly encountered or utilized in the normal operation of the system.

However, such procedures and practices are not intended to serve as a substitute for common or practical sense and does include or reference all the safety practices and other procedures recommended by equipment and material vendors and suppliers, procedures, practices, or trade usages commonly observed in industry, or all the standards for operation required by law. Because of the unusual and unforeseeable conditions and circumstances that may arise from the operation of this system, this SMP cannot and does not represent a comprehensive set of guidelines for such unusual or unforeseen conditions or circumstances.

4.8.1 Hazards and Hazardous Areas

4.8.1.1 Physical Injuries

Physical injuries can be defined as all types of cuts, bruises, sprains, broken bones, burns, bites or infections. Physical injuries can occur anywhere from falling objects; falls; handling or striking objects; machinery; explosion or fire. Physical injuries are usually caused by some action, lack of action, or some defect that led to an accident which was brought about by failure to practice accepted safe procedures.

4.8.1.2 Chemical Hazards

During operation of the groundwater recovery and treatment system, the greatest hazards will be from the exposure of various solvents, in the form of organic vapors being inhaled, solvents contacting the skin or being ingested. The solvents which are most likely to be encountered are:

1. Trichloroethene: Pure trichloroethene is a colorless liquid with a chloroform-like odor. It has a flash point of 90^{o}F and a solubility of 0.1%. Trichloroethene is an eye, nose and respiratory irritant which may cause

headaches, vertigo, visual disturbances, somnolence and nausea. If ingested, immediately seek medical attention.

The OSHA permissible exposure limit (PEL) as found in 29 CFR 1910, subpart Z, General Industry Standards for Toxicity and Hazardous Substances, is 50 ppm for an eight-hour time weighted average (TWA) concentration.

2. Tetrachloroethylene: Pure tetrachloroethylene is a colorless liquid with a mild chloroform-like odor. It is noncombustible and has a solubility of 0.02%.

   Tetrachloroethylene is an eye, nose and respiratory irritant, which causes nausea, dizziness, incoordination and headaches. If ingested, immediately seek medical attention.

   The OSHA permissible exposure limit (PEL) as found in 29 CFR 1910, subpart Z, General Industry Standards for Toxicity and Hazardous Substances, is 25 ppm for an eight-hour time weighted average (TWA) concentration and 300 ppm ceiling (i.e., not to be exceeded at any time).

Copies of the (Material) Safety Data Sheets (SDS) for these compounds are included in the Hazard Communication Program developed by the operator. The SDS sheets that are included are not representative of the manufacturer of the compounds recovered from this site and are only intended for reference purposes.

4.8.2 Personal Protective Clothing

Protective equipment and garments reduce the possibility of injury to personnel. The following personal protective equipment is recommended:

- Hard Hats: Required to provide head protection from impact and penetration from falling or flying objects when construction activities are underway.
- Ear Protection: Required to protect ears in areas of high noise levels.
- Eye Protection: Protective eye and face equipment is required where their use provides a reasonable probability of injury prevention. Eye protection is recommended for use when working in the treatment facility.
- Gloves: Impervious hand protection is required at the work site to prevent injuries while handling pipes, and drums. Neoprene protective gloves, sleeves

and finger pads should be provided for use in handling chemicals.

- Boots: Special foot protection with metal foot guards is required for working around heavy equipment. Rubber boots are required in wet or damp work areas.
- Respiratory Protection: During normal working conditions, no respiratory protection is required.

4.8.3 Safety Equipment and Devices

In addition to protective clothing, other safety devices are required by OSHA for protection of personnel in most solvent related treatment systems. The more important items are:

- Safety Equipment: Provide adequate personal protective equipment, safety glasses, face masks, gloves, aprons, etc.
- Emergency Facilities:
  - First-aid kits and posted first-aid procedures for poisons, burns, bleeding, etc., should be on hand at all times. These are located by the desk inside the treatment building.
  - Post phone number of physicians and ambulance (these numbers are posted on the wall adjacent to the desk in the treatment building).
- Fire Extinguishers: Extinguishers approved by the Underwriter's Laboratories are required to be placed in areas of fire hazard (e.g., flammable liquid and grease fires, and ordinary fires). One fire extinguisher containing ABC dry chemicals is mounted on the wall outside the office.

4.8.4 Chemical Handling

The recommended safety procedures to prevent chemical accidents are presented below. Operators are encouraged to supplement this section as required to maintain safe working conditions.

- Whenever working around chemicals, personnel should consider the use of the following safety equipment. A company specific Health & Safety Plan will direct procedures and required safety equipment for its employees:
  - Chemical-resistant overalls and gloves.
  - Safety shoes protected by chemical resistant latex boots.
  - Eye protection - face shield or goggles.
  - Respiratory protection.
- All personnel should learn the location of first aid kits prior to working on the

recovery and treatment system.

- All personnel should be familiar with the appropriate first aid procedures in case of accidental chemical contamination.

Chemical handling at the GWTF includes mixing of dry granular sequestering agent with water. Care should be taken to minimize the amount of dust when handling the dry granular material. Care should be taken when handling the liquid and vapor phase carbon unit contents as they may become saturated with recovered solvent constituents.

4.8.5 Explosion and Fire Hazards

Since fires are always a danger, fire department and safety consultants should be contacted for advice on the location and types of extinguishers needed for specific areas. As indicated in Section 4.8.3, a fire extinguisher with ABC dry chemicals is mounted outside the office.

All personnel should be trained in the proper use of all fire extinguishers and the correct procedure to be followed in a fire emergency. The location of the extinguisher is marked by a highly visible sign. The fire extinguisher should be checked at least once each month in the following manner:

- Check that the pointer on the pressure gage is in the green operable area.
- Check that the nozzle opening has not been closed with any foreign object.
- A ring pull pin is provided to prevent accidental discharge. This pin is secured by means of a plastic wire lockseal. Check to make sure the lock seal is intact.
- Weigh the extinguisher annually and if below the weight designated under "Maintenance" on the extinguisher label, the extinguisher should be recharged.

4.8.6 Fire Procedures

Any signs of fire or smoke should be promptly reported to the fire department and any attempt to extinguish the fire should be made only afterward. When reporting a fire emergency, be sure to give as much information possible: exact location, street or road,

type of fire, your name, telephone number, number of people injured, etc. Remain on the phone until the fire department tells you to hang up. In general:

- Evacuate all personnel from the danger area.
- Notify the fire department, reporting the location, type and extent of the fire.
- Request medical assistance for injured personnel.
- If the fire is electrical, de-energize the circuit.
- Identify the type of fire, and use all available means to combat it.

4.8.7 Health Hazards

The most important health consideration is the availability and use of the appropriate first-aid equipment. The groundwater recovery and treatment system building has a first aid kit for treating minor cuts, burns, and wounds located in the office within the treatment building.

4.9 RECORD KEEPING

Adequate records of system performance will be an integral part of the groundwater recovery and treatment system operation. Complete records are necessary to control procedures, determine a basis for system operation, and interpret the effects of the groundwater recovery and treatment system.

Equipment in the treatment system will require periodic service, some weekly and others less frequently. Accurate records will note when service was last performed, and when the time for service approaches.

4.9.1 Process Operations and Operation Logs

Proper operation and control of the treatment system entails: 1) regular operating schedules in the form of operator duties; and 2) the maintenance of log and operations summary sheets that are located in Appendix BB. These logs and data sheets indicate what has happened as well as what has to be accomplished.

Operational data, adequately kept, can also provide a valuable basis for future design changes and/or expansions of the recovery and treatment system.

4.9.2 Maintenance Records

Maintenance record-keeping is necessary to maintain proper operation of the groundwater recovery and treatment system. The repair parts that will be most frequently needed can be kept on site to minimize system down time. The designated operator will keep a record of the individual pieces of equipment and the lubrication, inspection, cleaning, and replacement of worn parts. The dates of the next regular servicing of individual equipment can be kept on inspection cards where it can be easily seen.

4.9.3 Personnel Records

Records should be kept that reflect such things as the training individuals receive and employee turnover for the operation of the groundwater recovery and treatment system.

4.9.4 Emergency Condition Records

A record of emergency conditions affecting the treatment system should be maintained. These emergency condition records might include power failures, natural disasters, or spills.

4.10 MAINTENANCE

4.10.1 Maintenance

Throughout the operation of the groundwater recovery and treatment system, maintenance will be required to ensure continued operation. These maintenance items can be broken down into preventative, predictive and reactive maintenance. The following general rules are recommended for inclusion in the maintenance program:

- Good Housekeeping: Maintain a clean, neat and orderly facility.
- Personnel Training: Make sure personnel are familiar with each piece of equipment, how it operates, and what function it is to perform. They will then be able to spot possible failures or, if failures do occur, they can pinpoint the trouble and act to correct the failure in the shortest possible time.
- Maintenance Schedule: Establish a maintenance schedule for preventative and predictive maintenance items for each piece of equipment.

- Manufacturer's Record: Retain catalogs, manuals, blueprints, etc. for ready reference.
- Maintenance Records: Each piece of equipment should have its own record of maintenance to allow for review of historical maintenance items and assist in predicting future issues and costs.
- Equipment and Tools: An adequate stock of tools required for performing maintenance should be available.
- Spare Parts Inventory: Maintain an inventory of critical and frequently replaced parts.
- Safety: Observe good safety procedures, follow company safety procedures.

4.10.2 Equipment Record System

A good preventative maintenance program will keep the equipment of the groundwater recovery and treatment system in good operating condition and will aid in detecting and correcting malfunctions before they develop into major problems. The method used in establishing the equipment record system will determine its usefulness. The method must define what preventive maintenance task must be performed and must also include a means of recording what has been done.

Each piece of equipment should have its own inspection and service record. This record should include the following, if applicable:

- Original start-up date;
- Manufacturer's name, model number, serial number, and special accessories;
- Manufacturer's representative's name, address, and telephone number for obtaining spare parts;
- Preventive maintenance schedule and;
- Log for recording date of regular and emergency repairs or inspections.

4.10.3 Planning and Scheduling of Preventive Maintenance

Each piece of equipment in the soil vapor extraction and groundwater recovery and treatment system has specific maintenance requirements. These requirements are outlined in the manufacturer's literature, which is included in the original approved OM&M maintained in the office of the GWTF. A hard copy of the manufacturer's information is maintained in the office of the GWTF and includes the following equipment:

- Submersible Pumps
- Feed Pumps
- Electric Duct Heater
- Liquid Phase Carbon Unit
- Vapor Phase Carbon Unit

4.10.4 Inline Bag Filter Schedule Maintenance

The inline filter system is currently not in use. Should the need to filter the influent water arise this section should be referenced. Filters should be removed and disposed of properly when the differential pressure reaches 20 psi. Replacing the inline bag filter when needed will assist in preventing problems that might occur due to silt build up on the bag filter. Refer below to the steps one should follow when removing and replacing the inline bag filter:

Procedure for Replacement of Inline Bag Silt Filter

The following steps should be followed when replacing the inline silt filters during normal operating conditions. The filters must be replaced when the air stripper is not in operation:

1. Turn the AST Feed pump switch, located at the pump, to the “off” position.
2. Close the valves on the influent and effluent sides of the filter housings.
3. Relieve the pressure in the units by opening the drain valve located on the bottom of both units.
4. Loosen the eight (8) cover bolts and swing down and out of the way.
5. Turn the cover lifting hand wheel clockwise to lift the cover approximately 1/2"-inch.
6. Rotate the cover away from the unit to access the four individual filter bags.
7. Lift each filter and stainless basket out and allow the filter to drain in an upright position.
8. After draining the free standing water out of the filter bags, remove from the stainless steel baskets.
9. Place the spent filters in an area of the facility to allow them to dry completely.
10. Insert new filters into the stainless steel basket and replace into the filter housings.
11. Rotate the cover back into position and turn the hand wheel counter clockwise to lower onto the housing.

12. Secure the cover using the eight cover bolts.
13. Close the drain valves on the bottom of the housings.
14. Open the influent then the effluent valves to the filter line.
15. Turn the AST Feed pump switch to the "on" position

4.10.5 Air Stripper Schedule Maintenance

Periodic maintenance of the Air Stripper is necessary based on operational experience. The frequency depends on the physical characteristics of the groundwater. Periodic inspection of the air stripper, as well as monitoring of the effluent air velocity and pressure will assist in determining when this maintenance should be performed.

The air flow through the air stripper is measured using a pitot tube and differential air pressure gauge. When the differential pressure from the pitot tube falls below 0.05 inches of water, the air stripper is in need of cleaning. The scale build-up in the air stripper cannot be removed using the manufacturer's recommendation of a pressure washer as the scale is calcium carbonate. The stripper requires dismantling and physical removal of the scale. After the flat surfaces are cleaned, each individual hole in the trays needs to be cleared using an awl or punch.

4.10.6 Liquid Phase Carbon Unit Schedule Maintenance

The liquid phase carbon canisters are not in use as the treatment of the influent water is considered complete after the air stripper. A copy of the DEC's letter dated July 19, 1999, approving the discontinuation of the use of the liquid phase carbon is included in Appendix DD.

4.10.7 Vapor Phase Carbon Unit Schedule Maintenance

The off-gas from the Air Stripper is discharged to the atmosphere without treatment as approved by NYSDEC. A copy of the proposal and approval letter from the NYSDEC is included in Appendix EE.

The vapor phase carbon treatment is only for the vapors removed by the SVE system. Influent to each unit is sampled quarterly and determination of breakthrough is

made based on the results. Upon breakthrough of the first carbon unit, the second carbon canister becomes the first after replacement of the spent carbon.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

The Site Owner, in coordination with Miller, will be responsible for the Engineering Controls at this Site. Miller will be the primary responsible party for the Site Inspection, Reporting and Certification of the Engineering Controls. Certification and Reporting of the Institutional Controls are the responsibility of the Site Owner.

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 "Monitoring Plan" of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system (see Appendix BB). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification for Miller as to the Engineering Controls in operation at the Site:

For each engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the engineering controls required by the remedial program was performed under my direction;
- The engineering controls employed at this site are unchanged from the date the controls were put in place, or last approved by the NYSDEC;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan requirement for any engineering control;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

  I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, **[name]** of **[business address]** am certifying as Miller Brewing Company's Designated Site Representative and I have been authorized and designated by Miller Brewing Company to sign this certification for the Site Engineering Controls.

The signed certification will be included in the Periodic Review Report described below.

The following certification for Institutional Controls in effect at the Site will be completed by the Site Owner as Miller has no control over activities on the Site by the Site Owner or any of its lessees. The Institutional Controls are set forth in the Declaration of Covenants and Restrictions (Appendix B).

For each institutional control identified for the Site, I certify that all of the following statements are true:

- The institutional controls employed at this site are unchanged from the date the controls were put in place, or last approved by the NYSDEC;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan requirement for any institutional control;
- Access to the site will continue to be provided to the designated representative of Miller Brewing Company to operate and maintain the engineering controls and the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- Use of the site is compliant with the Declaration; and
- The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, **[name]**, of **[business address]**, am certifying as **[Owner or Owner's Designated Site Representative]** (and if the site consists of multiple properties): **[and I have been authorized and designated by all site owners to sign this certification]** for the Site.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report (PRR) will be submitted to NYSDEC on an annual basis. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site.

The PRR will be prepared in accordance with NYSDEC DER-10. The date for the submittal of the initial PRR will be determined after reclassification from a Class 2 to a Class 4 after final approval of the SMP.

Since the commencement of the operation of the Groundwater Treatment Facility, Miller has prepared an annual groundwater monitoring report for the calendar period ending May 1. Miller will continue to prepare this annual report and attach a copy to the applicable PRR.

After NYSDEC approves the initial PRR, the deadline for subsequent PRR submittals will be July 1 to coincide with the preparation and submittal of the annual report.

In connection with the submittal of each PRR, the Site Owner will provide certification to NYSDEC that the Institutional Controls are still in place. The PRR will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual Site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A Site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific ROD;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.
- A performance summary for all treatment systems at the Site during the calendar year, including information such as:
    - The number of days the system was run for the reporting period;
    - The average, high, and low flows per day;
    - The contaminant mass removed;
    - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
    - A description of the resolution of performance problems;
    - A summary of the performance, effluent and/or effectiveness monitoring; and
    - Comments, conclusions, and recommendations based on data evaluation.

Each PRR will be submitted to the NYSDEC Central Office and Regional Office in which the site is located in electronic format and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering

control, a corrective measures plan will be submitted to the NYSDEC for approval. A corrective measure plan for the failure of any Engineering Control will be prepared by Miller. A corrective measure plan for the failure of any Institutional Control will be prepared by the Site Owner.

These corrective measure plans will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to a corrective measures plan until it is approved by the NYSDEC.

6.0 DIVISION OF RESPONSIBILITIES FOR SMP COMPLIANCE

The responsibilities for implementing this SMP are divided between the Site Owner and Miller as the Remedial Party (RP), because Miller has no control over a Site Owner's activities on the Site. The Site Owner as of the effective date of this SMP is Riccelli Fulton, LLC (contact: Richard Riccelli), 1902 County Route 57, Fulton, NY 13069. Nothing in this Section of the SMP shall supersede the provisions of the Remedial Program Order and the IRM Order (Appendix A) or the Declaration of Covenants and Restrictions (Appendix B).

6.1 SITE OWNER RESPONSIBILITIES

1. The Site Owner shall follow the provisions of the SMP as they relate to future construction and excavation at the Site.

2. In accordance with the periodic time frame set forth in the SMP, the Site Owner shall periodically certify, in writing, that all Institutional Controls set forth in the recorded Declaration of Covenants and Restrictions (the "Declaration"), remain in place and continue to be complied with. The Site Owner shall provide a written certification to Miller upon request by Miller in the form required by NYSDEC in order to allow Miller to include the certification in the submittal of the Site's PRRs to the NYSDEC.

i. If the Site Owner fails to provide the requested certification within ten (10) days of receipt of Miller's request, Miller may submit the required PRR to NYSDEC without the Site Owner's certification. A copy of Miller's written request for the Site Owner certification shall accompany the submitted PRR.

3. The Site Owner shall grant access to the Site to Miller and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

4. The Site Owner is responsible for assuring the security of the remedial components located on the Site to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the Site Owner shall notify Miller and NYSDEC in accordance with the timeframes indicated in Section 2.4.2 of the SMP.

5. In the event some action or inaction by the Site Owner adversely impacts environmental conditions at the Site, the Owner must (i) notify Miller and the NYSDEC in accordance with the time frame indicated in Section 2.4.2 - Notifications and (ii) coordinate the performance of necessary corrective actions to avoid adversely impacting the existing remedial components.

6. The Site Owner must notify Miller and NYSDEC of any (a) change in use or (b) change in ownership or lease of any portion of the Site (identifying the tax map numbers in any correspondence) and provide contact information for the new Site Owner or lessee. 6 NYCRR Part 375 contains notification requirements applicable to any construction or activity changes and changes in ownership. Among those notification requirements are the following:

i. Sixty (60) days prior written notification must be made to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

ii. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section.

iii. Notification requirements for a change in use are detailed in Section 2.4 of the SMP.

7. Prior to implementing a "change in use" as defined under 6 NYCRR 375-2.2(a) that may impact the remedial program, the Site Owner shall consult with NYSDEC on the need to amend the SMP and comply with the requirement of 60-days prior notice to the NYSDEC as set forth under 6 NYCRR 375-1.11 (d). A "change of use" is defined in 6 NYCRR § 375-2.2 (a) to mean "the erection of any structure on a site, the paving of a site for use as a roadway or parking lot, the creation of a park or other recreational facility on a site, any activity that is likely to disrupt or expose contamination or increase direct human or environmental exposure, or any other conduct that will or may tend to prevent or significantly interfere with a proposed, ongoing, or completed remedial program." If an SMP amendment is required, the Site Owner shall submit a proposed SMP amendment to NYSDEC for approval with copy to Miller.

8. In accordance with the tenant notification law (New York State Environmental Conservation Law § 27-2405), the Site Owner must supply a copy of soil vapor intrusion data that is collected with respect to structures on the Site and that exceeds NYSDOH or OSHA indoor air quality guidelines, whether produced by the NYSDEC, Miller or the Site Owner, to any tenants or occupants on the Site within 15 days of receipt. The Site Owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

6.2 REMEDIAL PARTY RESPONSIBILITIES

1. Miller as the RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the Site.

2. Miller shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting that are identified in the SMP. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs. Miller shall provide to the NYSDEC (and to the Site Owner, upon request) copies of any monitoring data generated as set forth in section 4.6 of the SMP.

3. In accordance with Article 27, Title 24 of the New York Environmental Conservation Law, Miller shall supply to the Site Owner a copy of any soil vapor intrusion data on the Site, and upon the Site Owner's request, any other data generated in the course of operating the soil vapor extraction system**.**

4. Before accessing the Site to undertake any activities outside the normal operating procedures, Miller shall provide the Site Owner with prior notice that shall include an explanation of the work to be performed. An appropriate time frame for the prior notice will be agreed upon by the Site Owner and Miller.

5. If the NYSDEC determines that an update of the SMP is necessary to address the ongoing remediation at the Site, Miller shall update the SMP for approval from the NYSDEC. The Site Owner shall have 10 business days to review and comment on Miller's revised SMP prior to NYSDEC review and approval. Within 5 business days after NYSDEC approval, Miller shall submit a copy of the approved SMP to the Site Owner.

6. Miller shall notify the NYSDEC of any damage to or modification of the remedial components as required under Section 2.4.2 of the SMP.

7. Miller shall be responsible for the proper monitoring and maintenance of the groundwater treatment system and soil vapor extraction system as set forth in Section 4 of the SMP.

8. Prior to implementing a "change in use" as defined under 6 NYCRR 375-2.2(a) that impacts the remedial program, Miller shall notify the Site Owner and consult with NYSDEC on the need to amend the SMP and comply with the requirement of 60-days prior notice to the NYSDEC as set forth under 6 NYCRR 375-1.11 (d). A "change of use" is defined in 6 NYCRR § 375-2.2 (a) to mean "the erection of any structure on a site, the paving of a site for use as a roadway or parking lot, the creation of a park or other recreational facility on a site, any activity that is likely to disrupt or expose contamination or increase direct human or environmental exposure, or any other conduct that will or may tend to prevent or significantly interfere with a proposed, ongoing, or completed remedial program." If an SMP amendment is required, Miller shall submit a proposed SMP amendment to NYSDEC for approval with copy to the Site Owner.

FIGURES

Figure 1-1
Original Boundary of Former Miller Container Site

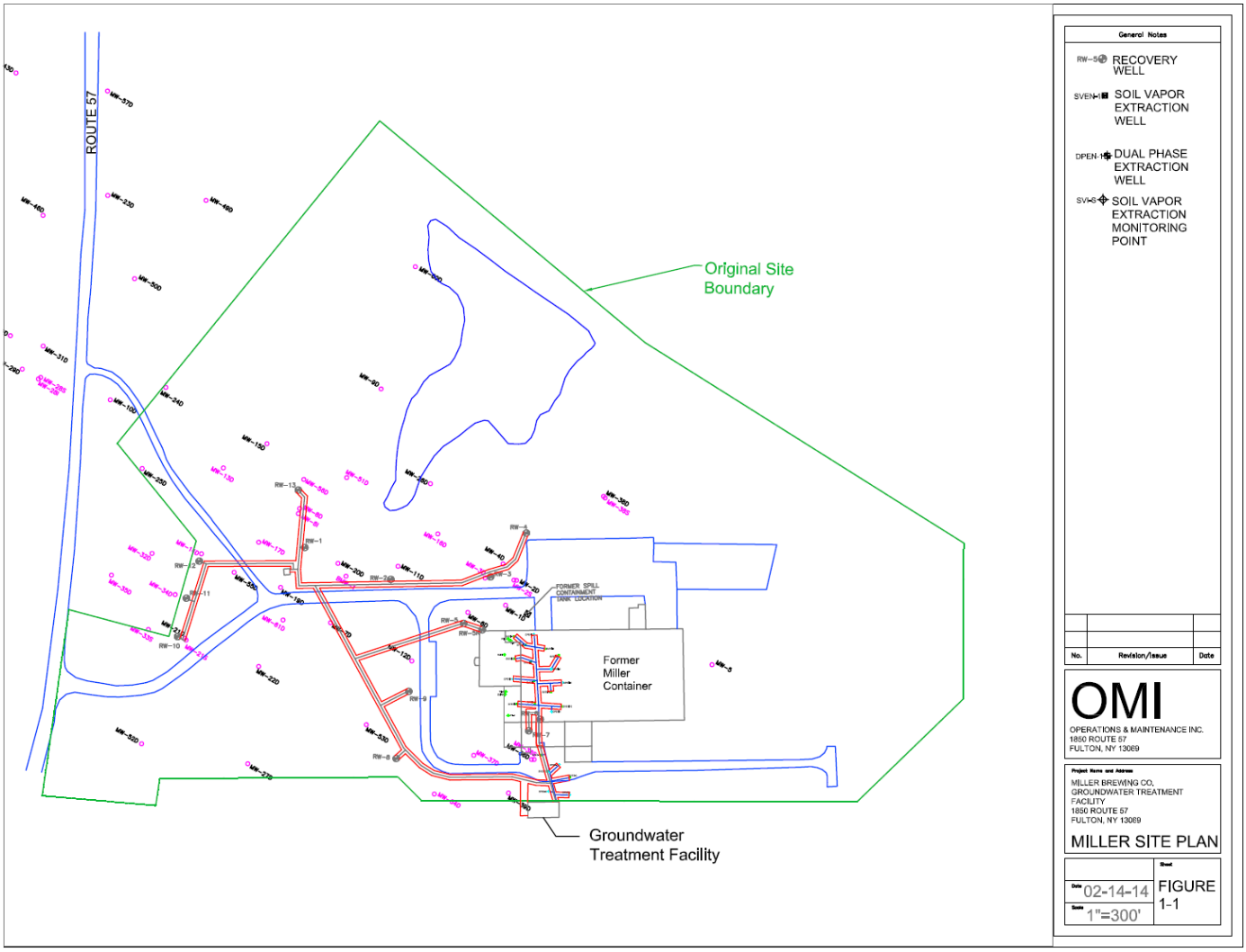

Figure 1-2
Revised Boundary of Former Miller Container Site (January 2014)

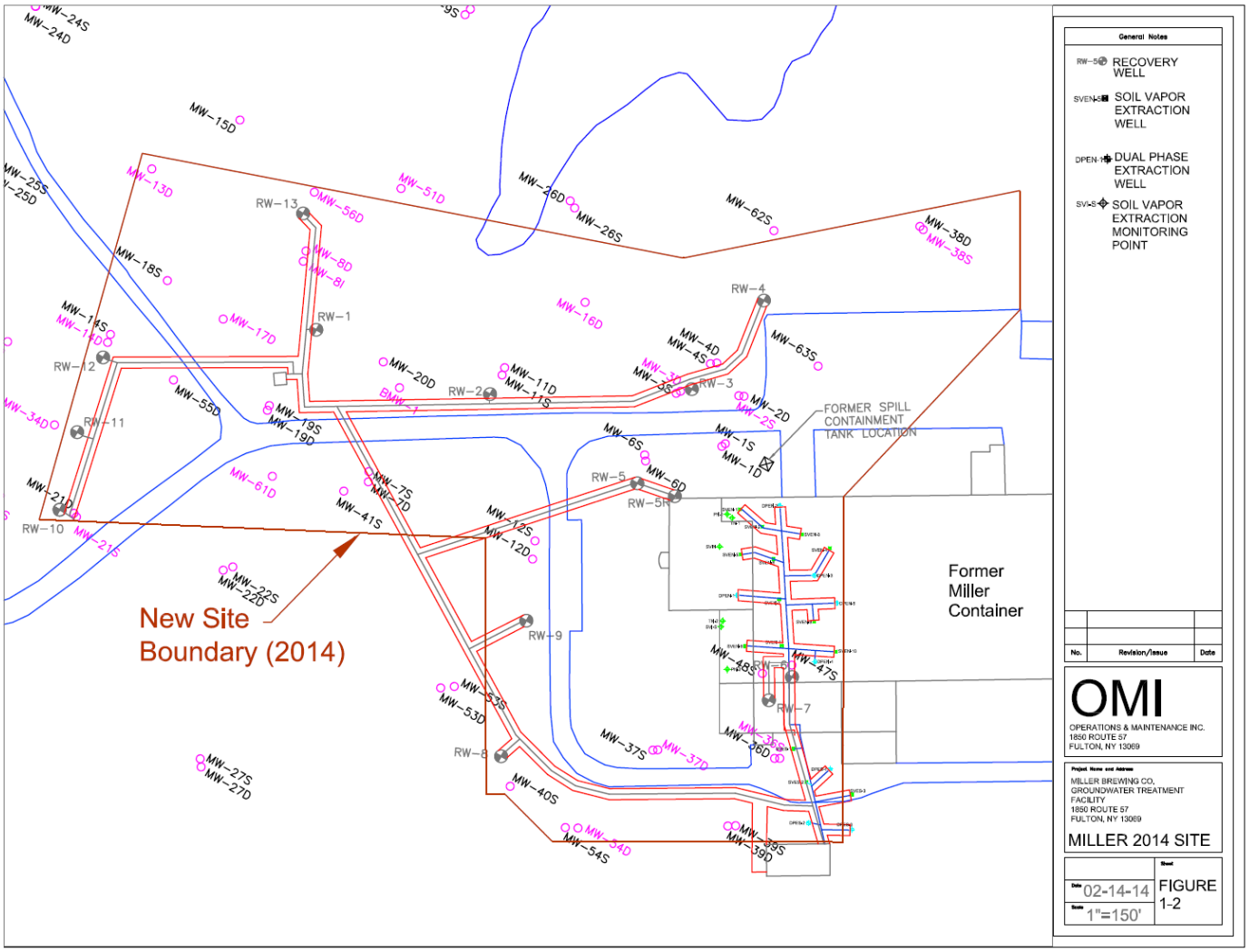

Figure 1-3
Geologic Cross-Section (1992 RI report)

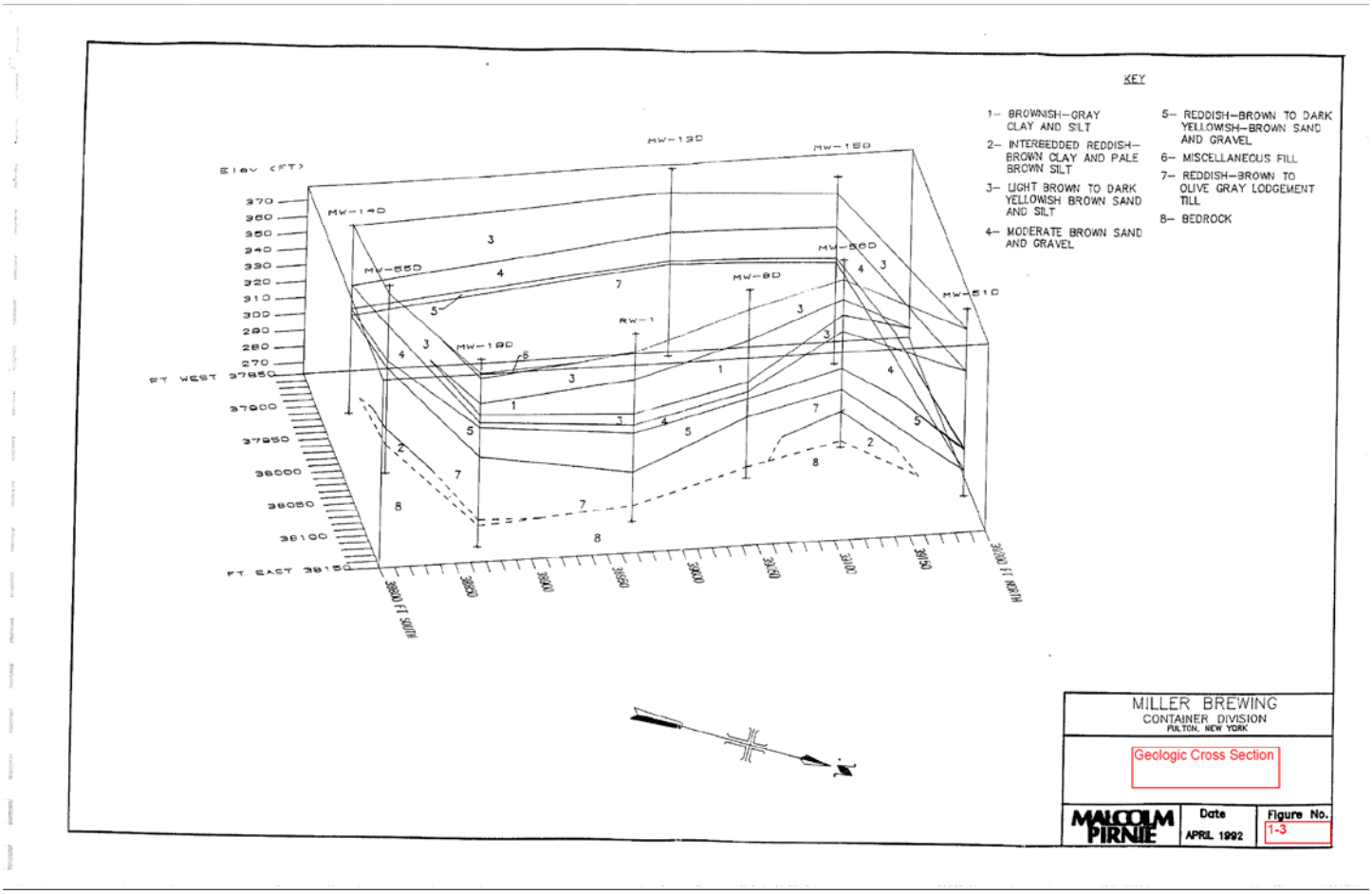

Figure 1-4
Groundwater Flow (2012 Golder Annual Report and 5-year Periodic Review Report)

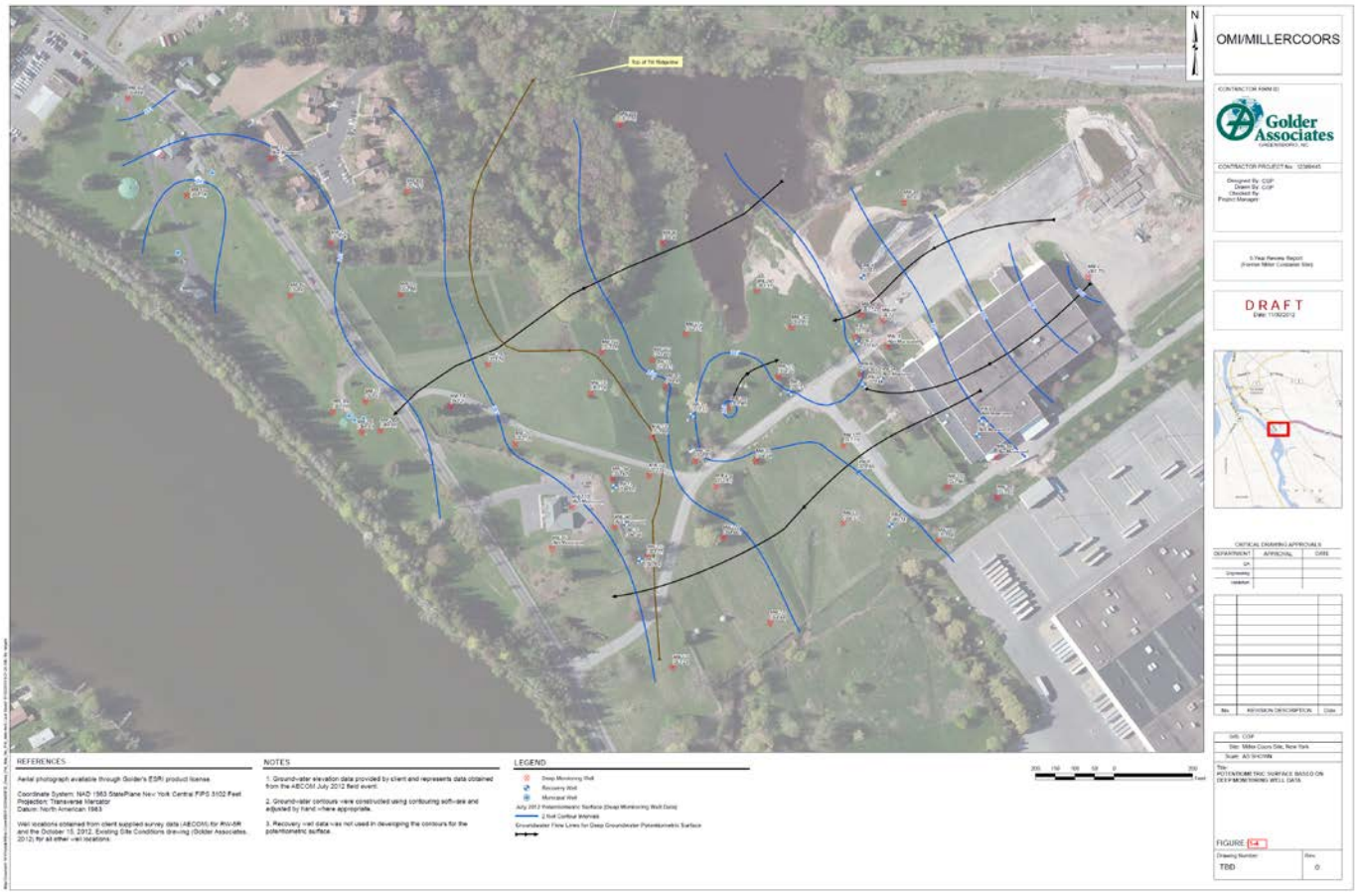

Figure 1-5A
1987 IRM 3-Well Groundwater Recovery System

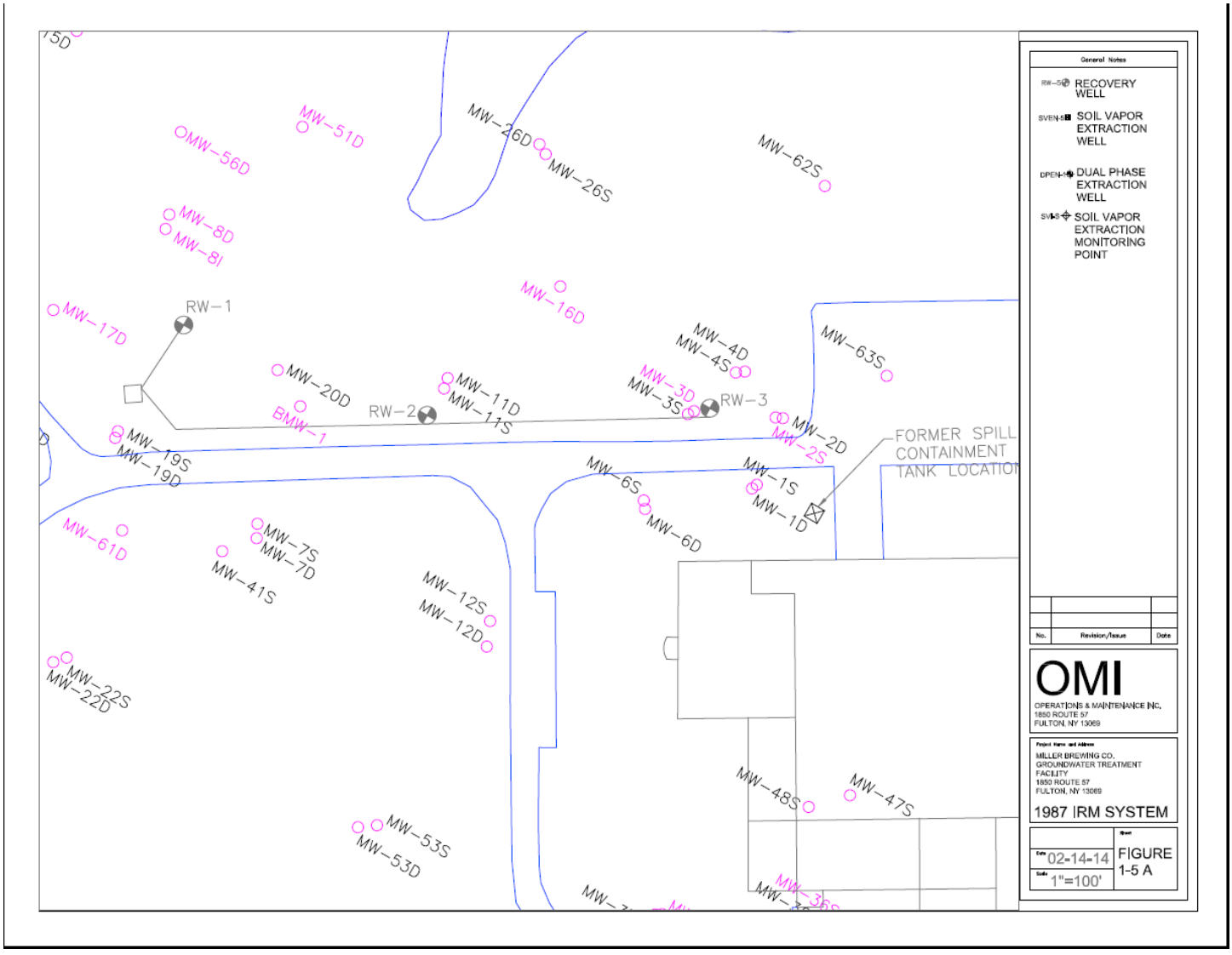

Figure 1-5B
1997 13-Well Groundwater Recovery System

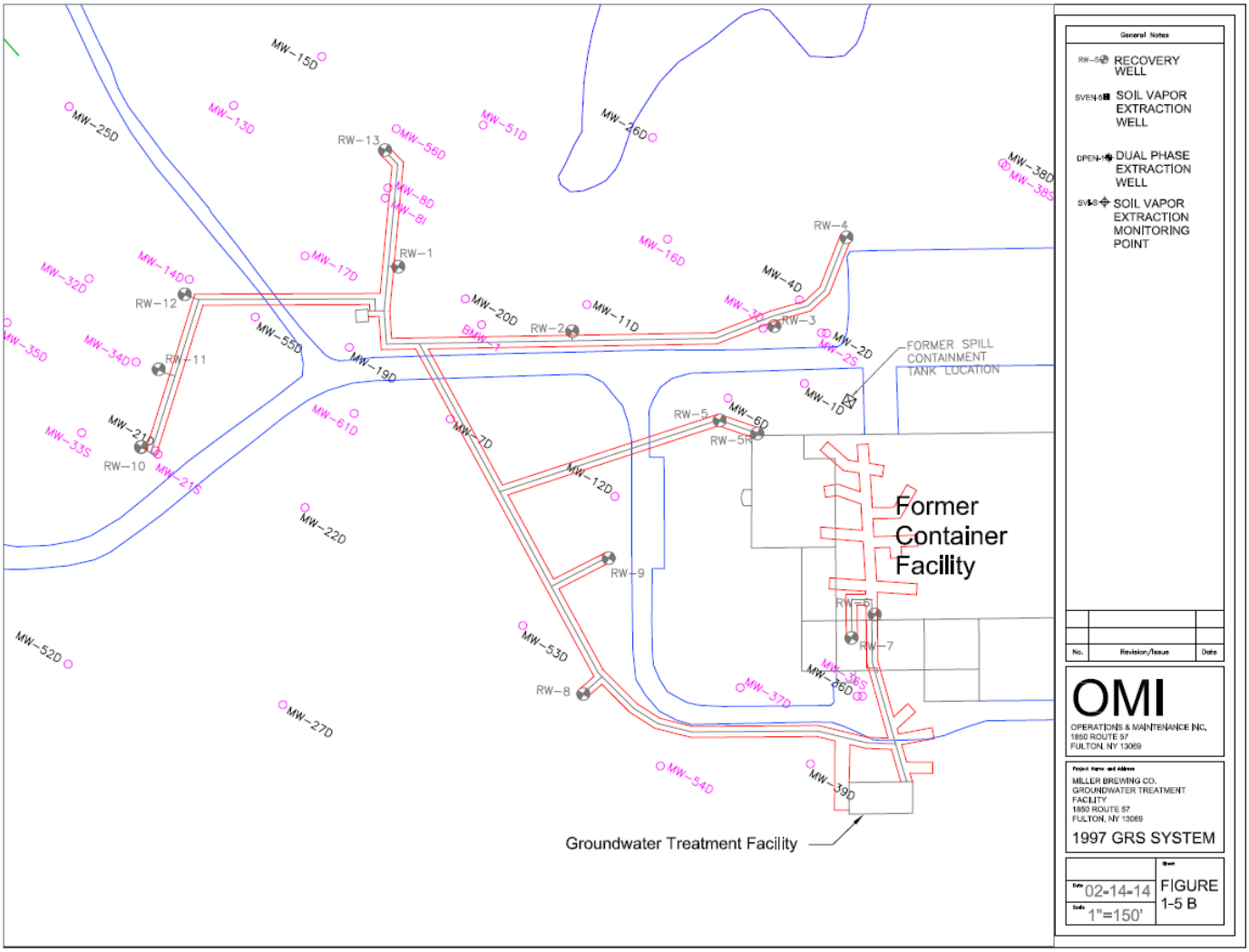

Figure 1-5C
2010 SVE Supplemental Source Remediation

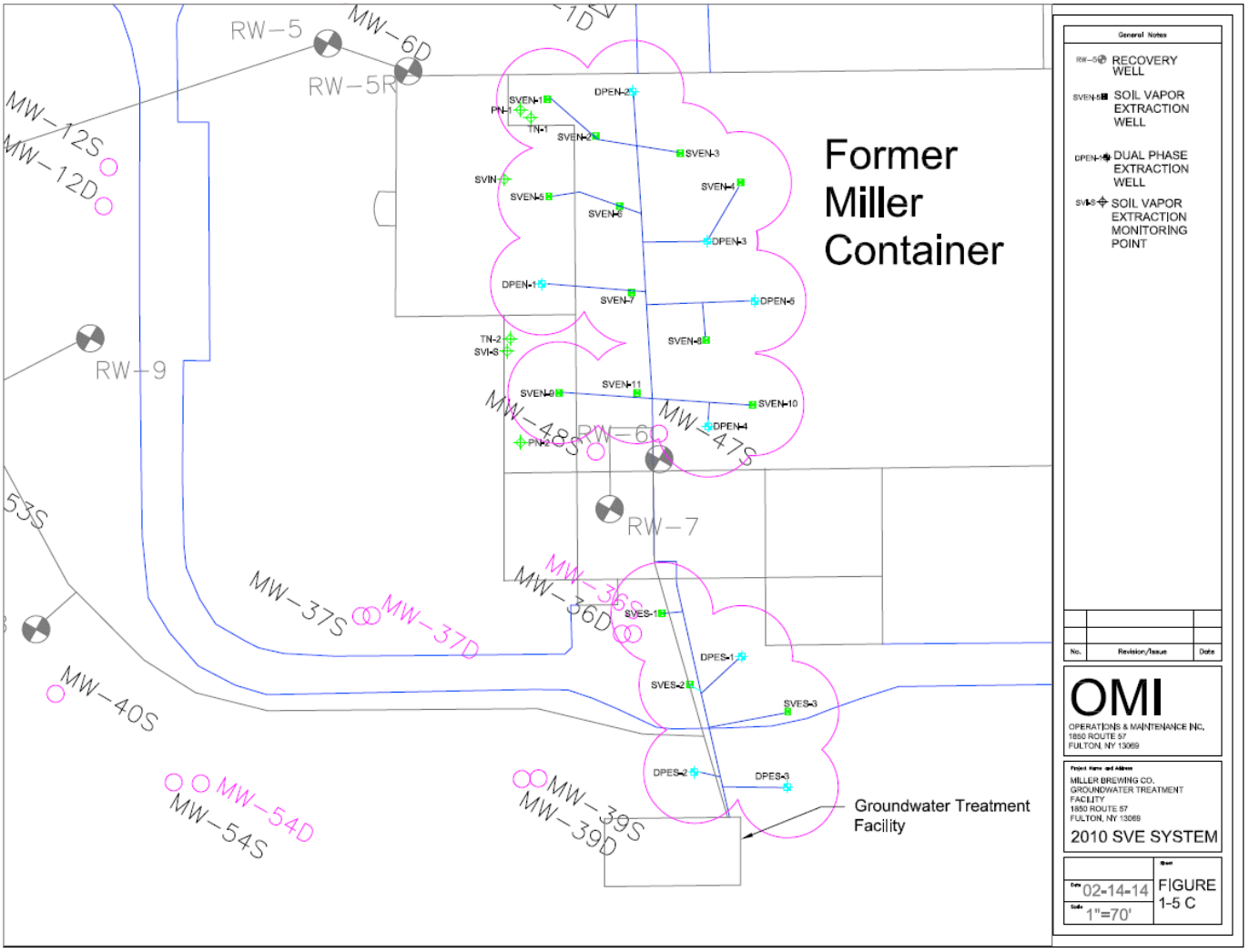

Figure 1-6
Underground Utilities associated with groundwater recovery system

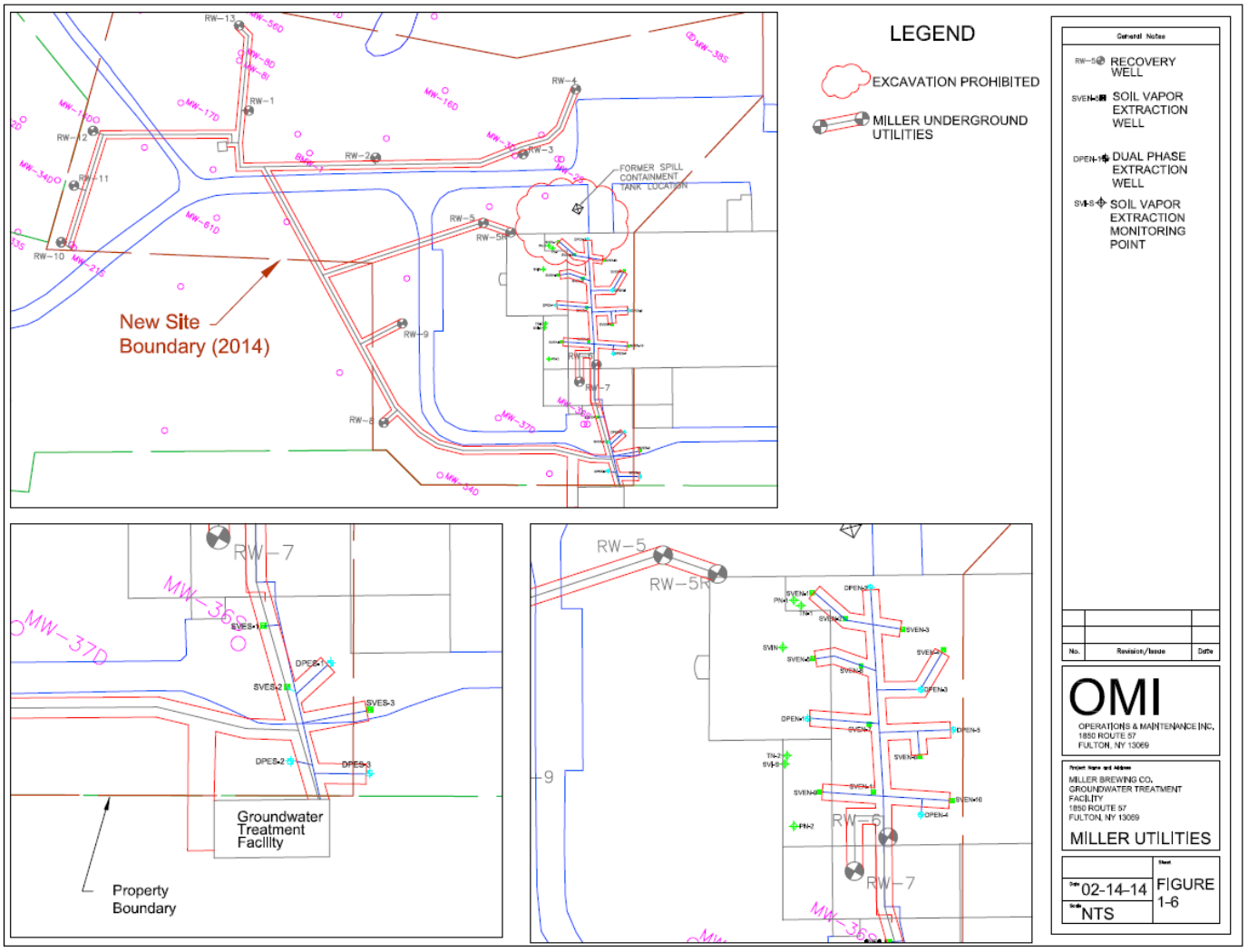

Figure 3-1
Monitoring Well Sampling Network (EWN & Supplemental Wells)