COLORADO
Department of Public Health & Environment

#
Dedicated to protecting and improving the health and environment of the people of Colorado

Institutional Control ID: RSNOT00025

Covenant Information:

Covenant Date 8/19/2016
Last Modified 8/19/2016
Self Reporting ☑

Media of Concern:

- **Surface Water:** ☐
- **Ground Water:** ☑
- **Air:** ☐
- **Soil:** ☑
- **Other:** ☐

Contaminants of Concern:

PCE, TCE, DCE, other volitale hydrocarbons

Site Contact Information:

Owner Corp: Larry and Judi Chavez
Contact Name: Larry and Judi Chavez
Contact Address: PO Box 19211
Contact City: Denver
Contact State: CO
Contact Zip: 80219
Contact Phone: 720-220-8779

Property Restrictions:

1. No groundwater use except as authorized in Materials Management Plan (MMP).
2. No construction of ponds or stormwater basins.
3. No excavation, drilling, grading, digging or other soil disturbing activity unless constructed in accordance with MMP.
4. No residential use.
5. No schools, parks, playgrounds, day care centers that could expose children.

Site Information:

ID: COD981544588
Name: Bubbles Cleaners 031
Address: 2131 South Sheridan Blvd
City: Denver
State: CO
Zip: 80277

Legal Description:

See Institutional Control

BUBBLES CLEANERS 031

RSNOT00025

0 50 100 Meters

COLORADO
Hazardous Materials & Waste Management Division
Department of Public Health & Environment

2016133375
Page: 1 of 26
09/28/2016 12:56 PM R $136.00 D $0.00
City & County of Denver NTC

This property is subject to a Notice of Environmental Use Restrictions imposed by the Colorado Department of Public Health and Environment pursuant to section 25-15-321.5, Colorado Revised Statutes

NOTICE OF ENVIRONMENTAL USE RESTRICTIONS

WHEREAS, Mr. Lawrence T. Chavez and Ms. Judith A. Chavez are the owners of certain property commonly referred to as Bubbles Cleaners, located at 2131 South Sheridan Boulevard, CO, 80227, State of Colorado, more particularly described in Attachment A, attached hereto and incorporated herein by reference as though fully set forth (hereinafter referred to as "the Property"); and

WHEREAS, the Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and the Environment ("the Department"), which is located at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530, is authorized to issue Notices of Environmental Use Restrictions (a/k/a "Restrictive Notices") pursuant to § 25-15-320(4)(a) of the Colorado Hazardous Waste Act, § 25-15-101, *et seq.*, C.R.S. ("CHWA"); and

WHEREAS, for purposes of indexing in the County Clerk and Recorder's office Grantor-Grantee index only, Mr. Lawrence T. Chavez and Ms. Judith A. Chavez shall be considered the **Grantor**, and the Colorado Department of Public Health and Environment shall be considered the **Grantee**. Nothing in the preceding sentence shall be construed to create or transfer any right, title or interest in the Property; and

WHEREAS, pursuant to the Corrective Measures Work Plan, dated May 6, 2013, and Compliance Order 12-05-08-01 the Property is the subject of enforcement and remedial action pursuant to CHWA and related regulations at 6 CCR 1007-3, Part 100; and

WHEREAS, the purpose of this Restrictive Notice is to ensure protection of human health and the environment by limiting exposure to groundwater or potentially impacted soils; and

WHEREAS, contaminants have been delineated to exist within a subset of the Property that will be subject to this Restrictive Notice more particularly described in Attachment B, attached hereto and incorporated herein by reference as though fully set forth (hereinafter referred to as "the Subject Property"); and

WHEREAS, Mr. Lawrence T. Chavez and Ms. Judith A. Chavez has requested that the Department issue this Restrictive Notice as provided in Article 15 of Title 25, Colorado Revised Statutes;

NOW, THEREFORE, the Department issues this Restrictive Notice pursuant to § 25-15-321.5, C.R.S. The Subject Property described in Attachment B shall hereinafter be subject to the following requirements set forth in paragraphs 1 through 12 below, which shall be binding on Mr. Lawrence T. Chavez and Ms. Judith A. Chavez and all persons now or subsequently having any right, title or interest in the Subject Property, or any part thereof, and any persons using the land, as described herein. As used in this Restrictive Notice, the term OWNER means the then current record owner of the Subject Property and, if any, any other person or entity otherwise legally authorized to make decisions regarding the transfer of the Subject Property or placement of encumbrances on the Subject Property, other than by the exercise of eminent domain.

1) Use restrictions.

   a) No groundwater may be withdrawn or used for any purpose, except as authorized in the attached Department-approved Materials Management Plan ("MMP"), attached hereto as Attachment C, or a remedial decision document or environmental sampling plan that has first been reviewed and approved by the Department. The Materials Management Plan and any amendments thereto are on file at the Department's Records Center.

   b) Nothing in the preceding shall prohibit the installation or use of monitoring or remedial wells, as authorized in a remedial decision document or environmental sampling plan approved by the Department.

   c) The construction of unlined ponds or storm water retention basins shall be restricted on the Subject Property. For the purposes of this restriction, a liner may be composed of clay or synthetic materials, as may be appropriate and determined by standard engineering practices. Prior Department review and approval is required for construction of lined ponds or storm water retention basins.

   d) No excavation, drilling, grading, digging, tilling or any other soil-disturbing activity is permitted on the Subject Property unless conducted in accordance with the MMP.

   e) Residential use is prohibited on the Subject Property. The term "residential use" means use of a building or part of a building as a dwelling (i.e., as a place to sleep, eat and bathe). Dwellings include single family homes, apartments, condominiums, manufactured housing, assisted living facilities and nursing homes, but do not include motels, hospitals and other buildings used only for short-term lodging.

   f) Schools, parks, playgrounds, day care centers and other uses that could routinely expose children to residual soil contamination are prohibited on the Subject Property.

2) Operation and Maintenance Requirements: OWNER shall conduct groundwater monitoring on the Subject Property and adjoining property to the north and report

the results to the Department in accordance with the Corrective Measures Work Plan, dated May 6, 2013, as modified by the Department in a correspondence dated July 2, 2013.

3) Modifications. This Restrictive Notice shall remain in full force and effect unless modified or terminated in accordance with this paragraph and pursuant to § 25-15-321.5, C.R.S. or any successor statute. OWNER may request that the Department approve a modification or termination of the Restrictive Notice. The request shall contain information showing that the proposed modification or termination shall, if implemented, ensure protection of human health and the environment. The Department shall review any submitted information, and may request additional information. If the Department determines that the proposal to modify or terminate the Restrictive Notice will ensure protection of human health and the environment, it shall approve the proposal. No modification or termination of this Restrictive Notice shall be effective unless the Department has approved such modification or termination in writing. Information to support a request for modification or termination may include one or more of the following:

   a) a proposal to perform additional remedial work;
   b) new information regarding the risks posed by the residual contamination;
   c) information demonstrating that residual contamination has diminished;
   d) information demonstrating that an engineered feature or structure is no longer necessary;
   e) information demonstrating that the proposed modification would not adversely impact the remedy and is protective of human health and the environment; and
   f) other appropriate supporting information.

4) Conveyances. OWNER shall notify the Department at least fifteen (15) days prior to any conveyance of any interest in any or all of the Subject Property. Thirty (30) days after any conveyance, OWNER shall provide the Department with a copy of the recorded deed transferring any interest in any or all of the Subject Property and provide the name, mailing address and telephone number of the new OWNER. If the entire interest is not conveyed, OWNER shall provide an improvement survey plat that shows the property being conveyed.

5) Notice to Lessees. OWNER agrees to incorporate either in full or by reference the restrictions of this Restrictive Notice in any leases, licenses, or other instruments granting a right to use the Subject Property.

6) Notification for proposed construction and land use. OWNER shall notify the Department simultaneously when submitting any application to a local government for a building permit or change in land use.

7) Inspections. The Department, including its authorized employees, agents, representatives and independent contractors, shall have the right of entry to the Subject Property at reasonable times with prior notice for the purpose of

determining compliance with the terms of this Notice of Environmental Use Restrictions. Nothing in this document shall impair any other authority the Department may otherwise have to enter and inspect the Subject Property.

8) Third Party Beneficiary. The OWNER of the Subject Property is a third party beneficiary with the right to enforce the provisions of this Restrictive Notice as provided in § 25-15-322, C.R.S.

9) No Liability. The Department does not acquire any liability under State law by virtue of issuing this Restrictive Notice.

10) Enforcement. The Department may enforce the terms of this Restrictive Notice pursuant to § 25-15-322, C.R.S. OWNER may file suit in district court to enjoin actual or threatened violations of this Restrictive Notice.

11) Owner's Compliance Certification. OWNER shall execute and return a certification form provided by the Department, on an annual basis, detailing OWNER's compliance, and any lack of compliance, with the terms of this Restrictive Notice.

12) Severability. If any part of this Restrictive Notice shall be decreed to be invalid by any court of competent jurisdiction, all of the other provisions hereof shall not be affected thereby and shall remain in full force and effect.

13) Notices. Any document or communication required under this Restrictive Notice shall be sent or directed to:

Richard Mruz, Jr., REHS
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and the Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
Direct office: (303) 692-3332
Email: richard.mruz@state.co.us

Remainder of Page Intentionally Blank

This Notice of Environmental Use Restrictions is issued by the Colorado Department of Public Health and Environment this 30th day of August, 2016.

By: Gary W. Baughman

Gary Baughman, Hazardous Materials and Waste Management Division

STATE OF COLORADO)
) ss:
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 30 day of AUGUST, 2016 by GARY W. BAUGHMAN on behalf of the Colorado Department of Public Health and Environment.

Claudette M. Ferris
Notary Public

4300 Cherry Creek Dr S
Address
Denver, Co 80246

My commission expires: October 21, 2019

CLAUDETTE M FERRIS
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19874061504
MY COMMISSION EXPIRES OCTOBER 21, 2019

ATTACHMENT "A"
to the
NOTICE OF ENVIRONMENTAL USE RESTRICTIONS

"Property" Description

ATTACHMENT A
PROPERTY DESCRIPTION

That part of Tract 1,
FREDERICS BROTHERS GREEN MEADOWS, more particularly described as follows:
Commencing at the Southeast corner of Tract 1;
Thence Northerly along the East line of said Tract 1, 490 feet to the True Point of Beginning;
Thence on an angle to the left of 90°13'08", 346 feet;
Thence on an angle to the right of 90°13'08", 378.67 feet;
Thence on an angle to the right of 90°00'00", 346.00 feet to a point on the East line of said Tract 1;
Thence on an angle to the right of 90°00'00" and along the East line 377.35 feet more or less to the Point of Beginning,
EXCEPT that portion conveyed to Rosemary Group Property Holdings, LLC in Deed recorded June 2, 1999 at Reception No. 9900096472,
City and County of Denver,
State of Colorado.

ATTACHMENT "B"
to the
NOTICE OF ENVIRONMENTAL USE RESTRICTIONS

"Subject Property" Description

AG Wassenaar

2131 S. Sheridan Blvd

21 April 2016

INPUT	OUTPUT
State Plane, NAD83	UTM, NAD83
0502 - Colorado Central, U.S. Feet	13 - 108W to 102W, Meters
Vertical - NAVD88, U.S. Feet	Vertical - NAVD88, Meters

NW corner

1/6

Northing/Y:	1672186.521	**Northing/Y:**	4392032.634
Easting/X:	3125363.041	**Easting/X:**	495316.534
Elevation/Z:	5474.371	**Elevation/Z:**	1668.592
Convergence:	0 16 51.24597	**Convergence:**	-0 02 05.52565
Scale Factor:	0.999986569	**Scale Factor:**	0.999600270
Combined Factor:	0.999727398	**Combined Factor:**	0.999341200

Grid Shift (m.): X/Easting = -457296.0, Y/Northing = 3882349.2

SW corner

2/6

Northing/Y:	1671818.929	**Northing/Y:**	4391920.634
Easting/X:	3125364.438	**Easting/X:**	495316.343
Elevation/Z:	5482.301	**Elevation/Z:**	1671.009
Convergence:	0 16 51.24270	**Convergence:**	-0 02 05.52629
Scale Factor:	0.999986391	**Scale Factor:**	0.999600270
Combined Factor:	0.999726842	**Combined Factor:**	0.999340820

Grid Shift (m.): X/Easting = -457296.6, Y/Northing = 3882349.2

NE corner

3/6

Northing/Y:	1672188.2059	**Northing/Y:**	4392032.820
Easting/X:	3125557.9572	**Easting/X:**	495375.924
Elevation/Z:	5474.11	**Elevation/Z:**	1668.512
Convergence:	0 16 52.81831	**Convergence:**	-0 02 03.93391
Scale Factor:	0.999986569	**Scale Factor:**	0.999600263
Combined Factor:	0.999727412	**Combined Factor:**	0.999341206

Grid Shift (m.): X/Easting = -457296.0, Y/Northing = 3882348.8

Center East corner

4/6

Northing/Y:	1672036.1413	**Northing/Y:**	4391986.493
Easting/X:	3125555.7935	**Easting/X:**	495375.009
Elevation/Z:	5478.08	**Elevation/Z:**	1669.722
Convergence:	0 16 52.79484	**Convergence:**	-0 02 03.95658
Scale Factor:	0.999986496	**Scale Factor:**	0.999600263
Combined Factor:	0.999727148	**Combined Factor:**	0.999341016

Grid Shift (m.): X/Easting = -457296.3, Y/Northing = 3882348.9

Remark:

AG Wassenaar

2131 S. Sheridan Blvd

21 April 2016

INPUT	OUTPUT
State Plane, NAD83	UTM, NAD83
0502 - Colorado Central, U.S. Feet	13 - 108W to 102W, Meters
Vertical - NAVD88, U.S. Feet	Vertical - NAVD88, Meters

Center West corner

5/6

Northing/Y:	1672036.1026	**Northing/Y:**	4391986.601
Easting/X:	3125484.0057	**Easting/X:**	495353.137
Elevation/Z:	5478.36	**Elevation/Z:**	1669.807
Convergence:	0 16 52.21577	**Convergence:**	-0 02 04.54280
Scale Factor:	0.999986496	**Scale Factor:**	0.999600266
Combined Factor:	0.999727135	**Combined Factor:**	0.999341005

Grid Shift (m.): X/Easting = -457296.3, Y/Northing = 3882349.0

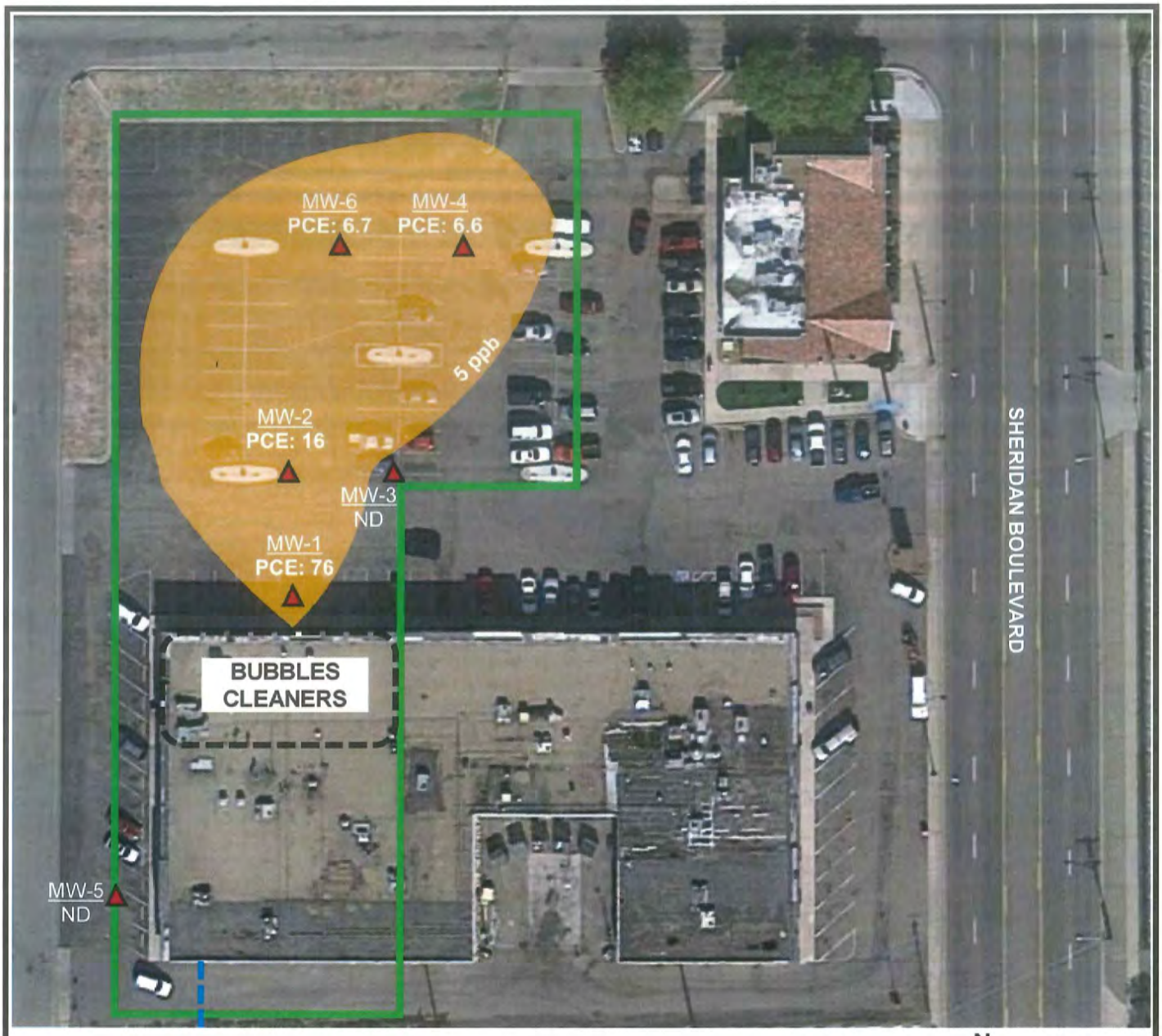
SE corner

6/6

Northing/Y:	1671822.3320	**Northing/Y:**	4391921.470
Easting/X:	3125484.3087	**Easting/X:**	495352.870
Elevation/Z:	5472.85	**Elevation/Z:**	1668.128
Convergence:	0 16 52.20975	**Convergence:**	-0 02 04.54735
Scale Factor:	0.999986393	**Scale Factor:**	0.999600266
Combined Factor:	0.999727295	**Combined Factor:**	0.999341268

Grid Shift (m.): X/Easting = -457296.7, Y/Northing = 3882349.0

Remark:



LEGEND

- ▲ - MONITORING WELL
- ▭ - INSTITUTIONAL CONTROL BOUNDARIES
- ▭ - BUBBLES UNIT
- ┃ - SEWER LINE

PCE - TETRACHLOROETHYLENE

ND - NO VOCs DETECTED

NOTE: VALUES ARE IN MICROGRAMS PER LITER (µg/l).

ALL LOCATIONS ARE APPROXIMATE. VALUES IN BOLD FONT ARE GREATER THAN THEIR CDPHE STANDARD.

N

0 48 96

APPROXIMATE SCALE IN FEET

A.G. WASSENAAR INC.
GEOTECHNICAL · ENVIRONMENTAL CONSULTANTS

BUBBLES CLEANERS SITE
2131 SOUTH SHERIDAN BOULEVARD
DENVER, COLORADO

FIGURE 2
INSTITUTIONAL CONTROL BOUNDARIES

PROJECT: 154055.EC

ATTACHMENT "C"
to the
NOTICE OF ENVIRONMENTAL USE RESTRICTIONS

"Materials Management Plan"

July 14, 2016

Materials Management Plan
2131 South Sheridan Boulevard
Denver, Colorado

AGW Project Number 154055.EC

Bubbles Cleaners
2131 South Sheridan Boulevard
Denver, Colorado 80227

A.G. WASSENAAR INC.
GEOTECHNICAL • ENVIRONMENTAL CONSULTANTS

2180 South Ivanhoe Street, Suite 5
Denver, Colorado 80222
www.agwassenaar.com
(303) 759-8373

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FIGURE 2. INSTITUIONAL CONTROL BOUNDARIES

ATTACHMENTS

ATTACHMENT A. SITE DIAGRAMS

1.0 INTRODUCTION AND PURPOSE

This Materials Management Plan (MMP) has been prepared by A.G. Wassenaar, Inc. (AGW) on behalf of Judith and Lawrence Chavez (the Owners). This MMP accompanies an Institutional Control filed by the Owners with the County Clerk of Denver, Colorado, as part of the Environmental Covenant held by the Colorado Department of Public Health and Environment (CDPHE) for the Bubbles Dry Cleaners facility (Site), located at 2131 South Sheridan Boulevard in Denver, Colorado. The United States Environmental Protection Agency identification number for this site is COD981544588.

This MMP discusses materials management, handling, segregation, and disposal requirements for soil and groundwater that have been potentially impacted by the historical release of dry-cleaning solvents at the Site. This MMP is applicable for any excavation that disturbs soil, or any activity which causes groundwater beneath the Site to be encountered within the restricted-use area, also known as the Environmental Covenant (EC) boundaries, defined in Section 4.0 and illustrated in Figure 1 in Attachment A. This MMP addresses the requirement for specifically managing groundwater encountered during any future intrusive activities within the EC boundaries. This MMP does not cover contaminants other than those related to dry cleaning solvents tetrachloroethylene (PCE) and its daughter products, should they be released or discovered at the Site, nor is it intended to satisfy any legal requirements regarding any other releases of contaminants at the Site.

This Plan shall be implemented by anyone, including but not limited to utility companies or private contractors, conducting soil disturbing activities within the restricted-use area/Environmental Covenant boundaries. This Plan shall also be implemented by any owner, lessee, or licensee of 2131 South Sheridan Boulevard, Denver, Colorado who will undertake any of the above activities.

2.0 POTENTIAL CONTAMINANTS THAT MAY BE ENCOUNTERED

The Site historically and currently operates as a dry-cleaner, which typically utilizes dry-cleaning fluids that contain regulated compounds such as PCE. The breakdown, or daughter products, of PCE (trichloroethylene (TCE) and Cis-1,2 dichloroethylene (DCE)) may also be encountered. Vinyl chloride (VC) is included in this list but has not been detected at the Site as of the date of this Plan.

2.1 Solvent-Contaminated Groundwater

A Compliance Order was issued for the Site by the Division due to the presence of PCE and daughter products in groundwater. December 2015 groundwater sampling conducted by AGW revealed concentrations of PCE, TCE, and DCE in four of the six monitoring wells onsite.

2.2 Solvent-Contaminated Soil

Due to the known presence of PCE and daughter products in the groundwater at the Site, it is possible that solvent-contaminated soils may be encountered beneath the footprint of the building during any excavation or soil-disturbing activity and within the EC boundaries or Soil Management Area (SMA), detailed in section 4.0. While there are currently no intended developments or sales for the Site, this

MMP provides procedures for the characterization, management, and disposal of solvent-contaminated soils in section 6.0.

3.0 SITE DESCRIPTION AND LOCATION

3.1 Location and Legal Description

Bubbles Cleaners is located at 2131 South Sheridan Boulevard in Denver, Colorado. The subject property can generally be described as a portion of the northeast quarter and the southeast quarter of Section 23; Township 4 South; Range 69 West of the Sixth Principal Meridian. Physical setting information for the site is described in Table 1, below, and Figure 1 in Attachment A of this report depicts the general location of the subject property.

Table 1: Property and Owner Information

Property Name	Property Owners	Address/Location	Township, Section, Range
Bubbles Cleaners	Judith and Larry Chavez	2131 South Sheridan Boulevard, Denver, Colorado 80227	SENE S25 T4S R69W

3.2 Site Background

The property has been occupied by a dry-cleaning shop since 1972. On May 6, 2013, a Corrective Measures Work Plan (CWMP) for Bubbles Cleaners was submitted to the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) on behalf of the Owners, in response to Compliance Order Number 12-05-08-01.

The Compliance Order was issued by the Division due to the presence of regulated compounds in groundwater at the Site, including PCE and TCE. The CWMP was written, compiled, and submitted by Corn & Associates, Environmental Management (Corn & Associates). On July 2, 2013, the Division approved the CWMP. No site monitoring or reporting took place between July 2013 and November 2015.

The submitted CWMP proposed monitored natural attenuation as the remedial method for the PCE and TCE contamination, which included semiannual groundwater sampling and analysis of volatile organic compounds (VOCs), nitrate, iron (II), sulfate, methane, total organic carbon, and dissolved hydrogen. On December 8, 2015 AGW requested modification of the CWMP to require testing of only VOCs, in an effort to reduce costs and facilitate compliance. The Division approved the modification as the VOC data identifies the contaminants PCE and the degradation (daughter) products associated with the natural reduction of PCE. After review of a submitted water well search of all wells within a ½-mile radius downgradient of the Site, the Division determined the PCE standard at the Site to be 17 micrograms per liter (µg/L). Groundwater sampling of the six onsite monitoring wells and the Bear Valley Veterinary basement sump was conducted by AGW in December 2015.

The Division responded to the CMWP by requesting owners to file an Institutional Control for the Site, accompanied by this MMP, and continued semiannual groundwater monitoring until the corrective process is terminated.

4.0 SOIL MANAGEMENT AREA

In a letter to the Division dated April 21, 2016, AGW proposed new boundaries of the Environmental Covenant to be placed on the property, thereby limiting the extent of the application of the Institutional Control. AGW retained Contract Surveyors of Denver, Colorado, to delineate the boundaries in a computerized format that is compatible with the CDPHE database. Figure 2 in Attachment A depicts the approved covenant boundaries, also known as the Soil Management Area (SMA).

5.0 WASTE CHARACTERIZATION, MANAGEMENT, AND DISPOSAL

5.1 Characterization, Management, and Disposal of Contaminated Groundwater

The Institutional Control states that "no groundwater may be withdrawn or used for any purpose, except as authorized in a remedial decision document or environmental sampling plan that has first been reviewed and approved by the Department." It is not anticipated that direct removal of groundwater will occur within the EC boundaries except for approved semiannual groundwater sampling. However, any groundwater removed from within the EC boundaries will be managed and disposed of in the same manner as purge water generated during sampling procedures. Groundwater shall be containerized. Additionally, any work to be performed other than the approved semiannual groundwater sampling that involves extraction of groundwater must have a work plan submitted to and approved by the CDPHE prior to commencing.

The characterization of the groundwater within the EC boundaries is known from historical analytical data acquired by Corn & Associates, as well as from the December 2015 sampling conducted by AGW. Table 2, below, presents the historical and current contaminant concentrations.

Table 2:
Bubbles Cleaners, Historical and Current Groundwater VOC Concentrations

Sample Location	Date	Tetrachloroethylene (µg/l)	Trichloroethylene (µg/l)	Cis-1,2 - Dichloroethylene (µg/l)
MW-1	1/26/2012	**146**	ND	ND
	8/3/2012	**131**	ND	ND
	12/30/2015	**76**	ND	ND
MW-2	1/27/2012	**25.6**	ND	ND
	8/3/2012	**20**	ND	ND
	12/30/2015	**16**	ND	ND
MW-3	1/27/2012	ND	ND	ND
	8/3/2012	ND	ND	ND
	12/30/2015	ND	ND	ND
MW-4	1/26/2012	**5.98**	4.63	5.02
	8/3/2012	**7.86**	**6.34**	5.21
	12/30/2015	**6.6**	**7.7**	6.4
MW-5	1/26/2012	ND	ND	ND
	8/3/2012	ND	ND	ND
	12/30/2015	ND	ND	ND

Sample Location	Date	Tetrachloroethylene (µg/l)	Trichloroethylene (µg/l)	Cis-1,2 - Dichloroethylene (µg/l)
MW-6	8/3/2012	**11.2**	1.12	1.27
	12/30/2015	**6.7**	**8.9**	2.1
Bear Valley	1/5/2013	2.76	4.25	ND
	12/30/2015	**17**	4.6	2.9
CDPHE Standard	-	17	5	70

Legend:
Note: Only detected VOCs are listed.
* µg/l: Micrograms/liter (parts per billion)
** Standards established by the CDPHE, Water Quality Control Commission, Basic Standards for Groundwater, Amended January 31, 2013.
ND = None detected
Note: Concentrations in **BOLD** exceed Colorado Regulatory Standard.

Because contaminant concentrations are known to exceed the CDPHE's Basic Standards for Groundwater, and chlorinated solvents such as PCE are listed hazardous wastes, all water extracted during sampling or any other activity within the EC boundaries will be containerized on the same day of extraction in a water-tight steel drum, labeled, and stored in a secured area. A trained and licensed waste-handling contactor, will remove the drum and transport it to an approved disposal or treatment facility. Water removed from possible soil-disturbing areas must also be containerized and managed as contaminated water until analytical results from future sampling confirms regulated compounds (PCE and daughter products) are below applicable standards. Characterization of containerized water will consist of sampling for PCE and daughter products by EPA Method 8260. One sample per container will suffice. Appropriate permits and approvals must be obtained for any dewatering, discharge, or disposal of water generated by such activities.

5.2 Characterization, Management, and Disposal of Contaminated Soil

There are currently no constructions, developments, or sales intended for the Site. Future soil-disturbing activities within the EC boundaries may include, amongst other activities, utility repair or installation, foundation repair, or parking lot repair. Any of these activities may generate soil and groundwater waste. Any generated groundwater waste within the EC boundaries must be treated as contaminated waste and be managed and disposed of as outlined in section 5.1. No excavation, drilling, grading, digging, tilling or any other soil-disturbing activity is permitted within the EC boundaries unless conducted in accordance with the Department-approved MMP.

This MMP is applicable only for soil removal activities conducted within the EC boundaries / SMA. Any volume of soil that is disturbed within the SMA must be managed, characterized, and classified in accordance with the procedures outlined below.

There is currently no existing soil characterization for this Site. All soil that may be excavated from locations within the EC boundaries must be properly managed and characterized prior to any decision to return the soil to the original excavation and/or disposed of. The procedures used to ensure proper handling of soil are as follows:

1. All work within the EC boundaries involving soil-disturbance must have a work plan submitted to and approved by the CDPHE prior to beginning the work. The work plan must call for the presence of an environmental professional to be onsite during the work for soil field screening and sampling, detail on operations and schedule.
2. Once the work plan is approved, any generated soil that may be excavated will be stored temporarily in a secured area in appropriately sized, lined, and covered containers.
3. For soil disturbed within the EC boundaries, a representative sample of the soil will be collected by the onsite environmental professional and analyzed for VOCs using EPA Method SW846-8260B. Additionally, the soil can be screened onsite using a Photoionization Detector (PID) and examined for evidence of staining and odors. The work plan shall include the detail to which the material is sampled, screened and managed.
4. If the analytical results show that contaminant concentrations are all below both the residential soil concentration listed in the most current EPA Regional Screening Levels (RSL) table and groundwater protection level listed in the most current version of the Colorado Groundwater Protection Values (GPV) table, that soil may be managed as "clean" fill for either use onsite or disposal at a local licensed solid waste landfill.
5. If the analytical results show that contaminant concentrations are above either the residential soil concentrations in the RSL table or groundwater protection levels listed in the most current version of GPV table, the Site owner will provide the CDPHE with a copy of those test results, a description of the activity that generated the soil and its volume. The CDPHE will review the information provided and decide whether the measured contaminant concentrations dictate that the soil be managed as a solid waste or a hazardous waste and how it must be disposed of.

6.0 REPORTING AND DOCUMENTATION

If this MMP is implemented and conducted under AGW supervision, it will be reported to the State within a semi-annual report, or, will be under separate cover, maintained and retained by property owner, and include, at a minimum the following:

- Project procedures, requirements, and specifications;
- Sampling collection log/chain of custody;
- Analytical results;
- Field activity logs/testing data and results;
- Health and safety records;
- Excavation and redistribution records;
- Documentation of soil moving into and out of the SMA; and
- Documentation of soil disposal.

7.0 ADDITIONAL MANAGEMENT ITEMS

7.1 Health and Safety Plan

In accordance with OSHA regulation, a Site-specific Health and Safety Plan (HASP) must be developed prior to initiating intrusive activities that may encounter groundwater or contaminated soil within the EC boundaries. Site personnel must be provided with a copy of the HASP for review and must be required to sign a form stating that they are aware of, and agree to, the requirements of the HASP. In addition, all Site personnel must be made aware of potential hazards present at the Site and potential risks

associated with those hazards. Any excavation activity within the EC boundaries must be overseen by a Health and Safety Officer (HSO) and Environmental Professional. In addition, appropriate monitoring equipment and personal protective equipment (PPE) must be employed to provide a safe working environment.

7.2 Decontamination

The Site-specific HASP must be followed. PPE that is reused by personnel shall be decontaminated to meet a visual standard. Such personnel must be trained to use PPE. Disposable PPE, such as coveralls and gloves, shall be placed in appropriate containers and labeled and disposed of as solid waste.

Removing contaminants from equipment which must be reused minimizes the likelihood of sample cross contamination. It also minimizes the transfer of contaminants to clean areas and prevents the mixing of incompatible substances. Gross contamination can be removed by physical decontamination procedures (i.e. scraping). Purified water, detergent solutions, and appropriate degreasers (i.e. isopropyl alcohol) may then be used to remove trace amounts of contaminants which may still remain on the equipment.

A suggested method is to set up a decontamination line that consists of three to four stations where washing or rinsing of the sampling equipment is performed. These stations typically consist of buckets containing detergent wash or rinse water. The first station is used to remove most of the contamination. Subsequent stations are utilized to remove traces of wash water or contaminants.

After any contaminants are physically removed by scraping or brushing the sampling equipment, the equipment should be submerged in a detergent (nonphosphate) and tap water wash, contained in the first bucket, and scrubbed with a brush, to remove any remaining visible particulate matter to be followed by successive rinses.

Decontamination solutions, rinses, and solid wastes must be collected and properly disposed of according to the characteristics of the contaminants. Sample collection and analysis of decontamination waste may be required before beginning proper disposal of decontamination liquids and solids generated at a site. This should be determined prior to initiation of sampling activities if possible and detail must be provided in the work plan discussed in Section 5.2 of this MMP.

7.3 Training Requirements

Training requirements for personnel involved in contaminated materials management shall comply with the Occupation Safety and Health Administration (OSHA) regulation (29 CFR 1910,120). All PPE that is planned for reuse shall be inspected for potential problems or defects.

Any subsurface disturbance that exposes groundwater within the EC boundaries must be overseen by an environmental professional who verifies that the requirements of this plan are adhered to. The environmental professional must have the applicable and necessary field experience in identification of contaminated groundwater or soil, handling and disposal, including experience with chemical-related health and safety. Additionally, the environmental professional must have a knowledge of applicable federal, state, and local regulations. The environmental professional must be on site during all subsurface disturbance activities that may encounter groundwater within the EC boundaries.

The Colorado Solid Waste Regulation 6 Code of Colorado Regulations (CCR) 1007-2 and OSHA Standard 29 Code of Federal Regulations (CFR) 1926.1101 outline training requirements and worker protection standards for activities that involve waste materials.

8.0 LIMITATIONS

This Materials Management Plan has been prepared to address only known conditions at the Site at the time of publication, specifically, the MMP addresses contamination from a release of dry cleaning solvents consisting of PCE and its daughter products.

AGW makes no representations or warranties as to Site conditions and assumes no liability for future use of this document

Thank you for your review of this report. If you have any questions or require further information, please call us at (303) 759-8373.

Sincerely,
A. G. WASSENAAR, INC.

Brian J. Glade, P.E.
Vice President

Devin Hazelwood E.I.T.
Environmental Engineer

DEH/BJG/dd
Attachments

ATTACHMENT A

SITE DIAGRAMS

LEGEND

- ▲ - MONITORING WELL
- ▭ - BUBBLES UNIT
- ┆ - SEWER LINE

PCE - TETRACHLOROETHYLENE

ND - NO VOCs DETECTED

NOTE: VALUES ARE IN MICROGRAMS PER LITER (µg/l).

ALL LOCATIONS ARE APPROXIMATE. VALUES IN BOLD FONT ARE GREATER THAN THEIR CDPHE STANDARD.

N

0 48 96

APPROXIMATE SCALE IN FEET

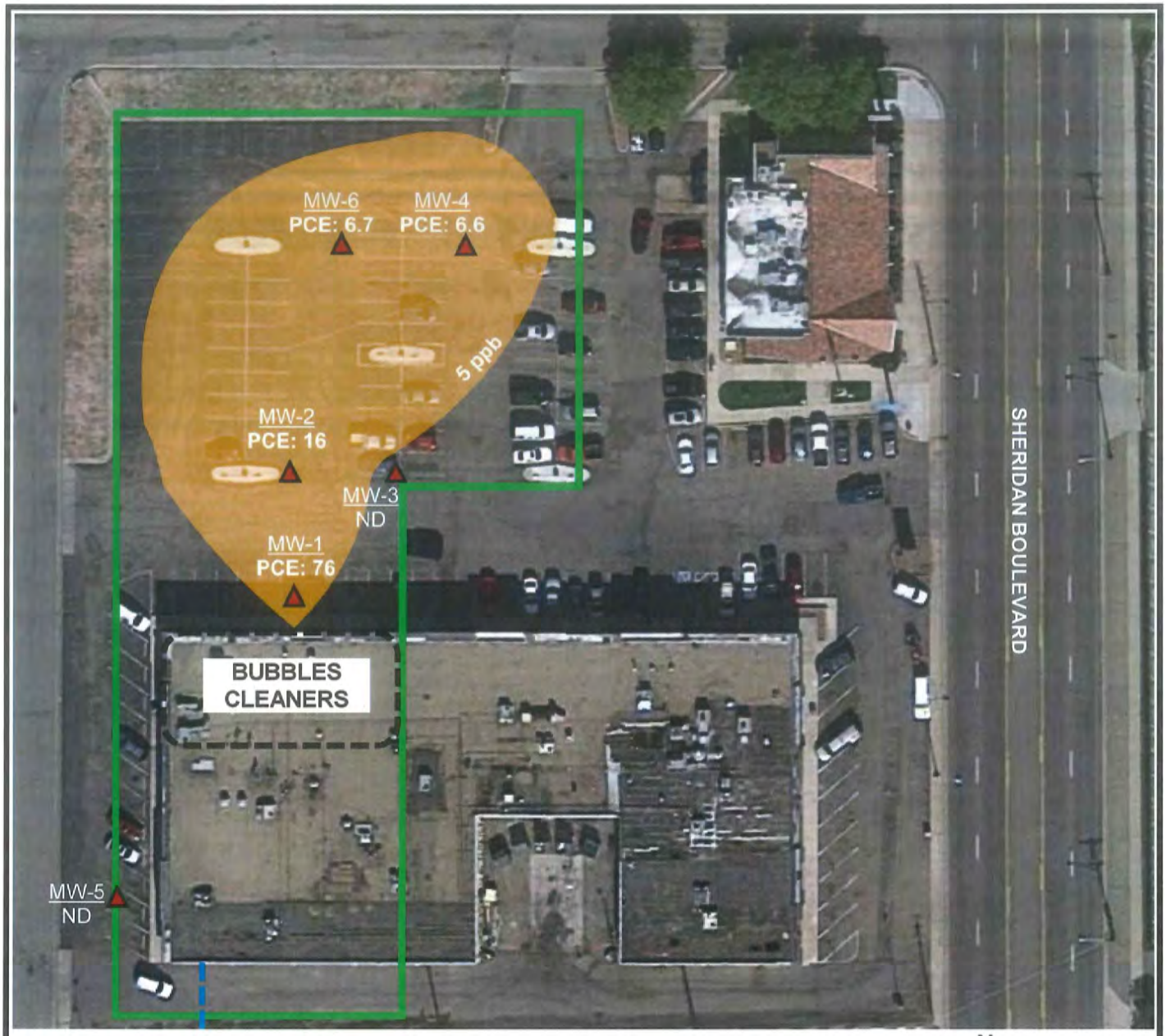
A.G. WASSENAAR INC.
GEOTECHNICAL · ENVIRONMENTAL CONSULTANTS

BUBBLES CLEANERS SITE
2131 SOUTH SHERIDAN BOULEVARD
DENVER, COLORADO

FIGURE 1

SITE DIAGRAM AND FEATURES

PROJECT: 154055.EC



LEGEND

- ▲ - MONITORING WELL
- ▭ - INSTITUTIONAL CONTROL BOUNDARIES
- ▭ - BUBBLES UNIT
- ┃ - SEWER LINE

PCE - TETRACHLOROETHYLENE

ND - NO VOCs DETECTED

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FIGURE 2
INSTITUTIONAL CONTROL BOUNDARIES

PROJECT: 154055.EC

ATTACHMENT B

REFERENCES

REFERENCES

Pinyon, 2013. Materials Management Plan, Broomfield Plaza Cleaners, 5157 West 120th Avenue, Broomfield, Colorado.

CDHPE, 2013. The Basic Standards for Groundwater, 5CCR 1002-41, Regulation No. 41, prepared by the Colorado Department of Public Health and Environment, Water Quality Control Commission, Amended September 1, 2012, Effective January 31, 2013.