

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRAInfo Code (CA725)  
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**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**

**RCRA Corrective Action  
Environmental Indicator (EI) RCRAInfo code (CA725)  
Current Human Exposures Under Control**

**Facility Name:** AGFA Corporation  
**Facility Address:** Route 25A and Randall Road, Shoreham, NY  
**Facility EPA ID #:** NYD002044139

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

If data are not available skip to #6 and enter "IN" (more information needed) status code.

**Background**

The AGFA site, also known as the Peerless Photo site, is located on approximately 16.2 acres in the Village of Shoreham, Suffolk County. The site is bounded to the south by NYS Route 25A, to the west by Randall Road, to the north by a Long Island Power Authority (LIPA) right-of-way (containing high-voltage lines) and residential properties, and to the east by Tesla Street and residential properties. The site is located in a predominantly residential area. (Figure 1)

The site was originally developed in 1903 when Nikola Tesla constructed a building that served as a residence and a laboratory. Mr. Tesla also constructed a radio tower on the site which was demolished in 1917 - 1918. The octagonal base of the tower formed a pit. The foundation of the former radio tower is called the Tesla Tower Base. The structure was the base of a tall tower that once existed on the property, and is approximately 90 ft in diameter and 120 feet deep. The New York State Office of Parks Recreation and Historic Preservation has concluded that the Tesla Laboratory building and the Tesla Tower Base met the criteria for inclusion in the New York State and National Register of Historic Places. (Figure 2)

Peerless Photo Products Inc. began operations at the site in 1939. In 1969, Agfa-Gaevert, Inc. purchased Peerless Photo Products. From 1939 to 1979, Peerless Photo Products disposed of untreated process water into 800 foot long by 25 foot wide recharge basins, referred as the North Recharge Basins. The process water contained the metals such as silver, cadmium, lead and other compounds. In 1979, an industrial wastewater treatment plant was constructed and a State Pollution Discharge Elimination System (SPDES) permit was issued to discharge treated effluent into the North Recharge Basins. The process water discharges ceased in 1987 as manufacturing activities at the site were discontinued. Chemical processing equipment at the plant was then either cleaned or removed from the site.

The Tesla Tower Base may have been used until 1973 for the disposal of unknown materials. The area inside the foundation walls is now level and vegetated.

The site is currently vacant. The entire site is enclosed by a 6-ft high chain-link fence. Agfa contractors visit the site several times per week for maintenance purposes. Current land use of the site is industrial, although both residential and nonresidential use is possible in the future.

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**<sup>1</sup> above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	YES	NO	?	Rationale/Key Contaminants
Groundwater	X			Cadmium, Silver
Air (indoors) <sup>2</sup>		X		
Surface Soil (e.g., <2 ft)		X		
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., >2 ft)	X			Cadmium, Silver
Air (outdoors)		X		

\_\_\_\_\_ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not known or reasonably expected to be exceeded.

  **X**   If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

\_\_\_\_\_ If unknown (for any media) - skip to #6 and enter "IN" status code.

**Rationale and Reference(s):**

Between 1980 and 1990, several environmental investigations were conducted at the site which involved soil and groundwater sampling and analysis. The results of these investigations showed that soils in the North Recharge Basins, Tesla Tower Base and other area of potential concerns (APCs) were impacted with metals such as cadmium and silver at concentrations above the background concentrations typical of soil in the eastern United States.

<sup>1</sup>"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

<sup>2</sup>Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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A comprehensive site investigation was conducted by Agfa Corporation under the NYSDEC oversight between September 30, 1993 and June 2003. The investigation included the sampling of surface and sub-surface soils, and groundwater. The soils in several areas of the site were found to be contaminated with metals, most notably cadmium and silver. During the investigation, a total of 13 APCs and groundwater were investigated. Metals were detected in some of the APCs. 5 of the APCs were found to require remediation.

Groundwater samples were collected on eight occasions from on-site and off-site monitoring wells between 1994 and 2002. The extent to which cadmium was consistently present in groundwater at concentrations exceeding the applicable standards appeared to be restricted to a small contiguous network of monitoring wells starting at MW-6, located at the southern, upgradient portion of the site and terminating at a location downgradient of off-site monitoring well MW-2, and upgradient of off-site monitoring well MW-7S.

Contaminant	Concentration Range in Soil	Concentration Range in Groundwater
Cadmium	ND to 435	ND to 0.269
Chromium	ND to 10.8	ND to .072
Mercury	ND to 2.41	ND to .00019
Silver	ND to 11,000	NS to .003

Concentrations given in parts per million (ppm)

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

<u>"Contaminated"</u> <u>Media</u>	Potential <u>Human Receptors</u> (Under Current Conditions)						
	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	NO	NO	NO	NO	---	---	NO
<del>Air (indoors)</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>		---	---	
<del>Surface Soil</del> <del>— (e.g., &lt;2 ft)</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>
<del>Surface Water</del>	<del>NO</del>	<del>NO</del>	---	---	<del>NO</del>	<del>NO</del>	<del>NO</del>
<del>Sediment</del>	<del>NO</del>	<del>NO</del>	---	---	<del>NO</del>	<del>NO</del>	<del>NO</del>
Subsurface Soil (e.g., >2 ft)	---	---	---	NO	---	---	NO
<del>Air (outdoors)</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	<del>NO</del>	---	---

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

**Note:** In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("\_ \_ \_"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.
- If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

**Rationale and Reference(s):**

**Groundwater:** The Briarcliff Road wellfield is located approximately 1,400 feet northwest from the Tesla Tower Base. Results of water quality data from the Briarcliff Road public supply wellfield showed that the site-related contaminants were not detected at the public supply wells. This wellfield was closed and grouted by the Suffolk County Water Authority (SCWA) and is currently inactive. All homes in the area are supplied with public water, which is regularly tested to ensure that it meets New York State drinking water standards. (Figure 3)

**Soils:** Interim Remedial Measures were performed at the site at two APCs during Remedial Investigation to address contamination. The IRM at APC 8 was to grout and seal a soil boring that was installed through the floor of the emulsion building sump and the IRM at APC 9 included excavation and offsite disposal of contaminated soils in the Water Meter Room pit. The excavation was then backfilled and then finished with concrete and an impermeable surface.

The remaining soils requiring remediation were subject of a 2004 records of decision. Remediation was conducted in accordance with the ROD and was completed in 2008. The remedy included:

- Excavation and off-site disposal of soils contaminated with cadmium and silver from the West Soil Storage Area, the North Recharge Basins Area, the Long Island Power Authority (LIPA) right of way and injection well SW-4.
- Excavation of soils contaminated with cadmium and silver from the Tesla Tower Base (APC-10) to a depth of 30 feet and off-site disposal.
- Reuse of the off-site soils containing silver below 300 ppm from the LIPA right of way to back fill the North Recharge Basins.

While some contaminated soils have been left in place, these soils are subsurface and do

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not represent a complete exposure pathway. In addition, since the property is currently vacant, there is even less chance of exposure to contaminants left in place.

References:

Fact Sheet and Invitation to Public Meeting, Proposed Remedy for the Peerless Photo Products Site, NYSDEC, February 2004

Record of Decision, Peerless Photo Products Site, Site # 1-52-031, NYSDEC, June 30, 2004

- 4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant**"<sup>4</sup> (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

\_\_\_\_\_ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

**Rationale and Reference(s):**

- 5 Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

\_\_\_\_\_ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

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<sup>4</sup> If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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\_\_\_\_\_ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.


\_\_\_\_\_ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

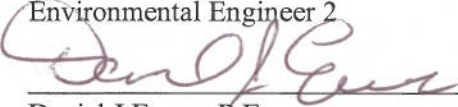
6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

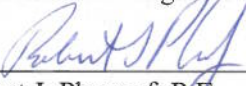
**YE** - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the AGFA Corporation, Route 25A and Randall Road, Shoreham, NY, EPA ID NYD002044139 under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

\_\_\_\_\_ **NO** - "Current Human Exposures" are NOT "Under Control."

\_\_\_\_\_ **IN** - More information is needed to make a determination.

Completed by:  Date: 3-31-2010  
A. Paul Patel, P.E.  
Environmental Engineer 2

Supervisor:  Date: 3-31-2010  
Daniel J Evans, P.E.  
Environmental Engineer 3

Director:  Date: 3-31-2010  
Robert J. Phaneuf, P.E. - Acting Director  
Bureau of Hazardous Waste and Radiation Management  
Division of Solid and Hazardous Materials

**Locations where References may be found:**

New York State Department of Environmental Conservation, Central Office  
Division of Solid and Hazardous Materials  
625 Broadway 9<sup>th</sup> Floor  
Albany, New York 12233-7252

**Contact telephone and e-mail numbers:**

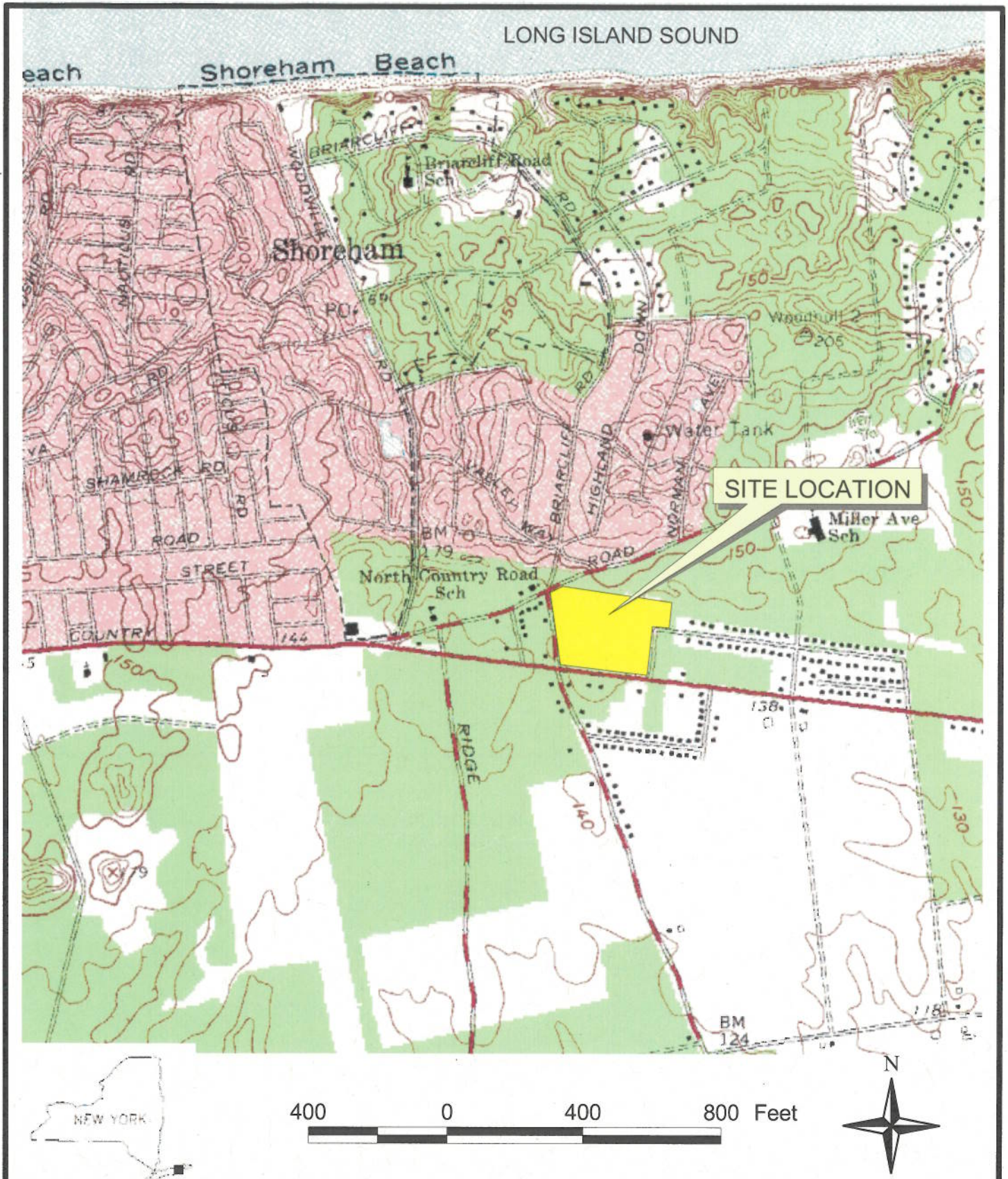
A. Paul Patel  
(518) 402-8594  
[appatel@gw.dec.state.ny.us](mailto:appatel@gw.dec.state.ny.us)

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**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**





EA Engineering, P.C.

PEERLESS PHOTO PRODUCTS SITE  
SHOREHAM, NEW YORK

FIGURE 1  
SITE LOCATION MAP

PROJECT MGR:  
CK

DESIGNED BY:  
DC

CREATED BY:  
DC

CHECKED BY:  
CK

SCALE:  
AS SHOWN

DATE:  
20 NOV 2002

PROJECT NO:  
1371220

FILE NO:  
I:\AGFA\AGFA.APR

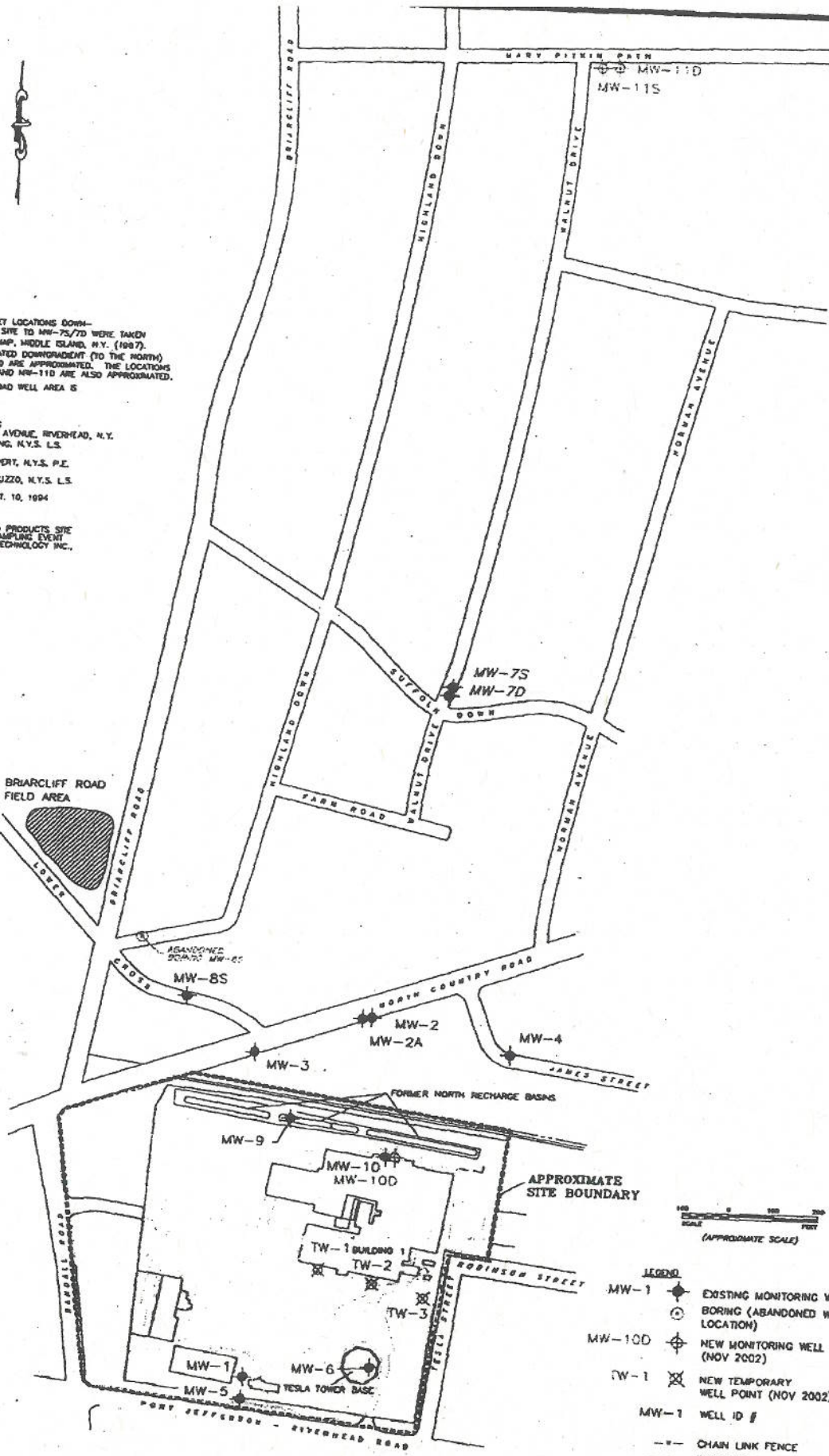
**NOTES:**

- 1) ACTUAL STREET LOCATIONS DOWN-DRAINAGE OF SITE TO MW-7S/7D WERE TAKEN FROM USGS MAP, MIDDLE ISLAND, N.Y. (1987). STREETS LOCATED DOWNGRADIENT (TO THE NORTH) OF MW-7S/7D ARE APPROXIMATED. THE LOCATIONS OF MW-11S AND MW-11D ARE ALSO APPROXIMATED.
- 2) BRIARCLIFF ROAD WELL AREA IS APPROXIMATE.

YOUNG & YOUNG  
 400 OSTRANDER AVENUE, RIVERHEAD, N.Y.  
 HOWARD W. YOUNG, N.Y.S. L.S.  
 LIC. NO. 45883  
 THOMAS C. WOLPERT, N.Y.S. P.E.  
 LIC. NO. 61463  
 KENNETH F. ABRUZZO, N.Y.S. L.S.  
 LIC. NO. 48959  
 REV. DATE: SEPT. 10, 1994

**SOURCE:**  
 PEERLESS PHOTO PRODUCTS SITE  
 GROUNDWATER SAMPLING EVENT  
 (GROUNDWATER TECHNOLOGY INC.,  
 MAY 1997)

FORMER BRIARCLIFF ROAD  
 WELL FIELD AREA



- LEGEND**
- MW-1 [Symbol] EXISTING MONITORING WELL
  - [Symbol] BORING (ABANDONED WELL LOCATION)
  - MW-100 [Symbol] NEW MONITORING WELL (NOV 2002)
  - TW-1 [Symbol] NEW TEMPORARY WELL POINT (NOV 2002)
  - MW-1 [Symbol] WELL ID #
  - - - CHAIN LINK FENCE
  - ..... PROPERTY LINE
  - ===== APPROXIMATE SITE BOUNDARY

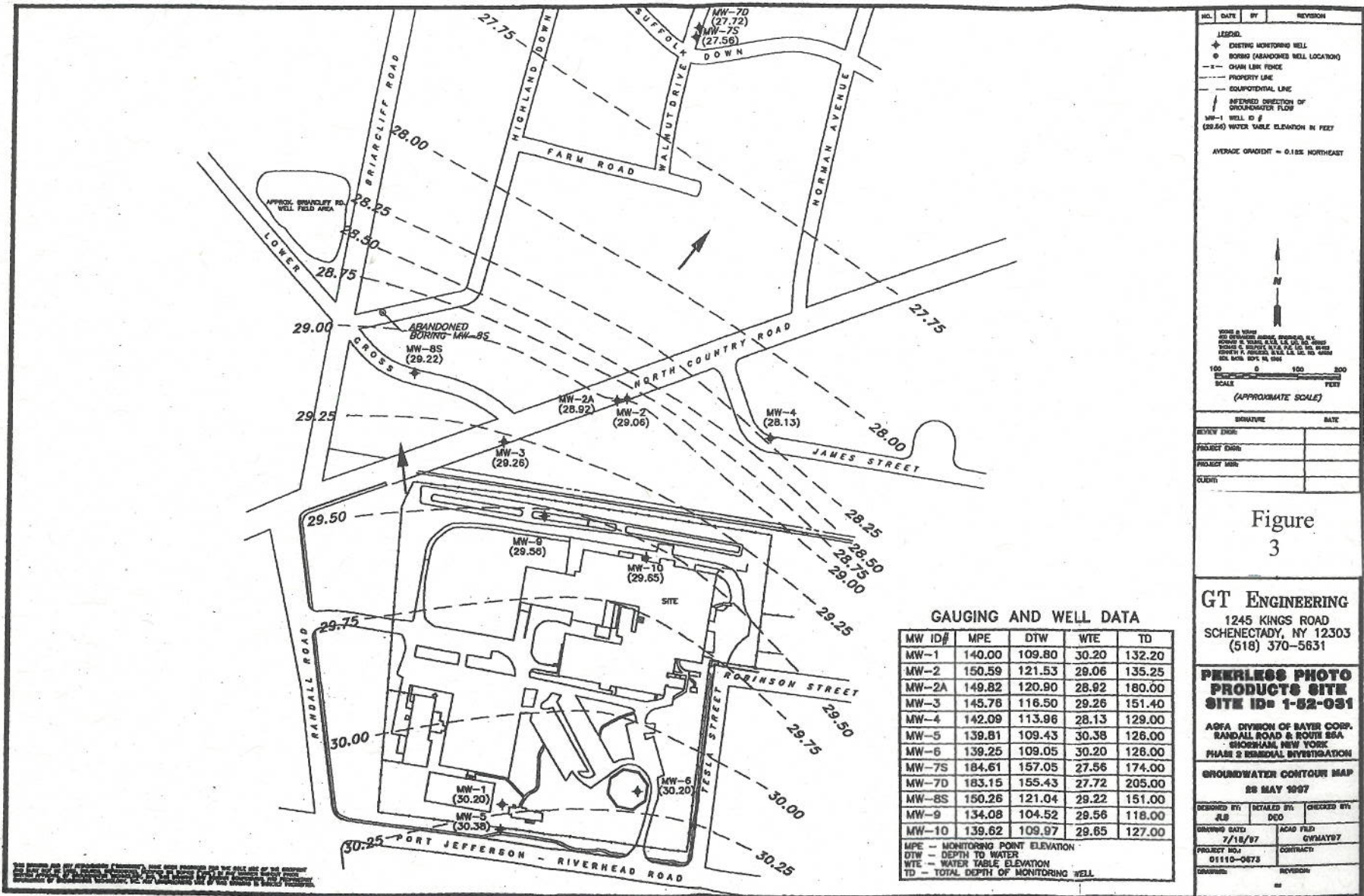
**EA** EA ENGINEERING, P.C.

PEERLESS PHOTO PRODUCTS SITE  
 SHOREHAM, NEW YORK

DETAILED SITE MAP

DATE 8 OCT 2003	DRAWN BY TB	PROJECT NO. 13712.20
SCALE AS SHOWN	PROJECT MGR. CK	FILE NAME FIG1.DWG

FIGURE  
2



GAUGING AND WELL DATA

MW ID#	MPE	DTW	WTE	TD
MW-1	140.00	109.80	30.20	132.20
MW-2	150.59	121.53	29.06	135.25
MW-2A	149.82	120.90	28.92	180.00
MW-3	145.78	116.50	29.26	151.40
MW-4	142.09	113.96	28.13	129.00
MW-5	139.81	109.43	30.38	126.00
MW-6	139.25	109.05	30.20	126.00
MW-7S	184.61	157.05	27.56	174.00
MW-7D	183.15	155.43	27.72	205.00
MW-8S	150.26	121.04	29.22	151.00
MW-9	134.08	104.52	29.56	118.00
MW-10	139.62	109.97	29.65	127.00

MPE - MONITORING POINT ELEVATION  
 DTW - DEPTH TO WATER  
 WTE - WATER TABLE ELEVATION  
 TD - TOTAL DEPTH OF MONITORING WELL

NO.	DATE	BY	REVISION
LEGEND: * EXISTING MONITORING WELL ○ BORING (ABANDONED WELL LOCATION) - - - CHAIN LINK FENCE - - - PROPERTY LINE - - - EQUIPOTENTIAL LINE ↑ INFERRED DIRECTION OF GROUNDWATER FLOW MW-1 WELL ID # (28.56) WATER TABLE ELEVATION IN FEET AVERAGE GRADIENT = 0.18% NORTHEAST			
N ↑			
100 0 100 200 FEET SCALE (APPROXIMATE SCALE)			
SIGNATURE		DATE	
REVIEW ENGINEER			
PROJECT ENGINEER			
PROJECT MANAGER			
CUSTOMER			
<h3>Figure 3</h3>			
<b>GT ENGINEERING</b> 1245 KINGS ROAD SCHEENECTADY, NY 12303 (518) 370-5631			
<b>PEERLESS PHOTO PRODUCTS SITE</b> <b>SITE ID: 1-82-031</b>			
<b>AGFA DIVISION OF BAYER CORP.</b> RANDALL ROAD & ROUTE 88A SICKKESVILLE, NEW YORK <b>PHASE 2 REMEDIAL INVESTIGATION</b>			
<b>GROUNDWATER CONTOUR MAP</b> 28 MAY 1997			
DESIGNED BY: JLS	DRAWN BY: DCC	CHECKED BY:	
ISSUANCE DATE: 7/18/97	AGFA FILE: GWMAY97	CONTRACT:	
PROJECT NO.:	01110-0573	CONTRACT:	
DATE:		REVISION:	