Former Photech Imaging Site

MONROE COUNTY, NEW YORK

Final Engineering Report

NYSDEC Site Number: B00016

Prepared for:

City of Rochester
Division of Environmental Quality
Department of Environmental Services
30 Church Street
Rochester, New York 14614

Prepared by:

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JANUARY 2014

CERTIFICATIONS

I, Jason Jaskowiak, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plans were implemented and that all construction activities were completed in substantial conformance with each Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plans and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

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, Jason Jaskowiak, of LaBella Associates PC, am certifying as Owner's Designated Site Representative for the site.

092398	2/20/14	
NYS Professional Engineer #	Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
DES	Department of Environmental Services
DEQ	Division of Environmental Quality
ERP	Environmental Restoration Program
NYSDEC	New York State Department of Environmental Conservation
USEPA	United States Environmental Protection Agency
RAO	Remedial Action Objectives
PAH	Polycyclic Aromatic Hydrocarbon
AOC	Area of Concern
SVOC	Semi-Volatile Organic Compound
SRV	Silver Recovery Vault
cy	Cubic Yard
ROD	Record of Decision
RAWP	Remedial Action Work Plan
ACM	Asbestos Containing Material
NA	Not Applicable
WP	Work Plan
HASP	Health and Safety Plan
OSHA	Occupational Safety and Health Administration
QAPP	Quality Assurance Project Plan
SWPPP	Stormwater Pollution Prevention Plan
CAMP	Community Air Monitoring Plan
CPP	Citizen Participation Plan
FER	Final Engineering Report
LF	Linear Foot
DPI	Design Phase Investigation
ICR	Industrial Code Rule
RUSCO	Restricted Use Soil Cleanup Objective
SCO	Soil Cleanup Objective
XRF	X-Ray Fluorescence
ppm	Parts Per Million
TCL	Target Compound List
VOC	Volatile Organic Compounds
RCRA	Resource Conservation and Recovery Act
MDL	Method Detection Limit
TOGS	Technical and Operational Guidance Series
ppb	Parts Per Billion

LIST OF ACRONYMS (CONTINUED)

Acronym	Definition
MCPW	Monroe County Pure Waters
DER	Department of Environmental Remediation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
AST	Aboveground Storage Tank
GIS	Global Information System
bgs	Below Ground Surface
SWL	Static Water Level
CCTV	Closed Circuit Television
CVOC	Chlorinated Volatile Organic Compound
SMP	Site Management Plan

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

The City of Rochester, Department of Environmental Services (DES), Division of Environmental Quality (DEQ) entered into a New York State Department of Environmental Conservation (NYSDEC) 1996 Clean Water/Clean Air Bond Act Environmental Restoration Program (ERP) State Assistance Contract (#C303768) on April 18, 2008, to investigate and remediate a 12.5-acre property located in the City of Rochester, Monroe County, New York. The property has been remediated and is acceptable for commercial use.

The Former Photech Imaging Site is located in an M-1 Industrial District in the City of Rochester, Monroe County, New York and is identified on the City of Rochester Tax Map as # 090.630-0001-001.0000000. The Site is situated on an approximately 12.5-acre area bounded by the Monroe Service Corporation to the north, Driving Park Avenue to the south, a local union hall to the west, and several small businesses to the east (see Figures 1 and 2). Directly to the south of Driving Park Avenue is a General Motors facility, formerly Delphi Auto Systems. The boundaries of the Site are fully described in Appendix A: Survey Map, Metes and Bounds.

The Site was originally developed in 1948 for manufacturing of photographic film and paper and once contained 15 buildings (~108,000 square feet) specialized for manufacturing. Site infrastructure included underground and aboveground storage tanks, subgrade components included basements, tunnels, process areas and significant chemical/process related distribution and wastewater piping systems. Several below grade silver recovery wastewater systems designed to recover precious metals from the process wastewater were also present. The residual materials within these systems and associated piping contained hazardous waste concentrations of silver and cadmium by-products. The most recent owner, Photech Imaging Systems, Inc., ceased operations and abandoned the facility without a proper decommissioning in 1991, leaving large amounts of chemicals, raw materials, and wastes.

The parcel went into tax foreclosure after abandonment. The City of Rochester only acquired the property via tax foreclosure in 1998 after they secured a NYSDEC ERP Grant for approximately $3.4 million, with the City of Rochester funding $1.74 million and the United States Environmental Protection Agency (USEPA) funding $200,000.

An electronic copy of this Final Engineering Report (FER) with all supporting documentation is included as Appendix B.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

The following Remedial Action Objectives (RAOs) were identified for this Site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

- Eliminate or reduce to the extent practicable the exposure of persons at or around the Site to metals, Volatile Organic Compounds (VOC), and Polycyclic Aromatic Hydrocarbons (PAHs) in on-site groundwater.
- Eliminate or reduce to the extent practicable the release of contaminants from groundwater into indoor air of future overlying buildings through vapor intrusion.

RAOs for Environmental Protection

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

2.1.2 Soil RAOs

RAOs for Public Health Protection

- Eliminate or reduce to the extent practicable the exposure of persons at or around the Site to metals and PAHs in on-site soils.
- Eliminate or reduce to the extent practicable the release of contaminants from soil into indoor air of future overlying buildings through vapor intrusion.

RAOs for Environmental Protection

- Eliminate or reduce to the extent practicable the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards.
- Eliminate or reduce to the extent practicable the release of contaminants from shallow subsurface soil into storm drainage systems through water erosion.

2.2 SUMMARY OF WORK PLAN REMEDIAL OBJECTIVES

The selected remedies for the Site included several phases including eight (8) remedial action work plans (RAWP) and one (1) source removal action. The Areas of Concern (AOCs) addressed within each work plan and the specific remedial objectives for each is outlined in Table 1.

Table 1. Work Plan and Source Removal Action Summary

Work Plan	AOC	Remedial Objective
Work Plan 1: ACM Demolition of Condemned Structures	Condemned Structures	- address structurally unsafe buildings and/or ancillary minor structures (see Section 4.2.1, Table 4) - provide safe and more efficient work environment during future site work
Work Plan 2: ACM Abatement, Environmental Cleaning and Building Demolition	ACM	- complete the full building decontamination and cleaning to allow for the razing of the existing onsite structures - demolition of above and below grade structures and the recycling of all non-contaminated masonry materials generated (see table provided as Attachment 2)
	Env Cleaning	
	Bldg Demo	
Work Plan 3: Remedial Measures AOC 1A, 1B and 2	1A	- excavate soils with heavy metals and SVOCs (601 tons)
	1B	- remove and dispose drywell (95 tons)
	2	- decommission silver wastewater system by removal (this work was completed during Work Plan 6 implementation)
Source Removal Action	Bldg 2 & 7 (AOC 7)	- remove Bldg 2 & 7 sumps and associated cadmium-impacted source area soil (170 tons)
Work Plan 4: Design Phase Investigation	AOC 4	- delineate extent of soil contamination and confirm extent of groundwater contamination in the former hazardous waste storage area, historical hazardous waste storage area, and the crushed/recycled concrete storage area
Work Plan 5: Post Building Demolition Design Phase Investigation	All AOCs	- fill remaining data gaps so that a final remedial plan can be developed and implemented; sample points were focused under former building footprints that were not previously accessible

Table 1. Work Plan and Source Removal Action Summary
(continued)

Work Plan	AOC		Remedial Objective
Work Plan 6: Remedial Action Work Plan	1A		- over-excavation and offsite disposal of PAH SVOC-impacted soil in the area of confirmation soil sample AOC1A-CS-1 (60.23 tons)
	2	Excavation	- removal of cadmium-impacted source area soils and weathered bedrock for offsite disposal (763 tons)
		Tank 1	- decommission by removal along with all associated piping (see Section 4.2.7.2)
		Tank 2	
		Tank 3	
		Tank 4	
		Silver Recovery Vault 2	
	3A		- remove cadmium-impacted soils to a depth of 3 to 5 feet bgs (3,467 tons)
	4B		- over-excavation and offsite disposal of arsenic impacted soil in the area of boring GP-49 (19.98 tons)
	7		- over-excavation and offsite disposal of cadmium-impacted source area soils and weathered bedrock (773 tons)
	13		- over-excavation and offsite disposal of cadmium-impacted soil (410.46 tons)
	Historic Infrastructure	Piping	- decommission by removal all underground pipes and drop inlets (see Section 4.2.7.7)
		Clay Tile Sludge/Soil	
Area of Concern #14: Petroleum-Impacted Soil Removal	14		- remove the petroleum-impacted soil and groundwater displaying nuisance characteristics for offsite disposal (329.7 tons)
Work Plan 7: Post-Remediation Groundwater Monitoring	Site Wide		- post-remediation groundwater monitoring; install nine bedrock interface wells and sample each, as well as three existing wells

2.3 DESCRIPTION OF SELECTED REMEDIES

In a Record of Decision (ROD) dated March 2006, the NYSDEC selected excavation and offsite disposal of contaminated soils and groundwater monitoring as the selected remedy based on the results of the Site Investigation/Remedial Alternatives Report. The Site was remediated in accordance with the ROD and encompassed the following remedial components:

- A remedial design program; provides details necessary for implementing the remedial program;
- Asbestos abatement, building and equipment decontamination, and building demolition including removal of basements and tunnels;
- A design-phase investigation; delineates the extent of soil contamination, and to confirm the extent of groundwater contamination;
- Removal of the silver recovery system;
- Excavation and offsite disposal of contaminated soils exceeding commercial SCOs listed in the table provided as Attachment 1;
- Application of Daramend in AOC 2 and 7;
- Removal of all on-site utilities;
- Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;
- Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site;
- Inclusion in the City of Rochester Building Information System (BIS);
- Periodic certification of the institutional and engineering controls; and,
- Implementation of a long-term groundwater monitoring plan.

No major modifications were made to the ROD, and minor deviations to individual work plans are outlined in a pertinent section of the FER that summarizes the completion of each work plan. No amendments or revisions to the ROD were made during the remedial program for the Site. A photo log of the work completed is included in Appendix Q.

3.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Remedial Action Work Plans No. 1 through 7 and the AOC 14: Petroleum Impacted Soil Work Plan for the former Photech imaging Site. Work plan objectives and major deviations to the RAWPs are noted in Table 2, and a more detailed discussion of the scope of work for each work plan and minor deviations are included in Section 4.2.

Table 2. Remedial Work Plan Summaries

Work Plan No.	AOC	Remedial Objective	Major Deviations
Work Plan 1: ACM Demolition of Condemned Structures	Condemned Structures	- address structurally unsafe buildings and/or ancillary minor structures (see Section 4.2.1, Table 4) - provide safe and more efficient work environment during future site work	None
Work Plan 2: ACM Abatement, Environmental Cleaning and Building Demolition	ACM	- complete the full building decontamination and cleaning to allow for the razing of the existing onsite structures - demolition of above and below grade structures and the recycling of all non-contaminated masonry materials generated (see Table provided as Attachment 2)	This work included scarification of heavy metal contaminated concrete floors where necessary, which allowed for the segregation of concrete containing hazardous waste levels of metals to allow for the recycling/reuse of a greater quantity of non-impacted concrete.
	Env Cleaning		
	Bldg Demo		
Work Plan 3: Remedial Measures AOC 1A, 1B and 2	1A	- excavate soils with heavy metals and SVOCs (601 tons)	None
	1B	- remove and dispose drywell (95 tons)	
	2	- decommission silver wastewater system by removal (this work was completed during Work Plan 6 implementation)	This was accomplished during WP 6 site work
Source Removal Action	Bldg 2 & 7 (AOC 7)	- remove Bldg 2 & 7 sumps and associated cadmium-impacted source area soil (170 tons)	None
Work Plan 4: Design Phase Investigation	AOC 4	- delineate extent of soil contamination and confirm extent of groundwater contamination in the former hazardous waste storage area, historical hazardous waste storage area, and the crushed/recycled concrete storage area	None
Work Plan 5: Post Building Demolition Design Phase Investigation	All AOCs	- fill remaining data gaps so that a final remedial plan can be developed and implemented	None
Work Plan 6: Remedial Action Work Plan	1A	- over excavation and offsite disposal of PAH SVOC-impacted soil in the area of confirmation soil sample AOC1A-CS-1 (60.23 tons)	None
	2 – Excavation	- removal of cadmium-impacted source area soils and weathered bedrock for offsite disposal (763 tons)	None
	2 – Tank 1	- decommission by removal along with all associated piping (see Section 4.2.7.2)	The discovery and subsequent removal of SRV 2.
	2 – Tank 2		
	2 – Tank 3		
	2 – Tank 4		
	2 – SRV 2		
	3A	- remove cadmium-impacted soils to a depth of 3 to 5 feet bgs (3,467 tons)	Some areas required deeper excavation based on field screening and laboratory analytical results. Additionally, visual observations of regulated solid waste fills required the expansion of the excavation footprint.
	4B	- over-excavation and offsite disposal of arsenic impacted soil in the area of boring GP-49 (19.89 tons)	None
	7	- over-excavation and offsite disposal of cadmium-impacted source area soils and weathered bedrock (773 tons)	None
	13	- over-excavation and offsite disposal of cadmium-impacted soil (410.46 tons)	None
	Groundwater	- perform aggressive dewatering of excavation when groundwater was encountered to further reduce contaminant mass - apply Daramend to the AOC 2 and AOC 7 excavation exposed bedrock in order to immobilize residual cadmium impacts	None

Table 2. Remedial Work Plan Summaries
(continued)

Work Plan No.	AOC		Remedial Objective	Major Deviations
	Historic Infrastructure	Piping Clay Tile Sludge/Soil	- decommission by removal all underground pipes and drop inlets (see Section 4.2.7.7)	- two sections of water main piping (8" diameter) were left-in-place ~4' bgs along the eastern property line because removing them would have compromised the structural integrity of nearby utility poles - the actual amount of piping removed was ~2,200’ less than what was estimated in the work plan
Area of Concern #14: Petroleum-Impacted Soil Removal	14		- remove the petroleum-impacted soil and groundwater displaying nuisance characteristics for offsite disposal (329.7 tons)	None
Work Plan 7: Post-Remediation Groundwater Monitoring	Site Wide		- post-remediation groundwater monitoring; install nine bedrock interface wells and sample each, as well as three existing wells	None

4.0 GOVERNING DOCUMENTS

4.1 GUIDANCE DOCUMENTS

All of the applicable governing plans were adhered to during the execution of WP1 through WP7 and the source removal action in AOC 7.

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal Occupational Safety and Health Administration (OSHA). All on-site workers were required to have OSHA 1910.120 Hazwoper Certification.

The HASP was complied with for all remedial and invasive work performed at the Site. Specific guidelines for equipment decontamination are included within each RAWP.

4.1.2 Quality Assurance Project Plan (QAPP)

With the exception of WP No. 6., each NYSDEC approved RAWP describes the specific policies, objectives, organization, functional activities and quality assurance/ quality control activities designed to achieve the project data quality objectives within the report body. A NYSDEC-approved QAPP was included as an Appendix of WP No. 6.

4.1.3 Storm-Water Pollution Prevention Plan (SWPPP)

The erosion and sediment controls for all remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and as discussed with the NYSDEC throughout remedial activities at the Site. Specific controls for erosion and sediment control are included in each RAWP.

4.1.4 Community Air Monitoring Plan (CAMP)

The CAMP implemented during the remedial work was completed in accordance with the New York State Department of Health (NYSDOH) Generic CAMP (included as Appendix C). The CAMP field data sheets are also included in Appendix C. The CAMP was complied with for all remedial and invasive work performed at the Site.

4.1.5 Citizen Participation Plan

A Citizen Participation Plan (CPP) was developed for the Site in November of 2009 to provide members of the affected and interested public with information about the investigation and remediation at the Site. Local repositories have been established at the Maplewood Branch Library, 1111 Dewey Avenue and the NYSDEC Region 8 office at 6274 East Avon-Lima Road.

In February, 2010 a factsheet was distributed to the Site contact list to inform them of the planned remedial activities. Following submission of this FER a fact sheet will be sent to the Site contact list announcing the remedial action is complete. An additional fact sheet will be distributed announcing the issuance of the Certificate of Completion.

To further support the CPP the City of Rochester also issued a project-specific Newsletter in September 2007 and August 2011. These Newsletters were issued to provide additional project related information to the adjacent property owners at specific project milestones. After each Newsletter was issued the City of Rochester met individually with each available adjacent property owner to review the details of the project and answer any specific questions.

4.1.6 NYSDEC ERP Compliance

In 2006 the City Law Department made a determination that the Photech project required special skills, training and expertise, and therefore the project could be completed under a professional services agreement, consistent with General Municipal Law 104-b and the City of Rochester's Procurement Procedures. This determination was made on the basis of the need for the technical and scientific expertise of an environmental consultant and the inextricable integration of those traditional professional services with the demolition and construction type services, necessitated by the complexity of the project. In November 2008 the City prepared a Request for Proposal and solicited proposals from pre-qualified environmental consultants to remediate the Photech Site in accordance with the approved Record of Decision. In March 2009, City Council authorized a professional services agreement with LaBella to complete the Photech ERP project. The professional services agreement with LaBella was executed in June 2009.

In accordance with the NYSDEC's Municipal Assistance for Environmental Restoration Projects Procedures Handbook (July 2004) Section 10.3 Subcontracted Work, portions of the work may be subcontracted based on unit price bids or quotes.

More specifically, all subcontracted work over $5,000 was submitted to, at a minimum, three (3) qualified contractors to provide a competitive bidding environment. A summary of the contractor bid results were created for each set of subcontracts. All subcontracts were evaluated for reasonableness and a recommendation was made to the NYSDEC.

4.2 REMEDIAL PROGRAM PHASES

4.2.1 Work Plan No. 1 – Asbestos Containing Material Demolition of Condemned Structures

WP No. 1 was developed with the objective of providing a safer and more efficient work environment during subsequent phases of the remedial program by addressing structurally unsafe buildings and/or ancillary minor structures prior to significant on-site activities. LaBella's Structural Engineering Division evaluated each of the buildings at the Site and determined that Building 13 and the Carpenter's Shed were structurally unsafe. The locations of Building 13 and the Carpenter's Shed are shown on Figure 3. Jupiter Construction (Jupiter) was contracted to accomplish the scope of work outlined in WP No. 1.

In preparation for the remedial program, a temporary electric service was constructed for the Site and ~800' of new 6-foot high galvanized chain link fence was installed. Additionally, unauthorized breaches and entry locations of the existing fence were repaired and all ground level building access points were boarded-up to improve the Site security.

In 2009 Jupiter removed all Asbestos Containing Materials (ACM's) outlined in LaBella's Pre-Demolition Asbestos Survey (included in Appendix D) for each of the structures targeted for demolition (Building 13, Building 15, the Carpenter's Shed, and the Small Wood Shed). The details of this phase of demolition are outlined in Table 3.

Table 3. Demolition Phase Work Associated with Work Plan No. 1

Building	Justification for Demolition	ACM Type Removed	Method of Demolition	Other Regulated Material Removed	Floor Slab Removed?
#13	Condemned	- 20 LF of NF Caulk - 400 LF of white pipe insulation - pipe insulation debris	ICR 56-11.5	Yes - Potential PCB-containing light ballasts	No - Left in-place to be removed during demolition of other structures
#15	Allow access for the DPI	NA	Traditional Demolition Methods	No	No - Left in-place to be removed during demolition of other structures
Carpenter Shed	Condemned	- 64 SF of friable fire door insulation - 12 SF of friable insulation debris	ICR 56-11.5	No	Yes
Small Wood Shed	Allow access for the DPI	NA	ICR 56-11.6	No	Yes

The Pre-Demolition Asbestos Survey conducted by LaBella also noted that friable ACM had been scattered across portions of the Site. These materials were containerized and disposed of in accordance with applicable regulations. Disposal documentation for this phase of demolition is included in Appendix E.

4.2.2 Work Plan No. 2 – ACM Abatement, Environmental Cleaning and Building Demolition

WP No. 2 was broken into discrete tasks that had the cumulative objective of completing the full building decontamination and cleaning to allow for the razing of the existing on-site structures, the demolition of all above and below grade structures and the recycling of all non-contaminated masonry materials. LaBella performed a Pre-Demolition Asbestos Survey and a Pre-Demolition Environmental Survey for potential chemical related issues of each of the structures targeted for demolition (included in Appendix D). Environmental Remediation Services, Inc. (ERSI) accomplished the scope of work outlined in WP No. 2 between February and October 2010.

ACM Abatement

Prior to the demolition of each structure, ERSI removed all ACM from each of the buildings at the site in accordance with applicable regulations and specifications provided in WP No. 2, except for roofing materials of select buildings. ERSI retained an engineer to assess a safety concern regarding placing workers on roofs of dilapidated

buildings. It was determined that due the dilapidated conditions of the buildings it was unsafe to place workers on the roofs of the buildings, except for Buildings 2 and 11. Based on this, a variance was obtained from the New York State Department of Labor to remove ACM related roofing materials during demolition of the building.

The type of ACM, location, and quantity are outlined in LaBella's Pre-Demolition Asbestos Survey (included in Appendix D). All ACM was removed from the site by ERSI and MJ Dreher Trucking, Inc. and disposed of at High Acres Landfill and Mill Seat Landfill. A total of 84 roll off dumpsters (30 cubic yards each) of ACM was disposed of offsite. Disposal documentation for all ACM is included in Appendix E.

Environmental Cleaning of Regulated Building Materials

ERSI removed all potentially regulated waste from the site to facilitate the safe and efficient demolition of the site structures in subsequent phases of the project. LaBella conducted a Pre-Demolition Environmental Survey that documented the location, quantity, suspected contaminants, and collected representative samples to generate preliminary waste characterization analytical data for all potential building related regulated solid waste throughout the site. Regulated building materials that were removed from the site include, but are not be limited to: suspect contaminated wastewater, suspect polychlorinated biphenyl (PCB) ballasts, PCB caulk, fluorescent bulbs, oils from machinery, miscellaneous chemicals left at the site, suspect impacted building materials, etc. These building materials were tracked and characterized by LaBella during environmental cleaning of the buildings and are included on the table included as Attachment 2.

Also, a total of twelve (12) process vessels and above ground storage tanks were removed, decontaminated and disposed of offsite as scrap metal or at High Acres Landfill. Disposal documentation for all potential regulated waste, process vessels and aboveground storage tanks (ASTs) removed prior to demolition activities is included in Appendix E.

An additional dumpster (30 cubic yards) of film rolls were transported by ERSI to Aston Sun Valley of Ketchum, Idaho for silver recovery.

Prior to demolition of each building, LaBella, LeChase, ERSI, and/or NYSDEC conducted a pre-demolition walkthrough to confirm the presence of regulated building materials were completely removed prior to the City of Rochester issuing a demolition permit.

Concrete Floor Scarification

LaBella conducted comprehensive screening of interior floor and wall surfaces of each building after the asbestos abatement and interior debris removal was complete. The historic use of the site to manufacture photographic film and the known chemical related processes that historically occurred within Building 2 and Building 7 dictated that interior surfaces were considered suspect in regard for such surfaces/materials to contain residual levels of contamination. The preliminary screening was conducted utilizing an X-Ray Fluorescence (XRF) Meter which analyzes material surfaces for total metals. Elevated concentrations of cadmium, chromium, lead, mercury, and silver were identified throughout Building 2, Building 7 and in a chemical laboratory area in Building 11. Areas of high concentrations of metals were typically limited to the floor surface of specific rooms or portions of rooms where liquid containment areas were observed.

Core samples of the floor decks were collected to determine the penetration depth of the contaminants, which were determined to be relatively shallow, in the range of a quarter of an inch. The deepest penetration depths were between 2 to 3 inches typically in secondary containment areas. In addition, select concrete cores of the floor were collected for laboratory analysis, and confirmed the concrete core samples were not representative of a hazardous waste. However, to avoid co-mingling areas of the building that were identified to contain elevated concentrations of metals, removal was performed. Given the relatively shallow penetration of the metals at most locations, scarification was selected as the most appropriate remedial approach. Areas with deeper penetration depths (e.g. > 1 inch) were physically removed with jack-hammers. The remedial efforts were gauged by screening the floor surfaces with the XRF meter subsequent to scarification and removal efforts, and until the majority of the concentration of metals were removed. Select confirmation samples of the concrete surface after the removal were collected and analyzed. This approach prevented the possible future release of contaminants to the site from the demolition and/or on-site recycling and placement of these materials. All concrete scarification was performed in containment under negative pressure.

A total of fifty (50) burlap bags containing concrete pieces removed by a jack hammer, and sixteen (16) 55-gallon drums of scarified concrete and concrete pieces were removed from Building 2 for disposal. In addition, one 55-gallon drum of scarified concrete was removed from Building 11. Representative waste characterization samples were collected from all the concrete removal waste. Of these, the concrete pieces in ten (10) of the drums were characteristic hazardous waste for cadmium that were disposed of at CWM Chemical Services in Model City, New York.

The scarified concrete that was sampled and tested and confirmed not be representative of a hazardous waste, was removed from the site by ERSI and disposed of as a regulated non-hazardous solid waste at High Acres Landfill, a NYSDEC Part 360 permitted landfill. Disposal documentation for the scarified concrete is included in Appendix E.

Building Demolition

Following the asbestos abatement, environmental cleaning, and concrete scarification, the former structures listed in Table 4 were demolished in accordance with WP No. 2. These structures are also shown on Figure 3.

Table 4: Buildings Removed During Demolition

BUILDING NUMBER	BUILDING NAME
1	Research and Development
2	Emulsion Building
3	Garage
4	Maintenance Shop
5	Boiler House
6	Stationary Engineering
7	Coating Alley
8	Unknown Name
11	Chemical Lab
12	Subcoating
13	Warehouse
15	Chemical Storage Shed (Concrete Pad Only)
16	Process Building
17	Dryer Addition
None	Subgrade Tunnels

The demolition included full removal of structures, foundations, footings, basement floor slabs, and subgrade tunnels. All non-contaminated masonry products were processed and crushed on-site using an Eagle Concrete Crusher and staged for use during other phases of the project. All other building materials were sent offsite for

recycling or disposal at a permitted landfill. A total of 60 roll off dumpsters (30 cubic yards each) of non-contaminated construction and demolition waste was transported by ERSI and MJ Dreher to High Acres Landfill and Mill Seat Landfill for disposal and a total of 114 roll off dumpsters (30 cubic yards) of scrap metal was transported by ERSI, Horton Services, and Metallico to Becks Recycling to be recycled. All piping systems were removed 5-feet beyond the outermost exterior or foundation wall. All known remaining piping was noted and mapped using GPS technology so that they could be removed as part of subsequent phases of the project. Disposal documentation is included in Appendix E.

Site Restoration

Subsequent to the demolition of the buildings, the site was backfilled and graded to the provisions included in the interim site grading plan included as Appendix F. The purpose of the interim grading plan was to backfill and grade the site to promote positive drainage and reduced the volume of material required to backfill the basements of the site to existing surrounding grade. ERSI conducted the earth work operations between July and October 2010. As part of the work, ERSI utilized the following material during the earthwork operations:

- 'Clean Earth' Material – On-site earth was salvaged and reused as structural fill in place of former Buildings Nos., 2 through 6, 9, 10, 11, 16, and 17.
- 'Clean' Recycled Concrete – Utilized as backfill and primarily placed in former Building No. 1 and the former deep utility tunnel (between Buildings 7 to 16) to an approximate elevation of 494 feet.
- Imported Gravel from Elam Quarry – Approximately 2,000 cubic yards was utilized as backfill and primarily placed in former Building Nos. 11, 16, and 17. This material was sampled in accordance with NYSDEC DER-10 and imported from this off-site source with NYSDEC approval. Sampling results of the Elam Material are included in Appendix F.
- Recycled Concrete Containing Topsoil – Utilized as cover material for the upper 6 to 18 inches of cover material.
- Imported South Plymouth Avenue Soils – This high organic content soil was utilized in former Building No. 12. This material was sampled in accordance with NYSDEC Department of Environmental Restoration (DER) guidance document DER-10 and imported from this off-site source

with NYSDEC approval. Sample results of the imported Plymouth Avenue soil are included in Appendix F.

Recycled concrete material was generated at the site by crushing the demolished building materials (i.e., cinder block, concrete, and brick) to 2-inch minus size. During the crushing process, some of the building material was co-mingled with organic rich topsoil, which was crushed and staged separately and utilized as final cover material as described above.

Foundation Design, P.C. was retained to provide geotechnical consultation/observation of the earth work between July and October 2010 and CME Associates, Inc. was retained for quality control on the fill placement. The contract documents require that all fill material be placed in lifts not exceeding 8-inches in thickness and be compacted to a minimum of 95 percent (or the extent practicable) of maximum dry density as determined by the Modified Proctor test (ASTM D-1557). Thicker lifts (18 to 24 inches) were allowed over deeper fill to start fill placement over wet subgrades. These thicker areas were not tested for compaction, but passing compactions tests were achieved on subsequent lifts. The earthwork operation is summarized in Foundation Design, P.C. Construction Close Out Letter, 3446.0 dated November 5, 2010 and included as Appendix G.

4.2.3 Work Plan No. 3 – Remedial Measures – Area of Concern No. 1A, 1B and 2

WP No. 3 was developed to address AOC 1A, 1B, and 2 prior to building demolition so that contaminated material did not enter demolition excavations, see Figure 4. Specifically WP No. 3 had the specific objectives of excavating soils impacted with PAH SVOCs in AOC 1A along the eastern side of Building 11, removing an apparent drywell (AOC 1B) and residual liquids and sludge located along the western exterior wall of Building 11, and decommissioning by removal the aboveground components of former silver recovery wastewater system (AOC 2) located south of Building 1. [*Note: The remedial activities associated with the decommissioning of the former silver recovery wastewater system were performed during the implementation of WP6 and are discussed in Section 4.2.7.*]

Source area soil excavation associated with AOC 1A and the removal of the dry well structure associated with AOC 1B were completed in conjunction with the demolition of the on-site buildings. The areas targeted for removal were over excavated, to the extent feasible, and the regulated solid waste generated from these activities were disposed of off-site at a NYSDEC Part 360 Permitted Landfill.

AOC 1A Remedial Excavation

The primary contaminant of concern during the AOC 1A excavation work was heavy metals and PAH SVOCs identified during previous investigations. The Part 375 Restricted Use Soil Cleanup Objectives (RUSCOs) for a Commercial Site for these contaminants are shown on the table provided as Attachment 1. A total of 601 tons of contaminated soils were removed by ERSI. The impacted soil was directly loaded into NYSDEC Part 364 permitted dump trucks, and disposed of as non-hazardous regulated solid waste at Mill Seat Landfill on August 30 and 31, 2010. Disposal documentation is included in Appendix E.

Following excavation of impacted material and prior to backfilling six (6) sidewall and six (6) bottom confirmatory soil samples were collected and submitted for laboratory analysis of the Resource Conservation Recovery Act (RCRA) Metals and PAH SVOCs. Samples were not collected along the western sidewall because this was the location of the Building 11 basement wall as shown on Figure 5. All confirmatory soil sample results were below the SCGs with the exception of sidewall soil sample AOC1A-CS-1 which was located along the northern sidewall and was reported to contain four (4) PAH SVOCs at concentrations that exceed the SCGs. The exceedances in AOC1A-CS-1 are summarized in Table 5. Laboratory analytical reports are included in Appendix H.

Table 5. Exceedance Results of Sample AOC1A-CS-1

Sample ID / Depth	PAH SVOC	Units	Confirmation Soil Sample Result	NYSDEC Soil Commercial Cleanup Objective
AOC1A-CS-1 / 2’	Benzo(a)anthracene	mg/kg	6.8	5.6
	Benzo(a)pyrene		5	1
	Benzo(b)fluoranthene		6.4	5.6
	Debenz(a,h)anthracene		0.84	0.56

Following collection of confirmatory samples the excavation was backfilled with clean onsite material and recycled masonry products. Figure 5 shows the excavation limits and the location of the confirmatory closure samples.

The residual PAH SVOC impacts associated with confirmation soil sample AOC 1A-CS-1 were subsequently remediated under activities associated with WP No. 6 and discussed in Section 4.2.7.1.

AOC 1B Remedial Excavation

The primary purpose of the AOC 1B remedial activities was to remove and dispose of an apparent drywell, including residual liquids, solids, soil, and/or sludge located along the western wall of Building 11 and to evaluate the subsurface conditions in this area for evidence of impairment. The apparent drywell and a total of 95 tons of impacted soil were removed by ERSI on October 31, 2010 and subsequently disposed of at Mill Seat Landfill as non-hazardous regulated solid waste. Disposal documentation is included in Appendix E.

Following excavation of the drywell and impacted soil three (3) confirmatory soil samples (North Sidewall, South Sidewall, and Bottom) were collected and submitted for laboratory analysis of VOCs, PAH SVOCs, and RCRA Metals. None of the confirmatory soil samples were reported to contain contaminants of concern above their respective SCOs, and further investigation was not proposed for this area. Laboratory analytical reports are included in Appendix H.

Following collection of confirmatory samples the excavation was backfilled with clean onsite material and recycled masonry product. Figure 5 shows the excavation limits and the location of the confirmatory closure samples.

4.2.4 Source Removal Action – AOC 7

A majority of the AOCs at the Site were impacted with either Silver, Cadmium, or both. A source removal action was performed on September 20, 2010 to address metal contaminated soils associated with two former wastewater sumps. These areas were encountered during the demolition phase of the project.

During the building demolition phase, and specifically during the removal of the building floor slabs and foundations, XRF analysis of sub-slab soil was conducted to identify potential areas of concern that would require further assessment during the Design Phase Investigation (DPI). Prior to the removal of the building floor slabs and subsequent to the environmental cleaning of the buildings, areas of potential environmental concern were identified (e.g. sumps, wastewater discharge locations, etc.) that were not previously investigated due to accessibility and pre-environmental cleaning building conditions. XRF readings were collected beneath all building slabs, and additional XRF readings collected in areas of potential environmental concern. XRF readings of soil were collected directly beneath the floor slab, and at deeper locations where contaminants of concern were identified at the soil surface beneath the floor slab.

Basement wastewater sumps were identified in Buildings 2 and 7 and targeted for further investigation as possible sources of soil contamination due to the metals cadmium and silver. As the building slab was removed, XRF readings were collected directly beneath the floor slab and sumps in these areas, and identified elevated XRF readings for cadmium. The XRF readings collected in the area of Building 2 and 7 basement sumps, and corresponding laboratory data as shown in Table 6 below.

Table 6: Building 2 and 7 Soil Cadmium Concentrations

Location	Units	Cadmium XRF Reading	Corresponding Cadmium Laboratory Analytical Data
Building 2 Basement Sump	mg/kg	14,751	11,900
Building 7		383	139

The results of the XRF readings and corresponding analytical data indicated that only the metal Cadmium was identified in both locations above the anticipated SCG of 9.3 mg/kg. The source of the impacts appeared to be related to the former wastewater collection sumps located on the south end of Building 7 and the basement of Building 2 as shown on Figure 6. To address these areas of significant impacts, ERSI excavated the highly-impacted soils prior to site restoration. The source areas were excavated to top of the weathered bedrock layer which was approximately 3 ft below basement/floor slab of the Building 2 and 7. The removed material was staged on and covered with polyethylene sheeting pending waste characterization analysis. A representative waste characterization soil samples was collected from the source removal soil pile and determined the soil to be representative of a non-hazardous waste. A total of 170 tons of cadmium-impacted non-hazardous regulated solid waste soil was removed and disposed on October 12, 2010 at Mill Seat Landfill, Bergen, NY. No dewatering was required during this excavation work. Disposal Documentation is included in Appendix E.

The excavation was filled with imported material from the Elam quarry and no deviations from the work plan were required.

Four soil samples were collected for both Building 2 and 7 sump excavations, respectively. Each sample was collected on a sidewall at a depth of 2 feet below the former floor slab elevation. Bottom samples were not collected because the excavation reached to bedrock. The confirmation sample results are summarized in Table 7 and the locations are shown on Figure 6. Laboratory analytical reports are included in Appendix H.

Table 7. Source Removal Action AOC 7 Sample Results

Sump Area	Sample Name	Sample Depth	Cadmium Concentration (mg/kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
Building 2	B2 IRM/CSSSW-1	2’	0.22	9.3
	B2 IRM/CSESW-1	2’	4317	9.3
	B2 IRM/CSWSW-1	2’	2.78	9.3
	B2 IRM/CSNSW-1	2’	0.45	9.3
Building 7	B7 IRM/CSSSW-1	2’	40	9.3
	B7 IRM/CSESW-1	2’	38.7	9.3
	B7 IRM/CSWSW-1	2’	0.47	9.3
	B7 IRM/CSNSW-1	2’	114	9.3

The source removal was not designed to be the final remedy in AOC 7. However, it was designed to remove the source areas and limit the potential for further distribution of contaminants at the site during subsequent phases of building demolition. As a result, further remediation and investigation was anticipated for this area and no construction completion report was generated following the source removal activities.

4.2.5 Work Plan No. 4 – Design Phase Investigation, Area of Concern 4: Miscellaneous Areas

The objective of Work Plan No. 4 was to implement a DPI associated with the most recent and historical chemical storage locations. Also, additional due diligence investigation was conducted in the area targeted for the storage of the crushed/recycled concrete. The investigation delineated the extent of potential soil contamination associated with the subject areas. The laboratory analytical reports associated with this phase of investigation are included in Appendix H.

4.2.5.1 Chemical Storage Areas

The former chemical storage buildings were located west of Building 12 as shown on Figure 3. The former building locations were approximately forty (40) feet from each other. During October, 2010, eighteen (18) soil borings were advanced in the area around each of the former structures. Soil samples were collected from depths of 1 to 7 feet and analyzed for Total Compound List (TCL) VOCs, PAH SVOCs, Pesticides, and RCRA Metals. Arsenic was detected at 18.1 parts-per-million (ppm) in a soil sample from boring GP-49, which is above the Part 375-6(b) SCO for a Commercial Site. No other analytes were detected above the Site SCOs. A summary of the DPI is presented in the Design Phase Investigation report included as Appendix I. Further remedial action in this AOC can be found under WP No. 5.

4.2.5.2 Crushed/Recycled Concrete Stock Pile Area

The crushed/recycled concrete stock pile area was located in the western portion of the Site. Four (4) soil borings, GP-25, GP-26, GP-27 and GP-29, were advanced in this area and one soil sample was collected from boring GP-25 at 1 ft below the ground surface, was analyzed for TCL VOCs, PAH SVOCs and RCRA Metals. No NYS Part 375-6(b) SCO exceedances were detected. A summary of the DPI is presented in the Design Phase Investigation report included as Appendix I.

4.2.6 Work Plan No. 5 – Post Demolition Design Phase Investigation

WP No. 5 was developed to gain a better understanding of the extent and nature of contamination in AOCs one (1) through thirteen (13). In addition, this effort augmented previous information and filled data gaps so that a final remedial plan could be developed and implemented. The analytical data collected as part of the DPI was used with GPS technology to model COCs for each AOC to pre-characterize and define remedial excavation limits by discrete depth intervals. Information obtained during the

execution of WP No. 5 also allowed the pre-characterization of impacted soils for off-site disposal. A summary of the DPI is presented in the Design Phase Investigation report included as Appendix I.

4.2.7 Work Plan No. 6 – Remedial Action Work Plan

The objective of WP No. 6 was to implement remedial measures designed to address AOCs that were identified during previous investigations conducted at the Site. Specifically WP6 was designed to address the six (6) AOCs listed below:

- AOC 1A: East of Chemical Building 11
- AOC 2: Silver Recovery Wastewater System
- AOC 3A: Former Retention Pond/Burn Pit
- AOC 4B: Former Chemical Storage Sheds
- AOC 7: Building 2 and 7 Wastewater
- AOC 13: South Drainage Swale

TREC Environmental (TREC) was contracted to accomplish the scope of work in WP No. 6 and completed the remedial activities between October 2011 and May 2012. Remedial activity details are provided for each AOC below. Weekly progress meetings were held with TREC, Foundation Design, NYSDEC, the City of Rochester, and LaBella to discuss the progress and effectiveness of remedial work, and to discuss deviations to WP No. 6.

4.2.7.1 AOC 1A: East of Chemical Building 11

The scope of work associated with AOC 1A included the over excavation of an approximate 15 ft by 15 ft by 4 ft deep area of soil in the location where confirmation soil sample AOC1A-CS-1 was collected during the initial remedial excavation activities in this AOC (see Section 4.2.3 for details). Soil sample AOC1A-CS-1 was reported to contain PAH SVOCs at concentrations above the SCGs. To mitigate these exceedances a total of 60.23 tons of non-hazardous soil was excavated by TREC and transported to Mill Seat Landfill in Bergen, NY for disposal on February 13, 2012. Disposal documentation is included in Appendix E. Groundwater was not encountered during the remedial activities associated with AOC 1A.

Two (2) confirmatory sidewall and one (1) confirmatory bottom sample were collected to evaluated the effectiveness of the removal activities when field screening indicated that the area of impacts had been removed. None of the three (3) soil samples were reported to contain PAH SVOCs above the laboratory method detection limits and

all laboratory method detection limits were well below the SCOs. Sample locations are shown on Figure 5. Laboratory analytical results are included in Appendix H. The area was backfilled using clean onsite material and recycled masonry products.

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the Site Management Plan (SMP) and Engineering and Institutional Controls.

4.2.7.2 AOC 2: Silver Recovery Wastewater System

A majority of the AOCs at the Site were impacted with Silver, Cadmium, or both. The objective of the scope of work associated with AOC 2 was to decommission by removal the former silver recovery wastewater system, two (2) water service vaults and associated piping, approximately 700 cubic yards of cadmium impacted soil, and approximately 200 cubic yards of metal (cadmium) contaminated weathered bedrock. Table 8 provides a summary of the underground tanks associated with this area.

Table 8. AOC 2 Underground Structure Summary

Structure ID	Historical Use	Approximate Capacity
Tank 1	Silver Recovery Tank	5,000-gallon
Tank 2	Original Water Service Vault	3,000-gallon
Tank 3	Second Generation Water Service Vault	7,000-gallon
Tank 4 (SRV-1)	Silver Recovery Vault	12,000-gallon
SRV 2	Original Silver Recovery Tank	Unknown

One (1) groundwater sample collected within the AOC 2 footprint during the DPI was reported to contain cadmium at a concentration of 8.45 parts-per-billion (ppb) which is above the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 groundwater standard of 5 ppb. As a result the SCO for remedial activities in AOC 2 are the NYS Part 375 RUSCO for the protection of groundwater of 7.5 mg/kg.

A phasing sequence was outlined in WP No. 6 however field conditions and Site

logistics resulted in a deviation to the sequencing. The revised approach attempted to eliminate the source area impacts and vaults prior to exposing the remaining infrastructure and excavation in an attempt to limit cross contamination. The deviations to WP No. 6 are noted within each step where appropriate and are summarized in Table 18.

Aggressive dewatering of ~60,100-gallons of groundwater was conducted during all phases of the AOC 2 work when groundwater was encountered to further reduce the contaminant mass in this area and is discussed in Step 8 (Soil/Bedrock Excavation Work and Groundwater Removal).

The activities associated with the WP No. 6 scope of work are outlined in the order that they occurred below.

Step 1 - Liquid Removal from Structures

Prior to any subsurface excavation or structure removal, all liquids contained within the structures associated with AOC 2 were removed and containerized. This included Tank 1, Tank 3, and Tank 4 (locations shown on Figure 7). A summary of the waste characterization and disposal details is included in Table 9.

Table 9. Liquid Removal From Tanks 1, 3, and 4

Structure	Amount of Liquid Removed (gallons)	Content Waste Characterization	Transporter	Disposal Facility
Tank 1	2,900	Liquid –Hazardous Sludge –Hazardous	NYTECH	CWM Model City
Tank 3	7,000	Liquid – Non Hazardous	None	MCPW
Tank 4*	12,737	Liquid – Hazardous Waste (D006) Residual Sludge – Not Tested	NYETECH	CWM Model City

**12,000-gallons of hazardous liquid was removed from Tank 4 and disposed of off-site by ERSI during building demolition.*

Disposal documentation for the liquid removal is included in Appendix E.

Step 2 - Utility Disconnect

Each subsurface utility was formally disconnected within the Right-of-Way. All tank connecting underground utilities were terminated at the Driving Park Avenue right-of-way in accordance with City of Rochester (water) and Monroe County Pure Water's (MCPW; storm and sanitary sewer) specifications. A LaBella representative was onsite during the utility disconnection to screen soils and no impacts were encountered.

Step 3 - Removal of Tank 1 – Silver Recovery Tank

Tank 1 was located outside of the AOC 2 remedial excavation and was removed prior to the removal of the remaining structures. The tank was surrounded by soil that contained relatively low concentrations of cadmium contamination (up to ~8 ppm) based on XRF screening. Laboratory analytical results of the soil indicated that there were only minor levels of residual cadmium below SCOs and could be reused as backfill. The laboratory analytical results are included in Appendix H. The soils around the tank were excavated to facilitate the removal of the tank. Prior to removal of the tank the interior surface was pressure washed to remove sediment and sludge. The tank was then removed and each tank material was staged separately and sampled as discrete waste streams. Each waste stream was screened with the XRF to aid in the waste characterization process. The waste streams generated as part of the Tank 1 removal and their associated waste characterization and disposal details are shown in Table 10.

Table 10. Tank 1 Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Exterior Soils	~25 cy	Results below SCOs; approved for reuse	NA	NA
Tank 1 Sludge	11 drums	Hazardous Waste	Silvarole	CWM Model City
Tank 1 Wood	~100 pounds	Non Hazardous	Silvarole	CWM Model City

Table 10. Tank 1 Waste Stream Details
(continued)

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Tank 1 Concrete	~6.5 cy	Non Hazardous	Ricelli	Millseat Landfill - Recycling
Tank 1 Fiberglass	0.5 tons	Hazardous Waste (D006)	Silvarole	CWM Model City

Disposal documentation associated with the Tank 1 decommissioning are included in Appendix E.

As specified in WP No. 6, closure confirmation samples for the Tank 1 excavation included samples analyzed during the DPI (GP-12, GP-73, GP-74, and GP-75) as shown on Figure 8. Bottom closure samples were not required because Tank 1 was installed directly on bedrock. Table 11 is a summary of Tank 1 excavation closure sampling.

Table 11. Tank 1 Excavation Closure Samples

Sample ID	Phase of Sampling	Sidewall or Bottom	Depth (ft bgs)	Cadmium Concentration (mg/Kg) (SCO = 7.5 mg/kg)	NYSDEC Soil Protection of Groundwater Cleanup Objective for Cadmium (mg/kg)
GP-12	Pre-Characterization	Sidewall	5	1.11	7.5
GP-73	Pre-Characterization	Sidewall	7.2	0.64	7.5
GP-73	Pre-Characterization	Sidewall	11	0.46	7.5
GP-74	Pre-Characterization	Sidewall	5	0.06 U	7.5
GP-74	Pre-Characterization	Sidewall	11	0.38	7.5
GP-75	Pre-Characterization	Sidewall	1	5.37	7.5
GP-75	Pre-Characterization	Sidewall	9	1.12	7.5

Figure 8 shows the excavation limits and the confirmatory soil sample locations of AOC 2. The associated laboratory analytical reports are included in Appendix H. No

deviations were made from WP No. 6 regarding closure sampling of the Tank 1 excavation.

Step 4 - Removal of Tank 4 – Silver Wastewater Vault

The liquid contents of Tank 4 were removed previous to the initiation of tank removal (see Step 1) and soil excavation activities for AOC 2 as discussed in Step 8. First the sides of Tank 4 were exposed by removing soils around the perimeter. This material was screened by a LaBella representative and staged as either non-impacted material suitable for onsite reuse as backfill or cadmium-impacted soil to be staged, characterized, and disposed of. Once the sides of the tank were exposed the concrete top was hoe rammed, removed, and staged discretely for characterization. The remainder of the tank contents (water, wood, sludge, debris) were then removed and each waste stream was staged discretely for waste characterization and disposal.

Prior to pressure washing and removing Tank 4 a confined space entry plan was developed. A LaBella representative screened the interior sidewalls, inner baffles, and bottom to gain preliminary information regarding waste characterization. Ten (10) locations were screened with an XRF meter and each contained percent level Cadmium (1.2% - 4.7%). Following pressure washing the same areas were screened with an XRF and each location still contained percent level Cadmium (i.e., >10,000 ppm) with no significant decreases due to the pressure washing.

Tank 4 was then hoe rammed and the concrete was removed with the sidewalls and baffles being staged separately than the bottom for waste characterization. Below Tank 4 was a pea stone bedding material that contained 1,000 ppm to 3,000 ppm cadmium when screened with an XRF. This material was excavated and staged as potentially hazardous for cadmium pending waste characterization. The waste streams generated as part of the Tank 4 removal and their associated waste characterization and disposal details are shown in Table 12. All waste disposal documentation is included in Appendix E.

Table 12. Tank 4 Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Water and Rinsate	12 drums	Hazardous Waste (D006)	NYTECH	CWM Model City
Concrete Top and Bottom	~5 cy	Part 360 Disposal	Ricelli	Mill Seat Landfill

Table 12. Tank 4 Waste Stream Details
(continued)

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Concrete Sidewalls	~20 cy	Hazardous Waste (D006)	Silvarole	CWM Model City
Wood	1 cy	Hazardous Waste (D006)	Silvarole	CWM Model City
Pea Stone Bedding	~5 cy	Hazardous Waste (D006)	Silvarole	CWM Model City

As specified in WP No. 6, closure confirmation sampling was not conducted following removal of Tank 4 because the excavation was within the AOC 2 excavation. Closure sampling for AOC 2 is discussed in Step 9 of this section.

Step 5 - Removal of Silver Recovery Vault 2 (SRV 2)

During the removal of the Tank 4 concrete sidewalls and bottom an unknown concrete tank was encountered adjacent to the north of Tank 4, as designated as Silver Recovery Vault 2 (SRV 2) and shown as "SRV 2" on Figure 7. Initially a large piece of concrete (~2.5 ft x 2.5 ft x 15 ft) was removed that had been oriented lengthwise (east to west) between the tanks. A pipe chase ran through this mass of concrete with the pipe protruding from the top approximately halfway down the length of the concrete. XRF screening of this structure indicated that the exposed surfaces contained concentrations of cadmium up to 8.4%. The soil on each side of the tank was excavated and staged with the AOC 2 cadmium-impacted soil. Once SRV 2 was exposed it was apparent that the top had previously been removed, likely at the time Building No. 1 was constructed (mid-1980's). SRV 2 was filled with a black sludge that contained ~1,000 ppm to 2.0% cadmium when screened with the XRF. The concrete sidewalls appeared to be extremely brittle and were of a presumed vintage that predates Tank 4. Historical aerial photos were reviewed and Geographic Information System (GIS) overlays supported the fact that this was the original Silver Recovery Vault that had reportedly been decommissioned prior to the installation of Tank 4.

The black sludge was removed and staged with other AOC 2 materials that contained percent levels of cadmium (i.e. the Tank 4 bedding material). Due to the poor condition of the SRV 2 concrete it was not possible to prescreen the sidewalls and bottom

and to pressure wash prior to removal. The concrete sidewalls and bottom were removed and staged separately. Pea stone bedding material was encounter directly below SRV 2 which contained 1,000 ppm to 1% cadmium. This material was excavated and staged with the other AOC 2 material containing percent levels of cadmium. A composite sample of this material was submitted for laboratory analysis and the material was found to be hazardous for cadmium.

The waste streams generated as part of the SRV 2 removal and their associated waste characterization and disposal details are shown in Table. 13.

Table 13. SRV-2 Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Interior Sludge	~3 cy	Hazardous Waste (D006)	Silvarole	CWM Model City
Concrete Sidewalls and Bottom	~20 cy	Part 360 Disposal	Ricelli	Mill Seat Landfill
Pea Stone Bedding Material	~5 cy	Hazardous Waste (D006)	Silvarole	CWM Model City

Waste disposal documentation is included in Appendix E.

Closure confirmation sampling was not conducted following removal of SRV 2 because the excavation was within the AOC 2 excavation and the tank was directly on bedrock. Closure sampling for AOC 2 is discussed in Step 9.

Step 6 - Removal of Tank 3: Second Generation Water Service Vault

The liquid contents of Tank 3 were removed during Step 1. Prior to tank removal activities the sides of Tank 3 were exposed by removing soils around the perimeter. This material was screened by a LaBella representative and managed as material suitable for future reuse as backfill and cadmium-impacted soil to be staged with the other AOC 2 cadmium-impacted soil. Once the sides of the tank were exposed the concrete top was hoe rammed, removed, and staged discretely for characterization. Several pipes (63' total) were in the interior of the tank and were removed, decontaminated by pressure washing, and recycled as scrap metal.

The inner surfaces of Tank 3 did not contain significant quantities of sediments or sludge so pressure washing prior to removal was not warranted. The sidewalls and bottom contained relatively low concentrations of cadmium based on XRF screening (0-50 ppm) and were removed and staged for waste characterization.

The waste streams generated as part of the Tank 3 removal and their associated waste characterization and disposal details are shown in Table 14. All waste disposal documentation is included in Appendix E.

Table 14. Tank 3 Waste Steam Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Pipes	63’	Scrap	TREC	Metallico
Concrete	~30 cy	Part 360 Disposal	Ricelli	Mill Seat Landfill

As specified in WP No. 6, closure confirmation sampling was not conducted following removal of Tank 3 because the excavation was within the AOC 2 excavation. Closure sampling for AOC 2 is discussed in Step 9.

Step 7 - Removal of Tank 2: Original Water Service Vault

The top of Tank 2 was removed and staged discretely for waste characterization. Tank 2 was full of soil that was excavated as non-impacted material based on previous waste characterization data collected as part of the DPI. Prior to tank removal activities the sides of Tank 2 were exposed by removing soils around the perimeter. This material was screened by a LaBella representative and managed as non-impacted soil suitable for future reuse as backfill. Cadmium-impacted soil was only encountered to the east of Tank 2 and had previously been removed during removal of Tank 3, Tank 4 and SRV 2. The interior surfaces of the tank did not contain elevated levels of heavy metals based on XRF screening. Once the sides of the tank were exposed they were hoe rammed, removed, and staged discretely for waste characterization.

The waste streams generated as part of the Tank 2 removal and their associated waste characterization and disposal details are shown in Table 15.

Table 15. Tank 2 Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Interior Soil	40 cy	On-Site Reuse	NA	NA
Concrete	30 cy	Part 360 Disposal	Ricelli	Mill Seat Landfill

All waste disposal documentation is included in Appendix E.

The sidewall soil closure samples that were utilized for this area of the AOC 2 excavation were collected as part of the DPI and are discussed further in Step 9. It was anticipated that Tank 2 was likely installed on bedrock and as a result bottom closure samples would not be collected. Once the tank was removed it was evident that Tank 2 was installed on soil approximately four (4) feet above bedrock. As a result, two (2) soil samples were collected for laboratory analysis from the bottom of the excavation and the results are shown along with the sidewall closure samples on Figure 8 and also in Table 16.

Table 16. AOC2 and Tank 2 Closure Samples

Sample ID	Phase of Sampling	Sidewall or Bottom?	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Protection of Groundwater Cleanup Objective for Cadmium (mg/kg)
GP-62	Pre-Characterization	Sidewall	10.3	2.14	7.5
GP-63	Pre-Characterization	Sidewall	9	0.68	7.5
GP-64a	Pre-Characterization	Sidewall	6.8	2.89	7.5
GP-159	Pre-Characterization	Sidewall	5	0.27	7.5
GP-159	Pre-Characterization	Sidewall	10.4	0.46	7.5
Bottom-1	Remedial Action	Bottom	6	2.15	7.5
Bottom-2	Remedial Action	Bottom	6	4.85	7.5

It should be noted that sidewall soil closure samples GP-62 and GP-63 were not originally intended as sidewall samples as outlined in WP6, however the remedial excavation extended horizontally such that these samples would represent sidewall excavation samples. All laboratory analytical reports are included in Appendix H.

Step 8 – Soil/Bedrock Excavation and Groundwater Removal

The soil excavation phase of AOC 2 consisted of excavating 763 tons of cadmium impacted soil as shown on Figure 8. The excavation was performed vertically to the top of weathered bedrock and laterally to the areal limits of proposed soil removal specified in WP No. 6. A LaBella representative continuously monitored the soil for indications of impairment from cadmium and silver with an XRF meter. The excavation was advanced until field screening parameters appeared to indicate the limits of the excavation were below the SCOs.

The bedrock ripping and excavation phase of the AOC 2 scope of work was accomplished along with the soil excavation. The material was extremely weathered and fractured and was easily removed to the top of competent bedrock. This material was staged and disposed of with the AOC 2 cadmium-impacted soil. Approximately three (3) feet of weathered bedrock was removed and two areas were advanced 1.5 feet deeper in order to install sumps to pump groundwater. Beneath the weathered bedrock a more competent bedrock layer was encountered. Field screening of the excavation floor with the XRF in approximately fifty (50) locations revealed that the competent bedrock did not contain concentrations of cadmium above 10 ppm in any of the locations. Two (2) competent bedrock samples were collected and submitted for laboratory analysis of Cadmium in order to confirm the XRF screening results of the excavation floor. The laboratory analytical results indicated that Cadmium in the competent bedrock was present at concentrations of 0.221 ppm and 10.1 ppm in the two (2) samples.

During the soil and bedrock excavation groundwater was aggressively and continuously pumped from the excavation to frac tanks in order to remove cadmium and silver impacted groundwater to further reduce the contaminant mass in AOC 2. Each frac tank was sampled when it reached capacity and analytical results were sent to Monroe County Pure Waters (MCPW) for approval to discharge to the local combined sewer. A total of 60,100 gallons of groundwater was removed from AOC 2 and disposed to the MCPW system. The MCPW approvals are included in Appendix E.

Step 9 – Remedial Excavation Closure Sampling

Following the AOC 2 source removal, confirmatory soil sidewall samples were collected. Several soil samples collected and analyzed as part of the DPI were utilized as sidewall closure samples. Additional sidewall samples were collected to meet the requirements of DER guidance document DER-10 based on the resulting excavation footprint size. Soil samples were not collect from the base of the excavation because the

excavation was completed to the top of competent bedrock. The results of the sidewall closure sampling are shown on the following table. Closure sampling locations are shown on Figure 8.

Table 17. AOC 2 Closure Samples

Sample ID	Phase of Sampling	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Protection of Groundwater Cleanup Objective for Cadmium (mg/kg)
GP-63	Pre-Characterization	9	0.68	7.5
GP-64a	Pre-Characterization	6.8	2.89	7.5
ConfSW-1	Remedial Action	11	0.27	7.5
ConfSW-2	Remedial Action	11	0.36	7.5
TP-5	Pre-Characterization	9.5	0.64	7.5
GP-156	Pre-Characterization	10	0.93	7.5
GP-67	Pre-Characterization	7	1.24	7.5
GP-68	Pre-Characterization	11	0.39	7.5
GP-69	Pre-Characterization	11.3	1.19	7.5
ConfSW-8	Remedial Action	9	0.938	7.5
TP-03	Pre-Characterization	9	5.66	7.5
GP-158	Pre-Characterization	7	0.62	7.5
ConfSW-7	Remedial Action	11	1.28	7.5
ConfSW-6	Remedial Action	10	3.59	7.5
GP-159	Pre-Characterization	5	0.23	7.5
GP-159	Pre-Characterization	10.4	0.46	7.5
GP-62	Pre-Characterization	10.3	2.14	7.5
Tank2ConfBot-	Remedial Action	6	2.15	7.5
Tank2ConfBot-	Remedial Action	6	4.85	7.5

It should be noted that sidewall soil closure samples GP-62, TP-03 and GP-63 were not originally intended as sidewall samples as outline in WP No. 6, however the remedial excavation extended horizontally such that these samples would represent sidewall excavation samples. All laboratory analytical reports are included in Appendix H.

Step 10 – In-Situ Groundwater Treatment

Following collection of excavation closure samples, a non-turbid groundwater sample and a turbid (following agitation) groundwater sample were collected in order to assess the post-excavation groundwater quality conditions. The non-turbid groundwater

sample was not reported to contain Cadmium at a concentration above the laboratory method detection limit of 5 ppb. The turbid groundwater sample was reported to contain 201 ppb Cadmium.

In accordance with WP No. 6 DARAMEND®-M (13,000 pounds) was applied to the excavation with approximately 1 ft of groundwater was in the base. DARAMEND®-M is a controlled release organic carbon, zero-valent iron (ZVI), and sulfate source offered by Adventus Americas, Inc. (Adventus). This product produces a metal-sulfide compound that precipitates out of the dissolved phase and sorbs strongly to soil particles. This essentially immobilizes the compound as it remains fixed to the soil matrix. Adventus' technical summary of DARAMEND®-M is included in Appendix J. A mud pump was utilized to mix the DARAMEND®-M and groundwater to ensure equal distribution throughout the base of the excavation. WP No. 6 outlined a plan to pump all of the water from the excavation, mix the DARAMEND®-M into a slurry separately, and then apply directly to the exposed bedrock. Because XRF screening of the base of the excavation revealed lower cadmium concentrations in bedrock than anticipated, the NYSDEC verbally approved the plan to utilize the groundwater to mix the DARAMEND®-M slurry.

Step 11 – Backfill and Site Restoration

Approximately 5 ft of pea stone was imported to the Site from Valley Sand and Gravel to backfill the deeper portion of AOC 2. Geotextile fabric was placed on top of the pea stone and onsite non-impacted material was utilized to backfill the rest of the excavation. The backfill material consisted predominantly of clean stockpiled material from AOC 2 and the overburden in AOC 7, much of which was recycled material from the demolition phase.

AOC 2 Deviations Summary

Site logistics and unforeseen conditions (i.e., the discovery of SRV 2) warranted certain deviations from the steps listed in WP No. 6. Table 18 highlights the major deviations with justifications for each. It should be noted that each of these deviations were discussed and verbally approved at weekly progress meetings with the NYSDEC Project Manager.

Table 18. AOC 2 Deviations

Work Plan Section	Action in Work Plan	Revised Plan/Action	Justification
5.2 - Step 4: Removal of Former Water Service Vault (Tank #2)	It was anticipated that Tank 2 was installed directly on bedrock, thus no bottom confirmatory samples were planned	Two bottom samples were collected as confirmation samples	Tank 2 was not directly on bedrock, and required that two bottom confirmatory samples be collected
5.2 - Step 7: Soil and Bedrock Excavation	Remove approximately the top 3 ft of weathered bedrock layers	Approximately 1.5 ft of weathered bedrock was removed. **Note: some rock may have been removed during vault installation*	Screening & analytical results (bedrock) have indicated that the solid bedrock layer encountered contains only residual Cd and further ripping does not appear to be warranted given the application of Daramend prior to backfilling
5.2 - Step 8: Remedial Excavation Closure Sampling	Use proposed samples from previous investigations as well as confirmatory sidewall samples to meet the closure requirements of DER-10	Use TP-03, GP-62, and GP-63 in addition to previously approved samples as confirmatory sidewall samples for AOC 2 and/or Tank 2 excavations	The remedial excavation extended horizontally such that these samples would represent sidewall post-excavation samples

Table 18. AOC 2 Deviations
(continued)

Work Plan Section	Action in Work Plan	Revised Plan/Action	Justification
5.2 - Step 9: In-Situ Groundwater Treatment	Apply Daramend to the base of the ripped-rock excavation	Apply the Daramend with groundwater in the excavation and mix in place	The exposed bedrock contains only residual levels of Cd so it does not appear to be necessary to ensure the Daramend is applied directly to the bedrock
5.2 - Step 10: Installation of Future Well/Extraction Points	Install two 12 in. well points directly on top of bedrock	Install one 2' groundwater monitoring well following backfilling activities	It does not appear that groundwater extraction and/or application of additional Daramend will be required in the future given that only low-level Cd impacts are left-in-place and that Cadmium does not appear to be present in the dissolved phase at concentrations that exceed the NYSDEC TOGS 1.1.1 Groundwater Standards.

**Note: The steps listed in this table are specific to the steps in WP6 and not in this FER.*

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.7.3 AOC 3A: Former Retention Pond/Burn Pit

A majority of the AOCs at the Site were impacted with Silver, Cadmium, or both. The objective of the scope of work associated with AOC 3A (shown on Figure 4) was to remove cadmium and silver impacted soil to a depth of 3 to 5 ft bgs in a former retention pond and burn pit. Deeper impacts greater than 5 ft bgs and impacts to localized groundwater were not detected during previous investigations and so the Part 375 Commercial Use RUSCO for cadmium of 9.3 mg/kg was used as the SCO for AOC 3A.

Between December 2011 and January 2012 a LaBella representative continuously screened soils using an XRF meter during excavation activities. Cadmium-impacted soil was staged, sampled for waste characterization, and disposed of at High Acres Landfill. The area of excavation generally conformed to the proposed excavation in WP No. 6 however one area required deeper excavation due to exceedances in bottom closure samples, and the sidewalls were advanced beyond the proposed areal extent in areas where general debris (i.e., scrap metal, ash, glassware etc.) were encountered (see Figure 9A). Also a large piece of concrete that was the foundation for the former AST was removed from AOC 3A and required characterization and offsite disposal. A total of 3,467 tons of soil was excavated and disposed of offsite as non-hazardous regulated solid waste.

It was not anticipated that groundwater would be encountered during the AOC 3A excavation work; however, the need for deeper excavation based on XRF meter screening and bottom closure sampling exceedances resulted in the accumulation of groundwater in the excavation which required removal. As such, ~18,350 gallons of groundwater were pumped from the excavation and staged in a frac tank pending waste characterization. The groundwater was approved for discharge to the MCPW system and the approval is provided in Appendix E. This represents the only major WP6 deviation encountered during the AOC 3A phase of remedial activities.

Table 19 contains the disposal details for the waste streams generated during the AOC 3A excavation phase.

Table 19. AOC 3A Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Soil	3,467 tons	Non Hazardous Part 360 Disposal	Decca	Mill Seat Landfill
Groundwater	18,350 gallons	Non Hazardous	None	MCPW
Concrete	~13 cy	Non Hazardous Recycling	Ricelli	Mill Seat Landfill

Following the AOC 3A source removal, confirmatory soil samples were collected. Several soil samples collected and analyzed as part of the DPI were utilized as closure samples. Additional closure samples were collected to meet the requirements of DER-10

based on the resulting excavation footprint (not including areas that were expanded to remove debris). The closure sample results are shown in Table 20. The closure sample locations are shown on Figure 9A and the depths of excavation within AOC 3A are shown on Figure 9B. Two (2) soil samples were also collected from below the former AST concrete foundations and both were reported to contain no VOCs and SVOCs above the laboratory method detection limits.

Table 20. AOC 3A Closure Sample Results

Sample ID	Bottom or Sidewall	Phase of Sampling	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
GP-122	Sidewall	Pre-Characterization Samples	5	0.78	9.3
GP-123	Bottom		5	0.06 U	9.3
GP-139	Bottom		3	0.06 U	9.3
GP-141	Bottom		5	0.06 U	9.3
GP-171	Sidewall		1	0.06 U	9.3
GP-171	Sidewall		3	0.06 U	9.3
GP-172	Bottom		3	0.06 U	9.3
GP-173	Sidewall		3	0.06 U	9.3
GP-174	Bottom		3	0.06 U	9.3
GP-176	Bottom		3	4.95	9.3
GP-200	Bottom		5	0.08 U	9.3
GP-202	Sidewall		3	1.35	9.3
GP-202	Sidewall		5	0.07 U	9.3
GP-205	Sidewall		5	0.09 J	9.3
GP-206	Sidewall		5	0.06 U	9.3
GP-209	Sidewall		1	4.26	9.3
GP-210	Sidewall		1	0.76	9.3
GP-210	Sidewall		5	0.37 U	9.3
GP-211	Sidewall		1	0.36U	9.3
GP-211	Sidewall		3	0.719	9.3
GP-211	Sidewall		5	0.37 U	9.3
AOC3A-CS-1	Sidewall	Remedial Action Closure Samples	2	0.536 U	9.3
AOC3A-CS-2	Sidewall		2	0.557 U	9.3
AOC3A-CS-3	Sidewall		2	0.55 U	9.3
AOC3A-CS-4	Bottom		3	0.554 U	9.3
AOC3A-CS-5	Bottom		3	0.551	9.3

Table 20. AOC 3A Closure Sample Results
(continued)

Sample ID	Bottom or Sidewall	Phase of Sampling	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
AOC3A-CS-6	Sidewall	Remedial Action Closure Samples	2	0.537 J	9.3
AOC3A-CS-7	Bottom		4	0.522 U	9.3
AOC3A-CS-8	Sidewall		2	0.581 U	9.3
AOC3A-CS-10	Sidewall		3.5	0.537 U	9.3
AOC3A-CS-11	Bottom		3	0.577 U	9.3
AOC3A-CS-12	Bottom		5	0.603 U	9.3
AOC3A-CS-13	Bottom		4	0.564 U	9.3
AOC3A-CS-14	Sidewall		4	0.576 U	9.3
AOC3A-CS-15	Sidewall		4	0.602	9.3
AOC3A-CS-16	Sidewall		4	0.64 U	9.3
AOC3A-CS-17	Bottom		5	0.591 U	9.3
AOC3A-CS-18	Bottom		5	0.578 U	9.3
AOC3A-CS-19	Sidewall		4	0.592 U	9.3
AOC3A-CS-20	Sidewall		3.5	0.541 J	9.3
AOC3A-CS-22	Bottom		4	0.56	9.3
AOC3A-CS-23	Bottom		5	0.495 U	9.3
AOC3A-CS-24	Bottom		6	0.563 U	9.3
AOC3A-CS-25	Bottom		4	0.295 U	9.3
AOC3A-CS-27	Bottom		4	0.586 U	9.3
AOC3A-CS-28	Bottom		4	0.612 J	9.3
AOC3A-CS-29	Bottom		4	0.588 U	9.3
AOC3A-CS-30	Sidewall		2.5	0.573 U	9.3
AOC3A-CS-31	Sidewall		2.5	0.741	9.3
AOC3A-CS-32	Sidewall		3	0.550 U	9.3
AOC3A-CS-33	Bottom		4	0.505 U	9.3
AOC3A-CS-34	Bottom		4	0.518 U	9.3
AOC3A-CS-35	Bottom		4.5	0.55 U	9.3
AOC3A-CS-36	Sidewall		3	0.678 U	9.3
AOC3A-CS-37	Sidewall		3	0.589	9.3
AOC3A-CS-38	Sidewall		3	6.15 DM	9.3

All laboratory analytical reports are included in Appendix H.

The AOC 3A excavation was backfilled with clean onsite material that had been approved for reuse.

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.7.4 AOC 4B: Former Chemical Storage Sheds

The objective of the scope of work associate with AOC 4B was to over excavate and dispose of arsenic impacted soil above the SCOs in the area of boring GP-49 from the DPI. A soil sample collected from GP-49 was reported to contain a concentration of arsenic of 18.1 ppm, which is slightly above the commercial use SCO for arsenic of 16 ppm. The remedial action designed to address AOC 4B included removing an approximately 10 ft x 10 ft x 3 ft deep area or approximately 11 cubic yards of material. To mitigate this exceedance a total of 19.89 tons of soil was excavated by TREC and transported to the Mill Seat landfill for disposal on February 14, 2012. Disposal documentation is included in Appendix E. Groundwater was not encountered during the remedial activities associated with AOC 4B. No deviations to WP6 were made during the remedial activities associated with AOC 4B.

Two (2) sidewall and one (1) bottom closure samples were collected to evaluate the effectiveness of the removal activities when field screening indicated that the area of impacts had been adequately removed. Table 21 shows the closure sample analytical results.

Table 21. AOC 4B Closure Sample Results

Sample ID	Sidewall or Bottom	Depth (ft bgs)	Arsenic Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Arsenic (mg/kg)
CS-1	Sidewall	3	3.56	16
CS-2	Sidewall	3	3.8	16
CS-3	Bottom	4	3.95	16

Laboratory analytical results are included in Appendix H. The excavation location and confirmatory closure sample locations are shown on Figure 10. The AOC 4B excavation was backfilled with clean onsite material that had been approved for reuse.

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the

SMP and Engineering and Institutional Controls.

4.2.7.5 AOC 7: Building 2 and 7 Former Wastewater Sumps

A majority of the AOCs at the Site were impacted with Silver, Cadmium, or both. This AOC was initially identified during building demolition using XRF analysis of sub slab soil and the laboratory analysis of soil samples that identified cadmium impacted soil above the SCOs beneath former wastewater collection sumps at the south end of former Building 7 and the basement of former Building 2 as shown on Figure 6. At that time an excavation was performed to remove the source area soils (see Section 4.2.4 for further details). The area of impacts left-in-place following the source removal activities were fully delineated during the DPI. Groundwater samples from wells in AOC 7 indicated that RCRA metals were not detected at concentrations above the NYSDEC TOGS 1.1.1 groundwater standards. The objective of the remedial measures associated with AOC 7 were to over excavate approximately 370 cubic yards of cadmium impacted source area soils and 110 cubic yards of weathered bedrock not removed during the source removal action.

The remedial excavation began with the removal of clean fills that were placed during the demolition phase. These materials included clean imported fills and recycled onsite masonry products. Approximately 870 cubic yards (~7 ft thick layer over entire footprint) of clean fill was removed and staged for reuse as backfill within AOC 2 and for final grading. The remaining soil in the AOC 7 remedial excavation footprint was characterized as cadmium-impacted material during the DPI. Approximately 270 cubic yards was excavated, staged, and removed from the Site for disposal at Mill Seat Landfill as a non-hazardous regulated solid waste. Subsequently approximately 3 ft of weathered bedrock was removed from the areas outlined in WP No. 6 where rock ripping and removal was required. This material was screened using an XRF meter which indicated that the excavated rock did not contain significantly elevated levels of cadmium (>50 ppm) so the material was combined with the staged cadmium-impacted soil from AOC 7 for waste characterization sampling and disposal. Additionally two (2) temporary sumps were installed in the rock removal areas by advancing these areas two (2) feet deeper than the rest of the excavation to facilitate groundwater removal to further reduce the contaminant mass in this area and also to assist with excavating down into the weathered bedrock, and to allow LaBella to safely enter the excavation to perform field screening of the sidewalls and rock.

The waste streams generated as part of the AOC 7 remedial activities and their associated waste characterization and disposal details are shown in Table 22.

Table 22. AOC 7 Waste Stream Details

Waste Stream	Approximate Quantity	Waste Characterization	Transporter	Disposal Facility
Soil & Weathered Bedrock	773 tons	Non Hazardous Part 360 Disposal	Decca & Ricelli	Mill Seat Landfill
Groundwater	34,000 gallons	Non Hazardous	None	MCPW

As specified in WP No. 6, closure confirmation samples for the AOC 7 excavation included samples analyzed during the DPI as shown on Figure 11. Additional closure samples were collected following the excavation activities to meet the requirements of DER-10. Soil samples were not collected from the base of the excavation because the excavation was completed to the top of bedrock. Table 23 summarizes the excavation closure sampling associated with AOC 7.

Table 23. AOC 7 Closure Sample Results

Sample ID	Phase of Sampling	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
GP-78	Pre-Characterization Samples	10.8	0.49	9.3
GP-82		9	4.2	9.3
GP-83		11.6	0.25	9.3
GP-86		9	4.55	9.3
GP-87		10.3	0.43	9.3
GP-88		7	0.31	9.3
GP-89		7	3.29	9.3
GP-92		9.3	0.44	9.3
GP-93		9	2.05	9.3
GP-94		9.3	1.56	9.3
GP-95		9.6	0.49	9.3
GP-96		7	0.34	9.3
GP-182		5	3.56	9.3
GP-188		9	0.07 U	9.3
GP-194		7	0.16 J	9.3
GP-195		7	0.08 J	9.3
GP-195		9	0.07 U	9.3
GP-196		7	0.07 U	9.3
GP-196		9	0.16 J	9.3
GP-199		7	2.54	9.3

Table 23. AOC 7 Closure Sample Results
(continued)

Sample ID	Phase of Sampling	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
GP-199	Pre-Characterization Samples	9	0.06 U	9.3
TP-08		3*	0.3 U	9.3
AOC7-SW-01	Remedial Action Closure Samples	9.5	0.974	9.3
AOC7-SW-02		9.5	6.19	9.3
AOC7-SW-03		9.5	4.1	9.3
AOC7-SW-04		9.5	0.86	9.3
AOC7-SW-05		9.5	0.636	9.3
AOC7-SW-06		9.5	2.57	9.3
AOC7-SW-08		9.5	0.833	9.3
AOC7-SW-09		9.5	7.3	9.3
AOC7-SW-10		9.5	0.35	9.3
AOC7-SW-12		9.5	0.559	9.3

** This sample was collected 3-feet below the former basement floor slab.*

All laboratory analytical reports are include in Appendix H and the excavation limits and closure sample locations are shown on Figure 11.

Following the collection of excavation closure samples and prior to initiation of backfilling activities, 700 pounds of DARAMEND®-M was applied to the combined Building 2 and Building 7 bedrock removal excavation. Approximately 8 inches of groundwater was left in the base of the excavation when the DARAMEND®-M was applied and a mud pump was used to mix the slurry to ensure equal distribution. WP No. 6 indicated that the slurry should be mixed first and then applied onto dewatered bedrock. XRF screening of the base of the excavation revealed lower cadmium concentrations in the bedrock than anticipated and the NYSDEC verbally approved of using the groundwater in place as opposed to mixing the slurry first and then applying.

Approximately 3 ft of pea stone was imported from Valley Sand and Gravel to the Site to backfill the base of the AOC 7 excavation. Geotextile fabric was placed on top of the pea stone and onsite clean material was utilized to backfill the remainder of the excavation.

AOC 7 Deviations Summary

Site logistics warranted certain deviations from the steps listed in WP No. 6. Table 24 highlights the major deviations with justifications for each. It should be noted that each of these deviations were discussed and verbally approved at weekly progress meetings with the NYSDEC Project Manager.

Table 24. AOC 7 Deviations

Work Plan Section	Action in Work Plan	Revised Plan/Action	Justification
5.5 – Phasing Sequence	To excavate the Building 2 and Building 7 source areas separately	Excavation of both areas concurrently	The contractor requested that the two areas be combined due to logistics concerning excavation safety and efficiency.
5.5 – Steps 4 & 9: In-situ Groundwater Treatment	Apply Daramend to the base of the ripped-rock excavation	Apply the Daramend with groundwater in the excavation and mix in place	The exposed bedrock contains only residual levels of Cd so it does not appear to be necessary to ensure the Daramend is applied directly to the bedrock
5.5 - Steps 5 & 10: Installation of Future Well/Extraction Points	Install two 12 in. well points directly on top of bedrock	Install one 2' groundwater monitoring well following backfilling activities	It does not appear that groundwater extraction and/or application of additional Daramend will be required in the future given that only low-level Cd impacts are left-in-place and they don't appear to be present in the dissolved phase at concentrations that exceed the NYSDEC TOGS 1.1.1 Groundwater Standards.

**Note: The steps listed in this table are specific to the steps in WP No. 6 and not in this FER.*

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.7.6 AOC 13: South Drainage Swale

A majority of the AOCs at the Site were impacted with Silver, Cadmium, or both. This AOC was identified during the DPI through XRF screening and the collection and

laboratory analysis of soil samples that indicated the shallow swale sediment was impacted by cadmium above the SCOs. The objective of the remedial measures associated with AOC 13 was to over excavate approximately 270 cubic yards of cadmium impacted swale sediment.

The area of excavation was approximately 100 ft x 20 ft x 4 ft deep as shown on Figure 12. A LaBella representative continuously monitored during the swale sediment excavation for evidence of impairment. A total of 410.46 tons of cadmium impacted swale sediment were excavated, staged, sampled for waste characterization, and disposed of as a non-hazardous solid waste at Mill Seat Landfill by Decca and Silvarole. The excavation was advanced until field screening indicated that the excavation limits were below SCOs. A total of eight (8) sidewall and two (2) bottom confirmatory closure samples were collected for laboratory analysis to evaluate the effectiveness of the remedial actions. The confirmatory sampling results are shown in Table 25.

Table 25. AOC 13 Closure Sample Results

Sample ID	Sidewall or Bottom	Depth (ft bgs)	Cadmium Concentration (mg/Kg)	NYSDEC Soil Commercial Cleanup Objective for Cadmium (mg/kg)
AOC 13-CS-1	Sidewall	5.5	0.707	9.3
AOC 13-CS-2	Sidewall	5.5	0.559 U	9.3
AOC 13-CS-3	Bottom	6	0.328 J	9.3
AOC 13-CS-4	Sidewall	5.5	0.21 J	9.3
AOC 13-CS-5	Sidewall	5.5	0.49	9.3
AOC 13-CS-6	Sidewall	5.5	0.55	9.3
AOC 13-CS-7	Sidewall	5.5	0.33 U	9.3
AOC 13-CS-8	Sidewall	5.5	0.36 J	9.3
AOC 13-CS-9	Sidewall	5.5	0.09 J	9.3
AOC 13-CS-10	Bottom	6	0.37	9.3

Waste disposal documentation is included in Appendix E.

All laboratory analytical reports are included in Appendix H. The excavation was then backfilled with clean onsite material to the finished design grades.

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.7.7 Underground Pipe and Historic Infrastructure Removal

Historic underground infrastructure located outside the footprints of structures demolished during the demolition phase was left-in-place to be removed under the work for WP No. 6. Knowledge of the historic use of each pipe or drop-inlet was used to guide the removal.

Decommissioning of Silver Recovery and Wastewater Pipes:

Removal of silver recovery and wastewater piping was handled as a discrete task due to the likelihood that potentially hazardous levels of silver or cadmium may be encountered. Each pipe was located, exposed so that the condition and the surrounding soils could be evaluated, removed, and decontaminated by pressure washing in a decontamination area. Any sludge contained in these pipes was removed and screened for indications of impairment. A minor amount of sludge containing elevated levels of cadmium (100-1,000 ppm) was removed, staged and disposed of off-Site . The pipe was clay and appeared to be in good condition. The pipe was installed directly on top of bedrock and surrounding soils did not exhibit evidence of impairment. A total of 603 ft of silver recovery or wastewater piping was removed, decontaminated, and disposed of offsite as scrap metal. All metal piping was taken to Metallico of Rochester as scrap and the clay tile piping was disposed of at CWM Model City. Figure 13 shows the former locations of the silver recovery and wastewater piping that was removed. Waste disposal documentation is included in Appendix E.

Decommissioning of Drainage Structures:

Five (5) drainage structures at the Site were removed as part of the WP No. 6 phase. Each was exposed and the surrounding soils were evaluated for evidence of impairment. Any remaining liquid/sludge was removed and screened for evidence of impairment. No impacted soil was encountered while excavating any of the structures based on field observations and PID and XRF screening. Each was removed, staged, and investigated further for evidence of impairment. One (1) apparent dry well located in the eastern portion of the Site contained a minor amount (4 inches) of stained sludge in its base. This material was segregated for disposal along with the elevated cadmium impacted material from AOC 2. No impacts were observed in the surrounding soils. Table 26 shows details associated with the removal and sampling of each structure.

Table 26. Removed Structure Sample Results

Structure	Location	Closure Analyses	Laboratory Results	NYSDEC Soil Commercial Cleanup Objectives (mg/kg)
Dry Well	Eastern portion of Site	Cadmium	0.599 M	9.3
		TCL VOCs	No detections	NA
Manhole (3'x3'x8')	Northern portion of Site	Cadmium	0.554 U	9.3
Manhole (3'x3'x8')	South of Former Building 12	NA	NA	NA
Mahole (3'x3'x3')	West of Former Building 9	NA	NA	NA
Manhole (4'x4'x12')	Adjacent to Driving Park Avenue	Directly on Bedrock; Not Sampled	NA	NA

All laboratory analytical reports associated with soil samples collected during historic infrastructure removal are included in Appendix H.

Removal of Water, Storm, Gas, and Electric Pipes:

All water, storm, gas, and electrical piping were removed from the Site. The only area where piping had to remain in-place was along the eastern boundary where the removal of two (2) segments of water main piping was deemed structurally unsafe due to the presence of two (2) adjacent utility poles. The segments that were left in-place were approximately 16 ft in length and are shown on Figure 14. The rest of the piping was exposed and disposed of as either scrap metal or C&D debris. A total of 2,434 ft of water, storm, gas and electric pipes were removed and no evidence of impairment was encountered in the resulting trenches. The location and type of former piping removed is shown on Figure 13. Waste disposal documentation is included in Appendix E.

Removal of Buried Asbestos Pipe:

Approximately forty (40) LF of asbestos piping was removed from an area just west of the former building 9. The asbestos piping was removed by a LVI Services, a NYSDOL Licensed asbestos abatement contractor. Approximately three (3) cubic yards of asbestos waste from this activity was bagged and disposed of at the High Acres Landfill, Fairport, NY. Disposal documentation for this phase of demolition is included in Appendix E.

Backfilling of Pipe Removal Trenches

Each resulting pipe removal trench was backfilled with clean onsite material or imported fill material that was from a NYSDEC approved source as discussed in Section 4.5.

The remedial measures implemented to address historic infrastructure were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.8 Area of Concern #14 Work Plan

This work plan was developed in response to encountering petroleum impacted soil along the eastern portion of the Site while excavating historic infrastructure. Stained soils, nuisance petroleum odors and low PID readings were observed during the removal of a water main (~3-4' below ground surface [bgs]) and a former electrical pipe conduit (~3-4' bgs). The removal of the water main was not completed at the time due to the observed impacts. Additionally, a sheen developed on groundwater that accumulated in the water main excavation.

In an effort to delineate the vertical and horizontal extent of petroleum impacts in AOC-14 previous data from the DPI was reviewed and ten (10) test pits were advanced. The combination of the DPI information and the test pitting investigation delineated the extent of the petroleum impacts.

The objective of this scope of work was to remove the petroleum impacted soil. The excavation was continuously screened by a LaBella representative with a PID as well as for visual and olfactory indications of impairment.

A total of 329.7 tons of impacted material was removed from AOC-14 and disposed of off-site at Mill Seat Landfill as a non-hazardous regulated solid waste. The depth of soil impacts ranged from 4 to 11 feet bgs and the varying depths within AOC 14 are shown on Figure 15B. Groundwater was aggressively removed throughout the remedial actions to further reduce the contaminant mass in the area. A total of approximately 600 gallons of groundwater was pumped from the excavation, staged in a frac tank, and discharged to the MCPW system in accordance with the discharge permit provided in Appendix E. Three (3) bottom and thirteen (13) sidewall confirmation soil samples were collected and analyzed for VOC's, VOCs and metals. All of the confirmation sample results were below the SCOs for a commercial site. Attachment 3 includes a table that shows the results of the confirmation soil sampling and locations are shown on Figure 15A.

The excavation was then backfilled with clean onsite material to the finished design grades. All laboratory analytical reports are included in Appendix H. No deviations from the work plan were required.

The remedial measures implemented within this AOC were successful in meeting the remedial objectives, and residual soil contamination exceeding the SCOs is not present. Additional remedial measures are not warranted other than compliance with the SMP and Engineering and Institutional Controls.

4.2.9 Work Plan No. 7 – Post-Remediation Groundwater Monitoring

WP No. 7 was developed to facilitate the groundwater monitoring portion of the Site remedy in order to provide coverage of excavated AOCs and facilitate the determination of groundwater flow. This phase of work included the installation and sampling of nine (9) new groundwater monitoring wells. The monitoring well installation work was completed by Nature's Way Environmental between June 11 and June 19, 2012. Three (3) groundwater monitoring wells that were installed during the DPI were also sampled during this phase of the project. The groundwater monitoring wells at the site are all bedrock interface wells installed up to five (5) feet into competent bedrock. Each of the groundwater monitoring wells was sampled twice and the results are discussed below. All monitoring well development and sampling was done in accordance with WP No. 7.

4.2.9.1 Groundwater Contours

Standing water level (SWL) measurements collected during the groundwater sampling events indicate that the surface of the uppermost water-bearing zone is present approximately 5 to 16.5-ft bgs. The SWLs collected were used to calculate groundwater elevations. All groundwater elevations were made relative to a site-specific vertical datum. Groundwater contours are shown on Figure 16.

Groundwater contours developed from SWL measurements collected during the groundwater sampling event indicate that general groundwater flow at the Site is from the north to the south.

4.2.9.2 Post Remediation Groundwater Monitoring

All groundwater monitoring activities were conducted in conformance with low flow sampling methodologies outlined in DER-10. The results of the groundwater monitoring are summarized in Attachment 4 and are compared to the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards. The May 2005 sampling data summary tables from the Environmental Site Investigation / Remedial Alternatives Report (Day

Environmental, January 2006), are included as Appendix K for comparison purposes. The significant findings of the 2012 post remediation groundwater monitoring are summarized below:

- Metals were detected above the laboratory method detection limits (MDLs) in each of the twelve groundwater samples; however, none of the results exceeded the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards.
- One SVOC analyte was detected above the laboratory MDLs in RMW-3 (Acenapthene) and RMW-4 (Napthalene); however, none of the results exceeded the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards.
- No VOC analytes were detected above the laboratory MDLs in wells RMW-5 and Well-07
- VOC analytes were detected above the laboratory MDLs in RMW-1, RMW-2, RMW-6, and Well-04; however, none of the results exceeded the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards.
- VOC analytes exceeded the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards in wells RMW-3, RMW-4, RMW-7, RMW-8, RMW-9 and Well-09.
- Most of the VOCs detected were Chlorinated VOCs (CVOCs) which were not previously detected on-site in soil samples, and the highest concentrations of CVOCs was in RMW-9 located on the southern portion of the Site which was not used for historic Photech manufacturing operations.

It is suspected that the VOCs detected within RMW-9 are a result of off-site impact migration onto the Site from the property to the west which was historically utilized by General Motors Component Holding, LLC. and is currently occupied by the Delphi Auto Systems facility. This Site is a Hazardous Waste Site due in part to documented groundwater contamination. Analytical groundwater data from the Delphi facility indicates similar VOC impacts to groundwater associated with the Delphi spills. A report showing these analytical results is included in Appendix L.

Groundwater monitoring wells that are disturbed during future redevelopment will be decommissioned in accordance with DER-10 prior to redevelopment activities.

4.3 CAMP RESULTS

The CAMP was adhered to during ground intrusive remedial activities and during any onsite activity that had the potential to create particulates (i.e., truck traffic, site grading, etc.). Particulate concentrations as well as VOC concentrations were monitored as part of the CAMP. These readings were observed and recorded at both an upwind and

downwind location during ground intrusive work and while contaminated material was being handled. Particulates were measured using a TSI Dustrak 8520 aerosol particulate monitor and VOCs were measured using a MiniRae photo-ionization detector (PID). Action levels as specified in the NYSDOH Generic CAMP for both particulates (100 micrograms per cubic meter) and VOCs (5 ppm) were adhered to during the intrusive remedial activities. Action levels for both VOCs and particulates were not exceeded during the remedial work. Measures were taken throughout the project to ensure that action levels were not exceeded including the installation of haul roads and the use of a water truck.

Copies of all field data sheets relating to the CAMP are provided in electronic format in Appendix C.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

Data Usability Summary Reports (DUSRs) were prepared by for all data generated in this remedial performance evaluation program. These DUSRs are included in Appendix M, and associated raw analytical data is provided electronically in Appendix H. The results of the DUSRs indicate that only minor variances were noted and generally all of the data was usable. The minor variances are noted in the table provided as Attachment 5.

4.5 IMPORTED BACKFILL

Materials utilized as backfill for demolition and remediation excavations consisted of clean on-site material, and materials preapproved for use by the NYSDEC and imported to the Site. These materials include soil that was stockpiled at South Plymouth Street in the City of Rochester (approximately 1,200 cubic yards), bank run material provided by Elam of Mendon, New York, and pea stone imported to the Site from Valley Sand and Gravel. The approvals for the use of these materials at the Site are provided in Appendix F.

4.6 CONTAMINATION REMAINING AT THE SITE

The remedial actions successfully removed all soil contamination from the Site above the SCGs. Therefore, there is no remaining soil contamination at the Site given its current and future uses as a commercial site.

Groundwater monitoring results have indicated that no metals or SVOCs are present in the Site groundwater above the NYSDEC TOGS 1.1.1 Ambient Groundwater

Standards. The presence of VOCs above the NYSDEC TOGS 1.1.1 Ambient Groundwater Standards detected within RMW-9 are likely due to off-site groundwater migration from the neighboring Delphi Auto Systems property which has a history of soil and groundwater contamination of the same VOCs as detected within RMW-9. In order to mitigate the VOCs present, on-site future Site buildings should be equipped with a soil vapor mitigation systems.

4.7 SITE RESTORATION

4.7.1 Stormwater Infrastructure

Three stormwater structures and associated piping were installed during the restoration following remedial activities to restore proper drainage and stormwater control at the Site. These structures included a manhole, two drop inlets and approximately 215 linear feet of stormwater piping as shown on Figure 14.

Specifically a drop inlet was installed along with 50 linear feet of underdrain within the swale in AOC 13. Piping was installed to convey stormwater from the drop inlet to a new manhole installed in the vicinity of a historic manhole located adjacent to Driving Park Avenue, shown on Figure 14. Piping which conveyed water from the historic manhole to the Monroe County Pure Waters system was replaced with the installation of the new manhole, however, the existing connection to the MCPW system was utilized.

A second drop inlet was installed at the northern end of the Site as shown on Figure 14. This structure, along with the existing drainage swale, convey stormwater runoff from the northern portion of the Site to the MCPW system. The new northern drop inlet utilizes historic stormwater piping to convey stormwater to the MCPW system. Field screening indicated that no evidence of impairment was present in sediment that was in the historic piping. In addition the piping structural integrity was evaluated via remote closed circuit television (CCTV). The CCTV inspection revealed no structural defects, however, pipe cleaning was required due to a large amount of sediment accumulation. The grading plan and design specification for the new on-site infrastructure are provided in Appendix N.

Additional stormwater controls included the application of Hydroseed over the disturbed portion of the Site. Hydroseed provides initial stability and vegetative growth in order to prevent sediment run-off.

4.7.2 Site Security

In order to secure the entire parcel, approximately 325 linear feet of additional fencing was installed at the southern end of the Site as shown on Figure 14. During this work approximately 200 linear feet of existing fencing which divided the southern end of the Site parcel was removed.

4.7.3 Backfill Compaction

During the backfilling of Site remedial excavations and trenches, the proposed future layout of the Site was considered, Figure 18. Structural fill was imported and compacted to the 95% standard in areas of proposed roadways and buildings. Soil compaction oversight was provided by Foundation Design, P.C. The Foundation Design Site observation reports can be found in Appendix G. A variety of fill materials were used throughout the demolition and remediation phases of the project as shown on Figure 19.

4.8 ENGINEERING CONTROLS

The remedy for the Site did not require the construction of any other engineering control systems. However, in accordance with Site Management Plan (SMP) associated with the Site, soil vapor mitigation systems will be required in future Site buildings. The SMP is included with this document as Appendix O.

General efforts in the Site restoration and future use included engineering controls with respect to soil compaction, site security and stormwater management.

4.9 INSTITUTIONAL CONTROLS

The Site remedy requires that an environmental easement be placed on the property to limit the use and development of the Site to commercial and industrial uses only.

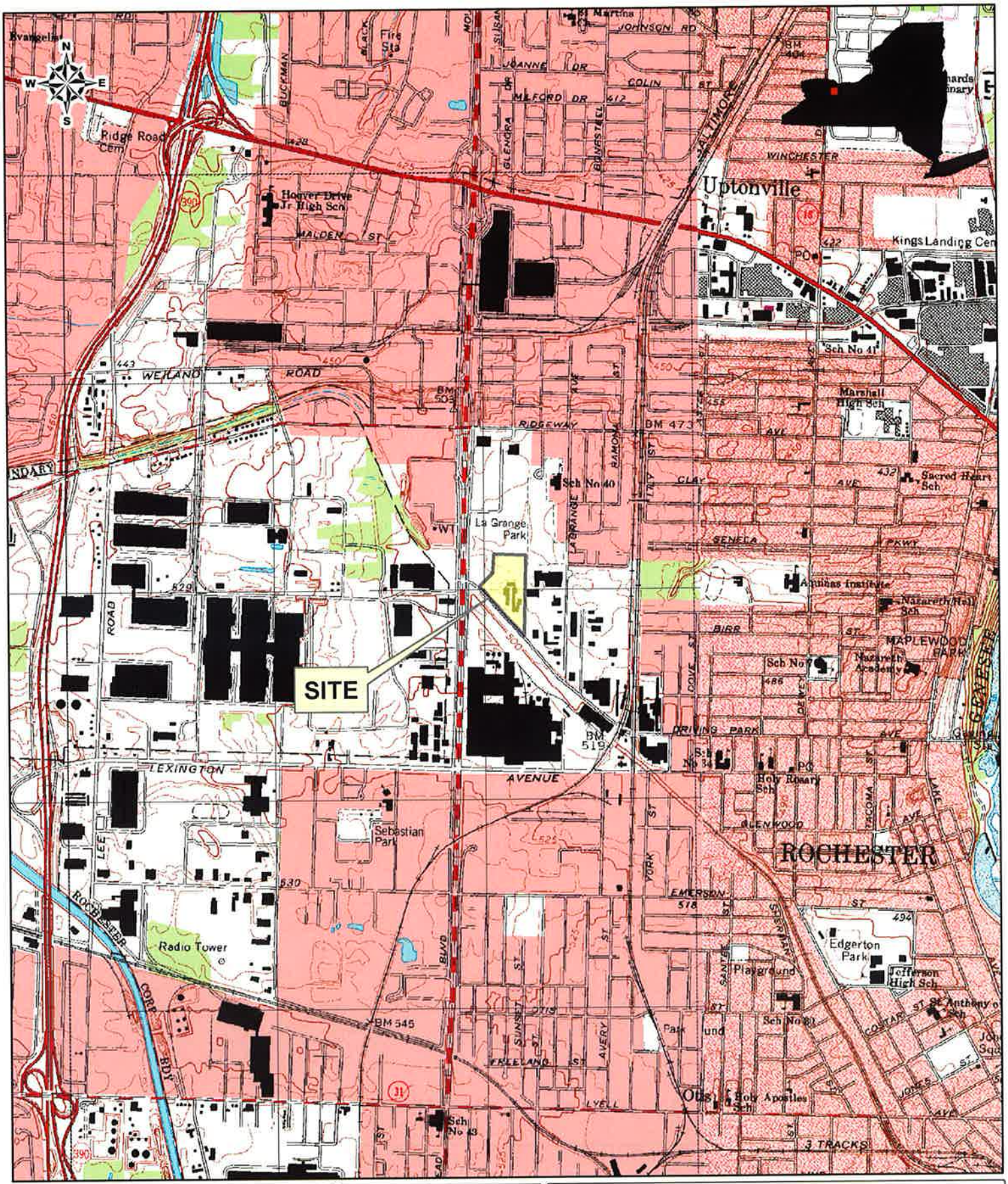
The environmental easement for the Site was executed by the Department on November 26, 2013, and filed with the Monroe County Clerk on December 23, 2013. The County Recording Identifier number for this filing is Liber 11342 of Deeds, at page 516. A copy of the easement and proof of filing is provided in Appendix P.

As a local government institutional control (IC), the City will "flag" the Site on the City's electronic Building Information System (BIS) database. This IC will require that prior to the issuing any new permits for the Site, an environmental review of the proposed permit action will be performed by the City's DEQ and the NYSDEC. This process allows

the City and the NYSDEC to work directly with the permit applicant to identify any environmental conditions at the Site that might have the potential to impact the propose work. If the proposed permit and associated work has the potential to disturb residual contamination at the Site, the permit applicant is provided with a copy of the SMP, and all new permits will contain a permit condition requiring that all new work be completed in compliance with the SMP. This IC ensures that the existing environmental conditions are considered (and mitigated if warranted) prior to issuing a new permit. Furthermore, this process ensures that the proposed permit action does not result in uncontrolled and unanticipated disturbance of residual contamination, and does not result in an unacceptable exposure to Site contamination by on-site construction workers, on-site occupants or the nearby community. This process also allows the City, the NYSDEC and other appropriate regulatory agencies the opportunity to require implementation of a project-specific environmental management plan if warranted.

5.0 PROJECT RELATED COSTS

The project related costs including bid tabulations and a summary of change orders is provided as Appendix R.



209288

FIGURE 1

SITE LOCATION WITH USGS 7.5 MINUTE TOPO MAP ROCHESTER WEST QUAD
1:24,000

ISSUED FOR: REVIEW
DESIGNED: RCN
DRAWN: RCN
DATE: 7/10/2009
INVESTIGATION: DEP

PROJECT/CLIENT
CITY OF ROCHESTER

FINAL ENGINEERING REPORT

FORMER PHOTECH IMAGING FACILITY
1,000 DRIVING PARK AVENUE
ROCHESTER, NY

LABELLA Associates, D.P.C.
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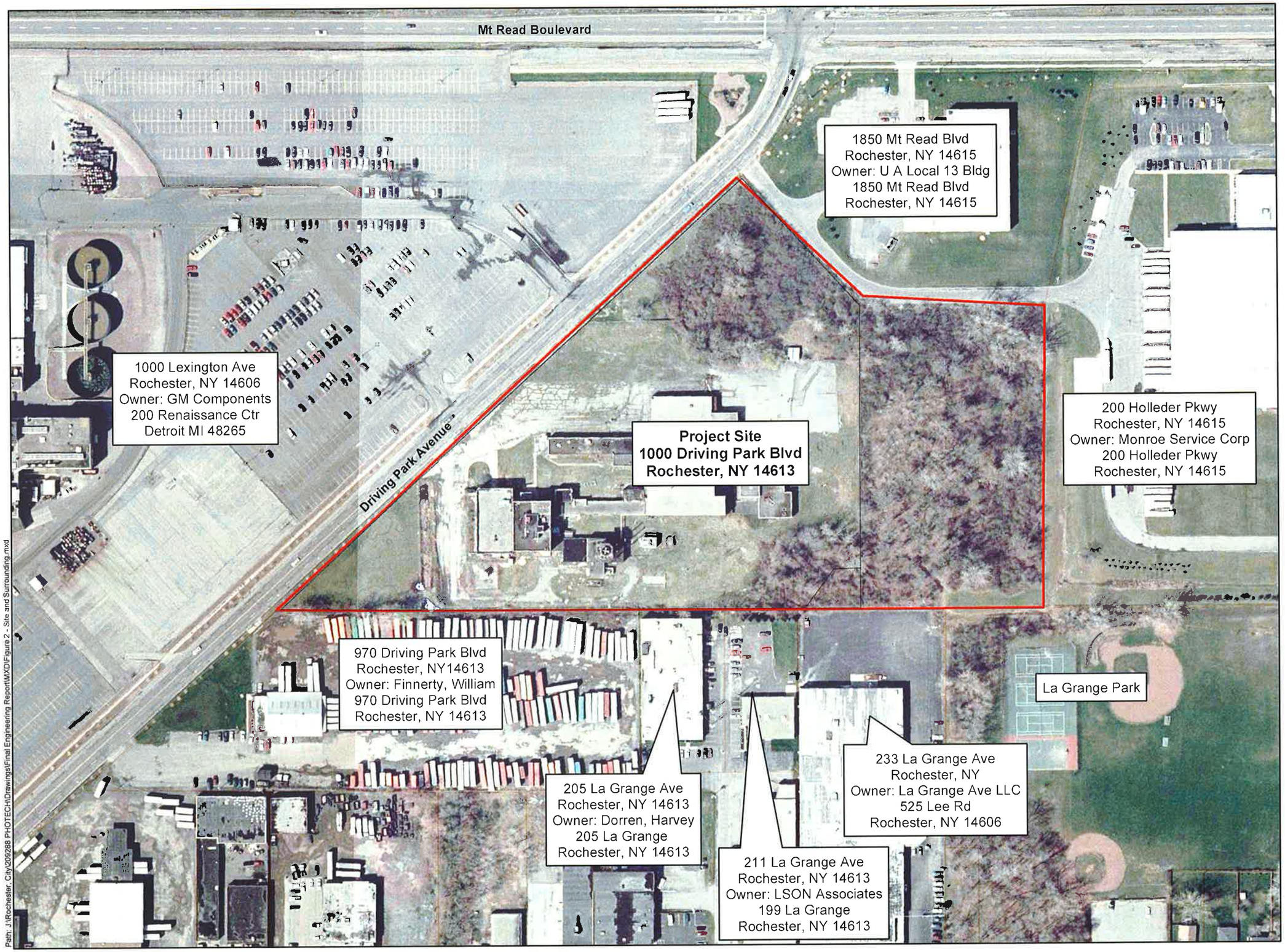

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 2 - Site and Surrounding.mxd

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ROCHESTER, NEW YORK

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PROJECT SITE MAP
AND
SURROUNDING PROPERTIES

W S N E

0 50 100 200
Feet

1 inch = 150 feet

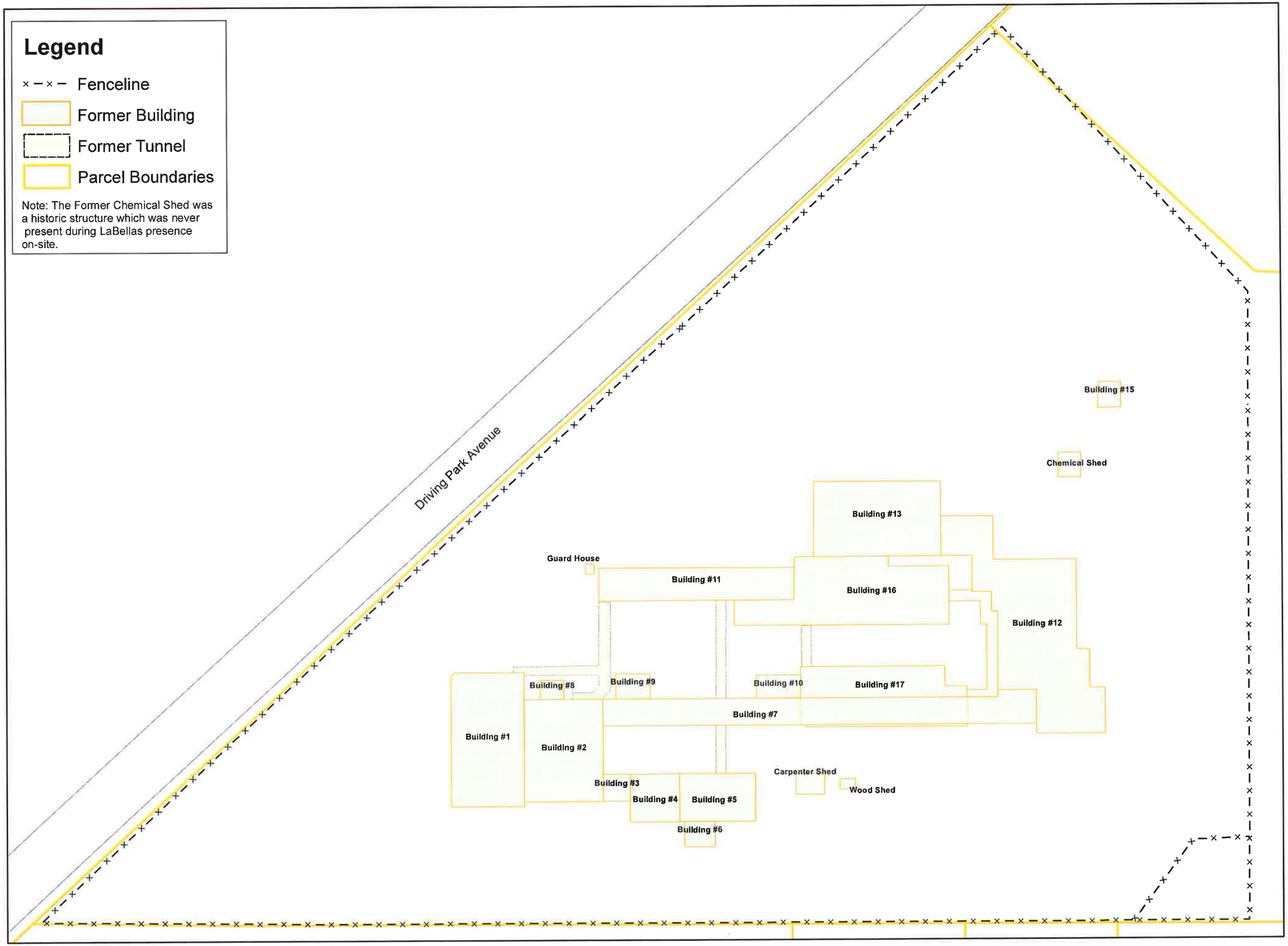
209288

FIGURE 2

Legend

- Fenceline
- Former Building
- Former Tunnel
- Parcel Boundaries

Note: The Former Chemical Shed was a historic structure which was never present during LaBellas presence on-site.



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FORMER SITE BUILDINGS

0 40 80
Feet

1 inch = 72 feet

209288

FIGURE 3

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 3 - Former Buildings.mxd

Legend

- Fenceline
- AOC Excavations
- Former Building
- Swale
- Wetland Area
- Parcel Boundary
- Former Tunnel

Driving Park Avenue

AOC 1B

AOC 4B

AOC 2

AOC 13

AOC 7

AOC 1A

AOC 14

AOC 3A

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 4 - AOC Map.mxd

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SITE WIDE:
AREA OF CONCERN
EXCAVATIONS

W S N E

0 20 40 80
Feet

1 inch = 55 feet

209288

FIGURE 4

Legend

- Bottom Confirmation Soil Samples
- Sidewall Confirmation Soil Samples
- AOC 1A and 1B Remedial Excavation (Sept, 2010)
- AOC 1A Remedial Excavation (Jan, 2012)
- Former Building

Note: 1) AOC 1A was excavated to a depth of 3 feet below ground surface.
2) AOC 1B was excavated to a depth of 8 feet below ground surface.
3) All confirmation samples were analyzed for PAH SVOCs, no exceedences were reported.

AOC1B-CS-3
Depth = 8'

AOC1B-CS-2
Depth = 8'

AOC1B-CS-1
Depth = 8'

AOC 1B

Building #11

AOC1A-CS-11
Depth = 3'

AOC1A-CS-8
Depth = 3'

Building #16

AOC1A-CS-6
Depth = 2'

AOC1A-CS-12
Depth = 3'

AOC1A-CS-10
Depth = 3'

AOC 1A

AOC1A-CS-1
Depth = 2'

AOC1A-CS-1'
Depth = 4'

AOC1A-CS-3R'
Depth = 3'

AOC1A-CS-9
Depth = 3'

AOC1A-CS-5
Depth = 2'

AOC1A-CS-7
Depth = 2'

AOC1A-CS-2'
Depth = 3'

AOC1A-CS-4
Depth = 2'

AOC1A-CS-3
Depth = 2'

AOC1A-CS-2
Depth = 2'

Building #9

Building #10

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 5 - AOC1.mxd

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AREA OF CONCERN 1A AND 1B: LIMIT OF REMEDIAL EXCAVATION AND CONFIRMATION SAMPLE LOCATIONS

0 10 20
Feet

1 inch = 12 feet

STATE OF NEW YORK
JASON ALAN JASKOWIAK
LICENSED PROFESSIONAL ENGINEER
092398

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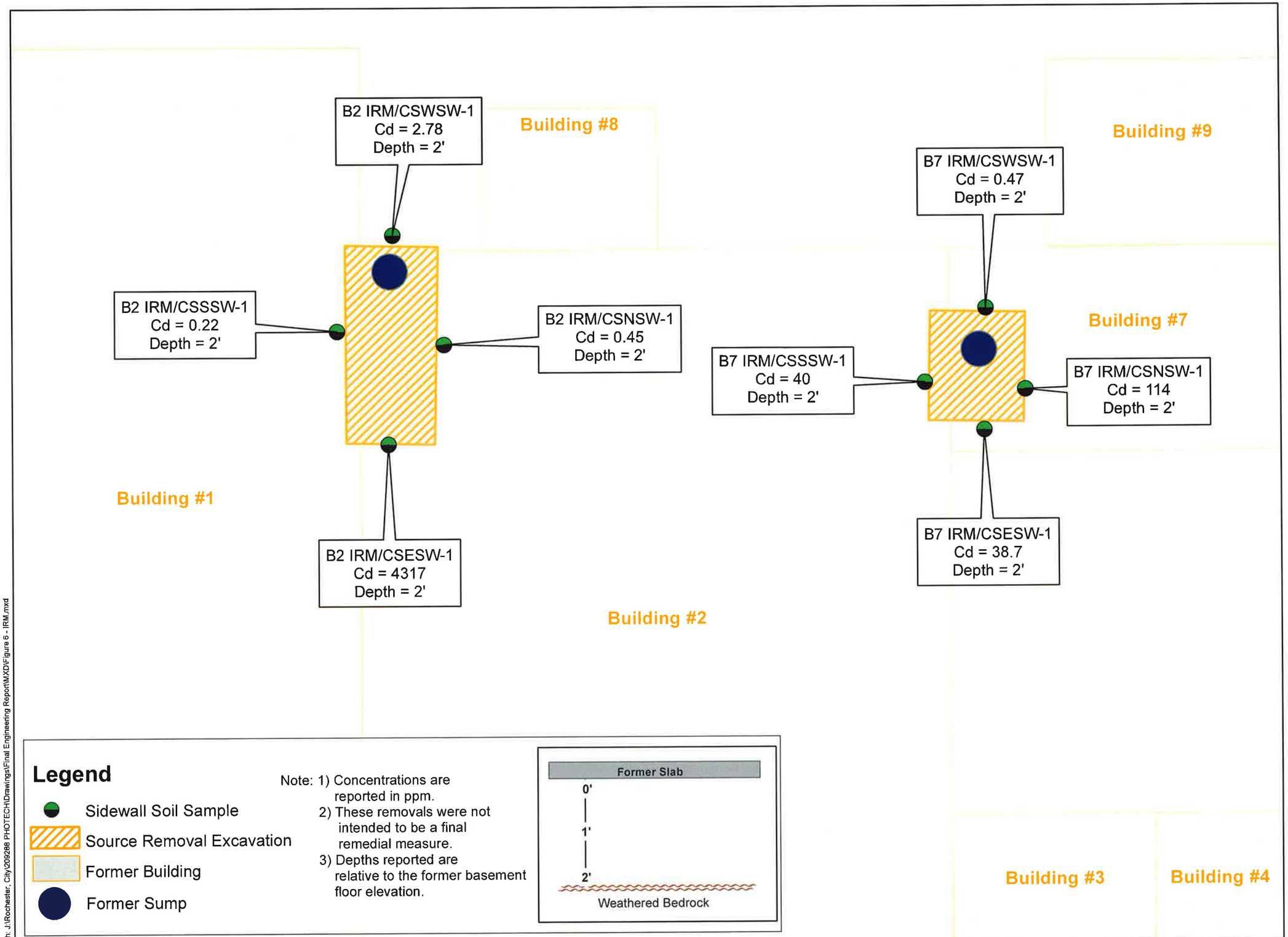
FIGURE 5



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 6 - IRM.mxd

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SOURCE REMOVAL ACTION:
LIMIT OF REMEDIAL EXCAVATION AND SAMPLE LOCATIONS

0 5 10
Feet
1 inch = 10 feet

STATE OF NEW YORK
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072398
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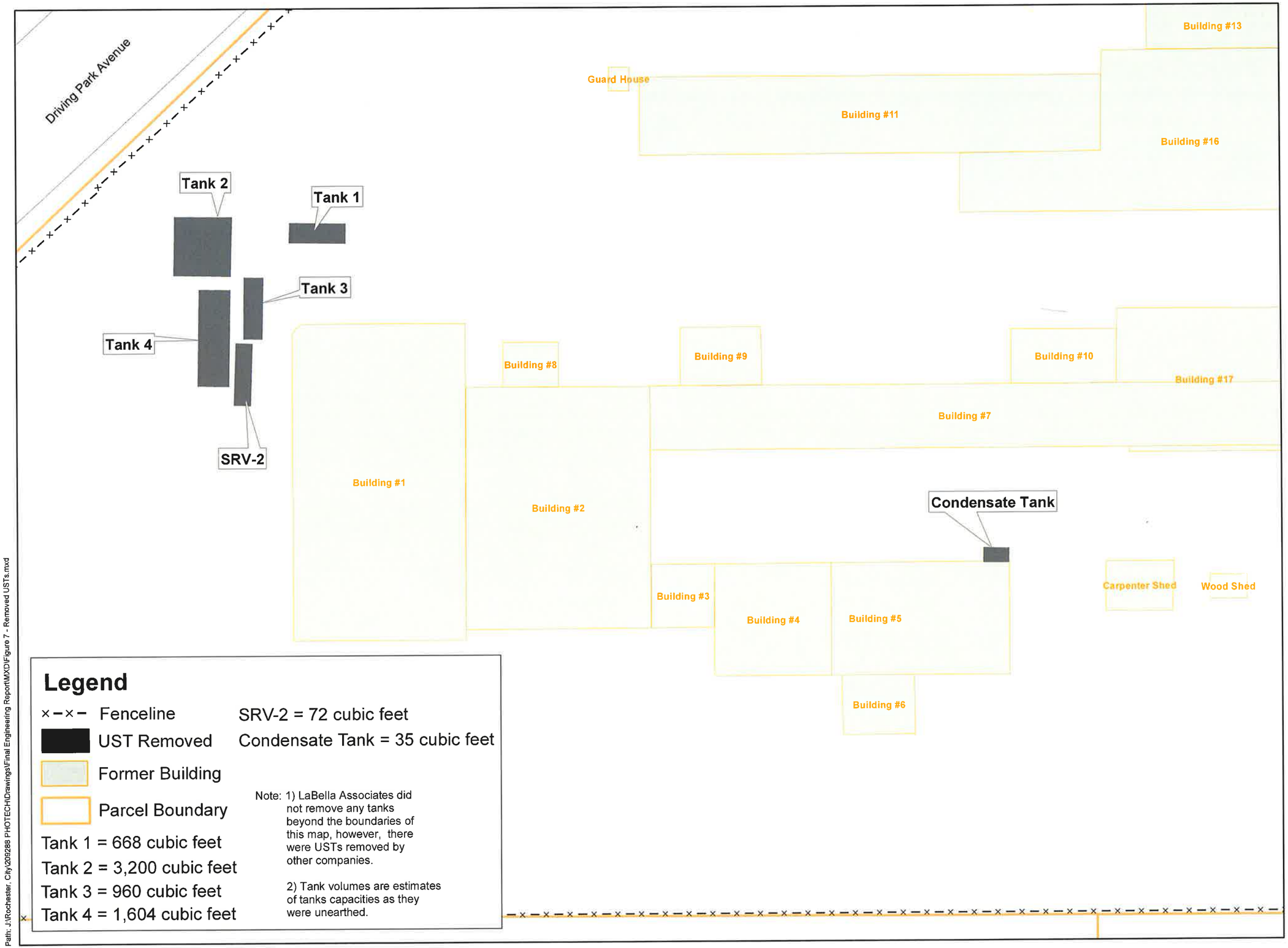
FIGURE 6



Legend

- Fenceline
- UST Removed
- Former Building
- Parcel Boundary

Tank 1 = 668 cubic feet
Tank 2 = 3,200 cubic feet
Tank 3 = 960 cubic feet
Tank 4 = 1,604 cubic feet

SRV-2 = 72 cubic feet
Condensate Tank = 35 cubic feet

Note: 1) LaBella Associates did not remove any tanks beyond the boundaries of this map, however, there were USTs removed by other companies.

2) Tank volumes are estimates of tanks capacities as they were unearthed.

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 7 - Removed USTs.mxd

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REMOVED UNDERGROUND STORAGE TANKS AND VAULTS

W S N E

0 10 20 40
Feet

1 inch = 30 feet

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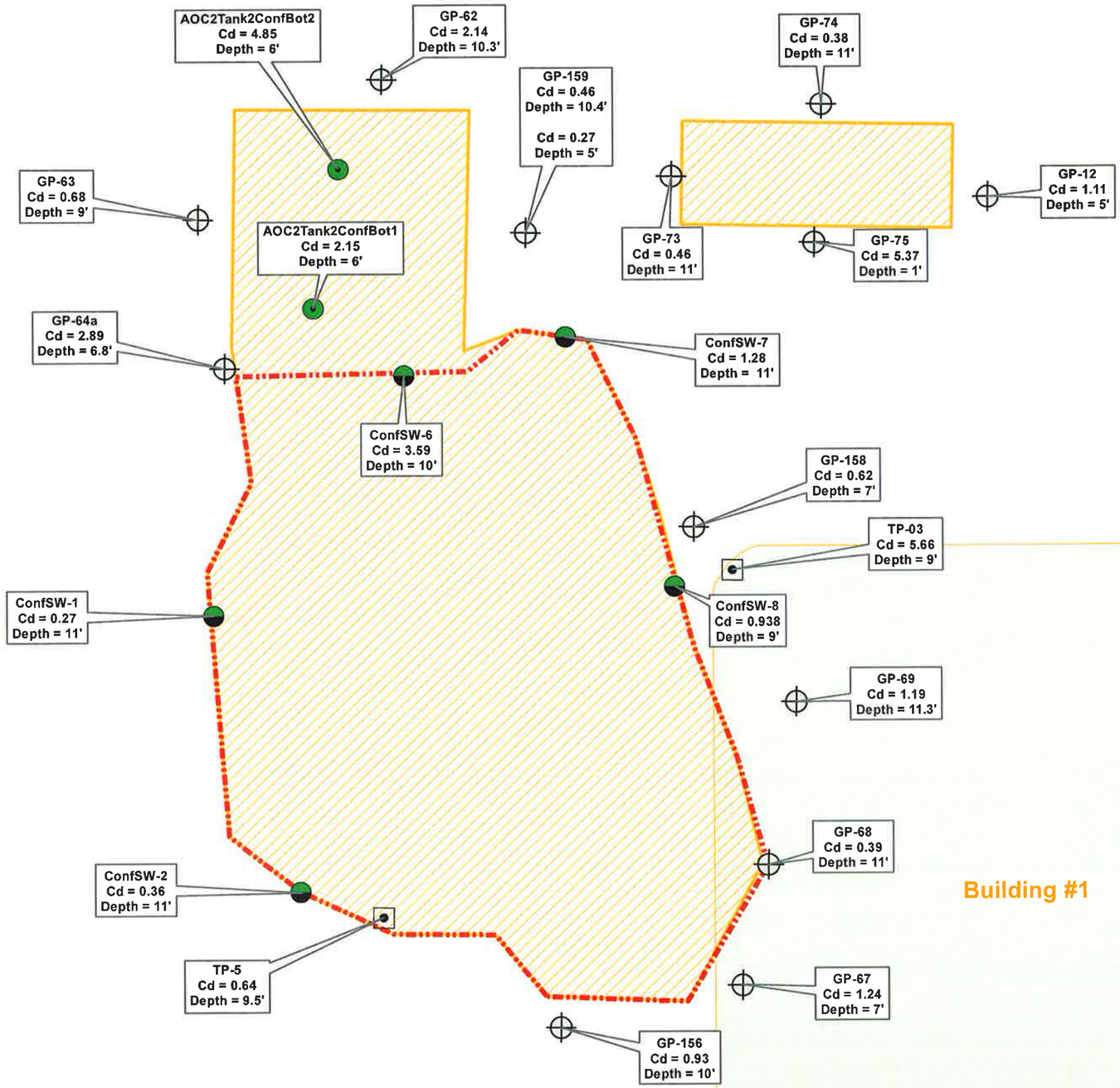
FIGURE 7



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 8 - AOC2.mxd

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AREA OF CONCERN 2:
EXCAVATION LIMITS
AND
CONFIMATORY SAMPLE
LOCATIONS

0 5 10
Feet

1 inch = 10 feet

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JASON ALAN JASKOWIAK
LICENSED
022398
PROFESSIONAL ENGINEER

209288

FIGURE 8

Legend

- Design Phase Investigation Boring
- Bottom Confirmation Soil Samples
- Sidewall Confirmation Soil Samples
- "Over" Excavation Based on Observed Debris
- AOC 3A Remedial Excavation
- Fenceline/Property Line

Note: 1) Reported concentrations are in ppm
2) See Figure 9B for excavation depths.

AOC 3A CS-32
Cd = 0.550 U
Depth = 3'

AOC 3A CS-31
Cd = 0.741
Depth = 2.5'

AOC 3A-CS-30
Cd = 0.573 U
Depth = 2.5'

AOC 3A-CS-36
Cd = 0.678 U
Depth = 3'

AOC 3A-CS-37
Cd = 0.589
Depth = 3'

AOC 3A-CS-38
Cd = 6.15 DM
Depth = 3'

GP-174
Cd = 0.06 U
Depth = 3'

GP-176
Cd = 4.95
Depth = 3'

AOC 3A CS-35
Cd = 0.55 U
Depth = 4.5'

GP-139
Cd = 0.06 U
Depth = 3'

AOC 3A CS-29
Cd = 0.588 U
Depth = 4'

AOC 3A CS-34
Cd = 0.518 U
Depth = 4'

AOC 3A CS-33
Cd = 0.505 U
Depth = 4'

AOC 3A CS-28
Cd = 0.295 J
Depth = 4'

AOC 3A CS-27
Cd = 0.586 U
Depth = 4'

AOC 3A CS -23
Cd = 0.495 U
Depth = 5'

AOC 3A CS-22
Cd = 0.56
Depth = 4'

GP-122
Cd = 0.78
Depth = 5'

AOC 3A CS-20
Cd = 0.541 J
Depth = 3.5'

GP-171
Cd = 0.06 U
Depth = 1'

Cd = 0.06 U
Depth = 3'

GP-172
Cd = 0.06 U
Depth = 3'

AOC 3A-CS-7
Cd = 0.522 U
Depth = 4'

AOC 3A CS-25
Cd = 0.612 U
Depth = 4'

AOC 3A CS-19
Cd = 0.592 U
Depth = 4'

AOC 3A-CS-8
Cd = 0.581 U
Depth = 2'

AOC 3A-CS-18
Cd = 0.578 U
Depth = 5'

AOC 3A-CS-6
Cd = 0.537 J
Depth = 2'

GP-200
Cd = 0.08 U
Depth = 5'

GP-123
Cd = 0.06 U
Depth = 5'

AOC 3A-CS-11
Cd = 0.577 U
Depth = 3'

AOC 3A CS-13
Cd = 0.564 U
Depth = 4'

AOC 3A-CS-12
Cd = 0.603 U
Depth = 5'

GP-173
Cd = 0.06 U
Depth = 3'

GP-141
Cd = 0.06 U
Depth = 5'

AOC 3A-CS-17
Cd = 0.591 U
Depth = 5'

GP-202
Cd = 1.35
Depth = 3'

Cd = 0.07 U
Depth = 5'

AOC 3A-CS-4
Cd = 0.554 U
Depth = 3'

AOC 3A CS-24
Cd = 0.563 U
Depth = 6'

AOC 3A CS-16
Cd = 0.64 U
Depth = 4'

AOC 3A-CS-5
Cd = 0.551
Depth = 3'

GP-205
Cd = 0.09 J
Depth = 5'

GP-211
Cd = 0.36 U
Depth = 1'

Cd = 0.719
Depth = 3'

Cd = 0.37 U
Depth = 5'

AOC 3A CS -15
Cd = 0.602
Depth = 4'

AOC 3A-CS-14
Cd = 0.576 U
Depth = 4'

GP-210
Cd = 0.76
Depth = 1'

Cd = 0.37 U
Depth = 5'

AOC 3A-CS-1
Cd = 0.536 U
Depth = 2'

AOC 3A-CS-2
Cd = 0.557 U
Depth = 2'

AOC 3A-CS-3
Cd = 0.55 U
Depth = 2'

AOC 3A-CS-10
Cd = 0.537 U
Depth = 3.5'

GP-209
Cd = 4.26
Depth = 1'

GP-206
Cd = 0.06 U
Depth = 5'

PL

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 9A - AOC3A.mxd

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AREA OF CONCERN 3A:
LIMIT OF REMEDIAL EXCAVATION AND CONFIRMATORY SAMPLE LOCATIONS

W N S E

0 5 10 20
Feet

1 inch = 15 feet

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FIGURE 9A

Legend

- AOC 3A Excavation Depth Area
- AOC 3A Remedial Excavation
- Fenceline/Property Line

Excavated to a depth of 3 feet

Excavated to a depth of 4 feet

Excavated to a depth of 5 feet

Excavated to a depth of 4 feet

Excavated to a depth of 8 feet

Excavated to a depth of 4 feet

Excavated to a depth of 5 feet

Excavated to a depth of 7 feet

Excavated to a depth of 3 feet

PL PL PL PL

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 9B - AOC3A-Depth.mxd

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AREA OF CONCERN 3A:
REMEDIAL EXCAVATION
DEPTHS

0 10 20
Feet
1 inch = 13 feet

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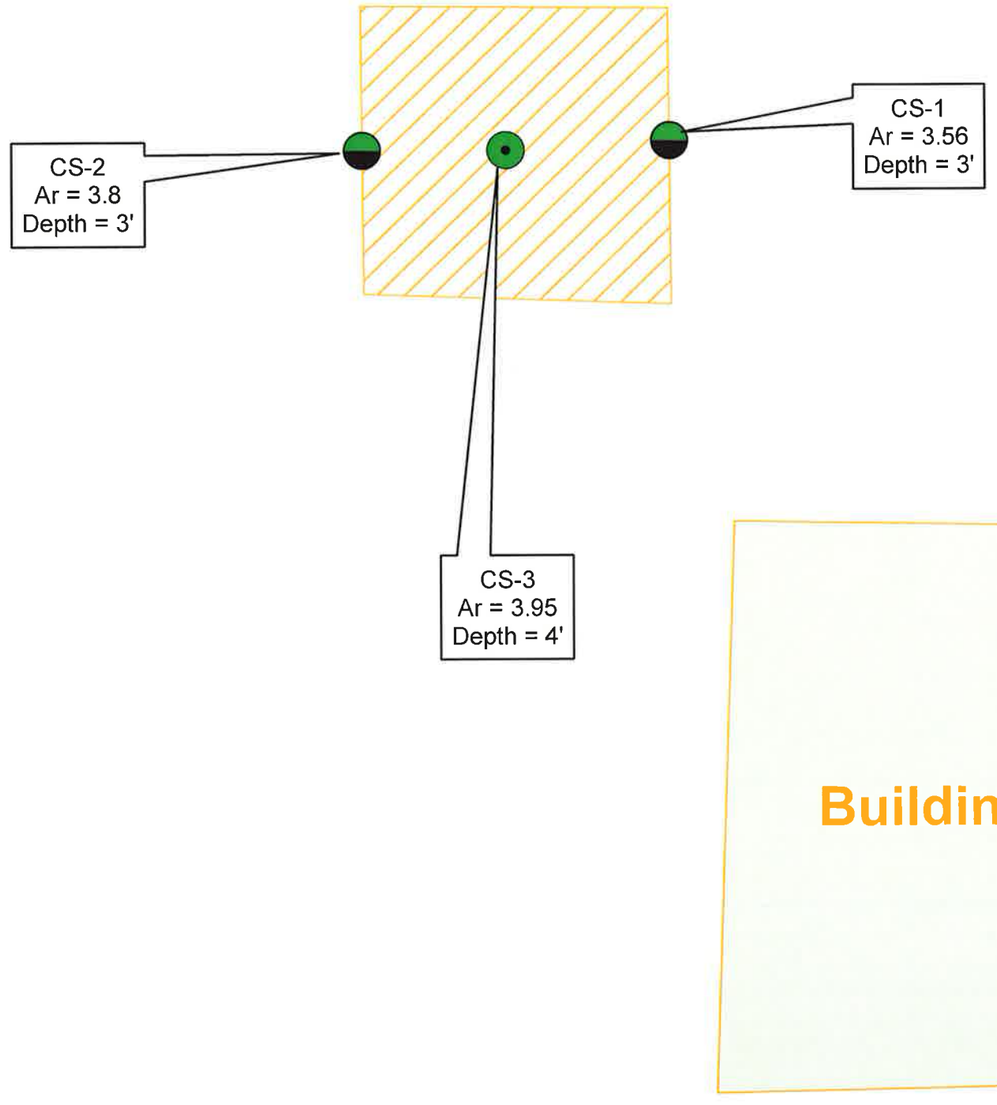
FIGURE 9B

Legend

- Bottom Confirmation Soil Sample
- Sidewall Confirmation Soil Samples
- AOC 4B Excavation
- Former Building

Note: 1) All confirmation samples were analyzed for Arsenic.
2) Reported concentrations are in ppm.



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 10 - AOC4B.mxd

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AREA OF CONCERN4B:
LIMIT OF REMEDIAL
EXCAVATION AND
CONFIRMATION SAMPLE
LOCATIONS

0 4 8
Feet

1 inch = 5 feet

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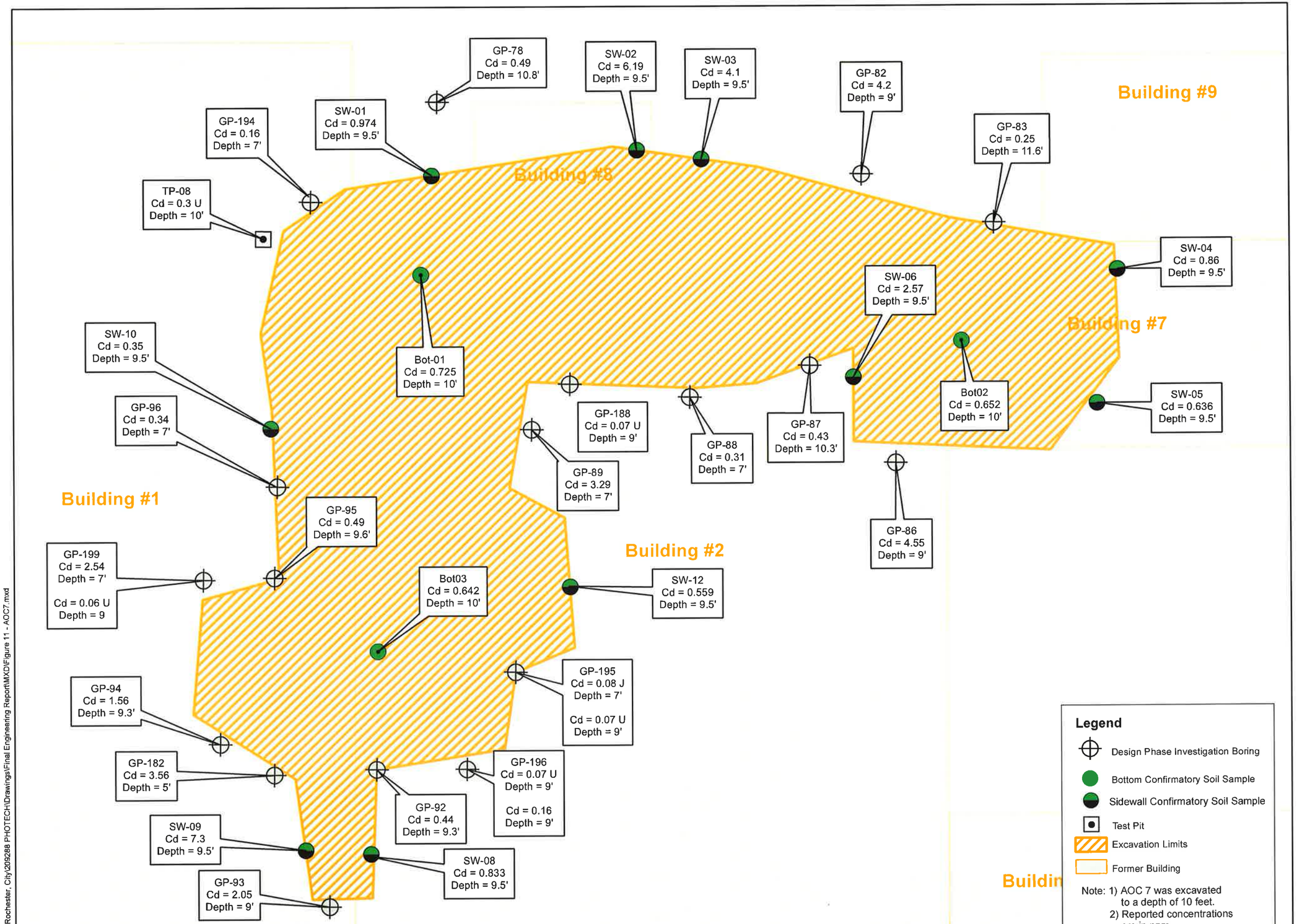
FIGURE 10



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 11 - AOC7.mxd

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AREA OF CONCERN 7:
LIMIT OF REMEDIAL EXCAVATION AND CONFIRMATORY SAMPLE LOCATIONS

0 5 10
Feet

1 inch = 10 feet

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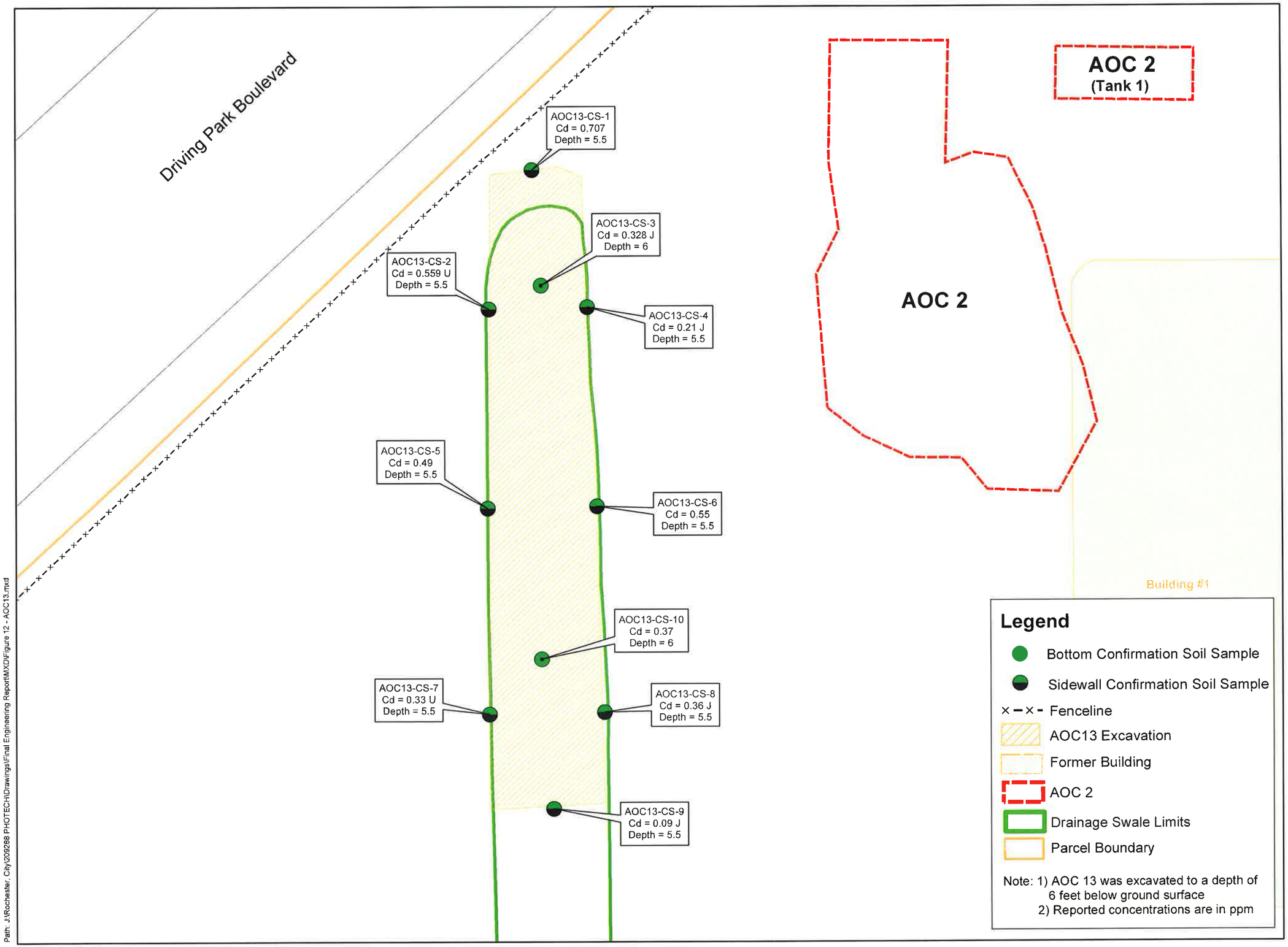
FIGURE 11



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 12 - AOC13.mxd

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AREA OF CONCERN 13:
LIMIT OF REMEDIAL EXCAVATION AND CONFIRMATION SAMPLE LOCATIONS

0 10 20
Feet

1 inch = 15 feet

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FIGURE 12

Legend

- Manhole Structure
- Hydraulic Lift
- Asbestos Wastewater Pipe
- Pipe Conduit
- Electric Conduit
- Gas Main
- Water Main
- Silver Recovery and Wastewater Pipe
- Former Building
- Fenceline
- Former Tunnel
- Parcel Boundaries

Driving Park Avenue

Building #15

Chemical Storage Shed

Building #13

Guard House

Building #11

Building #16

Building #12

Building #8

Building #9

Building #10

Building #17

Building #7

Building #1

Building #2

Building #3

Building #4

Building #5

Carpenter Shed

Wood Shed

Building #6

Two sections of former water main remain in place due to their proximity to telephone poles.

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 13 - Infrastructure Removal.mxd

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SITE WIDE:
HISTORIC INFRASTRUCTURE REMOVAL

W
S
N
E

0 50 100
Feet
1 inch = 75 feet

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FIGURE 13

Legend

- New Infrastructure (Not to Scale)
- New Pipe Infrastructure
- Historic Infrastructure Remaining
- Existing Fence
- New Fence
- Utilized Historic Infrastructure
- Former Building
- Swale
- Parcel Boundary

Driving Park Avenue

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 14 - NewStructures.mxd

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SITE WIDE:
NEW AND REMAINING INFRASTRUCTURE

0 45 90
Feet

1 inch = 70 feet

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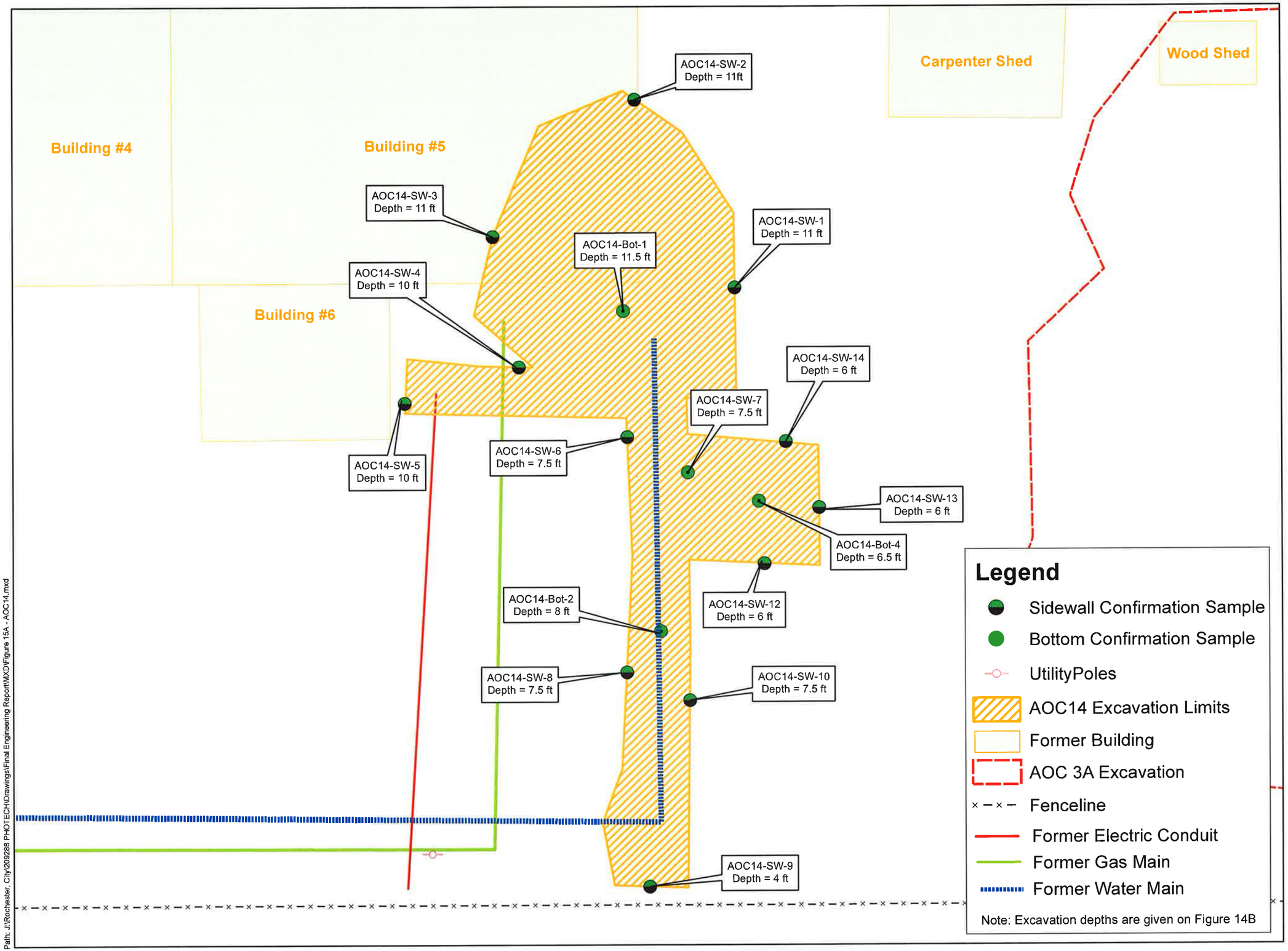
FIGURE 14



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 15A - AOC14.mxd

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AREA OF CONCERN 14:
EXCAVATION LIMITS
AND
CONFIRMATORY SAMPLE
LOCATIONS

0 5 10
Feet
1 inch = 12 feet

FIGURE 15A

Building #4

Building #5

Building #6

Carpenter Shed

Wood Shed

Excavated to a depth of 11.5 feet

Excavated to a depth of 10.5 feet

Excavated to a depth of 6.5 feet

Excavated to a depth of 8 feet

Legend

- AOC 14 Excavation Limits
- Former Building
- Parcel Boundary
- AOC 3A Excavation Limits
- UtilityPoles
- Fenceline
- Water Main
- Former Electric Conduit
- Former Gas Main

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 15B - AOC14-Depth.mxd

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AREA OF CONCERN 14:
REMEDIAL EXCAVATION DEPTHS

0 5 10
Feet
1 inch = 10 feet

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FIGURE 15B

Legend

- Monitoring Well (LaBella, 2012)
- Monitoring Well (BRG Environmental, 2000)
- Fenceline
- Remedial Excavation
- Former Building
- Swale
- Wetland Area
- Former Tunnel
- Groundwater Contour

Note: RMW = Remedial Monitoring Well

Driving Park Avenue

RMW-5

RMW-6

RMW-4

RMW-2

RMW-8

RMW-7

RMW-1

RMW-3

RMW-9

Well-04

Well-09

Well-07

480

481

482

483

484

485

486

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WELL LOCATIONS
AND
GROUNDWATER CONTOURS

0 25 50 100
Feet

1 inch = 75 feet

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FIGURE 16

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 16 - GWMap.mxd

Legend

- Monitoring Well (LaBella, 2012)
- Monitoring Well (BRG Environmental, 2000)
- Fenceline
- Remedial Excavation
- Former Building
- Swale
- Wetland Area
- Former Tunnel

Note: RMW = Remedial Monitoring Well

Driving Park Avenue

RMW-5
June 2012
No Exceedances

September 2012
No Exceedances

RMW-6
June 2012
No Exceedances

September 2012
No Exceedances

RMW-4
June 2012
Acetone = 59

September 2012
No Exceedances

RMW-2
June 2012
No Exceedances

September 2012
No Exceedances

Well-04
June 2012
1,1 Dichloroethane = 2.2 J
1,1 Dichloroethene = 0.8 J

September 2012
No Exceedances

RMW-1
June 2012
No Exceedances

September 2012
No Exceedances

RMW-9
June 2012
1,1 Dichloroethane = 17
cis-1,2-Dichloroethene = 31
Vinyl Chloride = 79

September 2012
1,1 Dichloroethane = 19
cis-1,2-Dichloroethene = 30
Vinyl Chloride = 110

RMW-8
June 2012
Benzene = 1.7 J

September 2012
Benzene = 2.2 J

RMW-7
June 2012
Toluene = 26

September 2012
No Exceedances

RMW-3
June 2012
Trichloroethene = 14

September 2012
Trichloroethene = 14

Well-07
June 2012
No Exceedances

September 2012
No Exceedances

Well-09
June 2012
1,1 Dichloroethane = 6.3

September 2012
1,1 Dichloroethane = 12

Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 17 - GWresults.mxd

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GROUNDWATER SAMPLE EXCEEDANCES

0 30 60 120
Feet

1 inch = 75 feet

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FIGURE 17

Legend

- Parcel Boundary
- Proposed Building
- Proposed and Existing Asphalt
- Green Space

DRIVING PARK AVENUE (70' ROW)

PRIVATE ROADWAY

N

PROPOSED BUILDING
64,000 Sq. Ft.
Finish Floor Elevation 493.5

12.5 ACRES

PROPOSED BUILDING
69,000 Sq. Ft.
Finish Floor Elevation 493.5

NEW ROAD

PROPOSED BUILDING
66,000 Sq. Ft.
Finish Floor Elevation 491.0

Path: \\projects2\Projects\NZ\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 18 - ProposedLayout.mxd

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PROPOSED SITE PLAN

W S N E

0 40 80 160
Feet

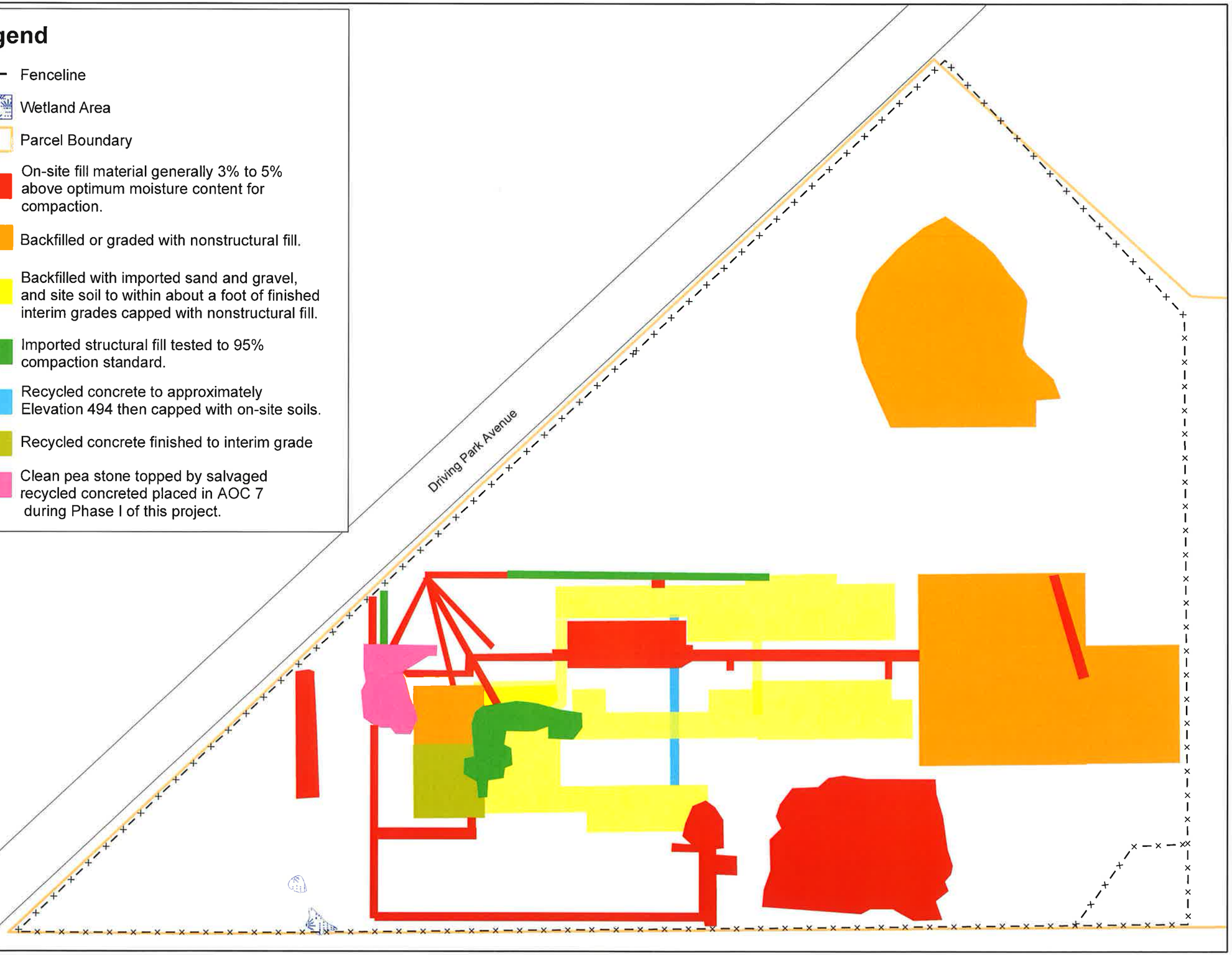
1 inch = 93 feet

209288

FIGURE 18

Legend

- Fenceline
- Wetland Area
- Parcel Boundary
- On-site fill material generally 3% to 5% above optimum moisture content for compaction.
- Backfilled or graded with nonstructural fill.
- Backfilled with imported sand and gravel, and site soil to within about a foot of finished interim grades capped with nonstructural fill.
- Imported structural fill tested to 95% compaction standard.
- Recycled concrete to approximately Elevation 494 then capped with on-site soils.
- Recycled concrete finished to interim grade
- Clean pea stone topped by salvaged recycled concreted placed in AOC 7 during Phase I of this project.



Path: J:\Rochester, City\209288 PHOTECH\Drawings\Final Engineering Report\MXD\Figure 19 - Fill Material.mxd

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SITE WIDE:
FILL MATERIAL

0 55 110
Feet

1 inch = 75 feet

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FIGURE 19

GENERAL SURVEY NOTE:

1) SURVEY COMPLETED ON JANUARY 25,2013

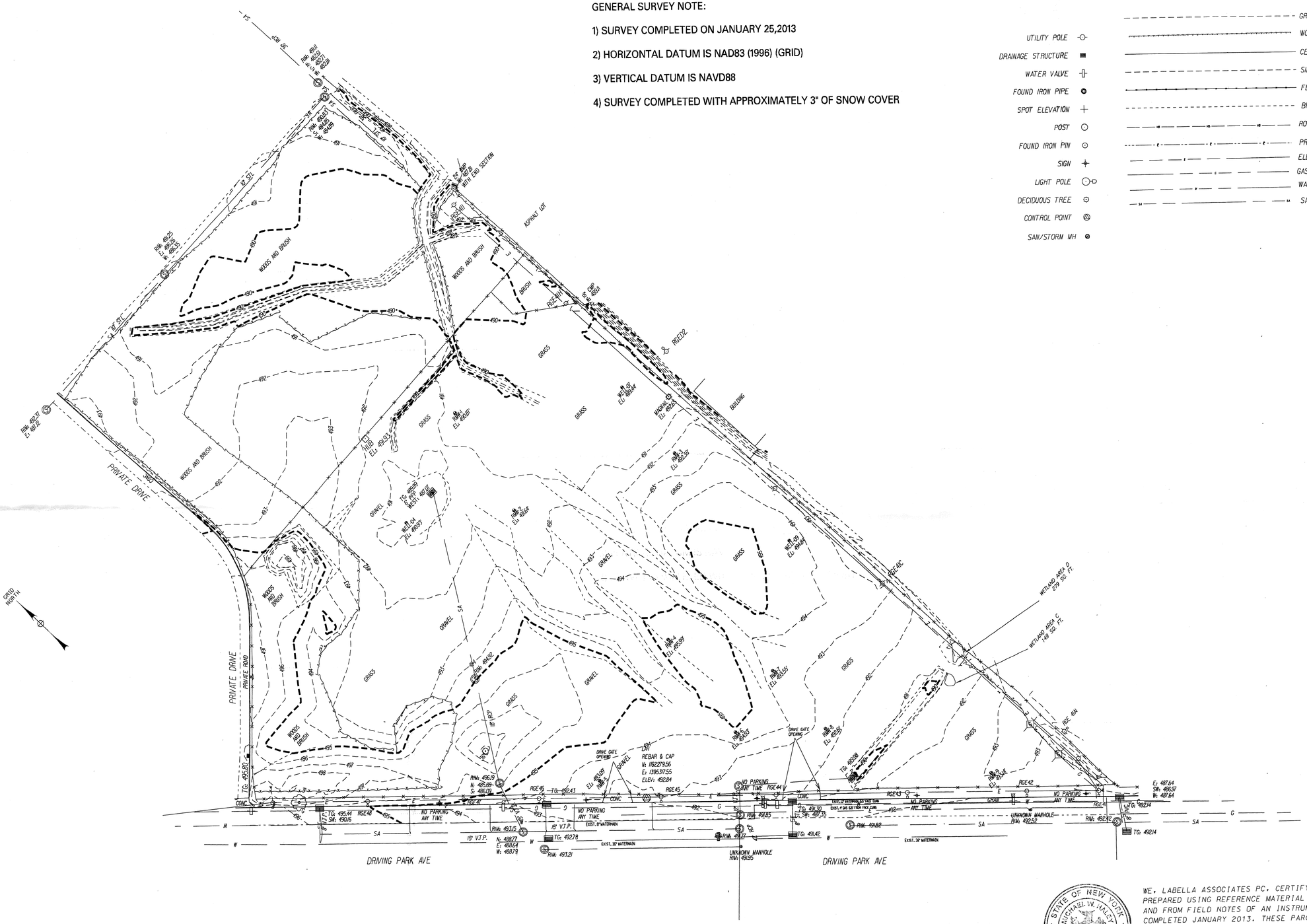
2) HORIZONTAL DATUM IS NAD83 (1996) (GRID)

3) VERTICAL DATUM IS NAVD88

4) SURVEY COMPLETED WITH APPROXIMATELY 3" OF SNOW COVER

LEGEND

UTILITY POLE	GRAVEL DRIVEWAY
DRAINAGE STRUCTURE	WOODS/BRUSH LINE
WATER VALVE	CENTERLINE
FOUND IRON PIPE	SIDEWALK
SPOT ELEVATION	FENCE
POST	BREAKLINE
FOUND IRON PIN	ROW
SIGN	PROP LINE
LIGHT POLE	ELEC UTIL
DECIDUOUS TREE	GAS UTIL
CONTROL POINT	WATER UTIL
SAN/STORM MH	SAN/STORM UTIL



0 60 120 180 240 300 FT

BAR SCALE

WE, LABELLA ASSOCIATES PC, CERTIFY THAT THIS MAP WAS PREPARED USING REFERENCE MATERIAL AS LISTED HEREON AND FROM FIELD NOTES OF AN INSTRUMENT SURVEY COMPLETED JANUARY 2013. THESE PARCELS ARE SUBJECT TO ANY EASEMENTS OR ENCUMBRANCES OF RECORD.

STATE OF NEW YORK MICHAEL W. HALEY LICENSED LAND SURVEYOR 049788

2/22/14

MICHAEL W. HALEY PLS
NYS PLS NO. 049788

NO.	BY	DATE	REVISION
1			
2			
3			
4			
5			
6			

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PROJECT/PRINT: FINAL ENGINEERING REPORT
FORMER PHOTECH IMAGING SITE
1000 DRIVING PARK AVE
ROCHESTER, NY

CITY OF ROCHESTER
ROCHESTER, NY

DRAWING TITLE: TOPOGRAPHIC SURVEY

DESIGNED BY: JSH
DRAWN BY: ECH
REVIEWED BY: MWH
ASSIGNED BY:
DATE: DECEMBER 2013

PROJECT/DRAWING NUMBER
209288
T-1

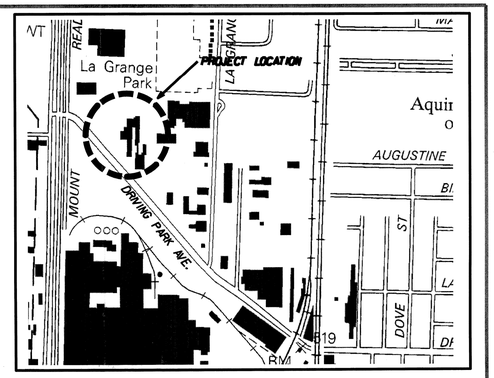
4/22/2013 1:38:33 PM Photech Site Topo January 2013.dgn

THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233, OR AT derweb@gw.dec.state.ny.us.

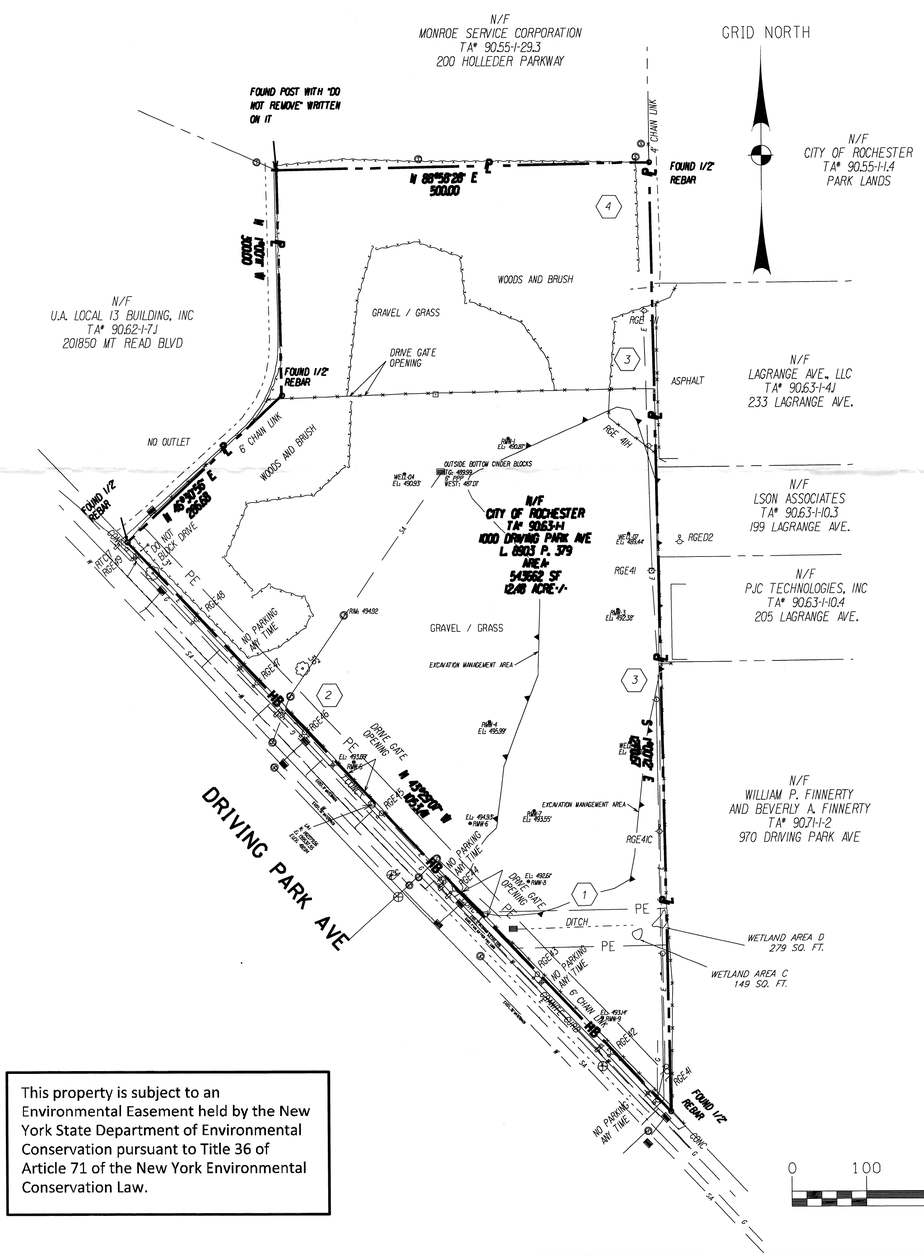
STATE ASSISTANCE CONTRACT # 6303768
FORMER PHOTECH IMAGING SITE
DRIVING PARK BLVD
Rochester, New York

ENVIRONMENTAL EASEMENT AREA ACCESS

DEC, ITS AGENTS AND EMPLOYEES, AND OTHER STATE REPRESENTATIVES, MAY DIRECTLY ACCESS THE SITE SUBJECT TO THE ENVIRONMENTAL EASEMENT FROM DRIVING PARK AVE, A PUBLIC STREET IN THE CITY OF ROCHESTER, NEW YORK.



LOCATION MAP



UTILITY POLE
DRAINAGE STRUCTURE
WATER VALVE
FOUND IRON PIPE
SPOT ELEVATION
POST
FOUND IRON PIN
SIGN
LIGHT POLE
DECIDUOUS TREE
CONTROL POINT
SAN/STORM MH

LEGEND

GRAVEL DRIVEWAY
WOODS/BRUSH LINE
CENTERLINE
SIDEWALK
FENCE
BREAKLINE
ROW
PROP LINE
ELEC UTIL
GAS UTIL
WATER UTIL
SAN/STORM UTIL
EXCAVATION MANAGEMENT AREA

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

SUBJECT PROPERTY DESCRIPTION OF RECORD
LIBER 6964 PAGE 248

All that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the City of Rochester, County of Monroe, State of New York, more particularly described as follows:

Beginning at a point in the north ROW line of Driving Park Avenue on the east line of premises conveyed to Bell & Howell Company by Trustees Deed dated March 29, 1949 and recorded the same day
In Monroe County Clerk's Office in Liber 2539 of deeds, page 51 which point is 1305.77 feet southeasterly from the intersection of the north line of Driving Park Avenue and the east line of Mt. Read Boulevard; thence

(1) north along the east line of said Bell & Howell Company's land, a distance of 1270.67 feet to a point; thence
(2) west at an included angle of 89°58'42" with the said east line of the lands conveyed to Bell & Howell Company a distance of 500 feet to a point; thence
(3) south on a line parallel with the said east line of the Bell & Howell property a distance of 300 feet to a point; thence
4) Southwesterly at an included angle with course (3) of 227°31'05"on a line which intersects the northerly line of Driving Park Avenue at a right angle; for a distance of approximately 286.68 feet to the north ROW line of Driving Park Avenue; thence
(5) southeasterly along the north ROW line of Driving Park Avenue, a distance of 1053.40 feet to the point and place of beginning.

ENVIRONMENTAL EASEMENT DESCRIPTION

Beginning at a point in the Northeasterly Right of Way for Driving Park Avenue at its intersection with the division line between lands now or formerly of The City of Rochester on the East and lands now or formerly of U.A. local 13 Building, Inc on the West; thence

1) N 46°30'56" E along said division line a distance of 286.68 feet to a point; thence

2) N 1°00'11" W continuing along said division line a distance of 300.00 feet to a point in the division line between lands now or formerly of The City of Rochester on the South and lands now or formerly of Monroe service Corporation on the North; thence

3) N 88°58'28" E along said division line a distance of 500.00 feet to a point; thence

4) S 1°00'12" E a distance of 1270.67 feet to a point in the Northeasterly Right of Way for Driving Park Avenue; thence

5) N 43°29'07" W along said Right of Way a distance of 1053.41 feet to the POINT OF BEGINNING.

The above described parcel contains 12.48 acres (543662 sq. ft.) more or less.

REFERENCES

1) CITY OF ROCHESTER TAX MAP NO'S 90.55 90.62 90.63 AND 90.71
2) MAP TITLED "RESUBDIVISION OF HOLLEDER PARK" FILED AT THE MCCO UNDER MAP LIBER 293 PAGE 63
3) MAP TITLED "RESUBDIVISION OF LOT R-475 OF MUNICIPAL RESUBDIVISION 80-44" FILED AT THE MCCO UNDER MAP LIBER 222 PAGE 56
4) ABSTRACT OF TITLE: STEWART TITLE INSURANCE COMPANY NO. 175293

SURVEY NOTES

1) THE HORIZONTAL DATUM IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM CENTRAL ZONE NAD 83 (1996). OBTAINED BY RTK GPS CONNECTED TO THE NYSNET NETWORK.

2) THE VERTICAL DATUM IS REFERENCED TO NAVD 88.

3) UTILITIES SHOWN ARE PLOTTED FROM DATA SUPPLIED BY OTHERS.

SUBJECT TO:

(NO) 1) EASEMENT TO CITY OF ROCHESTER FOR SEWER PURPOSES L.2314 P.379
2) EASEMENT TO CITY OF ROCHESTER FOR STREET PURPOSES L.2314 P.379
3) EASEMENT TO RG&E AND RTC FOR UTILITY PURPOSES L.7506 P.31
4) EASEMENT TO ROCHESTER PURE WATERS FOR SEWER PURPOSES L.7595 P.123

CERTIFY TO: THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH ITS COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND STEWART TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH "SURVEY REQUIREMENTS" AS DEFINED PER NYSDEC AS AN ENVIRONMENTAL EASEMENT PACKAGE.

STATE OF NEW YORK · MICHAEL W. HALEY · LICENSED LAND SURVEYOR · 049788

WE, LABELLA ASSOCIATES PC, CERTIFY THAT THIS MAP WAS PREPARED USING REFERENCE MATERIAL AS LISTED HEREON AND FROM FIELD NOTES OF AN INSTRUMENT SURVEY COMPLETED JANUARY 2013. THESE PARCELS ARE SUBJECT TO ANY EASEMENTS OR ENCUMBRANCES OF RECORD.

MICHAEL W. HALEY PLS 2/20/14
MICHAEL W. HALEY PLS
NYS PLS NO. 049788

NO	DATE	BY	REVISION
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FORMER PHOTECH IMAGING SITE
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ROCHESTER, NY
CITY OF ROCHESTER
ROCHESTER, NY

DRAWING TITLE
INSTRUMENT SURVEY
ENVIRONMENTAL EASEMENT

DESIGNED BY:	SCH
DRAWN BY:	CDS
REVIEWED BY:	MWH
DATE: DECEMBER 2013	

PROJECT/DRAWING NUMBER
209288
E-1

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