3/15/2012

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
PRAP/ROD ROUTING SLIP

TO: Robert W. Schick, P.E., Assistant Division Director
FROM: The attached is submitted for your approval by:

NAME	INITIAL	DATE
Project Manager: Eugene Melnyk	EWM	3/15/12
Section Chief/RHWRE: Martin Doster	MJD	3/15/12
Bureau Director: Michael Cruden	MJC	3/15/12

DATE: 3/15/2012

RE: **Site Name** Former Randolph Foundry Site **Site Code** E905030
City Randolph **County** Cattaraugus

☒ **PRAP**
- ☐ Draft PRAP
- ☒ Clean copy of the PRAP
- ☐ Redline/Strikeout version of the PRAP
- ☐ Copies of edits to PRAP (Robert W.'s/Robert's)
- ☒ Site Briefing Report
- ☒ NYSDOH concurrence letter
- ☐ USEPA concurrence letter
- ☐ OGC Referral
  - ☐ Attached
  - ☐ Not Required: Explain:
- ☐ Project Reviews (IGP-13) (if waived, explain why)
  - ☐ Scoping RI date:
  - ☐ Scoping FS date:

PRAP Release Approvals

Ass't Div RWSchick ick, P.E.

Division Director: 3/16/2012
Robert Schick, P.E.

☐ **ROD**
- ☐ Draft ROD
- ☐ Signature-ready copy of the ROD
- ☐ Redline/Strikeout version of the ROD
- ☐ Copies of edits to ROD (Robert W.'s/Robert's) ☐ Site Briefing Report
- ☐ NYSDOH concurrence letter

ROD Signoff

Ass't Div Director: _____
Robert W. Schick, P.E.

☒ **BRIEFING**
Date: 2/29/12 **Time:** 9am **Room:** _____

c: Robert Schick, P.E.
Other reviewers who are invited to Briefing

PROPOSED REMEDIAL ACTION PLAN

Former Randolph Foundry Site
Environmental Restoration Project
Randolph, Cattaraugus County
Site No. E905030
March 2012

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

PROPOSED REMEDIAL ACTION PLAN

Former Randolph Foundry Site
Randolph, Cattaraugus County
Site No. E905030
March 2012

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of contaminants at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2. Contaminants include hazardous wastes and/or petroleum.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Town of Randolph
Attn: Town Clerk
72 Main Street
Randolph, NY 14772
Phone: 716-358-9701 extension 202

A public comment period has been set from:

3/22/2012 to 5/7/2012

A public meeting is scheduled for the following date:

4/18/2012 at 7:00 PM

Public meeting location:

Town of Randolph Town Hall/Court Room

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through 5/7/2012 to:

Eugene Melnyk
NYS Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Ave
Buffalo, NY 14203-2915
ewmelnyk@gw.dec.state.ny.us

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:
The Randolph Foundry Site is located at 2-8 Sheldon Street in the Village of Randolph, Cattaraugus Co. at the northwest corner of Sheldon and Washington Streets. The site directly abuts residential properties to the west and north, Sheldon St. to the south, and an active rail line to the east.

Site Features:
The site is situated in a mixed residential/commercial/light industrial area on a lot approximately 179 feet by 229 feet. The lot gently slopes to the northeast where it levels off mid-way through the parcel. The site contained a former foundry and machine shop operation situated in a dilapidated complex of concrete block/steel structures. The ERP site consists of two parcels, the former foundry parcel approximately 0.52 acres in area and an encroachment onto a 0.39 acre section of an adjoining railroad right-of-way (ROW) owned by the Southern Tier Extension Railroad Authority (STERA). The site is situated in the Conewango Creek drainage shed where the creek is located approximately 1800 feet east of the site. A lowland/wetland area and pond are also located east of the site between 800 and 1300 feet in distance. Battle Creek, a tributary to Conewango Creek, is located approximately 950 feet west of the site.

Zoning/Land Use:
The property zoning for the former foundry parcel was changed from Village Residential to Commercial in 2010. There is no current zoning classification for the STERA railroad right-of-way.

Historic Uses:
Historic maps indicate that a foundry and machine shop was located on the property as early as 1902. Local records indicate the last business that occupied the site went out-of-business around 1986. The property and facilities were subsequently abandoned. The site was unsecure and vacant for nearly two decades. Cattaraugus Co. acquired the property in a property tax foreclosure in 2005.

Site Geology and Hydrogeology:
The post IRM SI areal extent and depth of the remaining foundry sand fill is limited to the north-northeast section of the actual foundry parcel and covers most of the adjoining railroad right-of-

way between the railroad tracks and property boundary. The foundry sand fill varies in depth where it was observed to be three to five feet thick at the northeast section of the site and diminishes in thickness to the south-southwest. The foundry sand fill at the site is mixed with some construction and demolition (C and D) debris near the surface and contains random pieces of larger C and D debris below the surface. Areas of the former foundry parcel that do not have any appreciable amounts of foundry sand consist of exposed native subsoil. Native soil encountered below the waste fill at the site was mostly a dense glacial till. Bedrock was not encountered nor confirmed during the SI.

Groundwater was encountered at approximately 22 feet below ground surface. The local topography slopes generally in an easterly direction toward Conewango Creek. The groundwater gradient is presumed to be flowing in an easterly direction. The groundwater gradient could not be confirmed.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

No PRPs have been documented to date.

The Randolph Foundry/Aeolin Piano Works and its predecessors operated a manufacturing plant on the property between 1902 and 1986. In 1986, the Aeolin Piano Works filed for bankruptcy, and is not considered a viable PRP for this site. The County of Cattaraugus acquired the parcel through property tax foreclosure in 2005. The County entered into the ERP as a volunteer.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. Cattaraugus County and CCAS Southern Tier Extension Railroad Authority will assist the state in its efforts by providing all information to the state which identifies PRPs. Cattaraugus County and CCAS Southern Tier Extension Railroad Authority will also not enter into any agreement regarding response costs without the approval of the

Department.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require

evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

benzo(a)pyrene	copper
benzo(b)flouranthene	arsenic
dibenz[a,h]anthracene	

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

IRM - Demolition, Waste Removal, Fill Removal

An IRM for the site was completed between August 2008 and September 2008. The IRM included the following activities:

- Staging and removal of chemical products and chemical wastes.
- Removal of industrial debris and universal wastes.
- Controlled building demolition to remove asbestos containing building materials, balance of building demolition, and removal of concrete floor slabs and foundation walls,
- Excavation of approximately 333 tons of foundry sand and contaminated fill. Excavated material was transported off-site for disposal as non-hazardous industrial waste, and
- Restoration of the foundry site and railroad right-of-way through regrading to promote positive surface water drainage, placement of 6 inches of cover/topsoil and hydroseeding of the foundry parcel, placement of 6 inches of run-of-bank gravel along the railroad right-of-way. Ground surface restoration was completed November 2009.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Prior to Remediation:
Prior to the Site Investigation/Remedial Alternatives Report (SI/RAR) and Interim Remedial Measure (IRM) program for the site, a Phase 1 Environmental Site Assessment was conducted at the site in 2005. The assessment identified potential recognized environmental conditions including the following: potential contamination associated with onsite disposal of foundry sand as well as other materials and wastes; various 55-gallon drums and other industrial and chemical product containers which were in poor condition and contained unknown contents; and potential PCBs associated with the elevated transformers.

Post-Remediation:
In 2006, Cattaraugus Co. entered into the State's Environmental Restoration Program (ERP). Under the ERP, Cattaraugus Co. removed the hazards posed by the site and conducted an environmental investigation of the site. An IRM consisting of asbestos abatement and demolition of the on-site structures, removal and proper management of chemical products and wastes, and limited removal of foundry sand disposed of on-site. During the IRM, PCB contaminated concrete was encountered and was subsequently removed and disposed of in accordance with applicable requirements. The IRM was completed September 2008.

A Site Investigation (SI) was completed December 2008 to further assess environmental concerns at the site. SI results indicated residual levels of semi-volatile compounds are at levels meeting restricted commercial soil cleanup objectives. No other contaminants of concern were revealed during the SI. No groundwater impacts were detected.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Measures are in place to control the potential for coming in contact with contaminated subsurface soil. The area is served by a public water supply.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to

pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the IRM confirmation sampling and post-IRM investigation, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action and the implementation of ICs/ECs Site Management Plan as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Exhibit B.

The elements of the IRM already completed and the institutional and engineering controls are listed below:

Green Remediation

Green remediation principals and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan.

Site Management Plan
A Site Management Plan (SMP) is required, which includes the following:

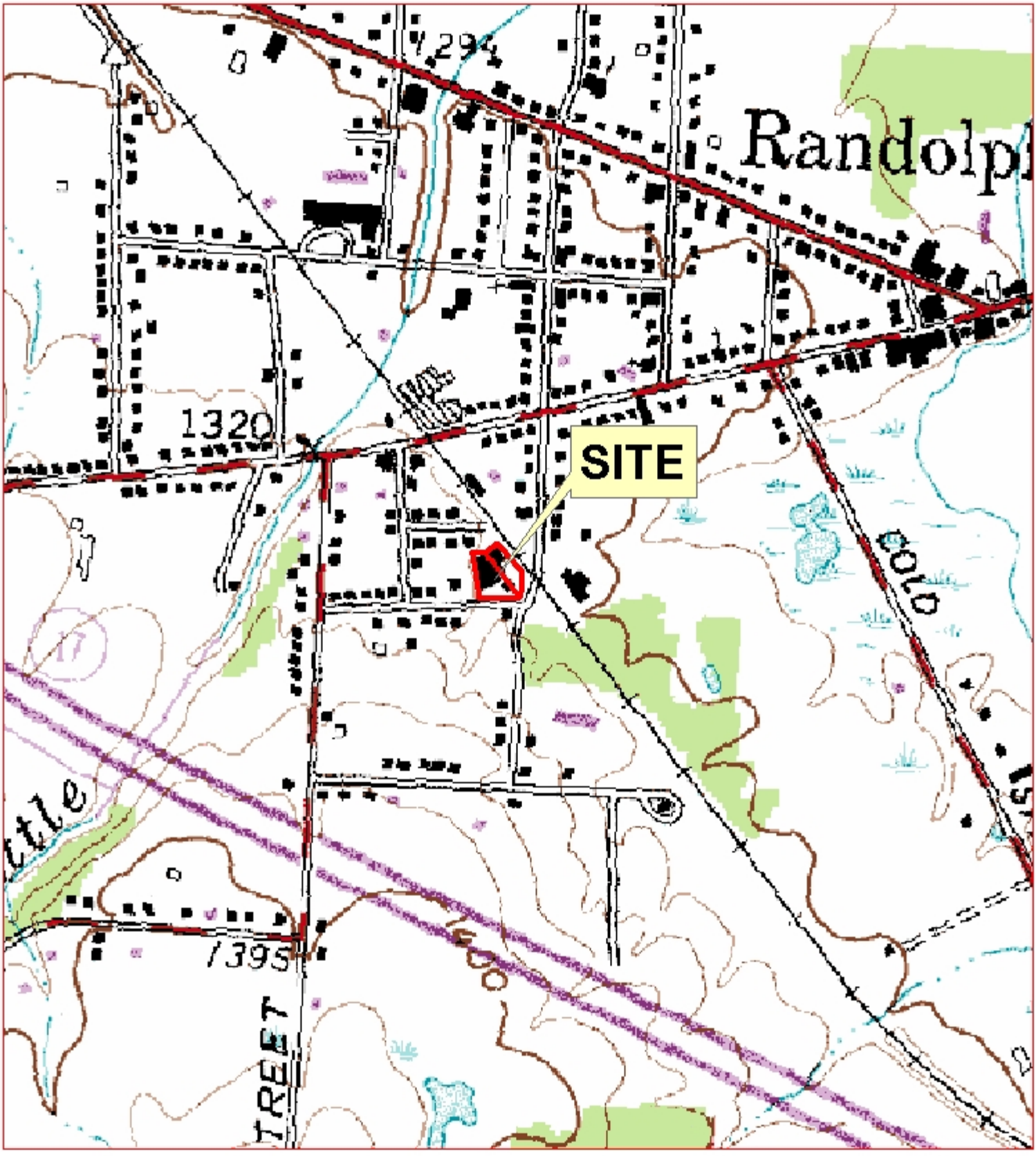
a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

   Institutional Controls: The Environmental Easement discussed above.

   Engineering Controls: none required for the former foundry parcel if used for restricted commercial or industrial purposes and none for the railroad right-of-way if current use continues or is used for restricted commercial or industrial purposes.

   The SMP includes, but may not be limited to:
   - an Excavation Plan which details the provisions for management of future excavations in areas of remaining residual contamination and cover over exposed residual contamination;
   - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions; and
   - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan - none required.



Site Location Map

Randolph Foundry
Village of Randolph, Cattaraugus Co.
Site No. E905030

SBL: 70.071-3-16 Randolph Foundry
70.071-4-6 Railroad ROW

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Figure 1

Site Plan

Randolph Foundry
Village of Randolph, Cattaraugus Co.
Site No. E905030

SBL: 70.071-3-16 Randolph Foundry
70.071-4-6 Railroad ROW

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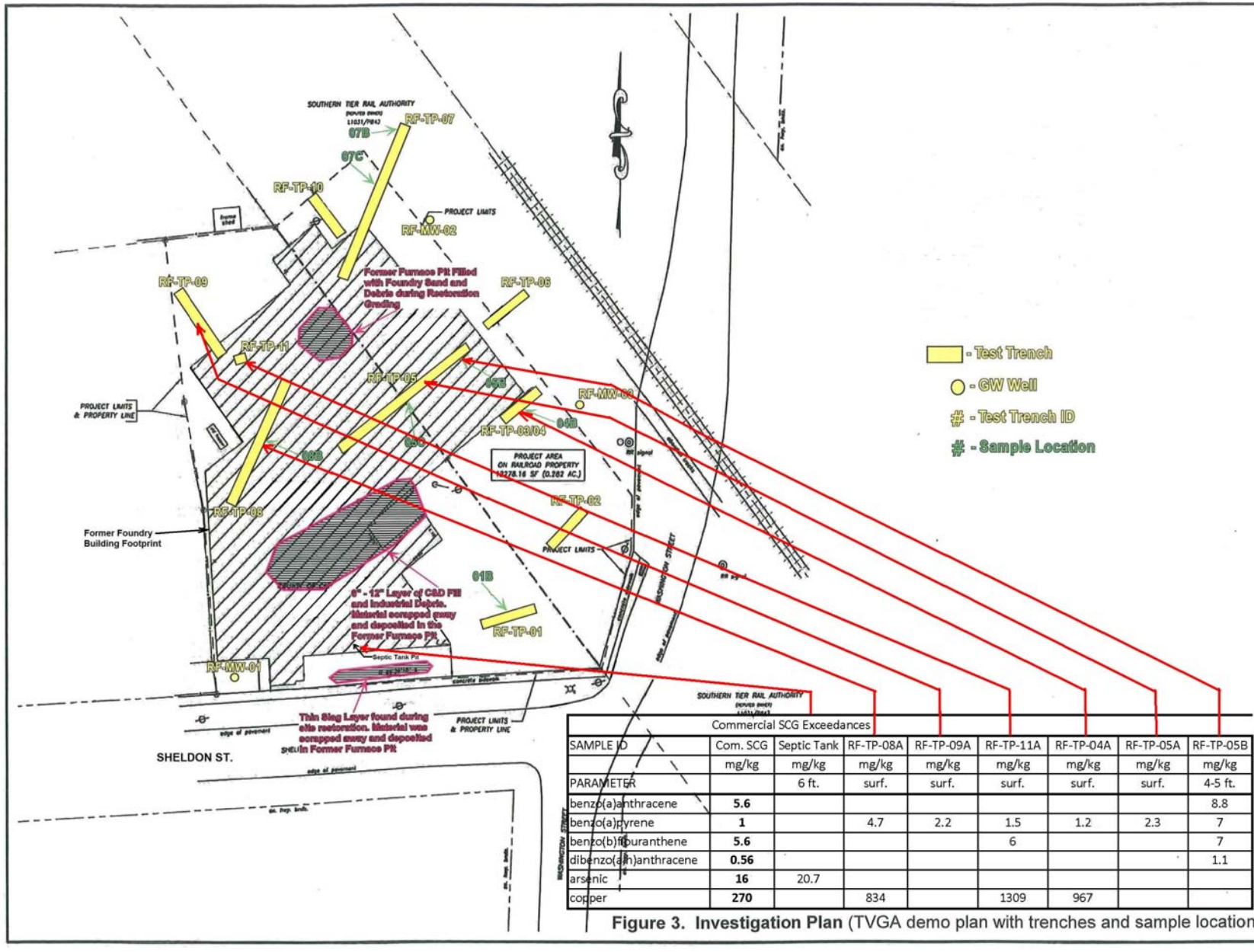
Figure 2



Commercial SCG Exceedances

SAMPLE ID	Com. SCG	Septic Tank	RF-TP-08A	RF-TP-09A	RF-TP-11A	RF-TP-04A	RF-TP-05A	RF-TP-05B
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PARAMETER		6 ft.	surf.	surf.	surf.	surf.	surf.	4-5 ft.
benzo(a)anthracene	**5.6**							8.8
benzo(a)pyrene	**1**		4.7	2.2	1.5	1.2	2.3	7
benzo(b)fluoranthene	**5.6**				6			7
dibenzo(a,h)anthracene	**0.56**							1.1
arsenic	**16**	20.7						
copper	**270**		834		1309	967		

Figure 3. Investigation Plan (TVGA demo plan with trenches and sample locations)

SURVEY OF 0.52 AC. ON SHELDON ST.
SURVEY OF 0.52 ACRES
LANDS OF CATTARAUGUS COUNTY
AT THE INTERSECTION OF SHELDON & WASHINGTON STREETS

CATTARAUGUS COUNTY
DEPARTMENT OF PUBLIC WORKS
8810 NYS ROUTE 242
LITTLE VALLEY, NEW YORK 14755
716-938-9121

SHEET 1 OF 1
PROJECT NO. RANDOLPH(V) 73.071-3-18

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Site Restoration Plan

Randolph Foundry
Village of Randolph, Cattaraugus Co.
Site No. E905030

SBL: 70.071-3-16 Randolph Foundry
70.071-4-6 Railroad ROW

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Figure 4

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation (RI) for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into four categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and source areas identified at the site include drums and containers, as well as fill consisting mostly of foundry sand, with some ash, slag and some construction and demolition debris fragments (concrete, brick and small metal pieces). The post IRM test trenching program indicated the presence of fill material at varied depths across the site. In general, the remaining foundry sand fill is limited to the north-northeast section of the actual foundry parcel and covers most of the adjoining railroad right-of-way between the railroad tracks and property boundary. The foundry sand fill varies in depth and was observed to be three to five feet thick at the northeast section of the site and diminishes in thickness toward the south-southwest. Areas of the former foundry parcel that do not have any appreciable amounts of foundry sand contains some C&D fragments and some minor amounts of scattered foundry sand mixed in at the surface of the exposed subsoil. The foundry sand was also deeper and more pervasive along the STERA railroad right-of-way. The deepest/thickest layer of foundry sand fill was encountered at the northeast end of the study area along the railroad right-of-way. Based upon field observations and conversation with the property owner at 10 Dean Street, the foundry sand fill continues northward beyond the study area along the west side of the railroad right-of-way.

The primary contaminants at the site are in the fill areas and consist of polycyclic aromatic hydrocarbons (PAHs) and metals (e.g., arsenic, and copper). PAHs are a group of over 100 different chemical compounds that are common in the environment. Source of PAHs include incomplete combustion of coal, oil, gasoline, garbage, wood and other organic matter.

The waste/source areas identified at the site were addressed by the IRM described in Section 6.2.

Groundwater

Groundwater was not encountered in any of the test trenches and was encountered in only one well (MW-02) out of three installed at the site. In MW-02, groundwater was observed at approximately 22 feet bgs (within 8 inches of the bottom of the well). After proper purging the wells did not yield groundwater sufficient for sample aliquots. However, the well was allowed to recharge over time and a sample was taken without the benefits of purging. The regional topography slopes generally in an easterly direction toward Conewango Creek. Groundwater gradients typically mimic surface topographic contours. Therefore, the groundwater gradient is presumed to be flowing in an easterly direction. Although only one mini-well was sufficiently deep enough to intercept groundwater, the groundwater gradient could not be confirmed. Using an assumed easterly groundwater gradient, the mini-well where groundwater samples were collected suggests that this well is a downgradient well, and that any potential offsite migration of groundwater contaminants would be detected in this well. No VOC or SVOC contaminants of concern were detected in the water sample from this mini-well, and it can be reasonably concluded that no groundwater contamination from previous activities at the site exist.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
TCL VOCs	None Detected	N/A	N/A
SVOCs			
TCL SVOCs	None Detected	N/A	N/A
Inorganics			
TAL Metals	Not Sampled (c)		
Pesticides/PCBs			
Pest/PCBs	Not Sampled (c)		

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).
c – Metal and Pest/PCB parameters were not evaluated due to insufficient well water volume during sampling.

The contaminants of concern identified in soil at the site are not mobile in groundwater, no site-related groundwater contamination of concern was identified during the RI . Therefore, no remedial alternatives need to be evaluated for groundwater.

Soil

Surface and subsurface soil samples were collected at the site during the RI and during the IRM. Surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of 2 - 20 feet to assess soil contamination and impacts to groundwater. The results indicate that soils at the site exceed the unrestricted SCG for semi-volatile organics and metals, and nominally above restricted commercial SCGs for several semi-volatile organics and metals.

Table 2 – Surface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Residential SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
TCL VOCs	ND above Res SCG				
SVOCs					
Benzo(a)anthracene	0.19 – 5	1	5 of 8	5.6	0 of 8
Benzo(a)pyrene	0.52 – 4.7	1	5 of 8	1	5 of 8
Benzo(b)flouranthene	0.57 - 6	1	5 of 8	5.6	1 of 8
Benzo(k)flouranthene	0.23J - 2	1	3 of 8	56	0 of 8
Chrysene	0.44 – 4.2	1	5 of 8	56	0 of 8
Dibenzo(a,h)anthracene	0.31J - 1.1	0.33	2 of 8	0.56	0 of 8
Indeno(1,2,3-cd)pyrene	0.26 – 0.98	0.5	5 of 8	5.6	0 of 8
Inorganics					
Chromium (total)	6.6E to 43.7E (d)	22 (hexavalent),	3 of 8 (d)	400 (hexavalent)	0 of 8 (d)
Copper	31.1EN to 1300EN	270	3 of 8	270	3 of 8
Pesticides/PCBs					
TCL Pesticides/PCBs	ND above Res SCG				

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d. – Total Chromium values detected are compared with the hexavalent Chromium SCG for unrestricted residential use.
ND - Not Detected
Qualifiers reported:
E – Results were estimated due to interferences.
J - estimated
N – Indicates presumptive evidence of compounds.

Table 3 – Sub-surface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Residential SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
TCL VOCs	ND above Res SCG				
SVOCs					
Benzo(a)anthracene	ND – 8.8	1	1 of 8	5.6	1 of 8
Benzo(a)pyrene	ND – 7	1	1 of 8	1	1 of 8
Benzo(b)flouranthene	ND - 7	1	1 of 8	5.6	1 of 8
Benzo(k)flouranthene	ND – 3.3	1	1 of 8	56	0 of 8
Chrysene	ND – 7.5	1	1 of 8	56	0 of 8
Dibenzo(a,h)anthracene	ND - 1.1	0.33	1 of 8	0.56	1 of 8
Indeno(1,2,3-cd)pyrene	ND – 4.1	0.5	1 of 8	5.6	0 of 8
Inorganics					
TCL Inorganics	ND above Res SCG				
Pesticides/PCBs					
TCL Pesticides/PCBs	ND above Res SCG				

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
ND - Not Detected
Qualifiers reported:
E – Results were estimated due to interferences.
N – Indicates presumptive evidence of compounds.

Table 4 – Confirmation Soil Samples below excavated sumps/pits/bins

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Residential SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
TCL VOCs	ND above Res SCG				
SVOCs					
TCL SVOCs	ND above Res SCG				
Inorganics					
Arsenic	5.6 to 20.7	16	1 of 4	16	1 of 4
Chromium (total)	8.4 to 48.7 (d)	22 (hexavalent),	1 of 4 (d)	400 (hexavalent)	0 of 4 (d)
Pesticides/PCBs					
TCL Pesticides/PCBs	ND above Res SCG				

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d. – Total Chromium values detected are compared with the hexavalent Chromium SCG for unrestricted residential use.
ND - Not Detected
Qualifiers reported:
E – Results were estimated due to interferences.
N – Indicates presumptive evidence of compounds.

Soil contamination identified during the RI was addressed during the IRM described in Section 6.2. However, there are several PAHs and two metals in the remaining fill at the site that are nominally above commercial SCGs. No further removal action was pursued or was planned. The site surface was restored by placing six inches of soil and grass cover or gravel to stabilize the surface and prevent direct contact with the residual contaminants in the soil at the site.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM described in Section 6.2 and Site Management and Institutional Controls and Engineering Controls are necessary to confirm the effectiveness of the IRM. This alternative includes institutional controls, in the form of and environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site after the IRM.

Present Worth: *$23,000*
Capital Cost: *$0.00*
Annual Costs: *$1,500*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative would include excavation and off-site disposal of all waste fill and soil contamination above the unrestricted soil cleanup objectives. The excavated areas would be restored by filling in excavated areas with clean imported fill soil to restore previous grades, and restoring the surface with topsoil and grass to stabilize the imported fill soil. The remedy will not rely on institutional or engineering controls to prevent future exposure. There is no Site Management, no restrictions, and no periodic review.

Capital Cost: *$550,000*

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Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
1: No Further Action	0	0	0
2: No Further Action with Site Management	0	1,500	23,000
3: Restoration to Pre-Disposal or Unrestricted Conditions	550,000	0	550,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2, No Further Action with Site Management as the remedy for this site. Alternative 2 would achieve the remediation goals for the site by leaving the site suitable for commercial use. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 4.

Basis for Selection

The proposed remedy is based on the results of the RI, the completed IRM and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the Alternatives Analysis Report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The proposed remedy (Alternative 2) would satisfy this criterion by providing the best balance of the criterion described in Section 7.1. The IRM completed at the site achieved the remediation goals for the site by removing waste materials that posed a significant threat and is protective for the intended commercial use of the site. Alternative 2 does not eliminate or reduce the remaining contamination at the site; however this alternative uses institutional controls, in the form of an environmental easement and site management plan, to control any human exposures to, or environmental impacts from remaining contamination at the site. Alternative 1 (No Further Action) is similar to Alternative 2, but does not afford the benefit provided by imposing institutional controls. Alternative 3, by removing all soil contaminated above the “Unrestricted” soil cleanup objective, fully meets this threshold criteria. Alternative 2 also complies with this criterion but to a lesser degree or with lower certainty.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The goal of the remedial program at the site was to remediate the site to commercial use conditions. Alternatives 1 and 2 complies with the restricted commercial use soil cleanup objectives resulting from the IRM removal of grossly impacted soil and waste materials to restricted commercial use SCGs. The surface soil cleanup objectives are enhanced through placement of a soil stabilization layer. Alternative 1 meets the criteria similar to Alternative 2, but Alternative 2 includes an institutional control. The implementation of Alternative 3 would remove all remaining contamination and would achieve more stringent unrestricted residential requirements.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation and removal of the contaminated fill and overburden soils (Alternative 3). The IRM completed at the site mostly achieved commercial SCGs that are protective for the intended future commercial use of the site. Though Alternatives 1 and 2 do not further remediate the site, the site has been remediated to a level that limits potential for human exposure to remaining contamination, limits the potential for the remaining contamination to come into contact with ecological receptors, and limits impacts to the environment. Under Alternative 2, the environmental easement and site management plan would further protect human health and the environment during future on-site redevelopment activities. Alternative 3 has the greatest long-term effectiveness and permanence as all contaminated soil and fill would be removed and properly disposed of in an approved facility.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 1 and 2 do not reduce the toxicity, mobility or volume of the remaining contaminants any further than measures completed during the IRM. Alternative 2 would control potential exposures with institutional controls only. With Alternative 3, the excavation and off-site disposal, minimally reduces the toxicity, mobility and volume of on-site waste by transferring the material to an approved off-site location. However, depending on the disposal facility, the volume of the material would not be reduced.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives 1 and 2 pose no-short-term impacts to workers and the community because no active remedial measures would take place. Under Alternative 3, several short-term impacts to the community and workers may arise during excavation of contaminated soil and fill. These impacts include increased truck traffic, odors, dust, noise, runoff from the site, and potential spills during handling and transportation of contaminated materials.5 all have short-term impacts which could easily be controlled, however, Alternative 2 would have the smallest impact. The time needed to achieve the remediation goals is the shortest for Alternatives 1 and 2 as no additional remedial measures would be implemented and significantly longer for Alternative 3.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternatives 1 and 2 are favorable in that they are readily implementable. Alternatives 1 would be the most readily implementable alternative because no additional activities would take place at the site and no institutional controls would be required. Alternative 2 would require implementation of institutional controls. Alternative 3 is also implementable using conventional construction practices, but the volume of soil excavated

under this alternative would necessitate increased truck traffic on local roads for several months. Alternative 3 would be the least implementable alternative because additional active remediation is required.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternative 1 is the most cost effective as there are no additional costs associated with its implementation. Alternative 2 has a low cost, but the residual contaminated soil would not be addressed other than by institutional controls. With its large volume of soil to be handled, Alternative 3 (excavation and off-site disposal) would have the highest present work cost. Since the IRM achieved restricted commercial goals, the significant additional cost of Alternative 3 compared with Alternatives 1 and 2, makes this alternative less favorable.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

Since the anticipated use of the site is commercial, Alternative1 and 2 would be desirable, but some contaminated fill and soil would remain on the property. Whereas Alternative 3 would remove or treat the contaminated soil permanently, restrictions on the site use would not be necessary. However, the residual contamination with Alternative 2 would be controllable with implementation of a Site Management Plan.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 2 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

March 14, 2012

Mr. Robert Schick, Acting Director
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway,
Albany, NY 12233 – 7015

Re: **Proposed Remedial Action Plan**
Former Randolph Foundry Site
Site No. E905030
Randolph, Cattaraugus County

Dear Mr. Schick:

At the New York State Department of Environmental Conservation's (NYSDEC) request, we have reviewed the March 2012 *Proposed Remedial Action Plan* for the referenced site to determine whether the NYSDEC's proposed remedy is protective of public health. I understand that prior to the completion of the site investigation; remedial actions were implemented to remove sources of contamination. A minimum of six inches of clean soil cover was placed at the site to establish a vegetative cover. Although these actions have been taken, there is residual contamination in soil at the site. Groundwater is not contaminated. The proposed remedy is No Further Action and the implementation of a site management plan with environmental easements. Human exposures to this residual contamination would be addressed by the proposed remedy as follows:

- Soil: Use and development of the site would be restricted to commercial and industrial uses. An excavation plan would be developed to ensure human exposures to residually contaminated soils are properly managed.

- Groundwater: Use of groundwater would be restricted without appropriate water quality treatment.

Periodic reviews would be completed to certify that these elements of the remedy are being implemented. Based on this information, I believe the proposal is protective of public health and concur with the Proposed Remedial Action Plan. If you have any questions, please contact me or Mr. Richard Fedigan at 518-402-7860.

Sincerely,

Steven M. Bates, Acting Director
Bureau of Environment Exposure Investigation

ec: A Salame-Alfie, Ph.D.
S. Bates/R. Fedigan/I. Ushe/File
R. Cozzy/M. Cruden – DEC Albany
M. Doster/E. Melnyk DEC Region 9
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