RECORD OF DECISION AMENDMENT

Stauffer Management - Skaneateles Falls
Operable Units 5 through 8
State Superfund Project
Skaneateles, Onondaga County
Site No. 734010
March 2013

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

DECLARATION STATEMENT – AMENDED RECORD OF DECISION

Stauffer Management - Skaneateles Falls
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Statement of Purpose and Basis

This document presents the remedy for Operable Unit Numbers: 05: Skaneateles Creek - Area of Environmental Concern 5 (AEC-5), 06: Soil Remediation, 07: Phase 2 RA: AEC-2, AEC-6, AEC-7, AEC-8, and 08: Additional Groundwater Remediation (AEC-3 and AEC-4) of the Stauffer Mgt. - Skaneateles Falls site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit Numbers: 05, 06, 07, and 08 of the Stauffer Mgt. - Skaneateles Falls site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the amended remedy listed below are identified as unchanged, modified or new when compared to the 2001 AROD remedy:

1. Established commercial use and industrial use SCOs for the soil remedial action activities at the site. (modified)

2. Reduce, control, or eliminate to the extent practicable the contamination within soils and wastes on the site from AEC-1 (Landfill), AEC-2 (North Plant Area), AEC-6 (Main Plant Building), AEC-7 (Area in Front of Main Plant Building) and AEC-8 (South Plant Area). The soil contamination from these areas will be excavated and properly disposed off-site. (modified)

3. Mitigate via excavation and off-site disposal environmental threats to Skaneateles Creek (AEC-5) by eliminating to the extent practicable further inflows of any contaminated runoff, and contaminated groundwater from contaminated soils and waste. Modify the sediment clean up objectives from pre-release conditions to Ecological SCOs. Excavate creek sediments and contaminated soils within 25' of the creek to levels that will not impair aquatic organisms and promote unimpaired use by aquatic organisms. The soils and creek sediment will be properly disposed off-site. (modified)

4. Attain to the extent practicable of Ecological SCOs within 25' buffer of Skaneateles Creek. (new)

5. Mitigate via treatment with activated carbon the impacts of contaminated groundwater on the environment. Provide for the attainment of SCGs for groundwater quality at the limits of AEC-3, the shallow groundwater, and AEC-4, the deep groundwater, and to the extent practicable, provide for SCG attainment within these AECs. Perform one additional year of quarterly groundwater sampling in the northeast quadrant of the site and if the Department deems it necessary, additional monitoring wells will be installed in that area of localized xylene contamination. (modified)

6. Certification of 2003 closure of the former drum storage area, former waste storage tank, and former acid neutralization tank following the requirements of the Resource Conservation and Recovery Act (RCRA). (new)

7. Repair an existing clay cap with a two (2) foot clay cap, as necessary, in former Sludge Lagoons 2, 3, and 4 to complete a 6 NYCRR Part 360 closure. Install a one (1) foot soil cover in areas not covered by a building or pavement and the appropriate demarcation layer over the two (2) former Settling Ponds to complete the remedy. (new)

8. Dewatering operations and subsequent treatment of water generated from excavation activities. Ensure and implement truck traffic safety protocols as well as implement appropriate decontamination and emergency spill procedures for disposal trucks along designated transportation routes. (unchanged)

9. A soil cover and the appropriate demarcation layer will be required to isolate metals contamination soils in AOI-3 and AOI-4 exceeding applicable SCOs and to isolate contaminated soils in other areas of the site. Applying appropriate environmental easements and institutional controls will allow for future commercial use of the site. For AOI-3 and AOI-4, an excavation will be performed before the soil cover and the appropriate demarcation layer is placed so that contaminated surface soils are shipped off-site for proper disposal and flood plain elevations remain constant. Where the soil cover is required it will be a minimum of *two feet* of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d). A two-foot excavation was required because the depth of the contaminated soil exceeding commercial SCOs between the 0' and 2' depth was unknown. The soil cover and the appropriate demarcation layer

will be placed in the locations illustrated on Figure 4, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. (modified)

10. Conduct an evaluation for the potential inhalation of site contaminants due to soil vapor intrusion prior to redevelopment and occupancy of the property. (new)

11. Imposition of institutional controls in the form of environmental easements for the controlled property, that will:

- require 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);
- allow the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g) which are consistent with the remedial elements. This land usage is consistent with current local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Onondaga County DOH; and
- require compliance with the Department approved Site Management Plan. (modified)

12. A Site Management Plan will be required, which includes the following:

- 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 in Paragraph 11 above.

  Engineering Controls: The soil cover and the appropriate demarcation layer discussed in Paragraph 9 of this section; and the groundwater treatment system discussed in Section 7.1.

  This plan includes, but may not be limited to:

  i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination summarized by Table 2;

  ii. descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;

  iii. provisions for the management and inspection of the identified engineering controls;

  iv. maintaining site access controls and Department notification;

v. maintaining long-term flood protection for the site;

vi. the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

- a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

  i. monitoring groundwater quality and elevation to assess the performance and effectiveness of the remedy;

  ii. soil cover system inspection and maintenance as necessary to ensure its function is not impaired by erosion or activities at the site;

  iii. creek restoration efforts will be monitored to ensure its function is not impaired by erosion or activities at the site; and

  iv. a schedule of monitoring and frequency of submittals to the Department.

- an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of for any mechanical or physical components of the remedy. The plan includes, but is not limited to:

  i. compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;

  ii. maintaining site access controls and Department notification; and

  iii. providing the Department access to the site and O&M records. (new)

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 21,2013

Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION AMENDMENT
STAUFFER MANAGEMENT – SKANEATELES FALLS SITE
OPERABLE UNITS 5 THRU 8 – ON-SITE CONTAMINATION

Town of Skaneateles / Onondaga County / Site No. 734010 March 2013

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

SECTION 1: PURPOSE AND SUMMARY OF THE RECORD OF DECISION AMENDMENT

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Stauffer Management – Skaneateles Falls Site as presented in this Amendment to the Record of Decision (AROD). The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that will be addressed by the modification to the remedy identified by this AROD. The disposal of hazardous wastes at this site, as more fully described in the original Record of Decision (ROD), the December 2001 AROD, and Section 6 of this document, has contaminated various environmental media. The selected remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This AROD identifies the new information which led to this selected remedy and discusses the reasons for the selection of the remedy.

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 repositories identified below.

On March 28, 1996, the Department signed a Record of Decision (ROD) which selected a Corrective Action Management Unit (CAMU) cell and clay cap remedy for on-site soil contamination and shallow pump and treatment system for groundwater contamination. The Division of Environmental Remediation's Technical Assistance Guidance Memorandum 4046 was used for the soil cleanup objectives (SCOs). On December 13, 2001, the Department signed an Amended Record of Decision (AROD) which modified this remedy to clean up the Stauffer Management Company (SMC) – Skaneateles Falls site, Operable Units 3 thru 7 (OU3 and OU7), via excavation and proper off-site disposal of contaminated soils and sediment (see Section 3 of this document for a description of the operable units at this site).

The December 2001 AROD outlined a set of remedial actions for the site that addressed each area of concern and reiterated the original ROD's requirements for groundwater treatment and site restoration. Following the issuance of the December 2001 AROD, remedial actions were performed in the landfill area, the main plant building and surrounding areas, and Skaneateles Creek. From 2006 through 2009, supplemental remedial investigations were performed to determine the nature and extent of contamination remaining on-site and remedial activities (additional excavation and off-site disposal) were performed to address on-site soil contamination. These supplemental investigations covered the entire site including areas not sampled in the original Remediation Investigation. These new areas of sampling are called Areas of Investigation (AOIs). Conclusions derived from these supplemental remedial investigations and analytical data obtained during the remedial action activities identified uncertainties with the December 2001 AROD's selected remedy.

The supplemental remedial investigations concluded that there was a need to again reassess the remedy, taking into consideration the current zoning, the future end use of the site and the Department's subsequently issued regulations (6 NYCRR Subpart 375-6). Those regulations define soil cleanup objectives which have been applied to inactive hazardous waste sites throughout New York State since December 14, 2006.

The Department is proposing a second amendment to the ROD for OUs 5 thru 8 of the SMC-Skaneateles Falls Site. The changes, and the reasons for the changes are summarized in section 7.3 below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held from October 2 through November 1, 2012, during which the public was encouraged to submit comments on the selected remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following repositories:

Town of Skaneateles
Town Hall
24 Jordan Street
Skaneateles, NY 13152
Mon - Fri: 8:30 - 4:00
Phone (315) 685-3473

NYSDEC Region 7 Office
615 Erie Boulevard West
Syracuse, NY 13204
Attention: Stephanie Harrington
Monday - Friday: 8:30 - 4:30
Phone: (315) 426-7500

A public meeting was also conducted on October 16, 2012 at Mottville Fire House, 4149 Frost Street, Mottville, NY 13119. At the meeting, a description of the original ROD, the first AROD and the circumstances that have led to selected changes in this AROD were presented. After the presentation, a question and answer period was held, during which verbal or written comments were accepted on the selected remedy.

Comments on the remedy received during the comment period are summarized and addressed in the Responsiveness Summary section of the AROD. This second AROD 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 site is located at 4512 Jordan Road in the Town of Skaneateles, Onondaga County.

Site Features:
The site is vacant land, bounded on the west and north by a mix of residential and commercial property. To the east and south the site is bounded by undeveloped land. The site is located approximately three miles north of Skaneateles Lake on 68 acres of a parcel approximately 120 acres in size.

Current Zoning:
This site is inactive and the zoning is labeled as Industrial/Research/Office District (IRO). The purpose of this district is to allow areas for light manufacturing, office and research facilities on large tracts of land. Such areas may also include housing and limited commercial development intended to support the primary uses.

Historic Uses:
The liquid waste stream from this former Stauffer Chemical Company's operation contained organics and was processed through packed carbon adsorption towers. Sludge was generated from the manufacture of potassium and sodium silicates, and dumped into two settling ponds on the site. Groundwater samples taken in March of 1986 showed contamination by volatile organic compounds (VOCs). Currently groundwater is being collected, treated and discharged to Skaneateles Creek under a SPDES permit.

Operable Units:

The site was divided into nine operable units.

An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable Unit 01 (OU01) pertains to the groundwater treatment plant.

Operable Unit 02 (OU02) pertains to the groundwater recovery system that transports the

contaminated groundwater to the treatment plant.

OU03 consists of a Corrective Action Management Unit landfill cell required by the initial Record of Decision. The Record of Decision was amended in December 2001 to delete this remedy from the project.

OU04 pertains to the excavation and off-site disposal of the Area of Concern No. 1 (AEC-1) landfill.

OU05 pertains to the remediation of Skaneateles Creek soils, sediment and creek banks.

OU06 pertains to the soil remediation for the site. This Operable Unit includes, but is not limited to, the six Areas of Investigation (AOI). OU06A consists of a pilot test to determine the effectiveness of low temperature thermal desorption to remediate on-site soils. OU06B also includes the excavation and off-site disposal of Lagoon 1, part of the Resource Conservation and Recovery Act-(RCRA) permitted landfills on the site.

OU07 pertains to the soil/debris remediation in AEC-2, AEC-6, AEC-7, AEC-8A. AEC-8B, and AEC-8C. OU07A consists of the AEC-6 demolition of the Stauffer Chemical plant facility, soil excavation to bedrock and off-site disposal of these materials. OU07B consists of the Petroleum Spill remediation (Spill #0911456).

OU08 pertains to additional groundwater recovery and treatment remediation determined necessary in the supplemental remedial investigation after OU01 and OU02 were completed.

OU09 pertains to the soil vapor intrusion evaluation. This evaluation determined that this site is not an SVI threat to off-site structures.

Site Geology and Hydrogeology:

The overburden soil at the site consists of unstratified (not layered) glacial deposits and recent aged deposits. Two types of glacial deposits are present at the site. For most of the site, a red clay till is present, consisting of a sticky reddish clay with no visible layering. A brown till consisting of a poorly sorted mixture of clay, silt, sand, gravel and boulders is present below the southern portion of the landfill and the areas immediately to the south and southwest of the landfill. A layer of sand, gravel, and cobbles, ranging in thickness from 4 to 7 ft., is present directly overlying the bedrock south, southwest, and west of the landfill. This layer appears to be associated with a low bedrock surface in this portion of the site.

As for the site hydrogeology, there are three distinct zones of groundwater at the Stauffer site: a shallow zone present in the overburden, an intermediate zone present in the upper bedrock just below the overburden, and a deep groundwater zone present 60 to 70 feet below ground surface. The shallow overburden and intermediate groundwater zones together comprise AEC-3. The deep bedrock zone comprises AEC-4. A general downward vertical hydraulic gradient between the overburden and upper bedrock persists across most of the site. The groundwater's movement between overlying soils and the upper bedrock exists via fractures and/or joints in the upper bedrock. Groundwater movement from the upper zone bedrock to the deep zone bedrock is generally controlled by the southerly dip of the bedrock.

Operable Unit (OU) Numbers 05, 06, 07 and 08 are the subjects of this document.

A Record of Decision was issued previously in March 1996. The first Amended Record of Decision was issued previously in December 2001.

A site location map is attached as Figure 1. Figure 2 illustrates the detailed site plan. Figure 3 illustrates the AECs and the AOIs on a site map. Table 1 illustrates the remedy description from the December 2001 AROD and the selected remedy.

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 that restrict the use of the site to commercial use as described in Part 375-1.8(g) were evaluated in addition to an alternative which would allow for unrestricted use of the site.

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.

The Department and Stauffer Management Company entered into Consent Orders in 1991 and 1997 (modified June 2002 and June 2012). These Orders obligate SMC to implement a RI/FS and RD/RA for the site.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation and supplemental investigations (collectively referred to as the RI) have 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,
- 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.

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, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in the March 1996 ROD and December 2001 AROD for OU5 through OU8, 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 Information

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment
- surface soil
- soil vapor

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste 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 the March 1996 ROD and December 2001 AROD. Additionally, the RI Reports contain a full discussion of the data. The contaminant(s) of concern identified for these Operable Units at this site is/are:

xylene
polychlorinated biphenyls (PCB)
toluic acid
lead
mercury
chromium

As illustrated in the original 1996 ROD and 2001 AROD for this site, the contaminant(s) of concern exceed the applicable SCGs for:

soil
groundwater
sediment

Since the issuance of the Feasibility Study (FS), ROD, and the first AROD, significant new information about the site has been obtained. The most significant findings are the nature, areal extent, and contaminant concentrations for site-wide soils which lead to implementation and cost issues. The additional cost for the soil excavation and off-site disposal to allow for unrestricted use of the site as specified in the 2001 AROD is prohibitive ($41.4 Million). The locations where soil contamination exceeds Commercial and Industrial SCOs are illustrated on Figure 5 and are summarized in Table 2.

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.

During the 2006 Supplemental Remedial Investigation, soil heavily contaminated with xylene (up to 25,000 ppm) was discovered in Lagoon 1 in Area of Investigation 6 (AOI-6). Excavation of the contaminated soil to bedrock, and proper disposal of this soil off-site, was the Lagoon 1 remedy. The IRM commenced in May 2007 and was completed in May 2008. Approximately 47,871 tons of impacted soil was removed off-site.

6.3: 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.*

People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site-related contamination. Unless they dig below the ground surface, people are not likely to come into contact with site-related soil or groundwater contamination because large portions of the site have been excavated and backfilled with clean soil. People are also denied access to the site because the site is fenced and the waste water treatment plant workers patrol the property. People are also not expected to contact contaminated creek sediments because impacted areas of the creek have been excavated down to bedrock and backfilled with clean soils.

Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion for any future on-site redevelopment and occupancy. Sampling has indicated that no further actions are necessary to address soil vapor intrusion concerns at off-site properties.

6.4: 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.

The soil and creek sediment contaminants of concern listed in the December 2001 AROD and this AROD are xylene, lead (maximum concentration detected was 25,000 ppm), mercury (at concentrations above 5 ppm), chromium (at concentrations above 5,000 ppm), and PCBs (maximum concentration detected was 17 ppm). This soil and creek sediment contamination was excavated in the summer of 2012 and was properly disposed off-site. Over the past ten years, approximately 380,000 tons of contaminated soil was excavated and properly disposed off-site. Removal of the contaminated soil has significantly reduced the threat to public health and the environment.

Since SMC excavated and properly disposed of the chromium-contaminated soil between the landfill

known as AEC-1 and AEC-8C South in July 2012, AEC-1 soil remediation is complete. In addition, SMC's source removal across the site has contributed to decreasing concentrations of contaminants of concern in the groundwater.

A pump and treat system collects and treats the groundwater before it reaches the creek. Groundwater quality has improved via the pump and treat system. Further groundwater monitoring well sampling is needed at the site due to xylene contamination in the northeastern section of the site and to insure the selected remedy continues to be protective of public health and the environment.

SECTION 7: SUMMARY OF ORIGINAL REMEDY AND ROD AMENDMENT

7.1 Original Remedy

In the December 2001 AROD, the NYSDEC selected excavation, groundwater pump and treatment, and deed restrictions. The components of this remedy were as follows:

- Excavate contaminated soils and waste from the Landfill Area (AEC-1) that exceed Standards, Criteria and Guidance (SCGs), characterize, then dispose off-site at an appropriate disposal facility.

- Excavate contaminated soils and waste from the North Plant Area (AEC-2) that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility.

- Excavate contaminated sediments from the Skaneateles Creek (AEC-5) that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility. Excavate and dispose of off-site identified abandoned pipe in the Skaneateles Creek.

- Demolition of Main Plant Building (AEC-6) and remediation of impacted soils underneath the building.

- Excavate contaminated soils and waste from identified remedial areas: Area in Front of Main Plant Building as AEC-7, and South Plant Area as AEC-8, that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility.

- Excavate PCBs that exceed site cleanup SCGs, characterize, then dispose off-site at an appropriate disposal facility.

- Establish Site Specific Remedial Goals (SSRGs) for confirmatory sampling of metals contaminated soils.

- Remediate residual metals contaminated soils that exceed SSRGs by excavation with off-site disposal or on-site isolation/treatment technologies.

- Design, construct and operate a shallow groundwater extraction and treatment system for AEC-3. Treated water will be discharged to Skaneateles Creek through SPDES permitted outfalls and monitored for compliance by the NYSDEC Division of Water.

- No action for deep groundwater (AEC-4), but monitoring will be conducted to assess expected improvements.

- Contingency for future extraction and treatment of deep groundwater (AEC-4), if source removal and natural attenuation fails to promote adequate improvements.

- De-watering operations and subsequent treatment of water generated from excavation activities.

- Ensure and implement truck traffic safety protocols as well as implement appropriate decon and emergency spill procedures for disposal trucks along designated transportation route.

- Institutional controls, including restricting future site use to only Industrial/Commercial purposes and restricting on site groundwater usage.

7.2 New Information

Since the issuance of the FS, the ROD and the AROD, significant new information about the site has been obtained. The most significant findings are the nature, areal extent, and contaminant concentrations for site-wide soils and significant xylene groundwater contamination in the intermediate aquifer localized in the northeast quadrant of the site.

Supplemental remedial investigations concluded that there are implementability and cost-effectiveness issues with the December 2001 AROD's selected remedy and the need to integrate a revised remedy with the current zoning and future end use of the site. The implementability issues are related to the proximity of the excavation to underground utilities, the retaining wall along Skaneateles Creek, and the east side of Jordan Road. The Site Management Plan and an environmental easement will document these areas of residual contamination so if these structures and/or utilities are removed in the future, then the soil contamination can be remediated. In addition, the cost ($41.4 Million) to excavate soils to allow for unrestricted use of this commercially-zoned property is prohibitive. Therefore, based on the new information submitted, the Department is proposing to amend the Record of Decision (ROD) for Operable Unit Nos. 5, 6, 7 and 8.

7.3 Selected Changes

The selected changes include:

- The soil remediation component of the remedy will be revised to achieve commercial SCOs for the surface soils (0 to 2 foot depth) and industrial SCOs for subsurface soils. The excavation and proper off-site disposal of contaminated soils and waste exceeding applicable SCOs, as described above, is consistent with commercial and industrial use of this site property after the remedy is complete.

  Approximately 380,000 tons of contaminated soil and sediment have been excavated and shipped off-site for proper disposal. An additional excavation exceeding 150,000 tons would be necessary to achieve the cleanup objectives for unrestricted use of the site;

- Another selected change to the soil remediation component pertains to the isolation of metals contaminated soils (for example, mercury) in AOI-3 and AOI-4 exceeding applicable SCOs by placing a soil cover and the appropriate demarcation layer and applying appropriate environmental easements and institutional controls. The surface soils (0 to 2-foot depth) will be excavated and replaced with clean fill to maintain flood plain elevations. The two-foot excavation was required because the depth of the contaminated soil exceeding commercial SCOs between the 0' and 2' depth was unknown;

- Soil containing heavy metals and Semi-Volatile Organic Compounds (for example, polycyclic aromatic hydrocarbons – PAHs) exceeding commercial SCOs are present on site. These areas will be documented in the Excavation Plan section of the Site Management Plan as discussed in Section 9, Item 12 of this Record of Decision Amendment. Existing soils meeting commercial SCOs cover these areas preventing human exposure to this contamination;

- As stated in the first AROD, the four (4) sludge lagoons located in the southeast corner of the site were properly closed. The remediation of these lagoons was apparently completed, but a report documenting this work, with a NYS professional engineer's certification was not completed. Since there was no documentation in the project files to confirm this closure, a supplemental investigation was performed in this area. Although not part of the USEPA RCRA component of the site, two settling ponds located in the northeast corner of the site were also part of the supplemental investigations. Only the westernmost sludge lagoon (labeled Lagoon 1) contained soil contamination above the first AROD SCOs. As an Interim Remedial Measure (IRM) before this second AROD, Lagoon 1 was completely excavated and disposed off-site in 2007. Additional work will be required as follows: the repair of the two foot clay cap in former Sludge Lagoons 2, 3, and 4 where the supplemental investigation identified the clay cap had been damaged will complete a 6 NYCRR Part 360 closure of these areas, and the installation of a one foot soil cover in areas not covered by a building or pavement and the appropriate demarcation layer on the two (2) former Settling Ponds is the selected remedy for this section of the site;

- The former drum storage area, the former waste storage tank, and the former acid neutralization tank are units regulated by the Resource Conservation and Recovery Act. The remedial action work plans specified the complete removal of these areas including the soil adjacent to each location. This work was completed in 2003. Certification of this work will be submitted to the Department and USEPA to complete the USEPA RCRA closure of these regulated units;

- Modifying the sediment cleanup objectives for Skaneateles Creek from pre-release conditions to achieving ecological soil cleanup objectives.

- In accordance with the Site Management Plan, conduct an evaluation for the potential inhalation of site contaminants due to soil vapor intrusion prior to the redevelopment and occupancy of the property, and;

- 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, and;
- requires compliance with the Department approved Site Management Plan.

- A Site Management plan is required, which includes the following:
  - 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: The clay cap, soil cover and the appropriate demarcation layer discussed above, and the groundwater treatment system discussed below.

    This plan includes, but may not be limited to:

    - an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
    - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
    - evaluation of the potential for soil vapor intrusion for any buildings constructed on the site, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion;
    - provisions for the management and inspection of the identified engineering controls;
    - maintaining site access controls and Department notification;
    - maintaining long-term flood protection for the site; and
    - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
  - a Monitoring Plan to assess the performance and effectiveness of the remedy.

The plan includes, but may not be limited to:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item this paragraph above.

- an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
  - compliance monitoring of the groundwater treatment system to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
  - maintaining site access controls and Department notification; and
  - providing the Department access to the site and O&M records.

Although there are no changes to the groundwater portion of the final remedy, there will be work performed to expedite the remedy specified in the 2001 AROD. The groundwater sample results from the 2009-2010 supplemental investigation illustrated high levels of xylene contamination in the intermediate and deep bedrock aquifers. One year of quarterly groundwater sampling (four rounds) will be performed (the final round of samples to be collected in August 2013); the samples will be collected from monitoring wells located in the northeast quadrant of the site. After the year of sampling, additional monitoring and extraction wells will be installed in this area of the site, if deemed necessary by the Department.

SECTION 8: EVALUATION OF SELECTED CHANGES

8.1 Remedial Goals

Goals for the cleanup of the site were established in the original ROD and in the first AROD. The goals selected for this site are:

- Eliminate to the extent practicable the potential for direct human or animal contact with site related contaminants.
- Reduce, control, or eliminate to the extent practicable the contamination within soils and wastes on the site from AEC-1 (Landfill), AEC-2 (North Plant Area), AEC-6 (Main Plant Building), AEC-7 (Area in Front of Main Plant Building) and AEC-8 (South Plant Area).
- Mitigate environmental threats to Skaneateles Creek (AEC-5) by eliminating to the extent practicable further inflows of any contaminated runoff and contaminated groundwater from

contaminated soils and waste.

- Prevent to the extent practicable, migration of contaminants from AECs 1, 2, 5, 6, 7, and 8 to groundwater.

- Mitigate the impacts of contaminated groundwater (AEC-3) on the environment.

- Provide for the attainment of SCGs for groundwater quality at the limits of AEC-3, the shallow groundwater, and AEC-4, the deep groundwater, and to the extent practicable, provide for SCG attainment within these AECs.

- Dewatering operations and subsequent treatment of water generated from excavation activities.

- Implement Institutional Controls.

8.2 Evaluation Criteria

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the original Feasibility Study.

The first two evaluation criteria are called 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 selected ROD Amendment remedy was evaluated and is protective of public health and the environment. This remedy is consistent with the future use and the current zoning for the site. Groundwater treatment and Skaneateles Creek remediation will be equally protective of the environment compared to the original remedy. In addition, the groundwater will be periodically monitored as originally planned.

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.

From the 2001 AROD, the unrestricted use remedy proposed active removal of contaminants from impacted areas to a level consistent with unrestricted SCOs, thus allowing a future unrestricted use of the Site. The selected commercial use remedy maintains active removal of contaminants from those same impacted areas, but to levels that allow a commercial and industrial use of the site. A change in the soil cleanup objectives and future use is permissible under New York State regulations and the selected change is compliant with applicable Federal and State laws and regulations. Engineering controls (i.e., capping, soil cover and the appropriate demarcation layer) and

institutional controls (i.e., environmental easements) will be imposed on the Site to ensure continued long-term compliance with applicable standards, criteria and guidance.

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

3. Short-term 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.

The unrestricted use and selected commercial use remedies both involve the excavation and handling of soils with chemical concentrations exceeding established SCOs. Workers involved in the excavation, staging and handling will be required to wear appropriate personal protective equipment (PPE). The potential short-term off-site impacts of the unrestricted use remedy are higher than the commercial use remedy due to the significant volume of excavation required and the level of off-site waste transportation required for the unrestricted use remedy.

Under both the unrestricted use and the commercial use remedies, the excavated soils will be placed directly into trucks, to the maximum extent possible, and disposed at an appropriate offsite facility.

Under the unrestricted use remedy, there is a higher potential for exposure to dust and VOC emissions from the additional soil excavation volumes and the required time needed to complete the excavation. Regardless of the remedy chosen, the implementation of appropriate engineering controls, including dust and volatilization monitoring and control will be implemented to minimize these risks.

Both remedies have short-term impacts on the community such as noise and truck traffic from construction activities. An additional 6,100 truckloads of soils exceeding unrestricted SCOs would be sent off-site to achieve the unrestricted use remedy for the site.

The unrestricted use remedy would have a higher potential for short term impacts to the community based on the increased length of time required to implement the remedy. It is expected that the unrestricted use remedy would require approximately 3 additional years to complete while the selected commercial use remedy will be completed within 3 additional months.

4. 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.

The unrestricted use remedy would be permanent and effective for elimination of the contamination source areas from the Site through off-site disposal. This remedy would provide a high level of effectiveness and permanence and would not leave soil contamination on-site. The selected commercial use remedy will also provide a high level of long-term effectiveness and permanence, by excavating levels of contamination above applicable SCOs and placing engineering controls (ECs) (soil covers) and institutional controls (ICs) (use restrictions) on the Site. The placement of use

restrictions will limit the Site to commercial and industrial uses and therefore provide an adequate level of protection to future occupants.

Remaining on-site contamination from the commercial use remedy will not pose a risk to humans based on the Site use restrictions and placement of a soil cover over subsurface soils with remaining metals concentrations above the commercial criteria to eliminate exposure pathways. The Creek and the creek banks will be fully remediated to ecological SCOs and therefore, exposure of ecological or human receptors will be minimized. For a majority of the site, groundwater sampling has shown the remaining levels of contaminants on-site are not negatively impacting the environment and continued groundwater monitoring will be instituted to insure no future impacts. In the northeast section of the site, significant groundwater contamination still exists. After one additional year of monitoring in this area, the need for groundwater extraction and treatment will be evaluated by the Department.

While the unrestricted use remedy and the selected commercial use remedy are effective in the long term, the selected remedy will rely on ECs/ICs to remain effective.

5. 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.

The unrestricted use remedy would provide a higher reduction in toxicity, mobility, and volume of contaminated soils and sediments at the Site. This is evident through the sheer volume of contaminated material that would be required to be excavated and disposed of under the remedy. Since the unrestricted use remedy would leave no residual contamination in soils above associated SCOs, remaining toxicity levels and mobility of residual contaminants would be minimal.

The selected commercial use remedy will also provide a high degree of reduction in toxicity, mobility, and volume of contaminated soil and sediments at the Site. This is also evident through the additional volume of material that will be excavated and disposed of under this alternative (approximately 10,000 tons).

Toxicity will be reduced by removing impacted soils to a concentration sufficient for the intended future commercial use of the site. Toxicity will be further controlled through the implementation of ICs for the Site and mobility will be adequately controlled through ECs and continued groundwater monitoring. The unrestricted use remedy would result in a greater reduction of toxicity, mobility, and volume than the selected remedy, but the selected remedy will result in a significant reduction of these factors.

6. Implementability. The technical feasibility 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.

The unrestricted use remedy and the selected commercial use remedy are both technically feasible to implement, although the former remedy would have very challenging implementability issues in some areas due to existing utilities and structures. Both remedies mainly consist of excavation and

off-site disposal and are implementable. Soil excavation has been demonstrated to be effective and has previously been implemented at the majority of the Site. The Site is accessible for truck access and the topography is generally level so the equipment can be used at the Site.

Installation of a soil cover is a component of the selected remedy and is also technically feasible. A soil cover is a common means of isolating on-site contamination. For the area north of Skaneateles Creek, access is obtainable from a neighboring property and although the topography will be modified, a soil cover is a technically feasible remedial action. For the other areas of the site that will have a soil cover, access and topography are not an issue. The effectiveness of the selected remedy will be monitored through periodic site inspections and groundwater monitoring.

Each remedy is also administratively feasible to implement. The unrestricted use remedy and the selected remedy will require similar administrative activities and approvals as both remedies entail the same type of remedial activity. The selected remedy will require additional administrative measures to institute EC/ICs associated with the soil cover and restricted future use of the property. However, these types of controls are common and feasible to implement.

Each remedy requires obtaining permits and approvals from state and local agencies for storm water and erosion, sediment control and Skaneateles Creek bypass activities. Administrative approvals will not differ between the two remedies for construction. Both remedies will involve institutional controls to limit groundwater use.

The unrestricted use remedy has some very challenging implementability issues while the selected remedy has some additional administrative issues. Overall, the selected remedy will satisfy this criterion better than the former remedy.

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 estimated present worth cost to carry out the selected remedy is an additional $6,562,000, including annual costs for 30 years. The estimated present worth to complete the December 2001 remedy is an additional $41,436,000 including annual costs for 30 years. The additional cost to construct the selected remedy is estimated to be $6,304,000 and the estimated average annual cost is $33,900 per year for 30 years.

The cost analysis demonstrates that the selected remedy is a cost effective remedial alternative and is approximately $35,000,000 less than the unrestricted use remedy. The cost differential is due to the large volume of material that would require excavation and off-site disposal. The Commercial Use Remedy has a higher operational and maintenance (O&M) cost associated with periodic inspections and maintenance of the ECs and groundwater monitoring while the O&M costs associated with the unrestricted use soil remedy are negligible. Both the former and selected remedy do not include the $2,000,000 O&M costs for the groundwater treatment component, since it has not changed from the original ROD and the December 2001 AROD remedies.

The costs presented in Table 3 are based on recent prices obtained for off-site disposal and revised volumes of soil and sediment to be excavated that were identified during pre-design and design

activities. Table 3 does not include costs for the groundwater phase of the project because the selected remedy remains unchanged from the December 2001 AROD.

This final criterion is considered a modifying criterion and is considered after evaluating those above. It is focused upon after public comments on this ROD amendment have been received.

8. Community Acceptance. Concerns of the community regarding the selected changes were evaluated. A responsiveness summary was prepared that describes public comments received and the manner in which the Department addressed the concerns raised.

SECTION 9: SUMMARY OF ROD AMENDMENT

The Department has amended the Record of Decision (ROD) for the SMC-Skaneateles Falls Site for OU 5 thru 8. The estimated additional present worth cost to carry out the selected remedy is $6,562,000, including annual costs for 30 years. The estimated additional present worth to complete the December 2001 remedy was $41,436,000 including annual costs for 30 years. The additional cost to construct the selected remedy is estimated to be $6,304,000 and the estimated average annual cost for 30 years is $33,900.

The elements of the amended remedy listed below are identified as unchanged, modified or new when compared to the 2001 AROD remedy and are illustrated on Figure 4:

1. Established commercial use and industrial use SCOs for the soil remedial action activities at the site. (modified)

2. Reduce, control, or eliminate to the extent practicable the contamination within soils and wastes on the site from AEC-1 (Landfill), AEC-2 (North Plant Area), AEC-6 (Main Plant Building), AEC-7 (Area in Front of Main Plant Building) and AEC-8 (South Plant Area). The soil contamination from these areas will be excavated and properly disposed off-site. (modified)

3. Mitigate via excavation and off-site disposal environmental threats to Skaneateles Creek (AEC-5) by eliminating to the extent practicable further inflows of any contaminated runoff from on site, and contaminated groundwater from contaminated soils and waste. Modify the sediment clean up objectives from pre-release conditions to Ecological SCOs. Excavate creek sediments and contaminated soils within 25' of the creek to levels that will not impair aquatic organisms and promote unimpaired use by aquatic organisms. The soils and creek sediment will be properly disposed off-site. (modified)

4. Attain to the extent practicable of Ecological SCOs within 25' buffer of Skaneateles Creek. (new)

5. Mitigate via treatment with activated carbon the impacts of contaminated groundwater on the environment. The contaminated groundwater will continue to be treated, as needed, to meet the requirements of SPDES permit for the site. Provide for the attainment of SCGs for groundwater quality at the limits of AEC-3, the shallow and intermediate groundwater, and AEC-4, the deep groundwater, and to the extent practicable, provide for SCG attainment within these AECs. Perform one year of quarterly groundwater sampling in the northeast

quadrant of the site and if the Department deems it necessary, additional monitoring wells will be installed in that area of localized xylene contamination. (modified)

6. Certification of 2003 closure of the former drum storage area, former waste storage tank, and former acid neutralization tank following the requirements of the Resource Conservation and Recovery Act (RCRA). (new)

7. Repair an existing clay cap with a two (2) foot clay cap, as necessary, in former Sludge Lagoons 2, 3, and 4 to complete a 6 NYCRR Part 360 closure. Install a one (1) foot soil cover in areas not covered by a building or pavement and the appropriate demarcation layer over the two (2) former Settling Ponds to complete the remedy. (new)

8. Dewatering operations and subsequent treatment of water generated from excavation activities. Ensure and implement truck traffic safety protocols as well as implement appropriate decontamination and emergency spill procedures for disposal trucks along designated transportation routes. (unchanged)

9. A soil cover and the appropriate demarcation layer will be required to isolate metals contamination soils in AOI-3 and AOI-4 exceeding applicable SCOs and to isolate contaminated soils in other areas of the site. Applying appropriate environmental easements and institutional controls will allow for future commercial use of the site. For AOI-3 and AOI-4, an excavation will be performed before the soil cover and the appropriate demarcation layer is placed so that contaminated surface soils are shipped off-site for proper disposal and flood plain elevations remain constant. Where the soil cover is required it will be a minimum of *two feet* of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d). A two-foot excavation was required because the depth of the contaminated soil exceeding commercial SCOs between the 0' and 2' depth was unknown. The soil cover and the appropriate demarcation layer will be placed in the locations illustrated on Figure 4, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. (modified)

10. In accordance with the Site Management Plan, conduct an evaluation for the potential inhalation of site contaminants due to soil vapor intrusion prior to redevelopment and occupancy of the property. (new)

11. Imposition of institutional controls in the form of environmental easements for the controlled property, that will:

    a. require 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);

    b. allow the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g) which are consistent with the remedial elements. This land usage is consistent with current local zoning laws;

c. restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Onondaga County DOH; and

d. require compliance with the Department approved Site Management Plan. (modified)

12. A Site Management Plan will be 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 in Paragraph 11 above.

Engineering Controls: The soil cover and the appropriate demarcation layer discussed in Paragraph 9 of this section; and the groundwater treatment system discussed in Section 7.1.

This plan includes, but may not be limited to:

i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination summarized by Table 2;

ii. descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;

iii. evaluation of the potential for soil vapor intrusion for any buildings constructed on the site, including provisions for implementing actions recommended to address exposures related to soil vapor intrusion;

iv. provisions for the management and inspection of the identified engineering controls;

v. maintaining site access controls and Department notification;

vi. maintaining long-term flood protection for the site;

vii. the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

i. monitoring groundwater quality and elevation to assess the performance and

effectiveness of the remedy;

ii. soil cover system inspection and maintenance as necessary to ensure its function is not impaired by erosion or activities at the site;

iii. creek restoration efforts will be monitored to ensure its function is not impaired by erosion or activities at the site; and

iv. a schedule of monitoring and frequency of submittals to the Department.

c. an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of for any mechanical or physical components of the remedy. The plan includes, but is not limited to:

i. compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;

ii. maintaining site access controls and Department notification; and

iii. providing the Department access to the site and O&M records. (new)

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Stauffer Management – Skaneateles Falls
Operable Unit No. 05 through 08
State Superfund Project
Skaneateles (T), Onondaga County, New York
Site No. 734010

The Proposed Record of Decision (ROD) Amendment for the Stauffer Management – Skaneateles Falls site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on October 2, 2012. The Proposed ROD Amendment outlined the remedial measure proposed for the contaminated soil, sediment, and groundwater at the Stauffer Management – Skaneateles Falls site.

The release of the Proposed ROD Amendment was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on October 16, 2012, which included a presentation of the remedial investigation/feasibility study (RI/FS) for the Stauffer Management – Skaneateles Falls as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the Proposed ROD Amendment ended on November 2, 2012.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

A. Comments received at October 16, 2012 Public Meeting

COMMENT 1: When the Department performed the off-site soil vapor intrusion evaluation did you find any level of contamination? How about low levels of contamination?

RESPONSE 1: The Department performed several rounds of soil vapor sampling west of the site property along Jordan Road. The New York State Department of Health's review of the soil vapor sample results concluded that while certain contaminants were detected, the concentrations detected were very low. Therefore, it was determined that the site is not a significant source of soil vapor and that no further investigation was warranted. An August 17, 2006 letter report, including the soil vapor sample results, is located in the document repositories.

COMMENT 2: What contamination remains at the site?

RESPONSE 2: There are elevated concentrations of groundwater contamination in the northeast quadrant of the site. Xylene is the primary contaminant of concern. Four rounds of quarterly sampling will be performed in this area. The first round of sampling the groundwater monitoring

wells was completed in October 2012. After the sampling rounds are completed, the Department will determine if additional action is warranted.

Table 2 of this Amended Record of Decision lists the concentration and the depth below ground surface of the remaining on-site soil contamination. This remaining soil contamination does not warrant further action but can be managed by the Site Management Plan (SMP), since it is located at a depth well below ground surface and it is not impacting the groundwater.

COMMENT 3: How much longer will you be on site and when will you be done? Does that include the water treatment plan?

RESPONSE 3: Since the soil remediation was completed in October 2012, site restoration is the sole task necessary in the 2013 construction season to complete this phase of the project (Operable Unit 06). The open petroleum spill (#0607942) is expected to be closed by September 2013, if the remaining three rounds of groundwater sample results are similar to the October 2012 which supported that the spill has been remediated.

As for the water treatment plant, the Department will re-evaluate this phase of the project (Operable Unit 08) after the groundwater monitoring is complete. Also see Response 2.

COMMENT 4: Is Stauffer still footing the bill for this?

RESPONSE 4: Stauffer Management Company (SMC) of Wilmington, DE is paying for the remediation of this site.

COMMENT 5: Who currently holds title to the property? Is Stauffer still a viable entity?

RESPONSE 5: Stauffer Management Company, LLC is a viable entity and currently holds title to the property.

COMMENT 6: What is the total acreage of the entire property? What is the acreage of the area of concern?

RESPONSE 6: The acreage of the entire property is 118.4 acres. On May 7, 2011, the Department approved a boundary modification and delisted a 50-acre parcel from the site description. Therefore, the area of the site currently listed on the New York State Registry of Inactive Hazardous Waste Disposal sites is 68.4 acres.

COMMENT 7: Was all of the property investigated?

RESPONSE 7: Yes.

COMMENT 8: When done, there will still be eight to ten feet of contaminated soil left onsite?

RESPONSE 8: The soil covers over the AOI-3 and AOI-4 areas of the site are covering much less

than eight to ten feet of contaminated soil. The average amount of contaminated soil between the demarcation and competent bedrock layers is approximately three feet.

In addition, ten of the 13 excavation areas removed all contaminated soil down to competent bedrock. Therefore, there is no contamination left behind at the bottom of these excavations and post-excavation bottom samples were not needed. The Department used post-excavation sample results to determine when the AEC-1 landfill removal was completed.

COMMENT 9: Ballpark, how much has this cleanup cost to date?

RESPONSE 9: As this is a responsible party-funded remediation projects, the Department does not require SMC to provide their cleanup costs. However, to date, SMC claims to have spent between $60 and $70 million on this project.

COMMENT 10: What's the makeup of the soil cover?

RESPONSE 10: The soil cover includes a demarcation layer made of a woven geotextile fabric between the remaining site soil and a minimum of two feet of clean fill placed atop the demarcation layer.

COMMENT 11: How do you know if you've hit the demarcation layer?

RESPONSE 11: It is easy to observe when one reaches the demarcation layer as it made of a woven geotextile fabric and is very different in color than the clean fill placed above it.

COMMENT 12: Is clay part of this cleanup?

RESPONSE 12: Clay was generally placed on top of the competent bedrock layer after excavations to that depth were completed. Clay was also used as a soil cover for the four lagoons located in the southeast corner of the site. Lagoon 1, the only lagoon containing high levels of xylene contamination, was completely excavated including its clay cover and disposed off-site. SMC repaired the clay covers over Lagoon 2, 3, and 4 as part of the Department's NYCRR Part 360 requirements.

COMMENT 13: What type of clay was used in the excavation part of the remedy? Where did you get the clay from?

RESPONSE 13: The clay is a soil with low permeability that SMC obtained from the Valley Bottom pit in Marcellus, NY. This source of clay was approved prior to its use on site by the Department.

COMMENT 14: Are you going to do anything aesthetically at the site?

RESPONSE 14: Site restoration activities (backfill, grading, seeding, etc.) following the 2012 soil remediation activities were started in 2012, but will be completed in 2013. Also, since nuisance dust

is no longer an issue at this site, the fabric placed along the western fence line will be removed. Stockpiles of stone and other materials will be moved behind the groundwater treatment facility and therefore, away from the front gate.

COMMENT 15: Will this remedial action clear or change the title? What restrictions will there be in terms of future use? If Stauffer sells the property, will they be "off the hook" so to speak??

RESPONSE 15: The remedial actions described in this Amended Record of Decision will not change the title for this property and it will remain a site on the New York State Registry of Inactive Hazardous Waste sites.

In addition, an environmental easement will be placed on this property that will run with the land. The environment easement sets forth the groundwater and site use (commercial) restrictions and/or any prohibitions on the use of land in a manner inconsistent with the engineering controls. The Town of Skaneateles has zoned this property as commercial/light industrial. Along with this zoning, the easement will prohibit residential use for this property.

Since this site remains on the New York State registry of inactive hazardous waste disposal sites and since it is also specified by the environmental easement, the owner must notify the Department regarding any change of use for this property. Should the site be sold and with the environmental easement in place, the Department can insure that SMC and/or the new owner will perform all necessary operation, maintenance, and/or monitoring of the remedy as required by this Amended Record of Decision.

B. Comments received during Public Comment Period

Gianna Aiezza, P. E. of EnviroSpec Engineering, PLLC (SMC's consultant) submitted a letter dated November 1, 2012 which included the following comments:

COMMENT 16: From Section 3, Page 4: Leachate is not currently being collected and treated as the source area was removed and therefore no leachate is being generated. However, groundwater from the former landfill area is being collected from three (3) collection points down gradient from the former landfill area. Please change "leachate" to "groundwater".

RESPONSE 16: Since SMC excavated and properly disposed of the chromium-contaminated soil between the landfill known as AEC-1 and AEC-8C South in July 2012, the Department agrees that the AEC-1 soil remediation is complete. The Department has changed "leachate" to "groundwater" in the final AROD.

COMMENT 17: From the list found in Section 6.1.2, Page 7:

The contaminant(s) of concern identified for these Operable Units at this site is/are:

xylene	*lead*	*toluic acid*
polychlorinated biphenyls (PCB)	*mercury*	*zinc*

Zinc was not identified as a contaminant of concern during the remedial activities and did not drive

excavation during the work. SMC does not agree that it was a contaminant of concern and requests that zinc be eliminated from the list to accurately reflect the contaminants of concern for the site.

RESPONSE 17: Zinc will be deleted from the contaminants of concern (COC) list because this contaminant did not drive the extent of the excavation, but chromium will be added to the COC list. Chromium was a driving force for an excavation between the AEC-1 landfill and the AEC-8C South excavation.

COMMENT 18: From Section 7.2, "New Information", page 9, first paragraph;

Since the issuance of the FS, the ROD and the AROD, significant new information about the site has been obtained. The most significant findings are the nature, areal extent, and contaminant concentrations for site-wide soils and significant xylene groundwater contamination in the intermediate aquifer localized in the northeast quadrant of the site.

The levels of xylene in the intermediate aquifer are not significant and SMC does not agree that there is "significant" groundwater contamination. The levels have been significantly reduced since initiation of the remedial action in 2001 and completion of the source removal activities. Please strike the word 'significant' in front of the word xylene, as it may be misleading.

RESPONSE 18: No change will be made, as the detection of 3 parts per million found in Monitoring Well #41D is 600 times higher than the drinking water standard for xylene. This Amended Record of Decision properly addresses this contamination by the requirement for continued monitoring and an evaluation of the groundwater sample results by the Department in 2013.

COMMENT 19: From Section 6.4, "Summary of Environmental Assessment", page 8, second paragraph:

Leachate from the on-site landfill has the potential to impact Skaneateles Creek and the groundwater beneath and beyond the site. A groundwater pump and treat system collects and treats the leachate before it reaches the creek. Groundwater quality has improved via the pump and treat system. Further groundwater monitoring well sampling is needed at the site due to xylene contamination in the northeastern section of the site and to insure the proposed remedy continues to be protective of public health and the environment.

Impacted soil from the former on-site landfill (AEC-1) was removed during remediation of AEC-1 and this former area of concern is no longer a threat to Skaneateles Creek. Furthermore, historic leachate originating from AEC-1 has been eliminated through source removal and not from the operation of the pump and treat system. Leachate no longer exists since the source of contamination has been removed. Groundwater quality has improved at the site due to the extensive source removal actions completed. The groundwater treatment system provides a secondary level of remediation for the site via continuously pumping and treatment of groundwater. However, pump and treatment was not the primary remedy for the groundwater. In order to more accurately reflect site conditions and remedial actions, please replace the word 'leachate' with the word groundwater

in the second sentence. Also please modify the first sentence to reflect the fact that the source area has been removed, thereby eliminating the generation of leachate.

RESPONSE 19: See Response 16. The fourth paragraph of Section 6.4 has been revised as follows:

"Since SMC excavated and properly disposed of the chromium-contaminated soil between the landfill known as AEC-1 and AEC-8C South in July 2012, AEC-1 soil remediation is complete. In addition, SMC's source removal across the site has contributed to decreasing concentrations of contaminants of concern in the groundwater."

COMMENT 20: From Section 9, "Proposed Changes", page 18, item 3:

Mitigate via excavation and off-site disposal environmental threats to Skaneateles Creek (AEC-5) by eliminating to the extent practicable further inflows of any contaminated runoff, contaminated groundwater, and leachate from contaminated soils and waste. Modify the sediment clean up objectives from pre-release conditions to Ecological SCOs. Excavate creek sediments and contaminated soils within 25' of the creek to levels that would not impair aquatic organisms and promote unimpaired use by aquatic organisms. The soils and creek sediment will be properly disposed off-site. (modified)

In the first sentence, please add "from onsite" after contaminated run off (as it is impractable to control runoff from upstream, offsite areas). In addition, please delete the word "leachate" in this sentence since contaminated groundwater is already stated and is more accurate.

RESPONSE 20: The Department has added "from on-site" as requested.

COMMENT 21: From Section 9, "Proposed Changes", page 18, item 5:

Mitigate via treatment with activated carbon the impacts of contaminated groundwater on the environment. Provide for the attainment of SCGs for groundwater quality at the limits of AEC-3, the shallow groundwater, and AEC-4, the deep groundwater, and to the extent practicable, provide for SCG attainment within these AECs. Perform one additional year of quarterly groundwater sampling in the northeast quadrant of the site and if the Department deems it necessary, additional monitoring wells would be installed in that area of localized xylene contamination. (modified)

Please add at the end of the first sentence "as necessary to achieve permit limits" since groundwater is treated and discharged in accordance with the SPDES permit for the site. In the second sentence, please remove "additional" from before "year of quarterly groundwater sampling".

RESPONSE 21: The Department has added the following language after the first sentence, "The contaminated groundwater will continue to be treated, as needed, to meet the requirements of the SPDES permit for the site."

COMMENT 22: From Section 9, "Proposed Changes", page 18, item 6:

Certification of the 2003 closure of the former drum storage area, former waste storage tank, and former acid neutralization tank following the requirements of the Resource Conservation and Recovery Act (RCRA). Repair an existing clay cap with a two (2) foot clay cap, as necessary, in former Sludge Lagoons 2, 3, and 4 to complete a 6 NYCRR Part 360 closure.

Installation of a one (1) foot soil cover and the appropriate demarcation layer over the two (2) former Settling Ponds to complete the remedy. (new)

This provision accurately designates some activities as subject to RCRA and other activities as subject to 6 NYCRR Part 360. SMC believes that the Part 360 requirements should be explicitly extended to the settling ponds. (Note also that other parts of this ROD state incorrectly that RCRA applies to the activities at the lagoons and settling ponds (pages 4, 10). SMC assumes this is holdover language from the previous AROD. However, RCRA never applied to the lagoons and ponds. Please add "under 6 NYCRR Part 360" to end of last sentence of the second paragraph. On Page 4, under OU06, please delete the reference to RCRA since RCRA did not apply to the lagoons.

RESPONSE 22: The Department reviewed page 18, item 6 and agrees that this item concerns two separate issues. The Department has separated each issue in a different item number in this Section. In the first paragraph, the former drum storage area, former waste storage tank, and former acid neutralization tank are now discussed in USEPA RCRA.

The Department now discusses the Part 360 requirements for the sludge lagoons and the settling ponds. SMC completed the repair of the sludge lagoon clay caps in July 2012. For the settling ponds, the Department will require a cover system, consisting of one foot of soil in areas not covered by a building or pavement.

COMMENT 23: From Section 9, "Proposed Changes", page 19, item 8:

A soil cover and the appropriate demarcation layer would be required to isolate metals contamination soils in AOI-3 and AOI-4 exceeding applicable SCOs and to isolate contaminated soils in other areas of the site. Applying appropriate environmental easements and institutional controls would allow for future commercial use of the site. For AOI-3 and AOI-4, an excavation would be performed before the soil cover and the appropriate demarcation layer is placed so that contaminated surface soils are shipped offsite for proper disposal and flood plain elevations remain constant. This remedy will consist a soil cover and the appropriate demarcation layer of minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). A two-foot excavation was required because the depth of the contaminated soil exceeding commercial SCOs between the 0' and 2' depth was unknown. The soil cover and the appropriate demarcation layer would be placed in the locations illustrated on Figure 4, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. (modified)

Modify the following sentence: "This remedy will consist a soil cover and the appropriate demarcation layer of minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375- 6.7(d)." to state "This remedy will consist of a demarcation layer and a minimum of two feet of clean soil meeting SCOs as set forth in 6 NYCRR Part 375-6.7(d)."

RESPONSE 23: The Department has revised the text in the AROD as follows:
Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

COMMENT 24: From Section 9, "Proposed Changes", page 19, item 9:

Conduct an evaluation for the potential inhalation of site contaminants due to soil vapor intrusion prior to redevelopment and occupancy of the property. (new)

This item should note that this provision will be included in the Site Management Plan. Please add "in accordance with the SMP".

RESPONSE 24: The Department has added "in accordance with the SMP" to the sentence referenced above.

Barbara S. Rivette, Chair, Onondaga County Council on Environmental Health submitted a letter dated November 2, 2012, which included the following comment:

COMMENT 25: "To our knowledge, the proposed remedy does not include post-restoration monitoring to assess contamination of the stream biota (macroinvertebrates) or of any fish species. It is also unclear who is responsible for conducting the agreed upon monitoring requirements.

The Council recommends that post-remediation monitoring include macroinvertebrate and fish contaminant analysis as well as specific performance standards and a defined responsible party."

RESPONSE 25: During the 2005 and 2012 Skaneateles Creek remediation contaminated sediments were removed from all on-site sections of Skaneateles Creek and as far downstream as Mill Pond. Therefore, all sediment in the remediated stretch meets the sediment criteria specified by the Department. To prevent the possibility of contaminated groundwater discharging up through a zone of fractured bedrock beneath the stream bed, SMC lined the completed excavation with 18" or more of clay.

From the New York State Department of Environmental Conservation's January 1999 Technical Guidance for Screening Contaminated Sediments, if sediment concentrations of a compound are less than all of the sediment criteria for that substance, aquatic resources can be considered to be not at risk (from that compound). Therefore, since the post-remediation sediment is clean, the Department will not include requirements for post-remediation contaminant sampling of

macroinvertabrates and fish or issue performance standards for the Stauffer Management Company to achieve in the Site Management Plan.

APPENDIX B

Administrative Record

Administrative Record

Stauffer Management – Skaneateles Falls
Operable Unit Nos. 05 through 08
State Superfund Project
Skaneateles (T), Onondaga County, New York
Site No. 734010

Proposed Remedial Action Plan for the ICI-Americas, Inc. (Stauffer Chemical) site, dated February 1996, prepared by the Department

Record of Decision for the ICI-Americas, Inc. (Stauffer Chemical) site, dated March 1996, prepared by the Department

Proposed Amended Record of Decision for the Stauffer Management – Skaneateles Falls site, dated August 2001, prepared by the Department

Record of Decision Amendment for the Stauffer Management – Skaneateles Falls site, dated December 2001, prepared by the Department

"Lagoon 1 Construction Certification Report", May 2012, prepared by Envirospec Engineering, PLLC

"Skaneateles Creek Restoration Plan", July 2012, prepared by Terrestrial Environmental Specialists, Inc. and Envirospec Engineering, PLLC

Proposed Record of Decision Amendment for the Stauffer Management – Skaneateles Falls site, Operable Unit Nos. 05 through 08, dated October 2012, prepared by the Department.

Order on Consent, Index No. A7-0347-9610, between the Department and Stauffer Management Company LLC, executed on June 21, 2012

"Supplemental Remedial Activities Work Plan", June 1, 2012, prepared by Envirospec Engineering, PLLC

"Focused Feasibility Study", July 2012, revised March 2013, prepared by Envirospec Engineering, PLLC

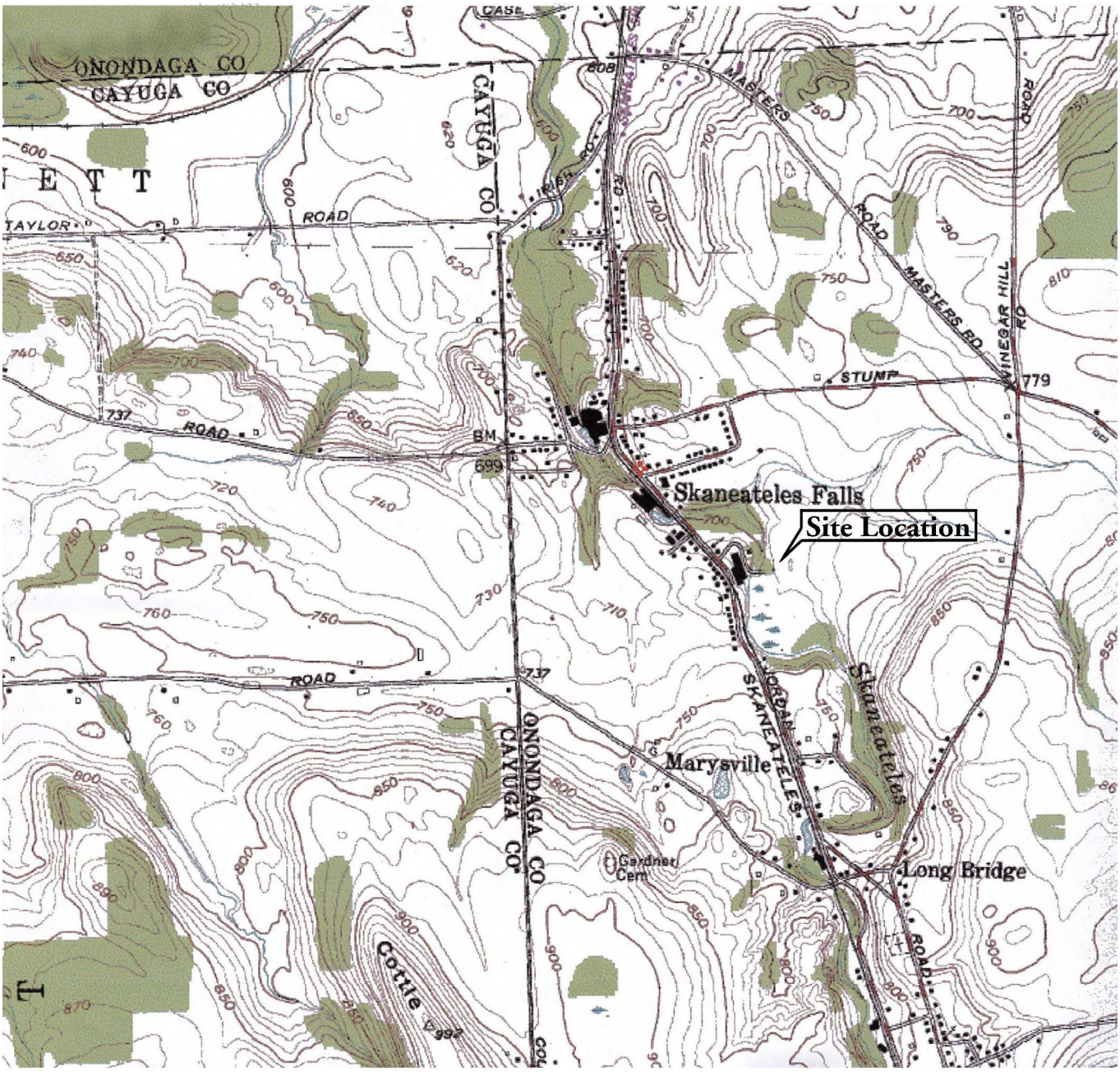
Letter dated November 1, 2012 from Gianna Aiezza, P. E. of Envirospec Engineering, PLLC

Letter dated November 2, 2012 from Barbara S. Rivette, Chair, Onondaga County Council on Environmental Health

SITE: SKANEATELES FALLS, NY
CLIENT: STAUFFER MANAGEMENT COMPANY, LLC
FIGURE 1: SITE LOCATION
ORIGIN OF FIGURE: JULY 2012 DRAFT FFS

enviroSPEC ENGINEERING, PLLC
16 COMPUTER DRIVE WEST
ALBANY, NY 12205
P:518.453.2203
F:518.689.4800

PREPARED BY: N. BROWER
DATE: 8/31/12
REVIEWED BY: G AIEZZA
DATE: 8/31/12
SOURCE: USGS QUADS (7.5 MIN SERIES)



MATCH LINE A–A

10" PVC OUTFALL
INV = 720.38

AOI–6

LAGOON 1 (IRM)
(REMEDIATED & BACKFILLED)

SW NOTCH
LG–1

MW1D MW1I MW1S

MW24S MW24I

MW14S MW14I MW14D

CONDUIT CLUSTER

MW15I MW15D

CREEK

SKANEATELES

AOI–6

MW32D MW32S MW32I

FORMER SETTLING PONDS

LOADOUT PAD

DECON PAD

LTD PAD

DRUM PAD

HOLDING TANK

(2) 8.5' DIA TANKS

MW31S MW31D MW31I

GRAVEL

GRAVEL DRIVE

(2) STEEL TANKS

WWTP

SMH

SMH

TRAILER

MW33S MW33D MW33I

AEC–1

MW13D MW13I

TRAILER

TRAILER

TANK

TANKS

AREA A

AOI–1

AEC–5

MW41I MW41D MW41S

MW26I MW26D

MW4D MW4I

AREA B

AOI–2

AEC–8C

MW27S MW27D MW27I

MW5I

MW5D

AEC–8B

MW12I MW12S

AEC–2

AEC–5

MW28I MW28D MW28S

AEC–8A

MW21

MW6D

FORMER MAIN PLANT BLDG. (AEC–6)

AEC–6

AEC–7

MW40D MW40I MW40S

MW3S MW3I

MW2D

AOI–5

AEC–5

MW22S MW22I MW22D

MW2S MW2I

MW25S MW25D MW25I

MW7S MW7I MW7D

SKANEATELES CREEK

MW17I MW17D

JORDAN ROAD

66' RIGHT OF WAY AS PER "HIGHWAY BY USE" ASSOCIATION LAW OF 1836

MW11I MW11D

MW18S MW18I

AOI–3

MW30I MW30D

MW43D MW43I

MW29D MW29S MW29I

MW10I MW10D

AOI–4

MW23D MW23S MW23I

MW9I MW9D

AEC–5

MW37I MW37S MW37D

MW39S

AEC–7 (OIL SPILL IRM)

MW–8I MW–8S

MW38S

LEGEND

EXCAVATED AND BACKFILLED WITH CLEAN MATERIAL

EXCAVATED FOR INVESTIGATION (BACKFILLED WITH SAME MATERIAL AFTER SAMPLING)

EXISTING MONITORING WELL

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 80 ft.

FORMER SLUDGE LAGOON #4

MW35D MW35I MW35S

FORMER SLUDGE LAGOON #3

MW36I MW36D MW36S

FORMER SLUDGE LAGOON #2

MW34D MW34I MW34S

MATCH LINE A–A

ENVIROSPEC PROJECT #E12–623

enviroSPEC ENGINEERING, PLLC
16 COMPUTER DRIVE WEST
ALBANY, NY 12205
P:518.453.2205
F:518.689.4800

W.O. No.	REVISION	DATE	APR.
2	REVISED FOR AROD	9/12	
1	REVISED WORK PLAN	5/12	

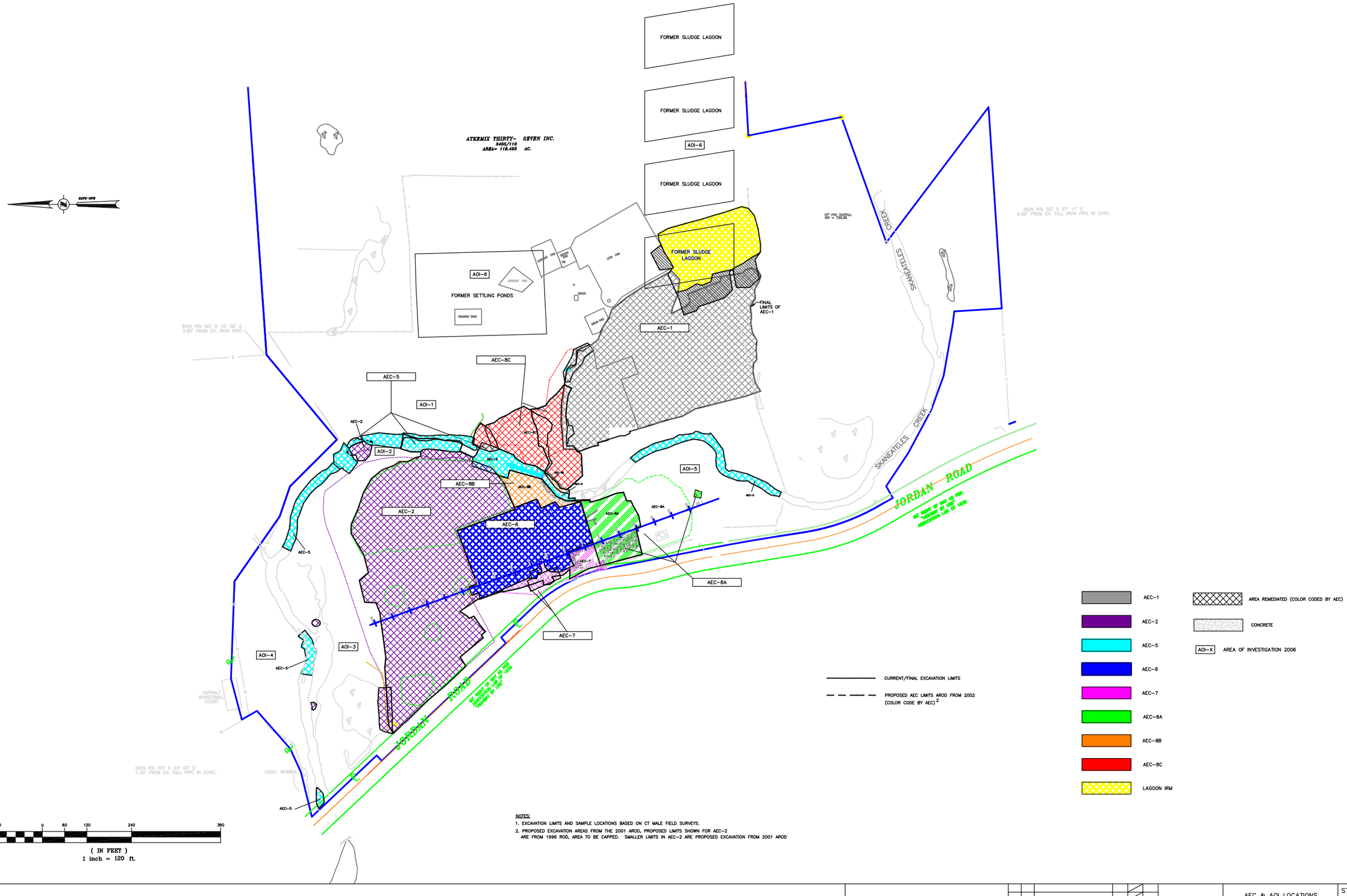
DRAWING STATUS: FOR REFERENCE ONLY

SITE PLAN

DRAWN: RA 2/28/13
DESIGN:
CHECK: RA 2/28/13

STAUFFER MANAGEMENT COMPANY SITE
SKANEATELES FALLS, NEW YORK

SCALE 1"=80' | DRAWING No. FIGURE 2 | SHEET 1 of 1 | REV. No. –



NOTES:
1. EXCAVATION LIMITS AND SAMPLE LOCATIONS BASED ON CT MALE FIELD SURVEYS.
2. PROPOSED EXCAVATION AREAS FROM THE 2001 AROD, PROPOSED LIMITS SHOWN FOR AEC-2 ARE FROM 1996 ROD, AREA TO BE CAPPED. SMALLER LIMITS IN AEC-2 ARE PROPOSED EXCAVATION FROM 2001 AROD

ENVIROSPEC PROJECT #E12-623

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15 COMPUTER DRIVE WEST
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F:518.689.4800

W.O. No.	REVISION	DATE	BY	CHK	APR.

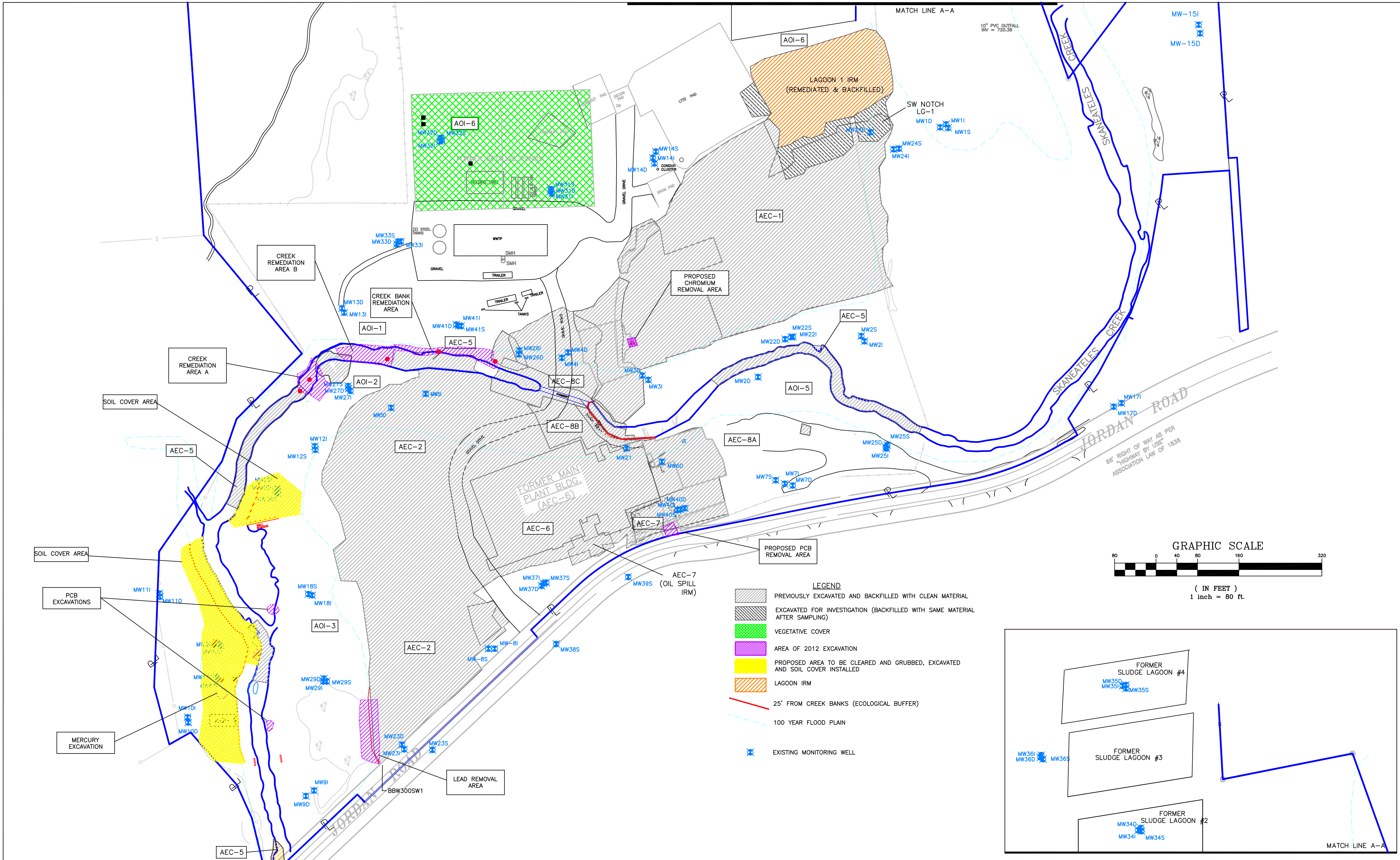
DRAWING STATUS: FOR REFERENCE ONLY

AEC & AOI LOCATIONS

DESIGNED	E.A.	5/08	APPROVED
DRAWN	JB	5/08	
CHECK			
QA/QC	B.A.	5/08	
DRAWING CHECK	E.A.	5/08	DATE

STAUFFER MANAGEMENT COMPANY SITE
SKANEATELES FALLS, NEW YORK
SOILS REMEDIATION

SCALE	DRAWING No.	SHEET	REV No.
1" = 120'	FIGURE 3	1 of 1	—


MATCH LINE A–A
AOI–6
LAGOON 1 IRM (REMEDIATED & BACKFILLED)
SW NOTCH LG–1
AEC–1
PROPOSED CHROMIUM REMOVAL AREA
AEC–5
CREEK REMEDIATION AREA B
CREEK BANK REMEDIATION AREA
AOI–1
CREEK REMEDIATION AREA A
AOI–2
AEC–8C
SOIL COVER AREA
AEC–8B
AEC–8A
AOI–5
AEC–2
FORMER MAIN PLANT BLDG. (AEC–6)
AEC–6
AEC–7
PROPOSED PCB REMOVAL AREA
AEC–7 (OIL SPILL IRM)
PCB EXCAVATIONS
AOI–3
MERCURY EXCAVATION
LEAD REMOVAL AREA
BBW300SW1
SKANEATELES CREEK
JORDAN ROAD
66' RIGHT OF WAY AS PER "HIGHWAY BY USE" ASSOCIATION LAW OF 1838
GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.
LEGEND
PREVIOUSLY EXCAVATED AND BACKFILLED WITH CLEAN MATERIAL
EXCAVATED FOR INVESTIGATION (BACKFILLED WITH SAME MATERIAL AFTER SAMPLING)
VEGETATIVE COVER
AREA OF 2012 EXCAVATION
PROPOSED AREA TO BE CLEARED AND GRUBBED, EXCAVATED AND SOIL COVER INSTALLED
LAGOON IRM
25' FROM CREEK BANKS (ECOLOGICAL BUFFER)
100 YEAR FLOOD PLAIN
EXISTING MONITORING WELL
FORMER SLUDGE LAGOON #4
FORMER SLUDGE LAGOON #3
FORMER SLUDGE LAGOON #2
MATCH LINE A–A

ENVIROSPEC PROJECT #E12–623

envirоSPEC ENGINEERING, PLLC
16 COMPUTER DRIVE WEST
ALBANY, NY 12205
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F:518.689.4800

W.O.	No.	REVISION	DATE	DRN./CHK.	APR.
	3	REVISED FOR AROD	3/13		
	2	REVISED FOR AROD	8/12		
	1	REVISED WORK PLAN	5/12		

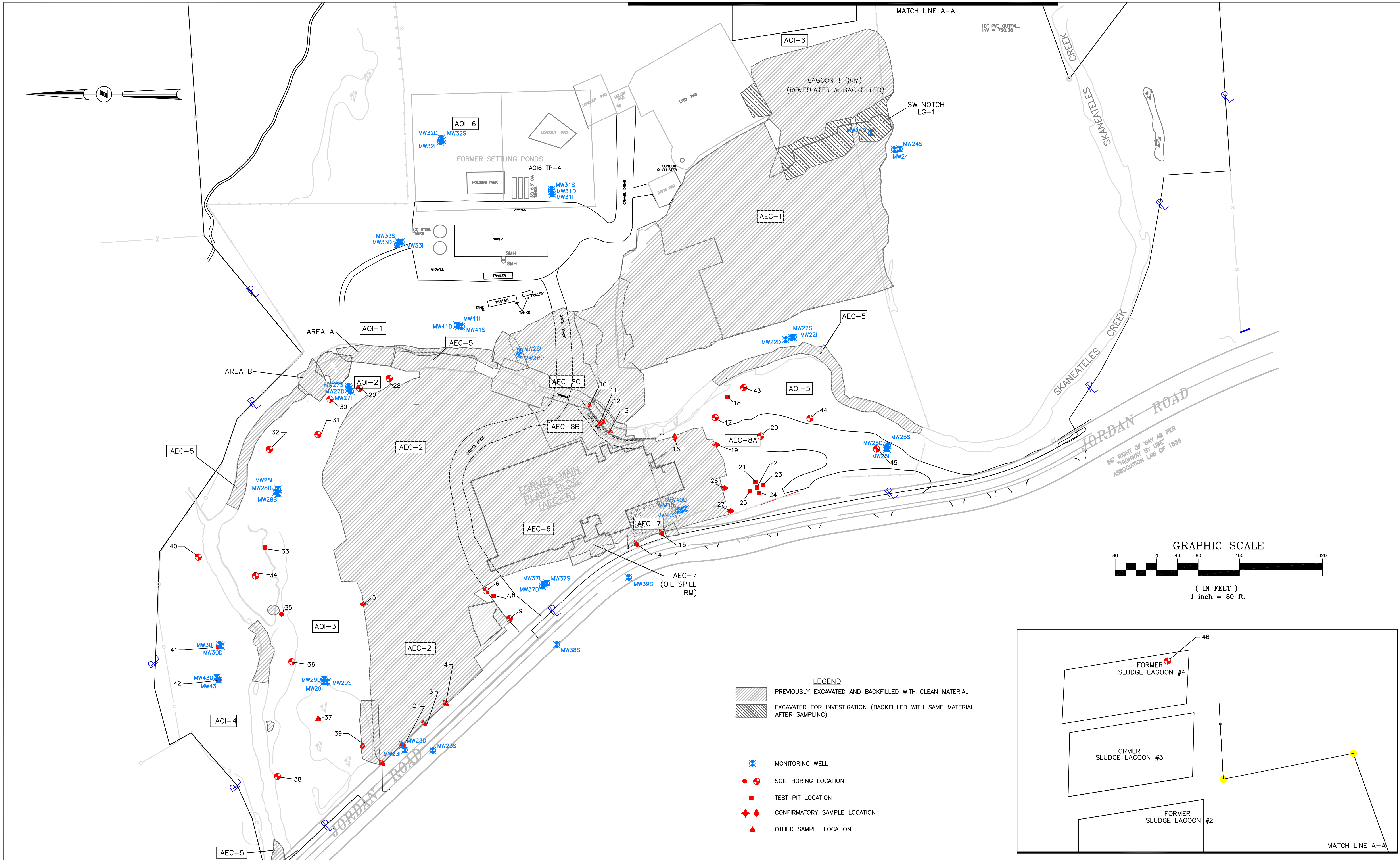
DRAWING STATUS: FOR REFERENCE ONLY

SELECTED REMEDIATION AREAS

DRAWN BY: RW. 2/28/12
DRAWING CHECK: G.A. 2/28/12

STAUFFER MANAGEMENT COMPANY SITE
SKANEATELES FALLS, NEW YORK

SCALE: 1"=80' | DRAWING No.: FIGURE 4 | SHEET: 1 of 1 | REV. No.: –


MATCH LINE A–A
10" PVC OUTFALL INV = 720.38
AOI–6
LAGOON 1 (IRM) (REMEDIATED & BACKFILLED)
SW NOTCH LG–1
MW24S
MW24I
SKANEATELES CREEK
FORMER SETTLING PONDS
AOI6 TP–4
MW32D
MW32S
MW32I
MW31S
MW31D
MW31I
HOLDING TANK
LOADOUT PAD
DECON PAD
LTD PAD
CONDUIT CLUSTER
DRUM PAD
GRAVEL DRIVE
WWTP
SMH
GRAVEL
TRAILER
(2) STEEL TANKS
MW33S
MW33D
MW33I
AEC–1
AEC–5
MW22S
MW22I
MW22D
AREA A
AOI–1
MW41D
MW41I
MW41S
MW26I
MW26D
AREA B
AOI–2
MW27S
MW27D
MW27I
AEC–8C
AEC–8B
AEC–8A
AOI–5
MW25S
MW25D
MW25I
AEC–2
FORMER MAIN PLANT BLDG (AEC–6)
AEC–6
AEC–7
AEC–7 (OIL SPILL IRM)
MW40D
MW40S
MW28I
MW28D
MW28S
MW37L
MW37S
MW37D
MW39S
MW38S
AOI–3
AOI–4
MW30I
MW30D
MW43D
MW43I
MW29D
MW29S
MW29I
MW23D
MW23I
MW23S
JORDAN ROAD
66' RIGHT OF WAY AS PER "HIGHWAY BY USE" ASSOCIATION LAW OF 1836
GRAPHIC SCALE
80 0 40 80 160 320
(IN FEET)
1 inch = 80 ft.
FORMER SLUDGE LAGOON #4
FORMER SLUDGE LAGOON #3
FORMER SLUDGE LAGOON #2
MATCH LINE A–A
LEGEND
PREVIOUSLY EXCAVATED AND BACKFILLED WITH CLEAN MATERIAL
EXCAVATED FOR INVESTIGATION (BACKFILLED WITH SAME MATERIAL AFTER SAMPLING)
MONITORING WELL
SOIL BORING LOCATION
TEST PIT LOCATION
CONFIRMATORY SAMPLE LOCATION
OTHER SAMPLE LOCATION

ENVIROSPEC PROJECT #E12-623

enviroSPEC ENGINEERING, PLLC
16 COMPUTER DRIVE WEST, ALBANY, NY 12205
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W.O.	No.	REVISION	DATE	DRN./CHK.	APR.
	2	REVISED FOR ROD	3/13		
	1	REVISED WORK PLAN	5/12		

DRAWING STATUS: FOR REFERENCE ONLY

SOIL BORING LOCATIONS EXCEEDING COMMERCIAL AND INDUSTRIAL SCOs

DRAWN BY: RW. 2/28/12
DRAWING CHECK: G.A. 2/28/12

STAUFFER MANAGEMENT COMPANY SITE
SKANEATELES FALLS, NEW YORK

SCALE	DRAWING No.	SHEET	REV. No.
1"=80'	FIGURE 5	1 of 1	–

TABLE 1 - COMPARISON OF DECEMBER 2001 REMEDY with MODIFIED REMEDY

COMPONENT OF REMEDY INCLUDED IN 2001 ROD	MODIFIED COMPONENT OF REMEDY
Operable Units #5: • Excavation and off-site disposal of contaminated sediment/soils • Pre-release soil cleanup objectives (SCOs)	**Operable Units #5:** • Excavation and off-site disposal of contaminated sediment/soils • Part 375 Ecological SCOs for 0' – 2' depth and Commercial SCOs for below 2' depth
Operable Unit #6: • Excavated contaminated soils and waste exceeding soil cleanup guidance will be disposed at a permitted off-site disposal facility. • Establish site specific remedial goals (SSRGs) to control residual metals contamination in soils. • Cleanup objectives for PCBs were established, excavate PCBs that exceed these cleanup objectives.	**Operable Unit #6:** • Excavation and off-site disposal of contaminated soils using Part 375 commercial soil cleanup objectives • Site Management Plan will document all known exceedances of commercial soil cleanup objectives
Operable Unit #7: • Deed restrictions to address residual soil and groundwater contamination	**Operable Unit #7** • Institutional/engineering controls (environmental easement), cover and Site Management Plan to address residual soil contamination
Operable Unit #8: • Design, construct and operate a shallow groundwater extraction and treatment system for AEC-3 (shallow & intermediate groundwater). Treated water will be discharged to Skaneateles Creek through SPDES permitted outfalls and monitored for compliance by the NYSDEC Division of Water.	**Operable Unit #8:** • Institutional/engineering controls (environmental easement), cover and Site Management Plan to address residual groundwater contamination • Additional year of quarterly groundwater monitoring – First round in October 2012 • Four (4) monitoring wells to be installed, if required by the Department

TABLE 2: SOIL SAMPLE RESULTS THAT EXCEED COMMERCIAL OR INDUSTRIAL SCOs

Sample Number (from Figure 5)	Sample ID	AEC / AOI	Approximate Sample Depth (ft.)	Contaminant	Detected Level (ppm)	6 NYCRR Part 375-6.8 (b) Exceedance
1	BBW300SW1	AEC-2	6	Benzo(a)pyrene	1.04	CSCO
2	AAW275SW1	AEC-2	6	Lead	1597	CSCO
				Mercury	4.91	CSCO
3	AAW250SW1	AEC-2	7	Lead	1954	CSCO
				Mercury	5.69	CSCO
	AAW250SW1 (DUP)	AEC-2	7	Lead	3332	CSCO
				Mercury	7.2	ISCO
4	BBW225SW1	AEC-2	7	Lead	1479	CSCO
5	ABL1SW-2 (DUP)	AEC-2	5	Benzo(a)pyrene	1.01	CSCO
6	SB94	AEC-2	0-2	Copper	1046	CSCO
7	AEC2-TP1	AEC-2	10	Lead	1600	CSCO
8	AEC2-TP1S	AEC-2	10	Lead	1280	CSCO
9	SB96	AEC-2	0-2.5	Copper	823	CSCO
				Lead	1109	CSCO
10	S-Headwall	AEC-5	13	Benzo(a)pyrene	1.42	ISCO
11	WWNGWL30	AEC-5	13	Xylene	830	CSCO
12	Retaining Wall-2	AEC-5	13	Benzo(a)pyrene	1.74	ISCO
13	Retaining Wall-1	AEC-5	13	Benzo(a)pyrene	4.22	ISCO
				Lead	2954	CSCO
14	K-WESTSW	AEC-7	3	Benzo(a)pyrene	1.05	CSCO
15	L-WESTSW	AEC-7	3	Benzo(a)pyrene	1.13	ISCO
16	ESW2	AEC-8A	10	Benzo(a)pyrene	2.3	ISCO
				Mercury	4.9	ISCO
17	SB104	AEC-8A	3-4	Benzo (a) pyrene	5.4	ISCO
18	FDTP-14	AEC-8A	3	Benzo (a) pyrene	1.8	ISCO
19	8ASSW5	AEC-8A	4	Benzo(a)pyrene	1.4	ISCO
				Mercury	9	ISCO
20	SB108	AEC-8A	4-6	Copper	978	CSCO
21	7A-EASTSW	AEC-8A	16	Benzo (a) pyrene	6.3	ISCO
22	7A-BTM	AEC-8A	24	Benzo (a) pyrene	4.42	ISCO
23	7A-SOUTHSW	AEC-8A	16	Benzo(a)anthracene	11.5	ISCO
				Benzo(b)fluroanthene	16.40	ISCO
				Benzo(a)pyrene	15	ISCO
24	7A-WESTSW	AEC-8A	16	Benzo (a) pyrene	1.7	ISCO
25	7A-NORTHSW	AEC-8A	16	Benzo (a) pyrene	5.3	ISCO
26	O-SOUTHSW	AEC-8A	5	Benzo(a)pyrene	3.15	ISCO
27	O-WESTSW	AEC-8A	6	Benzo(a)pyrene	1.6	ISCO
28	SB64	AOI-2	3-4	Copper	387	CSCO
				Lead	2661	CSCO
				Mercury	3.44	CSCO
29	SB63	AOI-2	0-2	Benzo (a) pyrene	1.7	ISCO
			6-8	Lead	1008	CSCO
30	SB62	AOI-2	2-4	Mercury	4.63	CSCO
			4-6	Lead	1004	CSCO
				Mercury	4.37	CSCO
31	SB66	AOI-2	8-10	Mercury	7.85	ISCO
32	SB65	AOI-3	2-4	Lead	1673	CSCO
				Mercury	5.35	CSCO
33	AOI3-TP3	AOI-3	8	Benzo (a) pyrene	2.4	ISCO
				Mercury	4.1	CSCO
34	SB72	AOI-3	0-2	Benzo (a) pyrene	3	ISCO
35	NA-2	AOI-3	0-0.5	Benzo (a) pyrene	1.1	ISCO
36	SB82	AOI-3	6-7.4	Arsenic	41	ISCO
37	NA-1	AOI-3	0-0.5	Lead	1610	CSCO
				Mercury	3.3	CSCO
38	SB90	AOI-3	0-2	PCBs	1.2	CSCO
39	ALLW270SW1B	AOI-3	2	Copper	343	CSCO
				Benzo (a) pyrene	2467	ISCO
40	SB71	AOI-4	4-6	Mercury	3.89	CSCO
41	AOI4-TP2 (DEC)	AOI-4	4	Mercury	7.4	ISCO
	AOI4-TP2	AOI-4	3	Lead	1295	CSCO
				Mercury	5.45	CSCO
42	AOI4-TP3	AOI-4	3	Mercury	6.35	ISCO
43	SB105	AOI-5	2-4	Mercury	3.11	CSCO
44	SB109	AOI-5	2-3	Benzo (a) pyrene	1.9	ISCO
45	SB114	AOI-5	4-6	Copper	354	CSCO
46	SB3	AOI-6	9-10	Arsenic	19	ISCO

Table 3: Cost Analysis

Original Remedy		
Capital Cost	$	41,436,000
O&M - Present Worth (30 years)	$	-
TOTAL:	$	41,436,000
Selected Remedy		
Capital Cost	$	6,304,000
O&M - Present Worth (30 years)	$	258,000
TOTAL:	$	6,562,000
Additional Cost for Selected Remedy verses Original Remedy		
Capital Cost	$	(35,132,000)
O&M - Present Worth (30 years)	$	258,000
TOTAL:	$	(34,874,000)

Note:
Values in brackets represent a negative value