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WORK PLAN FOR BASELINE ECOLOGICAL RISK ASSESSMENT

McCAFFREY STREET SITE
(Site No. 442046, USEPA ID# NYD004986741)

APPENDICES

Appendix A: Project Database Information

Appendix B: Screening Level Ecological Risk Assessment

Appendix C: Response to Comments Summary

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APPENDIX A

APPENDIX A: **Project Database Information**

Table A1: **Database Descriptors**

GSI ENVIRONMENTAL

TABLE A1
Database Descriptors
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Column name	Description
analyte	Analyte code
analyte_name	Full name of the analyte
cas_rn	CAS registry number for the analyte
casrn	CAS registry number for the analyte, without dashes
chem_class	Chemical class
coll_depth_units	Units for sample collection depths
coll_gear	Sample collection gear
coll_lower_depth	Lower depth of the collection
coll_upper_depth	Upper depth of the collection
concentration	Concentration value
depth_units	Units for sample depths
duplicate_yn	A flag generated during the data export process to aid in identifying sample duplicates. It is set to True when the *sample_no* and the *sample_id* are different
hh_eval_category	Human Health Evaluation Category
lab	Code identifying the laboratory performing analyses
lab_rep	Laboratory sample replicate identifier
labsample	Laboratory sample identifier
location_id	Location identifier
loc_desc	Location description
loc_type	Location type (e.g., well, sediment sampling location)
lower_depth	Lower depth of the sample
material	Material code; this is a generalization of the sample material
material_analyzed	Material analyzed by the laboratory
meas_basis	Measurement basis
method_code	Analysis method code
qualifiers	Qualifier code(s) for an analytical result
sampcoll_id	Sample collection identifier. Multiple samples may have the same collection identifier if they were collected together.
samp_desc	Description of the interpretive sample.
sample_date	Date (and time) that the sample was collected
sample_id	Interpretive sample identifier for natural samples. This is ordinarily used to identify material from a unique location, date(/time), and depth. Interpretive samples may be split to produce QC duplicates.
sample_material	A code for the most detailed or specific possible description of the sample material.
sample_no	Analytical sample identifier, to distinguish multiple splits (QC duplicates) of an interpretive sample
sig_figs	Significant figures for the concentration
srid	Spatial reference system identifier
study_id	Study identifier
study_loc_desc	Study location description
study_loc_id	Study-specific location identifier
study_loc_site	Study location site
undetected	The result is qualified as undetected
units	The units for the analytical result
upper_depth	Upper depth of the sample.
x_coord	X coordinate in the coordinate system specified by the *srid* value
y_coord	Y coordinate in the coordinate system specified by the *srid* value

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APPENDIX B

APPENDIX B: Screening-level Ecological Risk Assessment (SLERA)

Table B1: Occurrence, Distribution, and Selection of Chemicals of Potential Concern: Screening Level Ecological Risk Assessment

Table B1.1: On-Site Soil

Table B1.2: Off-Site Soil

Table B1.3: Sediment

Table B1.4: Surface Waters

Table B2: SLERA – Risk-Based Screening Levels

Table B2.1: Risk-Based Screening Levels for Soil

Table B2.2: Risk-Based Screening Levels for Sediment

Table B2.3: Risk-Based Screening Levels for Surface Water

Table B3: Federally Listed Threatened and Endangered Species in New York State

Table B4: Special Status Species in Rensselaer County, NY

Table B5: Potentially Applicable Criteria, Standards, and Guidance

Figure B1: State Regulated Wetlands and Potential Rare Plants or Animals

APPENDIX B SLERA
TABLE OF CONTENTS

TABLES

FIGURES

SUMMARY

This appendix presents the methods and findings of a screening level ecological risk assessment (SLERA) for the McCaffrey Street Site in Hoosick Falls, New York, (New York State Department of Environmental Conservation Site No. 442046).

Summary of Key Findings

- The SLERA was performed to support the RI/FS and determine if a BERA was needed.
- Results show that site-specific chemicals could pose risk to ecological receptors in the Project Area.
- Further investigation is warranted to understand the nature, extent, and magnitude of risks and will be evaluated in the BERA.

The SLERA reflects both federal and state guidance on ecological risk assessment. The first section discusses the approach and outcome of the evaluation of chemicals of potential ecological concern (COPECs). This evaluation was conducted using conservative assumptions and its framework was based on Steps 1 and 2 of the U.S. Environmental Protection Agency's eight-step ecological risk assessment process for Superfund.

The second section of the SLERA includes the following information based on New York State (NYS) guidance, NYSDEC Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA) (NYSDEC, 1994):

- Summary of potential endangered species, threatened species, and species of special concern that may be present in the vicinity of the Project Area;
- Discussion of the value of the habitat to fish and wildlife and humans; and
- List of applicable state and federal regulations pertaining to fish and wildlife.

The BERA Work Plan includes site maps (see Figures 1 through 4) depicting wetlands and other surface water features including rivers, streams, and ponds, significant habitats, and drainage. Also refer to the RI/FS Work Plan for a conceptual site model that conveys drainage patterns within the Project Area based on investigations of site geology, topography, and hydrogeological conditions.

The SLERA results indicate that the site-specific chemicals detected in the Project Area could pose a risk to ecological receptors. Approximately 50 analytes screened in as primary contributors to ecological risk given the frequency of detection in multiple media and exceedance of screening levels, including PFOA, PFOS, metals, PAHs, and selected pesticides. Approximately half of these have bioaccumulation potential for receptors in the aquatic and terrestrial food webs. These compounds, as well as additional secondary COPECs, are recommended for further evaluation in the BERA. Overall, the SLERA approaches used were designed conservatively to overestimate risk. The conclusions of the SLERA can be used to support decisions on the need for a general focus of additional site-specific sample collection. The results should not, however, be considered a representation of the nature and magnitude of ecological risks in the system. More refined estimates of risk will be generated in the BERA.

1.0 Chemicals of Potential Ecological Concern (COPECs)

1.1 Introduction

The analytical sampling conducted under the RI for the McCaffrey Street Site includes an extensive list of target analytes required by NYSDEC. A primary objective of the SLERA is to identify the subset of chemicals, for each potential exposure medium, that may potentially contribute to site-specific risks (i.e., COPECs), while also minimizing the likelihood of eliminating contaminants from further analysis that could be of concern. As such, a SLERA was conducted that compares maximum measured concentrations of each chemical in a medium to conservative regulatory screening criteria for ecological receptors. Identification of a COPEC via this screening level assessment is not an indication of risk or actual harm, rather, this step creates the subset of chemicals that will be further evaluated in the BERA.

1.2 Screening Level Exposure Assessment

The general approach to identification of COPEC is based upon USEPA guidance (USEPA, 1989, 1991, 2001). Completion of the SLERA constitutes Step 2 of the eight-step process as provided by USEPA (1997) Ecological Risk Assessment Guidance (ERAGS) (see Section 5.1). All analytes for which the maximum concentration (detect or ND) exceeds a screening level for any exposure medium were retained as a COPEC for all exposure media. Substances for which the maximum concentration detected do not exceed the screening criteria are not carried further in the risk assessment process. Because the human health and ecological risk assessments evaluate multiple receptor scenarios and also apply different screening levels depending on the receptor and exposure medium, the final COPEC lists for the BERA and BHHRA are not identical. A more detailed description of the key steps in the COPEC selection process is provided below.

1.2.1 Data Grouping

First, conservative receptor scenarios were defined to represent the most sensitive receptor exposure scenario per media and data grouping. Each scenario involves a specific type of receptor (e.g., aquatic or terrestrial ecological receptor species) and exposure medium. For certain scenarios involving potential exposure to soil and sediment, a representative depth interval is also applicable. These conditions informed the data grouping. The maximum concentration was identified for each data group, along with the data qualifier flag given that, in some cases, a maximum value is an ND result. At the request of NYSDEC, for the SLERA, the sample quantitation limit (SQL) is used instead of the method detection limit (MDL) for NDs.

Second, media-specific ecological screening levels were identified from regulatory sources.

For each receptor scenario, analytes were retained (i.e., “screened in” as a COPEC) if any of the following three conditions were true:

1. Maximum concentration is a detect and exceeds a screening level;
2. Maximum concentration is an ND and the SQL proxy value exceeds a screening level; or
3. A screening level is not available for the analyte for the receptor scenario.

The sensitivity of the COPEC determination to the use of ND proxy values is examined by applying ½ SQL and SQL proxy values for NDs for individual chemical results, and ½ SQL and zero values

for NDs for chemicals represented by summations (i.e., LPAH, HPAH, Total PAHs, Total PCB Aroclors, sum of DDT).

The frequency of detection (FOD) and availability of a soil background threshold value (NYSDEC & NYSDOH, 2006) guide further evaluation of the COPECs in the BERA. Analytes for which both the FOD is greater than 5% and the maximum concentration is greater than a NYS background threshold value for soil are considered primary COPECs. Analytes for which either the FOD is less than or equal to 5% or the maximum concentration is less than or equal to a background threshold value are considered secondary COPECs. In addition, analytes that screened in, but for which the maximum concentration is ND are also considered secondary COPECs. For analytes that lack screening levels, the analyte is retained for discussion in the uncertainty section of the BERA.

Analytes were "screened out" if they did not meet any of the three criteria listed above. Also, consistent with standard risk assessment guidance (USEPA, 1989, 2018b), chemicals that are essential nutrients (e.g., magnesium, calcium, potassium, sodium) and present at low concentrations were not considered COPECs.

1.3 Screening Level Effects Assessment

The occurrence, distribution, and selection of COPECs is documented in Tables B1.1 - 1.4, following USEPA RAGS D "Table 2" format (USEPA 2001). For each analyte, selected risk-based screening levels (RBSL) and the source of the value are listed in Tables B2.1 - 2.3. Published screening values or toxicity values were not available for all analytes. As discussed above in the methodology for selecting the final COPEC list, analytes without screening level criteria, regardless of frequency of detection, will be carried forward into the BERA for further evaluation.

1.3.1 Ecological Screening Levels

Ecological screening level benchmarks were compiled from published sources specific to receptors (aquatic or terrestrial) and the following exposure media: soil, sediment, and surface water. The sources of available criteria were considered in a hierarchical approach, meaning the top ranked source was consulted first. If a screening level for a specific chemical/medium combination was not available, the second ranked source was consulted, and so on. If a screening level was not available from any reliable source document, the notation "NV" (no value was available) is included in summary tables and the chemical is retained as a COPEC for further evaluation in the BERA. Many of the source documents provide a compilation of screening levels grouped by taxonomic category (e.g., invertebrates, plants, mammals, birds). Unless otherwise noted, the lowest benchmark from among taxonomic groups was selected for this SLERA to support COPEC identification. This screening level approach may inflate risks for some chemicals. COPECs retained for the BERA will undergo a refined screening whereby each taxonomic group will be evaluated separately for a given exposure medium.

While ecological screening levels are generally intended to be protective of a wide range of aquatic and terrestrial species, a variety of different benchmarks may be published for the same chemical. Sometimes, multiple benchmarks are provided by the same source document. All summary tables in this Work Plan identify the source document and type of benchmark that the screening level is based on. A brief summary of the source documents, types of benchmarks available, and rationale for selection of a final benchmark is provided below. For the BERA, a

different set of benchmarks and toxicity reference values (TRVs) may apply, as discussed in Section 5.4.

For many chemicals, sediment and surface water screening levels are published for both freshwater and marine/estuarine systems. For this SLERA, only freshwater criteria are selected.

Soil

In order of preference, the following sources were consulted for screening level benchmarks to evaluate maximum concentrations of analytes measured in soil:

1. USEPA ecological Soil Screening Levels (eco-SSL) (USEPA, 2018a)
2. USEPA Region 4 ecological screening levels (USEPA, 2018b)
3. USEPA Region 5 RCRA screening levels (USEPA, 2003)
4. Efroymson et al. (1997) Preliminary Remediation Goals for ecological endpoints
5. SERDP (2020) recommended screening levels for PFAS
6. State-specific screening levels, including New York Soil Cleanup Objective (SCOs) and California

The relevance of each source, and further rationale supporting the proposed hierarchy, is briefly summarized below. Collectively, these sources support ecological screening levels for soil for 148 chemicals, or approximately 70% of the complete list of approximately 200 target analytes. The selected screening levels are distributed among the hierarchy of source documents as follows:

• USEPA eco-SSL	20
• USEPA Region 4	101
• USEPA Region 5	24
• Efroymson et al. 1997	0
• SERDP for PFAS	2
• NYSDEC and NYSDOH	1
Total:	148

USEPA ecological soil screening levels (eco-SSLs) are available for 15 metals, 2 PAHs (LPAH and HPAH), and 3 pesticides matching the target analyte list (USEPA, 2018a). The values are considered “Interim Final” and were published between 2003 and 2008. Four taxonomic categories (plants, soil invertebrates, birds, and mammals) are considered, though eco-SSLs are not available for each category for each chemical. For purposes of the screening assessment, the lowest of the available taxonomic category values is used. For the BERA, taxonomic-specific categories will be considered. Aluminum is included because there are several locations where soil pH was measured as less than pH 5.5, which is a threshold for potential aluminum toxicity.

USEPA Region 4 is the source for roughly two-thirds (i.e., 101 of 148) of the ecological soil screening values (ESVs) applied here (USEPA, 2018b). Similar to the USEPA ecoSSLs, Region 4 ESVs are calculated for as many as four taxonomic categories. The benchmarks were originally published in 1995 and have been continuously updated, with the most recent update provided in March 2018. Region 4 also publishes refined screening values (RSVs), which will be considered in the BERA. Region 4 applies the following hierarchy of sources: 1) EPA ecoSSLs; 2) Department of Energy Laboratories (i.e., Los Alamos and ORNL); and 3) Combined equilibrium partitioning (EqP) modeled values for organic chemicals. Many of the lowest ESVs are intended

to be protective of soil invertebrates and are derived from an EqP approach based on benchmarks protective of aquatic invertebrates.

USEPA Region 5 screening levels (USEPA, 2003) are compiled from several sources, but because the values have not been updated since 2003, the following cautionary note is included on the agency web page: “US EPA Region 5 makes no promise that the information presented therein is correct. Always be sure to consult with a Regional Superfund ecologist to verify that the use of any and all toxicity values and life history information is acceptable”. Since the values have not been updated as recently as other USEPA sources, Region 5 values were considered lower in ranking.

Efroymson et al. (1997) provides preliminary remediation goals for 25 metals and 29 organics, grouped by receptor categories (e.g., plant, earthworm, mouse, shrew, woodcock, hawk). A total of 33 of the target analytes for soil have screening levels that could be supported by this source; however, all of these chemicals are included in one or more of the higher ranked sources. The USEPA sources are more recent, and in some cases are based on the same primary literature summarized by Efroymson et al. (1997).

Soil screening levels for PFOA and PFOS are based on an evaluation of benchmarks published by SERDP (2020), which were also adopted as recommended interim final environmental screening levels (ESLs) by California San Francisco Regional Water Quality Board in May 2020 (CRWQCB-SFB, 2020). They are terrestrial habitat ecological screening levels (ESLs), based on the lowest NOAEL-based secondary screening levels protective of wildlife that forage in significantly vegetated areas, as well as protective of terrestrial plants and soil invertebrates. The ESLs consider both direct exposure and bioaccumulation in a terrestrial food web (CRWQCB-SFB, 2020).

New York (NYSDEC & NYSDOH, 2006) provides ecological soil cleanup objectives (SCOs) that are not intended for use in a SLERA because the values may be less conservative then the screening levels developed by USEPA and other agencies. The SCOs are intended to help guide risk characterization and remediation decisions in later steps of the risk assessment process; accordingly, these will be considered in the BERA. However, NYSDEC has developed recommended screening levels for use in a SLERA for sediment and surface water, as noted below.

Sediment

In order of preference, the following sources were consulted for screening level benchmarks to evaluate maximum concentrations of analytes measured in sediment:

1. MacDonald et al. (2000) consensus-based sediment quality guidelines
2. USEPA Region 4 ecological screening levels (USEPA, 2018b)
3. NYSDEC (2014b) Screening and Assessment of Contaminated Sediment
4. USEPA Region 5 RCRA screening levels (USEPA, 2003)
5. Oak Ridge National Laboratory (ORNL) toxicological benchmarks for sediment (Jones et al.1997)
6. SERDP (2020) recommended screening levels for PFAS

Currently, the database of sediment concentrations is limited to a single class of chemicals (PFAS), for which federal and state screening level benchmarks have not yet been proposed.

Accordingly, the first five sources listed in the hierarchy do not apply, but the SERDP (2020) recommended values have been considered. The supplemental Biota Sampling and Analysis Plan (Biota SAP) will include the collection of paired sediment and biota samples from the Hoosic River.

Both SERDP (2020) and Florida (FDEP, 2019a) evaluated the available PFAS toxicity study data as of 2019 and determined that insufficient data are available to derive empirical-based estimates of sediment toxicity to aquatic organisms. SERDP (2020) proposed a model estimation method for six PFAS using available aquatic wildlife (mammal and bird) toxicity reference values (TRVs) and bioaccumulation factors. Sediment concentrations corresponding with NOAEL and LOAEL TRVs were back-calculated using standard risk equations and HQ=1. Aquatic risk-based screening levels (RBSLs) were calculated for eight receptor species representing different feeding guilds, and lowest values were noted for insectivores (little brown bat and tree swallow). NOAEL RBSLs for five of the PFAS on the target analyte list are used in the screening level assessment: PFBS, PFOS, PFHxA, PFOA, and PFNA.

Additional target analytes will be included in the Biota SAP that will characterize potential uptake in the aquatic and terrestrial food webs. The field investigation, pending review and input from USEPA and NYSDEC on the Biota SAP, will include six or more sampling locations in the Hoosic River (near site and in upriver/reference areas) where sediment and biota samples will be collected and analyzed for PFAS, metals, and PCBs. The proposed hierarchy will be applied to these sample results, as described below.

MacDonald et al. (2000) consensus-based sediment quality guidelines (SQGs) for freshwater ecosystems are given preference as these values were designed to predict toxicity to benthic invertebrates in freshwater sediments and are recommended by USEPA and several states including New York (NYSDEC, 2014b). Two sets of consensus-based SQGs are available: Threshold Effects Concentrations (TECs), below which adverse effects are not expected to occur and the Probable Effects Concentrations (PECs), above which adverse effects are expected to occur. TECs and PECs are empirically derived values based on associations observed between measures of adverse biological effects and the concentrations of potential chemicals of concern in sediments. TECs will be used for screening, and both TECs and PECs will be considered in the BERA.

USEPA Region 4 sediment screening levels (USEPA, 2018b) were primarily derived from statistical interpretation of effects databases obtained from the literature, as reported in publications by states such as Florida and Washington, and for other agencies. Region 4 applied the following hierarchy to derive screening levels: Toxicity Effects Levels (TELs) and TECs; EqP and target lipid model (TLM) approaches; followed by other effects ranges (e.g., Effects-Range Low and Washington State SQGs). The EqP approach is based on the concept that only a fraction of the total concentration of a chemical compound in sediment is actually bioavailable and, thus, potentially toxic to aquatic/benthic organisms. Further, the theory holds that the bioavailable fraction is at equilibrium between the interstitial pore water and the sediment organic carbon. Because of this relationship, it is possible to use surface water criteria (e.g., National Ambient Water Quality Criteria [NAWQC]) to derive sediment criteria. Values for organics assume 1% total organic carbon in sediment, which is within the range observed for this site.

NYSDEC (2014b) sediment screening levels are compiled from multiple sources, including MacDonald et al. (2000) and EqP model estimates applied to NAWQC. Benchmarks are grouped into three categories (Class A, B, and C), with Class A being the lowest values, generally intended for use in screening level assessments.

USEPA Region 5 screening levels (USEPA, 2003) are compiled from several sources, but because the values have not been updated since 2003, the following cautionary note is included on the agency web page: "US EPA Region 5 makes no promise that the information presented therein is correct. Always be sure to consult with a Regional Superfund ecologist to verify that the use of any and all toxicity values and life history information is acceptable". Since the values have not been updated as recently as other USEPA sources, Region 5 values were considered lower in ranking.

ORNL screening levels provide benchmarks applicable to evaluating freshwater sediment invertebrates, based on EqP methods and secondary sources (Jones et al. 1997).

Surface Water

In order of preference, the following sources were consulted for screening level benchmarks to evaluate maximum concentrations of analytes measured in surface water:

1. USEPA National Ambient Water Quality Criteria (NAWQC) (USEPA, 2019)
2. USEPA Region 4 ecological screening levels (USEPA, 2018b)
3. USEPA Region 5 RCRA screening levels (USEPA, 2003)
4. NYSDEC Part 703.5 (NYCRR, 2020)
5. Other states and literature

The relevance of each source, and further rationale supporting the proposed hierarchy, is briefly summarized below. Collectively, these sources support ecological screening levels for surface water for 144 chemicals, or approximately 70% of the complete list of target analytes. The selected screening levels are distributed among the hierarchy of source documents as follows:

• USEPA NAWQC	19
• USEPA Region 4	115
• USEPA Region 5	5
• NYSDEC Part 703.5	0
• Other states and literature	5
Total:	144

USEPA NAWQC freshwater continuous chronic concentration (CCC) values are a primary source of screening levels commonly used for ecological risk assessment (USEPA, 2019), and are incorporated in both USEPA Region 4 and USEPA Region 5 sources as well. The CCC is an estimate of the highest concentration of a chemical in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. Values are intended to protect 95% of species, 95% of the time. NAWQC values are available for 39 chemicals, including 29 priority pollutants that are mostly metals, pesticides, and PCBs. A total of 19 of these chemicals are among the target analytes measured in the Project Area from the RI/FS dataset.

USEPA Region 4 surface water screening values are a compilation of values from toxicity studies and model-based estimates cited to federal NAWQC, USEPA Office of Pesticide Program Aquatic Life Benchmarks, Tier II secondary values (e.g., Great Lakes Initiative Clearinghouse), state agencies (including New York, New Jersey, Florida, North Carolina, Georgia, Hawaii, Michigan, Texas), and the literature (USEPA, 2018b). Approximately 80% (115 of 144) of the surface water screening levels applied here are based on USEPA Region 4 values.

USEPA Region 5 surface water screening values are compiled from multiple sources (USEPA, 2003). The agency web page includes a cautionary statement, "US EPA Region 5 makes no promise that the information presented therein is correct. Always be sure to consult with a Regional Superfund ecologist to verify that the use of any and all toxicity values and life history information is acceptable." Since the values have not been updated as recently as other USEPA sources, Region 5 values were considered lower in ranking. Five screening levels are based on USEPA Region 5 values.

The NYSDEC Water Quality Standards for ecological receptors, found in NYS regulation 6 NYCRR Part 703, were included for screening potential ecological COPECs in surface water (NYCRR, 2020). Typically, these values are used by the state to identify regulatory targets for permitting, compliance, enforcement, monitoring and assessing the quality of the state's waters. These values would be considered in the absence of more recent or available USEPA criteria or screening levels; however, this was not the case for any of the target analytes, so NYSDEC surface screening levels were not applied.

Surface water screening levels for PFOA and PFOS are based on an evaluation of benchmarks published by SERDP (2020), which were also adopted as recommended interim final environmental screening levels (ESLs) by California San Francisco Regional Water Quality Board in May 2020 (CRWQCB-SFB, 2020), as well as benchmarks published by Florida Department of Environmental Protection (FDEP) in 2019 (FDEP, 2019a). The PFOS screening level developed by SERDP (2020) is a NOAEL protective of reproduction and survival of piscivorous birds. The PFOA provisional screening level developed by Florida is a Tier II (secondary) value derived using USEPA Great Lakes Initiative methods. The screening level of 1,300 µg/L is a chronic value, based on an acute secondary value of 20,000 µg/L divided by an acute-to-chronic ratio of 15.3 (FDEP, 2019b).

1.3.2 Use of Surrogates

When toxicity reference values were not available for a specific chemical, suitable surrogates based on chemical class and similar chemical structure were considered. The following data gaps were addressed by applying a surrogate screening level:

- Soil screening value for endrin (CASRN 720-20-8) provided by USEPA Region 5 was used to estimate the screening value for endrin ketone (CASRN 53494-70-5).
- Surface water screening value for total arsenic (CASRN 7440-38-2) provided by USEPA NAWQC is based on toxicity study results for trivalent arsenic.
- Surface water screening value for total chromium (CASRN 7440-47-3) provided by USEPA NAWQC is based on toxicity study results for trivalent chromium (CASRN 16065-83-1).
- Surface water screening value for beta-benzenehexachloride (beta-BHC; CASRN 319-85-7) is based on the Region 4 value selected for alpha-BHC (CASRN 319-84-6).

- Screening levels for all media are based on the sum of individual PCB Aroclors (i.e., Total PCB Aroclors).

Refer to the BHHRA for additional details regarding the support for using surrogate chemicals in the toxicity assessment of the human health risk assessment.

1.3.3 Potential Bioaccumulative Compounds

Analytes that have a potential to bioaccumulate in the food chain require additional consideration, particularly for upper trophic level ecological receptors. Table 5 of the BERA Work Plan summarizes analytes that have a potential to bioaccumulate in aquatic and terrestrial food webs based on criteria applied by USEPA (2000) and New York State (NYSDEC & NYSDOH, 2006). Some, but not all ecological screening levels are intended to be protective of upper trophic level organisms. Analytes that are potentially bioaccumulative, detected in soil, sediment, and/or surface water, and that have screening levels that may not be protective of upper trophic level organisms, are also retained for further evaluation in the BERA.

Bioaccumulation potential is often estimated based on findings from studies under laboratory or field conditions, as well as predictions from statistical models that account for differences in physical/chemical properties (e.g., log K_{ow} as surrogate for lipophilicity). Differences in physical/chemical properties of PFAS compared with many other organic compounds introduces greater uncertainty in model-based estimates. SERDP (2019) provides a summary of bioconcentration and bioaccumulation factors for selected PFAS based on a review of studies published as of 2019, focusing on findings under controlled (laboratory) conditions. Table 6.1 of the BERA Work Plan summarizes recommended values for fish and Table 6.2 summarizes recommended values for invertebrates and plants. USEPA's AQUATOX model (USEPA, 2018c) implements the same equations developed by Martin et al. (2003a, 2003b) to predict BCFs for PFAS as a function of the number of perfluorinated carbons (see further details in the footnotes of Table 6.1). These studies support observations regarding general trends in bioaccumulation potential as a function of carbon chain length, functional group, environmental conditions, and taxonomic grouping of receptors. These factors and additional literature will be further explored and discussed in the BERA.

1.4 Screening Level Outcomes

Chemicals from each chemical class (PFAS, metals, PAHs, PCBs, pesticides, phenols, SVOCs, and VOCs) are identified as preliminary COPECs for further evaluation in the BERA. Table 4 summarizes the complete list of preliminary COPECs identified from separate evaluations of the soil, sediment, and surface water. The notations "P" and "S" are applied to distinguish between primary and secondary COPECs, based on the results of the screening assessment. As described above, a primary COPEC is a chemical for which the maximum concentration is a detect (rather than a nondetect), the applicable screening level is exceeded, and the frequency of detection in the medium is at least 5%. A secondary COPEC is a chemical that screens in, but is less likely to be identified as a candidate for risk management upon closer evaluation in the BERA for one or more of the following reasons:

- Low frequency of detection (e.g., < 5%);
- Maximum concentration is a ND;
- Maximum concentration in soil is lower than the NYS background threshold value; or

- The chemical was retained because no media-specific screening level was available to screen out the chemical at this step.

The following observations are noted regarding the preliminary COPEC list for the BERA, based on the findings summarized in Table 4:

- Primary COPECs are grouped mostly in metals, PAHs, and selected pesticides. Copper, lead, and aluminum are three metals identified as a primary COPEC in each potential exposure medium. USEPA and NYSDEC note that certain copper species have bioaccumulation potential.
- Surface water has four primary COPECs: aluminum, copper, iron, and lead.
- Primary COPECs for sediment (for which target analytes are limited to PFAS) are PFOA and PFOS.
- Among SVOCs and VOCs, acetone, benzene, carbon disulfide, phenol, and trichloroethene in soil are categorized as primary COPECs, though several chemicals have a potential to bioaccumulate.
- PFOA is retained as a primary COPEC because the soil screening level is exceeded in both on-site and off-site soils and the frequency of detection is greater than 5%.
- Other PFAS are also retained, but are categorized as secondary COPECs, most often because they are infrequently detected.

Both “P” and “S” categories of COPECs will be further evaluated in the BERA, beginning with a refined screening step. The process will closely follow USEPA ecological risk assessment guidance (USEPA, 2001, 2018b) for COPEC refinement, including consideration of the following additional lines of evidence:

- Background concentrations;
- Nutrients and dietary considerations;
- Frequency, magnitude, and pattern of detected chemicals;
- Mode of toxicity and potential for bioaccumulation;
- Multiple contaminant (mixtures) effects;
- Alternative toxicity values intended for refined screening; and
- Exposure considerations.

These criteria will not be applied in a “pass/ fail” approach, but rather, the lines of evidence will be considered in the context of additional site-specific information obtained during the RI investigation. For example, if a chemical is detected in less than 5% of the samples, it may still be retained as a refined COPEC if there are gaps in spatial coverage, or subareas of elevated concentrations.

2.0 NYSDEC Fish and Wildlife Impact Analysis

In comments on a draft of the BERA Work Plan (see Appendix C), NYSDEC requested that elements of the BERA also satisfy requirements of a Fish and Wildlife Impact Analysis (FWIA) for the Project Area, consistent with state guidance provided in the document entitled *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites* (NYSDEC 1994). The FWIA includes activities grouped into two steps: Step I – *Site Description* and Step II – *Contaminant Specific Impact Assessment*.

The following elements of Step I are included in the BERA Work Plan:

- **Step I.A: Site maps.** Step I includes the preparation of site maps to cover the area within 2 miles of the site perimeter.
    - **Topographic Map.** Section 2.2 (Physical and Geologic Setting) of the BERA Work Plan provides a complete description of the Project Area topography based on a review of field investigation reports and USGS databases. The RI/FS Work Plan provides a topographic map (C.T. Male Associates, 2016)
    - **Covertype Map.** Section 2.4 (Habitat Characterization) of the BERA Work Plan describes the ecological setting. Habitat areas within and immediately adjacent to the facility and tax parcel boundary, are dominated by mixed forest, shrub/scrub, open space, and small areas of wooded wetland to the south. Figure 3 of the BERA Work Plan shows land cover classifications across the Project Area based on National Land Cover Classifications (NLCD) downloaded from the Multi-Resolution Land Characteristics website. This inventory indicates that the 326-acre Project Area consists of approximately 40 acres (13%) of deciduous, evergreen, and mixed forest; 27 acres (8%) of woody wetlands and open water; 23 acres (7%) of agricultural land; and 88 acres (27%) of open space. Exhibits 1 through 3 of the BERA Work Plan provide photographs of the different habitat areas.
    - **Drainage Map.** Section 2.2 (Physical and Geological Setting) of the BERA Work Plan summarizes the surficial geology and hydro-stratigraphic units within the Project Area. Section 2.4.2 (Hoosic River Watershed) describes relevant regional watershed properties and Figure 2 of the BERA Work Plan is a map that shows the location of the Project Area within the Hoosic River watershed. The 2-mile extent down river (north of the Project Area on Figure 2) is captured by the map inset, which is shown at the scale of 1 inch to 2000 feet. This inset is just upriver of the confluence of the Hoosic River with the Walloomsac River. A large pond, Thayer's Pond, is located near the eastern edge of the Hoosic River. Thayer's Pond is hydrologically upgradient of the Hoosic River, with subsurface flows from the pond to the river (C.T. Male Associates, 2016). Additional descriptions of site soils and hydrologic conditions are provided in the RI/FS Work Plan (C.T. Male Associates, 2016).
- **Step I.B: Description of Fish and Wildlife Resources.** Step I includes a description of the fish and wildlife resources, including fauna expected within each covertype. This information is discussed in the BERA Work Plan in Section 2.4.3 (Ecological Resources). During a site visit in August 2020, evidence of physical or chemical stressors to flora or

fauna related to the site, including stained soils and leachate seeps, were not observed in the Project Area.

The following elements of Step I are not included in the BERA Work Plan and are presented below:

- **Step 1.B:** Identify the potential endangered species, threatened species and species of potential concern that may be present in the vicinity of the Project Area;
- **Step I.C:** Describe the value of habitat in the Project Area to fish and wildlife resources and associated flora and fauna for the natural communities in the Project Area; and
- **Step I.D:** List the applicable state and federal regulations pertaining to fish and wildlife.

The following elements of Step II are included in the SLERA (above) and/or the BERA Work Plan:

- **Step II.A: Pathway Analysis.** Step II includes an evaluation of the link between sources of contaminants, transport pathways, and ecological receptors. This information is described in the ecological conceptual site model (CSM) presented in Section 5.2 and Figures 4.1 and 4.2 of the BERA Work Plan.
- **Step II.B: Criteria-Specific Analysis.** The criteria used for evaluating potential ecological effects are presented in Section 1 of this appendix for the SLERA.
- **Step II.C: Toxic Effect Analysis.** The toxicity refence values that will be used in the BERA are discussed in Section 5.4 of the BERA Work Plan.
- **Step II.D: Study Methods.** Section 4 of the BERA Work Plan discusses the database that will be used in the exposure assessments for the BERA. In addition, a supplemental Biota Sampling and Analysis Plan (Biota SAP) will be submitted for agency review. This supplemental investigation will be guided by the SLERA presented above, an assessment of spatial patterns of primary COPECs, and representativeness of the biota given the receptor list and habitat conditions during the anticipated period of collection (Spring/Summer 2021).

2.1 Potential Endangered Species, Threatened Species, and Species of Special Concern that May be Present in the Vicinity of the Project Area

The presence of significant habitats and protected species in the Project Area were evaluated by searching the following federal and state online databases:

- US Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS), which lists current species identified as threatened, endangered, or special status, along with critical habitat that may support such species. Information is grouped geographically by region. New York State is within Region 5 (USFWS, 2021).
- New York State Natural Heritage Program (NYNHP) (NYSDEC, 2021b)
- New York State Freshwater Wetlands (NYSFW) (NYSDEC, 2021c)
- NYSDEC Environmental Conservation Nature Explorer Database (NYSDEC, 2014a).
- NYSDEC Environmental Resources Mapper (NYSDEC, 2021a)

Table B3 provides an alphabetically listing of 73 federally listed threatened and endangered species in New York according to USFWS's ECOS database. Table B4 provides a listing of nearly 300 state listed species associated with Rensselaer County, including extirpated, historically confirmed, possible but not confirmed, and recently confirmed species.

The following are highlights of the search results relevant to the Project Area:

- The USFWS ECOS reports critical habitats in Region 5 for special status species of birds, clams, crustaceans, fish, mammals, and reptiles. Areas of critical habitat for total of 11 species are listed for New York, none of which are in the vicinity of the Project Area.
- According to reports prepared by NYNHP, in New York there currently exists three federally endangered plants and five federally threatened plants, one historical (but probably extirpated species) and two extirpated species. Of these, NYSDEC's Environmental Conservation Nature Explorer databases lists one of the threatened plant species in Rensselaer County, NY, a fern called Mountain Spleenwort (*Asplenium montanum*) (see Table B4).
- NYSDEC's Environmental Conservation Nature Explorer Database lists seven endangered species with a distribution status of "recently confirmed" in Rensselaer County (see Table B4): peregrine falcon (2000-2005); shortnose sturgeon (2013); two grasses (*Bouteloua curtipendula* in 1999; *Dichanthelium leibergii* in 2000); one flowering plant (*Polygonum buxiforme*, no date); and two sedges (*Carex stylofexa* in 1986; *Carex Typhina*, no date).
- Eighteen state-listed threatened species recently confirmed as present in Rensselaer County include four birds (pied-billed grebe in 2000-2005, northern harrier in 2005, bald eagle in 2016, least bittern in 2014), one mammal (northern long-eared bat in 1985), and 13 flowering plants (see Table B4) observed over approximately a 30-year period. The bald eagle was downlisted from endangered to threatened in New York in 1999 and the state continues management based on a Bald Eagle Conservation Plan (NYSDEC, 2016b).
- NYSDEC determines whether habitat is occupied habitat for jurisdictional purposes based on whether there are verified reports of a protected species engaging in one or more essential behaviors in the geographic area in question. The NYNHP database has no records of known occurrences of rare or state-listed animals, plants, or significant habitats on or in the vicinity of the Project Area.
- Similarly, the NYSDEC Environmental Resources Mapper has no records of state regulated freshwater wetlands, significant natural communities, or rare plants or animals within the Project Area, or downriver of the Project Area (see Figure B1). A state regulated freshwater wetland is located immediately south (upriver) of the Project Area.

2.2 Value of Habitat to Fish and Wildlife and Humans

The value of the covertypes to wildlife and society was evaluated based on habitat requirements of identified wildlife species and potential resource utilization by humans. Based on aerial imagery, land use classification inventories, and a site visit in August 2020, areas adjacent to the site support riparian, wetland, and forest ecological communities.

The site is classified as a PF04/1A wetland by the National Wetlands Inventory (USFWS, 2020). This means that the area is considered a forested palustrine (non-tidal) area "dominated by trees, shrubs, [and] persistent emergents". Trees in the area are classified as a combination of needle-leaved evergreen ("typically young or stunted trees such as black spruce or pond pine") and broad-leaved deciduous, woody angiosperms "with leaves that are shed during the cold season" (USFWS, 2020). The water regime classification for this area is "temporary flooded", meaning that surface water is occasionally present, but that the potentiometric surface is below the ground surface for the majority of the year (USFWS, 2020). The Hoosic River (as well as Rensselaer County in which the site is located and the Hudson River downstream) is classified as a confined riverine community (rank G4 S3S4) by the New York Natural Heritage Program (Edinger et al., 2014).

Observed fish populations in Hoosick Falls are mostly non-native/introduced species such as brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), white sucker (*Catostomus commersonii*), carp (*Cyprinus carpio)*, and smallmouth bass (*Micropterus dolomieu*) (Fontana, 2012). Aquatic macroinvertibrate populations are present and are monitored by the Hoosic River Watershed Association (HRWA). Section 2.4 of the BERA Work Plan lists species observed. Macroinvertebrate communities in the area of Hoosick Falls are classified by the HRWA as 'slightly impacted' (Nolan, 2008).

The Hoosic River corridor is known to host white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicus*), bird species including the great blue heron (*Ardea herodias*) and smaller heron species, kingfishers (*Alcedinidae***)**, bank swallows (*Riparia riparia*), common yellowthroats (*Geothlypis trichas*), catbirds (*Dumetella carolinensis*), killdeer (*Charadrius vociferous*), sandpipers (family *Scolopacidae*), red-tailed hawk (*Buteo jamaicensis*), and bald eagle (*Haliaeetus leucocephalus*) (Fontana, 2012). The bald eagle is listed as a threatened species by NYSDEC (NYSDEC, 2015a).

Table 2 of the BERA Work Plan summarizes water use classifications for the Hoosic River for reaches near the site according to 6 NYCRR §701 and §940.4. The reach adjacent to the site is classified as a Class C waterbody, meaning that it is suitable for general recreation and supports aquatic life, but not as a water supply or bathing without treatment (NYSDEC, 2016c). Immediately downriver from the site, the designation changes to Class D, which downgrades aquatic life habitat suitability from "Propagation and Survival" to "Survival" due to changes in "such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions".

Fish advisories on the Hoosic River include a "Don't Eat" determination for women under 50 and children under 15 years throughout Rensselaer and Washington Counties due to elevated levels of polychlorinated biphenyls (PCBs) (NYSDEC, 2016a, 2016c). Effective July 24, 2017, NYSDOH also recommended people do not consume fish from water bodies around Newburgh and Hoosick Falls areas until testing for PFOA, PFOS, and other PFAS is complete (NYSDOH, 2017).

Suburban residential neighborhoods are present along the northern edge of the site tax parcel. A two-mile long nature trail known as the Village Greenway Trail system is located on the eastern bank of the Hoosic River, between the river and the western edge of the site tax parcel (see Exhibit 1 of the BERA Work Plan). The trail provides public access to the river, fitness stations, and picnic tables.

2.3 Federal and State Regulations Pertaining to Fish, Wildlife, and Plants

Table B5 lists examples of environmental regulations and guidance that pertain to the protection of soil, surface water, sediment, wetlands, waterways, and fauna. Guidance on ecological screening levels is discussed above in Section 1.3.1. Selected federal and state environmental regulations that serve to protect sensitive biological resources relevant to the Project Area are discussed below.

2.3.1 Federal

Federal Endangered Species Act (FESA) (50 CFR Part 17)

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under FESA. Federally endangered (FE) species are faced with imminent extinction. Federally threatened (FT) species are in less danger, but require special protection to maintain their populations. There is also a category for species of special concern. These species have no legal protection but are listed because the stability of their populations in unknown. FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA NMFS), (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". The FESA also discusses recovery plans and the designation of critical habitat for listed species (National Archives, 2021).

Migratory Bird Treaty Act (16 USC. 703 et seq.; 50 CFR Part 10)

The Federal Migratory Bird Treaty Act (MBTA) prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that cause nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA (National Archives, 2020; Office of the Law Revision Counsel, 2021).

USEPA Clean Water Act – Section 404 (33 CFR Part 328 Section 328.1 - 328.4)

The objective of the Clean Water Act (CWA) is to maintain and restore the chemical, physical, and biological integrity of the waters of the U.S. "Waters of the US" is the encompassing term for areas that qualify for federal regulation under Section 404 of the CWA. Section 404 of the CWA gives the US Environmental Protection Agency (EPA) and the US Army Corps of Engineers (USACE) regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States." Section 502(7) of the CWA defines navigable waters as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the CFR defines the term "waters of the US" as it applies to the jurisdictional limits of the authority of the USACE under the CWA. A summary of this definition of "waters of the US" in 33 CFG 328.3

includes: (1) waters used for commerce and subject to tides; (2) interstate waters and wetlands; (3) “other waters” such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters; (5) tributaries of waters; (6) territorial seas; and (7) wetlands adjacent to waters. Therefore, for purposes of determining USACE jurisdiction under the CWA, “navigable waters” as defined in the CWA are the same as “waters of the US” defined in the CFR above. Waters of the U.S. include nonisolated “wetlands” and “other waters of the US”.

Section 404 of the federal Clean Water Act allows no discharge of fill material into “waters of the United States,” including wetlands, if there is a practicable alternative that is less damaging to the aquatic environment. Individual or general permits may be received for unavoidable wetland impacts as long as steps have been taken by the permit applicant for avoidance, minimization and mitigation of wetland impacts (USEPA, 2020).

The National Pollutant Discharge Elimination System (NPDES) program requires permitting for activities that discharge pollutants into waters of the U.S. This includes discharges from municipal, industrial, and construction sources. These are considered point-sources from a regulatory standpoint. Generally, these permits are issued and monitored under the oversight of the state. All dischargers are required to obtain coverage under the Construction General Permit. The activities covered under the Construction General Permit include clearing, grading, and other disturbances. The permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Best Management Practices (BMPs) with a monitoring program. Development projects require coverage under the Construction General Permit.

Executive Order 11988 - Floodplain Management (42 FR 26951, 3 CFR)

Executive Order 11988 for Floodplain management (May 24, 1977) established a national policy to reduce the risk of flood loss by avoiding occupancy and modification of floodplains wherever there is a practical alternative (USEPA, 1977a).

Executive Order 11990 - Protection of Wetlands

Executive Order 11990 for the Protection of Wetlands (May 24, 1977) establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific “Wetlands Only Practicable Alternative Finding” in the final environmental document. An additional requirement is to provide early public involvement in projects affecting wetlands (USEPA, 1977b).

2.3.2 State

New York State Environmental Conservation Law (ECL)

§11-0535 – State Endangered Species Act – 6 NYCRR Part 182 provides lists of species of fish, shellfish, crustacea, and wildlife designated for protection based on a classification system that includes endangered species, threatened species, and species of special concern (i.e., in danger of becoming threatened) (NYSDEC, 2020a). The ECL regulates the taking, importation, transportation, possession, or sale of listed species. NYSDEC determines whether habitat is

occupied habitat for jurisdictional purposes based on whether there are verified reports of a protected species engaging in one or more essential behaviors in the geographic area in question. NYSDEC proposed amendments to its regulations on September 11, 2019 to encourage identifying and addressing potential impacts to species and habitats early in the planning process of construction and development projects. NYSDEC utilizes its authority under the State Environmental Quality Review Act (6 NYCRR Part 617) and other permitting authorities to assess potential environmental impacts and make recommendations to project proponents on how to avoid or reduce those impacts (NYSDEC, 2019).

§9-1503 – Protected Native Plants – New York created the Protected Native Plants Program in 1989 to protect plants that are endangered, threatened, rare, or exploitably vulnerable. Current lists are provided by 6 NYCRR Part 193.3 (Chapter 2 – Lands and Forests). Endangered species are defined as native plants in danger of extirpation throughout all or a significant portion of their ranges within the State and requiring remedial action to prevent such extinction. Threatened species are defined as likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges within the State (NYSDEC, 2020b, p. 193).

Wildlife Action Plan

New York develops a State Wildlife Action Plan (SWAP) every 10 years in coordination with the U.S. Fish and Wildlife Service (USFWS) and the Association of Fish and Wildlife Agencies (AFWA). The most recent plan (2015) summarizes an assessment of 597 species and focuses on protecting Species of Greatest Conservation Need (SGCN) in the state by identifying important habitats, population trends, and the scope and severity of threats using the International Union for the Conservation of Nature (IUCN) threat classification system (NYSDEC, 2015b).

Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Limitations, TOGS 1.1.1

Ambient water quality guidance values and groundwater effluent limitations for compiled by the Division of Water for use where there are no standards (in 6 NYCRR 703.5) or regulatory effluent limitations (in 703.6). Values are used by state Department programs, including the SPDES permit program. TOGS 1.1.1 provides ambient values and TOGS 1.1.2 provides groundwater effluent standards. Standards are values that have been promulgated and placed into regulation. Guidance values are used when a standard has not been established (NYSDEC, 1999).

Use and Protection of Waters (6 NYCRR Part 608)

Included in New York's Environmental Regulations, Chapter V (Resource Management Services), Part 608 provides for a regulated permit system whereby the basis for permit issuance is a determination that the proposal is in the public interest by being reasonable and necessary; will not endanger the health, safety, or welfare of the people; and will not cause unreasonable, uncontrolled, or unnecessary damage to the natural resources of the state (NYSDEC, 2020c, p. 608).

Freshwater Wetlands Act (6 NYCRR Parts 663-665)

New York created the Freshwater Wetlands Act in 1975, under Article 24 of the ECL, in response to uncontrolled losses of wetlands. The Act protects wetlands larger than 12.4 acres (5 hectares),

and certain smaller wetlands of unusual local importance by requiring permits (under 6 NYCRR Part 663) for defined activities in state-regulated wetlands, limiting activities such as filling or draining that may cause adverse effects (NYSDEC, 2020d, p. 663). Outside the Adirondack Park, DEC classifies wetlands according to 6 NYCRR Part 664, Wetlands Mapping and Classification Regulations, from Class 1, which provide the most benefits, to Class IV, which provide the fewest benefits (NYSDEC, 2020e, p. 664). A process for local governments to assume permitting authority is provided in 6 NYCRR Part 665 (NYSDEC, 2020f, p. 665).

Soil Cleanup Objectives for the Protection of Ecological Resources (6 NYCRR Part 375-6.6 and 6.8)

Part 375 is the development and implementation of remedial programs for inactive hazardous waste disposal sites, brownfield sites and environmental restoration sites. During the investigation of the site, the presence and impact of ecological resources should be determined. Soil cleanup objectives (SCOs) are provided in Tables 375-6.8. If SCOs are not developed for certain contaminants, they should be calculated (NYSDEC, 2006).

Technical Guidance for Site Investigation and Remediation (DER-10)

This program policy provides guidance on how to conduct acceptable investigation and remediation activities involving remedial programs administered by the Division of Environmental Remediation (DER) (i.e., Environmental Restoration Program (ERP), Brownfield Cleanup Program (BCP), State Superfund Program (SSF), Voluntary Cleanup Program (VCP), and certain petroleum releases) (NYSDEC, 2010).

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TABLE B1.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (ON-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, On-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
Soil	**PFAS**															
McCaffrey St. Project Area On-Site	375-22-4	Heptafluorobutanoic acid	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	2991-50-6	N-ethylperfluorooctanesulfon amidoacetic acid	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	2355-31-9	N-methylperfluorooctanesulfon amidoacetic acid	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	375-73-5	Perfluorobutanesulfonic acid	0.00024 J	0.0045 U	mg/kg	MC-SS-12	155	3	2%	0.00053	0.0045	0.0045	NV	NV	Y	D
	335-77-3	Perfluorodecane sulfonic acid	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	335-76-2	Perfluorodecanoic acid	0.00028 J	0.0036 J	mg/kg	MC-SS-08	155	34	22%	0.00039	0.0011	0.0036	NV	NV	Y	D
	307-55-1	Perfluorododecanoic acid	0.00026 J	0.0047 J	mg/kg	MC-SS-20	155	23	15%	0.00053	0.0022	0.0047	NV	NV	Y	D
	375-92-8	Perfluoroheptane sulfonate	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	375-85-9	Perfluoroheptanoic acid	0.00021 J	0.056	mg/kg	MC-GP-01B	155	32	21%	0.00053	0.0017	0.056	NV	NV	Y	D
	355-46-4	Perfluorohexane sulfonic acid	0.00053 U	0.0045 U	mg/kg	MC-SS-12	155	0	0%	0.00053	0.0045	0.0045	NV	NV	Y	D
	307-24-4	Perfluorohexanoic acid	0.00011 J	0.054	mg/kg	MC-GP-01A	155	57	37%	0.00035	0.0011	0.054	NV	NV	Y	D
	375-95-1	Perfluorononanoic acid	0.00018 J	0.0011 U	mg/kg	MC-SS-12	155	26	17%	0.00035	0.0011	0.0011	NV	NV	Y	D
	754-91-6	Perfluorooctane sulfonamide	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	1763-23-1	Perfluorooctanesulfonic acid	0.00037 J	0.0048	mg/kg	MC-SS-21	155	19	13%	0.00079	0.0045	0.0048	NV	0.013	N	E
	335-67-1	Perfluorooctanoic acid	0.00032 J	2	mg/kg	MC-GP-01A	155	143	93%	0.00061	0.00071	2	NV	0.084	Y	A
	2706-90-3	Perfluoropentanoic acid	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	376-06-7	Perfluorotetradecanoic acid	0.00034 J	0.02 J	mg/kg	MC-SS-20	155	23	15%	0.00053	0.0022	0.02	NV	NV	Y	D
	72629-94-8	Perfluorotridecanoic acid	0.00053 U	0.0045 J	mg/kg	MC-SS-20	155	13	9%	0.00053	0.0034	0.0045	NV	NV	Y	D
	2058-94-8	Perfluoroundecanoic acid	0.00034 J	0.0018 J	mg/kg	MC-SS-20	155	23	15%	0.00053	0.0017	0.0018	NV	NV	Y	D
	39108-34-4	Sodium 1H,1H,2H,2H-perfluordecane sulfonate (8:2)	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	27619-97-2	Sodium 1h,1h,2h,2h-perfluorooctane sulfonate (6:2)	--	--	mg/kg	--	--	--	--	--	--	--	NV	NV	Y	D
	Metals															
	7429-90-5	Aluminum	5230	25300 J	mg/kg	MC-MW-09	72	72	100%	NV	NV	25300	21400	soil pH < 5.5	Y	A
	7440-36-0	Antimony	0.0986 J	3.87 J	mg/kg	MC-MW-06	72	69	96%	0.391	0.44	3.87	3.3	0.27	Y	A
	7440-38-2	Arsenic	5.06	13.8 J	mg/kg	MC-MW-09	72	72	100%	NV	NV	13.8	16.7	18	N	E
	7440-39-3	Barium	31.6 J	375	mg/kg	MC-MW-06	72	72	100%	NV	NV	375	254	330	Y	A
	7440-41-7	Beryllium	0.247	1.05	mg/kg	MC-MW-09	72	72	100%	NV	NV	1.05	1.3	21	N	E
	7440-43-9	Cadmium	0.0676 J	0.973 J	mg/kg	MC-SS-08	72	71	99%	0.216	0.216	0.973	2.8	0.36	Y	B
	7440-70-2	Calcium	540 J	60600 J	mg/kg	MC-MW-22	72	72	100%	NV	NV	60600	14800	NV	Y	D
	7440-47-3	Chromium	8.34 J	37.3 J	mg/kg	MC-SS-02	72	72	100%	NV	NV	37.3	24.3	23	Y	A
	7440-48-4	Cobalt	6.28 J	25.7 J	mg/kg	MC-SS-02	72	72	100%	NV	NV	25.7	13.4	13	Y	A
	7440-50-8	Copper	10.9 J	82.4 J	mg/kg	MC-MW-13	72	72	100%	NV	NV	82.4	53	28	Y	A
	7439-89-6	Iron	13500	39500	mg/kg	MC-MW-09	72	72	100%	NV	NV	39500	29500	NV	Y	D
	7439-92-1	Lead	11.9 J	596	mg/kg	MC-SS-11	72	72	100%	NV	NV	596	77	11	Y	A
	7439-95-4	Magnesium	3170	17200	mg/kg	MC-SS-07	72	72	100%	NV	NV	17200	7930	NV	Y	D
	7439-96-5	Manganese	340	6010	mg/kg	MC-MW-06	72	72	100%	NV	NV	6010	1940	220	Y	A
	7439-97-6	Mercury	0.0116 J	0.361	mg/kg	MC-SS-04	72	69	96%	0.0989	0.104	0.361	0.28	0.013	Y	A
	7440-02-0	Nickel	12 J	48.6 J	mg/kg	MC-SS-02	72	72	100%	NV	NV	48.6	37	38	Y	A
	7440-09-7	Potassium	739 J	4010 J	mg/kg	MC-MW-06	72	72	100%	NV	NV	4010	2230	NV	Y	D
	7782-49-2	Selenium	0.107 J	2.76	mg/kg	MC-SS-10	72	70	98%	0.739	0.871	2.76	4.4	0.52	Y	B
	7440-22-4	Silver	0.0222 J	0.229 U	mg/kg	MC-MW-13	72	69	96%	0.188	0.229	0.229	1	4.2	N	E
	7440-23-5	Sodium	22 J	1150	mg/kg	MC-MW-15	72	46	64%	149	394	1150	282	NV	Y	D
	7440-28-0	Thallium	0.0434 J	0.301 J	mg/kg	MC-MW-09	72	72	100%	NV	NV	0.301	NV	0.05	Y	A
	7440-62-2	Vanadium	9.24 J	34.7 J	mg/kg	MC-MW-13	72	72	100%	NV	NV	34.7	39	7.8	Y	B
	7440-66-6	Zinc	36.6	329	mg/kg	MC-SS-08	72	72	100%	NV	NV	329	157	46	Y	A
	PAHs (9)															
	92-52-4	1,1'-Biphenyl	0.035 U	0.37 U	mg/kg	MC-SS-13	72	3	5%	0.035	0.37	0.37	NV	0.2	Y	A
	91-57-6	2-Methylnaphthalene	0.004 J	0.77	mg/kg	MC-SS-09	72	40	56%	0.018	0.17	0.77	NV	0.11	Y	A
	88-74-4	2-Nitroaniline	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.02	Y	C
	99-09-2	3-Nitroaniline	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	NV	Y	D
	100-01-6	4-Nitroaniline	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	NV	Y	D
	83-32-9	Acenaphthene	0.005 J	0.19 U	mg/kg	MC-SS-13	72	15	21%	0.018	0.19	0.19	< 0.058	0.25	N	E
	208-96-8	Acenaphthylene	0.004 J	0.27	mg/kg	MC-SS-08	72	30	42%	0.018	0.19	0.27	< 0.079	0.34	N	E
	120-12-7	Anthracene	0.005 J	0.61	mg/kg	MC-MW-08	72	35	49%	0.018	0.19	0.61	< 0.063	0.0015	Y	A
	56-55-3	Benzo[a]anthracene	0.004 J	2.7	mg/kg	MC-MW-08	72	51	71%	0.018	0.17	2.7	0.15	0.73	Y	A

GSI ENVIRONMENTAL

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Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, On-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	50-32-8	Benzo[a]pyrene	0.004 J	2.4	mg/kg	MC-MW-08	72	51	71%	0.018	0.17	2.4	0.11	0.13	Y	A
	205-99-2	Benzo[b]fluoranthene	0.006 J	3.2	mg/kg	MC-MW-08	72	52	73%	0.018	0.17	3.2	0.15	2.7	Y	A
	191-24-2	Benzo[g,h,i]perylene	0.005 J	1.5	mg/kg	MC-MW-08	72	49	69%	0.018	0.19	1.5	< 0.12	0.07	Y	A
	207-08-9	Benzo[k]fluoranthene	0.004 J	1.2	mg/kg	MC-MW-08	72	48	67%	0.018	0.19	1.2	< 0.09	0.13	Y	A
	218-01-9	Chrysene	0.005 J	2.9	mg/kg	MC-MW-08	72	52	73%	0.018	0.17	2.9	0.19	3.1	N	E
	53-70-3	Dibenzo[a,h]anthracene	0.005 J	0.43	mg/kg	MC-MW-08	72	27	38%	0.018	0.19	0.43	NV	0.06	Y	A
	132-64-9	Dibenzofuran	0.019 J	0.41 U	mg/kg	MC-SS-08	72	5	7%	0.035	0.41	0.41	NV	0.15	Y	A
	206-44-0	Fluoranthene	0.004 J	5	mg/kg	MC-MW-08	72	54	75%	0.018	0.17	5	0.33	10	N	E
	86-73-7	Fluorene	0.004 J	0.49 J	mg/kg	MC-SS-08	72	18	25%	0.018	0.19	0.49	< 0.075	3.7	N	E
	193-39-5	Indeno[1,2,3-cd]pyrene	0.004 J	1.4	mg/kg	MC-MW-08	72	46	64%	0.018	0.19	1.4	0.075	0.08	Y	A
	91-20-3	Naphthalene	0.004 J	0.45	mg/kg	MC-SS-09	72	40	56%	0.018	0.17	0.45	0.018	0.16	Y	A
	85-01-8	Phenanthrene	0.004 J	2	mg/kg	MC-MW-08	72	54	75%	0.018	0.17	2	0.24	5.5	N	E
	129-00-0	Pyrene	0.004 J	4.1	mg/kg	MC-MW-08	72	55	77%	0.018	0.17	4.1	0.32	10	N	E
		Total LMW PAHs (ND=0)	0.004 J	5	--	--	--	--	--	0	0	5	NV	29	N	E
		Total LMW PAHs (ND=DetLim/2)	0.004 J	5	--	--	--	--	--	0.009	1	5	NV	29	N	E
		Total HMW PAHs (ND=0)	0.004 J	2.9	--	--	--	--	--	0	0	2.9	NV	1.1	Y	A
		Total HMW PAHs (ND= DetLim/2)	0.004 J	3.2	--	--	--	--	--	0.018	0.41	3.2	NV	1.1	Y	A
		Total PAHs (ND=0)	0.004 J	5	--	--	--	--	--	0	0	5	NV	NV	Y	D
		Total PAHs (DetLim/2)	0.004J	5	--	--	--	--	--	0.009	1	5	NV	NV	Y	D
	PCBs															
	12674-11-2	Aroclor 1016	0.017 U	0.038 U	mg/kg	MC-SS-13	72	0	0%	0.017	0.038	0.038	NV	NV	Y	D
	11104-28-2	Aroclor 1221	0.017 U	0.038 U	mg/kg	MC-SS-13	72	0	0%	0.017	0.038	0.038	NV	NV	Y	D
	11141-16-5	Aroclor 1232	0.017 U	0.038 U	mg/kg	MC-SS-13	72	0	0%	0.017	0.038	0.038	NV	NV	Y	D
	53469-21-9	Aroclor 1242	0.0054 J	0.038 U	mg/kg	MC-SS-13	72	1	2%	0.017	0.038	0.038	NV	NV	Y	D
	12672-29-6	Aroclor 1248	0.017 U	0.038 U	mg/kg	MC-SS-13	72	0	0%	0.017	0.038	0.038	NV	NV	Y	D
	11097-69-1	Aroclor 1254	0.011 J	0.038 U	mg/kg	MC-SS-13	72	3	5%	0.017	0.038	0.038	NV	NV	Y	D
	11096-82-5	Aroclor 1260	0.0086 J	0.12	mg/kg	MC-MW-16	72	20	28%	0.018	0.038	0.12	< 0.014	NV	Y	D
	37324-23-5	Aroclor 1262	0.0057 J	0.038 U	mg/kg	MC-SS-13	72	4	6%	0.017	0.038	0.038	NV	NV	Y	D
	11100-14-4	Aroclor 1268	0.017 U	0.038 U	mg/kg	MC-SS-13	72	0	0%	0.017	0.038	0.038	NV	NV	Y	D
	1336-36-3	Total PCB Aroclors (3)	0.0054 J	0.12	mg/kg	MC-MW-16	72	26	37%	NV	NV	0.12	NV	0.041	Y	A
	Pesticides															
	72-54-8	4,4'-DDD	0.00056 J	0.0037 U	mg/kg	MC-MW-16	72	3	5%	0.0017	0.0037	0.0037	NV	0.758	N	E
	72-55-9	4,4'-DDE	0.00042 J	0.0082	mg/kg	MC-SS-11	72	24	34%	0.0017	0.0037	0.0082	NV	0.596	N	E
	50-29-3	4,4'-DDT	0.00043 J	0.011	mg/kg	MC-SS-13	72	29	41%	0.0017	0.0037	0.011	NV	0.021	N	E
	309-00-2	Aldrin	0.00085 U	0.0018 U	mg/kg	Multiple Locations	72	0	0%	0.00085	0.0018	0.0018	NV	0.03	N	E
	319-84-6	alpha-Benzenehexachloride	0.00028 J	0.0018 U	mg/kg	MC-MW-16	72	6	9%	0.00085	0.0018	0.0018	NV	0.0994	N	E
	1912-24-9	Atrazine	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	NV	Y	D
	319-85-7	beta-Benzenehexachloride	0.001 U	0.0022 U	mg/kg	Multiple Locations	72	0	0%	0.001	0.0022	0.0022	NV	0.0003	Y	C
	86-74-8	Carbazole	0.024 J	0.41 U	mg/kg	MC-SS-08	72	8	12%	0.035	0.41	0.41	< 0.058	0.07	Y	A
	5103-71-9	cis-Chlordane	0.00024 J	0.0018 U	mg/kg	Multiple Locations	72	4	6%	0.00085	0.0018	0.0018	NV	0.0029	N	E
	319-86-8	delta-Benzenehexachloride	0.00069 J	0.002 U	mg/kg	Multiple Locations	72	1	2%	0.00092	0.002	0.002	NV	9.94	N	E
	60-57-1	Dieldrin	0.00049 J	0.0038 U	mg/kg	MC-SS-13	72	2	3%	0.0017	0.0038	0.0038	NV	0.0049	N	E
	959-98-8	Endosulfan I	0.00034 J	0.0018 U	mg/kg	Multiple Locations	72	4	6%	0.00085	0.0018	0.0018	NV	0.0009	Y	A
	33213-65-9	Endosulfan II	0.0017 U	0.0038 U	mg/kg	MC-SS-13	72	0	0%	0.0017	0.0038	0.0038	NV	0.119	N	E
	1031-07-8	Endosulfan sulfate	0.00068 J	0.0039	mg/kg	MC-MW-13	72	2	3%	0.0017	0.0038	0.0039	NV	0.0007	Y	B
	72-20-8	Endrin	0.00053 J	0.0037 U	mg/kg	MC-MW-16	72	6	9%	0.0017	0.0037	0.0037	NV	0.0014	Y	A
	7421-93-4	Endrin aldehyde	0.00071 J	0.0038 U	mg/kg	MC-SS-13	72	5	7%	0.0018	0.0038	0.0038	NV	0.0105	N	E
	53494-70-5	Endrin ketone	0.0018 U	0.004 U	mg/kg	MC-SS-13	72	0	0%	0.0018	0.004	0.004	NV	0.0101	N	E
	58-89-9	gamma-Benzenehexachloride	0.00074 J	0.0018 U	mg/kg	Multiple Locations	72	2	3%	0.00085	0.0018	0.0018	NV	0.0031	N	E
	76-44-8	Heptachlor	0.00021 J	0.0073 U	mg/kg	MC-SS-09	72	9	13%	0.00085	0.0073	0.0073	NV	0.0016	Y	A
	1024-57-3	Heptachlor epoxide	0.00038 J	0.0018 U	mg/kg	Multiple Locations	72	4	6%	0.00085	0.0018	0.0018	NV	0.00015	Y	A
	72-43-5	Methoxychlor	0.0069 U	0.015 U	mg/kg	Multiple Locations	72	0	0%	0.0069	0.015	0.015	NV	0.0021	Y	C
	8001-35-2	Toxaphene	0.034 U	0.074 U	mg/kg	MC-SS-13	72	0	0%	0.034	0.074	0.074	NV	0.00015	Y	C
	5103-74-2	trans-Chlordane	0.00023 J	0.0018 U	mg/kg	Multiple Locations	72	5	7%	0.00085	0.0018	0.0018	NV	1.3	N	E
	Phenols															
	58-90-2	2,3,4,6-Tetrachlorophenol	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	0.04	Y	C
	95-95-4	2,4,5-Trichlorophenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	4	N	E
	88-06-2	2,4,6-Trichlorophenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	9.94	N	E
	120-83-2	2,4-Dichlorophenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.05	Y	C
	95-57-8	2-Chlorophenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.06	Y	C

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TABLE B1.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (ON-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, On-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	87-86-5	Pentachlorophenol	0.18 UJ	2.1 UJ	mg/kg	MC-SS-08	72	0	0%	0.18	2.1	2.1	NV	2.1	N	E
	Semi-volatiles															
	120-82-1	1,2,4-Trichlorobenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.27	N	E
	95-50-1	1,2-Dichlorobenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.09	Y	C
	541-73-1	1,3-Dichlorobenzene	0.0009 J	0.24 U	mg/kg	MC-MW-13	110	3	3%	0.004	0.24	0.24	NV	0.08	Y	C
	106-46-7	1,4-Dichlorobenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.89	N	E
	105-67-9	2,4-Dimethylphenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	< 0.14	0.04	Y	C
	51-28-5	2,4-Dinitrophenol	1 U	12 U	mg/kg	MC-SS-08	71	0	0%	1	12	12	NV	0.061	Y	C
	121-14-2	2,4-Dinitrotoluene	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	6	N	E
	606-20-2	2,6-Dinitrotoluene	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	4	N	E
	91-58-7	2-Chloronaphthalene	0.034 U	0.4 U	mg/kg	MC-SS-08	72	0	0%	0.034	0.4	0.4	NV	0.0122	Y	C
	95-48-7	2-Methylphenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.1	Y	C
	88-75-5	2-Nitrophenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	1.6	N	E
	91-94-1	3,3'-Dichlorobenzidine	0.35 U	4.1 U	mg/kg	MC-SS-08	72	0	0%	0.35	4.1	4.1	NV	0.03	Y	C
	534-52-1	4,6-Dinitro-2-methylphenol	0.52 U	6.1 U	mg/kg	MC-SS-08	72	0	0%	0.52	6.1	6.1	NV	0.144	Y	C
	101-55-3	4-Bromophenyl-phenylether	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	NV	Y	D
	59-50-7	4-Chloro-3-methylphenol	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	7.95	N	E
	106-47-8	4-Chloroaniline	0.07 U	0.82 U	mg/kg	MC-SS-08	72	0	0%	0.07	0.82	0.82	NV	1	N	E
	7005-72-3	4-Chlorophenyl-phenyl ether	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	NV	Y	D
	106-44-5	4-Methylphenol	0.029 J	0.41 U	mg/kg	MC-SS-08	72	1	2%	0.035	0.41	0.41	NV	0.08	Y	C
	100-02-7	4-Nitrophenol	0.52 U	6.1 U	mg/kg	MC-SS-08	72	0	0%	0.52	6.1	6.1	NV	5.12	Y	C
	98-86-2	Acetophenone	0.035 U	0.52 J	mg/kg	MC-SS-13	72	2	3%	0.035	0.41	0.52	NV	300	N	E
	100-52-7	Benzaldehyde	0.077 J	2 U	mg/kg	MC-SS-08	72	14	20%	0.17	2	2	NV	NV	Y	D
	85-68-7	Benzyl n-butyl phthalate	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	0.59	Y	C
	111-91-1	bis(2-Chloroethoxy)methane	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.302	Y	C
	111-44-4	Bis(2-chloroethyl)ether	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	23.7	N	E
	117-81-7	bis(2-Ethylhexyl)phthalate	0.18 U	1.9 U	mg/kg	MC-SS-13	72	1	2%	0.18	1.9	1.9	NV	0.02	Y	C
	105-60-2	Caprolactam	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	NV	Y	D
	84-66-2	Diethyl phthalate	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	0.25	Y	C
	131-11-3	Dimethyl phthalate	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	10	N	E
	84-74-2	Di-n-butyl phthalate	0.17 U	2.2 J	mg/kg	MC-SS-13	72	1	2%	0.17	2	2.2	NV	0.011	Y	B
	117-84-0	Di-n-octylphthalate	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	0.91	Y	C
	118-74-1	Hexachlorobenzene	0.018 U	0.21 U	mg/kg	MC-SS-08	72	0	0%	0.018	0.21	0.21	NV	0.079	Y	C
	87-68-3	Hexachlorobutadiene	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.009	Y	C
	77-47-4	Hexachlorocyclopentadiene	0.52 U	6.1 UJ	mg/kg	MC-SS-08	71	0	0%	0.52	6.1	6.1	NV	0.001	Y	C
	67-72-1	Hexachloroethane	0.17 U	2 U	mg/kg	MC-SS-08	72	0	0%	0.17	2	2	NV	0.024	Y	C
	78-59-1	Isophorone	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	139	N	E
	98-95-3	Nitrobenzene	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	2.2	N	E
	621-64-7	N-Nitrosodi-n-propylamine	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.544	N	E
	86-30-6	N-Nitrosodiphenylamine	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.545	N	E
	108-95-2	Phenol	0.023 J	0.41 U	mg/kg	MC-SS-08	72	1	2%	0.035	0.41	0.41	< 0.11	0.79	N	E
	Volatiles															
	71-55-6	1,1,1-Trichloroethane	0.001 J	0.24 U	mg/kg	MC-MW-13	110	1	1%	0.004	0.24	0.24	NV	0.04	Y	C
	79-34-5	1,1,2,2-Tetrachloroethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.127	Y	C
	79-00-5	1,1,2-Trichloroethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.32	N	E
	75-34-3	1,1-Dichloroethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	1	1%	0.004	0.24	0.24	NV	0.14	Y	C
	75-35-4	1,1-Dichloroethene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.04	Y	C
	87-61-6	1,2,3-Trichlorobenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	20	N	E
	95-94-3	1,2,4,5-Tetrachlorobenzene	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	0.18	Y	C
	96-12-8	1,2-Dibromo-3-chloropropane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.0352	Y	C
	106-93-4	1,2-Dibromoethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	1.23	N	E
	107-06-2	1,2-Dichloroethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.4	N	E
	78-87-5	1,2-Dichloropropane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.28	N	E
	123-91-1	1,4-Dioxane	0.35 U	4.1 U	mg/kg	MC-SS-08	72	0	0%	0.35	4.1	4.1	NV	2.05	Y	C

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TABLE B1.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (ON-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, On-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	78-93-3	2-Butanone	0.003 J	0.49 U	mg/kg	MC-MW-13	110	2	2%	0.008	0.49	0.49	NV	1	N	E
	591-78-6	2-Hexanone	0.008 UJ	0.49 U	mg/kg	MC-MW-13	110	0	0%	0.008	0.49	0.49	NV	0.36	Y	C
	108-10-1	4-Methyl-2-pentanone	0.008 UJ	0.49 U	mg/kg	MC-MW-13	110	0	0%	0.008	0.49	0.49	NV	443	N	E
	67-64-1	Acetone	0.007 J	0.97 U	mg/kg	MC-MW-13	110	38	35%	0.015	0.97	0.97	NV	0.04	Y	A
	71-43-2	Benzene	0.0006 J	0.24 U	mg/kg	MC-MW-13	110	5	5%	0.004	0.24	0.24	NV	0.12	Y	A
	39638-32-9	Bis(2-chloroisopropyl) ether	0.035 U	0.41 U	mg/kg	MC-SS-08	72	0	0%	0.035	0.41	0.41	NV	NV	Y	D
	74-97-5	Bromochloromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	75-27-4	Bromodichloromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.54	N	E
	75-25-2	Bromoform	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.07	Y	C
	74-83-9	Bromomethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.002	Y	C
	75-15-0	Carbon disulfide	0.001 J	0.24 U	mg/kg	MC-MW-13	110	6	6%	0.004	0.24	0.24	NV	0.005	Y	A
	56-23-5	Carbon Tetrachloride	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.05	Y	C
	108-90-7	Chlorobenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	2.4	N	E
	75-00-3	Chloroethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	67-66-3	Chloroform	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.05	Y	C
	74-87-3	Chloromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	10.4	N	E
	156-59-2	cis-1,2-Dichloroethene	0.001 J	0.24 U	mg/kg	MC-MW-13	110	1	1%	0.004	0.24	0.24	NV	0.04	Y	C
	10061-01-5	cis-1,3-Dichloropropene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	110-82-7	Cyclohexane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	124-48-1	Dibromochloromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	2.05	N	E
	75-71-8	Dichlorodifluoromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	39.5	N	E
	100-41-4	Ethylbenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	1	1%	0.004	0.24	0.24	< 0.001	0.27	N	E
	98-82-8	Isopropylbenzene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	3	3%	0.004	0.24	0.24	NV	0.04	Y	C
	179601-23-1	m,p-Xylene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	0.0036	NV	Y	D
	79-20-9	Methyl acetate	0.004 UJ	0.25	mg/kg	MC-MW-13	110	3	3%	0.004	0.017	0.25	NV	NV	Y	D
	1634-04-4	Methyl tert-butyl ether	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	108-87-2	Methylcyclohexane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	75-09-2	Methylene Chloride	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.21	Y	C
	95-47-6	o-Xylene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	100-42-5	Styrene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	1.2	N	E
	127-18-4	Tetrachloroethene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.06	Y	C
	108-88-3	Toluene	0.001 J	0.24 U	mg/kg	MC-MW-13	110	2	2%	0.004	0.24	0.24	NV	0.15	Y	C
	156-60-5	trans-1,2-Dichloroethene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.04	Y	C
	10061-02-6	trans-1,3-Dichloropropene	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	NV	Y	D
	79-01-6	Trichloroethene	0.0009 J	0.24 U	mg/kg	MC-MW-13	110	7	7%	0.004	0.24	0.24	NV	0.06	Y	A
	75-69-4	Trichlorofluoromethane	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	16.4	N	E
	76-13-1	Trichlorotrifluoroethane	0.008 UJ	0.49 U	mg/kg	MC-MW-13	110	0	0%	0.008	0.49	0.49	NV	NV	Y	D
	75-01-4	Vinyl Chloride	0.004 UJ	0.24 U	mg/kg	MC-MW-13	110	0	0%	0.004	0.24	0.24	NV	0.03	Y	C

-- = analyte was not included in target analyte list
FOD = frequency of detect
mg/kg = miligram per kilogram
ND = non detect
NV = no screening value available
RSBC = rural soil background concentration
SL = screening level
SQL = sample quantitation limit
LMW = Low Molecular Weight
HMW = High Molecular Weight
DetLim = detection limit

Footnotes

(1) Data qualifiers include: J (estimated value between method detection limit and method reporting limit), U (not detected above the method detection limit), and UJ (estimated and value is equal to the method detection limit).

(2) Shaded box indicates frequency of detection is less than 5%.

(3) Total PCBs is based on the sum of Aroclors. For samples with all non-detects, the maximum method detection limit is used. The minimum and maximum of those results is provided here.

(4) The maximum concentration (detect or non-detect) is used to compare with screening levels to establish a preliminary COPEC list for the baseline risk assessment.

(5) Background threshold value for soil is from NYSDEC & NYSDOH (2006) rural soils survey of New York state. NYSDEC & NYSDOH refer to this value as a Rural Soil Background Concentration (RSBC).

(6) The sources for all risk-based screening levels are further described in Table B2.1.

(7) Final determination for inclusion on the COPEC list is one of the following: A) retain: max detect > SL, and FOD≥ 5%, and max detect > RSBC; B) retain: max detect > SL; note that FOD < 5% or max detect ≤ RSBC; C) retain: max ND > SL; D) retain: no screening level or not analyzed; E) delete: max (detect or ND) ≤ SL.

(8) USEPA SSL for Aluminum (USEPA, 2003a) states that there is no screening level because available toxicity tests are based on laboratory toxicity studies using soluble (rather than total) aluminum. Instead, USEPA recommends that aluminum be identified as a COPEC only for those soils with a pH less than 5.5. Soil pH within the McCaffrey project area is 7.6 on average and ranges from 5.2 to 10.9 based on n=134 samples; 5 of 134 (3.7%) are less than pH of 5.5.

(9) Total LMW PAHs are the respective minimum and maximum concentrations of PAHs with less than 4 rings, Total HMW PAHs are the respective minimum and maximum concentrations of PAHs with 4 or more rings.

References

NYSDEC and NYSDOH. (2006). *New York State Brownfield Cleanup Program. Development of Soil Cleanup Objectives. Technical Support Document.* New York State Department of Environmental Conservation and New York State Department of Health.

USEPA. (2003a). *Ecological Soil Screening Level for Aluminum, Interim Final.* OSWER Directive 9285.7-60. U.S. Environmental Protection Agency.

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TABLE B1.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (OFF-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, Off-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
Soil	**PFAS**															
McCaffrey St. Project Area Off-Site	375-22-4	Heptafluorobutanoic acid	0.002 U	0.003 U	mg/kg	Multiple Locations	18	0	0%	0.002	0.003	0.003	NV	NV	Y	D
	2991-50-6	N-ethylperfluorooctane sulfonamidoacetic acid	0.002 U	0.003 U	mg/kg	Multiple Locations	18	0	0%	0.002	0.003	0.003	NV	NV	Y	D
	2355-31-9	N-methylperfluorooctane sulfonamidoacetic acid	0.002 U	0.003 U	mg/kg	Multiple Locations	17	0	0%	0.002	0.003	0.003	NV	NV	Y	D
	375-73-5	Perfluorobutanesulfonic acid	0.00049 U	0.003 U	mg/kg	MC-MW-20	195	1	1%	0.00049	0.003	0.003	NV	NV	Y	D
	335-77-3	Perfluorodecane sulfonic acid	0.00099 U	0.0015 U	mg/kg	Multiple Locations	18	0	0%	0.00099	0.0015	0.0015	NV	NV	Y	D
	335-76-2	Perfluorodecanoic acid	0.00024 J	0.0016	mg/kg	MC-PZ-07	195	37	19%	0.00041	0.0011	0.0016	NV	NV	Y	D
	307-55-1	Perfluorododecanoic acid	0.00023 J	0.0029	mg/kg	MC-SED-05	195	14	8%	0.00049	0.0015	0.0029	NV	NV	Y	D
	375-92-8	Perfluoroheptane sulfonate	0.0006 U	0.00091 U	mg/kg	MC-MW-42	18	0	0%	0.0006	0.00091	0.00091	NV	NV	Y	D
	375-85-9	Perfluoroheptanoic acid	0.00027 J	0.002	mg/kg	MC-PZ-03	195	12	7%	0.00049	0.0011	0.002	NV	NV	Y	D
	355-46-4	Perfluorohexane sulfonic acid	0.00049 U	0.003 U	mg/kg	MC-MW-20	195	0	0%	0.00049	0.003	0.003	NV	NV	Y	D
	307-24-4	Perfluorohexanoic acid	0.00012 J	0.0014	mg/kg	MC-MW-21	195	53	28%	0.00033	0.0011	0.0014	NV	NV	Y	D
	375-95-1	Perfluorononanoic acid	0.000086 J	0.0011 U	mg/kg	MC-PZ-03	195	44	23%	0.00033	0.0011	0.0011	NV	NV	Y	D
	754-91-6	Perfluorooctane sulfonamide	0.0006 U	0.00091 U	mg/kg	MC-MW-42	18	0	0%	0.0006	0.00091	0.00091	NV	NV	Y	D
	1763-23-1	Perfluorooctanesulfonic acid	0.00032 J	0.003 U	mg/kg	MC-MW-20	195	61	32%	0.00074	0.003	0.003	NV	0.013	N	E
	335-67-1	Perfluorooctanoic acid	0.00019 J	0.12	mg/kg	MC-GP-20	195	180	93%	0.00054	0.00068	0.12	NV	0.084	Y	A
	2706-90-3	Perfluoropentanoic acid	0.00054 J	0.00091 U	mg/kg	MC-MW-42	18	1	6%	0.0006	0.00091	0.00091	NV	NV	Y	D
	376-06-7	Perfluorotetradecanoic acid	0.00019 J	0.0016	mg/kg	MC-SED-05	195	4	3%	0.00049	0.0015	0.0016	NV	NV	Y	D
	72629-94-8	Perfluorotridecanoic acid	0.00019 J	0.0023 U	mg/kg	MC-MW-20	195	5	3%	0.00049	0.0023	0.0023	NV	NV	Y	D
	2058-94-8	Perfluoroundecanoic acid	0.00025 J	0.0012	mg/kg	MC-PZ-07	195	17	9%	0.00049	0.00097	0.0012	NV	NV	Y	D
	39108-34-4	Sodium 1H,1H,2H,2H-perfluordecane sulfonate (8:2)	0.002 U	0.003 U	mg/kg	Multiple Locations	18	0	0%	0.002	0.003	0.003	NV	NV	Y	D
	27619-97-2	Sodium 1h,1h,2h,2h-perfluorooctane sulfonate (6:2)	0.0017 J	0.003 U	mg/kg	Multiple Locations	18	1	6%	0.002	0.003	0.003	NV	NV	Y	D
	Metals															
	7429-90-5	Aluminum	2300	28200	mg/kg	MC-SB-02	166	166	100%	NV	NV	28200	21400	soil pH < 5.5	Y	A
	7440-36-0	Antimony	0.0849 J	2.59	mg/kg	MC-SB-01	166	140	85%	0.301	0.56	2.59	3.3	0.27	Y	B
	7440-38-2	Arsenic	0.222 J	34.7 J	mg/kg	MC-SB-02	166	166	100%	NV	NV	34.7	16.7	18	Y	A
	7440-39-3	Barium	16.7	351	mg/kg	MC-MW-25	166	166	100%	NV	NV	351	254	330	Y	A
	7440-41-7	Beryllium	0.0215 J	1.26 J	mg/kg	MC-MW-32	166	166	100%	NV	NV	1.26	1.3	21	N	E
	7440-43-9	Cadmium	0.0444 J	5.52 J	mg/kg	MC-SB-01	166	164	99%	0.167	0.189	5.52	2.8	0.36	Y	A
	7440-70-2	Calcium	316 J	191000	mg/kg	MC-MW-36	166	166	100%	NV	NV	191000	14800	NV	Y	D
	7440-47-3	Chromium	1.48 J	83.6	mg/kg	MC-SS-15	166	166	100%	NV	NV	83.6	24.3	23	Y	A
	7440-48-4	Cobalt	0.2 J	27.1 J	mg/kg	MC-MW-07	166	166	100%	NV	NV	27.1	13.4	13	Y	A
	7440-50-8	Copper	5.24 J	268 J	mg/kg	MC-SB-01	166	166	100%	NV	NV	268	53	28	Y	A
	7439-89-6	Iron	7040	90900	mg/kg	MC-SB-01	166	166	100%	NV	NV	90900	29500	NV	Y	D
	7439-92-1	Lead	3.55 J	3290 J	mg/kg	MC-SB-01	166	166	100%	NV	NV	3290	77	11	Y	A
	7439-95-4	Magnesium	1940	51500	mg/kg	MC-MW-32	166	166	100%	NV	NV	51500	7930	NV	Y	D
	7439-96-5	Manganese	124	7770	mg/kg	MC-MW-25	166	166	100%	NV	NV	7770	1940	220	Y	A
	7439-97-6	Mercury	0.0129 J	0.746	mg/kg	MC-SS-15	166	130	79%	0.0954	0.152	0.746	0.28	0.013	Y	A
	7440-02-0	Nickel	1.24 J	52.6 J	mg/kg	MC-MW-07	166	166	100%	NV	NV	52.6	37	38	Y	A
	7440-09-7	Potassium	439	5020 J	mg/kg	MC-MW-32	166	166	100%	NV	NV	5020	2230	NV	Y	D
	7782-49-2	Selenium	0.0819 J	1.55	mg/kg	MC-SB-01	166	136	82%	0.317	0.966	1.55	4.4	0.52	Y	B
	7440-22-4	Silver	0.0245 J	0.926	mg/kg	MC-SS-16	166	135	82%	0.0876	0.28	0.926	1	4.2	N	E
	7440-23-5	Sodium	21.3 J	1280	mg/kg	MC-MW-37	166	160	97%	202	229	1280	282	NV	Y	D
	7440-28-0	Thallium	0.0239 J	0.262	mg/kg	MC-SB-02	166	165	100%	0.182	0.182	0.262	NV	0.05	Y	A
	7440-62-2	Vanadium	0.251 J	46.5 J	mg/kg	MC-MW-07	166	166	100%	NV	NV	46.5	39	7.8	Y	A
	7440-66-6	Zinc	22.7	1720	mg/kg	MC-SB-01	166	166	100%	NV	NV	1720	157	46	Y	A
	PAHs (9)															
	92-52-4	1,1'-Biphenyl	0.022 J	0.9	mg/kg	MC-MW-07	166	4	3%	0.033	0.87	0.9	NV	0.2	Y	B
	91-57-6	2-Methylnaphthalene	0.004 J	2	mg/kg	MC-MW-07	166	79	48%	0.017	0.44	2	NV	0.11	Y	A
	88-74-4	2-Nitroaniline	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.02	Y	C
	99-09-2	3-Nitroaniline	0.12 J	4.3 U	mg/kg	MC-MW-27	166	2	2%	0.17	4.3	4.3	NV	NV	Y	D
	100-01-6	4-Nitroaniline	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	NV	Y	D
	83-32-9	Acenaphthene	0.004 J	1.7	mg/kg	MC-PZ-06	166	36	22%	0.017	0.44	1.7	< 0.058	0.25	Y	A
	208-96-8	Acenaphthylene	0.004 J	5.8	mg/kg	MC-MW-20	164	93	57%	0.017	0.44	5.8	< 0.079	0.34	Y	A
	120-12-7	Anthracene	0.004 J	4.7	mg/kg	MC-MW-20	166	81	49%	0.017	0.44	4.7	< 0.063	0.0015	Y	A
	56-55-3	Benzo[a]anthracene	0.004 J	18	mg/kg	MC-MW-20	166	110	67%	0.017	0.44	18	0.15	0.73	Y	A

GSI ENVIRONMENTAL

TABLE B1.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (OFF-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, Off-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	50-32-8	Benzo[a]pyrene	0.004 J	11	mg/kg	MC-MW-20	166	114	69%	0.017	0.44	11	0.11	0.13	Y	A
	205-99-2	Benzo[b]fluoranthene	0.004 J	24	mg/kg	MC-MW-20	166	115	70%	0.017	0.024	24	0.15	2.7	Y	A
	191-24-2	Benzo[g,h,i]perylene	0.005 J	6.1	mg/kg	MC-MW-20	166	108	66%	0.017	0.024	6.1	< 0.12	0.07	Y	A
	207-08-9	Benzo[k]fluoranthene	0.004 J	8.7	mg/kg	MC-MW-20	166	101	61%	0.017	0.44	8.7	< 0.09	0.13	Y	A
	218-01-9	Chrysene	0.004 J	19	mg/kg	MC-MW-20	166	117	71%	0.017	0.024	19	0.19	3.1	Y	A
	53-70-3	Dibenzo[a,h]anthracene	0.004 J	2.7	mg/kg	MC-MW-20	166	72	44%	0.017	0.44	2.7	NV	0.06	Y	A
	132-64-9	Dibenzofuran	0.025 J	1.4	mg/kg	MC-PZ-06	166	8	5%	0.033	0.87	1.4	NV	0.15	Y	A
	206-44-0	Fluoranthene	0.004 J	41	mg/kg	MC-MW-20	166	116	70%	0.017	0.44	41	0.33	10	Y	A
	86-73-7	Fluorene	0.004 J	2	mg/kg	MC-PZ-06	166	47	29%	0.017	0.44	2	< 0.075	3.7	N	E
	193-39-5	Indeno[1,2,3-cd]pyrene	0.004 J	6.9	mg/kg	MC-MW-20	166	102	62%	0.017	0.44	6.9	0.075	0.08	Y	A
	91-20-3	Naphthalene	0.004 J	1.1	mg/kg	Multiple Locations	166	89	54%	0.017	0.44	1.1	0.018	0.16	Y	A
	85-01-8	Phenanthrene	0.004 J	17	mg/kg	MC-PZ-06	166	113	69%	0.017	0.44	17	0.24	5.5	Y	A
	129-00-0	Pyrene	0.004 J	36	mg/kg	MC-MW-20	166	124	75%	0.017	0.024	36	0.32	10	Y	A
		Total LMW PAHs (ND=0)	0.004 J	41	--	--	--	--	--	0	0	41	NV	29	Y	A
		Total LMW PAHs (ND=DetLim/2)	0.004 J	41	--	--	--	--	--	0.0085	2.15	41	NV	29	Y	A
		Total HMW PAHs (ND=0)	0.004 J	24	--	--	--	--	--	0	0	24	NV	1.1	Y	A
		Total HMW PAHs (ND= DetLim/2)	0.004 J	36	--	--	--	--	--	0.017	0.87	36	NV	1.1	Y	A
		Total PAHs (ND=0)	0.004 J	41	--	--	--	--	--	0	0	41	NV	NV	Y	D
		Total PAHs (DetLim/2)	0.004J	41	--	--	--	--	--	0.0085	2.15	41	NV	NV	Y	D
	PCBs															
	12674-11-2	Aroclor 1016	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	0	0%	0.017	0.028	0.028	NV	NV	Y	D
	11104-28-2	Aroclor 1221	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	0	0%	0.017	0.028	0.028	NV	NV	Y	D
	11141-16-5	Aroclor 1232	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	0	0%	0.017	0.028	0.028	NV	NV	Y	D
	53469-21-9	Aroclor 1242	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	1	1%	0.017	0.028	0.028	NV	NV	Y	D
	12672-29-6	Aroclor 1248	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	0	0%	0.017	0.028	0.028	NV	NV	Y	D
	11097-69-1	Aroclor 1254	0.0087 J	0.028 U	mg/kg	MC-PZ-03	166	8	5%	0.017	0.028	0.028	NV	NV	Y	D
	11096-82-5	Aroclor 1260	0.0094 J	0.055	mg/kg	MC-MW-10	166	14	9%	0.017	0.028	0.055	< 0.014	NV	Y	D
	37324-23-5	Aroclor 1262	0.017 UJ	0.028 U	mg/kg	MC-PZ-03	166	0	0%	0.017	0.028	0.028	NV	NV	Y	D
	11100-14-4	Aroclor 1268	0.0082 J	0.028 U	mg/kg	MC-PZ-03	166	2	2%	0.017	0.028	0.028	NV	NV	Y	D
	1336-36-3	Total PCB Aroclors (3)	0.0085 J	0.055	mg/kg	MC-MW-10	166	23	14%	NV	NV	0.055	NV	0.041	Y	A
	Pesticides															
	72-54-8	4,4'-DDD	0.00039 J	0.019 U	mg/kg	MC-MW-40	166	14	9%	0.0017	0.019	0.019	NV	0.758	N	E
	72-55-9	4,4'-DDE	0.00035 J	0.019 U	mg/kg	MC-MW-40	166	43	26%	0.0017	0.019	0.019	NV	0.596	N	E
	50-29-3	4,4'-DDT	0.00044 J	0.06	mg/kg	MC-MW-24	166	60	37%	0.0017	0.019	0.06	NV	0.021	Y	A
	309-00-2	Aldrin	0.00028 J	0.0087 U	mg/kg	MC-MW-27	166	6	4%	0.00084	0.0087	0.0087	NV	0.03	N	E
	319-84-6	alpha-Benzenehexachloride	0.00024 J	0.0094 U	mg/kg	MC-MW-40	166	14	9%	0.00084	0.0094	0.0094	NV	0.0994	N	E
	1912-24-9	Atrazine	0.17 U	5.1 U	mg/kg	MC-MW-40	166	0	0%	0.17	5.1	5.1	NV	NV	Y	D
	319-85-7	beta-Benzenehexachloride	0.001 U	0.011 U	mg/kg	MC-MW-40	165	7	5%	0.001	0.011	0.011	NV	0.0003	Y	A
	86-74-8	Carbazole	0.021 J	2.1	mg/kg	MC-PZ-06	166	19	12%	0.033	0.87	2.1	< 0.058	0.07	Y	A
	5103-71-9	cis-Chlordane	0.00023 J	0.0094 U	mg/kg	MC-MW-40	166	16	10%	0.00084	0.0094	0.0094	NV	0.0029	Y	A
	319-86-8	delta-Benzenehexachloride	0.00063 J	0.011 U	mg/kg	MC-MW-40	164	5	4%	0.00091	0.011	0.011	NV	9.94	N	E
	60-57-1	Dieldrin	0.00037 J	0.019 U	mg/kg	MC-MW-40	166	8	5%	0.0017	0.019	0.019	NV	0.0049	Y	A
	959-98-8	Endosulfan I	0.00033 J	0.0094 U	mg/kg	MC-MW-40	165	3	2%	0.00084	0.0094	0.0094	NV	0.0009	Y	C
	33213-65-9	Endosulfan II	0.00056 J	0.026 U	mg/kg	MC-MW-40	166	2	2%	0.0017	0.026	0.026	NV	0.119	N	E
	1031-07-8	Endosulfan sulfate	0.00039 J	0.021 U	mg/kg	MC-MW-20	166	9	6%	0.0017	0.021	0.021	NV	0.0007	Y	A
	72-20-8	Endrin	0.00043 J	0.019 U	mg/kg	MC-MW-40	166	9	6%	0.0017	0.019	0.019	NV	0.0014	Y	A
	7421-93-4	Endrin aldehyde	0.0006 J	0.019 U	mg/kg	MC-MW-40	165	6	4%	0.0017	0.019	0.019	NV	0.0105	Y	C
	53494-70-5	Endrin ketone	0.0018 U	0.023 U	mg/kg	MC-MW-40	165	0	0%	0.0018	0.023	0.023	NV	0.0101	Y	C
	58-89-9	gamma-Benzenehexachloride	0.00022 J	0.0094 U	mg/kg	MC-MW-40	166	13	8%	0.00084	0.0094	0.0094	NV	0.0031	Y	A
	76-44-8	Heptachlor	0.00024 J	0.022 U	mg/kg	MC-PZ-05	166	30	19%	0.00084	0.022	0.022	NV	0.0016	Y	A
	1024-57-3	Heptachlor epoxide	0.00022 J	0.0087 U	mg/kg	MC-MW-27	166	9	6%	0.00084	0.0087	0.0087	NV	0.00015	Y	A
	72-43-5	Methoxychlor	0.0022 J	0.076 U	mg/kg	MC-MW-40	166	1	1%	0.0068	0.076	0.076	NV	0.0021	Y	C
	8001-35-2	Toxaphene	0.033 U	0.37 U	mg/kg	MC-MW-40	166	0	0%	0.033	0.37	0.37	NV	0.00015	Y	C
	5103-74-2	trans-Chlordane	0.00036 J	0.0094 U	mg/kg	MC-MW-40	164	7	5%	0.00084	0.0094	0.0094	NV	1.3	N	E
	Phenols															
	58-90-2	2,3,4,6-Tetrachlorophenol	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	0.04	Y	C
	95-95-4	2,4,5-Trichlorophenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	4	N	E
	88-06-2	2,4,6-Trichlorophenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	9.94	N	E
	120-83-2	2,4-Dichlorophenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.05	Y	C
	95-57-8	2-Chlorophenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.06	Y	C

GSI ENVIRONMENTAL

TABLE B1.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (OFF-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, Off-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	87-86-5	Pentachlorophenol	0.17 U	4.4 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.4	4.4	NV	2.1	Y	C
	Semi-volatiles															
	120-82-1	1,2,4-Trichlorobenzene	0.004 UJ	0.47 U	mg/kg	MC-MW-39	187	0	0%	0.004	0.47	0.47	NV	0.27	Y	C
	95-50-1	1,2-Dichlorobenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	187	0	0%	0.004	0.35	0.35	NV	0.09	Y	C
	541-73-1	1,3-Dichlorobenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	187	0	0%	0.004	0.35	0.35	NV	0.08	Y	C
	106-46-7	1,4-Dichlorobenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	187	0	0%	0.004	0.35	0.35	NV	0.89	N	E
	105-67-9	2,4-Dimethylphenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	1	1%	0.033	0.87	0.87	< 0.14	0.04	Y	C
	51-28-5	2,4-Dinitrophenol	1 U	26 U	mg/kg	MC-MW-27	166	0	0%	1	26	26	NV	0.061	Y	C
	121-14-2	2,4-Dinitrotoluene	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	6	N	E
	606-20-2	2,6-Dinitrotoluene	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	4	N	E
	91-58-7	2-Chloronaphthalene	0.033 U	0.86 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.86	0.86	NV	0.0122	Y	C
	95-48-7	2-Methylphenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	1	1%	0.033	0.87	0.87	NV	0.1	Y	C
	88-75-5	2-Nitrophenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	1.6	N	E
	91-94-1	3,3'-Dichlorobenzidine	0.33 U	8.7 U	mg/kg	MC-MW-27	164	0	0%	0.33	8.7	8.7	NV	0.03	Y	C
	534-52-1	4,6-Dinitro-2-methylphenol	0.5 U	13 U	mg/kg	MC-MW-27	166	0	0%	0.5	13	13	NV	0.144	Y	C
	101-55-3	4-Bromophenyl-phenylether	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	NV	Y	D
	59-50-7	4-Chloro-3-methylphenol	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	7.95	N	E
	106-47-8	4-Chloroaniline	0.067 U	1.9 U	mg/kg	Multiple Locations	166	0	0%	0.067	1.9	1.9	NV	1	Y	C
	7005-72-3	4-Chlorophenyl-phenyl ether	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	NV	Y	D
	106-44-5	4-Methylphenol	0.028 J	0.87 U	mg/kg	MC-MW-27	166	3	2%	0.033	0.87	0.87	NV	0.08	Y	C
	100-02-7	4-Nitrophenol	0.5 U	13 U	mg/kg	MC-MW-27	166	0	0%	0.5	13	13	NV	5.12	Y	C
	98-86-2	Acetophenone	0.024 J	0.87 U	mg/kg	MC-MW-27	166	6	4%	0.033	0.87	0.87	NV	300	N	E
	100-52-7	Benzaldehyde	0.091 J	18 J	mg/kg	MC-MW-20	166	20	13%	0.17	4.3	18	NV	NV	Y	D
	85-68-7	Benzyl n-butyl phthalate	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	0.59	Y	C
	111-91-1	bis(2-Chloroethoxy)methane	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.302	Y	C
	111-44-4	Bis(2-chloroethyl)ether	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	23.7	N	E
	117-81-7	bis(2-Ethylhexyl)phthalate	0.13 J	5.1	mg/kg	MC-MW-20	166	4	3%	0.17	4.4	5.1	NV	0.02	Y	B
	105-60-2	Caprolactam	0.083 J	4.3 U	mg/kg	MC-MW-27	166	1	1%	0.17	4.3	4.3	NV	NV	Y	D
	84-66-2	Diethyl phthalate	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	0.25	Y	C
	131-11-3	Dimethyl phthalate	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	10	N	E
	84-74-2	Di-n-butyl phthalate	0.17 U	4.3 U	mg/kg	MC-MW-27	166	1	1%	0.17	4.3	4.3	NV	0.011	Y	C
	117-84-0	Di-n-octylphthalate	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	0.91	Y	C
	118-74-1	Hexachlorobenzene	0.008 J	0.44 U	mg/kg	MC-MW-27	166	1	1%	0.017	0.44	0.44	NV	0.079	Y	C
	87-68-3	Hexachlorobutadiene	0.033 U	0.9 U	mg/kg	MC-MW-40	166	0	0%	0.033	0.9	0.9	NV	0.009	Y	C
	77-47-4	Hexachlorocyclopentadiene	0.5 U	13 U	mg/kg	MC-MW-27	162	0	0%	0.5	13	13	NV	0.001	Y	C
	67-72-1	Hexachloroethane	0.17 U	4.3 U	mg/kg	MC-MW-27	166	0	0%	0.17	4.3	4.3	NV	0.024	Y	C
	78-59-1	Isophorone	0.027 J	0.87 U	mg/kg	MC-MW-27	166	1	1%	0.033	0.87	0.87	NV	139	N	E
	98-95-3	Nitrobenzene	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	2.2	N	E
	621-64-7	N-Nitrosodi-n-propylamine	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.544	Y	C
	86-30-6	N-Nitrosodiphenylamine	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.545	Y	C
	108-95-2	Phenol	0.021 J	0.87 U	mg/kg	MC-MW-27	166	7	5%	0.033	0.87	0.87	< 0.11	0.79	Y	A
	Volatiles															
	71-55-6	1,1,1-Trichloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.04	Y	C
	79-34-5	1,1,2,2-Tetrachloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	187	0	0%	0.004	0.35	0.35	NV	0.127	Y	C
	79-00-5	1,1,2-Trichloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.32	Y	C
	75-34-3	1,1-Dichloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.14	Y	C
	75-35-4	1,1-Dichloroethene	0.004 UJ	0.35 UJ	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.04	Y	C
	87-61-6	1,2,3-Trichlorobenzene	0.004 UJ	0.47 U	mg/kg	MC-MW-39	187	0	0%	0.004	0.47	0.47	NV	20	N	E
	95-94-3	1,2,4,5-Tetrachlorobenzene	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	0.18	Y	C
	96-12-8	1,2-Dibromo-3-chloropropane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	187	0	0%	0.004	0.35	0.35	NV	0.0352	Y	C
	106-93-4	1,2-Dibromoethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	1.23	N	E
	107-06-2	1,2-Dichloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.4	N	E
	78-87-5	1,2-Dichloropropane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.28	Y	C
	123-91-1	1,4-Dioxane	0.33 U	8.7 U	mg/kg	MC-MW-27	166	0	0%	0.33	8.7	8.7	NV	2.05	Y	C
	78-93-3	2-Butanone	0.007 U	0.7 U	mg/kg	MC-SS-16	188	5	3%	0.007	0.7	0.7	NV	1	N	E
	591-78-6	2-Hexanone	0.007 U	0.7 U	mg/kg	MC-SS-16	188	0	0%	0.007	0.7	0.7	NV	0.36	Y	C
	108-10-1	4-Methyl-2-pentanone	0.007 U	0.7 U	mg/kg	MC-SS-16	188	0	0%	0.007	0.7	0.7	NV	443	N	E
	67-64-1	Acetone	0.006 J	1.4 U	mg/kg	MC-SS-16	188	37	20%	0.015	1.4	1.4	NV	0.04	Y	A
	71-43-2	Benzene	0.004 UJ	0.55	mg/kg	MC-GP-18	188	1	1%	0.004	0.35	0.55	NV	0.12	Y	B
	39638-32-9	Bis(2-chloroisopropyl) ether	0.033 U	0.87 U	mg/kg	MC-MW-27	166	0	0%	0.033	0.87	0.87	NV	NV	Y	D

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TABLE B1.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL (OFF-SITE)
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Soil
Exposure Medium: Soil, Off-Site, Upper Depth < 10 ft bgs

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (RSBC) (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	74-97-5	Bromochloromethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	75-27-4	Bromodichloromethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.54	N	E
	75-25-2	Bromoform	0.004 UJ	0.47 U	mg/kg	MC-MW-39	188	0	0%	0.004	0.47	0.47	NV	0.07	Y	C
	74-83-9	Bromomethane	0.004 UJ	0.35 UJ	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.002	Y	C
	75-15-0	Carbon disulfide	0.002 J	0.35 UJ	mg/kg	MC-SS-16	188	2	2%	0.004	0.35	0.35	NV	0.005	Y	C
	56-23-5	Carbon Tetrachloride	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.05	Y	C
	108-90-7	Chlorobenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	2.4	N	E
	75-00-3	Chloroethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	67-66-3	Chloroform	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.05	Y	C
	74-87-3	Chloromethane	0.004 UJ	0.35 UJ	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	10.4	N	E
	156-59-2	cis-1,2-Dichloroethene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.04	Y	C
	10061-01-5	cis-1,3-Dichloropropene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	110-82-7	Cyclohexane	0.004 UJ	0.35 UJ	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	124-48-1	Dibromochloromethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	2.05	N	E
	75-71-8	Dichlorodifluoromethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	39.5	N	E
	100-41-4	Ethylbenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	< 0.001	0.27	Y	C
	98-82-8	Isopropylbenzene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	1	1%	0.004	0.35	0.35	NV	0.04	Y	C
	179601-23-1	m,p-Xylene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	1	1%	0.004	0.35	0.35	0.0036	NV	Y	D
	79-20-9	Methyl acetate	0.002 J	3.4 J	mg/kg	MC-SS-16	188	8	5%	0.004	0.24	3.4	NV	NV	Y	D
	1634-04-4	Methyl tert-butyl ether	0.0007 J	0.35 U	mg/kg	MC-SS-16	188	1	1%	0.004	0.35	0.35	NV	NV	Y	D
	108-87-2	Methylcyclohexane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	75-09-2	Methylene Chloride	0.003 J	0.35 U	mg/kg	MC-SS-16	188	2	2%	0.004	0.35	0.35	NV	0.21	Y	C
	95-47-6	o-Xylene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	100-42-5	Styrene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	1.2	N	E
	127-18-4	Tetrachloroethene	0.001 J	0.35 U	mg/kg	MC-SS-16	188	1	1%	0.004	0.35	0.35	NV	0.06	Y	C
	108-88-3	Toluene	0.0009 J	1.4	mg/kg	MC-GP-18	188	2	2%	0.004	0.35	1.4	NV	0.15	Y	B
	156-60-5	trans-1,2-Dichloroethene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.04	Y	C
	10061-02-6	trans-1,3-Dichloropropene	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	NV	Y	D
	79-01-6	Trichloroethene	0.0009 J	0.35 U	mg/kg	MC-SS-16	188	5	3%	0.004	0.35	0.35	NV	0.06	Y	C
	75-69-4	Trichlorofluoromethane	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	16.4	N	E
	76-13-1	Trichlorotrifluoroethane	0.007 U	0.7 U	mg/kg	MC-SS-16	188	0	0%	0.007	0.7	0.7	NV	NV	Y	D
	75-01-4	Vinyl Chloride	0.004 UJ	0.35 U	mg/kg	MC-SS-16	188	0	0%	0.004	0.35	0.35	NV	0.03	Y	C

-- = analyte was not included in target analyte list
FOD = frequency of detect
mg/kg = miligram per kilogram
ND = non detect
NV = no screening value available
RSBC = rural soil background concentration
SL = screening level
SQL = sample quantitation limit
LMW = Low Molecular Weight
HMW = High Molecular Weight
DetLim = detection limit

Footnotes

(1) Data qualifiers include: J (estimated value between method detection limit and method reporting limit), U (not detected above the method detection limit), and UJ (estimated and value is equal to the method detection limit).
(2) Shaded box indicates frequency of detection is less than 5%.
(3) Total PCBs is based on the sum of Aroclors. For samples with all non-detects, the maximum method detection limit is used. The minimum and maximum of those results is provided here.
(4) The maximum concentration (detect or non-detect) is used to compare with screening levels to establish a preliminary COPEC list for the baseline risk assessment.
(5) Background threshold value for soil is from NYSDEC & NYSDOH (2006) rural soils survey of New York state. NYSDEC & NYSDOH refer to this value as a Rural Soil Background Concentration (RSBC).
(6) The sources for all risk-based screening levels are further described in Tables B2.1.

(7) Final determination for inclusion on the COPEC list is one of the following: A) retain: max detect > SL, and FOD≥ 5%, and max detect > RSBC; B) retain: max detect > SL; note that FOD < 5% or max detect ≤ RSBC; C) retain: max ND > SL; D) retain: no screening level or not analyzed; E) delete: max (detect or ND) ≤ SL.
(8) USEPA SSL for Aluminum (USEPA, 2003a) states that there is no screening level because available toxicity tests are based on laboratory toxicity studies using soluble (rather than total) aluminum. Instead, USEPA recommends that aluminum be identified as a COPC only for those soils with a pH less than 5.5. Soil pH within the McCaffrey project area is 7.6 on average and ranges from 5.2 to 10.9 based on n=134 samples; 5 of 134 (3.7%) are less than pH of 5.5.
(9) Total LMW PAHs are the respective minimum and maximum concentrations of PAHs with less than 4 rings, Total HMW PAHs are the respective minimum and maximum concentrations of PAHs with 4 or more rings.

References

NYSDEC and NYSDOH. (2006). *New York State Brownfield Cleanup Program. Development of Soil Cleanup Objectives. Technical Support Document.* New York State Department of Environmental Conservation and New York State Department of Health.
USEPA. (2003a). *Ecological Soil Screening Level for Aluminum, Interim Final.* OSWER Directive 9285.7-60. U.S. Environmental Protection Agency.

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TABLE B1.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SEDIMENT
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Sediment
Exposure Medium: Sediment, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7)
							No. Samples	No. Detects		Min SQL	Max SQL					
Sediment - McCaffrey St. Project Area, On- and Off-Site	**PFAS**															
	375-73-5	Perfluorobutanesulfonic acid	0.0006 U	0.0032 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0032	0.0032	NV	0.73	N	E
	335-76-2	Perfluorodecanoic acid	0.00043 U	0.0011 U	mg/kg	MC-SED-17	14	2	15%	0.00043	0.0011	0.0011	NV	NV	Y	D
	307-55-1	Perfluorododecanoic acid	0.0006 U	0.0016 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0016	0.0016	NV	NV	Y	D
	375-85-9	Perfluoroheptanoic acid	0.0006 U	0.0012 UJ	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0012	0.0012	NV	NV	Y	D
	355-46-4	Perfluorohexane sulfonic acid	0.0006 U	0.0032 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0032	0.0032	NV	NV	Y	D
	307-24-4	Perfluorohexanoic acid	0.0004 U	0.0008 U	mg/kg	MC-SED-06	14	0	0%	0.0004	0.0008	0.0008	NV	1.8	N	E
	375-95-1	Perfluorononanoic acid	0.0004 U	0.0008 U	mg/kg	MC-SED-06	14	0	0%	0.0004	0.0008	0.0008	NV	0.01	N	E
	1763-23-1	Perfluorooctanesulfonic acid	0.00059 J	0.0032 U	mg/kg	MC-SED-06	14	5	36%	0.0009	0.0032	0.0032	NV	0.0014	Y	A
	335-67-1	Perfluorooctanoic acid	0.00035 J	0.0074	mg/kg	MC-SED-14	14	9	65%	0.00064	0.001	0.0074	NV	0.006	Y	A
	376-06-7	Perfluorotetradecanoic acid	0.0006 U	0.0016 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0016	0.0016	NV	NV	Y	D
	72629-94-8	Perfluorotridecanoic acid	0.0006 U	0.0024 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0024	0.0024	NV	NV	Y	D
	2058-94-8	Perfluoroundecanoic acid	0.0006 U	0.0012 U	mg/kg	MC-SED-06	14	0	0%	0.0006	0.0012	0.0012	NV	NV	Y	D

-- = analyte was not included in target analyte list
FOD = frequency of detect
mg/kg = miligram per kilogram
ND = non detect
NV = no screening value available
SL = screening level
SQL = sample quantitation limit

Footnotes
(1) Data qualifiers include: J (estimated value between method detection limit and method reporting limit), U (not detected above the method detection limit), and UJ (estimated and value is equal to the method detection limit).
(2) Shaded box indicates frequency of detection is less than 5%.
(3) Total PCBs is based on the sum of Aroclors. For samples with all non-detects, the maximum method detection limit is used. The minimum and maximum of those results is provided here.
(4) The maximum concentration (detect or non-detect) is used to compare with screening levels to establish a preliminary COPEC list for the baseline risk assessment.
(5) No background threshold values are available for sediment.
(6) The sources for all risk-based screening levels are further described in Tables B2.2.
(7) Final determination for inclusion on the COPEC list is one of the following: A) retain: max detect > SL, and FOD≥ 5%; B) retain: max detect > SL; note that FOD < 5%; C) retain: max ND > SL; D) retain: no screening level or not analyzed; E) delete: max (detect or ND) ≤ SL.

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TABLE B.1.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Surface Water
Exposure Medium: Surface Water, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
Surface Water McCaffrey St. Project Area, On- and Off-Site	**PFAS**															
	375-22-4	Heptafluorobutanoic acid	0.0029 J	0.0093 J	µg/L	MC-SW-03	20	2	10%	0.0051	0.006	0.0093	NV	NV	Y	D
	2991-50-6	N-ethylperfluorooctane sulfonamidoacetic acid	0.0025 U	0.0049 U	µg/L	MC-SW-03	20	0	0%	0.0025	0.0049	0.0049	NV	NV	Y	D
	2355-31-9	N-methylperfluorooctane sulfonamidoacetic acid	0.0025 UJ	0.0049 U	µg/L	MC-SW-03	20	0	0%	0.0025	0.0049	0.0049	NV	NV	Y	D
	375-73-5	Perfluorobutanesulfonic acid	0.00032 J	0.01 U	µg/L	Multiple Locations	31	20	65%	0.003	0.01	0.01	NV	640	N	E
	335-77-3	Perfluorodecane sulfonic acid	0.0017 U	0.0033 U	µg/L	MC-SW-03	20	0	0%	0.0017	0.0033	0.0033	NV	NV	Y	D
	335-76-2	Perfluorodecanoic acid	0.0017 U	0.0033 U	µg/L	MC-SW-03	31	0	0%	0.0017	0.0033	0.0033	NV	NV	Y	D
	307-55-1	Perfluorododecanoic acid	0.0009 U	0.005 U	µg/L	Multiple Locations	31	0	0%	0.0009	0.005	0.005	NV	NV	Y	D
	375-92-8	Perfluoroheptane sulfonate	0.0017 U	0.0033 U	µg/L	MC-SW-03	20	0	0%	0.0017	0.0033	0.0033	NV	NV	Y	D
	375-85-9	Perfluoroheptanoic acid	0.00047 J	0.013	µg/L	MC-UNNAME BROOK 2-UP	31	27	88%	0.002	0.002	0.013	NV	NV	Y	D
	355-46-4	Perfluorohexane sulfonic acid	0.0004 J	0.01 U	µg/L	Multiple Locations	31	12	39%	0.0018	0.01	0.01	NV	NV	Y	D
	307-24-4	Perfluorohexanoic acid	0.00045 J	0.009 J	µg/L	MC-CB-SW	31	28	91%	0.002	0.002	0.009	NV	210	N	E
	375-95-1	Perfluorononanoic acid	0.00046 J	0.002 U	µg/L	Multiple Locations	31	4	13%	0.0017	0.002	0.002	NV	2.2	N	E
	754-91-6	Perfluorooctane sulfonamide	0.00067 J	0.0049 UJ	µg/L	MC-SW-03	20	4	20%	0.0025	0.0049	0.0049	NV	NV	Y	D
	1763-23-1	Perfluorooctanesulfonic acid	0.00062 J	0.01 U	µg/L	Multiple Locations	31	23	75%	0.006	0.01	0.01	NV	0.075	N	E
	335-67-1	Perfluorooctanoic acid	0.007	0.5	µg/L	MC-UNNAME BROOK 2-UP	31	31	100%	NV	NV	0.5	NV	1300	N	E
	2706-90-3	Perfluoropentanoic acid	0.0022 J	0.006 U	µg/L	Multiple Locations	20	2	10%	0.0051	0.006	0.006	NV	NV	Y	D
	376-06-7	Perfluorotetradecanoic acid	0.00085 U	0.005 U	µg/L	Multiple Locations	31	0	0%	0.00085	0.005	0.005	NV	NV	Y	D
	72629-94-8	Perfluorotridecanoic acid	0.00085 U	0.004 U	µg/L	Multiple Locations	31	0	0%	0.00085	0.004	0.004	NV	NV	Y	D
	2058-94-8	Perfluoroundecanoic acid	0.0017 U	0.004 U	µg/L	Multiple Locations	31	0	0%	0.0017	0.004	0.004	NV	NV	Y	D
	39108-34-4	Sodium 1H,1H,2H,2H-perfluordecane sulfonate (8:2)	0.0051 U	0.0099 U	µg/L	MC-SW-03	20	0	0%	0.0051	0.0099	0.0099	NV	NV	Y	D
	27619-97-2	Sodium 1h,1h,2h,2h-perfluorooctane sulfonate (6:2)	0.0017 U	0.008 U	µg/L	MC-SW-03	20	0	0%	0.0017	0.008	0.008	NV	NV	Y	D
	Metals															
	7429-90-5	Aluminum	118 J	2660	µg/L	MC-SW-03	29	17	59%	300	600	2660	NV	87	Y	A
	7440-36-0	Antimony	0.55 J	4 U	µg/L	Multiple Locations	29	1	4%	2	4	4	NV	190	N	E
	7440-38-2	Arsenic	1.1 J	4 U	µg/L	Multiple Locations	29	3	11%	2	4	4	NV	150	N	E
	7440-39-3	Barium	4.8	129 J	µg/L	MC-SW-04	29	29	100%	NV	NV	129	NV	220	N	E
	7440-41-7	Beryllium	0.5 U	1 U	µg/L	Multiple Locations	29	0	0%	0.5	1	1	NV	11	N	E
	7440-43-9	Cadmium	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	0.72	Y	C
	7440-70-2	Calcium	9300	35100	µg/L	MC-SW-02	29	29	100%	NV	NV	35100	NV	116000	N	E
	7440-47-3	Chromium	0.63 J	8 U	µg/L	Multiple Locations	29	12	42%	4	8	8	NV	74	N	E
	7440-48-4	Cobalt	0.19 J	2 U	µg/L	Multiple Locations	29	8	28%	1	2	2	NV	19	N	E
	7440-50-8	Copper	1.2 J	80 U	µg/L	Multiple Locations	29	7	25%	4	80	80	NV	4.95	Y	A
	7439-89-6	Iron	91.9 J	2270	µg/L	MC-SW-03	29	29	100%	NV	NV	2270	NV	1000	Y	A
	7439-92-1	Lead	0.16 J	6 U	µg/L	Multiple Locations	29	14	49%	3	6	6	NV	3.2	Y	A
	7439-95-4	Magnesium	2380	10500	µg/L	MC-SW-02	29	29	100%	NV	NV	10500	NV	82000	N	E
	7439-96-5	Manganese	14.7	60.3	µg/L	MC-SW-03	29	29	100%	NV	NV	60.3	NV	93	N	E
	7439-97-6	Mercury	0.2 U	0.2 U	µg/L	Multiple Locations	29	0	0%	0.2	0.2	0.2	NV	0.77	N	E
	7440-02-0	Nickel	1 J	8 U	µg/L	Multiple Locations	29	5	18%	4	8	8	NV	52	N	E
	7440-09-7	Potassium	589	4080	µg/L	MC-SW-03	29	29	100%	NV	NV	4080	NV	53000	N	E
	7782-49-2	Selenium	1.7 J	4 U	µg/L	Multiple Locations	29	1	4%	2	4	4	NV	5	N	E
	7440-22-4	Silver	0.5 UJ	1.1 J	µg/L	MC-SW-04	29	1	4%	0.5	1	1.1	NV	0.06	Y	B
	7440-23-5	Sodium	3320	28300	µg/L	MC-SW-04	29	29	100%	NV	NV	28300	NV	680000	N	E
	7440-28-0	Thallium	0.5 U	1 U	µg/L	Multiple Locations	29	0	0%	0.5	1	1	NV	6	N	E
	7440-62-2	Vanadium	0.25 J	2.9	µg/L	MC-SW-03	29	20	69%	1	2	2.9	NV	27	N	E
	7440-66-6	Zinc	3.1 J	40 U	µg/L	Multiple Locations	29	8	28%	20	40	40	NV	120	N	E
	PAHs (9)															
	92-52-4	1,1'-Biphenyl	1 U	12 U	µg/L	Multiple Locations	29	0	0%	1	12	12	NV	6.5	Y	C
	91-57-6	2-Methylnaphthalene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	4.7	N	E
	88-74-4	2-Nitroaniline	1 UJ	9 U	µg/L	MC-SW-02	29	0	0%	1	9	9	NV	17	N	E
	99-09-2	3-Nitroaniline	1 U	9 U	µg/L	MC-SW-02	29	0	0%	1	9	9	NV	NV	Y	D
	100-01-6	4-Nitroaniline	1 U	4 U	µg/L	MC-SW-02	29	0	0%	1	4	4	NV	NV	Y	D
	83-32-9	Acenaphthene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	15	N	E
	208-96-8	Acenaphthylene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	13	N	E
	120-12-7	Anthracene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.02	Y	C

GSI ENVIRONMENTAL

TABLE B.1.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Surface Water
Exposure Medium: Surface Water, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	56-55-3	Benzo[a]anthracene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	4.7	N	E
	50-32-8	Benzo[a]pyrene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.06	Y	C
	205-99-2	Benzo[b]fluoranthene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	2.6	N	E
	191-24-2	Benzo[g,h,i]perylene	0.5 UJ	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.012	Y	C
	207-08-9	Benzo[k]fluoranthene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.06	Y	C
	218-01-9	Chrysene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	4.7	N	E
	53-70-3	Dibenzo[a,h]anthracene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.012	Y	C
	132-64-9	Dibenzofuran	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	4	N	E
	206-44-0	Fluoranthene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.8	N	E
	86-73-7	Fluorene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	19	N	E
	193-39-5	Indeno[1,2,3-cd]pyrene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.012	Y	C
	91-20-3	Naphthalene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	21	N	E
	85-01-8	Phenanthrene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	NV	Y	D
	129-00-0	Pyrene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	4.6	N	E
		Total LMW PAHs (ND=0)	0	0	--	--	--	--	--	0	0	0	NV	NV	Y	D
		Total LMW PAHs (ND=DetLim/2)	0.6 UJ	6 U	--	--	--	--	--	0.25	6	6	NV	NV	Y	D
		Total HMW PAHs (ND=0)	0	0	--	--	--	--	--	0	0	0	NV	NV	Y	D
		Total HMW PAHs (ND= DetLim/2)	0.25 UJ	1 U	--	--	--	--	--	0.5	2	1	NV	NV	Y	D
		Total PAHs (ND=0)	0	0	--	--	--	--	--	0	0	0	NV	NV	Y	D
		Total PAHs (DetLim/2)	0.25 UJ	6 J	--	--	--	--	--	0.25	6	6	NV	NV	Y	D
	PCBs															
	12674-11-2	Aroclor 1016	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	11104-28-2	Aroclor 1221	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	11141-16-5	Aroclor 1232	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	53469-21-9	Aroclor 1242	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	12672-29-6	Aroclor 1248	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	11097-69-1	Aroclor 1254	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	11096-82-5	Aroclor 1260	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	37324-23-5	Aroclor 1262	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	11100-14-4	Aroclor 1268	0.4 U	0.57 U	µg/L	MC-SW-02	29	0	0%	0.4	0.57	0.57	NV	NV	Y	D
	1336-36-3	Total PCB Aroclors (3)	--	--	mg/kg	--	29	--	--	--	--	--	NV	0.014	Y	D
	Pesticides															
	72-54-8	4,4'-DDD	0.0052 J	0.023 U	µg/L	MC-SW-02	29	1	4%	0.016	0.023	0.023	NV	0.01	Y	C
	72-55-9	4,4'-DDE	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	0.3	N	E
	50-29-3	4,4'-DDT	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	0.001	Y	C
	309-00-2	Aldrin	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	0.04	N	E
	319-84-6	alpha-Benzenehexachloride	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	0.01	Y	C
	1912-24-9	Atrazine	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	0.03	Y	C
	319-85-7	beta-Benzenehexachloride	0.0028 J	0.011 U	µg/L	Multiple Locations	29	2	7%	0.008	0.011	0.011	NV	0.01	Y	A
	86-74-8	Carbazole	1 UJ	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	4	N	E
	5103-71-9	cis-Chlordane	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	NV	Y	D
	319-86-8	delta-Benzenehexachloride	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	667	N	E
	60-57-1	Dieldrin	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	0.056	N	E
	959-98-8	Endosulfan I	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	0.056	N	E
	33213-65-9	Endosulfan II	0.024 U	0.034 U	µg/L	MC-SW-02	29	0	0%	0.024	0.034	0.034	NV	0.056	N	E
	1031-07-8	Endosulfan sulfate	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	0.06	N	E
	72-20-8	Endrin	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	0.036	N	E
	7421-93-4	Endrin aldehyde	0.08 U	0.11 U	µg/L	Multiple Locations	29	0	0%	0.08	0.11	0.11	NV	0.15	N	E
	53494-70-5	Endrin ketone	0.016 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.016	0.023	0.023	NV	NV	Y	D
	58-89-9	gamma-Benzenehexachloride	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	0.11	N	E
	76-44-8	Heptachlor	0.0023 J	0.011 U	µg/L	Multiple Locations	29	2	7%	0.008	0.011	0.011	NV	0.0038	Y	A
	1024-57-3	Heptachlor epoxide	0.008 U	0.011 U	µg/L	Multiple Locations	29	0	0%	0.008	0.011	0.011	NV	0.0038	Y	C
	72-43-5	Methoxychlor	0.08 U	0.11 U	µg/L	Multiple Locations	29	0	0%	0.08	0.11	0.11	NV	0.03	Y	C
	8001-35-2	Toxaphene	0.8 U	1.1 U	µg/L	Multiple Locations	29	0	0%	0.8	1.1	1.1	NV	0.0002	Y	C
	5103-74-2	trans-Chlordane	0.008 U	0.023 U	µg/L	MC-SW-02	29	0	0%	0.008	0.023	0.023	NV	NV	Y	D
	Phenols															
	58-90-2	2,3,4,6-Tetrachlorophenol	1 UJ	12 U	µg/L	Multiple Locations	29	0	0%	1	12	12	NV	1	Y	C
	95-95-4	2,4,5-Trichlorophenol	1 UJ	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	1.9	Y	C
	88-06-2	2,4,6-Trichlorophenol	1 UJ	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	NV	Y	D

GSI ENVIRONMENTAL

TABLE B.1.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Surface Water
Exposure Medium: Surface Water, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	120-83-2	2,4-Dichlorophenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	11	N	E
	95-57-8	2-Chlorophenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	18	N	E
	87-86-5	Pentachlorophenol	5 UJ	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	15	N	E
	Semi-volatiles															
	120-82-1	1,2,4-Trichlorobenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	35	N	E
	95-50-1	1,2-Dichlorobenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	23	N	E
	541-73-1	1,3-Dichlorobenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	22	N	E
	106-46-7	1,4-Dichlorobenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	9.4	N	E
	105-67-9	2,4-Dimethylphenol	1 U	12 U	µg/L	Multiple Locations	29	0	0%	1	12	12	NV	15	N	E
	51-28-5	2,4-Dinitrophenol	30 U	37 U	µg/L	MC-SW-02	29	0	0%	30	37	37	NV	71	N	E
	121-14-2	2,4-Dinitrotoluene	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	44	N	E
	606-20-2	2,6-Dinitrotoluene	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	81	N	E
	91-58-7	2-Chloronaphthalene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	0.396	Y	C
	95-48-7	2-Methylphenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	67	N	E
	88-75-5	2-Nitrophenol	1 U	12 U	µg/L	Multiple Locations	29	0	0%	1	12	12	NV	73	N	E
	91-94-1	3,3'-Dichlorobenzidine	5 U	12 U	µg/L	Multiple Locations	29	0	0%	5	12	12	NV	4.5	Y	C
	534-52-1	4,6-Dinitro-2-methylphenol	15 U	26 U	µg/L	MC-SW-02	29	0	0%	15	26	26	NV	23	Y	C
	101-55-3	4-Bromophenyl-phenylether	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	1.5	Y	C
	59-50-7	4-Chloro-3-methylphenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	1	Y	C
	106-47-8	4-Chloroaniline	4 U	12 U	µg/L	Multiple Locations	29	0	0%	4	12	12	NV	0.8	Y	C
	7005-72-3	4-Chlorophenyl-phenyl ether	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	NV	Y	D
	106-44-5	4-Methylphenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	53	N	E
	100-02-7	4-Nitrophenol	30 UJ	37 U	µg/L	MC-SW-02	29	0	0%	30	37	37	NV	58	N	E
	98-86-2	Acetophenone	1 UJ	12 U	µg/L	Multiple Locations	29	0	0%	1	12	12	NV	NV	Y	D
	100-52-7	Benzaldehyde	5 U	12 U	µg/L	Multiple Locations	29	0	0%	5	12	12	NV	143	N	E
	85-68-7	Benzyl n-butyl phthalate	5 UJ	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	18	N	E
	111-91-1	bis(2-Chloroethoxy)methane	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	NV	Y	D
	111-44-4	Bis(2-chloroethyl)ether	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	1900	N	E
	117-81-7	bis(2-Ethylhexyl)phthalate	5 U	13 U	µg/L	Multiple Locations	29	0	0%	5	13	13	NV	8	Y	C
	105-60-2	Caprolactam	11 U	15 U	µg/L	Multiple Locations	29	0	0%	11	15	15	NV	NV	Y	D

GSI ENVIRONMENTAL

TABLE B.1.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Surface Water
Exposure Medium: Surface Water, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	84-66-2	Diethyl phthalate	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	220	N	E
	131-11-3	Dimethyl phthalate	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	1100	N	E
	84-74-2	Di-n-butyl phthalate	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	19	N	E
	117-84-0	Di-n-octylphthalate	5 U	13 U	µg/L	Multiple Locations	29	0	0%	5	13	13	NV	215	N	E
	118-74-1	Hexachlorobenzene	0.5 U	0.6 U	µg/L	Multiple Locations	29	0	0%	0.5	0.6	0.6	NV	0.15	Y	C
	87-68-3	Hexachlorobutadiene	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	1	Y	C
	77-47-4	Hexachlorocyclopentadiene	11 U	15 U	µg/L	Multiple Locations	29	0	0%	11	15	15	NV	0.45	Y	C
	67-72-1	Hexachloroethane	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	12	N	E
	78-59-1	Isophorone	1 UJ	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	920	N	E
	98-95-3	Nitrobenzene	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	230	N	E
	621-64-7	N-Nitrosodi-n-propylamine	1 U	4 U	µg/L	MC-SW-02	29	0	0%	1	4	4	NV	NV	Y	D
	86-30-6	N-Nitrosodiphenylamine	1 UJ	4 U	µg/L	MC-SW-02	29	0	0%	1	4	4	NV	25	N	E
	108-95-2	Phenol	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	160	N	E
	Volatiles															
	71-55-6	1,1,1-Trichloroethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	76	N	E
	79-34-5	1,1,2,2-Tetrachloroethane	1 UJ	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	200	N	E
	79-00-5	1,1,2-Trichloroethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	730	N	E
	75-34-3	1,1-Dichloroethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	410	N	E
	75-35-4	1,1-Dichloroethene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	130	N	E
	87-61-6	1,2,3-Trichlorobenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	8	N	E
	95-94-3	1,2,4,5-Tetrachlorobenzene	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	6	N	E
	96-12-8	1,2-Dibromo-3-chloropropane	5 UJ	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	NV	Y	D
	106-93-4	1,2-Dibromoethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	107-06-2	1,2-Dichloroethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	2000	N	E
	78-87-5	1,2-Dichloropropane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	520	N	E
	123-91-1	1,4-Dioxane	5 U	6 U	µg/L	Multiple Locations	29	0	0%	5	6	6	NV	22000	N	E
	78-93-3	2-Butanone	10 U	10 U	µg/L	Multiple Locations	29	0	0%	10	10	10	NV	22000	N	E
	591-78-6	2-Hexanone	10 UJ	10 U	µg/L	Multiple Locations	29	0	0%	10	10	10	NV	99	N	E
	108-10-1	4-Methyl-2-pentanone	10 U	10 U	µg/L	Multiple Locations	29	0	0%	10	10	10	NV	170	N	E
	67-64-1	Acetone	0.8 J	20 U	µg/L	Multiple Locations	29	2	7%	20	20	20	NV	1700	N	E
	71-43-2	Benzene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	160	N	E
	39638-32-9	Bis(2-chloroisopropyl) ether	1 U	2 U	µg/L	Multiple Locations	29	0	0%	1	2	2	NV	NV	Y	D
	74-97-5	Bromochloromethane	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	NV	Y	D
	75-27-4	Bromodichloromethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	340	N	E
	75-25-2	Bromoform	4 U	4 U	µg/L	Multiple Locations	29	0	0%	4	4	4	NV	230	N	E
	74-83-9	Bromomethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	16	N	E
	75-15-0	Carbon disulfide	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	15	N	E
	56-23-5	Carbon Tetrachloride	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	77	N	E
	108-90-7	Chlorobenzene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	25	N	E
	75-00-3	Chloroethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	67-66-3	Chloroform	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	140	N	E
	74-87-3	Chloromethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	156-59-2	cis-1,2-Dichloroethene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	620	N	E
	10061-01-5	cis-1,3-Dichloropropene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	110-82-7	Cyclohexane	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	158	N	E
	124-48-1	Dibromochloromethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	320	N	E
	75-71-8	Dichlorodifluoromethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	100-41-4	Ethylbenzene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	61	N	E
	98-82-8	Isopropylbenzene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	4.8	Y	C
	179601-23-1	m,p-Xylene	1 U	5 U	µg/L	Multiple Locations	29	0	0%	1	5	5	NV	NV	Y	D
	79-20-9	Methyl acetate	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	NV	Y	D
	1634-04-4	Methyl tert-butyl ether	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	730	N	E
	108-87-2	Methylcyclohexane	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	52	N	E
	75-09-2	Methylene Chloride	1 U	4 U	µg/L	Multiple Locations	29	0	0%	1	4	4	NV	NV	Y	D
	95-47-6	o-Xylene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	100-42-5	Styrene	5 U	5 U	µg/L	Multiple Locations	29	0	0%	5	5	5	NV	32	N	E
	127-18-4	Tetrachloroethene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	53	N	E
	108-88-3	Toluene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	62	N	E
	156-60-5	trans-1,2-Dichloroethene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	558	N	E

GSI ENVIRONMENTAL

TABLE B.1.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER
Screening Level Ecological Risk Assessment (SLERA)
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Scenario Timeframe: Current
Receptor: Ecological
Medium: Surface Water
Exposure Medium: Surface Water, All McCaffrey St. Project Area

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier) (1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency		Frequency of Detect (2)	Range of Detection Limits		Concentration Used for Screening (4)	Background Value (5)	Screening Toxicity Value (6)	COPC Flag (Y/N)	Rationale for Selection or Deletion (7,8)
							No. Samples	No. Detects		Min SQL	Max SQL					
	10061-02-6	trans-1,3-Dichloropropene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	79-01-6	Trichloroethene	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	75-69-4	Trichlorofluoromethane	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D
	76-13-1	Trichlorotrifluoroethane	10 U	10 U	µg/L	Multiple Locations	29	0	0%	10	10	10	NV	NV	Y	D
	75-01-4	Vinyl Chloride	1 U	1 U	µg/L	Multiple Locations	29	0	0%	1	1	1	NV	NV	Y	D

-- = analyte was not included in target analyte list
FOD = frequency of detect
µg/L = micorgram per liter
ND = non detect
NV = no screening value available
SL = screening level
SQL = sample quantitation limit
LMW = Low Molecular Weight
HMW = High Molecular Weight
DetLim = detection limit

Footnotes
(1) Data qualifiers include: J (estimated value between method detection limit and method reporting limit), U (not detected above the method detection limit), and UJ (estimated and value is equal to the method detection limit).
(2) Shaded box indicates frequency of detection is less than 5%.
(3) Total PCBs is based on the sum of Aroclors. For samples with all non-detects, the maximum method detection limit is used. The minimum and maximum of those results is provided here.
(4) The maximum concentration (detect or non-detect) is used to compare with screening levels to establish a preliminary COPEC list for the baseline risk assessment.
(5) No background threshold values are available for surface water.
(6) The sources for all risk-based screening levels are further described in Tables B2.3.
(7) Final determination for inclusion on the COPEC list is one of the following: A) retain: max detect > SL, and FOD≥ 5%; B) retain: max detect > SL; note that FOD < 5%; C) retain: max ND > SL; D) retain: no screening level or not analyzed; E) delete: max (detect or ND) ≤ SL.
(8) Four chemicals have both C and E outcomes; the maximum concentrations are ND (FOD=0%), and the screening result depends on the proxy value used for the ND. Using the full MDL, results are "C" (max is ND > SL); using 1/2 MDL, results are "E" (max < SL).
(9) Total LMW PAHs are the respective minimum and maximum concentrations of PAHs with less than 4 rings, Total HMW PAHs are the respective minimum and maximum concentrations of PAHs with 4 or more rings.

GSI ENVIRONMENTAL

TABLE B2.1
SLERA - Risk-Based Screening Levels for Soil
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1)
PFAS	Perfluorooctanesulfonic acid	1763-23-1	0.013	mg/kg	CRWQCB-SFB, 2020
	Perfluorooctanoic acid	335-67-1	0.084	mg/kg	CRWQCB-SFB, 2020
Metals	Aluminum	7429-90-5	-- (2)	mg/kg	USEPA, 2003a
	Antimony	7440-36-0	0.27	mg/kg	USEPA, 2018a
	Arsenic	7440-38-2	18	mg/kg	USEPA, 2018a
	Barium	7440-39-3	330	mg/kg	USEPA, 2018a
	Beryllium	7440-41-7	21	mg/kg	USEPA, 2018a
	Cadmium	7440-43-9	0.36	mg/kg	USEPA, 2018a
	Chromium	7440-47-3	23	mg/kg	USEPA, 2018b
	Cobalt	7440-48-4	13	mg/kg	USEPA, 2018a
	Copper	7440-50-8	28	mg/kg	USEPA, 2018a
	Lead	7439-92-1	11	mg/kg	USEPA, 2018a
	Manganese	7439-96-5	220	mg/kg	USEPA, 2018a
	Mercury	7439-97-6	0.013	mg/kg	USEPA, 2018b
	Nickel	7440-02-0	38	mg/kg	USEPA, 2018a
	Selenium	7782-49-2	0.52	mg/kg	USEPA, 2018a
	Silver	7440-22-4	4.2	mg/kg	USEPA, 2018a
	Thallium	7440-28-0	0.05	mg/kg	USEPA, 2018b
	Vanadium	7440-62-2	7.8	mg/kg	USEPA, 2018a
	Zinc	7440-66-6	46	mg/kg	USEPA, 2018a
PAHs	1,1'-Biphenyl	92-52-4	0.2	mg/kg	USEPA, 2018b
	2-Methylnaphthalene	91-57-6	0.11	mg/kg	USEPA, 2018b
	2-Nitroaniline	88-74-4	0.02	mg/kg	USEPA, 2018b
	Acenaphthene	83-32-9	0.25	mg/kg	USEPA, 2018b
	Acenaphthylene	208-96-8	0.34	mg/kg	USEPA, 2018b
	Anthracene	120-12-7	0.0015	mg/kg	USEPA, 2018b
	Benzo[a]anthracene	56-55-3	0.73	mg/kg	USEPA, 2018b
	Benzo[a]pyrene	50-32-8	0.13	mg/kg	USEPA, 2018b
	Benzo[b]fluoranthene	205-99-2	2.7	mg/kg	USEPA, 2018b
	Benzo[g,h,i]perylene	191-24-2	0.07	mg/kg	USEPA, 2018b
	Benzo[k]fluoranthene	207-08-9	0.13	mg/kg	USEPA, 2018b
	Chrysene	218-01-9	3.1	mg/kg	USEPA, 2018b
	Dibenzo[a,h]anthracene	53-70-3	0.06	mg/kg	USEPA, 2018b
	Dibenzofuran	132-64-9	0.15	mg/kg	USEPA, 2018b
	Fluoranthene	206-44-0	10	mg/kg	USEPA, 2018b
	Fluorene	86-73-7	3.7	mg/kg	USEPA, 2018b
	Indeno[1,2,3-cd]pyrene	193-39-5	0.08	mg/kg	USEPA, 2018b
	Naphthalene	91-20-3	0.16	mg/kg	USEPA, 2018b
	Phenanthrene	85-01-8	5.5	mg/kg	USEPA, 2018b
	Pyrene	129-00-0	10	mg/kg	USEPA, 2018b
	Total LMW PAHs	NA	29	mg/kg	USEPA, 2018a
	Total HMW PAHs	NA	1.1	mg/kg	USEPA, 2018a
PCBs	Total Aroclors	NA	0.041	mg/kg	USEPA, 2018b

GSI ENVIRONMENTAL

TABLE B2.1
SLERA - Risk-Based Screening Levels for Soil
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1)
Pesticides	4,4'-DDD	72-54-8	0.758	mg/kg	USEPA, 2003b
	4,4'-DDE	72-55-9	0.596	mg/kg	USEPA, 2003b
	4,4'-DDT	50-29-3	0.021	mg/kg	USEPA, 2018a
	Aldrin	309-00-2	0.03	mg/kg	USEPA, 2018b
	alpha-Benzenehexachloride	319-84-6	0.0994	mg/kg	USEPA, 2003b
	beta-Benzenehexachloride	319-85-7	0.0003	mg/kg	USEPA, 2018b
	Carbazole	86-74-8	0.07	mg/kg	USEPA, 2018b
	cis-Chlordane	5103-71-9	0.0029	mg/kg	USEPA, 2018b
	delta-Benzenehexachloride	319-86-8	9.94	mg/kg	USEPA, 2003b
	Dieldrin	60-57-1	0.0049	mg/kg	USEPA, 2018a
	Endosulfan I	959-98-8	0.0009	mg/kg	USEPA, 2018b
	Endosulfan II	33213-65-9	0.119	mg/kg	USEPA, 2003b
	Endosulfan sulfate	1031-07-8	0.0007	mg/kg	USEPA, 2018b
	Endrin	72-20-8	0.0014	mg/kg	USEPA, 2018b
	Endrin aldehyde	7421-93-4	0.0105	mg/kg	USEPA, 2003b
	Endrin ketone	53494-70-5	0.0101	mg/kg	Endrin (USEPA, 2003b)
	gamma-Benzenehexachloride	58-89-9	0.0031	mg/kg	USEPA, 2018b
	Heptachlor	76-44-8	0.0016	mg/kg	USEPA, 2018b
	Heptachlor epoxide	1024-57-3	0.00015	mg/kg	USEPA, 2018b
	Methoxychlor	72-43-5	0.0021	mg/kg	USEPA, 2018b
	Toxaphene	8001-35-2	0.00015	mg/kg	USEPA, 2018b
	trans-Chlordane	5103-74-2	1.3	mg/kg	NYSDEC & NYSDOH, 2006
Phenols	2,3,4,6-Tetrachlorophenol	58-90-2	0.04	mg/kg	USEPA, 2018b
	2,4,5-Trichlorophenol	95-95-4	4	mg/kg	USEPA, 2018b
	2,4,6-Trichlorophenol	88-06-2	9.94	mg/kg	USEPA, 2018b
	2,4-Dichlorophenol	120-83-2	0.05	mg/kg	USEPA, 2018b
	2-Chlorophenol	95-57-8	0.06	mg/kg	USEPA, 2018b
	Pentachlorophenol	87-86-5	2.1	mg/kg	USEPA, 2018a
	Phenol	108-95-2	0.79	mg/kg	USEPA, 2018b
Semi-volatiles	1,2,4-Trichlorobenzene	120-82-1	0.27	mg/kg	USEPA, 2018b
	1,2-Dichlorobenzene	95-50-1	0.09	mg/kg	USEPA, 2018b
	1,3-Dichlorobenzene	541-73-1	0.08	mg/kg	USEPA, 2018b
	1,4-Dichlorobenzene	106-46-7	0.89	mg/kg	USEPA, 2018b
	2,4-Dimethylphenol	105-67-9	0.04	mg/kg	USEPA, 2018b
	2,4-Dinitrophenol	51-28-5	0.061	mg/kg	USEPA, 2018b
	2,4-Dinitrotoluene	121-14-2	6	mg/kg	USEPA, 2018b
	2,6-Dinitrotoluene	606-20-2	4	mg/kg	USEPA, 2018b
	2-Chloronaphthalene	91-58-7	0.0122	mg/kg	USEPA, 2003b
	2-Methylphenol	95-48-7	0.1	mg/kg	USEPA, 2018b
	2-Nitrophenol	88-75-5	1.6	mg/kg	USEPA, 2003b
	3,3'-Dichlorobenzidine	91-94-1	0.03	mg/kg	USEPA, 2018b
	4,6-Dinitro-2-methylphenol	534-52-1	0.144	mg/kg	USEPA, 2003b
	4-Chloro-3-methylphenol	59-50-7	7.95	mg/kg	USEPA, 2003b

GSI ENVIRONMENTAL

TABLE B2.1
SLERA - Risk-Based Screening Levels for Soil
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1)
Semi-volatiles	4-Chloroaniline	106-47-8	1	mg/kg	USEPA, 2018b
	4-Methylphenol	106-44-5	0.08	mg/kg	USEPA, 2018b
	4-Nitrophenol	100-02-7	5.12	mg/kg	USEPA, 2018b
	Acetophenone	98-86-2	300	mg/kg	USEPA, 2003b
	Benzyl n-butyl phthalate	85-68-7	0.59	mg/kg	USEPA, 2018b
	bis(2-Chloroethoxy)methane	111-91-1	0.302	mg/kg	USEPA, 2003b
	Bis(2-chloroethyl)ether	111-44-4	23.7	mg/kg	USEPA, 2003b
	bis(2-Ethylhexyl)phthalate	117-81-7	0.02	mg/kg	USEPA, 2018b
	Diethyl phthalate	84-66-2	0.25	mg/kg	USEPA, 2018b
	Dimethyl phthalate	131-11-3	10	mg/kg	USEPA, 2018b
	Di-n-butyl phthalate	84-74-2	0.011	mg/kg	USEPA, 2018b
	Di-n-octylphthalate	117-84-0	0.91	mg/kg	USEPA, 2018b
	Hexachlorobenzene	118-74-1	0.079	mg/kg	USEPA, 2018b
	Hexachlorobutadiene	87-68-3	0.009	mg/kg	USEPA, 2018b
	Hexachlorocyclopentadiene	77-47-4	0.001	mg/kg	USEPA, 2018b
	Hexachloroethane	67-72-1	0.024	mg/kg	USEPA, 2018b
	Isophorone	78-59-1	139	mg/kg	USEPA, 2003b
	Nitrobenzene	98-95-3	2.2	mg/kg	USEPA, 2018b
	N-Nitrosodi-n-propylamine	621-64-7	0.544	mg/kg	USEPA, 2003b
	N-Nitrosodiphenylamine	86-30-6	0.545	mg/kg	USEPA, 2018b
Volatiles	1,1,1-Trichloroethane	71-55-6	0.04	mg/kg	USEPA, 2018b
	1,1,2,2-Tetrachloroethane	79-34-5	0.127	mg/kg	USEPA, 2018b
	1,1,2-Trichloroethane	79-00-5	0.32	mg/kg	USEPA, 2018b
	1,1-Dichloroethane	75-34-3	0.14	mg/kg	USEPA, 2018b
	1,1-Dichloroethene	75-35-4	0.04	mg/kg	USEPA, 2018b
	1,2,3-Trichlorobenzene	87-61-6	20	mg/kg	USEPA, 2018b
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.18	mg/kg	USEPA, 2018b
	1,2,4-Trimethylbenzene	95-63-6	0.09	mg/kg	USEPA, 2018b
	1,2-Dibromo-3-chloropropane	96-12-8	0.0352	mg/kg	USEPA, 2003b
	1,2-Dibromoethane	106-93-4	1.23	mg/kg	USEPA, 2003b
	1,2-Dichloroethane	107-06-2	0.4	mg/kg	USEPA, 2018b
	1,2-Dichloropropane	78-87-5	0.28	mg/kg	USEPA, 2018b
	1,3,5-Trimethylbenzene	108-67-8	0.16	mg/kg	USEPA, 2018b
	1,4-Dioxane	123-91-1	2.05	mg/kg	USEPA, 2003b
	2-Butanone	78-93-3	1	mg/kg	USEPA, 2018b
	2-Hexanone	591-78-6	0.36	mg/kg	USEPA, 2018b
	4-Isopropyl toluene	99-87-6	0.18	mg/kg	USEPA, 2018b
	4-Methyl-2-pentanone	108-10-1	443	mg/kg	USEPA, 2003b
	Acetone	67-64-1	0.04	mg/kg	USEPA, 2018b
	Benzene	71-43-2	0.12	mg/kg	USEPA, 2018b
	Bromodichloromethane	75-27-4	0.54	mg/kg	USEPA, 2003b
	Bromoform	75-25-2	0.07	mg/kg	USEPA, 2018b
	Bromomethane	74-83-9	0.002	mg/kg	USEPA, 2018b
	Carbon disulfide	75-15-0	0.005	mg/kg	USEPA, 2018b
	Carbon Tetrachloride	56-23-5	0.05	mg/kg	USEPA, 2018b
	Chlorobenzene	108-90-7	2.4	mg/kg	USEPA, 2018b
	Chloroform	67-66-3	0.05	mg/kg	USEPA, 2018b

GSI ENVIRONMENTAL

TABLE B2.1
SLERA - Risk-Based Screening Levels for Soil
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1)
Volatiles	Chloromethane	74-87-3	10.4	mg/kg	USEPA, 2003b
	cis-1,2-Dichloroethene	156-59-2	0.04	mg/kg	USEPA, 2018b
	Dibromochloromethane	124-48-1	2.05	mg/kg	USEPA, 2003b
	Dichlorodifluoromethane	75-71-8	39.5	mg/kg	USEPA, 2003b
	Ethylbenzene	100-41-4	0.27	mg/kg	USEPA, 2018b
	Isopropylbenzene	98-82-8	0.04	mg/kg	USEPA, 2018b
	Methylene Chloride	75-09-2	0.21	mg/kg	USEPA, 2018b
	Styrene	100-42-5	1.2	mg/kg	USEPA, 2018b
	Tetrachloroethene	127-18-4	0.06	mg/kg	USEPA, 2018b
	Toluene	108-88-3	0.15	mg/kg	USEPA, 2018b
	trans-1,2-Dichloroethene	156-60-5	0.04	mg/kg	USEPA, 2018b
	Trichloroethene	79-01-6	0.06	mg/kg	USEPA, 2018b
	Trichlorofluoromethane	75-69-4	16.4	mg/kg	USEPA, 2018b
	Vinyl Chloride	75-01-4	0.03	mg/kg	USEPA, 2018b
	Xylenes	1330-20-7	0.1	mg/kg	USEPA, 2018b

Notes

CRWQCB-SFB = California Regional Water Quality Control Board - San Francisco Bay

NA = not available

NYSDEC = New York State Department of Environmental Conservation

NYSDOH = New York State Department of Health

USEPA = United States Environmental Protection Agency

SSL = soil screening level

Footnotes

(1) Hierarchy: USEPA (2018a) SSL > USEPA (2018b) Region 4 > USEPA (2003b) Region 5 RCRA > NYSDEC & NYSDOH (2006) > Efroymson et al. (1997). For PFOA and PFOS: CRWQCB-SFB (2020).

(2) USEPA SSL for Aluminum (USEPA, 2003a) states that there is no screening level because available toxicity tests are based on laboratory toxicity studies using soluble (rather than total) aluminum. Instead, USEPA recommends that aluminum be identified as a COPC only for those soils with a pH less than 5.5. Soil pH within the McCaffrey project area if 7.6 on average and ranges from 5.2 to 10.9 based on n=134 samples; 5 of 134 (3.7%) are less than pH of 5.5.

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GSI ENVIRONMENTAL

TABLE B2.2
SLERA - Risk-Based Screening Levels for Sediment
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1,2)	Benchmark Type
PFAS	Perfluorobutanesulfonic acid	375-73-5	0.73	mg/kg	SERDP, 2020	NOAEL - wildlife
	Perfluorohexanoic acid	307-24-4	1.8	mg/kg	SERDP, 2020	NOAEL - wildlife
	Perfluorononanoic acid	375-95-1	0.01	mg/kg	SERDP, 2020	NOAEL - wildlife
	Perfluorooctanesulfonic acid	1763-23-1	0.0014	mg/kg	SERDP, 2020	NOAEL - wildlife
	Perfluorooctanoic acid	335-67-1	0.006	mg/kg	SERDP, 2020	NOAEL - wildlife
Metals	Aluminum	7429-90-5	25000	mg/kg	USEPA, 2018b	ESV Table 2A
	Antimony	7440-36-0	2	mg/kg	USEPA, 2018b	ESV Table 2A
	Arsenic	7440-38-2	9.79	mg/kg	MacDonald et al., 2020	TEC
	Barium	7440-39-3	20	mg/kg	USEPA, 2018b	ESV Table 2A
	Cadmium	7440-43-9	0.99	mg/kg	MacDonald et al., 2020	TEC
	Chromium	7440-47-3	43.4	mg/kg	MacDonald et al., 2020	TEC
	Cobalt	7440-48-4	50	mg/kg	USEPA, 2018b	ESV Table 2A
	Copper	7440-50-8	31.6	mg/kg	MacDonald et al., 2020	TEC
	Iron	7439-89-6	20000	mg/kg	USEPA, 2018b	ESV Table 2A
	Lead	7439-92-1	35.8	mg/kg	MacDonald et al., 2020	TEC
	Manganese	7439-96-5	460	mg/kg	USEPA, 2018b	ESV Table 2A
	Mercury	7439-97-6	0.18	mg/kg	MacDonald et al., 2020	TEC
	Nickel	7440-02-0	22.7	mg/kg	MacDonald et al., 2020	TEC
	Selenium	7782-49-2	0.72	mg/kg	USEPA, 2018b	ESV Table 2A
	Silver	7440-22-4	1	mg/kg	USEPA, 2018b	ESV Table 2A
	Zinc	7440-66-6	121	mg/kg	MacDonald et al., 2020	TEC
PAHs	1,1'-Biphenyl	92-52-4	0.198	mg/kg	USEPA, 2018b	ESV Table 2B
	2-Methylnaphthalene	91-57-6	0.0202	mg/kg	USEPA, 2018b	ESV Table 2B
	Acenaphthene	83-32-9	0.0067	mg/kg	USEPA, 2018b	ESV Table 2B
	Acenaphthylene	208-96-8	0.0059	mg/kg	USEPA, 2018b	ESV Table 2B
	Anthracene	120-12-7	0.0572	mg/kg	MacDonald et al., 2020	TEC
	Benzo[a]anthracene	56-55-3	0.108	mg/kg	MacDonald et al., 2020	TEC
	Benzo[a]pyrene	50-32-8	0.15	mg/kg	MacDonald et al., 2020	TEC
	Benzo[b]fluoranthene	205-99-2	0.19	mg/kg	USEPA, 2018b	ESV Table 2B
	Benzo[g,h,i]perylene	191-24-2	0.17	mg/kg	USEPA, 2018b	ESV Table 2B
	Benzo[k]fluoranthene	207-08-9	0.24	mg/kg	USEPA, 2018b	ESV Table 2B
	Chrysene	218-01-9	0.166	mg/kg	MacDonald et al., 2020	TEC
	Dibenzo[a,h]anthracene	53-70-3	0.033	mg/kg	MacDonald et al., 2020	TEC
	Dibenzofuran	132-64-9	0.51	mg/kg	USEPA, 2018b	ESV Table 2B
	Fluoranthene	206-44-0	0.423	mg/kg	MacDonald et al., 2020	TEC
	Fluorene	86-73-7	0.0774	mg/kg	MacDonald et al., 2020	TEC
	Indeno[1,2,3-cd]pyrene	193-39-5	0.2	mg/kg	USEPA, 2018b	ESV Table 2B
	Naphthalene	91-20-3	0.176	mg/kg	MacDonald et al., 2020	TEC
	Phenanthrene	85-01-8	0.204	mg/kg	MacDonald et al., 2020	TEC
	Pyrene	129-00-0	0.195	mg/kg	MacDonald et al., 2020	TEC
	Total PAHs		1.61	mg/kg	MacDonald et al., 2020	TEC
PCBs	Aroclor 1254	11097-69-1	0.81	mg/kg	ORNL (Jones et al. 1997)	secondary chronic
	Aroclor 1260	11096-82-5	4,500	mg/kg	ORNL (Jones et al. 1997)	secondary chronic
	Aroclor 1268	11100-14-4	NV	mg/kg		
	Total PCB Aroclors	1336-36-3	0.0598	mg/kg	MacDonald et al., 2020	TEC
Pesticides	4,4'-DDD	72-54-8	0.00488	mg/kg	MacDonald et al., 2020	TEC
	4,4'-DDE	72-55-9	0.00316	mg/kg	MacDonald et al., 2020	TEC
	4,4'-DDT	50-29-3	0.00416	mg/kg	MacDonald et al., 2020	TEC
	Aldrin	309-00-2	0.029	mg/kg	USEPA, 2018b	ESV Table 2A
	alpha-Benzenehexachloride	319-84-6	0.0003	mg/kg	USEPA, 2018b	ESV Table 2A
	Atrazine	1912-24-9	0.0003	mg/kg	USEPA, 2018b	ESV Table 2A
	beta-Benzenehexachloride	319-85-7	0.005	mg/kg	USEPA, 2018b	ESV Table 2A
	Carbazole	86-74-8	0.069	mg/kg	USEPA, 2018b	ESV Table 2B
	cis-Chlordane	5103-71-9	0.068	mg/kg	NYSDEC, 2014	Class A
	delta-Benzenehexachloride	319-86-8	71.5	mg/kg	USEPA, 2003b	EqP
	Dieldrin	60-57-1	0.0019	mg/kg	MacDonald et al., 2020	TEC

GSI ENVIRONMENTAL

TABLE B2.2
SLERA - Risk-Based Screening Levels for Sediment
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1,2)	Benchmark Type
Pesticides	Endosulfan I	959-98-8	0.00326	mg/kg	ORNL (Jones et al., 1997)	EqP
	Endosulfan II	33213-65-9	0.0009	mg/kg	USEPA, 2018b	ESV Table 2A
	Endosulfan sulfate	1031-07-8	0.0007	mg/kg	USEPA, 2018b	ESV Table 2A
	Endrin	72-20-8	0.00222	mg/kg	MacDonald et al., 2020	TEC
	Endrin aldehyde	7421-93-4	0.48	mg/kg	USEPA, 2003b	EqP
	gamma-Benzenehexachloride	58-89-9	0.00237	mg/kg	MacDonald et al., 2020	TEC
	Heptachlor	76-44-8	0.0006	mg/kg	USEPA, 2018b	ESV Table 2A
	Heptachlor epoxide	1024-57-3	0.00247	mg/kg	MacDonald et al., 2020	TEC
	Methoxychlor	72-43-5	0.03	mg/kg	USEPA, 2018b	ESV Table 2A
	Toxaphene	8001-35-2	0.0001	mg/kg	USEPA, 2018b	ESV Table 2A
	trans-Chlordane	5103-74-2	0.068	mg/kg	NYSDEC, 2014	Class A
Phenols	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	mg/kg	USEPA, 2018b	ESV Table 2B
	2,4,5-Trichlorophenol	95-95-4	0.034	mg/kg	USEPA, 2018b	ESV Table 2A
	2,4-Dichlorophenol	120-83-2	0.057	mg/kg	USEPA, 2018b	ESV Table 2B
	2-Chlorophenol	95-57-8	0.055	mg/kg	USEPA, 2018b	ESV Table 2A
	Pentachlorophenol	87-86-5	0.01	mg/kg	USEPA, 2018b	ESV Table 2A
	Phenol	108-95-2	0.175	mg/kg	USEPA, 2018b	ESV Table 2A
Semi-volatiles	1,2,4-Trichlorobenzene	120-82-1	0.011	mg/kg	USEPA, 2018b	ESV Table 2B
	1,2-Dichlorobenzene	95-50-1	0.095	mg/kg	USEPA, 2018b	ESV Table 2B
	1,3-Dichlorobenzene	541-73-1	0.089	mg/kg	USEPA, 2018b	ESV Table 2B
	1,4-Dichlorobenzene	106-46-7	0.03	mg/kg	USEPA, 2018b	ESV Table 2B
	2,4-Dimethylphenol	105-67-9	0.039	mg/kg	USEPA, 2018b	ESV Table 2A
	2,4-Dinitrophenol	51-28-5	0.223	mg/kg	USEPA, 2018b	ESV Table 2A
	2,4-Dinitrotoluene	121-14-2	0.29	mg/kg	USEPA, 2018b	ESV Table 2A
	2,6-Dinitrotoluene	606-20-2	0.296	mg/kg	USEPA, 2018b	ESV Table 2A
	2-Chloronaphthalene	91-58-7	0.417	mg/kg	USEPA, 2003b	EqP
	2-Methylphenol	95-48-7	0.119	mg/kg	USEPA, 2018b	ESV Table 2A
	2-Nitrophenol	88-75-5	0.168	mg/kg	USEPA, 2018b	ESV Table 2A
	3,3'-Dichlorobenzidine	91-94-1	0.031	mg/kg	USEPA, 2018b	ESV Table 2A
	4,6-Dinitro-2-methylphenol	534-52-1	1.477	mg/kg	USEPA, 2018b	ESV Table 2A
	4-Bromophenyl-phenylether	101-55-3	0.047	mg/kg	USEPA, 2018b	ESV Table 2B
	4-Chloro-3-methylphenol	59-50-7	0.005	mg/kg	USEPA, 2018b	ESV Table 2A
	4-Chloroaniline	106-47-8	0.0009	mg/kg	USEPA, 2018b	ESV Table 2A
	4-Methylphenol	106-44-5	0.093	mg/kg	USEPA, 2018b	ESV Table 2A
	4-Nitrophenol	100-02-7	0.153	mg/kg	USEPA, 2018b	ESV Table 2A
	Benzaldehyde	100-52-7	0.059	mg/kg	USEPA, 2018b	ESV Table 2A
	Benzyl n-butyl phthalate	85-68-7	0.1	mg/kg	USEPA, 2018b	ESV Table 2B
	Bis(2-chloroethyl)ether	111-44-4	3.52	mg/kg	USEPA, 2003b	EqP
	bis(2-Ethylhexyl)phthalate	117-81-7	0.18	mg/kg	USEPA, 2018b	ESV Table 2B
	Diethyl phthalate	84-66-2	0.63	mg/kg	USEPA, 2018b	ESV Table 2B
	Dimethyl phthalate	131-11-3	0.678	mg/kg	USEPA, 2018b	ESV Table 2B
	Di-n-butyl phthalate	84-74-2	0.011	mg/kg	USEPA, 2018b	ESV Table 2B
	Di-n-octylphthalate	117-84-0	0.039	mg/kg	USEPA, 2018b	ESV Table 2B
	Hexachlorobenzene	118-74-1	0.02	mg/kg	USEPA, 2018b	ESV Table 2A
	Hexachlorobutadiene	87-68-3	1.2	mg/kg	NYSDEC, 2014	Class A
	Hexachlorocyclopentadiene	77-47-4	0.0065	mg/kg	USEPA, 2018b	ESV Table 2A
	Hexachloroethane	67-72-1	0.027	mg/kg	USEPA, 2018b	ESV Table 2B
	Isophorone	78-59-1	0.876	mg/kg	USEPA, 2018b	ESV Table 2B
	Nitrobenzene	98-95-3	0.407	mg/kg	USEPA, 2018b	ESV Table 2B
	N-Nitrosodiphenylamine	86-30-6	0.11	mg/kg	USEPA, 2018b	ESV Table 2B
Volatiles	1,1,1-Trichloroethane	71-55-6	0.07	mg/kg	USEPA, 2018b	ESV Table 2B
	1,1,2,2-Tetrachloroethane	79-34-5	0.25	mg/kg	USEPA, 2018b	ESV Table 2B
	1,1,2-Trichloroethane	79-00-5	0.538	mg/kg	USEPA, 2018b	ESV Table 2B
	1,1-Dichloroethane	75-34-3	0.02	mg/kg	USEPA, 2018b	ESV Table 2B
	1,1-Dichloroethene	75-35-4	0.1	mg/kg	USEPA, 2018b	ESV Table 2B
	1,2,3-Trichlorobenzene	87-61-6	0.113	mg/kg	USEPA, 2018b	ESV Table 2B
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.187	mg/kg	USEPA, 2018b	ESV Table 2B
	1,2,4-Trimethylbenzene	95-63-6	0.097	mg/kg	USEPA, 2018b	ESV Table 2B

TABLE B2.2
SLERA - Risk-Based Screening Levels for Sediment
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Level	Units	Source (1,2)	Benchmark Type
Volatiles	1,2-Dichloroethane	107-06-2	0.986	mg/kg	USEPA, 2018b	ESV Table 2B
	1,2-Dichloropropane	78-87-5	0.428	mg/kg	USEPA, 2018b	ESV Table 2B
	1,3,5-Trimethylbenzene	108-67-8	0.164	mg/kg	USEPA, 2018b	ESV Table 2B
	1,4-Dioxane	123-91-1	0.119	mg/kg	USEPA, 2003b	EqP
	2-Butanone	78-93-3	7.604	mg/kg	USEPA, 2018b	ESV Table 2B
	2-Hexanone	591-78-6	0.045	mg/kg	USEPA, 2018b	ESV Table 2B
	4-Isopropyl toluene	99-87-6	0.184	mg/kg	USEPA, 2018b	ESV Table 2B
	4-Methyl-2-pentanone	108-10-1	0.073	mg/kg	USEPA, 2018b	ESV Table 2B
	Acetone	67-64-1	0.065	mg/kg	USEPA, 2018b	ESV Table 2B
	Benzene	71-43-2	0.01	mg/kg	USEPA, 2018b	ESV Table 2B
	Bromodichloromethane	75-27-4	0.21	mg/kg	USEPA, 2018b	ESV Table 2A
	Bromoform	75-25-2	0.142	mg/kg	USEPA, 2018b	ESV Table 2A
	Bromomethane	74-83-9	0.0065	mg/kg	USEPA, 2018b	ESV Table 2A
	Carbon disulfide	75-15-0	0.0078	mg/kg	USEPA, 2018b	ESV Table 2B
	Carbon Tetrachloride	56-23-5	0.057	mg/kg	USEPA, 2018b	ESV Table 2B
	Chlorobenzene	108-90-7	0.03	mg/kg	USEPA, 2018b	ESV Table 2B
	Chloroform	67-66-3	0.087	mg/kg	USEPA, 2018b	ESV Table 2B
	cis-1,2-Dichloroethene	156-59-2	0.432	mg/kg	USEPA, 2018b	ESV Table 2B
	Dibromochloromethane	124-48-1	0.198	mg/kg	USEPA, 2018b	ESV Table 2A
	Ethylbenzene	100-41-4	0.29	mg/kg	USEPA, 2018b	ESV Table 2B
	Isopropylbenzene	98-82-8	0.035	mg/kg	USEPA, 2018b	ESV Table 2B
	Methyl tert-butyl ether	1634-04-4	0.304	mg/kg	USEPA, 2018b	ESV Table 2B
	Methylene Chloride	75-09-2	0.018	mg/kg	USEPA, 2018b	ESV Table 2B
	o-Xylene	95-47-6	0.82	mg/kg	NYSDEC, 2014	Class A
	Styrene	100-42-5	0.126	mg/kg	USEPA, 2018b	ESV Table 2B
	Tetrachloroethene	127-18-4	0.002	mg/kg	USEPA, 2018b	ESV Table 2B
	Toluene	108-88-3	0.01	mg/kg	USEPA, 2018b	ESV Table 2B
	trans-1,2-Dichloroethene	156-60-5	0.389	mg/kg	USEPA, 2018b	ESV Table 2B
	Trichloroethene	79-01-6	0.078	mg/kg	USEPA, 2018b	ESV Table 2B
	Vinyl Chloride	75-01-4	0.482	mg/kg	USEPA, 2018b	ESV Table 2B
	Xylenes	1330-20-7	0.13	mg/kg	USEPA, 2018b	ESV Table 2B

Notes

EqP = estimated using equilbrium partitioning equation

ESV Table 2A = Ecological Screening Value for Step 2 (not refined), non-narcotic mode of action

ESV Table 2B = Ecological Screening Value for Step 2 (not refined), narcotic mode of action

NOAEL = no observed adverse effect level

NV = no value was available

ORNL = Oak Ridge National Laboratory

SVOC = semivolatile organic carbon

TEC = threshold effect concentration (below which effects are unlikely)

USEPA = United States Environmental Protection Agency

VOC = volatile organic carbon

Footnotes

(1) Hierarchy: MacDonald et al. (2000) > USEPA (2018) Region 4 > NYSDEC (2014) > USEPA (2003) Region 5 > ORNL (Jones et al., 1997).

(2) USEPA (2018) Region 4 screening values for organics assumes 1% organic carbon in sediment. Within the Project Area, the median sediment TOC (n=23) is 1.6% with an interquartile range (25th to 75th percentiles) of 0.1% to 3.6%.

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GSI ENVIRONMENTAL

TABLE B2.3
SLERA - Risk-Based Screening Levels for Surface Water
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Levels	Units	Source (1,2,3)	Notes
PFAS	Perfluorobutanesulfonic acid	375-73-5	640	µg/L	SERDP, 2020	NOAEL-wildlife
	Perfluorohexanoic acid	307-24-4	210	µg/L	SERDP, 2020	NOAEL-wildlife
	Perfluorononanoic acid	375-95-1	2.2	µg/L	SERDP, 2020	NOAEL-wildlife
	Perfluorooctanesulfonic acid	1763-23-1	0.075	µg/L	SERDP, 2020; CRWQCB-SFB, 2020	NOAEL-wildlife, protective of reproduction and survival of piscivorous birds
	Perfluorooctanoic acid	335-67-1	1,300	µg/L	FDEP, 2019	Tier II (secondary) chronic value, using acute secondary value of 20,000 µg/L derived with USEPA Great Lakes Initiative methods, divided by acute-to-chonic ratio of 15.3
Metals	Aluminum	7429-90-5	87	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Antimony	7440-36-0	190	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Arsenic	7440-38-2	150	µg/L	USEPA, 2019 (FW CCC)	Value is for arsenic III, but is applied here for total arsenic
	Barium	7440-39-3	220	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Beryllium	7440-41-7	11	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Cadmium	7440-43-9	0.72	µg/L	USEPA, 2019 (FW CCC)	
	Calcium	7440-70-2	116,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Chromium	7440-47-3	74	µg/L	USEPA, 2019 (FW CCC)	Value is for chromium III. Criterion is a function of water hardness, and assumes 100 mg/L. Listed as Priority Pollutant.
	Cobalt	7440-48-4	19	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Copper	7440-50-8	4.95	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Iron	7439-89-6	1,000	µg/L	USEPA, 2019 (FW CCC)	
	Lead	7439-92-1	3.2	µg/L	USEPA, 2019 (FW CCC)	Criterion is a function of water hardness, and assumes 100 mg/L.
	Magnesium	7439-95-4	82,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Manganese	7439-96-5	93	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Mercury	7439-97-6	0.77	µg/L	USEPA, 2019 (FW CCC)	
	Nickel	7440-02-0	52	µg/L	USEPA, 2019 (FW CCC)	Criterion is a function of water hardness, and assumes 100 mg/L. Listed as Priority Pollutant.
	Potassium	7440-09-7	53,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Selenium	7782-49-2	5	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Silver	7440-22-4	0.06	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Sodium	7440-23-5	680,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Thallium	7440-28-0	6	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Vanadium	7440-62-2	27	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Zinc	7440-66-6	120	µg/L	USEPA, 2019 (FW CCC)	Listed as Priority Pollutant.
PAHs	1,1'-Biphenyl	92-52-4	6.5	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Methylnaphthalene	91-57-6	4.7	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Nitroaniline	88-74-4	17	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Acenaphthene	83-32-9	15	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Acenaphthylene	208-96-8	13	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Anthracene	120-12-7	0.02	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzo[a]anthracene	56-55-3	4.7	µg/L	USEPA, 2018b	Table 1e - PAHs
	Benzo[a]pyrene	50-32-8	0.06	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzo[b]fluoranthene	205-99-2	2.6	µg/L	USEPA, 2018b	Table 1e - PAHs
	Benzo[g,h,i]perylene	191-24-2	0.012	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzo[k]fluoranthene	207-08-9	0.06	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Chrysene	218-01-9	4.7	µg/L	USEPA, 2018b	Table 1e - PAHs
	Dibenzo[a,h]anthracene	53-70-3	0.012	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Dibenzofuran	132-64-9	4	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Fluoranthene	206-44-0	0.8	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Fluorene	86-73-7	19	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Indeno[1,2,3-cd]pyrene	193-39-5	0.012	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Naphthalene	91-20-3	21	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Pyrene	129-00-0	4.6	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
PCBs	Total PCB Aroclors	1336-36-3	0.014	µg/L	USEPA, 2019 (FW CCC)	
Pesticides	4,4'-DDD	72-54-8	0.01	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4,4'-DDE	72-55-9	0.3	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4,4'-DDT	50-29-3	0.001	µg/L	USEPA, 2019 (FW CCC)	
	Aldrin	309-00-2	0.04	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	alpha-Benzenehexachloride	319-84-6	0.01	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Atrazine	1912-24-9	0.03	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	beta-Benzenehexachloride	319-85-7	0.01	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical, CASRN 319-84-6 (alpha-BHC)

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TABLE B2.3
SLERA - Risk-Based Screening Levels for Surface Water
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Levels	Units	Source (1,2,3)	Notes
Pesticides	Carbazole	86-74-8	4	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	delta-Benzenehexachloride	319-86-8	667	µg/L	USEPA, 2003b	
	Dieldrin	60-57-1	0.056	µg/L	USEPA, 2019 (FW CCC)	
	Endosulfan I	959-98-8	0.056	µg/L	USEPA, 2019 (FW CCC)	
	Endosulfan II	33213-65-9	0.056	µg/L	USEPA, 2019 (FW CCC)	
	Endosulfan sulfate	1031-07-8	0.06	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Endrin	72-20-8	0.036	µg/L	USEPA, 2019 (FW CCC)	
	Endrin aldehyde	7421-93-4	0.15	µg/L	USEPA, 2003b	
	gamma-Benzenehexachloride	58-89-9	0.11	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Heptachlor	76-44-8	0.0038	µg/L	USEPA, 2019 (FW CCC)	
	Heptachlor epoxide	1024-57-3	0.0038	µg/L	USEPA, 2019 (FW CCC)	
	Methoxychlor	72-43-5	0.03	µg/L	USEPA, 2019 (FW CCC)	
	Toxaphene	8001-35-2	0.0002	µg/L	USEPA, 2019 (FW CCC)	
Phenols	2,3,4,6-Tetrachlorophenol	58-90-2	1	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,4,5-Trichlorophenol	95-95-4	1.9	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,4-Dichlorophenol	120-83-2	11	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Chlorophenol	95-57-8	18	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Pentachlorophenol	87-86-5	15	µg/L	USEPA, 2019 (FW CCC)	
	Phenol	108-95-2	160	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
Semi-volatiles	1,2,4-Trichlorobenzene	120-82-1	35	µg/L	USEPA, 2018b	Table 1d - Narcotic chemical
	1,2-Dichlorobenzene	95-50-1	23	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,3-Dichlorobenzene	541-73-1	22	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,4-Dichlorobenzene	106-46-7	9.4	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,4-Dimethylphenol	105-67-9	15	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,4-Dinitrophenol	51-28-5	71	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,4-Dinitrotoluene	121-14-2	44	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2,6-Dinitrotoluene	606-20-2	81	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Chloronaphthalene	91-58-7	0.396	µg/L	USEPA, 2003b	
	2-Methylphenol	95-48-7	67	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Nitrophenol	88-75-5	73	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	3,3'-Dichlorobenzidine	91-94-1	4.5	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4,6-Dinitro-2-methylphenol	534-52-1	23	µg/L	USEPA, 2003b	
	4-Bromophenyl-phenylether	101-55-3	1.5	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4-Chloro-3-methylphenol	59-50-7	1	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4-Chloroaniline	106-47-8	0.8	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4-Methylphenol	106-44-5	53	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4-Nitrophenol	100-02-7	58	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzaldehyde	100-52-7	143	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzyl n-butyl phthalate	85-68-7	18	µg/L	USEPA, 2018b	Table 1d - Narcotic chemical
	Bis(2-chloroethyl)ether	111-44-4	1900	µg/L	USEPA, 2003b	
	bis(2-Ethylhexyl)phthalate	117-81-7	8	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Diethyl phthalate	84-66-2	220	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Dimethyl phthalate	131-11-3	1,100	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Di-n-butyl phthalate	84-74-2	19	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Di-n-octylphthalate	117-84-0	215	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Hexachlorobenzene	118-74-1	0.15	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Hexachlorobutadiene	87-68-3	1	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Hexachlorocyclopentadiene	77-47-4	0.45	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Hexachloroethane	67-72-1	12	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Isophorone	78-59-1	920	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Nitrobenzene	98-95-3	230	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	N-Nitrosodiphenylamine	86-30-6	25	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
Volatiles	1,1,1-Trichloroethane	71-55-6	76	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,1,2,2-Tetrachloroethane	79-34-5	200	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,1,2-Trichloroethane	79-00-5	730	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,1-Dichloroethane	75-34-3	410	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,1-Dichloroethene	75-35-4	130	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,2,3-Trichlorobenzene	87-61-6	8	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,2,4,5-Tetrachlorobenzene	95-94-3	6	µg/L	USEPA, 2018b	Table 1d - Narcotic chemical
	1,2,4-Trimethylbenzene	95-63-6	15	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,2-Dichloroethane	107-06-2	2,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,2-Dichloropropane	78-87-5	520	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,3,5-Trimethylbenzene	108-67-8	26	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	1,4-Dioxane	123-91-1	22,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Butanone	78-93-3	22,000	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	2-Hexanone	591-78-6	99	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical

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TABLE B2.3
SLERA - Risk-Based Screening Levels for Surface Water
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Chemical Class	Analyte Name	CASRN	Screening Levels	Units	Source (1,2,3)	Notes
Volatiles	4-Isopropyl toluene	99-87-6	16	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	4-Methyl-2-pentanone	108-10-1	170	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Acetone	67-64-1	1,700	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Benzene	71-43-2	160	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Bromodichloromethane	75-27-4	340	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Bromoform	75-25-2	230	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Bromomethane	74-83-9	16	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Carbon disulfide	75-15-0	15	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Carbon Tetrachloride	56-23-5	77	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Chlorobenzene	108-90-7	25	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Chloroform	67-66-3	140	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	cis-1,2-Dichloroethene	156-59-2	620	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Cyclohexane	110-82-7	158	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Dibromochloromethane	124-48-1	320	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Ethylbenzene	100-41-4	61	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Isopropylbenzene	98-82-8	4.8	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Methyl tert-butyl ether	1634-04-4	730	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Methylcyclohexane	108-87-2	52	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Styrene	100-42-5	32	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Tetrachloroethene	127-18-4	53	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Toluene	108-88-3	62	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	trans-1,2-Dichloroethene	156-60-5	558	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical
	Xylenes	1330-20-7	27	µg/L	USEPA, 2018b	Table 1a - Non-narcotic chemical

Notes
FW CCC = freshwater criterion continuous concentration
NAWQC = national ambient water quality criteria
NOAEL = no observeable adverse effect level
SERDP = Strategic Environmental & Development Program
USEPA = United States Environmental Protection Agency

Footnotes
(1) Hierarchy: USEPA (2019) NAWQC > USEPA (2018) Region 4 > USEPA (2003) Region 5 > State Agencies.
(2) USEPA (2019) NAWQC, freshwater chronic values for metals are expressed in terms of the dissolved concentrations, whereas data are reported as total (unfiltered).
(3) California adopted freshwater water ecological screening levels for PFOA and PFOS proposed by SERDP (2020) (CRWQCB-SF, 2020).

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TABLE B3
Federally Listed Threatened and Endangered Species in New York State
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

	Scientific Name	Common Name	Current Distribution in the U.S.	Footnote
1	*Acronicta albarufa*	Barrens Dagger Moth	AR, CO, CT, DE, GA, MA, MO, NC, NJ, NM, NY, OH, PA	
2	*Agalinis acuta*	Sandplain gerardia	CT, MA, MD, NY, RI	1
3	*Alasmidonta heterodon*	Dwarf wedgemussel	CT, MA, MD, NC, NH, NJ, NY, PA, VA, VT	
4	*Amelanchier nantucketensis*	[Unnamed] service-berry	MA, NY	
5	*Ammocrypta pellucida*	Eastern sand darter	IL, IN, KY, MI, NY, OH, PA, VT, WV	
6	*Asplenium scolopendrium var. americanum*	American hart's-tongue fern	AL, MI, NY, TN	
7	*Atrytone arogos arogos*	Eastern beard grass Skipper	AL, DE, FL, GA, MS, NC, NJ, NY, PA, SC, VA	
8	*Bidens bidentoides bidentoides*	[Unnamed] bur-marigold	DE, NJ, NY, PA	
9	*Bombus terricola*	Yellow banded bumble bee	CT, IL, KY, MA, MD, ME, MI, MN, MT, NC, ND, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV	2
10	*Calamagrostis perplexa*	Wood reedgrass	NY	
11	*Calidris canutus rufa*	Red knot	AL, AR, CT, DE, FL, GA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TX, VA, WI, WV	3
12	*Callophrys irus irus, C. i. hadros, C. i. arsace*	Frosted Elfin	AL, AR, CT, DE, FL, GA, IN, KY, LA, MA, MD, MI, NC, NH, NJ, NY, OH, PA, RI, SC, TN, TX, VA, VT,	4
13	*Cardamine longii*	Long's bittercress	DE, MA, MD, ME, NC, NH, NJ, NY, RI, VA	
14	*Carex barrattii*	Barratt's sedge	AL, CT, DE, MD, NC, NJ, NY, PA, TN, VA	
15	*Carex polymorpha*	Variable sedge	CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA,	
16	*Carex schweinitzii*	[Unnamed] sedge	CT, DE, MA, MO, NC, NJ, NY, PA, VA, VT, WI	
17	*Catharus bicknelli*	Bicknell's thrush	MA, ME, NH, NY, VT	
18	*Catocala pretiosa pretiosa*	Precious underwing	CT, DE, MA, MD, NH, NJ, NY, OH, PA, VA	
19	*Charadrius melodus*	Piping Plover	AL, AR, CO, CT, DE, FL, GA, IA, KS, LA, MA, MD, ME, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OK, RI, SC, SD, TX, VA, WY	
20	*Cicindela marginipennis*	Cobblestone tiger beetle	AL, CT, DE, IN, KY, MA, ME, NH, NJ, NY, OH, PA, RI, VT, WV	5
21	*Clemmys muhlenbergii*	bog turtle	VA, TN, SC, PA, NY, NJ, NC, MD, MA, GA, DE,	
22	*Desmodium humifusum*	Ground-spreading tick-trefoil	CT, DE, MA, MD, NJ, NY, PA	
23	*Dichanthelium scabriusculum*	woolly rosette grass	DC, NY, RI, VA	
24	*Elodea schweinitzii*	Schweinitz's waterweed	NY, PA	6
25	*Enallagma laterale*	Lateral bluet	DE, IN, MA, ME, NJ, NY, PA	
26	*Enallagma recurvatum*	Barrens bluet damselfly	DE, MA, NJ, NY	
27	*Epioblasma torulosa rangiana*	Northern riffleshell	IL, IN, KY, MI, NY, OH, PA, WV	
28	*Eriocaulon parkeri*	Parker's pipewort	CT, DC, DE, MA, MD, ME, NC, NJ, NY, PA, VA	
29	*Etheostoma maculatum*	Spotted darter	NY	
30	*Eupatorium resinosum*	Pine barrens boneset	DE, NC, NJ, NY, SC	7
31	*Glyptemys insculpta*	Wood turtle	CT, DC, DE, IA, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, VA, VT, WI, WV	7
32	*Gomphus adelphus*	Hudson clubtail dragonfly	MA, NY	
33	*Helianthemum dumosum*	Bushy rush-rose	CT, MA, NY, RI	
34	*Hemileuca sp.*	bog buckmoth	NY, WI	
35	*Hypericum adpressum*	No common name	AL, CT, DE, GA, IL, IN, KY, MA, MD, NJ, NY, PA, RI, SC, TN, VA	
36	*Incisalia lanoraieensis*	Bog elfin butterfly	ME, NH, NY	
37	*Isoetes eatonii*	Eaton's quillwort	CT, DE, MA, NH, NJ, NY	
38	*Isotria medeoloides*	Small whorled pogonia	CT, DE, GA, IL, MA, MD, ME, MI, MO, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, WV	
39	*Lambdina canitiaria*	[Unnamed] looper moth	NY	8
40	*Liatris borealis*	[Unnamed] blazingstar	CT, DE, MA, ME, NH, NJ, NY, PA, RI	
41	*Listera auriculata*	Auricled twayblade	ME, MI, MN, NH, NY, VT, WI	
42	*Lordithon niger*	Black lordithon rove beetle	AR, CT, DC, GA, IL, KY, MI, MO, NC, NY, OH, PA, TX, VA, WV	8
43	*Malaclemys terrapin terrapin*	Northern diamondback terrapin	CT, DE, MA, MD, NC, NJ, NY, RI, VA	
44	*Martes americana americana*	Eastern marten	MA, ME, MI, ND, NH, NY, OH, PA, VT, WI	
45	*Merolonche dolli*	Doll's merolonche	DE, MI, MN, NJ, NY, PA	
46	*Micranthemum micranthemoides*	Nuttall's micranthemum	DC, DE, MD, NJ, NY, PA, VA	6
47	*Microsorex hoyi thompsoni*	Northeastern pygmy shrew	MA, ME, MI, NH, NY, OH, PA, VT, WI, WV	
48	*Muhlenbergia torreyana*	Torrey's muhly	DE, GA, MD, NC, NJ, NY, TN	
49	*Papaipema aerata*	[Unnamed] noctuid moth	DE, IL, MI, NH, NJ, NY, PA	
50	*Percina macrocephala*	Longhead darter	KY, NY, OH, PA, TN, WV	

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TABLE B3
Federally Listed Threatened and Endangered Species in New York State
McCaffrey Street Site
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NYSDEC Site # 442046

	Scientific Name	Common Name	Current Distribution in the U.S.	Footnote
51	*Perimyotis subflavus*	Tricolored bat	AL, AR, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY	7
52	*Pleurobema clava*	Clubshell	IL, IN, KY, MI, MS, NY, OH, PA, TN, WV	
53	*Polemonium vanbruntiae*	[Unnamed] jacob's ladder	CT, DE, MD, ME, NJ, NY, PA, VT, WV	
54	*Potamogeton hillii*	Hill's pondweed	CT, MA, MI, NY, OH, PA, VT	
55	*Potamogeton lateralis*	No common name	CT, MA, MI, MN, NH, NY, VT	
56	*Potamogeton ogdenii*	[Unnamed] pondweed	MA, NY, VT	
57	*Prenanthes boottii*	Boott's rattlesnake root	ME, NH, NY, VT	
58	*Pseudemys rubriventris*	Northern Red-bellied cooter	DC, DE, MA, MD, NC, NJ, NY, PA, VA	7
59	*Pyrgus centaureae*	Grizzled skipper	DE, KY, MD, MI, NC, NJ, NY, OH, PA, VA, WV	
60	*Schizaea pusilla*	Curly-grass fern	DE, NJ, NY	
61	*Scirpus ancistrochaetus*	Northeastern bulrush	MA, MD, NH, NY, PA, VA, VT, WV	
62	*Scirpus longii*	Long's bulrush	CT, DE, MA, ME, NH, NJ, NY, RI	
63	*Siphlonisca aerodromia*	Tomah mayfly	ME, NY	
64	*Sorex dispar*	Long-tailed shrew	DE, MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT, WV	
65	*Spongilla heteroslerifa*	Oneida sponge	NY	
66	*Sterna dougallii dougallii*	Roseate tern	CT, MA, ME, NC, NH, NJ, NY, RI, VA	
67	*Stygobromus allegheniensis*	Allegheny cave amphipod	MD, NY, PA	
68	*Suaeda rolandii*	No common name	DE, NJ, NY	
69	*Succinea chittenangoensis*	Chittenango ovate amber snail	NY	9
70	*Sylvilagus transitionalis*	New England cottontail	ME, NY	
71	*Thamnophis brachystoma*	Short-headed garter snake	NY, PA	
72	*Trollius laxus laxus*	No common name	CT, DE, NJ, NY, OH, PA	
73	*Williamsonia lintneri*	Banded bog skimmer	CT, DE, MA, NH, NJ, NY, RI	

Footnotes

(1) The current range for this species extends northward from MD to MA, specifically within each of these five states (RI, NY, MD, MA, CT)

(2) Historic distribution included the northeast southward into the higher elevations of the Appalachians, the upper Midwest extending west to the Rocky Mountains, most of southeastern Canada (Cameron, et al., 2011 at 663-64) and northwest into British Columbia (Stephen, 1957 at 81).

(3) The rufa red knot migrates annually between its breeding grounds in the Canadian Arctic and several wintering regions, including the southeast U.S., the northwest Gulf of Mexico, northern Brazil and Tierra del Fuego at the southern tip of South America. During both the northbound (spring) and southbound (fall) migrations, groups of a few individuals to thousands of rufa red knots can be found anywhere along the coastal and inland U.S. migration corridors from Argentina to Canada. In the spring, key staging and stopover areas include Patagonia, Argentina; eastern and northern Brazil; the southeast U.S.; the Virginia barrier islands; and Delaware Bay. In the fall, key migration stopovers include Hudson Bay, James Bay, the St. Lawrence River, the Mingan Archipelago, and the Bay of Fundy in Canada; the Massachusetts and New Jersey coasts; the Altamaha River in Georgia; the Caribbean; and the northern coast of South America from Brazil to Guyana.

(4) The distribution of the frosted elfin once extended from southern Ontario and the northeastern United States, south to FL, and west to TX and WI (Allen 1997, p. 93; Opler and Krizek 1984, p. 100). The frosted elfin has a wide range (25 states) in North America. However, the species is likely extirpated from Ontario, Canada, and the District of Columbia, GA, IL, and VT due to loss of host plants as a result of incompatible vegetation management, loss of frosted elfin populations and habitat from catastrophic fire, and residential development.

(5) The historical range of the CTB has been recorded from New Brunswick, Canada into the United States with populations in ME, NH, VT, MA, NY, NJ, PA, WV, IN, OH, KT, AL, MS, in riverine habitats with cobble substrates. The exception is the Grand Lake, New Brunswick population that occurs along similar substrates on the

(6) Possibly extinct

(7) Under review.

(8) Possibly extinct,not reported since 1965.

(9) Chittenango Falls State Park.

(10) The list of species was dowloaded from USFWS ECOS Environmental Conservation Online System (https://ecos.fws.gov/ecp/)

GSI ENVIRONMENTAL

TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Amphibians							
Animal	Amphibians	Salamanders	*Ambystoma jeffersonianum*	Jefferson Salamander	RC	1990-1999	SC
Animal	Amphibians	Salamanders	*Ambystoma laterale*	Blue-spotted Salamander	RC	1990-1999	SC
Birds							
Animal	Birds	Blackbirds and Orioles	*Agelaius phoeniceus*	Red-winged Blackbird	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Dolichonyx oryzivorus*	Bobolink	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Icterus galbula*	Baltimore Oriole	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Icterus spurius*	Orchard Oriole	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Molothrus ater*	Brown-headed Cowbird	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Quiscalus quiscula*	Common Grackle	RC	2000-2005	PB
Animal	Birds	Blackbirds and Orioles	*Sturnella magna*	Eastern Meadowlark	RC	2000-2005	PB
Animal	Birds	Cardinals and Buntings	*Cardinalis cardinalis*	Northern Cardinal	RC	2000-2005	PB
Animal	Birds	Cardinals and Buntings	*Passerina cyanea*	Indigo Bunting	RC	2000-2005	PB
Animal	Birds	Cardinals and Buntings	*Pheucticus ludovicianus*	Rose-breasted Grosbeak	RC	2000-2005	PB
Animal	Birds	Cardinals and Buntings	*Piranga olivacea*	Scarlet Tanager	RC	2000-2005	PB
Animal	Birds	Chickadees and Titmice	*Baeolophus bicolor*	Tufted Titmouse	RC	2000-2005	PB
Animal	Birds	Chickadees and Titmice	*Poecile atricapillus*	Black-capped Chickadee	RC	2000-2005	PB
Animal	Birds	Cormorants	*Phalacrocorax auritus*	Double-crested Cormorant	RC	2000-2005	PB
Animal	Birds	Creepers	*Certhia americana*	Brown Creeper	RC	2000-2005	PB
Animal	Birds	Crows and Jays	*Corvus brachyrhynchos*	American Crow	RC	2000-2005	PB - open
Animal	Birds	Crows and Jays	*Corvus corax*	Common Raven	RC	2000-2005	PB
Animal	Birds	Crows and Jays	*Corvus ossifragus*	Fish Crow	RC	2000-2005	PB - open
Animal	Birds	Crows and Jays	*Cyanocitta cristata*	Blue Jay	RC	2000-2005	PB
Animal	Birds	Cuckoos	*Coccyzus americanus*	Yellow-billed Cuckoo	RC	2000-2005	PB
Animal	Birds	Cuckoos	*Coccyzus erythropthalmus*	Black-billed Cuckoo	RC	2000-2005	PB
Animal	Birds	Ducks Geese Waterfowl	*Aix sponsa*	Wood Duck	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Anas crecca*	Green-winged Teal	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Anas platyrhynchos*	Mallard	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Anas platyrhynchos x rubripes*	Mallard x Am. Black Duck	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Anas rubripes*	American Black Duck	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Branta canadensis*	Canada Goose	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Cygnus olor*	Mute Swan	RC	2000-2005	PB
Animal	Birds	Ducks Geese Waterfowl	*Lophodytes cucullatus*	Hooded Merganser	RC	2000-2005	PB - open
Animal	Birds	Ducks Geese Waterfowl	*Mergus merganser*	Common Merganser	RC	2000-2005	PB - open
Animal	Birds	Finches and Crossbills	*Coccothraustes vespertinus*	Evening Grosbeak	RC	2000-2005	PB
Animal	Birds	Finches and Crossbills	*Haemorhous mexicanus*	House Finch	RC	2000-2005	PB
Animal	Birds	Finches and Crossbills	*Haemorhous purpureus*	Purple Finch	RC	2000-2005	PB
Animal	Birds	Finches and Crossbills	*Loxia leucoptera*	White-winged Crossbill	RC	2000-2005	PB
Animal	Birds	Finches and Crossbills	*Spinus pinus*	Pine Siskin	RC	2000-2005	PB
Animal	Birds	Finches and Crossbills	*Spinus tristis*	American Goldfinch	RC	2000-2005	PB

GSI ENVIRONMENTAL

TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Animal	Birds	Flycatchers	*Contopus cooperi*	Olive-sided Flycatcher	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Contopus virens*	Eastern Wood-Pewee	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Empidonax alnorum*	Alder Flycatcher	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Empidonax minimus*	Least Flycatcher	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Empidonax traillii*	Willow Flycatcher	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Myiarchus crinitus*	Great Crested Flycatcher	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Sayornis phoebe*	Eastern Phoebe	RC	2000-2005	PB
Animal	Birds	Flycatchers	*Tyrannus tyrannus*	Eastern Kingbird	RC	2000-2005	PB
Animal	Birds	Gnatcatchers	*Polioptila caerulea*	Blue-gray Gnatcatcher	RC	2000-2005	PB
Animal	Birds	Grebes	*Podilymbus podiceps*	Pied-billed Grebe	RC	2000-2005	T
Animal	Birds	Grouse Pheasants Turkeys	*Bonasa umbellus*	Ruffed Grouse	RC	2000-2005	PB - open
Animal	Birds	Grouse Pheasants Turkeys	*Colinus virginianus*	Northern Bobwhite	RC	2000-2005	PB - open
Animal	Birds	Grouse Pheasants Turkeys	*Meleagris gallopavo*	Wild Turkey	RC	2000-2005	PB - open
Animal	Birds	Grouse Pheasants Turkeys	*Phasianus colchicus*	Ring-necked Pheasant	RC	2000-2005	PB - open
Animal	Birds	Gulls Terns Plovers Shorebirds	*Actitis macularius*	Spotted Sandpiper	RC	2000-2005	PB
Animal	Birds	Gulls Terns Plovers Shorebirds	*Charadrius vociferus*	Killdeer	RC	2000-2005	PB
Animal	Birds	Gulls Terns Plovers Shorebirds	*Gallinago delicata*	Wilson's Snipe	RC	2000-2005	PB - open
Animal	Birds	Gulls Terns Plovers Shorebirds	*Scolopax minor*	American Woodcock	RC	2000-2005	PB - open
Animal	Birds	Hawks Falcons Eagles Vultures	*Accipiter cooperii*	Cooper's Hawk	RC	2000-2005	SC
Animal	Birds	Hawks Falcons Eagles Vultures	*Accipiter gentilis*	Northern Goshawk	RC	2000-2005	SC
Animal	Birds	Hawks Falcons Eagles Vultures	*Accipiter striatus*	Sharp-shinned Hawk	RC	2000-2005	SC
Animal	Birds	Hawks Falcons Eagles Vultures	*Buteo jamaicensis*	Red-tailed Hawk	RC	2000-2005	PB
Animal	Birds	Hawks Falcons Eagles Vultures	*Buteo lineatus*	Red-shouldered Hawk	RC	2000-2005	SC
Animal	Birds	Hawks Falcons Eagles Vultures	*Buteo platypterus*	Broad-winged Hawk	RC	2000-2005	PB
Animal	Birds	Hawks Falcons Eagles Vultures	*Circus cyaneus*	Northern Harrier	RC	2005	T
Animal	Birds	Hawks Falcons Eagles Vultures	*Falco peregrinus*	Peregrine Falcon	RC	2000-2005	E
Animal	Birds	Hawks Falcons Eagles Vultures	*Falco sparverius*	American Kestrel	RC	2000-2005	PB
Animal	Birds	Hawks Falcons Eagles Vultures	*Haliaeetus leucocephalus*	Bald Eagle	RC	2016	T
Animal	Birds	Hawks Falcons Eagles Vultures	*Pandion haliaetus*	Osprey	RC	2000-2005	SC
Animal	Birds	Herons Bitterns Egrets Pelicans	*Ardea herodias*	Great Blue Heron	RC	2000-2005	PB
Animal	Birds	Herons Bitterns Egrets Pelicans	*Botaurus lentiginosus*	American Bittern	RC	2000-2005	SC
Animal	Birds	Herons Bitterns Egrets Pelicans	*Butorides virescens*	Green Heron	RC	2000-2005	PB
Animal	Birds	Herons Bitterns Egrets Pelicans	*Ixobrychus exilis*	Least Bittern	RC	2014	T
Animal	Birds	Herons Bitterns Egrets Pelicans	*Nycticorax nycticorax*	Black-crowned Night-Heron	RC	2000-2005	PB
Animal	Birds	Hummingbirds and Swifts	*Archilochus colubris*	Ruby-throated Hummingbird	RC	2000-2005	PB
Animal	Birds	Hummingbirds and Swifts	*Chaetura pelagica*	Chimney Swift	RC	2000-2005	PB
Animal	Birds	Kingfishers	*Megaceryle alcyon*	Belted Kingfisher	RC	2000-2005	PB
Animal	Birds	Kinglets	*Regulus calendula*	Ruby-crowned Kinglet	RC	2000-2005	PB
Animal	Birds	Kinglets	*Regulus satrapa*	Golden-crowned Kinglet	RC	2000-2005	PB
Animal	Birds	Mockingbirds and Thrashers	*Dumetella carolinensis*	Gray Catbird	RC	2000-2005	PB
Animal	Birds	Mockingbirds and Thrashers	*Mimus polyglottos*	Northern Mockingbird	RC	2000-2005	PB
Animal	Birds	Mockingbirds and Thrashers	*Toxostoma rufum*	Brown Thrasher	RC	2000-2005	PB

GSI ENVIRONMENTAL

TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

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Animal	Birds	Nightbirds	*Antrostomus vociferus*	Whip-poor-will	HC		SC
Animal	Birds	Nightbirds	*Chordeiles minor*	Common Nighthawk	RC	2000-2005	SC
Animal	Birds	Nuthatches	*Sitta canadensis*	Red-breasted Nuthatch	RC	2000-2005	PB
Animal	Birds	Nuthatches	*Sitta carolinensis*	White-breasted Nuthatch	RC	2000-2005	PB
Animal	Birds	Owls	*Aegolius acadicus*	Northern Saw-whet Owl	RC	2000-2005	PB
Animal	Birds	Owls	*Asio otus*	Long-eared Owl	RC	2000-2005	PB
Animal	Birds	Owls	*Bubo virginianus*	Great Horned Owl	RC	2000-2005	PB
Animal	Birds	Owls	*Megascops asio*	Eastern Screech-Owl	RC	2000-2005	PB
Animal	Birds	Owls	*Strix varia*	Barred Owl	RC	2000-2005	PB
Animal	Birds	Owls	*Tyto alba*	Barn Owl	RC		PB
Animal	Birds	Pigeons and Doves	*Zenaida macroura*	Mourning Dove	RC	2000-2005	PB
Animal	Birds	Rails Coots and Cranes	*Gallinula galeata*	Common Moorhen	RC	2000-2005	PB - open
Animal	Birds	Rails Coots and Cranes	*Porzana carolina*	Sora	RC	2000-2005	PB - open
Animal	Birds	Rails Coots and Cranes	*Rallus limicola*	Virginia Rail	RC	2000-2005	PB - open
Animal	Birds	Swallows	*Hirundo rustica*	Barn Swallow	RC	2000-2005	PB
Animal	Birds	Swallows	*Petrochelidon pyrrhonota*	Cliff Swallow	RC	2000-2005	PB
Animal	Birds	Swallows	*Progne subis*	Purple Martin	RC	2000-2005	PB
Animal	Birds	Swallows	*Riparia riparia*	Bank Swallow	RC	2000-2005	PB
Animal	Birds	Swallows	*Stelgidopteryx serripennis*	Northern Rough-winged Swallow	RC	2000-2005	PB
Animal	Birds	Swallows	*Tachycineta bicolor*	Tree Swallow	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Catharus fuscescens*	Veery	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Catharus guttatus*	Hermit Thrush	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Catharus ustulatus*	Swainson's Thrush	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Hylocichla mustelina*	Wood Thrush	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Sialia sialis*	Eastern Bluebird	RC	2000-2005	PB
Animal	Birds	Thrushes and Bluebirds	*Turdus migratorius*	American Robin	RC	2000-2005	PB
Animal	Birds	Vireos	*Vireo flavifrons*	Yellow-throated Vireo	RC	2000-2005	PB
Animal	Birds	Vireos	*Vireo gilvus*	Warbling Vireo	RC	2000-2005	PB
Animal	Birds	Vireos	*Vireo olivaceus*	Red-eyed Vireo	RC	2000-2005	PB
Animal	Birds	Vireos	*Vireo solitarius*	Blue-headed Vireo	RC	2000-2005	PB
Animal	Birds	Waxwings	*Bombycilla cedrorum*	Cedar Waxwing	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Colaptes auratus*	Northern Flicker	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Dryocopus pileatus*	Pileated Woodpecker	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Melanerpes carolinus*	Red-bellied Woodpecker	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Melanerpes erythrocephalus*	Red-headed Woodpecker	HC		SC
Animal	Birds	Woodpeckers	*Picoides pubescens*	Downy Woodpecker	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Picoides villosus*	Hairy Woodpecker	RC	2000-2005	PB
Animal	Birds	Woodpeckers	*Sphyrapicus varius*	Yellow-bellied Sapsucker	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Cardellina canadensis*	Canada Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Geothlypis philadelphia*	Mourning Warbler	RC	2000-2005	PB

GSI ENVIRONMENTAL

TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Animal	Birds	Wood-Warblers	*Geothlypis trichas*	Common Yellowthroat	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Mniotilta varia*	Black-and-white Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Oreothlypis ruficapilla*	Nashville Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Parkesia motacilla*	Louisiana Waterthrush	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Parkesia noveboracensis*	Northern Waterthrush	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Seiurus aurocapilla*	Ovenbird	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga americana*	Northern Parula	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga caerulescens*	Black-throated Blue Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga cerulea*	Cerulean Warbler	RC	2000-2005	SC
Animal	Birds	Wood-Warblers	*Setophaga coronata*	Yellow-rumped Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga discolor*	Prairie Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga fusca*	Blackburnian Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga magnolia*	Magnolia Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga pensylvanica*	Chestnut-sided Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga petechia*	Yellow Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga pinus*	Pine Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga ruticilla*	American Redstart	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Setophaga virens*	Black-throated Green Warbler	RC	2000-2005	PB
Animal	Birds	Wood-Warblers	*Vermivora cyanoptera*	Blue-winged Warbler	RC	2000-2005	PB
Animal	Birds	Wrens	*Cistothorus palustris*	Marsh Wren	RC	2000-2005	PB
Animal	Birds	Wrens	*Thryothorus ludovicianus*	Carolina Wren	RC	2000-2005	PB
Animal	Birds	Wrens	*Troglodytes aedon*	House Wren	RC	2000-2005	PB
Animal	Birds	Wrens	*Troglodytes hiemalis*	Winter Wren	RC	2000-2005	PB
Fish							
Animal	Fish	Sturgeons and Paddlefish	*Acipenser brevirostrum*	Shortnose Sturgeon	RC	2013	E
Animal	Fish	Sturgeons and Paddlefish	*Acipenser oxyrinchus*	Atlantic Sturgeon	RC		PB - not open
Mammals							
Animal	Mammals	Bats	*Myotis septentrionalis*	Northern Long-eared Bat	RC	1985	T
Animal	Mammals	Rabbits and Hares	*Sylvilagus transitionalis*	New England Cottontail	HC	1954	SC
Other Animals							
Animal	Other Animals	Other Animals	*Ammodramus savannarum*	Grasshopper Sparrow	RC	2000-2005	SC
Animal	Other Animals	Other Animals	*Cathartes aura*	Turkey Vulture	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Coragyps atratus*	Black Vulture	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Junco hyemalis*	Dark-eyed Junco	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Melospiza georgiana*	Swamp Sparrow	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Melospiza melodia*	Song Sparrow	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Passerculus sandwichensis*	Savannah Sparrow	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Pipilo erythrophthalmus*	Eastern Towhee	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Pooecetes gramineus*	Vesper Sparrow	RC	2000-2005	SC

GSI ENVIRONMENTAL

TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Animal	Other Animals	Other Animals	*Spizella passerina*	Chipping Sparrow	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Spizella pusilla*	Field Sparrow	RC	2000-2005	PB
Animal	Other Animals	Other Animals	*Zonotrichia albicollis*	White-throated Sparrow	RC	2000-2005	PB
Reptiles							
Animal	Reptiles	Snakes	*Crotalus horridus*	Timber Rattlesnake	Ex		T
Animal	Reptiles	Turtles	*Apalone spinifera*	Spiny Softshell	HC		SC
Animal	Reptiles	Turtles	*Clemmys guttata*	Spotted Turtle	RC	1990-1999	SC
Animal	Reptiles	Turtles	*Glyptemys insculpta*	Wood Turtle	RC	1990-1999	SC
Animal	Reptiles	Turtles	*Glyptemys muhlenbergii*	Bog Turtle	HC	1853	E
Animal	Reptiles	Turtles	*Terrapene carolina*	Eastern Box Turtle	RC	1990-1999	SC
Plants							
Plant	Ferns and Fern Allies	Ferns	*Asplenium montanum*	Mountain Spleenwort	HC		T
Plant	Ferns and Fern Allies	Quillworts	*Isoetes septentrionalis*	Northern Quillwort	HC		E
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Bidens bidentoides*	Delmarva Beggar-ticks	RC	2002	R
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Bidens laevis*	Smooth Beggar-ticks	PNC		T
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Lactuca hirsuta*	Downy Lettuce	HC		E
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Oclemena nemoralis*	Bog Aster	RC		R
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Petasites frigidus var. palmatus*	Sweet Coltsfoot	HC		E
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Solidago ohioensis*	Ohio Goldenrod	Ex	1935	T
Plant	Flowering Plants	Asters Goldenrods and Daisies	*Solidago ptarmicoides*	Upland Goldenrod	RC		R
Plant	Flowering Plants	Grasses	*Bouteloua curtipendula var. curtipendula*	Side-oats Grama	RC	1999	E
Plant	Flowering Plants	Grasses	*Dichanthelium leibergii*	Leiberg's Panic Grass	RC	2000	E
Plant	Flowering Plants	Orchids	*Arethusa bulbosa*	Dragon's Mouth Orchid	HC		T
Plant	Flowering Plants	Orchids	*Cypripedium parviflorum var. parviflorum*	Small Southern Yellow Lady's Slipper	HC		E
Plant	Flowering Plants	Orchids	*Liparis liliifolia*	Large Twayblade	HC	1856	E
Plant	Flowering Plants	Orchids	*Platanthera ciliaris*	Orange Fringed Orchid	Ex		E
Plant	Flowering Plants	Orchids	*Platanthera hookeri*	Hooker's Orchid	HC	1933	E
Plant	Flowering Plants	Orchids	*Triphora trianthophoros ssp. trianthophoros*	Nodding Pogonia	PNC		T
Plant	Flowering Plants	Other Flowering Plants	*Agastache nepetoides*	Yellow Giant-hyssop	RC	2014	T
Plant	Flowering Plants	Other Flowering Plants	*Agrimonia parviflora*	Swamp Agrimony	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Angelica venenosa*	Hairy Angelica	PNC		R
Plant	Flowering Plants	Other Flowering Plants	*Asclepias verticillata*	Whorled Milkweed	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Blephilia ciliata*	Downy Wood Mint	HC		E
Plant	Flowering Plants	Other Flowering Plants	*Boechera grahamii*	Purple Rock Cress	RC		T

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TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Plant	Flowering Plants	Other Flowering Plants	*Borodinia missouriensis*	Green Rock Cress	HC	1817	T
Plant	Flowering Plants	Other Flowering Plants	*Campanula americana*	Tall Bellflower	PNC		E
Plant	Flowering Plants	Other Flowering Plants	*Celastrus scandens*	American Bittersweet	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Chamaelirium luteum*	Fairywand	HC		E
Plant	Flowering Plants	Other Flowering Plants	*Crotalaria sagittalis*	Rattlebox	PNC	1924	E
Plant	Flowering Plants	Other Flowering Plants	*Elatine americana*	American Waterwort	HC	1936	E
Plant	Flowering Plants	Other Flowering Plants	*Geum virginianum*	Rough Avens	PNC		T
Plant	Flowering Plants	Other Flowering Plants	*Hedeoma hispida*	Rough Pennyroyal	RC	1999	T
Plant	Flowering Plants	Other Flowering Plants	*Heteranthera reniformis*	Kidney-leaved Mud Plantain	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Heuchera americana var. americana*	American Alumroot	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Hydrastis canadensis*	Goldenseal	RC	2004	T
Plant	Flowering Plants	Other Flowering Plants	*Hypericum ascyron ssp. pyramidatum*	Great St. John's Wort	PNC		R
Plant	Flowering Plants	Other Flowering Plants	*Jeffersonia diphylla*	Twinleaf	RC		T
Plant	Flowering Plants	Other Flowering Plants	*Lemna perpusilla*	Minute Duckweed	PNC		E
Plant	Flowering Plants	Other Flowering Plants	*Lespedeza frutescens*	Violet Bush Clover	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Linum medium var. texanum*	Southern Yellow Flax	RC	1991	T
Plant	Flowering Plants	Other Flowering Plants	*Lupinus perennis ssp. perennis*	Wild Lupine	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Myriophyllum farwellii*	Farwell's Water Milfoil	RC	2012	T
Plant	Flowering Plants	Other Flowering Plants	*Orontium aquaticum*	Golden Club	RC	2012	T
Plant	Flowering Plants	Other Flowering Plants	*Oxalis violacea*	Violet Wood Sorrel	RC		T
Plant	Flowering Plants	Other Flowering Plants	*Oxybasis rubra var. rubra*	Red Pigweed	PNC	1836	T
Plant	Flowering Plants	Other Flowering Plants	*Pedicularis lanceolata*	Swamp Lousewort	HC		T
Plant	Flowering Plants	Other Flowering Plants	*Persicaria careyi*	Carey's Smartweed	PNC		E
Plant	Flowering Plants	Other Flowering Plants	*Phlox maculata ssp. maculata*	Wild Sweet William	HC		E
Plant	Flowering Plants	Other Flowering Plants	*Physalis virginiana var. virginiana*	Virginia Ground Cherry	HC		E
Plant	Flowering Plants	Other Flowering Plants	*Plantago cordata*	Heart-leaved Plantain	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Polygonum buxiforme*	Small's Knotweed	RC		E
Plant	Flowering Plants	Other Flowering Plants	*Polygonum tenue*	Slender Knotweed	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Potamogeton confervoides*	Algae-like Pondweed	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Potamogeton diversifolius*	Southern Snailseed Pondweed	HC		E
Plant	Flowering Plants	Other Flowering Plants	*Pterospora andromedea*	Pinedrops	PNC		E
Plant	Flowering Plants	Other Flowering Plants	*Pycnanthemum muticum*	Blunt Mountain Mint	PNC		T

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TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Plant	Flowering Plants	Other Flowering Plants	*Pycnanthemum verticillatum var. verticillatum*	Whorled Mountain Mint	HC	1870	E
Plant	Flowering Plants	Other Flowering Plants	*Pyrola asarifolia ssp. asarifolia*	Pink Wintergreen	PNC		T
Plant	Flowering Plants	Other Flowering Plants	*Ranunculus micranthus*	Small-flowered Crowfoot	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Rhododendron canadense*	Rhodora	PNC	1964	T
Plant	Flowering Plants	Other Flowering Plants	*Sagittaria subulata*	Strap-leaf Arrowhead	PNC		R
Plant	Flowering Plants	Other Flowering Plants	*Scheuchzeria palustris*	Pod Grass	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Silene caroliniana ssp. pensylvanica*	Wild Pink	PNC		T
Plant	Flowering Plants	Other Flowering Plants	*Sisyrinchium mucronatum*	Sharp-tipped Blue-eyed Grass	HC	1957	E
Plant	Flowering Plants	Other Flowering Plants	*Stellaria longipes ssp. longipes*	Goldie's starwort	PNC		T
Plant	Flowering Plants	Other Flowering Plants	*Trichostema brachiatum*	False Pennyroyal	RC		R
Plant	Flowering Plants	Other Flowering Plants	*Triglochin palustris*	Marsh Arrow Grass	PNC	1894	T
Plant	Flowering Plants	Other Flowering Plants	*Utricularia minor*	Lesser Bladderwort	HC		R
Plant	Flowering Plants	Other Flowering Plants	*Valerianella umbilicata*	Navel Corn Salad	HC	1905	E
Plant	Flowering Plants	Other Flowering Plants	*Veronicastrum virginicum*	Culver's Root	RC		T
Plant	Flowering Plants	Other Flowering Plants	*Viola hirsutula*	Southern Wood Violet	HC	1910	E
Plant	Flowering Plants	Other Flowering Plants	*Viola nephrophylla*	Northern Bog Violet	HC		E
Plant	Flowering Plants	Sedges	*Carex bicknellii*	Bicknell's Sedge	RC		R
Plant	Flowering Plants	Sedges	*Carex bushii*	Bush's Sedge	RC		R
Plant	Flowering Plants	Sedges	*Carex buxbaumii*	Brown Bog Sedge	HC	1885	T
Plant	Flowering Plants	Sedges	*Carex conjuncta*	Soft Fox Sedge	HC		E
Plant	Flowering Plants	Sedges	*Carex davisii*	Davis' Sedge	RC	2002	T
Plant	Flowering Plants	Sedges	*Carex formosa*	Handsome Sedge	HC		T
Plant	Flowering Plants	Sedges	*Carex glaucodea*	Glaucous Sedge	HC	1934	T
Plant	Flowering Plants	Sedges	*Carex merritt-fernaldii*	Fernald's Sedge	HC		T
Plant	Flowering Plants	Sedges	*Carex mesochorea*	Midland Sedge	RC	1995	T
Plant	Flowering Plants	Sedges	*Carex molesta*	Troublesome Sedge	RC		T
Plant	Flowering Plants	Sedges	*Carex nigra*	Black Sedge	PNC	1836	E
Plant	Flowering Plants	Sedges	*Carex oligosperma*	Few-fruited Sedge	HC		R
Plant	Flowering Plants	Sedges	*Carex retroflexa*	Reflexed Sedge	PNC		T
Plant	Flowering Plants	Sedges	*Carex schweinitzii*	Schweinitz's Sedge	HC	1936	T
Plant	Flowering Plants	Sedges	*Carex styloflexa*	Bent Sedge	RC	1986	E
Plant	Flowering Plants	Sedges	*Carex tincta*	Tinged Sedge	Ex	1936	E

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TABLE B4
Special Status Species in Rensselaer County, NY
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Type	Group	Subgroup	Scientific Name	Common Name	Distribution Status	Year Last Documented	State Protection Status
Plant	Flowering Plants	Sedges	*Carex typhina*	Cat-tail Sedge	RC		E
Plant	Flowering Plants	Sedges	*Cyperus odoratus*	Fragrant Flat Sedge	HC		R
Plant	Flowering Plants	Sedges	*Cyperus schweinitzii*	Schweinitz's Flat Sedge	HC		R
Plant	Flowering Plants	Sedges	*Cyperus subsquarrosus*	Dwarf Bulrush	HC		E
Plant	Flowering Plants	Sedges	*Eleocharis diandra*	Wright's Spike Rush	HC		E
Plant	Flowering Plants	Sedges	*Eleocharis ovata*	Ovate Spike Rush	HC	1926	E

Abbreviations

EX = Extirpated
HC = Historically confirmed
PNC = Possible but not confirmed
RC = Recently confirmed
E = Endangered
R = Rare
SC = Special concern
T = Threatened
PB = Protected bird
PB - open = Protected bird with open season
PB - not open = Protected bird with no open season

Footnotes

(1) Based on online search of New York Department of Environmental Conservation Nature Explorer database (https://www.dec.ny.gov/natureexplorer/app/location/county/results.6). Species with a state protection status of endangered, protected, rare, special concern and threatened were included.

(2) New York State Legal Status Categories per 6 NYCRR Part 193.3

E = Endangered
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S 7 1/2 minute topo maps, or
4) species listed as endangered by the U.S. Dept of Interior (50 CFR

T = Threatened
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to no less than 4 or more than 7 U.S.G.S. 7 1/2 minute topo maps, or
4) listed as threatened by the U.S. Dept of Interior (50 CFR 17.11)

R = Rare
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.

TABLE B5
Potentially Applicable Criteria, Standards, or Guidance
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Media	State or Federal	Potentially Applicable Criteria, Standards, or Guidance
Soil	NYS	NYSDEC has not established ecologically-based criteria for soils for use in SLERA and BERA; however methods applied in the Brownfields Program may inform selection of exposure factors, bioaccumulation factors, and toxicity reference values
		New York State Brownfield Cleanup Program, Development of Soil Cleanup Objectives, Technical Support Document (NYSDEC and NYSDOH, 2006)
		Final Commissioner Policy, CP-51, Soil Cleanup Guidance (NYSDEC, 2010a)
		Soil Cleanup Objectives for the Protection of Ecological Resources (6 NYCRR Part 375-6.6 and 6.8)
		DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010b)
	Federal	Ecological Soil Screening Level Guidance (USEPA, 2018a)
		USEPA Region 4 Ecological Screening Levels (USEPA, 2018b)
		USEPA Region 5 Ecological Screening Levels (USEPA, 2003)
		Preliminary Remediation Goals for Ecological Endpoints (Efroymson et al., 1997)
		SERDP Recommended Screening Levels for PFAS (SERDP, 2020)
Surface Water	NYS	Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Limitations, TOGS 1.1.1 (NYSDEC, 1998)
		Use and Protection of Waters - New York Environmental Conservation Law Articles 15 and 17; 6 NYCRR Part 608
	Federal	National Recommended Water Quality Criteria (USEPA, 2020)
		Ecotox Thresholds (USEPA, 1996)
		Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota (Suter and Tsao, 1996)
Sediment	NYS	Screening and Assessment of Contaminated Sediment (NYSDEC, 2014)
	Federal	Consensus-based Sediment Quality Guidelines (MacDonald et al., 2000)
		USEPA Region 4 Ecological Screening Levels (USEPA, 2018b)
		USEPA Region 5 Ecological Screening Levels (USEPA, 2003)
		ORNL Toxicological Benchmarks for Sediment (Jones, Suter, and Hull, 1997)
		SERDP Recommended Screening Levels for PFAS (SERDP, 2020)
Wetlands	NYS	NYS Freshwater Wetlands Act (NYS 1985; NYS 1980; 6 NYCRR Parts 663, 664)
	Federal	USEPA Clean Water Act - Section 404; 30 CFR Part 328
		Executive Order 11990 - Protection of Wetlands
		Executive Order 11988 - Floodplain Management
Waterways	NYS	Use and Protection of Waters (6 NYCRR Part 608)
	Federal	USEPA Clean Water Act - Section 404; 30 CFR Part 328
Fauna	NYS	Endangered and Threatened Species of Fish and Wildlife - Species of Special Concern (NY ECL Article 11, Title 5; 6 NYCRR Part 182)
		New York State Wildlife Action Plan (NYSDEC, 2015b)
		List of Endangered, Threatened, and Special Concern Fish & Wildlife Species of New York State (NYSDEC, 2015a)
	Federal	Federal Endangered Species Act of 1973 (50 CFR Parts 17 and 402)
		Migratory Bird Treaty Act (16 USC. 703 et seq.; 50 CFR Part 10)
		Wildlife Conservation and Restoration Act (2001)

Notes
NYS = New York State
NYSDEC = New York State Department of Environmental Protection
NYSDOH = New York State Department of Health
ORNL = Oak Ridge National Laboratory
SERDP = Strategic Environmental Research and Development Program
USEPA = U.S. Environmental Protection Agency

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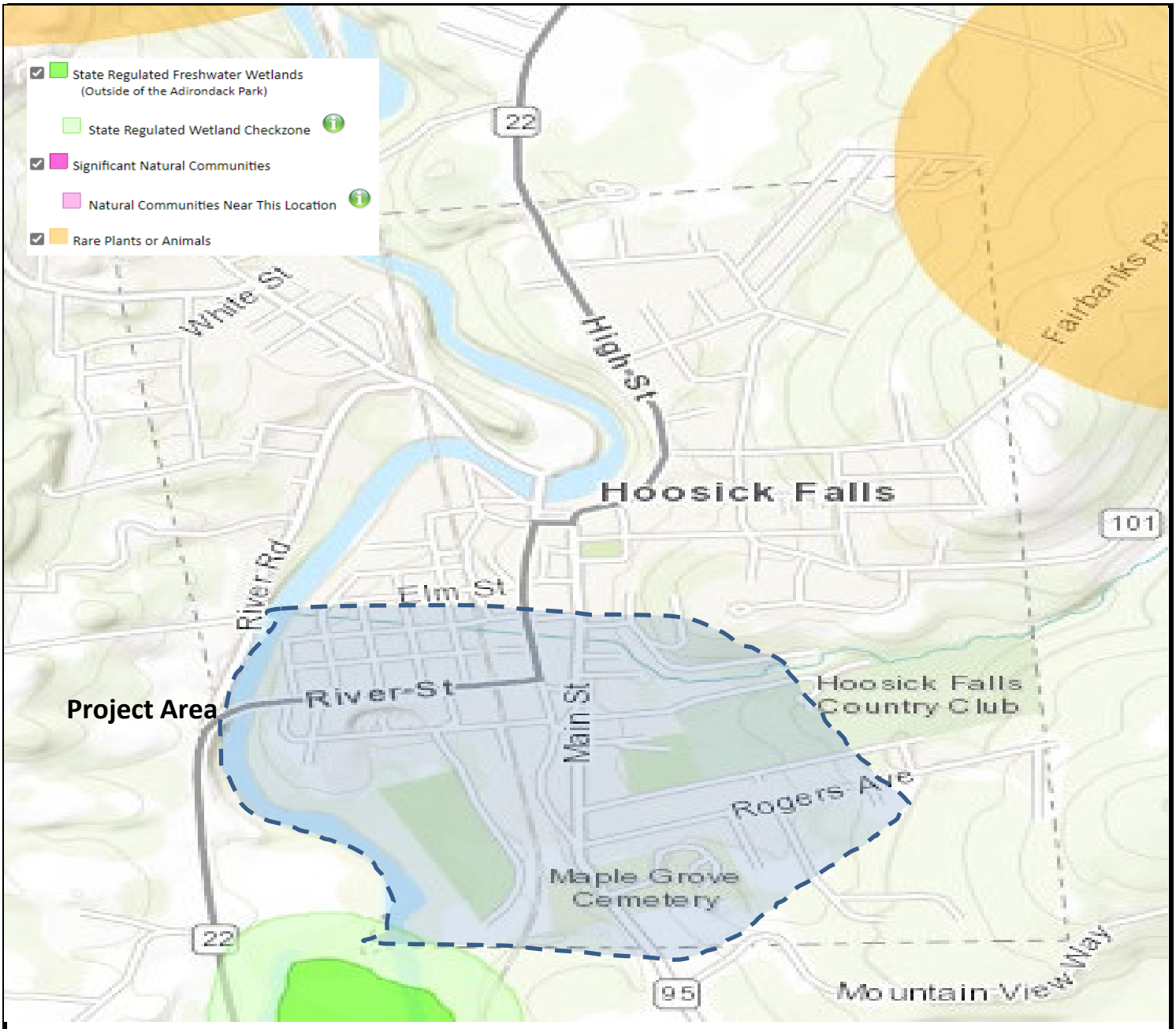

Notes:

Source: NYSDEC Environmental Resources Mapper

https://gisservices.dec.ny.gov/gis/erm/

State Regulated Wetlands and Potential Rare Plants or Animals

McCaffrey Street Site

14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York

NYSDEC Site # 442046

GSI Job No.	5316	Drawn by	PG
Issued	11 June 2021	Chk'd by	
Revised		Aprv'd by	PG

Figure B1

WORK PLAN FOR BASELINE ECOLOGICAL RISK ASSESSMENT

McCAFFREY STREET SITE
(Site No. 442046, USEPA ID# NYD004986741)

APPENDIX C

APPENDIX C: Response to Comments Summary

Table C1: Response to NYSDEC and USEPA Comments on Draft Risk Assessment Work Plan

Table C2: Response to NYSDEC and USEPA Comments on Biota Sampling and Analysis Plan

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
General Comments						
GC-1	S	--	--	For all B6:H81future submittals, please separate the Human Health Risk Assessment (HHRA) and the Baseline Ecological Risk Assessment (BERA).		Separate Work Plans for BHHRA and BERA are prepared, noting some intentional redundancy of text, tables, figures, and appendices in both documents.
GC-2	S	--	--	The work plan for the ecological portion of the Baseline Risk Assessment appears to contain components of a screening level ecological risk assessment (SLERA), such as screening tables, but does not contain other components, such as detailed text and discussion that would be part of a SLERA. It would be beneficial to provide additional discussion regarding the screening process that was provided in the work plan. Several options would be to present the screening information, combined with additional text in a SLERA section of the work plan or to include the needed information within the baseline risk assessment document. The advantage of presenting the information within the work plan would allow reviewers to better understand the process and provide better support for approving parameters and values described in the work plan.	The work plan for the ecological portion of the Baseline Risk Assessment appears to contain components of a screening level ecological risk assessment (SLERA), such as screening tables, but does not contain other components, such as detailed text and discussion that would be part of a SLERA. It would be beneficial to provide additional discussion regarding the screening process that was provided in the work plan. Several options would be to present the screening information, combined with additional text in a SLERA section of the work plan or to include the needed information within the baseline risk assessment document. The advantage of presenting the information within the work plan would allow reviewers to better understand the process and provide better support for approving parameters and values described in the work plan. In order to avoid potential delays with the addition of the information, an appendix including the SLERA is agreeable.	The SLERA is now Appendix B, Section 1, of the BERA Work Plan and addresses USEPA ERAGS Steps 1 and 2. Appendix B, Section 2, addresses all of the requirements of NYSDEC FWIA (1994).
GC-3	S	--	--	Additional information should be provided regarding the definition of off-site and on-site, especially for surface water. A figure clearly delineating what areas are considered on-site and off-site should be included.		On-site versus off-site has been further clarified in text and legend of figures. For both the BHHRA and BERA Work Plans, as stated in Section 2.1 (Site and Project Area Description) and Figure 1, "on-site" is defined as within the McCaffrey Street facility tax parcel while "off-site" is defined as within the Project Area polygon, but outside of the facility tax parcel.
GC-4	S	--	--	The historic data that is available was presented in the document, but it was not clear if additional data will be collected for use in the baseline risk assessment, such as biota tissue and additional abiotic samples (e.g., surface water, sediment and soil). Additionally, since there are limited toxicity data for PFAS compounds in the literature for benthic invertebrates, it may be beneficial to add sediment toxicity testing, and/or porewater toxicity testing, as a line of evidence, especially in areas where groundwater discharge may be a major transport mechanism.		A separate Biota Sampling and Analysis Plan (SAP) will be submitted for review in February 2021. Site-specific media targeted for sampling includes: surface water, sediment, aquatic invertebrates and plants, fish, terrestrial invertebrates and plants, and small mammals. Validated data will be included in the BHHRA and BERA. The Biota SAP is included in the Schedule in the last section of each Work Plan, included in the database description (Section 4), and also referred to in Exposure Assessment sections.
GC-5	S	--	--	The following items are requirements of Step I of the NYSDEC Fish and Wildlife Impact Analysis (FWIA), but are not present in this Screening Level Ecological Risk Assessment (SLERA). Please include these items in this document. a) Site maps as described in Step I A of Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (NYSDEC, 1994), Figures depicting regulated wetlands, other surface water features including rivers, streams, and lakes, significant habitats, and drainage, are required. b) An assessment of endangered and threatened species. c) A discussion of the value of the habitat to fish and wildlife and humans. d) A list of all applicable New York State and federal regulations pertaining to fish and wildlife.		The SLERA is included as Appendix B to the BERA Work Plan. Section 2 of the SLERA specifically addresses requirements of FWIA. In addition, elements of the BERA Work Plan (e.g., figures) provide site maps.

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
GC-6	S	--	--	Project Area limitations: The Risk Assessment Work Plan (RAWP) indicates that certain available data/lines of evidence collected outside the Project area are excluded from the risk assessment. The only exception is that analytical results related to New York State Department of Environmental Conservation (NYSDEC) fish sampling from the Hoosick River were retained. Any additional data to describe, even in broad terms, the relative attenuation with distance from the site-related source areas is meaningful to both the risk assessment and the overall project. Though these samples may not be material to development of the Project Area- or population-specific quantitative point estimates of risk and hazard, they are relevant in a discussion of region-wide impact or in the elucidation of additional confounding sources and could be considered as components of the Uncertainty Assessment.		For the purposes of assessing potential risk related to the McCaffrey Street facility, the BHHRA and BERA will include data collected from within the Project Area, and biota samples collected within the Hoosic River and reference locations (see the Sampling and Analysis Plan, submitted for review in February 2021). Additional data that may inform the attenuation of site-related constituents and regional impacts may be collected as part of the ongoing Remedial Investigation (RI). The RI conceptual site models include additional source-pathway-receptor discussion; this information will be discussed in the final risk assessments' Risk Characterization Sections. See clarifying text in Section 2.1 of both the BHHRA and BERA Work Plans.
GC-7	S	--	--	Treatment of duplicates: The RAWP proposes random selection of analytical results for media-specific samples associated with quality assurance/quality control (QA/QC) activities. Treatment of duplicates is not definitively prescribed in available guidance, although the most common practice is to select a detection in favor of a nondetect (ND) result and to select the greater result when two detections are available, in keeping with the conservative nature of risk assessment. Treatment of duplicates represents a professional judgment call and although the selected process could have an influence on the outcomes of exposure point concentrations (EPCs) the overall effect is not expected to be substantive. The process of selecting the greater of two values will tend to invite additional conservatism; however, selection of another value which incorporates greater variability could, theoretically, increase associated conservatism in development of an upper-bound estimate on the mean. Please revise the proposed treatment of duplicates to preferentially select the greater of the sample result or its duplicate.		As discussed during the teleconference on December 11, 2020, the relative percent difference (RPD) between duplicate and parent samples is small. The BERA and BHHRA will present an RPD analysis within the Uncertainty Analysis of the risk assessments and will demonstrate the quantitative impact on risk characterization determinations based on different data processing steps. This is stated in the BHHRA Work Plan Sections 4.2 and 9.4.2 and the BERA Work Plan in Sections 4.2 and 5.3.2.
GC-8	S	--	--	The term "background" is used throughout the work plan as a basis for comparison of on-site and/or site-related contamination but the term is not defined for use in this context. Care must be exercised when using the term "background" to avoid general and inaccurate conclusions. Comparison of site-related contamination to background levels is not appropriate without NYSDEC agreement on a dataset to be used to define background conditions and resolution as to an appropriate background value for relevant COPCs. The work plan should reference NYSDEC-approved background data sets for all site-related COPCs. If no data set is available for reference, a site-specific background study may be necessary if other lines of evidence are determined to be insufficient.		The BERA and BHHRA Work Plans reference NYSDEC background data sets and use those existing data to evaluate concentrations of analytes within the Project Area. Neither risk assessment will eliminate COPCs based on background levels, however, as discussed in the BHHRA Work Plan Section 9.3.1. and BERA Work Plan Section 4.2, COPCs and COPECs will be compared to NYSDEC background levels to provide context and more detailed information to inform risk characterization results.
GC-9	S	--	--	The HHRA and BERA must address all exposures to site-related COPCs. The NYSDEC does not agree that the project area presented in the draft work plan adequately encompasses all potential exposure end points. The project area will be determined based on a refined conceptual site model that understands the extent of site-related COPCs documented during the site RI and other investigations conducted in the Hoosick valley.		As discussed during the teleconference on December 11, 2020, the baseline risk assessments will use all existing data collected as part of the McCaffrey Street RI, additional site-specific biota collected, as described in the February 2021, Sampling and Analysis Plan, and supplemented with fish data collected by NYSDEC/NYSDOH. We agree that the McCaffrey Street baseline risk assessment CSMs developed during the Work Plan stage are preliminary and subject to change as the understanding evolves from the evaluation of contaminants of potential concern and relative contributions of exposure pathways to total dose and risk. Based on the initial human health screening assessment (BHHRA Work Plan Section 5) and SLERA (BERA Work Plan SLERA Appendix B), no potential exposure pathways have been eliminated.

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
GC - 10	S	--	--	Comments related to additional biological data needs will be addressed upon the acceptance of a suitable site model.		The separate Biota Sampling and Analysis Plan compiled by ERM and GSI will be submitted to agency review in February 2021.
GC - 11	S	--	--	Soil contact horizons: The surface soil horizon underpinning assessment of residential adult and child direct contact exposures is 0-2 ft bgs. The surface soil horizon underpinning assessment of generic occupational worker direct contact exposures is 0-1 ft bgs. USEPA defines surface soil as the top two centimeters (USEPA, 2002), representing the basis for the majority of routine direct contact exposures for populations not engaged in intrusive activities. In this case, because screening considers the maximum detected concentration across a given horizon and given PFAS' propensity to solubilize and leach to deeper horizons, the current approach is acceptable. Depending on analytical results, a future recommendation may be made as to definition of surface soil to support EPC development. Garden tiling and home ownership repairs are among the rationalizations used to support a 0-2 ft bgs soil horizon; however, these activities, along with regrading and future development are typically captured under the future potential condition in an assessment of direct contact exposure attributable to total soil (surface + subsurface soil) – a condition also assessed within the proposed RAWP strategy (0-10 ft bgs). Should primary constituents of potential concern (COPCs) exhibit greater concentrations in the 0-1 ft bgs vs 0-2 ft bgs soil horizons, data collected from the 0-1 ft bgs soil horizon should underpin the basis for residential surface soil EPCs.		The current screening level HHRA takes a conservative approach by comparing the maximum concentration detected of an analyte across a wide soil depth range. These wide soil depth definitions may not be suitable for the calculation of soil EPCs for receptors that may only be in contact with the surface soil (e.g., top 2 centimeters). As described in Section 7.3.4, prior to calculating soil EPCs, exploratory data analysis and statistics will be used to evaluate the distribution, frequency of detection, and potential outliers for COPCs in each exposure unit. This evaluation will guide the calculation of the EPCs and ensure that the data grouping does not biases results.
GC - 12	S	--	--	Surface water screening: The proposed screening basis for surface water is based on the National Ambient Water Quality Criteria (NAWQC) for consumption of water and organisms, which is generally acceptable. The NAWQC list is not expansive, however. The preferred, more comprehensive option is to utilize drinking water screening criteria for this screening process, such as the USEPA Regional Screening Levels (RSLs) for tap water. The use of these latter standards is not without merit; they represent a more comprehensive constituent listing and incidental ingestion of surface water while engaged in recreational activities (e.g., swimming) is a viable consideration (albeit at small volumes). Empirical fish tissue data will underpin the consumption of recreational game species. Use of the tap water RSLs could result in a longer COPC list, the majority of which are not expected to be associated with any appreciable substantive impact on site or risk management decision making. It is just as likely that screening using the NAWQC will also generate a long COPC list with little to no impact on the Risk Characterization (i.e., all detected constituents without a relevant screening criterion will be retained as COPCs). Please revise the screening of surface water data to consider the USEPA Tap Water RSLs, with secondary consideration of NAWQC or NYSDEC criteria, as available.		The HHRA screening and identification of COPCs in surface water now uses EPA RSLs for residential ingestion of groundwater ("tap water") RBSLs, if available. If groundwater RSLs are not available, the NAWQC and NYSDEC criteria are evaluated and selected if the value is human health based. Values and sources of all RBSLs are presented in the BHHRA Work Plan Appendix B Tables B2.1 - B2.9.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
GC - 13	S	--	--	Polychlorinated biphenyl (PCB) data: The current assessment proposes a Total Aroclor basis. The utility of Aroclor-based data across the human and ecological lines of evidence is appreciated; however, the absence of congener-specific data represents a less than precise basis for assessing human exposure and does not provide for an option to assess the dioxin-like congener influence. This latter issue can be an important consideration in the assessment of fish ingestion and nursing infant exposures. In light of the fact that historical data gathering has focused on testing of weathered Aroclors, please add a discussion of the potential influence of dioxin-like PCBs to the Uncertainty Assessment. Should PCBs be determined to be a site-related COC, future analyses of fish tissue may require congener-specific testing.		The uncertainties associated with the lack of PCB congener-specific data is identified as a specific uncertainty that will be evaluated in the BHHRA Uncertainty Analysis (see Section 9.4.1.) It should be noted that Aroclors are not identified as primary COPCs in the screening level HHRA for any media, and are listed as secondary COPCs in groundwater and surface water with maximum SQL exceeding the screening level and low (often 0%) frequency of detection.
GC - 14	S	--	--	Hexavalent chromium: In light of the fact that species-specific data for chromium are not available, please utilize hexavalent chromium screening criteria to support COPC determination. Total chromium-based toxicity criteria may be used to support the Risk Characterization and quantitative point estimates of hazard. Please add to the Uncertainty Assessment a discussion of historical land use and industrial processes along with geochemical conditions to support the current assessment, presuming hexavalent chromium is not present.		The HHRA screening and identification of COPCs includes the use of hexavalent chromium RBSLs as a surrogate for total chromium. However, none of the extensive information regarding facility operational history and use of chemicals includes any known materials or practices that contained hexavalent chromium (see Section 3.1). Additional soil sampling and analysis of chromium composition (i.e., quantification of hexavalent chromium) from near-facility locations will be included in the Biota SAP. Pending these results, and consistent with the recommendations from NYSDEC and USEPA at a teleconference on December 11, 2020, it is anticipated that toxicity information specific to trivalent/total chromium will be used in the BHHRA risk characterization and quantitative estimates of risk (see Section 8.1). Information supporting this decision point will be discussed in the uncertainty assessment (see Section 9.4).
GC - 15	S	--	--	HHRA presentation format: The Work Plan for Baseline Human Health and Ecological Risk Assessment, McCaffrey Street Site (Risk Assessment Work Plan or RAWP) references USEPA's Risk Assessment Guidance for Superfund (RAGS), Part D (2001) and presents some project-specific data in Part D format. Please clarify St. Gobain Performance Plastics' (SGPP) intention to produce all risk assessment (RA)-related tables in RAGS, Part D format.		The BHHRA and BERA will present all data in RAGS D table format (USEPA 2001), as applicable. For example, included in the BHHRA Work Plan are RAGS D Table 2s and Table 4 (Appendix B Tables B1.1 - B1.11 and B4.1 - B4.6).
GC - 16	S	--	--	Exposure parameter values: As part of the baseline condition assessment, please ensure that standard, default USEPA exposure parameter values are incorporated in the reasonable maximum exposure (RME) assessment. The RAWP references appropriate guidance documents, such as USEPA's Exposure Factors Handbook (2011, and updates) and the Child-Specific Exposure Factors Handbook (2008, 2009), but fails to reference OSWER Directive 9200.1-120, Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors (2014 and FAQ updates 2016). Please also consider USEPA's Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (2002), especially when developing occupational or intrusive soil activity- based particulate emissions factors (PEF) and refining the definition of surface soil or the predominant soil horizons assumed related to discrete population activities.	Exposure parameter values: As part of the baseline condition assessment, please ensure that standard, default USEPA exposure parameter values are incorporated in the reasonable maximum exposure (RME) assessment. The RAWP references appropriate guidance documents, such as USEPA's Exposure Factors Handbook (2011, and updates) and the Child Specific Exposure Factors Handbook (2008, 2009), but fails to reference OSWER Directive 9200.1 120, Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors (2014 and FAQ updates 2016). Please also consider USEPA's Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (2002), especially when developing occupational or intrusive soil activity based particulate emissions factors (PEF) and refining the definition of surface soil or the predominant soil horizons assumed related to discrete population activities. Please also see HH 24 and HH 29.	The BHHRA will utilize all USEPA RME exposure parameter values. For clarity, all RME values are now presented in the BHRRA Work Plan Appendix B Tables B4.1 - B4.6.

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McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

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GC - 17	S	--	--	Release mechanisms: To the greatest extent practicable, the RA should represent a stand- alone document. The Conceptual Site Model (CSM) outlines primary release mechanisms; however, the RAWP should be expanded to discuss the primary release mechanisms associated with various chemicals classes or suites of compounds, especially in relation to historical practices at the site and available lines of evidence from other sources of data including the air deposition study, private drinking water well data, and other environmental remediation investigations around Hoosick Falls.		Section 3.1 in both the BHHRA and BERA Work Plans describes the chemicals and classes of chemicals used over the operational history of the facility. It also includes a summary of environmental investigations and sampling results. The on-going work for the RI will continue to develop the site-specific releases and characterize the nature and extent of those releases.
GC - 18	S	--	--	Fish tissue data: Please confirm that filet-only data from relevant sport fish species of legal size will be used to assess recreational angler ingestion of fish exposure pathways.		This is confirmed in Section 5.3 of the BERA. Target size ranges of fish will be discussed in the supplemental Biota Sampling and Analysis Plan.
GC - 19	S	--	--	COPC screening, nondetect (ND) results: The sample quantitation limit (SQL) is the preferred metric for use in screening sensitivity levels associated with ND results and defining constituents of potential concern (COPCs). The method detection limit (MDL) is appropriate for use as the proxy value (designated as an ND entry) in development of an upper-bound estimate on the mean using ProUCL, such as a 95-upper confidence limit (95UCL), but the sample-specific SQL is the appropriate metric for use in screening COPCs for further scrutiny. Please revise the decision criteria for COPC screening to reflect this change.		The decision criteria for selection of COPC for the BHHRA and COPECs for the BERA includes the use of the SQL. See BHHRA Work Plan Appendix B Tables B1.1 - B1.11, and BERA Work Plan Section 4.2 and Appendix B Section 1.2.1.
GC - 20	S	--	--	COPC screening, HH and ERA endpoints: Please refine the strategy proposed to define the site COPC list to clarify outcomes pertinent to the HH and ERA assessments. The HHRA and ERA processes will define different COPC lists for further scrutiny. To avoid confusion, clarify the public record, and ensure consistency in the FS, please redefine HH- and ERA-specific constituent designations. Constituents retained for additional evaluation in the context of the Uncertainty Assessment or Risk Characterization within the HHRA should be designated as Constituents of Potential Concern (COPCs). Constituents retained for further evaluation within the context of the ERA should be designated Constituent of Potential Ecological Concern (COPECs). Please see Comment GC-1 requesting that HHRA and BERA be separate in future submittals.		The BHHRA and BERA Work Plans have been separated into two separate documents. As such, the conventional nomenclature has been used. The BHHRA Work Plan currently designates screened in chemicals as contaminants of potential concern (COPCs) and the BERA Work Plan currently designates chemicals as constituents of potential *ecological* concern (COPECs).
GC - 21	S	--	--	COPC screening, availability of RBSLs: All detected constituents lacking a relevant risk-based screening level (RBSL) must remain site COPCs for the purposes of the public record, but do not have to be addressed within the context of the Risk Characterization. Instead these constituents may be listed, with qualifying language, within the context of the Uncertainty Assessment.		COPCs without RBSLs (designated as COPC selection rationale "D" in BHHRA Work Plan Appendix B Tables B1.1 - B1.11) and without appropriate toxicity criteria for assessing risk, will be retained as COPCs and discussed qualitatively in the Uncertainty Assessment.
GC - 22	S	--	--	Frequency of Detection (FOD): Screening based on FOD (<5%) represents a dated methodology (1989 and prior) to refine and focus risk assessment resources on the likely drivers of risk and hazard, but this method pre-dates the ready available of peer- reviewed, health-based screening criteria (e.g., USEPA Regional Screening Levels, RSLs). As such, it represents an inappropriate refinement of the COPC list and should be removed as a consideration. FOD may be a significant consideration as a function of site management decision-making, to aid in focusing additional scrutiny on potential data gaps in nature and extent definition, or in an assessment of overall data quality and suitability; it is a viable metric to help inform pragmatic, site- related decision making, but is an inappropriate refinement technique for COPC designation within the context of the RA process. Please remove FOD as a COPC screening criterion.		The FOD for each analyte is documented in the BHHRA Work Plan Appendix B Tables B1.1 - B1.11 and BERA Work Plan Appendix B Tables B.1-B.4. The FOD will be included in the further evaluation of contaminants of concern (COCs) following risk characterization, to guide risk management decisions and provide context for the potential risk drivers and priority chemicals. See BHHRA Work Plan Section 9.3.1 and BERA Work Plan Appendix B Section 1.2.1 and 1.3.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
GC - 23	S	--	--	Screening in comparison to background: SGPP has proposed a COPC refining methodology predicated on comparison of constituents to background levels. This comparison, whether based on site-specific (preferred) or a regional basis, is a viable method to help focus site management resources on site-related considerations and impact; however, this screening step must not occur prior to the Risk Characterization step such that total risk and hazard are assessed for relevant populations. Consistent with USEPA's Guidance for Comparing Background and Chemical Concentration in Soil at CERCLA Sites (2002), calculated total risk may be refined to present site- and background-related risk estimate components within the context of the Uncertainty Assessment, to help inform site managers. Please refine the COPC screening process to indicate that all COPCs detected above relevant health-based screening criteria (or associated with insufficient analytical sensitivity) will be retained as COPCs and that total risk will be assessed in the context of the Risk Characterization. As noted above, background- related contributions may be assessed within the context of the Uncertainty Assessment. Please refer to comment GC-8 for information on developing "background" concentrations.		FOD and background concentrations will be evaluated after the identification of COCs, to help inform potential site-related risks and priority chemicals. See Section 9.3.1. of the BHHRA Work Plan and Section 1.2.1 of Appendix B of the BERA Work Plan for more details.
GC - 24	S	--	--	Characterization of media needed to evaluate some risk assessment exposure scenarios described in the work plan may have been impacted or hindered by site conditions e.g. soil between 0-10 ft due to a high groundwater table. Please explain whether sufficient data are available to complete these assessments or are additional data necessary.		As described in BHHRA Work Plan (Section 7.3.4) and BERA Work Plan (Section 5.3.2), prior to calculating soil EPCs, exploratory data analysis and statistics will be used to evaluate the distribution, frequency of detection, and potential outliers for COPCs in each exposure unit. This evaluation will help determine where data gaps in the existing database may introduce additional uncertainty.
GC - 25	S	--	--	Primary vs. Secondary COPCs: Please clarify the purpose of defining primary and secondary COPCs. It is understood that constituents identified as Secondary COPCs will go though additional screening steps prior to risk characterization (additional technical review comments on that process here, notwithstanding); however, will the final outcome of any refined results in a final COPC list still present Primary and Secondary designations? Please clarify, if Primary and Secondary designations will be retained within the Risk Characterization, and please clarify any associated implications affecting designation of primary and secondary constituents of concern (COC), pertinent to the FS. In addition, refinement of the COPC list prior to the quantitative portion of the Risk Characterization based on comparison of the mean to the most relevant RBSL should be amended to feature the preferred EPC [e.g., 95-upper confidence limit (UCL) or maximum detected concentration] to the RBSL, rather than the mean.		Consistent with USEPA standard current best practices and guidance, the screening level HHRA did not screen out chemicals even if they were never or infrequently detected, or if they were detected at levels below NYS rural background soil concentrations, which results in a long list of "secondary" COPCs (See BHHRA Table 5). > The screening level assessments will not be applied in a "pass/ fail" approach, but rather, to provide perspective on the multiple lines of evidence that will be evaluated further in the baseline assessments. For example, a chemical that has a low frequency of detection (e.g., 5%) is less likely to be a risk driver than more frequently detected chemicals, however, it is retained in the COPC list pending further evaluation of the spatial patterns and evidence of subareas of elevated concentrations. > Secondary COPCs are retained in the full BHHRA, and when exposure and toxicity data are amenable, risk estimates will be calculated for all secondary COPCs. However, to ensure that risk characterization and related risk management decisions for the McCaffrey Street Site are focused on the primary risk drivers, it is advantageous to continue to flag the COPCs or COCs that are not frequently detected, or that may not be site-related.
Ecological Risk Assessment Comments						
ECO-1	S	6.2	35	Wildlife receptors are defined as species-specific indicator species and include terrestrial birds and mammals. Given that there are also species-specific indicator species for aquatic life, aquatic should be added to the wildlife receptor description.		The BERA Work Plan presents separate CSMs for aquatic and terrestrial receptors. Representative species of birds and mammals are included in both CSMs. Species specific to aquatic systems are also identified (e.g., see Table 7- Representative Receptors - Aquatic and Terrestrial Systems).
ECO-2	E	7.2.1	49	The text indicates "or comparable statistics software that generates the same calculations" Please identify which other statistical software may be used.		Section 5.3.2 is modified as follows: "The ProUCL software developed by USEPA (USEPA, 2015) will be used to calculate 95UCLs and R will be applied to compile ProUCL results. "
ECO-3	E	1.2	2	Please list the Division of Water Technical and Operational Guidance Series 1.1.1. under "New York State Guidance."		TOGS 1.1.1 is listed in Table B5 and Section 2.3.2 of Appendix B.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
ECO-4	S	5.2		All PFAS should remain screened in as Contaminants of Potential Ecological Concern (COPECs) until additional site-specific biota and abiotic media samples are collected and analyzed. For certain abiotic media, more samples are required to determine the concentrations of PFAS present at the site. In addition, bioaccumulation and bioconcentration factors are important variables in calculating ecological screening levels for PFAS, and it is preferable to use site-specific data to provide a more reliable estimate of these values.		Table 4 shows that all PFAS screen in as either primary (PFOA, PFOS) or secondary COPECs.
ECO-5	S	5.3		While bioaccumulation and bioconcentration factors gathered from the literature are valuable, BCFs calculated from site- specific data are preferred. PFAS BCFs from site-specific biota and media should be calculated and incorporated into the BERA. Please specify this in the work plan. It is understood that an additional work plan for collection of supplemental abiotic media and biota samples is pending, so specifics on sampling methods are not required here.		Site-specific estimates of bioaccumulation will be calculated with data collected from the field program planned for 2021. Section 5.1 has been updated to include a paragraph that refers to the Biota SAP Work Plan and objective of deriving site-specific estimates of bioaccumulation.
ECO-6	S	5.4.1		In addition to supplemental sediment and biota sampling, additional sampling of surface water is also needed. Currently, three locations in the Hoosick River have been sampled, and one location has been sampled in the wetland south of the site. Samples from the wetland location (SW03) in particular contain some of the highest surface water concentrations for PFAS. Please include surface water sampling in the supplemental sampling plan, including additional sampling in the wetland and at least two additional sampling locations in the Hoosick River between SW01 and SW04.		The Biota Sampling and Analysis Plan will include at least six sample stations in the Hoosic River.
ECO-7	S	6.2.1		Please consider adding additional forage fish species to better represent species present in the Hoosick River. Adding both Creek Chub and Blacknose Dace is recommended. The two aquatic mammals chosen, American Mink and River Otter, occupy similar niches. It would be beneficial to include an aquatic mammal species, either in addition to these two species or instead of the River Otter, that expands the niche occupied by aquatic mammals in this risk assessment. Please include an additional species; muskrat is recommended due to its predominantly plant-based diet.		Section 5.2.1 is updated to include a discussion of additional receptors. Creek chub and Blacknose Darter will be further considered in the BERA if primary COPECs have sufficient data to evaluate dose-based TRVs for fish. Muskrat has been added and Otter has been removed.
ECO-8	S	6.2.2	39	The northern short-tailed shrew is listed as terrestrial, but with its use of aquatic habitat and diet consisting primarily of aquatic invertebrates, it may also be listed as aquatic. If possible, it is suggested to categorize it as both. Regardless of categorization, in Figure 6B, ingestion of aquatic invertebrates is denoted as a potentially complete but insignificant pathway. Please clarify or correct this.		The aquatic ecosystem CSM is updated to include the northern short-tailed shrew.
ECO-9	S	7.2		Please describe how data from biota sampling will be included in the BERA, and also include this information in Table 10.	No reply from DEC	Version 1 Table 10 is now Table 3. See response to ECO-5.
ECO-10	S	Figures		Please expand the area covered in these figures to meet the requirements outlined in Step I A of Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (NYSDEC, 1994).		FWIA (1994) refers to a 2 mile radius from a facility. See Appendix B, Figure B-1 and associated discussion in Section 2 of Appendix B.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
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NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
ECO-11	S	Tables 6		Please include a footnote stating that sediment samples were only analyzed for PFAS and indicate the PFAS analyzed.		Footnote 3 was added to the table (now Table 4). Note that the Biota SAP Work Plan will identify additional sediment sampling locations and an expanded target analyte list for sediments.
ECO-12	S	Tables B4.1- 17		Please provide full citations for all references cited in these tables. Many are not referenced in the References section. Please correct the reported diets of the following species, which are inconsistent with the diets reported in Section 6.2.1: American Mink, Belted Kingfisher, Great Blue Heron In table B4.1, please confirm the reported average body weight of pumpkinseed, which appears to be low, and update the calculated food ingestion rate with any changes to body weight.		Diet values were displaying incorrect (too few) significant digits - this has been corrected in revised tables (now Table 9 series in the main text). The average BW for pumpkinseed has been updated. Full citations are provided in the reference list and/or in the footnotes of the tables where cited.
ECO-13	S			Threatened and Endangered Species: Both the NYSDEC (1994) Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA) guidance and EPA Ecological Risk Assessment (ERA) guidance documents require that effects for threatened and endangered species be evaluated at the individual/organism level. The American bald eagle is listed as threatened on the New York Endangered and Threatened Species List. Please provide discussion within the risk analysis/risk characterization of the effects evaluation at the individual/organism level for this species.	Threatened and Endangered Species: Both the NYSDEC (1994) Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA) guidance and EPA Ecological Risk Assessment (ERA) guidance documents require that effects for threatened and endangered species be evaluated at the individual/organism level, by using the No Observed Adverse Effect Level (NOAEL) TRV when calculating hazard quotients to determine potential risk. The American bald eagle is listed as threatened on the New York Endangered and Threatened Species List. Please provide discussion within the risk analysis/risk characterization of the effects evaluation at the individual/organism level for this species.	Appendix B notes that the bald eagle is listed in NY as threatened (see Section 2.1). Both NOAEL and LOAEL-based risks will be presented in the BERA. A probabilistic risk approach is preferred over the NOAEL/LOAEL approach to quantify the likelihood and magnitude of effects (see Section 5.5.1).
Human Health Risk Assessment Comments						
HH-1	E	3.1	9	Second paragraph, first sentence; delete “and groundwater” from the sentence		Corrected.
HH-2	S	4.1	12	Last paragraph, last sentance; text states that analytical chemistry results for samples of fish tissue (fillets and whole-body) collected from the Hoosick River watershed are available, however “these data are not part of the Site RI”. It is unclear why this data is not being used, please clarify. NYSDEC and EPA prefer using actual fish tissue analytical data over modeled data when quantifying risks from potential fish ingestion.		These fish tissue data ARE being used for the BHHRA and BERA, despite not being part of the Site RI. The sentence has been clarified. Importantly, the RI database is supplemented with both NYSDEC fish tissue data and supplemental biota data that will be collected as described in the Biota Sampling and Analysis Plan (February 2021) (see BERA Workplan Section 5.3).
HH-3	S	4.2	13	Last paragraph: When calculating EPCs for use in the HHRA, please be sure to run ProUCL with data sets that include non-detects.		Per USEPA standard protocol and guidance, datasets used for calculating 95 UCLs for the EPCs will include NDs.
HH-4	S	5.2	15	Last paragraph: Data sets with non-detects should be treated as such in ProUCL.		See response to HH-3.
HH-5	S	5.2	16	EPA does not screen chemicals out of the COPC screen (RAGS D table 2 analysis) if they are less than the state background. Please screen all analytes against the applicable screening values. If screening values are exceeded the chemical will need to be retained for the quantitative portion of the HHRA. Then a discussion about onsite concentrations as compared with background should be included in the risk characterization and/or uncertainty section of the HHRA. Please see comment GC-8 for additional guidance to establish "background" concentrations.		See RTC above. In the Appendix B Tables B1.1 - B1.11 (i.e., RAGS D Table 2s) NYSDEC background values are listed and analytes for which the maximum detection is lower than the state's background values are flagged. However, these compounds are not screened out based on background. The evaluation of background will be conducted after risk characterization for further evaluation of COCs (see Section 9.3.1).
HH-6	E	5.5.1	24	a. 3rd lead paragraph: for residential use please screen lead against 200 ppm. (Please see comment HH-25 for more detail about the rationale). b.#3 below Soil and Sediment subheading: please exclude these sources from the risked based screening hierarchy as only NYS and EPA values should be used.		The screening levels for lead in soil are updated to reflect this request. See Appendix B Tables B2.1 - B2.4, and COPC screening in Appendix B Tables B1.1 - B1.11.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
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NYSDEC Site # 442046

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HH-7	E	5.5.1	25	#3 below the Groundwater subheading: please delete; do not use values other than those derived by NYS DEC or EPA.		The BHHRA COPC identification process only includes RBSLs from USEPA or NYSDEC.
HH-8a	E	Table C-2.1		a. For screening of Alocors, please use the Aroclor 1016 RfD for all chemicals with a percent of chlorine less than 42% (i.e., Aroclor 1016, 1221, 1232 & 1242). For the more highly chlorinated recolors with chlorine content of 43% or greater (i.e., Aroclor 1248, 1254, 1260, 1262 & 1268) please use the Aroclor 1254 RfD. Please be sure to apply this change to the recolor screening values across all media.		The Aroclor 1061 RBSL is used for Aroclor 1016, 1221, 1232 and 1242 and the Aroclor 1254 RBSLs are used for Aroclor 1248, 1254, 1260, 1262 and 1268. "Total PCBs" is retained. Please note that Aroclors only screen in as secondary COPCs for groundwater and surface water, and only Aroclor 1260 one time, in one location. However, the SQLs are higher than the screening levels. This will be addressed in the BHHRA uncertainty analysis.
HH-8b	E	Table C-2.1		b. For overall clarity and transparency, please include the RSL output files for the calculated PFAS screening values.		Per comment HH-7, and as clarified during the December 11, 2021 teleconference, it was requested that only RBSLs from USEPA or NYSDEC sources were to be used in the HHRA screen. Therefore, no PFAS screening values are calculated. In the BHRRA, if appropriate toxicity information is available, those values, full equations, and exposure parameter values will be clearly documented.
HH-9	S	5.5.1	26	Surface water analytical data should be screened against tap water RSLs based on a HQ= 0.1 or a TLCR of 10-6. In the absence if these values, the surface water EPA and NYS values can be used.		The hierarchy of sources for selection of RBSL for surface water is switched. See response to GC-12.
HH-10a	S	5.5.3	27	Polychlorinated biphenyl (PCB) data: The current assessment proposes a Total Aroclor basis. The utility of Aroclor-based data across the human and ecological lines of evidence is appreciated; however, the absence of congener-specific data represents a less than precise basis for assessing human exposure and does not provide for an option to assess the dioxin-like congener influence. This latter issue can be an important consideration in the assessment of fish ingestion and nursing infant exposures. In light of the fact that historical data gathering has focused on testing of weathered Aroclors, please add a discussion of the potential influence of dioxin-like PCBs to the Uncertainty Assessment. Please also note that future analyses of fish tissue may require congener-specific testing. For screening of recolors please use the Aroclor 1016 RfD for all chemicals with a percent of chlorine less than 42% (i.e., 1016, 1221, 1232 & 1242). For the more highly chlorinated recolors with chlorine content of 43% or greater (i.e.,1248, 1254, 1260, 1262 & 1268) please use the Aroclor 1254 RfD. Please be sure to apply this change to the recolor screening values across all media.		The Aroclor 1061 RBSL is used for Aroclor 1016, 1221, 1232 and 1242 and the Aroclor 1254 RBSLs are used for Aroclor 1248, 1254, 1260, 1262 and 1268. "Total PCBs" is retained. Please note that Aroclors only screen in as secondary COPCs for groundwater and surface water, and only Aroclor 1260 one time, in one location. However, the SQLs are higher than the screening levels. This will be addressed in the BHHRA uncertainty analysis.
HH-10b	E	5.5.3	27	b. Chlordane, last sentence: the EPA RSL for tap water should have been used as the RBSL for surface water.		See response to GC-12. The hierarchy is updated.
HH-10c	S	5.5.3	27	c. Chromium: in the absence of speciation data, EPA generally recommends that Cr+6 tox values be used for risk quantification of total chromium. Since there is no historical records or practices that indicate that Cr+6 was ever used or produced, EPA understands the rationale behind the assumption used. However, for overall completeness, please use Cr+6 tox values for risk quantification and discussion the results in the uncertainty section of the HHRA.		See response to GC-14.
HH-10d	E	5.5.3	28	d. Dichloropropene, 1-3-, last sentence: please use the tap water RSL as a surrogate screening value for surface water.		See response to GC-12. The hierarchy is updated.
HH-10e	E	5.5.3	28	e. Phenanthrene, last sentence: please use the tap water RSL as a surrogate screening value for surface water		See response to GC-12. The hierarchy is updated.

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

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HH-11a	S	5.5.4.2	30	a. For screening and subsequent risk calculation of PFAS other than PFOA PFOS and PFBS (i.e., PFAS without EPA Tier I and II tox values) please be sure to provide the rationale for the Tier III tox value selected. Also please discuss the resultant risk calculation and quantitative results in the uncertainty section of the HHRA and not in the risk characterization section.		As described in the BHHRA Work Plan, Section 8.1, the detailed rationale for selection of PFAS toxicity criteria follows USEPA policy and guidance and will be presented in the BHHRA. Note that toxicity information and regulatory decisions related to PFAS are rapidly evolving. Prior to conducting the final risk calculations, GSI will determine if additional appropriate toxicity criteria have become available for any PFAS COPCs and will finalize the toxicity criteria based on the most current available information. The variability between and uncertainty within the selection of toxicity values for PFAS will be further explored and described for the PFAS COPCs in the BHHRA risk characterization and uncertainty sections.
HH-11b	E	5.5.4.2	30	b. First bulleted list- (List of published regulatory RBSLs) please take out the last two bullets as they are not appropriate to use at this site since they are not EPA or NYS derived screening values. NYS draft regulations containing SCOS and relevant supporting data are anticipated to be released for comment in time to incorporate into the work plan and be used as screening values.		Only USEPA and NYSDEC RBSLs are used as sources for all analytes in all media.
HH-12	E	5.5.4.2	31	Top two bullets on Page 31- please exclude these two bullets as they are not appropriate to use at the site.		Only USEPA and NYSDEC RBSLs are used as sources for all analytes in all media.
HH-13	E	5.5.5	32	Third bullet in the first bulleted list in section 5.5.5- please take this criterion out as EPA does not screen out chemicals from the quantitative risk assessment if they are below background levels. This evaluation (comparing site concentrations to those in site specific background levels) is done after the quantitative portion of the risk assessment is completed and discussed in the uncertainty/risk characterization section of the HHRA.		The BERA and BHHRA Work Plans reference NYSDEC background data sets and use those existing data to evaluate concentrations of analytes within the Project Area. Neither risk assessment will eliminate COPCs based on background levels, however, COPCs and COPECs will be compared to NYSDEC background levels to provide context and more detailed information to inform risk characterization results. FOD and background concentrations will be evaluated after the identification of COCs, to help inform potential site-related risks and priority chemicals. See Section 9.3.1. of the BHHRA Work Plan for more details.
HH-14	E	5.5.5	33	first bullet in the second set of bullets: please take background concentrations out of the screening step of the HHRA		See response to HH-13.
HH-15	E	6.3	41	please correct the figure reference to Figure 5		Corrected
HH-16	E	5.5.1	25	The first full paragraph on this page uses the word “protective” incorrectly in reference to construction worker exposures and should be replaced with “relevant to” or “predictive of.”		Sentence corrected (now found in Section 5.3.1).
HH-17	E	6.3.1	41	For the first 5 bullets please add “current/future”. Please make this change in Table 9 and the subsequent receptor section subheadings as well.		These edits are made throughout.
HH-18	E	Table 9		Please add “on-site” to the commercial worker and consider switching the off-site recreator age bracket to 0-6yo.		"On-site" is added to the commercial worker description. The off-site recreator includes all age brackets (see BHHRA Work Plan Table 6), young child, older child, and adult.
HH-19		6.3.1	45	Recreational User on the Hoosick River and Hoosick River Greenway subheading, last paragraph: first sentence indicates that the recreator will be evaluated for angling activities. Since swimming is likely in the Hoosick River, and it is a more conservative exposure pathway than angling (for direct contact with surface water and sediments), it should be evaluated in the HHRA. Further, a child recreator should be evaluated as its possible that this group age may visit the River with parents.		The "Recreator" scenario includes both a wader and an angler scenario and includes young children, older children and adult. See BHHRA Work Plan Table 6.

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HH-20	S	8.2	57	Please do not prematurely exclude any COPCs based on background level comparisons. Any chemical that exceeds the relevant conservative risk-based screening level will need to be retained for the quantitative portion of the HHRA. A discussion of on-site concentrations as compared with background should be included in the risk characterization and/or uncertainty section of the HHRA.		The BERA and BHHRA Work Plans reference NYSDEC background data sets and use those existing data to evaluate concentrations of analytes within the Project Area. Neither risk assessment will eliminate COPCs based on background levels, however, as discussed in the BHHRA Work Plan Section 9.3.1. and BERA Work Plan SLERA (Appendix B, Section 1.2.1), COPCs and COPECs will be compared to NYSDEC background levels to provide context and more detailed information to inform risk characterization results. FOD and background concentrations will be evaluated after the identification of COCs, to help inform potential site-related risks and priority chemicals. See Section 9.3.1. of the BHHRA Work Plan for more details.
HH-21	S	8.3.2.2	61	For quantification of risk from inhalation while showering/bathing, please use the Andelman Shower Model as modified by Schaum et. al. (1994). Please be sure to include the pertinent equations and input parameters in the text of the HHRA. The more conservative parameters as identified in the 1994 document should be used for risk quantification.		The Andelman and Schaum Shower Model is added to the BHHRA Work Plan exposure pathways discussion, section 7.3.2.2. and is shown in Appendix B Tables B4.1 - B4.7.
HH-22	S	8.3.2.3	62	Where available, NYSDEC and EPA prefers analytical fish tissue data over modeled concentrations. Please clarify what data will be used for risk quantification from the fish ingestion pathway. The work plan should reference the data that are going to be incorporated. If the data are determined not to be sufficient NYSDEC and EPA will provide input regarding an appropriate tissue sampling program.		Both fillet and whole body data will be collected, as discussed in BERA Work Plan Section 5.3.
HH-23	S	8.3.3	63	When calculating EPCs please be sure to run ProUCL with non-detected data.		Per USEPA standard protocol and guidance, datasets used for calculating 95 UCLs for the EPCs will include NDs.
HH-24	S	8.3.4	64	For RME estimates, please be sure to use currently recommended EPA exposure parameters.	For RME estimates, please be sure to use currently recommended EPA exposure parameters.	The BHHRA will utilize all USEPA RME exposure parameter values. For clarity, all RME values are now presented in the BHRRA Work Plan Appendix B Tables B5.1 - B5.7.
HH-25	S	8.4.4	66	As provided in EPA Office of Land and Emergency Management (OLEM, previously OSWER until December 2015) Directive 9200.2-167, recent toxicological studies on lead suggest that adverse health effects are associated with mean BLLs (blood lead levels) less than 10µg/dL in children. In response to the directive, the Region has developed a tiered approach when evaluating the potential extent of lead contaminated soil requiring a remedial action. The strategy is based on an updated regional risk reduction goal which is to limit the probability of a child's (or that of a group of similarly exposed individual's) BLL exceeding 5µg/dL to 5% or less. Please use 5 ug/dL for the IEUBK and ALM model estimates. For the initial screen please use NYS SCOs 400 ppm for residential exposure and 1,000 ppm for commercial exposures.	As provided in EPA Office of Land and Emergency Management (OLEM, previously OSWER until December 2015) Directive 9200.2 167, recent toxicological studies on lead suggest that adverse health effects are associated with mean BLLs (blood lead levels) less than 10µg/dL in children. In response to the directive, the Region has developed a tiered approach when evaluating the potential extent of lead contaminated soil requiring a remedial action. The strategy is based on an updated regional risk reduction goal which is to limit the probability of a child's (or that of a group of similarly exposed individual's) BLL exceeding 5µg/dL to 5% or less. Please use 5 ug/dL for the IEUBK and ALM model estimates. For the initial screen please use values of 200 ppm for residential exposure and 400 ppm for commercial exposures where children are reliably restricted. These screening values do not reflect remediation targets.	The screening levels for lead in soil are changed to reflect this request. See Appendix B Tables B2.1 - B2.4, and COPC screening in Appendix B Tables B1.1 - B1.11.
HH-26	E	8.5.3	69	Text references BERA when it should reference the HHRA, please confirm and correct as necessary.		This has been corrected.

GSI ENVIRONMENTAL

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
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NYSDEC Site # 442046

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HH-27	S	Table 3.1	109	Footnotes to table 3.1 (p 109) indicate references to the statewide sampling undertaken in support of DEC's initial soil cleanup objectives, specifically involving 118 rural samples collected away from obvious sources across the state, and another 28 samples collected from a subset of those sites, but adjacent to roadways/driveways. Although the sampling interval (depth) for all 146 of these samples was comparable (by the sampling protocol), these were collected as, and should be analyzed as, data reflecting two distinct kinds of locations. The smaller of these was intended to reflect potential anthropogenic inputs related to the construction and use of roads/driveways. Given our understanding of the nature of incidental soil ingestion, there is no reasonable case to be made that would call for merging these locations across location types to yield an "average" for the parcel, much less to merge the 28 and 118 samples together for some kind of statistical evaluation. Please revise the work plan accordingly.	Footnotes to table 3.1 (p 109) indicate references to the statewide sampling undertaken in support of DEC's initial soil cleanup objectives, specifically involving 118 rural samples collected away from obvious sources across the state, and another 28 samples collected from a subset of those sites, but adjacent to roadways/driveways. Although the sampling interval (depth) for all 146 of these samples was comparable (by the sampling protocol), these were collected as, and should be analyzed as, data reflecting two distinct kinds of locations. The smaller of these was intended to reflect potential anthropogenic inputs related to the construction and use of roads/driveways. DEC does not agree that these datasets may be merged to yield "average values." Should SGPP wish to consider these datasets in a review of naturally occurring or anthropogenic background conditions in soil, a defensible set of decision criteria should be presented to support statistical comparisons to site datasets. It is DEC's understanding that any constituent detected above its most relevant health based screening criterion will not be eliminated from consideration prior to assessment in the Risk Characterization component the HHRA, but that consideration for background conditions will be assessed within the context of the Uncertainty Analysis in support of risk management decision making.	The BERA and BHHRA Work Plans reference NYSDEC background data sets and use those existing data to evaluate concentrations of analytes within the Project Area. Background concentrations will be evaluated after the identification of COCs, to help inform potential site-related risks and priority chemicals. In the BHHRA, to determine which NYSDEC background value is appropriate for comparison, each EU will be mapped relative to potential pollution sources (identified by NYSDEC as "trash, roads, driveways or structures" (NYSDEC & NYSDOH, 2006). 'Source distant' values from Table 6a will be used to assess samples obtained from areas considered to be reasonable points of human contact with soil, such as yards and trails (but at least 15 feet away from potential pollution sources), and 'near source' soil samples collected near roadways and/or driveways will be compared to Table 6c. See Section 9.3.1. of the BHHRA Work Plan.
HH-28	S	Table C3 in Appendix C		Table C3 in Appendix C of the workplan lists multiple toxicity values for per- and polyfluoro- alkyl substances (PFAS) from which the work plan indicates a choice of a single value for each chemical that will be used to screen and evaluate health risks in the baseline human health risk assessment (HRA). For perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), which are anticipated to be key chemicals of concern, the table indicates the choice of the reference doses derived by the United States Environmental Protection Agency (US EPA) in 2016 (20 ng/kg/day for both (US EPA 2016a,b)) based solely on the US EPA's recommendation. This ignores a significant amount of risk assessment expertise from authoritative bodies that considers PFOA and PFOS to be more toxic than indicated by these PFOA and PFOS reference doses. In light of this, the work plan should acknowledge the scientifically defensible results of evaluations done by other respected authoritative bodies, and discuss the impact of using more conservative toxicity values for PFOA, PFOS and other PFAS on the quantitative indicators of noncancer risk in the uncertainty section of the document. In addition, the choice of a single noncancer toxicity value and no cancer toxicity value (i.e., a cancer potency factor) to evaluate risks also ignores significant toxicological evidence from three separate rodent studies for the carcinogenicity of PFOA (Biegel et al. 2001; Butenhoff et al. 2012, NTP 2020), and the fact that estimates of cancer potency have been derived by authoritative bodies for both PFOA and PFOS (US EPA 2016a, NJ DEP 2019a,b, CA EPA 2019). The HRA should evaluate the PFOA and PFOS based on cancer as well as noncancer endpoints.		Per recommends from NYSDEC and USEPA above, only USEPA and NYSDEC sources of RBSLs are used for the human health COPC identification. Any contaminant without a RBSL is carried forward as a secondary COPC and a detailed toxicity evaluation will be conducted as part of the risk characterization. As described in the BHHRA Work Plan, Section 8.1, the detailed rationale for selection of PFAS toxicity criteria will follow USEPA policy and guidance and will be presented in the BHHRA. Note that toxicity information and regulatory decisions related to PFAS are rapidly evolving. Prior to conducting the final risk calculations, GSI will determine if additional appropriate toxicity criteria have become available for any PFAS COPCs and will finalize the toxicity criteria based on the most current available information. The variability between and uncertainty within the selection of toxicity values for PFAS will be further explored and described for the PFAS COPCs in the BHHRA risk characterization and uncertainty sections. As described in Section 9.4.2, the BHHRA Uncertainty Analysis will also evaluate the impact on risk estimates based on a range of available toxicity criteria.

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Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
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HH-29	S	8.3.4	64	Several of the exposure parameter values defined in NYSDEC guidance are markedly lower than those commonly recommended by USEPA. For example, the incidental soil ingestion rates for a residential adult and child are given as 17 and 74 mg/day versus EPA values of 100 and 200 mg/day and 8.5 mg/day for an occupational worker (NYSDEC) versus the EPA default of 50 mg/day for an indoor worker, 100 mg/day for an outdoor worker, and 330 mg/day for a construction worker. At the outset of the RAWP, in Section 1.1, SGPP indicates the risk assessment (RA) will be conducted in concert with EPA protocols and procedures. Standard default exposure parameter values supported by USEPA should be used in the assessment of reasonable maximum exposures (RME). NYSDEC intake parameter values, or other relevant values reflective of average exposures, should be used to support central tendency exposures (CTE).	Several of the exposure parameter values defined in NYSDEC guidance are lower than those commonly recommended by USEPA, based on state specific environmental factors and time weighted averaging (e.g., snow cover). For example, the incidental soil ingestion rates for a residential adult and child are given as 17 and 74 mg/day versus EPA values of 100 and 200 mg/day and 8.5 mg/day for an occupational worker (NYSDEC) versus the EPA default of 50 mg/day for an indoor worker, 100 mg/day for an outdoor worker, and 330 mg/day for a construction worker. At the outset of the RAWP, in Section 1.1, SGPP indicates the risk assessment (RA) will be conducted in concert with EPA protocols and procedures. Standard default exposure parameter values supported by USEPA should be used in the assessment of reasonable maximum exposures (RME). NYSDEC intake parameter values, or other relevant values reflective of average exposures, should be used to support central tendency exposures (CTE). In the case of CTE assessment, please review the bases for all DEC parameter values to ensure they reflect, and are applicable for use in assessing, conditions at the site.	As discussed in more detail on the December 11, 2020 teleconference, NYSDEC values are used in the BHHRA as central tendency values. As discussed in more detail in BHHRA Work Plan Section 7.3.3, GSI conducted an in-depth evaluation of the NYSDEC and NYSDOH exposure parameter values. The soil and dust ingestion rates selected by NYSDEC and NYSDOH (2006) are largely based on summaries from USEPA's 1997 Exposure Factors Handbook and 2002 Supplemental Soil Screening Guidance (USEPA, 1997; 2002). Appendix B Table B.5 provides a detailed summary of NYSDEC's assumptions about these two aspects of exposure frequency for each scenario, the age-specific soil and dust ingestion rates these apply to, and the final time weighted average soil and dust ingestion rate. The footnotes of Appendix B Table B.5 show the equations that NYSDEC used, which are described in the text of the guidance document, but not presented as equations. USEPA has twice updated the recommended CTE and RME values for soil and dust ingestion rate. See Appendix B Table B.6 for a side-by-side presentation of both updates (USEPA 2011; 2017) along with the values selected by NYSDEC and NYSDOH (2006) for the CTE. The last columns in the table show the CTE and RME values selected for use in the BHHRA.
HH-30	S	8.3	58	Please update the first bulleted list presented of receptor populations to be consistent with the comments contained herein, Section 6.3.1, and discriminate between current and future potential populations. In the second bulleted list, please update the complete exposure pathways to include construction worker direct contact with groundwater and inhalation of VOCs under trenching activities, and residential adult and child ingestion of homegrown fruits and vegetables and farm-raised chickens and eggs.	Please update the first bulleted list of receptor populations to be consistent with the comments contained herein, Section 6.3.1, and discriminate between current and future potential populations. In the second bulleted list, please update the complete exposure pathways to include construction worker direct contact with groundwater and inhalation of VOCs under trenching activities. In addition, please prepare a semi quantitative assessment of residential adult and child ingestion of homegrown fruits and vegetables and relevant farm raised livestock (e.g., chickens and eggs) related to loading of surface soil as a function of historical stack emissions. These pathways, implications for risk management, and associated data gaps should be addressed within the Risk Characterization and Uncertainty Analysis components of the HHRA.	The preliminary CSM and exposure assessment methods are now combined in the BHHRA Work Plan Section 7 for clarity. All receptors are considered current and hypothetical future and titles have been updated (see list under Section 7.1.1). Complete exposure pathways listed in Section 7.1.1 are inclusive of all receptors and do include direct contact with groundwater and inhalation of VOCs. The potential exposure to construction workers under trenching activities (direct contact with GW and inhalation of VOCs) has been added as an exposure pathway in Section 7.3. The BHHRA will attempt to evaluate the potential risk from residential ingestion of homegrown produce and chicken and eggs. See discussion in Section 7.3.
HH-31	S	5.5.1	24	Hierarchy and Sources of Screening Levels- The second paragraph of this section indicates that RBSLs for child scenarios are lower than (and therefore protective of) adults. This statement is incorrect and should be removed. Generally, hazard-based residential land use RBLS predicated on child exposures are lower (i.e., more stringent) than those associated with adult exposures, chiefly based on body weight:intake ratios; however, risk-based (carcinogen-based) RBSLs will be lower (i.e., more stringent) for age-adjusted exposures reflected in the adult condition (mutagenic mode of action,		The sentence is removed.
HH-32a	S	5.5.2	26	a.This section should be expanded to discuss the decision criteria or approach to assessment of conditions where other confounding sources may exist or conditions where there is an inconsistency evident in screening along a defined fate and transport pathway (i.e., detection in groundwater, ND in subslab soil gas, and exceedance in indoor air for the same constituent).		The VI screening process takes a conservative approach to include as many potential COPCs as possible (see Section 5.3.1). These additional criteria are specifically added to the Weight-of-evidence Risk Characterization for VI, in Section 9.3.2.
HH-32b	S	5.5.2	26	b. This section should specifically clarify that the Uncertainty Section of the RA will address those constituents lacking a VISL but associated with a dimensionless Henry's Law constant above 1E-05 atm m3 mol-1 or vapor pressure > 1mmHg (including PFAS constituents).		The initial VI screening process specifically references the Section 9.3.2. discussion on how risk will be characterized for VI. Section 9.3.2 has been expanded to specifically mention the concern for data gaps and lack of VISLs for potential SVOCs.

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HH-33a	S	6.3 and Figure 5		The Exposure Assessment and Conceptual Site Model (Figure 5) should be refined to better discriminate between current and future potential populations. Bullet point entries in Figure 5 should be revised to reflect designations of C/F to reflect current and future relevancy.		Text in Section 7 is revised to clarify that all receptors will be evaluated under current and hypothetical future scenarios. The only receptor exposure scenario for which this has any impact is on the residential exposure scenario to soil. Future residential soil exposures may include a deeper soil depth profile for consideration that deeper soils (up to 10ft bgs) may be unearthed during the construction of a home. However, prior to calculating EPCs for soil, soil depth profiles will be evaluated.
HH-33b	S	6.3 and Figure 5		Onsite Future Resident, Adult and Child: The assessment basis for direct contact with soil of these future potential adult and child populations should be revised to consider two discrete EPC bases, based on PFAS propensity to solubilize and leach and in consideration of future soil disturbance through regarding and mixing: 1) surface soil-only, and 2) total soil, reflective of surface soil and subsurface soil (0-10 ft bs).		Section 7.1.1. text for hypothetical future residents on Site considers both exposures to surface soil and surface and subsurface soil combined. Section 7.3.4, section on calculating EPCs, states that exploratory data analysis and statistics will be used to evaluate the distribution, frequency of detection, and potential outliers, for constituents in soil horizontally across the Project Area, and also vertically across depth profiles for a given sample location. The HHRA will include a one-page tabular and graphical summary of the properties of the dataset for each analyte/EU combination. These properties will guide the calculation of the EPC. This may include consideration of different depth profiles for a given receptor.
HH-33c	S	6.3 and Figure 5		Offsite Resident, Adult and Child: Under the current land use designation, the direct contact-based EPC for soil should be based on the surface soil-only dataset. Under the future land use designation, the direct contact-based EPC for soil should be based on the total soil dataset (surface soil + subsurface soil, 0-10 ft bgs).		Section 7.1.1. text for hypothetical future residents off Site considers both exposures to surface soil and surface and subsurface soil combined. Section 7.3.4, section on calculating EPCs, states that exploratory data analysis and statistics will be used to evaluate the distribution, frequency of detection, and potential outliers, for constituents in soil horizontally across the Project Area, and also vertically across depth profiles for a given sample location. The HHRA will include a one-page tabular and graphical summary of the properties of the dataset for each analyte/EU combination. These properties will guide the calculation of the EPC. This may include consideration of different depth profiles for a given receptor.
HH-33d	S	6.3 and Figure 5		The individual population discussion that follows in Section 6 should be revised to clearly indicate that ambient air is influenced by not only particulate emissions based on suspension of surface soil as dust, but also volatile organic compounds (VOCs) based on volatilization		The potential exposure to VOCs in ambient air on- site is added. The potential for this pathway to be of any significance off-site is extremely low given concentrations of VOCs in groundwater, depth to groundwater, and immediate dispersion of any VOCs in the air.
HH-33e	S	6.3 and Figure 5		Please clarify that, under future potential groundwater use by onsite residents, exposures and complete exposure pathways reflect the spectrum of domestic drinking water usage, to include ingestion, bathing, cooking, and cleaning. Please add relevant exposure/intake equations and exposure parameter values to the body of the RAWP (e.g., Andelman Shower Model and Schaum 1994 amendments).		All exposure equations and exposure parameter values are included in the BHHRA Work Plan (section 7.3 and Appendix B Tables B4.1 - 4.7, respectively.) The Andelman and Schuam shower model and the construction worker trench models are included.
HH-33f	S	6.3 and Figure 5		For construction workers, please clarify that the soil direct contact-based EPC will reflect one combined dataset, reflective of total soil (surface + subsurface soil) data.		Section 7.1.1. text for construction workers considers exposures to surface and subsurface soils. Section 7.3.4, section on calculating EPCs, states that exploratory data analysis and statistics will be used to evaluate the distribution, frequency of detection, and potential outliers, for constituents in soil horizontally across the Project Area, and also vertically across depth profiles for a given sample location. The HHRA will include a one-page tabular and graphical summary of the properties of the dataset for each analyte/EU combination. These properties will guide the calculation of the EPC.

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McCaffrey Street Site
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HH-33g	S	6.3 and Figure 5		The construction worker discussion eliminates direct contact with groundwater based on the understanding that groundwater on site ranges below 15 ft bgs. Section 2.2 indicates that depth to shallow, perched groundwater is as shallow as 0.8 ft bgs within the tax parcel and 1.6 ft bgs within the broader Project Area. In light of this, please revisit characterization of construction worker exposures to address trenching activities to 10 ft bgs and direct contact with shallow groundwater, inclusive of inhalation of volatile emissions from groundwater and soil under trenching activities. In such assessment, it is suggested that SGPP follow guidance outlined by the State of Virginia Department of Environmental Quality (Voluntary Remediation Program – Risk Assessment Guidance). Please add relevant intake models and exposure parameter values to the body of the RAWP.		Construction worker direct contact with groundwater will be evaluated using the VDEP Trench Model for locations with groundwater less than 15 feet bgs. The Trench Model takes into account direct contact with and incidental ingestion of groundwater, subsurface and surface soils, and ambient air (inhalation of VOCs and soil). All intake equations and exposure parameters values are added to the BHHRA Work Plan, sections 7.3 and Appendix B Tables B4.1 - B4.7.
HH-33h	S	6.3 and Figure 5		Please utilize USEPA's Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (2002), especially when developing occupational or intrusive soil activity-based particulate emissions factors (PEF).		USEPA 2002 Supplemental Guidance for SSLs is added to our reference list in Section 1.2. This guidance is used to guide selection of applicable exposure parameter values.
HH-33i	S	6.3 and Figure 5		Recreational users are pertinent in an assessment of the site and site-related impact. Although this population is addressed in Section 6.3.1 and in Figure 5, it is not listed in the initial bulleted list of receptors in Section 6.3.1 (page 41).		Recreators are included in the bulleted list of receptors in the BHHRA Work Plan Section 7.1.1.
HH-34	S	6.3.2	45	Please adjust the fifth bulleted entry from Adult recreator and trespasser to Adult and child recreator and resident. It is likely that local recreators and residents comprise the same population and are a preferred basis for risk and site management decision making to an aggregated risk including trespassers. This assessment basis should address on- and offsite current and future potential residents.		The last bullet, now found in Section 7.2, includes adult and child recreator and on-site or off-site current or future residents.
HH-35	S	8.4.5	66	The carcinogenic PAHs should not be screened individually. All detected compounds should be retained, reduced to one benzo(a)pyrene- equivalent (BaPeqv) concentration and this data point should be the screening basis for COPC designation as a class and the basis for calculating associated quantitative point estimates of risk and hazard.		The BHHRA Work Plan COPC screening includes an evaluation of cPAHs as BaP equivalents. See section 5.3.2 for detailed explanation. All cPAHs are retained as primary COPCs due to the exceedance of the sum of BaP equivalents exceeding the BaP RBSLs in groundwater, surface water, and soil.
Biota SAP Comments received 12 April 2021						
General Comments						
GC 1				In addition to the revised work plan, please provide a "red line, strike out" version of the document.		Revisions to the Biota SAP will be provided in red line strike out.
GC 2				Revise the Project Area to be consistent with Operable Unit – 01 (OU 01) of the Saint Gobain McCaffrey Street site as defined by NYSDEC. OU 01 is defined as the 6.41–acre tax parcel that comprises the site, as well as groundwater contamination directly attributable to on site disposal of materials containing hazardous waste. Data from the remedial investigation indicate this area to be generally that portion of the village of Hoosick Falls (Village) that is bounded by the Village's existing well field to the south, the Village's waste water treatment plant to the north, and the areal extent of the Village public water supply system to the east and west. A figure has been included which illustrates the proposed Project Area.		The BHHRA and BERA work plans have been updated to include a figure that displays the boundary provided by NYSDEC. The work plans refer to this area as, "Residential Irrigated Soil Area".
GC 3				The existing proposed aquatic reference sampling location is within the project area. This is not appropriate. A reference location needs to be unaffected by site related contaminants of potential concern (COPs). See comment below on Section 3 of the work plan.		The reference location has been moved further upriver, outside the boundaries associated with the Project Area.

TABLE C1
Comments and Responses on Draft BHHRA and BERA Work Plans Submitted September 2020 - Updated with Comments Recevied April 2021
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
GC 4				Many of the proposed samples are single composite samples, which combine multiple taxa into one sample. Generally, it is preferable to use a single species/taxon in one composite sample, preferably targeting species according to the conceptual site model. For the aquatic vegetation, emergent vegetation, terrestrial vegetation, aquatic macroinvertebrate, and non earthworm soil invertebrate samples, please provide targeted taxa for sampling. Please target these taxa for sampling to the extent possible, and collect data on the relative composition of the sample by taxa if multiple taxa must be collected.		We agree in principle that the target species should match the CSM. Composites for invertebrates (except for earthworms) and vegetation were proposed for this reason. The predator species of interest are generalists in terms of the prey items that they capture and consume (i.e., are not linked to a specific species within a taxon as a sole source of food). A table has been added to list the species that are likely to be captured. If multiple taxa are collected, as may be necessary to meet the tissue mass requirements for laboratory analyses, data on the relative taxa composition of a given sample will be collected.
Specific Comments						
SP 1		1.3	4	Regulatory Concurrence. A scientific collection license must be obtained for this project. Please submit an application to NYSDEC Special Licenses Unit		Application for scientific collection licenses were submitted week of April 12.
SP 2		2.0	4	Data Quality Objectives Please include exposure point concentrations (EPCs) for surface water in this list.		Edit is made. A bullet is added indicating that EPCs will be calculated for surface water.
SP 3		Table 2.2	5 and 6	DQO Step 5. A linear regression model may work, but a generalized linear model/generalized linear mixed model may also be considered to avoid transformations.		Edit is made. General Linear Model will be used in lieu of linear regression.
SP 4		Table 2.2	5 and 6	DQO Step 6. The linear regression model criteria require better explanation. An R2 of 0.2 is not adequately predictive. A minimum R2 of 0.36 0.49 (corresponding to a Pearson's r of 0.6 0.7) is suggested. Please justify the less stringent p value ($p \leq 0.1$) for the slope differing from zero. Please explain why there is a requirement that the slope differs from one. Likewise, BAF performance criteria require better explanation. For example, will single predictor regression or multiple linear regression be used?		Additional rationale and explanation for selection of model criteria is provided. Values proposed for R-square and p value are consistent with USEPA (2005). However, the R-square criteria has been modified per request. Criteria for examining the slope was originally proposed by Bevelhimer et al. (1997) and serves as a check on whether the difference between concentrations in biota and abiotic medium is statistically significant.
SP 5		3.2.4 Figure 3 5	17 and 18	The emergent vegetation sampling locations are not co located with the mid channel sediment samples. Please add additional sediment/soil sampling locations on the eastern and western shorelines of each in river sampling location, co located with the emergent vegetation sampling locations.		Hydric soil/sediment samples will also be collected in the shoreline areas where emergent vegetation samples are collected. The soil samples will be collected from a single depth interval of 0 to 12 inches, and will be co-located with the emergent vegetation sample locations. The depth interval (0-12 inches) is expected to coincide with the root mass of the anticipated species.
SP 6		Table 3 3	20	Please ensure that that target mass of 27 grams is correct and accounts for losses during processing. For example 1 gram for a PFAS tissue sample is an absolute minimum with no room for error, 6 grams for a PCB tissue sample will likely elevate detection limits, and 5 10 grams, not 1 gram, is typically needed for a lipid tissue sample.		The minimum target mass has been increased to 88 grams to account for all target analytes plus processing losses.

TABLE C1
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McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
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Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
SP 7		Table 3 3	20	Method 7473 is a more efficient method for total mercury analysis.		Analytical methods will be used that match prior sample analysis so that data can be combined across sampling events. Previously mercury analysis included Method 7471B for soil and Method 7471A for surface water. Method 1631 is proposed to meet the detection limits and the recoveries for sediment.
SP 8		Table 3 3	20	Please clarify why both mercury and methyl mercury analyses are included for fish tissue		Methyl mercury will be eliminated for analysis of biota tissue. Tissue-based TRVs (mg/kg ww) will be selected assuming methyl mercury is the dominant fraction of total mercury.
SP 9		4.1.1.1	25	Collection of Soil Samples Please collect soil samples to 12 inches bgs, to align with the depth of earthworm sampling.		Soil samples will be collected to a depth of 12 inches bgs.
SP 10		4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	A minimum of five (5) small mammal samples must be collected at each sample location. Please update this requirement throughout the work plan.		Sample sizes have been modified to target n=5 organisms per sampling unit.
SP 11		4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	For small mammal trapping, the work plan should specify the preferred species for sampling (1 2 species). It is understood that we are interested in trophic transfer of contaminants in both herbivorous and carnivorous small mammals, but otherwise effort should be taken to minimize species variability if possible. One individual should provide sufficient mass for a sample, and multiple species may not be composited together.		The target sample mass has been increased to 88 grams. We agree that it is likely a single small mammal should be sufficient, but if compositing is needed, only organisms that are the same species will be combined in a composite sample. Field teams will apply an adaptive sampling approach that
SP 12		4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	Please provide a list of target species, and alternatives that can be used in the event that targets are not captured. Please provide a size range for those target species.		Refer to the Response to GC-4
SP 13		4.2.1	30	Please sample sediment to a depth of 24 inches below sediment surface in the Hoosick River, if possible. These samples should be stratified as follows: 0 6 inches, 6 12 inches, and 12 24 inches or to refusal.		Based on discussions with NYSDEC, the state interprets the biologically active zone as 0-12 inches in sediment, although it is acknowledged that Hoosic River is rocky in the vacinity of the Project Area and shallower depths are more likely. The Biota SAP is revised to indicate that target depth intervals are 0-6 inches and 6-12 inches (or refusal, whichever is shallower).
SP 14		4.2.4	34	A minimum of five (5) fish samples must be collected for each size class (0 6 inch, 6 12 inch, >12 inch). Please update this requirement throughout the work plan.		Sample sizes have been modified to target n=5 fish per size class per sampling unit.
SP 15		4.2.4	34	Fish must be grouped by species within each composite sample. Please do not composite multiple species in one sample. Additionally, fish must be grouped by size within each composite sample. Composite samples should only be taken for smaller fish (0 6 inches) and where sample mass		Refer to the Response to GC-4. Will include target size classes.

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McCaffrey Street Site
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NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
SP 16		4.2.4	34	With fish and macroinvertebrates being sampled in the same area, thought must be given to the order of sampling so as to minimize disturbance to sample organisms. Please provide more details on the order of sampling.		The Biota SAP text is updated to clarify the sampling order. Surface water will be collected first, then the collection of fish (minimum disturbance), followed by benthic macroinvertebrates.
SP 17		4.2.4	34	Please provide a list of target species, and alternatives that can be used in the event that targets are not captured. Please provide a size range for those target species.		The Biota SAP has been modified to included target species and size classes.
SP 18		4.2.4	35	Please clarify the last paragraph of this section, which states that a single composite sample will be collected for each in river sample location.		The Biota SAP is modified to clarify that compositing will occur for only the 0-6 inch size class, in order to obtain the minimum 88 g target mass.
SP 19		5.2.1 and 5.2.2	40 and 41	First bullet point on page 40 and identical bullet point on page 41: Isotope dilution/recovery methods should be specified. These are not a part of method 537.1, but are typically performed by contract laboratories.		Isotope dilution/recovery methods will be specified.
SP 20		5.3	42	Second bullet point: The field duplicate as described here appears to be a separate sample rather than a duplicate. Please clarify these methods.		All field duplicates are a duplicate of one primary sample location. The Biota SAP is updated to clarify (per biota type) how field duplicate samples will be obtained in the field. The text is modified to explain that the duplicate involves collecting double the mass at a given sample location (e.g. 176 g instead of 88 g) and that the sample will be split in the field for laboratory submittal.
SP 21		5.3	42	Third bullet point: If isotope dilution methods are used, the MS/MSD is not needed, as every sample gets spiked with labeled targets.		Field MS/MSDs will not be collected for isotope dilution methods (PFAS only) and clarified in the text of the Biota SAP, Appendix A, and QAPP.
SP 22		5.4	42	An EQuIS EDD format is not yet available for biological data. For now, please submit all biological data in spreadsheet (Excel or .csv) format for ease of use		An Excel format will be used to record all pertinent collection data and laboratory findings in a similar format to EQuIS EDD. The format of deliverables thus far has been requested by the laboratory. The laboratory provided format will be combined with the NYSDEC requirements in an EDD format.
SP 23		Appendix A Table 1a	1	The in river sampling units presented in this table (T1 T4) appear incorrect. Six (6) in river sample locations are described throughout the work plan. Please correct this table.		There was an error in the calculation for Table 1A where the difference appears to originate with TR-1 and TR-2 as reference locations. Table 1A is corrected.
SP 24		Appendix A Table 1b	2	For fish tissue, the blanks should be laboratory blanks.		Field equipment blanks will be collected consistent with the requirements of NYSDEC. As outlined in Table 4 of the QAPP, at least one equipment blank is required per day, per matrix collected for PFAS. The blanks outlined in Table 1B is updated to reflect the state requirement for blank collection regarding PFAS.

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McCaffrey Street Site
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NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
SP 25		Appendix B QAPP 2.3	3	Please state which TestAmerica labs will be receiving which samples. Will samples be shipped to a central TestAmerica facility for distribution, or will samples be processed and distributed by ERM?		The laboratory locations for each matrix and each analytical suite are indicated in the footers of the QAPP tables. These locations are added to the QAPP text for clarification.
SP 26		Appendix B QAPP 3.2	4	Laboratory duplicate/replicate samples are needed at a 1:20 rate. Additionally, where available, reference material should be run at a 1:20 rate for matrix target combinations. NIST 1947 has reference values for Hg, PFOS, and some metals. NYSDEC has a reference value for total PCBs in NIST 1947.		Field and laboratory duplicates are to occur at a 1:20 rate as outlined in the Biota SAP. A reference to NIST has been added to the QAPP text.
SP 27		Appendix B QAPP Table 7D	Follows QAPP	MS/MSD Accuracy and LCS Accuracy are too broad. A reasonable range is 70 130%.		A request to the laboratory has been made to adjust the MS/MSD and LCS Accuracies.
SP 28		Appendix B QAPP Table 7D	Follows QAPP	MS/MSD Precision is also too broad. An MS/MSD Precision of +/ 30% is reasonable.		A request to the laboratory has been made to adjust the MS/MSD Precision.
SP 29		Appendix B QAPP Table 7D	Follows QAPP	The RL and MDL of 0.1% for lipids are not acceptable and should be 0.05% at maximum.		A request to the laboratory has been made to determine if they can meet the lower % for lipids.
SP 30		Appendix B QAPP Table 7D	Follows QAPP	Aroclors 1016 and 1242 should not be quantified in the same sample due to overlap in chromatography and further challenges with weathered samples. The lab should not spike with 1242 if quantifying 1016, or spike with 1016 if quantifying 1242. Either 1016 or 1242 can be chosen for total PCB analysis.		The laboratory only quantifies 1016 and 1260 due to the overlap in chromatography. A request has been made to the laboratory to determine if they can select 1242 instead of 1016 for laboratory spike (the more likely Aroclor to be present in fish tissue).
SP 31		Appendix E SOP 3	1	Footnote 1 states that other annelids, nematodes, and arthropods may be collected, in addition to earthworms. Please target collection of earthworms and avoid compositing specimens from multiple taxa. If sufficient effort has been taken to collect earthworms, and the sample mass cannot be met, please contact NYSDEC to determine next steps.		The sampling and compositing activities are to be conducted as indicated in NYSDEC comments, with additional clarifications: • To avoid confusion, Footnote 1 is removed and text focuses on the collection of earthworms. • As currently stated in the work plan, when insufficient sample mass is collected at a particular sampling location, selection of specific samples to composite for laboratory analyses will be determined in discussion with regulatory agency oversight prior to initiating chemical analyses.
SP 32		Appendix L Sections 10.5 and 10.6	8 and 9	Fish preparation must follow the NYSDEC fish preparation SOP. There is no mention throughout this work plan of the NY standard fillet, which is the required preparation for fillet samples. Please inquire if a copy of the SOP is needed.		The laboratory has confirmed that preparation will be conducted in accordance with NYSDEC SOP and a copy is retained by the laboratory on file.
Human Health Risk Assessment Comments received 12 April 2021						
1				In addition to the revised work plan, please provide a "red line, strikeout" version of the document.		This is done.

TABLE C1
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McCaffrey Street Site
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Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
2				Revise the Project Area to be consistent with Operable Unit – 01 (OU-01) of the Saint-Gobain - McCaffrey Street site as defined by NYSDEC. OU-01 is defined as the 6.41–acre tax parcel that comprises the site, as well as groundwater contamination directly attributable to on-site disposal of materials containing hazardous waste. Data from the remedial investigation indicate this area to be generally that portion of the village of Hoosick Falls (Village) that is bounded by the Village's well field to the south, the Village's waste water treatment plant to the north, and the areal extent of the Village public water supply system to the east and west. A figure is included illustrating the proposed Project Area.		The BHHRA and BERA work plans have been updated to include a figure that displays the boundary provided by NYSDEC. The work plans refer to this area as, "Residential Irrigated Soil Area".
3				Local produce and agricultural products: Include a discussion and analysis section for data from available scientific studies that can be utilized to assess the potential for uptake of site-related COCs, by dietary items representative of those present in, and around, the project area. Results of the assessment should indicate: a. whether potential risk is posed by ingestion of native-grown dietary items exposed to contaminants of potential concern (COPCs) in soil; and b. Which classes or categories of dietary items pose potential risk due to ingestion. Where literature indicates substantial uptake potential, quantitative evaluation of risk posed by dietary intake should be performed. If the literature is not conclusive regarding a substantial portion of foods that comprise a typical diet in the area (meats, dairy, fruit and vegetables), some analysis of representative dietary items may be required to fill the gap in literature.		A preliminary literature review and summary is provided in the BHHRA in Tables 4.1 to 4.4, and Sections 5.3.3 and 7.3.2.3. Sufficient literature appears to be available to develop reliable estimates of soil-to-biota and water-to-biota uptake factors or regression relations for use in quantifying dietary exposures. In addition, site-specific estimates for vegetation (grasses and leaves) will be developed for comparison with literature-based factors on similar types of plants in order to assess the conditions at the site relative to conditions reported in the literature. As notes in the BHHRA Work Plan, literature-based BAFs/BCFs will be updated just prior to conducting the risk assessment to ensure that the most current information is utilized in the BHHRA.
4		7.3.1		Exposure Units (EUs): Section 7.3.1 introduces the 0.25 ac grid for off-site areas but fails to explain how off-site EUs will be defined and the anticipated data requirements/grouping. Clarify how off-site EUs will be defined and what level of environmental data is expected to be associated with nature and extent characterization, by environmental contact media. Within the off-site EU(s), please clarify the nature and extent characterization goals associated with surface and subsurface soil. Excising data are limited to off-site areas east of the Hoosick river and subsurface soil samples are limited to points east of the facility.		The text is modified to included a description of proposed methods for evaluating EUs throughout the Project Area, including applying a grid of EUs, examining spatial patterns and autocorrelation, and developing summary statistics that can be used to quantify uncertainty in extrapolating to unsampled areas and/or depth intervals.
5				PCB Characterization: provide clarification as to future analyses of PCBs. During the December 11, 2020 conference call discussion there was agreement to conduct congener-specific analyses for PCBs in fish tissue (fillet-only samples). It doesn't appear that the work plan has been updated to address this issue. Please clarify, by medium, the proposed PCB analyses.		The workplan has been updated to reflect the subsequent discussion with NYSDEC on April 23. The Uncertainty Analysis section of the BHHRA will include a discussion of the use of PCB Aroclors and the fact that a congner-specific analysis would be unlikely to yield different risk conclusions because PCBs are infreqently detected, and the dioxin-like PCB congeners with the highest TEFs (e.g., PCB 126) comprise an extremely small percentage (by mass) of the predominant Aroclors that have been detected in soil. Additional text has been added to Section 5.3.2 and 9.4.

TABLE C1
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McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment	Type*	Section	Page	Comment by NYSDEC and USEPA	Clarification of Comment by NYSDEC and USEPA[a]	Response / Resolution in Revised Work Plan
6		7.3.1	35	Page 35, Section 7.3.1 “EUs”: the correct figure reference appears to be 5 and not 6 as written. Please confirm and update as necessary.		Figure references have been updated.
7		7.3.2.3.	43	Page 43, Section 7.3.2.3. “Ingestion of Fish Tissue”, last sentence: please do not adjust for cooking loss in the RME fish ingestion calculation.		Text is modified to indicate that cooking loss will not be applied to the RME.
8		7.3.4	46-47	Page 46-47, Section 7.3.4 “EPCs”: Please be sure to run ProUCL using non-detect data.		ProUCL will be run with nondetects included, following USEPA guidance and methods for parameter estimation of left-censored data (i.e., Kaplan Meier estimators).
9				General Comment for groundwater EPCS: Please refer to and abide by the OSWER Directive 9283.1-42 entitled “Determining Groundwater Exposure Point Concentrations”. Please be sure to use core of the plume methodology when calculating groundwater EPCs and discuss the details of the well selection in the text of the HHRA.		The OSWER Directive is referenced in the list of guidance that will be considered (Section 1.2) as well as Section 7.3.4 Exposure Point Concentrations.
Ecological Risk Assessment Comments received 12 April 2021						
1				In addition to the revised work plan, please provide a "red line, strike out" version of the document		This is done.
2				Revise the Project Area to be consistent with Operable Unit – 01 (OU-01) of the Saint-Gobain - McCaffrey Street site as defined by NYSDEC. OU-01 is defined as the 6.41–acre tax parcel that comprises the site, as well as groundwater contamination directly attributable to on-site disposal of materials containing hazardous waste. Data from the remedial investigation indicate this area to be generally that portion of the village of Hoosick Falls (Village) that is bounded by the Village’s well field to the south, the Village’s waste water treatment plant to the north, and the areal extent of the Village public water supply system to the east and west. A figure is included illustrating the proposed Project Area.		The BHHRA and BERA work plans have been updated to include a figure that displays the boundary provided by NYSDEC. The work plans refer to this area as, "Residential Irrigated Soil Area".

Comment Number:
GC - General Comment; SC - Specific Comment; HH - Human Health Risk Comment; ECO - Ecological Risk Comment

Footnotes:
[a] NYSDEC provided an initial set of comments on November 13, 2020 and a second set of clarifying comments on December 23, 2020.

Notes:
E = editorial comment (classified by NYSDEC)
S = substantive comment (classified by NYSDEC)

TABLE C2
Biota Sampling and Analysis Plan (DRAFT Feb 22, 2021) - Response to Comments Received from NYSDEC on April 1, 2021 - Email from B. Firebaugh
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment Number	Location Reference		Comment(s) by NYSDEC and/or USEPA	Response/ Resolution in Revised Biota SAP
	Section	Page		
GC 1	----	----	In addition to the revised work plan, please provide a "red line, strike out" version of the document.	Revisions to the Biota SAP are provided in red line strike out.
GC 2	----	----	Revise the Project Area to be consistent with Operable Unit – 01 (OU 01) of the Saint Gobain McCaffrey Street site as defined by NYSDEC. OU 01 is defined as the 6.41–acre tax parcel that comprises the site, as well as groundwater contamination directly attributable to on site disposal of materials containing hazardous waste. Data from the remedial investigation indicate this area to be generally that portion of the village of Hoosick Falls (Village) that is bounded by the Village's existing well field to the south, the Village's waste water treatment plant to the north, and the areal extent of the Village public water supply system to the east and west. A figure has been included which illustrates the proposed Project Area.	The Biological Field Sampling and Analysis Plan (Biota SAP) has been updated to include a figure that displays the boundary agreed upon with NYSDEC. The Biota SAP refer to the previously defined Project Area now as "Study Area." The southern portion of the Study Area is presented on **Figure 3-1**.
GC 3	----	----	The existing proposed aquatic reference sampling location is within the project area. This is not appropriate. A reference location needs to be unaffected by site related contaminants of potential concern (COPs). See comment below on Section 3 of the work plan.	The reference location has been moved further upriver, outside the boundaries associated with the now Study Area (previously defined Project Area).
GC 4	----	----	Many of the proposed samples are single composite samples, which combine multiple taxa into one sample. Generally, it is preferable to use a single species/taxon in one composite sample, preferably targeting species according to the conceptual site model. - For the aquatic vegetation, emergent vegetation, terrestrial vegetation, aquatic macroinvertebrate, and non earthworm soil invertebrate samples, please provide targeted taxa for sampling. Please target these taxa for sampling to the extent possible, and collect data on the relative composition of the sample by taxa if multiple taxa must be collected.	It is in agreement that the target species should match the conceptual site model (CSM). Composites for invertebrates (except for earthworms) and vegetation were proposed for this reason. The predator species of interest are not obligate in terms of the prey items they capture and consume (i.e., are not obligated to prey on a specific species within a taxon as a sole source of food). A table has been added to list the species that are likely to be captured. If multiple taxa are collected, as may be necessary to meet the tissue mass requirements for laboratory analyses, data on the relative taxa composition of a given sample will be collected.
SP 1	1.3	4	Regulatory Concurrence. A scientific collection license must be obtained for this project. Please submit an application to NYSDEC Special Licenses Unit	Applications for scientific collection licenses were submitted week of in April and early May.
SP 2	2.0	4	Data Quality Objectives Please include exposure point concentrations (EPCs) for surface water in this list.	A bullet has been added indicating that EPCs will be calculated for surface water.
SP 3	Table 2.2	5 and 6	DQO Step 5. A linear regression model may work, but a generalized linear model/generalized linear mixed model may also be considered to avoid transformations.	A Generalized Linear Model will be considered to avoid transformations.
SP 4	Table 2.2	5 and 6	DQO Step 6. The linear regression model criteria require better explanation. An R2 of 0.2 is not adequately predictive. A minimum R2 of 0.36 0.49 (corresponding to a Pearson's r of 0.6 0.7) is suggested. Please justify the less stringent p value ($p \leq 0.1$) for the slope differing from zero. Please explain why there is a requirement that the slope differs from one. Likewise, BAF performance criteria require better explanation. For example, will single predictor regression or multiple linear regression be used?	Additional rationale and explanation for selection of model criteria is provided. Values proposed for R^2 and p value are consistent with USEPA (2005). However, the R^2 criteria has been modified per request. Criteria for examining the slope was originally proposed by Bevelhimer et al. (1997) and serves as a check on whether the difference between concentrations in biota and abiotic medium is statistically significant.
SP 5	3.2.4 Figure 3 5	17 and 18	The emergent vegetation sampling locations are not co located with the mid channel sediment samples. Please add additional sediment/soil sampling locations on the eastern and western shorelines of each in river sampling location, co located with the emergent vegetation sampling locations.	Soil samples will also be collected in the shoreline areas where emergent vegetation samples are collected. The soil samples will be collected from a single depth interval of 0 to 12 inches below ground surface (bgs), and will be co-located with the emergent vegetation sampling locations. The depth interval (0 to 12 inches bgs) is expected to coincide with the root mass of the anticipated emergent vegetation species collected.
SP 6	Table 3 3	20	Please ensure that that target mass of 27 grams is correct and accounts for losses during processing. For example 1 gram for a PFAS tissue sample is an absolute minimum with no room for error, 6 grams for a PCB tissue sample will likely elevate detection limits, and 5 10 grams, not 1 gram, is typically needed for a lipid tissue sample.	The minimum target mass has been increased to 49 grams for plant tissues and 69 grams for all other tissue samples to be collected in order to account for all target analytes, detection limits, and loss due to homogenization. The breakdown of these minimum volumes has been included in the Biota SAP.
SP 7	Table 3 3	20	Method 7473 is a more efficient method for total mercury analysis.	Analytical methods that coincide with previously collected samples at the Site will be used so that data can be combined across sampling events. Mercury analysis will include USEPA Method 7471B for soil/sediment and USEPA Method 7471A for surface water. USEPA Method 1631E is proposed to meet the lower detection limits and recoveries for tissues.

TABLE C2
Biota Sampling and Analysis Plan (DRAFT Feb 22, 2021) - Response to Comments Received from NYSDEC on April 1, 2021 - Email from B. Firebaugh
McCaffrey Street Site
14 McCaffrey Street, Village of Hoosick Falls, Rensselaer County, New York
NYSDEC Site # 442046

Comment Number	Location Reference		Comment(s) by NYSDEC and/or USEPA	Response/ Resolution in Revised Biota SAP
	Section	Page		
SP 8	Table 3 3	20	Please clarify why both mercury and methyl mercury analyses are included for fish tissue.	Methyl mercury analysis has been eliminated for all media.
SP 9	4.1.1.1	25	Collection of Soil Samples Please collect soil samples to 12 inches bgs, to align with the depth of earthworm sampling.	Soil samples will be collected to a depth of 12 inches bgs (interval from 0 to 12 inches below grade).
SP 10	4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	A minimum of five (5) small mammal samples must be collected at each sample location. Please update this requirement throughout the work plan.	Sample sizes have been modified to target n = 5 organisms per sampling unit.
SP 11	4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	For small mammal trapping, the work plan should specify the preferred species for sampling (1 2 species). It is understood that we are interested in trophic transfer of contaminants in both herbivorous and carnivorous small mammals, but otherwise effort should be taken to minimize species variability if possible. One individual should provide sufficient mass for a sample, and multiple species may not be composited together.	The target sample mass for tissue has been increased to 69 grams (49 grams for plant tissue). It is in agreement that it is likely that a single small mammal should be sufficient, but if compositing is needed, only organisms that are the same species will be combined in a composite sample. Field sampling teams will implement an adaptive management approach.
SP 12	4.1.4 and Appendix G SOP 05, Section 6.5	29 and 5 of SOP 05	Please provide a list of target species, and alternatives that can be used in the event that targets are not captured. Please provide a size range for those target species.	Refer to the Response to GC-4.
SP 13	4.2.1	30	Please sample sediment to a depth of 24 inches below sediment surface in the Hoosick River, if possible. These samples should be stratified as follows: 0 6 inches, 6 12 inches, and 12 24 inches or to refusal.	The Biota SAP has been revised to indicate that target depth intervals for sediment sampling are 0 to 6 inches, 6 to 12 inches, and 12 to 24 inches bgs (or refusal, whichever is shallower). Although, it is acknowledged that Hoosic River is rocky in the vicinity of the Study Area (previously defined Project Area) and shallower depths are more likely.
SP 14	4.2.4	34	A minimum of five (5) fish samples must be collected for each size class (0 6 inch, 6 12 inch, >12 inch). Please update this requirement throughout the work plan.	A minimum of five fish samples will be collected for each size class (0 to 6 inches, 6 to 12 inches, and > 12 inches) at each sampling location. Fish in the 6 to 12 inch size class should be analyzed individually as stand-alone samples, if possible (i.e., the individual fish meets the minimum sample mass requirement).
SP 15	4.2.4	34	Fish must be grouped by species within each composite sample. Please do not composite multiple species in one sample. Additionally, fish must be grouped by size within each composite sample. Composite samples should only be taken for smaller fish (0 6 inches) and where sample mass requirements cannot be met. Fish in the 6 12 inch size class should be analyzed individually if possible.	Refer to the Response to GC-4. The minimum target mass has been increased to 69 grams for fish tissue samples.
SP 16	4.2.4	34	With fish and macroinvertebrates being sampled in the same area, thought must be given to the order of sampling so as to minimize disturbance to sample organisms. Please provide more details on the order of sampling.	The Biota SAP text has been updated to clarify the sampling order. Surface water will be collected first, followed by the collection of fish (minimum disturbance), then benthic macroinvertebrates.
SP 17	4.2.4	34	Please provide a list of target species, and alternatives that can be used in the event that targets are not captured. Please provide a size range for those target species.	The Biota SAP has been modified to included target species and size classes.
SP 18	4.2.4	35	Please clarify the last paragraph of this section, which states that a single composite sample will be collected for each in river sample location.	The Biota SAP is modified to clarify that compositing will occur for only the 0 to 6 inch size class, in order to obtain the minimum 69 grams target mass.
SP 19	5.2.1 and 5.2.2	40 and 41	First bullet point on page 40 and identical bullet point on page 41: Isotope dilution/recovery methods should be specified. These are not a part of method 537.1, but are typically performed by contract laboratories.	Isotope dilution/recovery methods are specified in the laboratory SOPs appended as part of the Quality Assurance Project Plan (QAPP).
SP 20	5.3	42	Second bullet point: The field duplicate as described here appears to be a separate sample rather than a duplicate. Please clarify these methods.	All field duplicates are a duplicate of one primary sample location. The Biota SAP and QAPP have been updated to clarify (per media) how field duplicate samples will be obtained in the field. The text and sampling matrix has been modified to explain that the multiple collections for fish and small mammals represent replicate samples which represent the duplicate procedure. Many replicate samples will be collected for fish and small mammals and be analyzed by the laboratory.
SP 21	5.3	42	Third bullet point: If isotope dilution methods are used, the MS/MSD is not needed, as every sample gets spiked with labeled targets.	Field MS/MSDs will not be collected for isotope dilution methods (PFAS only) and clarified in the text of the Biota SAP, Appendix A, and QAPP.

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TABLE C2
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McCaffrey Street Site
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SP 22	5.4	42	An EQuIS EDD format is not yet available for biological data. For now, please submit all biological data in spreadsheet (Excel or .csv) format for ease of use	An Excel format will be used to record all pertinent collection data and laboratory findings in a similar format to EQuIS EDD. The format of deliverables thus far has been requested by the laboratory. The laboratory provided format will be combined with the NYSDEC requirements in an EDD format.
SP 23	Appendix A Table 1a	1	The in river sampling units presented in this table (T1 T4) appear incorrect. Six (6) in river sample locations are described throughout the work plan. Please correct this table.	There was an error in the calculation for the Summary Table (**Table 1a**). **Table 1a** has been corrected.
SP 24	Appendix A Table 1b	2	For fish tissue, the blanks should be laboratory blanks.	Field equipment blanks will be collected consistent with the requirements outlined by NYSDEC. The equipment blank procedures are outlined in the QAPP and Appendix A.
SP 25	Appendix B QAPP 2.3	3	Please state which TestAmerica labs will be receiving which samples. Will samples be shipped to a central TestAmerica facility for distribution, or will samples be processed and distributed by ERM?	The laboratory locations for each matrix and each analytical suite are indicated in the footers of the QAPP tables. These locations are added to the QAPP text for clarification.
SP 26	Appendix B QAPP 3.2	4	Laboratory duplicate/replicate samples are needed at a 1:20 rate. Additionally, where available, reference material should be run at a 1:20 rate for matrix target combinations. NIST 1947 has reference values for Hg, PFOS, and some metals. NYSDEC has a reference value for total PCBs in NIST 1947.	Field and laboratory duplicates (and/or replicates) are to occur at a 1:20 rate as outlined in the Biota SAP. If available at the time of the analyses, and feasible, reference material will be obtained by the laboratory for select COPCs, including applicable New York sources from the National Institute of Standards and Technology (NIST) Standard Reference Materials (SRM) 1947. This statement has been incorporated into the QAPP.
SP 27	Appendix B QAPP Table 7D	Follows QAPP	MS/MSD Accuracy and LCS Accuracy are too broad. A reasonable range is 70 130%.	Project Specific LCS/MS/MSD limits have been established to accommodate requests. If the recovery is outside the requested limits, but within laboratory limits, the data will be flagged and narrated but not re-extracted.
SP 28	Appendix B QAPP Table 7D	Follows QAPP	MS/MSD Precision is also too broad. An MS/MSD Precision of +/ 30% is reasonable.	Project Specific MS/MSD precision has been established to accommodate requests. If the precision is outside the requested limits, but within laboratory limits, the data will be flagged and narrated but not re-extracted.
SP 29	Appendix B QAPP Table 7D	Follows QAPP	The RL and MDL of 0.1% for lipids are not acceptable and should be 0.05% at maximum.	A request has been made to the laboratory to lower the RL and MDL for lipids to 0.05%. The laboratory has agreed to these lower limits with an increase in minimum target volume (from the previous minimum of 1 gram to 20 grams).
SP 30	Appendix B QAPP Table 7D	Follows QAPP	Aroclors 1016 and 1242 should not be quantified in the same sample due to overlap in chromatography and further challenges with weathered samples. The lab should not spike with 1242 if quantifying 1016, or spike with 1016 if quantifying 1242. Either 1016 or 1242 can be chosen for total PCB analysis.	The laboratory only quantifies 1016 and 1260 due to the overlap in chromatography. A request has been made to the laboratory to select 1242 instead of 1016 for laboratory spike (the more likely Aroclor to be present in fish tissue).
SP 31	Appendix E SOP 3	1	Footnote 1 states that other annelids, nematodes, and arthropods may be collected, in addition to earthworms. Please target collection of earthworms and avoid compositing specimens from multiple taxa. If sufficient effort has been taken to collect earthworms, and the sample mass cannot be met, please contact NYSDEC to determine next steps.	The sampling and compositing activities are to be conducted as indicated in NYSDEC comments, with additional clarifications: • To avoid confusion, Footnote 1 has been removed and text focuses on the collection of earthworms. • As currently stated in the work plan, when insufficient sample mass is collected at a particular sampling location, selection of specific samples to composite for laboratory analyses will be determined in discussion with regulatory agency oversight prior to initiating chemical analyses
SP 32	Appendix L Sections 10.5 and 10.6	8 and 9	Fish preparation must follow the NYSDEC fish preparation SOP. There is no mention throughout this work plan of the NY standard fillet, which is the required preparation for fillet samples. Please inquire if a copy of the SOP is needed.	The laboratory has confirmed that preparation will be conducted in accordance with NYSDEC SOP and a copy is retained by the laboratory on file.

GC= General Comment
SC = Specific Comment