Superfund Proposed Plan U.S. Environmental Protection Agency, Region 2

Eighteen Mile Creek Superfund Site
Niagara County, New York

July 2013

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan proposes an approach to address certain conditions present at a discrete portion of the Eighteen Mile Creek Superfund Site (Site), referred to herein as Operable Unit 1 (OU1). Various remedial alternatives are described in this Proposed Plan and the U.S. Environmental Protection Agency (EPA) has identified a preferred alternative. EPA anticipates additional remedies will be evaluated and selected in the future for additional OUs at this Site.

OU1 concerns soil contamination at several residential properties in the area of Water Street in Lockport, New York and the evaluation of conditions at an industrial building at the former Flintkote Company Plant (former Flintkote Plant), located at 300 Mill Street, in Lockport, New York.

This Proposed Plan was developed by EPA, the lead agency for the Site, in consultation with the New York State Department of Environmental Conservation (NYSDEC). EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also known as Superfund), as amended, and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The nature and extent of the soil contamination at certain residential properties (hereinafter the Residential Properties) and the former Flintkote Plant are described in various NYSDEC studies and reports described below. In order to satisfy federal regulations pertaining to selecting a remedy under CERCLA, EPA obtained additional information that has been included in EPA's Supplemental Feasibility Study (Supplemental FS), completed July 25, 2013, as well as other documents which are contained in the Administrative Record supporting the decision regarding the proposed alternative. EPA encourages the public to review these documents to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted.

The purpose of this Proposed Plan is to inform the public of EPA's preferred remedy and to solicit public comments pertaining to all of the remedial alternatives evaluated, including the preferred alternative. Based on the currently available information, soils at approximately nine Residential Properties are primarily contaminated with polychlorinated biphenyls (PCBs) and inorganic contaminants, including lead and chromium. EPA proposes in this Plan to acquire the necessary affected properties and permanently relocate affected residents. Following permanent relocation, the houses will be demolished, and after a related remedy for the operable unit addressing sediment contamination in the Creek Corridor is considered, selected, and, if necessary, implemented, the contaminated soil at the Residential Properties will be excavated and disposed of at an off-site permitted landfill, and the excavated properties will be back-filled with clean soils.

MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:
July 26, 2013 – August 26, 2013
EPA will accept written comments on the Proposed Plan during the public comment period.

PUBLIC MEETING: August 13, 2013 at 7:00 pm
EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at the USDA Service Center, located at 4487 Lake Road, Lockport, NY.

A recent soil sampling survey performed by EPA in the vicinity of Water Street and Mill Street revealed that a limited number of additional residential properties on Mill Street may potentially be impacted by contamination at the Site. If the results from further soil sampling conducted by EPA indicate that these additional properties have been impacted by the Site and require remediation, then the number of properties requiring soil remediation may increase. Soil remediation on these additional properties may necessitate temporary relocation of these residents because of anticipated excavation activities on these properties.

An element of the preferred remedy includes the demolition of the remaining building at the former Flintkote Plant, located at 300 Mill Street. Previous investigations indicated that the subsurface soils beneath the former Flintkote Plant may be a potential source of

contamination to the Eighteen Mile Creek (Creek). However, because of the dilapidated state of the building on this property, EPA and NYSDEC have been unable to safely sample these subsurface soils. As such, the demolition of the building is necessary to gain access to sample the subsurface soils. In addition, sampling indicates that the building is contaminated with asbestos-containing material, polynuclear aromatic hydrocarbons (PAHs), pesticides and metals, and thus poses a threat of release of hazardous substances into the environment. PAHs are a type of semi-volatile organic compound (SVOC) and are present in fossil fuels and are also formed during incomplete combustion. Other contaminated media at the former Flintkote Plant property will be addressed in a future operable unit.

Changes to the preferred remedy, or a change from the preferred remedy to another remedial alternative described in this Proposed Plan, may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. For this reason, EPA is soliciting public comments on all of the alternatives considered in the Proposed Plan and on the detailed analysis section of NYSDEC's FS and EPA's Supplemental FS reports because EPA may select a remedy other than the preferred alternative.

COMMUNITY ROLE IN SELECTION PROCESS

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, this Proposed Plan has been made available to the public for a public comment period which begins on July 26, 2013 and concludes on August 26, 2013.

A public meeting will be held during the public comment period at the United States Department of Agriculture Service Center at 4487 Lake Avenue in Lockport on August 13, 2013 at 7:00 p.m. to present the conclusions of the Supplemental FS, RI/FS and other studies performed to date, to elaborate further on the reasons for recommending the preferred alternative, and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document which formalizes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

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INFORMATION REPOSITORIES

Copies of the Proposed Plan and supporting documentation are available at the following information repositories:

Lockport Public Library
23 East Avenue
Lockport, New York
Telephone: (716) 433-5935
Hours of operation:
Mon. –Thurs.: 9 AM – 9 PM
Fri.: 9 AM – 6 PM, Sat.: 9 AM – 5 PM
Sun.: 12:30 PM – 5 PM

USEPA – Region II
Superfund Records Center
290 Broadway, 18th Floor
New York, New York 10007-1866
(212) 637-4308

SCOPE AND ROLE OF ACTION

The primary objectives of this action are to eliminate or minimize the risk associated with the residential soil contamination, reduce the potential for future contamination of sediments in the Creek by limiting erosion of contaminated terrestrial soils from the Residential Properties, and address the threat of release of hazardous substances from the deteriorating building at the former Flintkote Plant.

EPA anticipates that in the future it will publish additional proposed plans to address other aspects, or operable units, at the Site. One will likely address the contaminated sediments in the Creek Corridor (in the vicinity of the Residential Properties and the former Flintkote property) and contaminated soil at several industrial and commercial properties located within that Creek Corridor, and another will likely address contaminated sediment in the Creek from the north end of the Corridor in Lockport to its location of discharge into Lake Ontario.

SITE BACKGROUND

Site Description

The Site is located in Niagara County, New York and includes contaminated sediments, soil and groundwater in and around the Creek.

The headwaters of the Creek consist of an East and West Branch which begin immediately north of the New York State Barge Canal (Canal). Water from the Creek's East Branch originates at the spillway on the south side of the Canal, where it is directed northward underneath the Canal and the Mill Street Bridge through a culvert. Water from the West Branch originates from the dry dock on the north side of the Barge Canal and then flows northward. The East and West Branches converge just south of Clinton Street in Lockport. The Creek flows north for approximately 15 miles and discharges to Lake Ontario in Olcott, New York. A Site location map is provided as Figure 1.

In Lockport, the Creek Corridor is bordered by residential properties along Water Street and vacant land to the west, Upson Park to the south, Mill Street to the east, and the former Flintkote Plant property to the north. The topography of the area is relatively flat other than a steep downward slope toward the Creek and the millrace, which bisects the former Flintkote Plant property. The stretch of the Creek along what is referred to as the Creek Corridor is approximately 4000 feet in length.

The Residential Properties which, along with the remaining building at the former Flintkote Plant (discussed below), are the subject of this Proposed Plan encompass an area of approximately 2.25 acres along Water Street. These properties are adjacent to the Creek and experience flooding during high water events. Severe flooding of up to 100 feet from the Creek bank reportedly occurs approximately once every two years, with lesser flooding occurring several times a year as a result of heavy precipitation and blockage of culverts through which the Creek flows under William Street.
The former Flintkote Plant property occupies approximately six acres and includes parcels 300, 225, and 198 Mill Street. These parcels are located east and northeast of the Water Street properties.

Site History

Eighteen Mile Creek has a long history of industrial use dating back to the 19th century when it was used as a source of power. Sampling indicates the presence of numerous contaminants in Creek sediments, including PCBs, lead, copper, pesticides/insecticides, dioxins, and furans. Possible sources of this contamination may include releases from hazardous waste sites or contaminated properties, industrial or municipal wastewater discharges, and storm water and combined sewer overflow discharges.

The former Flintkote Company began operations as a manufacturer of felt and felt products in 1928, when the property was purchased from the Beckman Dawson Roofing Company. In 1935, Flintkote began production of sound-deadening and tufting felt for installation and use in automobiles. Manufacturing of this product line continued until December 1971, when operations ceased and the plant closed. The disposal history at the former Flintkote Plant property is largely unknown, although aerial photographs suggest that by 1938 fill was disposed in the section of 300 Mill Street between the Creek and the millrace in an area known as the island. It has also been reported that ash resulting from the burning of municipal garbage was dumped at the former Flintkote Plant property.

In 1983, a portion of the former Flintkote Plant property, known as Building A, was listed on NYSDEC's Registry of Inactive Hazardous Waste Sites (Registry). During NYSDEC's Phase I investigation in 1983, multiple 55-gallon drums were found to contain solid material and PCB transformer oil, however testing of these drums did not reveal the presence of PCBs. In 1984, the former property owner arranged for off-site disposal of the drums, and the property was removed from NYSDEC's Registry.

In 1989, the City of Lockport's Building Inspection Department reported multiple drums throughout the buildings at 300 Mill Street. Testing of these drums revealed that they contained hazardous substances. In 1991, NYSDEC disposed of these drums at an off-site location.

In 2002, the building at 300 Mill Street was also the subject of an EPA removal action. This removal action focused on the removal of friable asbestos containing materials within the 300 Mill Street building and debris on the property. The removal action resulted in the off-site disposal of 170 cubic yards of asbestos-containing debris. Asbestos-containing material still remains in the building; however, most of it is in nonfriable form.

The majority of the buildings on the 198 Mill Street portion of the former Flintkote Plant property have been razed, though former basement walls, concrete columns, and concrete floors remain. The building that remains on the 300 Mill St. parcel is constructed of stone, brick, and concrete with wooden or concrete roof deck structures. The remaining structure is severely deteriorated, with the

majority of the building having some structural deficiencies. There are numerous openings in the floors. The roof systems are partially or completely collapsed and stairways and hand rails are in poor condition. Currently, the property is secured by a fence that is maintained by Niagara County.

In April 2002, the Niagara County Health Department (NCHD) received a request from a Water Street property owner to evaluate soils on their residential property. The property owner was concerned that elevated PCB concentrations in Creek sediment had the potential to impact their property during flooding events. NCHD conducted an initial inspection of the property owner's yard and NYSDEC subsequently collected three surface soil samples from the property on April 16, 2002. The results of the sampling analysis revealed that elevated concentrations of PCB and lead were present.

In March 2006, NYSDEC selected a remedy to address contamination at the former Flintkote Plant property. In March 2010, NYSDEC issued a second remedy to address areas of contamination in the Corridor, which included the Residential Properties and several other commercial/industrial properties. NYSDEC has not implemented the remedies. In 2011, NYSDEC requested that EPA consider the Site for inclusion on its National Priorities List (NPL). In March 2012, EPA included the Site on the NPL. Since that time, EPA has evaluated existing data, performed additional sampling to fill in data gaps for the residential properties, evaluated risk associated with the contaminants at these properties and completed the remedy selection process for this operable unit up to proposing this remedy.

Site Geology

The geology and hydrology of the Residential Properties are similar to those of the other portions of the Corridor area. The Corridor has four distinct geologic units. These units, in order of increasing depth, are summarized as follows:

- Topsoil described as a brown to dark brown silty soil with varying amounts of natural organic matter (e.g., leaves and rootlets). This unit was often encountered above fill material, but was absent in some areas of the Site. Where encountered, the thickness of the topsoil layer was usually less than 0.2 feet;

- Fill material consisting primarily of various colored ash and cinder material containing glass, coal, coke, slag, buttons, metal, ceramic, rubber and brick. Where encountered, the thickness of the fill material ranged from approximately 1 to 25 feet;

- A glaciolacustrine deposit consisting primarily of mottled, brown to reddish brown, silty clay and clayey silt containing traces of fine grained sand and fine gravel. This deposit directly overlies bedrock, and where encountered, ranged in thickness from 0.1 to more than 28 feet; and

- Light to dark gray dolostone bedrock with interbedded gray clay underlying the southern portion of the Site, and marbleized red and white sandstone underlying the northern portion of the Site. Depth to bedrock at the Site ranged from 1.6 to more than 28 feet, with the greater depths generally associated with the thicker fill areas.

Groundwater underlying the Corridor area occurs in both the soil and fill material above the bedrock (the overburden) and the upper fractured bedrock, and it flows toward Eighteen Mile Creek. Saturated conditions were not encountered in the overburden soils at the northern portion of the Site east of Eighteen Mile Creek and at the southern portion of the Site west of the Creek.

Soil borings collected at the Residential Properties at depths of up to approximately 6 feet during NYSDEC's remedial investigation (RI) and Supplemental RI indicated the presence of fill material, similar to the type of fill observed in other areas of the Corridor, throughout the Residential Properties.

RESULTS OF THE REMEDIAL INVESTIGATION

As mentioned above, the RI that supports this proposed plan is composed of data collected by NYSDEC during various studies and EPA's supplemental work to complement NYSDEC's investigations and fulfill the federal requirements for remedy selection under CERCLA.

Residential Properties

In July 2002, NYSDEC conducted three separate sampling events of the Creek and properties along Water Street to determine if the residential properties along Water Street were impacted by the former Flinktkote Plant and/or the Creek. Surface soil and sediment samples collected from the Water Street properties, the Creek, and the wooded property south of the former Flintkote Plant were analyzed for PCBs and/or lead. The results of these sampling events are presented in a NYSDEC publication entitled "*Sampling Report, Water Street Properties, City of*

Lockport, Niagara County, New York", dated March 2003.

In 2005, NYSDEC collected an additional twenty surface soil samples and two subsurface native soil samples from residential properties along Water Street. These samples were collected to further define the nature and extent of surface soil contamination on the residential properties and were analyzed for PCBs and metals such as arsenic, chromium, copper, lead, and zinc.

In addition, NYSDEC collected eighteen subsurface fill samples for the RI from residential properties to characterize the fill material observed on the residential properties. Many of these samples were of fill material containing ash, slag, cinders, coal, brick, and/or glass. The field activities and sampling results are presented in a NYSDEC publication entitled "*Remedial Investigation Report"*, dated September 2006.

The concentrations of lead in the soil samples ranged from 10.7 parts per million (ppm) to 4,630 ppm and varied widely throughout the properties. PCB contamination also ranged widely throughout the properties, with concentrations from nondetect to approximately 17 ppm. The sampling revealed fill material present to a depth of up to 5.5 feet. Most of the exceedances were detected at the north end of Water Street and were on the property but near the Creek bank.

Arsenic, copper, chromium, and zinc are present at all of the Residential Properties in varying concentrations. Additionally, some SVOCs were found at elevated concentrations in subsurface soil samples. This is attributed to SVOCs in the ash, slag, and cinder fill found throughout the Residential Properties and the rest of the Creek Corridor.

The results of NYSDEC's investigations indicate that the Residential Properties are contaminated by fill material containing PCBs and metals. These properties may also be further contaminated by periodic flooding of the Creek, as contaminated sediment may be deposited on these properties during flood events. In addition, erosion of soil from these properties may be contributing to the contamination of the Creek. In March 2010, following NYSDEC's Feasibility Study of the Creek Corridor, NYSDEC selected a remedy under state law to address areas of contamination in the Corridor. As noted above, in 2011, NYSDEC requested that EPA consider the Site for inclusion on the NPL. In March 2012, EPA included the Eighteen Mile Creek Site on the NPL.

In March 2013, EPA expanded the residential soil sampling program to supplement the investigations performed by NYSDEC and collected an additional nine surface soil samples primarily in the public right-of-ways along Mill Street and Jackson Avenue. Four soil samples were collected along the western side of Water Street, which were in the backyard of some Jackson Street properties. Analytical results of these four samples did not reveal elevated values of PCBs and/or metals indicative of Site-related impacts. On Mill Street, five soil samples were collected near the public right-of-way on the residential properties. Analytical results of these five soil samples did not reveal elevated levels of PCBs. However, lead was detected in all five Mill Street soil samples, and two out of the five Mill Street soil samples revealed elevated levels of lead ranging from 420 to 470 ppm. In June 2013, EPA conducted additional sampling at the two properties with elevated lead to evaluate whether the concentrations are representative of the lead concentrations in soil at these properties.

Former Flintkote Plant

In 1999, NYSDEC conducted an investigation of the former Flintkote Plant property. The results of the investigation are presented in a September 2000 report entitled "*Site Investigation Report, Former Flintkote Plant Site.*" The investigation revealed that the former Flintkote Plant property received various wastes, refuse and debris over the years. Much of the waste material was visible at the surface and along the embankments of the Creek, which runs through the Flintkote property, and the millrace. The subsurface investigation revealed that most of the waste material at the former Flintkote Plant property is ash containing glass, coal, coke, slag, ceramic, bottles, brick, buttons and wood.

In 2003, Niagara County, under the NYSDEC's Environmental Restoration Program, conducted an additional investigation at the former Flintkote Plant property. As part of this phase, soil, fill, groundwater, surface water, sediment and waste samples were collected from the property to characterize the nature and extent of contamination. The sampling revealed the presence of approximately 46,500 cubic yards of ash fill at the property and elevated concentrations of PCBs, metals, and SVOCs in the soil and sediment. The field activities and findings of both the 1999 and 2003 investigations are described in Niagara County's July 2005 "*Site Investigation Report.*" These investigations, however, did not characterize the soil beneath the large abandoned building located at the 300 Mill Street parcel, because the building is dilapidated, unsafe for personnel to enter and too confining to employ drilling equipment.

In March 2006, following NYSDEC's Feasibility Study of the former Flintkote Plant, NYSDEC selected a remedy under state law for the entire former Flintkote Plant property. To date, that remedy has not been implemented.

In November 2012, EPA collected additional samples from the former Flintkote building for waste characterization purposes. The results of the 28 samples collected for asbestos analysis confirmed the presence of asbestos-containing material in pipe insulation, window glazing and the roof. Samples were also collected from the walls and sediment inside the building, which revealed elevated levels of PAHs, pesticides, and lead. Lead was detected at a maximum concentration of 2,300 ppm from a concrete column in the basement.

RISK SUMMARY

As part of remedy selection process under CERCLA, EPA conducted a baseline human health risk assessment (HHRA) to estimate the current and future exposures present at the Site. This included evaluating soil contaminant levels at nine residential properties on Water Street. This baseline HHRA is an analysis of the potential adverse human health effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and anticipated future land uses.

The HHRA provides estimates of cancer risk and noncancer health hazard based on current reasonable maximum exposure scenarios and are developed by taking into account various health protective estimates about the frequency and duration of an individual's exposure to chemicals selected as chemicals of potential concern (COPCs), as well as evaluating the toxicity of these contaminants. Cancer risks and noncancer health hazards summarized as Hazard Index (HI) are summarized below (please see the text box on page 7 for an explanation of these terms).

The Water Street properties are zoned for residential use. Future land use is expected to remain the same. The baseline HHRA began by selecting COPCs in the various media that would be representative of risks from exposure to the soils on the individual properties. The media evaluated as part of the human health risk assessment included soil at depths of 0-2 feet on the Residential Properties.

The baseline HHRA evaluated potential health effects that could result from exposure to contaminated media though direct contact with contaminated surface soils. Based on the current zoning and anticipated future land use, the risk assessment focused primarily on current and future residents.

A more detailed discussion of the exposure pathways and estimates of risk can be found in the *Human Health Risk Assessment* for the Site in the information repository.

The results of NYSDEC's RI of the Water Street properties indicate that soils are primarily contaminated with Site-related contaminants, and in particular lead, PCBs, and to a lesser extent total chromium. Exposure to Creek sediments and surface waters was not evaluated for this HHRA and Proposed Plan, but it is anticipated that it will be for the HHRA and Proposed Plan for subsequent operable units of the Site.

Human Health Risk Assessment

As described in the box on page seven entitled, "What is Risk and How is it Calculated," the goal of protection for chemicals with noncancer health effects is an Hazard Index (HI) of 1. The evaluation of noncancer hazards in the HHRA identified five properties where the HI was greater than 1. The HIs for these properties ranged from 3 to 26, and PCBs and chromium were the main COPCs.

The National Contingency Plan established an acceptable risk range of cancer of 10^{-4} (one in ten thousand) to 10^{-6} (one in a million) as the basis for decisions regarding carcinogens. The HHRA found four properties where the cancer risks exceeded the risk range. At these properties, the cancer risk ranged from 7×10^{-4} (seven in ten thousand) to 1×10^{-3} (one in a thousand) and was driven primarily by chromium. Four additional properties were within the upper bounds of the acceptable risk range and one property had risk within the acceptable risk range.

Consistent with EPA policy and guidance, the HHRA evaluated lead through the use of a model to predict lead exposure in children six years and younger who are a particularly sensitive population. The conclusions set forth in the HHRA indicate that the average soil concentrations at five of the nine properties are above the health-based screening level of 400 ppm for lead based on model results. The average property-by-property lead concentration at the five properties ranged from 741 ppm to 1,088 ppm.

The HHRA used health protective assumptions in the assessment of the noncancer hazards and cancer risks. For example, chromium may be found in soils in different valence states such as chromium +6 and chromium +3 which is less toxic than chromium +6. In the absence of information regarding the form of chromium found in soil EPA assumed 100% of the chromium detected at the

WHAT IS RISK AND HOW IS IT CALCULATED

Human Health Risk Assessment: A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these releases under current- and anticipated future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the chemicals of potential concern (COPCs) at the site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants in air, water, soil, etc. that were identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil and ingestion of and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of that exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health hazards, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health hazards.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to Site contaminants under the conditions identified in the Exposure Assessment. Current Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an individual excess lifetime cancer risk of 10^{-4} to 10^{-6}, corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk. For noncancer health effects, a "hazard index" (HI) is calculated. The key concept for a non-cancer HI is that a "threshold" (measured as an HI of less than or equal to 1) exists below which non-cancer health hazards are not expected to occur. The goal of protection is 10^{-6} for cancer risk and an HI of 1 for a noncancer health hazard. Chemicals that exceed a 10^{-4} cancer risk or an HI of 1 are typically those that will require remedial action at a site and are referred to as chemicals of concern, or COCs, in the final remedial decision document or Record of Decision.

properties was present in its most toxic form (chromium +6). This may significantly overestimate the cancer risks identified above.

Ecological Risk Assessment

A quantitative ecological risk assessment was not performed for this Proposed Plan. An ecological risk assessment will be performed for subsequent operable units.

Summary of Human Health Risks

The results of the HHRA indicate that the contaminated soil presents an unacceptable risk to human health at certain properties on Water Street in Lockport, New York. Unacceptable risks to human health as a result of other contaminated media at the former Flintkote Plant property will be addressed in a future operable unit which will address the Creek and other commercial/industrial properties in the Corridor.

Based upon the results of the NYSDEC's RI, EPA's supplemental sampling investigation and the HHRA, EPA has determined that actual or threatened releases of hazardous substances from the Site, if not addressed by the preferred remedy or one of the other active measures considered, will present a current or potential threat to human health. It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan is necessary to protect human health or welfare from actual or threatened releases of hazardous substances into the environment.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs), to-be-considered guidance, and site-specific risk-based levels.

The following RAOs for contaminated soil will address the human health risks concerns at the Residential Properties where risk is determined to be unacceptable:

- Reduce or eliminate exposure (via ingestion and dermal contact) to PCBs and metals in soils at concentrations in excess of the preliminary remediation goals (PRGs). The PRG for PCBs and lead is 1 ppm and 400 ppm, respectively;

- Reduce or eliminate the potential for migration of contaminants from the Residential Properties to the Creek;

The following RAOs for the building at the former Flintkote Plant property will address unacceptable conditions:

- Prevent exposure to building materials contaminated with COPCs;
- Eliminate hazards to future Site workers posed by unstable structures; and
- Remove structural impediments that might interfere with subsurface sampling.

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA §121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, comply with ARARS, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions that employ, as a principal element, treatment to reduce permanently and significantly the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA §121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA §121(d)(4), 42 U.S.C. §9621(d)(4).

Detailed descriptions of some of the remedial alternatives presented in this Proposed Plan for addressing the former Flintkote Plant building and for addressing the soil contamination at the Residential Properties are provided in the NYDEC's Final Remedial Alternatives Report, dated October 2005, and in the NYSDEC's Final Feasibility Study report, dated September 2009.

The construction time for each alternative reflects only the actual time required to construct or implement the action and does not include the time required to design the remedy, negotiate the performance of the remedy with any potentially responsible parties, procure the contracts for design and construction, or to relocate the residents. Because the Residential Properties are subject to periodic flooding from the Creek, remediation of the Residential Properties along Water Street prior to the remediation of the contaminated sediments in the Creek would likely result in the recontamination of the Residential Properties. Therefore, the alternatives presented in this Proposed Plan assume that construction activities on the Residential Properties would commence after the sediments in the Creek are addressed as part of a subsequent action. However, the acquisition and relocation activities presented in Alternatives S2b and S3b would commence upon issuance of the ROD for this OU.

Soil Alternatives

Alternative S1: No Action

The NCP requires that a "No Action" alternative be developed as a baseline for comparing other remedial alternatives. Under this alternative, there would be no remedial actions conducted at the Site to control or remove the contaminants at the Residential Properties. This alternative does not include any monitoring or institutional controls.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the Site be reviewed at least once every five years. If justified by the review, additional response actions may be implemented.

Capital Cost:	$0
Annual O&M Costs:	$0
Present-Worth Cost:	$0
Construction Time:	Not Applicable

Alternative S2a: Capping and Institutional Controls

Capital Cost:	$ 1,234,000
Annual O&M Costs:	$ 163,000
Present-Worth Cost:	$ 1,397,000
Construction Time:	6 months to 1 year

This alternative would provide minimal engineering and institutional controls to prevent exposure to contaminated soils. Capping at the Residential Properties would be performed to minimize exposure to soil contaminated with PCBs, lead and other metals. The cap would consist of a demarcation layer and a two foot thick clean soil cover. The soil cover over the embankments near the Creek would also consist of two feet of clean soil cover for added bank stability. The top six inches of the soil cover would consist of topsoil that would be planted with native grasses, shrubs, and/or trees. The areas to be capped for each property would limit exposure to health-based acceptable concentrations of 1 ppm or less for PCBs and 400 ppm or less for lead. The approximate areas requiring capping are shown on Figure 2. During the remedial design, an evaluation would be conducted to determine the

impact of raising the grade(s) of the properties due to the installation of the cap. As a result of this evaluation, some soils may require excavation and off-site disposal to facilitate the installation of the two foot thick soil cap. Since contaminated soil above acceptable levels would remain on the properties following remediation, institutional controls would need to be implemented and may include environmental easements/restrictive covenants, deed notices, and/or zoning restrictions to limit future use of the properties.

The institutional controls would require owner/occupant compliance with an approved Site Management Plan which would restrict their full use of the property to prevent any disturbance of the soil cover.

Long-term monitoring would be conducted periodically to visually inspect the soil cover. Because contaminated soil would be left in place as part of Alternative S2a, review of the remedy every five years would be required.

The construction time begins with the start of on-site construction activities. These activities could begin several years after the selection of the remedy for OU1, as construction activities on the Residential Properties would not commence until after the sediments in the Creek Corridor are remediated, to prevent recontamination of the Residential Properties.

This alternative would not address contamination which exists at other commercial properties within the Creek Corridor or in the Creek itself. As noted above, that contamination will be addressed under future operable units.

Alternative S2b: Capping; Institutional Controls; and Permanent Relocation

Capital Cost:	$ 2,014,870
Annual O&M Costs:	$163,000
Present-Worth Cost:	$ 2,177,870
Construction Time:	6 months to 1 year
Resident Relocation	1 year

Alternative S2b includes the remedial measures included in Alternative S2a, and adds that the Residential Properties would be acquired, occupants of the Residential Properties would be relocated, and the structures would be demolished. Concurrent with demolition of the structures, security fencing would be installed to restrict access to the contaminated areas. Relocation of the occupants at the Residential Properties would eliminate human exposure to hazardous substances. Because contaminated soil would remain which exceeds levels which would otherwise allow for unrestricted residential use following remediation, institutional controls would need to be implemented and may include environmental easements/ restrictive covenants, deed notices, and/or zoning restrictions to limit future use of the properties.

The institutional controls would require compliance with an approved Site Management Plan which would restrict full use of the property to prevent any disturbance of the implemented remedy.

The capital cost of this alternative includes costs associated with demolition and off-Site disposal of the residential homes, just compensation and relocation assistance for the acquisition of the properties and relocation of the occupants, differential rent to tenants, and other legitimate relocation costs.

Alternative S3a: Excavation; Off-Site Disposal with Treatment

Capital Cost:	$ 2,243,000
Present-Worth Cost:	$ 2,243,000
Construction Time:	6 months to 1 year

This alternative includes the excavation of an estimated 5,800 cubic yards of contaminated soil comingled with fill at the Residential Properties, and off-Site disposal at a Resource Conservation and Recovery Act (RCRA) or Toxic Substances Control Act (TSCA) regulated landfill, as appropriate, based on the concentrations of contaminants in the excavated soil and fill. If necessary, to meet the requirements of the disposal facilities, treatment of the soil may be performed. Under this alternative, contaminated soil and fill found at the Residential Properties in excess of the PRGs would be excavated for off-Site disposal. Verification samples would be collected following excavation to confirm that all contaminated soil and fill in excess of the PRG has been removed. Once excavation activities have been completed, clean soil will be used as backfill, with the top six inches consisting of topsoil that would be planted with native grasses, shrubs, and/or trees. Clean backfill would meet the requirements for soil as set forth in 6 NYCRR Part 375.

The approximate areas requiring excavation are shown on Figure 3.

The construction time begins with the start of on-site construction activities. These activities could begin

several years after the selection of the remedy for OU1, as construction activities on the Residential Properties would not commence until after the sediments in the Creek Corridor are remediated, to prevent recontamination of the Residential Properties.

This alternative would not address contamination which exists at other commercial properties within the Corridor or in the Creek. As noted above, this contamination will be addressed by future operable units.

Alternative S3b: Excavation; Off-Site Disposal with Treatment; and Permanent Relocation

Capital Cost:	$ 3,023,870
Present-Worth Cost:	$ 3,023,870
Construction Time:	6 months to 1 year
Resident Relocation	1 year

Alternative S3b, includes the remedial measures included in Alternative S3a, and adds that the Residential Properties would be acquired, occupants of the Residential Properties would be relocated, and the structures demolished. Concurrent with demolition of the structures, security fencing would be installed to restrict access to the contaminated areas. Relocation of the occupants at the Residential Property would eliminate human exposure to hazardous substances.

The capital cost of this alternative includes costs associated with demolition and off-Site disposal of the residential homes, just compensation and relocation assistance for the acquisition of the properties and relocation of the occupants, differential rent to tenants, and other legitimate relocation costs.

Building Alternatives

Alternative B1: No Action

Estimated Capital Cost:	$0
Estimated Annual O&M Cost:	$0
Estimated Present Worth Cost:	$0
Estimated Construction Timeframe:	0 years

Regulations governing the Superfund program generally require that the "No Action" alternative be evaluated to establish a baseline for comparison. Under this alternative, EPA would take no action at the former Flintkote Plant to prevent exposure to the contaminated structure.

Because a contaminated building would be left in place under this alternative, a review of the remedy every five years would be required.

Alternative B2: Building Demolition with Off-Site Disposal

Estimated Capital Cost:	$874,980
Estimated Annual O&M Cost:	$0
Estimated Present Worth Cost:	$874,980
Estimated Construction Timeframe:	6 months

This alternative consists of the demolition of the remaining building at the former Flintkote Plant, located at 300 Mill Street in Lockport. Contaminated debris would be transported off-site for proper disposal. Because it is anticipated that the debris will be disposed of off-site, it is anticipated that there would be no need for institutional controls, no five-year review requirement, and long-term monitoring requirement in connection with this portion of the response action. However, the contaminants under the building will be evaluated in the future and addressed pursuant to a separate Proposed Plan and ROD.

The demolition of the building will provide access to conduct subsurface sampling through the basement floor to confirm whether a contaminant source area beneath the building exists and to perform the necessary removal of asbestos-containing debris in the basement, including the boiler and associated piping. As mentioned above, any contaminant source identified under the building would be evaluated and addressed, as appropriate, in a subsequent operable unit at the Site.

Debris designated for off-site disposal would be subjected to analysis for disposal parameters and transported off-site for treatment (as necessary) and disposal in accordance with applicable regulations. During the remedial design, decontamination of contaminated building materials would be considered to reduce the quantity of hazardous waste. Noncontaminated building debris could be crushed, stockpiled and reused on-Site as fill material once contamination at the property is addressed in a future operable unit.

EVALUATION OF ALTERNATIVES

In evaluating the remedial alternatives, each soil and building alternative is assessed against nine evaluation criteria set forth in federal regulation, namely, overall protection of human health and the environment, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community

acceptance. Refer to the table on the page 13 for a more detailed description of the evaluation criteria.

This section of the Proposed Plan evaluates the relative performance of each alternative against the nine criteria, noting how each compares to the other options under consideration. While not a CERCLA remedy selection analysis, per se, a helpful analysis of the alternatives to address the soil contamination at the Residential Properties can be found in NYDEC's September 2009 FS Report. Information on the cost of the alternatives is provided in EPA's July 25, 2013, Supplemental FS. A detailed analysis of the former Flintkote Plant building demolition proposal can be found in NYSDEC's October 2005 *Remedial Alternatives Report.*

Overall Protection of Human Health

Soil Alternatives

All of the alternatives except Alternative S1 (No Action) would provide adequate protection of human health by either eliminating, reducing, or controlling risk through engineering controls, off-Site disposal/treatment, and/or institutional controls. Alternative S2a (Capping and Institutional Controls) would provide some protection to property owners/occupants from future exposure to contaminated soils through the placement of cover material, and through institutional controls. However, because the soil cover would not be constructed until after the remediation of the Creek sediments pursuant to another operable unit, Alternative S2a provides less protection for exposure to the contamination at the Site than the alternatives that recommend resident relocation. In addition, after Alternative S2a is implemented, contaminated soil and fill, though covered, would remain under the cap on the Residential Properties. Alternative S2b would enhance the protection of residents because they would relocate from the Site, but visitors or trespassers may still come into contact with the contaminated soil and fill at the Site both before and after the cover is constructed.

Alternatives S3a and S3b (Excavation) would remove soil and fill with concentrations of contaminants above the PRGs and, therefore, both would protect human receptors from contact with contaminants. Alternative S3b is also a protective alternative because it most limits the residents' exposure to contaminated soil and fill during the period required to investigate, propose, select, and implement a final remedy for the Creek Corridor and prevents visitors and trespassers from coming into contact with contaminated soil and fill after excavation.

There would be no long-term local human health impacts associated with off-Site disposal because the contaminants would be removed from the Residential Properties to a secure location. Alternative S3a and S3b would eliminate the actual or potential exposure of residents to contaminated soils and fill following the construction of these alternatives.

Building Alternatives

Alterative B1 (No Action) provides no reduction in risk to human health. Additional migration of contaminants could occur over time under Altemative B1 as a result of disturbance by humans and natural processes. Alternative B2 (Demolition and Off-site Disposal) would remove the building and its associated contaminants and also constitute meaningful progress toward future response actions at the Site.

There would be no local human health impacts associated with off-Site disposal because the contaminants would be removed from the Site to a secure location. Alternative B2 would eliminate the actual or potential human exposure to the contaminated structures and provide a necessary, interim step toward addressing overall Site conditions.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Soil Alternatives

EPA has identified New York State's 6 NYCRR Part 375 as an ARAR, a "to-be considered", or an 'other guidance' to consider in addressing contaminated soil at the Residential Properties.

Alternative S1 (No Action) would not achieve cleanup levels for soil since no measures would be implemented and contaminants in the soil and fill, which exceed the cleanup levels, would remain in place. Alternatives S2a-b and S3a-b would either cap or remove soils exceeding the PRGs for the Residential Properties.

RCRA and TSCA are federal laws that mandate procedures for managing, treating, transporting, storing, and disposing of hazardous wastes and PCBs, respectively. All portions of RCRA that are applicable or relevant and appropriate to the proposed remedy for the Site would be met by Alternatives S1 through S3 and all portions of TSCA would be met by Alternatives S2a-b and S3a-b.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, which provides regulations and guidance for the government in conducting relocation activities where property is

acquired, is not an environmental law, but it would be an ARAR for Alternatives S2b and S3b, which propose permanent relocation. This Act provides for uniform and equitable treatment of persons displaced from their homes by federal programs. All portions of the Relocation Act that are applicable to the proposed action would be satisfied under Alternatives S2b and S3b.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), a Stage 1A Cultural Resource Investigation would be performed during the design phase to evaluate the existence of cultural and archaeological resources adjacent to the Creek that could be impacted by implementation of the proposed residential soil remedy.

Building Alternatives

There are no contaminant-specific, location-specific, or action-specific ARARs associated with Alternative B1.

RCRA and the Clean Air Act are federal laws that mandate procedures for managing, treating, transporting, storing, and disposing of hazardous substances and asbestos materials. All portions of RCRA that would apply to the building demolition would be met by Altemative B2. An evaluation conducted by NYSDEC for the former Flintkote Plant on Mill Street indicates that the remaining structure is not of historical significance.

Long-Term Effectiveness and Permanence

Soil Alternatives

Alternative S1 (No Action) provides no reduction in risk. Alternatives S2a-b would not be as permanent or effective over the long-term as Alternatives S3a-b because bank stabilization measures would potentially require periodic maintenance. In contrast, under Alternatives S3a-b, long-term risks would be eliminated because contaminated soils exceeding the PRGs would be permanently removed. Off-Site treatment/disposal of the contaminated soil at a secure, permitted hazardous waste facility is reliable because these types of facilities are designed with safeguards to secure the waste material.

Building Alternatives

Alternative B1 (No Action) provides no reduction in risk. Alternative B2 would be more permanent and effective over the long term than Alternative B1 because no action may not reliably reduce future risks of exposure to property owners/occupants. Under Alternative B2, long-term risks would be eliminated because the contaminated building would be removed and efforts to evaluate and perform future response activities will be supported. Off-Site disposal of the contaminated building debris at a secure, permitted hazardous waste facility is reliable because the design of such facilities includes safeguards intended to secure the waste material.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Soil Alternatives

Alternative S1 (No Action) would not achieve any reduction in the toxicity, mobility, or volume of contaminated soil and fill because the soil and fill would remain in place. Alternatives S2a-b (Capping and Institutional Controls) would reduce the mobility of and exposure to contaminants through capping, but capping would not reduce the volume or toxicity of contaminants currently at the Site. Alternatives S3a-b (Excavation) would reduce contaminant mobility volume, and exposure through removal and disposal of the soil and fill at an approved off-site facility. Furthermore, off-Site treatment, if required, would reduce the toxicity and volume of the contaminated soil and fill prior to land disposal.

Building Alternatives

Alternative B1 (No Action) would not achieve any reduction in the toxicity, mobility, or volume of contaminated building material. Alternative B2 (demolition with off-site disposal) would reduce contaminant mobility through the removal and disposal of the building debris at an approved off-site facility and support future activities to evaluate and potentially remove an additional contaminant source which is believed to exist under the building. Furthermore, off-Site treatment, when required, would reduce the toxicity and volume of the contaminated building debris at the Site prior to land disposal.

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES

Overall Protectiveness of Human Health and the Environment evaluates whether and how an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the Site, or whether a waiver is justified.

Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Reduction of Toxicity, Mobility, or Volume (TMV) of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

State/Support Agency Acceptance considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Short-Term Effectiveness

Soil Alternatives

No short-term adverse impacts to the community would be expected for Alternative S1 (No Action). Minimal impacts to the surrounding community would be expected for Alternatives S2a and S2b since contaminated soils would not be significantly disturbed during the cap construction. The short-term impacts for the owners/occupants of the Residential Properties will be significant under Alternative S2b and Alternative S3b, as they will be relocated to new residences. Alternatives S3a and S3b present a higher short-term risk because of the greater potential for exposure associated with excavation and transportation of contaminated soil and fill.

Alternatives S2a-b and S3a-b would also cause an increase in truck traffic, noise and potentially dust in the surrounding community, and may cause potential impacts to workers during the performance of construction activities. Alternatives S3a-b may also cause additional exposure to the contaminated soil and fill being excavated and handled. However, proven procedures including engineering controls, personnel protective equipment, and safe work practices would be used to address potential impacts to workers and the community. For example, the work would be scheduled to coincide with normal working hours (e.g., 8 a.m. to 5 p.m. on week days and no work on weekends or holidays). In addition, trucking routes with the least disruption to the surrounding community would be utilized. Appropriate transportation safety measures would be required during the shipping of the contaminated material to the off-site disposal facility.

No additional human health impacts would be expected from Alternative S1. The risk of release during implementation of Alternatives S3a-b and somewhat less for Alternative S2a-b is principally limited to wind-blown soil transport or surface water run-off. Any potential impacts associated with dust and runoff would be minimized with proper installation and implementation of dust and erosion control measures and, for Alternative S3a-b, by performing the excavation and off-site disposal with appropriate health and safety measures to limit the amount of material that may migrate to a potential receptor.

No time is required for construction of Alternative S1 (No Action). Time required for implementation of Alternatives S2a-b (Capping and Institutional Controls) and S3a-b (Excavation) is estimated to take six months to one year, beginning after the implementation of the remedy for the Creek Corridor sediments.

Building Alternatives

No short-term adverse impacts to the community would be expected for Alternative B1 (No Action). Alternative B2 would pose a short-term impact, as the demolition of the building would cause an increase in truck traffic, noise, and potentially dust in the surrounding community, as well as cause potential impacts to workers during the performance of the demolition work. These potential impacts to the community (e.g., wind-blown dust transport and surface water runoff) could be created through deconstruction activities (demolition) and exposure to the contaminated building being demolished and handled. However, potential human health impacts associated with dust and runoff would be minimized with proper installation and implementation of dust and erosion control measures and by performing decontamination and demolition with appropriate health and safety measures to limit the amount of material that may migrate to a potential receptor. There are proven procedures including engineering controls, personnel protective equipment and safe work practice which would be used to mitigate potential impacts to workers and the community. The time required for implementation of Altemative B2 is estimated to be six months.

Implementability

Soil Alternatives

All technical components of Alternatives S2a-b and S3a-b would be easily implemented using conventional construction equipment and materials. The personnel who would operate the heavy equipment would be required to obtain appropriate Occupational Safety and Health Administration certifications (e.g., hazardous waste worker), in addition to being certified in the operation of the heavy equipment. Such personnel are readily available. Use of off-site hazardous and nonhazardous treatment/disposal facilities for the disposal of the contaminated soils are available. However, from an engineering perspective it is uncertain whether the residential structures would pose an impediment to implementing the cleanup. Engineering methods to address these concerns, such as lifting, moving or securing the structures, may be technically unfeasible or cost-prohibitive considering the construction method and condition of some of the structures, resulting in greater uncertainty as to its success. However, because these are residential properties, it is uncertain if institutional controls could be consistently and effectively enforced at the Residential Properties under Alternatives S2a and S3a.

Building Alternatives

No technical implementability concerns exist for the building alternatives. The technical components of Alternative B2 would be easily implemented using conventional construction equipment and materials. Off-Site hazardous and nonhazardous treatment/disposal facilities for the disposal of the contaminated building debris are available.

Cost

The estimated capital cost, operation and maintenance (O&M), and present worth cost are discussed in detail in EPA's Supplemental FS. The cost estimates are based on the best available information. Alternative S1 (No Action) has no cost because no activities are implemented. The present worth cost for Alternatives S2a-b and S3a-b are provided below. The estimated capital, O&M and present-worth costs for each of the alternatives are as follows:

Alternative	Capital Cost	Annual O&M Cost	Present Worth
1	$0	$0	$0
2a	$1,234,000	$163,000	$1,397,000
2b	$2,014,870	$163,000	$2,177,870
3a	$2,243,000	$0	$2,243,000
3b	$3,023,870	$0	$3,023,870

Building Alternatives

No cost would be associated with Alternative B1. The estimated capital cost for Alterative B2, demolition of the former Flintkote Plant building, is $874,980.

State/Support Agency Acceptance

NYSDEC concurs with the preferred alternative.

Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the Responsiveness Summary section of the Record of Decision for this OU. The Record of Decision is the document that formalizes the selection of the remedy for an OU.

PREFERRED REMEDY

Based upon an evaluation of the remedial alternatives, EPA, with the concurrence of NYSDEC, proposes Soil Alterative S3b, Excavation and Relocation and Building Alternative B2, demolition of the former Flintkote Plant building at 300 Mill Street, as the Preferred Alternative.

Alternative S3b has the following key components: permanent relocation of property owners/tenants at the Residential Properties on Water Street, demolition of the houses, excavation of an estimated 5,800 cubic yards of contaminated soil from the approximately nine properties, off-site disposal of that contaminated soil, and the use of clean soil to backfill the excavated areas, with the top six inches consisting of topsoil that would be planted with native grasses, shrubs, and/or trees. Clean backfill would meet the requirements for soil as set forth in 6 NYCRR Part 375. EPA, with the concurrence of NYSDEC, also proposes Building Alternative B2 which includes demolition of the building located at 300 Mill Street. Contaminated demolition debris would be transported off-site for proper disposal. Noncontaminated debris could be used on-Site as fill material.

Because the Residential Properties are subject to periodic flooding from the Creek, remediation of the Residential Properties prior to the remediation of the contaminated sediments in the Creek would likely result in the recontamination of the Residential Properties. Under the preferred alternative, construction activities on the Residential Properties would commence after or concurrent with the implementation of the remedy for the Creek sediments. However, acquisition and relocation activities presented in the Preferred Alternative would commence upon issuance of this ROD. The demolition of the residential homes would be conducted after the residents have been relocated and security fencing would be installed to restrict access to the contaminated areas. The resulting demolition debris would be transported off-site for disposal at an approved facility. The cleanup of the contaminated sediments in the Creek will be the subject of a future Proposed Plan.

Excavated areas will be backfilled to final grade, compacted, and restored to pre-construction conditions, to the extent practicable. Because excavation will result in a significant reduction of on-site soils, clean backfill material will need to be imported to the Site. The top six inches of backfill will be a layer of topsoil, which will be seeded with grasses and planted with trees and shrubs.

Because the properties are located along a water body, an evaluation would also need to be performed of any cultural resource(s) that may exist at the Residential Properties. Initially, this would involve a review of past records or other historic documents related to the properties. If the evaluation determines that a cultural resource(s) may be present, a field investigation would be performed to determine the existence of and possibly remove any artifacts of historic value. The cultural resource assessment and investigation would be performed during the design phase of the remedy.

The Preferred Alternative includes the demolition of the remaining building at the former Flintkote Plant located at 300 Mill Street. The demolition of the building will provide access to conduct subsurface sampling through the basement floor to determine whether a potential source area beneath the building exists and will reduce the threat of release of hazardous substances posed by the building itself. To the extent practicable, the resulting construction and demolition debris would be crushed, maintained, and used as fill on-site. Construction and debris not suitable for backfill would be disposed off-site at an approved facility. Maintenance of the security fence surrounding the former Flintkote Plant property would be continued until conditions at the the property are adequately addressed.

This alternative does not address contamination which exists at other commercial properties within the Corridor or the Creek. As indicated above, this contamination will be addressed by subsequent operable units. In addition, CERCLA requires that Sites be reviewed at least once every five years when contamination remains at a site.

Basis for the Remedy Preference

EPA is proposing Alternative S3b and Alternative B2 as the preferred remedy because of their protectiveness, permanence and short-term effectiveness.

Although soil Alternatives S2a and S2b would provide some protection from the migration of and exposure to contaminated soils through the placement of cover material, contaminated soil would remain in place requiring the implementation of institutional controls on the Residential Properties and long-term monitoring and maintenance of the soil covers. Alternative S3b would permanently remove the contaminated soil and would relocate the affected residents. Permanent relocation would address the uncertainty as to whether the soil cleanup could be performed effectively without the prior demolition of the residential structures. Due to the potential for flooding to re-contaminate the soils, engineering methods such as capping prove not to be cost-effective when compared to other alternatives that are protective of human health. Alternative S3b would also be implemented in a phased manner to prevent recontamination of the Residential Properties as a result of flooding which could occur if the Creek contamination is addressed after the Residential Properties. As such, EPA would initially move forward with the relocation of the affected residents, thereby eliminating the risk to the residents in the short and long term. Alternative B2 would permanently eliminate potential human exposure to the

former Flintkote Plant building which contains asbestos material, PAH residues and metals, and provide necessary access to a portion of the Site which will be further evaluated and addressed in the future under a subsequent operable unit. The implementation of Alternative B2 would employ engineering controls and safe work practices to mitigate exposure to dust and to protect workers and the local community.

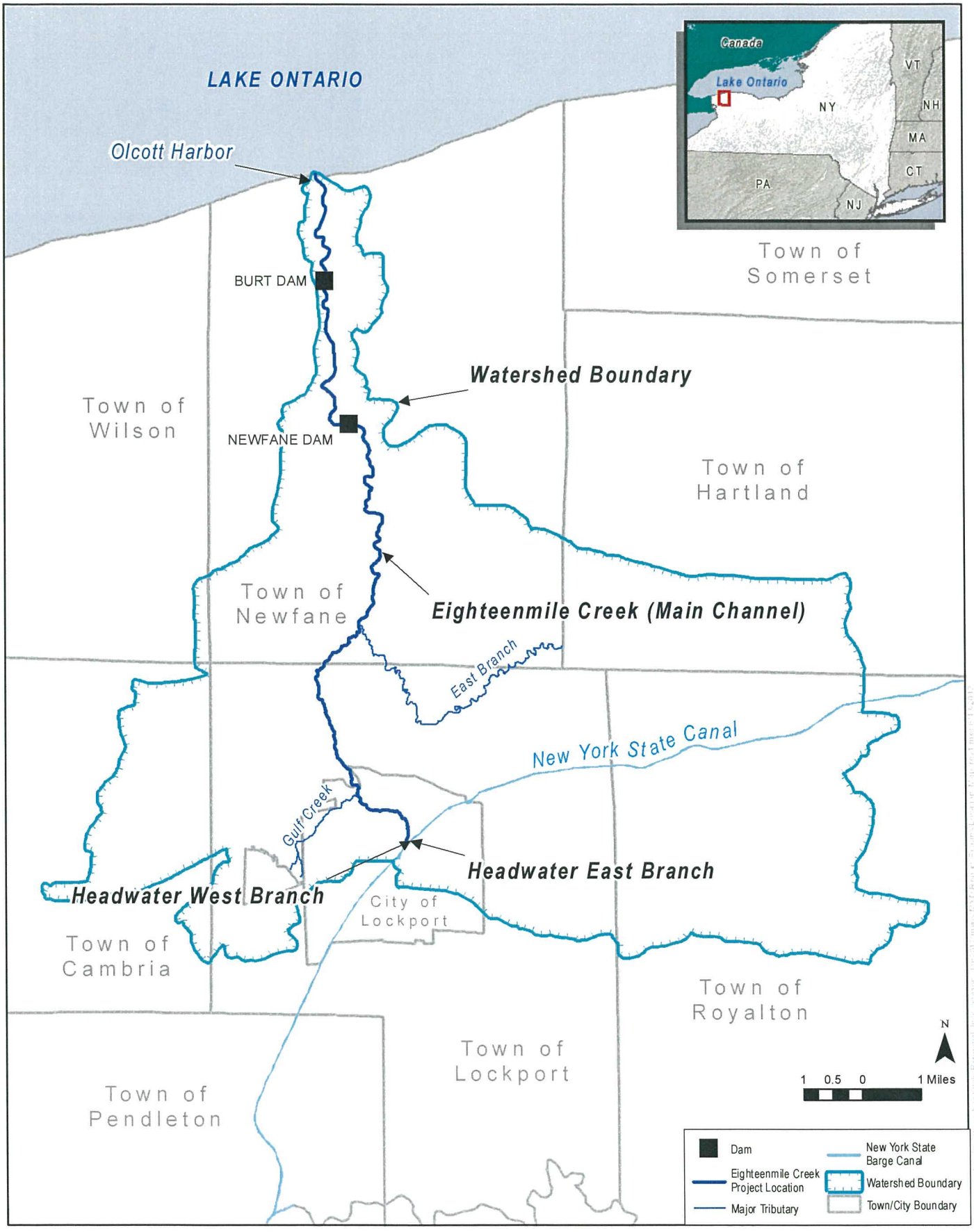

Figure 1 Eighteen Mile Creek Site Location

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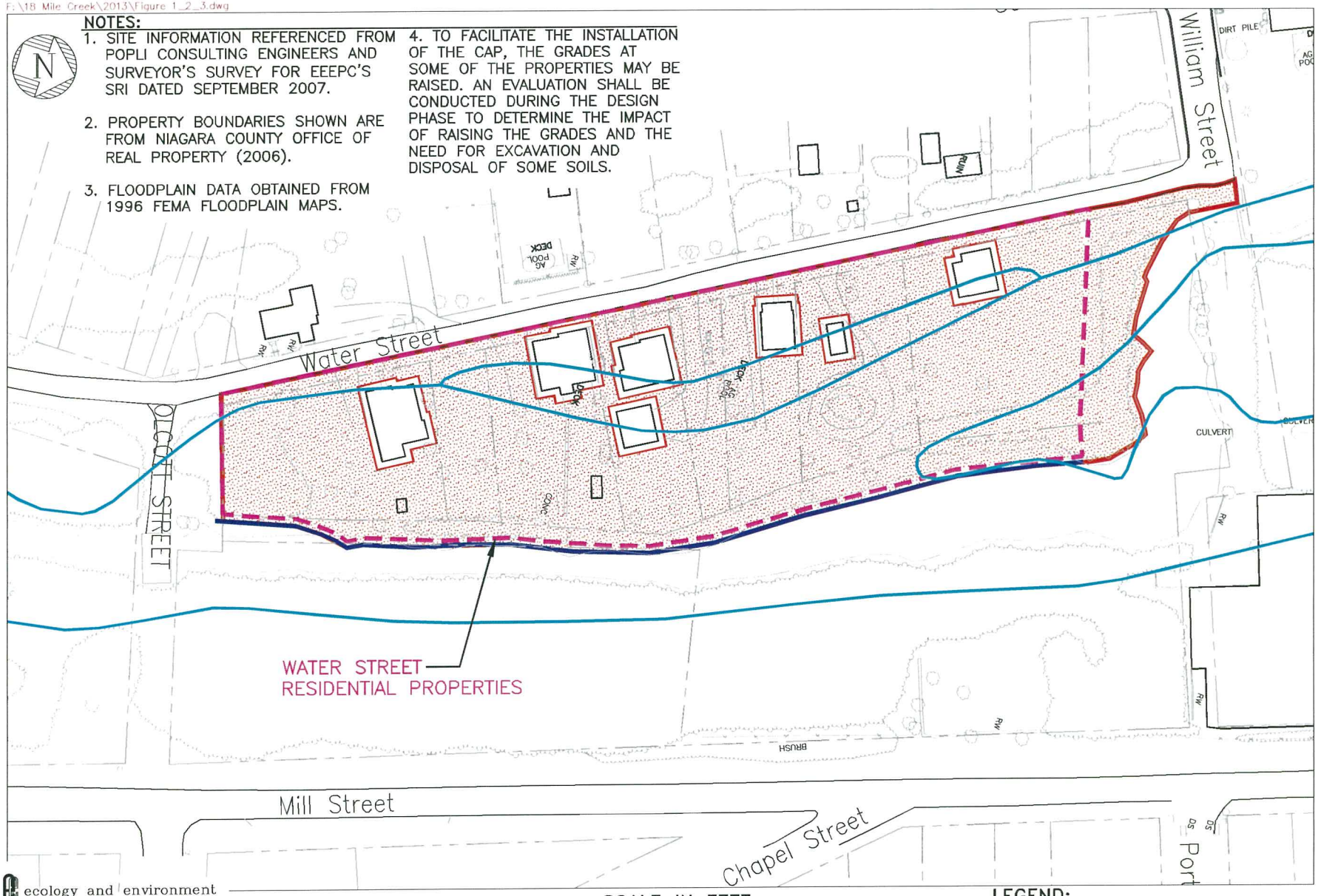

ecology and environment

SCALE IN FEET

0 100 200 300

LEGEND:

BANK STABILIZATION

100 YEAR FLOODPLAIN

APPROXIMATE AREA REQUIRING CAPPING

FIGURE 2: ALTERNATIVE 2 – CAPPING, INSTITUTIONAL CONTROLS AND LONG-TERM MONITORING, EIGHTEENMILE CREEK CORRIDOR SITE, LOCKPORT, NEW YORK

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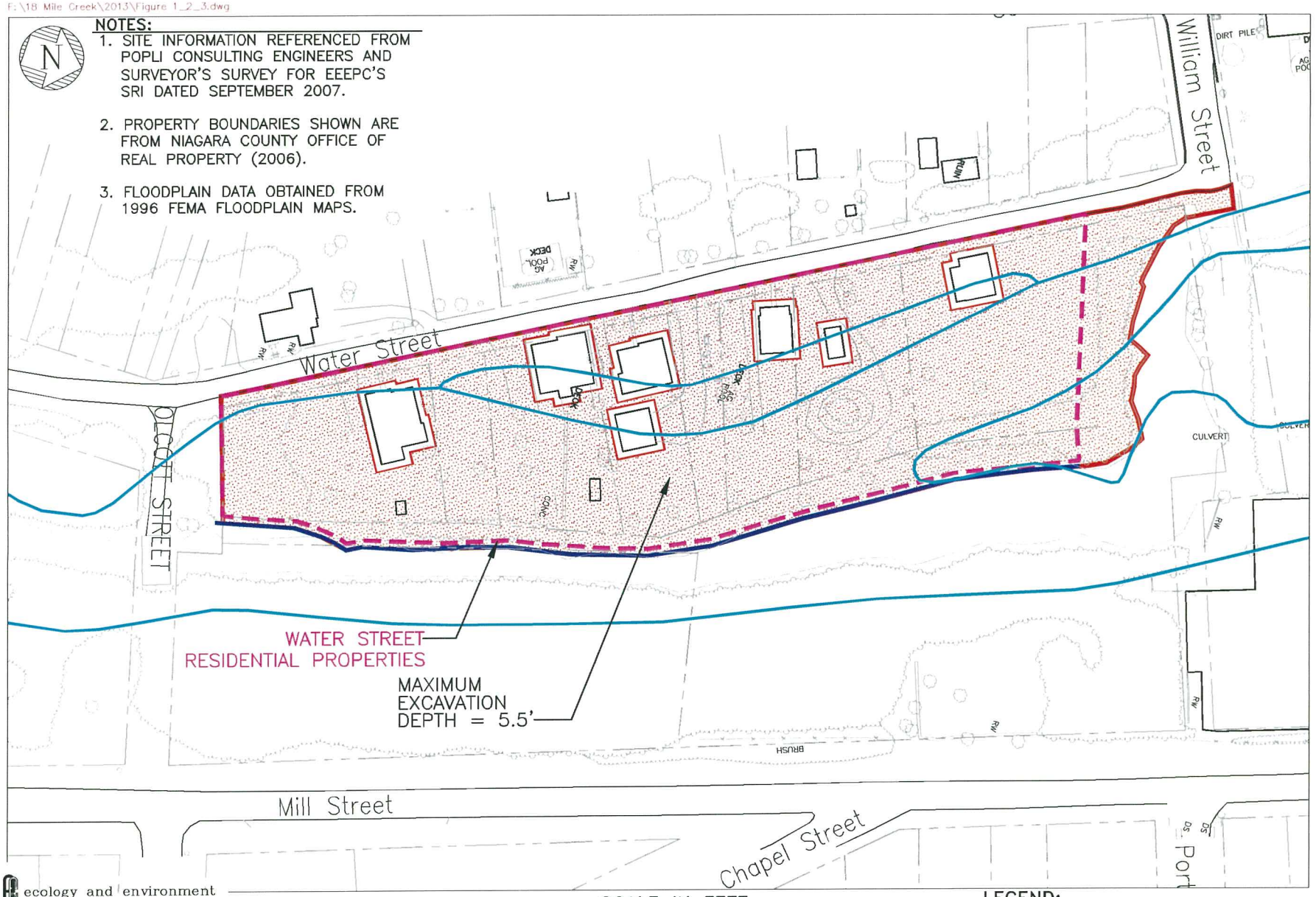

ecology and environment

SCALE IN FEET

0 100 200 300

LEGEND:

- BANK STABILIZATION
- 100 YEAR FLOODPLAIN
- APPROXIMATE EXTENT OF SOIL EXCAVATION

FIGURE 3: ALTERNATIVE 3 – EXCAVATION
EIGHTEENMILE CREEK CORRIDOR SITE,
LOCKPORT, NEW YORK