

DRAFT Analysis of Brownfields Cleanup Alternatives (ABCA)

I. Introduction and Background

a. Site Location

The site is located along the south side of the Rock River at 200 West 1st Street in Rock Falls, Whiteside County, Illinois (identified by Whiteside County Property Identification Numbers [PINs] 11-28-252-008 and 11-28-252-009 adjacent to each other). The PIN 11-28-252-008 is approximately 0.33 acres and PIN 11-28-252-009 is approximately 0.51 acres. The combined approximately 0.84-acre site used to contain a 13,670 square foot (footprint) 4-story dilapidated building commonly referred to as the “Limestone Building” with the remainder of the site consisting of gravel drives and grassed areas. The Limestone Building was historically utilized for various manufacturing purposes including painting, paint grinding, sawing and planning, and the operation of wood working machinery. Historical uses of the Limestone Building are further discussed below.

The Limestone Building was demolished by the City of Rock Falls in 2017. The site is currently vacant.

This grant application is on **PIN 11-28-252-008**.

b. Previous Site Use(s) and any previous cleanup/remediation

The Limestone Building was constructed as two separate portions of the former Keystone Manufacturing complex in 1867. By 1884, a warehouse and additional industrial buildings were present on the western portion of the site. At this time, the northern portion of the site included a mill race and wheel house structures for generating hydro-electric power along the Rock River and a railroad spur on the southern portion of the site. The two portions of the Limestone Building were connected by 1897. The site remained in a similar configuration through 1927. By 1945, the western portion of the warehouse structure was no longer present and a water tower was constructed on the southern portion of the site. The warehouse and industrial buildings were no longer depicted on-site by 1966. Additionally, the 1966 Sanborn Map indicates that the former mill race had been filled in by this time. The material used to fill the former mill race is unknown. The site has remained in a similar configuration through the present; however, the on-site water tower was demolished in approximately 2012. The Limestone Building was demolished by the City in 2017.

Historical Sanborn Maps of the site indicate that former operations at the Limestone Building included painting, paint grinding, sawing and planning, and wood working machinery.

The Following activities have been conducted at the Site:

- Phase II Environmental Assessment, Subsurface Investigation, Former International Harvester Complex, Rock Falls, Illinois, prepared by Missman, Stanley and Associates P.C. dated April 5, 1994;
- Phase I Environmental Site Assessment, dated August 2014, prepared by Terracon Consultants, Inc. (Terracon);

- The historical Limestone Building was demolished by the City of Rock Falls in 2017;
- Comprehensive Site Assessment activities has been completed by Terracon and the Comprehensive Site Investigation Report/Remedial Objective Report/Remediation Action Plan is currently being prepared (CSIR/ROR/RAP);
- Site was enrolled into the Illinois Environmental Protection Agency's (IEPA's) voluntary cleanup program Site Remediation Program (SRP) in November 2017;
- The CSIR/ROR/RAP is anticipated to be submitted to the IEPA SRP and be approved by the IEPA.

c. Site Assessment Findings

The 2014 ASTM Phase I ESA identified the following RECs:

- The historical on-site industrial operations from 1884 through 1945 including the use of a paint storage room located on the western portion of the on-site building. Records also indicated that a naphtha line historically ran across the western portion of the site towards the western "paint room area" of the existing on-site building;
- The rail spur located on the southern portion of the site; and
- The source of the fill material used to fill the former mill race located on the northern portion of the site is unknown.
- During site reconnaissance Terracon observed evidence of an empty 55-gallon drum located on the western site boundary;
- The former Keystone Manufacturing / International Harvester complex operations to the south of the site across West 1st Street from at least 1884 through 1961 (operations included blacksmithing, painting, paint dip tanks, machining, assembling, grinding, and heavy industrial operations);
- The former multi-tenant industrial building / Fort Dearborn Manufacturing Company / Flexonics Corporation operations on the eastern adjoining property (currently Lower Dam Park) from at least 1897 through 1959 (operations included dipping and hardware manufacturing); and
- The former Eureka Carriage Company operations on the western adjoining property from at least 1891 through 1916 (operations included blacking, painting, and varnishing).

In 2017, comprehensive site assessment has been conducted under the USEPA Assessment Grant BF00E01352. The subsurface assessment identified the following contaminations.

- Results identified xylenes, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, naphthalene, carbazole, arsenic, lead, and mercury above IEPA Tier I soil remediation objectives (ROs);
- Groundwater analyses revealed the presence of trichloroethene, arsenic, barium, cadmium, total chromium, lead, mercury, aluminum, beryllium, copper, lead, iron, manganese, nickel, thallium, and vanadium in the site groundwater at concentrations exceeding the IEPA Tier 1 Groundwater ROs for Class I groundwater. No exceedances of the indoor vapor intrusion ROs were noted in the groundwater samples.

The nature and source of contamination on the target site is attributed to several decades of industrial activities. Although the City of Rock Falls has conducted a comprehensive environmental investigation to prepare for the remediation of the target site with the financial support from the USEPA (Assessment Grant BF00E01352), there is no specific evidence that

would link the contamination found on the target site to a viable potentially responsible party considering the past site history.

The extent of the contamination has been delineated and will be identified in the Comprehensive Site Investigation Report. The Remediation Objective Report and Remedial Action Plan are currently being prepared and will be submitted to the IEPA by end of 2017. The site contamination is hazardous substance.

d. Project Goals

The project goal is to achieve a Comprehensive No Further Remediation (NFR) Letter from the IEPA. After the completion of the cleanup and receipt of a NFR letter, the planned reuse of the Site is a public green space with a potential tourism office on the property. This will be an integral part of the City's ongoing riverfront redevelopment and significantly enhance the quality of the target community. The development of the facility will significantly enhance the quality of life in the City of Rock Falls. Together with the other cleanup and redevelopment activities along Rock River, the site cleanup and redevelopment will give the City and neighborhood a powerful and positive symbol to rally around and take pride in.

II. Cleanup Standard and Applicable Laws

a. Cleanup Oversight Responsibility

City of Rock Falls will perform the cleanup activities using a technical consultant selected based on their qualifications and experience working on Brownfields sites following the IEPA and USEPA regulations. In addition, all documents prepared for this site will be submitted to the IEPA SRP for review.

b. Cleanup Standards for Major Contaminants

Site cleanup activities and cleanup standard will be in accordance with 35 Illinois Administrative Code (IAC) Part 740 Site Remediation Program and Part 742 Tiered Approach to Corrective Action Objectives. The site will be treated as a recreational/residential property.

c. Laws & Regulations Applicable to the Cleanup

Site cleanup activities and cleanup standard will be in accordance with 35 IAC Part 740 Site Remediation Program and Part 742 Tiered Approach to Corrective Action Objectives. All other related federal, state and local regulations including the federal Davis-Bacon Act, State of Illinois Environmental Protection Act, etc. All appropriate permits (e.g., notifications of excavation, soil transport/disposal manifests, etc.) will be obtained prior to the work commencing.

III. Alternatives Considered and Proposed Cleanup

a. Cleanup Alternatives Considered

To address contamination at the Site, three different alternatives were considered for cleanup. The alternatives consist of the following.

- Alternative 1 - No actions;

- Alternative 2 - Extensive soil excavation/disposal of the soil with concentrations exceeding the IEPA ROs, backfill excavation with virgin stones, importing three feet of clean soil to cover the entire site to mitigate the ingestion pathway and use City's groundwater usage Ordinance and offsite notification as institutional control; and
- Alternative 3 - (PIN 11-28-252-008) –
 - Limited soil excavation and disposal to address the soil contamination source therefore to reduce/address the groundwater contamination;
 - Using top 3 feet of clean soil and/or virgin stone as engineered barrier to address the ingestion pathway soil remedial objective (RO) exceedance in the proposed greenspace areas;
 - Using the proposed tourism office concrete slab and parking lot pavement as engineered barrier to address the ingestion pathway soil remedial objective (RO) exceedance in the proposed tourism office and parking lot area;

Across the entire site the City of Rock Falls' existing groundwater usage ordinance, offsite notification and a construction worker notification will be utilized as institutional controls. After redevelopment, exposure to subsurface soil containing remaining concentrations of COCs will be prevented by construction of new concrete foundations/building slabs, new pavement, or a three-foot clean fill engineered barrier. This will be coordinated with the future construction activities during the redevelopment. Additional soil excavation and disposal associated with underground utilities construction will be conducted as well.

b. Cost Estimate of Cleanup Alternatives

To satisfy EPA requirements, the effectiveness, implementability, and cost of each alternative must be considered prior to selecting a recommended cleanup alternative.

Effectiveness

- Alternative 1 – No Action. This alternative is not effective as it does not address the environmental and human being risk and does not address the contamination caused by the historical industrial operation at the site.
- Alternative 2 – Alternative 2 is effective in accordance with the state environmental regulations. However, the cost of this alternative is prohibitive.
- Alternative 3 – This alternative is effective. It addresses the current contamination, environment and human being risks by treating the hazardous waste soil in limited area, removing contaminated soil and the exposure pathways no longer exist, enhance the community development.

Implementability

- Alternative 1 – No Action. This is easy to implement as no actions will be conducted.
- Alternative 2 – This is relatively easy to implement but it is cost prohibitive and does not align with the proposed redevelopment.
- Alternative 3 – This is easy to implement and aligns well with the plans for redevelopment. Limited soil excavation and disposal will be conducted in the areas identified. The top three feet of landscape area will be excavated and clean soil will be brought and used as engineered barrier. The proposed building concrete pavement will be used as engineered barrier as well. The existing City of Rock Falls groundwater ordinance and construction

worker safety caution will be used as institutional control along with offsite properties notification.

Cost

- Alternative 1 – No Action. No cost will occur in this alternative.
- Alternative 2 – Extensive soil excavation/disposal in the area where soil concentrations are over IEPA ROs, and importing three feet of clean soil to cover the entire site, along with other institutional control (Construction Worker Safety Caution, groundwater usage ordinance, offsite notification). Based on the site condition, approximately 2,500 cubic yards of soil would have to be excavated, disposed of, and replaced with clean fill to cover the entire site. At a cost of \$90 per cubic yard for soil excavation, disposal and backfilling; and \$45 per cubic yard for clean backfill material. Combining the cost for field oversight, soil confirmatory sampling and laboratory analysis, reporting and other miscellaneous cost, the total cost is approximately \$400,000.
- Alternative 3 – Limited soil excavation and disposal in certain areas, use the proposed building pavement and parking lot surface as engineered barrier, and use City's groundwater usage Ordinance and offsite notification as institutional control. It is estimated that the cost will be on the order of \$240,000. Combining City's in-kind services, and the applied USEPA Cleanup grant, City of Rock Falls will be able to complete this cleanup activity for a sustainable redevelopment. The specific cost for this grant/PIN is \$240,000.

c. Recommended Cleanup Alternative

Based on the effectiveness, implementability, and cost, alternative 3 was selected as the proposed cleanup alternative. Alternative 3 treats and removes contaminated soil in certain areas, and uses City's groundwater usage ordinance, offsite notification, and construction worker caution as institutional control. This alternative addresses the contamination, environmental and human being risks, minimizes waste volume to be generated and disposed at a landfill, and reduces greenhouse gas and carbon footprint to occur during the site cleanup activities. In addition, clean soil generated elsewhere on-site will be backfilled at the soil excavation, therefore the clean soil will be reused at the site. Greener Cleanup Evaluation will be conducted during the cleanup planning stage using ASTM E2893-16 to identify Best Management Practices and incorporate the Best Management Practices into the actual cleanup.

