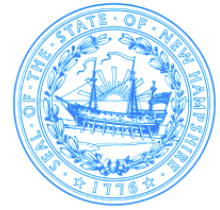




The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

EMAIL ONLY

January 27, 2016

Theresa Walker
Rockingham Planning Commission
156 Water Street
Exeter, NH 03833

Subject: **Exeter** – Dagostino Rose Farm Property, Oak Street Ext.
DES Site #201203003, Project #27859
Brownfields RLF Assessment Grant #BG201203003

Phase II Environmental Site Assessment, prepared by Credere Associates, LLC, dated November 9, 2015 (received December 21, 2015)

Dear Ms. Walker:

The New Hampshire Department of Environmental Services (Department) has reviewed the Phase II Environmental Site Assessment (the Report) prepared by Credere Associates, LLC (Credere), dated November 9, 2015, for compliance with the Supplemental Phase II Environmental Site Assessment Work Plan (Work Plan), ASTM International E1903-11, *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* (ASTM E1903-11), and the need for any additional investigations, remedial action or longer-term monitoring as may be required to comply with the Department's *Contaminated Site Management Rules* (Env-Or 600).

1.0 Phase II Investigation Objectives

The objectives of the current investigation found in Section 1.2 of the Report were developed by Credere to address the remaining recognized environmental conditions (RECs) and non-scope considerations (NCs) at the Site. The Department's comments on each objective are addressed below in the order they are presented in the Report.

1.1 Objective: Assess for possible impacts and their extent associated with historical use as a rose cultivation facility (REC #1)

- The Report states that Credere realized the location of the wooden pesticide tank as shown on Figure 2 of the Preliminary Phase II ESA, dated April 5, 2013, was not the location where it was used, but where it was discarded after use. Two additional soil samples were collected from the location where the tank was historically used; however, a groundwater sample (CA-MW-100) was collected from the location where it was discarded. The Report should be revised to explain the source of the additional information that led Credere to revise the location where the mixing tank was used. The Report shall also be revised to either provide an opinion that the groundwater sample collected from the location where the tank was discarded is a valid representation of

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possible impacts to groundwater from the mixing operation or to identify this as a data gap in the conclusions section.

- Levels of lead were detected in soil near the former location of the greenhouses. The Report attributes the lead concentrations in soil to flaking paint from the former greenhouse buildings. The Report states that “The exceedance of the NHDES SRS is delineated by surface samples CA-SS-100, SA-SS-102, and CA-SS-103 to the east; CA-SB-101 to the south; CA-TP106 to the west; and CA-SB-100 to the north; however, refined delineation may be warranted if source removal is desired.” The soil samples in this investigation were spaced too far apart to attempt the delineation of an area with potential SRS exceedances using soil sampling data alone. Although the Report caveats the statement by saying additional delineation may be needed, it is unclear if additional delineation should be conducted outside, or only within the area defined by the surface sample points. The Report should be revised to describe that soil near the former greenhouse structures may contain lead in soil above the Department’s SRS instead of attempting to delineate it using soil sample locations.
- A more precise delineation of SRS exceedances in the former greenhouse area and a remedial action plan (RAP) to address the soils is required under Env-Or 600. The Report should discuss this in the conclusions and recommendations sections.
- The Report concludes there have been no impacts to sediment from pesticides used historically at the property because none of the samples showed concentrations in excess of the laboratory detection limit. However, the laboratory detection limit for some of the pesticide compounds was not low enough to discern concentrations in sediment above the Threshold Effect Concentration (TEC) or Probable Effect Concentration (PEC) screening levels for impacts to sediment. The Report should be revised to recognize this as a data gap.
- In Table 9, the TEC and PEC limits for polycyclic aromatic hydrocarbons (PAH) are expressed in µg/kg while the sediment results are expressed in mg/kg. Please revise Table 9.
- As a result of the error in Table 9, the statement in Section 4.5 that PAH results are below their respective TEC values is incorrect. The Report should be revised to discuss the source of PAH impacts to sediment, include them as a REC, and discuss them as part of potential necessary response actions at the Site.
- The laboratory detection limit for some of the PAH compounds was not low enough to discern concentrations in sediment above the TEC and/or PEC. The Report should be revised to recognize this as a data gap.
- The Department requires remediation of sediment that has been impacted by a release to the extent that it has a detrimental impact on benthic organisms, or, if the contaminant is likely to bioaccumulate, to the extent that it has a detrimental impact on higher organisms that may consume aquatic life. Concentrations that exceed a TEC or PEC

may impact organisms; however, additional toxicologic studies may show no impacts to organisms in a specific aquatic environment. Depending on the volume of impacted sediment, a responsible party may determine it is more cost-effective to assume toxicity to organisms and move forward with remediation. The Department's *Evaluation of Sediment Quality Guidance Document* dated April 2005 provides guidance on how to perform toxicological studies. The Department requests a site-specific a scope of work be submitted for review and approval before the studies are conducted. The Report should recommend a proposed approach to address sediment impacts at the Site.

- The Phase I ESA, dated April 23, 2012, describes that the pond in the area of dumping and filling behind the packing house was reported to accept water from floor drains that were located in the greenhouses. The Report should be revised to discuss any subsequent observations or information that concluded there was no discharge to this pond from the greenhouses or concludes that this is a data gap.

1.2 Objective: Assess the extent of polycyclic aromatic hydrocarbons (PAH) and arsenic impacts associated with the historical boiler house (REC #2)

The Work Plan provided in Appendix A attributed the PAH and arsenic to coal ash and clinkers observed in the area. Characterization of the extent of impacts from these sources was evaluated as REC #3 and is discussed below.

1.3 Objective: Assess for possible impacts and their extent associated with clinker and coal ash dumping west of the former boiler house (REC #3)

Objective: Assess possible impacts and the extent of solid waste dumping in the western portion of the Site. (REC #6)

REC #3 and REC #6 have been combined in this response letter since the latest investigation has shown that the areas of coal-related waste and refuse dumping overlap more than was understood after the Preliminary Phase II ESA investigation.

- The coal ash does not meet the definition of background as defined in Env-Or-600 since localized dumping of large volumes has occurred and concentrations of arsenic and PAHs associated with the coal ash are not "ubiquitous and consistently present at or in the vicinity of the site". Therefore, the Department agrees with Credere's recommendation that a RAP is required to remediate the coal ash.
- Solid waste fill was described in the test pit logs for CA-TP-103 and CA-TP-105 but the area is shown as underlain by coal ash and clinker on Figure 2. Revise Figure 2 to reflect actual site conditions.
- The Report recommends all surficial solid waste be removed in the dumping area to eliminate future potential releases of contaminants to the environment. The waste has been in the area for several decades and the investigation has not sufficiently evaluated the potential for past releases of hazardous materials in this area. Some of the waste descriptions and photographs indicate that hazardous waste, and not solely solid waste, may have been disposed. Above-ground storage tanks (ASTs), drums (some containing

oil sludge or tar residuals), and containers (some containing chemicals associated with the former greenhouse operation) were identified in the northwestern portion of the waste mass. Monitoring wells installed in the waste mass during the Preliminary Phase II ESA were located upgradient of areas where this material is found. The Department agrees with Credere's recommendation that a RAP is necessary to address the dumping area; however, the RAP cannot be prepared until the potential for hazardous waste releases has been properly characterized.

- This phase of investigation did not achieve the objective of defining the extent of waste and impacts from the waste.
 - The means by which Credere defined the limits of the waste mass shown on Figure 2 is unclear. Given such a large variance in the interpretation of the extent of the waste mass between this Report and the previous two investigations, the Report should be revised to include an explanation of the method used to define the waste mass to support the validity of the interpretation.
 - The extent of impacts to soil surrounding the waste was defined by samples collected at the eastern and western sides of the northern lobe of the waste mass. The extent of impacts to soil in the other directions should be identified in the revised Report as a data gap.
 - The vertical extent of waste and soil or groundwater impacts from waste is a data gap. It is unclear if the deepest portions of the waste are below the water table.
 - The report states that the coal ash and clinker may be impacting stream sediment, however, the nature and extent of these impacts should be identified as a data gap..
- The deepest waste at the site was found in CA-TP-103, in the southern lobe of waste, indicating extensive filling of a topographically low area. Figure 2 shows a wetland nearby. Wetlands permitting may be required as part of remediation of this waste.

1.4 Objective: Assess possible impacts associated with the three bay garage (REC #7)

- The Report should discuss the reason that the concentration of arsenic in CA-SB-8 found during the Preliminary Phase II ESA investigation is not considered to be evidence of a release.

1.5 Objective: Test the private onsite water supply and public spring for confirmatory analysis of volatile and semi-volatile organic compounds (VOCs and SVOCs) previously detected during the 2013 Phase II ESA

- The locations of all the current and former water supply sources at the site and the buildings that each one supplies are unclear. The Site map should be revised to show and label each well and give a separate label to each building. Labels from the site map should correspond with locations discussed in the text and the Report should clearly describe each of the buildings supplied by each water source.

1.6 Objective: Complete a hazardous building material assessment of the Site buildings and assess possible secondary impacts associated with lead paint.

- Credere performed a hazardous building material assessment to identify building materials that may contain polychlorinated biphenyls (PCBs) or asbestos-containing building materials (ACBM). The Report should be revised to include a description of the survey methods, including the criteria used to identify suspected PCB-containing materials and ACBM. A clear list of the individual buildings that were surveyed and observations made during the survey should be included in the revised Report.
- The revised Report should make recommendations regarding management of materials from buildings or portions of buildings that could not be inspected.

The Report concludes that the possible presence of PCB-containing materials is dismissed at the Site based on two samples collected from the packing house structure. A footnote in Table 6 mentions that one of the two samples collected for analysis of PCB-containing materials did not achieve an analytical detection limit low enough to detect if PCBs were present in the building material above 1 mg/kg. This observation, and the recommendations for disposal of the material should be included in the conclusions and recommendations section of the revised Report.

- The following are data gaps in the hazardous building materials survey for lead paint:
 - all buildings other than 22, 23, and 24 Oak Street Extension,
 - the interiors of 22, 23, and 24 Oak Street Extension, and,
 - inaccessible paint on the exterior of 22, 23, and 24 Oak Street Extension.The Report should be revised to clearly identify all of these as data gaps and the recommendations section should address how these should be handled if disposed.
- Soil samples confirm a release of lead to soil as defined in Env-Or 600 from exterior paint at 23 and 24 Oak Street Extension. The poor condition of the paint at 24 Oak Street Extension is considered a continuing release of lead to the soil surrounding the house and will need to be addressed along with any removal of soil. This should be added to the conclusions and recommendations sections of the revised Report.
- If 23 and 24 Oak Street Extension are intended for continued use as residences or used for any child occupied purpose, lead abatement and post abatement lead sampling should be conducted in accordance with NH HE-P 1600.

2.0 Additional Requirements in the Department's May 5, 2015 Correspondence

The Department noted additional requirements in its May 5, 2015 response to the Preliminary Phase II ESA. These are discussed below:

2.1 Lot 5 Investigation

- The Department's letter of May 5, 2015 requested an assessment of the soil and groundwater quality in the vicinity of the sheds located on Lot 5. In its Work Plan,

Credere referenced a discussion with the Department where “it was concluded” the Lot 5 sheds were strictly for residential use and did not warrant assessment. While this is acceptable for a proposed workscope, Credere should document all the information it has used to rule out the possibility of contaminant releases at the Site in its Report rather than include an assurance that the information has been conveyed to the Department separately in an undocumented telephone conversation.

2.2 Groundwater Elevation Survey

- Measured groundwater flow direction information is a data gap.

3.0 Report Revision

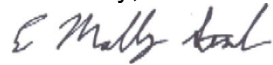
A revised version of the Report should be submitted to the Department addressing the items described above. In addition, the following items applicable to the conclusions of the Report should be addressed:

- The Report’s conclusions about environmental conditions at the Site are limited to a determination of whether a release or condition has been confirmed or dismissed as a problem needing further remedial response actions. These simple conclusions were apparent before the start of this investigation. There is no discussion in the Report’s conclusion section of the extent or severity of the confirmed environmental problems. The stated objectives of the investigation, which promise more information about environmental conditions at the Site, are not discussed in the conclusions section. Please revise the conclusions section to discuss the information about environmental conditions gained from this investigation.
- The Department has identified several data gaps in the information obtained for this investigation in the previous sections of this correspondence. Some data gaps occur because the field data proposed in the Work Plan could not be obtained. Some occur because information obtained during this phase of investigation indicates new areas of uncertainty that could not be anticipated at the time of the Work Plan. As a result of these data gaps, many of the investigation’s objectives could not be met. An investigation can still meet the requirements of ASTM E1903-11 despite data gaps if the Report clarifies the impact of the data gaps on the certainty of statements made about site environmental conditions. The conclusions section of this Report dismisses several RECs based on limited data without any qualification. Please revise the conclusions section to discuss the effect of data gaps on statements made about environmental conditions at the Site.
- ASTM E1903-11 is specific about the language that shall be used in a Phase II Report where all of the elements of E1903 are followed: “We have performed a Phase II environmental site assessment at the property at (address) in conformance with the scope and limitations of ASTM Practice E1903-XX and for the following objectives:” The Report does not specify one or more addresses or other definitive identifiers of the parcels that were assessed. More importantly, the Report inserts “general” before the word “conformance” into this statement implying that the Report may not conform to ASTM E1903 in some undefined way.

- The version of this Report uploaded to the Department's files is missing sections of Appendices C and D that were included in the draft emailed to the Department on November 9, 2015. Please be careful to upload a complete version of the revised Report.

We look forward to a revised Report that addresses these comments. If you have any questions regarding this letter, please write me at the address below or call me at the Waste Management Division.

Sincerely,



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