



Closure Plan

Lawrence Energy Center

Inactive Units - Ash Pond Area 2, Ash Pond Area 3, and Ash Pond 4

Prepared for:

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Plan Review/Amendment Log §257.102(b)(3)

Date of Review	Reviewer Name	Amendment Required (YES/NO)	Sections Amended and Reason

CCR Regulatory Requirements

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(a) stipulates:</p> <p><i>(a) Closure of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit, as described in paragraphs (b) through (j) of this section. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in paragraph (k) of this section.</i></p>	Section 1.0
<p>§257.102(b)(1) stipulates:</p> <p><i>(b) Written closure plan—(1) Content of the plan. The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.</i></p>	Section 4.0
<p>§257.102(b)(1)(i) stipulates:</p> <p><i>(i) A narrative description of how the CCR unit will be closed in accordance with this section.</i></p>	Section 4.1

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(b)(1)(ii) stipulates:</p> <p><i>(ii) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.</i></p>	<p>Section 4.2</p>
<p>§257.102(b)(1)(iv) stipulates:</p> <p><i>(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.</i></p>	<p>Section 3.2</p>
<p>§257.102(b)(1)(v) stipulates:</p> <p><i>(v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.</i></p>	<p>Section 3.3</p>



USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(b)(1)(vi) stipulates:</p> <p><i>(vi) A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.</i></p>	<p>Section 7.0</p>
<p>§257.102(b)(2)(i) stipulates:</p> <p><i>(2) Timeframes for preparing the initial written closure plan – (i) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.</i></p>	<p>Report submitted prior to October 17, 2016</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(b)(2)(iii) stipulates:</p> <p><i>(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by paragraph (b)(4) of this section, has been placed in the facility's operating record as required by §257.105(i)(4).</i></p>	<p>Section 8.0</p>
<p>§257.102(b)(3) stipulates:</p> <p><i>(3) Amendment of a written closure plan.</i></p> <p><i>(i) The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to paragraph (b)(1) of this section at any time.</i></p> <p><i>(ii) The owner or operator must amend the written closure plan whenever:</i></p> <p><i>(A) There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or</i></p> <p><i>(B) Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.</i></p> <p><i>(iii) The owner or operator must amend the closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit, the owner or operator must amend the current closure plan no later than 30 days following the triggering event.</i></p>	<p>Section 8.1</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p><i>§257.102(b)(4) stipulates:</i></p> <p><i>(4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of this section.</i></p>	<p>Section 8.2</p>
<p><i>§257.102(c) stipulates:</i></p> <p><i>(c) Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to 257.95(h) for constituents listed in appendix IV to this part.</i></p>	<p>Section 4.2</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(e)(1) stipulates:</p> <p><i>(e) Initiation of closure activities. Except as provided for in paragraph (e)(4) of this section and §257.103, the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either paragraph (e)(1) or (2) of this section. (1) The owner or operator must commence closure of the CCR unit no later than 30 days after the date on which the CCR unit either:</i></p> <p><i>(i) Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or</i></p> <p><i>(ii) Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR.</i></p>	<p>Section 8.3</p>
<p>§257.102(e)(3) stipulates:</p> <p><i>(3) For purposes of this subpart, closure of the CCR unit has commenced if the owner or operator has ceased placing waste and completes any of the following actions or activities:</i></p> <p><i>(i) Taken any steps necessary to implement the written closure plan required by paragraph (b) of this section;</i></p> <p><i>(ii) Submitted a completed application for any required state or agency permit or permit modification; or</i></p> <p><i>(iii) Taken any steps necessary to comply with any state or other agency standards that are prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.</i></p>	<p>Section 7.0</p>



USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(f)(1) stipulates:</p> <p><i>(f) Completion of closure activities. (1) Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit:</i></p> <p><i>(i) For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.</i></p> <p><i>(ii) For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities.</i></p>	<p>Section 7.0</p>



USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(f)(2)(i) stipulates:</p> <p><i>(2)(i) Extensions of closure timeframes. The timeframes for completing closure of a CCR unit specified under paragraphs (f)(1) of this section may be extended if the owner or operator can demonstrate that it was not feasible to complete closure of the CCR unit within the required timeframes due to factors beyond the facility's control. If the owner or operator is seeking a time extension beyond the time specified in the written closure plan as required by paragraph (b)(1) of this section, the demonstration must include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator must place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by §257.105(i)(6) prior to the end of any two-year period. Factors that may support such a demonstration include:</i></p> <p><i>(A) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;</i></p> <p><i>(B) Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or characteristics of the CCR in the unit;</i></p> <p><i>(C) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or</i></p> <p><i>(D) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.</i></p>	<p>Section 7.0</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(f)(2)(ii) stipulates:</p> <p>(2)(ii) <i>Maximum time extensions.</i></p> <p>(A) <i>CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years</i></p> <p>(B) <i>CCR surface impoundments larger than 40 acres may extend the timeframe to complete closure of the CCR unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR surface impoundment.</i></p> <p>(C) <i>CCR landfills may extend the timeframe to complete closure of the CCR unit multiple times, in one-year increments. For each one-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of two one-year extensions may be obtained for any CCR landfill.</i></p>	<p>Section 7.0</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(f)(2)(iii) stipulates:</p> <p><i>(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit beyond the times provided by paragraph (f)(1) of this section, the owner or operator of the CCR unit must include with the demonstration required by paragraph (f)(2)(i) of this section the following statement signed by the owner or operator or an authorized representative:</i></p> <p><i>I certify under penalty of law that I have personally examined and am familiar with the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i></p>	<p>Section 7.0</p>
<p>§257.102(f)(3) stipulates:</p> <p><i>(3) Upon completion, the owner or operator of the CCR unit must obtain a certification from a qualified professional engineer verifying that closure has been completed in accordance with the closure plan specified in paragraph (b) of this section and the requirements of this section.</i></p>	<p>Section 10.0</p>
<p>§257.102(g) stipulates:</p> <p><i>(g) No later than the date the owner or operator initiate closure of a CCR unit, the owner or operator must prepare a notification of intent to close a CCR unit. The notification must include the certification by a qualified professional engineer for the design of the final cover system as required by §257.102(d)(3)(iii), if applicable. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by §257.105(i)(7).</i></p>	<p>Section 8.3</p>



USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.102(h) stipulates:</p> <p><i>(h) Within 30 days of completion of closure of the CCR unit, the owner or operator must prepare a notification of closure of a CCR unit. The notification must include the certification by a qualified professional engineer as required by §257.102(f)(3). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by §257.105(i)(8).</i></p>	<p>Section 8.4</p>
<p>§257.102(i) stipulates:</p> <p><i>(i) Deed notations. (1) Except as provided by paragraph (i)(4) of this section, following closure of a CCR unit, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during title search. (2) The notation on the deed must in perpetuity notify any potential purchaser of the property that: (i) The land has been used as a CCR unit; and (ii) Its use is restricted under the post-closure care requirements as provided by §257.104(d)(1)(iii).</i></p>	<p>Section 8.5</p>
<p>§257.102(j) stipulates:</p> <p><i>(j) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in §257.105(i), the closure notification requirements specified in §257.106(i), and the closure Internet requirements specified in §257.107(i).</i></p>	<p>Section 8.0</p>

USEPA CCR Criteria 40 CFR 257.102	Lawrence Energy Center (LEC) Inactive Units, Ash Ponds 2, 3, and 4
<p>§257.104(a)(2) stipulates:</p> <p>(2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by §257.102(c) is not subject to the post-closure care criteria under this section.</p>	<p>Section 10.0</p>



1.0 INTRODUCTION

APTIM Environmental and Infrastructure, Inc. (APTIM, f/k/a CB&I Environmental & Infrastructure Inc., CB&I) has prepared this Hazard Potential Classification Assessment (Assessment) at the request of Westar Energy (Westar) for the inactive Ash Pond Area 2 (Area 2 Ponds), Ash Pond Area 3 (Area 3 Ponds), and the Scrubber Supply Pond (Area 4 Pond) located at Lawrence Energy Center (LEC) in Lawrence, Kansas.

The Area 2, 3, and 4 Ponds have been deemed to be regulated, inactive CCR units by the United States Environmental Protection Agency (USEPA), through the Disposal of Coal Combustion Residuals from Electric Utilities Final Rule (CCR Rule) 40 CFR §257 and §261. On July 26, 2016 the USEPA extended the CCR Rule requirements for certain inactive CCR surface impoundments. Westar is currently in the process of conducting closure and by removal of CCR (per §257.100(b)) within the inactive Area 2, 3, and 4 Ponds to prepare for construction of a Kansas National Pollutant Discharge Elimination System (NPDES) regulated pond system. All facility water containing CCR material is managed in settling tanks. CCR material from the Area 2, 3, and 4 Ponds is being disposed of in Industrial Landfill No. 847. Westar intends to complete closure of the Area 2, 3, and 4 Ponds in 2018.

This Plan details the closure requirements outlined in §257.102, for CCR units closed by removal. The criteria for conducting the closure or retrofit of CCR units for the Landfill are detailed in Section 2.0. Additionally, the following Plan details the necessary steps used to close the inactive Areas 2, 3, and 4 Ponds based on recognized and good engineering practices. All closure processes have been established to control, minimize, and eliminate the release of contact water and CCR.

2.0 REGULATORY OVERVIEW OF CCR CLOSURE PLAN REQUIREMENTS

On April 17, 2015, USEPA published the CCR Rule under Subtitle D of the Resource Conservation and Recovery Act (RCRA) as 40 CFR Part §257 and §261. The purpose of the CCR Rule is to regulate the management of CCR in regulated CCR units for landfill and surface impoundments.

Section 257.102(b) of the CCR Rule requires owners or operators of CCR landfills and surface impoundments to prepare a written closure plan describing the closure of the unit and schedule for implementation of the plan. The following citations from the CCR Rule are applicable for the Area 2, 3, and 4 Ponds as discussed in this Plan.

An outline of the closure performance standards for closure of units where CCR will be removed is described in §257.102(c), which stipulates:

“An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have be removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to §257.95(h) for constituents listed in appendix IV to this part.”

In addition to the above, the Plan must ensure compliance with the closure recordkeeping requirements specified in §257.105(i), the closure notification requirements specified in §257.106(i), and the closure intent requirements specified in §257.107(i). A written certification is provided in Section 10.0 from a qualified professional engineer in the State of Kansas, to certify that this Plan meets the requirements of the CCR Rule.

3.0 LEC AREA 2, 3, AND 4 PONDS OVERVIEW

Westar owns and operates a series of clarifying ponds for process water at LEC in Douglas County, Kansas. LEC is located approximately 3 miles northwest of Lawrence, Kansas, is bounded by the Kansas River and resides in Sections 13 and 14, Township 12 South, Range 19 East. The locations of the Area 2, Area 3, and Area 4 Ponds are depicted in **Figure 1**.

The ponds are separated into three “areas”, termed Areas 2, 3, and 4, as noted below:

Area 2 Ponds

- Pond 501 (CCR removed and operating)
- Pond 502 (CCR removed and operating)
- Pond 503 (CCR removed and operating)
- Clear Pond (a.k.a. West Pond, CCR removed and operating)
- Laydown Area (in the process of being dewatered, CCR removed, and incorporated into the Storm Water Settling Pond)
- Storm Water Settling Pond (in the process of being dewatered and CCR removed)

Area 3 Ponds

- Pond 401 (CCR removed and operating)
- Pond 402 (CCR removed and incorporated into Pond 404)
- Pond 403 (CCR removed and incorporated into Pond 404)
- Pond 404 (CCR removed and operating)

- Area 4 Pond** – Scrubber Supply Pond (certified CCR removed in May 2017 and removed from service)

The Area 2, 3, and 4 Ponds are regulated impoundments under the CCR Rule and stopped receiving CCR prior to October 2015. Historically the Area 2, 3, and 4 Ponds received CCR material from the plant. The CCR material was deposited in the Area 2, 3, and 4 Ponds while overflow water was discharged to the Kansas River via Outfall 001BV, in line with Kansas NPDES Permit No. I-KS-31-PO09. As each pond was progressively filled, the ponds were dewatered and the CCR material was excavated and placed in Industrial Landfill No. 847. CCR material was distributed to different ponds within each area depending on the availability of capacity.

A perimeter impoundment dike was constructed to surround the LEC ponds and ties into the natural grades near the southern portion of the Area 2 Pond and the eastern portion of the Area 4 Pond. The crest of the perimeter dike is at approximately 839 feet Mean Sea Level (ft MSL) with side slopes at 3H:1V, providing a maximum height of 15 feet located in the northwest section. The crest width is approximately 30 feet. The perimeter dike was originally constructed of silty clay, which was obtained by excavation of existing grades in the area.

Currently a reconfiguration of the Area 2, 3, and 4 Ponds is being undertaken. With the Area 4 Pond closed, plant process water flows from the Area 2 Ponds (with the exception of Ponds 502 and 503) to the Area 3 Ponds prior to discharge to the Kansas River through Outfall 001BV. Site topography prior to closure of the Area 2, 3, and 4 Ponds is depicted in **Figure 2**.

3.1 Existing Conditions and Operations

The original design of the LEC ponds included four areas through which stormwater and contact water moved before being discharged to the Kansas River. Following the adoption and establishment of the CCR Rule, the LEC ponds have been renamed and reconfigured. Currently, closure by removal of CCR at the LEC ponds is ongoing and is anticipated to be completed in 2018, in accordance with §257.102(c). Most of the configurations and flow patterns of the Area 2, Area 3, and Area 4 Ponds will be maintained. The Laydown Area will be reconfigured into the northern portion of the Storm Water Settling Pond. Pond 402 and Pond 403 will be reconfigured into the eastern portion of Pond 404. Closure consists of the removal of CCR material and existing clay liner, with the installation of an 18-in. clay liner, rip-rap, and aggregate base at the top of each berm. Contact water and process water is currently managed within the LEC Pond network, allowing for proper management of water during the ongoing construction process. As each pond is progressively dewatered, CCR material will be excavated and placed in the Industrial Landfill No. 847.

Following the completion of the closure activities, stormwater will continue to be directed to the Storm Water Settling Pond where it is discharged to Baldwin Creek. Contact water and process water will be directed to Pond 501, 502, and 503. From Pond 502, contact water and process water is discharged to the West Pond (Clear Pond), then Pond 404 and 401. From Pond 401, water is discharged through conveyance pipes to the Kansas River through Outfall 001BV or recycled into the plant.

3.2 Remaining Life and Volume (§257.102(b)(1)(iv))

Upon closure, the Area 2, Area 3, and Area 4 Ponds will be utilized to manage non-contact water in support of plant operations and the overall water management strategy. No CCR material will be placed or stored in the LEC Pond network, including the Area 2, Area 3, and Area 4 Ponds, therefore, the remaining life and volume are not applicable.

3.3 Largest Area Requiring Final Cover (§257.102(b)(1)(v))

As the Area 2, Area 3, and Area 4 Ponds are completed closure construction to be utilized to manage non-contact water in support of plant operations and the overall water management strategy, no final cover is required to closure.

4.0 CLOSURE PLAN (§257.102(b)(1))

This Plan has been prepared in accordance with requirements of the CCR Rule and includes a written certification in Section 10.0 from a qualified Professional Engineer for the State of Kansas.

4.1 Narrative Description (§257.102(b)(1)(i))

Closure of the Area 2, Area 3, and Area 4 Ponds will be accomplished by the removal of the CCR and installation of an 18-in. clay liner, rip-rap, and aggregate base at the top of each berm. Most of the configurations and flow patterns of the Area 2, Area 3, and Area 4 Ponds will be maintained.

The method of closure has been designed to minimize maintenance, control run-on and run-off and ensure the protection of human health and the environment. Closure of LEC Ponds will continue to follow Construction Quality Assurance (CQA) procedures to ensure that closure is performed and constructed in accordance with recognized standards and accepted good engineering practices as detailed in the following sections.

4.2 Closure Overview (§257.102(c))

Closure of the Area 2, Area 3, and Area 4 Ponds will be completed in three phases in order to continue operations of the LEC Pond network during ongoing closure activities. Phase I will consist of the closure of Ponds 501, 502, and 503. Phase II will consist of the closure of Pond 404 including the reconfiguration of Ponds 402 and 403. Phase III will consist of the closure of the Lay Down Area and West Pond (Clear Pond) including the reconfiguration of the Storm Water Settling Pond and Drainage Ditch.

Closure will adhere to the following processes:

- Dewater ponds where necessary.
- Remove CCR material and existing clay liner system through excavation.
- Install clay cap on existing berms created from CCR material for beneficial reuse.
- Haul excavated CCR material and existing clay liner to Industrial Landfill No. 847 for proper disposal.
- Install 18-in. clay liner and applicable bank protection rip-rap or approved alternative to minimize erosion, in accordance with design.
- Install perimeter access road aggregate on top of capped berms, in accordance with design.
- In accordance with §257.102(c), closure will be complete when the groundwater constituent concentrations and any area affected by releases from the CCR unit do not exceed the groundwater protection standard established for constituents listed in Appendix IV in §257.95(h).

Throughout the CQA closure activities, LEC and/or their contractor(s) will provide written/photographic documentation of the work performed to serve as a supplemental record for review.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Equipment

Westar, or their contractor, is responsible for providing sufficient equipment to carry out the closure operations, as designed, in a satisfactory manner. Equipment for the closure operations may include any or all of the following, as described in Table 1, and potentially other equipment of deemed appropriate by Westar and their contractor(s):

TABLE 1: CONSTRUCTION EQUIPMENT	
EQUIPMENT	PURPOSE
Tracked Dozer	Spreading fill and vegetative material
Excavators	Removing CCR material, clay, and any contaminated soils
Compactor	Compacting fill
Haul Trucks	Haul fill material to the construction site
Drum Rollers	Preparing the clay fill top surface for vegetative layer placement
Dewatering Equipment	Draining water from ponds prior to CCR material and clay removal

5.2 Stormwater Run-On and Run-Off Controls

Generally accepted good engineering practices for stormwater controls during construction will be configured in a way to reduce the amount of stormwater run-on/run-off at the ongoing construction area. In addition, temporary stormwater oil/water separation may be required during the reconfiguration of Storm Water Settling Pond.

5.3 Erosion Control

Erosion control measures such as silt fences, vegetation, erosion control blankets and other suitable and acceptable measures will be used to minimize erosion during construction and of the completed restoration work.

The vegetated layer will assist in preventing erosion of the fill used to restore disturbed areas and control surface water run-off rates. Construction of any erosion control measures including dikes and berms will take place as necessary and will be in accordance with the generally accepted good engineering standards and practices.

5.4 Slope Stability

Generally accepted good engineering practices for dewatering and excavation slope stability will be utilized throughout the entirety of the construction project, when necessary, to ensure acceptable safety factors are met based on industry standards.

6.0 CLOSURE ACTIVITY SCHEDULE (§257.102(b)(1)(vi))

The closure of the LEC Ponds will be completed according to the following schedule milestones:

- Based on the current progression of construction activities, it is expected that closure will be completed by the time frames required by the CCR Rule. Closure will be complete when the groundwater constituent concentrations and any area affected by releases from the CCR unit do not exceed the groundwater protection standard, in accordance with §257.102(c).
- Notify KDHE in writing at least 60 days before closure.
- Upon completion of the closure activities, a certified Kansas Professional Engineer will provide KDHE with a closure certification. This will verify that closure activities were performed and completed in accordance with the Plan. The certification will be provided within 30 days of the completion of closure activities.
- Within 30 days of the completion of closure, the notification of closure of the CCR unit will be submitted as per §257.102(h).

7.0 RECORD KEEPING/NOTIFICATION REQUIREMENTS (§257.106(j))

In accordance with §257.102(j), Westar maintains an operating record consisting of the documents specified in §257.105(i).

In accordance with §257.102(j), Westar will comply with the notification requirements specified in §257.106(i).

Internet requirements specified in §257.107(i) will be placed on owner and operators publicly accessible website, as per §257.102(j). These documents include any notification on the closure intent or completion, annual progress reports, the written Plan and any amendments, demonstrations for time extensions, and the record of the deed.

All records that are relevant within the past five years will be maintained at LEC and/or by Westar. The records are available to KDHE representatives for review upon request.

7.1 Plan Amendments (§257.102(b)(3))

This Plan will continue to undergo review as needed if the pond design or construction plans are modified throughout the construction process. The amended Plan will be reviewed and recertified by a registered professional engineer and will be placed in LEC's facility operating record as required per §257.105(i)(4). The amended Plan will supersede and replace any prior versions. Availability of the amended Plan will be noticed to the State Director per §257.106(i) and posted to the publicly accessible internet site per §257.107(i).

A record of Plan reviews/assessments is provided on the first page of this document, immediately following the Table of Contents. Any subsequent amendment of a written Plan will be prepared as required, such as:

- There is a change in the operation of the CCR unit that would substantially affect the written Plan in effect; or
- Before or after closure activities have commenced, unanticipated events necessitate a revision of the written Plan.

The owner or operator will amend the Plan at least 60 days prior to a planned change in the operation of LEC or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written Plan. If a written Plan is revised after closure activities have commenced for a CCR unit, the owner or operator will amend the closure plan no later than 30 days following the triggering event.

7.2 Amended Plan Certification (§257.102(b)(4))

APTIM reviewed any previously developed closure information/plans which exist for the Area 2, Area 3, and Area 4 Ponds. APTIM prepared a Plan for the Area 2, Area 3, and Area 4 Ponds to address closure by removal of CCR.

This Plan will continue to undergo review as the Area 2, Area 3, and Area 4 Ponds continue phased construction activities. Any future amendments to the current Plan will be tracked in the log at the beginning of this document and will be certified by a qualified professional engineer that the amended plan meets the requirements of the applicable portions of the CCR Rule. The amended Plan will be placed in LEC's facility operating record as required per §257.105(i)(4), noticed to the State Director per §257.106(i), and posted to the publicly accessible internet site per §257.107(i)

7.3 Notice of Intent to Initiate Closure (§257.106(g))

Westar has filed a Notice of Intent of closure activities no later than the date of initiation of closure of the Area 2, Area 3, and Area 4 Ponds. The notification includes the certification by a registered professional engineer for the closure of the Area 2, Area 3, and Area 4 Ponds and will be placed in the operating record.

7.4 Notice of Completion of Closure (§257.106(h))

Westar will complete a Notice of Completion of closure activities within 30 (thirty) days of completion of closure of the Area 2, Area 3, and Area 4 Ponds. The notification will include the certification by a registered professional engineer as required by §257.102(f)(3).



7.5 Deed Notation (§257.102(i))

In accordance with §257.102(i), a notation on the deed to the property, or some other instrument, that is normally examined during a title search will be recorded to notify any potential purchaser of the property that the land has been used as a CCR unit. The following information will be recorded in accordance with the CCR Rule:

- The name and address of the person with knowledge of the contents of the Area 2, Area 3, and Area 4 Ponds; and
- The prior land use as a CCR unit.

8.0 CLOSURE COST ESTIMATE

The closure cost for the Area 2, Area 3, and Area 4 Ponds is estimated to be approximately \$7,000,000, as of April 2018. The maximum closure cost estimates to complete closure construction for the Area 2, Area 3, and Area 4 Ponds are provided to KDHE on an annual basis. This information can be obtained through KDHE-BWM by completing the Kansas Open Records Act Request Form.

In providing these cost estimates, it is recognized that Westar does not have control over the costs of labor, equipment, or materials, or over a Contractor's method(s) of determining prices or bidding.

9.0 POST-CLOSURE CARE PLAN

As stated in §257.104(2), a post-closure care plan is not required for CCR units that elect to close by removing CCR in accordance with §257.102(c), therefore a written post-closure care plan is not required.

10.0 PROFESSIONAL ENGINEER CERTIFICATION (§257.102(f)(3))

The undersigned registered professional engineer is familiar with the requirements of CCR Rule requirements of §257.102 of the CCR Rule and has visited and examined LEC or has supervised examination of LEC by appropriately qualified personnel. The undersigned registered professional engineer attests that this Closure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of §257.102, and that this Plan is adequate for LEC's facility. This certification was prepared as required by §257.102(d)(3)(iii).

Name of Professional Engineer: Richard Southorn

Company: APTIM

Signature: 

Date: 04/16/18

PE Registration State: Kansas

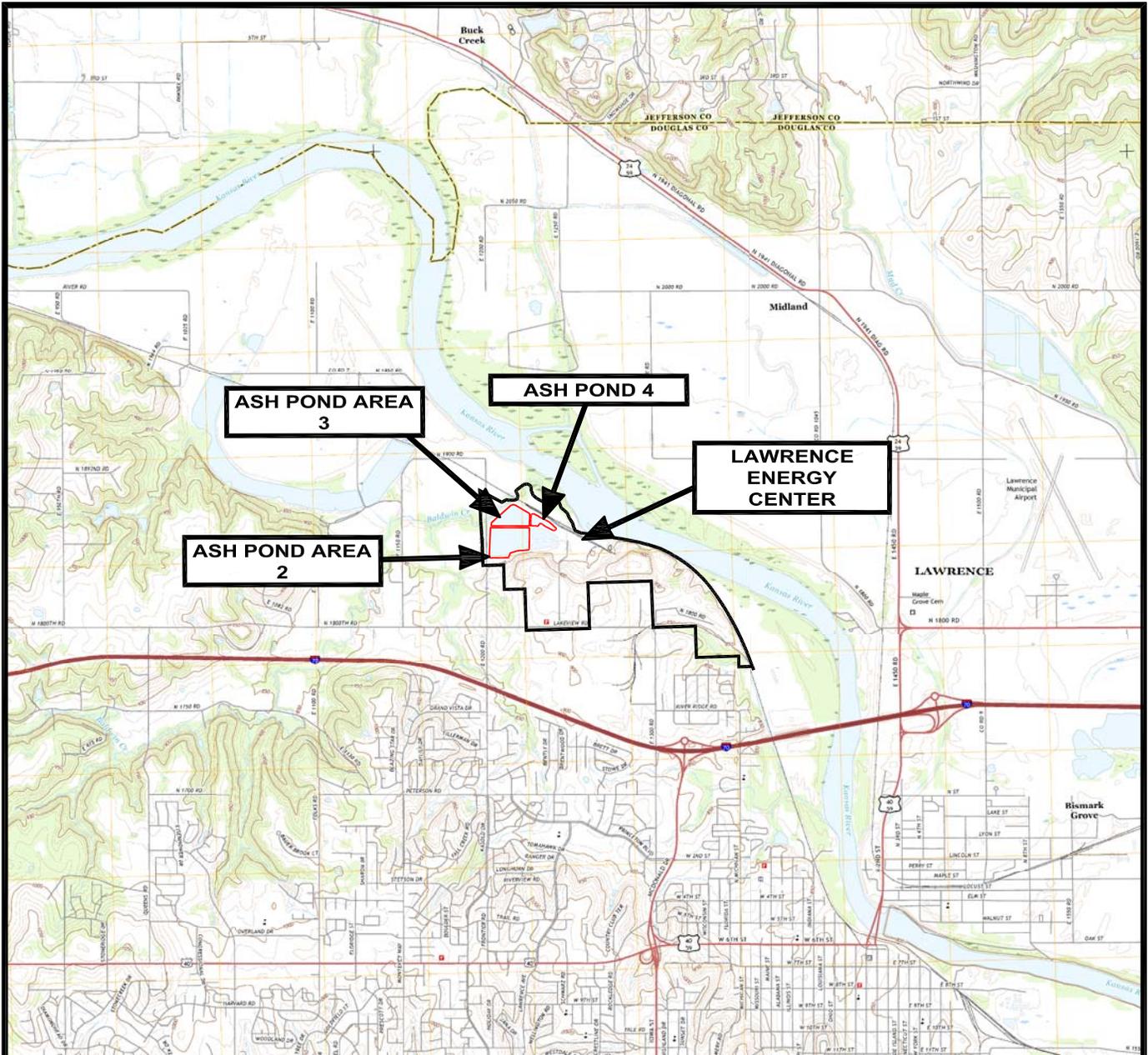
PE Registration Number: PE25201

Professional Engineer Seal:



FIGURES

- Figure 1 - Inactive Units – Ash Pond Area 2, Ash Pond Area 3, Ash Pond 4, Site Location Plan
- Figure 2 - Inactive Units – Ash Pond Area 2, Ash Pond Area 3, Ash Pond 4, Site Topography Prior to Closure



LEGEND

- LAWRENCE ENERGY CENTER FACILITY BOUNDARY
- CCR UNIT BOUNDARY

NOTES

1. AERIAL TOPO OBTAINED FROM USGS 7.5-MINUTE SERIES, LAWRENCE EAST, LAWRENCE WEST, MIDLAND AND WILLIAMSTOWN QUADRANGLE, KANSAS, 2014.
2. ALL BOUNDARIES ARE APPROXIMATE.



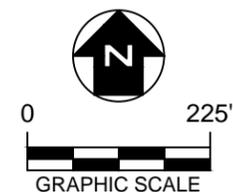
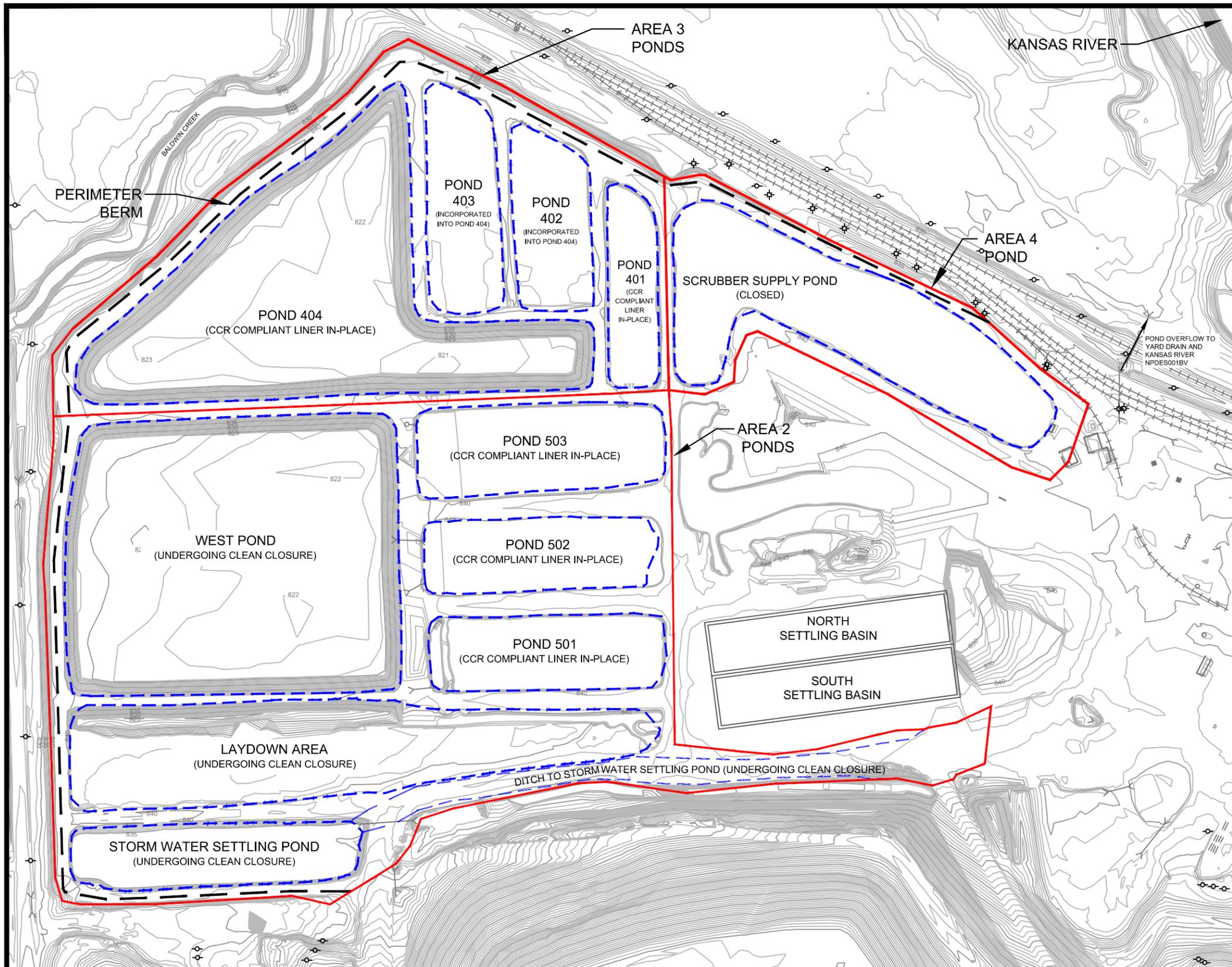
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**LAWRENCE ENERGY CENTER
1250 N. 1800 RD., LAWRENCE, KS.**

**FIGURE 1
INACTIVE UNITS - ASH POND AREA 2, ASH POND AREA 3, ASH POND 4
SITE LOCATION PLAN**

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LEGEND

- APPROXIMATE POND AREA BOUNDARY
- - - APPROXIMATE POND BOUNDARY
- - - APPROXIMATE PERIMETER DIKE LOCATION

NOTES

1. EXISTING CONTOURS DEVELOPED FROM SITE AERIAL TOPOGRAPHIC SURVEY BY PEC IN JUNE 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ALL BOUNDARIES AND FEATURE LOCATIONS ARE APPROXIMATE.

REV. NO.	DATE	DESCRIPTION



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**FIGURE 2
INACTIVE UNITS - ASH POND AREA 2, ASH POND AREA 3, ASH POND 4
SITE TOPOGRAPHY PRIOR TO CLOSURE**

DRAWN BY:	ORC	APPROVED BY:	RDS	PROJ. NO.:	631232565	DATE:	APRIL 2018
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