



# Annual Inspection Report Tecumseh Energy Center Bottom Ash Surface Impoundments

Prepared for:

Westar Energy

Tecumseh Energy Center

Tecumseh, Kansas

Prepared by:

CB&I Environmental & Infrastructure, Inc.

January 2017



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## CCR Regulatory Requirements

USEPA CCR Rule Criteria 40 CFR §257.83	Tecumseh Energy Center (TEC) Annual Inspection Report
<p>§257.83(b)(1)(i) stipulates:</p> <p><i>“(b) Annual inspections by a qualified professional engineer. (1) If the existing or new CCR surface impoundment or any lateral expansion of the CCR surface impoundment is subject to the periodic structural stability assessment requirements under §257.73(d) or §257.74(d), the CCR unit must additionally be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:</i></p> <p><i>(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information required by §§257.73(c)(1) and 257.74(c)(1), previous periodic structural stability assessments required under §§257.73(d) and 257.74(d), the results of inspections by a qualified person, and results of previous annual inspections);”</i></p>	<p>Section 3.0</p>
<p>§257.83(b)(1)(ii) stipulates:</p> <p><i>“(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures;”</i></p>	<p>Section 4.1</p>



USEPA CCR Rule Criteria 40 CFR §257.83	Tecumseh Energy Center (TEC) Annual Inspection Report
<p>§257.83(b)(1)(iii) stipulates:</p> <p><i>“(iii) A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation.”</i></p>	<p>Section 4.2</p>
<p>§257.83(b)(2)(i) stipulates:</p> <p><i>“(2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:</i></p> <p><i>(i) Any changes in geometry of the impounding structure since the previous annual inspection;”</i></p>	<p>Section 5.1</p>
<p>§257.83(b)(2)(ii) stipulates:</p> <p><i>“(ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;”</i></p>	<p>Section 5.2</p>
<p>§257.83(b)(2)(iii) stipulates:</p> <p><i>“(iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;”</i></p>	<p>Section 5.3</p>



USEPA CCR Rule Criteria 40 CFR §257.83	Tecumseh Energy Center (TEC) Annual Inspection Report
<p>§257.83(b)(2)(iv) stipulates:</p> <p><i>“(iv) The storage capacity of the impounding structure at the time of the inspection;”</i></p>	<p>Section 5.4</p>
<p>§257.83(b)(2)(v) stipulates:</p> <p><i>“(v) The approximate volume of the impounded water and CCR at the time of the inspection;”</i></p>	<p>Section 5.5</p>
<p>§257.83(b)(2)(vi) stipulates:</p> <p><i>“(vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures;”</i></p>	<p>Section 5.6</p>
<p>§257.83(b)(2)(vii) stipulates:</p> <p><i>“(vii) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.”</i></p>	<p>Section 5.7</p>



USEPA CCR Rule Criteria 40 CFR §257.83	Tecumseh Energy Center (TEC) Annual Inspection Report
<p>§257.83(b)(4) stipulates:</p> <p><i>“(4) Frequency of inspections. (i) Except as provided for in paragraph (b)(4)(ii) of this section, the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility’s operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility’s operating record as required by §257.105(g)(6).”</i></p>	<p>Section 1.0</p>
<p>§257.83(b)(5) stipulates:</p> <p><i>“(5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.”</i></p>	<p>Section 6.0</p>
<p>§257.83(c) stipulates:</p> <p><i>“(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in §257.105(g), the notification requirements specified in §257.106(g), and the internet requirements specified in §257.107(g).”</i></p>	<p>Section 7.0</p>



## 1.0 INTRODUCTION

CB&I Environmental and Infrastructure, Inc. (CB&I) has prepared the following Annual Inspection Report (Report) at the request of Westar Energy (Westar) for the Surface Impoundment (Surface Impoundment) located at the Tecumseh Energy Center (TEC) in Tecumseh, Kansas. TEC is a coal-fired power plant that has been in operation since 1925. The Surface Impoundment has been deemed to be a regulated coal combustion residue (CCR) unit 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.

In support of compliance to the CCR Rule, Mr. Richard Southorn (a qualified professional engineer with CB&I) conducted an annual site inspection of the Surface Impoundment on November 28<sup>th</sup> 2016. Prior to inspection, CB&I personnel reviewed the relevant portions of the facility's operating record and first annual inspection report in relation to this Report, under the direct supervision of Mr. Southorn. This Report meets the requirements set forth within 40 CFR §257.83(b)(1) and (b)(2) based on the review of available information and visual observation, to evaluate if the design, construction, operation, and maintenance of the Surface Impoundment is consistent with good engineering standards. The annual landfill inspection has been conducted and completed in compliance with the frequency of inspection timeframe set forth in §257.83(b)(4).

## 2.0 TEC SURFACE IMPOUNDMENT OVERVIEW

Westar owns and operates a surface impoundment system at TEC near Tecumseh, Shawnee County, Kansas. TEC is located approximately 6.5 miles east of Topeka, Kansas and approximately 2 miles north of Highway 70 and resides in Sections 31, Township 11 South, and Range 17 East. The location of the surface impoundment is depicted as Area 1 in **Figure 1**.

The Area 1 is located due west of the TEC power plant. Area 1 is comprised of two ponds: the North Pond is the northernmost pond and the South Pond is the southernmost pond. The Area 1 is approximately 4.0 acres. A perimeter berm surrounds the North and South Ponds. The interior slope of the North and South ponds varies from 1H:1V to a shallow slope along the eastern side slope. The top elevation of Area 1 varies between approximate 884 to 886 feet mean sea level (ft MSL). The north and west berms slope towards Tecumseh Creek. The perimeter berm prevents overland flow of stormwater into the North and South Pond of Area 1. Existing site topography is depicted in **Figure 2**.

The North Pond and South Pond are separated by a stabilized berm. Process water, bottom ash slurry, and stormwater are pumped to the ponds from the Cinder Pit and the process facility. A diversion structure is utilized so that one pond can be filled while the other is dewatered and dredged of CCR material. A weir structure is positioned between the two ponds, allowing water to access the discharge pipe, as needed. As the ponds fill with contact water, a 12-inch pipe conveys water from both ponds to the clear pond across Tecumseh Creek. Water discharges into Tecumseh Creek once it passes through the clear pond.



### 3.0 REVIEW OF AVAILABLE INFORMATION

Prior to the on-site inspection, Mr. Southorn reviewed the available information for the Surface Impoundments as provided by Westar:

- Kansas Department of Health and Environment – Bureau of Waste Management (KDHE-BWM) Industrial Landfill Permit No. 0322, October 15, 2015.
- Tecumseh Energy Center Weekly Inspection Reports, October 2015 through November 2016.
- Initial Annual CCR Surface Impoundment PE Inspection, Area 1 Pond, Haley & Aldrich, Inc., January 2016.
- Initial Periodic Structural Stability Assessment, Area 1 Pond, Haley & Aldrich, Inc., September 2016.

Mr. Southorn verified the available information during the on-site inspection on November 28<sup>th</sup> 2016.

### 3.1 Summary of Weekly Inspection Reports

All weekly inspections at the Surface Impoundments were reviewed. Minor erosion and sloughing have been documented and resolved throughout the following year. Routine maintenance of vegetation along the Surface Impoundments side slopes have been documented throughout the year. There were no other deficiencies or malfunctions noted throughout the year.

### 3.2 Summary of Previous Annual Inspection Report

Based on a review of the 2015 annual inspection report, it was determined that the following deficiencies were observed:

- A low spot in the berm crest in the southwest corner of the South Pond.
- Animal burrows observed along the perimeter berm of both ponds.
- Overgrown vegetation along the west and south downstream slopes.
- Erosion caused by a vehicle at the toe of the west berm.
- Minor erosion on the downstream slope at the junction between the west and south berms.
- Sloughing observed on the south downstream slope caused by erosion of the drainage ditch on the north side of SE 2<sup>nd</sup> Street.

The following remedial actions to resolve these deficiencies have been completed throughout the year:

- Animal burrows are monitored throughout the year.



- ❑ Vegetation on slopes have been cut and maintained to an appropriate height.
- ❑ Vegetation has been re-established to stabilize sloughing and erosion on west and south downstream slopes.

Following the 2015 annual inspection, the Surface Impoundments has been properly maintained and operated in conjunction with the facility operating procedures to continue safe and reliable operation.

#### **4.0 INSPECTION SUMMARY**

During the on-site inspection, Mr. Southorn focused on standard geotechnical signs of distress or malfunction of the CCR unit. Condition and design of the hydraulic and appurtenant structures passing through the perimeter berm was also assessed. The inspection focused on slumping at the toe of slopes, tensile cracking, abnormal or excessive erosion on the side slopes and drainage channels, groundwater/surface water seepage, and conveyance structure function and design. These visual signs are potential indicators of structural weakness or malfunction at the CCR Impoundment.

##### **4.1 Visual Signs of Distress or Malfunction**

During the on-site inspection, slope appearance, slope stability, and overall site conditions were assessed. A low spot was not apparent in the berm crest in the southwest corner of the South Pond as previously reported. No erosion or sloughing was observed along the outside of the Surface Impoundments perimeter berm, with the exception of the base of slope along SE 2<sup>nd</sup> Street within the drainage ditch. This drainage ditch is incising its channels and should be stabilized. Minor erosion was present on the inside slopes of the impoundment, but is not presenting as a stability concern. No animal burrows were observed.

##### **4.2 Review of Hydraulic Structures**

With no evidence to the contrary, the hydraulic structures at the Surface Impoundments are believed to be in good operating condition and functioning as intended. At the time of inspection, stormwater conveyance systems such as the diversion structure, weir structure, and conveyance pipe were operating as designed. No obstructions to flow were observed.

#### **5.0 CONCLUSIONS**

Based on a review of the available facility information and on-site inspection, the following conclusions were developed.

##### **5.1 Changes in Geometry**

Topographic information from the 2015 Annual Landfill Inspection Report and the latest survey conducted in June 2016 was utilized to determine changes in geometry of the impounding structure at the Surface Impoundment. It was determined that no changes have occurred to the impounding structure.



## **5.2 Instrumentation Readings**

No instrumentation associated with the hydraulic structures, impoundment embankments, or slope performance has been installed at the Surface Impoundments. A piezometer is installed on the crest of the west berm surrounding the Surface Impoundments. Historical documentation has not been provided, thus a maximum piezometer reading is not applicable.

## **5.3 Impounded Water and CCR Depths and Elevations**

At the time of inspection, the impounded water elevation at the South Pond was approximately 882 feet mean sea level (MSL). The North Pond was dry at this time. According to the previous annual inspection report, the lowest point in the North and South Ponds is estimated to be 877 feet MSL because bathymetric data is not available. As a result, the average water depth of the impoundments is visually estimated to be 5 feet. Maximum and minimum depths of impounded water since the previous annual inspection have not deviated from the initial depths.

CCR depths vary within the Surface Impoundments due to the continual deposit, dewatering, and dredging of CCR materials. Maximum and minimum depths of CCR since the previous annual inspection have not deviated from the initial depths.

## **5.4 Remaining Storage Capacity**

The remaining CCR material storage capacity within the Surface Impoundment was calculated by determining the volume between the most recent survey, conducted in June 2016, and the minimum elevation of the perimeter berm. The remaining storage capacity within the Surface Impoundment changes due to the continued cycling of the water between the North and South ponds. At the time of the annual inspection the approximate capacity of the ponds is 3,951 cubic yards (cy).

## **5.5 Impounded Water and CCR Volumes**

The impounded water volume within the Surface Impoundment was calculated by determining the volume between the most recent survey, conducted in April 2016, and the impounded water elevation observed during the site inspection. The impounded water volume within the Surface Impoundment is approximately 8,067 cy.

The CCR material volume within the Surface Impoundment could not be accurately calculated due to the continual inflow of material, periodic cycling between the North and South Ponds, and dewatering and dredging processes.

## **5.6 Structural Weakness and Disrupting Conditions**

At the time of this inspection, there were no significant signs of distress or malfunction that would indicate actual or potential structural weakness at the Surface Impoundments. Minor observations include the channel incising of the SE 2<sup>nd</sup> Street drainage channel, which should be stabilized. There was no indication that existing conditions at the Surface Impoundments have disrupted or have the potential to disrupt safety or operations. Weekly inspections are utilized to document any signs of distress, malfunction, or disruption and resolve the issues immediately.



## 5.7 Changes Affecting Stability and Operations

There have been no changes to the Surface Impoundments that pose a threat or concern to the stability of the perimeter berm. Operations and maintenance have not deviated from the original designed plan.

## 6.0 RECOMMENDATIONS

Based on the on-site inspection performed on November 28<sup>th</sup>, 2016, CB&I recommend the following actions:

- Install rip-rap at the base of the drainage ditch of SE 2<sup>nd</sup> Street to minimize the potential for erosion or sloughing.
- Continue to monitor erosion controls and vegetative cover in line with the weekly inspections.
- Continue proper management of the inflow control system and outlet structure.
- Continue to monitor all conveyance features for signs of erosion, damage, obstructions, or malfunction in line with the weekly inspections.



## 7.0 RECORDS RETENTION AND MAINTENANCE

### 7.1 Incorporation of Plan into Operating Record

§257.105(g) of 40 CFR Part §257 provides record keeping requirements to ensure that this Plan will be placed in the facility's operating record. Specifically, §257.105(g) stipulates:

*§257.105(g): "(g) Operating criteria. The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record: (6) The periodic inspection report as required by §257.83(b)(2)."*

This Report will be placed within the Facility Operating Record upon Westar's review and approval.

### 7.2 Notification Requirements

§257.106(g) of 40 CFR Part §257 provides guidelines for the notification of the availability of the initial and periodic plan. Specifically, §257.106(g) stipulates:

*§257.106(g): (g) Operating criteria. The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must: (5) Provide notification of the availability of the periodic inspection reports specified under §257.105(g)(6)."*

The State Director and appropriate Tribal Authority will be notified upon placement of this Plan in the Facility Operating Record.

§257.107(g) of 40 CFR Part §257 provides publicly accessible Internet site requirements to ensure that this Plan is accessible through the Westar Energy webpage. Specifically, §257.107(g) stipulates:

*§257.107(g): (g) Operating criteria. The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site: (5) The periodic inspection reports specified under §257.105(g)(6)."*

This Plan will be uploaded to Westar Energy's CCR Compliance reporting Website upon Westar's review and approval.



## 8.0 PROFESSIONAL ENGINEER CERTIFICATION

The undersigned registered professional engineer is familiar with the requirements of the CCR Rule and has visited and examined the Tecumseh Energy Center or has supervised examination of the Tecumseh Energy Center by appropriately qualified personnel. I hereby certify based on a review of available information within the facility's operating records and observations from my personal on-site inspection (including the photographs contained in **Appendix A**), that the Bottom Ash Surface Impoundments does not exhibit any appearances of actual/potential structural weakness that would be disruptive to the normal operations of the Tecumseh Energy Center CCR Unit. The unit is being operated and maintained consistent with recognized and generally accepted good engineering standards and practices. This certification was prepared as required by 40 CFR Part §257.83(b).

Name of Professional Engineer: Richard Southorn

Company: CB&I

Signature: 

Date: Jan 12, 2017

PE Registration State: Kansas

PE Registration Number: PE25201

Professional Engineer Seal:

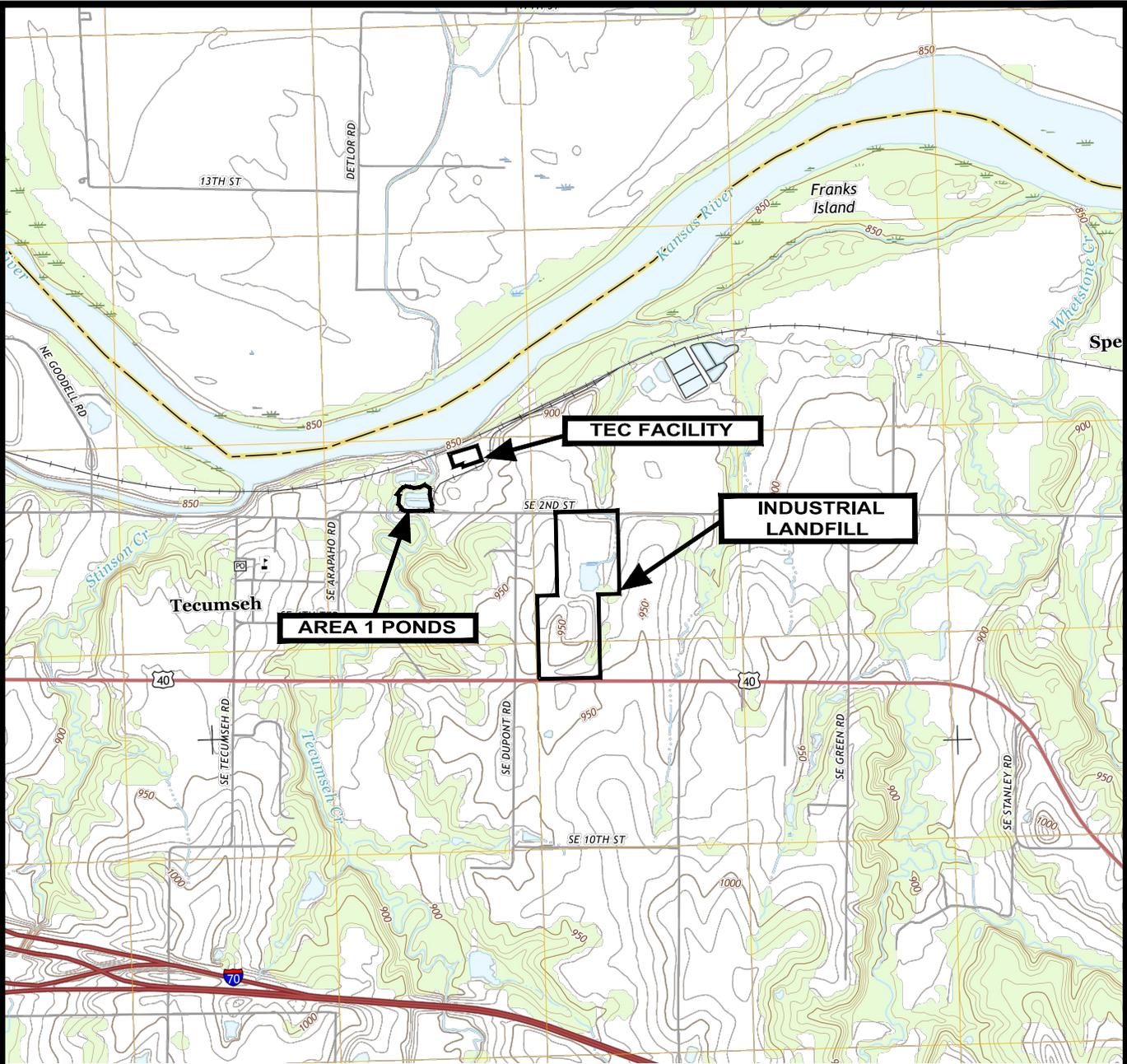


# FIGURES

Figure 1 - Area 1 Surface Impoundment,  
Site Location Plan

Figure 2 - Area 1 Surface Impoundment,  
Existing Site Topography

Figure 3 - Area 1 Surface Impoundment,  
Photo Log Plan View



**LEGEND**

— APPROXIMATE CCR UNIT BOUNDARY

**NOTES**

1. AERIAL TOPO OBTAINED FROM USGS 7.5-MINUTE SERIES, GRANTVILLE QUADRANGLE, KANSAS, 2014.
2. ALL BOUNDARIES ARE APPROXIMATE



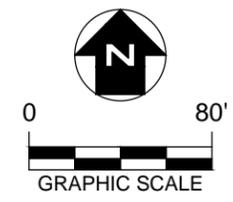
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**TECUMSEH ENERGY CENTER  
5636 SE 2nd St., TECUMSEH, KS**

**FIGURE 1  
AREA 1 SURFACE IMPOUNDMENT  
SITE LOCATION PLAN**

APPROVED BY: RDS	PROJ. NO.: 631214397	DATE: JANUARY 2017
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**LEGEND**

- CCR UNIT BOUNDARY
- - - - - POND BOUNDARY

**NOTES**

1. EXISTING CONTOURS DEVELOPED BY PROFESSIONAL ENGINEERING CONSULTANTS IN JUNE 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ALL BOUNDARIES SHOWN ARE APPROXIMATE.

REV. NO.	DATE	DESCRIPTION

**CB&I Environmental & Infrastructure, Inc.**

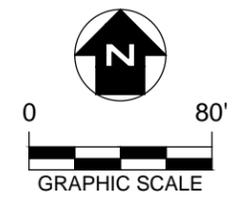
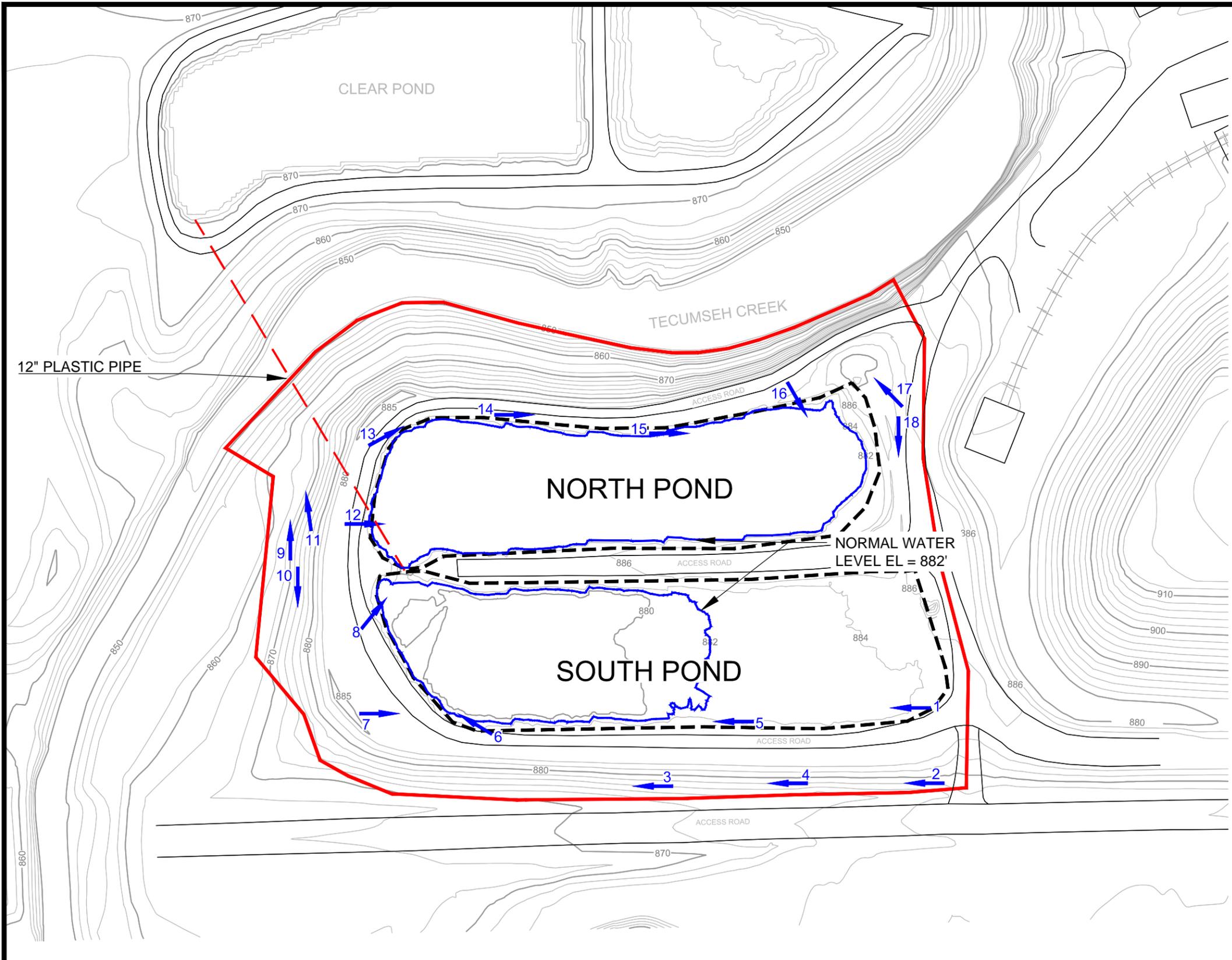
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**FIGURE 2  
AREA 1 SURFACE IMPOUNDMENT  
EXISTING SITE TOPOGRAPHY**

DRAWN BY:	NV	APPROVED BY:	RDS	PROJ. NO.:	631214397	DATE:	JANUARY 2017
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**LEGEND**

- CCR UNIT BOUNDARY
- - - POND BOUNDARY
- NORMAL WATER ELEVATION
- - - STORMWATER CONVEYANCE FEATURE

**NOTES**

1. EXISTING CONTOURS DEVELOPED BY PROFESSIONAL ENGINEERING CONSULTANTS IN JUNE 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ALL BOUNDARIES SHOWN ARE APPROXIMATE.
4. REFER TO APPENDIX A FOR PHOTOGRAPHIC DOCUMENTATION.

REV. NO.	DATE	DESCRIPTION



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**TECUMSEH ENERGY CENTER**  
**5636 SE 2nd ST., TECUMSEH, KANSAS**

**FIGURE 3**  
**AREA 1 SURFACE IMPOUNDMENT**  
**PHOTO LOG PLAN VIEW**

DRAWN BY:	NV	APPROVED BY:	RDS	PROJ. NO.:	631214397	DATE:	JANUARY 2017
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# APPENDIX A

## Annual Inspection Photo Log





<p><b>Photograph No. 1</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> West</p>	
<p><b>Description:</b> Overview of South Pond. Minor erosion gullies on inside slope, but is not causing malfunction or impacting stability.</p>	

<p><b>Photograph No. 2</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> West</p>	
<p><b>Description:</b> South berm of South Pond along SE 2<sup>nd</sup> St. Steep slopes. Vegetation appears to have improved since 2015 inspection. Drainage channel at toe appears to be incising into berm.</p>	



<p><b>Photograph No. 3</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> West</p>	
<p><b>Description:</b> South berm of South Pond along SE 2<sup>nd</sup> St. Steep slopes. Vegetation appears to have improved since 2015 inspection. Drainage channel at toe appears to be incising into berm.</p>	

<p><b>Photograph No. 4</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> West</p>	
<p><b>Description:</b> Observing the drainage channel along toe of slope of south berm. Evidence of erosion along drainageway.</p>	



<p><b>Photograph No. 5</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> West</p>	
<p><b>Description:</b> Observing the South Pond. Minor erosion gullies on inside slope, but is not causing malfunction or impacting stability.</p>	

<p><b>Photograph No. 6</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> Northwest</p>	
<p><b>Description:</b> Observing area of erosion at southwestern corner of the South Pond. Does not impact stability.</p>	



<p><b>Photograph No. 7</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> East</p>	
<p><b>Description:</b> Observing the previously identified “low spot” in 2015 report. The depression is nominal and does not present concern.</p>	

<p><b>Photograph No. 8</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> Northeast</p>	
<p><b>Description:</b> Observing the weir flow control system between the north and south ponds. Structure is clear of obstructions and free-flowing.</p>	



<p><b>Photograph No. 9</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> North</p>	
<p><b>Description:</b> Observing the west slope. Vegetation is well established and maintained. No evidence of slope stability concerns or erosion despite steep slopes.</p>	

<p><b>Photograph No. 10</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> South</p>	
<p><b>Description:</b> Observing the west slope. Vegetation is well established and maintained. No evidence of slope stability concerns or erosion despite steep slopes.</p>	



<p><b>Photograph No. 11</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> North</p>	
<p><b>Description:</b> Observing the west slope. Vegetation is well established and maintained. No evidence of slope stability concerns or erosion despite steep slopes.</p>	

<p><b>Photograph No. 12</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> East</p>	
<p><b>Description:</b> Observing the North Pond interior.</p>	



<p><b>Photograph No. 13</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> Northeast</p>	
<p><b>Description:</b> Observing the North Pond interior. Minor erosion gullies on inside slope, but is not causing malfunction or impacting stability.</p>	

<p><b>Photograph No. 14</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> East</p>	
<p><b>Description:</b> Observing the North Pond interior. Minor erosion gullies on inside slope, but is not causing malfunction or impacting stability.</p>	



<p><b>Photograph No. 15</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> East</p>	
<p><b>Description:</b> Observing the North Pond interior. Minor erosion gullies on inside slope, but is not causing malfunction or impacting stability.</p>	

<p><b>Photograph No. 16</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> Southeast</p>	
<p><b>Description:</b> Observing process water within North Pond.</p>	



<p><b>Photograph No. 17</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> Northwest</p>	
<p><b>Description:</b> Process water discharge point into flume that feeds ponds. No evidence of erosion or malfunction. The closed culvert on left travels to north pond when open. Trough flows to south pond.</p>	

<p><b>Photograph No. 18</b></p> <p><b>Date:</b> November 28, 2016</p> <p><b>Direction:</b> South</p>	
<p><b>Description:</b> Observing trough flow to South Pond. No apparent obstructions or malfunctions observed.</p>	