2023 VISUAL SITE INSPECTION
AES INDIANA PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
SOLID WASTE FACILITY PERMIT N0. FP63-02

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA 47567

ATLAS PROJECT NO. 170LF01508

December 2023

PREPARED FOR:

AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA 47567

ATTENTION: MR. JEFF HARTER

Atlas Technical Consultants

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Indianapolis, IN 46256

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December 21, 2023

Mr. Jeff Harter
Team Leader
AES Indiana
6925 North State Road 57
Petersburg, Indiana 47567-0436

Re: 2023 Visual Site Inspection
Petersburg Restricted Waste Landfill
Solid Waste Facility Permit No. FP 63-02
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATLAS Project No. 170LF01508

Dear Mr. Harter:

Atlas Technical Consultants is pleased to present the findings of the November 6, 2023 Visual Site Inspection of the AES Indiana Petersburg Generating Station Type III Restricted Waste Landfill. This visual inspection and report were done in accordance with guidelines established by the Coal Combustion Residuals (CCR) Rule published by the Environmental Protection Agency (EPA) on April 17, 2015.

The scope of this inspection was limited to an examination of readily observable surficial features of the landfill and its appurtenant structures, and a review of information that you provided. Please note that the inspection did not include any test drilling, testing of materials, precise physical measurements of landfill features, detailed calculations to verify slope stability, or other engineering analyses. Although the inspection was conducted by competent personnel in accordance with generally accepted methods for inspecting landfills, it should not be considered as a warranty or guaranty of the future performance/safety of the landfill.

The AES Indiana Petersburg Generating Station Type III Restricted Waste Landfill is located about four (4) miles north of the City of Petersburg in Pike County, Indiana west of State Road 57 (Figure 1). The landfill encompasses an area of approximately 122.1 acres inside the Solid Waste Boundary (Figure 2). The Petersburg Type III RWS Landfill operates under Indiana Department of Environmental Management (IDEM) Permit Number 63-2.

The landfill inspection was completed by Juan Carrizo of Atlas, accompanied by Braden Henson of AES Indiana. The weather conditions during the inspection were between 63°F and 78°F and sunny.

Contained herein is a summary of the engineering observations of the landfill including the condition of the cover soils, grading and erosion, vegetation, haul roads, perimeter ditches, downdrain channels, riprap areas, culverts, and other adjacent structures. The landfill system features are highlighted on the attached Site Plan shown in Figure 3 of this report.

The 2023 annual inspection was performed to address the standards and guidelines required by the CCR Rule instituted by the Environmental Protection Agency on April 17, 2015. As a result, CCR Landfills are now required to meet the requirements of 40 C.F.R. §257 to conduct annual inspections of the landfill in accordance with 40 C.F.R. §257.84(b). Listed below are requirements specified within the CCR Rule and the observations made by Juan Carrizo during the annual inspection:

i. Any changes in geometry of the structure since the previous annual inspection.
ii. The approximate volume of CCR contained in the unit at the time of inspection.
iii. Any appearances of an actual or potential structural weakness of the CCR unit.
iv. Any other change (s) which may have affected the stability or operation of the CCR Unit since the last annual inspection.

Changes in Structural Geometry

There were no observed geometry changes during the 2023 Petersburg visual landfill inspection. Waste placement has paused at the landfill and all areas are under final or intermediate cover. Engineering observations were grouped into two inspection zones shown in Figure 3, 2022 Visual Site Inspection Grid Map.

The zone descriptions, observations, and recommendations are as follows:

Zone A Partial Closure Area – North and West Side-slopes

A 33.8-acre area on the northern and western slopes of the landfill have received partial closure certification from the Indiana Department of Environmental Management (IDEM). In general, this area has a good soil cover and is well-vegetated. Since the time of the 2021 inspection, additional improvements have been made to fill in ruts and over-seed sparsely vegetated areas.

1. Good vegetation exists overall in most of the north and west side partial closure areas other than some bare spots observed. (e.g., Photo ID 12, 13, 15 and 16).
    - Recommendation: Repair the soil cover and overseed these areas to establish a protective grass cover.
2. Erosion of side slope observed on the southwest side of the landfill (Photo ID 17).
    - Recommendation: Replace eroded soil cover and overseed the area to establish a protective grass cover.

3. Animal burrow observed on the north side slope of the landfill (Photo ID 14).
    - Recommendation: Fill in and repair the soil cover and overseed the area to establish a protective grass cover.

Zone B Intermediate Cover Area – Top East and South Side slopes

In 2017, a soil cover was applied to the top, east, and south side slopes of the landfill, and new vegetation was established. Terrace and riprap down chute channels were added or improved to accommodate the addition of the new soil and vegetative cover.

1. Good vegetation exists along much of the south end of the landfill, the top of landfill, and the east slope other than a few bare spots. (Photo ID 10).
    - Recommendation: Repair the soil cover and overseed these areas to establish a protective grass cover.
2. Overgrown vegetation observed on riprap channel section located on the northeast side of the landfill (Photo ID 9).
    - Recommendation: Trim and remove the overgrown vegetation to maintain channel flow capacity.
3. Small rills were observed on the east side of the landfill (Photo ID 7).
    - Recommendation: Repair the soil cover and overseed the area to establish a protective grass cover.

CCR Volume

There is a 43-acre expansion area east of the existing landfill which has been approved as a Type I landfill, this area has not been developed at this time. Currently, landfill operations have been confined to the original landfill footprint and waste placement has been paused.

Based on AES surveying information, there is approximately 7,043,808 cubic yards of CCR material placed in the landfill unit.

Structural Integrity

All landfill slopes appear to be stable with no visual indications or signs of sloughing or subsidence detected during the 2023 visual inspection.

Stability and Operation

The landfill is generally in good condition and well vegetated in most places. Minor cover and waste erosion were noted and should be repaired at the earliest opportunity. Operation of the landfill unit is not expected to be adversely affected by any items detected during the 2023 inspection.

We appreciate the opportunity to assist you with this project. If you have any questions concerning any information contained in this report, please do not hesitate to call the undersigned at 317.849.4990.

Sincerely,

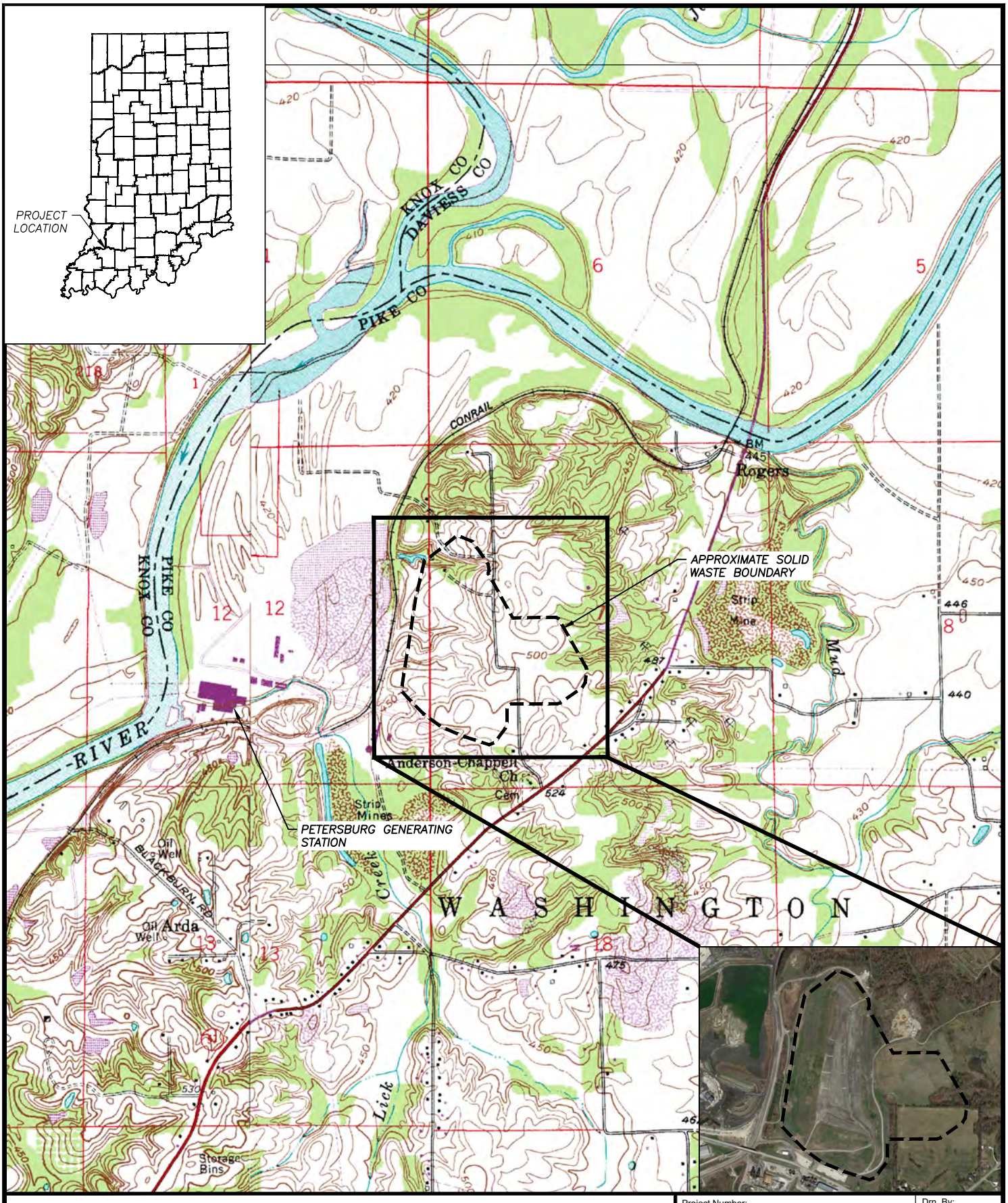
Atlas Technical Consultants L.L.C.

Juan Carrizo, P.E.
Senior Project Engineer

Sendhil Kumar, P.E.
Principal Engineer

Copies: Jeff Harter (1)
Braden Henson (1)

Attachments:
Figure 1 Vicinity Map
Figure 2 CCR Disposal Facilities
Figure 3 Visual Site Inspection Grid
Inspection Photo Log



VICINITY MAP

AES PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number: 170LF01508		Drn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: JC
Date: 12/21/2023	Scale: AS SHOWN	App'd By:
ATC		Figure: 1

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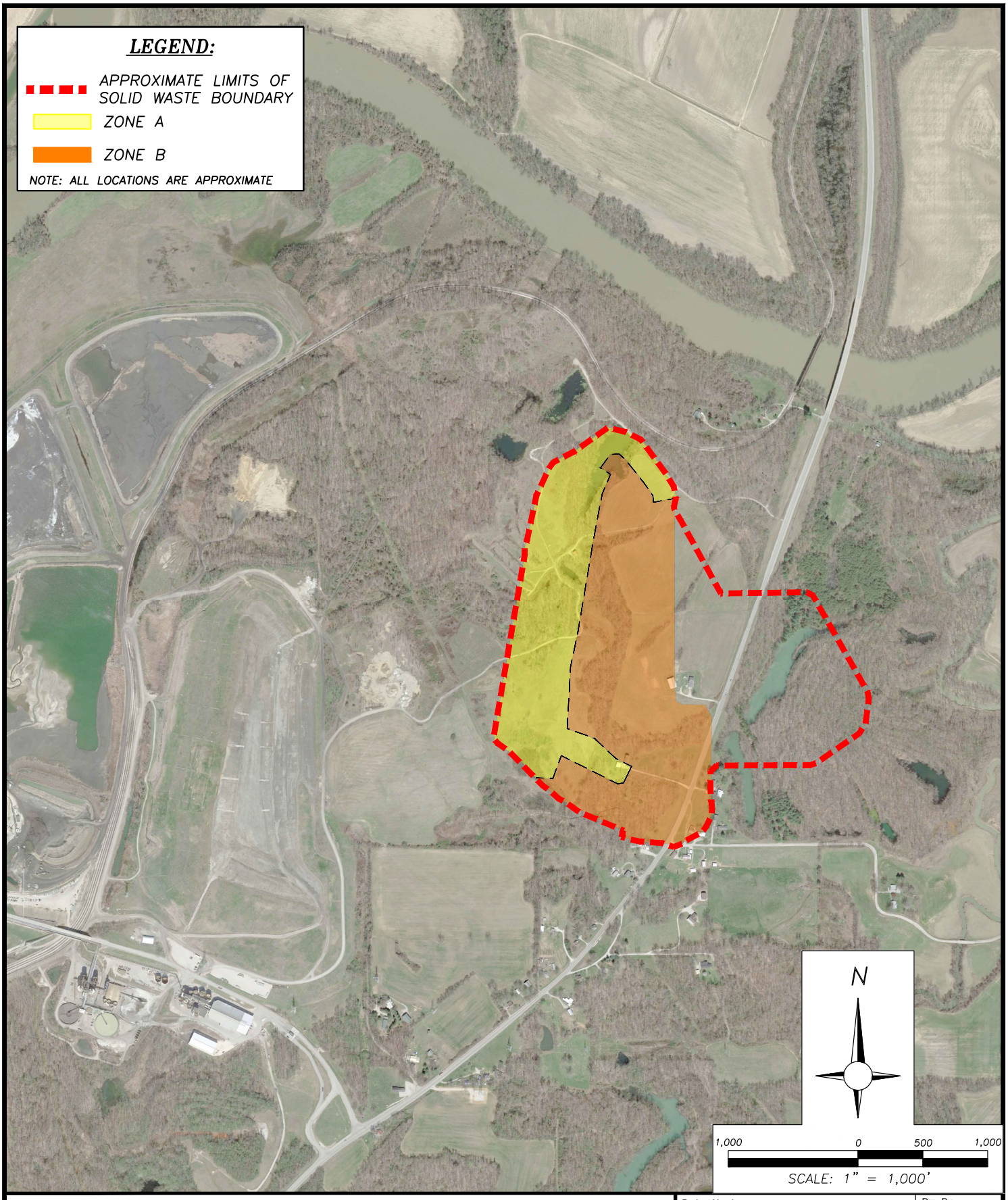

CCR DISPOSAL FACILITIES
CCR LANDFILL ANNUAL INSPECTION REPORT

AES PETERSBURG RESTRICTRED WASTE TYPE III LANDFILL
AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number: 170LF01508		Drn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: JC
Date: 12/21/2023	Scale: AS SHOWN	App'd By:
ATC		Figure: 2

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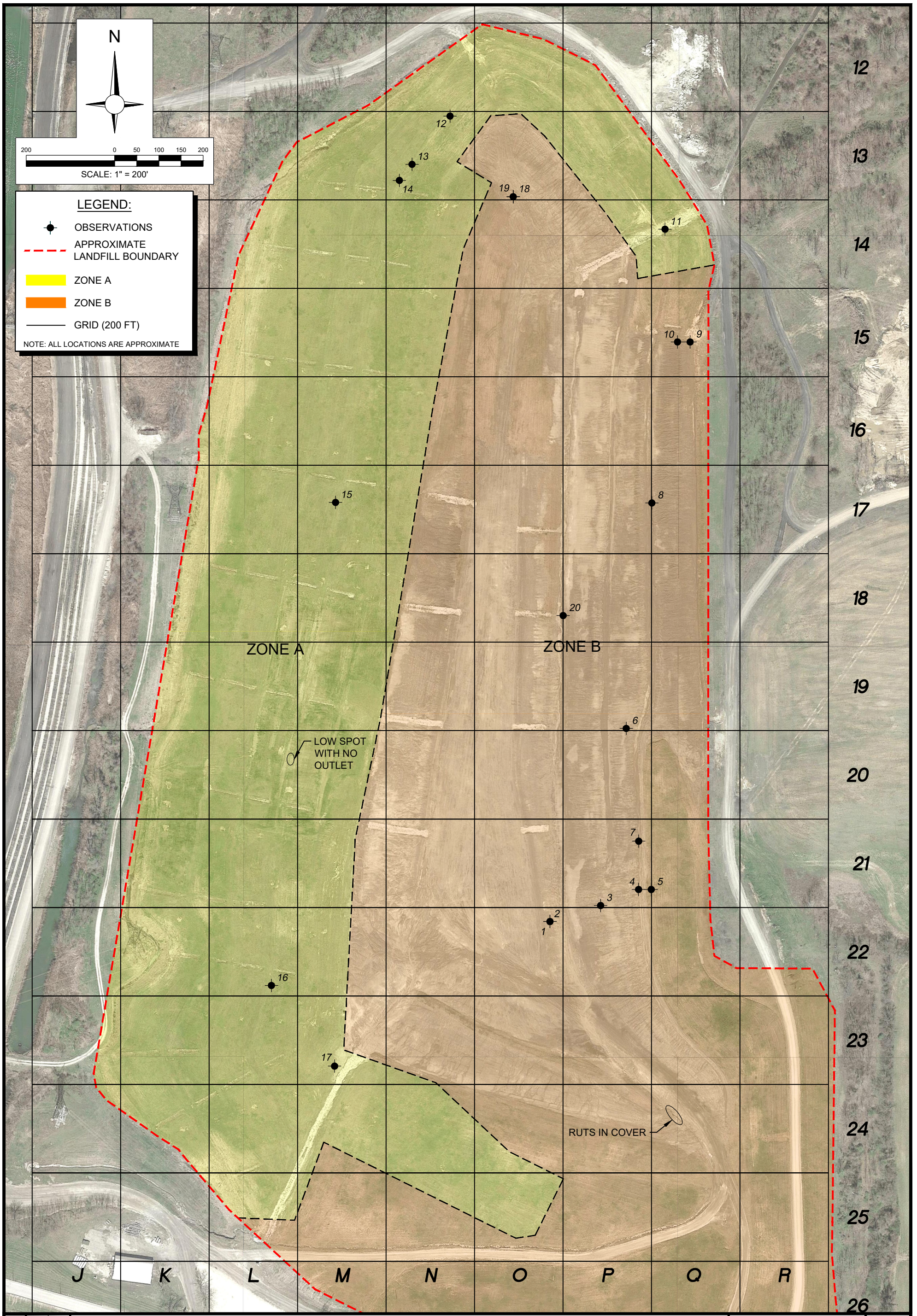

Figure: 3

Scale: AS SHOWN

Date: 12/21/2023

2023 VISUAL SITE INSPECTION GRID MAP

AES PETERSBURG RESTRICTED WASTE TYPE III LANDFILL

AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number: 170LF01508	Drn. By: BH
Drawing File: SEE LOWER LEFT	Ckd. By: JC
ATC	App'd By:
	Ckd. Date:

Grid ID	Photo ID
O-22	1

Date
November 6, 2023

Description:

Vegetation well established on the top slope of the landfill. No issues observed. Photo looking southeast.

Grid ID	Photo ID
O-22	2

Date
November 6, 2023

Description:

Vegetation well established on the east side of the landfill. Lower east slope. No issues observed. Photo looking north.

Grid ID	Photo ID
P-21	3

Date
November 6, 2023

Description:

Vegetation well established on the east side of the landfill.
No issues observed.
Photo looking north.

Grid ID	Photo ID
P-21	4

Date
November 6, 2023

Description:

Vegetation well established along the lower-east slope of the landfill.
No issues observed.
Photo looking north.

Grid ID	Photo ID
P-21	5

Date
November 6, 2023

Description:

Riprap and inlet looking good in the lower east slope section of the landfill.
No issues observed.
Photo looking west.

Grid ID	Photo ID
P-19	6

Date
November 6, 2023

Description:

Vegetation well established along the lower east slope of the landfill.
No issues observed.
Photo looking southeast.

Grid ID	Photo ID
P-21	7

Date
November 6, 2023

Description:

Erosion gully formed on the east side of the landfill.
Photo looking west.

Recommend repairing erosion gully and reseeding the area to re-establish grass cover and prevent erosion.

Grid ID	Photo ID
O-17	8

Date
November 6, 2023

Description:

Vegetation well established on the east side of the landfill.
No issues observed.
Photo looking north.

Grid ID	Photo ID
Q-15	9

Date
November 6, 2023

Description:

Overgrown vegetation within interceptor channel on northeast slope of the landfill. Photo looking north.

Removal of vegetation within riprap channel is recommended.

Grid ID	Photo ID
Q-15	10

Date
November 6, 2023

Description:

Bare spots on the northeast slope of the landfill. Photo looking northeast.

Recommend reseeding bare areas to prevent erosion.

Grid ID	Photo ID
Q-14	11

Date
November 6, 2023

Description:

The down-drain chute on the northeast slope of the landfill looks good.
No issues observed.
Photo looking southwest.

Grid ID	Photo ID
N-13	12

Date
November 6, 2023

Description:

Bare spots on side slope on the north side of the landfill.
Photo looking north.

Recommend reseeding bare spots.

Grid ID	**Photo ID**
N-13	13

Date
November 6, 2023

Description:

Bare spots on the north slope of the landfill. Photo looking northeast.

Recommend seeding bare areas.

Grid ID	**Photo ID**
N-13	14

Date
November 6, 2023

Description:

Animal burrow on the north side slope of the landfill.
Photo looking northwest.

Recommend repair and reseeding bare areas to prevent erosion.

Grid ID	**Photo ID**
M-17	15

Date
November 6, 2023

Description:

Bare spots on the west slope of the landfill. Photo looking south.

Recommend reseeding bare areas to maintain proper vegetation cover.

Grid ID	**Photo ID**
L-22	16

Date
November 6, 2023

Description:

Sparse vegetation and bare spot on the southeast side of the landfill. Photo looking northwest.

Recommend reseeding bare areas to prevent erosion.

Grid ID	Photo ID
M-23	17

Date
November 6, 2023

Description:

Erosion occurring along south slope has exposed underlying Poz-o-tec material. Photo looking north.

Install topsoil and re-seed bare spots to prevent erosion and maintain proper grass cover.

Grid ID	Photo ID
O-13	18

Date
November 6, 2023

Description:

Vegetation well established on top of the landfill.
No issues observed.
Photo looking south.

Grid ID	Photo ID
O-13	19

Date
November 6, 2023

Description:

Vegetation well established on top of the landfill.
No issues observed.
Photo looking east.

Grid ID	Photo ID
O-18	20

Date
November 6, 2023

Description:

Down drain on the east slope of the landfill.
No issues observed.
Photo looking west.