ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

2020 VISUAL SITE INSPECTION
IPL PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
SOLID WASTE FACILITY PERMIT N0. FP63-02

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

ATC PROJECT NO. 170LF00972

DECEMBER 18, 2020

PREPARED FOR:

INDIANAPOLIS POWER & LIGHT COMPANY
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA 47567

ATTENTION: MR. WIL TEAGUE

December 18, 2020

ATC Group Services / Atlas

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Indianapolis, IN 46256

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Mr. Wil Teague
Senior Scientist
Indianapolis Power and Light Company
6925 North State Road 57
Petersburg, Indiana 47567-0436

Re: 2020 Visual Site Inspection
IPL Petersburg Restricted Waste Landfill
Solid Waste Facility Permit No. FP 63-02
Indianapolis Power and Light Company
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF00972

Dear Mr. Teague:

ATC Group Services, an Atlas Company, is pleased to present the findings of the October 30, 2020 Visual Site Inspection of the IPL 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 landfill inspection was completed by Bill Paraskevas and Juan Carrizo of ATC Group Services (ATC). The weather conditions during the inspection were approximately 53°F and sunny. Contained herein is a summary of the engineering observations of the landfill including 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 Figures 2 and 3 of this report.

The IPL 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 2020 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 Bill Paraskevas and 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

Observed geometry changes during the 2020 Petersburg visual landfill inspection consisted mainly of small grading measures and vegetation improvements. Engineering observations were grouped into two inspection zones shown in Figure 3, 2020 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 2019 inspection, additional improvements have been made to fill in ruts and over-seed sparsely vegetated areas.

1. Good vegetation exists along the majority of the west and north slopes of the partial closure area.
2. The northeast corner of the landfill, there are areas with sparse vegetation and erosion rills and gullies, see grid locations O-13 and Q-14.

    - Recommendation: Install erosion control protection for this area such as erosion control mat to prevent further erosion. Overseed the bare soil cover area.

3. Along the western and southern side slope of the landfill, erosion rills and gullies were observed at locations as shown in grid M-18, M-23, M-24 and M-25.

- Recommendation: Repair the soil cover and install erosion control mats in areas affected by erosion rills and erosion cavities. Overseed these areas to establish a protective grass cover.

4. At the southwest corner of the landfill, erosion has occurred along the face of the slope, exposing underlying Poz-o-tec material, see grid locations M-23 and M-24.

    - Recommendation: Repair the soil cover and regrade areas of the slope where erosion has occurred. Install erosion control mat in exposed areas and overseed areas of sparse vegetation once soil cover has been repaired.

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

In 2017 a soil cover was applied to the top and east side slopes of the landfill and new vegetation was added. 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 the majority of the south end of the landfill, top of landfill and east slope, where new soil cover has been installed.

2. Overgrown weedy vegetation was observed at downdrain riprap chutes located in the middle section of the landfill, see grid locations N-17, and N-18.

    - Recommendation: Remove vegetation.

3. Erosion rills and tire rutting has occurred along the haul road on the south side of the landfill, see grid locations R-25.

    - Recommendation: place rock base material to support a gravel road and repair haul road.

4. On the east side of the landfill erosion rills and gullies were observed at certain locations as shown in grid P-21, P-20, Q-20, O-19, P-19, Q-19, O-18, O-17, Q-16, O-15, P-15, Q-15, 0-14, P-14, and P-13.

    - Recommendation: Repair the soil cover and install erosion control mats in areas affected by erosion rills and gullies. Overseed these areas to establish a protective grass cover.

5. Along the eastern and northern side slopes of the landfill there are areas of minor sparse vegetation cover as show in grid locations Q-15, P-14, and P-13.

    - Recommendation: Overseed these areas to establish a fuller 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 are limited to the original landfill footprint.

Based on IPL surveying information at the time of the inspection, 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 were detected during the 2020 visual inspection.

Stability and Operation

The landfill is generally in good condition and well vegetated in most places. No significant deficiencies were noted and operation of the landfill unit at this time is not expected to be adversely affected by any items detected during the 2020 visual inspection.

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

Sincerely,

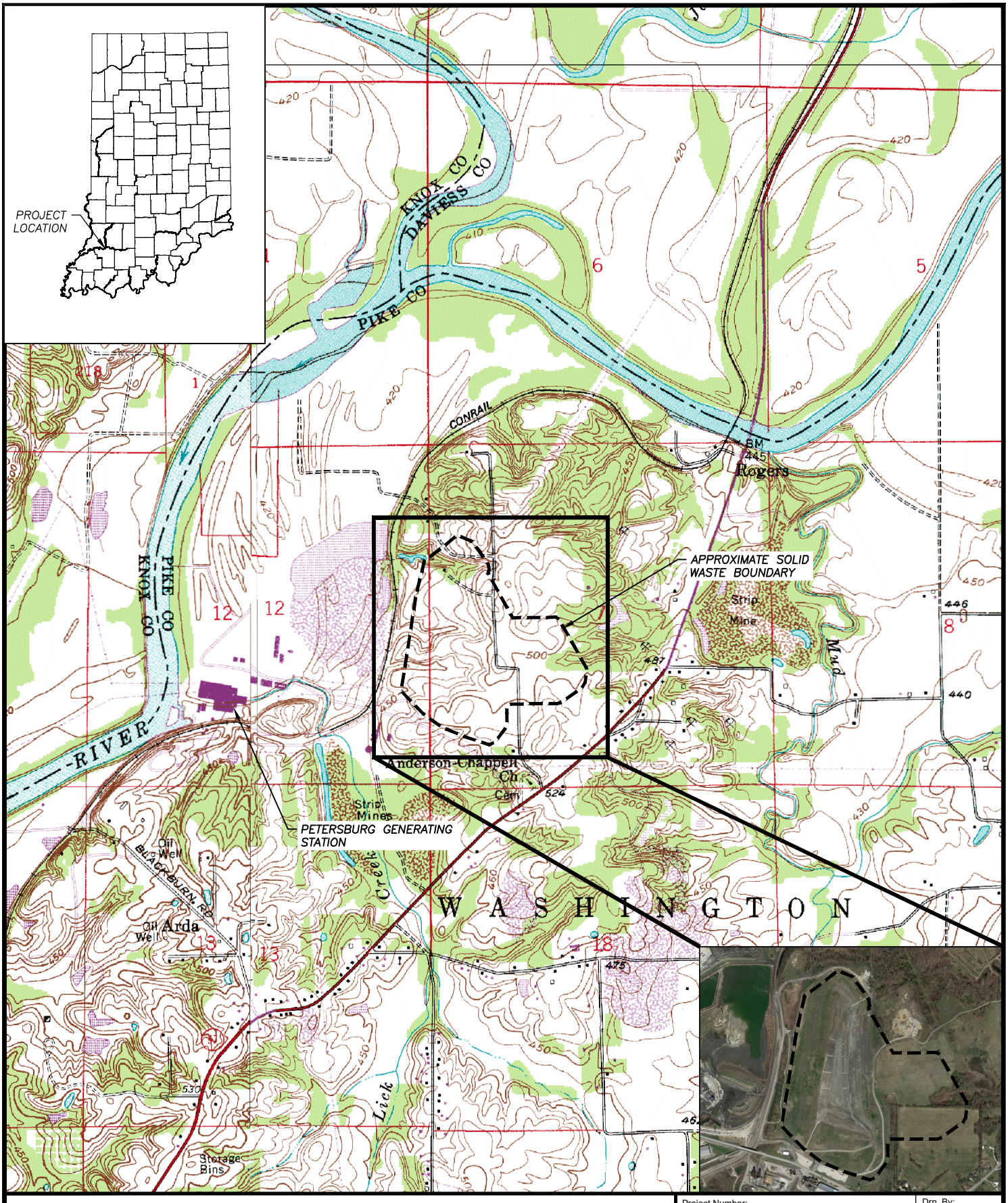
ATC Group Services LLC

Juan D. Carrizo, P.E., CFM, CPM
Senior Project Engineer

Bill Paraskevas, P.E.
Senior Project Manager

Copies: Wil Teague (1)
Erwin Leidolf (1)

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

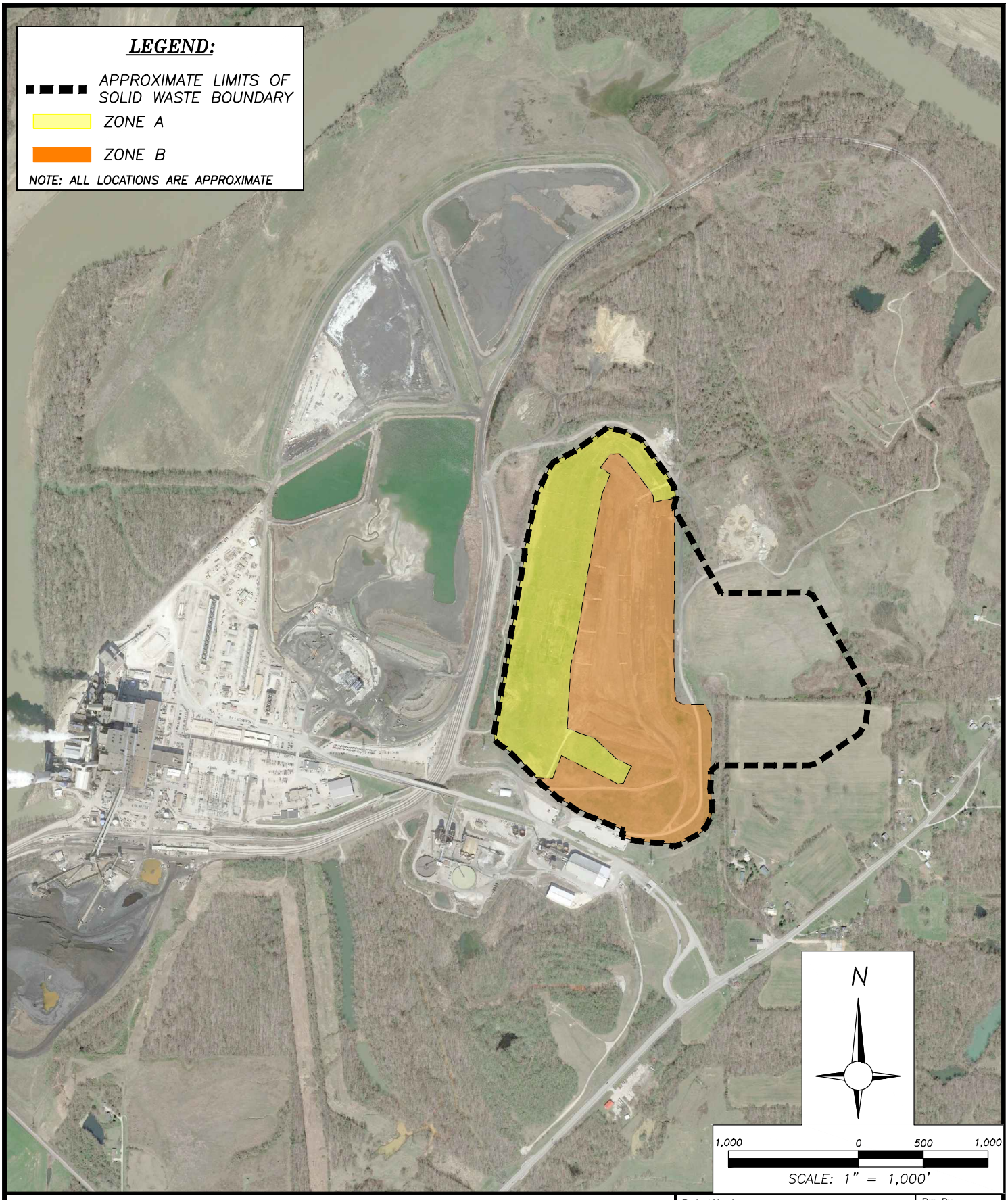


VICINITY MAP

IPL PETERSBURG ASH POND AMBANKMENTS
INDIANAPOLIS POWER AND LIGHT COMPANY
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number: 170LF00972		Drn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: JC
Date: 12/03/2020	Scale: AS SHOWN	App'd By:
ATC		Figure: 1

H:\2020\IPL\PETERSBURG\170LF00972\170LF00972-VIC LIMITS.DWG, FIG1



CCR DISPOSAL FACILITIES
CCR LANDFILL ANNUAL INSPECTION REPORT

IPL PETERSBURG RESTRICTRED WASTE TYPE III LANDFILL
INDIANAPOLIS POWER AND LIGHT COMPANY
6925 NORTH STATE RPAD 57
PETERSBURG, INDIANA

Project Number: 170LF00972		Drn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: JC
Date: 12/08/2020	Scale: AS SHOWN	App'd By:
ATC		Figure: 2

H:\2020\IPL\PETERSBURG\170LF00972\170LF00972-FACILITY.DWG, FIG2

H:\2020\IPL\PETERSBURG\170LF00972\170LF00972-2020 LANDFILL OBSERVATION.DWG, FIG3

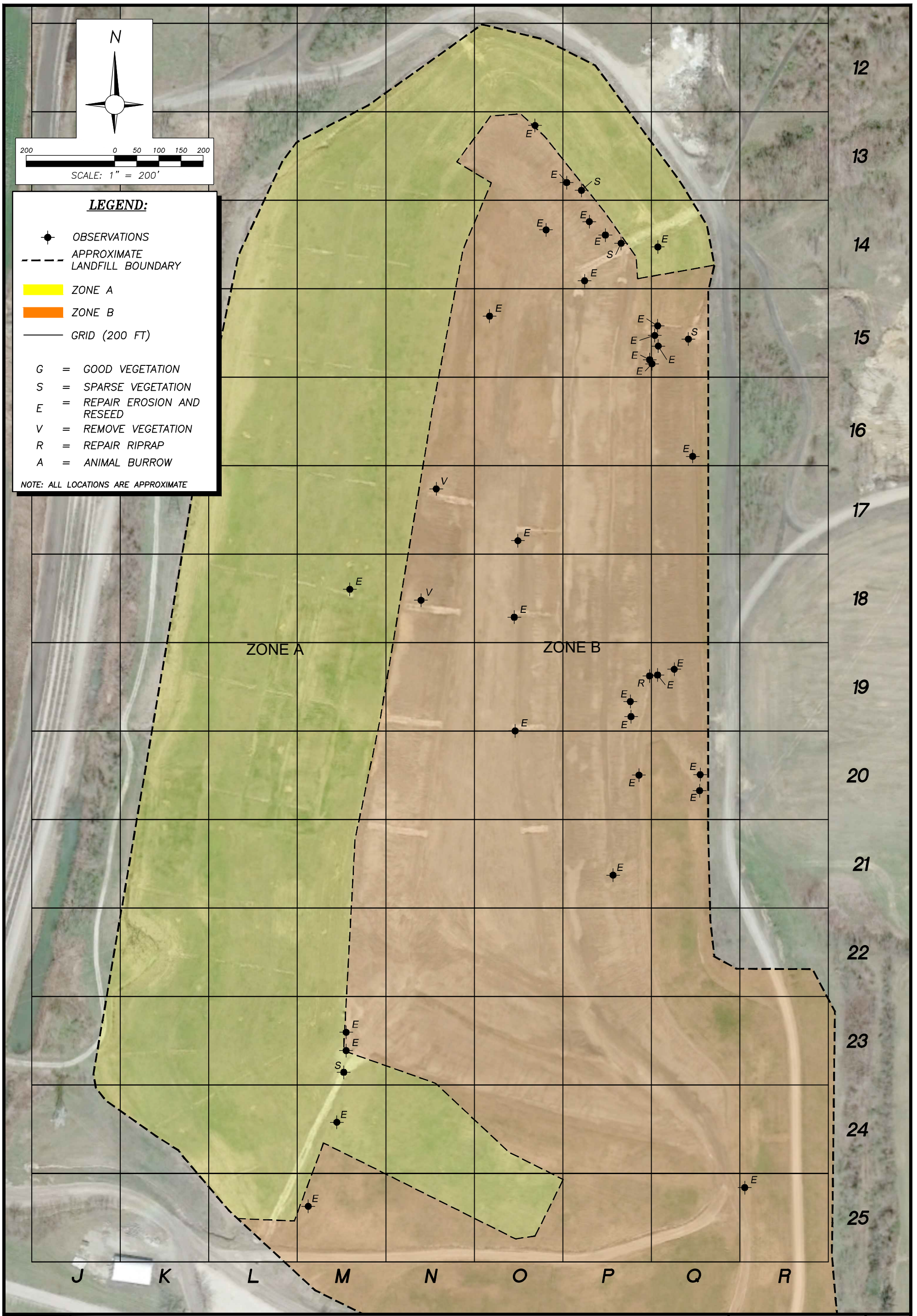
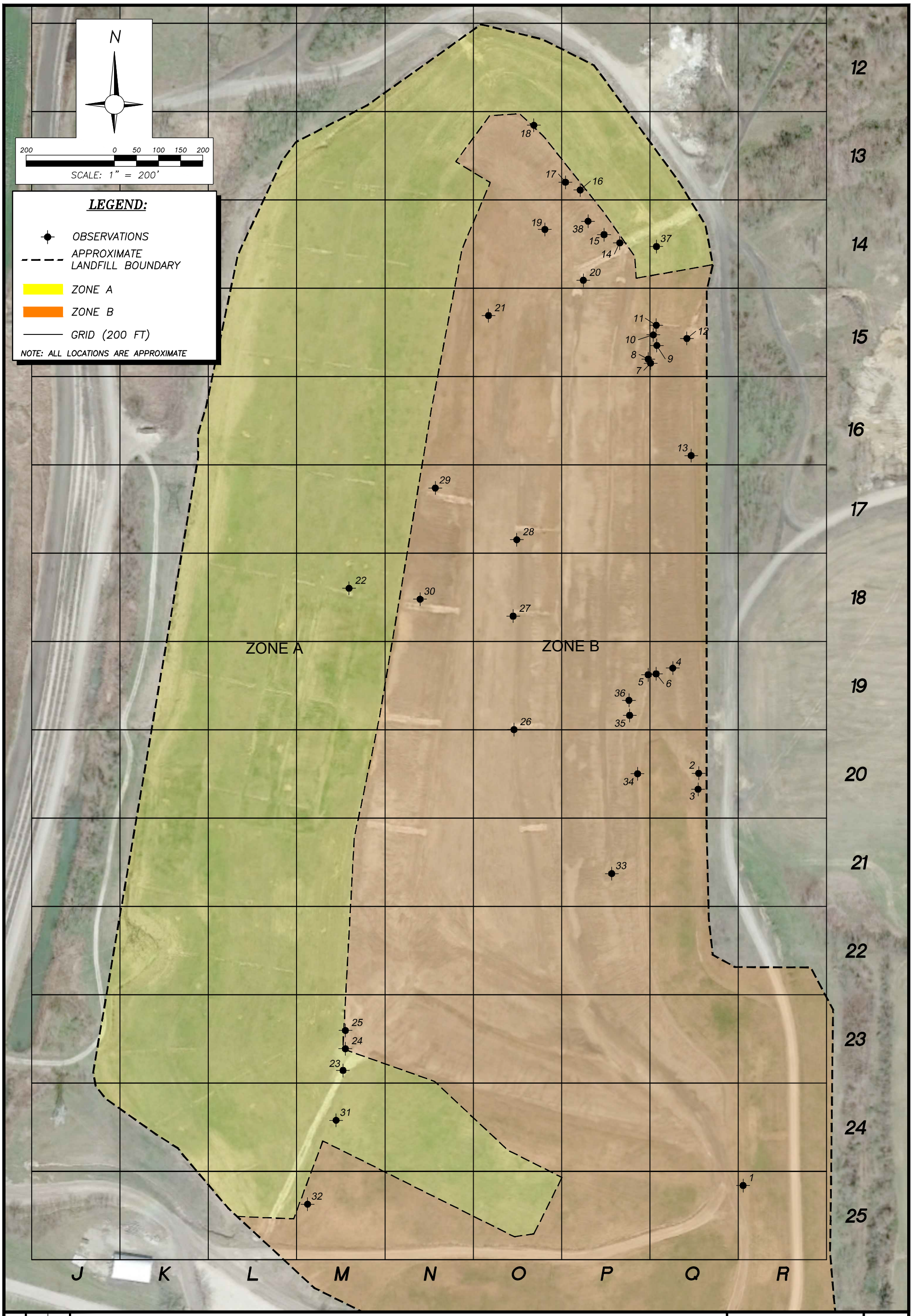


Figure: 3	Scale: AS SHOWN	Date: 12/09/2020	2020 VISUAL SITE INSPECTION GRID MAP IPL PETERSBURG RESTRICTED WASTE TYPE III LANDFILL INDIANAPOLIS POWER AND LIGHT COMPANY 6925 NORTH STATE ROAD 57 PETERSBURG, INDIANA

Project Number: 170LF00972	Drn. By: BH
Drawing File: SEE LOWER LEFT	Ckd. By: JC
ATC	App'd By:
	Ckd. Date:

H:\2020\IPL\PETERSBURG\170LF00972\170LF00972-2020 SITE INSPECTION.DWG, FIG4



2020 VISUAL SITE INSPECTION GRID MAP

IPL PETERSBURG RESTRICTED WASTE TYPE III LANDFILL

INDIANAPOLIS POWER AND LIGHT COMPANY

6925 NORTH STATE ROAD 57

PETERSBURG, INDIANA

Figure: 4

Scale: AS SHOWN

Date: 12/09/2020

Project Number: 170LF00972	Drn. By: BH
Drawing File: SEE LOWER LEFT	Ckd. By: JC
ATC	App'd By:
	Ckd. Date:

Table #1. List of Observation Photographs and Description of Landfill Conditions

Photo ID	Grid ID	Description
1	R-25	Erosion rills and tire rutting formed along access road on north section of Zone B, photo looking north.
2	Q-20	Erosion gully formed along east section of the landfill, photo southwest.
3	Q-20	Erosion gullies formed along lower tier of east side of the landfill, photo looking north.
4	Q-19	Erosion rills formed along eastern section of landfill, photo looking west.
5	P-19	Rock check dam causes water to spill over down landfill slope, photo looking south.
6	Q-19	Erosion gully formed along eastern section of landfill, photo looking north.
7	Q-15	Sparse vegetation and erosion rills along eastern section of landfill, photo looking northeast.
8	P-15	Erosion gullies formed along drainage terrace on east section of landfill, photo looking north.
9	Q-15	Sparse vegetation upstream of drainage swale, east section of landfill, photo looking northeast.
10	Q-15	Erosion gully formed along drainage swale on east section of landfill, photo looking south.
11	Q-15	Erosion gullies formed at riprap downchute along east section of landfill, photo looking west.
12	Q-15	Sparse vegetation on east slope of landfill, photo looking west.
13	Q-16	Erosion gullies formed along check dam at drainage swale, on east section of landfill, photo looking north.
14	P-14	Sparse vegetation on east slope of landfill, photo looking northeast.
15	P-14	Erosion rills formed along eastern section of landfill, photo looking west.
16	P-13	Sparse vegetation along landfill slope, photo looking north.
17	P-13	Sparse vegetation and erosion rills formed along east slope of landfill, photo looking west.
18	O-13	Sparse vegetation and erosion rills formed along north section of landfill, photo looking west.
19	O-14	Sparse vegetation and erosion rills formed along north section of landfill, photo looking east.
20	P-14	Erosion gullies formed along slope on northwest section of landfill, photo looking east.
21	O-15	Erosion gullies formed along slope on northwest section of landfill, photo looking west.
22	M-18	Erosion occurring at riprap downchute, west slope of landfill, photo looking south.
23	M-23	Sparse vegetation and erosion along slope on south section of landfill has exposed underlying Poz-o-tec material, photo looking east.
24	M-23	Erosion along slope on south section of landfill has exposed underlying Poz-o-tec material, photo looking northeast.
25	M-23	Erosion gullies and sparse vegetation along southern slope of landfill, photo looking northeast.
26	O-19	Erosion gully formed upstream of riprap downchute, photo looking south.
27	O-18	Erosion gullies formed along drainage swale at top tier of landfill, photo looking south.
28	O-17	Erosion gullies formed adjacent to riprap downchute, photo looking northeast.
29	N-29	Overgrown vegetation at riprap downchute on west slope of landfill, photo looking east.
30	N-30	Overgrown vegetation at riprap downchute on west slope of landfill, photo looking east.
31	M-24	Erosion gullies formed along south section of landfill, photo looking north.
32	M-25	Erosion gullies along southeast corner of landfill, photo looking south.
33	P-21	Erosion gullies formed in slope on east side of landfill, photo looking east.
34	P-20	Erosion rills formed along terrace swale on east section of Zone B, photo looking south.
35	P-19	Erosion rills formed along terrace swale, east slope of landfill, in Zone B, photo looking south.
36	P-19	Erosion gullies formed along drainage swale on lower slope, east section of Zone B, photo looking east.
37	Q-14	Erosion gullies and sparse vegetation along northeast section of landfill, photo looking northeast.
38	P-14	Erosion gullies and sparse vegetation along northeast section of landfill, photo looking northwest.

Grid ID	Photo ID
R-25	1

Date
October 30, 2020

Description:

Erosion rills and tire rutting formed along access road on north section of Zone B, photo looking north.

Grid ID	Photo ID
Q-20	2

Date
October 30, 2020

Description:

Erosion gully formed along east section of the landfill, photo looking southwest.

Grid ID	Photo ID
Q-20	3

Date
October 30, 2020

Description:

Erosion gullies formed along lower tier of east side of the landfill, photo looking north.

Grid ID	Photo ID
Q-19	4

Date
October 30, 2020

Description:

Erosion rills formed along eastern section of landfill, photo looking west.

Grid ID	Photo ID
P-19	5

Date
October 30, 2020

Description:

Rock check dam causes water to spill over down landfill slope, photo looking south.

Grid ID	Photo ID
Q-19	6

Date
October 30, 2020

Description:

Erosion gully formed along eastern section of landfill, photo looking north.

Grid ID	**Photo ID**
Q-15	7

Date
October 30, 2020

Description:

Sparse vegetation and erosion rills along eastern section of landfill, photo looking northeast.

Grid ID	**Photo ID**
P-15	8

Date
October 30, 2020

Description:

Erosion gullies formed along drainage terrace on east section of landfill, photo looking north.

Grid ID	Photo ID
Q-15	9

Date
October 30, 2020

Description:

Sparse vegetation upstream of drainage swale, east section of landfill, photo looking northeast.

Grid ID	Photo ID
Q-15	10

Date
October 30, 2020

Description:

Erosion gully formed along drainage swale on east section of landfill, photo looking south.

Grid ID	Photo ID
Q-15	11

Date
October 30, 2020

Description:

Erosion gullies formed at riprap downchute along east section of landfill, photo looking west.

Grid ID	Photo ID
Q-15	12

Date
October 30, 2020

Description:

Sparse vegetation on east slope of landfill, photo looking west.

Grid ID	Photo ID
Q-16	13

Date
October 30, 2020

Description:

Erosion gullies formed along check dam at drainage swale, on east section of landfill, photo looking north.

Grid ID	Photo ID
P-14	14

Date
October 30, 2020

Description:

Sparse vegetation on east slope of landfill, photo looking northeast.

Grid ID	Photo ID
P-14	15

Date
October 30, 2020

Description:

Erosion rills formed along eastern section of landfill, photo looking west.

Grid ID	Photo ID
P-13	16

Date
October 30, 2020

Description:

Sparse vegetation along landfill slope, photo looking north.

Grid ID	Photo ID
P-13	17

Date
October 30, 2020

Description:

Sparse vegetation and erosion rills formed along east slope of landfill, photo looking west.

Grid ID	Photo ID
O-13	18

Date
October 30, 2020

Description:

Sparse vegetation and erosion rills formed along north section of landfill, photo looking west.

Grid ID	Photo ID
O-14	19

Date
October 30, 2020

Description:

Sparse vegetation and erosion rills formed along north section of landfill, photo looking east.

Grid ID	Photo ID
P-14	20

Date
October 30, 2020

Description:

Erosion gullies formed along slope on northwest section of landfill, photo looking east.

Grid ID	Photo ID
O-15	21

Date
October 30, 2020

Description:

Erosion gullies formed along slope on northwest section of landfill, photo looking west.

Grid ID	Photo ID
M-18	22

Date
October 30, 2020

Description:

Erosion occurring at riprap downchute, west slope of landfill, photo looking south.

Grid ID	Photo ID
M-23	23

Date
October 30, 2020

Description:

Sparse vegetation and erosion along slope on south section of landfill has exposed underlying Poz-o-tec material, photo looking east.

Grid ID	Photo ID
M-23	24

Date
October 30, 2020

Description:

Erosion along slope on south section of landfill has exposed underlying Poz-o-tec material, photo looking northeast.

Grid ID	Photo ID
M-23	25

Date
October 30, 2020

Description:

Erosion gullies and sparse vegetation along southern slope of landfill, photo looking northeast.

Point ID	Photo ID
O-19	26

Date
October 30, 2020

Description:

Erosion gully formed upstream of riprap downchute, photo looking south.

Grid ID	Photo ID
O-18	27

Date
October 30, 2020

Description:

Erosion gullies formed along drainage swale at top tier of landfill, photo looking south.

Grid ID	Photo ID
O-17	28

Date
October 30, 2020

Description:

Erosion gullies formed adjacent to riprap downchute, photo looking northeast.

Grid ID	Photo ID
N-29	29

Date
October 30, 2020

Description:

Overgrown vegetation at riprap downchute on west slope of landfill, photo looking east.

Grid ID	Photo ID
N-30	30

Date
October 30, 2020

Description:

Overgrown vegetation at riprap downchute on west slope of landfill, photo looking east.

Grid ID	Photo ID
M-24	31

Date
October 30, 2020

Description:

Erosion gullies formed along south section of landfill, photo looking north.

Grid ID	Photo ID
M-25	32

Date
October 30, 2020

Description:

Erosion gullies along southeast corner of landfill, photo looking south.

Grid ID	Photo ID
P-21	33

Date
October 30, 2020

Description:

Erosion gullies formed in slope on east side of landfill, photo looking east.

Grid ID	Photo ID
P-20	34

Date
October 30, 2020

Description:

Erosion rills formed along terrace swale on east section of Zone B, photo looking south.

Grid ID	Photo ID
P-19	35

Date
October 30, 2020

Description:

Erosion rills formed along terrace swale, east slope of landfill, in Zone B, photo looking south.

Grid ID	Photo ID
P-19	36

Date
October 30, 2020

Description:

Erosion gullies formed along drainage swale on lower slope, east section of Zone B, photo looking east.

Grid ID	Photo ID
Q-14	37

Date
October 30, 2020

Description:

Erosion gullies and sparse vegetation along northeast section of landfill, photo looking northeast.

Grid ID	Photo ID
P-14	38

Date
October 30, 2020

Description:

Erosion gullies and sparse vegetation along northeast section of landfill, photo looking northwest.