

Appendices

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Appendix B: IDNR Coal Mine Information

Appendix C: Logs of Test Borings, Monitoring Wells, Hand Augers, and Test Pits

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Appendix J: Geotechnical Analyses of Consolidated Ash Management Area

Appendix K: Stormwater System and Final Cover Erosion Calculations

Appendix L: Closure and Post-Closure Plan Cost Estimates

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Appendix A
Closure Implementation Plan Drawings
(Bound Separately)



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Drawing No. 5:	Site Overview – Mine System – White River Coal Company
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Drawing No. 7:	Existing Conditions – Floodplain and Mine Limits
Drawing No. 8:	Geological Cross Section Plan
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Drawing No. 27:	Engineering Cross Sections A and B
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Drawing No. 29:	Closure Implementation Plan Overview
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OWNER:
DUKE ENERGY INDIANA, LLC
LEGACY EDWARDSPOORT GENERATING STATION
KNOX COUNTY, INDIANA

PREPARED BY:
ATC GROUP SERVICES LLC
7988 CENTERPOINT DRIVE, SUITE 100
INDIANAPOLIS, INDIANA 46256

 <p>ATC GROUP SERVICES LLC 7888 CENTERPOINT DR. SUITE 100 INDIANAPOLIS, IN 46256 PHONE: +1 317 848 4890 FAX: +1 317 848 4278 WWW.ATCGROUPSERVICES.COM</p> <p>NOT FOR CONSTRUCTION</p> <p>FINAL SUBMITTAL</p>	<p>TITLE</p> <p>TITLE AND INDEX SHEET HISTORIC ASH PLACEMENT AREAS CLOSURE IMPLEMENTATION PLAN</p>		
	<p>FOR: LEGACY EDWARDSPORT GENERATING STATION</p>		
	 <p>DUKE ENERGY®</p>	<p>SCALE: AS SHOWN</p> <p>DWG TYPE: DWG</p> <p>JOB NO: 170LF00562</p> <p>DATE: 6/19</p>	<p>DES: JN</p> <p>DFTR: AK</p> <p>CHKD: BM</p> <p>ENGR: BM</p> <p>APPD: BM</p>
	<p>FILENAME:</p> <p>DWG SIZE</p> <p>ARCH D 24.0"x35.0"</p>		<p>DRAWING NO.</p> <p>001</p>
		<p>REVISION</p> <p>0</p>	

ABBREVIATIONS

CURTAILMENT/	DESCRIPTION
ACRONYM	
AT	AT
APPROX.	APPROXIMATE
CBR	CLOSURE BY REMOVAL
CCR	COAL COMBUSTION RESIDUALS
CCR RULE	EPA FINAL RULE FOR DISPOSAL OF COAL COMBUSTION RESIDUALS FROM ELECTRIC UTILITIES
CIP	CLOSURE-IN-PLACE
CL	CENTER LINE
CLR	CLEARANCE
DIA	DIAMETER
EA	EACH
EL, ELEV	ELEVATION
EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EW	EACH WAY
FT	FEET
HDPE	HIGH DENSITY POLYETHYLENE
HORZ. H	HORIZONTAL
INV	INVERT
L	DEVELOPMENT LENGTH
LF	LINEAR FEET
LLDPE	LINEAR LOW DENSITY POLYETHYLENE
MAX	MAXIMUM
MIN	MINIMUM
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTER DIAMETER
OH	OVERHEAD
OZ	OUNCES
RPP	REINFORCED POLYPROPYLENE
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SQ	SQUARE
SR	STATE ROUTE
STA	STATION OR STATIONING
STD	STANDARD
SY	SQUARE YARDS
TEMP	TEMPORARY
TYP	TYPICAL
WS	WATER SURFACE
HAPA	HISTORIC ASH PLACEMENT AREA
SFA	STRUCTURAL FILL AREA
CMA	CONSOLIDATED ASH MANAGEMENT AREA

LEGEND:

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
MW-4D	EXISTING MONITORING WELL	— — — — —	HISTORIC ASH PLACEMENT LIMITS (DASHED WHERE INFERRED)	— — — — —	SANITARY SEWER
MW-8	PROPOSED MONITORING WELL	— — — — —	SURVEY CONTOUR BOUNDARY	— — — — —	STORM SEWER
H/A-1	HAND AUGER	— — — — —	12-8-2015 SURVEY CONTOURS	— — — — —	ELECTRICAL UNDERGROUND
TP-1	TEST PIT	— — — — —	2013 LIDAR CONTOURS	— — — — —	WATER LINE
B-GA18	GEOTECHNICAL/ASH INVENTORY SOIL BORING	— — — — —	APPROXIMATE BOTTOM OF ASH CONTOURS	— — — — —	CABLE LINE
TB-06-2, FW	TEST BORING	— — — — —	PREVIOUS CONSTRUCTED CONTOURS	— — — — —	OVERHEAD ELECTRICAL
B-A20	ASH DELINEATION SOIL BORINGS	— — — — —	PROPOSED TOP OF FINAL COVER CONTOURS	— — — — —	NATURAL GAS
B-1	GEOTECHNICAL SOIL BORING	— — — — —	PROPOSED FINAL COVER SUBGRADE CONTOURS	— — — — —	DRAIN LINE
BSS-1	SOIL STOCKPILE BORING	— — — — —	ASH EXCAVATION CONTOURS	— — — — —	SPARE CONDUIT/CULVERT
M-1	SOIL BORING (MARINO ENGINEERING ASSOCIATES, INC.)	— — — — —	PROPOSED SOIL GRADES	— — — — —	ELECTRIC DUCT BANK
162733 (01152)	WATER WELLS WITH UTM COORDINATES (DNR WATER WELL REFERENCE NO. (SIGNIFICANT WATER WITHDRAWAL FACILITY REGISTRATION NO.))	— — — — —	APPROXIMATE TOP OF BEDROCK CONTOURS	— — — — —	FIRE WATER
162733 (01152)	WATER WELLS WITH UTM COORDINATES LOCATION MODIFIED BY ATC (DNR WATER WELL REFERENCE NO. (SIGNIFICANT WATER WITHDRAWAL FACILITY REGISTRATION NO.))	— — — — —	DNR DETAILED FLOODWAY	— — — — —	AIR INSTRUMENT
162742	WATER WELLS WITHOUT UTM COORDINATES LOCATIONS MODIFIED BY ATC (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE DUKE ENERGY INDIANA, LLC PROPERTY BOUNDARY	— — — — —	COAL FORCE
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	LOCATION OF EXISTING PIPE	— — — — —	OBSOLETE UTILITIES
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	CARDNO WETLAND LIMITS, 2015	— — — — —	CABLE TRAY
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	CONSOLIDATED ASH MANAGEMENT AREA	— — — — —	APPROXIMATE LIMITS OF MINE BOUNDARY
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	ASH EXCAVATION AREA	— — — — —	MINING LIMIT OF THE NO. 5 COAL PROVIDED BY MARINO ENGINEERING ASSOCIATES, INC.
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	FLOOD PROTECTION SLOPE	— — — — —	APPROXIMATE BORROW AREA LIMITS
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	INFRASTRUCTURE AREA PREVIOUSLY WITHIN HISTORIC ASH PLACEMENT AREA	— — — — —	CATCH BASIN
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE LIMITS OF CCR STRUCTURAL FILL	— — — — —	DROP INLET
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE LIMITS OF POTENTIAL GAS SUBSIDENCE	— — — — —	HOIST SHAFT
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE LIMITS OF POTENTIAL GAS AND PIT SUBSIDENCE	— — — — —	SLOPE OR DRIFT
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE LIMITS OF NOMINAL 12 IN. SOIL COVER	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	DRAINAGE CHANNEL	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	DIVERSION SWALE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	PROPOSED SURFACE WATER DISCHARGE PIPE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	1/2 MILE OFFSET FROM PROPERTY LINE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	TREE LINE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	ROAD/ACCESS	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	FENCE LINE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	PIPE LINE	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	GUARD RAIL	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	EXISTING SHEET PILING	— — — — —	
162742	WATER WELLS WITHOUT UTM COORDINATES (DNR WATER WELL REFERENCE NO.)	— — — — —	APPROXIMATE GROUTING LIMITS FOR UNDERGROUND MINE	— — — — —	

TOPOGRAPHIC NOTES:

12-8-15 SURVEY CONTOURS:
THE CONTOURS DEPICTED ON THIS MAP WERE COMPILED TO NATIONAL MAP ACCURACY STANDARDS BY KUCERA INTERNATIONAL, INC., WILLOUGHBY, OHIO, USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY TAKEN 12-06-15. CONTOURS WHICH ARE IN WOODED OR DENSE VEGETATION ARE APPROXIMATIONS ONLY AND SHOULD BE TREATED AS "DASHED CONTOURS".

2013 LIDAR CONTOURS:
THIS MAPPING HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO COMPLY WITH NATIONAL MAP ACCURACY STANDARDS (NMAS) FOR A HORIZONTAL SCALE OF 1"=100' AND A CONTOUR INTERVAL OF TWO FEET. MAPS SHOULD BE CHECKED FOR HORIZONTAL AND VERTICAL ACCURACY PRIOR TO USE. VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZONTAL DATUM BASED ON INDIANA STATE PLANE COORDINATE SYSTEM EAST AND WEST ZONES, NAD83 2011, 2012 & 2013 CLASSIFIED LIDAR POINT CLOUD DATA IN LAS FILE FORMAT, VERSION 1.2 STATE OF INDIANA.

7.5 MINUTE (1:24,000) USGS QUAD/SCALE MAPS:
1980 PLAINVILLE, INDIANA
1988 SCHWELL, INDIANA

AERIAL PHOTOGRAPHY:
3-29-2016 GOOGLE EARTH PHOTOGRAPHY

ASH CONTOURS AND LIMITS:
THE HORIZONTAL AND VERTICAL LIMITS OF ASH HAVE BEEN ESTIMATED USING BEST AVAILABLE INFORMATION AND DATA SOURCES.

DATA REFERENCE:

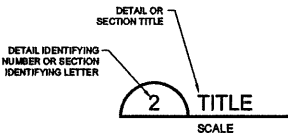
HOIST SHAFT, AIR/ESCAPE SHAFT, SLOPE OR DRIFT:
DNR COAL MINE INFORMATION SYSTEM INDIANA GEOLOGICAL SURVEY, INDIANA UNIVERSITY SEPTEMBER 12, 2016 INFORMATION PORTAL

FLOODWAY BOUNDARY:
100 YEAR FLOOD ELEVATIONS OBTAINED FROM INDIANA DEPARTMENT OF NATURAL RESOURCES INDIANA FLOODPLAIN INFORMATION PORTAL

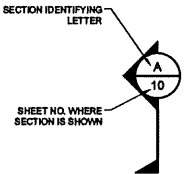
100 YEAR FLOOD ELEVATION:
100 YEAR FLOOD ELEVATIONS OBTAINED FROM INDIANA DEPARTMENT OF NATURAL RESOURCES INDIANA FLOODPLAIN INFORMATION PORTAL

APPROXIMATE LIMITS OF MINE BOUNDARY:
LIMITS OF MINE BOUNDARY OBTAINED FROM INDIAN COAL MINE INFORMATION SYSTEM

DETAILING & SECTION IDENTIFICATION NOMENCLATURE



DETAIL OR SECTION, NUMBER OR LETTER & TITLE
ON SHEET WHERE DETAIL OR SECTION IS SHOWN



SECTION REFERENCE ON SHEET
WHERE SECTION IS CALLED OUT

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION

ATC ATC GROUP SERVICES LLC 7988 CENTERPOINT DR. SUITE 100 INDIANAPOLIS, IN 46258 PHONE: +1 317 849 4990 FAX: +1 317 849 4278 WWW.ATCGROUPSERVICES.COM		TITLE LEGEND, ABBREVIATIONS, AND NOTES HISTORIC ASH PLACEMENT AREAS CLOSURE IMPLEMENTATION PLAN	
NOT FOR CONSTRUCTION		FOR LEGACY EDWARDSPOORT GENERATING STATION	
DUKE ENERGY		SCALE: AS SHOWN	DES: JN
FILENAME:		DWG TYPE: DWG	DFTR: AK
DWG SIZE		JOB NO: 170LF00562	CHKD: BM
ARCH D 24.0"x35.5"		DATE: 8/19	ENGR: BM
DRAWING NO.		APPD: BM	REVISION
002		0	

