

Appendix F: Transportation Management Plan



TRANSPORTATION MANAGEMENT PLAN

South Field Energy

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1.0 South Field Energy

South Field Energy (“SFE”) is a proposed natural gas electric generating facility producing a nominal net output of 1,105 MW (full duct fired operation with inlet air cooling at 59 degrees Fahrenheit [°F] ambient temperature) under development in Columbiana County, Ohio. The SFE site is located 2 1/2 miles northwest of the Village of Wellsville, Ohio and approximately three quarters of a mile west of OH-45. SFE will employ new state-of-the-art General Electric natural gas and steam turbine technology in a configuration referred to as “combined-cycle.” This configuration captures waste heat and generates additional electricity to maximize efficiency.

South Field Energy is a subsidiary of Advanced Power, a leading energy development company based in Boston, Massachusetts. Advanced Power’s management has a proven track record of developing more than 10,000 megawatts of power generation projects worldwide.

2.0 CESO Inc.

CESO, Inc. is a full service consulting firm with expertise in civil engineering, architecture, environmental, surveying, program management, and construction management. CESO services public and private sector clients on projects in the Energy, Water, Transportation, Industrial/Manufacturing, Retail, and Land Development markets. CESO's team is composed of highly qualified professionals located at seven offices in Akron, Columbus, and Dayton, Ohio; Lansing, Michigan; Pittsburgh, Pennsylvania; Nashville, Tennessee; and Bentonville, Arkansas.

3.0 Preliminary Site Access Plan

This Transportation Management Plan considers delivery of material and major components assuming final transportation to the SFE site via road or rail spur from major highways, rail nodes and/or ports in the vicinity of the SFE site. The SFE site access plans will be finalized following Power Train Equipment Supplier and Engineering Procurement and Construction (“EPC”) Contractor selection and final calculations of the load and dimensional requirements for equipment transportation.

Equipment deliveries to the SFE site will primarily be by truck and will be planned to minimize impact to local traffic patterns. **Figure 1: Preliminary Estimate of Largest / Heaviest Power Train Equipment** contains a list of the largest / heaviest Power Train equipment expected to be transported to the site. Delivery of this equipment to the SFE site will be via truck or local rail spur, with the anticipated delivery method indicated on the table. All dimensions and weights shown are preliminary estimates and do not reflect final shipping weight.

Figure 1: Preliminary Estimate of Largest / Heaviest Power Train Equipment

Preliminary Estimate of Largest / Heaviest Power Train Items	(PRELIMINARY DIMENSIONS AND WEIGHTS – FINAL VALUES TBD)				
	Length	Width	Height	Weight	Anticipated Site Access via
Description	(ft)	(ft)	(ft)	(lbs)	
Combustion Turbines (“CT”)	33.25	13.25	15	560,000	Rail
CT Generators	44.1	12.7	15.5	744,000	Rail
CT Transformers	21.7	10.4	15	300,000	Truck
Steam Turbine (“ST”)	32.66	13	14.91	212,500	Rail
ST Transformers	25	10.9	15.8	360,000	Truck
ST LP Lower Section & Rotors	28	20	10	60,000	Truck
ST Generator	42	12	13	286,000	Rail
HP Steam Drum Complete	48	9.3	10.8	260,000	Truck
IP Stream Drum Complete	41	6.3	7.8	50,000	Truck
LP Stream Drum Complete	53	10.8	11.8	50,000	Truck
HRSB Heat Transfer Module (Option A)	94	9.8	15.3	380,000	Truck
HRSB Heat Transfer Module (Option B)	94	12.7	17.6	515,000	Truck

Steam Turbine Table

Steam Turbine Code Type	D602				
Reference Turbine S/N	270T932				
Rated MW					
Last Stage Bucket Length (in)	40				
Component	Weight (lb)	Length (in)	Width (in)	Height (in)	Quantity
Main Stop Valve	25,000 (ea.)	180	70	90	2
Front Standard	20,000	102	144	40	1
HP/IP casing assembled with HP/IP rotor	525,000	471	159	178	1
Combined Reheat Valves	27,323	77	70	226	2
LPA Standard	56,000	175	75	84	1
LP Gen Standard	28,000	127	50	91	1
Crossover	30,000	502	70	190	1
LP Exhaust Hood Upper Half Left	71,000	150	248	170	1
LP Exhaust Hood Upper Half Right	71,000	150	248	170	1
LP Exhaust Hood Lower Half Left	110,000	266	151	162	1

LP Exhaust Hood Lower Half Right	110,000	266	151	162	1
Condenser Interface piece upper half	20,000	277	157	30	1
Condenser Interface piece lower half	20,000	277	157	30	1
LP Exhaust Hood Inner casing U/H	72,000	277	142	160	1
LP Exhaust Hood Inner casing L/H	66,000	277	142	103	1
LP Rotor	145,000	400	150	170	1
Turning Gear	6,000	60	55	55	1
Lube Oil & Hydraulic oil Power Unit	85,000	420	145	140	1
Gland Condenser	12,700	253	50	127	1
LP Admission Stop Valve	1,520	57	28	64	1
LP Admission Control Valve	1,520	57	28	64	1
LP Admission Strainer	1,032	50	38	32	1

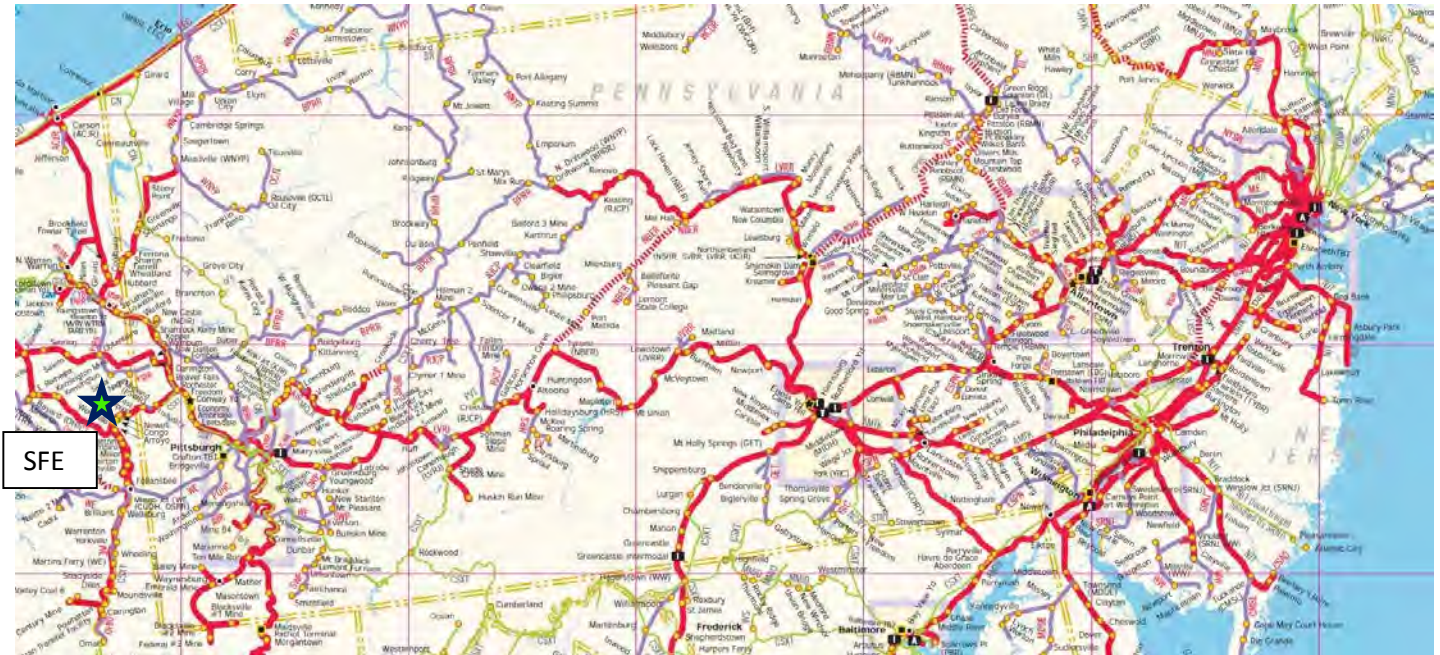
H53 Generator Approximate Dimensions

	Weight (lb)	Length (in)	Width (in)	Height (in)
H53 Generator	566,000	433	177	177
Components (shipped together)				
Rotor	100,000			
Stator	466,000			

4.0 Rail Access to SFE Site

Rail access to the SFE site is via Norfolk Southern Railway (NS), as shown on in **Figure 2: Rail Access to SFE Site**. Norfolk Southern serves every major ocean port on the East Coast between New York City and Jacksonville, Florida. The rail transfer capabilities at the major ports will allow incoming shipments to be loaded onto rail cars. The equipment will be removed from rail cars by crane at the location shown on **Figure 3: Primary Anticipated Route for Road / Rail Access to the SFE Site**. All systems, including rail and rail car capacity, crane access and lifting capacity and impact to rail traffic patterns, will be analyzed in a detailed off-loading plan prior to any transportation.

Figure 2: Rail Access to SFE Site



5.0 River Access to SFE Site

River access to the SFE site is via the Ohio River. The Wellsville Intermodal Park will allow incoming shipments to be loaded onto trucks at the port. Upgrades may be needed to accommodate unloading via crane or roll off operations because of the size and weight of the cargo.

6.0 Road Access to SFE Site

The roadways adjacent to the SFE site are connected to the US Interstate Highway, and Ohio and Pennsylvania Highway systems. These routes allow vehicles up to 80,000 lbs. gross weight and height 13' - 6" to be transported without an Ohio Special Hauling Permit or Pennsylvania Special Hauling Permit. Any truck loaded in excess of 80,000 lbs. gross weight or height of 13' - 6" traveling on the US Interstate Highway and Ohio & Pennsylvania State Highway systems will require an Ohio or Pennsylvania Special Hauling Permit. As shown in **Figure 3: Primary Anticipated Route for Road / Rail Access to the SFE Site**, access to the SFE site is available from the interstate highway, state highway systems, and township roads. Use of the Primary Route will require a local permit with the county in order to haul along the township roads. **Figure 4: Alternate Route for Road / Rail Access to the SFE Site** shows access to the SFE site via the village streets, Township roads and state highway system. Use of this alternate

route will require a local permit with the county in order to haul along the village streets and Township roads.

6.1 Norfolk Southern Conway Railyard to SFE Site

Head northeast toward 1st Ave/Ohio River Blvd (135ft.). Turn left onto 1st Ave/Ohio River Blvd (1.4 mi). Continue straight onto PA-65 N (2.6mi). Take PA-51 to Beaver/Chippewa (0.2mi). Merge onto Adams St. (354 ft.). Continue onto PA-61 N (6.6mi). Turn left onto merge onto I-378 E toward PA-60 (6.9 mi). Take exit 38 for PA-68 toward Beaver/Midland (0.2 mi). Turn right onto PA-68 W (11.3 mi). Continue onto Harvey Ave (1.3mi). Continue onto OH-39 (1.9mi). Keep right at fork; follow U.S. 30 (0.3 mi). Continue onto OH-39/U.S. 30 (11 mi). Turn left onto OH-45 S (5.1 mi). Turn right onto Osbourne Rd. (0.1 mi). Turn left onto Hibbetts-Mill Rd. (1.4 mi).

See figure 3: Primary Anticipated Route for Road / Rail Access to the SFE Site for graphical representation of route.

6.2 Alternate Route via River/ Road Access to SFE Site

From the Wellsville Intermodal Facility turn right onto Clark Ave and make an immediate left onto 16 School Rd (0.1 mi). Turn right to merge onto Ohio River Scenic Byway (0.1 mi). Merge onto Ohio River Scenic Byway (1.6 mi). Continue on Ohio River Scenic Byway (3.7 mi). Take the exit on the right towards Lisbon, West U.S. 30/OH-7 or 11. Continue onto U.S. 30 (11 mi). Turn left onto OH-45 S (5.1 mi). Turn right onto Osbourne Rd. (0.1 mi). Turn left onto Hibbetts-Mill Rd. (1.4 mi).

See figure 4: Alternate Route for River / Road Access to the SFE Site for graphical representation of Alternative Route.

As with any rail transportation to the SFE site, all systems involved in roadway transport, including roadway capacities and clearances, crane access and lifting capacity and impact to affected road traffic patterns, will be analyzed in a detailed off-loading plan prior to any transportation.

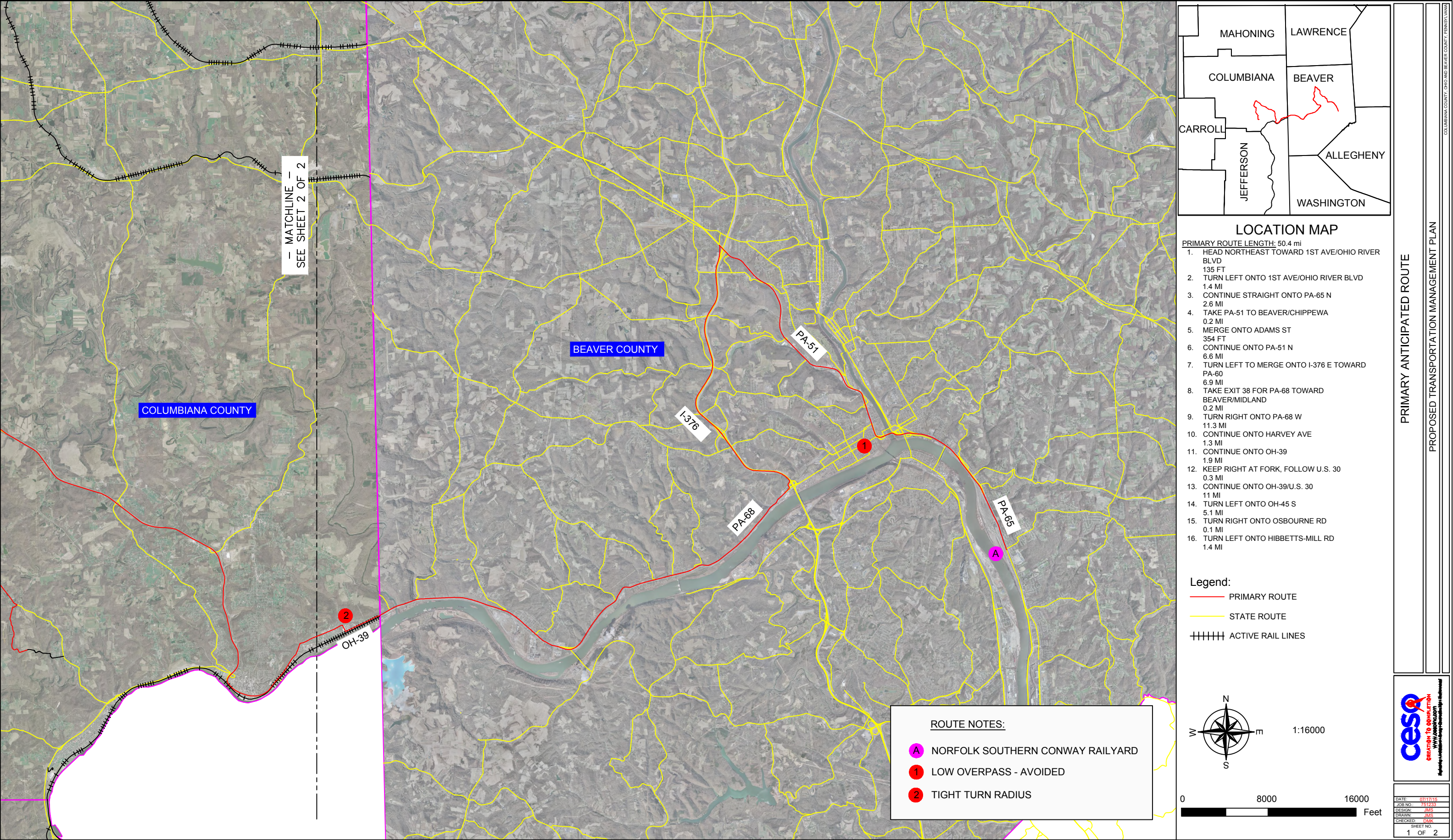


FIGURE 3: PRIMARY ANTICIPATED ROUTE FOR ROAD / RAIL ACCESS TO THE SFE SITE

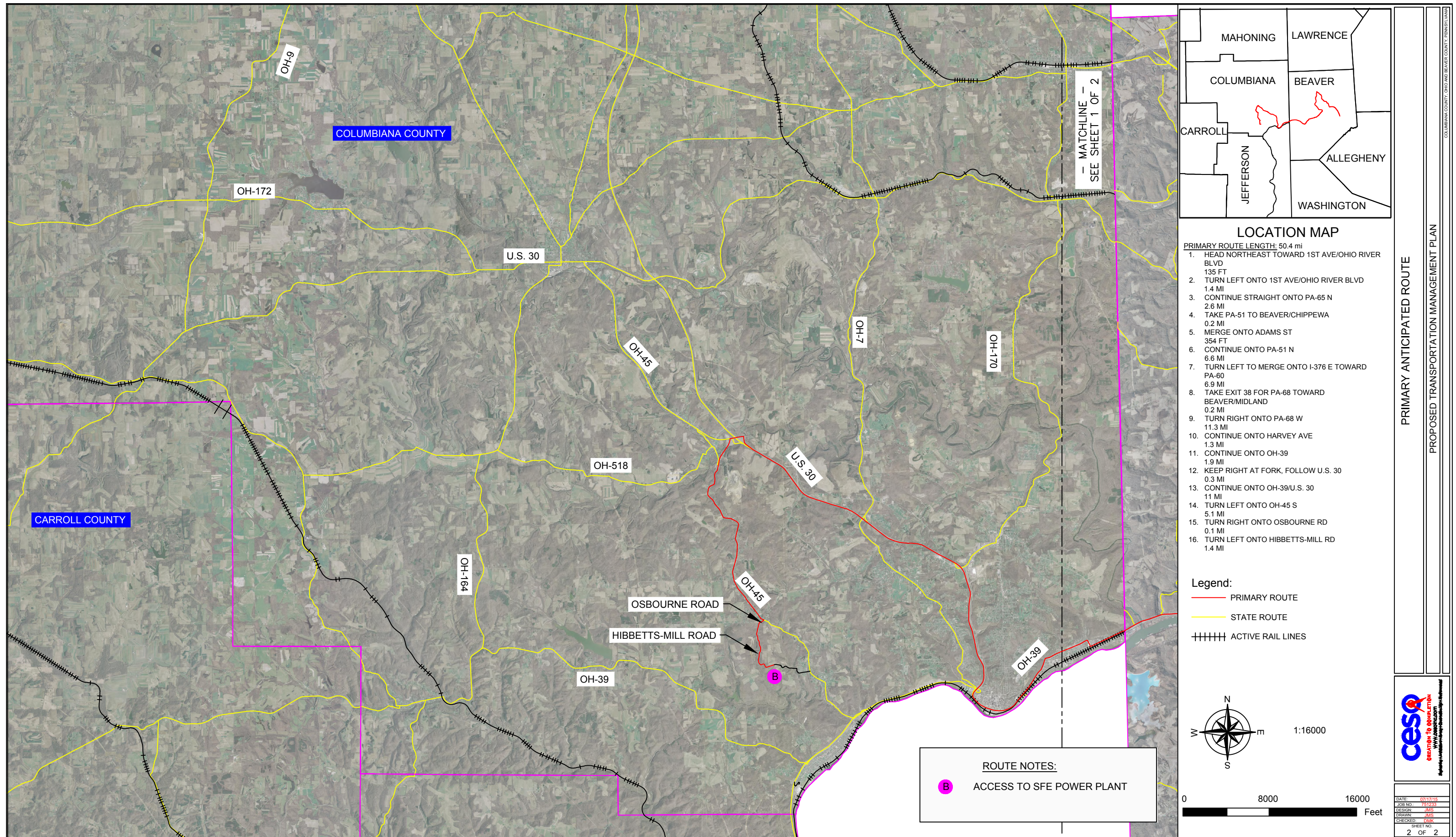


FIGURE 3: PRIMARY ANTICIPATED ROUTE FOR ROAD / RAIL ACCESS TO THE SFE SITE

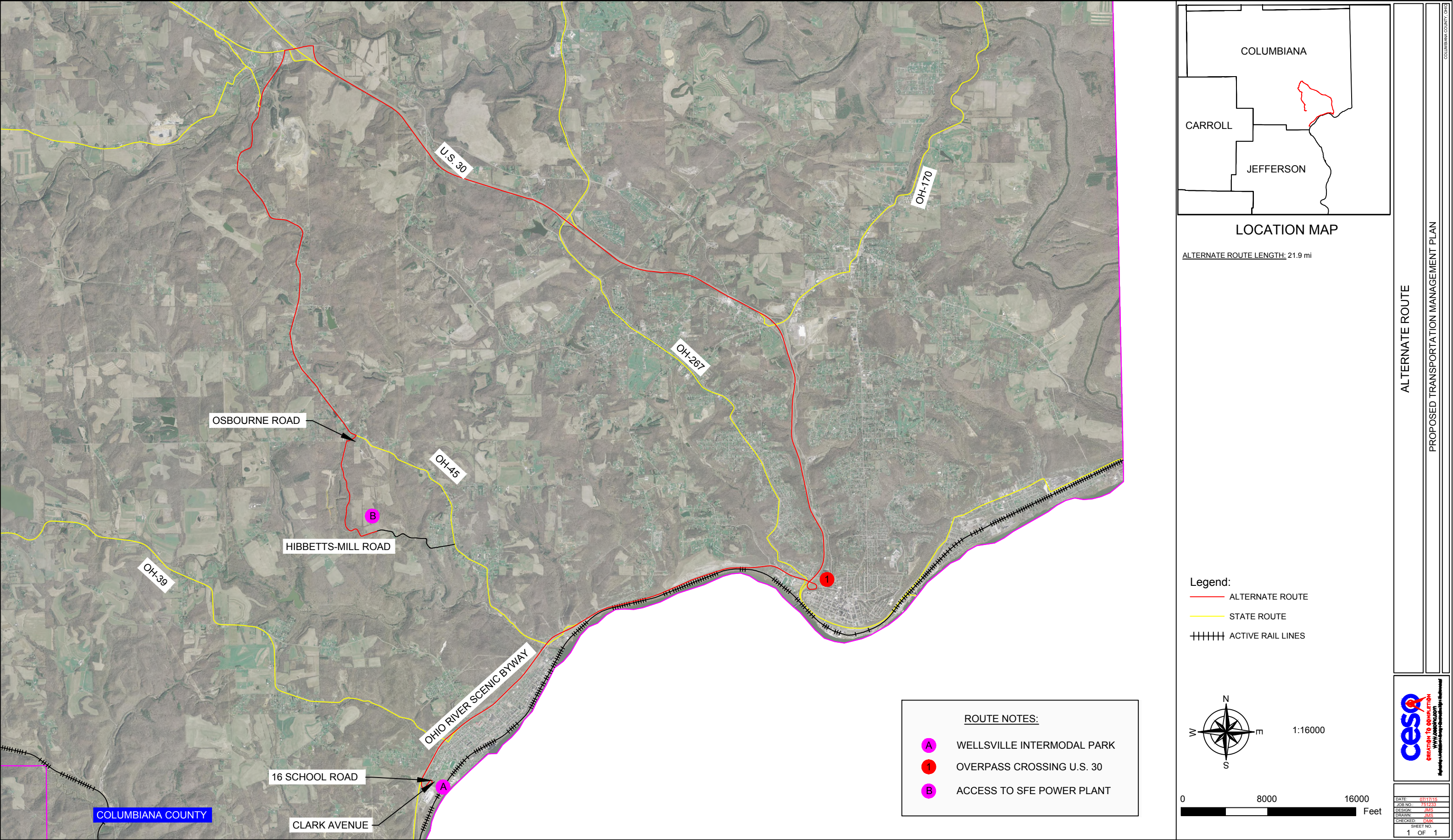


FIGURE 4: ALTERNATE ROUTE FOR RIVER / ROAD ACCESS TO THE SFE SITE

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Mr. Scott M Guttman on behalf of South Field Energy LLC