

Table 7-1
Summary of Impacts

Resource	53-Turbine Alternative	96-Turbine Alternative	No Action
Geology, Topography, and Soils	<ul style="list-style-type: none"> The Project area encompasses 7,849 acres. Construction of 53 turbine, 14.4 miles of gravel access roads, 37.1 miles of underground interconnect cables, 8.9 mile overhead transmission line, two electrical substations, and an operations and maintenance building may result in minor impacts to existing drainage patterns 	<ul style="list-style-type: none"> The Project area encompasses 9,000 acres. Construction of 96 turbine, 29 miles of gravel access roads, 44 miles of underground interconnect cables, 9 mile overhead transmission line, two electrical substations, and an operations and maintenance building may result in minor impacts to existing drainage patterns 	No impacts expected.
Water/Wetland Resources	<ul style="list-style-type: none"> Possible temporary impacts (erosion/sedimentation) during construction could result from clearing and grading near streams and wetlands. Two (2) surface water bodies and 42 wetland, will be crossed by Project interconnect and transmission line. Construction and operation of the Project will result in: <ul style="list-style-type: none"> temporary disturbance of 1.67 acres of wetlands permanent fill of 0.33 acres of wetlands conversion of 0.34 acres of forested wetlands to non-forested wetland cover Minimal to no impact to groundwater quality. 	<ul style="list-style-type: none"> Possible temporary impacts (erosion/sedimentation) during construction could result from clearing and grading near streams and wetlands. Fifty-one (51) surface water bodies and nine (9) wetlands will be crossed by Project interconnect and transmission line. Construction and operation of the Project will result in: <ul style="list-style-type: none"> temporary disturbance of 14.8 acres of wetlands no permanent fill of wetlands conversion of 9.2 acres of forested wetlands to non-forested wetland cover Minimal to no impact to groundwater quality. 	No impacts expected.
Biological Resources	<ul style="list-style-type: none"> Construction may result in the development of 41 acres of agricultural land and 0.6 acres of forested land. Seventeen (17) acres of forested land in the 100-ft transmission line right-of-way will be converted to herbaceous and open shrub cover. Minor temporary impacts to wildlife associated with construction of the Project would be limited to clearing of forested habitat to widen the buffer corridor along the overhead transmission line right-of-way and within small portions of the lay-down area for 6 of the 53 turbines. There may be minor temporary impacts to bird nesting areas during construction by clearing and construction work in open nesting and foraging habitat. Approximately 17 acres (<1 acre will be permanently cleared) of second growth deciduous forest would be cleared for Project components, which will result in temporary and permanent minor habitat loss for some forest-nesting avian species. 	<ul style="list-style-type: none"> Construction may result in the development of 98 acres of agricultural land and 14 acres of forested land. Sixty-eight (68) acres of forested land in the 120-ft transmission line right-of-way will be converted to herbaceous and open shrub cover. Minor temporary impacts to wildlife associated with construction of the Project would be limited to clearing of forested habitat to widen the buffer corridor along the overhead transmission line right-of-way and within small portions of the lay-down area for 16 of the 96 turbines. There may be minor temporary impacts to bird nesting areas during construction by clearing and construction work in open nesting and foraging habitat. Approximately 82 acres (14 acres will be permanently cleared) of second growth deciduous forest would be cleared for Project components, which will result in temporary and permanent minor habitat loss for some forest-nesting avian species. 	No impacts expected.

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Biological Resources (continued)	<ul style="list-style-type: none"> Displacement of mobile wildlife to adjacent undisturbed areas. Avian mortality is likely to be in the range of 122 to 509 birds/year. Raptor mortality is likely to be in the range of 1 and 15 raptors/year. Bat mortality is likely to be in the range of 180 to 2,454 bats/year. Individual Indiana and small-footed myotis bats or colonies have been documented within approximately 15 miles of the proposed Project. 	<ul style="list-style-type: none"> Displacement of mobile wildlife to adjacent undisturbed areas. Avian mortality is likely to be in the range of 221 to 922 birds/year. Raptor mortality is likely to be in the range of 7 to 28 raptors/year. Bat mortality is likely to be in the range of 326 to 4,445 bats/year. Individual Indiana and small-footed myotis bats or colonies have been documented within approximately 15 miles of the proposed Project. 	
Transportation	<ul style="list-style-type: none"> Traffic delays and road closures due to transportation improvements or construction traffic. Construction is anticipated to be completed in 9 months. Potential impacts to traffic and the transportation system limited to activities that would occur during construction only. Transportation infrastructure improvements required to accommodate construction needs. Temporary relocation of overhead lines and other facilities may be required to accommodate oversize vehicles used during the construction of the Project. Traffic may increase over local roads during construction. Fugitive dust from Project construction activities is possible. 	<ul style="list-style-type: none"> Traffic delays and road closures due to transportation improvements or construction traffic. Construction is anticipated to be completed in 15 to 18 months. Potential impacts to traffic and the transportation system limited to activities that would occur during only. Transportation infrastructure improvements required to accommodate construction needs. Temporary relocation of overhead lines and other facilities may be required to accommodate oversize vehicles used during the construction of the Project. Traffic may increase over local roads during construction. Fugitive dust from Project construction activities is possible. 	No impacts are expected.
Land use and zoning	<ul style="list-style-type: none"> Sixty (60) working farms and 60 percent of the area is designated as prime farmland or farmland of statewide importance. Temporary disturbance of 425 acres of agricultural land and permanent conversion of 41 acres of agricultural land; however, set back constraints preserve surrounding land use for the life of the Project. 	<ul style="list-style-type: none"> One hundred two (102) working farms and 75 percent of the area is designated as prime farmland or farmland of statewide importance. Temporary disturbance of 191 acres of agricultural land and permanent conversion of 98 acres of agricultural land; however, set back constraints preserve surrounding land use for the life of the Project. 	Land in Project area would be subject to other types of development.
Cultural and Visual Resources	<ul style="list-style-type: none"> Construction and operation of the Project will not affect NRHP archaeological resources. Turbine tip height of 390.5 feet. Visual effects that may result in a change to the local rural setting and/or character. One or more proposed turbines will be visible from 	<ul style="list-style-type: none"> Construction and operation of the Project could affect NRHP archaeological resources. Turbine tip height of 425 feet. Visual effects that may result in a change to the local rural setting and/or character. One or more proposed turbines will be visible from 	No impacts expected.

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Resource	53-Turbine Alternative	96-Turbine Alternative	No Action
Cultural and Visual Resources (continued)	<p>approximately 68 percent of the five-mile radius study area.</p> <ul style="list-style-type: none"> Fifty-six (56) visually sensitive resources have a potential view of the proposed Project. One hundred eighty-six (186) residences located within 10 rotor diameters could experience some degree of shadow flicker. None of the 186 studied shadow receptors would be affected more than 30 hours per year. Required aviation warning lights (USDOT – FAA) on the turbines could present a potential adverse visual impact from some viewing locations. In some open elevated areas within the landscape, it is possible that large portions of the Project would be visible. 	<p>approximately 67 percent of the five-mile radius study area.</p> <ul style="list-style-type: none"> Sixty-seven (67) visually sensitive resources have a potential view of the proposed Project. One hundred ninety-seven (197) residences located within 10 rotor diameters could experience some degree of shadow flicker. Thirty-five (35) of the 197 studied shadow receptors would be affected more than 30 hours per year. Required aviation warning lights (USDOT – FAA) on the turbines could present a potential adverse visual impact from some viewing locations. In some open elevated areas within the landscape, it is possible that large portions of the Project would be visible. 	
Air Quality	<ul style="list-style-type: none"> Temporary minor adverse impacts to air quality may result from the operation of construction equipment and vehicles. It is estimated that annual reductions of air pollutants would be 87 tons of nitrogen oxides and 313 tons of sulfur dioxides. The proposed project will offset approximately 73,085 tons of carbon dioxide annually. 	<ul style="list-style-type: none"> Temporary minor adverse impacts to air quality may result from the operation of construction equipment and vehicles. It is estimated that annual reductions of air pollutants would be 669 tons of nitrogen oxides and 236 tons of sulfur dioxides. The proposed project will offset approximately 158, 576 tons of carbon dioxide annually. 	No impacts expected; however, no benefits would be realized.
Noise	<ul style="list-style-type: none"> The proposed Project would generate noise during and after construction Construction noise would include noise generated during the transport of project materials and equipment, and the installation of project components. Construction activities at turbine sites will result in sound levels substantially below 80 dBA at any homes due to the setback distance of at least 1,000 feet. During operation, three (3) residences would have a nominal Project sound level slightly above the potential impact threshold of 6dBh over the estimated ambient 42 dBA 	<ul style="list-style-type: none"> The proposed Project would generate noise during and after construction Construction noise would include noise generated during the transport of project materials and equipment, and the installation of project components. During operation, approximately 48 residences would have a nominal Project sound level slightly above the potential impact threshold of 6dBh over the estimated ambient 42 dBA 	No impacts expected.
Telecommunications	<ul style="list-style-type: none"> There are no impacts to television signal coverage during Project construction and operation. It is unlikely that the Project would impact government communications. 	<ul style="list-style-type: none"> There are no impacts to television signal coverage during Project construction and operation. It is unlikely that the Project would impact government communications. 	No impacts expected.

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Safety and Security	<ul style="list-style-type: none"> • There is a remote possibility that ice shed from turbines could cause personal or property injury. • There is a remote possibility that tower collapse or turbine failure could cause personal or property injury. • Potential to create stray voltage if the electrical system is both poorly grounded and located near underground or poorly grounded metal objects. • Due to height and materials used to construct, the wind turbines are susceptible to lightning strikes. The Project, by the nature of the physical dimensions, may present response difficulties to local emergency responders should a fire occur within a structure. • Storage and use of diesel fuels, lubricating oils, and hydraulic fluids within the Project boundary may create the potential for fire or medical emergencies. 	<ul style="list-style-type: none"> • There is a remote possibility that ice shed from turbines could cause personal or property injury. • There is a remote possibility that tower collapse or turbine failure could cause personal or property injury. • Potential to create stray voltage if the electrical system is both poorly grounded and located near underground or poorly grounded metal objects. • Due to height and materials used to construct, the wind turbines are susceptible to lightning strikes. The Project, by the nature of the physical dimensions, may present response difficulties to local emergency responders should a fire occur within a structure. • Storage and use of diesel fuels, lubricating oils, and hydraulic fluids within the Project boundary may create the potential for fire or medical emergencies. 	No impacts expected.