

COMMONWEALTH OF KENTUCKY
BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION
AND TRANSMISSION SITING

In the Matter of:

Electronic Application of Caldwell Solar, LLC)
for Certificate of Construction for an up to 200)
Megawatt Merchant Electric Solar Generating)
Facility in Caldwell County, Kentucky)

Case No.
2020-00244

Motion for Deviation from Setback Requirements

Comes now Caldwell Solar LLC (“the Applicant” or “Caldwell”), by counsel, and requests the Kentucky State Board on Electric Generation and Transmission Siting (the “Board”) grant a deviation from the setback requirements of KRS 278.706(2)(e) as allowed under KRS 278.704(4). In support of this motion, Caldwell states as follows:

STATUTORY AUTHORITY

1. KRS 278.706(2)(e) establishes setback requirements for merchant generating facilities such as Caldwell by requiring that “all proposed structures or facilities used for generation of electricity [be] two thousand (2,000) feet from any residential neighborhood, school, hospital or nursing home facility.” Because Caldwell County has no planning and zoning ordinances governing relevant setback requirements, these statutory setback requirements apply. KRS 278.704(4) authorizes the Board to grant a deviation from setback requirements to allow a shorter distance upon “a finding that the proposed facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than [statutorily prescribed].”

PROPERTIES WITHIN 2000 FEET

2. Application Exhibit I, Figure 1 (p. 17 hereto), shows buffers of varying distance from the Project boundaries, including a buffer distance of 2000 feet in medium blue. There are no schools, hospitals or nursing homes within 2000 feet of the Applicant's proposed location of structures or facilities used for generating electricity in Caldwell County.

3. There are two groupings of residences that arguably meet the statutory definition of residential neighborhoods and are within 2000 feet of Caldwell's structures or facilities used for the generation of electricity. KRS 278.700(6) defines "residential neighborhood" as "a populated area of five (5) or more acres containing at least one (1) residential structure per acre." The two groupings that arguably are "residential neighborhoods" within 2000 feet are as follows:

- Residential Group 1 (*see* Motion Figure 1, p. 15 hereto) is located in the north-central portion of the project, at the intersection of Marion Road with Crider and Goodsprings Roads. The boundary shown around the residences encompasses approximately 10 acres and includes 13 residences. The larger boundary, shown by a dashed line, identifies the location of the 2000 feet boundary respective to the residential group boundary. The nearest proposed structures or facilities used for the generation of electricity (specifically, solar panel arrays) are at least 300 feet from the closest residence.
- Residential Group 2 (*see* Motion Figure 2, p. 16 hereto) is located near the project boundary, along Old Fredonia Road. The boundary shown around the residences encompasses approximately 7 acres and includes 8 residential structures. The larger boundary, shown by a dashed line, identifies the location of the 2000 feet boundary respective to the residential group boundary. The nearest proposed structures or facilities used for the generation of electricity (specifically, solar panel arrays) are at least 300 feet from the closest residence.

The drawn boundaries circumscribe areas that may meet the KRS 278.700(6) criteria of “five (5) or more acres containing at least one (1) residential structure per acre”; however, boundaries that included only residential property or all of the property associated with each residence might not meet those criteria.¹ In addition, each circumscribed area might not be considered to be a “populated area” within the meaning of KRS 278.700(6) or the areas might be disqualified from being a “residential neighborhood” by another factor (*e.g.*, the presence of a dividing roadway like Marion Road or Old Fredonia Road or the “piano key” arrangement of properties along the road).

4. Uncertainty about whether either or both groupings are “residential neighborhoods” within the meaning of KRS 278.700(6) leads Caldwell to request two alternative forms of relief. One (the focus of this filing) is for approval of a deviation from the requirement that “all proposed structures or facilities used for generation of electricity” be at least 2000 feet “from any residential neighborhood, school, hospital or nursing home facility.” In the alternative, Caldwell requests a determination that no deviation is necessary because neither of these groupings is a “residential neighborhood.”

REQUEST FOR DEVIATION

5. The Board should grant a deviation from the 2000-foot setback requirement as to the possible residential neighborhoods because the Project “is *designed to and*, as located, *would meet* the goals of [the cited provisions in KRS Ch. 224 and 278] at a distance closer than those provided” by statute. KRS 278.704(4) (emphases added).

¹ For example, the portion of the Group 1 cluster to the east of Marion Road covers approximately 3.5 acres, fewer than the minimum five (5) acres required for a KRS 278.700(6) “residential neighborhood.”

6. The Board considered several requests for deviations from setback requirements in the first 15 years of its history.² Recently, the Board has allowed deviations from the statutory setback requirements for merchant solar energy projects like Caldwell, subject to certain mitigation measures.³ To allow a deviation, the Board must make a finding that the proposed facility is designed to and, as located, would meet the goals of the designated statutes. KRS 278.704(4). Included in the listed statutes are the setback requirements themselves, *i.e.*, KRS 278.706(2)(e). The 2010 *ecoPower* decision, Case No. 2009-00530, states regarding the similar setback requirements found in KRS 278.704(2), that they “were enacted to afford some level of protection for persons occupying a property adjacent to a property where a merchant generating plant is to be constructed and operated.”⁴ Therefore, “it is the effects of the planned facility on adjoining residents that the Siting Board must consider when determining whether to grant a deviation pursuant to KRS 278.704(4).”⁵

7. By its express words, KRS 278.704(4) simply requires a showing that the goals of the statutes cited therein can be met with facilities at a distance less than what is statutorily provided in KRS 278.706(2)(e). On Motion Figures 1 and 2 (pp. 15 & 16, respectively), a dashed

² See Case No. 2002-00149, *Application of Kentucky Mountain Power, LLC/Enviropower, LLC for a Merchant Power Plant Construction Certificate in Knott County, Kentucky near Talcum* (Siting Board Sep. 5, 2002, Final Order); Case No. 2009-00530, *Application of ecoPower Generation-Hazard, LLC for a Certificate to Construct and Operate a Merchant Electric Generating Facility and a 69kV Transmission Line in Perry County* (Siting Board Apr. 22, 2010, Order denying deviation without prejudice and May 18, 2010 Final Order granting deviation request); Case No. 2014-00162, *Application of SunCoke Energy South Shore, LLC for a Certificate to Construct a Merchant Electric Generating Facility and Non-Regulated Transmission Line* (Siting Board Feb. 20, 2015 Final Order).

³ See Case No. 2020-00040, *Turkey Creek* (Order 9/23/2020); Case No. 2020-00043, *Glover Creek* (Order 9/23/2020); Case No. 2020-00190, *Horseshoe Bend* (Order 6/11/2021); Case No. 2020-00206, *AEUG Fleming* (Order 5/24/2021); Case No. 2020-00208, *Northern Bobwhite* (Order 6/18/2021); and Case No. 2020-00280, *Ashwood Solar I, LLC* (Order 6/21/2021).

⁴ Case No. 2009-00530, *ecoPower* (Siting Board 5/18/10 Order at 31).

⁵ *Id.* at 32 (referring specifically to the 1000-foot standard, which is inapplicable here).

line shows the area within 2000 feet of the respective residential group boundary. In the circumstances presented by Caldwell's proposed Project, the question is whether the statutory goals are met even though some structures or generating facilities will be closer to a residential group than the 2000 feet otherwise specified.

COMPLIANCE WITH STATUTORY GOALS

8. **KRS 224.10-280** requires submission of a cumulative environmental assessment (CEA) to the Kentucky Energy and Environment Cabinet ("the Cabinet") before beginning construction of an electric power plant. Caldwell included a copy of its CEA as part of its Application filed with the Board, as an attachment to Exhibit G, and submitted it to the Cabinet on October 21, 2021. Caldwell's CEA includes a detailed discussion of potential impacts and mitigation plans for air pollutants, water pollutants, wastes, and water withdrawal, which are briefly discussed below. By submitting a CEA to the Cabinet, the goals of KRS 224.10-280 have been met. As examples of steps the Applicant is taking to protect nearby property owners from any negative impacts from the Project, the elements of the CEA are briefly discussed as follows:

a. Regarding air pollutants, the CEA concludes that air quality impacts from construction would occur during daylight hours over the approximately 12-month construction period. However, anticipated emissions generated by construction are expected to be minor due to the scale and duration of operations, and that no air permit is required for the project. Temporary fugitive air pollutant emissions (dust and other suspended particulates) will be mitigated using Best Management Practices (BMPs) so that ambient air quality standards will not be exceeded. Any emissions from the operation of the Project would be generated by worker vehicles and maintenance equipment and would be negligible. By providing a zero-emissions source of

energy for the region, the Project will yield an overall benefit to air quality at both the local and regional levels.

b. Regarding water pollutants, as discussed in more detail in the CEA, wetlands, ponds and creeks are present within the project boundary, but none of the water bodies inside or directly adjacent to the site have been designated as Kentucky Special Waters by the Kentucky Division of Water (DoW).

i. The Project will follow BMPs to limit surface water pollution from dust and sediment from erosion during construction, including the use of existing roads as much as possible. Caldwell will mitigate the effects of construction activities that may result in storm-water discharges through the use of silt fences, sediment basins, 25-foot buffer zones and other BMPs. BMPs will also be used to minimize the spill risk of any hazardous materials (fuel, lubricants, fluids) related to construction that may potentially contaminate groundwater. Once construction is complete, locally-appropriate vegetation cover will be planted and safely maintained to stabilize disturbed soil.

ii. Some Project access roads will be sited within mapped floodplains, requiring state and county approvals to ensure the risk of damage from a flood is significantly reduced.

iii. Any impacts to jurisdictional waters will be covered under a Nationwide Permit through the Army Corps of Engineers which will be obtained prior to construction, and all construction and operational activities will comply with the Clean Water Act.

iv. Caldwell will work with DoW to design and implement a storm-water pollution prevention plan (SWPPP) and comply with a DoW Construction Storm Water Discharge General Permit.

v. Similarly, with respect to groundwater, any hazardous materials (including but not limited to fuel, lubricants, hydraulic fluids, herbicides, and fertilizers) will be limited to essential use only, be properly stored, and will be used following proper techniques. Proper maintenance of machinery, spill prevention protocols, and readily available spill kits will be used to reduce the risk of groundwater contamination.

vi. Since much of the current land use is dedicated to cultivated crops and pasture, which introduces fertilizers, herbicides, and pesticides into the local water system, surface water conditions may improve over the life of the project by converting the land to solar fields. The conversion of the Project area from agricultural land use to solar energy production will produce a net reduction in fertilizer, herbicide, and pesticide application to the land, and minor benefits to groundwater systems are also anticipated as a result.

c. Regarding wastes, Caldwell's CEA notes that project construction will generate small quantities of waste, including hazardous waste, during construction and operation. To avoid any on and off-site impacts, all waste will be stored, handled, and disposed of in accordance with local, state, and federal regulations. Caldwell will develop a hazardous materials business plan to ensure materials are handled, used, and stored using BMPs, with resources and operating procedure guidelines in place in case of a spill. Waste materials will be monitored daily during construction to ensure proper handling and stored in containers most appropriate for each type of waste, acquired from certified waste disposal contractors. Solid construction wastes will be recycled if possible, and non-recyclable solid materials will be removed from the Project site and disposed of at an appropriate facility.

d. Finally, regarding water withdrawal, as the CEA discusses more fully, construction and operation of Caldwell's solar electric generating facilities are not anticipated to

be water intensive. If existing wells within the Project area are not sufficient for construction and operation needs, then a new well may be developed. However, water withdrawal for the Project is not expected to create negative effects on regional water resources.

9. **KRS 278.010** sets forth definitions to be used for KRS 278.010 to 278.450, 278.541 to 278.544, 278.546 to 278.5462, and 278.990 — none of which are directly applicable to Caldwell Solar or the Project. To the extent relevant,⁶ Caldwell has satisfied any goals of KRS 278.010 by preparing and presenting its Project proposal and Application in terms consistent with the statutory definitions.

10. **KRS 278.212** requires the filing of plans and specifications for electrical interconnection with merchant electric generating facilities and imposes the obligation upon a merchant electric generating developer for any costs or expenses associated with upgrading the existing electricity transmission grid as a result of the additional load caused by the merchant electric generating facility. Caldwell has an interconnection agreement with Big Rivers Electric Corporation (“BREC”) to connect to the transmission grid at the BREC Barkley Substation and pay the related costs.⁷ As designed and as located, Applicant’s proposed project therefore meets the goals of KRS 278.212.

11. **KRS 278.214** governs the curtailment of service and establishes the progression of entities whose service may be interrupted or curtailed pursuant to an emergency or other event. To the extent this section applies to the operation of Caldwell’s proposed generation or

⁶ As the first section in the chapter, KRS 278.010 may have been mistaken for a “purposes and goals” statement for Chapter 278. Or its inclusion in the KRS 278.704(4) list may have been to help discern the goals of the other Chapter 278 sections listed.

⁷ See also the Site Assessment Report (Appl. Exh. H) at p.9 (Table 2), *Additional Measures* item 4.

the Project, Applicant commits to following all appropriate and legally binding operating procedures. Applicant's project is thus designed and located to meet the goals of KRS 278.214.

12. **KRS 278.216** requires utilities under the jurisdiction of the Kentucky Public Service Commission to obtain a site compatibility certificate before beginning construction of an electric generating facility capable of generating more than 10 megawatts. As with Siting Board certificates, applications for utility site compatibility certificates must include a site assessment report as specified in KRS 278.708(3) and (4) or show compliance with the National Environmental Policy Act. Caldwell's filing of a site assessment report as part of its application in the present proceeding satisfies the goals of KRS 278.216.

13. **KRS 278.218** governs certain transfers of utility assets having an original book value of \$1 million or more. Caldwell is not a utility as defined in 278.010(3), and therefore this statute does not apply to the Applicant. However, to the extent Board approval may at some time be required for change of ownership or control of assets owned by Caldwell or its parent company, Caldwell will comply with the applicable rules and regulations which govern its operation.

14. **KRS 278.700 – .716** governs the Siting Board's jurisdiction and process. Caldwell's application and timely participation in the present proceeding demonstrates that the Applicant's proposed facility is designed to, and as located, would meet the goals of KRS 278.700 *et seq.*, including the allowance for deviation from setback requirements in KRS 278.704(4). Moreover, the mitigation measures discussed in the Application relative to noise, traffic, scenic, and other impacts of the proposed project are additional steps the Applicant has committed to take in order to minimize the effects of the planned facility on the two residential groups closer than 2000 feet to proposed structures or facilities used for generation of electricity.

MITIGATION EFFORTS

15. The Noise Assessment attached to Caldwell’s Site Assessment Report (Application Exhibit H) concludes that “any adverse noise impact from the project is highly unlikely, if [Project] sound emissions are audible at all.” Appl. Exh. H, Attachment B p.5. Noise associated with the Project in the construction phase and during operations will not contribute to a significant noise increase when compared to the noise currently occurring on site from operation of farming equipment and crop harvesting. See Appl. Exh. H, p.6 and Attachment B (Noise Assessment). In particular, noise levels from generation facilities at the Project are sufficiently low that the daytime-only output from the arrays and inverters closest to the residences in the two Residential Groups will fall below 45 dBA before reaching a residence or any part of the grouping. See Noise Assessment (Appl. Exh. H, Attachment B), Plot 1. To reduce any adverse effect, Caldwell will use the mitigation measures listed in Appl. Exh. H, pp. 8-9 (Table 2), *Traffic and Noise* items 3, 7-8. As more fully reported in the Site Assessment Report and Noise Assessment:

a. Noise will be present on the Project site during construction; however, due to the size of the Project site and the distance to the nearest receptors, construction is not anticipated to contribute to significant off-site noise increase when compared to the noise currently occurring on site from the operation of farming equipment and crop harvesting. Appl. Exh. H, p.6. In addition, Caldwell will mitigate any temporary construction noise impacts by limiting noise-creating construction activities to take place only from 7 a.m. to 7 p.m.

b. Periodic noise associated with the solar panel tracking system and the relatively constant hum of inverters will only occur during daytime operation. This increase in noise will be negligible due to the distance of noise-generating solar equipment from the nearest noise receptor. The noise produced by the inverters will only occur during daytime operation of the facility and is not anticipated to be a contributor of noise to the nearest receptor; it will fall below

even the nighttime limit of 45 dBA inside of the proposed Project fencing in most cases, and in the vicinity of Residential Group 1 and 2 in particular. *See* Noise Assessment (Appl. Exh. H, Attachment B), Plot 1. The brief and intermittent sound from the tracking system motors will be very quiet and only barely perceptible from within the solar panel arrays themselves. The nighttime sound limit will not be exceeded under any conditions, because neither trackers nor inverters will operate or produce sound during the night, when generation is not in operation. *Id.* Plot 2.

c. The substation transformer sound levels will be at 45 dBA approximately 700 feet (daytime) and 440 feet (nighttime) from the substation. *See* Appl. Exh. H, Attachment B pp. 2-5 & Plots 1-2. The nearest residence in the two residential groupings is well over 2000 feet away from the proposed substation. *See* Appl. Exh. I, Figure 1. Caldwell commits to siting the substation at least 1000 feet from any residence in the final layout. *See* Appl. Exh. H pp.6 & 8 (Table 2, *Viewshed Protection* item 2).

d. Site visits and maintenance activities, such as mowing, will take place during daylight hours and will not significantly contribute to noise. The noise associated with these activities is very similar to that currently generated onsite by farming activities and offsite by commercial and farm uses. *See* Appl. Exh. H p.3.

16. As discussed in Caldwell's Site Assessment Report (Application Exhibit H p.4), the visual impact of the Project on neighboring property owners is low and is mitigated by vegetative buffers and steps taken to minimize light pollution.

a. Caldwell prepared a screening plan, *see* Application Exhibit I, Figure 2,⁸ to mitigate potential visual impacts to nearby properties. If a vegetation buffer is not already

⁸ Vegetative buffer details are also included in Application Exhibit J, Sheet CDW- L-100-1.

present between the Project boundary and adjacent residential structures, one will be planted. Around 20 buffers (including deciduous and evergreen trees and shrubs) are planned, each ranging from 450 feet to 4780 feet in length (total length of proposed screening is 26,426 feet). The majority of buffers will be planted along the Project perimeter, with a smaller proportion within the Project area. Two buffer segments, 2600 and 3400 feet in length, will be planted on the Project perimeter near Residential Group 1 and one buffer segment, 2400 feet in length, near Group 2, *see* Motion Figure 1 & 2. These proposed buffer installments will be supplemental to the existing vegetation between the residential groups and the Project. *See* Motion Figure 1 & 2 (pp. 15-16 hereto); Application Exhibit I, Figure 2; Application Exhibit J, sheets CDW-E-502-03 and CDW-E-502-06.

b. A Glare Report (Appl. Exh. H, Attachment C) was prepared for the Project and found no impact to sensitive receptors from glare associated with facility infrastructure. Caldwell will place security lighting at entrances that are down-lit; this lighting will be manually controlled and motion activated. In addition, lights at each inverter will be switch controlled for repair purposes, so that the lights will be on only when needed. *See* Appl. Exh. H p.4.

c. Given that adjacent property values are not anticipated to be impacted by the siting of the solar facility (*see* Appl. Exh. H, Attachment D), implementation of vegetative screening buffers, and compliance with all regulatory requirements, the Project is scenically compatible with its surroundings.

17. As discussed in the Traffic Study included in Caldwell's Site Assessment Report (Application Exh. H, Attachment F, pp. 4-5), traffic will temporarily increase during the construction phase of the Project and any traffic effects during the operations phase will be negligible; neither is expected to affect traffic function. Mitigation measures will be employed during

construction to reduce the contribution of fugitive dust and other airborne materials. Appl. Exh. H, Attachment F, p.6. These and other measures related to traffic will be employed by Caldwell to mitigate potential Project impacts. See Appl. Exh. H pp. 6-7, Table 2 (Project Mitigation Measures).

18. Furthermore, the residents in the two Residential Groups 1 and 2 are all covered by mitigation measures for Caldwell to give 30 days' advance notice about the construction plan, noise potential, and mitigation plans and to respond to noise-related complaints and work with complaining residents to reduce noise-related concerns. See Appl. Exh. H, p. 9 (Table 2), *Traffic and Noise* items 7 & 8. In addition, and throughout the Project, Caldwell has committed to placing panels and inverters no closer to residences than 200 feet; the substation, no closer than 1000 feet. See Appl. Exh. H, p. 8 (Table 2), *Viewshed Protection* item 2. Caldwell makes the further commitment to place panels and inverters no closer than 300 feet to any of the residences in Residential Groups 1 and 2.

CONCLUSION

The proposed mitigation measures will protect residents in the two residential groupings from any adverse impact that may result from the proposed project being located closer than 2000 feet. Applicant will continue to work closely with property owners throughout the design phase of the project and proposes to retain natural buffers and to implement mitigation measures to address property owners' visual impact and noise concerns.

WHEREFORE, because the proposed facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716, at a distance closer to the two residential groupings than 2000 feet, Caldwell respectfully requests a deviation from the setback requirements of KRS 278.706(2)(e). In the alternative,

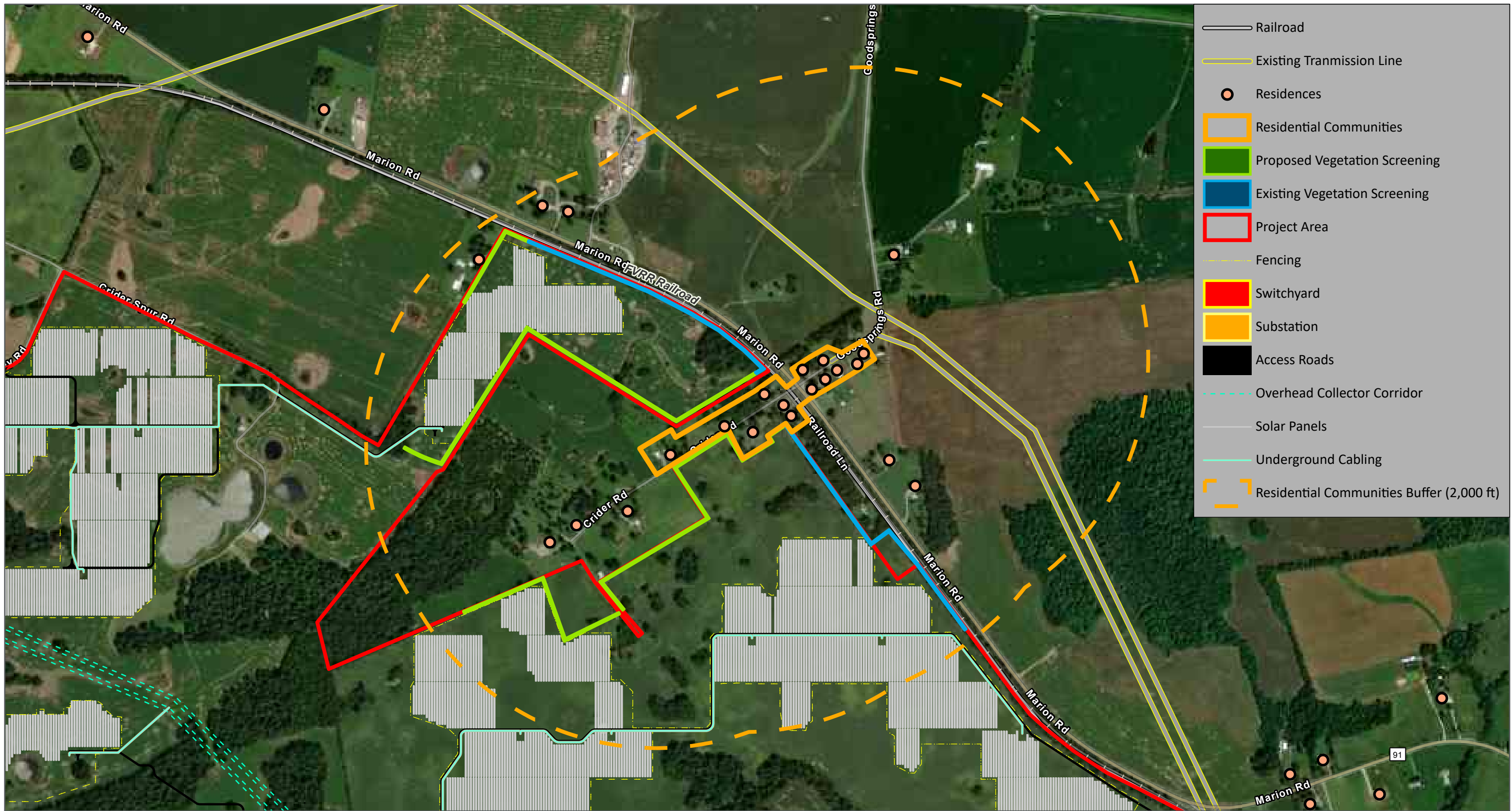
Caldwell respectfully requests a determination that no deviation is needed because neither grouping constitutes a “residential neighborhood” within the meaning of KRS 278.700(6).

Respectfully submitted,

/s/ Jason R. Bentley

Jason R. Bentley
Katherine K. Yunker
McBrayer PLLC
201 East Main St., Suite 900
Lexington, KY 40507
(859) 231-8780
jbentley@mmlk.com
kyunker@mcbrayerfirm.com

*Counsel for Applicant,
Caldwell Solar, LLC*



-  Railroad
-  Existing Transmission Line
-  Residences
-  Residential Communities
-  Proposed Vegetation Screening
-  Existing Vegetation Screening
-  Project Area
-  Fencing
-  Switchyard
-  Substation
-  Access Roads
-  Overhead Collector Corridor
-  Solar Panels
-  Underground Cabling
-  Residential Communities Buffer (2,000 ft)

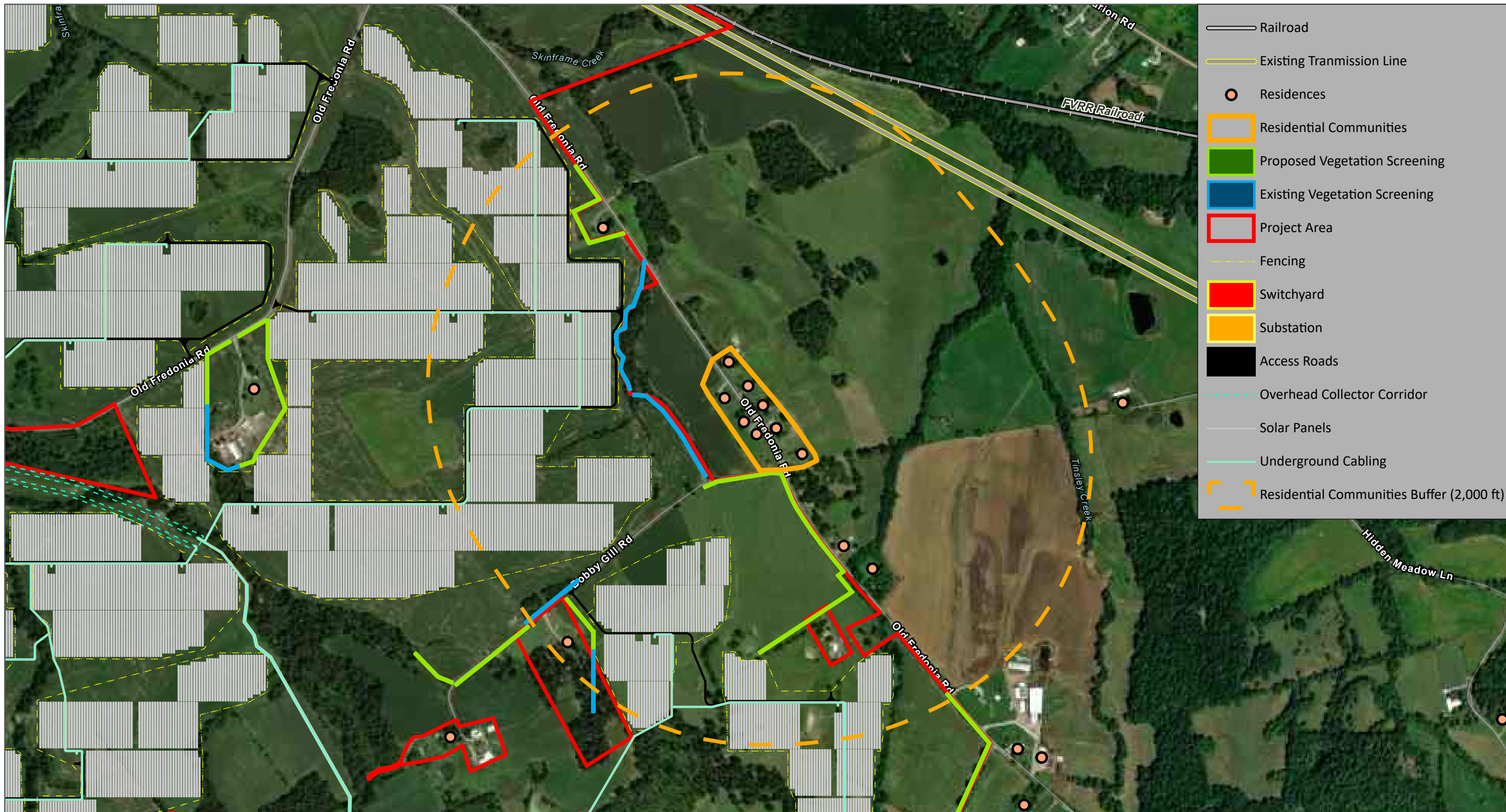
Figure 1 Residential Areas Map

Caldwell Solar Project
Caldwell County, Kentucky

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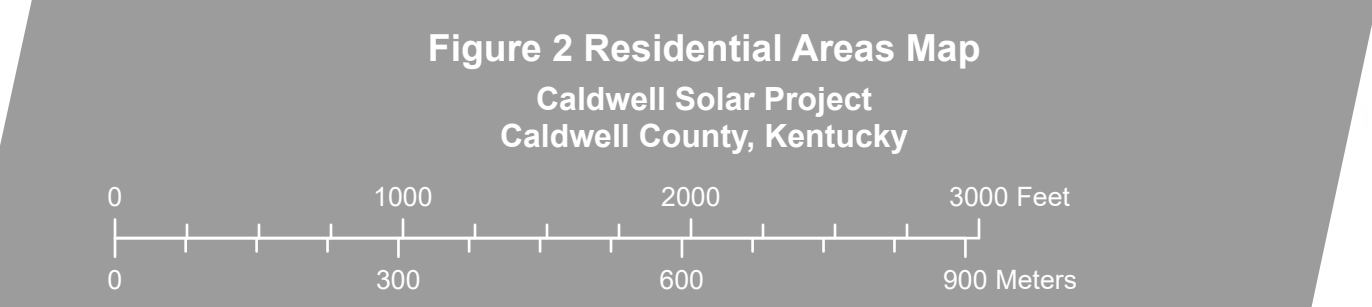


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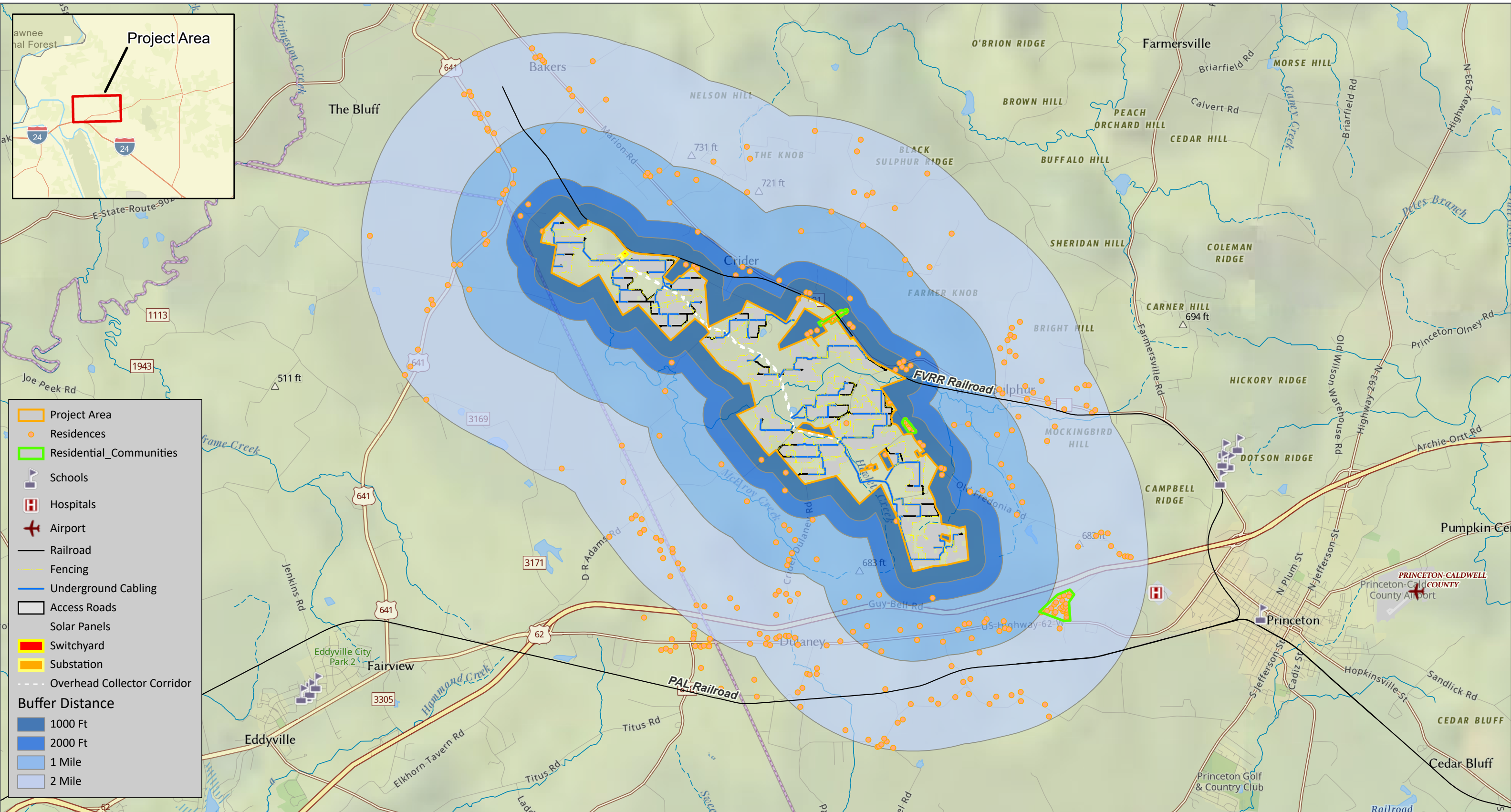


Figure 1 Project Buffers Map
 Caldwell Solar Project
 Caldwell County, Kentucky

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