

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application)	
of Kingwood Solar I LLC, for a)	
Certificate of Environmental)	Case No. 21-0117-EL-BGN
Compatibility and Public Need)	

**POST-HEARING BRIEF OF CITIZENS FOR GREENE ACRES, INC.,
JENIFER ADAMS, P. CHANCE BALDWIN, JACOB CHURCH, VERITY
DIGEL, JED HANNA, KRAJICEK FAMILY TRUST, JAMES JOSEPH
KRAJICEK, KAREN LANDON, NICOLE MARVIN, CHAD MOSSING,
KAREN MOSSING, NICHOLAS PITSTICK, KYLE SHELTON,
MARLIN VANGSNESS, JEAN WEYANDT, AND JERALD WEYANDT**

Jack A. Van Kley (0016961)
Counsel of Record
Van Kley & Walker, LLC
132 Northwoods Blvd., Suite C-1
Columbus, Ohio 43235
(614) 431-8900 (telephone)
(614) 431-8905 (facsimile)
Email: jvankley@vankleywalker.com

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Intervenor Citizens for Greene Acres, Inc. (“CGA”) and its above-named members (collectively with CGA, the “Citizens”) hereby file their Post-Hearing Brief. CGA is an organization of 92 members, 48 of whom live on properties adjacent to the project area for the Kingwood Solar Project (“Project”). Citizens Exh. 1, Adams Direct Testimony, p. 2, line 5 & Exh. C. The Citizens request that the Ohio Power Siting Board (“Board” or “OPSB”) deny the application (“Application”) for certificate requested by Kingwood Solar I LLC (“Kingwood”).

ARGUMENT

I. Standards for Certification Of Major Utility Facilities

No person may construct a major utility facility without first obtaining a certificate for the facility. R.C. 4906.04. The proposed Project would be a “major utility facility” as defined by R.C. 4906.01(B)(1)(a), because it is designed to generate in excess of 50 megawatts of electricity. In order for the Board to issue a certificate for a major utility facility, OPSB must hold a hearing on the application. R.C. 4906.07. The Board must render a decision on the record either granting or denying the certificate based on the application as filed, or granting it

on such terms, conditions, or modifications as the Board considers appropriate. R.C. 4906.10(A).

The Board may not grant a certificate unless it finds and determines, *inter alia*, the following:

- (a) “The nature of the probable environmental impact.” R.C. 4906.10(A)(2).
- (b) “That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations.” R.C. 4906.10(A)(3).
- (c) “That the facility will serve the public interest, convenience, and necessity.” R.C. 4906.10(A)(6).

R.C. 4906.10(A)(3) prohibits OPSB from issuing a certificate unless “the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations.” Emphasis added. The dictionary meaning of “minimum” is “the least quantity assignable, admissible, or possible.” The Merriam-Webster Dictionary, “Minimum,” <https://www.merriam-webster.com/dictionary/minimum> (accessed April 8, 2022). As explained below, Kingwood has not demonstrated that its Project achieves the minimum adverse environmental impact with respect to the many harms that the Project will cause. Kingwood also has not provided the information required by the Board’s rules that is necessary for the Board to determine the nature of the Project’s probable environmental impact.

II. An Administrative Agency Such As The Ohio Power Siting Board Is Required To Comply With Its Own Rules.

Administrative regulations issued pursuant to statutory authority have the force and effect of law, so an administrative agency such as OPSB is required to follow its own rules. *State ex rel. Cuyahoga Cty. Hosp. v. Ohio Bureau of Workers' Comp.*, 27 Ohio St.3d 25, 27–28, 500 N.E.2d 1370, 1372–73 (1986); *Parfitt v. Columbus Corr. Facility*, 62 Ohio St.2d 434, 436, 437, 406 N.E.2d 528, 530 (1980); *Clark v. Ohio Dep’t of Mental Retardation and Developmental*

Disabilities, 55 Ohio App.3d 40, 42 (6th Dist. 1988). A citizen is entitled to enforce such an agency's rule against the agency if the citizen is a member of the class which the rule was intended to benefit. *Parfitt*, 62 Ohio St.2d at 436.

OAC Chapter 4906-4 is an integral component of the process set up by R.C. 4906.06 and R.C. 4906.07 to provide members of the public with the information they need to provide the Board with informed input on a project that could impact them. R.C. 4906.06(A)(2) requires an application to contain "[a] summary of any studies that have been made by or for the applicant of the environmental impact of the facility." The application must include the information required by OAC Chapter 4906-4 in order to determine whether the criteria of R.C. 4906.10(A) have been met. OAC 4906-2-04(B). The applicant is further required to publish public notices notifying the public about the application and where to find a copy of the application for review. R.C. 4906.06(C); OAC 4906-3-06(C)(4) & (5), 4906-3-07, & 4906-3-09. Section 4906.07(A) instructs OPSB to schedule the hearing only after receiving a complete application "complying with section 4906.06 of the Revised Code." Thereafter, the Board conducts a hearing to obtain evidence from the parties and the public, including intervenors. R.C. 4906.07(A).

In this case, the evidentiary record lacks much of the information required by OAC Chapter 4906-4. The Board may not issue a certificate without this information. The missing information is necessary for the Citizens to participate meaningfully in the hearing process. This information is also needed for the Board to make sound decisions under the R.C. 4906.10(A) criteria, namely, whether to approve the Project, and if so, how it should be designed to minimize the Project's impacts on the Citizens. The Citizens would be prejudiced by OPSB's failure to comply with these rules, and they have standing to seek OPSB's compliance with its rules.

Many of Kingwood's rule violations stem from its failure to provide definitive designs and mitigation plans for the various types of damage its Project can cause. Kingwood's widespread lack of commitments stem from its failure to include a final design plans in the Application for the public to review and test and for the Board to act on. This strategy, if allowed by the Board, will eviscerate the public's right to meaningful input into the Board's decision-making on this Application.

No final plan for the Project has been prepared. Stickney, Tr. I 126:2-25. The Project layout showing component locations in the Application is just preliminary. *Id.*; Kingwood Application ("Applic."), Figure 03-3. Even the legend for the Application's "updated" Project layout in Kingwood's responses to the Staff's data requests refers to the locations for solar arrays, transformer pad, collection lines, and gravel roads as "potential," which means their locations can be moved elsewhere inside the setbacks of the Project Area. Stickney, Tr. I 62:12 to 64:8, 131:24 to 134:8; Kingwood Exh. 2, pdf p. 24. As the Application states, the locations of the Project's components are subject to change until construction. Stickney, Tr. I 126:2-25; Applic., p. 9. In his testimony, Mr. Stickney attempted to provide the appearance that only slight locational changes can be made prior to construction, but ultimately he admitted that facility components can be moved anywhere inside the outside boundaries of the Project Area so long as setbacks are met. Stickney, Tr. I 127:1 to 131:23. This means that facility components can be moved closer to the neighbors, if setbacks are observed. Stickney, Tr. I 135:4-21. In rebuttal, Kingwood presented yet another revised Project layout in Exhibit C to Mr. Stickney's rebuttal testimony, and he argued that solar panels are no longer planned for the farm field next to 1451 Bradfute Road and other sensitive neighboring properties. Kingwood Exh. 107, Stickney Rebuttal Testimony, p. 14, line 13 to p. 15, line 2 & Exh. C. However, like Kingwood's other

Project layouts, this one also is preliminary and subject to change after certification. Stickney, Tr. IX:2145:2 to 2146:17.

Few, if any, other government entities approve building projects without first reviewing final design plans. This procedure is all the more egregious given that the OPSB process supplants local zoning that most certainly would have required final design plans so that the approving authority, with public input, could tell what it is approving. In this case, Kingwood's disregard for the Board's rule requirements has produced a Project design that is not approvable.

III. Public Opposition To The Project Shows That The Project Does Not Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6).

The OPSB has recognized that its determination of public interest, convenience, and necessity under R.C. 4906.10(A)(6) must be examined through a "broad lens" that balances a project's projected benefits against the magnitude of potential negative impacts on the local community. *In re Application of Republic Wind*, Ohio Power Siting Board Case No. 17-2295-EL-BGN, 2021 WL 2667132, at *1, *18 (June 24, 2021). In that case, the "especially prominent and one-sided" local opposition to the disapproved wind project was an important factor in OPSB's determination that the Republic Wind project did not serve the public interest, convenience, and necessity under R.C. 4906.10(A)(6).

The opposition to Kingwood's Project has been especially prominent and one-sided. Greene County, Cedarville Township, Miami Township, and Xenia Township all oppose this Project for being contrary to their citizens' best interests. The speakers at OPSB's local public hearing overwhelmingly opposed the Project, with so many people attending the hearing that many of the Project's opponents had to leave without making their remarks. The sign-in sheets for the public hearing also indicated one-sided opposition to the Project.

Jenifer Adams testified that she attended a Town Hall hosted by the Greene County Board of Commissioners at the Greene County Fairgrounds on April 6, 2021. Citizens Exh. 1, Adams Direct Testimony, p. 8, lines 18-19. The purpose of the Town Hall was for the commissioners to hear the concerns and input from Greene County residents regarding the Project. *Id.*, lines 19-21. Based on her observations, over 150 people attended, 39 local residents spoke, and based on the timing of applause the majority of those who did not speak appeared to be in opposition to the Project. *Id.*, p. 8, line 21 to p. 9, line 1. The majority of those who spoke were in opposition of the Project. *Id.*, p. 9, lines 1-2.

Ms. Adams further observed that opposition to the Project has been extensive, long-standing, and continues to grow. *Id.*, line 5. Opposition to the Project far outweighs support for the Project. *Id.*, lines 5-6. She has observed this in many ways which include through CGA's membership, attendance at CGA meetings, attendance at local government meetings to include the commissioners' town hall meeting, attendance at meetings hosted by the Project, attendance at the OPSB public hearing for the Project, letters regarding the Project submitted to the OPSB as public comments, and general feedback from members of the community. *Id.*, lines 6-11. Due to widespread local opposition to the Project, 92 local residents living near the Project Area have joined CGA to fight the Project.

Kingwood's sales tactics for recruiting participating landowners did not help its cause with local public opinion in many cases. For example, Kingwood's representatives applied high pressure tactics against Citizen James Joseph Krajicek in attempts to badger him into signing up the Krajiceks' land for participation in the Project. Citizens Exh. 8, Krajicek Direct Testimony, p. 8, lines 11-12. Kingwood representative John Soininen told him that his resistance to signing up that land was harming his neighbors who had signed up their land for the Project and that he

was killing his children by not doing his part to promote a solar project that would reduce air pollution emissions. *Id.*, lines 13-16. Mr. Soininen also said that Mr. Krajicek might as well sign up his land for the Project, because the Project was going forward whether or not he participated in the Project. *Id.*, lines 16-18. Tactics of that nature do not make friends in the non-participating community.

Faced with overwhelming local opposition to the Project, Kingwood tried to entice the community into dropping its opposition by offering money. Kingwood sent good neighbor agreements to 65 landowners adjacent to the Project Area offering to pay each landowner \$1,000 upon signing the agreement and another payment of \$7,500 to \$25,000 once Project construction started. Kingwood Exh. 6, Stickney Direct Testimony, p. 8, lines 3-7. Kingwood started offering good neighbor agreements in August 2021. Stickney, Tr. I 61:9-12. As of the time of hearing on March 7, 2022, only six landowners had taken the bait. Kingwood Exh. 6, Stickney Direct Testimony, p. 8, lines 8-9; Stickney, Tr. I 182:18 to 183:1.

For the same reason, Kingwood also offered money to the three townships on the condition they withdraw their opposition to the Project. Kingwood Exh. 6, Stickney Direct Testimony, p. 8, lines 10-20; Stickney, Tr. I 219:14-19. Kingwood is offering a “community benefit fund” of \$25,000 per year of the Project’s life to be divided among whichever townships agree to drop their opposition. *Id.*; Stickney, Tr. I 187:7-10. The townships have declined this offer. Stickney, Tr. I 190:1-3. So even big money from a wealthy developer cannot drum up any significant local enthusiasm for this Project. The Board should deny the certificate for this Project, because it does not satisfy the objectives of R.C. 4906.10(A)(6).

IV. The Project Does Not Comply With R.C. 4906.10(A)(6), Because The Project Conflicts With The Objectives Of Local Land Use Planning Codes.

Smothering the Project Area with industrial solar equipment is contrary to the land use objectives of Greene County and the three townships in which the Project area is situated. The Project Area is zoned in an agricultural district, not an industrial district. Miami Exh. 1, Sauer Direct Testimony, p. 16, lines 16-18. Citizens who purchase farms or rural homes expected to live in a rural or agricultural setting. *Id.*, p. 17, lines 4-5. Moving an industrial use such as a utility-scale solar facility is not compatible with local land use plans. *Id.*, p. 17, lines 3-9.

On August 26, 2021, the Greene County Board of County Commissioners passed a resolution declaring the county's intent to balance development and farmland preservation. Greene County Exh. 1, Huddleson Direct Testimony, p. 4, lines 76-83. Attached to that resolution was "Perspectives 2020: Amendment 2021-01." *Id.*, p. 4, lines 68-70. Perspectives 2020 is the county's comprehensive land use plan, which guides regional, county, and township officials when considering any new development or land use application. *Id.*, lines 71-75. Two important goals of Perspectives 2020 are the protection of agriculture and recreational resources. *Id.*, p. 4, lines 76-83 & p. 5, lines 87-98. Kingwood's Project is contrary to those objectives.

This Project also is incompatible with Greene County's Farmland Preservation Plan, which is designed to protect existing farm land from encroachment by other uses. Miami Township Exh. 1, Sauer Direct Testimony, p. 14, lines 4-20.

Section 400.1 of the Xenia Township Zoning Resolution explains that the township areas zoned as Agricultural District are intended to maintain and protect areas with an existing agricultural character and prime agricultural soils, which provide a substantial economic base for the township. Citizens Exh. 12, Rand Direct Testimony, Exh. D, p. 36 (pdf p. 82). It further advises that "[u]nnecessary encroachment by nonagricultural land uses which limits agricultural

effectiveness either through encroachment of land resources or through incompatibility of land uses will be discouraged.” *Id.* The Project is contrary to these objectives. Xenia Township Exh. 1, Combs Direct Testimony, p. 2, lines 16-24.

The Project also conflicts with the Miami Township zoning and land use plans, which are designed to protect open areas, recreational treasures, and agricultural land. Miami Township Exh. 3, Hollister Direct Testimony, p. 4, line 20 to p 6, line 3.

The Project is also inconsistent with Cedarville Township’s zoning and land use regulations. Cedarville Exh. 1, Ewry Direct Testimony, p. 2, lines 19-36. The Project’s industrial use is contrary to township’s objective to preserve farm land. *Id.*

Although local land use regulations are not legally binding on OPSB, a project’s incompatibility with local land use plans is an important consideration in determining whether the project serves the public interest, convenience, and necessity under R.C. 4906.10(A)(6). After all, those are the goals for local land use plans as well, and these plans mirror what the local community considers to be in the public interest, convenience, and necessity.

V. The Project Does Not Comply With R.C. 4906.10(A)(6), Because 1,025 Acres Of Good Farm Land Will Be Lost To Food Production For 35 Years.

The farm fields in the Project Area are currently growing grain crops. Citizens Exh. 8, Krajicek Direct Testimony, p. 9, lines 2-3. The solar project will remove 1,025 acres of agricultural land from food production. Applic., pp. 99-100, table 08-7. Of this acreage, about 316 acres are in an agricultural district as designated by Greene County. Applic., p. 119. This land will be lost to agricultural production for approximately 35 years, and the Project could last longer than that. Applic., pp. 120-121; Stickney, Tr. I 147:4-7.

The testimony of James Joseph Krajicek is informative about the good quality of the farm land in the Project Area. Mr. Krajicek is an experienced farmer who started farming at the age of

15 and who has farmed for 40 years. Citizens Exh. 8, Krajicek Direct Testimony, p. 2, lines 1-4. His farming activities, such as no till farming practices, vegetative buffer strips along streams, and constructing surface waterways that reduce soil erosion, are a study in good conservation practices. *Id.*, p. 2, lines 5-10, 14-23. Consequently, he was named by the Greene County Soil and Water Conservation District as the Conservationist of the Year on two occasions and has been named by the Greene County Cattlemen's Association as the Cattleman of the Year. *Id.*, lines 5-10. As an experienced farmer, Mr. Krajicek can recognize the quality of crop land by observing the characteristics of its soils and crops. *Id.*, p. 10, lines 3-4. Soil with higher fertility is blacker than less fertile soil, which has less organic material mixed into the soil particles. *Id.*, lines 4-5. Rainfall washes organic material off of higher land onto lower land, making the lower land more fertile and the higher land less fertile. *Id.*, lines 5-7. The crops on less fertile soil have fewer soybean pods, smaller corn ears, and shorter stalks. *Id.*, lines 7-8. Crops on less fertile soil wither and become yellow more quickly in dry weather and their green colors are not as dark in all weather conditions. *Id.*, lines 8-10. Based on Mr. Krajicek's observations from the public roads in and around the Project Area, he can see that most of the land in the crop fields in the Project Area is of average or above average quality for growing crops with the exception of some land owned by John Kyle, whose farm contains hillier land with below average quality for growing crops along with other land that is of average quality. *Id.*, lines 10-14. According to the U.S. Department of Agriculture, Greene County had the sixth highest average corn yield per acre in Ohio in 2020. *Id.*, lines 14-16.

Mr. Krajicek's observations about the quality of the farm land in the Project Area were echoed by Citizen P. Chance Baldwin. The land he farms has included a 106-acre field rented from his cousin, a participating landowner, for nine years. Citizens Exh. 2, Baldwin Direct

Testimony, p. 2, line 15 to p. 3, line 10. The soil in this field is black and fertile. *Id.*, p. 3, line 18. Based on crop yields, this field is the best farm land that Mr. Baldwin farms. *Id.*, lines 18-19.

Susan Jennings, the Executive Director of The Agraria Center for Regenerative Practice in Yellow Springs, also testified about the importance of farming in the Project Area. Ms. Jennings has an extensive occupational experience in land conservation as related to food production. Citizens Exh. 7, Jennings Direct Testimony, p. 1, line 26 to p. 2, line 16. Ms. Jennings echoed what the farmers in the area, such as Mr. Krajicek and Mr. Baldwin, have observed firsthand about the good quality of the farm land in the Project Area. Based on soil type data from the U.S. Department of Agriculture, soil maps, and communications with agricultural experts, about 98% of the Project Area contains prime or locally important soils. *Id.*, p. 5, lines 1-7.

Michele Burns of the Tecumseh Land Preservation Association confirmed that the crop fields in the Project Area are prime farm land, with about 98% of the Project Area containing prime or locally important soils. Tecumseh Land Exh. 1, Burns Direct Testimony, p. 2, lines 37-38. The U.S. Department of Agriculture defines prime farm land as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. *Id.*, p. 2, lines 30-32. Ms. Burns calculated that the Project Area produces approximately \$1,0000,000 annually in agricultural commodities, a figure that Ms. Jennings independently calculated and verified using agricultural statistics for Greene County. *Id.*, p. 3, lines 55-58; Citizens Exh. 7, Jennings Direct Testimony, p. 5, line 22 to p. 6, line 1; Jennings, Tr. VI 1345:18 to p. 1346:14 & p. 1387:1-10.

Ms. Jennings and Ms. Burns both testified about the need to keep farming the agricultural land in the Project Area rather than taking it out of production for 35 years. Prime farm land is hugely important to global food production. Tecumseh Land Exh. 1, Burns Direct Testimony, p. 2, lines 29-30. Only about 3% of the earth's surface, all of which is located in Ukraine, China, Brazil/Argentina, and the United States Corn Belt, contains prime farm land such as that found in the Project Area. *Id.*, lines 32-38. According to a United Nations report, the earth will need to grow 70% more food by 2050 to feed the population demand. *Id.*, lines 40-41. Ohio is blessed with some of the best farmland in the country, as well as abundant water to grow the crops. Citizens Exh. 7, Jennings Direct Testimony, p. 3, lines 16-17. These resources have led to agriculture and related industries being Ohio's number one economic driver with one in seven of its jobs related to agriculture. *Id.*, lines 17-18.

At the same time, farmland is under threat nationally and internationally, from a variety of sources including development, desertification and drought, and conflict. *Id.*, lines 8-9. Two recent examples are the Ukraine conflict which had an immediate impact on commodity availability internationally, and the drought in California, which is driving up food prices. *Id.*, lines 9-11. Other recent price and supply challenges include a steep rise in the price of fertilizer and other inputs, and transportation and processing issues. *Id.*, lines 11-13. The empty store shelves that began in the shutdowns two years ago alerted all of us of the need to be growing food closer to home and thus protecting farmland in our communities. *Id.*, lines 13-15.

Ms. Jennings, based on her experience with soil health, expressed doubts about whether the soils in a solar field can be restored to their pre-project vitality for growing crops. Citizens Exh. 7, Jennings Direct Testimony, p. 6, lines 6-11. As Ms. Jennings recommended, it would be

prudent not to replace crop fields with solar arrays until meaningful academic studies are conducted to answer this question. Citizens Exh. 7, Jennings Direct Testimony, p. 7, lines 18-22.

Kingwood contends that the Project will remove only 1% of Greene County's total farm land from farming. But that statistic is misleading. Every solar project removes just a small percentage of the total acreage from farming, but the cumulative effect of a multitude of projects is substantial. Jennings, Tr. VI 1369:10-21; Tecumseh Land Exh. 1, Burns Direct Testimony, p. 2, lines 41-47. The same argument can be made about every non-solar development project, which in isolation may be small but which in the aggregate has added up to huge losses of farm land. The cumulative effects of solar project development, combined with other types of developments, are having a devastating effect on farm land. *Id.*, 43-44. Kingwood does not seek to protect farm land; it is just joining the stampede of developments looking to exploit agricultural land.

Losses of prime farm land in Ohio are especially detrimental, since this land is an integral part of the 3% of prime soil existing worldwide. *Id.*, lines 41-43. Ohio has lost over seven million acres, or one third, of its farmland since 1950. Citizens Exh. 7, Jennings Direct Testimony, p. 3, lines 19-20. The importance of Ohio's farm land, and the alarming prospects of losing it, led Governor Voinovich to issue an Executive Order in 1998 (98-11V) entitled "Ohio Farmland and Protection Policy." Citizens Exh. 5, Fife Direct Testimony, p. 25, lines 7-9. The order directed a number of state agencies, including the OPSB, "to examine policies, guidelines, and procedures to assure that land acquisition, direct state development projects, state-assisted public and private development including infrastructure, and development requiring state permits will not eliminate or significantly interfere with or jeopardize the continuation of agriculture on productive agricultural lands or reduce the agricultural potential on prime agricultural soils

unless there is no feasible and prudent alternative and the facility or service has been planned to minimize its effect on such lands.” *Id.*, lines 9-17. Whether or not this Executive Order is still in effect today, its message is still equally important.

Further demonstrating the importance of preserving prime farm land, Ms. Jennings is opposed to converting farm land into solar arrays even though she is an advocate for solar energy production. In fact, Agraria is looking into installing solar panels at its own property. Jennings, Tr. VI 1380:24 to 1381:2. However, she also firmly believes that solar panels should be placed on roofs and non-agricultural land, not on prime farm soils. *Id.*, 1381:3-13.

Kingwood tries to soften the impression of its intent to damage food production by arguing, unconvincingly, that removing good farm land from food production for 35 years is actually good for agriculture. Kingwood reasons that tying the land up in solar arrays will prevent its development for non-agricultural uses in the meantime. *Applic.*, p. 121. However, Kingwood presents no evidence that anyone plans to convert this farm land to other uses. In fact, even without a solar facility there, local zoning would prohibit the Project Area from being used for a housing development or other non-agriculture developments. Fife, Tr. VI 1244:12-25. Also see Section IV above, noting that the Project Area is zoned for agricultural use only. Moreover, although the Application postulates (at 121) that restoration to agricultural use is “possible,” there is no guarantee that the descendants of the participating landowners will farm it ever again once it has been industrialized for 35 years. They could just as easily renew its use for energy production or convert it into residential communities. There are many reasons to disapprove this Project, and the preservation of farm land is an important one.

VI. The Ohio Power Siting Board Cannot Issue A Certificate To Kingwood Solar, Because Kingwood Solar Has Not Evaluated The Project's Negative Economic Impacts As Required By OAC 4906-4-06(E)(4) And R.C. 4906.10(A)(6), And Because The Available Economic Data Demonstrates That The Project Fails To Comply With R.C. 4906.10(A)(6).

OAC 4906-4-06(E)(4) requires applicants to “provide an estimate of the economic impact of the proposed facility on local commercial and industrial activities.” The purpose of this analysis is to assist the Board in its determination of whether “the facility will serve the public interest, convenience, and necessity” under R.C. 4906.10(A)(6). In this case, Kingwood has focused primarily on what it regards as the Project’s positive economic results. What little negative information Kingwood provided, and only in its rebuttal case, demonstrates that the Project will not produce economic benefits that warrant the widespread damage that the Project will cause to the community’s economic and non-economic interests. In fact, the Project will cause a net loss of “direct” jobs.

Kingwood’s economic impact study in the Application is a “rose-colored glasses” exercise that considers the Project’s economic benefits, but not its adverse economic impacts. Kingwood’s Application did not evaluate the economic losses to local businesses and individual that will result from its Project.

In fact, Kingwood’s initial economic impact report specifically disclaims any intent to evaluate the losses of the economic benefits from the current agricultural use of the Project Area that will be displaced by solar facilities, stating:

This analysis estimates the economic impact of the Kingwood Solar Project. Comparisons to the economic impacts of alternative uses of the Project site, including its current agricultural use, are outside the scope of this report.

Applic., Exh. D, p. 1. A review of the report shows the truth of this disclaimer.

The farm fields in the Project Area are currently growing grain crops. Citizens Exh. 8, Krajicek Direct Testimony, p. 9, lines 2-3. As explained in Section V above, the farm land in the Project Area is of good quality for growing crops. The solar project will remove 1.025 acres of agricultural land from food production. Applic., pp. 99-100, table 08-7. This land includes a 106-acre field that Citizen P. Chance Baldwin has rented from his cousin, a participating landowner, for nine years. Citizens Exh. 2, Baldwin Direct Testimony, p. 2, line 15 to p. 3, line 10. This field has soil that is black and fertile. *Id.*, p. 3, line 18. Based on crop yields, this field is the best farm land that Mr. Baldwin farms. *Id.*, lines 18-19. Mr. Baldwin's situation illustrates the dilemma posed by the Project for the area's farmers who rent and farm crop land in the Project Area. Without this 106-acre field, Mr. Baldwin's remaining downsized farm may no longer be large enough to be viable and he may be forced to downsize his farming equipment and hire other farmers to care for his crops. *Id.*, p. 3, lines 4-8. Finding replacement land to farm in this area is difficult. *Id.*, lines 8-10.

Replacing productive farm ground with Project solar panels will also hurt other area farmers. Citizen James Joseph Krajicek knows other farmers who rent crop land in the Project Area. Citizens Exh. 8, Krajicek Direct Testimony, p. 9, lines 8-11. Mr. Stickney knew about four or five participating landowners who rent their crop land to farmers. Stickney, Tr. I 118:2-15. He did not know how many acres in the Project Area are rented to non-owner farmers. Stickney, Tr. I 122:2-4. This lack of knowledge is not surprising, since Kingwood's study does not evaluate their revenue losses. Applic., Exh. D. Mr. Stickney tried to soften the harshness of Kingwood's damage to those renting farmers by stating that Kingwood would try to contract with some of them to perform services for the Project, but he could only come up with only one such arrangement that has been made so far, with just one farmer for two to three weeks.

Stickney, Tr. I 119:9 to 121:8. Although Kingwood will undoubtedly argue that it may contract for services by other persons victimized by its Project, Kingwood can take no credit for any such vague, unrealized plans without providing a study to evaluate and quantify those benefits and compare them to these persons' economic losses, just as OAC 4906-4-06(E)(4) intended.

Removing the Project Area's prime farm land from crop production at this time would be particularly ill-timed. As explained above, agricultural production needs to increase to avoid world starvation, not to decrease food production. Moreover, tenant farmers are already faced with historically high rents, and as land is taken out of production, fewer are able to find the acres they need to be profitable. Citizens Exh. 7, Jennings Direct Testimony, p. 5, lines 21-22. As land is taken out of farming, this also creates stresses on all the support industries that rely on agriculture, including equipment dealers, processors, transport firms, and the food industry. *Id.*, p. 6, lines 1-5.

The economic losses from converting crop land to an industrial solar facility are not limited to the renters' losses of revenue from growing crops. As any farmer knows, the reduction of crop land decreases the amount of grain seed that would otherwise be purchased and decreases the amount of harvested grain that would be supplied to businesses that purchase the grain grown in these fields. Citizens Exh. 8, Krajicek Direct Testimony, p. 9, lines 3-5. Mr. Krajicek, who farms land near the Project Area, knows persons who contract with the farmers in the Project Area to apply fertilizers and herbicides on the crop fields in the Project Area, and who will lose that business if the crops in the Project Area are replaced with solar panels. *Id.*, lines 5-8. He also knows of farmers that do custom work in the project area, who will lose the income from that work if the land is used for this Project. *Id.*, lines 11-13.

Kingwood's economic study did not account for the reductions in crop production revenue resulting from the solar panels' displacement of farm crops. Stickney, Tr. I 114:14-18. Mr. Stickney did not contest the premise that other persons will lose income from selling seed and fertilizer to the farmers growing crops in the Project Area. Stickney, Tr. I 115:16-22. But Kingwood's economic study does not evaluate those losses. Applic., Exh. D. Mr. Stickney did not know that farmers currently farming in the Project Area hire custom applicators to apply herbicides or fertilizer on the crops (Stickney, Tr. I 117:4-10), notwithstanding Mr. Krajicek's testimony that they do. Had Kingwood looked at the Project's negative economic impacts, he would have known this information.

Although Mr. Stickney claims to have met with surprisingly few people involved in the area's recreational activities, the Application provides no analysis at all about the Project's economic impacts on the area's recreational assets. Stickney, Tr. I 122:5 to 124:22; Applic., Exh. D. Mr. Stickney had no knowledge of any Kingwood outreach to the proprietor of the Camp Clifton 4-H Camp to find out how the Project may affect the camp. Stickney, Tr. I 95:24 to 96:24. Nor has Kingwood conducted an economic study to find out. Stickney, Tr. I 96:25 to 97:5.

Ignoring the Project's negative economic impacts, the Application's economic report sets forth the direct, indirect, and induced jobs that the Project supposedly will create. Direct jobs represent people employed to perform the Project's functions. Applic., pp. 2, 10. Indirect jobs are increased employment in suppliers, service providers, and other people who provide goods and services to the Project. *Id.* Induced jobs are increased employment resulting from increased spending by persons in direct and indirect employment. *Id.*

The Project will offer only four full-time equivalent jobs for operating the facility. Stickney, Tr. I 99:16-20; Applic., Exh. D, p. 4. Mr. Stickney could not say how many of these operational employees will live in Greene County instead of working remotely. Stickney, Tr. I 99:16 to 100:13. Facility employees are expected to visit the Project fewer than 10 times per year. Stickney, Tr. I 107:10-21. The Project also would offer construction jobs, but construction is expected to take 16 months, so the economic benefits from construction are just a “one-time economic activity during the 16-month construction period.” Applic., Exh. D, p. 1.

Kingwood’s economic impact report represents that Project operation will support four direct jobs, 13 indirect jobs, and six induced jobs altogether, including four direct jobs, nine indirect jobs, and two induced jobs performed in Greene County. Applic., Exh. D, pp. 7, 9. Each of the jobs will not produce enough income to support a household, as shown by permanent operating impact detail tables on Pages 7 and 9 of the economic report. For example, in Greene County, the four direct jobs will support only three households, the nine indirect jobs will support only six households, and the two induced jobs will support only one household. Applic., Exh. D, p. 9. These figures are underwhelming, to be sure.

During rebuttal testimony, these figures were discovered to be even more unimpressive. During that testimony, Mr. Stickney sponsored an updated economic analysis with an updated table for “State of Ohio Updated Permanent Operating Impact Detail” revealing that the Project will cause a net loss of two direct jobs in Ohio during operation. Kingwood Exh. 107, Stickney Rebuttal Testimony, Exh. A, p. 3. The Project will cause a net loss of one direct job in Greene County during operation. *Id.*, p. 5. This indicates that six people in Ohio, including five people in Greene County, will lose their agriculture-related jobs. *Id.*, pp. 3, 5; Stickney, Tr. IX 2160:8

to 2162:5. The updated analysis reduced the total increase of direct, indirect, and induced jobs in Ohio from 23 to 15 and in Greene County from 15 to eight. *Id.*, 2161:8 to 2162:5.

The updated economic report does not explain what inputs were used to quantify the jobs that would be lost due to the displacement of farming. It does not state whether the updated jobs figures consider the losses of revenue for farmers who rent land in the Project Area, custom applicators of fertilizer and herbicides, seed and fertilizer vendors, or manufacturing employees who process food products from the lost crops. Kingwood undoubtedly would argue in the affirmative, but all Mr. Stickney could say was that the lost agricultural acreage and the type of farming were fed into the economic model. *Id.*, 2160:15-24. Kingwood did not present a written report or a qualified expert witness to provide a clear picture of the economic losses related to agriculture. The sparse information that was provided does not provide OPSB with adequate data about the Project's negative economic impacts to satisfy OAC 4906-4-06(E)(4).

Nor does the update economic report provide the necessary information necessary to determine whether recreational businesses and other non-agricultural interests would lose revenue due to the Project. Mr. Stickney admitted that Kingwood has not looked for negative economic impacts from the Project on local businesses, stating that he just assumes there will not be many. This "head-in-the-sand" approach is not what OAC 4906-4-06(E)(4) contemplates. If Kingwood had complied with the rule, Mr. Stickney would have been able to answer questions about the Project's negative economic effects. Since Kingwood neglected to comply with the rule, the Board has also been deprived of the data necessary to answer these questions, which it must do in order to evaluate the Project's compliance with R.C. 4906.10(A)(6).

A one-sided economic analysis does not comply with the mandate in OAC 4906-4-06(E)(4) to "provide an estimate of the economic impact of the proposed facility on local

commercial and industrial activities.” Nor can the Board find that the Project “will serve the public interest, convenience, and necessity” as required by R.C. 4906.10(A)(6) without examining the Project’s negative economic impacts. The Board should not issue the certificate due to Kingwood’s failure to conduct a complete economic analysis as required by R.C. 4906.10(A)(6) and OAC 4906-4-06(E)(4). Moreover, it should deny the certificate under R.C. 4906.10(A)(6) due to the Project’s negative economic impact.

VII. The Application Requests A Certificate Without Offering The Setbacks Necessary To Minimize The Project’s Adverse Environmental Impact Under R.C. 4906.10(A)(3).

R.C. 4906.13(B) preempts the application of local zoning to utilities subject to OPSB authority. As a substitute for local zoning, R.C. 4906.10 entrusts the OPSB with the authority and responsibility to require regulated utilities to responsibly site and design their facilities.

To implement this mandate, the Board should not accept the unreasonably narrow setbacks between Kingwood’s industrial facility and its neighbors’ land and homes requested by Kingwood. The Application proposes a series of setbacks between the Project and the community that are so minimal as to offer no meaningful isolation from the Project’s harmful impacts:

1. The setback from nonparticipants’ houses is a mere 250 feet. Jt. Exh. 1, Joint Stipulation and Recommendation as to Certificate Conditions (“Stipulation”), p. 4, proposed condition 4. This is less than the length of a football field, which makes the solar panels and fences intrusively visible from a neighbor’s home.
2. The setback between a central inverter and a nonparticipant’s house is 500 feet. Stipulation, p. 4, proposed condition 4.
3. The setback from a public road is only 25 feet. Applic., p. 9.

4. Where no other setback applies, the Application would allow the solar facility to be constructed as near as 25 feet to neighbors' yards/land. Applic., p. 9. A 25-foot setback is approximately equivalent to two car lengths or the standard length of a homeowner's garage.

At those short distances, many neighbors will be constantly exposed to unwanted and unpleasant views from their yards and houses for 35 years. The Application notes that 50 nonparticipating residences are within 250 feet of the Project Area. Gresock, Tr. II 255:21 to 256:1; Applic., Exh. Q, p. 2. And, as explained below, Kingwood's miserly plans for vegetative screening between its industrial facility and neighbors' homes will do little to conceal these views.

Kingwood has the burden to prove compliance with R.C. 4906.10(A)(3) by demonstrating that the Project represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, under R.C. 4906.10(A)(3). That is, under the common meaning of "minimum," Kingwood must prove that the Project's impacts are "the least quantity assignable, admissible, or possible" under the dictionary meaning of that word. Kingwood has not satisfied that mandate, so OPSB should not issue the requested certificate.

VIII. The Ohio Power Siting Board May Not Issue A Certificate To Kingwood Solar, Because Kingwood Has Failed To Provide The Information Required By OAC 4906-4-08(D)(4)(e) & (f) And R.C. 4906.10(A)(2) To Describe And Mitigate The Project's Adverse Visual Impacts, And Because The Project's Adverse Visual Impacts Preclude The Issuance Of A Certificate Under R.C. 4906.10(A)(3) and R.C. 4906.10(A)(6).

To evaluate a project's visual impacts, OAC 4906-4-08(D)(4) requires an applicant to do the following:

(4) Visual impact of facility. The applicant shall evaluate the visual impact of the proposed facility within at least a ten-mile radius from the project area....The applicant shall:

(a) Describe the visibility of the project, including a viewshed analysis and area of visual effect, shown on a corresponding map of the study area. The viewshed analysis shall not incorporate deciduous vegetation, agricultural crops, or other seasonal land cover as viewing obstacles.

(e) Provide photographic simulations or artist's pictorial sketches of the proposed facility from public vantage points that cover the range of landscapes, viewer groups, and types of scenic resources found within the study area. The applicant should explain its selection of vantage points, including any coordination with local residents, public officials, and historic preservation groups in selecting these vantage points.

(f) Describe measures that will be taken to minimize any adverse visual impacts created by the facility, including, but not limited to, project area location, lighting, turbine layout, visual screening, and facility coloration. In no event shall these measures conflict with relevant safety requirements.

Contrary to OAC 4906-4-08(D)(4)(e), Kingwood's Application does not provide photographic simulations or artist's pictorial sketches of the proposed facility that are compliant with the rule. In addition, Kingwood's ineffective proposal for visual screening does not comply with the mandate in OAC 4906-4-08(D)(4)(f) to "minimize" the Project's adverse visual impacts.

The Project has a poorly planned layout with an irregular and irrational shape. Rather than being organized as a square or rectangular shape, the Project Area sprawls for miles with irregular boundaries. The boundaries go "in and out." English, Tr. III 655:13-16. The Project's peculiar shape is displayed in Figure 03-3 in Exhibit 2. These irregular boundaries increase the footage of the Project boundaries coming into contact with adjacent nonparticipating properties. English, Tr. III 65317 to 654:13. In fact, Kingwood has identified about 47,000 linear feet (8.9 miles) of boundaries that need screening from the public. English, Tr. III 674:11 to 676:7. Thus,

the Project is designed to inflict the maximum amount of visual damage on the maximum number of people in the nearby community.

The result of this bad design is evidenced in the Application's visual impact analysis. This report notes that 50 nonparticipating residences are within 250 feet of the Project Area. Gresock, Tr. II 255:21 to 256:1; Applic., Exh. Q, p. 2. Another 95 nonparticipating residences are located between 250 feet and 1,500 feet of the Project Area. Applic., Exh. P, Kingwood's Application admits that the solar equipment will be highly visible to these neighbors:

Near-Foreground Views: 0 to 0.5 mile. At this distance, a viewer is able to perceive details of an object with clarity. Surface textures, small features, and the full intensity and value of color can be seen on foreground objects.

Applic., Exh. Q, p. 4. Thus, all 145 of the nonparticipating residences within 1,500 feet of the Project Area are located within the half mile (2,640 feet) near-foreground area that has clear views of the Project Area. Also see Gresock, Tr. II 256:19 to 257:4 & 257:15-20 (acknowledging that the 50 nonparticipating residences within 250 feet are in the near-foreground area).

The Project also is potentially visible from the public natural areas at Clifton Gorge, John Bryan State Park, the Little Miami Jacoby Road state route access, the Upper Great Scott Trail, and Glen Helen.¹ Gresock, Tr. II 315:23 to 316:13; Applic., Exh. Q, p. 6, Table 1.

The Project's visibility is increased by the Project Area's variations in elevation. According to Kingwood's topography survey, the Project Area has "gently rolling topography with elevations ranging between 920 and 1,080 feet above sea level." Stickney, Tr. I 50:14-to 51:3. The land in the Project Area has a rolling topography with small pockets of hilly land that

¹ Susan Jennings stated that she did not think that the Project would be visible from Glen Helen, John Bryan State Park, or Clifton Gorge, but she admitted she is not an expert in visual impact analysis. Jennings, Tr. VI 1373:12-15 & 1379:19-21.

are higher than the surrounding land. Citizens Exh. 1, Adams Direct Testimony, p. 7, lines 4-10; Kingwood Exh. 8, Krajicek Direct Testimony, p. 9, lines 16-18. Many of the homes in and adjacent to the Project Area are built on elevated land overlooking the surrounding crop fields. *Id.*, lines 18-19. It has been common to build houses on elevated land in this area for a number of reasons, including that soils on hills are less productive soil for growing crops, the houses stay dry because precipitation flows off the hills, and elevated land offers better views of surrounding territory. *Id.*, lines 19-23. This means that the neighbors' houses on elevated land have a clear, unobstructed view of the crop fields below, where the solar arrays are planned. CGA members who own houses on higher elevations include Jenifer and Steven Adams, Nicole and Scott Marvin, Steve and Karyn Current, Doug and Paula Noble, Anne Rich, and James Joseph Krajicek. Citizens Exh. 1, Adams Direct Testimony, p. 7, lines 4-5, 8-10.

The widespread visibility of the Project, even if Kingwood plants trees along the Project Area, is illustrated by elevations at the Adams' residence. The Adams' two-story house is on a hill adjacent to and overlooking the Project Area to the north and west. *Id.*, p. 5, line 7 to p. 6, line 14. At the house, the land is at an elevation of 1056 feet above sea level, from which the terrain to the north goes down to 1043 feet at the edge of their land and then gradually descends to 1020 feet at the northern edge of that portion of the Project Area. *Id.*, p. 5, lines 15-18 & Exhs. H & I. That is, the base of the house is 36 feet higher than the other end of the Project Area, and they can see for almost a mile from the house in that direction. *Id.*, p. 5, lines 20-22. The Adams can see the Project Area to the north through 15 windows in the three levels of their house (two stories and a walk-out basement). *Id.*, p. 5, line 22 to p. 6, line 2. The Adams will also have elevated views of the Project Area to the west from the house when the deciduous trees are without foliage. *Id.*, p. 6, lines 3-14. During that time of the year, they can see the Project

Area to the north and west through 28 windows, two patio windows/doors, and three external doors in their house. *Id.*, lines 4-8. See Adams Exh. K, which maps the areas visible from the Adams property, and Adams Exh. L, providing photographic simulations of views of the Project Area from the Adams property.

The Citizens are among those whose residences and yards will be exposed to near-foreground views of the adjacent Project Area. Citizens for Greene Acres has 48 members who own and/or live on properties adjacent to the Project Area. Citizens Exh. 1, Adams Direct Testimony, p. 2, line 5 & Exh. C. Exhibit D to Jenifer Adams' direct testimony portrays the locations of their land in red shading and their houses as green stars. *Id.*, p. 4, lines 9-15 & Exh. E. Other members live nearby. *Id.*, p. 4, lines 15-18 & Exhs. E & F. The paragraphs below provide some examples of CGA members whose properties would be severely impacted by the views of adjacent solar arrays in the Project Area.

Natalie and Nicholas Pitstick own and live on a five-acre parcel that is adjacent to the Project Area on the entire north side (their backyard) and the entire east side of their yard. Citizens Exh. 11, Pitstick Direct Testimony, p. 2, lines 9-11. The Project Area is only about 140 feet in a perpendicular direction from the back wall of their house. *Id.*, lines 17-19. They can see the Project Area from most of the backyard and side yards and from the kitchen and living room windows of the house. *Id.*, p. 3, lines 4-6. Their views of the Project Area from their house and yard, where they have a picnic shelter, grill, and swing set to socialize and relax, are largely unobstructed by vegetation as shown in their photographs attached as Exhibits A through H of Mr. Pitstick's written direct testimony. *Id.*, p. 2, line 21 to p. 3, line 17.

George and Karen Landon own and, with their three children, live on a three-acre parcel adjacent to the Project Area on the entire north and east sides. Citizens Exh. 9, Landon Direct

Testimony, p. 1, lines 19-20 & p. 2, lines 20-24. Their family use their yard for such recreational activities as flying kites, throwing frisbees, playing soccer, playing basketball, playing outdoor games, exercising, and relaxing and eating meals on the front porch and the backyard porch. *Id.*, p. 4, lines 3-6. The Project Area is 220 feet from the west wall of their house and 125 feet from the northern wall of their house, with no trees or bushes between the house and the Project Area. *Id.*, p. 3, lines 8-15. Thus, they have unobstructed views of the Project Area from the yard west and north of their house, from the back porch on the north side of their house, and from the windows on the north and west sides on the first and second floors of their house. *Id.*, lines 17-19. Exhibit B to Dr. Landon's written direct testimony is a frame from a drone's video showing an aerial view of their yard and house to show how close and intrusive the Project Area will be. *Id.*, lines 20-21. A blue line drawn on that frame shows the border between their yard and the Project Area. *Id.*, lines 21-22.

Angie and Jed Hanna live with two of their children on a five-acre parcel adjacent to the Project Area on two sides. Citizens Exh. 6, Hanna Direct Testimony, p. 1, lines 19-20 & p. 2, lines 9-16. They enjoy sitting and relaxing on their front porch and the deck. *Id.*, p. 4, line 16. They have some meals on the deck. *Id.*, lines 16-17. They entertain friends and family for outdoor parties in the fall and host many swimming parties in the summer. *Id.*, lines 17-18. They have recreational activities in their yard, including flying kites and riding four-wheelers, a golf cart, and a go-cart. *Id.*, lines 18-19. Their children play in the yard, including in the playground set and sandbox. *Id.*, lines 19-20. The Project Area is 70 feet from the western wall of their house and 41 feet from the northern wall of their house. *Id.*, p. 3, lines 12-13. The Project Area is 20 feet from their barn, 37 feet from their pool, and 30 feet from their well. *Id.*, lines 13-14. They have clear and close views of the Project Area from the yard west and north of

their house, from the porch in front of the house, from the deck on the west side of their house, and from the windows on the north and west sides on the first and second floors of the house.

Id., lines 1-4. The close views of the Project Area from their house and yard are portrayed in photographs attached to Ms. Hanna's written direct testimony as Exhibits B through I. *Id.*, lines 4-13.

P. Chance and Michelle Baldwin own and, with their two children, live on a three-acre parcel that is adjacent to the Project Area across the road. Citizens Exh. 2, Baldwin Direct Testimony, p. 1, lines 19-20 & p. 2, lines 9-12. They also own 68 acres of crop land that is adjacent to the Project Area. *Id.*, lines 12-13. Their yard is only 200 feet from the Project Area, and they can see the Project Area from their yard and house. *Id.*, p. 2, lines 17-18 & p. 5, lines 3-4.

Verity and Matthew Digel own and, with their three children, live on an eight-acre parcel adjacent to the Project Area on three sides. Citizens Exh. 4, Digel Direct Testimony, p. 1, lines 19-20 & p. 2, lines 9-11. The house was built around 1880. *Id.*, p. 2, line 13. They can see the Project Area on three sides of their property from their land. *Id.*, p. 3, line 1. They spend considerable time on recreational activities in their yard, especially the children. *Id.*, lines 10-11. Ms. Digel has a hobby of growing flowers to produce cut flowers. *Id.*, line 11. Their children's activities including riding all terrain vehicles, climbing trees, soccer, and volleyball. *Id.*, lines 11-12. These recreational activities occur in areas from which the Project Area can be easily seen. *Id.*, lines 13-14. They can see the Project Area to the north, west, and east of their property from the first and second floor windows on those sides of their house. *Id.*, lines 1-7. The views are especially prominent from the second-floor windows. *Id.*, line 7. The distance

between their house and the Project Area to the north is only about 120 to 150 feet. *Id.*, lines 7-8.

Karen and Chad Mossing own and, with their four children, live on a five-acre parcel adjacent to the Project Area on four sides. Citizens Exh. 10, Mossing Direct Testimony, p. 1, lines 19-20 & p. 2, lines 12-17. They enjoy sitting and relaxing on the front porch and spend considerable time on recreational activities in their yard, including football, soccer, golf, volleyball, baseball, swimming in the pool, and playing on the sandbox and playground set. *Id.*, p. 3, lines 10-12. They can see the Project Area on all four sides of their property. *Id.*, p. 2, line 23. The view between the front porch of their house and the Project Area across the road northwest of our property is almost entirely unobstructed. *Id.*, p. 2, line 23 to p. 3, line 1. The distance at that location between their porch and the road in front of the Project Area is about 180 feet. *Id.*, p. 3, lines 1-2. A row of trees and bushes only partially obstructs the view of the Project Area on the northeast side of their property, which is only 90 feet from their house. *Id.*, lines 2-4. Large expanses of the Project Area can be seen without obstruction from their land and house on the southwest and southeast sides, especially when viewed from second floor windows of their house. *Id.*, lines 4-6. The house is about 240 feet from the Project Area on the southwest side and about 100 feet from the Project Area on the southeast side. *Id.*, lines 6-8.

Kingwood's siting of the Project immediately next to yards and in close proximity to neighboring residences on two, three, or four sides is an abject exercise of irresponsible utility siting. This misconduct, if allowed by the Board, would irreparably damage the neighbors' views and quality of life.

To provide the Board and the public with a clear understanding of the Project's visual impacts, OAC 4906-4-08(D)(4)(e) requires Kingwood to "[p]rovide photographic simulations or

artist's pictorial sketches of the proposed facility from public vantage points.” Kingwood chose to provide photographic simulations for this purpose. However, Kingwood’s simulations distort the true extent of the solar panels’ visual impact in an effort to disguise the visual damage the Project will cause to the neighbors.

Proposed condition 4 of the Stipulation would allow the solar facility to be as close as 250 feet to neighbors’ houses. The Application would allow the solar facility to be constructed as near as 25 feet to neighbors’ yards/land and public roads. Applic., p. 9. Yet the simulations do not depict even a single view from any of these distances. Instead, Kingwood’s seven simulations depict views from 250-750, 2,000, 1,000-1,300, 400-500, 550, 500, and 500 feet away from the viewers. Applic., Exh. Q, pp. 25-31. This deception violates OAC 4906-4-08(D)(4)(e), which requires simulations “from public vantage points that cover the range of landscapes, viewer groups, and types of scenic resources found within the study area.”

(Emphasis added.) The term “range” means “the amount, number, or type of something between an upper and a lower limit.” The Cambridge Dictionary, “Range,” <https://dictionary.cambridge.org/us/dictionary/english/range> (accessed April 8, 2022). Thus, Kingwood must cover the entire range of landscapes, viewer groups, and scenic resources. At the very least, Kingwood must simulate the worst-case view in that range --and that was the view that Kingwood omitted from the Application and the record. The rule does not allow Kingwood to skip the landscapes, viewer groups, and scenic resources that will suffer the greatest visual impacts from the Project.

The Application provides no simulations of views of the substation. Gresock, Tr. II 270:2-4. This failure violates the mandate in OAC 4906-4-08(D)(4)(e) to “cover the range of landscapes.” Emphasis added.

The Application contains no simulations of any views from neighbors' yards or houses, which further violates the mandate in OAC 4906-4-08(D)(4)(e) to "cover the range of landscapes, [and] viewer groups." Emphasis added. All photographs used in simulations were taken from the public roads. Gresock, Tr. II 263:17 to 264:4. Thus, the simulations omit the most impacted "viewer group" (residents living nearby) and the most impaired "landscapes" and "types of scenic resources" (these residents' views from their houses and yards). Some nearby residents will be exposed to panels and fences on two, three, or four sides of their residences, which is another scenario not simulated. To allow Kingwood to simulate only the least impacted views defeats the rule's purpose of enabling the Board and the public to evaluate the extent of the Project's impacts.

Ms. Gresock attempted to excuse Kingwood's failure to base any simulations on photographic views from neighbors' yards adjacent to the Project Area by claiming that Kingwood was not allowed to trespass in neighbors' properties to take the photographs. Gresock, Tr. II 263:20-22. However, Ms. Gresock did not even check on whether any participating landowners had residences adjacent to the Project Area from which photographs could be taken. Gresock, Tr. II 264:24 to 265:3. Consequently, it is apparent that Kingwood made no effort to search for locations in yards or houses at which photographs could be taken for use in simulations. Ms. Gresock admitted that nothing prevented Kingwood from asking participating landowners living adjacent to the Project Area for permission to take photographs from their properties for that purpose, except for the fact that Kingwood did not design its study to do so. Gresock, Tr. II 274:1-7.

Ms. Gresock attempted to justify Kingwood's failure to simulate the neighbors' views of the Project from their houses and yards by stating that simulations should only show the views in

public areas. Gresock, Tr. II 265:4 to 266:23. This argument is not only illogical, but it defies OAC 4906-4-08(D)(4)(e), which requires simulations “from public vantage points that cover the range of landscapes, viewer groups, and types of scenic resources found within the study area.” Emphasis added. Since Kingwood wants to site solar facilities within 25 feet of neighbors’ yards and land, it was obligated to provide at least one simulation to warn the Board and the public about the appearance of such a view.

Since Kingwood provided simulations that mislead the Board and the public about the Project’s appearance, the Citizens created simulations to reveal the Project’s actual appearance to the neighbors who will be the most victimized by the Project. These simulations were created by Citizen expert witness George Landon and attached to his written direct testimony. Citizens Exh. 9, Landon Direct Testimony, p. 4, line 10 to p. 6, line 17 & Exhibits D, E, G, H, J, K, M, and N.

Dr. Landon is thoroughly qualified to create visual simulation through education and experience. With regard to education, he possesses a Bachelor’s degree in Computer Science from the University of Kentucky and a doctorate in Computer Science from the University of Kentucky. *Id.*, p. 2, lines 1-2. With respect to his experience, he was a Professor in Computer Science at Eastern Kentucky University from 2007 to 2019. *Id.*, lines 8-9. He has been a professor in Computer Science at Cedarville University since 2019. *Id.*, line 9. He has been a Research Fellow in Computer Science at the Air Force Institute of Technology since summer of 2020. *Id.*, lines 9-11. He has nearly 20 years experience in 3D scanning and visual simulations. His doctoral training included developing new methods for acquiring 3D surface information for cultural heritage projects involving museums and libraries. *Id.*, p. 6, line 20. He has developed a custom 3D scanning system that acquired shape and color information for cultural artifacts in

Puerto Rico and the United Kingdom. *Id.*, p. 6, line 22 to p. 7, line 1. He also possesses a US patent for a 3D scanning device. *Id.*, p.7, lines 1-2.

Dr. Landon created simulations to depict the appearance of the Project's solar facility at distances of 25 feet from the edges of his yard and 250 feet from his house, just as proposed in the Application and the Stipulation. *Id.*, p. 4, lines 15-22 & p. 5, lines 6-13, 20-23 & p. 6, lines 1-4, 10-17. Since the Application predicts a 20-foot space between solar arrays and the outer fences, Dr. Landon portrayed the solar panels at a distance of 20 feet behind the solar fences. *Id.*, p. 4, lines 15-22 & p. 5, lines 6-13, 20-23 & p. 6, lines 1-4, 10-17; Stickney, Tr. I 75:20 to 76:14. The simulations show how the solar facilities look from both ground level (Landon Exhibits D, E, J, K) and the second-floor windows of the Landon home (Landon Exhibits G, H, M, N). *Id.*, p. 4, line 11 to p. 6, line 17.

These simulations vividly demonstrate the intrusiveness of solar facilities located next to neighbors' residences and yard. For example, Landon Exhibit H, reproduced on the next page of this brief, illustrates the views the residents will be forced to endure if the solar facility is 250 feet from their houses. *Id.*, p. 5, lines 10-13. George and Karen Landon and their children will look at this scene on the west side of their house virtually every day for years and years, as well as a similar view on the north side. The other neighbors bordered by solar facilities within 250 feet of their houses will be exposed to the same depressing views. Following Exhibit H in this brief is Landon Exhibit J, which simulates the appearance at ground level of the solar facility located 25 feet from the boundary line, with the panels looming above the Landons' sons who at the time of the photograph were four feet five inches tall and five feet seven inches tall. *Id.*, p. 5, lines 14-23. Dr. Landon's simulations reveal the utter falsity of Kingwood's position that the Project will not visually offensive to the community.





These nasty views will not be limited to the 50 nonparticipating residences are within 250 feet of the Project Area. Since Kingwood seeks to site its solar facilities within 25 feet of the public roads, everyone in the community will be exposed constantly to close-up claustrophobic views of solar arrays whenever they venture from their homes. For example, the property of Citizen Terry Fife is not adjacent to the Project Area, but she will not be able to leave or return to her house without seeing the solar facility. Fife, Tr. VI 1224:8-15.

OAC 4906-4-08(D)(4)(f) requires Kingwood to “[d]escribe measures that will be taken to minimize any adverse visual impacts created by the facility, including, but not limited to, project area location, lighting, turbine layout, visual screening, and facility coloration.” In response to this mandate, Kingwood proposes to plant some trees, bushes, and perennials along the solar fences. Kingwood’s proposal comes nowhere close to mitigating the visual damage it plans to inflict on the Project’s neighbors.

Kingwood’s vegetative screening proposal suffers from four incurable deficiencies:

First, the neighbors will be exposed to objectionable views of solar arrays for 35 years, because Kingwood does not intend to plant complete screens of trees and bushes to block its industrial facility from the neighbors’ view. Applic., Exh. Q, Pt. 2, Attachment C, Landscape Plan, pdf p. 70. Instead, Kingwood wants to “soften” the industrial views by planting trees and bushes sporadically along the fences. *Id.* Kingwood asserts that complete screening with evergreens or other trees would look unnatural and the community would prefer partial screening. *Id.* It does not take a landscape architect degree to realize that this position is nonsense and that no neighbor would prefer to see solar panels between the trees next to their yards. After all, a rural woods offers complete screening without looking unnatural. Kingwood has created simulations of its planting options in the Landscape Plan that make the vegetative

screening look much denser than it actually will be by depicting the views from an angle instead from a perpendicular angle. *Id.*, pdf pp. 76, 78, 80; English, Tr. III 670:22 to 671:19, 673:7 to 674:4. As Kingwood witness Andrew English noted, “the massing appears denser when not looking directly at the Project.” Kingwood Exh. 17, English Direct Testimony, p. 4, lines 15-16. The gaps between the trees will actually be much wider, and the solar arrays will be much more visible, in real life.

Second, tall trees in the “Tall Screening” module will be planted only on the northern side of the Project, because they would shade some solar panels on other sides. Thus, for example, tall trees will be absent from the vegetative screening along the solar arrays to the north and west of the Landons’ house, including the western view portrayed in Landon Exhibit H inserted into this brief. In fact, tall screening is projected by Kingwood’s updated screening map for very little of the Project’s northern borders. *Id.*, Attachment A. The absence of tall trees along most of the Project boundaries is especially troublesome given that many neighbors will have views of solar arrays from their second-floor windows. So squeezing every dollar out of the Project from electricity production is more important to Kingwood than restoring the neighbors’ quality of life on the other sides of the Project.

Third, the trees will be small at planting time and will take many years to reach the solar panels’ height. The Application’s Landscape Plan does not specify the trees’ size at planting time, but the plan states that “younger plant material” will be used. *Applic.*, Exh. Q, Pt. 2, Attachment C, Landscape Plan, pdf p. 72. At planting time, the height of the trees could range anywhere between three feet and 12 feet, depending on the species, but the landscape plan does not commit to any specific height at planting time. English, Tr. III 660:17 to 661:6, 662:8 to 663:10. Mr. English stated that some of the trees may be 20 to 25 feet tall in eight to 10 years,

and the Landscape Plan has a simulation for the Tall Screening module that appears to show trees of that height in eight to 10 years. English, Tr. III 665:8-18; Applic., Exh. Q, Pt. 2, Attachment C, Landscape Plan, pdf pp. 72, 80. However, as explained above, Tall Screening will be used sparingly. The Landscape Plan provides simulations of trees along solar arrays in the other screening modules showing them to be as tall as or taller than the solar panels in eight to 10 years. Applic., Exh. Q, Pt. 2, Attachment C, Landscape Plan, pdf pp. 72, 76, 78. But these simulations are deceptive, because they depict the solar panels as being shorter than the seven-foot fences even though the panels will be as high as 14 feet. At a maximum height of 14 feet, the solar panels will loom above the trees until the trees are at least 14 feet tall. Where solar arrays are located near two-story neighboring residences, the trees will need to be taller than 14 feet to provide meaningful screening. For example, Dr. Landon's views of the Project Area through his second story windows were at elevations of 17 feet above ground level. Citizens Exh. 9, Landon Direct Testimony, p. 5, lines 1-5 & p. 6, lines 5-9. Since the trees will grow only one to two feet per year (English, Tr. III 649:13-14), the trees will take a considerable number of years to reach 17 feet in height. The neighbors should not be forced to see these views for any length of time, not to mention decades.

Fourth, the rolling topography in and near the Project Area makes it impossible for vegetation to screen the Project effectively. As explained above, many of the houses in and near the Project Area are situated on higher elevations looking down into the fields targeted for solar arrays. Mr. English noted that vegetative screening along a project's perimeter can be effective in areas with relatively flat topography, because the potential views are generally constrained to areas near the project perimeter. Kingwood Exh. 17, English Direct Testimony, p. 5, lines 17-21. But, for this Project, the Citizens and other neighbors will be looking up at solar arrays on higher

ground or looking downward at solar arrays at lower elevations (e.g., Jenifer and Steven Adams). Vegetative screening will do nothing to obstruct their views of the industrial facility from their houses and yards, or from the public roads.

Jenifer Adams' annotated photographs of the Project Area as seen from her house and yard are good illustrations of this problem. Citizens Exh. 1, Adams Direct Testimony, p. 6, line 15 to p. 7, line 2 & Exh. L. The yellow overlays on these photographs show where the portions of Project Area visible from her property are located. Adams, Tr. IV 839:17 to 840:2. For ease of reference, copies of one of these photographs with and without the yellow overlay of the Project Area are inserted on the next two pages of this brief. This photograph was taken from the back porch of the Adams house, showing the Project Area to the north highlighted in yellow. Just about all of the Project Area can be seen from the porch over the top of the four evergreen trees along the edge of the yard, even though the trees are tall enough to tower over the fence behind them and even though they are just as high as the buildings to their right. The third photograph following this page of the brief shows the view from a second-floor window of the Adams house, with the yellow overlay of the Project Area even more visible. These annotated photographs vividly demonstrate that no amount of vegetative screening along the Project's fences will ameliorate the solar facility's harsh views from elevated neighboring yards and second-floor windows.

Exhibits G, H, M and N of Dr. George Landon's testimony further demonstrate this point. Even though his property is not elevated above the Project Area, the second-floor windows of his residence are higher than the Project Area. Any vegetative screening along the north and west edges of the Landons' yard would be ineffective.

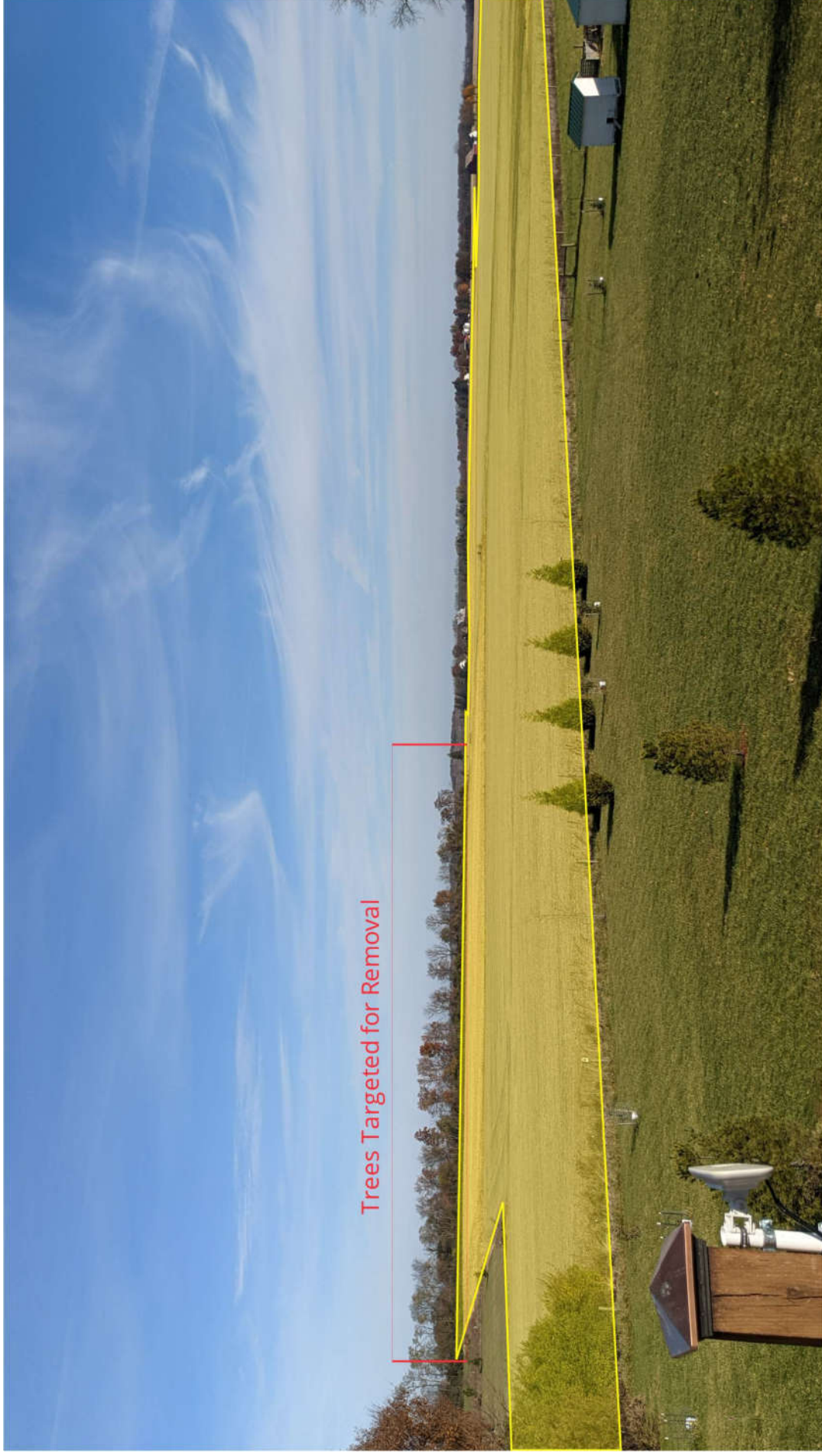
3258 Harbison Viewshed Pictures

Back Porch – Picture 2



3258 Harbison Viewshed Pictures

Back Porch – Picture 2 Annotated



3258 Harbison Viewshed Pictures

Second Floor – Picture 1 Annotated



These issues, combined with a faulty Project design and terrible siting, mean that vegetative screening will never be effective to provide nearby residents with meaningful relief from oppressive facility views. The Board should not approve a facility with irregular boundaries of almost nine miles of damaging visual impacts in rolling terrain that defies effective vegetative screening. OPSB should not allow Kingwood to site solar arrays on the edges of neighboring residences and yards with unobstructed views of the Project, where newly planted trees will take many years to grow as high as the solar arrays or the second-floor windows looking down on the solar arrays and where neighbors will be able to see the solar panels through the ubiquitous gaps in Kingwood's single row of trees. Vegetative screening cannot salvage this flawed Project or make it comply with R.C. 4906.10(A)(3) or R.C. 4906.10(A)(6). Accordingly, the Board should deny the certificate.

IX. The Ohio Power Siting Board Cannot Issue A Certificate To Kingwood Solar Without Receiving The Information Required By OAC 4906-4-08(B) And R.C. 4906.10(A)(2) & (3) Concerning The Project's Potential Impacts On Wildlife And Plants.

OAC 4906-4-08(B) requires an applicant to conduct literature and field surveys of the plant and animal species in the Project Area to assess and mitigate a project's potential ecosystem impacts:

(B) The applicant shall provide information on ecological resources.

(1) Ecological information. The applicant shall provide information regarding ecological resources in the project area.

(c) Provide the results of a literature survey of the plant and animal life within at least one-fourth mile of the project area boundary. The literature survey shall include aquatic and terrestrial plant and animal species that are of commercial or recreational value, or species designated as endangered or threatened.

(d) Conduct and provide the results of field surveys of the plant and animal species identified in the literature survey.

(Emphasis added.) Without this information, OPSB can neither determine the nature of the probable environmental impact under R.C. 4906.10(A)(2) nor find that a project represents the minimum adverse environmental impact under R.C. 4906.10(A)(3).

In order to informedly identify and avoid Project harm to plants and wildlife, it is first necessary to find out what species of plants and wildlife exist in and near the Project Area. That is why OAC 4906-4-08(B)(1)(c) requires applicants to conduct literature searches to identify the species that are potentially present, and field surveys to look for them. Kingwood failed to complete this task.

The Application contains a section labeled “Species Literature Survey,” but that title mischaracterizes what Kingwood actually did. Applic., p. 77. A review of that section reveals that, with respect to plants, Kingwood only received a list of state-listed threatened and potentially threatened plant species with occurrence records within a mile of the Project Area. Applic., p. 81. This list was provided in a letter of June 8, 2020 from the Ohio Department of Natural Resources (“ODNR”). Applic., Exh. N. The correspondence between Kingwood and the U.S. Fish and Wildlife Service and the ODNR contains no other literature listing plant species that may be in and near the Project area. Applic., Exh. N. Accordingly, Kingwood witness Lynn Gresock admitted that Kingwood did a literature search only for rare species of plants. Gresock, Tr. II 293:11 to 294:5.

Kingwood also failed to do a complete search for animal life in and near the Project Area as required by OAC 4906-4-08(B)(1)(c). The letter of June 8, 2020 from ODNR lists some rare and endangered species of animals. Applic., Exh. N. Otherwise, the Application contains no literature data on animals. Applic., pp. 77-82 & Exh. N. Ms. Gresock admitted that Kingwood did no other literature search for birds or bats. Gresock, Tr. II 294:6 to 295:10.

Thus, Kingwood did not provide a literature survey for all plant and animal life in and near the Project Area as required by the first sentence of OAC 4906-4-08(B)(1)(c). Kingwood obtained literature only for rare plant and animal species as required by the second sentence of OAC 4906-4-08(B)(1)(c). Although Kingwood may contend that the second sentence of the rule limits the scope of the first sentence, such an interpretation is contrary to established rules of statutory construction. The word “include” in the second sentence of subsection (B)(1)(c) is a term of enlargement, not limitation. 2A Singer, *Sutherland Statutes and Statutory Construction*, Section 47:7 (7th Ed.). In other words, “the verb *to include* introduces examples, not an exhaustive list.” Scalia & Garner, *Reading Law: The Interpretation of Legal Texts* at Section 15, p. 116 (Thomson/West 2012, Kindle Ed.). *See also Kish v. Akron*, 109 Ohio St.3d 162, 2006-Ohio-1244, 846 N.E.2d 811, ¶ 20 (the word “includes” is an indication of expansion rather than constriction, restriction, or limitation); *Diller v. Diller*, 2021-Ohio-4252, 182 N.E.3d 370, ¶ 38 (3rd Dist. 2021). Limiting Kingwood’s literature search to just those species in the second sentence of the rule provision would render the first sentence superfluous. The failure to catalogue and evaluate all other species in the area left a huge gap in the record’s “information regarding ecological resources in the project area” contrary to OAC 4906-4-08(B)(1). Kingwood’s failure to perform a complete literature survey fails to comply with this rule.

Moreover, Kingwood’s literature on plants and animals did not even fulfill the first sentence of OAC 4906-4-08(B)(1)(c). That sentence also requires a list from literature of species of commercial and recreational value, and Kingwood provided no such list.

OAC 4906-4-08(B)(1)(d) requires an applicant to conduct field surveys for the plant and animal species noted as potentially present by the literature searches. By knowing what species may be in the area, an applicant can design the field surveys to search the types of habitat and

locations where those species are most likely to be found and to search at times of the year when the species are likely to be there. Kingwood's failure to obtain this literature information resulted in substandard field surveys.

Kingwood's failure to conduct the required literature surveys resulted in and was compounded by its lackluster methodology for the field surveys. Kingwood did not follow any government protocols for conducting bird surveys. Gresock, Tr. II 302:3-19.

The field surveys for plants and wildlife may not have extended more than 100 feet outside of the Project Area (Gresock, Tr. II 297:7-21), even though OAC 4906-4-08(B)(1) requires surveys inside and within a quarter mile around the Project Area. This apparent restriction on the search area is particularly damaging to the accuracy of the bird survey, since birds likely fly between the Project Area and several natural areas located near the Project Area, including John Bryan State Park and the Little Miami River. Gresock, Tr. II 299:17 to 300:23.

The field surveys were conducted exclusively in October and November of 2020. Gresock, Tr. II 297:22 to 298:10. Different wildlife species are present in different seasons of the year, so Kingwood did not find the species present only during seasons other than fall. Gresock, Tr. II 298:11-23. This means that Kingwood missed any and all bird species that are present only during spring migration. Gresock, Tr. II 299:3-13.

The Application contains a list of plant species and a list of animal species whose presence was noted in and near the Project Area by two people during two days of surveying wetlands and streams. Gresock, Tr. II 278:2 to 279:3 & 282:12-23; Kingwood Exh. 8, Gresock Direct Testimony, p. 7, line 23 to p. 8, line 7; Applic., pp. 83-84, Table 08-4; Applic., pp. 88-89, Table 08-5. All of their observations of wildlife are contained in the Application's narrative

and in Appendix N. Gresock, Tr. II 281:14 to 281:1. Table 08-5 of the Application's narrative lists the bird species seen during these visits. Gresock, Tr. II 283:18 to 284:2.

Without literature searches and proper field protocols to guide its field surveys, Kingwood performed demonstrably substandard field surveys. This is particularly evident in the results of its field surveys for birds. Table 08-5 of the Application lists only 23 species of birds found by the surveys. Applic., pp. 88-89. Had Kingwood fulfilled its responsibilities to survey the area's wildlife, it would have found the wildlife species known by the community to be present there. Citizens living adjacent to the Project Area regularly see such bird species as hummingbirds, goldfinches, sandhill cranes, bald eagles, red-winged blackbirds, mockingbirds and great blue herons, all of which are missing from Kingwood's list. Citizens Exh. 1, Adams Direct Testimony, p. 7, line 17 to p. 8, line 2; Adams, Tr. IV 810:18-23; Citizens Exh. 6, Hanna Direct Testimony, p. 5, lines 1-4; Citizens Exh. 9, Landon Direct Testimony, p. 4, lines 7-9; Citizens Exh. 11, Pitstick Direct Testimony, p. 4, lines 1-2. Ms. Gresock's rebuttal testimony acknowledged that red-winged blackbirds, finches, and mockingbirds are expected in the Project Area, but Kingwood did not see them. Gresock, Tr. VIII 2000:16 to 2001:15. Jenifer Adams recounted that she sees great blue herons nearly every day in spring, summer and fall, sees them in her yard two or three times per month in the winter, sometimes sees them standing in the portion of the Project Area next to her property, and often sees them flying over the Project Area. Citizens Exh. 1, Adams Direct Testimony, p. 7, lines 17-20. Kingwood's failure to see and record a single one of these extremely large, common birds illustrates Kingwood's failures to perform its surveying duties.

Kingwood has failed to conduct the rule-mandated literature searches and field surveys for plants and wildlife. Without that data, Kingwood has no basis for concluding that the Project

will not harm wildlife; it does not know what wildlife is there. Without this information, the Board's issuance of a certificate to Kingwood would violate OPSB's duties under OAC 4906-4-08(B)(1)(c) and (d), R.C. 4906.10(A)2), and R.C. 4906.10(A)(3).

X. Because The Evidentiary Record Does Not Provide Water Conservation Measures For The Project As Required By OAC 4906-4-07(C)(3)(e), The Board Lacks the Necessary Information On The Nature Of The Project's Probable Environmental Impact, And The Board Has No Basis To Find That The Project Represents The Minimum Adverse Environmental Impact.

ODNR has records for 473 water wells drilled within a mile of the Project Area. Applic., Exh. N, ODNR letter of June 8, 2020, pdf p. 35. The wells vary in depth from 20 feet to 240 feet. *Id.* Obviously, the protection of underground water supplies is important here.

To protect water supplies of this nature, OAC 4906-4-07(C)(3)(e) requires an applicant to do the following:

Describe how the proposed facility incorporates maximum feasible water conservation practices considering available technology and the nature and economics of the various alternatives.

Kingwood has failed to do this. Despite this rule's mandate to describe the Project's water conservation practices, the Application identifies no such measures. Applic., p. 45. Instead, the Application just states that it does not use much water. *Id.*

Recognizing this deficiency, the Staff served data requests on Kingwood asking about its anticipated water usage in an attempt to obtain the information required by the rule. According to its responses to data requests, Kingwood anticipates the need to wash its solar panels once or twice per year. Stickney, Tr. I 149:9-22; Kingwood Exh. 2, pdf p. 11, Answer 36. Kingwood also stated that it expects to use an annual average of 775 gallons per day for routine cleaning. *Id.*, Answer 37. That amounts to about 282,875 gallons of water per year.

Mr. Stickney could not say where Kingwood will acquisition the water used for cleaning solar panels, but assumed that Kingwood might use groundwater from a well inside the Project

Area. Stickney, Tr. I 154:15-23. But he did not know whether the Application includes a hydrogeologic study to find out whether such water withdrawal would draw down the neighbors' wells. Stickney, Tr. I 155:19 to 156:3. A review of the Application reveals that no such study was included.

Mr. Stickney said that Kingwood will not use much water, but he could not identify any actual water conservation measures actually included in the Application. Stickney, Tr. I 156:4-12. Kingwood's failure to provide for maximum water conservation measures violates OAC 4906-4-07(C)(3)(e). Issuing a certificate without this information would violate this rule, R.C. 4906.10(A)(2), and R.C. 4906.10(A)(3).

XI. The Project Does Not Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6), Because Its Damage To The Community's Quality Of Life Will Reduce The Neighbors' Property Values.

One hardly needs an expert to realize that the construction of an industrial complex that damages the aesthetic setting of a neighborhood will reduce the community's property values. People enjoy living in a scenic environment, but not in a sea of industrial metal and glass. Putting an unsightly facility within 250 feet of a neighbor's house, or within 25 feet of a neighbor's yard, as Kingwood proposes, is guaranteed to damage the pleasantness of the neighbor's surroundings and the value of the neighbor's residence.

Nevertheless, since Kingwood hired a property valuation contractor, CohnReznick, to opine about property values around solar facilities, the Citizens retained their own expert, Mary McClinton Clay, to expose the inaccuracy of CohnReznick's opinion that solar facilities do not impair property values. Ms. Clay's expert testimony about a solar facility's damaging impact on property values just confirms what everyone already knows: the presence of an industrial solar plant adjacent to a neighbor's residential property will reduce the value of that property.

Ms. Clay has been a real estate appraiser for 46 years. Citizens Exh. 3, Clay Direct Testimony, p. 2, line 5. She has the customary appraiser education and professional accreditations, and was the President of the Kentucky chapter of the Appraisal Institute. *Id.*, p. 1, line 27 to p. 2, line 2 & p. 2, lines 23-24. She has considerable experience in studying and testifying about the adverse impacts of solar facilities on neighboring property values, including testimony in the Kentucky Siting Board for utilities. *Id.*, p. 3, line 5 to p. 5, line 3. Consequently, she is well versed on the impact of commercial-scale solar facilities on nearby property values. *Id.*, p. 5, lines 4-6.

Because solar companies are well-financed, it is not surprising that they are able to pay contractors to conduct studies concluding, contrary to everyone's common sense, that solar projects do not damage property values. CohnReznick's report in Kingwood's Application is a typical product of this solar company strategy. Ms. Clay has conscientiously examined CohnReznick's study in great detail, and, not surprisingly, has found the study to be biased, flawed, and skewed in order to produce the erroneous conclusion CohnReznick was paid to render. *Id.*, p. 5, line 7 to p. 23, line 17. In contrast, she found two soundly conducted case studies concluding that two solar facilities dropped improved (developed) neighboring property values by a range of 6.3 % to 16.9%. *Id.*, p. 23, line 21 to p. 24, line 6. She found two more case studies on solar projects that reduced the values of nearby vacant properties by 15.5% in one case and by 30% in another case. *Id.*, p. 24, lines 7-17.

Consistent with these case studies, Ms. Clay's study of Kingwood's Project has concluded that the Project will likely reduce the property values of the neighboring properties. *Id.*, p. 5, lines 13-16. Ms. Clay found that the 25-foot setbacks between Kingwood's solar fences and neighboring properties, with the solar arrays right behind them, will likely have a negative

effect on the neighboring property values. *Id.*, p. 24, lines 18-21. That conclusion should not come as a surprise to anyone who exercises common sense.

Of particular relevance to this case is Ms. Clay's finding that solar facilities damage neighboring property values whether or not a vegetative buffer intervenes between the solar arrays and the nearby property. *Id.*, Exh. I. She cited case studies finding that single family lots and improved residential properties located within about 500 feet of a solar farm, and with dense mature woodland between them, lose 15% of their value. *Id.*, Exh. I, pp. 6-7. Other case studies have found that single family lots and agricultural tracts with a clear view of a solar facility within 450 feet, or with minimal natural vegetation between them, lose 30% of their value. *Id.*

These case studies have ominous ramifications for the 50 households located within 250 feet of the Kingwood Project Area. With or without trees to block the view of solar panels, those properties will lose substantial value if the Project is built. Even if Kingwood did a good job of vegetating its fence lines instead of skimping on the number and sizes of trees (which as explained above, it won't), Kingwood's objective to intercept the neighbors' views of solar arrays would be doomed by the differences in elevation between solar arrays and neighboring residences. Consequently, the Project's damage to neighboring property values calls for the denial of the certificate for failure to comply with R.C. 4906.10(A)(6).

XII. The Project Does Not Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6), Because It Will Damage The Community's Historic And Cultural Resources.

Both Kingwood's architectural history expert Amy Kramb and the Citizens' expert historian Terry Fife testified about the historic and architectural significance of the Project Area and the surrounding territory.

Ms. Kramb performed an architectural survey for the Application that discovered widespread and extensive historical resources in the area. Kingwood Exh. 109, Kramb Rebuttal Testimony, Exh. A, Appendices A, C, D, E, F, G.

Ms. Kramb has identified 685 architectural sites of 50 years of age or older in the Ohio Historic Inventory database within five miles of the Project Area. *Id.*, Exh. A, p. 6. She has identified 258 architectural sites within two miles of the Project Area. *Id.*, Exh. A, Appx. G; Kramb, Tr. IX 2196:16 to 2197:10. Five sites within two miles of the Project Area are registered on the National Register of Historic Places, and an historic district with nine sites also is listed. Kramb, Tr. IX 2200:21 to 2201:5. Five historic bridges are in the area. *Id.*, 2201:5-6. Ms. Kramb's visit to the area identified another 16 sites and two additional districts that may qualify for the list. *Id.*, 2201:7-19, 2202:4-12.

One of the historic sites identified by Ms. Kramb as potentially eligible for the National Register of Historic Places is 1451 Bradfute Road. Kramb, Tr. IX 2202:23 to 2203:13. It is one of the oldest sites in the study area. *Id.*, 2207:10-15. This site is located close to four other properties that Ms. Kramb determined may be eligible for that list. *Id.*, 2204:5-11, 2206:15-24.

Ms. Kramb contends that solar panels are no longer in view of 1451 Bradfute Road and four nearby historic sites as a result of Kingwood's revision of its preliminary site plan attached as Exhibit B to Mr. Stickney's rebuttal testimony. Kramb, Tr. IX 2204:17 to 2205:13. She admitted that solar panels would be visible from 1451 Bradfute Road absent the changes in the panel areas mapped out in Exhibit B. *Id.*, 2205:18 to 2206:14. However, this modified preliminary site plan is not a legally binding commitment to place panels only where shown on Exhibit B. As explained above this is a preliminary plan, and it is subject to change again in the

final design that will come to light only after certification. Kingwood's promise to keep solar arrays out of sight from historic sites is a ruse.

According to Ms. Kramb, eight of the historic sites potentially eligible for the National Register of Historic Places may have views of the Project Area. Kingwood Exh. 109, Kramb Rebuttal Testimony, Exh. A, p. ii. She also identified an additional seven architectural sites that she could not physically see during her visit to the study area as likely to have views of the Project Area, and an another seven from which views are possible. *Id.*

While Ms. Kramb has had limited experience with and has done little research on the history of this area of Greene County, Citizen Terry Fife is a seventh generation family member who has resided in the area, and she lives in a former one-room schoolhouse that her family has owned since the 1920s. Citizen Exh. 5, Fife Direct Testimony, p. 13, line 5 to p. 14, line 3. She is a practicing historian who has been actively engaged in the field of applied public history for 40 years. *Id.*, p. 2, lines 1-2. She began her career as a researcher and then a curator at the Chicago Historical Society, which is now known as the Chicago History Museum. *Id.*, lines 5-6. In 1988, she founded a historical research firm called History Works, which is now recognized as the oldest public history consulting firm in the Midwest. *Id.*, lines 22-23. That firm's clients include museums, scholars, not-for-profits, individuals and families with noteworthy histories, corporations, and some of the nation's largest law firms. *Id.*, p. 2, line 22 to p. 3, line 4. For 20 years, she also taught at Loyola University of Chicago in courses for graduate students on oral history, public history media, and historical museums. *Id.*, p. 3, lines 14-23.

Ms. Fife acquired considerable knowledge of the area's history and architecture by living there. *Id.*, p. 13, line 5 to p. 14, line 3. In addition, Ms. Fife has examined a broad range of primary and secondary sources about the area's history. *Id.*, p. 7, line 4. For purposes of her

testimony in this case, she studied a number of local histories and maps, including the earliest ones compiled and created for Greene County, as well as a range of local newspapers. *Id.*, lines 4-6. Other sources she reviewed included a substantial collection of family papers, memoirs, photographs, and records pertaining to the history of the Clark Run neighborhood. *Id.*, lines 6-8. She also inspected and studied some historic structures, including barns and houses farther afield from the Clark Run neighborhood but near Clifton and proximate to the eastern side of the Project Area. *Id.*, lines 8-10. She reviewed and studied primary source materials at the Greene County Historical Society, Xenia Township offices, the Greene County Archives, the Greene County Room at the Greene County Public Library, and the National Museum of Afro-American History in Wilberforce. *Id.*, lines 10-13.

While Ms. Kramb conducted a superficial review to compile a rote list of the area's architectural sites, Ms. Fife's in depth research adds historical context to fully understand the area's historical resources. Without historical context it is impossible to fully understand an area, a region, or people who have lived in those areas or communities at any time in the past. *Id.*, p. 5, lines 12-13. In the absence of context, one is merely engaging in the listing of random facts, figures, dates, and places. *Id.*, lines 13-15. Compiling a list of structures that may, or may not be, eligible for consideration for the National Register of Historical Places does not constitute a history of the region where the Kingwood Project is being proposed. *Id.*, lines 15-17. A list of structures tells us nothing about the backgrounds, the values, the culture, or the actual lives of the people who built, lived, and used these structures. *Id.*, lines 17-19. Context, in the case of understanding the history of the proposed project area, involves an awareness of the people who have lived and labored in this landscape over time. *Id.*, lines 19-21.

Based on this informed approach to history, Ms. Fife has written intensely detailed testimony describing the history of the rural community in and near the Project Area and explaining how this history has put its stamp on the area's appearance. The area's historic occupants and the surviving vestiges of their former presence can be summarized in abbreviated form as follows:

Prehistoric peoples such as the Archaic People, Adena, Hopewell, and Fort Ancients lived there about 7000 years ago. *Id.*, p. 7, lines 18-22. Some Moundbuilders were active in the county about 2000 years ago. *Id.*, lines 22-23. These people were Moundbuilders, and a surviving Adena mound is located in a county park a short distance from the Project Area that attracts visitors from all over the state. *Id.*, p. 7, line 22 to p. 8, line 3.

Native Americans including the Miamis, Shawnees, Wyandots, and Delawares also lived in the area and played an important role in its history. *Id.*, p. 8, lines 4-13. Ohio's newest state park, Tecumseh State Park, is in the planning stage and will be sited about two miles from the Project Area. *Id.*, p. 8, line 14 to p. 9, line 3. This park will shed more light on the currently misunderstood and underappreciated role of the Shawnees in the history and culture of the local community and the state as a whole. *Id.*

Settlers of European descent such as Scots and Scots-Irish began to arrive soon after the Revolutionary War. *Id.*, p. 7, lines 18-19 & p. 9, line 4 to p. 10, line 16. The theological beliefs of many of them, including Presbyterians and Quakers, made them fiercely opposed to slavery. *Id.*, p. 9, line 15 to p. 10, line 16.

The area's anti-slavery philosophy and sparsely populated countryside made the area attractive to free people of color, who moved there from eastern cities and elsewhere. *Id.*, p. 10, lines 17-22. Few other rural counties in the Midwest can claim the presence of an established

African American community in the years before 1865. *Id.*, p. 10, lines 20-21. The majority of the county's citizens of color lived in the three townships in which the Project Area is located. *Id.*, lines 21-22.

The architectural contributions of the European and African American settlers are pervasive and noticeable throughout and immediately around the Project Area. The sheer number of architectural sites found by Ms. Kramb attest to that fact. Ms. Fife has further described these historic assets in the context of the area's culture and history.

Many of the historic dwellings were solid but simple, sometimes made of local stones, like the 1809 structure at 1451 Bradfute Road. *Id.*, p. 11, lines 3-4. Other early houses in the area are exquisite examples of the plain and practical Federal farm style indigenous to the local landscape. *Id.*, lines 4-7. These structures, many of which were constructed with local clay and bricks fired on site, can be found throughout the Project Area. *Id.*, lines 7-8. Examples of then ordinary, now extraordinary, vernacular architecture of the early 1800s are located at 1360 and 1300 Bradfute Road, 1040 and 1430 Clifton Road, 1851 Stevenson Road, and 3010 Wilberforce-Clifton Road. *Id.*, lines 8-11. At least twenty historic 19th century structures still stand in the little village of Clifton and many more are located just outside the village. *Id.*, lines 17-18.

Most of the houses more than 150 years old in the area feature plain but elegant interior carpentry fashioned from local hardwoods, especially oak, maple and walnut. *Id.*, lines 13-14. Many of the townships' early skilled craftsmen – carpenters, joiners, coopers, masons, wheelwrights, millers, and blacksmiths -- aspired to acquire farm land in the area. *Id.*, lines 15-16. When they were able to do so, they typically built their own houses. *Id.*, lines 16-17. Many of the oldest homes in the area are valued for the skilled craftsmanship still on display. *Id.*, lines 17-18.

Some of these local craftsmen had a hand in engineering and constructing the many water-powered mills that once operated in the Project Area. 19-20. Dozens of mills -- grist, woolen, and lumber -- were once located on the Little Miami River, on Clark Run, and on Massie's Creek. *Id.*, lines 20-22. The historic Clifton Mill and the Grinnell Mill have been preserved and stand as local touchstones to the area's early industrial and agricultural heritage. *Id.*, p. 11, line 22 to p. 12, line 1.

Each of the three townships operate cemeteries close to the Project Area that further document the area's historic heritage. *Id.*, p. 14, lines 5-6. Established in the early 1800s, these racially integrated cemeteries hold graves of early settlers including Revolutionary War veterans and a number of notable African Americans. *Id.*, lines 5-21.

This area also played an important role in the Underground Railroad, and it has the architectural sites to prove it. *Id.*, p. 15, line 1 to p. 16, line 14. About half of the 50 members of the Greene County Anti-Slavery Society lived within five miles of the Project Area with some of them residing in the Project Area, especially on elevated homesteads in the western part of the Project Area. *Id.*, p. 15, lines 6-15 & p. 16, lines 1-6. About half of the county's 16 probable Underground Railroad sites are located within five miles of the Project Area. *Id.*, p. 15, lines 16-23.

The early presence of free African Americans in the area led to the establishment of the community of Wilberforce, located only a couple of miles from the Project Area. *Id.*, p. 16, lines 17-18. In that community, Wilberforce University was founded in 1856 and is America's oldest private African American institution of higher education. *Id.*, lines 20-21. Wilberforce is also the home of Payne Theological Seminary, the first such institution established by the African American Episcopal Church in the 1840s, and Central State University, which is one of only 19

“1890 Morrill Land Grant Universities” in the nation, established to ensure that students of color could access public institutions of higher education. *Id.*, p. 17, lines 6-19.

Oscar Bradfute, an early agricultural pioneer and farm leader, lived and worked near the Project Area. *Id.*, p. 19, lines 10-22. He was a founder of the Ohio Farm Bureau and the American Farm Bureau and served as president of both organizations in the early 1920s when the country was undergoing rapid industrialization and the population was migrating from farms to cities. *Id.*, lines 12-15. While not appearing on the National Register of Historic Places, the original farm house where he was born and lived, along with a bank barn and other structures used during his lifetime, survive in both Cedarville Township and Xenia Township. *Id.*, lines 15-18. The extant buildings and the surrounding pastures and tillable land have been well maintained by Bradfute descendants and more recently by non-family owners who appreciate both the historical and visual significance of these properties. *Id.*, lines 18-20. If the project is constructed, solar panels would be visible from this historic family farm situated in one of the most picturesque areas of the proposed project. *Id.*, lines 20-22.

Another example of the Project’s potential adverse impacts on individual historic sites can be found at 1451 Bradfute Road. This parcel holds several historic structures on a landscape of mowed grass, including a farm house with stone walls that was built in 1809, a granary, and four concrete grain silos. Citizens Exh. 8, Krajicek Direct Testimony, p. 6, lines 1-3. At the time the Krajicek Trust purchased this parcel in 2019, the parcel also contained a post beam barn that had been constructed around the 1850s. *Id.*, lines 3-4. The Krajiceks had plans to renovate the historic structures on this land and to use them and the grounds as a venue for activities such as weddings, business meetings, agritourism events, and parties. *Id.*, lines 10-12. They also were evaluating the potential development of a microbrewery at the site that would utilize the

granary. *Id.*, lines 12-13. They hired a contractor skilled in historic preservation to dismantle the barn and transport its hand-hewed timbers and wooden boards to an off-site location for restoration, with the intent of returning the barn's components to this parcel and reassembling it. *Id.*, lines 13-16. The restoration of the building components was completed, and they paid about \$20,000 to dismantle, transport, and restore the components. *Id.*, lines 18-20.

Then the Krajiceks discovered that Kingwood planned to install solar panels in a crop field adjacent to the Krajiceks' historic site. *Id.*, p. 7, lines 13-22. Although Kingwood had previously asked them to lease their land to the Project, this land is located near the eastern end of the Project Area far from 1451 Bradfute, which is at the western end of the sprawling Project Area, and the Krajiceks did not realize the Project Area would extend that far. *Id.*, lines 16-22. The community chatter about that Project also had gone silent, leading the Krajiceks to believe the Project had been abandoned. *Id.*, lines 14-16.

Upon discovering where Kingwood is planning the Project Area, the Krajiceks suspended their plans to renovate the historic structures and use the site as an event venue. *Id.*, 7, line 1 & *Id.*, lines 8-10. This parcel is on an elevated area overlooking the Project Area in two directions, which will spoil the views from the venue's location. *Id.*, p. 7, lines 1-3. The elevated area on which the buildings are located has an unobstructed view of fields in which the construction of solar panels is planned in the Project Area. *Id.*, lines 3-5. This is particularly true of the field in the Project Area that is about 400 feet to the northeast from the historic house on this parcel. *Id.*, lines 5-6 & Krajicek Exh. G. As explained above, Kingwood's witnesses asserted at the evidentiary hearing that Kingwood no longer plans to install solar arrays in the field closest to this site, pointing to a revised Project layout in Exhibit B attached to the rebuttal testimony of

Dylan Stickney. But this layout is only another preliminary Project layout subject to change in the final design to be submitted in secret to the Staff after certification.

Although the Project would impair individual historic sites such as 1451 Bradfute throughout the area, the Project's impact on the historic value of this community is not limited to the repulsive views of solar arrays from an isolated historic site here and there. An industrial utility of 1,025 acres is completely out of character with the entire historical community. The entire area is full of historic, architectural structures that add to the quality of life there. Massive arrays of solar panels will destroy the aesthetic character of this area, as residents, recreationists, and visitors attracted to the area's historic setting would be forced to drive or bike through and look at miles of solar panels as they move from one site to another. This adverse impact on the entire area cannot be prevented by a band-aid approach of planting some trees here and there to "soften" the Project's horizontal lines. This is another good reason why the Board should deny a certificate for the Project pursuant to R.C. 4906.10(A)(6).

XIII. Siting A Large Solar Project As A Target For Tornadoes In An Area Prone To Tornado Activity Without Requiring Solar Equipment To Be Designed To Withstand Tornado Winds Does Not Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6).

In 1974, a devastating Category 5 tornado struck Xenia, as well as the area in and near the Project Area. Citizens Exh. 5, Fife Direct Testimony, p. 27, line 18 to p. 28, line 6. The loss of life coupled with the loss of the landscape and the built environment was a traumatic experience for many who lived through the experience. *Id.*, p. 27, lines 21-23. The tornado's destruction of the area's buildings altered where people lived, worked, shopped, went to school, and attended church. *Id.*, p. 28, lines 1-6.

James Joseph Krajicek witnessed the destruction from the 1974 tornado in and near the Project Area as a young boy. Citizens Exh. Krajicek 8, Direct Testimony, p. 10, lines 18-19.

This destruction included the leveling of his grandparents' barn and killing livestock. *Id.*, lines 19-20.

The area's experiences with tornadoes are not limited to 1974. In April 2018, a tornado ripped the garage off the Mossings' house and dropped the garage onto their above-ground swimming pool. Citizens Exh. 10, Mossing Direct Testimony, p. 3, lines 14-17. Mr. Krajicek also witnessed the destruction in the Project Area caused by the 2018 tornado, including the destruction of a number of buildings in the Project Area. Citizens Exh. Krajicek 8, Direct Testimony, p. 10, lines 20-21.

Knowing the area's propensity for severe weather, Kingwood produced Alex Roedel of Nextracker Inc. as a witness in an attempt to allay this concern. Mr. Roedel admitted that 17 tornadoes have occurred in Greene County since 1950. Roedel, Tr. III 631:13-15. He tried to defuse the natural concern about that statistic by saying that there have been higher numbers of tornadoes in north Texas, Oklahoma, Kansas, and another Ohio county. *Id.*, 631:13 to 632:16. But knowing that a few other places in the country have more tornadoes does not detract from the unusual numbers of tornadoes have occurred in Greene County. Mr. Roedel also had no statistics to tell whether two tornadoes hitting an area of the size of the Project Area since 1974 is unusual. *Id.*, 632:20-23.

Mr. Roedel opined that the solar trackers that the Project will likely use to hold the solar panels to the racks will withstand wind speeds of 105 miles per hour. Kingwood Exh. 16, p. 7, lines 4-5. But there is a problem with that attempt at assurance, and it is big problem. As Mr. Roedel admitted on cross-examination, the wind speeds in tornadoes range from 65 miles per hour for a Category 0 tornado to over 200 miles per hour for a Category 5 tornado based on a three-second gust. Roedel, Tr. III 615:14 to 616:19; Citizens Exh. 19. A tornado with a wind

speed of 105 miles per hour, for which the trackers are rated, is only a Category 1 tornado.

Roedel, Tr. III 615:22 to 616:4.

The tornadoes hitting the area in 1974 and since that time have given the area's residents a heightened awareness and anxiety about the dangers associated with severe weather. Citizens Exh. 5, Fife Direct Testimony, p. 28, lines 7-19. One such danger is the threat of flying debris and infrastructure landing on nearby properties. *Id.*, lines 12-14. The massive areal extent of an industrial-sized solar project as a tornado target vastly increases that danger in an area that is already prone to tornado activity, which would increase the anxiety of residents who have experienced firsthand the effects of severe weather events. *Id.*, lines 14-19. Kingwood's ill-advised choice of this area for its sprawling industrial facility is another reason to deny Project approval under R.C. 4906.10(A)(6).

XIV. The Project Will Not Represent The Minimum Adverse Environmental Impact Under R.C. 4906.10(A)(3), Nor Will The Project Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6), Because Its Noise Will Make Life Miserable On Neighboring Properties.

Contrary to Kingwood's position, solar projects are noisy, not quiet. Noise measurements by Citizen expert witness Robert Rand at the Hardin Solar I project approved by OPSB prove that solar energy production is noisy.

Mr. Rand has been the owner and principal consultant of Rand Acoustics, LLC, an acoustical consulting company, since 1996. Citizens Exh. 12, Rand Direct Testimony, p. 1, lines 29-30. He has over forty years of experience in general acoustics, including industrial noise control, environmental impact assessment, and interior acoustics, with ten years in the Noise Control Group at Stone & Webster Engineering Corporation. *Id.*, lines 30-33. He has provided a variety of acoustical consulting services over the years including evaluation of noise impacts, noise complaints, sleep disturbance, evaluation of sounds in interior spaces, speech intelligibility

and sound quality, effects of intrusive noise in mixed-use environments and in quiet rural areas.

Id., p. 1, line 33 to p. 2, line 2. His experience includes sound level measurement and analysis of commercial and industrial equipment as well as infrasonic and barometric acoustic pressure pulsations and community noise impact assessments for industrial wind turbines. *Id.*, p. 2, lines 2-5. He has worked for decades to prevent sleep disturbance and adverse impacts on community amenity, assist industrial and commercial clients to meet noise regulations and be good acoustic neighbors, and enhance the quality of life for citizens and communities. *Id.*, p. 2, lines 14-17. He has extensive professional experience with noise measurement, noise control design and cost management, and noise impact assessment for power generation transformers and tonal noise sources, all of which provide an experiential basis of noise impact assessment for Kingwood. *Id.*, p. 3, lines 10-13.

During Mr. Rand's visit, a line of inverters at Hardin Solar I was producing continuous tonal noise which dominated the environment and sounded like "swarms of bees." *Id.*, p. 15, lines 5-6. At a distance of 790 feet away, the inverters' humming was heard and measured at levels of 42 to 45 A-weighted decibels ("dBA") with tonal sounds of 40 to 41 dBA. *Id.*, p. 14, lines 17-19 & p. 15, lines 6-19 & p.18, lines 1-5. This loud inverter noise from 790 feet away proves that Kingwood's proposed 500-foot setback between inverters and residences will not prevent noise nuisances at neighboring homes. *Id.*, p. 11, lines 12-13. Kingwood's inverters would need to be 1800 feet away before their noise receded to reasonable levels. *Id.*, p. 11, lines 21-22.

The clattering and bustling sounds of tracker motor shifts in the racking positions at Hardin Solar I also were loud, with measurements of 39 to 42 dBA at 90 feet away. *Id.*, p. 16,

line 16 to p. 17, line 10 & p. 18, lines 10-13. Loud pile driving sounds at the Hardin Solar II construction site also were witnessed. *Id.*, p. 16, lines 3-15.

With respect to the inverter noises at Hardin Solar I, Mr. Rand found that, “[w]ithout question, inverter noise with that sound character intruding onto adjacent residential property would be objectionable for neighbors who do not want such a facility installed.” *Id.*, p. 18, lines 1-3. He also noted that the inverter noise at Kingwood is expected to occur at the same level based on the inverter units that may be selected. *Id.*, lines 5-9.

In its present state without solar arrays, the Project Area and environs are a quiet rural farming area. *Id.*, p. 20, line 9. Kingwood’s acoustic engineer skewed his background sound study to make the existing sound level look higher by selecting unrepresentative sound measurement locations for two of his three monitoring locations. *Id.*, p. 20, line 16 to p. 22, line 14. These two locations were placed next to public roads, at which traffic noise was substantially louder than sounds at and behind the community’s residences. *Id.*

Based on the unrepresentative sound measurements, Kingwood consultant Acentech proposed “Project-Only Sound Level Guideline (dBA)” for the three measurement locations on page 3 of Application Appendix K. These proposed noise limits range from 46 to 55 dBA in daytime, and 41 to 50 dBA at night. *Id.*, p. 24, lines 14-16. The highest guidelines are for the two measurement locations within 50 feet of roadways. *Id.*, lines 16-17.

Based on extensive experience in designing large facilities with noise controls, Mr. Rand has concluded that the Project’s proposed noise limit and predicted noise levels appear to be excessive for the quiet rural area and are likely to provoke widespread complaints. *Id.*, p. 24, lines 1-2 & p. 24, lines 6-7. Kingwood’s proposed noise limits are many decibels higher than five decibels above the background L90 sound level of 28 dBA, which is the level at which

complaints are expected to occur. *Id.*, p. 12, line 16 & p. 25, lines 5-6. To address this inevitable problem, Kingwood should be required to install noise controls just like any normal industrial, noise-emitting facility instead of waiting from neighbors' complaints to come in before acting. *Id.*, p. 26, lines 3-6. Both Mr. Rand and Kingwood's acoustic expert agree that effective noise controls are available for inverters. *Id.*, p. 27, lines 7-12. Based on established industrial practice, with which Mr. Rand is familiar from his years of designing noise controls for industrial facilities at Stone and Webster Engineering Corporation, noise controls are deemed reasonable if their costs range between 5% and 20% of a facility's construction costs. *Id.*, p. 10, line 12 to p. 11, line 11 & p. 26, lines 11-15. Inverter enclosures effective in reducing noise would cost about 15.2% of the cost of building a solar facility, and thus are affordable under standard industrial practice. *Id.*, lines 20-23.

As currently designed, the Project will cause severe noise problems from its inverters and tracker motors. Effective noise controls must be incorporated into the Project's design to prevent these problems. Without such controls, the Project does not comply with R.C. 4906.10(A)(3) or R.C. 4906.10(A)(6).

XV. The Ohio Power Siting Board Cannot Issue A Certificate To A Solar Energy Utility Without Receiving Information Required By OAC 4906-4-07(C) And R.C. 4906.10(A)(2) & (3) About The Project's Drainage Impacts And Associated Mitigation To Prevent Flooding.

The Project Area is prone to flooding. Citizens Exh. 1, Adams Direct Testimony, p. 8, lines 3-4. The Project Area drains onto its neighbors' farm land and yards. For example, Citizen James Joseph Krajicek and his wife Deborah Krajicek, through their trust, own a 47-acre parcel of crop land adjacent to the Project Area that receives runoff through a surface waterway from two fields totaling about 80 acres in the Project Area designated for solar panels. Citizens Exh. 8, Krajicek Direct Testimony, p. 3, lines 8-22. Although surface waterways in farm fields are

ordinarily designed to be 30 feet wide, the amount of water flowing from the fields in the Project Area necessitates a 40-foot wide channel in order to convey the water without flooding the crops in the Krajiceks' field. *Id.*, p. 4, lines 5-7. During larger rainfalls, such as a two-inch rainfall that falls in a short period of time, the culvert under the public road at the end of their field cannot handle all of the water flowing through the waterway. *Id.*, lines 17-18. This causes water to rise and flow over the road. *Id.*, lines 18-19. It also causes the water level to rise in and back up in the waterway and to overflow the waterway's channel into the Krajiceks' field. *Id.*, lines 19-20. An increase in the volume or velocity of water from the Project Area would increase the frequency of the events in which water backs up behind the culvert, overflows the waterway's channel, floods the crops in their field, and flows over the road. *Id.*, lines 20-23. Water that the culvert cannot handle, which then flows over the road, floods the yards of two downstream households, the Reeds and the Fischers. *Id.*, p. 4, lines 8-12 & p. 5, lines 1-3.

The Krajiceks also rent 150 acres of farm land that are adjacent to and downstream from a field in the Project Area designated for solar panels. *Id.*, p. 5, lines 4-10. The amount of water flowing from the land in the Project Area necessitates a 40-foot wide surface waterway in order to convey the water without flooding the crops in the Krajiceks' rented field. *Id.*, lines 8-17.

Similarly, Citizen P. Chance Baldwin's yard receives surface runoff from the Project Area, which is flooded by runoff from that Project Area field during heavy rainfall. Citizens Exh. 2, p. 4, line 19 to p. 5, line 1. A crop field that he owns and farms is drained by a drainage tile that enters his field from the Project Area and then exits his field into another portion of the Project Area. *Id.*, p. 14-18.

The purpose of a drainage tile is to remove excess precipitation from a field before it damages the field's crops. Waterhouse, Tr. III 561:7-23. Flooding can kill crops or reduce their

yields. *Id.*, 562:5-10. Excessive runoff through tiles and surface waterways from the Project Area could cause serious damage to downstream fields and yards.

For that reason, 4906-4-07(C) requires the board to obtain data about a project's potential for surface water runoff from an applicant prior to approving a project, so that potential drainage problems can be diagnosed prior to construction. Rather than making uninformed guesses about whether the Project's design and construction will increase the runoff of stormwater from a site by altering the terrain, the Board has promulgated this rule to answer this question ahead of construction rather than finding out when flooding damages the community.

OAC 4906-4-07(C) provides:

(C) The applicant shall provide information on compliance with water quality regulations.

(2) The applicant shall provide information regarding water quality during construction.

(b) Provide an estimate of the quality and quantity of aquatic discharges from the site clearing and construction operations, including runoff and siltation from dredging, filling, and construction of shoreside facilities.

(c) Describe any plans to mitigate the above effects in accordance with current federal and Ohio regulations.

(d) Describe any changes in flow patterns and erosion due to site clearing and grading operations.

(3) The applicant shall provide information on water quality during operation of the facility.

(d) Provide a quantitative flow diagram or description for water and water-borne wastes through the proposed facility, showing the following potential sources of pollution, including:

(vii) Run-off from soil and other surfaces.

(Emphasis added.) The underlined language requires Kingwood to quantify the amount of water that will flow off the Project Area during construction and operation. For construction, OAC

4906-4-07(C)(2)(b) requires “an estimate of the ... quantity of aquatic discharges from the site clearing and construction operations.” Emphasis added. For construction, OAC 4906-4-07(C)(2)(d) requires descriptions of any “changes in flow patterns and erosion due to site clearing and grading operations.” Emphasis added. For operation, OAC 4906-4-07(C)(3)(d) requires “a quantitative flow diagram or description for water ... through the proposed facility.” Emphasis added. These water flow estimates and flow patterns are necessary to determine whether site clearing and the existence of impervious solar panels will increase stormwater runoff that could flood downstream properties during and after construction. Nevertheless, Kingwood has not performed any calculations of the quantity of runoff prior to construction or after construction. Saunders, Tr. III 698:9 to 699:19, 700:19-25. Nor has Kingwood provided any quantitative flow diagrams or descriptions of water flow patterns through the facility. *Id.*, 702:5-20. Accordingly, Kingwood has not provided the data required by OAC 4906-4-07(C)(2)(b) & (d) and OAC 4906-4-07(C)(3)(d) to determine whether the quantity of runoff caused by Project construction or operation will harm downstream landowners.

The welfare of the Project’s downstream neighbors depends on the development of water quantity data for the construction and operation of the Project. Without this data, the record does not and cannot identify any mitigation measures that may be necessary to protect neighbors from flooding and drainage problems caused by Kingwood’s activities as required by OAC 4906-4-07(C)(2)(c). Issuing a certificate without this information would violate the Board’s responsibilities to implement OAC 4906-4-07(C), determine the nature of the Project’s environmental impact under R.C. 4906.10(A)(2), and determine whether the Project represents the minimum adverse environmental impact under R.C. 4906.10(A)(3).

XVI. The Ohio Power Siting Board Cannot Issue A Certificate For The Project Without Receiving Information Required By OAC 4906-4-07(C) And R.C. 4906.10(A)(2) & (3) Concerning The Project's Pollution Impacts And Associated Mitigation.

OAC 4906-4-07(C) requires the board to obtain data about a project's potential for water pollution from an applicant prior to approving a project, so that potential pollution problems can be diagnosed prior to construction. Rather than making uninformed guesses about whether the Project's disturbance of the soil will increase the runoff of soil-laden water into streams, the board has promulgated this rule to answer this question ahead of construction rather than finding out after water pollution damages the streams and the community.

OAC 4906-4-07(C)(1)(d) and 4906-4-07(C)(2)(b), (c), (d), and (e) require Angelina to provide water quality data so the board can evaluate these discharges' impacts:

(C) The applicant shall provide information on compliance with water quality regulations.

(1) The applicant shall provide information regarding preconstruction water quality and permits.

(d) Describe the existing water quality of the receiving stream based on at least one year of monitoring data, using appropriate Ohio environmental protection agency reporting requirements.

(2) The applicant shall provide information regarding water quality during construction.

(b) Provide an estimate of the quality and quantity of aquatic discharges from the site clearing and construction operations, including runoff and siltation from dredging, filling, and construction of shoreside facilities.

(c) Describe any plans to mitigate the above effects in accordance with current federal and Ohio regulations.

(d) Describe any changes in flow patterns and erosion due to site clearing and grading operations.

(e) Describe the equipment proposed for control of effluents discharged into bodies of water and receiving streams.

(Emphasis added.) The emphasized language requires an applicant to submit information about the quality of surface water flows from the Project Area during construction and operation, such as sediment from erosion carried into the streams.

Kingwood has not submitted any of this water quality information. Saunders, Tr. III 700:7-18, 701:1-6, 701:24 to 702:4. Issuing a certificate without this information would violate the Board's responsibilities to implement OAC 4906-4-07(C), determine the nature of the Project's environmental impact under R.C. 4906.10(A)(2), and determine whether the Project represents the minimum adverse environmental impact under R.C. 4906.10(A)(3).

XVII. Issuing A Certificate To An Inexperienced Project Owner Does Not Serve The Public Interest, Convenience, And Necessity Under R.C. 4906.10(A)(6).

Kingwood Solar I LLC is a brand new company formed just for the purpose of filing this Application. Therefore, it has no experience in constructing or operating solar facilities. Kingwood is a wholly owned subsidiary of Vesper Energy. Stickney, Tr. I 47:22-25. Vesper has never operated a solar facility either. Stickney, Tr. I 44:1-20. To Mr. Stickney's knowledge, Vesper has never finished the construction of a solar facility. Stickney, Tr. I 44:21 to 45:10. In fact, although Vesper states that it has three gigawatts of renewable energy and energy storage projects in its "current development pipeline," these projects are not even in construction. *Id.*, 47:5-15.

OPSB should not entrust the responsibility to construct and operate a facility, which could cause so much damage to the community, to a company that has absolutely no experience. To do so would not serve the public interest, convenience, and necessity under R.C. 4906.10(A)(6).

XVIII. Conclusion

As explained above, there a multitude of good reasons to deny the certificate sought by Kingwood. Kingwood has failed to provide the information on the Project's adverse impacts and mitigation measurements necessary to minimize them that is required by the Board's rules. The Board cannot violate its own rules by approving the Project without this information. Nor do the criteria in R.C. 4906.10(A)(2), (3), and (6) authorize the issuance of this certificate. The Board should deny Kingwood's Application.

Respectfully submitted,

/s/ Jack A. Van Kley
Jack A. Van Kley (0016961)
Van Kley & Walker, LLC
132 Northwoods Blvd., Suite C-1
Columbus, Ohio 43235
(614) 431-8900 (telephone)
(614) 431-8905 (facsimile)
Email: jvankley@vankleywalker.com
(Willing to accept service by email)

CERTIFICATE OF SERVICE

I hereby certify that, on June 13, 2022, a copy of the foregoing memorandum was served by electronic mail on the following: Jodi Bair at Jodi.Bair@ohioattorneygeneral.gov; Daniel A. Brown at dbrown@brownlawdayton.com; Kevin Dunn at kdd@planklaw.com; John Hart at jhartlaw@gmail.com; Werner Margard III at Nathaniel B. Morse at nbmorse@vorys.com; Werner.Margard@ohioattorneygeneral.gov; Michael Settineri at mjsettineri@vorys.com; Lee Slone at lee.slone@dinsmore.com; Charles Swaney at cswaney@woh.rr.com; David Watkins at dw@planklaw.com; Anna Sanyal at aasanyal@vorys.com; Nathaniel Morse at nbmorse@vorys.com; Thaddeus Boggs at tboggs@fbtlaw.com; Chad A. Endsley at

cendsley@ofbf.org; Amy M. Milam at amilam@ofbf.org; and Leah F. Curtis at lcurtis@ofbf.com.

/s/ Jack A. Van Kley_____
Jack A. Van Kley

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Summary: Brief (Post-Hearing) electronically filed by Mr. Jack A. Van Kley on behalf
of Citizens for Greene Acres & Its Member Intervenors