

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of
GLACIER MEADOWS SOLAR, LLC
for a Renewable Energy or Storage Siting
Certificate to construct a solar energy
facility.

PSC Case No. U-22044

DIRECT TESTIMONY OF

KEVON MARTIS
DEERFIELD TOWNSHIP ZONING ADMINISTRATOR &
LENAWEE COUNTY COMMISSIONER

ON BEHALF OF

DEERFIELD AND BLISSFIELD TOWNSHIPS

July 20, 2026

1 **Q. Please state your name and business address.**

2 A. Kevon Martis, 11917 Wegner Road, Riga, MI 49276.

3 **Q. In what role are you testifying today?**

4 A. As the Zoning Administrator for Deerfield Township, Lenawee County, Michigan.

5 **Q. Please describe your educational background.**

6 A. I have a bachelor's degree in history from the University of Michigan and am a certified
7 zoning administrator through MSU Extension.

8 **Q. Have you previously presented testimony to the Michigan Public Service
9 Commission?**

10 A. No.

11 **Q. What is the purpose of your direct testimony in this proceeding?**

12 A. To discuss Deerfield Township's local review of the Glacier Meadows Solar project. My
13 silence with regard to any position taken by any other party in this proceeding does not
14 indicate my endorsement of that position.

15 **Q. Are you sponsoring any exhibits?**

16 A. Yes. Townships Joint Exhibit I-2 – Deerfield Township Planning Commission Resolution
17 to Approve With Conditions The Special Land Use Application Submitted by Glacier
18 Meadows Solar, LLC.

19 **Q. Were these exhibits prepared in whole or in part by you or under your direction and
20 supervision, or are they public agency documents?**

1 A. These exhibits were either prepared by me or under my direction and supervision, or are
2 public agency documents.

3 **Q. When did the Township first receive application materials from Glacier Meadows**
4 **Solar, LLC?**

5 A. June 9, 2025. Glacier Meadows Solar, LLC provided the required escrow payment on June
6 11, 2025.

7 **Q. Why are escrow deposits required for special land use reviews?**

8 A. There are a variety of expenses incurred by a zoning jurisdiction during a special land use
9 application review. Some are mandated by the Zoning Enabling Act, like the proper
10 noticing of a public hearing via mail and newspaper publication. And some are required by
11 the nature of the application. For instance, an application for a utility-scale solar energy
12 facility like Glacier Meadows requires input from the Township Attorney, Planner, Zoning
13 Administrator, and other subject-matter experts like civil engineers, acoustic engineers,
14 and others. Applications like this also require several meetings to be called for the Planning
15 Commission to conduct a meaningful review and publicly deliberate about the application.
16 Planning Commission members are paid for attending meetings. The costs described
17 above, which are not an exhaustive list, should not be borne by the general public.

18 **Q. Was the application complete as submitted on June 9, 2025?**

19 A. No. Many items were missing from the application.

20 **Q. Did the Township inform Glacier Meadows Solar that the application was incomplete**
21 **as submitted?**

1 A. Yes. On July 2, the Township informed Glacier Meadows Solar via letter that the
2 application was incomplete.

3 **Q. How did Glacier Meadows Solar respond?**

4 A. Glacier Meadows Solar responded via letter on July 22, 2025, and insisted that the 120-
5 day period began on June 11, 2025. Glacier Meadows Solar refused to extend the review
6 period to start on the date that the Application is deemed complete. According to Glacier
7 Meadows Solar's July 22, 2025 letter, the Township's "deadline" to make a determination
8 regarding the Application was October 9, 2025. Glacier Meadows Solar also stated that the
9 Application complied with PA 233.

10 **Q. Did Glacier Meadows Solar eventually agree to any extensions?**

11 A. No.

12 **Q. Did the Planning Commission submit any further information requests to Glacier**
13 **Meadows Solar?**

14 A. Yes. The Planning Commission discussed the Application at special meetings on
15 September 10, 2025, September 17, 2025, and September 24, 2025, called for that purpose.
16 The Planning Commission requested additional written information and answers in writing
17 following the September 17, 2025 meeting.

18 **Q. Did Glacier Meadows Solar satisfactorily answer the Planning Commission's**
19 **questions and requests for information?**

20 A. No. Although it provided some information, many answers simply stated that the
21 Township's requests "go beyond requirements for a compatible renewable energy

ordinance under state law,” and that the “Application is fully compliant” with PA 233.

Q. What was the Township’s decision regarding the application?

A. After a recommendation to do so from the Planning Commission, the Township Board approved the application with conditions. The conditions were compiled from the third-party professional reviews, our Zoning Ordinance, and reasonable concerns from the public, all reviewed by the Township Attorney. The conditions mainly consist of the items identified as missing from the application that Glacier Meadows Solar refused to provide.

Q. Can you provide the approved resolution and proposed special land use permit?

A. It is attached as Townships Joint Exhibit I-2 for the Commission’s review. The exhibits attached to the resolution include all correspondence between Deerfield Township and Glacier Meadows Solar during the local review and the reports produced by the Township’s consultants.

Q. Do you have any additional comments about Deerfield Township’s resolution approving the Glacier Meadows Solar project with conditions and the proposed special land use permit that was attached to it?

A. Deerfield Township believes that its approval was valid and enforceable under the Michigan Zoning Enabling Act and PA 233. The Commission should take note of Glacier Meadows Solar’s refusal to work with the Township throughout the process and its refusal to provide information it unilaterally deemed outside the scope of PA 233, which is documented in the resolution and the accompanying exhibits. If the Commission grants a certificate, I request that the Commission include the Township’s conditions, to the extent

1 it has jurisdiction to do so, and to find that the conditions attached to the approval were
2 reasonably related to Glacier Meadows Solar's failure to provide information necessary to
3 determine compliance with Deerfield Township's CREO.

4 **Q. Why is the Township's solar energy overlay district located where it is?**

5 A. The Township discussed the location of our solar energy district at length and determined
6 that its present location is where this land use would have the least amount of adverse
7 impacts on nearby land uses, residential property values, and agriculture. And it was
8 designed to provide easy access to the existing substation and transmission lines in the
9 Township.

10 **Q. In your experience as Zoning Administrator, what are resident concerns about the**
11 **proposed project?**

12 A. Residents have expressed many concerns, including those involving construction hours,
13 construction noise, dust from construction, noise from operations, screening, fencing,
14 wildlife corridors, and decommissioning.

15 **Q. What is your request regarding hours of construction?**

16 A. I request that the hours of construction be limited to 8:00 A.M. to 7:00 P.M. Monday
17 through Saturday.

18 **Q. Do you request a condition regarding screening?**

19 A. I request a condition that Glacier Meadows Solar comply with the Township Zoning
20 Ordinance regarding screening. These regulations were adopted to codify the preferences
21 of the community, and the Township would request that the Commission require

1 compliance with them. Screening is one of the most common concerns voiced by residents.

2 **Q. What did the local review reveal about Glacier Meadows' noise study?**

3 A. The Township hired an acoustical engineer to review Glacier Meadows' noise study. The
4 Township's engineer found several flaws in the noise study, which appeared to demonstrate
5 that the noise study did not conform to the AFIPs. This review by Robert W. Rand, ASA,
6 INCE (Member Emeritus) is Exhibit D attached to Townships Joint Exhibit I-2.

7 **Q. Do you propose any other conditions related to noise?**

8 A. Yes. As the Commission is aware, it has a duty to protect the health, safety, and welfare of
9 Township residents by requiring the project to comply with MCL 460.1226(7)(g) and MCL
10 460.1226(8). Related to noise, I propose the following condition be adopted by the
11 Commission in any siting certificate:

12 The Applicant must install equipment that is incapable of exceeding
13 statutory requirements or that is inaudible outside the project area
14 fencing. To ensure any equipment installed meets this requirement,
15 the Applicant is required to contract with and pay for a third-party
16 acoustic expert to conduct post-construction sound monitoring in
17 accordance with AFIP Attachment D. The Applicant is required to
18 file the results in a report to the docket in Case No. U-22044. The
19 post-construction sound monitoring report must be submitted within
20 60 days of the end of field data collection. If the post construction
21 sound measurements or complaint-triggered monitoring demonstrate
22 exceedance of the statutory requirements, the Applicant must
23 immediately cease operation of any equipment found to exceed the
24 statutory limit to properly ensure the public's health and safety is
25 protected. Thereafter the Applicant must: file to the docket in Case
26 No. U-22044 within 30 days a corrective action plan identifying
27 source(s), mitigation measures, and schedule; implement noise
28 mitigation plans or replace equipment, if necessary, as expeditiously
29 as practicable, not to exceed 90 days; repeat measurements,
30 consistent with AFIP Attachment D, with mitigation measures in

1 place until the statutory limits are met; and file the results in a
2 subsequent report to the docket in Case No. U-22044.
3

4 **Q. What did the Township find regarding property value impacts?**
5

6 A. A review conducted for the Township by a certified general real property appraiser
7 reflected that “for rural estate and recreational properties where buyers prioritize aesthetics
8 and rural character, current market trends indicate impacts for rural estate properties could
9 reasonably range from 3%-20% with most likely impacts in the 8%-12% range.” See
10 Report of Williams, Exhibit F to Townships Joint Exhibit I-2.

11 **Q. How should the Commission determine whether the project unreasonably diminishes**
12 **farmland and prime farmland?**

13 A. We are aware of the benchmark Staff has proposed in other siting cases, which essentially
14 measures the percentage of farmland and prime farmland in the township against the
15 percentages of land that is farmland and prime farmland inside the fenced area. I believe
16 that benchmark is insufficient. That benchmark does not account for loss of overall
17 agricultural production or impacts on nearby farms that are caused by loss of scale,
18 fragmentation, stormwater and drainage impacts, and other relevant factors that impact
19 nearby farm production. In short, the effects on nearby land uses and agriculture must be
20 considered in any test the Commission adopts.

21 Moreover, that benchmark punishes local units like Deerfield that have a high
22 percentage of prime farmland by “allowing” a project that uses a higher percentage of
23 prime farmland. Farmland and prime farmland are no less important in Deerfield than other

1 places just because Deerfield has more of it.

2 **Q. Does the Township wish to have a role in project monitoring?**

3 A. Yes. Section 226(6)(d) of PA 233 states that the Commission may condition any approval
4 on the application taking reasonable action related to maintenance and proper care of the
5 property. I would request that conditions be imposed that grant the Township a role in
6 construction and operation stage monitoring and inspections.

7 **Q. Does this conclude your direct testimony?**

8 A. Yes.

9 90606:00001:202856459-2

TOWNSHIPS JOINT EXHIBIT I-2

DEERFIELD TOWNSHIP

TOWNSHIP BOARD

**RESOLUTION TO APPROVE WITH CONDITIONS THE SPECIAL LAND USE
APPLICATION SUBMITTED BY GLACIER MEADOWS SOLAR, LLC.**

RESOLUTION NO. 10-25-1

At a meeting of the Township Board for the Township of Deerfield, Lenawee County,
Michigan, held on the 2nd day of October, 2025, at 7:00 p.m.

PRESENT: Cousino, Burnor, Witt, Andrix, and Dusseau.

ABSENT: None

ABSTAINED: None

The following preamble and resolution were offered by Treasurer Witt and seconded by
Trustee Dusseau.

WHEREAS, Glacier Meadows Solar, LLC (“Applicant”) filed a special land use permit
application and site plan with Deerfield Township (the “Township”) for a special land use permit
to construct and operate a utility-scale solar energy facility on the following parcels in the
Township:

DEO-225-4650-00	DEO-236-1555-00	DEO-235-4780-00
DEO-235-4600-00	DEO-235-3780-00	DEO-236-1055-00
DEO-225-1530-00	DEO-225-3050-00	DEO-226-2280-00
DEO-225-3280-00	DEO-225-3800-00	DEO-226-1400-00
DEO-226-1100-00	DEO-223-3700-00	DEO-223-4550-00
DEO-225-4720-00	DEO-223-3450-00	DEO-226-4280-00
DEO-226-4300-00	DEO-225-3200-00	DEO-226-3550-00
DEO-226-1800-00	DEO-226-2050-00	DEO-235-2050-00
DEO-226-1500-00	DEO-226-3280-00	DEO-226-3050-00
DEO-226-4800-00	DEO-235-2700-00	DEO-226-3780-00
DEO-236-3050-00	DEO-236-3555-00	DEO-236-3100-00
DEO-236-3780-00	DEO-225-4700-00	DEO-236-1280-00

WHEREAS, application materials (the “Application”) were received on or about June 9,
2025; and

WHEREAS, the Application was prepared by DNV Energy USA, LLC, on behalf of Glacier Meadows Solar, LLC. DNV Energy has its headquarters in Seattle, Washington; and

WHEREAS, the project's developer is Orsted Onshore North America LLC, which is majority owned by the Kingdom of Denmark; and

WHEREAS, the required escrow was deposited with the Township on or about June 11, 2025; and

WHEREAS, Public Act 233 requires the Township to “approve or deny the application within 120 days after receiving the application[,]” but “[t]he applicant and local unit of government may jointly agree to extend this deadline by up to 120 days”; and

WHEREAS, the Township via letter on July 2, 2025, informed Glacier Meadows Solar that the Application was incomplete, requested that all missing materials and information be provided by July 31, 2025, and that when the Application was deemed complete, the 120-day review period would begin (**Exhibit A**); and

WHEREAS, Glacier Meadows Solar responded to the July 1, 2025 letter on July 22, 2025, insisting that the 120-day period began on June 11, 2025 (**Exhibit B**); and

WHEREAS, Glacier Meadows Solar has refused to extend the review period to start the date on which the Application is deemed complete; and

WHEREAS, according to Glacier Meadows Solar's July 22, 2025 letter, the Township's “deadline” to make a determination regarding the Application is October 9, 2025; and

WHEREAS, in its July 22, 2025 letter, Glacier Meadows Solar advised that it believes that many of the “incomplete or missing” items identified in the Township's July, 2025 letter “go beyond requirements for a compatible renewable energy ordinance under state law,” and that the

Application is fully compliant with” PA 233, and that the Application should be approved (**Exhibit C**); and

WHEREAS, despite the incompleteness of the Application, the Township continued its review of the limited materials in its possession; and

WHEREAS, the Planning Commission held a duly-noticed public hearing on the Application on August 13, 2025, pursuant to the Zoning Ordinance, the Michigan Zoning Enabling Act, Public Act 110 of 2006 (the “MZEA”), MCL 125.3101 *et seq.*, as amended, and Public Act 233 of 2023 (“PA 233”), MCL 460.1221 *et seq.*; and

WHEREAS, the Planning Commission discussed the Application at special meetings on September 10, 2025, September 17, 2025, and September 24, 2025, called for that purpose; and

WHEREAS, at the September 10 and September 17 meetings and in written correspondence thereafter, the Planning Commission requested additional written information and answers to written questions from Glacier Meadows Solar; and

WHEREAS, Glacier Meadows submitted written responses on September 23, 2025, one day before the Planning Commission’s final meeting regarding the Application (**Exhibit D**); and

WHEREAS, the Planning Commission reviewed the Application together with public comment received and input from expert advisors and consultants, in accordance with the Zoning Ordinance, the MZEA, and PA 233; and

WHEREAS, the Planning Commission received a noise impact analysis of the proposed project, prepared by Robert W. Rand, Rand Acoustics, LLC, attached as **Exhibit E**, which states that the sound modeling provided in the Application does not meet industry standards and that the model does not demonstrate compliance with the sound requirements of Section 226(8) of PA 233. Specifically, Rand concludes the following regarding the Applicant’s sound modeling:

1. The [Applicant's] Report omits from the noise modeling the +5 dB tonality penalty for the project inverters, which include transformers and should be assigned the +5 dB tonality penalty.
2. The Report omits from the noise modeling the facade pressure doubling adjustment penalty of +6 dB required in the MPSC Application Filing Instructions and Procedures, Attachment D, Table 1. The facade +6 dB penalty is not optional and should be applied in the sound model.
3. With the facade penalty adjustments, received sound levels exceed the 55 dBA sound limit at 5 non-participating receptors and 1 participating receptor.
4. The Report omits a qualitative assessment of facility noise compatibility for the quiet rural residential land use at the 172 rural residential homes evaluated in proximity to the facility in the Report.
5. Noise producing sleep disturbance is incompatible with residential land use. The facility noise sources are assumed by the applicant to operate at full strength night and day. This assumption is consistent with solar inverter capabilities for full capacity reactive power handling day and night.
6. Medical sleep impact thresholds in WHO 2009² established that sleep disturbance is expected for received outdoors sound levels above 42 dBA. Using those thresholds, sleep disturbance is expected for 17 non-participating receptors and 1 participating receptor.
7. The Sound Report made a definitive statement of noise compatibility only for agricultural land use. Using ANSI S12.9 Parts 4 & 5 standards analysis, the modeled sound levels in the Report are incompatible with the rural residential land use at numerous residences in the project vicinity both day and night.
8. The facility design lacks sufficient noise controls to comply with the regulatory limit, prevent sleep disturbance, and be compatible with the quiet rural residential land use at nearby residences, with an adequate design decibel margin of safety. Facility noise emissions are not minimized.
9. My professional opinion is that the facility noise emissions do not qualify for permitting as currently designed.
10. The facility is comprised of tonal noise sources which would be clearly audible and potentially highly annoying to a substantial

percentage of the residences in the otherwise mostly quiet rural project vicinity. Tonal noise can be readily controlled, for example, with Best Available Technology and masonry barriers around noise-producing equipment.

11. It is recommended that if the project is permitted, conditions should be included for reduced noise emissions that, with an adequate noise design margin,

- 1) assure compliance with the 55 dBA sound limit,
- 2) prevent sleep disturbance by controlling received sound levels to below 42 dBA, and
- 3) assure compatibility with the rural residential land use at nearby residential lot lines with received long term average sound levels below 40 dBA daytime and 30 dBA at night.

; and

WHEREAS, the Planning Commission received a report entitled “Carroll Road Solar Farm LLC. Estimated Impacts of Reduced Agricultural Production,” authored in 2020 by the Michigan State University Center for Economic Analysis, attached as **Exhibit F**, which analyzed the impacts on agriculture from a proposed utility-scale solar energy facility in Deerfield and Riga Townships in Lenawee County and projected the economic losses in Lenawee County that would occur from a reduction in agricultural production from that proposed project. The report concluded, among other things, that the direct loss of agriculture sales resulting from the project would “create a decrease in total transactions in Lenawee County, totaling \$1.5 million a year” in 2020 dollars; and

WHEREAS, the Planning Commission reviewed an impact study report prepared by Mark A. Williams of Williams Appraisal, attached as **Exhibit G**, which concluded, among other things, that for “rural estate and recreational properties” a nearby solar farm “can make up to 30% of

potential buyers uninterested in a property” and that changes to values of those properties could “most likely” be “in the 8-12% range”; and

WHEREAS, the Planning Commission reviewed an application submitted to the Michigan Public Service Commission (“PSC”) for the Acceleration Solar project, proposed to be located in Ingham County by another developer, for context regarding the level of detail the PSC is requiring of siting certificate applicants under PA 233; and

WHEREAS, in a letter dated August 1, 2025, attached as **Exhibit H**, the PSC informed Acceleration Solar that its application did not comply with the requirements of Section 225(1) of PA 233 and was incomplete. Accordingly, the PSC requested a voluminous amount of additional material—far more than the Township requested from Glacier Meadows Solar; and

WHEREAS, at a duly noticed special meeting on September 24, 2025, the Planning Commission recommended that the Township Board approve the application for special use permit with conditions as stated in the Planning Commission’s adopted resolution; and

WHEREAS, the Township Board has reviewed the record and the Planning Commission’s resolution recommendation with conditions; and

WHEREAS, the Township Board agrees with the Planning Commission and does not believe that 120 days is sufficient to properly review an application for a utility-scale renewable energy facility, but the Applicant has refused extension requests; and

WHEREAS, the Township Board determines that the conditions and safeguards set forth in the proposed permit are necessary for the protection of the health, safety, and welfare of Deerfield Township residents and to ensure that the intent and objectives of the Zoning Ordinance will be observed, including the preservation of or unreasonable diminishment of farmland and prime farmland; and

WHEREAS, pursuant to Section 7.21 of the Zoning Ordinance and PA 233, upon the fulfillment of the conditions provided in the proposed permit, the Township Board finds and concludes that the special land use will:

1. be harmonious with and in accordance with the general objectives, intent and purposes of the Zoning Ordinance; and
2. be designed, constructed, operated, maintained, and managed so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity; and
3. be served adequately by essential public facilities and services, such as: highways, streets, police and fire protection, drainage structures, refuse disposal or that the persons or agencies responsible for the establishment of the proposed use(s) shall be able to provide adequately any such service; and
4. not be hazardous or disturbing to existing or future neighboring uses; and
5. not create excessive additional requirements at public cost for public facilities and services.

NOW THEREFORE, the Township Board resolves as follows:

1. The Township Board concurs with the Planning Commission's recommendation and **APPROVES THE APPLICATION WITH CONDITIONS.**
2. The Township Board directs the Zoning Administrator to approve the site plan and issue the special land use permit ("SLUP") attached to this Resolution, provided the site plan complies with all the conditions contained in the SLUP.
3. All conditions in the SLUP must be met before any construction or operation may begin, a land use permit shall not issue until such conditions are met, and all subsequent

- owners and operators of the project must comply with all conditions imposed on the Applicant.
4. A copy of this Resolution shall be available for examination at the office of the Township Clerk, and copies may be provided for a reasonable charge.
 5. Any resolutions that conflict with this Resolution are repealed to the extent necessary to give this Resolution full force and effect.

A vote on the above Resolution was taken and was as follows:

ADOPTED:

YEAS: Cousino, Burnor, Witt, Andrix, and Dusseau

NAYS: None

STATE OF MICHIGAN)
)
COUNTY OF LENAWEЕ)

I, the undersigned, the duly qualified and acting Township Clerk of the Township of Deerfield, Lenawee County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and complete copy of certain proceedings taken by the Township Board of said Township at a meeting held on the 2nd day of October, 2025.

/s/ Melissa Burnor
Melissa Burnor, Township Clerk

DEERFIELD TOWNSHIP

GLACIER MEADOWS SOLAR SPECIAL LAND USE PERMIT

Applicant Glacier Meadows Solar LLC applied for a Special Land Use Permit for the construction, operation, and maintenance of a 200 MW solar energy facility on the land described in attached **Exhibit A**.

The Township Board held a duly noticed public meeting on October 2, 2025 to consider the Application for Special Land Use Permit. Based upon the information received from the Applicant, as well as the deliberations and recommendation from the Deerfield Township Planning Commission, and those comments reflected in minutes of this meeting, the Deerfield Township Board finds that the site plan and related information received by the Township from the Applicant for the Glacier Meadows Solar project meets the required standards and findings for Special Land Use under the Township Zoning Ordinance and Public Act 233 of 2023, and moves to approve this Special Land Use Permit, subject to the reasonable conditions described below. Specifically, the Township Board has determined that the following required standards and findings found in Section 7.21 of the Zoning Ordinance have been demonstrated or could be met by the Applicant, but only if all conditions are fulfilled:

1. Will be harmonious with and in accordance with the general objectives, intent and purposes of the Zoning Ordinance; and

2. Will be designed, constructed, operated, maintained, and managed so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity; and
3. Will be served adequately by essential public facilities and services, such as: highways, streets, police and fire protection, drainage structures, refuse disposal or that the persons or agencies responsible for the establishment of the proposed use(s) shall be able to provide adequately any such service; and
4. Will not be hazardous or disturbing to existing or future neighboring uses; and
5. Will not create excessive additional requirements at public cost for public facilities and services.

The Application for a Special Land Use Permit is granted with the following conditions:

1. The Applicant must submit an amended Exhibit A-1.1 (Planned Facilities/Project Site Plan) that provides the following information:
 - a. versions of site plan figures and maps showing boundaries of participating and neighboring non-participating parcels
 - b. the zoning district in which each participating and abutting non-participating property are located.
 - c. a list of all properties within 300 feet, or a statement that the adjacent property list includes all parcels within 300 feet of the participating parcels.
 - d. all participating parcels, and as to each, existing and proposed:
 - i. buildings, including the size of each proposed building.
 - ii. accessory structures.

- iii. utilities.
- iv. transmission lines.
- v. pipelines
- vi. solar panels.
- vii. drainage ways.
- viii. grades.
- ix. topographical conditions.
- x. vegetation.
- xi. regulated wetlands.
- xii. regulated floodplains.
- xiii. regulated and endangered species.
- xiv. regulated lakes, streams or ponds.
- xv. required setbacks.
- xvi. parking areas and service drives.
- xvii. loading zones.
- e. access routes to participating parcels.
- f. proposed road and driveway improvements.
- g. a list of all properties within 300 feet, or a statement that the adjacent property list includes all parcels within 300 feet of the participating parcels.
- h. proposed transmission lines to and from switchyards and/or between lots.
- i. proposed signage.
- j. methods for dust and erosion control.
- k. plans for site grading, surface drainage, water supply, and sewage disposal.

- l. an exterior lighting plan, including fixture specification and a photometric layout that complies with Dark Sky Standards, including without limitation, lighting that is directed downward, is shielded, and does not cross into adjacent nonparticipating properties. Light poles are restricted to eighteen (18) feet in height.
- m. existing landscaping of the project area.
- n. topography maps, showing 2-foot contours.
- o. connections to public utilities by the proposed operations and maintenance building.
- p. location of existing overhead lines.
- q. underground collection line design details, including without limitation, materials, conduit type, burial method, and protective measures. All collection lines must be installed at a minimum depth of four (4) feet below grade, unless otherwise approved by the Lenawee County Road Commission or Drain Commissioner.
- r. details regarding utility crossings of county roads, county drains, watercourses, and regulated wetlands. These crossings must be completed using trenchless horizontal methods (e.g., horizontal directional drilling, boring), unless otherwise approved by Lenawee County Road Commission, Drain Commissioner, or EGLE.
- s. percentage of impervious surface within the project area.
- t. size of existing surface water drainage features.
- u. size of proposed water quality basins or their outlet specifications.

- v. a determination of the increase in runoff due to development in the project area and plans for mitigating the effects of the increased runoff.
- w. finished floor and grade elevations for the proposed operations and maintenance building.
- x. soil characteristics of all participating and adjacent non-participating parcels.
- y. a baseline soil test.
- z. elevations of existing drainage courses.
- aa. an acreage count of total woodlands to be removed.
- bb. the location of all temporary laydown yards.
- cc. Location of existing and proposed fire hydrants or other water sources for fire suppression and all other fire suppression materials.
- dd. Street address numbers, or parcel numbers if a street address is not available, for each sound receptor listed in the sound report.
- ee. all existing and proposed easements
- ff. a legible final site plan detailing all setbacks, property lines, fences, signs, greenbelts, screening, drain tiles, easements, flood plains, bodies of water, proposed access waters, road routes, and where the system will be connected to the power grid.
- gg. Plans demonstrating a solar barrier of a solid decorative masonry wall or evergreen tree berm, with trees spaced not less than 10 feet apart shall be constructed to reduce noise levels surrounding all inverters, no more than ten (10) feet from all inverters, no less than the height of all inverters and no more than three (3) feet above the height of all inverters. additional visual simulations

that provide a comprehensive depiction of the project from all directions around the project area.

2. The Applicant must submit an amended Exhibit A.1-3 (Explanatory Information) that provides the following information:
 - a. plan to provide exceptional pollinator habitat as determined by the Pollinator Habitat Planning Scorecard by achieving a score of 90 or higher by providing the filled-out version of the Scorecard for the project and associated explanation. As part of the description for achieving a score of 90 throughout the lifetime of the proposed facility, provide the maintenance plan for the vegetation and note if it is compatible with the identified seed mix(es) to be installed. If the final score will not meet the criteria for “exceptional” on the scorecard, provide the reasons why an “exceptional” score is not feasible. In the event an “exceptional” score is not feasible, provide a plan to meet or exceed a score of 76.
 - b. electrical design details describing how metal fences surrounding substations or other energized equipment will be grounded and bonded in compliance with the National Electric Code (e.g., NEC 2023 Article 250.190). This description must be supported by illustrations of typical grounding details (e.g., grounding rods, bonding jumpers, conductor sizes).
 - c. assurance that no nonparticipating residences will experience TV or radio interference, and that if such interference occurs, Applicant will correct immediately or as soon as practicable.

3. The Applicant must provide an amended Exhibit A-1.4 (Construction Information) that provides the following information:
 - a. the project's soil surveying and testing plans, pursuant to the Natural Resources and Environmental Protection Act ("NREPA"). This may include, but is not limited to:
 - i. soil surveying and testing required for permitting, such as Soil Erosion and Sedimentation Control permitting under Part 91 of NREPA.
 - ii. soil surveying and testing conducted during environmental site assessments to verify compliance with applicable provisions of NREPA, such as a baseline environmental assessment.
 - iii. soil surveying and testing used to inform the project's proposed construction and installation methods.
 - b. the project's proposed methods for grading and excavation.
 - c. a written description of how the Applicant will address dust control during construction. Such plan, at a minimum, must consist of water applications at least three times per day unless it has rained in the preceding three hours of the planned application, and chloride application as needed, acceptable to the Lenawee County Road Commission.
 - d. written assurances that the improvements will only occur in the approved areas and that natural resources will not be detrimentally affected or destroyed.
 - e. land surveys of participating parcels, to prevent encroachment on adjacent non-participating properties.

- f. detailed project timeline that identifies scope of work and all critical milestones with a successful launch.
 - g. a traffic study, detailing anticipated traffic counts, peak hours of transport, and types of vehicles anticipated.
- 4. The Application must provide an amended Exhibit A-1.5 (Alternatives) that provides a map and description of each alternative site location, proposed site layout, or other alternative that was considered for the proposed project but was not ultimately selected for development and provide rationale for why each such alternative was not selected.
- 5. The Applicant must submit an amended Exhibit A-1.7 (Sound Report and Monitoring Protocol) that complies with the requirements of PSC's Application Filing Instructions and Procedures. At all locations, the project must comply with Section 226(8)(a)(iv).
- 6. The Applicant must submit an amended Exhibit A-1.9 (Emergency Response Plan, or "ERP") that provides the following information:
 - a. the entirety of the ERP. As submitted, multiple required items are contained elsewhere in the application but not within the ERP itself. In particular, provide an ERP which includes the following omitted items:
 - i. evidence of consultation, or a good-faith effort to consult with, local first responders and county emergency managers. Evidence of a good-faith effort to consult with local first responders could include a description of the efforts that were made to initiate consultation. Evidence of consultation includes meeting dates, attendees, and any noteworthy outcomes or revisions to the ERP as a result of such consultation.

- ii. a full list of contingencies (excluding fire) that would constitute a safety or security emergency, including but not limited to, the following items which are discussed elsewhere in the application:
 - 1. specific types of severe weather events.
 - 2. personnel (or visitor) health emergencies or injuries
 - 3. cybersecurity emergencies.
 - 4. any additional specific contingencies currently not within the ERP.
 - iii. specific emergency response measures by contingency, which may include a more complete description of “robust emergency response protocols” (as described in the ERP) for each contingency.
 - iv. evacuation control measures for each contingency.
 - v. community notification procedures for each contingency.
 - vi. clear identification on a basic map of the primary approach and departure routes for emergency vehicles, entrance locations, and primary access roads for the project.
- b. Plans for long-term monitoring and continued mitigation efforts following an emergency.
7. The Applicant must submit an amended Exhibit A-1.10- Fire Response Plan that provides the following information:
- a. the location of fire hydrants.
 - b. the normal routes of fire department vehicle access.
 - c. for the proposed operations and maintenance building,

- i. exits.
 - ii. primary evacuation routes.
 - iii. secondary evacuation routes.
 - iv. accessible egress routes.
 - v. areas of refuge.
 - vi. exterior areas for assisted rescue.
 - vii. refuge areas associated with smoke barriers and horizontal exits.
 - viii. manual fire alarm boxes.
 - ix. portable fire extinguishers.
 - x. occupant-use hose stations.
 - xi. fire alarm annunciators and controls.
- d. a list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
 - e. identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
 - f. identification and assignment of personnel responsible for maintenance, housekeeping, and controlling fuel hazard sources.
 - g. written confirmation of Fire Department approval of final access road and gate design prior to construction.
 - h. written confirmation of Fire Department approval that Applicant has agreed to supply all necessary equipment, training, and resources, if local capacity is inadequate.

- i. to the extent not covered by the items above, detail regarding the on-site equipment and systems to be provided or to prevent or handle fire emergencies.

This description should include equipment and systems in the O&M building, and any other equipment or systems that will be utilized in on-site project areas other than the O&M building.
8. The Applicant must submit an amended Exhibit A-1.14 (Unanticipated Discoveries Plan) that provides anticipated impacts and plans to mitigate impacts to the environment and natural resources, including evidence of all environmental impact assessments referred to in other Application exhibits, and to indigenous people's artifacts, remains, evidence of occupation and other discoveries of historical and cultural value.
9. The Applicant must submit an amended Exhibit A-6.2 (Environmental Compliance Report) that provides:
 - a. copies of all permits required for the project, including the permits listed below, or an attestation that the permit is not required:
 - i. Part 301, Inland Lakes and Streams Permit: Department of Environment, Great Lakes and Energy.
 - ii. Part 303, Wetlands Protection Permit: Department of Environment, Great Lakes and Energy.
 - iii. Field/Temporary Driveway Permit: Lenawee County Road Commission.
 - iv. Utility Permit: Lenawee County Road Commission.

- v. Stormwater Management Plan Approval: Lenawee County Drain Commission.
- vi. Drain Crossing Permit: Lenawee County Drain Commission.
- vii. Soil Erosion & Sedimentation Control Permit: Lenawee County Drain Commission.
- viii. Utility Crossing Agreement: Michigan Bell Telephone Company.
- ix. Utility Crossing Agreement: DTE.
- x. Utility Crossing Agreement: Consumers Energy Company.
- xi. Documentation of the completed Habitat Scorecard.

10. The Applicant must provide an amended Exhibit A-1.16 (Complaint Resolution Process) that provides:

- a. plans for how complaints related to noise, glare, drainage, and maintenance will be resolved.
- b. procedures for regular reporting of each complaint, and how each complaint was resolved.
- c. that signage will include operating manager's contact information.
- d. An escrow acceptable to the Township to remediate and repair damage to nonparticipating properties caused by the project.
- e. Form of a written report that will be provided to the Planning Commission and Township Board.

11. The Applicant must provide an amended Exhibit A-2 (Project Description) that provides the estimated percentage of land within Deerfield and Blissfield Townships and Lenawee County dedicated to current and proposed energy generation based on

publicly-available data and any other data available to the Applicant. Publicly-available data sources may include the PSC GIS hub to find current and proposed solar and wind facilities located within each township and within Lenawee County.

12. The Applicant must provide an amended Exhibit A-13.1 through 13.3 (Decommissioning) that:

- a. provides a description of events that would trigger Applicant-initiated decommissioning.
- b. requires decommissioning after six (6) month abandonment.
- c. confirms the requirement of a demolition permit.
- d. confirms that decommissioning will be performed when soil is dry.
- e. provides physical and chemical analysis of the soil which can be used to ensure soil is returned to its original and useful condition for agricultural purposes after decommissioning.
- f. provides that the ground must be restored to its original topography within three hundred sixty-five (365) days of abandonment or decommissioning, and that an extension may be granted if a good faith effort has been demonstrated and any delay is not the result of the Applicant's actions or inactions.
- g. all access roads or driveways shall be removed, cleared, and graded by the applicant, unless the property owner(s) requests, in writing, a desire to maintain any access road or driveway.
- h. provides a decommissioning schedule.
- i. provides commitments with property owners to ensure final reclamation.

- j. provides a decommissioning escrow in the form of cash equal to one hundred twenty-five (125%) percent of the total decommissioning, code enforcement and reclamation costs.
 - k. provides that the cost of decommissioning shall be reviewed between the Applicant and the Zoning Administrator every two (2) years to ensure adequate funds are allocated for decommissioning; the escrow shall be appropriately adjusted to reflect the current decommissioning estimate.
 - l. provides that, in the event of sale or transfer of ownership and/or operation of the project, the escrow shall be maintained throughout the entirety of the process and the new owner shall be required to provide a new escrow in the form of cash.
13. The Applicant must provide an amended Exhibit A-1.15 (Participating Parcel List) to:
- a. proof of terminated contracts for PA 116 enrolled properties within the project area.
 - b. proof that participating parcels have withdrawn any agricultural exemptions to the land.
 - c. copies of all leases and decommissioning agreements with participating property owners.
14. The Applicant must enter into a community host agreement with Deerfield Township.
15. The Applicant must provide a written guarantee that one hundred percent (100%) of the project's manufactured components (including without limitation panels, inverters, and transformers) are built in the United States.

16. The Applicant must submit a security plan detailing measures to prevent unauthorized trespass and access during construction, operation, removal, maintenance, or repair of the project.
17. Construction is only permitted between the hours of 7:00 a.m. and 5:00 p.m. with no construction on Saturday, Sunday, or any Michigan or federally recognized holiday.
18. Access roads must be maintained year-round, including winter maintenance, to remain accessible for emergency vehicles.
19. Inverters must be installed in a manner that allows for generated sound to be oriented away from nonparticipating residences.
20. The Applicant may consider increasing setbacks or adding masonry noise abatement walls where panels and/or inverters will be placed on two or more sides of a nonparticipating parcel. If the setbacks are not increased and walls are not added, the Applicant must provide a written explanation as to why an increase is not possible.
21. The Applicant must demonstrate compliance with the sound requirements of Section 226(8)(a)(iv) of PA 233 through amended pre-construction modeling and by conducting bi-annual inspections. Compliance must be demonstrated by an independent third-party acoustic engineer or other sound expert acceptable to the Applicant and the Township. The review must be paid for by the Applicant. The Applicant must provide to the Township an inspection report by the November 1 of the inspection year demonstrating compliance with PA 233's noise standards at all locations.

22. Following installation but before operation begins, disturbed areas must be restored to preconstruction grade and construction, with stabilization to prevent erosion, consistent with Part 91 requirements.
23. All removed topsoil must remain on site and be reused in restoration, redistributed consistent with topography maps submitted with the final site plan.
24. After installation, the Applicant must provide as-built drawings, with paper copies and in electronic GIS shapefile format, showing:
 - a. location of all panels and inverters.
 - b. the location, depth, and alignment of all underground collection lines for Township records and emergency response use.
 - c. all preserved or relocated drain tiles and drainage improvements.
 - d. final grading changes.
 - e. dimensions of inverters and other above-ground infrastructure relative to property lines.
25. All medium voltage cable within the project boundary must be installed underground at a depth in accordance with current National Electrical Code standards and except for Power Switchyards or the area within a substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.
26. The pre-construction inventory/map of existing drain tile must be provided to property owners and the Lenawee County Drain Commission.

27. The Applicant must inspect all drain tiles by means of robotic camera at least once every three (3) calendar years, with the first inspection occurring post-construction but before the project is in operation.
 - a. The video footage and an inspection must be timely submitted to the Township.
 - b. The Applicant must provide to the Township by November 1 a report of any inspection and repairs performed in that calendar year.
28. The Applicant must remedy any flooding issues caused by the project on nonparticipating parcels.
29. The Applicant must repair any damage or failure of drain tile within 60 days after notification (weather permitting, but not longer than 120 days) and submit proof of the repair to the Township and the landowner within 30 days of the repair, indicating the location, nature, and satisfactory completion of such repairs.
30. The Township is entitled, but not required, to conduct an independent inspection of the project with 24 hours' notice, and may be present at inspections caused to be performed by the Applicant.
31. The Applicant must repair any damage caused by its vehicles to county and Township roadways to the satisfaction of the Lenawee County Road Commission.
32. The Applicant must provide an annual report showing continuation of operation.
33. At least annually, the Applicant must conduct at its expense a fire drill or training session with the Fire Department and obtain approval from the Fire Department that adequate fire response resources exist.
34. The Applicant must notify the Zoning Administrator if the land use ceases or changes.

35. The Applicant must provide annually to the Zoning Administrator and Township Board a report detailing:
- a. the amount of electric generation.
 - b. current proof of insurance, with the Township and participating property owners as named insured. The insurance must be property/casualty insurance and general commercial liability insurance in an amount of at \$10 million per occurrence (not claims-based).
 - c. verification of financial security.
 - d. summaries of complaints.
 - e. summaries of extraordinary events.
36. The Applicant must annually appear before the Planning Commission to report on the facility and address questions and concerns.
37. The Applicant must provide complaint logs upon request or a publicly available website or other internet-based tool containing complaint logs. Logs must detail all complaints received, the status of complaint resolution, and actions taken in response to each complaint.
38. The Applicant must provide full manufacturer documentation prior to construction for all equipment used in development, including owner's manuals.
39. Mowing must occur in the leased project area at least three times a year, at least during the spring, summer, and fall; both inside or outside the fence, unless the landowner and/or occupant of the participating property and any adjacent non-participating landowner and/or occupant that has a view of the project agree to not mowing outside the fence.

40. The facility must be kept in good repair, free of waste and hazards.
41. Damaged panels must be replaced within seven (7) days.
42. Maintenance logs must be kept and made available to the Township within forty-eight (48) hours upon request.
43. The Applicant must provide a decommissioning escrow in the form of cash equal to one-hundred twenty five (125%) percent of the total decommissioning, code enforcement and reclamation costs.
 - a. The cost of decommissioning shall be reviewed between the Applicant and the Zoning Administrator every two (2) years to ensure adequate funds are allocated for decommissioning; the escrow shall be appropriately adjusted to reflect the current decommissioning estimate.
 - b. In the event of sale or transfer of ownership and/or operation of the project, the escrow shall be maintained throughout the entirety of the process and the new owner shall be required to provide a new escrow in the form of cash.
44. The Township must be notified as soon as possible but no later than within eight (8) hours of any failure, fire, hazardous material release, personal injury, or catastrophic event.
45. This special land use permit is transferable to a new owner only if the new owner registers information with the Township thirty (30) days prior to transfer and maintains all financial security without alteration, consistent with Zoning Ordinance requirements, upon Township Board approval which shall not be unreasonably withheld.
46. Any changes to the approved site plan must be submitted to Township staff for review.

47. The Applicant must enter into an agreement to indemnify and hold harmless the Township and any officials, employees, or agents from any costs and liabilities associated with the project.
48. All participating parcels must be in the Renewable Energy Overlay District. The Applicant must successfully petition to rezone all participating parcels not currently in the REO District to the REO District.
49. All documents submitted in fulfillment of the conditions contained herein must be submitted to the Zoning Administrator, unless otherwise specified, and the Zoning Administrator, with assistance from advisors and consultants as reasonably appropriate, is authorized to administratively confirm that the relevant condition is fulfilled without substantial detrimental impact on the subject matter of the condition.
50. The breach of any condition, safeguard, or requirement shall automatically invalidate the granting of the special approval use.
51. This permit shall be recorded with the Lenawee County Register of Deeds against all subject properties described in Exhibit A. The Township may include additional legal information, such as legal descriptions of the subject properties to effectuate recording.
52. The Township reserves all rights to enforce the permit and its ordinances to the maximum extent permitted by law.

[Signature on Following Page]

Township of Deerfield

By: Ronald Cousino
Its: Supervisor

STATE OF MICHIGAN)
) ss.
COUNTY OF LENAWEЕ)

Subscribed and sworn to before me this _____ day of _____, 2025 by Ronald Cousino, Deerfield Township Supervisor, on behalf of the Township of Deerfield.

Notary Public
County of _____, Michigan
Acting In _____ County, Michigan
My Commission Expires:

Drafted by and when recorded return to:
Michael D. Homier (P60318)
Foster, Swift, Collins & Smith, P.C.
1700 East Beltline, N.E., Suite 200
Grand Rapids, Michigan 49525
(616)726-2204

Exhibit A

SUBJECT PROPERTIES

DEO-225-4650-00	DEO-236-1555-00	DEO-235-4780-00
DEO-235-4600-00	DEO-235-3780-00	DEO-236-1055-00
DEO-225-1530-00	DEO-225-3050-00	DEO-226-2280-00
DEO-225-3280-00	DEO-225-3800-00	DEO-226-1400-00
DEO-226-1100-00	DEO-223-3700-00	DEO-223-4550-00
DEO-225-4720-00	DEO-223-3450-00	DEO-226-4280-00
DEO-226-4300-00	DEO-225-3200-00	DEO-226-3550-00
DEO-226-1800-00	DEO-226-2050-00	DEO-235-2050-00
DEO-226-1500-00	DEO-226-3280-00	DEO-226-3050-00
DEO-226-4800-00	DEO-235-2700-00	DEO-226-3780-00
DEO-236-3050-00	DEO-236-3555-00	DEO-236-3100-00
DEO-236-3780-00	DEO-225-4700-00	DEO-236-1280-00

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EXHIBIT A

Francesca Martella Kehl
Manager, Project Development
Development Team 3
Region Americas
Tel. +1 (857) 275-9518
frkeh@orsted.com

July 2, 2025

**Re: Items Missing or Incomplete- Special Land Use
Application**

Dear Applicant:

Per our ordinance, after the special use permit application was received, Deerfield Township performed an initial review of the preliminary site plan and special use permit application submitted by Glacier Meadows Solar. The Township has determined that the application is incomplete.

The required items listed below have been identified are incomplete or missing from the application. The Township reserves the right to amend this list as its review continues and we seek reviews by consultants to advise the Planning Commission.

- *Zoning classification of participating parcels and all adjacent property.* The application and site plan do not appear to include the zoning classifications of participating and adjacent parcels.
- *Lots within 300 feet.* Application and site plan do not include a list of all parcels within 300 feet. In the alternative, adjacent property list does not include a statement that it lists all parcels within 300 feet.
- *Site plan scale.* The site plan is scaled at one inch equals 300 feet. However, the site plan shall be of a scale not to be greater than one inch equals 20 feet nor less than one inch equals 200 feet.
- *Building details.* The site plan does not appear to reflect the size of all proposed buildings.
- *Lighting.* The application does not appear to include lighting plans showing all lighting within the facility or information confirming the lighting's compliance with the zoning ordinance.
- *Environmental Siting Considerations.* This application reflects that environmental compliance plans are still being prepared.
- *Environmental Analysis.* Application and Environmental Compliance Report appears to lack proof of compliance with Part 31 and Part 91 of NREPA.

- *Dust and erosion control.* The site plan does not appear to detail dust control plans, stating that “[d]ust control measures shall be implemented to minimize airborne dust emissions and protect air quality.”
- *Maintenance plan.* The application does not appear to include a maintenance plan.
- *Agrivoltaics.* Per your April 9, 2025 Facebook post, applicants reference the importance of agrivoltaics by enabling the “same plot of land to produce energy and agricultural products”. The application does not appear to present any data referencing size, location, plant or animal species regarding the implementation of an agrivoltaics plan for Glacier Meadows nor a management plan.

Please provide or clarify the missing information discussed above not later than July 31, 2025. The application will be deemed complete once all required information has been verified as received. If you need an extension to provide the missing information, the Township will agree to such an extension pursuant to Public Act 233 of 2023. If the information is not provided by July 31, 2025, the Township will treat that date as the starting date for its review to either approve or deny the application.

Sincerely,

Kevon Martis, Deerfield Township Zoning Administrator

Ron Cousino, Deerfield Township Supervisor

EXHIBIT B



July 22, 2025

Deerfield Township
ATTN: Supervisor Ron Cousino & Zoning Administrator Kevon Martis
468 Carey Street
Deerfield, MI 49238

Re: Initial Preliminary Site Plan and Special Use Permit Review

Dear Supervisor Cousino and Administrator Martis,

We appreciate Deerfield Township's initial review letter dated July 2, 2025 ("Review Letter") regarding the preliminary site plan and special use permit application submitted by Glacier Meadows Solar, LLC. Please find our response below.

We are growing increasingly concerned about the pace and direction of the Township's review of our application. Despite not being required by statute, we deposited \$100,000 at the Township's request to aid in the review. We understand that our deposited funds are being used, but we have not received a clear explanation of how our proposed project could realistically be approved under the current Zoning Ordinance given that the project footprint exceeds the boundaries of the existing overlay district.

As detailed in the following pages with citations to the relevant application materials, many items listed in your Review Letter were provided by Glacier Meadows with our initial application submission. The remaining items listed as "incomplete or missing" go beyond the requirements for a compatible renewable energy ordinance under state law. We believe our application is fully compliant with Section 226(8) of Public Act 233 of 2023 (PA 233) and based on that compliance, should be approved if the Township has a CREO as defined by the statute.

The Township has had Glacier Meadows' application since June 11, 2025. Regarding the selection of July 31, 2025, as the starting date for the review period, we are concerned that this may be an error or a misunderstanding of the timeline outlined in PA 233. Under the statute, the Township has 120 days from the date the application is received to issue a decision. As previously acknowledged by the Township, Glacier Meadows' application was received on June 11, 2025, which marks the beginning of the 120-day period.

In light of the above, we would also appreciate confirmation of whether the Township intends to schedule a public hearing as part of its standard review process.

Sincerely,

Glacier Meadows Solar, LLC



Glacier Meadows Supplemental Responses

Zoning classification of participating parcels and all adjacent property. The application and site plan do not appear to include the zoning classifications of participating and adjacent parcels.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-1.2 for maps showing existing local zoning districts.

Lots within 300 feet. Application and site plan do not include a list of all parcels within 300 feet. In the alternative, adjacent property list does not include a statement that it lists all parcels within 300 feet.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-1.15 for a Participating Parcel List, including adjacent parcels.

Site plan scale. The site plan is scaled at one inch equals 300 feet. However, the site plan shall be of a scale not to be greater than one inch equals 20 feet nor less than one inch equals 200 feet.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. The Site Plan is prepared using the latest or most recent edition USGS maps (1:24,000 topographic edition) and GIS mapping to the extent available. All items are clear and legible.

Building details. The site plan does not appear to reflect the size of all proposed buildings.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-1 for approximate sizes of proposed buildings. The Site Plan is prepared using the latest or most recent edition USGS maps (1:24,000 topographic edition) and GIS mapping to the extent available. All items are clear and legible.

Lighting. The application does not appear to include lighting plans showing all lighting within the facility or information confirming the lighting's compliance with the zoning ordinance.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-11, which details the Project's compliance with dark-sky friendly lighting solutions.

Environmental Siting Considerations. This application reflects that environmental compliance plans are still being prepared.



Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-6 concerning environmental compliance and agency coordination.

Environmental Analysis. Application and Environmental Compliance Report appears to lack proof of compliance with Part 31 and Part 91 of NREPA.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-6.2, regarding Environmental Compliance. The Project will comply with Part 31 and Part 91 of NREPA. See also Exhibits A-1 (Sheet C.601) and A-6.4 for stormwater and erosion control best management practices the Project will implement, all in compliance with Parts 31 and 91 of NREPA.

Dust and erosion control. The site plan does not appear to detail dust control plans, stating that “[d]ust control measures shall be implemented to minimize airborne dust emissions and protect air quality.”

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-1 notes concerning the Project’s plans for implementation of dust control measures.

Maintenance plan. The application does not appear to include a maintenance plan.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. Please see Exhibit A-14, Condition #19, which includes an agreement to provide annual maintenance plans and annual inspection results in any MPSC docket assigned to the Project.

Agrivoltaics. Per your April 9, 2025 Facebook post, applicants reference the importance of agrivoltaics by enabling the “same plot of land to produce energy and agricultural products”. The application does not appear to present any data referencing size, location, plant or animal species regarding the implementation of an agrivoltaics plan for Glacier Meadows nor a management plan.

Glacier Meadows Response: The Application satisfies the requirements of PA 233. This does not appear to be a legal requirement under the Township’s Zoning Ordinance. Please see Exhibit A-1.3(a).5 regarding the incorporation of pollinator plants at the Project site, including seed mixes including native, pollinator-friendly species from local sources.

EXHIBIT C



Questions on Glacier Meadows

1. How are electricity markets different in Denmark?

Electricity market dynamics are fundamentally different in Europe than in the United States.

2. Do you calculate levelized cost of energy?

Yes. [A June 2025 report from Lazard](#) shows that renewable sources (like solar) continue to have the lowest levelized cost of electricity. The report also shows renewable sources are the most cost-effective forms of new-build energy generation.

3. What materials are in First Solar panels?

According to First Solar, 98% of their panels consist of glass and steel. The thin film technology includes a thin layer of cadmium telluride (CdTe) semiconductor material which converts sunlight into electricity. The CdTe layer is 3% the thickness of a human hair, or approximately 0.1% by weight of the module, and is bound to the glass with an industrial laminated material. CdTe is a stable compound that is not soluble in water and remains solid at high temperatures. There are no vapors or liquids in the modules.

The modules are classified as non-hazardous waste under the EPA's Toxicity Characteristic Leaching Procedure (TCLP) test. Additionally, Orsted has an agreement with First Solar to responsibly recycle 100% of the solar panels used in this project.

4. First Solar has a big operation in Malaysia - can we ensure that the panels for this project are American?

According to the submitted project design, we plan to source the modules from one of First Solar's five American factories - all served by US supply chains - in Ohio, Louisiana, and Alabama.

5. Would you accept a requirement that we create a dispute resolution process and an escrow account as a condition of approval?

We will be available and transparent throughout this process. Glacier Meadows has a Complaint Resolution Process, which aims to address any complaints and provide timely solutions. For the full details of this process, please refer to Exhibit A-1.16 Complaint Resolution Process.

6. What is the timeline for entering into a Road Use Agreement with the Lenawee County Road Commission?

We are working with the Lenawee County Road Commission to enter into a Road Use Agreement for the project. We continue to advance discussions and hope to come to an agreement in a timely fashion. We are committed to a collaborative relationship with the Lenawee County Road Commission throughout the project's construction and operational phase.

7. Does Orsted intend to seek a Solar Energy Facility Exemption (Solar PILT)?

Orsted would be open to applying for a solar energy facility exemption certificate if that is of interest to the Township Board.



8. Will Orsted provide a copy of its tax revenue analysis?

Yes. In February of 2025, Mangum Economics, an independent economic institution, analyzed the projected tax contribution of the Glacier Meadows project. It is estimated (as of the time of the analysis) that over its 35-year lifespan, Glacier Meadows will generate over \$35 million in local tax revenue between Lenawee County, Deerfield Township, Blissfield Township, school districts, and other local taxing jurisdictions. Please see the enclosed analysis for further information.

9. Instead of utilizing the PA 233 standards, would Orsted be open to alternative noise limits?

The Glacier Meadows application is compliant with the standard as established by the Michigan Legislature in PA 233 and incorporated into the Township's zoning ordinance for this type of project.

10. Will Orsted provide pictures of our other sites?

Yes. We are providing pictures of our operating sites. Please see as attachments to the email.

11. How much topsoil/subsoil is going to be stripped to make access roads, turnaround, laydowns, substation, etc.?

One of our core tenants at Orsted is to steward the land in our project areas responsibly. There is very minimal topsoil disturbance when building a solar farm – well less than 5 percent of the total footprint.

For areas such as permanent access roads, laydown yard, and inverter pads, the topsoil will be pushed to the side during construction and then spread out into existing unaffected topsoil areas during construction reclamation. At decommissioning, those areas will be stripped, compacted subgrade will be decompact, and topsoil from adjacent areas will be spread back on top, returning the site substantially similar to its pre-project condition. As part of the decommissioning plan, the roads are removed and reclaimed back to pre-project condition as well. For more information, please refer to the project application Exhibit A-1.4 Construction Information.

12. What is the safety around the inverters?

These units are engineered with robust safety features, ensuring reliable operation even under extreme weather conditions.

13. What is the containment process if there is an oil spill?

Orsted institutes a robust Spill Prevention, Control, and Countermeasure (SPCC) plan for every project that helps to reduce risk and impact of any potential spills. See below for some excerpts from one of our SPCC plans:

- Immediate Spill Response:
Onsite materials such as absorbents, empty drums, and containment tools (e.g., dikes, berms, swales) are readily available to quickly stop and control spills.
- Emergency Coordination:
A designated Spill Coordinator oversees all response efforts, including:
 - o Notifying and coordinating with external emergency services (e.g., fire departments, hazmat teams, medical responders).
 - o Retaining specialized cleanup contractors and securing necessary equipment.



- Controlled Cleanup and Disposal:
 - o All cleanup activities are conducted under the supervision of the Spill Coordinator.
 - o Recovered materials are reused or safely disposed of in compliance with regulations.
 - o Contaminated materials are characterized using Safety Data Sheets (SDS) and treated using approved methods (e.g., reclamation, incineration, landfill).

14. What are the specifics around the underground conduit?

We expect ~26 miles of underground cable. Cable will be trenched at ~4-4.5' depth and bored underneath roads, pipelines, or other encountered obstacles as needed. For more information, please refer to the project application Exhibit A-1.4 Construction Information.

15. What is the height of the fences?

We typically use a 7ft fence around the project perimeter. Please refer to application Volume 1a, Drawing C.602 for details on fence design. Our proposed fencing satisfies the requirements of PA 233.

16. What is the typical cadence for mowing?

We will typically mow the area that is leased but not used for panels with a cadence of 3 to 4 times per year. We do so in coordination with the landowner.

17. What are our decommissioning commitments?

Our lease agreements as well as our permit application state that the company is responsible for the decommissioning and removal of project infrastructure at the end of each project's life (35 years). We have committed to decommissioning by providing financial guarantee for the full decommissioning of the project following PA 233 requirements. Specifically, in accordance with Michigan PA 233, the decommissioning financial assurance must be posted in increments: at least 25% of the required amount by the start of commercial operation, at least 50% by year 5, and the full amount by year 10 of operations.

EXHIBIT D

Robert W. Rand, ASA, INCE (Member Emeritus)
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September 23, 2025

SUBMITTAL VIA E-MAIL

Mr. Kevon Martis
Deerfield Township Zoning Administrator
468 Carey Street
Deerfield, MI 49238
517-403-2438

Re: Review of Sound Report
Glacier Meadows Solar Project, Deerfield and Blissfield Townships, MI

Mr. Martis,

I respectfully submit this review of a report (Report) titled "Glacier Meadows Solar Project Application for Siting Certificate" dated May 2025 prepared by DNV Energy USA Inc. for the proposed Glacier Meadows Solar Project spanning the Townships of Blissfield and Deerfield in Lenawee County, Michigan. The Report includes an "Exhibit A-1.7 Sound Report" prepared by DNV, which presents modeled sound levels and a noise compatibility assessment.

This review is comprised of detailed findings followed by a summary with conclusions. Please note that the review is necessarily highly technical at times.

1. The Report states (p.18-19), "*Project generated noise will not exceed the statutory limit of 55 dBA for all non-participating occupied buildings in accordance with MPSC AFIP. Inverters were sited to reduce noise impacts to non-participating occupied buildings. Temporary noise associated with Project construction is anticipated to occur but will be limited to the hours of 6 a.m. to 6 p.m., Monday through Friday, with occasional weekend work as necessary. Refer to Exhibit A-1.7 and Exhibit A-1.7 Sound Report and Monitoring Protocol for more information about Project generated noise monitoring and mitigation measures.*"
2. The Report states (p.118 of 231, in the "Sound Report"), "*The Project layout used in this analysis consists of 56 solar inverters located throughout the Project site, as well as two 167MVA - 345 kV step-up transformers at the substation. These will be the primary sound sources during operation. For the analysis, it is assumed that all sound sources associated with the Project will be operating at maximum capacity during both day and night hours.*"
3. For night noise impact assessment, this review takes the Report analysis assumption as stated "*that all sound sources associated with the Project will be operating at maximum capacity during both day and night hours*". The GE FLEXINVERTER product line is designed to operate with *inverters energized* for deploying "reactive power resources any

time, day or night".¹

4. The Report lists requirements for the Exhibit A-1.7 Sound Report (p.31) from the MPSC guidelines, including,

- 1. Sound modeling must be conducted following the requirements of International Organization for Standardization (ISO) 9613-2 (2024), "Engineering method for the prediction of sound pressure levels outdoors."*
- 2. The purpose of the Sound Report is to provide the Commission with information necessary to assess if the facility meets the noise limits defined in MCL 460.1226*
- 3. All sound studies shall be completed by or under the direction of a qualified noise control engineer whose qualifications are documented in the report.*
- 4. The sound monitoring should generally follow the requirements of the American National Standards Institute (ANSI) S12.18 and ANSI S12.9 Part 3, where applicable.*
- 5. Reporting shall include, but is not limited to, the following:*
 - i. Facility Description*
 - ii. Maps and descriptions of sources and monitoring locations, including the distance from each to the nearest facility equipment.*
 - iii. Sound Modeling Results*
 - iv. Discussion including an assessment of the noise impacts and ability to meet MCL 460.1226.*

5. Applicable regulations are listed by the Sound Report (p.5) as,

Sound emanating from the Project is subject to the MPSC Guidelines, Attachment D, D3.4, MCL 460.1226. The regulations state: The commission shall grant the application and issue a certificate if it determines...[t]he [energy] facility does not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.

The applicable sound regulation is, therefore, 55 dBA at the applicable nonparticipating dwelling exterior wall.

6. MPSC Guidelines, Attachment D, list requirements for compliance. Noise relevant requirements in the Attachment D are listed below.
7. Section 7.1(a)8.: [to be depicted on site plan] *The location of inverters and other noise-emitting facilities showing the distance to occupied structures, property lines, and public rights-of-way.*

¹ <https://www.governova.com/power-conversion/solar-storage/flexinverter>.

8. Section A-1.3(a)1: *Provide justification for how the proposed project location, layout, construction methods, etc. minimize ... ii. Noise.*

9. The MPSC Guidelines Attachment D Table 1 is provided below.
 Table 1. Sound Modeling Parameters

PARAMETER	VALUE
G (Ground factor)	0.0 over water and large areas of hard ground, 0.5 everywhere else
Modeling uncertainty adjustment	Minimum of +2 dB for wind projects, Minimum of +0 dB for all other sources
Receptor/grid height	4.0 m for wind projects, otherwise, • 4.0 m for two- or more-story dwellings (default) • If sound barriers are proposed, the height of the highest window for each dwelling • 1.5 m for property boundaries and one-story dwellings
Source height	For wind turbines, hub height. For all other sources, top of the sound source
Receptors	All dwellings within 1 mile of any facility sound source
Temperature/Humidity	10°C, 70%
Sound power level	See below
Source directivity	For wind turbines, omnidirectional. For all other sources, directionality of sound power may be considered, if known.
C_{met} (meteorological adjustment)	0 (none)
Include all sources within	8,000 m
Dense vegetation	No foliage attenuation allowed to be considered outside of Project-controlled parcels
Tonal prominence	+ 5 dB tonal penalty to source sound power. The tonal penalty can be removed if it can be shown that the facility would not have a tonal prominence at a dwelling when the measured background sound of the lowest hourly L ₉₀ is added.
Façade pressure doubling¹³	+6 dB to modeled free field outer wall sound pressure level
Other energy facilities	Other energy facilities that have an application submitted prior to this facility, approved, or built, within two miles of the facility must be included in a separate cumulative impact model run.

¹³ MCL 460.1226 states that the noise limit is considered “at the nearest outer wall of the nearest dwelling.” In practice, this would be measured with a microphone mounted directly on the façade, that is, flush mounted on the vertical reflecting surface of a building. The pressure doubling at the surface with respect to the free-field condition leads to a 6 dB increase in sound level and is referred to as the “6-dB position” in ANSI S12.9 Part 3. Sound modeling conducted using ISO 9613-2 does not include the +6 dB adjustment. Therefore, 6 dB must be added to the sound modeling results to reflect what would be measured at the façade.

10. Section A-1.3(a)4: *Provide a qualitative assessment of the compatibility of the facility, including any off-site staging and storage areas, with existing, proposed and allowed land*

uses located within a 1,000-foot perimeter of the facility site. The assessment shall identify the nearby land uses of and shall address the land use impacts of the facility on residential areas, schools, civic facilities, recreational facilities, and commercial areas. The assessment and evaluation shall demonstrate that conflicts from facility-generated noise, traffic, and visual impacts with current and planned uses have been minimized to the extent practicable.

11. Section D1.1.1 Modeling Parameters:

Sound modeling shall be conducted following the requirements of ISO 9613-2 (2024), "Engineering method for the prediction of sound pressure levels outdoors."

For modeling wind turbine sound, ANSI/ACP 111-1 (2022), "Wind Turbine Sound Modeling," and Annex D of ISO 9613-2 (2024) provide additional guidance for the calculation of sound pressure levels from wind turbines. Where any ambiguity exists, the parameters in Table 1 must be used.

12. Two requirements in the MPSC Appendix D Table 1 are discussed below (bolded) in more detail, because they are dismissed in the Sound Report: The tonal penalty for inverters and the 6-dB adjustment at home facades.

13. **The MPSC Guidelines Attachment D Table 1 tonal Penalty:** *"Tonal prominence: + 5 dB tonal penalty to source sound power. The tonal penalty can be removed if it can be shown that the facility would not have a tonal prominence at a dwelling when the measured background sound of the lowest hourly L90 is added."*

14. The DNV Sound Report asserts *"No tonality is expected from the inverter"*.

15. The DNV Sound Report did not quantify or qualify by assumption the lowest hourly L90.

16. The lowest hourly L90 is expected to fall below 25 dBA in this quiet rural area.

17. Modeled sound levels in the Report are 35 dBA or higher at almost one-half of residences evaluated in the Report (78 of 172), 10 dB or more above the expected lowest hourly ambient L90 background rural sound levels. There can be no expectation of tones being masked by the ambient background sound levels in the area.

18. The Report has not demonstrated that received sound levels lack tonal prominence.

19. For the project transformers, the DNV Sound Report states *"A tonality penalty of 5 dB is included in this estimate in accordance with ISO-1996-2 and the MPSC Guidelines"*.

20. The Sound Report states (Report p.120 of 231), *"No tonality is expected from the inverter."* The assertion that inverters have no tonality is undocumented and misleading.

21. The DNV Sound Report confirms that each GE FLEXINVERTER 156X includes a transformer, stating (Report p.120 of 231), that inverter sound output *"sound levels are*

inclusive of the transformer connected to each inverter, which were also measured in the test report".

22. Transformers are tonal. Transformer noise consists of primary tonal components at 120, 240, 360 and 480 Hz line frequency harmonics. Additional harmonics continue at higher frequencies but are generally not considered in noise control planning. Fan noise is broadband in nature and is generally not objectionable with sufficient distance provided the fans do not emit significant tonal noise themselves. Quiet transformers (Best Available Technology) can be purchased at up to 15 to 20 dB below normal NEMA ratings. If a quieter transformer is incorporated in a facility design, the lowered sound level rating should be used in place of the regular NEMA rating during noise impact estimates. Regardless, transformers emit tonal noise at the characteristic line harmonics listed above.
23. The General Electric FLEXINVERTER products each contain several high-RPM external and internal heat exchanger/cooling fans which typically emit mid- to higher-frequency **tones** at blade pass frequencies. From solar facility noise survey experience, a number of high-RPM heat exchanger/cooling fans differ slightly in RPM due to slight differences in loading. At hundreds of feet, the tonal ensemble can sound like a swarm of bees.
24. The Sound Report applied a tonality penalty of +5 dB for the main transformers *"in accordance with ISO-1996-2 and the MPSC Guidelines"*. The tonality penalty should be applied to all transformer equipment in the facility, including the inverters.
25. Therefore, the inverters, which contain tone-emitting transformers and fans, should be assigned a tonality penalty of +5 dB in accordance with ISO-1996-2 and the MPSC Guidelines.
26. **The MPSC Guidelines Attachment D Table 1 +6 dB adjustment at home facades:**
Footnote 13 contains a +6 dB adjustment required by the MPSC guidelines for assessing compliance with the regulatory noise limit at dwellings,
"MCL 460.1226 states that the noise limit is considered "at the nearest outer wall of the nearest dwelling." In practice, this would be measured with a microphone mounted directly on the façade, that is, flush mounted on the vertical reflecting surface of a building. The pressure doubling at the surface with respect to the free-field condition leads to a 6 dB increase in sound level and is referred to as the "6-dB position" in ANSI S12.9 Part 3. Sound modeling conducted using ISO 9613-2 does not include the +6 dB adjustment. Therefore, 6 dB must be added to the sound modeling results to reflect what would be measured at the façade."
27. However, the DNV Sound Report omits the +6 dB penalty required by the MPSC Application Filing Instructions and Procedures, *"No correction was made to account for reflective surfaces. The sound limit is interpreted to be representative of the sound pressure level of the incident sound wave once it reaches the plane of the outer wall of the structure, prior to reflection. This is the industry standard practice for determination of residential compliance points at outer walls."*

28. The "interpretation" appears to attempt to sidestep the legal requirement in the MPSC Guidelines. There is no wiggle room found for "interpreting" the Table 1 requirement in the MPSC Application Filing Instructions and Procedures, which states, *"Therefore, 6 dB must be added to the sound modeling results to reflect what would be measured at the façade."*
29. To comply with the MPSC guidelines, the +6 dB facade penalty adjustment must be added to the sound modeling results to reflect what would be measured at the façade.
30. The Table 1 attached in this letter lists the Sound Report modeled sound levels at receptors, along with columns showing sound levels with adjustments for inverter tonal noise penalty (+5 dB) and the facade penalty (+6 dB) required in the MPSC Application Filing Instructions and Procedures Attachment D Table 1. Receptors where inverters (all include transformers) control the sound level (distant from main transformers) are assigned a tonal penalty adjustment of +5 dB for tonal noise. Sound levels at receptors close to the main transformers are judged to be controlled by the main transformer noise which already has the 5 dB tonal penalty applied in the Sound Report.
31. With those decibel penalty adjustments, noise levels at 5 non-participating and 1 participating receptor exceed the 55 dBA sound limit.
32. Numerous rural residential homes are located near the facility. The Report states (p.119 of 231), *"The sound receptors that were included in this study consist primarily of residences; a total of 172 receptors were identified within 1 mile (1.6 kilometers) of the Project noise sources and have been included in the analysis."*
33. The Report assessment on compatibility (p.20) states, *"The Project will be constructed and operated to ensure compatibility with existing agricultural land uses in the Project Area and within 1,000 feet (305 meters) of the Project Area"*.
34. The Report omits a qualitative assessment of facility noise compatibility for the quiet rural residential land use at the numerous rural residential homes in proximity to the facility.
35. The project sound limit of 55 dBA does not assure noise compatibility for residences, because average outdoors noise levels at much lower levels (threshold 42 dBA) are linked to sleep disturbance and noise-induced environmental insomnia², which are intrinsically incompatible with residences.
36. The Sound Report's modeled sound levels exceed 42 dBA at 17 non-participating receptors and 1 participating receptor.

² WHO Night Noise Guidelines (NNGL) For Europe, 2009. ISBN 978 92 890 4173 7. The WHO 2009 publication on Night Noise Guidelines "offers guidance to policy-makers in reducing the health impacts of night noise, based on expert evaluation of scientific evidence in Europe." WHO 2009 Executive Summary Table 1 lists outdoors noise levels associated by research to sleep disturbance.

37. The Sound Report's modeled sound levels with inverter +5dB tonal penalty adjustment, consistent with tonal constructive interference, also known as coherent addition, exceed 42 dBA at 45 non-participating receptors and 1 participating receptor.
38. ANSI Standards provide a neutral consensus-body reference for noise guidelines for compatibility with land use. Environmental noise compatibility for land use can be formally assessed using ANSI S12.9 Parts 4 & 5 which establish guidelines for compatibility of a new intrusive noise source for various land uses including rural residential land use. See this letter's Supplement A.
39. Tonal noise is assigned a 5-dB penalty in many jurisdictions to account for its highly objectionable noise character. However, when evaluating compatibility to land use with ANSI S12.9 Part 5, pure tone/impulse corrections should be ignored, since this factor is already incorporated into the present standard.
40. ANSI S12.9 Parts 4 & 5 establish by tabular computation that day-time and night-time intrusive noise levels are incompatible with quiet rural residential land use when long-term average day and night sound levels exceed 40 and 30 dBA, respectively.
41. The Sound Report's modeled sound levels as submitted, without inverter +5dB tonal adjustments, exceed 40 dBA, and are thus incompatible with the daytime rural residential land use, at 29 non-participating receptors and 1 participating receptor.
42. The Sound Report's modeled sound levels as submitted, without inverter +5dB tonal adjustments, exceed 30 dBA, and are thus incompatible with the nighttime rural residential land use, at 120 non-participating receptors and 2 participating receptors.
43. Best practices for noise control engineering over decades of experience include that individual noise producing components are assessed for contribution to a total noise level using a noise "budget" to assign noise controls as required to meet noise criteria with an *adequate margin of safety*. Decades of best practices established design margins of safety including noise design margins for power generation noise in the range of 2-3 decibels depending on site specifics. There is no noise design margin found in the Report.
44. The ISO 9613-2 standard used in the noise modeling algorithm has a stated uncertainty of between +/-1 dB and +/-3 dB out to 1000 meters. These uncertainties provide clear guidance for incorporating a conservative noise design margin in noise modeling to ensure regulatory compliance. ISO 9613-2 Table 5 is copied for reference below.

Height, h *1	Distance, d *1	
	$0 < d < 100$ m	$100 \text{ m} < d < 1\,000$ m
$0 < h < 5$ m	± 3 dB	± 3 dB
$5 \text{ m} < h < 30$ m	± 1 dB	± 3 dB
*1 h is the mean height of the source and receiver. d is the distance between the source and receiver.		
NOTE — These estimates have been made from situations where there are no effects due to reflection or attenuation due to screening.		

SUMMARY

Review conclusions are provided below. INCE Rules of Practice require approving only noise control engineering studies, reports, or work which, to the best of the reviewer's knowledge and belief, are safe for public health, property, and welfare and in conformance with accepted practice.³ Best practices include designing to prevent noise complaints and impacts on sleep and amenity, and assuring that facilities comply with regulatory requirements with an adequate noise design margin.^{4,5}

1. The Report omits from the noise modeling the +5 dB tonality penalty for the project inverters, which include transformers and should be assigned the +5 dB tonality penalty.
2. The Report omits from the noise modeling the facade pressure doubling adjustment penalty of +6 dB required in the MPSC Application Filing Instructions and Procedures, Attachment D, Table 1. The facade +6 dB penalty is not optional and should be applied in the sound model.
3. With the facade penalty adjustments, received sound levels exceed the 55 dBA sound limit at 5 non-participating receptors and 1 participating receptor.
4. The Report omits a qualitative assessment of facility noise compatibility for the quiet rural residential land use at the 172 rural residential homes evaluated in proximity to the facility in the Report.
5. Noise producing sleep disturbance is incompatible with residential land use. The facility noise sources are assumed by the applicant to operate at full strength night and day. This assumption is consistent with solar inverter capabilities for full capacity reactive power handling day and night.
6. Medical sleep impact thresholds in WHO 2009² established that sleep disturbance is expected for received outdoors sound levels above 42 dBA. Using those thresholds, sleep disturbance is expected for 17 non-participating receptors and 1 participating receptor.

³ INCE Canon of Ethics. Section II.1 "b. Approve only noise control engineering studies, reports, or work which, to the best of their knowledge and belief, is safe for public health, property, and welfare and in conformance with accepted practice." <https://www.inceusa.org/pub/?id=A31057F9-EFA6-9D27-572B-1754C2BF6BC7>

⁴ Id., Section II.1 "INCE members shall hold paramount the safety, health, and welfare of the public in the performance of their professional duties and shall: a. Notify their client and such other authority as may be appropriate, if their professional judgment is overruled under circumstances where the public safety, health, property, or welfare are endangered." Best practices were acquired during a decade of work in the Noise and Vibration Control Group in the Environmental Engineering Division at Stone & Webster Engineering Corporation. Design safety margins were approved conservative project investments to prevent much higher costs of noise control if noise levels exceeded regulatory limits or generated complaints once facilities were in operation.

⁵ Factors of Safety are a part of engineering design, e.g. Maria, Rutheravan. (2016). Summary Of Safety Criteria In Design. 10.13140/RG.2.1.1501.5285.

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 9 of 17

7. The Sound Report made a definitive statement of noise compatibility only for agricultural land use. Using ANSI S12.9 Parts 4 & 5 standards analysis, the modeled sound levels in the Report are incompatible with the rural residential land use at numerous residences in the project vicinity both day and night.
8. The facility design lacks sufficient noise controls to comply with the regulatory limit, prevent sleep disturbance, and be compatible with the quiet rural residential land use at nearby residences, with an adequate design decibel margin of safety. Facility noise emissions are not minimized.
9. My professional opinion is that the facility noise emissions do not qualify for permitting as currently designed.
10. The facility is comprised of tonal noise sources which would be clearly audible and potentially highly annoying to a substantial percentage of the residences in the otherwise mostly quiet rural project vicinity. Tonal noise can be readily controlled, for example, with Best Available Technology and masonry barriers around noise-producing equipment.
11. It is recommended that if the project is permitted, conditions should be included for reduced noise emissions that, with an adequate noise design margin,
 - 1) assure compliance with the 55 dBA sound limit,
 - 2) prevent sleep disturbance by controlling received sound levels to below 42 dBA, and
 - 3) assure compatibility with the rural residential land use at nearby residential lot lines with received long term average sound levels below 40 dBA daytime and 30 dBA at night.

If you have any questions, please contact me.

Respectfully Submitted,



Robert W. Rand, ASA, INCE (Member Emeritus)

Attached:

- Table 1 Receptor Noise Levels with Tonal and Facade Penalty Adjustments
- Supplement A: ANSI Siting Criteria For Compatibility, Rural Residential Land Use

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 10 of 17

Table 1. Receptor Noise Levels with Tonal and Facade Penalty Adjustments Omitted in Sound Report.

Receptors where inverters (all include transformers) control the sound level (distant from main transformers) are assigned below a tonal penalty adjustment of +5 dB for tonal noise. Sound levels at receptors close to the main transformers are judged to be controlled by the main transformer noise which already has the 5 dB tonal penalty applied in the Sound Report.

The MPSC Facade +6 dB penalty adjustment required in the MPSC Guidelines Attachment D Table 1 is applied below to all receptors. Sound levels are highlighted that exceed the 55 dBA sound limit. Those receptors are located closest to the main transformers.

R_ID	Easting [m]	Northing [m]	Status	Height [m]	Nearest Src ID	Nearest Src Dist, Ft	Modeled SPL	Inverters controlling SPL? +5 dB	Façade Pressure Doubling +6 dB
R239	269599	4635240	P	4	MPT2	1060	54	54	60
R270	269409	4635808	NP	4	INV31	897	53	53	59
R240	269702	4635166	NP	4	MPT2	1263	53	53	59
R271	270212	4635703	NP	4	MPT1	1765	50	50	56
R238	269232	4635222	NP	4	INV19	811	50	55	61
R241	270270	4635297	NP	4	MPT2	2086	48	48	54
R237	268643	4635163	NP	4	INV20	769	45	50	56
R243	270525	4635256	NP	4	MPT2	2914	45	45	51
R242	270410	4635249	NP	1.5	MPT2	2570	45	45	51
R295	269315	4636461	NP	4	INV40	1703	44	49	55
R294	268619	4636209	NP	4	INV40	744	44	49	55
R187	270140	4634638	NP	4	INV07	3296	43	48	54
R339	269297	4636563	NP	4	INV40	1815	43	48	54
R236	268540	4635516	NP	1.5	INV28	860	43	48	54
R186	268588	4634545	NP	4	INV12	903	43	48	54
R235	268398	4635250	NP	1.5	INV21	882	43	48	54
R185	268506	4634538	NP	4	INV13	947	43	48	54
R244	270564	4635253	NP	1.5	MPT2	3035	43	43	49
R245	270599	4635254	NP	1.5	MPT2	3143	42	42	48
R334	269019	4636682	NP	4	INV40	1536	42	47	53
R331	268637	4636665	NP	4	INV46	930	41	46	52
R234	267667	4635265	NP	4	INV26	895	41	46	52
R345	270004	4636788	NP	4	MPT1	4101	41	41	47
R333	268917	4636716	NP	4	INV40	1555	41	46	52
R346	270124	4636779	NP	4	MPT1	4191	41	41	47
R341	269423	4636868	NP	4	INV40	2785	41	46	52
R340	269310	4636654	NP	1.5	INV40	2031	41	46	52

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 11 of 17

R_ID	Easting [m]	Northing [m]	Status	Height [m]	Nearest Src ID	Nearest Src Dist, Ft	Modeled SPL	Inverters controlling SPL? +5 dB	Façade Pressure Doubling +6 dB
R344	269974	4636850	NP	4	INV40	4207	41	46	52
R350	270236	4636756	NP	4	MPT1	4259	41	41	47
R272	271028	4635646	NP	4	MPT1	4401	41	41	47
R184	268499	4634246	NP	1.5	INV08	1005	40	45	51
R337	269177	4636691	NP	1.5	INV40	1822	40	45	51
R338	269258	4636945	NP	4	INV40	2662	40	45	51
R327	267554	4636762	NP	4	INV47	869	40	45	51
R330	268637	4636847	NP	4	INV46	1268	40	45	51
R133	268819	4633618	NP	4	INV03	756	40	45	51
R351	270348	4636879	NP	4	MPT1	4785	40	40	46
R134	269180	4633624	NP	4	INV01	1077	39	44	50
R246	271120	4635179	NP	4	MPT2	4855	39	39	45
R273	271104	4636002	NP	4	MPT1	4846	39	39	45
R335	269061	4637004	NP	4	INV40	2582	39	44	50
R332	268832	4636740	NP	1.5	INV40	1614	39	44	50
R353	270580	4636781	NP	4	MPT1	4910	39	39	45
R233	267372	4635248	NP	4	INV30	1298	39	44	50
R297	270988	4636354	NP	4	MPT1	4964	39	39	45
R347	270148	4637021	NP	4	MPT1	4968	39	39	45
R348	270171	4636797	NP	1.5	MPT1	4299	39	39	45
R352	270451	4636919	NP	4	MPT1	5060	39	39	45
R336	269163	4636905	NP	1.5	INV40	2399	39	44	50
R135	269416	4633615	NP	4	INV01	1299	38	43	49
R329	267856	4636854	NP	4	INV47	1897	38	43	49
R326	267010	4636884	NP	4	INV48	1010	38	43	49
R349	270226	4636878	NP	1.5	MPT1	4615	38	38	44
R132	267806	4633617	NP	4	INV05	1180	38	43	49
R325	266985	4636796	NP	4	INV47	1202	38	43	49
R328	267692	4636917	NP	4	INV48	1394	38	43	49
R117	268584	4633546	NP	4	INV03	1215	38	43	49
R231	266964	4635404	NP	4	INV30	1148	38	43	49
R363	267003	4637287	NP	4	INV49	1037	38	43	49
R228	266886	4635510	NP	4	INV30	1211	38	43	49
R138	270190	4633802	NP	4	INV01	3266	37	42	48
R232	266993	4635291	NP	4	INV30	1347	37	42	48
R318	265753	4636887	NP	4	INV52	676	37	42	48
R319	265835	4636889	P	4	INV52	701	37	42	48
R136	270026	4633658	NP	4	INV01	2856	37	42	48
R247	271236	4635238	NP	1.5	MPT2	5181	37	37	43

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 12 of 17

R_ID	Easting [m]	Northing [m]	Status	Height [m]	Nearest Src ID	Nearest Src Dist, Ft	Modeled SPL	Inverters controlling SPL? +5 dB	Façade Pressure Doubling +6 dB
R366	267804	4637142	NP	4	INV48	1754	37	42	48
R115	267640	4633528	NP	4	INV06	1525	37	42	48
R131	267443	4633618	NP	4	INV06	1259	37	42	48
R230	266896	4635273	NP	4	INV30	1600	36	41	47
R398	266489	4638498	NP	4	INV56	994	36	41	47
R401	266956	4638382	NP	1.5	INV55	861	36	41	47
R137	270194	4633530	NP	4	INV01	3524	36	41	47
R229	266895	4635135	NP	4	INV30	1951	36	41	47
R323	266623	4636875	NP	4	INV49	1961	36	41	47
R380	266194	4637817	NP	1.5	INV54	1244	36	41	47
R368	268569	4637514	NP	4	INV46	3176	36	41	47
R382	269280	4637655	NP	4	INV46	4651	36	41	47
R321	266203	4636883	NP	4	INV52	1577	35	40	46
R322	266492	4636827	NP	4	INV50	2143	35	40	46
R400	266955	4638435	NP	1.5	INV55	993	35	40	46
R395	266105	4638099	NP	4	INV54	1484	35	40	46
R320	265999	4636813	NP	4	INV52	1185	35	40	46
R324	266766	4636886	NP	1.5	INV48	1757	35	40	46
R116	268524	4633158	NP	4	INV03	2436	35	40	46
R139	270770	4633627	NP	4	INV01	5240	35	40	46
R183	266891	4634594	NP	4	INV11	2539	35	40	46
R397	266338	4638507	NP	4	INV56	1220	35	40	46
R227	266706	4635097	NP	4	INV30	2451	35	40	46
R365	267799	4637585	NP	4	INV48	2489	35	40	46
R399	266929	4638496	NP	1.5	INV55	1119	35	40	46
R315	265523	4636903	NP	4	INV52	1023	34	39	45
R367	268565	4637437	NP	1.5	INV46	2925	34	39	45
R396	266223	4638452	NP	4	INV56	1349	34	39	45
R130	266964	4633937	NP	4	INV06	1947	34	39	45
R317	265703	4636822	NP	1.5	INV52	912	34	39	45
R064	268587	4632961	NP	4	INV03	2989	34	39	45
R381	268626	4637908	NP	4	INV46	4480	34	39	45
R316	265574	4636789	NP	4	INV52	1185	34	39	45
R383	269407	4637686	NP	1.5	INV46	5003	34	39	45
R118	270112	4633396	NP	1.5	INV01	3486	34	39	45
R293	266496	4636359	NP	1.5	INV45	2205	34	39	45
R364	267703	4637506	NP	1.5	INV48	2084	33	38	44
R378	265853	4637911	NP	4	INV51	1935	33	38	44
R379	266021	4638011	NP	1.5	INV54	1705	33	38	44

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 13 of 17

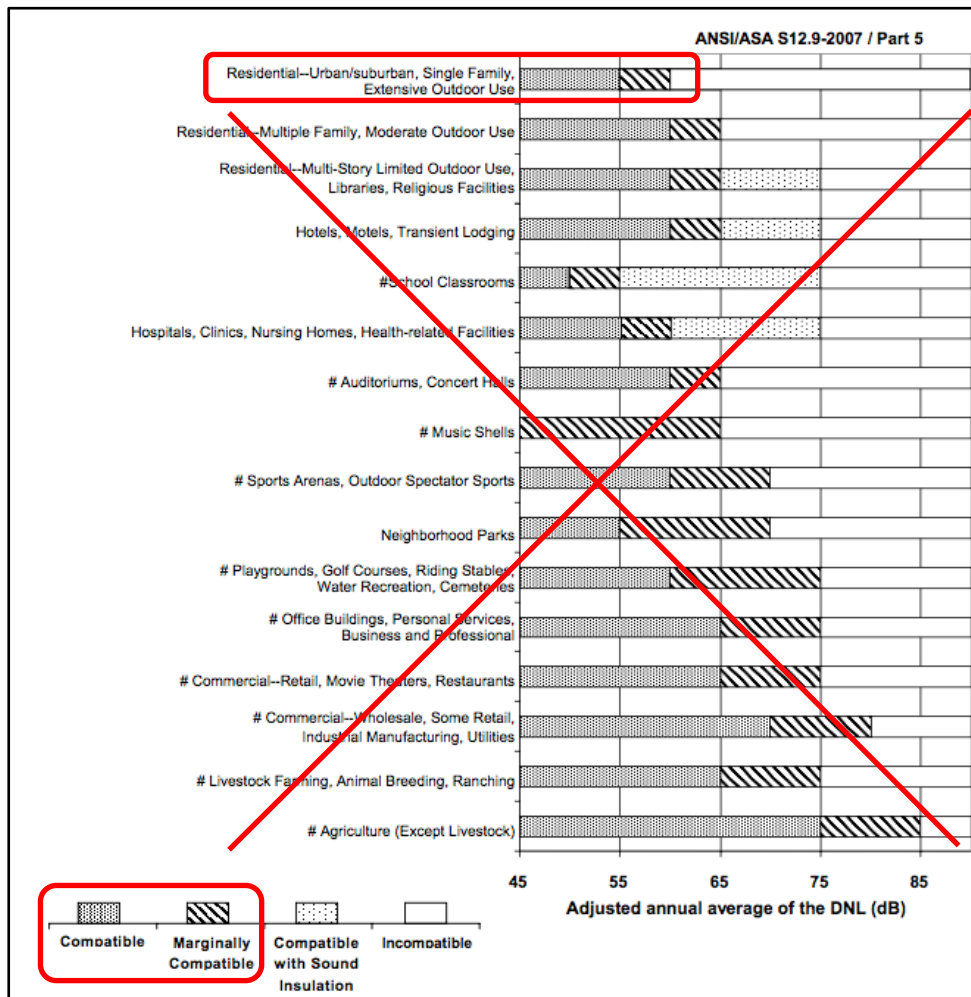
R_ID	Easting [m]	Northing [m]	Status	Height [m]	Nearest Src ID	Nearest Src Dist, Ft	Modeled SPL	Inverters controlling SPL? +5 dB	Façade Pressure Doubling +6 dB
R377	265820	4637718	NP	1.5	INV51	1418	33	38	44
R068	270192	4632866	NP	4	INV01	4810	33	38	44
R402	267301	4638525	NP	4	INV55	2044	33	38	44
R065	268625	4632700	NP	4	INV03	3807	32	37	43
R406	267837	4638214	NP	4	INV55	3483	32	37	43
R119	270185	4633130	NP	1.5	INV01	4190	32	37	43
R403	267500	4638475	NP	4	INV55	2553	32	37	43
R404	267596	4638410	NP	4	INV55	2785	32	37	43
R067	270121	4632669	NP	4	INV01	5166	32	37	43
R314	265363	4636823	NP	4	INV52	1601	32	37	43
R423	267403	4638647	NP	4	INV55	2544	31	36	42
R066	270097	4632929	NP	1.5	INV01	4448	31	36	42
R312	265361	4636709	NP	4	INV52	1838	31	36	42
R408	268243	4638462	NP	4	INV55	4897	31	36	42
R129	266556	4633625	NP	4	INV06	3484	31	36	42
R407	267921	4638560	NP	4	INV55	3949	31	36	42
R114	266975	4632996	NP	4	INV06	3763	31	36	42
R063	267272	4632717	NP	4	INV06	4264	30	35	41
R424	267613	4638773	NP	4	INV55	3344	30	35	41
R308	265195	4636844	NP	4	INV52	2056	30	35	41
R292	265360	4636264	NP	4	INV52	3032	30	35	41
R052	268601	4632485	NP	1.5	INV03	4517	30	35	41
R290	265290	4636344	NP	4	INV52	2916	30	35	41
R062	266972	4632704	NP	4	INV06	4620	30	35	41
R058	266600	4632982	NP	4	INV06	4543	29	34	40
R421	267309	4638635	NP	1.5	INV55	2276	29	34	40
R291	265294	4636084	NP	4	INV52	3658	29	34	40
R269	265360	4635684	P	4	INV52	4811	29	34	40
R309	265287	4636906	NP	1.5	INV52	1699	29	34	40
R060	266904	4632598	NP	4	INV06	5026	29	34	40
R311	265303	4636838	NP	1.5	INV52	1744	29	34	40
R113	266250	4633168	NP	4	INV06	5054	29	34	40
R307	264964	4636852	NP	4	INV52	2758	29	34	40
R417	265601	4638627	NP	4	INV56	3410	29	34	40
R418	265691	4638787	NP	4	INV56	3408	29	34	40
R420	267285	4638760	NP	1.5	INV55	2505	29	34	40
R431	266223	4639179	NP	4	INV56	3382	28	33	39
R394	265332	4638510	NP	4	INV56	4117	28	33	39
R419	265805	4639018	NP	4	INV56	3625	28	33	39

Rand Acoustics, LLC
Review of Sound Report, Glacier Meadows Solar Project
September 23, 2025
Page 14 of 17

R_ID	Easting [m]	Northing [m]	Status	Height [m]	Nearest Src ID	Nearest Src Dist, Ft	Modeled SPL	Inverters controlling SPL? +5 dB	Façade Pressure Doubling +6 dB
R422	267374	4639000	NP	1.5	INV55	3302	28	33	39
R434	266489	4639345	NP	4	INV56	3758	28	33	39
R059	266638	4632963	NP	1.5	INV06	4507	28	33	39
R405	267777	4638489	NP	1.5	INV55	3428	28	33	39
R050	267130	4632519	NP	1.5	INV06	5008	28	33	39
R287	264886	4636099	NP	4	INV52	4364	28	33	39
R310	265303	4636620	NP	1.5	INV52	2180	28	33	39
R313	265362	4636537	NP	1.5	INV52	2262	28	33	39
R061	266965	4632612	NP	1.5	INV06	4903	27	32	38
R362	264977	4637387	NP	1.5	INV52	2777	27	32	38
R286	264768	4636102	NP	4	INV52	4620	27	32	38
R393	265068	4638445	NP	4	INV51	4828	27	32	38
R268	265248	4635645	NP	1.5	INV52	5048	27	32	38
R306	264599	4636851	NP	4	INV52	3921	27	32	38
R429	265808	4639411	NP	4	INV56	4656	26	31	37
R289	264978	4636040	NP	1.5	INV52	4322	26	31	37
R288	264919	4636098	NP	1.5	INV52	4293	26	31	37
R128	266145	4633656	NP	1.5	INV06	4751	26	31	37
R433	266412	4639362	NP	1.5	INV56	3837	26	31	37
R267	264905	4635997	NP	1.5	INV52	4580	26	31	37
R376	264467	4637627	NP	4	INV52	4623	26	31	37
R432	266231	4639329	NP	1.5	INV56	3845	26	31	37
R361	264913	4637532	NP	1.5	INV52	3160	26	31	37
R428	265726	4639498	NP	4	INV56	5039	26	31	37
R305	264288	4636919	NP	4	INV52	4896	26	31	37
R435	266491	4639497	NP	1.5	INV56	4257	25	30	36
R437	267135	4639692	NP	1.5	INV55	5061	25	30	36
R436	266559	4639722	NP	1.5	INV56	4991	24	29	35

Supplement A: ANSI Siting Criteria For Compatibility, Rural Residential Land Use

ANSI S12.9 Parts 4 & 5 provides methods for determining noise level thresholds for compatibility with land use. Part 5 Annex A provides that "compatibility of a land use with the outdoor noise environment is assessed by comparing the predicted or measured annual average of the total day-night adjusted sound exposure or the annual average of the adjusted day-night average sound level at a site with the guidance criteria given in Figure A.1."



ANSI S12.9 Part 5 Figure A.1, with markups. Lists a range of land uses, including at the top, "Residential—Urban/suburban, Single Family, Extensive Outdoor Use". This category was selected as a basis for evaluation of compatibility for rural residential land use.

This analysis evaluates compatibility for rural residential land use (homes), similar to the top category in Figure A.1, and does not evaluate for compatibility in farm fields proper (agricultural use). Part 5 Annex A Figure A.1 includes a footnote, "For residences in quiet rural areas (e.g., not near busy roads, busy railroads, grain elevators, etc.), the +10-dB adjustment in ANSI S12.9 Part 4 clause F.3.4.2 should be used." This adjustment was applied in this analysis to be conservative for homes away from busy roads and rail.

For each category a range of acceptable annual average day-night sound levels are listed for Compatible, Marginally Compatible, Compatible with Sound Insulation, and Incompatible. For the Residential-Urban/suburban, Single Family category, "Compatible" ranges up to 55 Ldn, and "Marginally Compatible" extends to 60 Ldn. Intrusive noise levels above 60 Ldn are "Incompatible".

Compatible land use is defined in ANSI S12.9 Part 5:

3.1 compatible land use. *Land use consistent with the outdoor noise environment such that the annual average of the total day-night adjusted sound exposure or the annual average of the adjusted day-night average sound level at a site is not greater than the compatibility limit designated for that land use.*

3.2 land use. *Existing or intended use of a specifically delineated land area or parcel.*

3.3 land use category. *A logical grouping of a set of related land uses.*

The ANSI S12.9 Part 4 adjustment from urban to quiet rural local conditions is a reduction of 15 dBA, including 10 dB for "quiet rural settings" (ANSI S12.9 Part 4 Section F.3.4.2) and 5 dB for unfamiliar intrusive noise (ANSI S12.9 Part 4 Section F.3.4.1). These two factors are additive (ANSI S12.9 Part 4 Section F.3.4.3). In practice, these factors may be used to either 1) adjust measured or predicted levels upward to assess against ANSI land use compatibility ratings, or 2) adjust ANSI land use compatibility ratings downward to assess measured or predicted sound levels. The comparative result is the same. For this calculation, the compatibility noise ratings were adjusted downward *for direct comparison to facility long term average (Leq) noise predictions.*

The tables below summarize the calculation utilized to determine land use compatibility noise criteria for rural residential land use, using ANSI S12.9 Parts 4&5 assuming a quiet rural area. "Criteria" means the level that should not be exceeded- the highest allowable long-term average (Leq) noise level. The more stringent "Night" criteria are highlighted.

Criteria for "Compatibility" per ANSI S12.9:

Factor	Day-Night Sound Level (DNL)	Day Sound Level:	Night Sound Level:	Average Level (Leq*):
Part 5 Figure A.1 Residential Urban/suburban, Single Family Compatible, at the edge of Marginal Compatibility:	55	55	45	49
Adjust: 10 dB for quiet rural settings (Part 4 F.3.4.1):	-10	-10	-10	-10
Adjust: 5 dB for unfamiliar intrusive noise (Part 4 F.3.4.3):	-5	-5	-5	-5
Criteria for "Compatibility", dBA:	40	40	30	34

(continued)

Criteria for "Marginal Compatibility" per ANSI S12.9:

Factor	Day-Night Sound Level (DNL)	Day Sound Level:	Night Sound Level:	Average Level (Leq*):
Part 5 Figure A.1 Residential Urban/suburban, Single Family Marginal Compatibility, at edge of Incompatible:	60	60	50	54
Adjust: 10 dB for quiet rural settings (Part 4 F.3.4.1):	-10	-10	-10	-10
Adjust: 5 dB for unfamiliar intrusive noise (Part 4 F.3.4.3):	-5	-5	-5	-5
Criteria for "Marginal Compatibility", dBA:	45	45	35	39

* The energy-equivalent average level (Leq) equivalent to a 24-hour day-night level (DNL) is computed as 6.4 dB less than the day-night level due to level weighting of -10 dB from 10 pm to 7 am.

The ANSI S12.9 calculation concludes that for unfamiliar intrusive noise in quiet rural areas, long-term average (Leq) noise levels lower than 34 dBA are "compatible"; long-term Leq night noise levels between 34 and 39 dBA are "marginally compatible"; long-term Leq night noise levels exceeding 39 dBA at night are "incompatible".

EXHIBIT E

Carroll Road Solar Farm LLC. Estimated Economic Impacts of Reduced Agricultural Production

The Carroll Road Solar Farm LLC. solar panel installation is expected to be placed on 1,674.53 acres of mostly farmland in Lenawee County, MI. We assert that 90 percent of these parcels will have agricultural production diverted through the 35 year life of this installation. Based on current yield and cost of production estimates, we estimated the expected loss in economic activity from lost agricultural production.¹

Estimate direct annual loss of:

- **\$1,092,850 in gross farm revenues (cash sales of farms)**
- **\$473,800 in farm net revenues (Farm revenues to proprietor, farm capital and farm land)**
- **\$49,000 in farm labor earnings**

Over 35 years of the installation, this represents a decline in (2020 \$ values held constant):

- **\$38,249,700 in gross farm revenues**
- **\$23,260,600 in farm net revenues**
- **\$1,714,300 in farm labor earnings**

We simulated how the loss in annual farm sales translates to economy-wide impacts on Lenawee County, MI. Economy-wide impacts are larger than direct impacts because dollars recirculate throughout the economy. For example, the sales revenues earned by the grower are partially re-spent in the local economy to purchase seed inputs to the next year's harvest, to purchase fuel, maintain or expand capital like tractors and enclosures, etc. Those receiving payments from the farmers will also re-spend a share to restock on inventories, pay labor, taxes and operating expenses. Households increase their expenditures from labor and proprietary income, creating a second channel of impacts. Together, the business to business transactions and household to business transactions make up what we call secondary expenditures (indirect and induced effects, respectively). The cycle continues, decreased only to the extent that purchases are made to suppliers from outside of Lenawee County. The table below shows estimates using annual estimates described above.

Model simulation: Lost Farm Sales Impacts on Lenawee County, MI

Impact Type	Employment	Labor Income	Regional Income	Output
Direct Effect	6	\$48,980	\$713,567	\$1,092,848
Indirect Effect	2	\$106,285	\$209,064	\$320,187
Induced Effect	0	\$35,682	\$21,220	\$110,923
Total Effect	8	\$184,030	\$943,851	\$1,523,958

Direct loss of agriculture sales of \$1,092,848 will create a decrease in total transactions in Lenawee County, totaling \$1.5 million per year. This would result in a reduction of regional income of just under

¹ Estimates provided by the Center for Economic Analysis at Michigan State University under the directorship of Steven R. Miller. For more information contact Steven Miller at 517.355.2153 or by email at mill1707@msu.edu.

Carroll Road Solar Farm LLC. Estimated Economic Impacts of Reduced Agricultural Production

\$1,000,000 per year.² Total labor income will be expected to decline by \$184,030, impacting a total of 8 Lenawee County workers.³

These estimates only take into account of expected impacts tied to reduced agricultural activities as currently exercised on these farms and do not take into consideration employment by Carroll Road Solar Farm LLC in maintaining and operating the solar panel installation. It also does not take into consideration the expected impacts of any annual payments made on behalf of Carroll Road Solar Farm LLC for personal property taxes, income taxes and land lease payments. Finally, the estimates do not take into account any substituted economic activity that may be applied to these lands in the presence of the solar panel installation.

² Regional income is the combined labor income, proprietor's income, payments to capital and landowners and indirect business taxes.

³ Employment may include self-employed proprietors.

EXHIBIT F

**Impact Study Report for
Deerfield and Blissfield Townships
Lenawee County, Michigan**



Prepared For
Deerfield and Blissfield Townships
468 Carey Street
Deerfield, MI 49238

Intended User(s)
Deerfield and Blissfield Townships
Others Authorized by the Client

Prepared by
Mark A. Williams, ARA
Williams Appraisal

Date of Report: September 24, 2025

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markwilliamsara@gmail.com

WILLIAMS
APPRAISAL



September 24, 2025

Deerfield and Blissfield Townships
468 Carey Street
Deerfield, MI 49238

RE: Solar Energy Impact Analysis

Deerfield & Blissfield Townships:

At your request, we have considered the impact of the Glacier Meadows Solar Project. It is a solar facility with a nameplate capacity of 200 MW located on approximately 2,213 acres of participating land in Blissfield Township (20.6% of the Project Area) and Deerfield Township (79.4% of the Project Area), Lenawee County, Michigan (Project Area). The Project Area was selected due to its proximity to a suitable point of interconnection (POI), relatively flat topography, large contiguous parcels of land with landowners interested in leasing to a long-term solar development, proximity to large energy load centers throughout Michigan. The fenced-in portion of the solar site will be approximately 1,078 acres. The Project consists of 46 participating parcels owned by twenty private landowners included in the project. Land use within the Project Area is primarily agricultural row crops with undeveloped wood lots that will not be affected. Project infrastructure will include photovoltaic (PV) panels, inverters, a collector substation, an approximately 988-foot (301 meters) generation transmission line (gen-tie) extending from the Project substation to the POI, access roads, laydown yards, an O&M building, perimeter security fencing, underground collection lines, vegetated filter strips, and implementation of the sitewide native vegetation requirements.

Specifically, we have been asked to give our professional opinion on whether the proposed solar farm will “substantially injure the value of adjoining property” and whether the proposed solar farm will “be in harmony with the area in which it is located.” To address those questions, we have completed research and analyzed data to determine if the proposed solar farm will impact the property values of adjoining properties. To form an opinion on these issues, we have researched existing and proposed solar farms in multiple states, researched articles through the Appraisal Institute, American Farm Managers Rural Appraisers, other studies, and discussed the likely impact with other real estate professionals. We have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. Our clients are Blissfield and Deerfield Townships Our findings support the application. The effective date of this consultation is September 24, 2025.

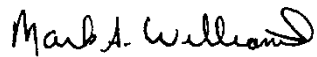
Conclusion

Based on the analysis in the report, the impact of large-scale solar projects on adjoining property values is not uniform and is highly dependent on the type of property and the buyer's motivation.

For **agricultural land and rural residential properties** where buyers are primarily income or housing-focused, multiple studies and assessor surveys provide high confidence that the impact is minimal to none **(0-3% range)**.

However, for **rural estate and recreational properties** where buyers prioritize aesthetics and rural character, current market trends indicate impacts for rural estate properties could reasonably range from **3%-20%** with most likely impacts in the **8%-12% range**. Specific percentages within this range cannot be definitively quantified due to limited sales data for this newer trend and other market factors.

Respectfully submitted,



Mark A. Williams, ARA

Certified General Real Property Appraiser
Michigan-1205003316
ASFMRA, Accredited

Table of Contents

Conclusion	3
Proposed Project and Adjoining Uses	5
Map of Subject Property	6
Market Area Description and Analysis	8
Summary of Solar Projects In and Around Michigan	11
Methodology and Discussion of Adjoining Uses	13
Solar Farms on Agricultural Land Discussion	18
Assessor Surveys.....	19
Distance Between neighboring landowners and panels.....	19
Research on Solar Farms.....	20
Market Studies	20
Broker Commentary-	27
Scope of Research	29
Market Analysis of the Impact on Value from Solar Farms.....	30
Conclusion	34
Addendum	36
Adjoining Property Information	37
Appraiser Resumes	38

Proposed Project and Adjoining Uses

Proposed Use Description

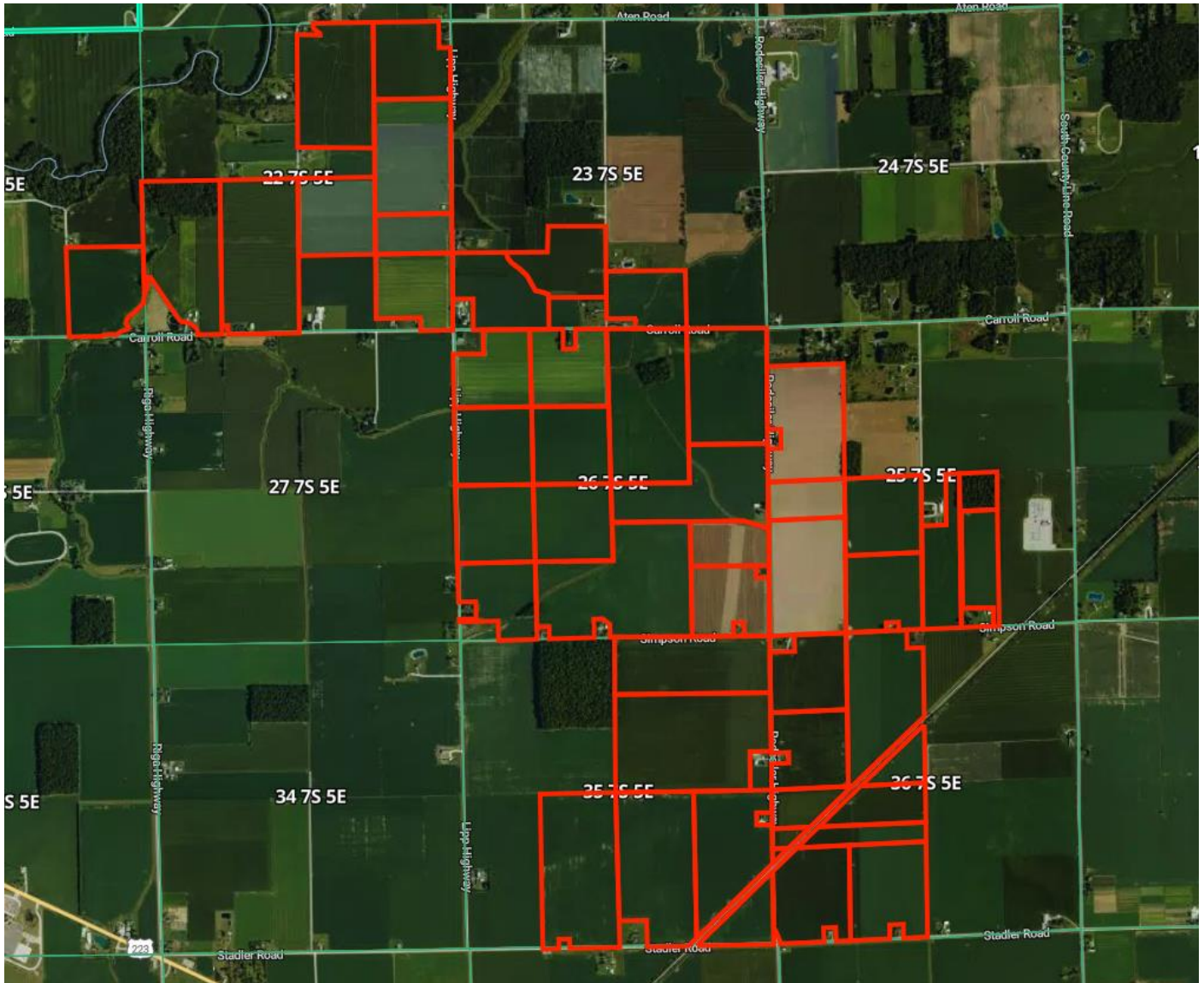
The proposed Glacier Meadows Solar, LLC project is a 200 MW utility-scale solar facility to be located on approximately 2,213 acres in Blissfield and Deerfield Townships, Lenawee County, Michigan. The project site is situated near the towns of Blissfield and Deerfield.

Adjoining Properties-

To assess the potential impact of the proposed Glacier Meadows Solar project on surrounding real estate, a detailed analysis was conducted on all adjoining properties. This analysis included every neighboring parcel that shares a boundary with the 2,213 acres designated for the project. Each adjoining property was classified based on its current use to provide a comprehensive understanding of the surrounding land characteristics. The classifications used in this study include: Farmland, Recreational Use, Rural Estate (defined as a single-family dwelling on 10 acres or more), and Single-Family Rural Residence (on 10 acres or less). The distribution of these classifications is presented in the following table.

Adjoining Use Breakdown		
	Acreage	Parcels
Farmland	1,708	25
Recreational	124	10
Rural Estate	71	6
Rural Residence	69	20
Other	240	
Total	2,213	61

Map of Subject Property



Glacier Meadows Solar, LLC
Application for Siting Certificate
May 2025

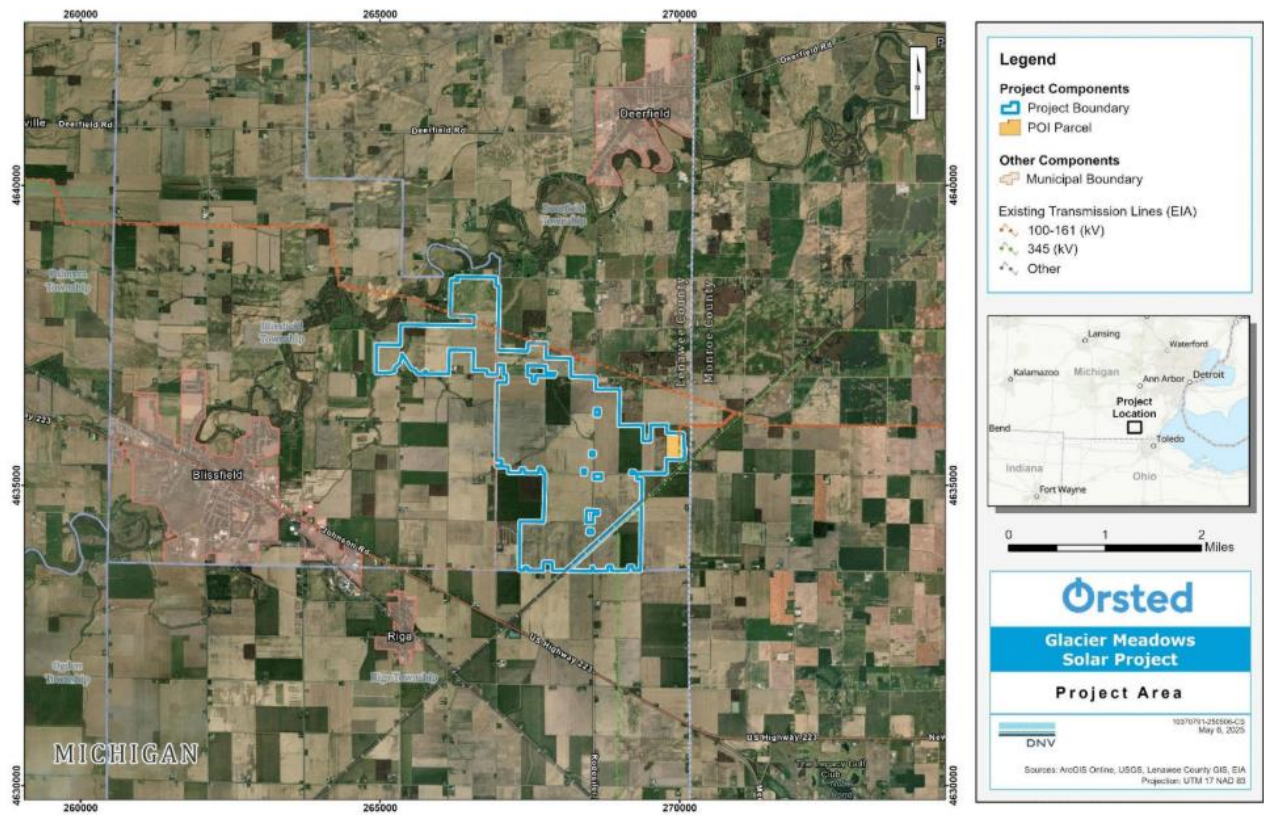


Figure 1.1-1 Project Area

Market Area Description and Analysis

Lenawee County Demographics

According to the United States Census Bureau, the population of Lenawee County is approximately 97,746 as of July 2024. The median household income was \$71,632. The poverty rate is 8.9%, compared to 13.4% throughout all of Michigan. The median age of the population of Lenawee County is 42.6, 2.2 years above the state median age, making 21.4% of Lenawee County 65 years or older. Educational attainment in Lenawee County is 10% below the state average, 23.2% of residents having attained a bachelor's degree or higher. The employment rate in Lenawee County just about matches the state's employment rate, at 58%.

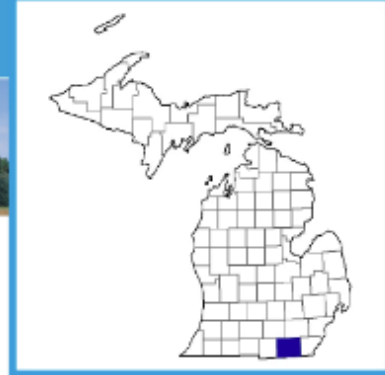
Lenawee Geography and Climate

Lenawee County is made up of 761 sq miles, only 12 sq miles being water, and it is bordered by 6 counties, 2 in Ohio, being Hillsdale, Monroe, Washtenaw, Jackson, Fulton (OH), and Lucas (OH). The county is primarily covered by flat plains and rolling hills. The climate of Lenawee County is consistent with most of Southern Michigan, getting the hottest in July, sometimes as hot as 90F, and the coldest in January, sometimes going slightly below zero. Most of the precipitation falls during the summer and the spring.

Lenawee County Census of Agriculture

The census of agriculture provides data about U.S. farms and ranches every five years. It is the leading source of demographic agricultural data for every State and county or county equivalent. The survey indicates that from 2017 to 2022 the number of farms in Lenawee decreased by 11% to only 1,205 farms and the average size of farm decreased by 4% to 272 acres. The number of acres in farms has gone down by 15% to 327,255 total acres. The census of agriculture tracks the number of farms, acres and bushels that were harvested for each crop type. The 2023 County Agriculture overview shows the market value of grain harvested including oilseeds, dry beans, and dry peas, totaled sales (\$1000) of 235,575. The sales for vegetables, melons, potatoes, & sweet potatoes were 21,038. Fruits, tree nuts, and berries were recorded to have sold at a market value of 9,380 sales. Nursery, greenhouse, floriculture, and sod came in at 6,465. Other crops and hay, as well as Christmas trees and short rotation woody crops totaled 2,746. Sales on milk from cows was 78,808, and sales on cattle & calves was 22,123. All other livestock including poultry & eggs, hogs & pigs, sheep, goats, wool, mohair, milk, horses, ponies, mules, burros, donkeys totaled 5,256. Lenawee County ranks #9 in the state for overall market value of crops sold and #14 for livestock, poultry, and products sold.

2022 CENSUS OF AGRICULTURE County Profile



Lenawee County Michigan

Total and Per Farm Overview, 2022 and change since 2017

	2022	% change since 2017
Number of farms	1,205	-11
Land in farms (acres)	327,255	-15
Average size of farm (acres)	272	-4
Total	(\$)	
Market value of products sold	341,763,000	+32
Government payments	5,284,000	-55
Farm-related income	9,756,000	-5
Total farm production expenses	258,589,000	+13
Net cash farm income	98,213,000	+86
Per farm average	(\$)	
Market value of products sold	283,620	+49
Government payments ^a	10,894	-32
Farm-related income ^a	19,828	+19
Total farm production expenses	214,597	+27
Net cash farm income	81,504	+110

3 Percent of state agriculture sales

Share of Sales by Type (%)

Crops	69
Livestock, poultry, and products	31

Land in Farms by Use (acres)

Cropland	287,358
Pastureland	3,779
Woodland	20,966
Other	15,152

Acres irrigated: 5,600

2% of land in farms

Land Use Practices (% of farms)

No till	26
Reduced till	21
Intensive till	23
Cover crop	12

Farms by Value of Sales

	Number	Percent of Total ^b
Less than \$2,500	433	36
\$2,500 to \$4,999	117	10
\$5,000 to \$9,999	91	8
\$10,000 to \$24,999	82	7
\$25,000 to \$49,999	85	7
\$50,000 to \$99,999	74	6
\$100,000 or more	323	27

Farms by Size

	Number	Percent of Total ^b
1 to 9 acres	142	12
10 to 49 acres	396	33
50 to 179 acres	362	30
180 to 499 acres	119	10
500 to 999 acres	96	8
1,000+ acres	90	7



United States Department of Agriculture
National Agricultural Statistics Service

www.nass.usda.gov/AgCensus

Conclusion of Area and Market Analysis

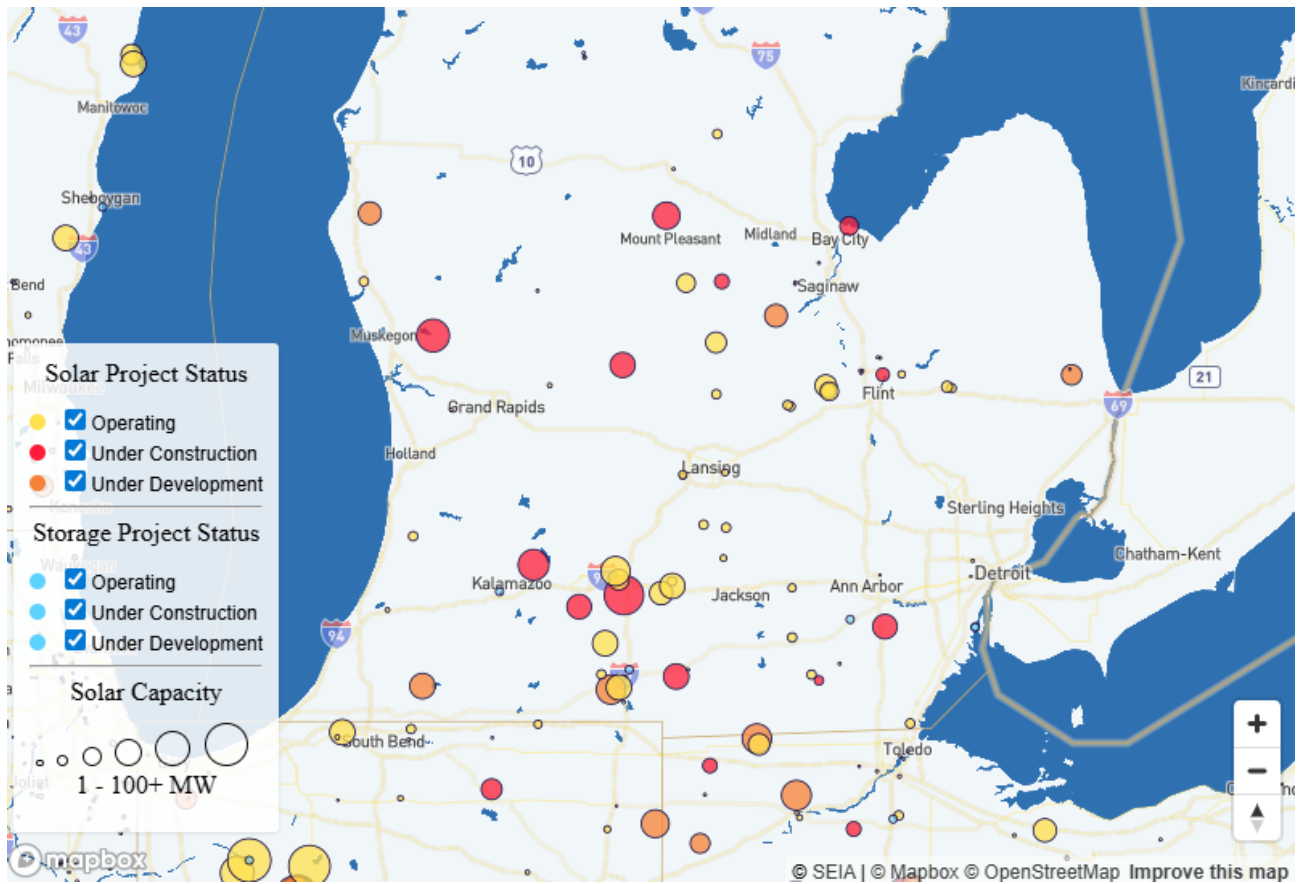
The economy in Lenawee County is steadily backed by its large contribution in the agricultural and manufacturing industry. Lenawee County is consistent in being one of Michigan's leaders in crop sales. The county has one of the lower poverty rates in Michigan and is home to an older population. Educational attainment in Lenawee County is quite a bit below the state average, but the employment rate is on par with the rest of the state. The number of farms and number of acres in farms has dropped significantly in the last 5 years, but the revenue and profit has also gone up significantly. Since 2017, Lenawee County farms have seen a 49% increase in the market value of products sold as well as a 110% increase in net cash farm income. Over 95% of all farms in Lenawee County are family owned. The outlook for Lenawee County is optimistic, agricultural sales growth has done well since 2017, and the land value has sharply increased as well.

Summary of Solar Projects in and Around Michigan

The map below reveals Michigan's solar and energy storage project landscape, showing a clear geographic concentration in the southern half of the state, particularly throughout the Lower Peninsula. The distribution pattern makes strategic sense, as southern Michigan receives better solar irradiance and has flatter terrain more conducive to large-scale solar installations. Projects are notably clustered around major population centers like Kalamazoo, Grand Rapids, Lansing, and the Detroit metropolitan area, which provides access to existing electrical grid infrastructure and proximity to energy demand centers.

The project status indicators show a healthy mix of development phases across the state. Yellow dots representing operating projects are scattered throughout southern Michigan, demonstrating that the state already has established solar infrastructure generating power. Red dots indicating projects under construction appear frequently across the map, suggesting active expansion of solar capacity is currently underway. Orange dots marking projects under development are also well-distributed, indicating continued growth momentum in Michigan's renewable energy sector. The Upper Peninsula shows notably fewer projects of all types, likely due to less favorable solar conditions and lower population density.

The varying circle sizes on the map indicate projects ranging from small installations to substantial utility-scale solar farms exceeding 100 MW in capacity. This diversity in project scales suggests Michigan is pursuing solar development across multiple market segments, from distributed generation to large utility-scale installations that can significantly contribute to the state's overall renewable energy portfolio. The combination of operational facilities, active construction, and robust development pipeline positions Michigan as an increasingly important player in the Midwest's transition to clean energy.



Methodology and Discussion of Adjoining Uses

Standards and Methodology-

The standards and methodologies used in this report are based on professional appraisal practices, including the Uniform Standards of Professional Appraisal Practice (USPAP).

Data Limitations and Methodology Approach: Due to the relatively recent emergence of utility-scale solar projects of this magnitude in Michigan, traditional matched-pair analysis is not feasible for all property types. This opinion is based on available market studies, assessor surveys, and current market participant feedback, with appropriate caveats regarding data limitations.

This report considers paired sales analysis, a widely accepted methodology for determining the impact of a specific factor on property value. However, as will be discussed in later sections, this method was not completely accurate for all land classes due to a lack of available data for specific market segments. Upon further research and in talking with brokers, appraisers, and other professionals, including researchers, conclusions were drawn based upon the fast-moving pace of this industry and what is happening in real time. This is an acceptable methodology in the industry if comparable sales and matched-pair analyses are not present for arriving at an opinion of value.

This study adheres to the principle of highest and best use, which is defined as the reasonably probable and legal use of vacant or improved property that is physically possible, appropriately supported, financially feasible, and that results in the highest value. The analysis considers four land use types: agricultural, rural residential, rural estate, and recreational. While all of these uses are common in the subject area, the analysis highlights the varying sensitivities of each to the presence of a large-scale solar farm.

Rural Residential Properties: Properties where buyers are primarily motivated by housing needs and affordability, typically characterized by smaller lot sizes and proximity to employment centers.

Rural Estate/Recreational Properties: Properties where buyers are primarily motivated by lifestyle, privacy, aesthetics, and recreational opportunities, typically characterized by larger parcels and emphasis on natural settings.

Farmland: Properties where buyers are primarily motivated by the productivity of the land and are less concerned with adjoining uses as long as their productivity is not impacted.

External Obsolescence-

An external obsolescence is a property use that, due to its characteristics, may have a negative impact on the value of adjacent or nearby properties. Determining whether a use is an external obsolescence requires a study that isolates the use, eliminates other factors, and compares sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not automatically mean a use will be an external obsolescence, but these factors are typically present when market data indicates such an impact.

Appraisers evaluate external obsolescence based on several factors, including but not limited to:

- Traffic: Solar farms are not considered traffic generators.
- Odor: Solar farms do not produce odor.
- Noise: Based on numerous noise studies, most solar farms generate no significant noise concerns. This study did not evaluate the impact on potential increase of noise level on adjacent tracts.
- Environmental: Solar farms do not produce toxic or hazardous waste. Vegetation is maintained underneath the panels, resulting in minimal impervious surface area.
- Appearance/Viewshed: This is the one area that could potentially apply to solar farms. However, solar projects are generally required to provide significant setbacks and landscaping buffers to address these concerns. Furthermore, any consideration of appearance or viewshed impacts must be compared to the currently allowed uses for the site. For example, if a residential subdivision is an allowed use, the question becomes how the solar farm's appearance impact exceeds that of the allowed subdivision or other similar allowed uses.
- Stigma: A deeply negative perception of the adjoining real estate due to it bordering the solar property.
- Other Factors: No characteristics have been observed in studies of solar facilities that prevent or impede neighbors from fully using their homes, farms, or businesses.

Market Imperfection-

Market Imperfection is a key concept in real estate analysis, as it recognizes that no two properties are exactly the same, with even adjacent lots having location differences. Factors like a seller's motivation for a specific property can also make real estate analysis challenging.

Based on this understanding, for the purpose of this analysis, we will operate under the assumption of a perfect market. This assumes there are a large number of buyers and sellers, with no single person dominating the market based on their tastes or preferences. Additionally, we are assuming no barriers or transaction costs, and that all parties have perfect information regarding the product and its pricing.

Given this model of market imperfections, minor differences in value within this type of study do not necessarily indicate a positive or negative impact. If the analysis shows an impact within a range of **+/- 5%**, it will be considered **typical market variation**. Impacts greater than this range, however, would provide supporting evidence to suggest a direct impact. This guideline will be used throughout this report and in the final conclusions.

Relative Solar Farm Sizes

The size of a solar farm and its potential impact on adjoining property owners is a significant consideration. Through numerous studies and articles, project size has been identified as a major factor in impact analysis. From a localized perspective, there is minimal variation in the impact on

a single adjoining property owner, as they will still be bordering a solar project regardless of its overall size.

However, as a project scales up, the question of impact becomes more complex, especially for landowners who may be completely surrounded by the solar project. The project's size can affect different land uses in varying ways, which will be further addressed in this report. The proposed project is on the larger end of the scale, at 200 MW, with the potential to impact a total of 2,213 acres.

Steps Involved in the Analysis-

This analysis follows a five-step process to arrive at a well-supported opinion of value.

1. **Market Research:** The initial step involved gaining an understanding of the current market surrounding large-scale solar projects. This was accomplished by researching articles, university studies, and speaking with professionals, including brokers and appraisers, who are actively interacting with buyers and sellers in the relevant markets.
2. **Matched-Pair Analysis Review:** The next step was to research the market for previous appraisals and to review matched-pair analyses. This was done to determine if the existing data was credible and applicable, given the large-scale nature of the subject property and the similar landscapes in the region.
3. **Factor Analysis:** The third step was to analyze specific factors that might impact adjoining land use. This includes an assessment of hazardous materials, noise, traffic, and other potential nuisances.
4. **Highest and Best Use:** The analysis then delved into the principle of highest and best use. This included discussions with brokers to understand how the difference in highest and best use analysis for various property types might impact value and to gauge what buyers are saying in today's market.
5. **Data Reconciliation and Opinion:** The final step was to reconcile all the gathered data—both quantitative and qualitative—to arrive at a final opinion of value for each of the four highest and best use types considered in the report.

Factors related to impacts on value-

These factors can have an impact on the value of adjoining properties, and we will address each one as it relates to a solar project and its specific effect on neighboring properties.

1. **Hazardous Material:** Solar farms pose no potentially hazardous waste byproduct as part of normal operations. Any fertilizer, weed control, vehicular traffic, or constructions will be less than a typical residential, industrial, commercial, or most agricultural uses.
2. **Noise:** Most solar farms are relatively quiet, with the only noise coming from a slight hum similar to an HVAC system that can only be heard in close proximity. This study did not evaluate the impact on potential increase of noise level on adjacent tracts.
3. **Traffic:** Solar farms generate very little traffic. During the operational phase, traffic is limited to periodic maintenance and inspections, which is significantly less than what is generated by a typical residential subdivision or a commercial/industrial development. Even during the construction phase, the traffic is temporary and will cease once the project is complete.
4. **Odor:** Solar farms have no odor.
5. **Appearance:** This is a major factor that relates to a potential impact on value. In rural southern Michigan, and in discussions with brokers who interact with property owners, it is evident that rural America is slow to accept any kind of development, including solar farms, due to the changing landscape. Solar panels will be less than 15 feet high and can be easier to conceal, but it is not impossible. Rural property owners are concerned with the look of the panels, as part of the appeal of owning rural property is the natural landscape and the feeling of being away from development. Even with drastic measures to conceal a solar

farm, the larger the project and the more viewsheds that are affected, the more difficult it is to hide. The visual impact varies greatly with the size of the project. Smaller projects are easier to conceal and affect fewer landowners. In contrast, larger projects like the subject property present more challenges with concealment due to the increased number of adjoining landowners, with some of these landowners being significantly impacted by being completely surrounded by the solar farm.

6. **Stigma:** There can be a stigma associated with a solar farm. In real estate, a stigma is defined as an adverse public perception regarding a property that can reduce its marketability and value, even if there are no physical or environmental defects. While there are no environmental or health concerns related to solar farms that would create a stigma, there are pre-conceived opinions surrounding them. This stigma arises from a change in the traditional rural landscape, as well as a general resistance to development. Even with extensive measures to mitigate other factors like noise and traffic, this perception can negatively affect the market.

Solar Farms on Agricultural Land Discussion

The US Department of Energy's NREL report from 2016 estimated the total energy needs of the US would require approximately 10 million acres of land based on solar panels that were 20% efficient. With the total amount of agricultural land in the US at 897 million acres, this meant that approximately 1.11% of US farmland could support 100% of US energy needs. This percentage gets even smaller when accounting for the improving efficiency of solar panels and ongoing agrivoltaics effort for dual use of farmland and solar farms.

In Michigan, the total electricity consumption is approximately **114 TWh** annually. To meet this demand with solar energy, it would require an estimated **240,000 acres**, which is a significant reduction from the 1.2 million acres projected just a few years ago. This area is equal to approximately **2.55%** of Michigan's **9.4 million acres** of total farmland as of 2024. This calculation is based on an estimated 7.2 acres per MW of solar capacity, with a target of 108 GW of installed capacity to meet 100% of the state's projected 2030 energy needs. This percentage will continue to get smaller as solar panel efficiency improves.

According to reports from the USDA, Michigan had just under 10 million acres of agricultural land as of 2020. Between 2017 and 2022, Michigan's land in farms declined by 2.99%. The value of agricultural products sold by farmers was almost \$8.7 billion in 2012. While a direct comparison to 1982 is not available to adjust for inflation, the value has increased significantly over time. This is attributed to improvements in agricultural production, which is an ongoing process. The average corn yield in Michigan in 2022 was 168 bushels per acre. This shows a significant increase in productivity, which has been a steady trend for decades.

Lenawee County has approximately 385,784 acres of agricultural land as of 2017. The current project proposed for the Glacier Meadows Solar Project would include a portion of 2,213 acres. If it was assumed all 2,213 acres were converted instead of just part of it, this would reflect 0.57% of the agricultural land in the county.

A study by Michigan State University Center for Economics estimates that loss of net revenue on a 1,675-acre solar farm over the 35-year life expectancy of the installation would experience a loss in direct economy activity exceeding one million dollars per year. They simulated how the loss in annual farm sales translates to economy-wide impacts on Lenawee County, MI. Economy-wide impacts are larger than direct impacts because dollars recirculate throughout the economy.

As of June 2023, there were approximately 113,541 acres enrolled in the Conservation Reserve Program (CRP) in Michigan. This land is being paid by the US government to avoid agricultural production for periods that typically range from 10 to 15 years. The purpose is to manage crop yields, protect and enhance soils and wildlife. These same functions can occur on land leased for solar farms, without the US government payments.

Also, it is estimated that roughly a third of the corn grown in Michigan is used for ethanol production. With Michigan farmers harvesting 2.3 million acres of corn annually, this represents

approximately 760,000 acres in Michigan. Converting some of this ethanol production acreage to solar farm land would have no impact on food production in the state.

Summary:

In conclusion, the data suggests that the conversion of farmland to solar projects, particularly in Lenawee County, could result in the loss of economic activity from an agricultural production. The scope of this study is not designed to measure any potential impact but is include for informational uses only.

Assessor Surveys

We have reviewed available research about assessor surveys, including data from similar surveys conducted in a number of states. These responses total 188 with 170 definitively indicating no negative adjustments are made to adjoining property values, 18 providing no response to the question, and 0 indicating that they do address a negative impact on adjoining property value.

Based on the assessor survey information, this means that while there may be a perceived negative impact or "stigma" on property value due to the proximity of a solar farm, this perception has not translated into a change in property tax assessments. The assessors, whose job is to determine a property's market value for tax purposes, have not been making negative adjustments for properties adjacent to solar farms. This suggests that from a formal, professional valuation standpoint, there is no evidence to support the claim that a solar farm diminishes the value of an adjoining parcel.

Distance Between neighboring landowners and panels

Upon further research of other solar projects, townships, and articles, it appears that it is common to see setbacks from homes and property lines to be between 100 and 150 feet with some townships being further. It is industry standard to plant a double row of mature trees to assist in hiding the solar project.

Research on Solar Farms

Market Studies

CohnReznick – Property Value Impact Study: Adjacent Property Values Solar Impact Study: A Study of Eight Existing Solar Facilities

The CohnReznick studies, conducted in numerous states including Illinois, Indiana, Michigan, and Minnesota, consistently conclude that solar farms do not have a negative impact on the value of adjacent properties. The projects analyzed ranged in size from 1.2 MW to 100 MW. The studies found "no measurable and consistent difference" in property values for properties next to solar farms when compared to similar properties located further away. A total of 24 adjoining property sales in the Test area and 81 comparable sales in the control area were analyzed. This is true even for a specific solar farm in Cheboygan County, Michigan, which was completed on June 10, 2020.

The research is not limited to just data analysis; it also includes interviews with over 60 county and township assessors as well as local real estate professionals. The consensus among these market participants is that proximity to a solar farm has not negatively affected property values or led to reductions in assessed values. The studies note that the proximity to solar farms has not deterred sales of nearby agricultural land or single-family homes, and that solar energy use is generally considered a compatible use.

Christian P. Kaila & Associates – Property Impact Analysis – Proposed Solar Power Plant Guthrie Road, Stuarts Draft, Augusta County, Virginia, 2020

Based on our search, the Christian P. Kaila & Associates study on a proposed 83 MW facility on 886 acres in Virginia concluded that adjacent properties, including both residential and agricultural land, were not negatively affected by the construction and operation of the solar facilities. The study found that a paired sales analysis showed no impact on home values when a solar farm was properly screened and buffered. It also noted that factors like noise, odor, and traffic—which often correlate with downward adjustments on property values—are not issues with solar farms, making them a compatible use in rural and residential transition areas. The study's conclusions were supported by university studies and commentary from other brokers and appraisers.

NorthStar Appraisal Company – Impact Analysis for Nichomus Run Solar, Piles Grove, New Jersey, 2020

Based on our search, a study by the Chisago County Assessor's Office in Minnesota on the 1000-acre North Star solar farm found that it had no adverse impact on property values. The county assessor, John Keefe, analyzed 15 parcels that were sold next to or near the solar farm between 2016 and 2017 and compared them to a control group of over 700 sales within the county. The study concluded that almost all the properties sold next to the solar farm were at a price above their assessed value, and that "valuation has not suffered." The research indicates that solar farms can be a compatible use with neighboring properties.

Mary McClinton Clay, MAI – McCracken County Solar Project Value Impact Report, Kentucky, 2021

Based on the reports from Mary McClinton Clay, her research suggests that properties near solar farms can experience a decline in value. She analyzed several case studies and found that property values near solar projects in places like North Branch, Minnesota, and McBride Place, North Carolina, decreased. She noted a range of value decreases, from around 6.3% to 28.0% in the North Branch case, with an average decline of about 17%. The report also highlighted that "good neighbor" payments offered by developers could be seen as an admission that there is a negative impact on property values, contradicting claims from other appraisers.

Tim Connelly, MAI – Solar Impact Study of Proposed Solar Facility, New Mexico, 2023

This report concludes that a solar farm would not have a negative impact on the value of nearby properties if it is properly screened and buffered. The report states that the data from university studies, broker commentary, and other appraisal studies support a finding of "no impact on property value." It also mentions that the criteria that typically cause property value reduction, such as noise, odor, and traffic, do not apply to a properly screened solar farm. The report also suggests that some people living next to solar farms have expressed positive outcomes, such as protection from future development and reduced dust or chemicals from former farming operations.

Jennifer N. Pitts, MAI - Study of Residential Market Trends Surrounding Six Utility-Scale Solar Projects in Texas, 2023

The study concludes that, overall, residential real estate markets are not negatively impacted by their proximity to utility-scale solar projects. It compares key market indicators like sale price per square foot, sale-to-list price ratios, and days on the market in areas near solar farms to similar properties located farther away. The analysis found that these indicators trend similarly in both areas.

While there is a possibility that individual sales could be affected, the study's overall finding is that a robust and competitive market still exists for properties near solar farms. This conclusion was also supported by conversations with local real estate agents.

Virginia Tech study sheds light on solar farm impacts to property values, 2025

The study, which looked at over 8.8 million real estate sales and thousands of commercial solar sites, found that the impact of solar farms on nearby property values is "complicated".

Here are the key findings:

- Impact on Agricultural and Vacant Land: On average, agricultural and vacant land within two miles of a solar site saw a 19.4% increase in value. This indicates that the value of land with high potential for future solar leasing has risen considerably.

- **Impact on Residential Properties:** The effect on residential properties is more complex. Residential homes within three miles of a site experienced a small average loss in value of 4.8%. However, this negative impact decreased with distance from the site and over time.
- **Specific Factors:** The negative impact did not affect residential homes on lots larger than five acres, and site visibility from the property did not significantly affect the cost.
- **The Role of Stigma:** The study suggests that the negative residential impacts appear to stem more from "perception or a stigma effect" than from any physical harm. This stigma, the idea that solar panels are visually unappealing and will lower land value, has been around since the 1970s.

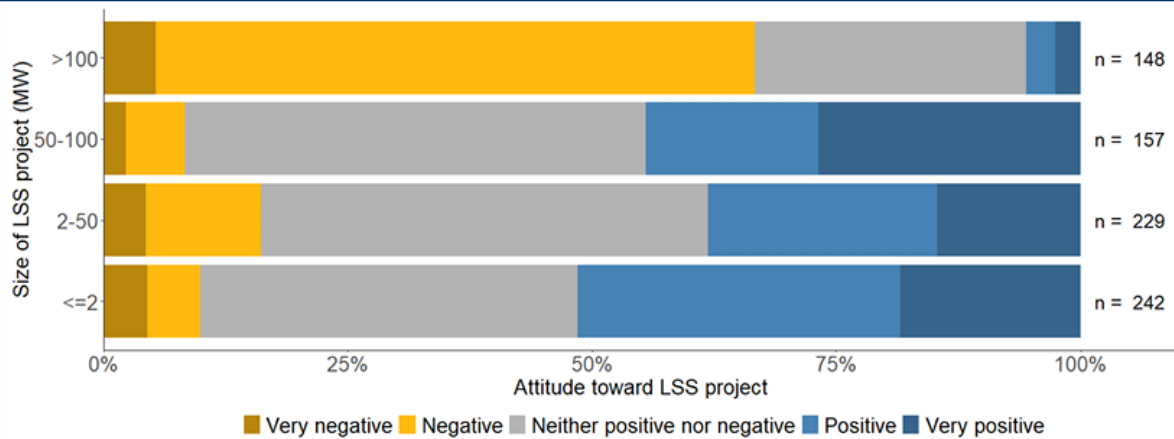
Perceptions of Large-Scale Solar Project Neighbors: Results from a National Survey- Lawrence Berkeley National Laboratory, University of Michigan, Michigan State University- September 2023

This report, "Perceptions of Large-Scale Solar Project Neighbors: Results from a National Survey," conducted by Lawrence Berkeley National Laboratory, the University of Michigan, and Michigan State University, surveyed a nationally representative sample of residents living within 3 miles of large-scale solar (LSS) projects.

Here is a summary of the key findings from the study:

- **Overall Attitudes:** The study found that positive attitudes toward LSS projects outnumber negative attitudes by nearly a 3 to 1 margin. A similar number of respondents, about 42%, would support additional LSS in their community.
- **Impact of Project Size:** The size of the project has a significant impact on attitudes. Very large projects (>100 MW) elicit substantially more negative attitudes compared to smaller and mid-sized projects. For projects over 100 MW, negative attitudes are roughly 12:1 compared to positive ones. For context, projects in the 50-100 MW range had a 5:1 positive-to-negative ratio, and projects 2-50 MW had a 2:1 positive-to-negative ratio.
- **Aesthetic Impacts:** Just over half (60%) of the respondents like the way the solar panels look. However, those living near the largest projects (>100 MW) are much more likely to dislike the look of the panels. Nearly half (48%) of all respondents perceive that the project has worsened the landscape aesthetics, with negative perceptions outweighing positive ones by almost 7:1. The majority of those around larger (>50 MW) projects perceive that the local project worsened landscape aesthetics.
- **Proximity and Familiarity:** Positive attitudes outweigh negative ones, except for residents living within a quarter mile of a project, where positive and negative attitudes are roughly evenly split. Additionally, seeing the project more frequently elicits stronger (and more negative) opinions, but even those who see the project daily are more positive than negative.
- **Perception of Property Values:** Approximately one-fifth of respondents believe the project reduced local property values. In contrast, almost 50% believe the values were unchanged or increased. Those who think property values decreased have more negative attitudes, while those who believe they had no effect or increased have largely positive attitudes.
- **Community Engagement:** Less than 20% of respondents were aware of their local project prior to construction, suggesting there is room for improvement in planning and community engagement.

Very large (>100 MW) projects elicit substantially more negative attitudes compared to smaller and mid-sized projects



Polychoric Correlation: **-0.20** (weak)

Attitudes around largest projects (>100 MW) are roughly 12:1 *negative to positive*, compared to:

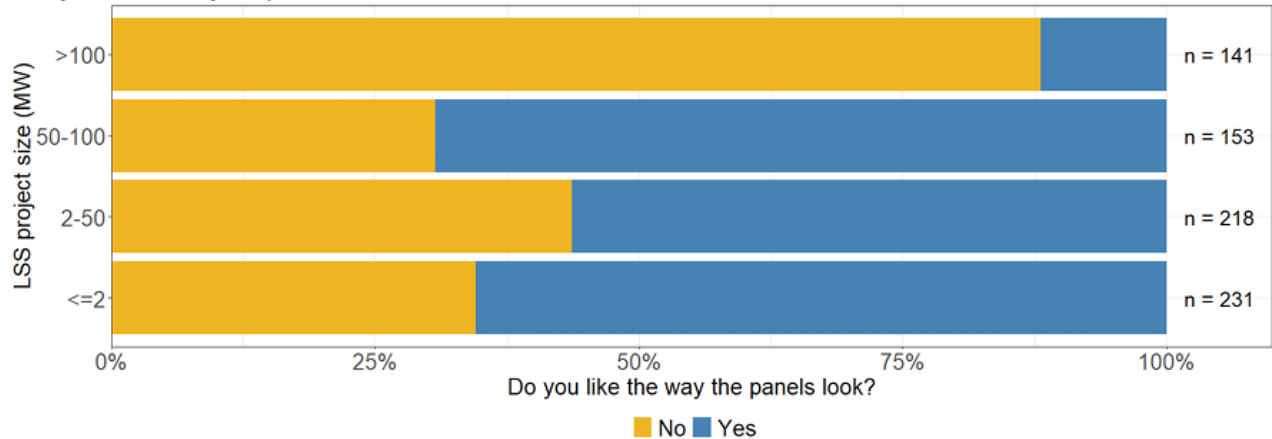
- 5:1 positive to negative for 50-100 MW projects
- 2:1 positive to negative for 2-50 MW projects
- 5:1 positive to negative for 1-2 MW projects



19

Those living near the largest projects (>100 MW) are much more likely to dislike the look of the panels

Do you like the way the panels look?

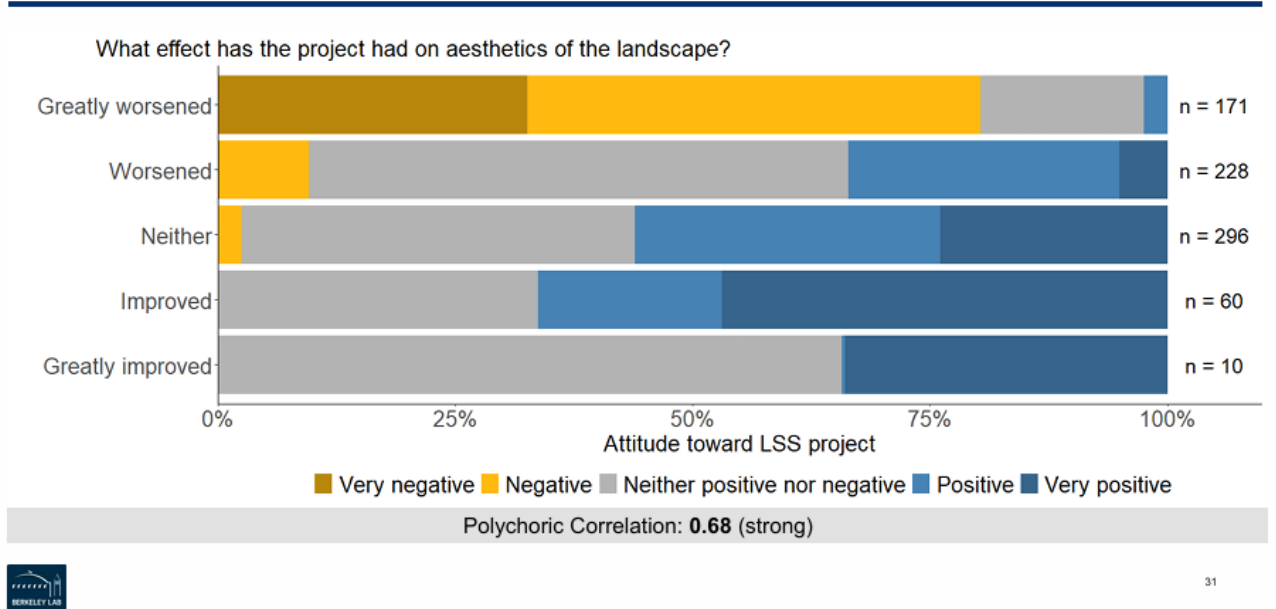


Polychoric Correlation: **-0.22** (weak)

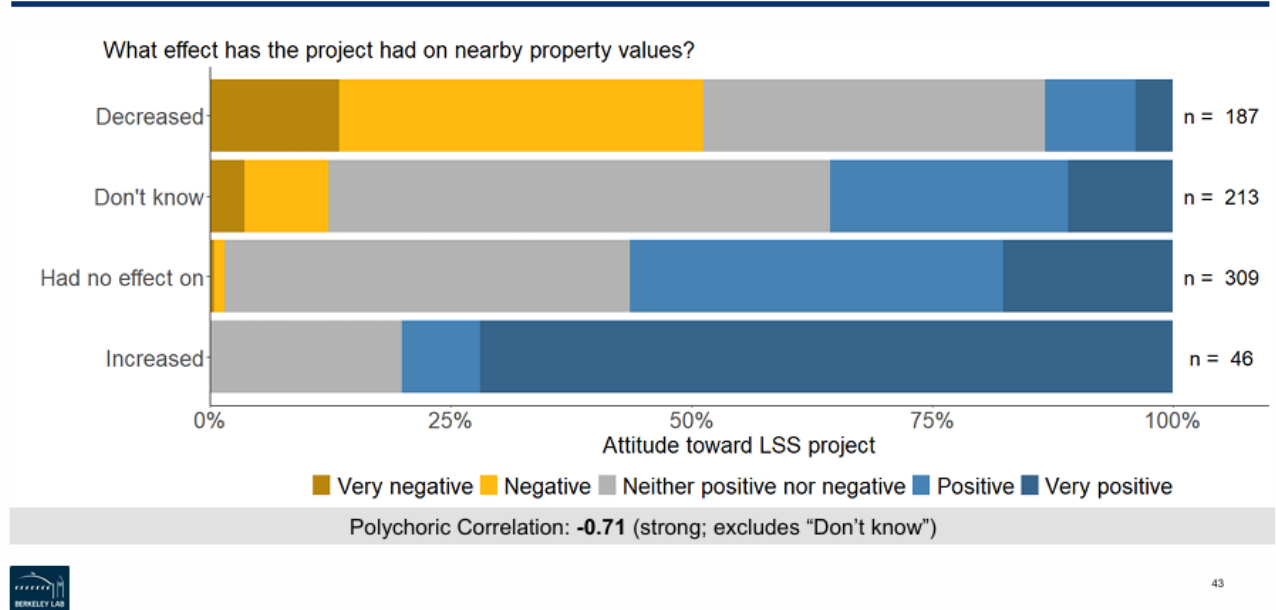


25

Perceived aesthetic impacts are strongly correlated to attitudes:
Yet, of those who perceive 'worsened' landscape aesthetics, 'positive' attitudes outnumber 'negative' ~3.5 to 1



Those who think property values decreased have more negative attitudes (~4:1 margin)
Those who think LSS had no effect or increased property values have largely positive attitudes



Energy Policy- Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states- Salma Elmallah, Ben Hoen, K. Sydney Fujita, Dana Robson, Eric Brunner

Based on the study "Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states," published in *Energy Policy*, here is a summary of the key findings.

The study examined the impact of large-scale photovoltaic projects (LSPVPs) on residential home prices in six U.S. states, analyzing over 1,500 projects and 1.8 million home transactions.

The key findings are as follows:

- **Overall Impact:** Homes located within 0.5 miles of an LSPVP experienced an average home price reduction of 1.5% when compared to homes located 2-4 miles away.
- **Distance:** Statistically significant effects on home prices were not measurable for properties located more than one mile away from an LSPVP.
- **Factors Influencing Impact:** The negative impact on home prices was only measurable in specific circumstances: in the states of Minnesota, North Carolina, and New Jersey; for projects constructed on agricultural land; for larger projects; and for homes in rural areas.
- **Heterogeneous Effects:** The study notes that a more detailed analysis of the prior land use of the projects is important for understanding the impact on home prices. The authors also state that a place- and project-specific assessment is needed to understand the varying impacts of LSPVPs.

Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states June 14, 2022

This study examines the effect of large-scale photovoltaic projects (LSPVPs) on residential home prices. The analysis uses data from over 1,500 LSPVPs and 1.8 million home transactions across six states (California, Massachusetts, Minnesota, North Carolina, New Jersey, and Connecticut) that account for over 50% of the installed large-scale solar capacity in the U.S..

The study's key findings are:

- Homes located within 0.5 miles of a large-scale photovoltaic project (LSPVP) experienced an average home price reduction of 1.5% compared to homes 2-4 miles away.
- The study found that statistically significant effects are not measurable over 1 mile from an LSPVP.
- These price reductions were only measurable in certain states (Minnesota, North Carolina, and New Jersey).
- The negative effects were particularly noticeable for homes near larger LSPVPs, projects built on agricultural land, and in rural areas.
- The negative impact on home values was found to be particularly pronounced for homes located 0 to 0.5 miles from an LSPVP, where values declined by 4% six years after construction.

The study also notes that there is a lack of evidence that home values were trending lower prior to the construction of an LSPVP, which supports the study's primary assumption that the solar projects were the cause of the price change.

The authors suggest two implications for policymakers based on their results:

1. Measures to mitigate potential negative impacts, such as compensation for neighbors, vegetative shading, and land use co-location, are particularly relevant for large, rural, or agricultural LSPVPs.
2. Place- and project-specific assessments are needed to understand the varied impacts of LSPVP development.

Conclusion of impact studies

While older studies suggest little to no impact, more recent research shows conflicting evidence regarding the effect of large-scale solar projects on property values.

A key takeaway from the body of evidence is that a project's characteristics, location, and the specific asset class being considered are all crucial factors. The data indicates that larger projects in rural or agricultural areas are more likely to negatively impact residential property values, a shift that may reflect changing consumer tastes and preferences, particularly concerning aesthetics and views.

The studies often lack a detailed breakdown of how different asset classes, or properties with different "highest and best uses," are uniquely affected, highlighting a gap in the available research. Many of the large-scale academic studies, while analyzing hundreds of thousands of sales, may lack the specific, granular data needed to make precise adjustments for a unique area or a singular project.

The *"Perceptions of Large-Scale Solar Project Neighbors: Results From a National Survey- Lawrence Berkeley National Laboratory, University of Michigan, Michigan State University- September 2023"* seems to be the strongest study supporting the differences in project sizes and how the public has responded. ***The slides above would indicate strong evidence that the larger the project the more the community has a negative attitude.***

Broker Commentary-

While many academic studies use vast datasets that can lack specific, local context, broker commentary provides on-the-ground insights. To assist with the wide range of data, a significant number of brokers were interviewed that cover each of our asset classes in this report, farmland, rural residential, rural estate, and recreational land. Two specific interviews are highlighted that have an accurate representation of the market as both of these brokers are actively involved in the buying and selling of real estate in the local market. Their findings are below:

Broker Commentary: Randolph County, Indiana

This analysis of Randolph County, Indiana, was chosen because its community and landscape are similar to Lenawee County, but it appears to be a few years ahead in its renewable energy development. This provides valuable insight into what opinions and community impacts might look like in Lenawee County in the coming years.

The broker, who specializes in selling farmland properties, noted that historically, farmers in Randolph County have been early adopters and were largely favorable toward renewable energy projects, particularly wind and solar. This is evidenced by the county being on its third wind project and hosting multiple solar projects. The local sentiment was initially positive, especially given the financial benefits to landowners who leased their property. As noted by the broker, some farmers who initially declined a lease for the first wind project later regretted their decision, as they experienced the visual impact (strobe effect, red lights on towers) without receiving any financial compensation.

However, the sentiment has recently turned contentious. As a result of the visible impact and issues like setbacks and the introduction of new livestock operations, community members, particularly long-term farm families, have become upset. Landowners are divided, feeling that they do not have net-positive terms with the solar company based on how projects have been developed. This has led to highly contentious county commissioner meetings, requiring the presence of the sheriff, and even threats to impeach commissioners. A moratorium has been placed on all future solar projects and livestock barns. The broker mentioned that the renewable company has been very proactive in the community, making the strong political pushback a bit surprising.

Despite the current tension, the broker feels there has been little to no impact on the value of adjacent farmland. This is largely because buyers of farmland are primarily income-driven, focusing on the land's ability to generate agricultural revenue rather than what is happening on neighboring properties, as long as it doesn't impede their ability to farm. The broker also noted that the community has not seen a mass exodus of people. People are getting used to the changing landscape, and the financial benefits have been significant for farmers and the community as a whole. For instance, a portion of the revenue has been used to fund a new fairground and show arena, which is particularly impactful for a county that is not considered high-income. Ultimately, the broker suggested that while there have been regrets and some negative impacts, the projects have been a net positive for the community.

Broker Commentary: Michigan Recreational and Farmland Real Estate

This broker, a major participant in Michigan's recreational, farmland, rural land, and rural estate market, provided their honest opinion on the impact of solar projects on property values. Based on their experience with multiple active listings, they believe solar projects **absolutely** have a negative impact on value, largely due to aesthetics and a "stigma effect."

The broker's observations can be broken down by property type:

- **Rural Estates and Recreational Land:** Solar projects have a greater impact on these properties compared to farmland. Buyers of these types of properties are often seeking a specific rural aesthetic, and the presence of a solar farm is seen as a negative. The broker mentioned that buyers specifically looking for rural aesthetics will not be interested in a property directly adjacent to a solar farm.
- **Farmland:** The broker feels the value of farmland itself is not as significantly affected, but the presence of solar is not well-accepted. This is because farmland buyers are primarily income-driven, focusing on the land's ability to produce crops and generate revenue, as long as the adjacent solar project doesn't impact their ability to farm.

The broker provided a specific example of a 73-acre property near Albion, Michigan, with 16 acres of tillable land, with the remaining being sold for \$1,000 per acre less than its potential value. It was located directly adjacent to a solar farm, and the broker noted significant buyer feedback related to the solar project. To the point that the sellers were willing to accept an offer on the property that was \$1,000 per acre less than its market value.

In contrast, a similar 40-acre parcel in the same area, a distance away from the solar project sold for a higher price per acre within a year, indicating a potential price impact on properties directly next to a solar project.

The broker also shared an experience with an 80-acre property in Barry County where multiple buyers first due diligence question was whether the land was being sold for a solar project, demonstrating the perception and stigma surrounding solar development. The broker stated that they believe the presence of solar farms can reduce the number of interested parties in a property by up to 30%.

Finally, the broker expressed a general feeling that long-term solar lease contracts are often structured with a lot of language leaning in favor of the solar company, which feels "shady" and contributes to the overall stigma in rural areas. They compared this stigma and difficulty in comparing contracts to that of farming or hunting contracts.

Broker Commentary Summary:

Based on the broker commentary, it's clear that the impact of large-scale solar projects on property values varies significantly depending on the asset class. Farmland and rural residential properties generally show little to no negative impact on value, as buyers are primarily focused on

the land's income-producing potential. However, rural estates and recreational land, where buyers prioritize aesthetics and a specific rural lifestyle, are more vulnerable to value reductions. Broker feedback suggests that the presence of an adjacent solar farm can reduce the number of interested buyers by up to 30%, which ultimately impacts the final sale price. A reduction in the number of buyers directly decreases demand, which almost always results in a decrease in value, especially in a competitive market. When fewer people are interested in buying a product or asset, sellers must lower their prices to attract the remaining pool of buyers.

Scope of Research

The scope of research for this project included a review of other impact studies and networking with brokers and appraisers to understand the impact of adjoining uses. The research also included numerous articles from universities, surveyors, and industry experts, with a specific emphasis on the impact of time and large-scale solar projects in their respective regions or data sets. The findings from older studies consistently suggest that there is little to no impact on residential and farmland values.

However, Michigan is unique in having a large demand for recreational tracts and rural estates as a major asset class. The data available to support a matched-pair analysis or any monetary analysis is weak for these two specific real estate classes. Therefore, a more accurate representation of the current market was conducted by networking with brokers who have active listings near and around these developing large-scale solar projects in Michigan and Indiana. For this research, brokers of all kinds were contacted in southern Michigan and northern Indiana with different focuses, including those in the farming, recreational, residential, and rural estate markets.

The findings from this networking, when paired with the research, suggest that the quantity of buyers willing to purchase a property adjoining a large-scale solar project is fleeting. This indicates that current market trends can move more quickly than can be definitively proven through a traditional matched-pair analysis.

Market Analysis of the Impact on Value from Solar Farms

Analytical Approach and Data Constraints

Due to the relatively recent emergence of utility-scale solar projects of this magnitude in Michigan, traditional matched-pair analysis is not feasible for all property types. This opinion is based on available market studies, assessor surveys, and current market participant feedback, with appropriate caveats regarding data limitations.

Impact on Property Values: A Split Analysis

Based on the information gathered, this analysis will be broken into two distinct sections to accurately reflect the differing impacts of solar projects on various land types.

Section 1: Rural Residence and Farmland

This section will address the impact on rural residences and farmland, which, according to previous studies and a matched-pair analysis provided by Kirkland Appraisals, show little to no negative impact from adjoining solar projects. The data suggests there are no trends to indicate that project size or time have a positive or negative impact greater than 5%.

Previous research, including over 900 studies across numerous states, has historically shown that solar projects have little to no negative impact on the value of adjoining properties specifically rural residences and farmland. These studies, which have primarily focused on properties adjacent to typically much smaller projects, found that factors like low traffic, noise, and dust generation meant there was no measurable effect on property values. The research consistently found that these projects were located in areas with a mix of low-density residential and agricultural uses, and that matched-pair analyses showed no negative impact. Below is a table showing the impact of matched pair analysis that was completed by Kirkland Appraisals demonstrating the matched pair analysis of residences:

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
1	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st 712 Columbus	Oct-16 Jun-16	\$186,000 \$166,000		1%
2	Portage	Portage	IN	Rural	2	1320	836 N 450 W 336 E 1050 N	Sep-13 Jan-13	\$149,800 \$155,000	\$184,000 \$144,282	1% 4%
3	Dominion	Indianapolis	IN	Rural	8.6	400	2013249 (Tax ID) 5723 Minden	Dec-15 Nov-16	\$140,000 \$139,900		5%
4	Dominion	Indianapolis	IN	Rural	8.6	400	2013251 (Tax ID) 5910 Mosaic	Sep-17 Aug-16	\$160,000 \$146,000	\$152,190	5%
5	Dominion	Indianapolis	IN	Rural	8.6	400	2013252 (Tax ID) 5836 Sable	May-17 Jun-16	\$147,000 \$141,000		7%
6	Dominion	Indianapolis	IN	Rural	8.6	400	2013258 (Tax ID) 5904 Minden	Dec-15 May-16	\$131,750 \$130,000	\$134,068	-2%
7	Dominion	Indianapolis	IN	Rural	8.6	400	2013260 (Tax ID) 5904 Minden	Mar-15 May-16	\$127,000 \$130,000	\$128,957	-2%
8	Dominion	Indianapolis	IN	Rural	8.6	400	2013261 (Tax ID) 5904 Minden	Feb-14 May-16	\$120,000 \$130,000	\$121,930	-2%
9	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne 1231 Turrill	Aug-19 Apr-19	\$194,000 \$182,000	\$200,895	-4%
10	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne 3565 Garden	May-18 May-19	\$160,000 \$165,000	\$163,016	-2%
11	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne 1128 Gwen	Aug-19 Aug-18	\$191,000 \$187,500	\$189,733	1%
12	Demille	Lapeer	MI	Suburban	28	280	1174 Alice 1127 Don Wayne	Jan-19 Sep-19	\$165,000 \$176,900	\$163,443	1%
13	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff 1128 Gwen	Sep-18 Aug-18	\$200,500 \$187,500	\$200,350	0%
14	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff 1127 Don Wayne	Jun-17 Sep-19	\$145,600 \$176,900	\$146,271	0%
15	DG Amp	Piqua	OH	Suburban	12.6	155	6060 N Washington 1511 Sweetbriar	Oct-19 Aug-20	\$119,500 \$123,000	\$118,044	1%
16	DG Amp	Piqua	OH	Suburban	12.6	585	1011 Plymouth 1720 Williams	Feb-20 Dec-19	\$113,000 \$119,900	\$111,105	2%
17	DG Amp	Piqua	OH	Suburban	12.6	155	6010 N Washington 1834 Wilshire	Aug-21 Dec-21	\$176,900 \$168,900	\$172,354	3%
18	DG Amp	Piqua	OH	Suburban	12.6	160	6240 N Washington 424 Pinewood	Oct-21 May-22	\$155,000 \$151,000	\$145,627	6%
19	Bremen	Bremen	IN	Suburban	6.8	310	1141 Gilbert 1141 Gilbert	May-23 Jan-22	\$186,000 \$160,000	\$189,000	-2%
20	Grand Ridge	Streator	IL	Rural	20	485	2098 N 15th 1605 N 1590th	Oct-16 Oct-17	\$186,000 \$175,000	\$185,223	0%
21	Hilltop	Rockford	IL	Rural	2	455	8010 Trask Brdg 6745 Auburn	Sep-21 Jul-21	\$250,000 \$260,000	\$249,954	0%
22	Freeport	Freeport	IL	Rural	2	225	1400 Jay 1908 Revere	Nov-19 Oct-19	\$128,500 \$126,000	\$127,553	1%
					Avg.						
					MW	Distance					
Average					13.66	385					
Median					12.60	380					
High					28.00	1,320					
Low					2.00	155					
Average											
Median											
High											
Low											

Section 2: Rural Estates and Recreational Properties

This section will focus on the potential impact on rural estates and recreational properties. The analysis will highlight that these buyers may be more sensitive to the presence of large-scale solar projects. This is supported by recent broker commentary and studies, which suggest a significant number of buyers in this market segment are disinterested in adjoining properties. Due to the novelty of large-scale solar projects (150 MW and larger), there is a lack of credible data for a matched-pair analysis in this specific segment, which puts greater emphasis on recent qualitative studies and broker commentary to understand the shifting market perception.

A new and emerging trend, particularly with the advent of large-scale solar projects, is that their size is having a major impact on buyers in the current market. As described by a few brokers in the southern Michigan area, a concerning percentage of buyers looking for rural estates and recreational tracts are disinterested if the property adjoins a large-scale solar project. This "stigma effect" is happening in real-time and appears to be a factor that was not as prevalent or measurable with smaller, historical projects. The broker's feedback suggests that while farmland values may remain unaffected due to buyers being primarily income-driven, those seeking a specific rural aesthetic for recreational or estate purposes are actively avoiding properties adjacent to these large-scale developments.

A matched-pair analysis was considered but was not developed due to a lack of credible data. Large-scale solar projects of 150 MW and larger are a relatively new development in the renewable energy space and have not been in place long enough to provide a robust data set for a matched-pair analysis. A matched-pair analysis would also lack credibility if too many quantitative adjustments were made to account for the differences between properties. Therefore, greater emphasis and weight were placed on the most recent studies, articles, and broker commentary.

Given this shift in market participant perception surrounding large-scale solar projects like the subject of this report, this is the most important focus for understanding current trends. What we can gather from the market, in the absence of a direct monetary adjustment to use, is to lean on these more recent, qualitative sources.

The broker's comment that up to 30% of buyers are disinterested in rural estate and recreational listings that adjoin a solar farm is a powerful data point that aligns with the findings of the Berkeley study. The study revealed that very large projects (>100 MW) elicit substantially more negative attitudes from neighbors, with negative perceptions outweighing positive ones by a 12:1 margin. This reinforces the broker's real-time experience. The combination of the Berkeley study's findings on the strong negative perceptions around large projects and the broker's direct observation of a significant reduction in buyer interest provides strong evidence that the perception of large-scale solar projects is shifting and is impacting the market for specific types of properties.

Market Implications of Disinterested Buyers

When a large number of buyers become disinterested in a specific type of property, it has a direct and significant impact on the market. Landowners who need or want to sell their properties may be faced with two primary options:

1. **Lowering the Price:** To attract a smaller pool of interested buyers, the seller may be forced to accept a lower price than they would have otherwise received. This directly translates to a reduction in the property's market value.
2. **Delisting and Waiting:** Alternatively, the seller may choose to remove the property from the market and wait to see if the negative perceptions or "stigma" surrounding the solar farm wear off over time.

While the "stigma" effect is most intense during the construction phase of a solar farm, there is not enough historical data to predict a specific timeframe for it to dissipate. Therefore, for the purpose of this impact study, the opinion on value is based on the effective date of the analysis, assuming that the current market conditions and buyer sentiment are the most relevant factors.

Conclusion

Based on the analysis and research presented in the report, the impact of large-scale solar projects on adjoining property values is not uniform and depends heavily on the type of property and the buyer's motivation.

High Confidence (Supported by Multiple Studies):

For agricultural land and rural residential properties where buyers are primarily income or housing-focused, the impact is **minimal to none (0-3% range)**. This conclusion is supported by:

- Assessor surveys showing no negative adjustments (188 responses, 0 indicating negative impacts)
- Multiple peer studies showing no measurable impact on farmland
- Matched-pair analysis from similar projects

Moderate Confidence (Supported by Market Trends):

For rural estate and recreational properties where buyers prioritize aesthetics and rural character, a **measurable negative impact is likely**. While specific percentage impacts cannot be definitively quantified due to limited sales data, multiple indicators suggest impact:

- Berkeley study showing 12:1 negative attitude for projects >100MW
- Broker feedback indicating 30% reduction in buyer interest
- Recent academic studies showing 6.3% to 28% impacts in similar rural contexts

The report found that potential negative impacts, such as traffic, odor, or noise, are largely unsubstantiated, as solar farms generate very little of these issues. Instead, the primary factors influencing a potential value impact are related to the perceived change in the landscape and a "stigma effect" associated with the development.

For properties like farmland and rural residences, the market has shown little to no measurable impact on value from adjacent solar projects. This is because buyers of these properties are primarily driven by the land's ability to generate agricultural revenue, and the presence of a solar farm does not impede their ability to farm. In fact, an analysis of assessor surveys found that no assessors have made negative adjustments to adjoining property values due to a solar farm's proximity. This suggests that from a professional valuation standpoint, there is no evidence to support a claim of diminished value for these property types.

Conversely, the market for rural estates and recreational land is more sensitive to the presence of a solar farm. These buyers often seek a specific rural aesthetic, and the visible change to the landscape can be seen as a negative. Broker commentary indicates that this can lead to a significant reduction in the number of interested buyers, sometimes by as much as 30%. When the number of potential buyers decreases, a seller may be forced to either lower their price or remove the property from the market and wait for the "stigma" to subside. This, in turn, can lead to a direct reduction in the property's market value.

Based on the evidence presented, it is our opinion that farmland and rural residences that are 10 acres or under have a slight impact on value; however, this impact is likely less than 5%, which is generally not considered significant in real estate analysis.

For rural estates and recreational land of 10 acres or more, it is our opinion that there would be a more substantial impact on value. This is a newer trend, as consumer tastes and preferences appear to be shifting. The broker commentary presented in the report, which is given heavy weight in this analysis, indicates that the presence of a large-scale solar project can make up to 30% of potential buyers uninterested in a property.

Given the limited data, impacts for rural estate and recreational properties, a range from 3% to 20% is reasonable, with the **most likely impact being in the 8-12% range**. It is our opinion that properties with lower total market values will experience a valuation impact closer to the lower end of this range, while properties with higher total market values will experience an impact closer to the upper end of the range.

Addendum

Adjoining Property Information



Mark A. Williams, CRA

Certified General Appraiser

Kevon Martis

Joint Exhibit I-2

101 of 116



Bio

Mark Williams has been licensed as a Certified General Appraiser since 1994, and has obtained his designation as an "Accredited Rural Appraiser" from the American Society of Farm Managers and Rural Appraisers. He has extensive knowledge and experience with types of agricultural properties including animal production facilities, grain storage systems, permanent plantings, certified organic cropland, and recreational tracts. He also is considered a leading expert in the valuation of market analyses, eminent domain, Yellow Book, conservation easements, and partial interest appraisals. Mark is also a qualified reviewer for Yellow Book and eminent domain appraisals and is a two-time President of the Michigan Chapter of ASFMRA. Mark has served on the ASFMRA National Education and Accreditation Committee as Vice Chairman.

Cell: 810.252.6938

markwilliamsara@gmail.com

Mark and his wife Debi are blessed with six children, 17 grandchildren, and four great-grandchildren. They also operate a 90-acre, certified organic hay farm and enjoy traveling in their spare time. In the past three years they have also been active with Samaritan's Purse mission teams, assisting with rebuilding homes in flood ravaged areas of North Carolina, West Virginia, and Louisiana.

Licenses

Certified General Appraiser:
Michigan #1205003316
Indiana #CG41100033
Montana #REA-RAG-LIC-7206
Ohio #2012002810
Nebraska #CG290109R
Kansas #G-5073

Education

Eastern Michigan University, Post Graduate Studies (1990-1991)
Central Michigan University, Bachelor of Arts-Journalism/Public Relations (1971-1974)

Work Experience

2024 - Present President/Certified General Appraiser, Williams Appraisal, Kalamazoo, MI
2003 - 2021 President/Certified General Appraiser, Value Midwest, Marlette, MI
1994 - 2003 President/Certified General Appraiser, Agricultural Advisors Ltd., North Branch, MI
1992 - 1994 Associate Appraiser, Hodge Appraisal Group Ltd., Lapeer, MI
1987 - 1988 Agricultural Financial Consultant, Gardner & Associates, Port Huron, MI

Memberships & Affiliations

American Society of Farm Managers and Rural Appraisers (ASFMRA)
American Society of Farm Equipment Appraisers
American Farmland Trust
The Nature Conservancy
Michigan Farm Bureau

Areas of Specialization

Area Wide Market Analysis	Estate Properties	Recreational Ag Properties
Christmas Tree Farms	Expert Witness/Agricultural Issues	Residential
Cluster Developments	Hog Confinement Facilities	Riding Arenas
Commercial Buildings	Industrial Projects	Rural Residential Properties
Conservation Easements	Orchards	Single Family Houses
Commercial Properties	Partial Interest	Subdivision Analysis
CRP Interests	Partial Takings	Vacant Land
Dairy Production Facilities	Poultry Facilities	Vegetable Farms
Development Properties	Merchantable Timber/High Quality Veneer Parcels	

Colten Yager

1206 Odell Farm Ln. Vicksburg, MI 49009
Cell: 620-214-1915 – colteny@halderman.com

Education

- **Bachelor of Science in Agribusiness at BYU-Idaho-** April 2018
- Important classes and Academic capabilities:
 - Agbusiness management, Financial Analytics, Commodity Marketing, Accounting

License

- Michigan Real Estate License- May 2020
- Indiana Appraiser Trainee License- October 2021

Experience

Area Representative at Halderman Farm Management and Real Estate
(April 2020-Current) Kalamazoo, MI

- Completed over 260 farm appraisals across the state of Indiana (working under AJ Jordan).
 - Types of properties appraised: Dryland and Irrigated farmland, CRP, recreational, grain bins, hog facilities, poultry facilities, dairy facilities, wind turbines, rural residences, solar farms, and farm buildings.
- Represented farmland buyers/sellers in their acquisition and selling efforts with a total real estate transaction volume of \$31,000,000.
 - Types of properties sold or purchased: Dryland and irrigated farmland, hog barns, specialty type crops including blueberries and vegetable farms, solar and wind leased property, recreational use, and rural residences.
- Maximized landowner's farmland investments totaling 8,000 acres. Duties include financial reporting, lease negotiation, tenant relations, farm improvement projects, and grain marketing.
 - Crops grown under management: Corn/Soybean, Wheat, Sugar Beet, Blueberry, Seed Corn, Potatoes, Vegetable crops, Hay, and Organic production.
- Grew Halderman's Michigan Farm Management portfolio from approximately 3,500 acres to over 8,000 acres since 2021.
- Engaged over 125 landowners in presenting solar and wind lease option contracts.
 - Successfully signed 30,000 acres across Michigan, Indiana, Ohio, Illinois, Idaho, Wyoming, Colorado and Kentucky.

Territory Sales Manager and Operations Manager at Pharmgrade
(April 2018-March 2020) Idaho Falls, ID

- Directed the production of 500,000 gallons of biological liquid fertilizer.
- Enhanced business to business relationships by supplying inventory and shipment support to 15 retail store locations across Idaho, Utah, and Oregon.
- Provided product sales leadership to 13 sales representatives and 4 store locations; contributing to a company sales growth of 40% from 2018 to 2020.

Volunteer

Full-Time Missionary for The Church of Jesus Christ of Latter-Day Saints (February 2014-2016)

Clients Served

I provide expert appraisal and brokerage services to a wide array of clients, including:

- Family farms and ranches
- Estate planning attorneys
- Land investors
- Absentee landowners
- Institutional investor landowners
- Conservation groups
- Agribusinesses

Professional Experience

Yager Appraisal | Cheney, WA Certified General Appraiser

- Conduct comprehensive appraisals for a diverse portfolio of agricultural, rural, and specialized properties across Washington, Idaho, and Indiana.
- Successfully complete over 100 property appraisals annually, specializing in complex valuations such as conservation easements, wind turbines, and livestock facilities.
- Provide accurate and well-supported appraisal reports that consistently meet client needs and industry standards, including specific requirements for investors and various client types.

Farmland Company | Washington Farmland Manager & Real Estate Broker

- Manage farmland for absentee landowners, overseeing operations and optimizing property value.
- Act as a licensed real estate broker, facilitating property transactions and responsible for over \$65 million in real estate transaction volume across multiple states, encompassing both acquisitions and sales for clients.

Contact

Colten Yager

Email: coltenyager56@gmail.com Cell: 620-214-1915

EXHIBIT G



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
PUBLIC SERVICE COMMISSION

MARLON I. BROWN, DPA
DIRECTOR

KATHERINE PERETICK
COMMISSIONER

DAN SCRIPPS
CHAIR

SHAQUILA MYERS
COMMISSIONER

Mr. Brandon Hubbard
Dickinson Wright PLLC
123 W. Allegan St, Ste. 900
Lansing, MI 48933

RE: Case No. U-21932 – In the matter of the application of ACCELERATION SOLAR, LLC
for a Renewable Energy or Storage Siting Certificate to construct a solar energy facility.

August 1, 2025

Dear Mr. Hubbard,

On June 18, 2025, Acceleration Solar, LLC (applicant) filed an application with the Michigan Public Service Commission (Commission) for a certificate under Section 222(2) of Public Act 233 of 2023 (PA 233). The proposed project presented in the application is a solar energy facility with a proposed output of approximately 90 MW_{AC} to be located in Leslie, Onondaga, and Vevay Townships, Ingham County.

Under Section 225(2) of PA 233, the Commission is required to determine whether the application is complete within 60 days of submission. A complete application is one which complies with the requirements of Section 225(1) of PA 233, as applied through the Commission's Application Filing Instructions and Procedures (AFIP) and other orders and guidance materials.

Consistent with Section 225(2) of PA 233 and AFIP 4(a)(4), this memorandum serves to notify you that Commission Staff has completed its review of the application and determined that the application is incomplete. A description of application deficiencies and the information necessary to make the application complete is included with this memo.

Additional filings are required if the application is to proceed. The applicant may make changes to its application to correct the deficiencies and resubmit its new application, which Commission Staff will again review for sufficiency and completeness. Along with additional documentation, Staff also requests the applicant file an updated Exhibit A-16, identifying portions of the application where changes or updates were made. Please be aware that application information not identified as incomplete may still require further development and submissions from the applicant in the course of the Commission's review process. Further, information submitted to cure items identified as incomplete will be subject to further review by Staff, and may also require further development and submission from the applicant. This memorandum is intended to

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GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
PUBLIC SERVICE COMMISSION

MARLON I. BROWN, DPA
DIRECTOR

KATHERINE PERETICK
COMMISSIONER

DAN SCRIPPS
CHAIR

SHAQUILA MYERS
COMMISSIONER

address only the process identified in Section 225(2) of PA 233 and AFIP 4(a)(4) and nothing in this memorandum should be construed as addressing the sufficiency of the applicant's filing under Section 226(7) of PA 233 for issuance of a certificate.

To request further information or with questions, please email LARA-MPSC-Siting@michigan.gov, which will reach the Michigan Public Service Commission's Renewable Energy and Storage Siting Section.

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The below list contains items determined to be incomplete in Staff's review. The order of incomplete items aligns with the application as filed. Each item is labeled according to the requirement of the Commission's Application Filing Instructions and Procedures and/or law. Where possible, Staff included descriptions of what may be provided to complete the application as filed.

Exhibits A-1.1 through A-1.16 (Site Plan)

1. (AFIP 7) – Assure all items provided are clear and legible, which in some instances may entail providing the below items on separate layers, separate maps, or by showing some areas on another scale.

Exhibit A-1.1 (Planned Facilities)

2. (AFIP 7; AFIP 7.1(a)(3)) – Provide drawings clearly delineating the limits of clearing and disturbance for construction of the facility and ancillary features on the Site Plans.
3. (AFIP 7.1(a)(5)) – Provide a map showing the full length of the waterbody identified in parcel 33-13-13-01-200-014, or identify where it is provided in the application.
4. (AFIP 7.1(b)) – Provide clear depictions of the planned locations of the vegetative cover that are proposed, including e.g., labeling individual pollinator seed mixes.
5. (AFIP 7; AFIP 7.1(c); AFIP 7.1(a)(7); AFIP 7.1(a)(9); AFIP 6.3.10(a)(1)) – The dimensioned drawings of the project provided, including Appendix 2 Exhibit A-1.1 Sheets 6-9, contain the following items lacking clarity/legibility. Provide dimensioned drawings or maps consistent with the requirements of AFIP 7.1 which resolve these items. Multiple maps may be provided for different features to avoid cluttering.
 - a. The measurements within the drawings are inconsistent with the scale provided.
 - b. The drawings fail to distinguish between occupied and unoccupied structures, or between participating and non-participating properties.
 - c. The drawings, in many instances, do not provide the measurements between features and the project fence.
 - d. The drawings do not identify the shared property lines of adjacent non-participating properties.
 - e. The drawings fail to distinguish the feature(s) referenced by the "Exist. Road R.O.W" markers.
 - f. It is not clear whether setbacks for public roads are measured from the edge of the right-of-way; if not, provide them.
6. (AFIP 7; AFIP 7.1(c); AFIP 7.2(a)(9)) – Provide versions of site plan figures and maps showing boundaries of participating and neighboring non-participating parcels – do so particularly where such boundaries would improve clarity, such as in Appendix 2, Exhibit A-1.1 Sheets 06-09.

Exhibit A-1.2 (Area Land Use Information)

7. (AFIP 7.2(a)(7)) – Clarify whether there are any designated agricultural districts within the proposed facility and within 1000ft of the proposed facility; if so, display them on Exhibit A-1.2 maps.
8. (AFIP 7.2(a)(8)) – Provide a map in Exhibit A-1.2 displaying forest lands within the proposed facility and within 1000ft of the proposed facility.
9. (AFIP 7.2(a)(8)) – Clarify whether there are major communication infrastructure within the proposed facility and within 1000ft of the proposed facility; if so, display them on Exhibit A-1.2 maps.

Exhibit A-1.3 (Explanatory Information)

10. (AFIP 7.3(a)) – Provide a description of the socioeconomic and demographic profiles of the project area and the portion of the community where the project will be sited.
11. (AFIP 7.3(a)) – Provide a description of the major industries in the project area and the portion of the community where the project will be sited.
12. (AFIP 7.3(a)(1)(iii)) – Provide justification for how the proposed project location, layout, construction methods, planned screening, etc. minimize visual impacts of the project on adjacent landowners and the broader communities containing the project. This may include identifying any visual impact or aesthetic requirements in the zoning ordinances of each affected local unit and explaining how the project design meets or exceeds those standards, or justification for not doing so.
13. (AFIP 7.3(a)(5)) – Describe the plan to meet or exceed pollinator standards as established by the Pollinator Habitat Planning Scorecard by achieving a score of 76 or higher, for example by providing the filled-out version of the Scorecard for the project and associated explanation. As part of the description for meeting or exceeding pollinator standards throughout the *lifetime* of the proposed facility, provide the maintenance plan for the vegetation and note if it is compatible with the identified seed mix(es) to be installed.
14. (AFIP 7.3(a)(6)) – Provide electrical design details describing how metal fences surrounding substations or other energized equipment will be grounded and bonded in compliance with the National Electric Code (e.g., NEC 2023 Article 250.190). This description may be supported by illustrations of typical grounding details (e.g., grounding rods, bonding jumpers, conductor sizes).

Exhibit A-1.4 (Construction Information)

15. (AFIP 7.4(a)(1)) – Describe the project's soil surveying and testing plans, pursuant to NREPA. This may include, but is not limited to:
 - a. Soil surveying and testing required for permitting, such as Soil Erosion and Sedimentation Control permitting under Part 91 of NREPA;
 - b. Soil surveying and testing conducted during environmental site assessments to verify compliance applicable provisions of NREPA, such as a baseline environmental assessment; and,

- c. Soil surveying and testing used to inform the project's proposed construction and installation methods.

16. (AFIP 7.4(a)(2)) – Provide the project's proposed methods for grading and excavation.

Exhibit A-1.5 (Alternatives)

17. (AFIP 7.5(a)) – Provide a map and description of each alternative site location, proposed site layout, or other alternative that was considered for the proposed project but was not ultimately selected for development, and provide rationale for why each such alternative was not selected.

Exhibit A-1.6 (Changes)

18. (AFIP 7.6(a)) – The application must include a map and description of each potential modification or variation to the proposed site plan being considered at the time of filing and that will be finalized prior to construction. A description may include conditions that would trigger the change, and when those conditions would be known and the ultimate decision made.
19. (AFIP 7.6(a)) – Provide maps depicting the changes described in Appendix 2, Exhibit A-1.6 Changes #1, 3, 4A, 4C, and 8. For each other change fitting within the categories presented in Appendix 1, Exhibit A-1.6, provide a map and description.

Exhibit A-1.9 (Emergency Response Plan)

20. (AFIP 7.9(a)) – Exhibit A-1.9 should include the entirety of the Emergency Response Plan (ERP). As submitted, multiple required items are contained elsewhere in the application (such as within Appendix 1, Exhibit A-1.9), but not within the ERP itself (Appendix 2, Exhibit A-1.9). Provide an ERP which includes all information required under AFIP 7.9. In particular, provide an ERP which includes the following omitted items:
- a. (AFIP 7.9(a)(1)) – Evidence of consultation, or a good-faith effort to consult with, local first responders and county emergency managers. Evidence of a good-faith effort to consult with local first responders could include a description of the efforts that were made to initiate consultation. Evidence of consultation could include meeting dates, attendees, and any noteworthy outcomes or revisions to the ERP as a result of such consultation.
 - b. (AFIP 7.9(a)(2)) – A full list of contingencies (excluding fire) that would constitute a safety or security emergency, including but not limited to, the following items which are discussed elsewhere in the application:
 - i. Specific types of severe weather events.
 - ii. Personnel (or visitor) health emergencies or injuries.
 - iii. Cyber security emergencies.
 - iv. Capacity or transmission emergencies.

- v. Any additional specific contingencies currently not within the ERP.
- c. (AFIP 7.9(a)(3)) – Specific emergency response measures by contingency, which may include a more complete description of “robust emergency response protocols” (as described in the ERP) for each contingency.
- d. (AFIP 7.9(a)(4)) – Evacuation control measures for each contingency. If any aspects of evacuation measures will be determined at a later point, provide detail for when and how these measures will be determined.
- e. (AFIP 7.9(a)(5)) – Community notification procedures for each contingency.
- f. (AFIP 7.9(a)(6)) – Clear identification (for example, on a basic map) of the primary approach and departure routes for emergency vehicles, entrance locations, and primary access roads for the project. The ERP notes that access roads will be 12-foot wide, while other application materials note 14-foot access roads; this discrepancy should be clarified.

Exhibit A-1.10 (Fire Response Plan)

- 21. (AFIP 7.10(a)) – Exhibit A-1.10 should include the entirety of the Fire Response Plan (FRP). As submitted, multiple required items are contained elsewhere in the application (such as within Appendix 1, Exhibit A-1.10), but not within the FRP itself (Appendix 2, Exhibit A-1.10). Provide an FRP which includes all of the information required under AFIP 7.10. In particular, provide an FRP which includes the following omitted items:
 - a. (AFIP 7.10(a)(1)) – Evidence of consultation, or a good faith effort to consult with local fire department representatives, or, in the alternative, the State Fire Marshall or other local emergency manager. Evidence of a good-faith effort to consult with local first responders could include a description of the efforts that were made to initiate consultation. Evidence of consultation could include meeting dates, attendees, and any noteworthy outcomes or revisions to the FRP as a result of such consultation.
 - b. (AFIP 7.10(a)(2)) – Detail regarding the on-site equipment and systems to be provided or to prevent or handle fire emergencies. This description should include equipment and systems in the O&M building, and any other equipment or systems that will be utilized in on-site project areas other than the O&M building.

Exhibit A-1.14 (Unanticipated Discoveries Plan)

- 22. (AFIP 7.14(a)) – Provide anticipated impacts and plans to mitigate impacts to the environment and natural resources, including evidence of all environmental impact assessments referenced on page 2 of Application Appendix 2, Exhibit A-1.14. The applicant may choose to include this additional information in Exhibit A-6.2 and provide reference in Exhibit A-1.14.

Exhibit A-1.16 (Complaint Resolution Process)

23. (AFIP 7.16(a)(5)) – Within the Complaint Resolution Process, provide procedures for regular reporting of each complaint, and how *each* complaint was resolved.

Exhibit A-2 (Project Description)

24. (AFIP 6.3.2(a)(2)(iii)) – Regarding Appendix 2 Exhibit A-2. The AFIP indicates that the applicant is to indicate “The percentage of land within the township, city, or village dedicated to energy generation at the time of the application” and “the percentage of land within the county dedicated to energy generation at the time of the application.” The applicant indicates that the land associated with energy production is unknown, however the applicant also indicates the known presence of energy generation, e.g. a solar energy project located on 155 acres in Leslie Township. Provide the estimated percentage of land within the townships and county dedicated to energy generation based on publicly-available data and any other data available to the applicant. The estimate should include the percentage of land dedicated to energy production from the Blue Elk Solar project(s), as well as natural gas and petroleum facilities identified by the applicant in the north part of Ingham County. Publicly-available data sources may include the MPSC GIS hub to find current solar and wind facilities located within each township and within Ingham County.

Exhibit A-4.2 (Local and Community Outreach)

25. (AFIP 6.3.4(a)(2)(i)) – Provide a summary of outreach conducted to community groups, environmental organizations, and labor union representatives. For each interaction, provide at a minimum the date and time the outreach took place, who participated in the consultation, and a summary of findings, which may include any follow-up actions that were identified.

Exhibit A-4.4 (Agency Consultations)

26. (AFIP 6.3.4(a)(4)) – Regarding Application Appendix 2, Exhibit A-4.4, include each item designated by the AFIP for all consultations. Regarding each necessary permit, provide the timeline associated with securing that permit (“associated timeline”), including any permitting requirements and next steps to meet the requirements of the agency and any applicable laws. Required information is not limited to the period prior to construction. Staff was able to identify the following items as missing; if they were not provided, indicate as such.
- a. MDNR (Wildlife Division) – next steps and associated timeline.
 - b. EGLE – Time of consultation on February 26, 2025, next steps, and associated timeline.
 - c. County Road – Time of consultation on May 12, 2025, and associated timeline.
 - d. SHPO – next steps and associated timeline.
 - e. MDARD – associated timeline.
 - f. County Emergency Management – associated timeline.

g. Consumers Energy – associated timeline.

Exhibit A-6.2 (Environmental Compliance)

27. (PA 233 Sec. 225(1)(f); AFIP 6.3.6(a)(2)) – In Application Appendix 1, Project Narrative on Exhibit A-6.2, the applicant states that it “will conduct comprehensive environmental assessments prior to construction to identify the expected direct impacts” of the facility. However, the application itself must include the “expected direct impacts” of the facility. Provide a complete and exhaustive environmental assessment – titled “Environmental Compliance Report” – which includes all expected direct impacts to the environment and natural resources, with comprehensive supporting evidence specific to the proposed project area. To the extent alternative project areas were also assessed based on expected direct impacts to environmental and natural resources, that information could also be presented in a similar Report.
28. (PA 233 Sec. 225(1)(f) and 225(1)(i); AFIP 6.3.6(a)(2); 6.3.6(a)(3)) – Within the Environmental Compliance Report, provide specific avoidance and/or mitigation strategies proposed based on the expected direct impacts of the project. Further, provide reasonable evidence to demonstrate that the proposed facility will comply with all applicable laws prior to commercial operation date. Such evidence may include identifying applicable laws and permits, and providing a plan for required avoidance and/or mitigation strategies.
29. (PA 233 Sec. 225(1)(i); MCL 324.1705(2); AFIP 6.3.6(a)(2)) – Within the Environmental Compliance Report, describe how the proposed project complies with the Michigan Environmental Protection Act, MCL 324.1705(2). This description should address the following items, and may also include identification of environmental impacts that also involve separate permitting decisions under the purview of other regulatory agencies.
 - a. The alleged pollution, impairment, or destruction of natural resources or the public trust in these resources, with supporting evidence; and,
 - b. Feasible and prudent alternatives consistent with the reasonable requirements of the public health, safety, and welfare. The results of the “site suitability tool” referenced on p18 of the Application Project Narrative, but not provided in the application, could be a part of such an assessment.
30. (PA 233 Sec. 225(1)(f) and 225(1)(i); AFIP 6.3.6(a)(2)) – In Appendix 2 Exhibit A-1.5 Alternative #3, the applicant states that a parcel was added in Onondaga Township to “ensure the project’s viability and optimize power generation”, while “requir[ing] minimal additional impacts”. Regarding this parcel: provide the expected direct impacts on the environment and natural resources and how the applicant intends to address and mitigate these impacts. Impacts appear to include, but may not be limited to, those resulting from the additional tree clearing and development adjacent to a waterbody.
31. (PA 233 Sec. 225(1)(f) and 225(1)(i) and 226(7)(c); AFIP 6.3.6(a)(2)) – Within the Environmental Compliance Report, provide the expected direct impacts of the proposed energy facility on wetlands and waterways (including waterbodies and watercourses); a

plan describing how these impacts are proposed to be addressed and/or mitigated; and a statement and reasonable evidence that the proposed facility will not begin commercial operation until it complies with applicable state and federal law. Such content may include detailed maps and reports of wetlands, waterbodies, and watercourse assessments, and delineation methodology utilized for proposed project area and 1000-ft perimeter.

32. (PA 233 Sec. 225(1)(f) and 225(1)(i); AFIP 6.3.6(a)(ii)) – Project MNFI results include a record of the Blanding’s turtle, which appears under Michigan DNR Fisheries Order 224.25. Describe expected direct impacts to this species and a plan describing how these impacts are proposed to be addressed and/or mitigated, with reasonable evidence to support compliance with law.
33. (PA 233 Sec. 225(1)(f) and 225(1)(i); AFIP 6.3.6(a)(2)(i)) – Application Appendix 2, Exhibit A-6.2 indicates that the formal consultation process with SHPO has not yet been initiated by way of application submission, and that an archaeological assessment and architectural historical survey have not begun or are incomplete. Provide the expected direct impacts of the proposed energy facility on cultural and historical resources, including sites; a plan describing how these impacts are proposed to be addressed and/or mitigated; and reasonable evidence that the proposed facility will not begin commercial operation until it complies with applicable state and federal law. A description of the expected direct impacts could include a desktop survey of cultural and historical resources within the project area and an appropriate buffer; and the plan to address and mitigate impacts / reasonable evidence for compliance with law may include a description of the applicant’s plan and timeline for completing required field surveying. Each should be conducted in consultation with SHPO, or provide a justification for any consultation the applicant deemed not necessary.
34. (PA 233 Sec. 225(1)(f); AFIP 6.3.6(a)(2)(i); 7.2(a)(8)) – Provide information regarding the presence of wildlife corridors within the proposed project area and within 1000ft of the project area. For areas identified, indicate the expected direct impacts of the proposed project and impact mitigation strategies.
35. (PA 233 Sec. 225(1)(i); AFIP 6.3.6(a)(2)(ii)) – Regarding materials management and pollution prevention, provide evidence that the proposed facility will comply with Part 5 rules of Part 31 of NREPA (Mich Admin Code R 324.2001, *et seq.*).

Exhibit A-6.4 (Stormwater Mitigation Plan)

36. (AFIP 6.3.6(a)(4)(i)) – Incorporate a plan to minimize, mitigate, and repair (MMR) drainage impacts into the Stormwater Mitigation Plan.
37. (AFIP 6.3.6(a)(4)(ii); AFIP 6.3.4(a)(4)) – Regarding Application Appendix 2, Exhibit A-6.4, submitted materials include itemized guidance from the Ingham County Drain Commissioner (ICDC) issued in a February 3, 2025 meeting and through correspondence on March 25, 2025, as well as referenced guidance from a February 20, 2025 meeting with the ICDC (Application Appendix 2, Exhibit A-4.4). Address all guidance from

consultation with the ICDC in the Stormwater Mitigation Plan, or MMR upon its inclusion into the Stormwater Mitigation Plan. Further, include agency consultation details, including date and time the consultation took place, who participated in the consultation, and copies of correspondence listing necessary permits, next steps, and associated timeline for each consultation. This may be satisfied by reference to Exhibit A-4.4, so long as such information is provided in that exhibit. Upon incorporation, address the following:

- a. (AFIP 6.3.4(a)(4); 6.3.6(a)(4)(ii)) Provide a comprehensive documentation of consultation with the ICDC, including all meeting minutes or summaries, guidance from the ICDC, and referenced email attachments. Clearly indicate what correspondence each attachment is associated with. Staff was able to identify the following items as missing:
 - i. The referenced attachment in a February 6, 2025 email correspondence from the ICDC. Based on a February 7, 2025 response from Atwell, this letter contained review and response of the concept plan and meeting notes.
 - ii. The referenced attachment in a February 14, 2025 email from Atwell.
 - iii. The referenced attachment in a February 20, 2025 email from PEA Group.
 - iv. The guidance received from the ICDC in a February 20, 2025 meeting.
 - v. Details of the February 20, 2025 meeting, such as meeting minutes.
 - vi. All referenced attachments from a February 28, 2025 email from Atwell.
 - vii. The referenced attachment from an April 8, 2025 email from Ranger Power or verify if it is the Project Memorandum included in Exhibit A-4.4 with Subject "Panels as impervious surface".
 - viii. The document(s) referenced by the ICDC in a May 12, 2025 email from SFMatta@lan-inc.com.
- b. Provide the date and time for all meetings. Staff have identified at least the following as missing:
 - i. The time of the February 3, 2025 meeting.
 - ii. The date and time of the consultation referenced in the Project Memorandum with Subject "Panels as impervious surface".
- c. Identify the names of the participants for each consultation. Staff has identified at least the February 20, 2025 consultation list as missing.
- d. List necessary permits, next steps, and associated timeline to complete those steps for each consultation.

Exhibit A-8.3 (Host Community/Community Benefit Agreements)

38. (AFIP 6.3.8(a)(3)(i)) – Provide signed copies of Host Community Agreements (HCAs) and/or Community Benefits Agreements (CBAs).
- a. In the event that HCAs have been proposed but not signed, provide proof of submittal of the proposed HCA to each Affected Local Unit showing the date and time the proposed HCA was sent to each ALU.
 - b. Provide or identify the payment provision within each HCA that specifies the exact monetary amount to be dispensed to each ALU, based upon the nameplate capacity located within that ALU. The nameplate capacity and dollar amount specific to the ALU should be specified within that ALU's (proposed or signed) HCA.

Exhibit A-8.4: (Local Job Creation)

39. (AFIP 6.3.8(a)(4); AFIP 6.3.14(a) and Attachment F(20)) – Provide a Project Labor Agreement (PLA), or collective bargaining agreement, for the proposed project, as applicable. Further, provide a proposal for how the applicant will meet Proposed Minimum Condition 20, or provide a justification for why the condition should not be applied to the facility. Meeting that condition requires utilizing a “Project Labor Agreement” as the term is defined under PA 233 Sec. 221(u). If such a proposal is provided, address how the PLA will comply with each term of 221(u).

Exhibit A-9 (Farmland Protection)

40. (AFIP 6.3.9; AFIP 6.3.9(b)(3-5)) – Using publicly-available data, such as <https://croplandcros.scinet.usda.gov/> or the most recent National Land Cover Dataset, calculate the total number of acres of farmland within each of Leslie, Onondaga, and Vevay Townships. Using those or other tools, such as the National Resource Conservation Service's Web Soil Survey tool, calculate the total acreage of farmland in each township differentiated by type. Use the resulting values to complete the requirements of AFIP 6.3.9.

Exhibit A-13.1 through 13.3 (Decommissioning)

41. (AFIP 6.3.13(1)(iii)) – In Appendix I, Exhibit A-13.1, the applicant states “Appendix 2, Exhibit A-13.1 ...[]... includes a facility overview, expected useful life, triggers for decommissioning, and soil analysis to ensure post-decommissioning soil quality.” Appendix 2, Exhibit A-13.1 does not include any description of events which would trigger applicant-initiated decommissioning. Provide a description of events which would trigger applicant-initiated decommissioning.
42. (AFIP 6.3.13(1)(iv)) requires that the decommissioning plan contain “[a] physical and chemical analysis of the soil which can be used to ensure soil is returned to a useful condition.” In Appendix 2, Exhibit A-13.1, the applicant states “According to the USDA Web Soil Survey, the physical and chemical analysis of soils within the project area indicates predominantly loam and sandy loam textures with pH values ranging from mildly acidic (6.0) to neutral (7.0), conducive to various agricultural and ecological

uses.” Explain how the analysis provides sufficient details to “ensure post-decommissioning soil quality”, or supplement it as appropriate.

43. (AFIP 6.3.13(2)(i)) – Provide a proposed decommissioning schedule within the applicant’s decommissioning plan.
44. (AFIP 6.3.13(5)(i)) – Provide details regarding the type and manner of financial assurance the developer plans to provide within the applicant’s decommissioning plan.

Exhibit 14 – (Conditions)

45. (AFIP 6.3.14(a) and Attachment F(2)) - Preconstruction Meeting
The proposed condition does not confirm that the applicant will agree to file the final drawings, plans, and permits received into the case docket prior to the start of construction. Provide a condition which includes this agreement, or explain why this condition should not be applied to the facilities.
46. (AFIP 6.3.14(a) and Attachment F(10)) - Post Construction Sound Report
Confirm that the applicant agrees to file post-construction sound measurements in accordance with MPSC Sound guidance into the case docket or explain why this condition should not be applied to the facilities. Confirm that the post-construction sound measurements will comply with AFIP Attachment D-4.2, and will accordingly be filed to the case docket within 60 days of measurements, or explain why this condition should not be applied to the facilities.
47. (AFIP 6.3.14(a) and Attachment F(16)) - Decommission Agreement
The applicant’s narrative discusses the terms of its decommissioning agreement, but regarding Condition 16, does not provide sufficient further information. Provide a proposal to execute a decommissioning agreement approved by the Commission, including a commitment to execute the decommissioning agreement, or explain why this condition should not be applied to the facilities.